

# Lakeland Industry & Community Association

Cold Lake Monitoring Site

Ambient Air Monitoring

Data Report

For

April 2010

Prepared By:



May 28, 2010

# Lakeland Industry & Community Association Ambient Air Monitoring

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# Introduction

The following Ambient Air Monitoring report was prepared for:

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**Lakeland Industry & Community Association**  
Box 8237  
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Bonnyville, Alberta  
T9N 2J5

Monitoring Location: Cold Lake  
Data Period: April 2010

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Craig Snider

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

The 6-day analytical report for VOCs and PAHs:  
Authorized by Petro Oh

## Calibration Procedure

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

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

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

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

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

# MONTHLY CONTINUOUS DATA SUMMARY

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

### Continuous Ambient Monitoring – April 2010

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION COLD LAKE SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO <sub>2</sub> (PPB)	172	57	0	0	0.01	1	VAR	VAR	VAR	VAR	0.0	ALL	100.0
TRS (PPB)	-	-	-	-	0.00	0	ALL	ALL	VAR	VAR	0.0	ALL	99.9
NO <sub>2</sub> (PPB)	212	106	0	0	1.77	21	22	21	2	101(E)	4.0	22	99.9
NO (PPB)	-	-	-	-	0.25	30	6	6	1.3	70(ENE)	3.2	6	99.9
NO <sub>x</sub> (PPB)	-	-	-	-	2.10	45	6	6	1.3	70(ENE)	7.2	6	99.9
O <sub>3</sub> (PPB)	82	-	0	-	35.82	65	21	16	12.1	137(SE)	54.6	21	100.0
THC (PPM)	-	-	-	-	1.91	2.7	2	6	0.9	84(E)	2.1	16	100.0
PM 2.5 (UG/M <sup>3</sup> )	-	30	-	0	4.88	25.9	22	20	1.2	70(ENE)	13.8	22	99.3
TEMPERATURE (DEG C)	-	-	-	-	5.62	23.5	22	15	4.5	196(SSW)	16.1	21	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	61.72	99.0	9	7, 8	19.6, 18.6	290(WNW), 289(WNW)	95.8	9	100.0
VECTOR WS (KPH)	-	-	-	-	7.44	21.8	9	19	-	292(WNW)	18.4	9	100.0
VECTOR WD (DEGREES)	-	-	-	-	22(NNE)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

# Monthly Non-Continuous Data Summary

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

### Passive Ambient Monitoring Network – April 2010

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO <sub>2</sub>	#14	1.0	0.3
H <sub>2</sub> S	#5	0.30	0.12
NO <sub>2</sub>	#28	2.7	0.6
O <sub>3</sub>	#8	40.4	35.4

## Volatile Volatile Organics Data Summary

### LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

#### Xontech Model 910A – April 02, 2010

Maximum reading (ug/m3)	Volatile Organic
<32	Hexachlorobutadiene

#### Xontech Model 910A – April 08, 2010

Maximum reading (ug/m3)	Volatile Organic
<32	Hexachlorobutadiene

#### Xontech Model 910A – April 14, 2010

Maximum reading (ug/m3)	Volatile Organic
<32	Hexachlorobutadiene

Note: the results of Heptane and Cyclohexane are missing. The result was reported in 2 significant figures because the detection limit was entered as 2 sig figs by lab.

#### Xontech Model 910A – April 20, 2010

Maximum reading (ug/m3)	Volatile Organic
<32	Hexachlorobutadiene

Note: the results of Heptane and Cyclohexane are missing. The result was reported in 2 significant figures because the detection limit was entered as 2 sig figs by lab.

#### Xontech Model 910A – April 26, 2010

Maximum reading (ug/m3)	Volatile Organic
<32	Hexachlorobutadiene

# Polycyclic Aromatic Hydrocarbons (PAHs) Data Summary

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

### PUF cartridge – April 02, 2010

<b>Maximum reading (ng/m3)</b>	<b>Volatile Organic</b>
<6.054	3-Methylcholanthrene

### PUF cartridge – April 08, 2010

<b>Maximum reading (ng/m3)</b>	<b>Volatile Organic</b>
<6.054	3-Methylcholanthrene

### PUF cartridge – April 16, 2010

<b>Maximum reading (ng/m3)</b>	<b>Volatile Organic</b>
<6.054	3-Methylcholanthrene

### PUF cartridge – April 20, 2010

<b>Maximum reading (ng/m3)</b>	<b>Volatile Organic</b>
<6.054	3-Methylcholanthrene

### PUF cartridge – April 26, 2010

<b>Maximum reading (ng/m3)</b>	<b>Volatile Organic</b>
<6.054	3-Methylcholanthrene



# General Monthly Summary - Cold Lake

## Equipment Operation

The following summary outlines the analyzer performance. Any non-conformances, problems or maintenance performed are detailed at the end of each section.

## AQM STATION – LICA – COLD LAKE

### Sulphur Dioxide (PPB)

- Analyzer make / model – Thermo 43i, S/N: 806528242

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.

### Total Reduced Sulphur (PPB)

- Analyzer make / model –TEI 450i, S/N: 812728560
- Converter - CD NOVA CDN 101, S/N: 250

No operational issues observed during the month. It was noticed that after the as found zero performed on April 12<sup>th</sup>, the analyzer took an excessive amount of time to respond and did not reach the target of the as found span point. The daily calibration values have been good; response to IZS gas has been quick- no apparent analyzer issues. Cross-checked calibrator, bypass filter and inlet tubing, re-purged regulator – non of these test made any difference. Changed charcoal and silica gel in the zero air supply, problem gone; analyzer then could respond well to cal gas. A post-repair calibration was performed on April 13<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

### Total Hydrocarbon (PPM)

- Analyzer make / model -TECO 51C-LT, S/N: 427408718

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.

# General Monthly Summary - Cold Lake

## AQM STATION – LICA – COLD LAKE

### Nitrogen Dioxide (PPB)

- Analyzer make / model - TECO 42C, S/N: 427408716

No operational issues observed during the month. The box fan was replaced following the as found points on April 12<sup>th</sup>. After the replacement, the analyzer was allowed tune to warm up then the daily calibration program was run; no issues. A post-repair calibration was performed on April 13<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

### Ozone (PPB)

- Analyzer make / model - TECO 49i, S/N: 700419951

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

### Particulate Matter 2.5 (ug/m<sup>3</sup>)

- Analyzer make / model –TEOM1405F, S/N: 1405A201620804

No operational issues observed during the month. A Teom audit was performed and the inlet was cleaned on April 13<sup>th</sup>. Following the audit, a firmware update was completed; now running firmware ver 1.52; this version should allow the touch screen to operate better. Performed a leaked check and a Ko confirmation with the audit on April 13<sup>th</sup>. Data was corrected using Alberta air quality guideline for PM2.5 analyzer. If the data was between 0 to –3, the data was corrected to 0. If the data was below –3, the data was invalidated. 5 hours of data were invalidated as the data were below –3.0 ug/m<sup>3</sup>.

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

- System make / model – Met One 50.5, S/N: F1644

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

# General Monthly Summary - Cold Lake

## AQM STATION – LICA – COLD LAKE

### Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3
- No operational issues observed during the month.

### Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3
- No operational issues observed during the month.

### Trailer Temperature (DEGC)

- System make / model - R&R 61
- No operational issues observed during the month.

### Datalogger

- System make / model - ESC 8832, S/N: 263
  - Software make / version - ESC v 5.51a
- The ESC 8832 is connected to a modem with DSL for continuous connection with the base computer.

### Trailer

No issue was observed during this month. The manifold was cleaned on April 13<sup>th</sup>.

# General Monthly Summary - Cold Lake

## AQM STATION – LICA – COLD LAKE

### Air Quality Index (AQI)

The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. Seventy-six hours of data were within the Fair range, and all were due to O3. The highest AQI value of O3 was 38 on April 21<sup>st</sup>, hour of 16. The highest AQI value of PM2.5 was 22 on April 22<sup>nd</sup>, hour of 20.

### Passive Network

No issue was observed during this month.

### Volatile Organics (VOCs)

The volatile organics were sampled on April 2<sup>nd</sup>, 8<sup>th</sup>, 14<sup>th</sup>, 20<sup>th</sup>, and 26<sup>th</sup>. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle.

The values for the VOCs in this report were reported as ug/m3 in 3 significant figures.

The results of Heptane and Cyclohexane in April 14<sup>th</sup> and 20<sup>th</sup> reports are missing. The values in April 14<sup>th</sup> and 20<sup>th</sup> reports were reported in 2 significant figures because the detection limit was entered in 2 sig figs by the lab.

### Polycyclic Aromatic Hydrocarbons (PAHs)

The PAHs were sampled on April 2<sup>nd</sup>, 8<sup>th</sup>, 14<sup>th</sup>, 20<sup>th</sup>, and 26<sup>th</sup>. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle.

The values for the PAHs in this report were reported as ng/m3.

# Continuous Monitoring

# Monthly Summaries, Graphs & Wind Roses

# Air Quality Index





# Sulphur Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	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	IZS	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	IZS	0	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	IZS	0	0	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	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0.0	24
6	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	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	0.0	24
8	0	0	0	0	0	0	0	IZS	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	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	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	0.0	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	0.0	24
13	0	0	IZS	0	0	0	0	C	C	C	C	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	0.0	24
15	IZS	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	0.0	24
16	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	IZS	1	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	0	0	0	IZS	0	0.0	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	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	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	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	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	0	0	IZS	0	0	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	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	0	0	IZS	0	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	0	0	IZS	0	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	0	IZS	0	0	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	0	0	IZS	0	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	0	0	IZS	0	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	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

**STATUS FLAG CODES**

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

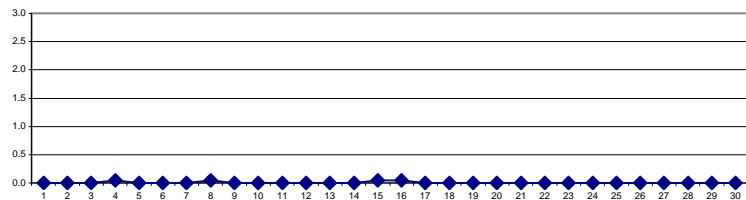
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
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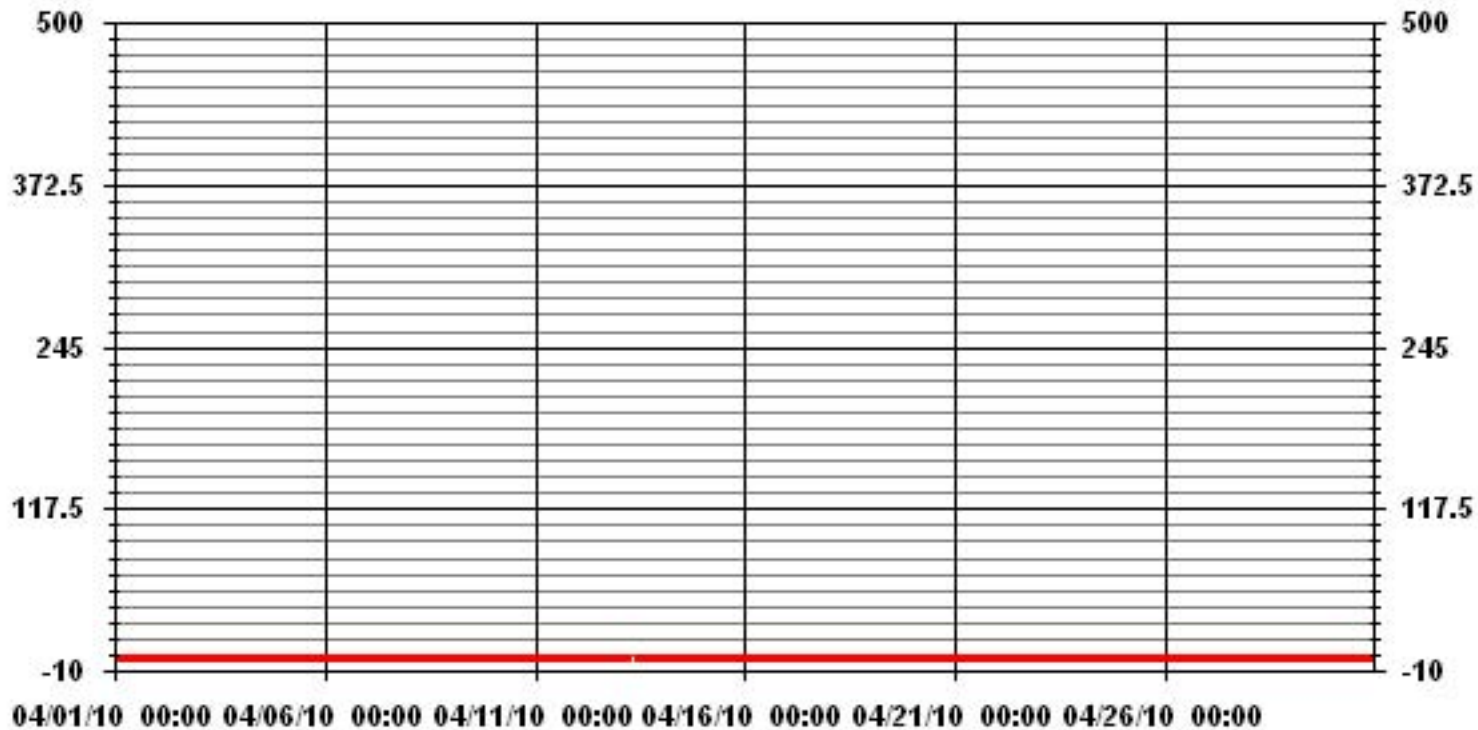
**MONTHLY SUMMARY**

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	4		
MAXIMUM 1-HR AVERAGE:	1 PPB @ HOUR(S) VAR ON DAY(S) VAR		
MAXIMUM 24-HR AVERAGE:	0.0 PPB ON DAY(S) ALL		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	4 HRS	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.08	MONTHLY AVERAGE:	0.01 PPB

24 HOUR AVERAGES FOR APRIL 2010



### 01 Hour Averages



— LICA SO2\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

## SULPHUR DIOXIDE MAX instantaneous maximum in ppt

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

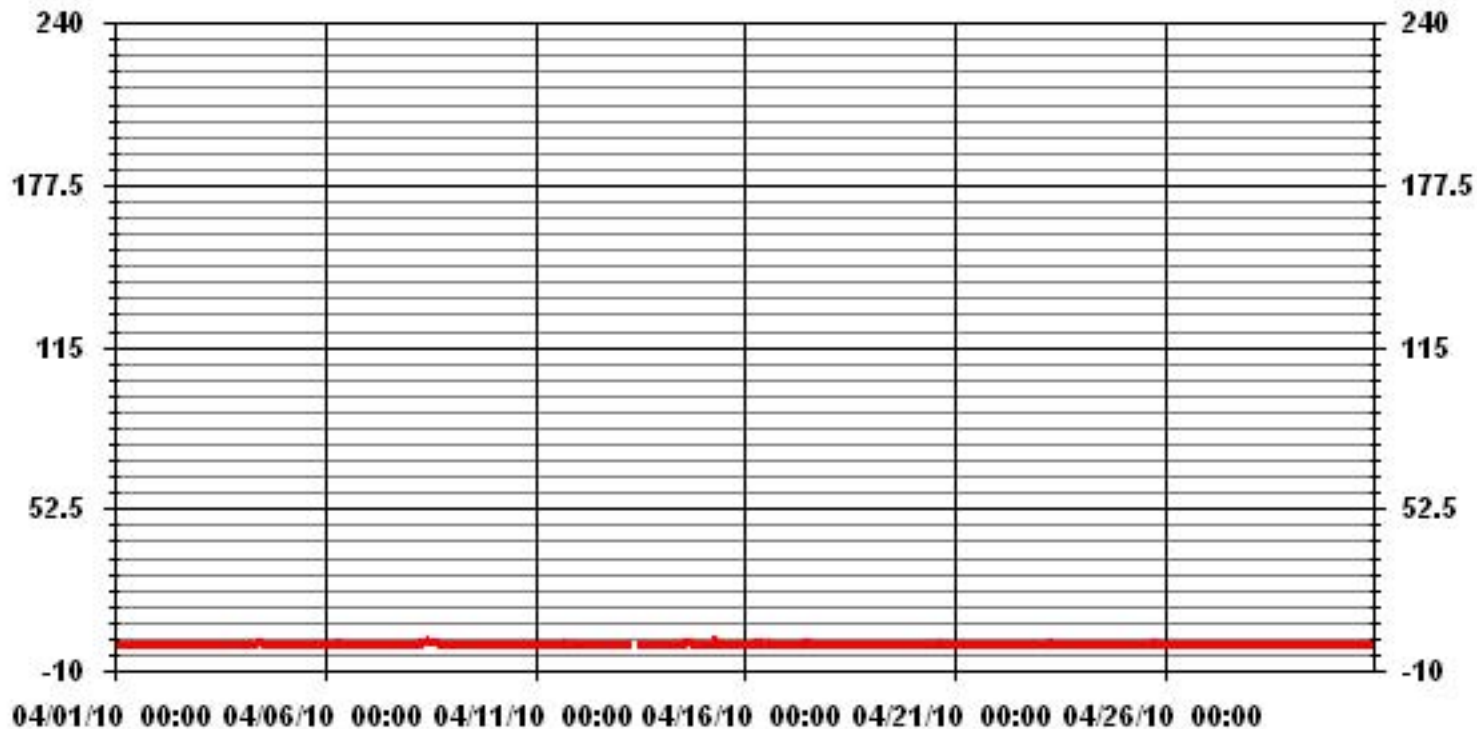
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	35					
MAXIMUM INSTANTANEOUS VALUE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	0.26					

### 01 Hour Averages



— LICA SO2MAX PPB

LICA  
SO2\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 01  
Site Name : LICA  
Parameter : SO2\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	5.69	6.86	7.00	4.08	10.94	10.80	14.59	1.89	2.62	1.75	4.96	3.50	3.06	10.07	8.02	4.08	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	5.69	6.86	7.00	4.08	10.94	10.80	14.59	1.89	2.62	1.75	4.96	3.50	3.06	10.07	8.02	4.08	

Calm : .00 %

Total # Operational Hours : 685

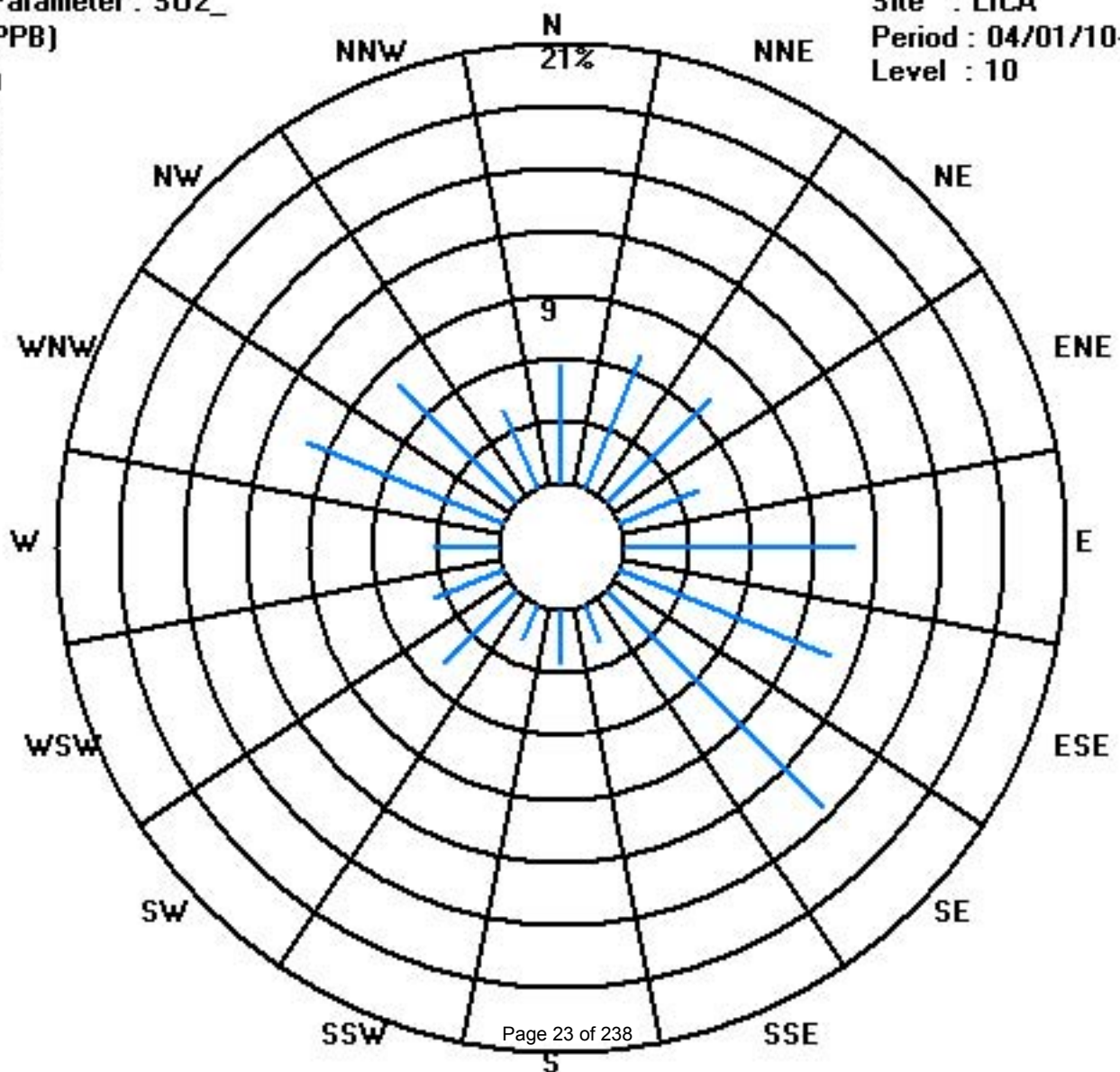
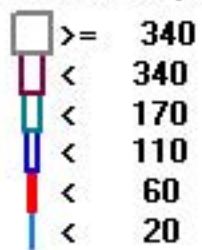
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	39	47	48	28	75	74	100	13	18	12	34	24	21	69	55	28	685
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	39	47	48	28	75	74	100	13	18	12	34	24	21	69	55	28	

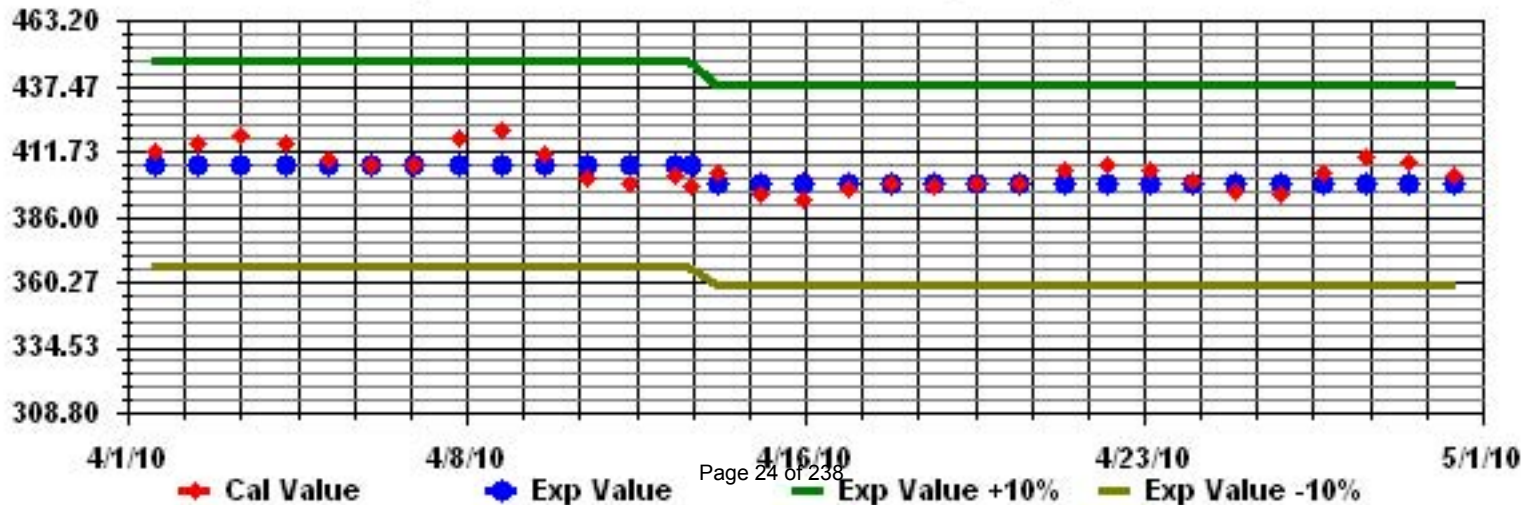
Calm : .00 %

Total # Operational Hours : 685

Class Limits (PPB)



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





# Total Reduced Sulphur

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

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

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

### STATUS FLAG CODES

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

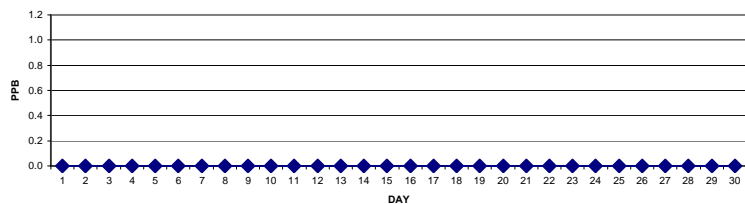
### OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
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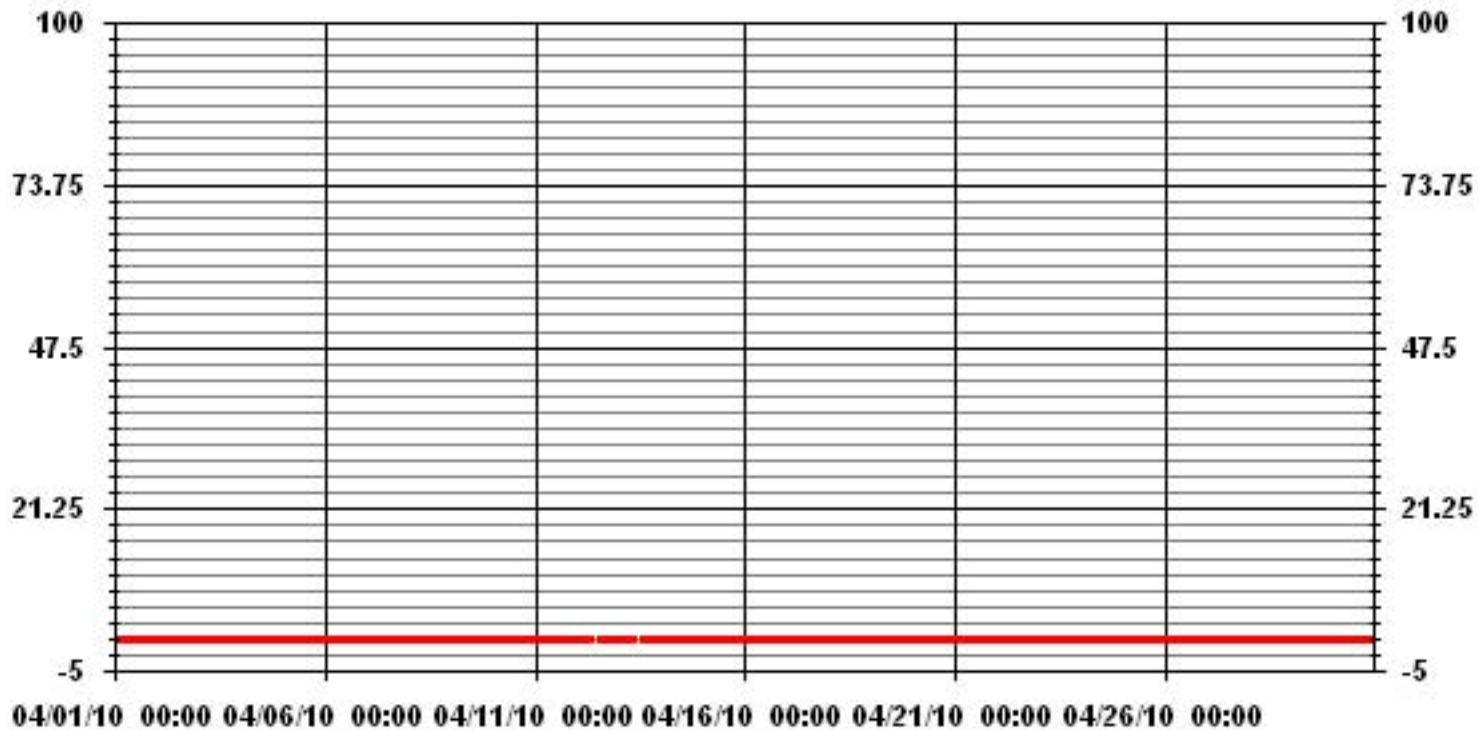
### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	0					
MAXIMUM 1-HR AVERAGE:	0	PPB	@ HOUR(S)	ALL	ON DAY(S)	ALL
MAXIMUM 24-HR AVERAGE:	0.0	PPB			ON DAY(S)	ALL
				VAR-VARIOUS		
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME	99.9	%	
STANDARD DEVIATION	0.00		MONTHLY AVERAGE	0.00	PPB	

24 HOUR AVERAGES FOR APRIL 2010



### 01 Hour Averages



— LICA TRS\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

## TOTAL REDUCED SULPHUR MAX    instantaneous maximum in ppb

MST

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

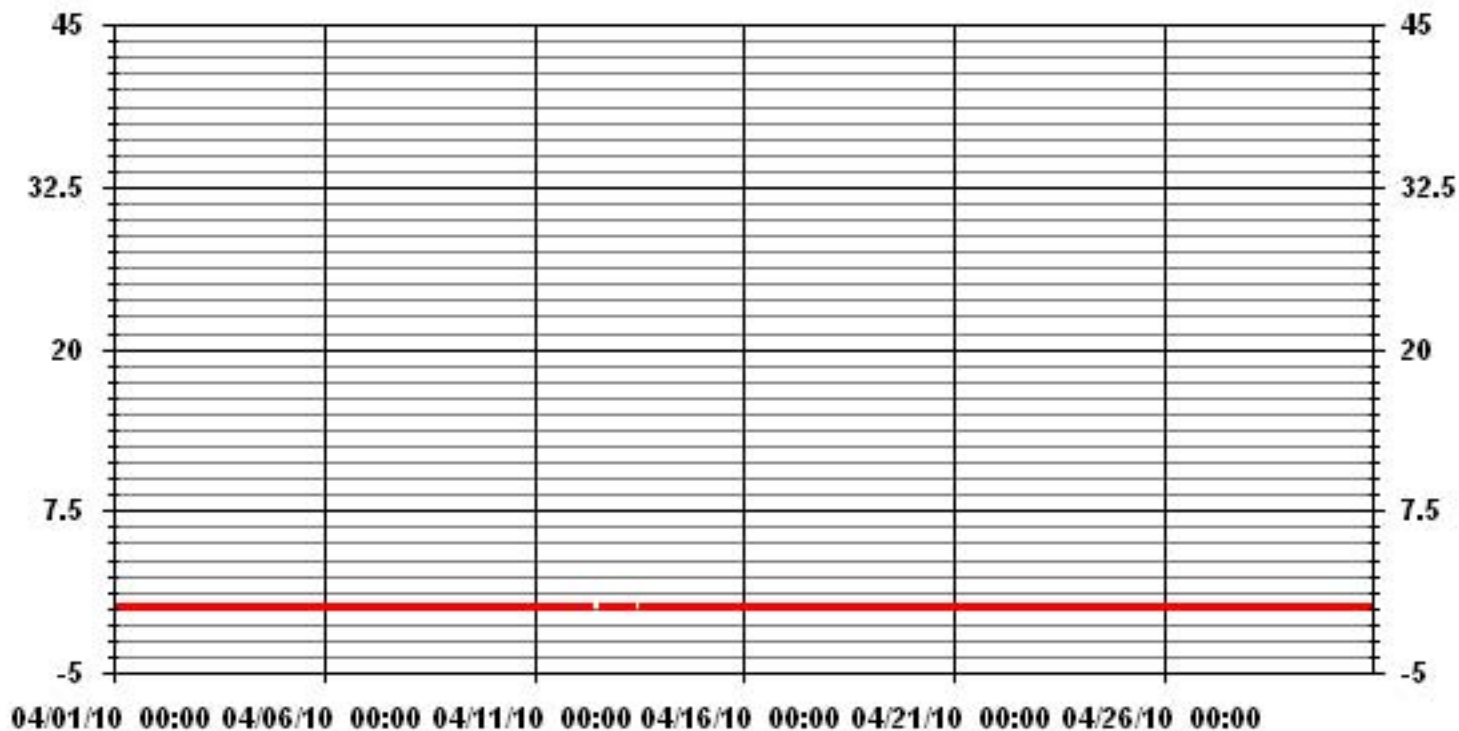
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	0					
MAXIMUM INSTANTANEOUS VALUE:	0	PPB	@ HOUR(S)	ALL	ON DAY(S)	ALL
						VAR - VARIOUS
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	10	HRS				
STANDARD DEVIATION:	0.00					

### 01 Hour Averages



— LICA TRSMAX PPB

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

April 2010

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	5.73	6.61	7.05	3.97	11.17	10.44	14.70	1.91	2.64	1.76	5.00	3.52	3.08	10.14	8.08	4.11	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.73	6.61	7.05	3.97	11.17	10.44	14.70	1.91	2.64	1.76	5.00	3.52	3.08	10.14	8.08	4.11	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	39	45	48	27	76	71	100	13	18	12	34	24	21	69	55	28	680
< 10																	
< 50																	
>= 50																	
Totals	39	45	48	27	76	71	100	13	18	12	34	24	21	69	55	28	

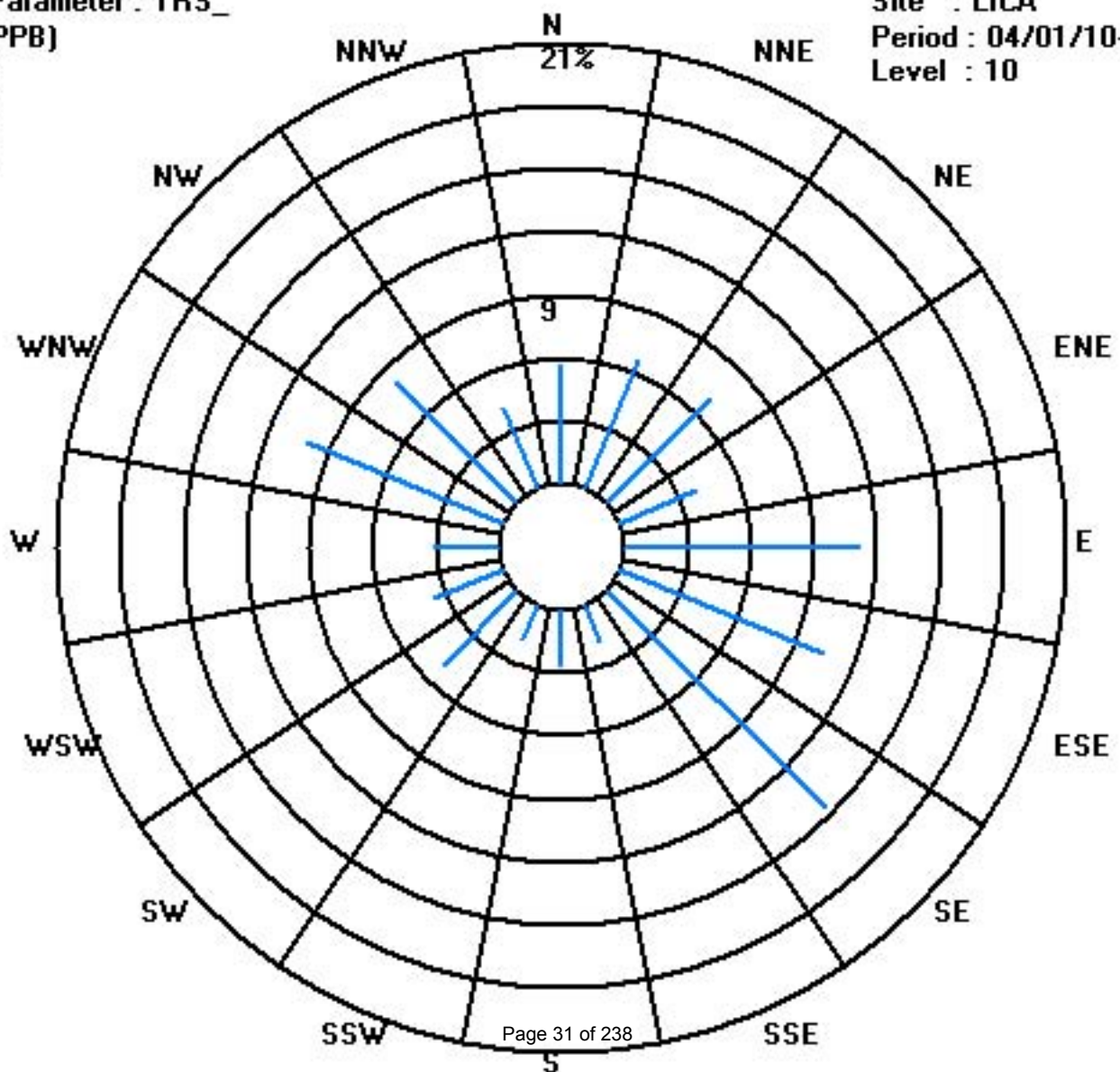
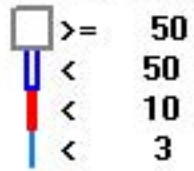
Calm : .00 %

Total # Operational Hours : 680

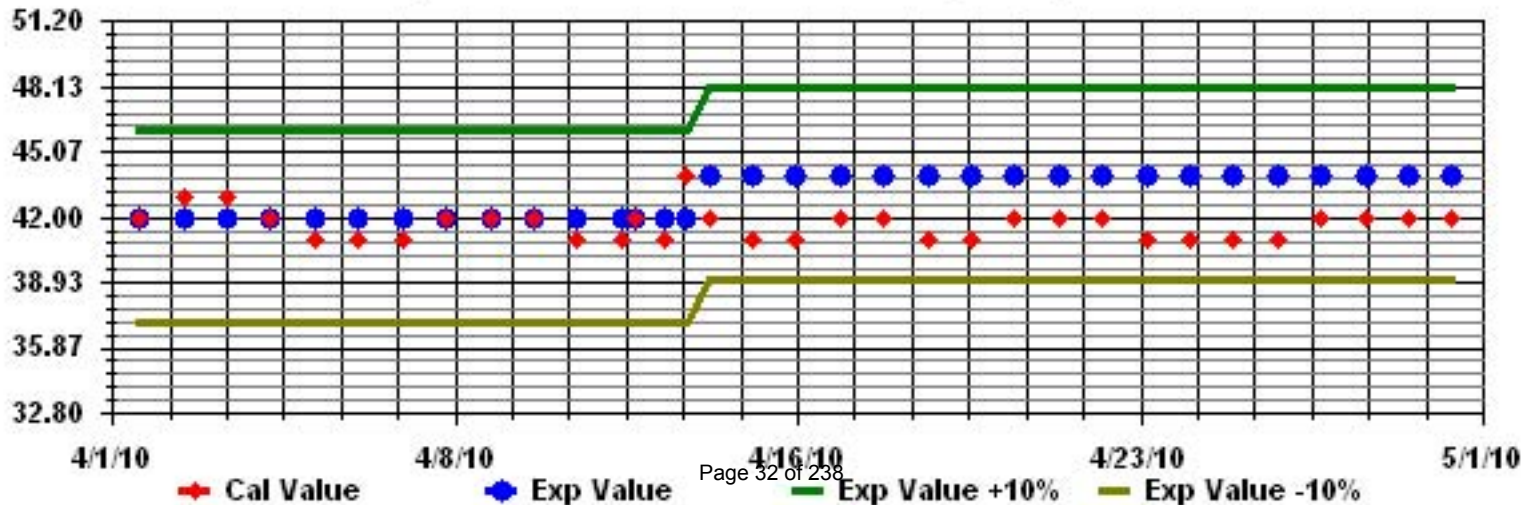
Class Limits (PPB)

Period : 04/01/10-04/30/10

Level : 10



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

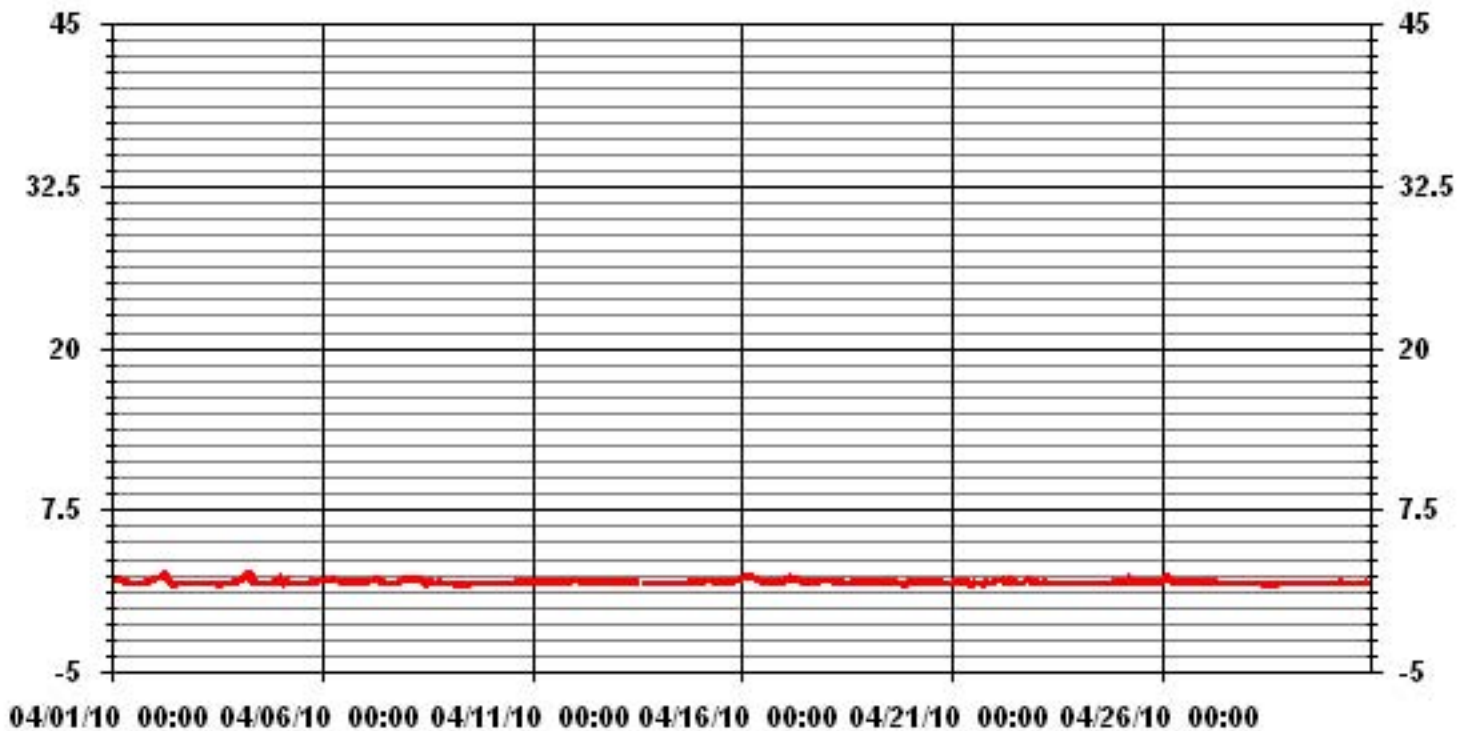




# Total Hydrocarbons



### 01 Hour Averages



— LICA    — THC    — PPM

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

## TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

DAY	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	DAILY MAX.	24-HOUR AVG.	RDGS.
1	2.2	2.3	2.1	2	2.2	2.2	2.2	2.1	2.2	2	2	1.9	1.9	1.9	IZS	1.8	2.1	1.8	1.9	1.9	2	2	2.1	2.2	2.3	2.0	24	
2	2.3	2.4	2.4	2.3	2.3	2.7	3.2	2.8	2.4	2.1	2.5	1.9	2.1	IZS	1.8	1.8	1.9	2.1	1.9	2	1.9	1.9	1.8	1.8	1.8	6.1	2.4	24
3	1.8	1.8	1.8	2.1	1.9	1.8	1.8	1.8	1.9	1.8	2	1.8	IZS	1.8	1.8	1.9	2.1	1.9	2	1.9	1.9	2	2	2	2	2.1	1.9	24
4	2.1	2.3	2.2	2.6	2.7	2.7	2.7	2.6	2.5	2	1.9	IZS	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	2	3.1	2	2	3.1	2.2	24	
5	2.7	2.1	1.9	2.1	2.4	1.9	1.9	1.9	1.8	IZS	1.8	1.9	1.9	1.9	2.4	1.9	2	2.1	2	2	2.1	2.1	2.1	2.1	2.7	2.0	24	
6	2	2.1	2.1	2.2	2.3	2.5	2.6	2.3	2.2	IZS	2	2	1.9	2	1.9	1.9	1.9	1.9	2	2	1.9	1.9	1.9	2	2.6	2.1	24	
7	2	1.9	2.1	2.1	2.1	2.1	2.5	2.6	IZS	2	2	1.9	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.1	2.2	2.2	2.6	2.1	24	
8	2.2	2.2	2.2	2.2	2.3	2.5	2.3	IZS	2.2	2.2	2.1	1.9	2	2	2	1.9	1.9	1.9	1.8	2.2	2.1	2.1	1.8	1.8	2.5	2.1	24	
9	1.8	1.9	1.8	1.8	1.8	1.8	IZS	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	24
10	1.8	1.8	1.8	1.8	1.9	IZS	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	1.9	1.9	2	2	2	1.9	24	
11	2	2	1.9	2	IZS	2	2	2	2	2.1	2	2.1	2	2	2	2	2.5	2	2	2	2	2	2	2.1	2.5	2.0	24	
12	2	2	2	IZS	2	2	2	2.7	2	2	2	2	2	1.9	2	1.9	1.9	2	1.9	2	1.9	1.9	2	2	2.7	2.0	24	
13	2	1.9	IZS	1.9	2	1.9	2	2	1.9	2	2.4	2.1	1.9	C	C	C	C	1.8	1.9	1.9	1.8	1.8	1.8	1.8	2.4	1.9	24	
14	1.8	IZS	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	24
15	IZS	1.9	1.9	2.2	2.2	2.1	2.1	2.3	2.3	2	2.1	2	2	2	2	2	2	1.9	1.9	2	2	2.1	2.1	IZS	2.3	2.1	24	
16	2.3	2.3	2.4	2.6	2.5	2.4	2.5	2.5	3.6	2.2	2.1	2.1	2	2	2	2.1	2	1.9	1.9	2.1	2.1	2.2	IZS	2.1	3.6	2.3	24	
17	2.1	2.2	2.2	2.3	2.7	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2	2	2	1.9	1.9	1.9	2.1	2.1	2.3	IZS	2.3	2.2	2.7	2.2	24	
18	2.2	2.1	2	2	2.2	2.1	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	2.3	2.1	1.9	1.9	2.1	IZS	2.1	2	1.9	2.3	2.0	24	
19	1.9	1.9	2	2.2	2.6	2.6	3	2	2	2	1.9	1.9	1.9	1.9	2.1	2.2	2	1.9	1.9	IZS	2.5	1.9	1.9	1.9	3	2.1	24	
20	1.9	1.9	1.9	1.9	2	2	2.2	2.2	1.9	1.9	1.9	1.9	1.9	1.9	2	1.9	1.9	1.9	IZS	3.4	1.9	1.9	1.8	1.9	3.4	2.0	24	
21	2	1.9	2	2	2	2	2	2.5	2	2	2	1.9	1.9	1.9	2.1	1.9	1.9	IZS	1.9	2	2	1.9	1.9	1.9	2.5	2.0	24	
22	2	2	2.1	2.1	2.1	2.9	2.5	2.1	2.1	2.2	2.1	2.1	2	2	1.9	1.9	IZS	2	3.8	3.2	2.3	2.4	2.1	2	3.8	2.3	24	
23	2.1	2.1	1.8	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	1.9	1.8	1.8	1.9	1.9	1.9	1.8	1.8	2.1	1.9	24
24	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.1	1.9	1.9	2	1.9	IZS	1.9	1.9	1.9	2	1.9	1.9	1.9	1.9	1.9	2.1	1.9	24	
25	1.9	1.9	1.9	1.9	1.9	3.2	2.2	2.2	1.9	1.9	2	2	2	IZS	1.9	1.9	1.9	2	2	2.1	2	2	2	2.1	3.2	2.0	24	
26	2.2	2.3	2.6	2.5	2.5	2.6	2.3	2	2	1.9	1.9	2	IZS	2	2.1	2	1.9	1.9	1.9	1.9	2	1.9	2.1	1.9	2.6	2.1	24	
27	1.9	2	2	1.9	2	2	2	2.7	1.9	1.9	1.9	IZS	1.9	1.8	1.9	1.8	1.8	2.2	1.8	1.8	1.8	1.8	1.8	1.8	2.7	1.9	24	
28	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	IZS	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	24
29	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	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	24
30	1.9	1.9	1.9	1.9	2.1	2.3	2.1	IZS	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.2	2.2	1.8	1.8	2.3	1.9	24	
HOURLY MAX	3	2	3	3	3	3	3	3	3	4	2	3	2	2	2	2	2	3	2	4	6	3	3	2	2			
HOURLY AVG	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.2	2.0	2.0	1.9	1.9			

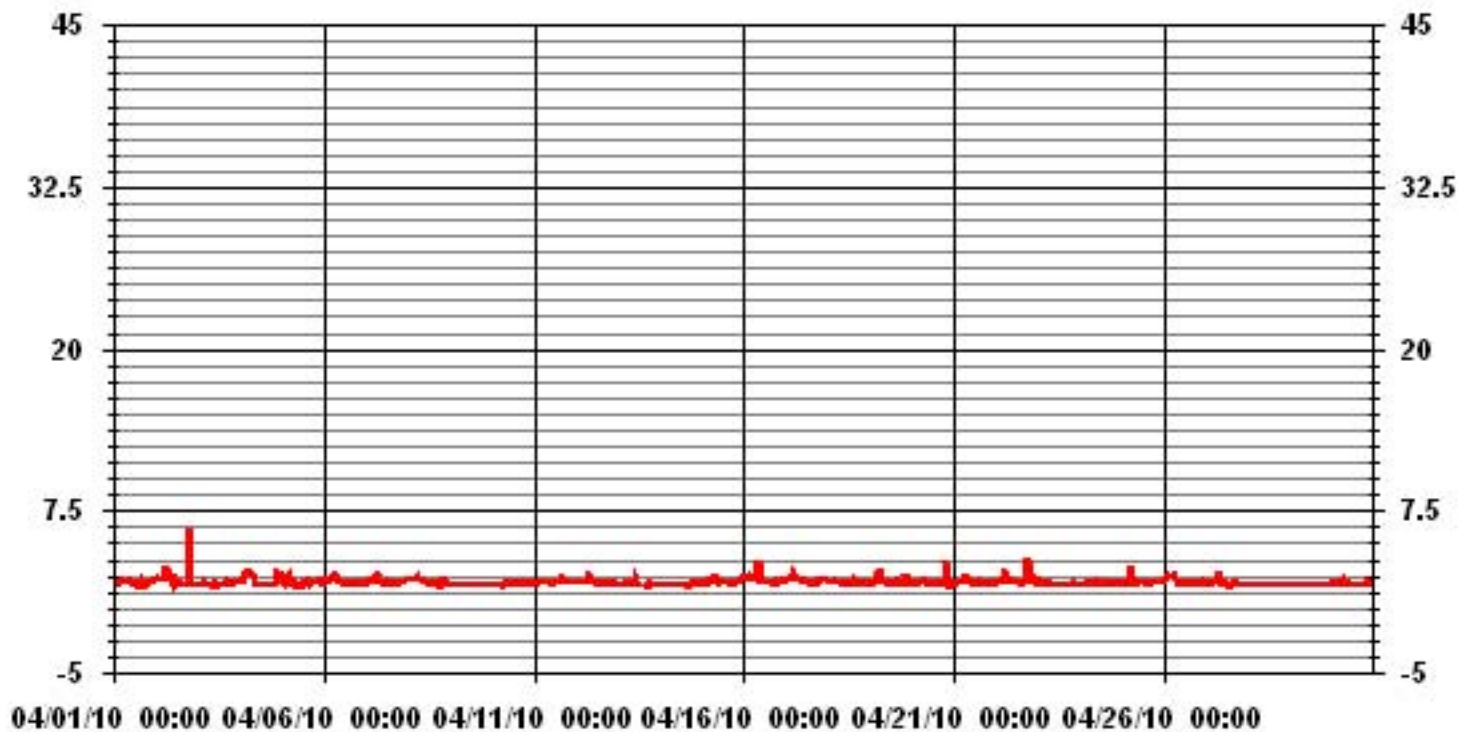
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	685					
MAXIMUM INSTANTANEOUS VALUE:	6.1	PPM	@ HOUR(S)	19	ON DAY(S)	2
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720 HRS		
MONTHLY CALIBRATION TIME:	4 HRS					
STANDARD DEVIATION:	0.29					

### 01 Hour Averages



— LICA THCMAX PPM

LICA  
 THC / WD Joint Frequency Distribution (Percent)

April 2010

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	5.69	6.27	7.00	4.23	11.38	10.80	14.59	1.89	2.62	1.75	4.96	3.50	3.06	10.07	8.02	4.08	100.00
< 10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.69	6.27	7.00	4.23	11.38	10.80	14.59	1.89	2.62	1.75	4.96	3.50	3.06	10.07	8.02	4.08	

Calm : .00 %

Total # Operational Hours : 685

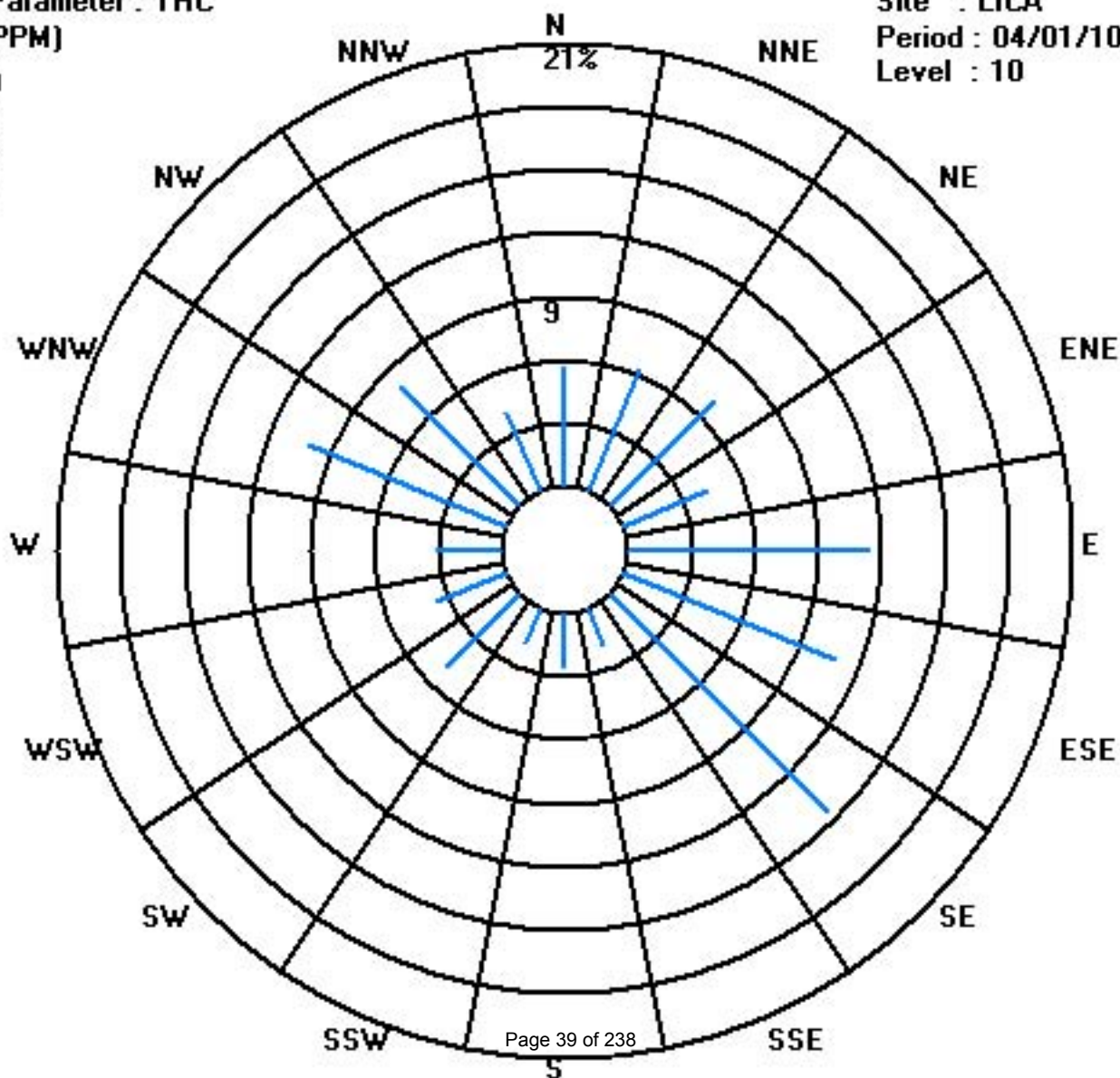
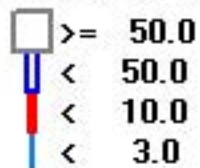
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	39	43	48	29	78	74	100	13	18	12	34	24	21	69	55	28	685
< 10.0																	
< 50.0																	
>= 50.0																	
Totals	39	43	48	29	78	74	100	13	18	12	34	24	21	69	55	28	

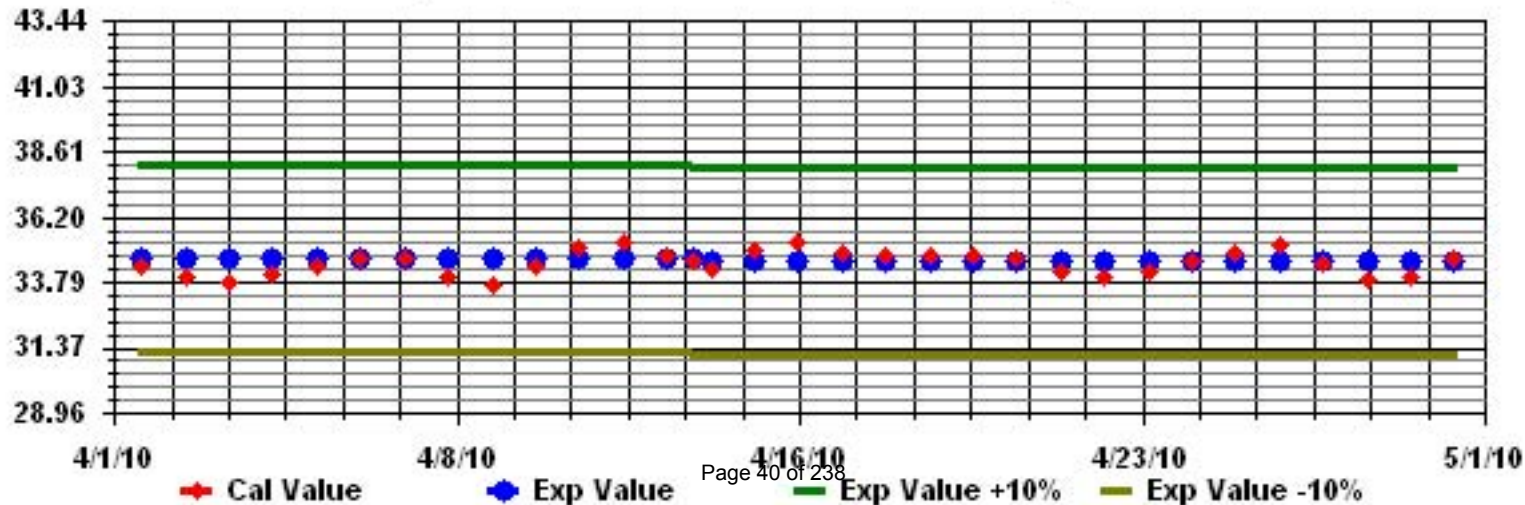
Calm : .00 %

Total # Operational Hours : 685

Class Limits (PPM)



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





# Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	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	MAX.	AVG.	
DAY																											
1	2.4	0.4	0	3.9	0.4	0.4	4.4	1.4	0.9	0	1.9	3.4	1.9	1.4	0	0	2.9	1.9	0.9	0.9	0	3.4	2.9	2.9	4.4	1.6	24
2	3.4	4.9	0.9	0.9	2.9	1.4	4.9	7.9	4.4	4.4	1.9	5.9	2.9	0	2.4	0	2.9	0.4	1.9	6.9	5.4	6.4	3.4	2.9	7.9	3.3	24
3	2.9	5.4	4.9	3.9	2.9	5.9	2.4	6.4	1.4	0	2.4	1.4	0	5.9	1.4	0	6.4	7.4	5.4	4.9	1.9	6.9	4.9	9.9	9.9	4.0	24
4	8.4	11.4	6.9	0.9	1.9	7.4	0	2.4	5.4	2.9	2.4	3.4	5.9	0.9	6.9	2.9	2.4	6.4	3.4	0.4	0	1.4	0	6.9	11.4	3.8	24
5	4.9	1.9	3.4	1.4	2.9	5.9	5.9	3.9	4.9	0.9	1.4	1.4	1.4	4.4	2.4	1.4	3.9	1.9	6.9	4.9	5.4	6.4	4.9	3.9	6.9	3.6	24
6	8.4	3.9	5.4	3.4	2.9	5.9	6.4	9.4	7.4	2.4	0.4	2.4	5.4	6.9	9.9	9.4	10.8	7.9	8.4	10.9	4.9	8.9	8.9	9.4	10.9	6.7	24
7	8.9	9.4	9.9	7.4	10.9	8.4	10.9	8.9	2.9	8.4	5.9	3.9	2.9	0.9	3.9	0	0	1.9	4.4	3.9	3.4	6.4	4.4	3.9	10.9	5.5	24
8	2.4	3.4	3.4	7.9	3.9	5.4	9.9	0	2.4	3.9	4.9	6.4	4.4	8.4	7.4	4.9	8.4	5.9	7.9	13.4	7.4	0.9	2.9	5.9	13.4	5.5	24
9	4.9	2.4	0	1.9	0	0.9	0	0	3.4	1.4	1.9	0.4	0	0	0	0	1.9	1.9	0.9	0.4	0	3.9	1.4	1.4	4.9	1.2	24
10	0	0	0.9	0	2.4	0	0	2.4	0	0	3.4	6.4	2.4	1.4	0.9	2.9	0.9	2.4	0	2.4	2.4	1.4	2.4	1.9	6.4	1.5	24
11	4.9	0.9	3.4	1.9	N	0	4.9	2.9	4.9	0	2.9	3.9	2.4	1.4	2.4	1.9	2.4	3.9	4.4	5.4	3.4	4.9	3.9	2.4	5.4	3.0	23
12	3.9	3.4	2.9	0	3.4	1.4	3.4	3.4	3.9	1.9	2.9	4.9	0.4	2.9	3.4	4.9	3.4	0.4	2.9	1.4	6.4	4.9	7.4	5.4	7.4	3.3	24
13	3.9	2.4	0	3.9	2.4	4.9	0.9	0	1.4	C	C	C	C	0.9	0.4	2.4	0.4	4.4	0.4	0	1.4	3.4	2.4	2.9	4.9	1.9	24
14	0.9	0.9	3.9	2.9	1.9	0.4	2.4	3.9	2.4	3.4	1.4	1.4	5.9	4.9	5.4	6.4	5.9	5.4	8.4	0.9	2.4	3.4	4.9	3.4	8.4	3.5	24
15	0.9	0.9	0	3.9	5.4	3.9	2.4	2.9	2.9	1.9	1.9	4.4	3.9	3.9	1.9	1.9	3.9	0.9	4.4	2.9	2.4	1.4	5.4	1.4	5.4	2.7	24
16	1.9	1.4	2.4	4.4	4.9	4.4	3.9	0.9	2.9	6.4	5.4	7.4	11.4	8.9	13.4	11.4	8.4	7.9	1.4	9.9	7.9	9.9	9.9	9.9	13.4	6.5	24
17	9.4	5.4	6.9	10.4	10.9	1.9	10.9	7.9	11.4	7.4	9.9	7.9	9.4	14.4	9.4	12.4	8.4	10.9	12.9	14.9	22.4	14.4	20.9	21.9	22.4	11.4	24
18	17.4	10.9	13.9	9.4	6.9	10.4	6.9	7.9	5.9	7.9	6.4	5.9	9.4	8.4	8.9	7.9	4.4	9.4	5.4	13.9	15.4	8.4	0.9	4.4	17.4	8.6	24
19	9.4	13.4	10.9	8.4	10.4	12.4	7.9	8.9	5.4	8.4	6.9	6.4	11.4	4.9	8.9	8.4	9.4	8.9	6.4	3.9	12.4	6.9	10.4	9.9	13.4	8.8	24
20	5.9	4.9	13.4	12.4	12.9	8.9	6.9	16.4	13.4	11.4	12.4	11.9	13.4	12.4	13.9	13.9	9.4	10.9	12.9	12.9	7.4	11.4	10.4	12.9	16.4	11.4	24
21	11.4	16.4	11.4	16.9	18.4	12.9	6.4	11.4	13.4	19.9	14.4	12.9	13.4	9.4	15.9	11.4	12.9	8.9	13.4	11.9	7.4	10.9	12.9	17	19.9	13.0	24
22	10.9	16.9	7.9	10.9	14.9	8.4	14.9	7.9	12.4	11.9	9.4	12.9	16.4	9.4	9.9	14.9	8.9	18.4	17.4	20.4	25.9	24.9	17.4	8.4	25.9	13.8	24
23	2.9	1.4	4.4	2.9	4.9	2.9	0	3.4	4.4	4.4	2.4	6.4	2.4	9.4	4.4	1.4	0	1.4	2.9	3.9	1.4	0	2.4	N	9.4	3.0	23
24	1.4	N	2.4	4.4	0.4	0.9	2.9	0.9	0.4	1.9	3.4	1.9	2.9	4.4	N	1.4	1.9	6.9	3.4	1.4	3.9	0	1.9	3.4	6.9	2.4	22
25	1.9	0.9	0	0	2.9	1.4	0.4	0.4	0.4	1.4	3.4	5.4	2.4	0.4	0.4	2.9	2.4	5.9	4.4	4.4	2.9	1.4	1.4	6.4	6.4	2.2	24
26	5.4	0	4.9	3.9	5.4	4.9	9.9	3.9	5.9	2.9	5.9	3.4	4.4	3.9	4.9	5.9	6.4	3.4	1.4	4.4	3.9	5.9	0	4.9	9.9	4.4	24
27	0	3.4	1.4	6.9	2.4	0	0	N	2.9	3.4	2.4	1.4	5.9	3.9	4.4	1.4	0.9	3.9	2.9	2.9	3.9	5.9	1.4	0	6.9	2.7	23
28	4.4	6.4	4.4	2.9	5.4	0.9	2.9	1.4	0.9	1.4	1.4	2.4	8.4	5.9	3.9	1.4	2.4	4.4	1.4	2.4	2.9	2.4	4.4	0.9	8.4	3.2	24
29	0.9	3.9	1.4	1.4	0.9	1.9	0	3.4	0.4	0	3.9	0.9	3.4	0	1.9	1.4	2.9	0	0	0	2.4	0	0.9	0	3.9	1.3	24
30	4.9	1.4	0	0.9	0	1.4	2.9	5.9	0	0	0	1.9	3.9	1.4	1.4	0	0.9	2.4	1.4	3.9	1.4	1.9	0.9	4.4	5.9	1.8	24
HOURLY MAX	17	17	14	17	18	13	15	16	13	20	14	13	16	14	16	15	13	18	17	20	26	25	21	22			
HOURLY AVG	5.0	4.8	4.4	4.7	5.0	4.2	4.5	4.7	4.3	4.1	4.2	4.8	5.5	4.7	5.2	4.5	4.5	5.2	4.9	5.7	5.6	5.6	5.2	5.8			

STATUS FLAG CODES

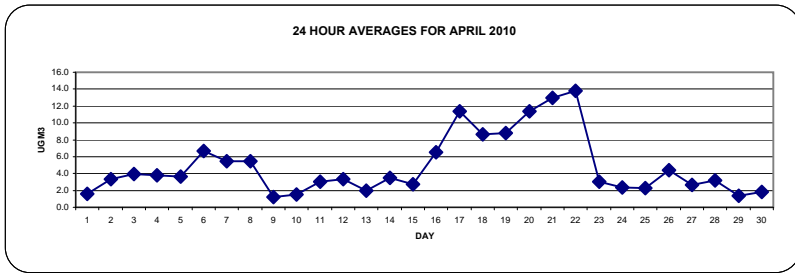
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

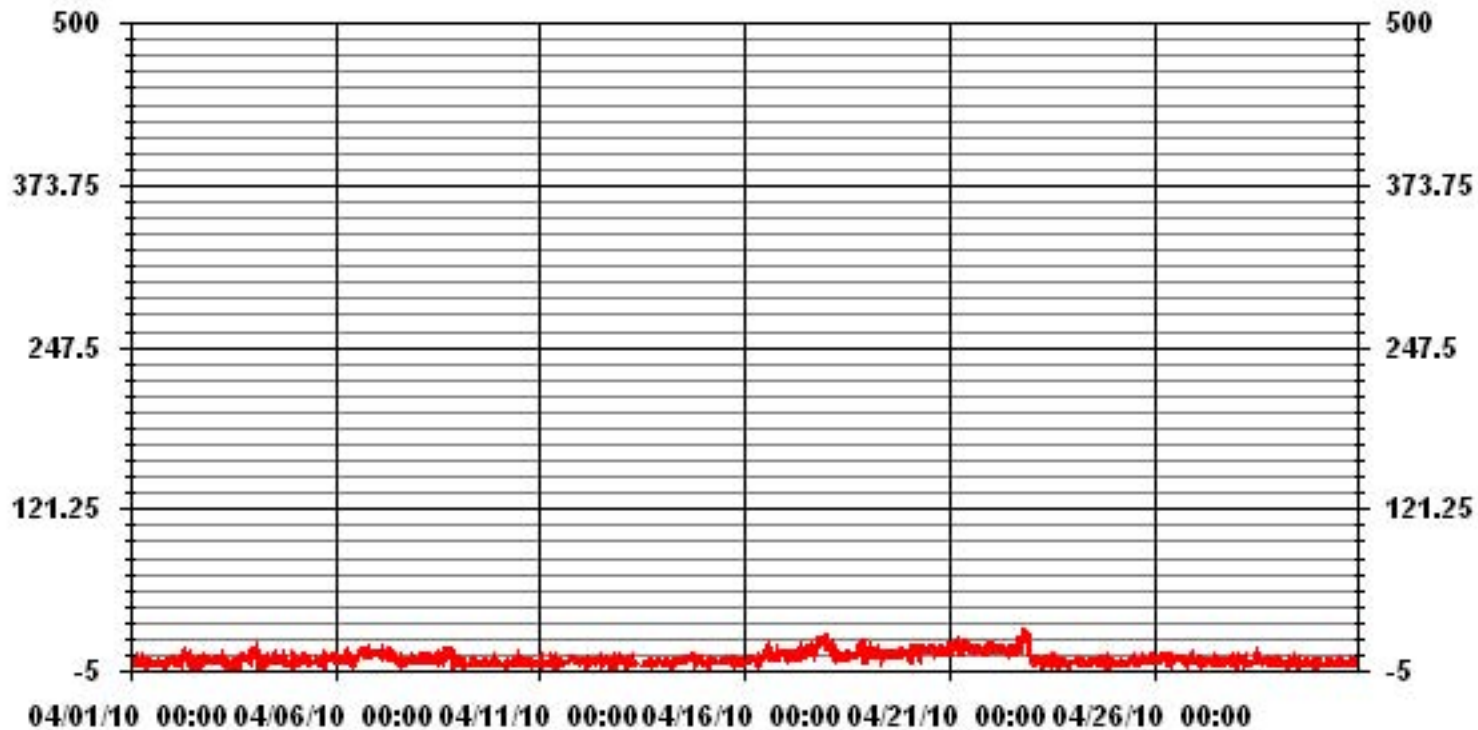
ALBERTA ENVIRONMENT:	1-HR	-	ug/m <sup>3</sup>	24-HR	30	ug/m <sup>3</sup>
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-
NUMBER OF 24-HR EXCEEDENCES:	0 PROPOSED CANADA WIDE GUIDELINE
NUMBER OF NON-ZERO READINGS:	645
MAXIMUM 1-HR AVERAGE:	25.9 UG/M <sup>3</sup> @ HOUR(S) 20 ON DAY(S) 22
MAXIMUM 24-HR AVERAGE:	13.8 UG/M <sup>3</sup> ON DAY(S) 22
IZS CALIBRATION TIME:	0 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	4.38
OPERATIONAL TIME:	715 HRS
AMD OPERATION UPTIME:	99.3 %
MONTHLY AVERAGE:	4.88 UG/M <sup>3</sup>



### 01 Hour Averages



— LICA PM2 UG/M3

LICA  
PM2 / WD Joint Frequency Distribution (Percent)

April 2010

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	5.90	6.46	6.61	4.07	11.11	10.54	14.90	1.96	2.81	1.82	4.92	3.51	3.09	9.98	8.15	4.07	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	5.90	6.46	6.61	4.07	11.11	10.54	14.90	1.96	2.81	1.82	4.92	3.51	3.09	9.98	8.15	4.07	

Calm : .00 %

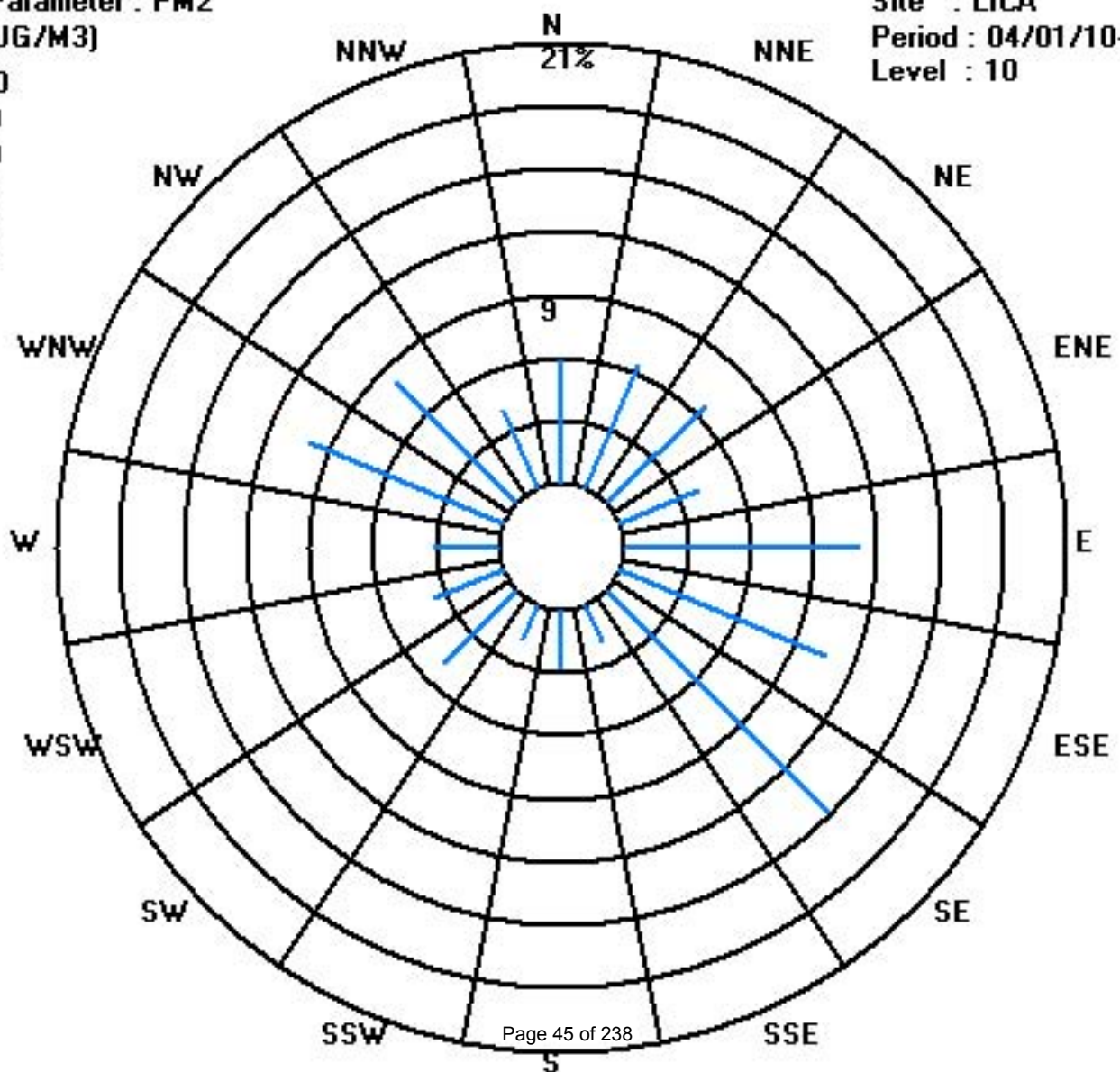
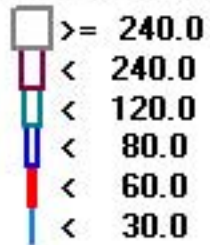
Total # Operational Hours : 711

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	42	46	47	29	79	75	106	14	20	13	35	25	22	71	58	29	711
< 60.0																	
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	42	46	47	29	79	75	106	14	20	13	35	25	22	71	58	29	

Calm : .00 %

Total # Operational Hours : 711



# Nitrogen Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

## NITROGEN DIOXIDE hourly averages in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY	DAY																											
1	1	3	4	3	2	2	4	4	5	2	1	0	0	0	0	IZS	0	0	0	0	0	2	2	1	1	5	1.6	24
2	2	1	2	3	5	4	12	12	15	3	1	1	0	0	IZS	0	0	0	0	1	9	4	1	1	1	15	3.3	24
3	3	1	0	0	2	2	2	1	1	1	1	0	0	IZS	0	0	0	0	1	4	3	2	4	3	6	6	1.5	24
4	4	7	7	5	2	3	7	6	5	3	2	2	IZS	1	0	0	0	1	1	0	1	2	2	8	8	2.9	24	
5	5	5	1	0	2	7	1	2	2	1	0	IZS	0	0	0	0	0	0	2	10	8	5	5	4	10	2.4	24	
6	6	4	3	4	9	13	14	16	15	2	IZS	0	0	0	0	0	0	1	2	4	1	0	0	0	16	3.8	24	
7	7	0	0	1	1	4	3	6	4	IZS	2	2	1	1	0	0	0	2	2	4	5	4	2	2	6	2.0	24	
8	8	2	4	5	7	6	10	7	IZS	1	2	2	0	0	0	1	2	1	1	1	0	1	2	1	2	10	2.5	24
9	9	1	1	1	1	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24	
10	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	11	0	1	1	0	IZS	0	0	0	0	0	0	0	0	0	0	1	2	1	1	1	5	2	3	5	0.8	24	
12	12	2	2	2	IZS	2	3	2	2	1	C	C	C	M	C	C	1	0	0	0	1	2	2	1	1	3	1.4	23
13	13	0	0	IZS	1	1	2	2	C	C	C	C	C	C	C	2	1	1	1	1	1	1	1	0	0	2	0.9	24
14	14	0	IZS	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	2	1	1	1	1	2	0.6	24	
15	15	IZS	1	1	1	2	6	16	7	2	1	1	1	2	1	1	0	0	0	1	5	2	1	1	IZS	16	2.4	24
16	16	2	2	2	2	2	4	3	3	3	1	1	1	1	1	1	1	1	1	3	2	2	IZS	12	12	2.3	24	
17	17	4	1	2	2	9	7	2	5	6	4	3	2	2	1	1	1	1	1	3	6	8	IZS	11	7	11	3.9	24
18	18	7	5	4	4	10	7	7	3	1	1	1	0	0	0	0	1	1	2	9	IZS	5	1	1	10	3.0	24	
19	19	0	1	2	2	10	10	10	3	2	1	1	1	1	0	1	1	1	1	0	IZS	2	2	2	1	10	2.4	24
20	20	1	1	1	1	2	2	2	2	1	1	1	1	1	1	0	1	1	1	IZS	1	2	1	1	1	2	1.2	24
21	21	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	IZS	1	3	4	2	1	1	4	1.4	24
22	22	1	1	1	1	2	5	5	3	2	3	2	1	1	0	1	1	IZS	4	4	12	16	21	4	1	21	4.0	24
23	23	1	3	2	2	2	2	3	2	0	1	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	3	0.8	24
24	24	0	0	0	1	1	2	1	1	0	1	0	0	0	0	IZS	0	0	1	1	1	2	1	0	0	2	0.6	24
25	25	0	0	0	0	0	3	3	1	0	0	0	1	1	IZS	1	1	1	2	3	3	3	3	2	3	1.3	24	
26	26	4	6	6	7	7	11	11	2	1	0	0	0	IZS	1	1	1	1	1	1	1	1	1	1	1	11	2.9	24
27	27	2	3	2	3	3	6	4	1	1	0	0	IZS	1	0	1	0	1	1	1	2	2	1	1	1	6	1.6	24
28	28	1	1	1	1	1	2	1	2	2	0	IZS	1	0	1	1	1	1	1	0	1	0	0	0	0	2	0.8	24
29	29	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0.1	24
30	30	0	0	0	0	0	1	3	3	IZS	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0.4	24
HOURLY MAX		7	7	6	9	13	14	16	15	6	4	3	2	2	1	2	2	1	4	4	12	16	21	11	12			
HOURLY AVG		1.7	1.8	1.7	2.1	3.3	4.4	4.5	3.2	1.4	1.0	0.7	0.4	0.6	0.3	0.5	0.4	0.5	0.9	1.2	2.8	2.5	2.3	1.6	2.0			

### STATUS FLAG CODES

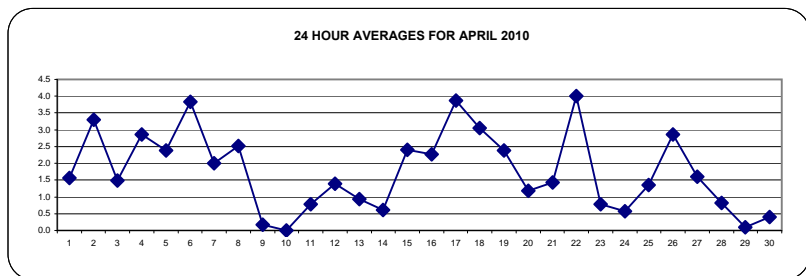
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

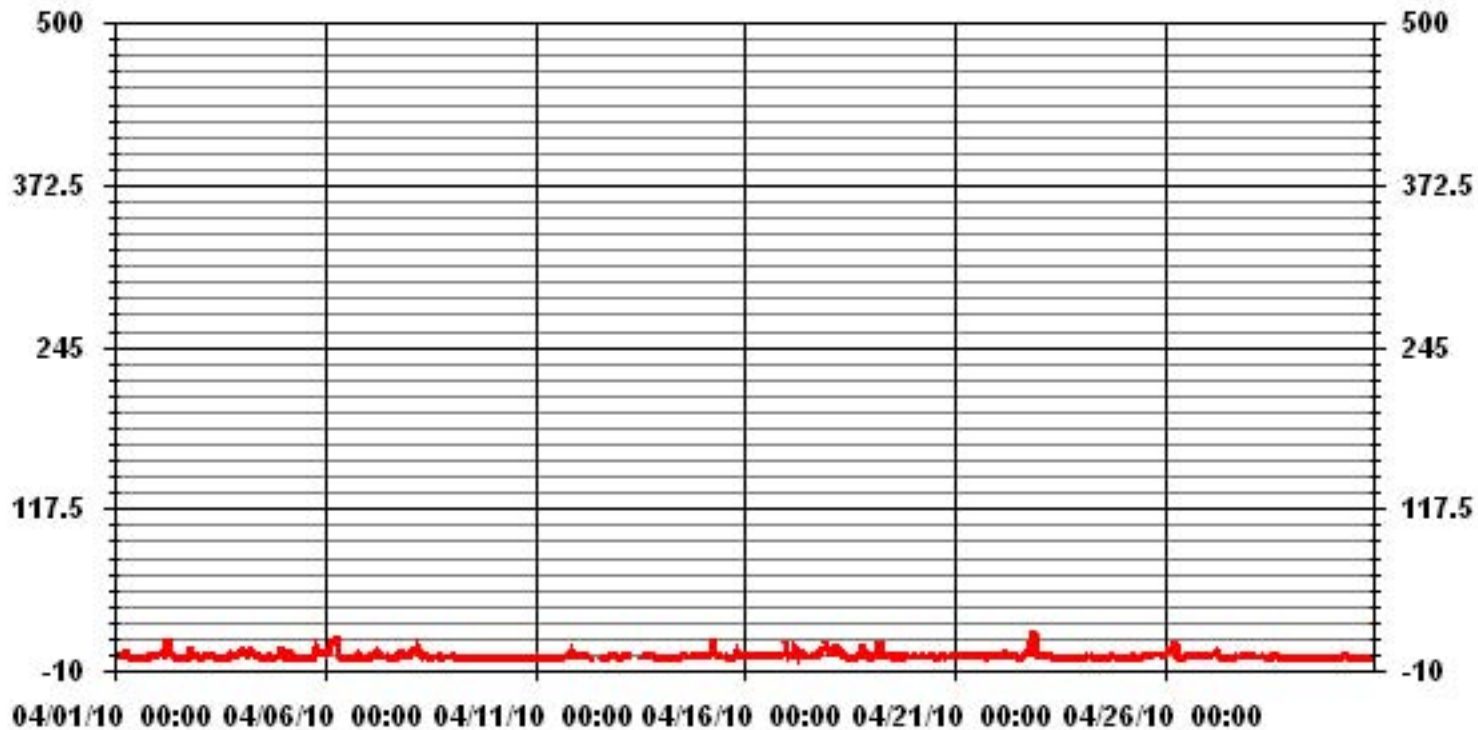
ALBERTA ENVIRONMENT:	1-HR	212	PPB	24-HR	106	PPB
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### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	448					
MAXIMUM 1-HR AVERAGE:	21	PPB	@ HOUR(S)	21	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	4.0	PPB			ON DAY(S)	22
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME	99.9	%	
STANDARD DEVIATION	2.66		MONTHLY AVERAGE	1.77	PPB	



### 01 Hour Averages



— LICA H02\_ PPB



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

## NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
DAY																													
1	6	6	4	2	3	5	6	42	3	1	2	1	0	1	<b>IZS</b>	0	1	0	1	2	7	6	3	2	42	4.5	24		
2	2	7	10	11	10	16	18	25	5	3	5	3	22	<b>IZS</b>	0	1	8	0	5	17	8	1	2	1	25	7.8	24		
3	2	2	1	5	5	4	3	6	6	9	1	0	<b>IZS</b>	0	14	1	1	9	11	12	8	9	10	10	14	5.6	24		
4	14	12	13	6	6	13	11	7	6	4	4	<b>IZS</b>	1	1	2	0	27	1	1	1	6	7	5	22	27	7.4	24		
5	17	3	10	13	14	9	3	39	30	34	<b>IZS</b>	2	5	0	0	4	1	1	8	30	20	12	17	10	39	12.3	24		
6	6	5	9	12	17	<b>62</b>	28	20	5	<b>IZS</b>	2	1	1	2	9	4	3	6	14	23	2	2	0	9	<b>62</b>	10.5	24		
7	0	1	1	4	12	4	11	7	<b>IZS</b>	4	2	7	8	0	7	4	2	5	8	10	15	4	4	4	15	5.4	24		
8	3	7	9	13	10	29	21	<b>IZS</b>	3	11	7	1	1	1	3	6	7	8	4	1	2	3	2	2	29	6.7	24		
9	3	3	1	1	1	0	<b>IZS</b>	2	0	1	0	0	0	24	0	1	0	0	0	0	0	0	0	0	24	1.6	24		
10	0	0	0	0	0	<b>IZS</b>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.1	24	
11	0	1	2	2	<b>IZS</b>	0	M	1	1	2	0	0	0	0	1	1	4	5	3	6	3	7	5	6	7	2.3	24		
12	4	3	5	<b>IZS</b>	6	7	3	3	6	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>M</b>	<b>C</b>	<b>C</b>	9	1	3	2	3	5	4	3	3	2	9	4.0	23
13	1	1	<b>IZS</b>	3	8	3	4	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	2	<b>C</b>	2	9	5	2	1	1	1	9	3.1	24		
14	1	<b>IZS</b>	1	1	1	3	1	1	1	1	0	1	4	2	1	2	2	2	2	2	2	1	1	1	1	4	1.4	24	
15	<b>IZS</b>	2	1	5	4	14	27	44	24	4	4	3	2	2	1	1	1	1	4	11	6	2	3	<b>IZS</b>	44	7.5	24		
16	6	2	3	2	11	13	6	9	59	2	2	2	4	1	3	3	2	1	3	15	4	7	<b>IZS</b>	28	59	8.2	24		
17	14	2	10	7	14	10	4	8	9	6	6	4	3	3	2	3	2	2	11	17	29	<b>IZS</b>	21	12	29	8.7	24		
18	10	7	7	11	19	12	10	5	5	3	2	2	2	1	3	8	8	2	4	23	<b>IZS</b>	14	2	2	23	7.0	24		
19	1	3	8	4	18	34	34	6	7	2	1	3	3	1	3	3	2	13	3	<b>IZS</b>	9	6	8	2	34	7.6	24		
20	2	1	2	2	5	7	3	5	5	3	9	1	13	1	2	3	4	2	<b>IZS</b>	5	5	3	2	5	13	3.9	24		
21	5	2	1	2	2	6	4	3	8	3	2	1	4	7	3	1	7	<b>IZS</b>	7	11	7	7	2	5	11	4.3	24		
22	2	2	2	2	8	20	19	7	5	4	4	3	1	2	3	2	<b>IZS</b>	18	9	25	28	32	15	2	32	9.3	24		
23	3	4	3	3	3	3	3	3	1	2	1	1	1	13	1	<b>IZS</b>	1	1	0	0	1	1	1	1	13	2.2	24		
24	1	2	3	2	2	18	2	4	2	6	1	1	5	1	<b>IZS</b>	2	1	3	2	4	4	2	1	2	18	3.1	24		
25	1	0	0	0	0	6	4	2	1	1	2	2	2	<b>IZS</b>	2	2	1	3	4	6	7	5	5	5	7	2.7	24		
26	7	9	8	10	15	35	19	4	5	5	2	2	<b>IZS</b>	15	5	6	7	2	3	3	10	3	13	2	35	8.3	24		
27	4	6	7	7	10	15	15	6	2	2	2	<b>IZS</b>	4	3	3	2	2	3	3	3	5	2	1	1	15	4.7	24		
28	2	2	1	2	3	10	3	19	20	1	<b>IZS</b>	7	2	7	2	9	5	3	1	1	1	1	1	0	20	4.5	24		
29	0	0	0	0	1	2	1	2	1	<b>IZS</b>	2	1	1	2	1	1	2	10	2	0	0	1	1	1	10	1.4	24		
30	1	1	1	1	1	5	4	<b>IZS</b>	5	1	1	1	5	0	1	1	2	4	1	2	1	0	1	5	1.8	24			
HOURLY MAX	17	12	13	13	19	62	34	44	59	34	9	7	22	24	14	9	27	18	14	30	29	32	21	28					
HOURLY AVG	4.1	3.3	4.2	4.6	7.2	12.4	9.6	10.1	8.1	4.6	2.5	2.0	3.6	3.5	3.0	2.6	3.8	3.7	4.3	8.2	6.6	5.3	4.5	4.8					

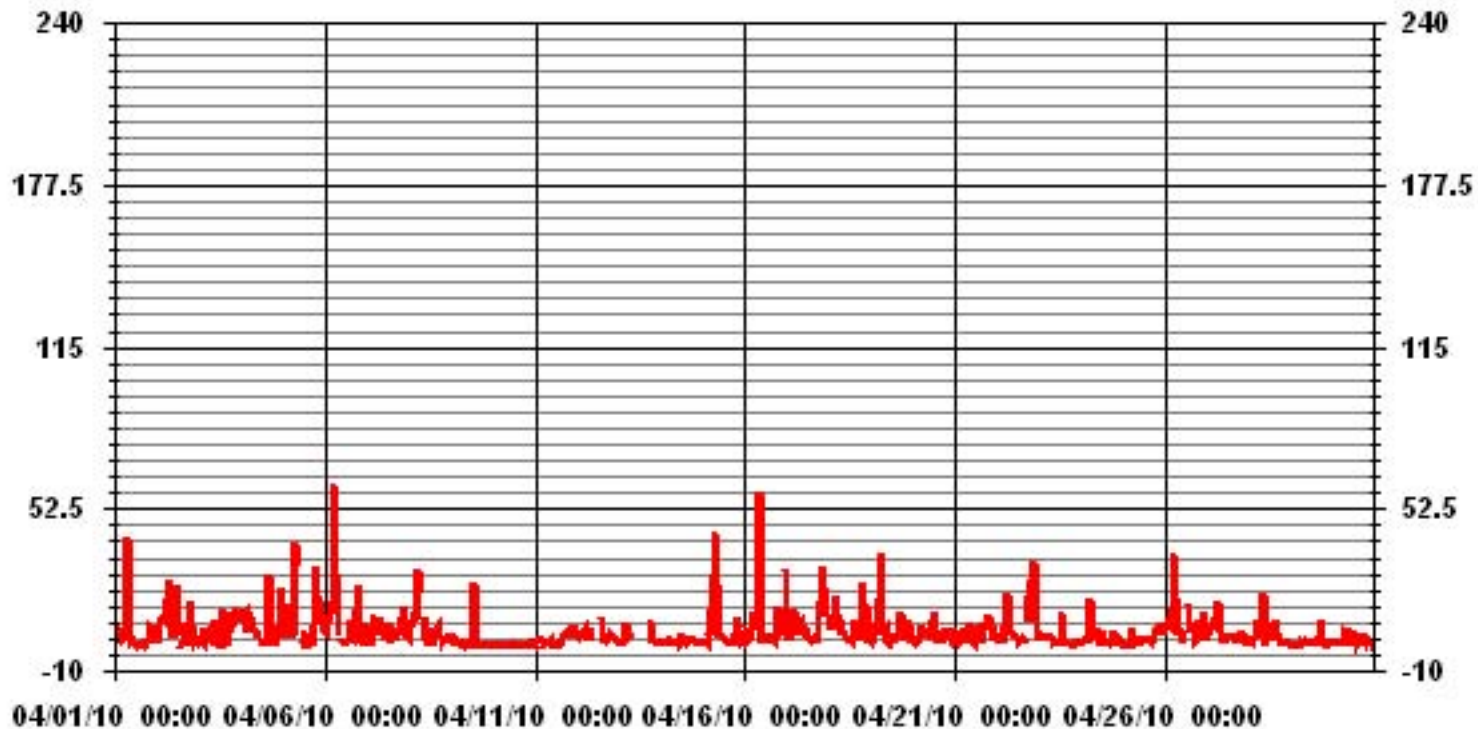
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	605					
MAXIMUM INSTANTANEOUS VALUE:	62	PPB	@ HOUR(S)	5	ON DAY(S)	6
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	13	HRS				
STANDARD DEVIATION:	7.16					

### 01 Hour Averages



— LICA NO2MAX PPB

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

April 2010

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	5.76	6.64	7.09	3.98	10.78	10.48	14.77	1.92	2.65	1.77	5.02	3.54	3.10	10.19	8.12	4.13	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.76	6.64	7.09	3.98	10.78	10.48	14.77	1.92	2.65	1.77	5.02	3.54	3.10	10.19	8.12	4.13	

Calm : .00 %

Total # Operational Hours : 677

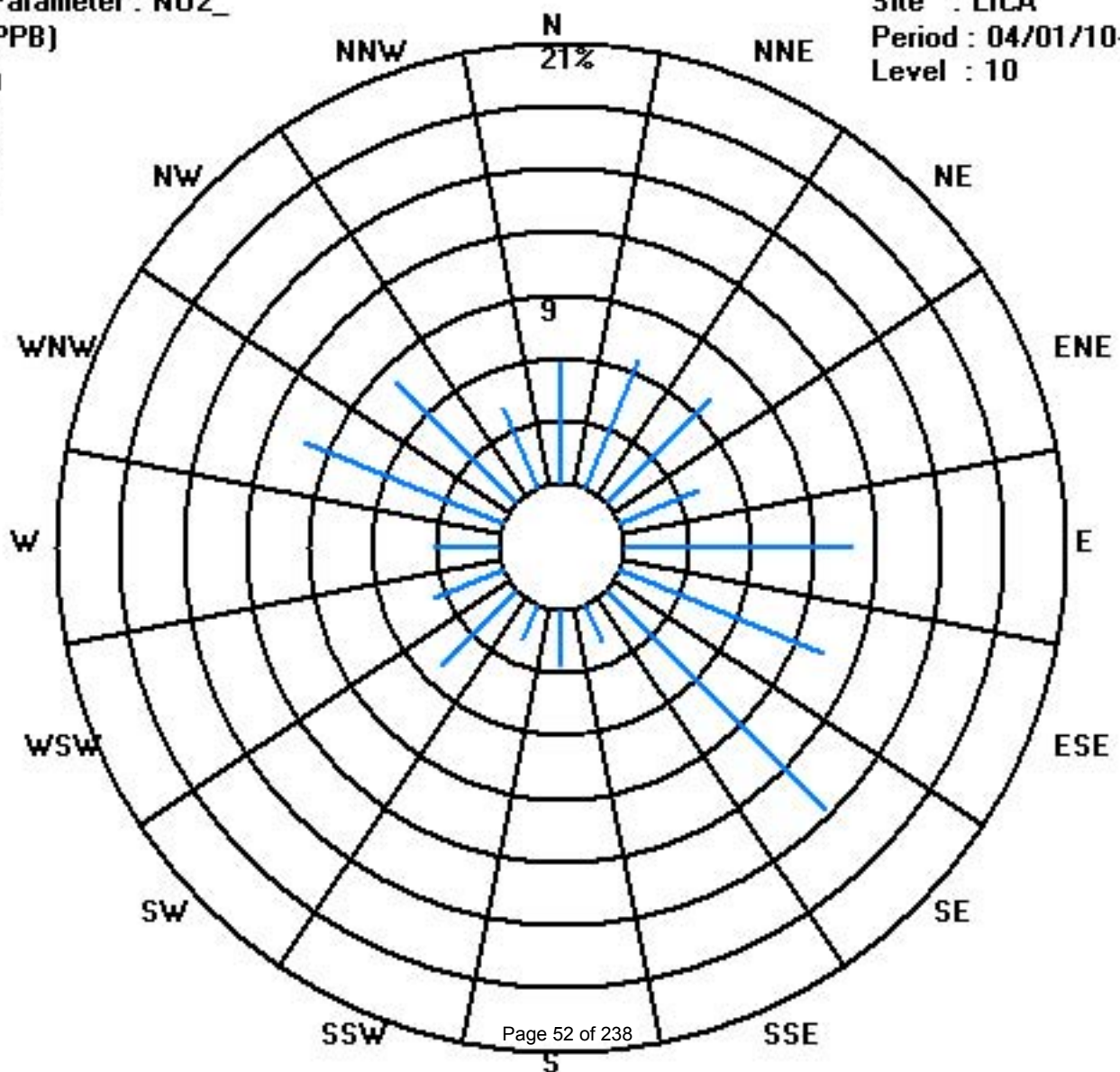
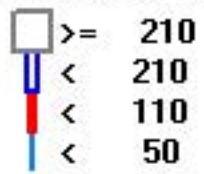
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	39	45	48	27	73	71	100	13	18	12	34	24	21	69	55	28	677
< 110																	
< 210																	
>= 210																	
Totals	39	45	48	27	73	71	100	13	18	12	34	24	21	69	55	28	

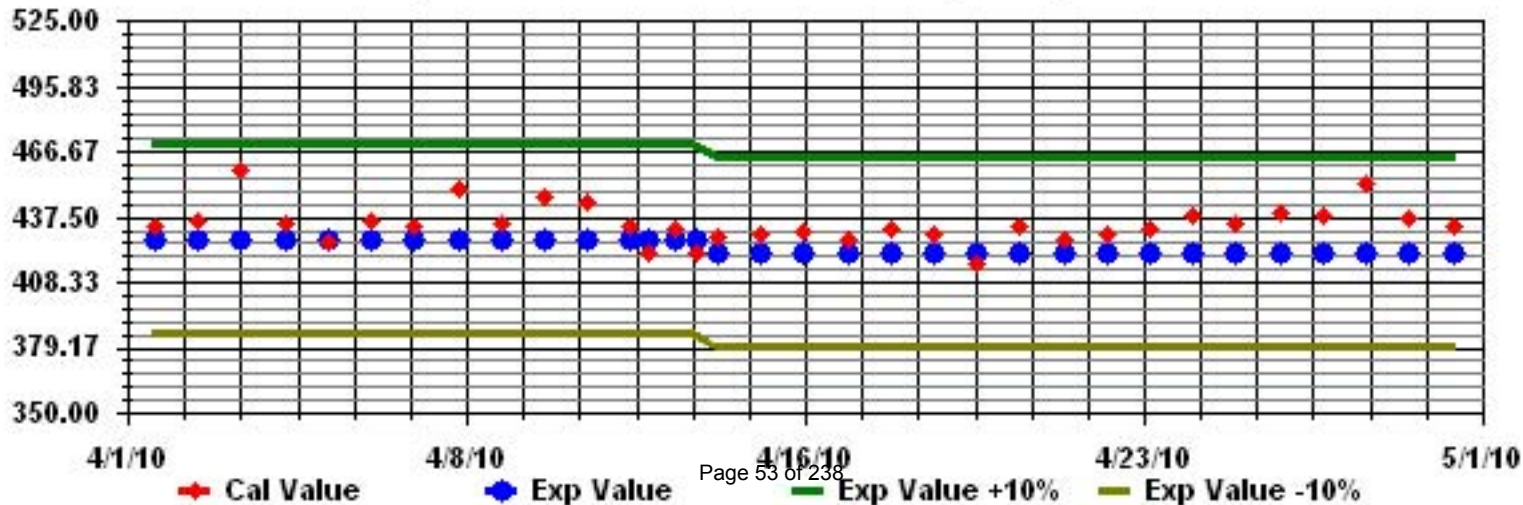
Calm : .00 %

Total # Operational Hours : 677

Class Limits (PPB)



Calibration Graph for Site: LICA Parameter: H02\_ Sequence: H02 Phase: SPAN



# Nitric Oxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

## NITRIC OXIDE hourly averages in ppb

MST

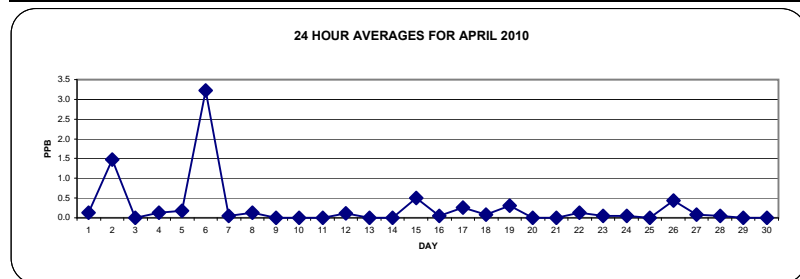
DAY	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	3	0.1	24	
2	0	0	0	0	0	4	11	18	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	18	1.5	24	
3	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	
4	0	0	0	0	0	0	0	1	1	0	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
5	0	0	0	0	0	0	0	2	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0.2	24	
6	0	0	0	0	8	16	30	19	0	IZS	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	30	3.2	24	
7	0	0	0	0	0	0	0	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
8	0	0	0	0	0	2	0	IZS	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	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	0.0	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	0.0	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	1	C	C	C	M	C	1	0	0	0	0	0	0	0	0	0	0	1	0.1	23	
13	0	0	IZS	0	0	0	0	C	C	C	C	C	C	C	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	6	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	6	0.5	24
16	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	0.0	24	
17	0	0	0	0	1	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	2	0.3	24	
18	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0.1	24	
19	0	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	4	0.3	24	
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0.0	24	
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24	
22	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	1	0	0	1	0.1	24	
23	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	IZS	0	0	0	0	0	0	0	0	0	1	0.0	24	
24	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	1	0.0	24	
25	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	
26	0	0	0	0	0	5	3	0	0	0	0	0	0	IZS	2	0	0	0	0	0	0	0	0	0	0	5	0.4	24	
27	0	0	0	0	0	1	1	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
28	0	0	0	0	0	1	0	0	0	0	0	IZS	0	0	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	0.0	24	
30	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	
HOURLY MAX	0	0	0	0	8	16	30	19	2	1	1	0	0	2	1	0	0	0	0	0	1	1	1	1	0				
HOURLY AVG	0.0	0.0	0.0	0.0	0.3	1.2	1.9	1.8	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0				

### STATUS FLAG CODES

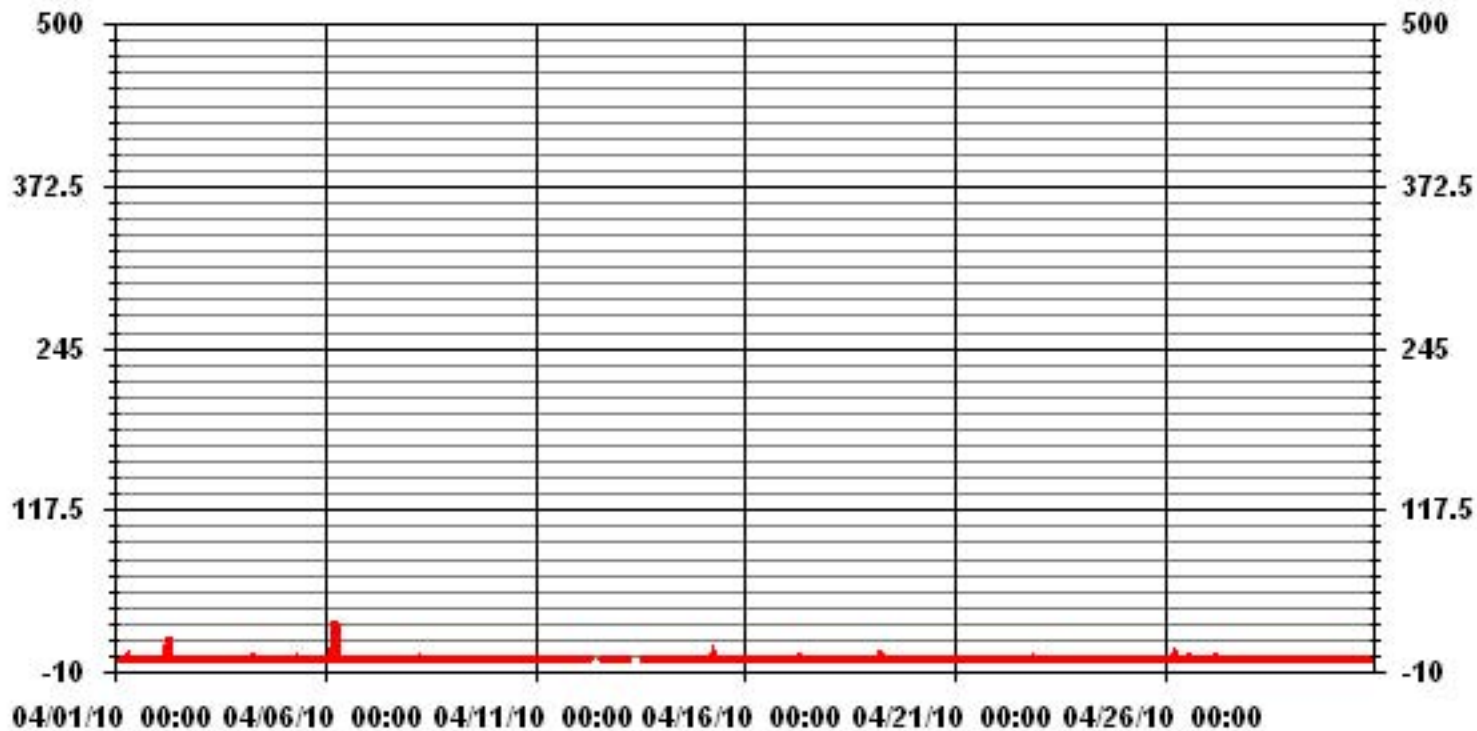
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	44
MAXIMUM 1-HR AVERAGE:	30 PPB @ HOUR(S) 6 ON DAY(S) 6
MAXIMUM 24-HR AVERAGE:	3.2 PPB ON DAY(S) 6
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	11 HRS
OPERATIONAL TIME:	719 HRS
AMT OPERATION UPTIME:	99.9 %
STANDARD DEVIATION	1.79
MONTHLY AVERAGE	0.25 PPB



### 01 Hour Averages





# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	1	1	1	3	2	2	9	73	1	1	0	1	0	0	IZS	0	0	1	0	0	1	2	0	0	73	4.3	24	
2	0	4	2	1	3	17	32	32	3	1	3	3	5	IZS	1	1	1	0	0	2	1	0	1	0	32	4.9	24	
3	0	0	3	1	2	2	1	3	8	1	0	2	IZS	0	2	0	2	2	2	0	0	0	1	2	8	1.5	24	
4	1	1	1	0	0	1	1	2	2	2	2	IZS	0	0	0	0	16	0	1	0	1	1	1	5	16	1.7	24	
5	4	0	2	3	2	4	1	78	35	35	IZS	3	0	0	0	11	1	19	7	11	1	0	17	2	78	10.3	24	
6	1	1	1	4	25	66	61	38	2	IZS	4	0	2	1	0	1	1	5	1	16	4	0	0	0	66	10.2	24	
7	0	0	0	0	7	1	2	11	IZS	2	1	3	2	0	2	1	1	0	0	0	0	6	0	0	11	1.7	24	
8	0	0	0	0	0	32	2	IZS	4	11	5	5	1	0	2	2	0	12	0	0	0	0	0	0	32	3.3	24	
9	0	0	0	0	0	0	IZS	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	0.3	24	
10	0	0	0	0	0	IZS	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
11	0	0	0	1	IZS	0	0	0	1	3	1	1	0	1	1	23	2	3	1	1	0	1	0	2	23	1.8	24	
12	1	1	1	IZS	3	2	1	7	19	C	C	C	C	M	C	C	10	1	3	1	0	0	0	1	0	19	2.8	23
13	0	0	IZS	0	3	1	8	C	C	C	C	C	C	C	C	C	3	C	7	4	3	0	0	0	8	2.1	24	
14	0	IZS	0	0	0	3	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5	0.3	24	
15	IZS	0	0	0	1	4	15	72	39	1	1	1	0	1	0	0	0	0	0	6	0	0	0	IZS	72	6.4	24	
16	0	0	0	0	4	3	1	8	36	0	0	0	1	2	0	0	2	0	0	5	0	0	IZS	8	36	3.0	24	
17	0	0	2	0	7	1	1	10	3	2	1	1	0	0	5	1	1	0	2	3	7	IZS	0	10	10	2.5	24	
18	0	0	0	2	13	1	3	2	1	2	0	0	0	7	7	4	4	6	0	6	IZS	0	0	0	13	2.5	24	
19	0	0	0	0	10	70	20	2	11	0	0	1	2	0	0	0	0	0	1	IZS	0	3	0	0	70	5.2	24	
20	0	0	0	0	9	5	0	3	5	17	11	0	2	1	11	1	3	0	IZS	24	2	0	0	1	24	4.1	24	
21	1	0	0	0	2	7	0	0	0	0	0	0	1	3	0	3	1	IZS	3	4	0	2	0	0	7	1.2	24	
22	0	0	0	0	0	3	17	5	0	1	0	2	0	4	0	0	IZS	2	2	17	22	6	0	0	22	3.5	24	
23	0	0	0	0	0	0	0	0	0	0	0	0	0	37	2	IZS	0	0	0	0	0	0	0	0	37	1.7	24	
24	0	1	1	0	0	10	0	2	2	2	0	0	1	0	IZS	1	6	3	3	1	0	1	0	0	10	1.5	24	
25	0	0	0	0	0	0	0	0	0	0	0	0	2	IZS	0	0	0	0	0	1	1	0	0	0	2	0.2	24	
26	1	0	0	4	5	57	10	0	7	12	1	3	IZS	82	5	5	0	0	0	0	4	2	7	0	82	8.9	24	
27	0	0	1	1	5	4	6	3	7	2	0	IZS	10	17	1	9	1	0	0	0	11	0	0	0	17	3.4	24	
28	0	0	0	0	1	12	0	4	0	5	IZS	1	0	4	1	2	1	0	2	0	0	0	1	0	12	1.5	24	
29	0	0	0	0	6	0	0	8	2	IZS	6	0	2	2	0	4	1	7	0	0	0	0	0	0	8	1.7	24	
30	0	0	0	0	0	0	0	0	IZS	4	0	1	3	0	0	5	0	1	4	0	0	0	0	0	5	0.8	24	
HOURLY MAX	4	4	3	4	25	70	61	78	39	35	11	5	10	82	11	23	16	19	7	24	22	6	17	10				
HOURLY AVG	0.3	0.3	0.5	0.7	3.8	10.6	6.6	13.1	7.0	4.0	1.4	1.1	1.5	6.4	1.9	2.7	1.7	2.4	1.1	3.4	1.9	0.8	1.0	1.0				

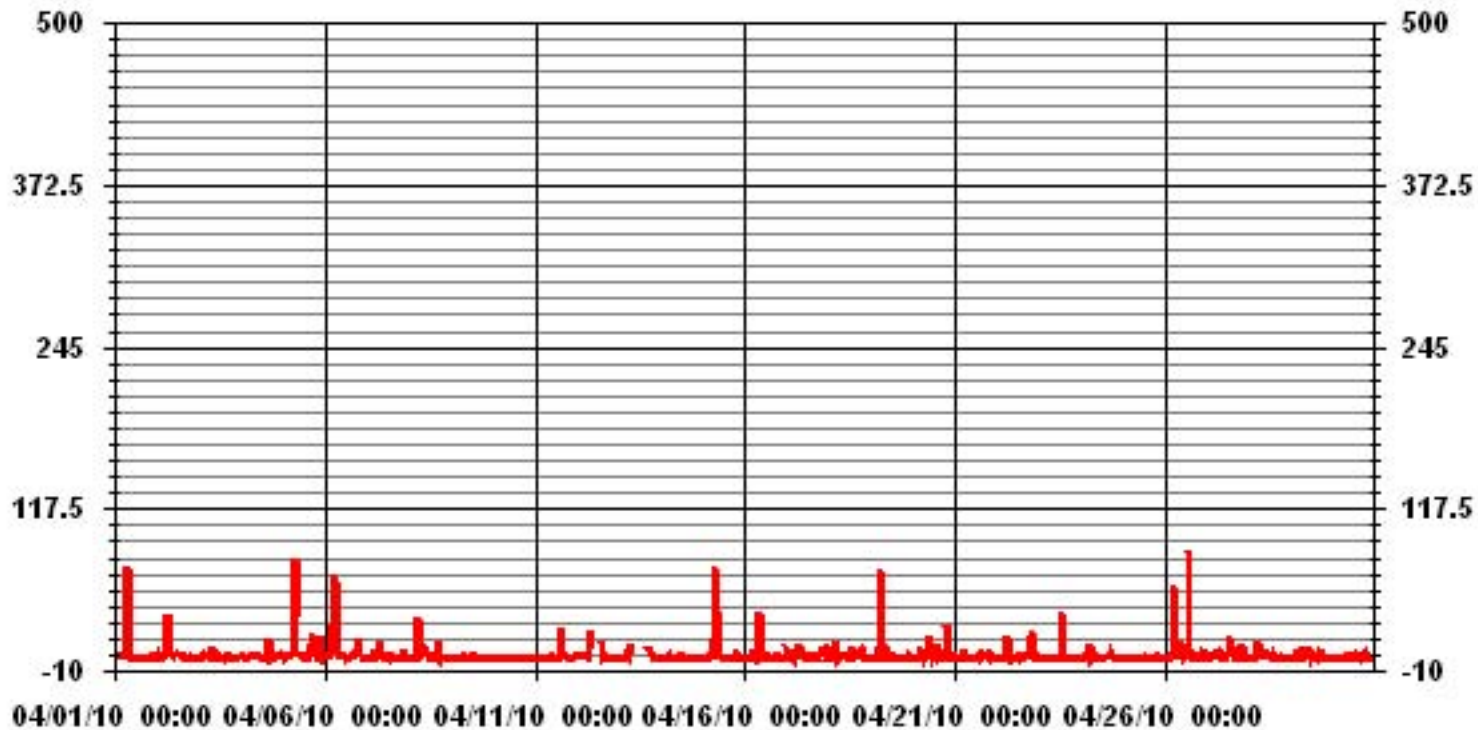
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	326					
MAXIMUM INSTANTANEOUS VALUE:	82	PPB	@ HOUR(S)	13	ON DAY(S)	26
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	13	HRS				
STANDARD DEVIATION:	9.04					

### 01 Hour Averages



— LICA NOMAX PPB

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

April 2010

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	5.76	6.64	7.09	3.98	10.78	10.48	14.77	1.92	2.65	1.77	5.02	3.54	3.10	10.19	8.12	4.13	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.76	6.64	7.09	3.98	10.78	10.48	14.77	1.92	2.65	1.77	5.02	3.54	3.10	10.19	8.12	4.13	

Calm : .00 %

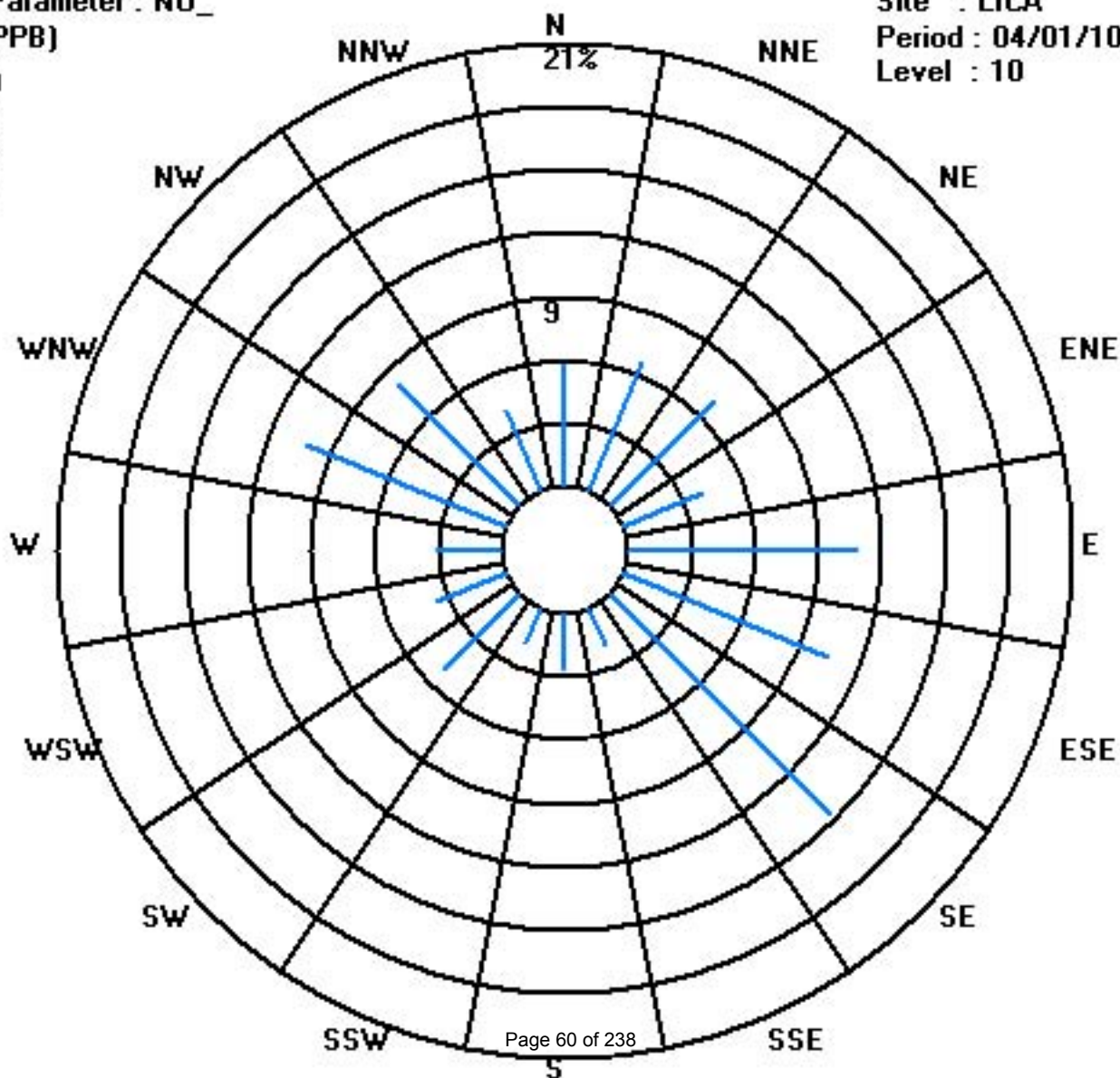
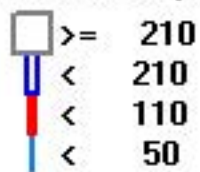
Total # Operational Hours : 677

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	39	45	48	27	73	71	100	13	18	12	34	24	21	69	55	28	677
< 110																	
< 210																	
>= 210																	
Totals	39	45	48	27	73	71	100	13	18	12	34	24	21	69	55	28	

Calm : .00 %

Total # Operational Hours : 677



# Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

OXIDES OF NITROGEN hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 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	2	4	3	2	2	4	4	9	2	1	0	0	0	0	IZS	0	0	0	0	0	2	2	1	1	9	1.7	24	
2	1	2	2	5	4	16	23	33	4	2	2	0	0	IZS	0	0	0	0	1	9	4	1	1	0	33	4.8	24	
3	1	0	0	2	2	2	1	1	1	1	0	0	IZS	0	0	0	0	1	4	3	2	4	3	6	6	1.5	24	
4	7	7	5	2	3	7	6	7	4	2	3	IZS	1	0	0	0	1	0	0	0	1	2	2	8	8	3.0	24	
5	5	1	0	2	7	1	2	4	1	1	IZS	0	0	0	0	1	0	0	2	11	8	5	6	4	11	2.7	24	
6	4	3	4	10	21	30	45	35	3	IZS	0	0	0	0	0	0	0	1	2	6	1	0	0	0	45	7.2	24	
7	0	0	0	1	4	3	6	5	IZS	3	2	1	1	0	0	0	0	2	2	4	5	5	2	2	6	2.1	24	
8	2	4	5	7	6	12	8	IZS	2	3	2	1	0	0	1	2	1	1	1	0	1	2	1	2	12	2.8	24	
9	1	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	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	1	0	IZS	0	0	0	0	0	0	0	0	0	0	0	1	3	1	1	1	4	2	3	4	0.7	24	
12	2	2	2	IZS	2	4	2	2	2	C	C	C	C	M	C	2	0	1	1	1	3	2	1	1	0	4	1.7	23
13	0	0	IZS	1	1	2	3	C	C	C	C	C	C	C	2	1	1	1	1	1	2	1	1	0	0	3	1.1	24
14	0	IZS	0	0	0	1	0	0	0	0	0	0	2	1	1	1	1	2	1	1	1	1	1	1	2	0.7	24	
15	IZS	1	1	1	2	6	22	11	3	2	1	1	2	2	1	0	0	0	1	5	2	1	1	IZS	22	3.0	24	
16	2	1	2	2	2	4	4	3	5	1	1	1	1	1	1	1	1	1	1	4	2	2	IZS	13	2.4	24		
17	4	1	2	2	10	7	3	7	9	5	4	3	2	1	1	1	1	1	3	6	8	IZS	11	8	11	4.3	24	
18	7	5	4	5	11	8	8	4	1	1	1	0	0	0	1	1	1	1	2	9	IZS	5	1	1	11	3.3	24	
19	0	1	2	2	11	14	13	4	2	1	1	1	1	0	1	1	1	1	0	IZS	2	2	2	1	14	2.8	24	
20	1	1	1	1	2	3	2	2	1	1	1	1	1	1	1	1	1	0	IZS	2	2	1	1	1	3	1.3	24	
21	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	IZS	1	3	4	2	1	1	4	1.4	24	
22	1	1	1	1	2	5	6	3	3	3	2	1	1	1	1	1	IZS	4	4	12	17	22	4	1	22	4.2	24	
23	1	3	2	2	2	3	2	0	1	0	0	0	1	0	IZS	0	0	0	0	0	0	0	0	0	3	0.8	24	
24	0	0	0	0	1	3	1	1	1	1	0	0	1	0	IZS	0	1	1	1	1	1	1	0	0	3	0.7	24	
25	0	0	0	0	0	3	4	1	0	0	0	2	2	IZS	2	1	1	2	3	3	3	3	3	2	4	1.5	24	
26	4	6	6	8	8	17	15	2	1	1	0	0	IZS	3	2	1	1	1	1	1	1	0	1	1	17	3.5	24	
27	2	3	2	3	3	8	5	1	1	1	1	IZS	1	1	1	1	1	2	1	2	2	1	1	0	8	1.9	24	
28	1	1	1	1	2	3	1	3	2	1	IZS	1	1	1	1	1	1	1	1	0	0	0	0	0	3	1.0	24	
29	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.0	24	
30	0	0	0	0	0	1	3	3	IZS	2	0	0	1	0	0	0	0	0	1	0	0	0	0	0	3	0.5	24	
HOURLY MAX	7	7	6	10	21	30	45	35	9	5	4	3	2	3	2	2	1	4	4	12	17	22	11	13				
HOURLY AVG	1.7	1.7	1.6	2.1	3.8	5.8	6.6	5.2	1.9	1.3	0.8	0.5	0.7	0.5	0.7	0.6	0.6	1.0	1.2	3.0	2.5	2.3	1.6	1.9				

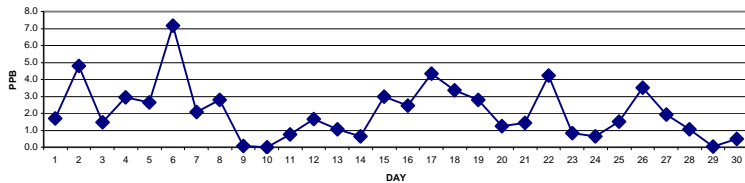
STATUS FLAG CODES

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

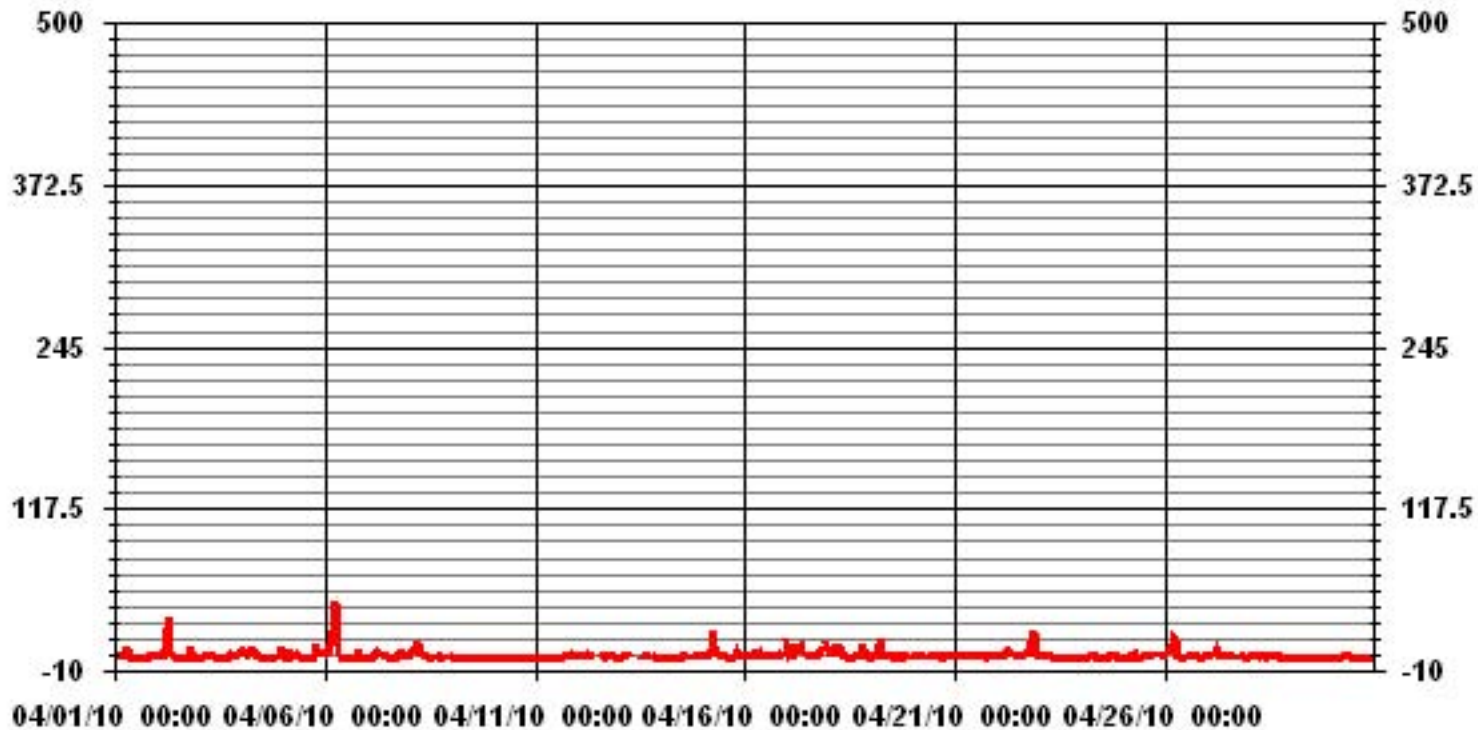
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	457
MAXIMUM 1-HR AVERAGE:	45 PPB @ HOUR(S) 6 ON DAY(S) 6
MAXIMUM 24-HR AVERAGE:	7.2 PPB ON DAY(S) 6
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	11 HRS
STANDARD DEVIATION	3.95
OPERATIONAL TIME:	719 HRS
AMD OPERATION UPTIME	99.9 %
MONTHLY AVERAGE	2.10 PPB

24 HOUR AVERAGES FOR APRIL 2010



### 01 Hour Averages



— LICA NOX\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

## OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	7	7	4	4	4	6	11	109	4	3	2	2	0	2	IZS	0	1	1	2	2	7	6	3	3	109	8.3	24	
2	2	9	12	12	13	32	49	51	7	4	6	4	27	IZS	0	2	10	1	5	19	9	1	2	1	51	12.1	24	
3	1	2	3	6	6	5	4	9	11	10	1	2	IZS	0	16	1	3	11	13	12	9	9	10	12	16	6.8	24	
4	14	14	13	5	6	14	12	8	7	6	6	IZS	2	1	2	0	42	2	1	1	8	7	5	27	42	8.8	24	
5	21	4	13	15	15	13	4	108	65	65	IZS	5	5	0	0	14	2	12	10	40	20	12	32	10	108	21.1	24	
6	5	6	10	15	41	111	89	58	7	IZS	4	1	2	3	9	5	5	9	14	38	5	2	0	9	111	19.5	24	
7	0	0	1	4	16	4	14	10	IZS	6	3	10	10	1	9	5	3	5	5	8	10	21	4	4	21	6.7	24	
8	3	7	9	13	11	59	22	IZS	5	20	10	4	2	1	3	8	7	19	4	1	2	3	2	2	59	9.4	24	
9	2	2	1	1	1	0	IZS	4	0	1	0	0	0	28	0	1	0	0	0	0	0	0	0	0	28	1.8	24	
10	0	0	0	0	0	IZS	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	2	0.1	24	
11	0	1	2	3	IZS	0	1	1	1	3	1	2	0	1	1	11	6	8	4	7	3	7	5	7	11	3.3	24	
12	4	4	6	IZS	9	9	4	6	21	C	C	C	M	C	C	18	2	5	3	3	6	4	3	2	21	6.2	23	
13	1	1	IZS	3	11	4	12	C	C	C	C	C	C	C	C	3	C	9	14	8	2	1	2	1	14	5.1	24	
14	1	IZS	1	1	1	6	1	2	1	1	1	1	9	2	2	2	3	3	2	2	1	1	1	1	9	2.0	24	
15	IZS	2	2	5	6	15	42	109	53	5	6	4	4	3	2	2	2	1	4	16	7	2	3	IZS	109	13.4	24	
16	6	2	3	3	14	16	7	17	93	3	2	2	5	3	3	3	4	1	4	20	4	7	IZS	34	93	11.1	24	
17	14	2	12	8	22	11	7	14	12	9	8	5	4	4	3	3	4	3	14	21	33	IZS	22	22	33	11.2	24	
18	10	7	8	12	31	14	13	8	7	4	2	2	3	2	4	9	13	3	4	27	IZS	15	3	2	31	8.8	24	
19	1	3	8	4	22	103	54	8	18	2	2	3	3	1	3	3	3	13	3	IZS	9	8	8	2	103	12.3	24	
20	2	1	1	2	13	11	4	8	8	3	19	2	14	2	3	4	6	2	IZS	22	6	3	2	6	22	6.3	24	
21	7	2	1	2	3	8	4	3	9	3	2	1	5	8	4	3	7	IZS	8	12	7	9	2	6	12	5.0	24	
22	2	2	2	2	8	24	23	13	6	5	5	5	1	2	4	3	IZS	21	11	40	50	36	15	2	50	12.3	24	
23	3	4	3	3	3	3	3	3	1	2	2	1	2	30	3	IZS	1	1	0	0	1	1	2	2	30	3.2	24	
24	1	2	4	2	3	28	2	7	5	7	1	2	6	1	IZS	4	3	7	4	6	4	3	1	3	28	4.6	24	
25	0	0	0	0	0	6	5	3	2	1	2	3	3	IZS	3	2	2	3	4	6	9	5	5	5	9	3.0	24	
26	7	10	9	12	19	93	30	5	9	8	2	3	IZS	95	10	9	7	3	3	4	14	5	21	2	95	16.5	24	
27	5	6	9	7	13	19	20	8	4	2	2	IZS	8	11	4	4	3	4	3	4	15	2	2	1	20	6.8	24	
28	2	2	1	3	4	23	4	24	21	3	IZS	8	2	11	3	11	7	4	3	2	1	1	1	1	24	6.2	24	
29	0	0	0	1	3	2	1	7	1	IZS	8	1	2	4	1	4	2	16	2	0	0	1	2	1	16	2.6	24	
30	1	1	1	0	1	1	6	6	IZS	9	1	1	8	1	1	3	1	2	8	1	2	2	0	1	9	2.5	24	
HOURLY MAX	21	14	13	15	41	111	89	109	93	65	19	10	27	95	18	14	42	21	14	40	50	36	32	34				
HOURLY AVG	4.2	3.6	4.8	5.1	10.3	22.1	15.4	21.8	14.0	7.1	3.8	2.9	4.9	8.3	4.1	4.2	5.4	5.8	5.2	11.2	8.3	6.0	5.4	5.9				

### STATUS FLAG CODES

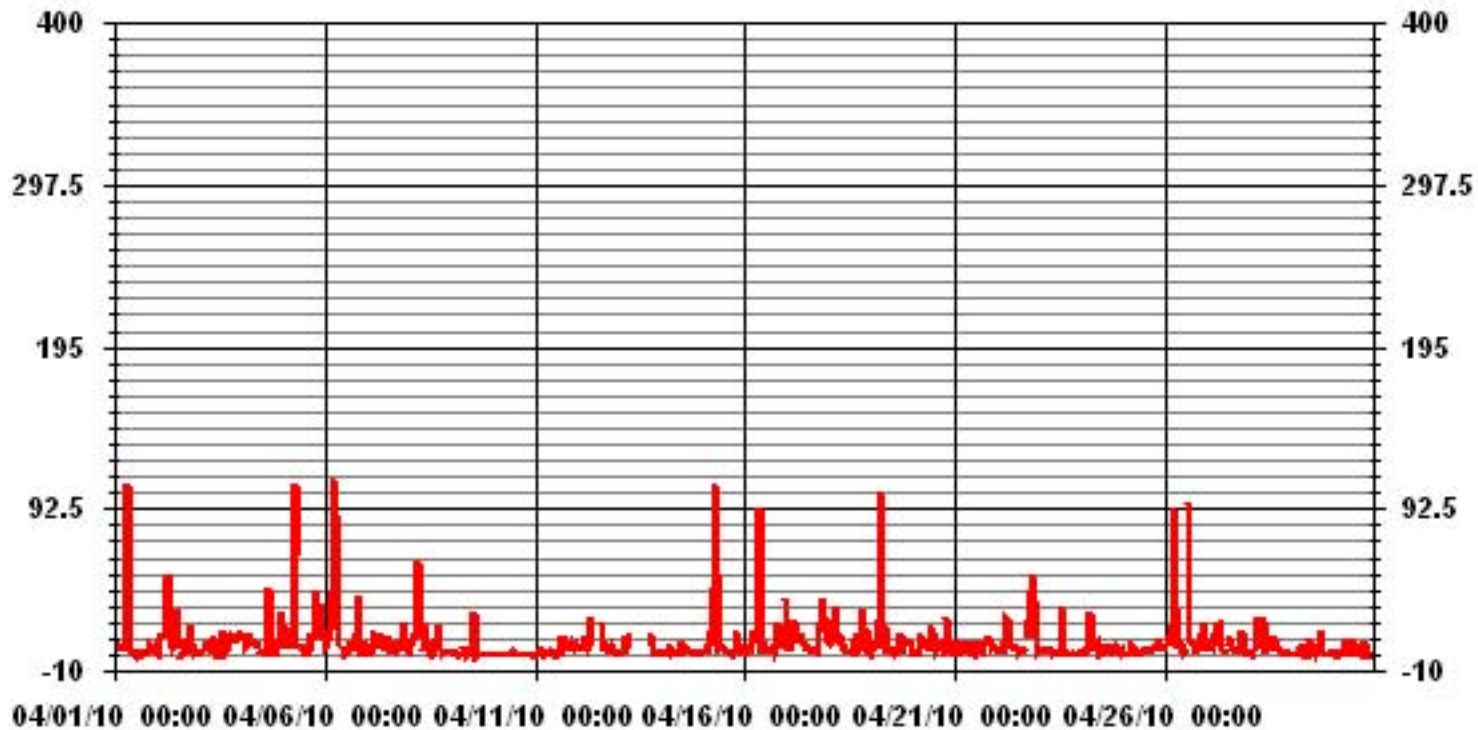
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	613					
MAXIMUM INSTANTANEOUS VALUE:	111	PPB	@ HOUR(S)	5	ON DAY(S)	6
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	13	HRS				
STANDARD DEVIATION:	14.12					



### 01 Hour Averages



— LICA NOXMAX PPB

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

April 2010

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	5.76	6.64	7.09	3.98	10.78	10.48	14.77	1.92	2.65	1.77	5.02	3.54	3.10	10.19	8.12	4.13	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.76	6.64	7.09	3.98	10.78	10.48	14.77	1.92	2.65	1.77	5.02	3.54	3.10	10.19	8.12	4.13	

Calm : .00 %

Total # Operational Hours : 677

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	39	45	48	27	73	71	100	13	18	12	34	24	21	69	55	28	677
< 110																	
< 210																	
>= 210																	
Totals	39	45	48	27	73	71	100	13	18	12	34	24	21	69	55	28	

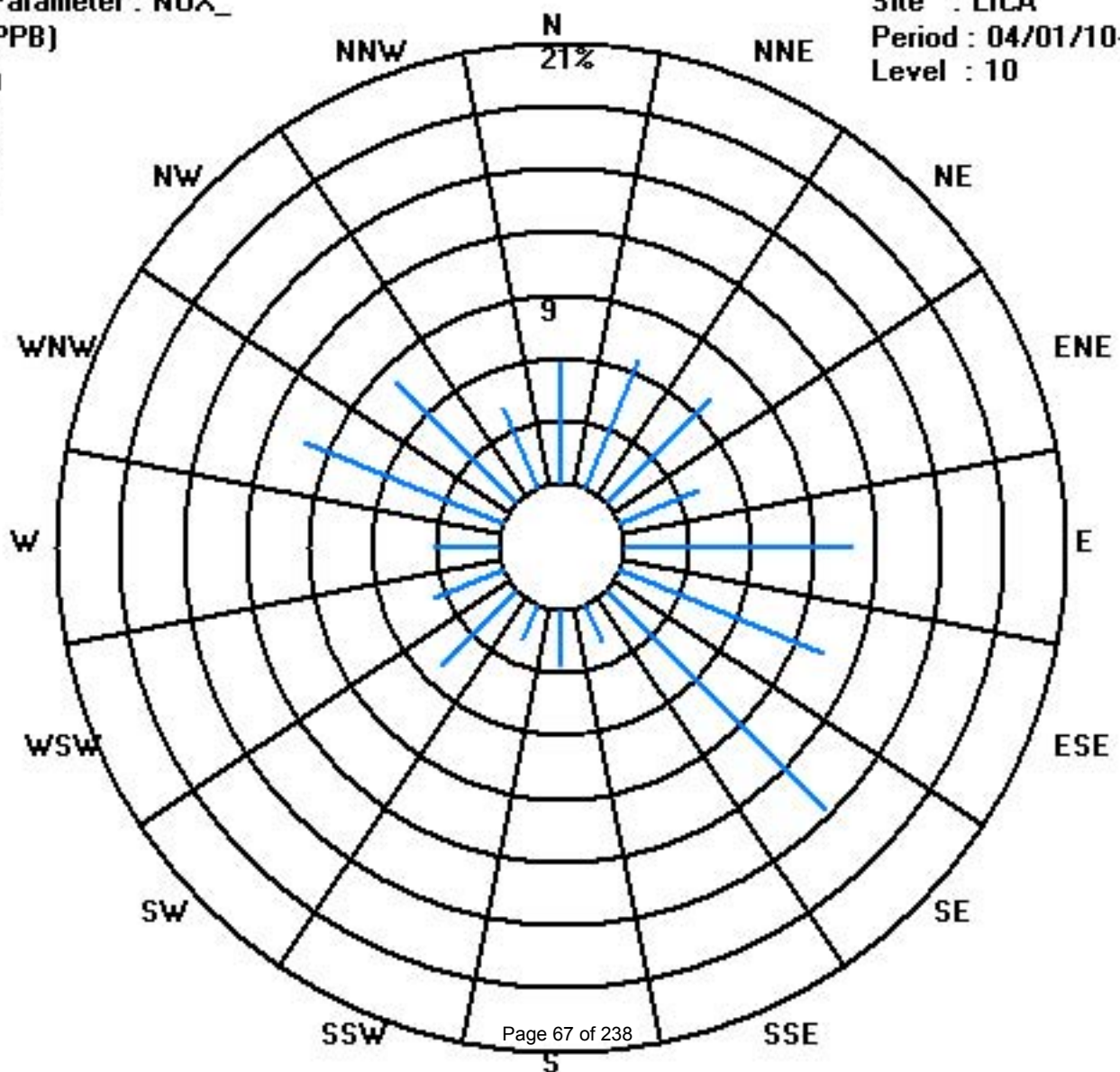
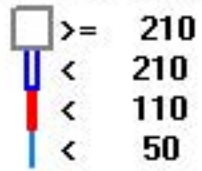
Calm : .00 %

Total # Operational Hours : 677

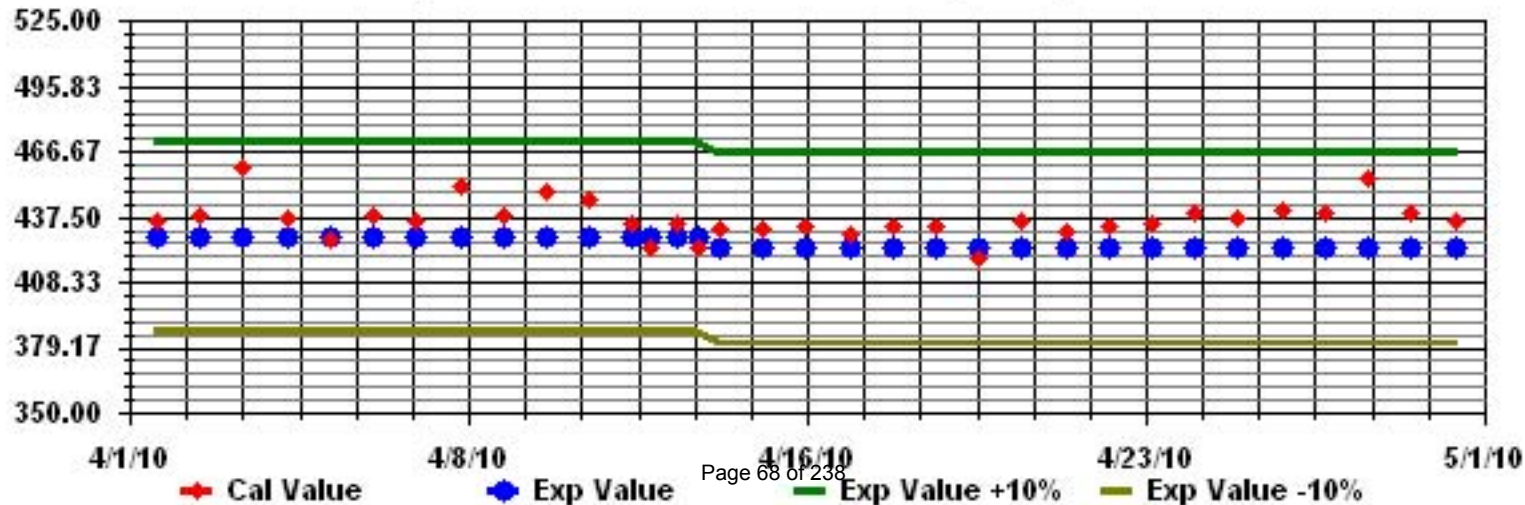
Class Limits (PPB)

Period : 04/01/10-04/30/10

Level : 10



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



# Ozone

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

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

MST

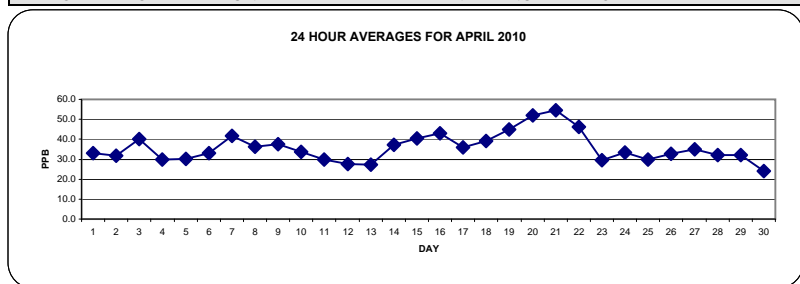
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
DAY																												
1	29	25	24	25	19	20	22	24	30	34	36	38	41	42	IZS	44	44	45	44	42	37	32	33	27	45	32.9	24	
2	23	18	13	9	11	4	4	11	31	37	40	45	48	IZS	48	48	49	48	46	33	40	43	42	41	49	31.8	24	
3	41	40	40	37	37	36	36	36	34	37	41	44	IZS	48	49	47	47	45	40	39	44	39	35	30	49	40.1	24	
4	22	16	14	18	15	10	11	21	31	35	39	IZS	45	47	45	45	43	45	42	40	36	26	23	17	47	29.8	24	
5	19	29	30	23	18	30	28	28	31	34	IZS	38	40	41	43	44	43	43	41	24	18	19	16	15	44	30.2	24	
6	13	12	11	4	1	0	2	9	31	IZS	41	44	50	52	53	53	53	51	48	46	47	47	47	45	53	33.0	24	
7	48	46	44	39	30	25	24	33	IZS	40	43	45	47	49	50	52	53	51	49	41	35	38	38	39	53	41.7	24	
8	36	21	18	15	14	23	27	IZS	34	35	41	47	48	48	49	48	47	47	42	40	41	39	42	35	49	36.4	24	
9	36	31	34	35	36	38	IZS	40	39	38	38	37	38	38	40	39	39	39	38	38	38	38	38	37	40	37.5	24	
10	36	36	36	35	35	IZS	35	35	34	34	33	33	33	33	33	34	33	34	33	32	33	32	32	31	36	33.7	24	
11	31	31	30	31	IZS	30	29	29	29	30	30	31	32	32	33	33	32	31	32	31	27	21	26	28	33	30.0	24	
12	29	29	28	IZS	28	27	27	27	26	26	27	29	29	28	27	26	26	28	28	26	26	28	28	28	29	27.4	24	
13	27	27	IZS	23	24	24	24	25	27	27	29	27	27	C	C	C	C	27	28	29	30	29	31	31	31	27.2	24	
14	32	IZS	34	36	37	37	37	37	37	35	33	33	33	33	34	36	38	40	42	44	43	41	41	40	44	37.1	24	
15	IZS	40	40	34	20	19	16	29	38	42	43	45	44	46	50	52	52	52	49	41	46	46	44	IZS	52	40.4	24	
16	38	43	39	37	38	35	35	36	39	45	48	49	54	56	55	52	51	50	48	43	45	38	IZS	13	56	42.9	24	
17	26	37	25	15	5	5	11	25	34	38	41	47	52	56	58	59	60	58	54	46	37	IZS	22	19	60	36.1	24	
18	20	23	25	26	21	22	22	38	44	46	48	51	52	53	53	54	54	54	52	38	IZS	24	36	47	54	39.3	24	
19	45	43	34	28	20	15	17	39	43	44	47	52	54	56	57	58	59	58	59	IZS	53	51	50	50	59	44.9	24	
20	48	50	51	49	43	40	39	40	41	44	49	61	62	61	61	61	60	60	IZS	56	54	54	54	54	62	51.8	24	
21	53	52	51	50	48	46	44	44	45	49	58	61	62	62	63	63	65	IZS	63	57	52	55	56	56	65	54.6	24	
22	53	51	50	48	45	34	39	42	44	45	50	56	61	62	63	63	IZS	56	54	34	22	14	40	36	63	46.2	24	
23	34	32	37	37	35	34	32	30	28	25	26	28	29	28	28	IZS	25	25	24	25	28	28	30	31	37	29.5	24	
24	33	36	35	35	35	34	34	34	33	33	34	34	34	35	IZS	35	34	34	33	32	31	31	31	29	36	33.4	24	
25	26	27	28	29	29	25	24	28	32	35	37	34	35	IZS	35	35	38	36	34	34	29	23	17	13	38	29.7	24	
26	15	13	10	8	13	11	19	35	39	41	43	44	IZS	43	43	44	45	45	44	42	41	40	38	36	45	32.7	24	
27	34	31	31	30	30	25	27	30	32	35	37	IZS	39	40	40	41	41	40	39	38	37	37	35	34	41	34.9	24	
28	34	34	33	31	28	28	28	27	26	25	IZS	29	29	31	32	34	35	36	36	35	36	37	36	35	37	32.0	24	
29	33	31	30	31	31	32	32	32	32	IZS	33	34	33	33	33	34	33	33	35	35	33	30	27	26	35	32.0	24	
30	23	21	20	19	19	17	14	14	IZS	17	19	24	30	30	31	31	30	30	30	31	29	26	25	25	31	24.1	24	
HOURLY MAX	53	52	51	50	48	46	44	44	45	49	58	61	62	62	63	63	65	60	63	57	54	55	56	56				
HOURLY AVG	32.3	31.9	30.9	28.9	26.4	25.0	25.5	30.3	34.4	35.9	38.7	40.7	42.2	43.8	44.7	45.2	43.9	42.8	41.6	37.7	36.8	34.7	34.9	32.7				

### STATUS FLAG CODES

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

OBJECTIVE LIMIT:

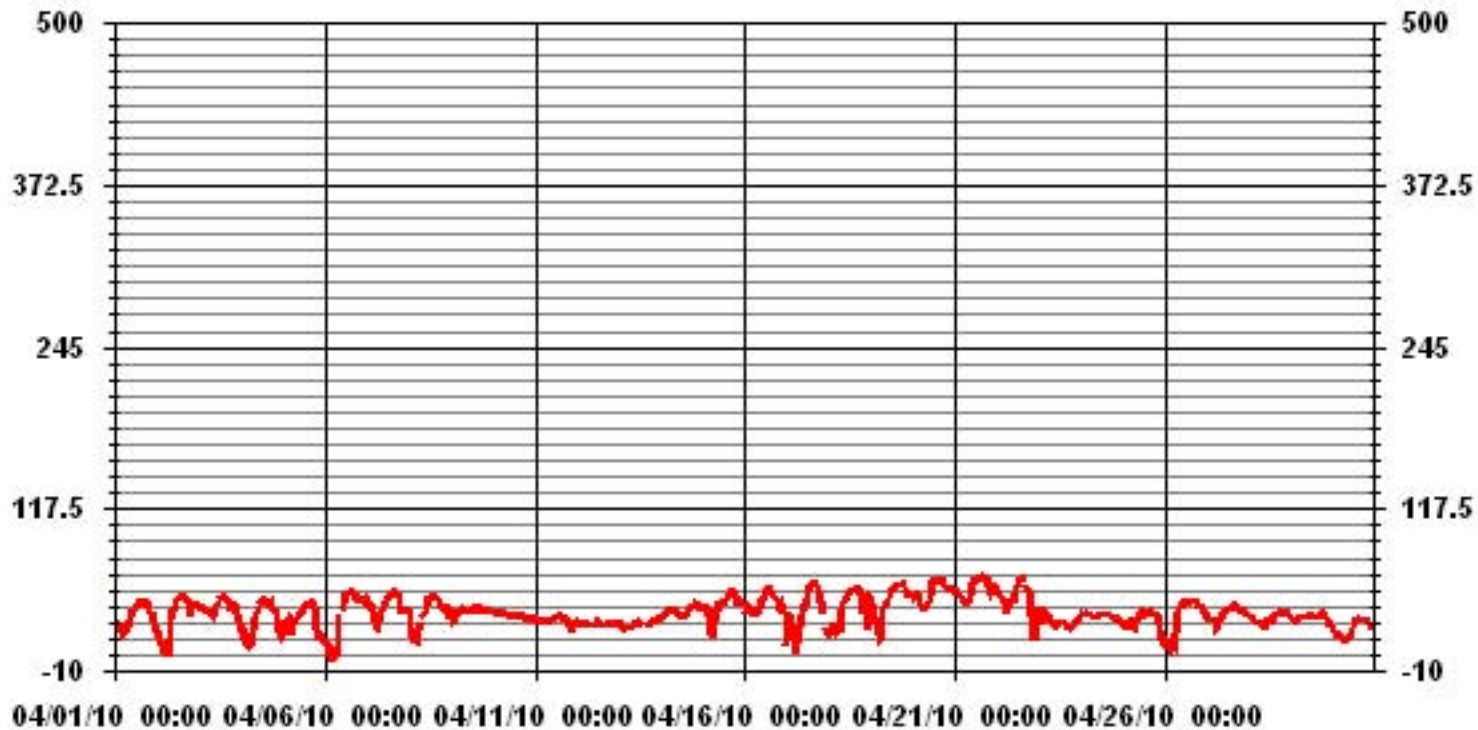
ALBERTA ENVIRONMENT: 1-HR 82 PPB



### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	684					
MAXIMUM 1-HR AVERAGE:	65	PPB	@ HOUR(S)	16	ON DAY(S)	21
MAXIMUM 24-HR AVERAGE:	54.6	PPB			ON DAY(S)	21
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	11.73		MONTHLY AVERAGE	35.82	PPB	

### 01 Hour Averages



— LICA 03\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

**OZONE MAX** instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	34	27	25	26	24	23	23	27	32	36	37	41	42	43	<b>IZS</b>	45	45	47	46	44	41	36	37	34	47	35.4	24	
2	29	25	22	14	15	13	5	28	35	39	42	48	50	<b>IZS</b>	49	49	50	50	48	42	43	43	43	42	50	35.8	24	
3	42	42	41	40	38	37	37	37	36	39	44	45	<b>IZS</b>	49	50	49	48	48	44	48	48	42	41	34	50	42.6	24	
4	32	22	18	28	20	18	16	27	34	37	44	<b>IZS</b>	47	48	47	47	48	47	46	41	40	32	27	24	48	34.3	24	
5	24	36	35	30	32	34	30	31	33	35	<b>IZS</b>	41	41	42	45	45	45	44	44	34	26	28	24	23	45	34.9	24	
6	18	16	15	12	2	2	3	26	34	<b>IZS</b>	43	48	52	55	55	54	53	52	50	48	48	48	48	47	55	36.0	24	
7	49	49	46	42	41	31	29	36	<b>IZS</b>	44	45	48	49	50	52	54	54	52	52	46	42	46	44	43	54	45.4	24	
8	43	26	23	26	22	32	34	<b>IZS</b>	35	37	45	50	50	49	51	51	50	50	46	43	42	41	44	40	51	40.4	24	
9	38	33	35	36	38	39	<b>IZS</b>	40	40	38	38	38	38	39	40	40	39	39	39	39	39	39	39	39	38	40	38.3	24
10	37	36	36	36	36	<b>IZS</b>	36	35	35	34	34	33	33	34	34	34	34	34	34	34	33	33	32	32	32	37	34.2	24
11	32	31	30	31	<b>IZS</b>	31	30	30	30	31	31	31	32	33	34	34	33	33	34	32	30	27	28	31	34	31.3	24	
12	30	30	29	<b>IZS</b>	29	29	28	28	27	26	29	30	30	30	28	27	28	29	29	27	27	28	29	29	30	28.5	24	
13	28	27	<b>IZS</b>	25	25	25	25	27	28	29	30	29	28	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	28	29	30	30	30	32	32	32	32	28.3	24
14	32	<b>IZS</b>	36	37	37	37	38	38	38	37	34	34	34	34	35	36	40	41	44	45	44	43	41	41	45	38.1	24	
15	<b>IZS</b>	41	40	40	26	25	22	34	42	43	44	47	47	48	52	52	53	53	52	48	49	48	46	<b>IZS</b>	53	43.3	24	
16	45	44	42	39	39	38	37	38	41	49	49	52	57	57	56	54	52	50	50	47	46	45	<b>IZS</b>	24	57	45.7	24	
17	40	43	38	24	8	11	19	31	40	39	43	52	55	58	60	61	64	61	57	51	49	<b>IZS</b>	35	29	64	42.1	24	
18	26	31	32	30	25	28	33	43	47	47	50	54	54	55	54	55	55	55	55	49	<b>IZS</b>	38	49	49	55	44.1	24	
19	47	44	42	34	27	24	33	42	46	46	51	54	56	58	58	59	60	59	60	<b>IZS</b>	55	53	53	51	60	48.3	24	
20	51	52	51	51	46	41	40	42	44	46	55	63	63	62	61	63	61	62	<b>IZS</b>	58	55	55	55	55	63	53.6	24	
21	54	53	52	51	49	48	45	45	47	54	63	62	63	64	64	65	<b>66</b>	<b>IZS</b>	<b>66</b>	63	55	57	57	57	<b>66</b>	56.5	24	
22	55	52	51	49	48	42	44	44	46	48	53	60	63	64	64	64	<b>IZS</b>	59	58	50	29	25	53	37	64	50.3	24	
23	37	36	38	38	36	35	33	31	30	26	27	29	30	29	29	<b>IZS</b>	26	26	25	26	29	30	31	33	38	30.9	24	
24	37	37	36	36	35	36	35	35	34	34	35	35	35	35	<b>IZS</b>	35	35	35	34	33	32	32	32	32	37	34.6	24	
25	27	28	29	30	30	29	26	31	34	37	38	35	37	<b>IZS</b>	37	37	38	38	35	37	33	29	22	17	38	31.9	24	
26	19	18	14	12	19	16	33	39	40	43	45	45	<b>IZS</b>	45	45	45	46	46	46	43	42	41	39	37	46	35.6	24	
27	36	34	33	32	32	27	29	33	33	37	39	<b>IZS</b>	40	41	41	42	42	41	41	38	38	38	36	34	42	36.4	24	
28	35	35	34	32	30	30	29	28	27	26	<b>IZS</b>	29	30	32	34	34	36	37	37	36	37	38	37	36	38	33.0	24	
29	34	32	31	31	32	33	32	32	33	<b>IZS</b>	34	35	34	34	35	35	34	35	38	37	34	32	29	27	38	33.2	24	
30	25	23	21	20	19	18	17	16	<b>IZS</b>	19	20	28	32	32	32	32	32	32	32	33	32	27	27	26	33	25.9	24	
HOURLY MAX	55	53	52	51	49	48	45	45	47	54	63	63	63	64	64	65	66	62	66	63	55	57	57	57				
HOURLY AVG	35.7	34.6	33.6	32.1	29.7	28.7	29.0	33.6	36.5	37.7	40.8	42.7	43.6	45.2	46.0	46.4	45.3	44.2	43.8	41.4	39.6	38.0	38.3	35.7				

**STATUS FLAG CODES**

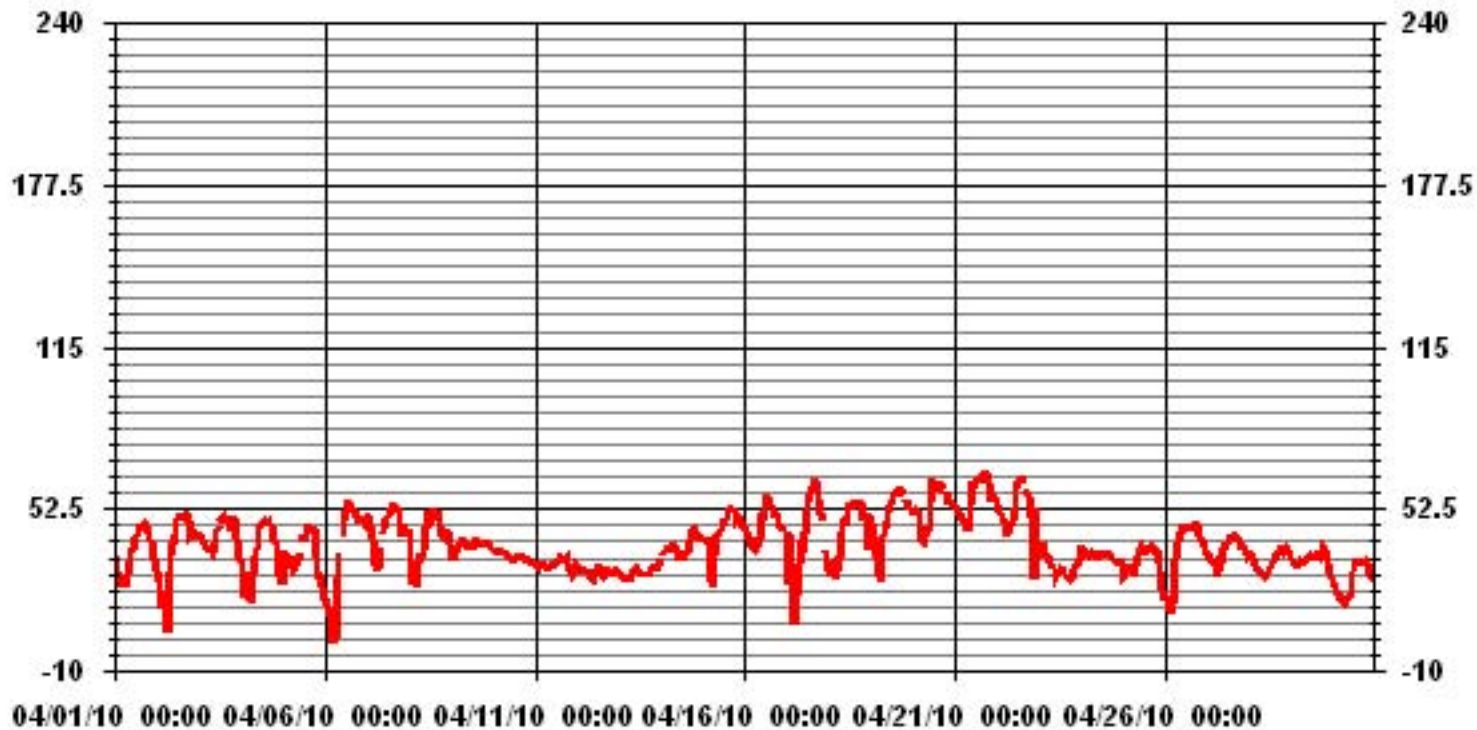
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	685
MAXIMUM INSTANTANEOUS VALUE:	66 PPB @ HOUR(S) 16, 18 ON DAY(S) 21
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	11.10
OPERATIONAL TIME:	720 HRS



### 01 Hour Averages



— LICA O3MAX PPB

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

April 2010

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	5.54	6.27	5.83	4.23	10.51	8.90	8.61	1.45	2.18	1.02	3.79	3.35	3.06	10.07	8.02	4.08	87.00
< 110	.14	.00	1.16	.00	.87	1.89	5.98	.43	.43	.72	1.16	.14	.00	.00	.00	.00	12.99
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.69	6.27	7.00	4.23	11.38	10.80	14.59	1.89	2.62	1.75	4.96	3.50	3.06	10.07	8.02	4.08	

Calm : .00 %

Total # Operational Hours : 685

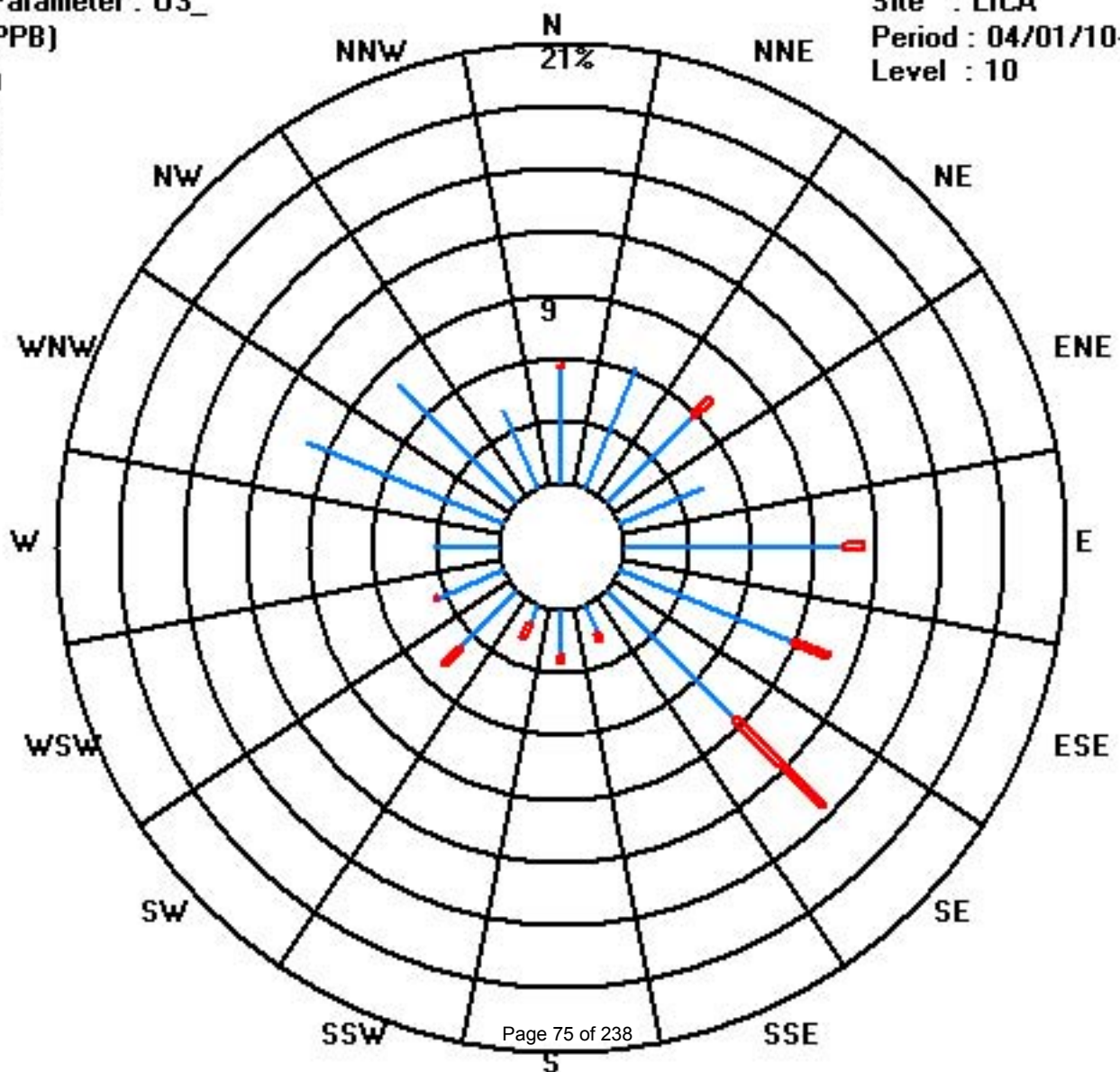
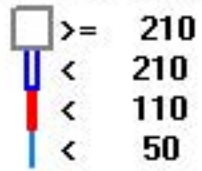
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	38	43	40	29	72	61	59	10	15	7	26	23	21	69	55	28	596
< 110	1		8		6	13	41	3	3	5	8	1					89
< 210																	
>= 210																	
Totals	39	43	48	29	78	74	100	13	18	12	34	24	21	69	55	28	

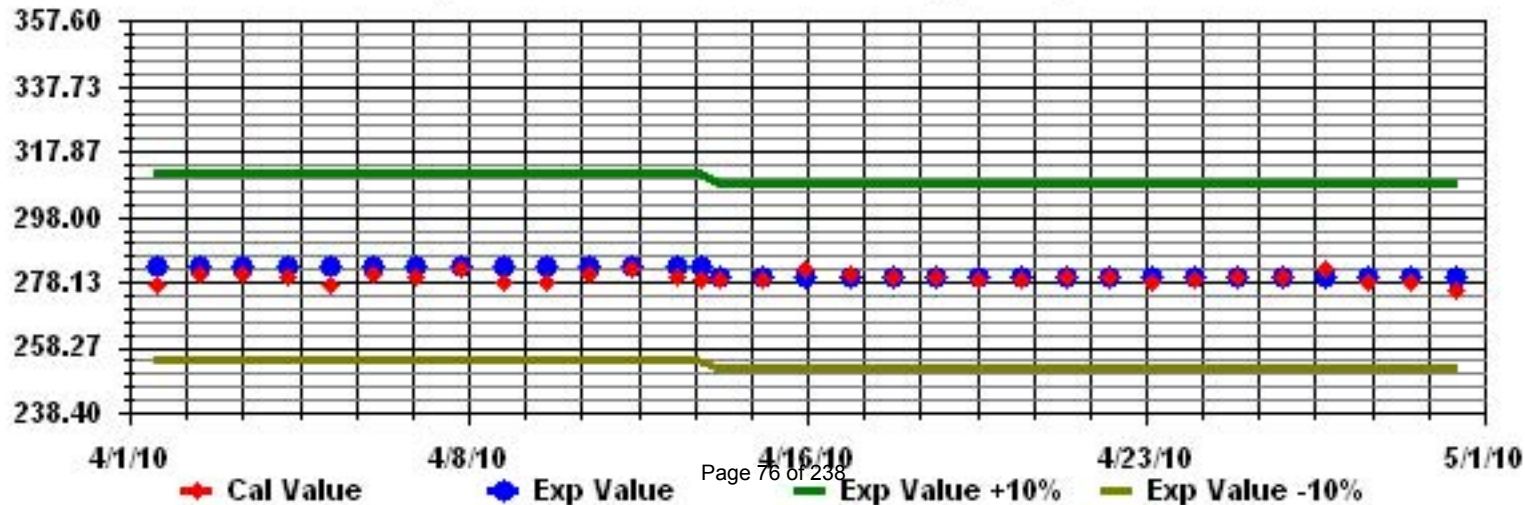
Calm : .00 %

Total # Operational Hours : 685

Class Limits (PPB)



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



# Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

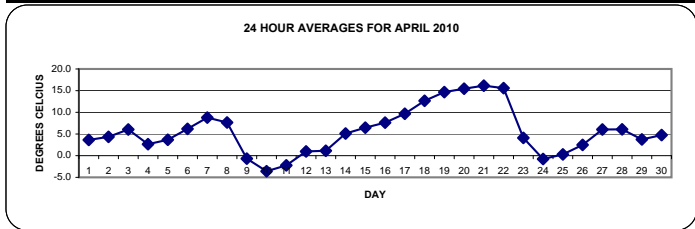
APRIL 2010

AMBIENT TEMPERATURE hourly averages (Degrees C)

MST	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	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY	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				
1	1.2	0.1	-0.5	-0.5	-1.3	-1.7	-1.4	0.1	2.7	4.9	6.3	7.3	8.3	8.6	8.2	8.3	9.6	8.4	7.8	6	3.9	1.5	0.4	-0.9	9.6	3.6	24	
2	-2.3	-3.1	-3.9	-4.6	-5.2	-5.7	-4.5	0.2	3.2	5.9	8.2	10.2	11.2	12.2	12.3	12.4	12.1	12	10.7	6.9	5.8	4.5	3.5	2.4	12.4	4.4	24	
3	1.8	1.2	0.9	0.5	0.2	0.1	0.4	1.5	2.1	5.3	8.8	10.8	11.8	12.4	12.4	11.8	11.6	11.2	9.8	7.6	9	6.7	4.3	2.6	12.4	6.0	24	
4	0	-1.7	-2.5	-2.4	-2.1	-2.3	-2.5	0.3	3.3	6	7.8	7.3	9.9	9.7	4.9	5	5.1	4.6	4.6	3.9	3	1.3	0.3	0.1	9.9	2.7	24	
5	0.3	1	1	0.7	0.5	0.7	0.3	1.3	2	2.9	3.6	5.6	7.2	8.9	9.7	9.6	10	9.8	8.9	5.1	1.7	-0.1	-1	-1.7	10.0	3.7	24	
6	-2.8	-3.5	-4	-4.3	-4.6	-5.1	-3.3	2	5	7.6	10	12.2	13.6	13.7	13.9	14.2	13.7	13.2	12	10.3	9.2	8.7	8.6	8	14.2	6.2	24	
7	8.5	7.7	6.7	5.6	4.1	1.4	1.3	4.9	7	9	11	13	13.8	14.3	14.6	14.8	14.6	14	12.8	8.7	6.5	6.1	5.4	5.1	14.8	8.8	24	
8	4.4	1.3	-0.1	-1.1	-1.2	0.1	1.5	4.4	6.1	10	13.4	15	16	16.5	15.9	15.6	14.3	12.6	9.8	7.9	6.4	5.7	5.1	4.2	16.5	7.7	24	
9	3.4	1.9	1.5	0.3	0.1	-0.1	-0.6	-0.7	-0.5	-0.4	-0.3	-0.1	-0.1	-0.4	-0.7	-1	-0.9	-1.2	-1.7	-2.2	-2.6	-3	-3.4	-3.7	3.4	-0.7	24	
10	-3.9	-4.1	-4.2	-4.3	-4.6	-4.8	-4.9	-4.7	-4.6	-4.5	-4	-3.5	-3.1	-2.3	-2.2	-1.8	-1.9	-2.5	-2.8	-3.1	-3.3	-3.5	-3.7	-4	-1.8	-3.6	24	
11	-4.2	-4.4	-4.7	-4.8	-4.9	-5	-4.8	-4.2	-3.4	-2.5	-1.7	-1.4	-0.3	0	0.2	0.4	-0.3	-0.6	-0.8	-0.9	-1.1	-1.2	-1.5	-1.5	0.4	-2.2	24	
12	-1.5	-1.7	-1.9	-1.9	-2.2	-2.6	-2.7	-2.2	-1.6	-0.6	0.8	1.7	2.5	3.4	4.2	4.5	5.1	4.8	4.4	3.4	2.8	2.2	1.5	1.2	5.1	1.0	24	
13	1.2	1.1	0.7	0.6	0.3	0.4	0.3	0.5	0.8	1	1.3	1.4	1.6	1.2	1.2	1.2	1.3	1.3	1.5	1.6	1.7	1.5	1.7	1.8	1.8	1.1	24	
14	1.9	2.1	2.1	2.3	2.4	2.4	2.4	2.6	3.1	3.7	4.2	4.5	5.5	6.3	6.5	7.4	8.6	10.3	10.4	8.9	7.8	6.5	5.8	4.9	10.4	5.1	24	
15	4.1	3.3	2.4	1.1	-2	-2.3	0.1	3.1	5.8	6.4	7.8	10.4	11.3	11.9	12.6	13	13.3	12.9	12	8.5	7.3	5.9	4.2	2	13.3	6.5	24	
16	1.2	1.8	0.7	-0.1	-0.1	-0.3	0.6	2.6	5.7	9.1	11	11.9	12.9	13.5	14.1	14.4	14.8	15.1	14.7	12.4	10.9	8.3	4.8	2.8	15.1	7.6	24	
17	2.7	4.7	2.3	-0.1	-0.8	-1.4	1.2	5.6	8.7	11.2	13.7	15.5	17.2	18.1	19	19.1	19	18.8	17	13.7	9.9	7.6	5.6	3.9	19.1	9.7	24	
18	3.7	3.2	3	2.6	1.9	2	4.7	10.1	13.2	15.3	17.8	19.5	20.8	21.3	21.8	21.6	21.2	20.8	19.8	16.5	11.8	9	9.3	12.9	21.8	12.7	24	
19	11.3	10.2	7.7	4.4	2.9	2	5.7	11	13.6	15.8	18.1	20.1	21.2	21.8	22.3	22.4	22.9	22.2	20.9	18.7	16.2	14.6	13.5	12.4	22.9	14.7	24	
20	11.1	10.5	10	9.1	8.5	8.1	8.8	10.4	12.4	15.3	18.5	20.7	21.2	21.6	21.8	22.1	22.1	21.5	20.4	18.2	16.1	15.1	14.2	13.2	22.1	15.5	24	
21	12.3	11.1	10.1	9.3	8.7	8.3	9	10.5	13.2	16.8	20.3	21.7	21.9	22.4	23	23.2	23.1	22.9	21.9	19.2	15.9	15.2	14.2	13.3	23.2	16.1	24	
22	12.3	11.5	10.7	10.1	9.3	6.6	9.6	12.2	14.3	16.4	19	21.4	22.9	23	22.7	23.5	23.3	21	19.6	16.9	13.6	11.4	13.1	10.6	23.5	15.6	24	
23	8.5	8.5	7.9	6.7	6.1	6.2	6.6	7	6.8	5.5	4.8	5.9	6.2	4.9	3.6	1.2	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0	8.5	4.1	24	
24	-0.2	-0.8	-1.1	-1.4	-1.6	-1.8	-1.3	-1.1	-0.3	0	0.4	0.5	0.3	0.5	0.2	0	-0.4	-0.9	-1	-1.3	-1.5	-1.7	-1.9	-2.1	0.5	-0.8	24	
25	-2.3	-2.4	-2.5	-2.6	-2.6	-2.5	-1.9	-0.7	0.3	1.3	1.1	1	1.8	2.2	2.1	2.4	2.5	2.9	3	2	1.1	0.5	0.4	0	3.0	0.3	24	
26	0	0.2	-0.2	-0.5	-0.6	-0.6	0.5	1.8	2.6	3	3.7	3.8	4.1	4.3	4.8	5.2	5.7	5.9	5.2	4.2	3.3	2.2	0.9	0	5.9	2.5	24	
27	-0.1	-0.5	-1	-0.9	-1.2	-1.2	0.2	1.9	3.8	5.6	7.3	8.6	9.7	10.9	11.1	11.9	11.9	11.7	11.2	10.4	9.7	8.8	7.7	7.3	11.9	6.0	24	
28	6.9	6.2	5	3.4	3.2	2.9	3.1	3.8	3.9	5	6.4	7.4	8	8.5	8.5	8.6	8.3	8.5	7.9	6.8	6.2	6	5.8	5.5	8.6	6.1	24	
29	5.3	5	4.8	4.6	4.5	4.1	3.7	4	4.5	4.7	5.1	5.6	4.6	4.1	3.7	3.4	3.3	2.9	2.5	2.1	1.8	1.9	1.9	1.9	5.6	3.8	24	
30	1.9	1.9	1.7	1.7	1.8	1.8	2.1	2.6	3	3.6	4.3	4.7	5.4	6.6	7.3	8.2	8.7	8.4	7.7	7.4	6.8	6.3	5.6	4.7	8.7	4.8	24	
HOURLY MAX	12.3	11.5	10.7	10.1	9.3	8.3	9.6	12.2	14.3	16.8	20.3	21.7	22.9	23.0	23.0	23.5	23.1	22.9	21.9	19.2	16.2	15.2	14.2	13.3				
HOURLY AVG	2.9	2.4	1.8	1.1	0.7	0.3	1.1	3.0	4.6	6.1	7.6	8.8	9.6	10.0	10.0	10.1	10.1	9.8	9.0	7.3	6.0	4.9	4.2	3.6				

STATUS FLAG CODES

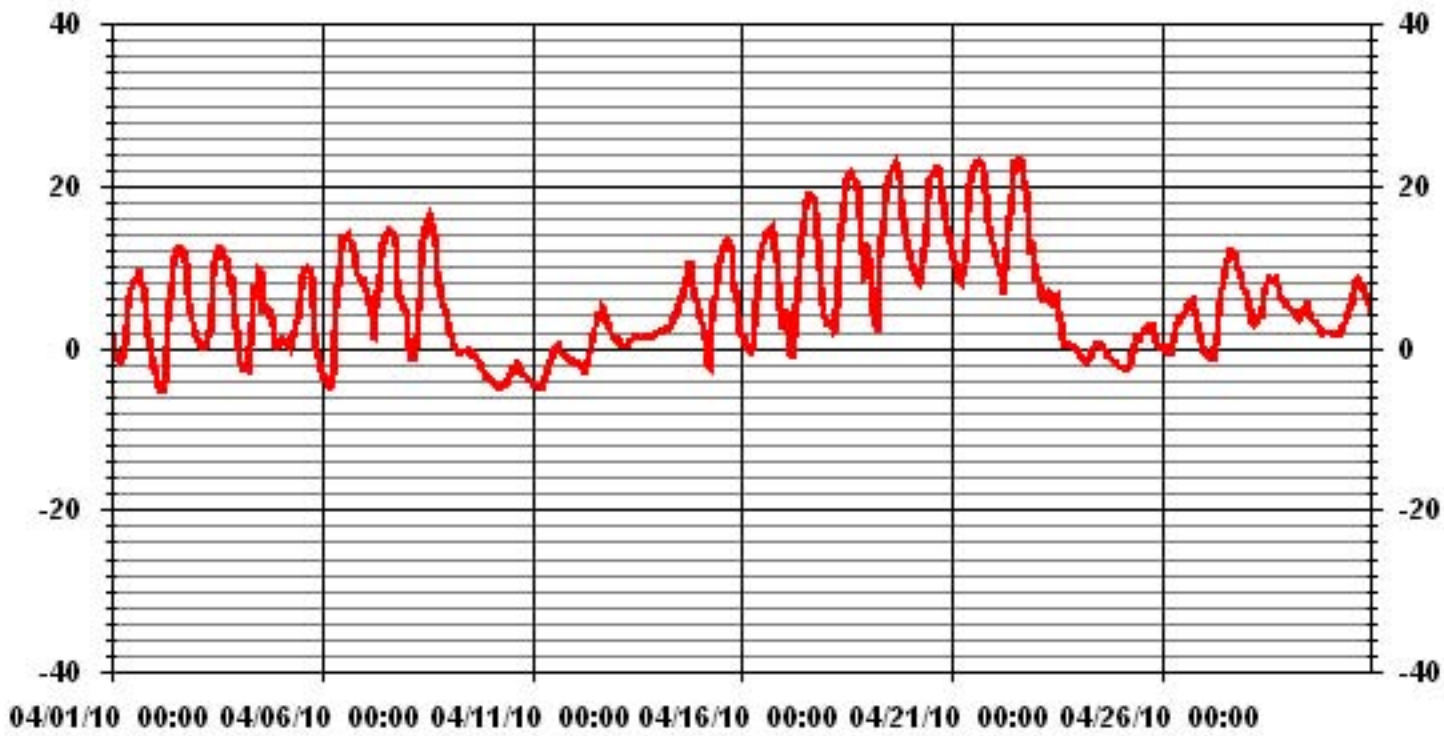
S	- OUT OF SERVICE	OD	- OUTSIDE DETECTION LIMITS
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-5.7 °C	@ HOUR(S)	5	ON DAY(S)	2
MAXIMUM 1-HR AVERAGE:	23.5 °C	@ HOUR(S)	15	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	16.1 °C			ON DAY(S)	21
				VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	6.78		MONTHLY AVERAGE:	5.62	°C

### 01 Hour Averages



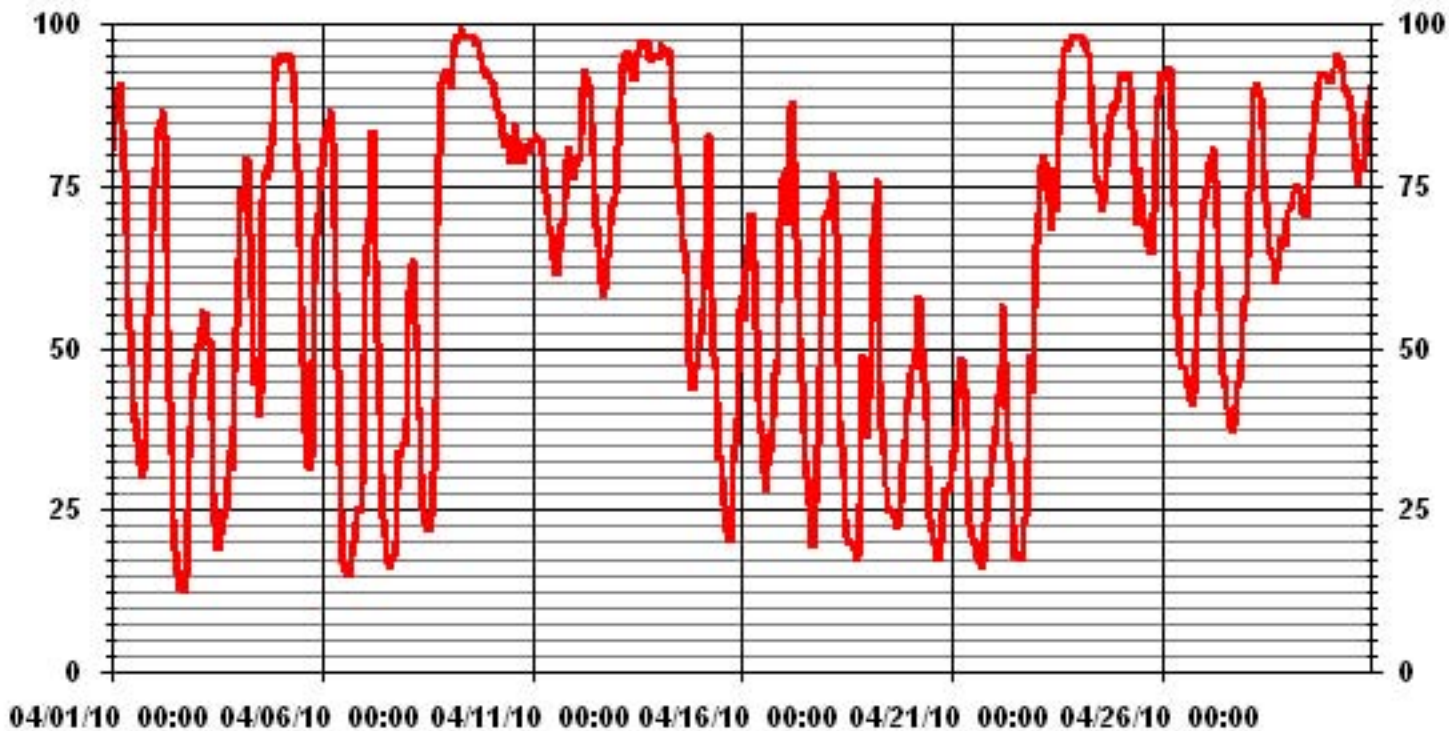
— LICA TPX DGC

# Relative Humidity





### 01 Hour Averages



# Vector Wind Speed

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

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

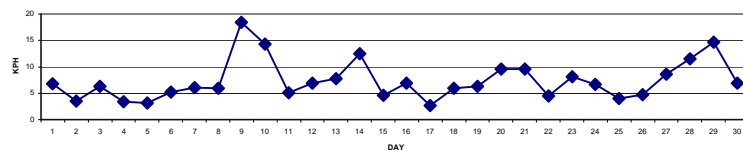
MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	RDGS.
		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	
DAY	DAY																											
1	1	4.9	5.5	4.9	4.6	3.6	4.3	4.1	5.4	9.1	11.5	12	12.2	12	11.3	12.5	6.8	7.4	9.1	5.1	9.3	4.5	4	3.4	3.2	12.5	6.8	24
2	2	2.3	0.8	0.2	1	0.6	1	0.9	1.5	3.8	5.5	6.9	9.1	10.8	8.3	8.3	7.1	7.7	6.6	3.7	3	4.8	6.6	5.5	5.3	10.8	3.5	24
3	3	5.1	6.4	8	4.2	6.3	6.1	5.6	7.1	8.2	7.7	10.3	12.6	12.9	11	14.1	12.8	8.6	4.6	1.6	3.2	2.4	2	1.3	0.8	14.1	6.3	24
4	4	0.6	0.6	0.8	2.2	1.5	0.5	0.6	4	6.1	5.3	6.3	5.2	6.6	7.6	9.3	6.6	6.7	6.9	6.3	6.1	3.3	2.4	4.1	3.1	9.3	3.4	24
5	5	3.6	3.3	1.1	2.8	1.9	2.6	3.7	0.8	2.3	4.5	6	4	2.4	3	6	6.5	4.8	5.7	3	1.2	1.1	1.3	1.5	1.3	6.5	3.1	24
6	6	0.4	0.5	0.1	1	1	0.7	1.3	1	3	4.2	6.1	5.9	11	8.9	6.3	7.3	7	8.1	6.5	7.8	9.2	11.5	10	5.8	11.5	5.2	24
7	7	7.2	3.1	3.8	2.8	1.2	2.1	2.5	5.4	5.7	6.8	8	7.6	9.5	12.7	13.5	13.3	11.5	8	2.6	2.8	3.6	4.2	2.9	3.3	13.5	6.0	24
8	8	2.8	1.9	1.8	0.9	2.7	3.2	1.8	8.7	7.1	8.7	6.5	8.2	6.6	4.9	6	4.4	1.5	2.1	3.6	8.5	10	11.3	14.2	15	15.0	5.9	24
9	9	16.9	15.8	14.4	14.9	16.3	19.9	21	19.6	18.6	18.2	19.1	20.9	21.6	19.9	18.5	18.1	17.3	18.1	18.8	<b>21.8</b>	17.9	19	18.8	16.5	<b>21.8</b>	<b>18.4</b>	24
10	10	14.9	15.6	15.2	15.6	13.8	17.2	15.7	14.7	15.8	16.5	15	13.6	15.9	13.9	12.3	14.1	13.4	19.1	15.6	11.8	10.3	10.6	11.7	11.1	19.1	14.3	24
11	11	10.1	9.6	8.2	8.6	7.6	7.7	8.1	7	6.7	5.2	6.1	8	6	4.6	2.7	1.9	2.3	3.1	1.3	0.6	0.7	1.1	2.5	3	10.1	5.1	24
12	12	4.4	4.4	3	5.3	4.3	4.4	6	5.7	7.1	5.8	6.5	7.8	7.4	7.8	8.5	9.1	9.2	11.9	9.4	7.3	8.3	7.8	7.1	7	11.9	6.9	24
13	13	5.7	6.8	4.1	5.3	8.3	8.8	7	7.4	9.6	9	7.4	6.1	6.1	7.9	6.9	8.6	8.2	8.8	9.1	7.6	9.1	8.3	9.4	9.3	9.6	7.7	24
14	14	10.8	9.7	8.9	12.1	11	13.1	13.5	13.1	13.1	13.7	15.4	15.4	12.8	15.6	15.7	13.6	13.7	9.5	11.4	12.8	11.9	8.6	12.1	11.2	15.7	12.4	24
15	15	8.7	6.5	6.4	3.4	2.4	3.9	1.9	4	2.6	4.8	4.4	1.3	6	6.9	8.5	8.5	7.3	7.8	2.4	2.2	2.3	2.7	2.1	2.2	8.7	4.6	24
16	16	2.9	4.7	2.6	5.4	8	4	4.1	7.1	5.9	6.5	7.2	9.5	14.8	15.3	13.4	12.7	13.1	9.1	6	5	4.9	1.4	0.8	1.7	15.3	6.9	24
17	17	1.7	3.4	0.6	0.4	1	0.5	0.6	1.5	2.2	2	3.3	2.9	2.8	3.1	6.3	8.9	7.6	6.5	3.6	1.6	2	1.3	0.2	1	8.9	2.7	24
18	18	1.7	2	2.2	1.8	2.3	2.1	2.9	4.9	7.5	8.4	9.2	11.4	10.5	9.5	9.4	10.2	9.3	9.8	7.3	2.6	1.9	1.7	4.7	8.8	11.4	5.9	24
19	19	7.5	3.2	2.8	1.6	1.1	0.2	1.4	5.2	5.3	5.3	6.7	8	9.7	10.3	12.3	11.2	13.1	11.2	10.5	6.2	4.9	6.1	4.3	4.1	13.1	6.3	24
20	20	3.9	5.4	6.7	7.1	6.2	6.6	8.6	11	10.5	10.5	11.1	15.5	15.6	14.1	12.8	13	13	11.7	10.6	7.4	6.8	6.2	8	8.6	15.6	9.6	24
21	21	9.5	9.8	10.3	11.8	12.2	11.9	11.6	10.8	8.3	8.2	11.2	9.6	10.2	10.3	10.4	13.6	12.1	10.1	7.4	4.1	4.9	6.4	7.1	7.5	13.6	9.6	24
22	22	8.6	8.6	7.8	6.2	3.1	1.7	4.3	2	2	3.2	3.5	3.3	5.6	5.6	7.4	4.5	2.7	4.4	2.7	1.5	1.2	2	6.9	7.6	8.6	4.4	24
23	23	3.8	5.8	6.8	5.2	6.9	9.5	10.3	11.7	13.5	7.8	7.5	10	9.8	7.3	10.1	8.4	7.3	8.8	7.9	6.6	6.8	7.5	7.2	8.2	13.5	8.1	24
24	24	8.2	7.7	6.7	5.7	5.2	6.5	6.3	7.4	8	6.5	7.9	7.8	7.9	9.6	9.4	9.4	8.5	7.9	6.1	4.4	3.2	4	4.2	2.9	9.6	6.7	24
25	25	4	4.1	4.2	3.9	3.6	3.7	3.6	5.3	4.7	4.1	3.9	6.8	5.5	6	6.6	6.2	4.9	5.2	3.2	2.6	1.1	1	0	1.6	6.8	4.0	24
26	26	1.9	0.2	1.1	1	1.6	1.4	2.8	5.5	6.3	7.5	6.3	4.4	1.7	5.1	6	6.5	6.1	6.5	7.2	6.4	7.8	8.5	6.4	4.1	8.5	4.7	24
27	27	3.4	2.9	3.2	3.6	5.1	4.5	6.9	8.9	8	10.3	10.3	11.6	11.5	11.2	10.5	11.8	11.8	10.7	10.6	11.1	10.7	9.4	9.6	8.7	11.8	8.6	24
28	28	8.7	9.4	6.8	6.4	6.2	8.4	8.6	8.1	12.3	14.8	13.9	14.4	14.6	14.4	12.7	13	13	14.8	13.4	11	13.1	12.1	13.4	14.3	14.8	11.6	24
29	29	13.6	13.3	14.4	14.3	16.4	16.9	17.6	18.2	17.9	16.5	19	15.3	17.8	18.6	18.6	15.7	12.5	12.2	11.2	11.8	11.7	11.1	9.3	8.6	19.0	14.7	24
30	30	7	6.8	6.1	4.8	5	4.7	3.2	4.6	6.3	9.2	9.7	10.2	9.6	10.5	9.7	11	9	6.1	5.4	6.4	4.3	5.5	5.8	4.8	11.0	6.9	24
HOURLY MAX		16.9	15.8	15.2	15.6	16.4	19.9	21.0	19.6	18.6	18.2	19.1	20.9	21.6	19.9	18.6	18.1	17.3	19.1	18.8	21.8	17.9	19.0	18.8	16.5			
HOURLY AVG		6.2	5.9	5.4	5.5	5.5	5.9	6.2	7.3	7.9	8.3	8.9	9.3	9.8	9.8	10.2	9.8	9.0	8.8	7.1	6.5	6.2	6.2	6.5	6.4			

### STATUS FLAG CODES

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

LAST CALIBRATION:	November 5, 2008
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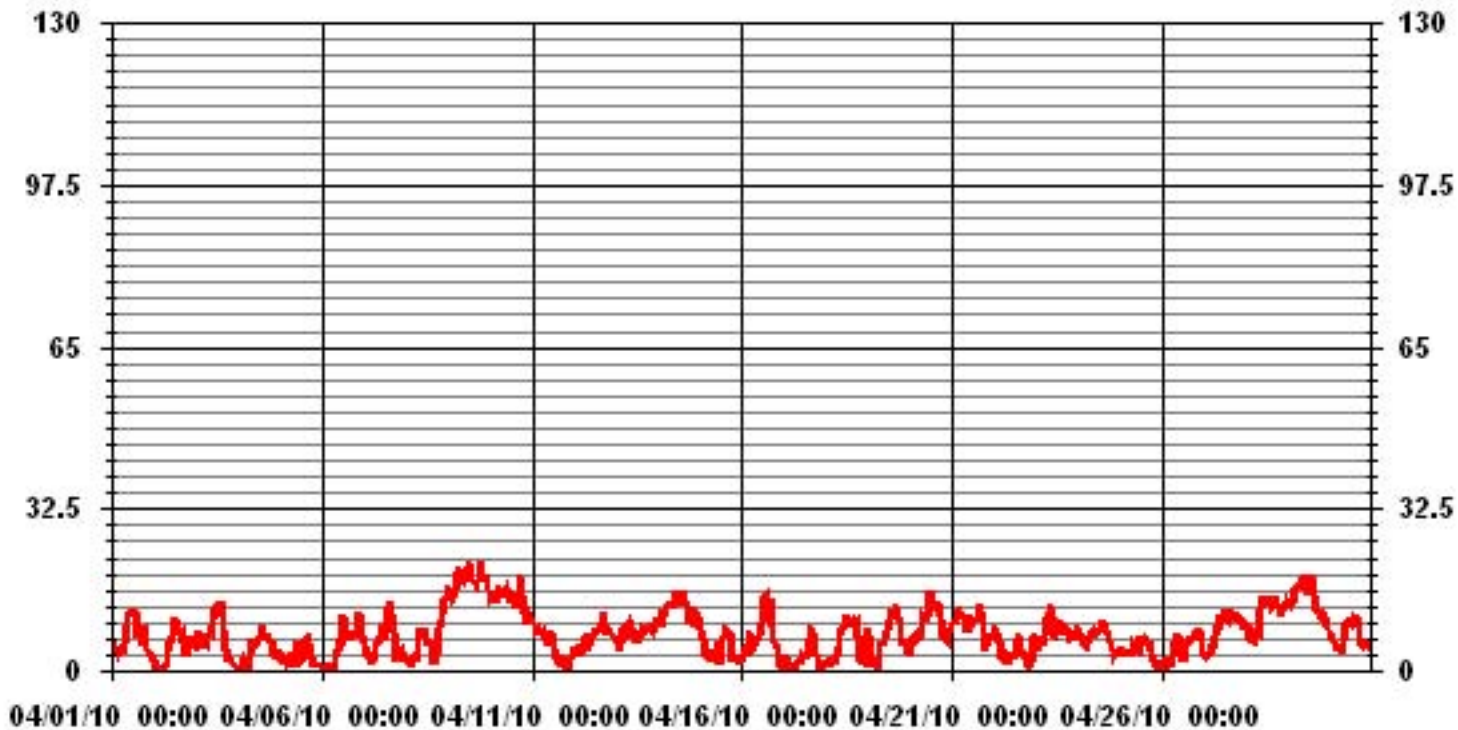
24 HOUR AVERAGES FOR APRIL 2010



### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	21.8	KPH	@ HOUR(S)	19	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	18.4	KPH			ON DAY(S)	9
CALMS ( $\leq 0$ KPH)	0.81	%	OPERATIONAL TIME:			
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:			
STANDARD DEVIATION:	4.58		MONTHLY AVERAGE:	7.44	KPH	

### 01 Hour Averages



— LICA WSP KPH

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

### VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY	1	8.1	9.3	6.3	6.3	4.9	6.9	7.6	9.6	13.7	16.4	19.3	19.3	18.1	22.4	20.7	12.2	16.9	22.1	8.8	16.3	8.8	6.2	5.8	4.4	22.4
2	4.6	2.6	3.6	2.2	2.7	3.2	2.4	3.3	7.5	10.4	12.1	19.7	19.3	17.6	19.6	17.1	17.3	15.3	8	7.7	7.5	9.9	8.1	7.7	19.7	
3	8.3	10.1	10.8	7.7	9.4	9.7	9.5	13.3	14.3	14.4	21.6	22.1	19.4	20	25.7	20.2	14.3	9.6	5	9.1	13.5	5.9	8.5	5.9	25.7	
4	4.7	3.3	3.8	5.7	4.4	3.7	3.9	8.5	10.8	10.2	12.9	10.6	18.7	18.7	19.5	15.8	19.6	15.9	9.8	10.3	8.5	8.3	6.8	4.9	19.6	
5	5.5	6.9	4.1	4.5	4	6.1	6.1	4.7	6.6	8.2	9.5	9.3	10.5	9.2	11.6	11.3	9.8	10.5	5.5	3.3	2.5	2.4	5.3	4.4	11.6	
6	3.5	2.6	1.8	2.2	2.5	2.7	3.1	4.1	8.9	10	10.5	16.1	19.7	17.3	16	16	13.6	12.4	10.7	10.4	12.7	17.2	16.1	9.5	19.7	
7	10.6	7.6	7.7	6.5	5.8	5	4.3	9.4	9.3	12.3	14.2	15.5	17.2	21.7	21.8	20.6	17.8	13.1	7.3	4.6	5.2	5.8	4.7	5.2	21.8	
8	5.8	3.7	3	2.5	4.6	5.5	6.1	16.3	11.6	15.3	12.3	20.7	17.7	14.7	13.8	10.2	14.3	13	10.9	13.4	13.4	16	19.3	21.3	21.3	
9	26.1	22.5	21	22.1	26	32.5	29.5	33.2	27	29.2	24.8	<b>34.3</b>	32.4	28.8	27.3	23.9	25	25.5	29.8	30	30.4	31.6	23.7	25.3	<b>34.3</b>	
10	22.7	24.5	23.8	25.3	27.6	31.2	26.1	23.4	26.6	27.4	27.2	26.9	24.2	22.4	18.3	19.6	18.2	25.6	26.4	21.6	17.3	16.9	18.8	18.4	31.2	
11	14.8	15.2	13.8	14.6	10.9	14.4	12	11.3	11.2	8.6	10.9	12	10.3	9	5.6	5.3	5.7	6.4	5.7	2	1.7	3.9	4.6	5.6	15.2	
12	6.9	7.4	5.3	8.6	7.6	8.7	9.3	11.1	12.5	9.7	11.8	14.9	12.6	13.2	12.9	15	18.1	17.3	14.7	9.8	12.4	10.7	10.5	11.6	18.1	
13	11	13.4	6.8	9.5	12.4	13.4	11.5	12.2	14.4	12.9	11.5	10.2	10	12.8	11.1	12.5	12.1	13	12.6	11.3	12.8	12.3	14.6	13.2	14.6	
14	15.9	13.5	15.3	17.1	17.1	18.1	19.4	17.7	19.6	19.7	22.3	20.9	19.4	25.8	25.3	18.8	21	15.8	19.1	19.1	18.2	13.6	16.9	16.9	25.8	
15	12.2	9.5	8.5	8.6	4.7	5.4	3.9	6.6	6.8	7.6	7.8	9.1	12.9	11.4	14	13.6	15	12.6	7.1	4.7	5.2	5.5	3.5	4.3	15	
16	10	8.7	4.2	8.4	10.5	10.5	9.5	10.3	9.8	12.5	15.7	19.8	24.1	26.2	22.3	23.9	20.4	15.5	12.2	7.7	8.7	4.5	4.6	4.9	26.2	
17	2.9	5	3.5	3.7	2.3	2.5	2.3	4.3	6.6	5.7	7.4	7.9	9.6	9.8	11.9	13	12.7	11.4	6.2	4.1	3.7	2.2	3.7	3.1	13	
18	3.2	3.6	4.3	3.9	4.9	5.1	5.3	11.1	14	12.9	17.4	17.2	18	18.5	16.3	19.1	15.2	15.8	13.8	4.8	3.4	3.5	15.1	13.1	19.1	
19	11.1	5.8	4.8	3.1	3.9	2.2	6.3	9.7	9.2	9.4	13.9	14.9	20.9	19.7	21.3	22.2	21.3	19.8	16.2	8.8	6.3	7.3	7.6	5.5	22.2	
20	5.9	8.8	9.1	10.3	10.9	10.7	12.9	18.1	16.3	16.4	20.6	29.9	28.9	25.6	21.9	20.6	26.4	19.2	19.1	11.3	8.3	9.6	11.4	11.1	29.9	
21	14.3	11.8	13	14.8	14.6	15.6	15.7	15.1	13.5	14.5	22.6	22.5	21.3	21.6	18.4	22.8	22.1	19.7	13.9	6.6	6.5	8	9.9	10.6	22.8	
22	10.4	11	9.9	10.1	6.2	4.6	8.8	6.7	8.9	9.5	9.2	12.3	14.6	15	14.3	12.5	10.8	6.6	6.6	2.9	2.3	4.1	11.7	11.5	15	
23	8.9	17.4	10.1	8.8	10.2	12.5	14.8	17.2	20.3	22.2	12.1	15.7	16.9	11.3	15.6	12.6	12.2	12.2	10.7	9.6	10.9	13	12.3	14.6	22.2	
24	13.9	12.9	11.5	10.3	9.6	10.8	9.5	11.3	12.1	10.3	12.8	11.4	12	14.6	13.6	13.4	14	12.1	10	6.9	5.5	5.8	5.6	5.4	14.6	
25	6	5.2	6.2	5.7	5.3	6.7	6	8.7	9.1	9.4	10.9	11.2	11.2	14.2	10.5	9.4	9.2	8.4	5.6	9	6.1	1.9	2.3	4.3	14.2	
26	5.5	3.1	4	3.5	4.5	2.9	6.4	9.7	11.1	11.8	12.1	9.5	10.7	10.3	10	13.3	12.5	10.5	11.5	10.3	11.8	11.3	8.9	7.5	13.3	
27	5.8	4.5	4.4	6.4	8	9.1	11.2	14.6	13.9	19.7	16.7	19.7	17.5	19.7	18.2	20.7	17.3	19.3	16.4	16.6	16.3	14	13.9	14.3	20.7	
28	13.8	12.9	13	9.2	9	12.6	11.9	13.3	17.7	20.2	20.4	21.1	19.9	21.2	17.9	19.8	17.9	21.3	20.9	16.8	19.8	17.3	19.7	20.4	21.3	
29	20.3	18.7	21.5	19.7	25.2	26.8	26.5	24.4	28.9	30.3	27.4	26.5	26.8	28.2	24.9	23.1	20.9	20.8	15.2	16.5	16.3	15.8	15	12.6	30.3	
30	11.1	10.5	8.7	7.1	7.4	7.6	5.6	6.6	10.9	14.7	13.7	17.2	15.1	16.6	15.4	17.9	13.2	10.6	9.6	10.6	7.4	9.1	8.8	7.4	17.9	
PEAK	26.1	24.5	23.8	25.3	27.6	32.5	29.5	33.2	28.9	30.3	27.4	34.3	32.4	28.8	27.3	23.9	26.4	25.6	29.8	30.0	30.4	31.6	23.7	25.3		

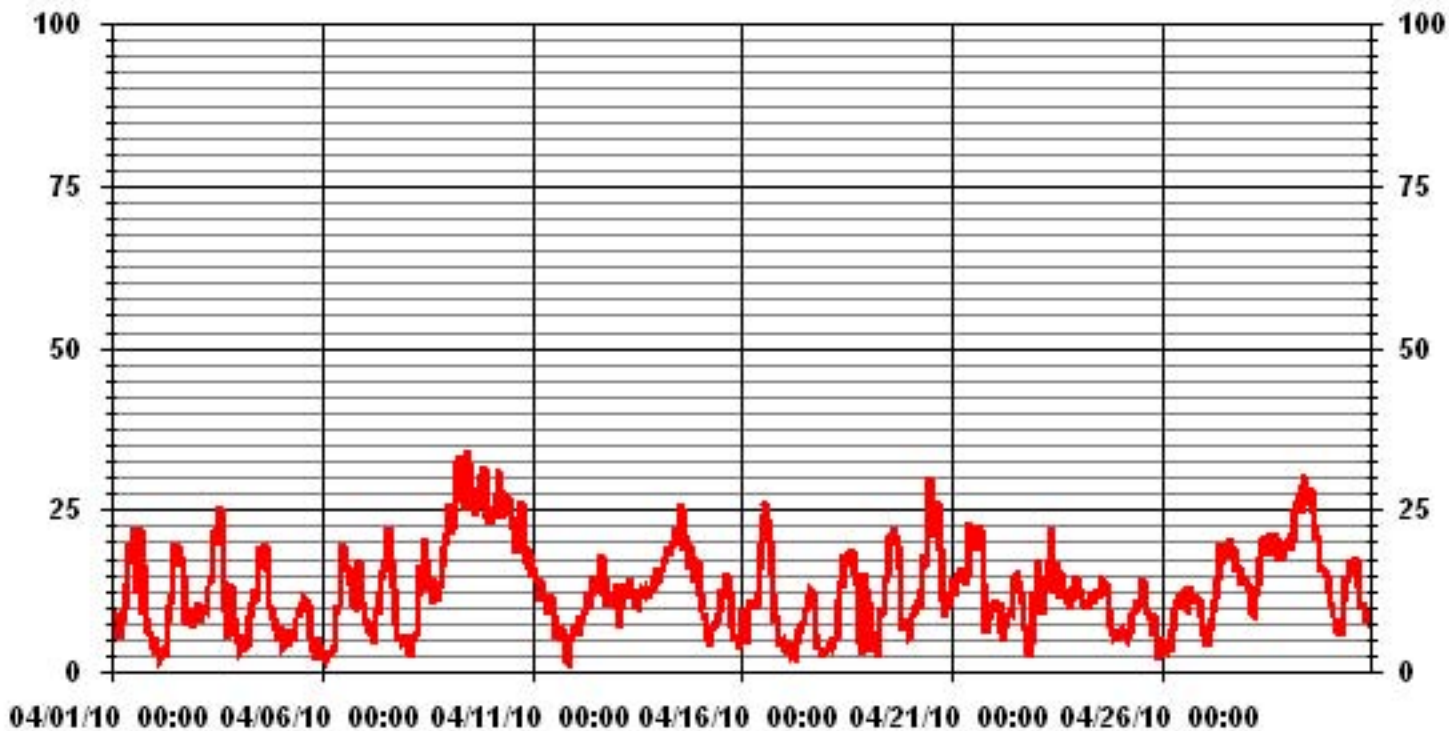
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

MAXIMUM INSTANTANEOUS READING	34.3	KPH	@ HOUR(S)	11
			ON DAY(S)	9

### 01 Hour Averages



— LICA WSMAX KPH

LICA  
WSP / WD Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

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

Wind Parameter : WD  
Instrument Height : 10 Meters

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 6.0	.69	1.11	3.75	3.47	5.27	4.44	4.44	.83	1.52	.97	2.91	1.66	1.94	1.66	3.19	.69	38.61	
< 12.0	2.50	3.47	2.22	.69	5.83	6.11	7.36	1.11	1.11	.83	1.52	1.66	.69	2.77	3.33	2.50	43.75	
< 20.0	2.63	2.08	.55	.00	.00	.00	2.77	.00	.00	.00	.41	.13	.41	5.00	1.38	.83	16.25	
< 29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.55	.00	.00	.55	
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	5.83	6.66	6.52	4.16	11.11	10.55	14.58	1.94	2.63	1.80	4.86	3.47	3.05	10.00	7.91	4.02		

Calm : .83 %

Total # Operational Hours : 720

Distribution By Samples

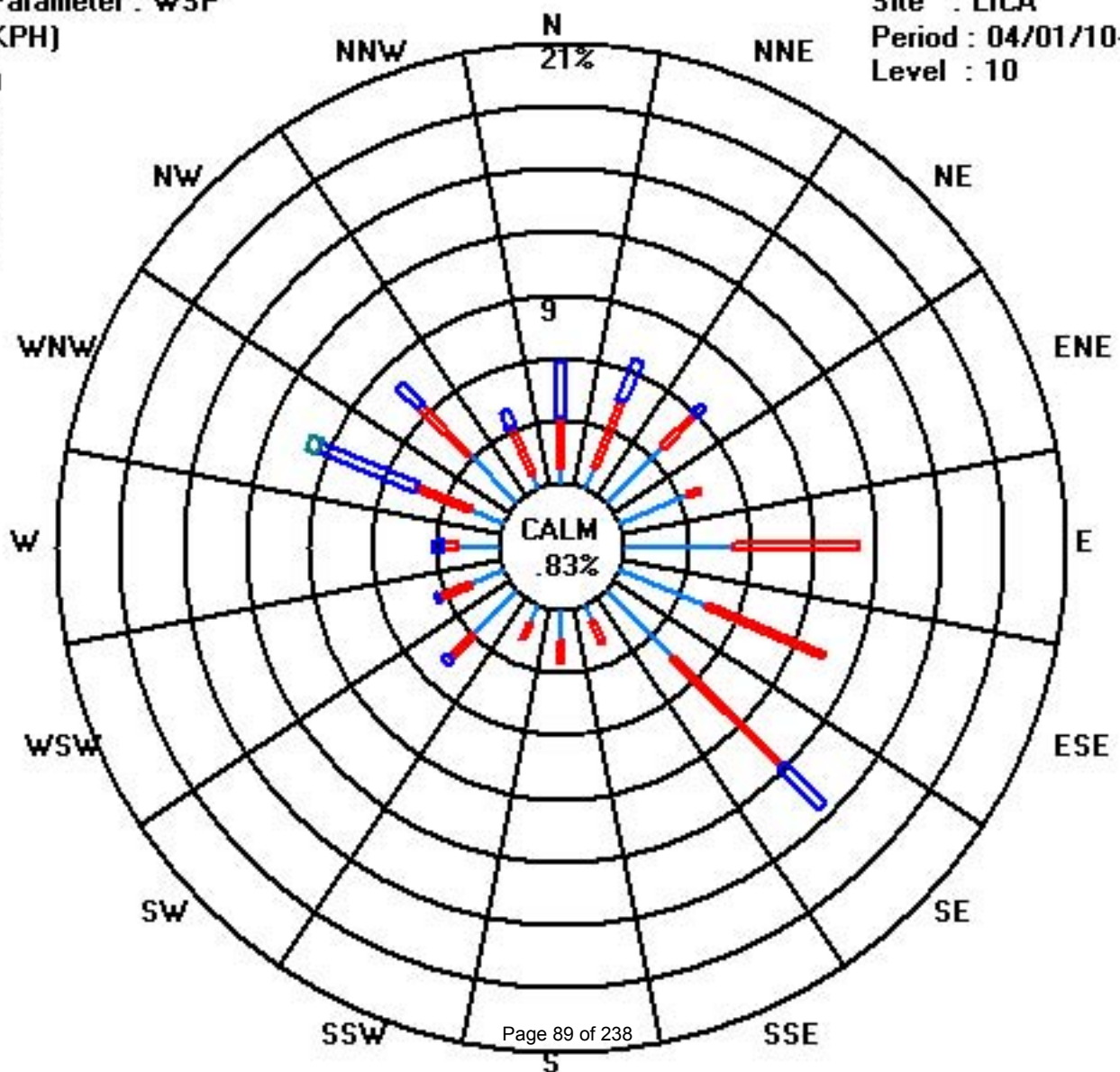
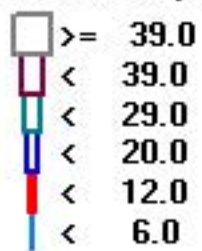
		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 6.0	5	8	27	25	38	32	32	6	11	7	21	12	14	12	23	5	278	
< 12.0	18	25	16	5	42	44	53	8	8	6	11	12	5	20	24	18	315	
< 20.0	19	15	4				20				3	1	3	36	10	6	117	
< 29.0														4			4	
< 39.0																		
>= 39.0																		
Totals	42	48	47	30	80	76	105	14	19	13	35	25	22	72	57	29		

Calm : .83 %

Total # Operational Hours : 720



Class Limits (KPH)



# Vector Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	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	AVG.	QUADRANT		
DAY																												
1	235	235	234	240	230	224	227	247	267	271	265	264	275	255	256	256	249	250	218	255	240	219	231	219	251	WSW	24	
2	210	178	132	141	127	92	84	94	100	117	90	116	124	192	189	172	163	206	140	95	100	99	101	103	134	SE	24	
3	111	125	121	97	92	93	107	120	116	109	111	124	131	126	132	133	128	117	138	221	166	56	264	152	121	ESE	24	
4	85	160	140	221	228	273	230	259	269	317	330	273	264	300	352	327	281	256	283	291	307	232	253	264	286	WNW	24	
5	278	285	291	272	283	342	47	15	319	19	349	46	77	37	53	60	86	106	102	94	112	98	119	110	40	NE	24	
6	290	323	60	76	74	87	70	82	136	169	178	173	209	204	191	198	176	135	129	125	127	131	135	141	156	SSE	24	
7	143	238	308	140	157	236	260	224	228	218	225	229	237	224	227	233	236	241	203	133	131	135	136	133	218	SW	24	
8	124	45	48	42	93	104	93	124	129	129	172	189	191	185	152	120	238	57	0	302	301	307	317	308	225	SW	24	
9	318	311	311	300	295	293	291	290	289	289	286	290	288	291	283	282	282	288	288	292	293	291	289	290	291	291	WNW	24
10	283	287	287	288	286	291	290	285	288	292	292	294	296	290	289	292	300	300	298	300	295	294	304	297	292	292	WNW	24
11	295	295	290	284	282	298	299	297	311	264	245	249	256	276	244	315	56	85	94	151	174	32	39	60	287	WNW	24	
12	83	87	75	82	93	94	96	116	119	110	94	106	102	90	86	83	85	83	87	84	88	92	88	93	92	E	24	
13	106	119	69	75	81	83	79	80	82	83	78	63	32	15	20	14	12	18	26	33	31	23	21	10	49	NE	24	
14	8	6	10	5	6	0	358	3	351	338	336	332	340	325	326	323	326	315	314	313	317	323	328	327	338	NNW	24	
15	314	307	315	283	205	253	265	307	34	74	101	251	233	240	224	216	222	217	198	145	183	175	140	146	241	WSW	24	
16	178	204	136	130	127	125	124	134	142	166	198	149	137	137	139	146	140	146	148	133	131	125	105	136	143	SE	24	
17	128	138	191	270	82	245	288	71	74	87	85	41	355	42	43	48	37	40	38	42	36	67	48	87	51	NE	24	
18	69	56	47	44	52	46	52	80	107	111	108	114	118	107	86	91	94	87	85	84	79	56	78	110	94	E	24	
19	116	88	51	18	31	38	49	85	76	66	78	95	115	130	129	118	132	134	136	132	123	124	103	106	112	ESE	24	
20	105	106	103	106	111	113	114	120	125	123	115	136	140	138	139	136	137	137	130	124	124	119	125	126	126	SE	24	
21	126	127	127	126	126	125	126	131	128	128	121	163	155	148	146	134	137	140	139	126	123	125	128	131	133	SE	24	
22	127	128	126	127	115	104	117	112	214	265	206	217	190	139	134	196	188	36	43	58	70	101	217	215	150	SSE	24	
23	227	270	289	283	293	304	302	319	335	5	1	336	350	355	323	327	313	326	325	334	4	1	20	34	330	NNW	24	
24	29	35	30	27	35	30	23	29	25	31	14	18	24	11	20	42	40	40	35	28	15	354	347	325	25	NNE	24	
25	308	310	310	319	319	287	299	315	331	2	345	321	305	313	322	318	331	306	308	62	62	125	187	258	318	NW	24	
26	241	319	67	69	59	93	74	110	118	129	130	133	161	116	104	112	99	103	122	109	118	126	128	119	115	ESE	24	
27	109	95	115	96	119	95	90	121	107	115	102	108	98	93	97	112	103	94	88	85	89	87	85	91	98	E	24	
28	87	76	52	24	35	35	37	34	37	39	40	30	33	30	27	30	37	29	21	18	15	19	21	19	32	NNE	24	
29	19	19	20	18	8	7	9	9	8	4	357	359	8	3	356	355	357	354	345	336	331	330	331	327	0	N	24	
30	327	328	318	306	310	303	287	308	323	331	347	7	356	342	357	324	340	354	352	323	297	307	312	326	331	NNW	24	
HOURLY AVG	327	328	318	319	319	342	358	319	351	338	357	359	356	355	357	355	357	354	352	336	331	354	347	327				

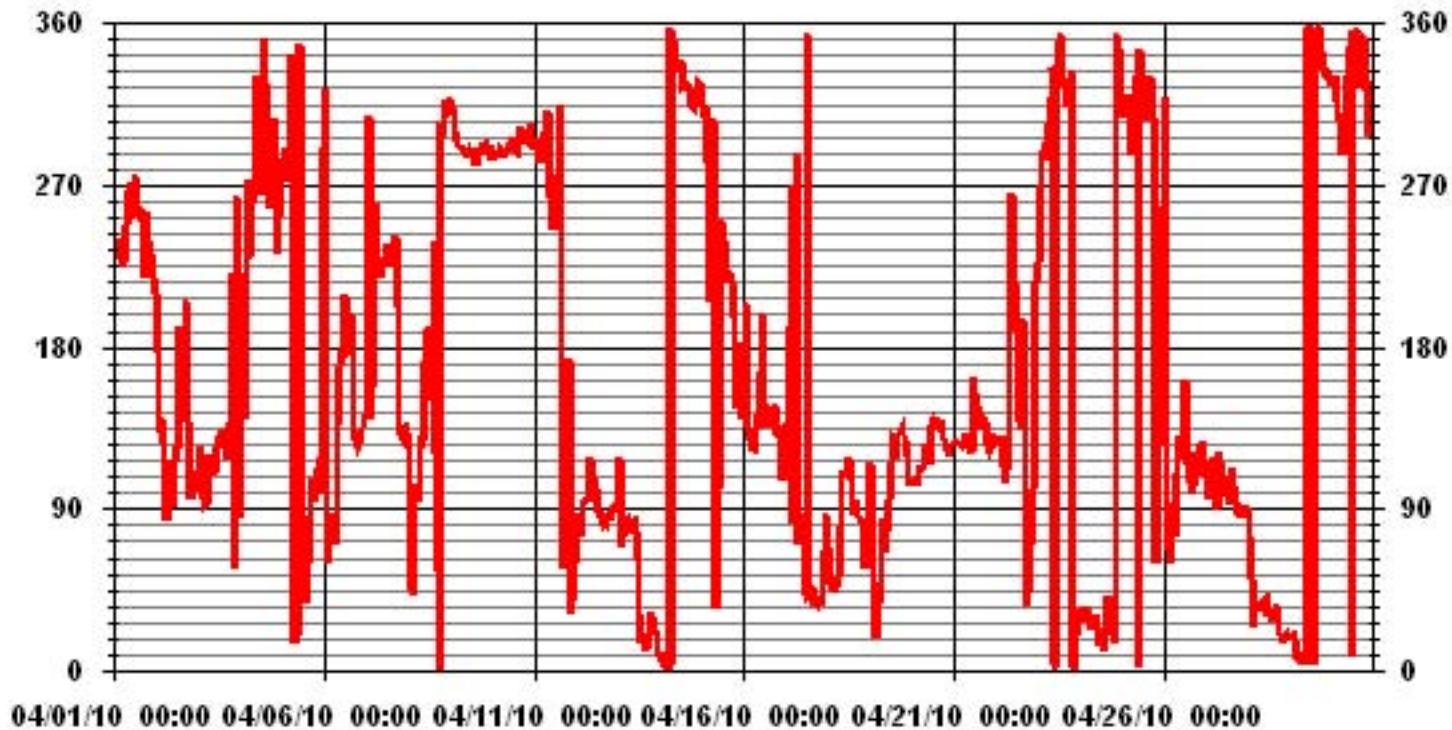
### STATUS FLAG CODES

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

LAST CALIBRATION:	November 5, 2008
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
STANDARD DEVIATION	104.72		AMD OPERATION UPTIME	100.0	%
			MONTHLY AVERAGE	22	DEG

### 01 Hour Averages



# Standard Deviation Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2010

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
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	13	13	12	12	12	16	17	19	18	21	21	21	21	22	20	24	39	24	20	17	14	16	18	14
2	25	26	66	33	54	37	35	26	23	26	25	26	21	45	39	43	36	34	22	14	17	19	20	20
3	20	14	12	18	18	19	22	19	19	23	21	20	20	27	19	17	17	17	27	41	37	24	69	47
4	64	64	45	41	45	46	38	25	24	25	35	49	56	32	22	21	44	18	16	15	33	47	15	17
5	13	21	29	19	27	19	17	40	46	38	26	40	47	66	39	25	30	25	17	29	20	19	34	41
6	63	71	61	32	30	58	47	43	39	44	35	45	31	34	40	34	35	16	12	11	11	12	16	26
7	26	26	19	19	38	22	15	17	24	26	24	33	24	24	23	22	21	20	24	13	10	12	19	23
8	22	17	19	30	25	33	49	16	21	21	39	40	46	44	32	33	63	51	23	15	13	12	13	13
9	15	15	16	16	16	15	15	17	16	15	16	15	17	16	17	18	18	16	16	16	16	15	16	16
10	17	17	17	17	18	17	16	18	18	17	17	16	17	18	17	15	14	14	14	15	15	14	13	15
11	14	14	15	17	18	14	13	15	19	24	26	22	25	31	39	50	44	29	31	42	22	44	24	19
12	16	17	20	18	21	20	19	21	19	22	21	24	24	22	24	21	21	17	17	14	16	17	16	19
13	21	18	16	17	17	18	18	18	18	19	19	17	19	17	19	17	19	18	18	19	18	19	18	17
14	16	17	19	17	25	20	19	18	19	17	16	15	18	14	14	13	17	15	13	13	13	15	14	12
15	12	13	13	21	23	8	19	18	41	23	29	55	32	30	26	26	31	21	26	29	43	39	34	32
16	39	26	25	11	9	51	24	18	31	38	36	33	22	22	26	29	24	30	30	14	15	54	66	30
17	29	22	62	40	25	50	50	38	42	56	44	57	72	61	39	20	22	18	18	21	17	23	68	36
18	23	27	38	35	17	39	19	21	23	23	24	22	25	27	26	24	23	22	17	13	10	18	35	21
19	18	25	15	34	45	63	41	23	21	25	26	28	27	29	22	19	19	20	16	14	9	12	15	18
20	18	20	22	21	21	21	19	18	19	21	21	24	25	28	27	22	23	20	13	13	12	13	12	12
21	12	11	11	10	11	12	13	13	18	21	24	39	36	34	31	23	23	26	19	13	9	10	10	11
22	11	11	11	14	28	41	21	64	68	57	53	65	55	48	32	46	40	21	25	21	18	16	26	17
23	22	32	15	24	17	13	14	15	18	37	29	18	20	24	17	13	12	13	12	16	24	19	19	20
24	20	19	20	19	20	21	19	19	20	22	20	21	21	22	20	19	17	19	20	20	21	17	15	15
25	10	10	11	11	13	15	14	17	26	34	37	19	27	30	19	18	22	17	28	50	52	29	59	31
26	30	66	37	49	36	27	24	21	21	21	24	46	41	28	29	28	29	24	18	21	18	13	12	14
27	16	19	14	17	15	18	16	19	25	23	23	23	23	25	25	22	23	22	19	17	18	17	16	18
28	19	18	18	17	17	17	18	19	17	17	18	20	20	20	20	18	18	19	19	19	18	18	19	19
29	23	18	18	20	18	18	18	18	18	20	20	26	18	19	19	20	22	19	18	17	16	18	20	16
30	15	14	13	14	14	12	18	16	15	15	19	19	21	21	20	16	19	20	15	14	14	13	10	14

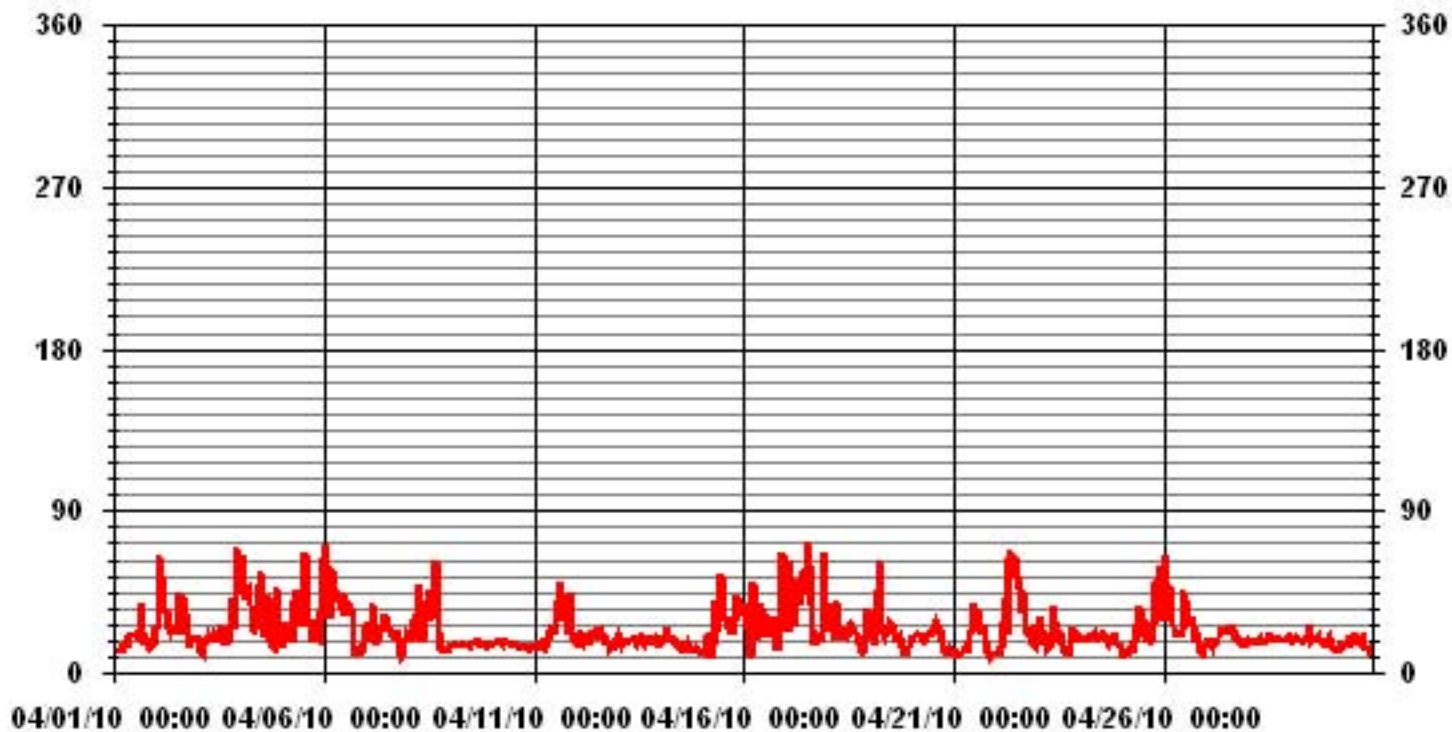
### STATUS FLAG CODES

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

LAST CALIBRATION: November 5, 2008

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS

### 01 Hour Averages



— LICA STDWDIR DEG

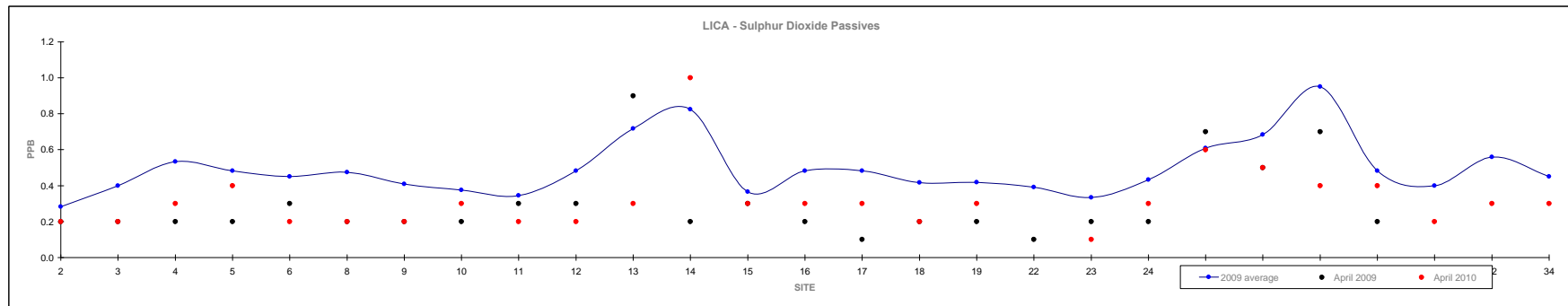
# Non-Continuous Monitoring



### Passive Summary Results for April 2010

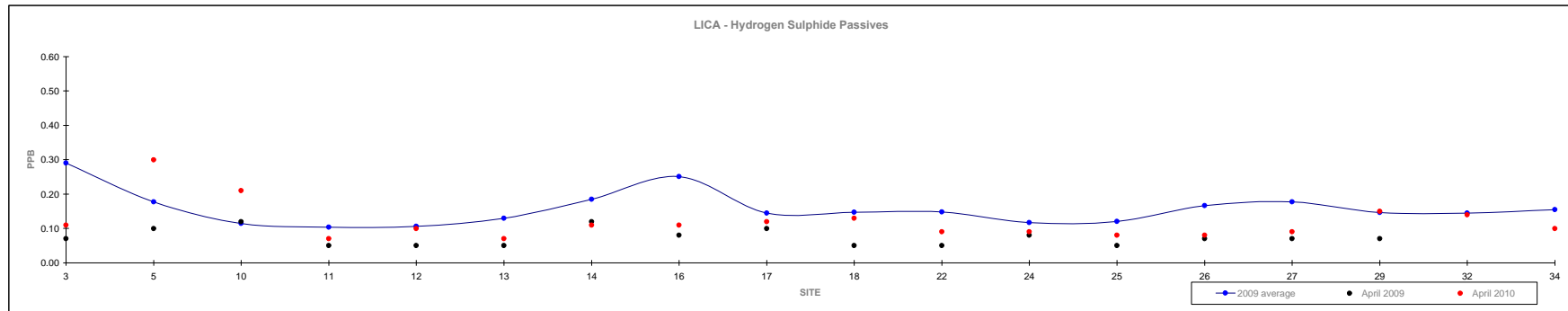
Lakeland Industry & Community Association

	Sulphur Dioxide ppb																												Reading	Site
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	25	26	27	28	29	32	34	0.3	-	
Mean	0.3	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.5	0.7	0.8	0.4	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.6	0.7	1.0	0.5	0.4	0.6	0.5			
Minimum	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.1	#23	
Maximum	0.9	0.9	1.3	1.1	1.2	0.9	1.0	0.9	0.8	1.1	1.2	2.2	0.9	1.1	1.0	1.3	0.8	0.9	0.8	1.1	1.4	1.4	2.6	0.9	0.8	1.2	0.5	1.0	#14	



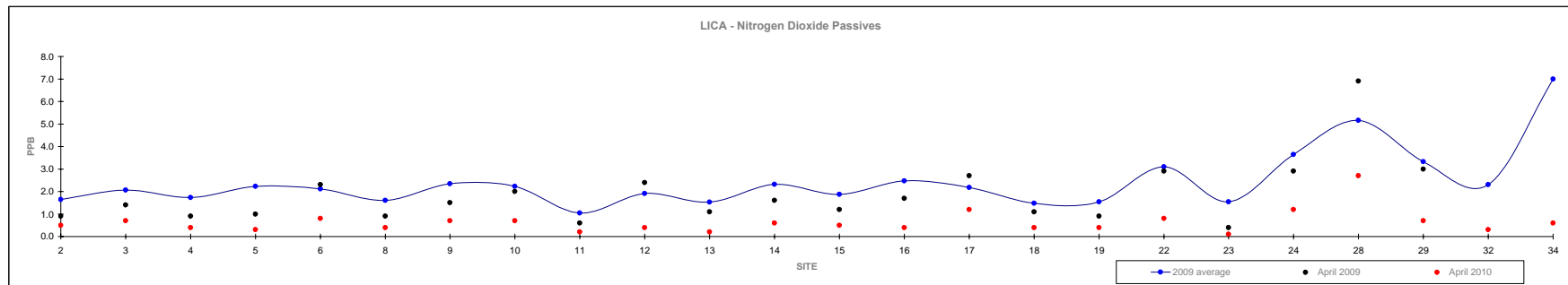
**Passive Summary Results for April 2010**  
Lakeland Industry & Community Association

	Hydrogen Sulphide ppb																April 2010			
	3	5	10	11	12	13	14	16	17	18	22	24	25	26	27	29	32	34	Reading	Site
<b>Mean</b>	0.29	0.18	0.12	0.10	0.11	0.13	0.19	0.25	0.15	0.15	0.15	0.12	0.12	0.17	0.18	0.15	0.15	0.16	0.12	-
<b>Minimum</b>	0.05	0.09	0.03	0.03	0.05	0.03	0.11	0.07	0.08	0.05	0.04	0.06	0.03	0.06	0.07	0.04	0.10	0.10	0.07	#11, #13
<b>Maximum</b>	0.80	0.29	0.20	0.16	0.21	0.20	0.30	0.54	0.26	0.29	0.24	0.24	0.18	0.28	0.35	0.28	0.19	0.21	0.30	#5



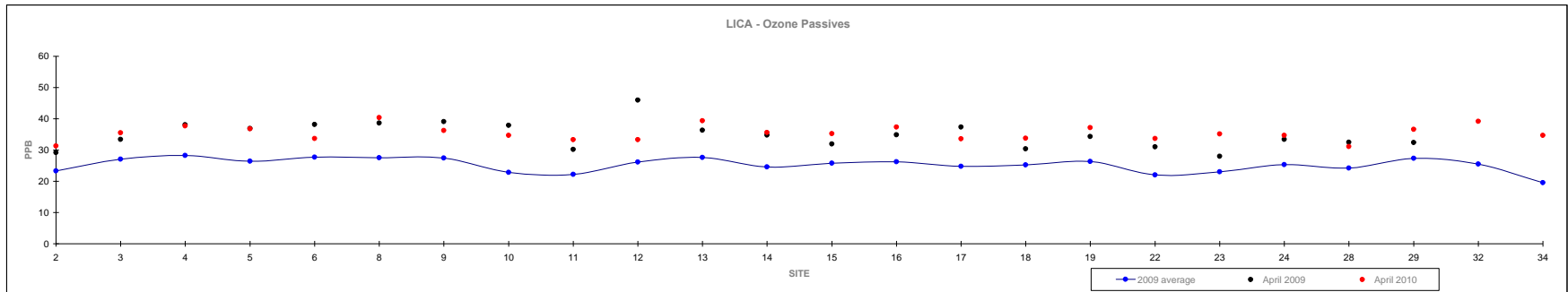
### Passive Summary Results for April 2010 Lakeland Industry & Community Association

	Nitrogen Dioxide ppb																									April 2010	
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	28	29	32	34	Reading	Site	
Mean	1.6	2.1	1.7	2.2	2.1	1.6	2.4	2.2	1.0	1.9	1.5	2.3	1.9	2.5	2.2	1.5	1.5	3.1	1.5	3.6	5.2	3.3	2.3	7.0	0.6	-	
Minimum	0.9	0.8	0.8	1.0	0.8	0.9	1.5	0.4	0.5	0.5	0.9	0.9	1.0	1.7	0.7	0.7	0.9	0.2	0.4	2.7	1.0	0.5	1.2	5.6	0.1	#23	
Maximum	2.9	4.6	3.7	5.0	4.4	3.0	4.0	5.0	2.0	6.4	2.9	6.1	3.6	3.9	4.1	3.5	2.4	7.2	2.6	5.6	10.6	7.0	3.0	8.4	2.7	#28	



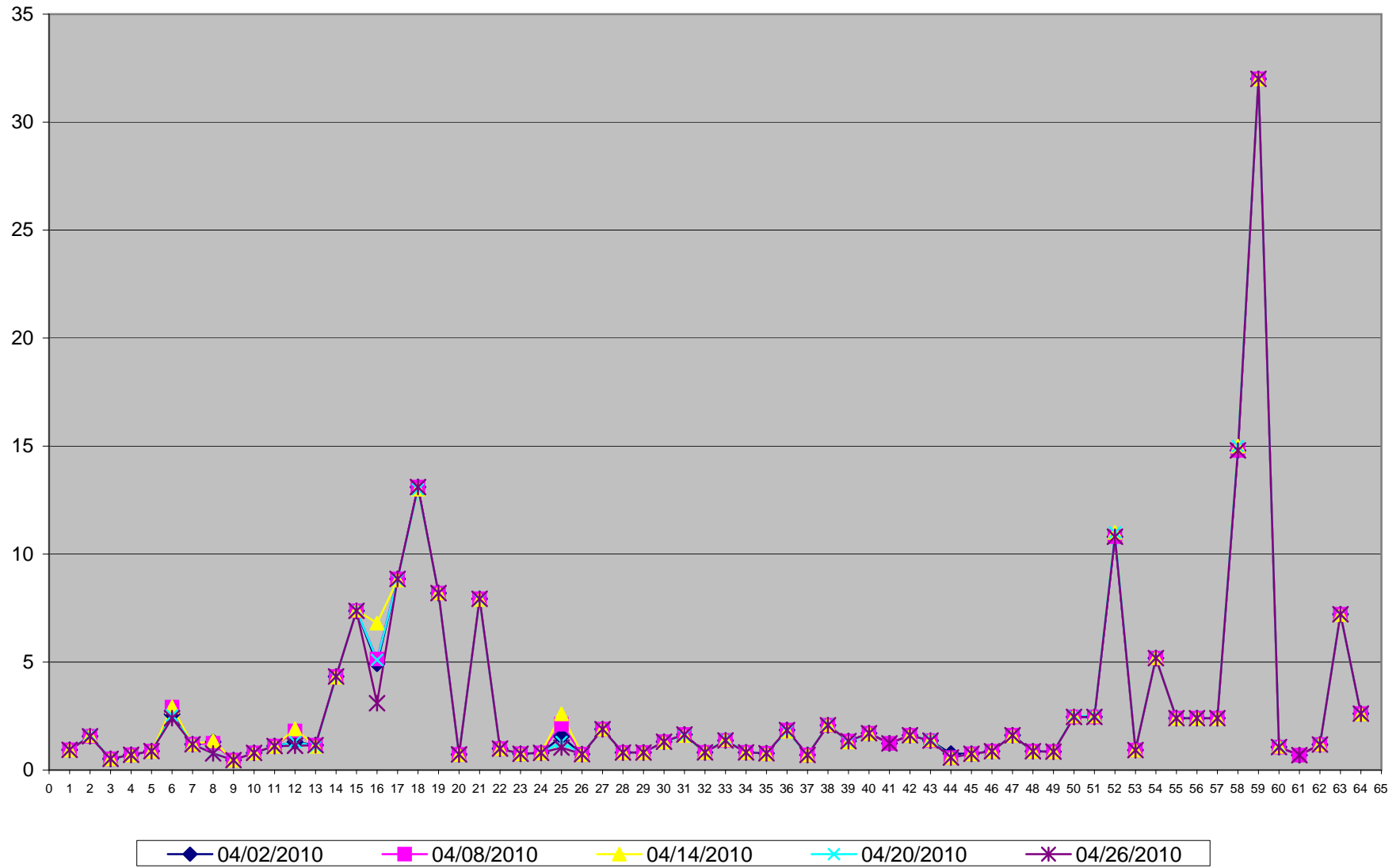
### Passive Summary Results for April 2010 Lakeland Industry & Community Association

	Ozone ppb																												Reading	April 2010	Site
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	28	29	32	34	35.4	-					
Mean	23.3	27.1	28.3	26.5	27.7	27.5	27.5	22.8	22.2	26.2	27.6	24.6	25.8	26.2	24.8	25.2	26.3	22.0	23.0	25.3	24.2	27.3	25.5	19.6							
Minimum	13.3	17.9	17.3	16.0	17.7	15.4	14.9	12.0	14.6	17.3	15.5	14.8	15.5	15.1	13.8	17.7	14.7	13.6	15.3	12.5	14.8	17.8	24.7	18.5	31.1	#28					
Maximum	32.3	38.6	47.5	37.9	43.6	38.6	42.6	38.2	30.2	46.0	36.5	35.4	42.3	36.7	46.5	36.2	41.7	32.6	32.6	40.5	37.7	40.0	26.3	20.6	40.4	#8					



# Volatile Organics

Volatile Organics in ug/m3 Site: LICA - Cold Lake South



1	2,2,4-Trimethylpentane	33	1,1,2,2-Tetrachloroethane
2	Carbon Disulfide	34	cis-1,3-Dichloropropene
3	Propene	35	trans-1,3-Dichloropropene
4	Vinyl Acetate	36	1,2-Dichloropropane
5	Vinyl Bromide	37	Bromomethane
6	Dichlorodifluoromethane (FREON 12)	38	Bromoform
7	1,2-Dichlorotetrafluoroethane	39	Bromodichloromethane
8	Chloromethane	40	Dibromochloromethane
9	Vinyl Chloride	41	Heptane
10	Chloroethane	42	Trichloroethylene
11	1,3-Butadiene	43	Tetrachloroethylene
12	Trichlorofluoromethane (FREON 11)	44	Benzene
13	Trichlorotrifluoroethane	45	Toluene
14	Ethanol	46	Ethylbenzene
15	2-Propanol	47	p+m-Xylene
16	2-Propanone	48	o-Xylene
17	Methyl Ethyl Ketone (2-Butanone)	49	Styrene
18	Methyl Isobutyl Ketone	50	1,3,5-Trimethylbenzene
19	Methyl Butyl Ketone (2-Hexanone)	51	1,2,4-Trimethylbenzene
20	Methyl t-butyl ether (MTBE)	52	4-ethyltoluene
21	Ethyl Acetate	53	Chlorobenzene
22	1,1-Dichloroethylene	54	Benzyl chloride
23	cis-1,2-Dichloroethylene	55	1,3-Dichlorobenzene
24	trans-1,2-Dichloroethylene	56	1,4-Dichlorobenzene
25	Methylene Chloride (Dichloromethane)	57	1,2-Dichlorobenzene
26	Chloroform	58	1,2,4-Trichlorobenzene
27	Carbon Tetrachloride	59	Hexachlorobutadiene
28	1,1-Dichloroethane	60	Hexane
29	1,2-Dichloroethane	61	Cyclohexane
30	Ethylene Dibromide	62	Tetrahydrofuran
31	1,1,1-Trichloroethane	63	1,4-Dioxane
32	1,1,2-Trichloroethane	64	Xylene (Total)

# Polycyclic Aromatic Hydrocarbons

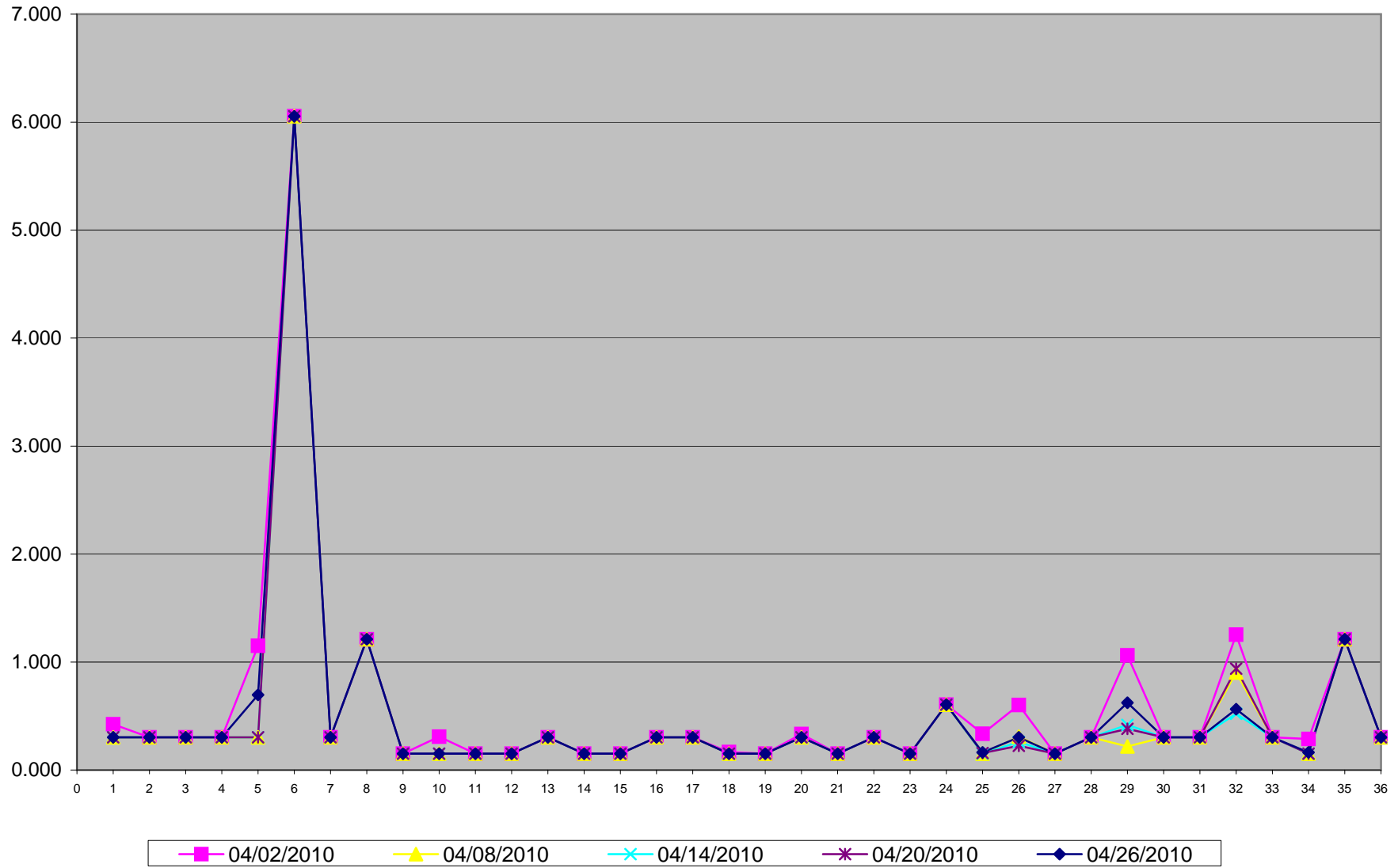


**Polycyclic Aromatic Hydrocarbons (PAHs) Results for March 2010**  
**LICA- Cold Lake South Site**  
**Unit: ng/m3**

PAHs	04/02/2010	04/08/2010	04/14/2010	04/20/2010	04/26/2010
Sample Volume (unit: m3)	330.33	330.34	330.36	330.33	330.34
1 1-Methylnaphthalene	0.424	0.303	0.303	0.303	0.303
2 1-Methylphenanthrene	0.303	0.303	0.303	0.303	0.303
3 2-Chloronaphthalene	0.303	0.303	0.303	0.303	0.303
4 2-Methylantracene	0.303	0.303	0.303	0.303	0.303
5 2-Methylnaphthalene	1.150	0.303	0.303	0.303	0.696
6 3-Methylcholanthrene	6.055	6.054	6.054	6.055	6.054
7 7,12-Dimethylbenzo(a)anthracene	0.303	0.303	0.303	0.303	0.303
8 9,10-Dimethylantracene	1.211	1.211	1.211	1.211	1.211
9 Acenaphthene	0.151	0.151	0.151	0.151	0.151
10 Acenaphthylene	0.309	0.151	0.151	0.151	0.151
11 Anthracene	0.151	0.151	0.151	0.151	0.151
12 Benzo(a)anthracene	0.151	0.151	0.151	0.151	0.151
13 Benzo(a)fluorene	0.303	0.303	0.303	0.303	0.303
14 Benzo(a)pyrene	0.151	0.151	0.151	0.151	0.151
15 Benzo(b)fluoranthene	0.151	0.151	0.151	0.151	0.151
16 Benzo(b)fluorene	0.303	0.303	0.303	0.303	0.303
17 Benzo(e)pyrene	0.303	0.303	0.303	0.303	0.303
18 Benzo(g,h,i)perylene	0.167	0.151	0.151	0.151	0.151
19 Benzo(k)fluoranthene	0.151	0.151	0.151	0.151	0.151
20 Biphenyl	0.333	0.303	0.303	0.303	0.303
21 Chrysene	0.151	0.151	0.151	0.151	0.151
22 Coronene	0.303	0.303	0.303	0.303	0.303
23 Dibenz(a,h)anthracene	0.151	0.151	0.151	0.151	0.151
24 Dibenzo(a,e)pyrene	0.605	0.605	0.605	0.605	0.605
25 Fluoranthene	0.336	0.151	0.151	0.157	0.163
26 Fluorene	0.602	0.309	0.260	0.224	0.303
27 Indeno(1,2,3-cd)pyrene	0.151	0.151	0.151	0.151	0.151
28 m-Terphenyl	0.303	0.303	0.303	0.303	0.303
29 Naphthalene	1.063	0.218	0.418	0.381	0.624
30 o-Terphenyl	0.303	0.303	0.303	0.303	0.303
31 Perylene	0.303	0.303	0.303	0.303	0.303
32 Phenanthrene	1.253	0.902	0.521	0.938	0.563
33 p-Terphenyl	0.303	0.303	0.303	0.303	0.303
34 Pyrene	0.288	0.151	0.151	0.151	0.163
35 Quinoline	1.211	1.211	1.211	1.211	1.211
36 Tetralin	0.303	0.303	0.303	0.303	0.303

Note: - values were calculated by the formula of [reading (ug) x 1000 / sample volume (m3)].  
- Where the analytical results are less than the minimum detection limit (MDL), the MDL has been used in calculations.  
- See analytical for details.

PAHs in ng/m3 Site: LICA - Cold Lake South



1	1-Methylnaphthalene
2	1-Methylphenanthrene
3	2-Chloronaphthalene
4	2-Methlyanthracene
5	2-Methylnaphthalene
6	3-Methylcholanthrene
7	7,12-Dimethylbenzo(a)anthracene
8	9,10-Dimethylanthracene
9	Acenaphthene
10	Acenaphthylene
11	Anthracene
12	Benzo(a)anthracene
13	Benzo(a)fluorene
14	Benzo(a)pyrene
15	Benzo(b)fluoranthene
16	Benzo(b)fluorene
17	Benzo(e)pyrene
18	Benzo(g,h,l)perylene
19	Benzo(k)fluoranthene
20	Biphenyl
21	Chrysene
22	Coronene
23	Dibenz(a,h)anthracene
24	Dibenzo(a,e)pyrene
25	Fluoranthene
26	Fluorene
27	Indeno(1,2,3-cd)pyrene
28	m-Terphenyl
29	Naphthalene
30	o-Terphenyl
31	Perylene
32	Phenanthrene
33	p-Terphenyl
34	Pyrene
35	Quinoline
36	Tetralin

# Calibration Reports

# Sulphur Dioxide

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

#### Station Information

Calibration Date	April 13, 2010	Previous Calibration	March 10, 2010
Company	Lakeland Community and Industry Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:25	End Time (MST)	11:01
Reason:	Monthly Calibration		
Barometric Pressure	715 mmHg	Station Temperature	22 Deg C
Cal Gas	51.4 ppm	Cal Gas Expiry date	8/2/2012
DAS Output Voltage	0 - 1 Volts		

#### Equipment Information

Analyzer Make / Model:	Thermon 43i	S/N :	806528242	Method:	UV absorbtion
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	3485		
Flow Meter:	API 700	S/N :	831		

#### Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb		
Sample Flow / Box Temp	449 ccm, 27.3 Deg C	448 ccm, 28.8 Deg C	
HVPS / Lamp Setting	-631.2, 750	-631.2, 749	
PMT / RxCell Temp	OK Deg C, 44.9 Deg C	OK Deg C, 45.0 Deg C	
Converter / IZS Temp	NA Deg C, 45.0 Deg C	NA Deg C, 45.0 Deg C	
Offset / Slope	5.5, 1.03	5.4, 1.013	

#### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
	0	0	0	N/A
4996	0	0	0	N/A
4959	38.9	400	408	0.9805
4959	38.9	400	400	1.0002
4981	19.5	200	202	0.9923
4987	14.6	150	151	0.9936
4999	0	0	0	N/A
Sum of Least Squares				0.9981
New Correction Factor				1.0002

#### Before Calibration

#### After Calibration

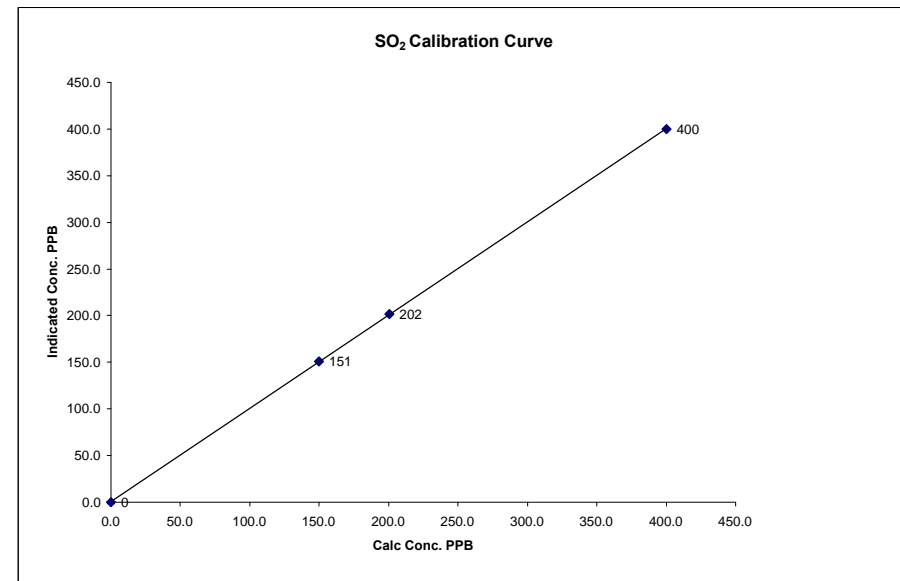
Auto Zero	-0.1	0.2
Auto Span	404	399
Sample Lines Connected	YES	
Percent Change from Previous Calibration	1.7%	

Calibration Performed by: Shea Beaton

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

Calibration Date	April 13, 2010
Company	Lakeland Community and Industry Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	7:25
End Time (MST)	11:01

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope (≥ 0.995) (0.85 to 1.15)	Intercept (± 3% F.S.)
0	0	n/a	0.999978	0.999648
150	151	0.9936		
200	202	0.9923		
400	400	1.0002		0.681134



Notes:

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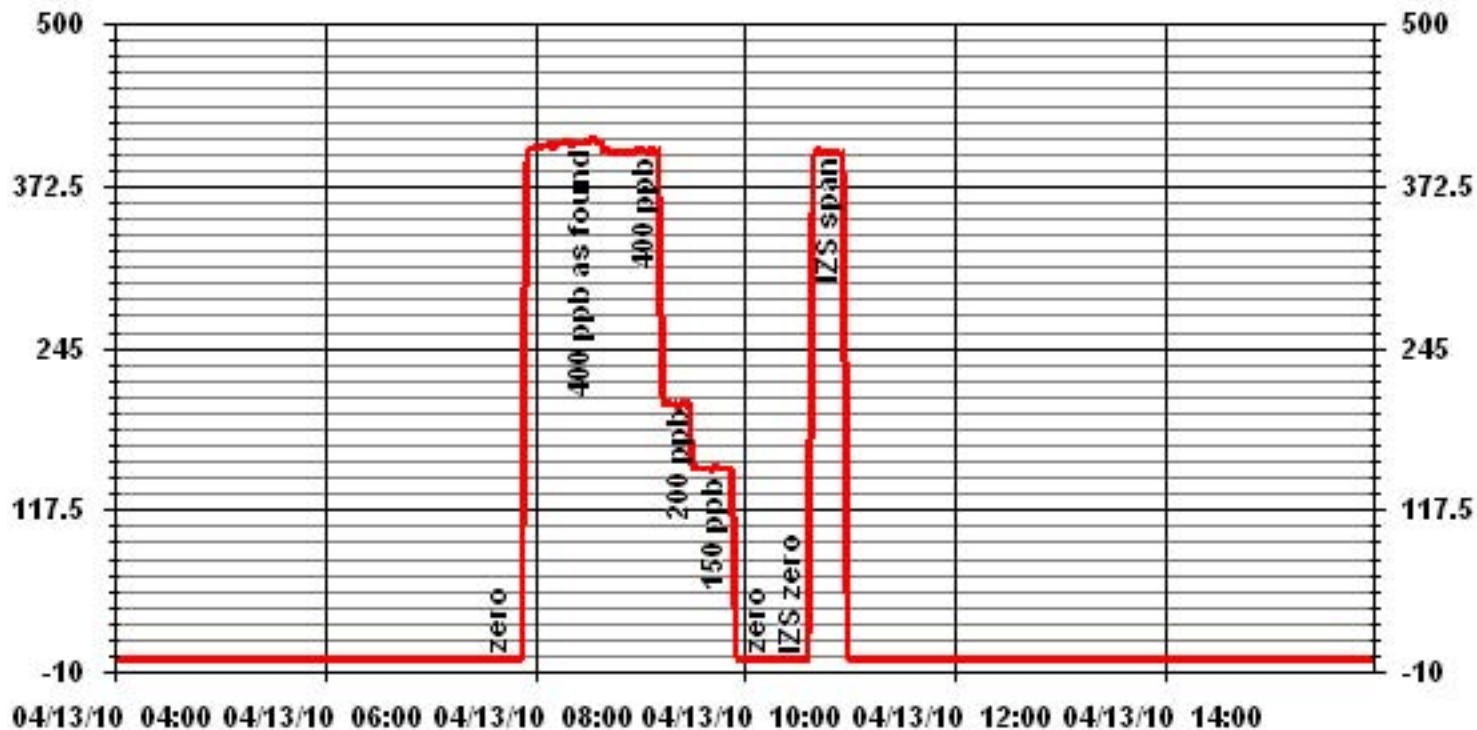


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### 01 Minute Averages



# Total Reduced Sulphur



**TRS Calibration Report  
Station Information**

Calibration Date	April 13, 2010	Previous Calibration	March 9, 2010
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	10:16	End Time (MST)	13:57
Reason:	Monthly Calibration		
Barometric Pressure	715 mm Hg	Station Temperature	23 Deg C
Cal Gas	10.8 ppm	Cal Gas Expiry date	June 22, 2010
DAS Output Voltage	0 - 10 Volts		

**Equipment Information**

Analyzer Make / Model:	TEI 4501	S/N :	812728560	Method:	Fluorescent
Converter Make / Model:	CD Nova CDN 101	S/N :	250		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	3485		
Flow Meter:	API 700	S/N :	831		

**Analyzer Settings**

Before Calibration			After Calibration		
Concentration Range	358 ccm		0 - 100 ppb		
Sample Flow / Box Temp	358 ccm	31.8 Deg C	356 ccm	31.5 Deg C	
HVPS / Lamp Setting	-622.7	760	-622.7	764	
PMT / RxCell Temp	OK Deg C	45.0 Deg C	OK Deg C	44.9 Deg C	
Converter / IZS Temp	850 Deg C	45.0 Deg C	850 Deg C	45.0 Deg C	
Offset / Slope	11.3	1.179	11.4	1.184	

**Calibration Data**

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4996	0	0	0	N/A
4961	37	80	79	1.0121
4961	37	80	80	0.9994
4980	18.5	40	40	0.9993
4986	11.6	25	24	1.0445
4998	0	0	0	N/A
Sum of Least Squares				1.0025
New Correction Factor				0.9994

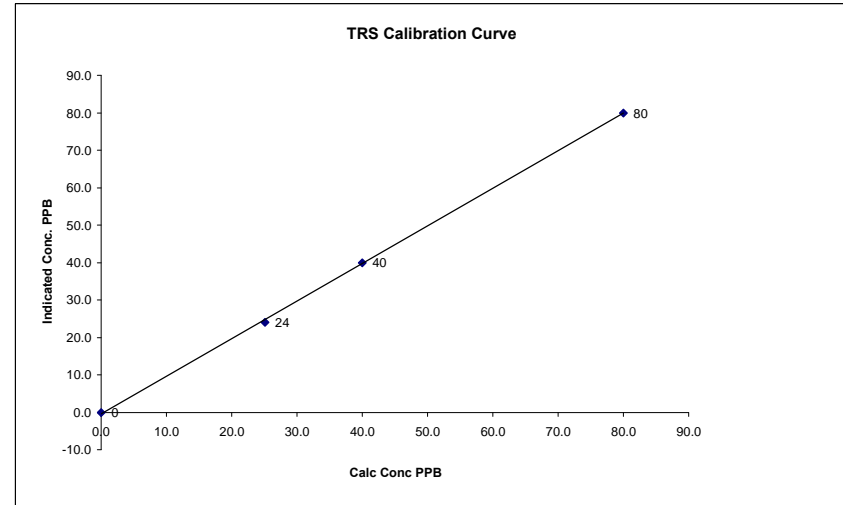
	Before Calibration	After Calibration
Auto Zero	0.2	0.0
Auto Span	41	44
Sample Lines Connected		YES
Percent Change from Previous Calibration		-1.3%

Calibration Performed by: Shea Beaton

**TRS Calibration Curve**

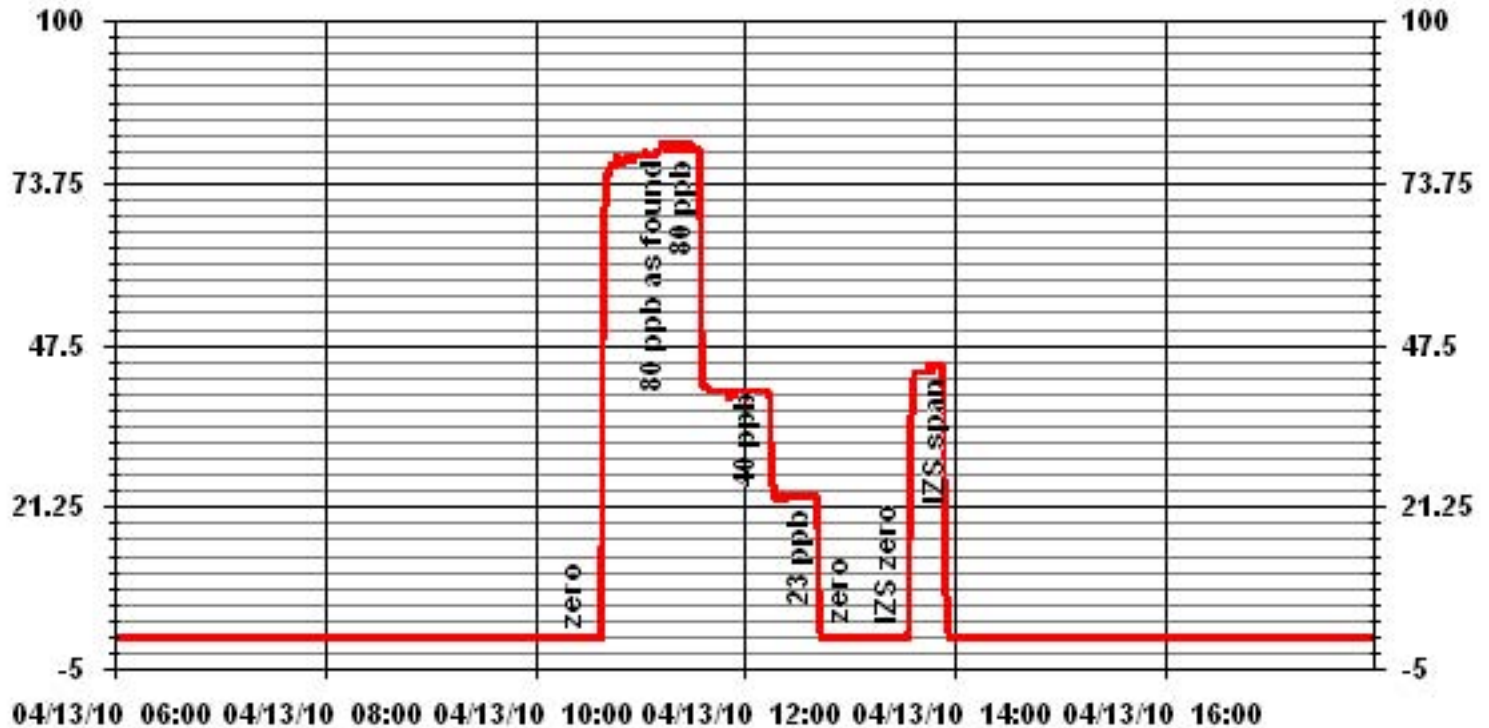
Calibration Date	April 13, 2010
Company	Lakeland Industry & Community Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	10:16
End Time (MST)	13:57

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	
0	0	n/a	Intercept	(± 3% F.S.)	0.999753
25	24	1.0445			1.004206
40	40	0.9993			
80	80	0.9994			-0.400455



Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
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### 01 Minute Averages



# Total Hydrocarbons

### THC Calibration Report

#### Station Information

Calibration Date:	April 13, 2010	Previous Calibration	March 9, 2010
Company:	Lakeland Industry and Community Association		
Plant / Location:	LICA1/Cold Lake		
Start Time (MST)	13:28	End Time (MST)	16:02
Reason:	Monthly Calibration		
Barometric Pressure:	715 mmHg	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	207Prop/602Meth	ppm	Cal Gas Expiry Date: 8/21/2011
DAS make & Model:	ESC 8832	S/N :	3485
Output Voltage Range:	0 - 10 VDC		

#### Analyzer Information

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

	Before Calibration	After Calibration
Concentration Range	0 - 50 ppm	0 - 50 ppm
Sample Pressure	6.5 psi	6.5 psi
Hydrogen Pressure	8 psi	8 psi
Air Pressure	20 psi	20 psi

#### Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0	0.0	0.0	N/A
2000	70	39.6	39.9	0.9927
2001	35	20.1	19.8	1.0169
2001	20	11.6	11.3	1.0257
2000	0	0.0	0.0	N/A
Correction Factor:				0.9927

#### Percent Change

Previous Calibration Correction Factor:	0.9927
Current Correction Factor Before Span Adjust:	0.9927
Percent Change:	0.0%

#### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	34.9	34.6
Sample Lines Connected		YES

#### Cylinder Pressures

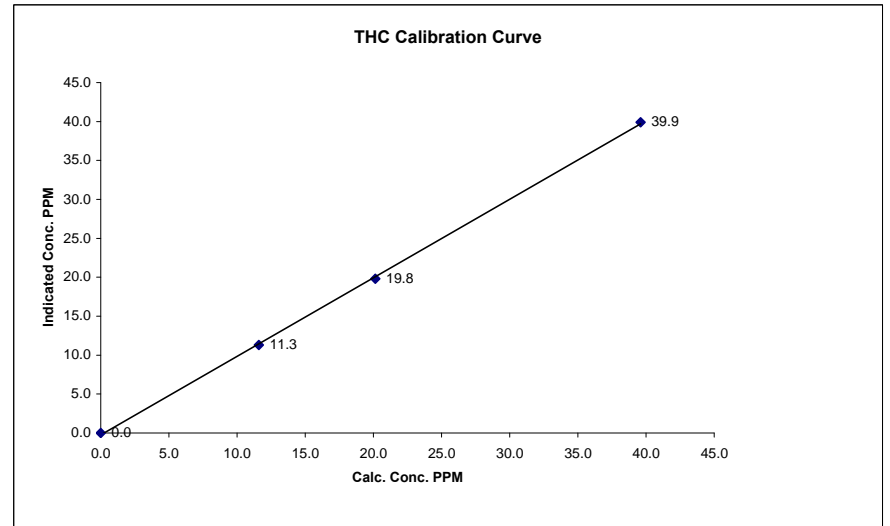
Span	450 psi
Hydrogen	350 psi
Zero Air	unlimited psi Maxxam-owned API 701 zero air supply with catalytic oxidizer

Calibration Performed by: Shea Beaton

### THC Calibration Curve

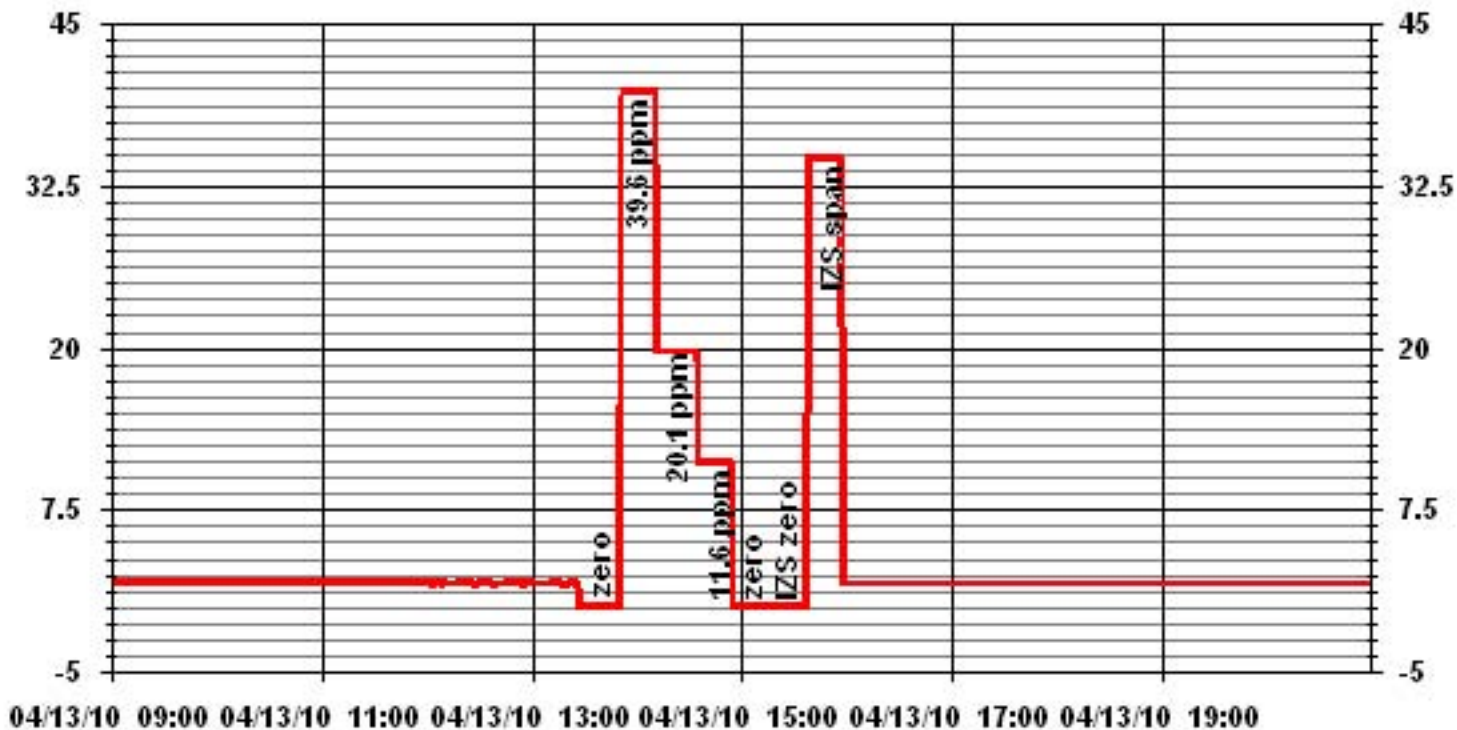
Calibration Date	April 13, 2010
Company	Lakeland Industry and Community Association
Plant / Location	LICA1/Cold Lake
Start Time (MST)	13:28
End Time (MST)	16:02

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999779
0.0	0.0		Intercept	(0.85 to 1.15)	1.008865
11.6	11.3	1.0257		(± 3% F.S.)	-0.241278
20.1	19.8	1.0169			
39.6	39.9	0.9927			



Notes:

### 01 Minute Averages



# Particulate Matter 2.5

**TEOM 1405F Audit**

	<b><u>Station</u></b>		<b><u>Audit Transfer Standard</u></b>
Date:	April 13, 2010	Make/Model:	Chinook FTS
Station Name:	LICA 1	Serial Number:	Hi - 091001
Location:	Cold Lake South	Cell s/n:	Lo - 091099
Operator:	LICA	Thermometer s/n:	VWR

	<b><u>Sampler</u></b>		<b><u>Set-up and current Sampler readings</u></b>
Make/Model	Thermo Scientific Series 1405F	F-Main Set Pt (l/min)	3.00
Unit #	AMU 1775	F-Aux Set Pt (l/min)	13.67
Unit s/n	1405A201620804	Filter Load (%)	21.8%
Firmware Ver.	1.51	K <sub>o</sub> Factor	14578.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	0.9
		Press (ATM)	0.939

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

ATM = (mmHg) X (1.316 X 10<sup>-3</sup>)    or    ATM = ("Hg) X (3.34207 X 10<sup>-2</sup>)

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

**Audit**

<b>Status</b>			
Noise <b>&lt;0.10ug</b>	0.008	Warnings	None
Pump Vacuum <b>&lt;0.40atm</b>	0.34		
<b>Temperature/Pressure</b>			
Measured Temp ( <b>± 2 °C</b> )	0.9	D °C	0.0
Measured Press ( <b>± 0.01atm</b> )	0.941	DATM	-0.002
<b>Flow Audit</b>			
Indicated Main Flow (l/min)	3.00	Main Flow Drift ( <b>±10.0%</b> )	2.60%
Measured Main Flow (l/min)	3.01	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift ( <b>±10.0%</b> )	2.45%
Measured Bypass Flow (l/min)	13.77	Flow Adjusted to Measured?	Yes
<b>Leak Check</b>		<b>Instrument Setup</b>	
Main ( <b>&lt; 0.15 l/min</b> )	Base = -0.02 Ref = -0.02	Flow Control = Active	
Aux ( <b>&lt; 0.6 l/min</b> )	Base = 0.0 Ref = 0.0	Report Conditions = Standard (25.0 C and 1atm)	
<b>K<sub>o</sub> Factor</b>			
Measured	14384.4		
K <sub>o</sub> Difference ( <b>± 2.5%</b> )	1.33%		

**Start Time:** 9:00      **Finish Time:** 10:00

**Sample Inlet Cleaned:** Yes      **New Filters Installed:** Yes  
**New Filter Loading %:** 21.8%

**Comments:** Audit performed prior to firmware upgrade. The firmware was upgraded to ver 1.52; with the intent that this version will allow the tough screen to function better.

**Auditor/s:** Shea Beaton

# Nitrogen Dioxide



**NOx - NO- NO2 Calibration Report**

**Station Information**

Calibration Date	April 12, 2010	Previous Calibration	March 9, 2010
Company	LICA	Plant/Location	LICA 1 - Cold Lake South
Start Time (MST)	9:10	End Time (MST)	13:36
Reason:	As Found / Pre-Repair		Other
Barometric Pressure	722 mmHg	Station Temperature	22 Deg C
Cal Gas Concentration	NOx 50.9 ppm	NO 50.8 ppm	Cal Gas Expiry date 08-Feb-12
DAS Output Voltage	0 - 1	Chart Rec. Output	NA Volts

**Equipment Information**

Analyzer Make / Model:	TECO 42C	S/N :	427408716	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 2000	S/N:	1991		
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	EnviroNics 2000	S/N :	1991		

**Analyzer Settings**

Before Calibration				After Calibration			
Concentration Range	0 - 500			ppb			
Sample Flow/Conv. Temp	724 ccm	316 Deg C		718 ccm	317.0 Deg C		
Ozone Flow / Vacuum	OK ccm	178.8 "Hg-A		OK ccm	180 "Hg-A		
HVPS / A ZERO	-820 Volts	NA MV		-821 Volts	NA MV		
Rx/ Temp / PMT Temp	49.9 Deg C	-2.5 Deg C		49.9 Deg C	-2.5 Deg C		
Box Temp / IZS Temp	32.6 Deg C	OK Deg C		27.8 Deg C	OK Deg C		
Offset	4.8 NOx	3.8 NO		4.7 NOx	3.7 NO		
Slope	1.007 NOx	0.920 NO		1.007 NOx	0.920 NO		
NO2 COEF / Conv Efficiency	1.007 NO2	NA		1.007 NO2	NA		

**Dilution Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
3004	0.0	----	0	0	0	0	0	0	----	----
2979	23.6		400	399	----	401	399	2	0.9975	1

**Gas Phase Titration Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO2 Correction Factor	NO2 Conv Efficiency
			NOx	NO	NO2	NOx	NO	NO2		
2979	23.6	----	402	400	----	401	399	2	----	
2979	23.6	300	402		263	398	136	262	1.0038	98.86%

Linearity OK?	Yes	No	Sum of Least Squares	NOx=	NO=	NO2=
			Correction Factors:	NOx= 0.0000	NO= 0.0000	NO2= 0.0000
				Average Converter Efficiency=		

	Before Calibration				After Calibration			
Auto Zero	-0.8	NOx	-0.8	NO2	-1.0	NOx	-0.9	NO2
Auto Span	435	NOx	433	NO2	424	NOx	422	NO2
	Sample Lines Connected				YES			

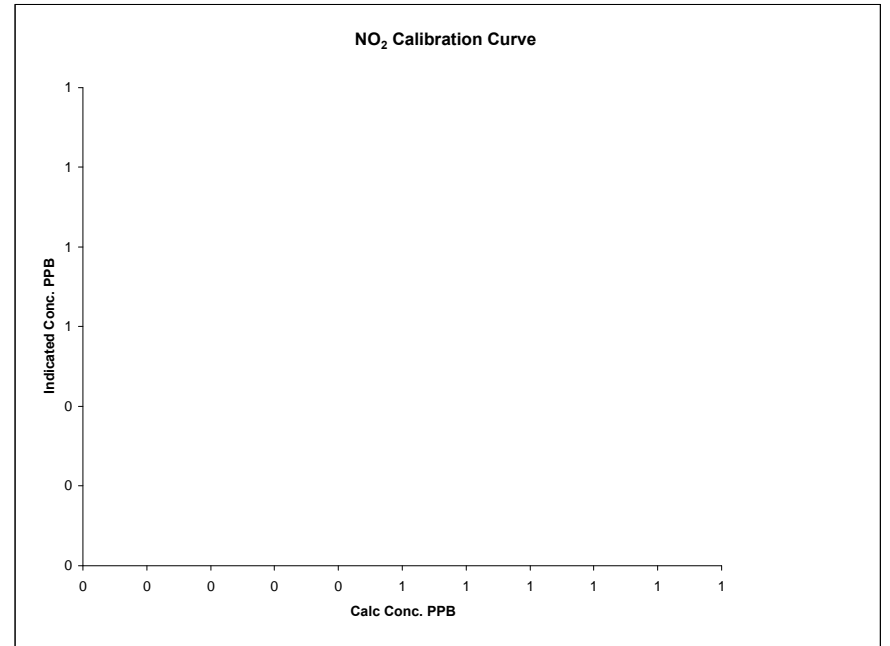
Notes

Calibration Performed by: Shea Beaton

**NO2 Calibration Curve**

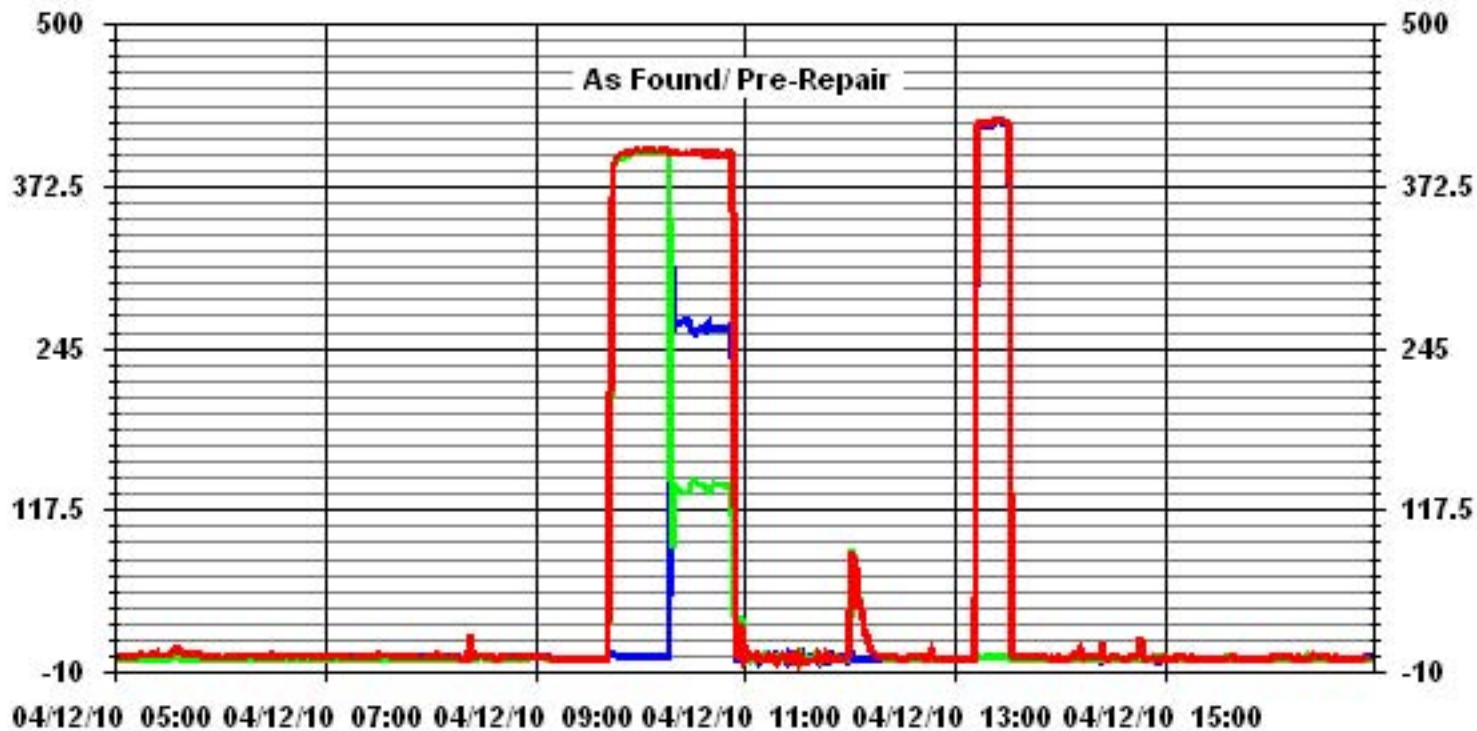
Calibration Date	April 12, 2010	LICA	
Company		LICA 1 - Cold Lake South	
Plant / Location			
Start Time (MST)	9:10	End Time (MST)	13:36

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



Notes:

### 01 Minute Averages



## NOx - NO- NO2 Calibration Report

### Station Information

Calibration Date	April 13, 2010		Previous Calibration	March 9, 2010	
Company	LICA		Plant/Location	LICA 1 - Cold Lake South	
Start Time (MST)	7:25		End Time (MST)	14:09	
Reason:	Monthly Calibration/ Post Repair		Other		
Barometric Pressure	715 mmHg	Station Temperature	22 Deg C	MFCF	1
Cal Gas Concentration	NOx 50.9 ppm	NO	50.8 ppm	Cal Gas Expiry date	08-Feb-12
DAS Output Voltage	0 - 1 Volts		Chart Rec. Output	NA Volts	

### Equipment Information

Analyzer Make / Model:	TECO 42C	S/N :	427408716	Method:	Chemiluminescent
Calibrator Make / Model:	Envionics 2000	S/N:	1991		
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	Envionics 2000	S/N :	1991		

### Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0 - 500			ppb			
Sample Flow/Conv. Temp	724 ccm	316 Deg C		721 ccm	317.0 Deg C		
Ozone Flow / Vacuum	OK ccm	179.2 "Hg-A		OK ccm	178.9 "Hg-A		
HVPS / A ZERO	-821 Volts	NA MV		-820 Volts	NA MV		
Rx/ Temp / PMT Temp	49.8 Deg C	-2.5 Deg C		50.0 Deg C	-2.5 Deg C		
Box Temp / IZS Temp	26.7 Deg C	OK Deg C		28.4 Deg C	OK Deg C		
Offset	4.7 NOx	3.7 NO		3.8 NOx	3.5 NO		
Slope	1.007 NOx	0.920 NO		1.005 NOx	0.910 NO		
NO2 COEF / Conv Efficiency	1.007 NO2	NA		1.007 NO2	NA		

### Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
3006	0.0	----	0	0	0	-1	0	0	----	----
3006	0.0	----	0	0	1	0	0	0	----	----
2980	23.6	----	400	399	----	406	403	3	0.9826	0.9904
2980	23.6	----	400	399	----	400	399	2	0.9973	1.0004
2990	11.8	----	200	200	----	201	200	1	0.9905	0.9985
2993	7.4	----	126	125	----	125	125	1	0.9963	1.0023
3006	0.0	----	0	0	0	1	0	0	----	----

### Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO2 Correction Factor	NO2 Conv Efficiency
			NOx	NO	NO2	NOx	NO	NO2		
2980	23.6	----	400	399	----	399	398	1	----	----
2980	23.6	300	400	----	262	397	137	260	1.0077	99.23%
2980	23.6	150	400	----	128	398	271	127	1.0079	99.21%
2980	23.6	75	400	----	55	398	344	55	1.0000	100.00%
2980	23.6	350	400	----	298	396	101	295	1.0102	98.99%

Linearity	Sum of Least Squares		NOx= 0.999	NO= 1.000	NO2= 1.010	
OK?	Yes	No	Correction Factors:	NOx= 0.9973	NO= 1.0004	NO2= 1.0079
			Average Converter Efficiency= 99.36%			

Before Calibration				After Calibration			
Auto Zero	-0.9 NOx	-0.8 NO2		0.1 NOx	0.1 NO2		
Auto Span	435 NOx	433 NO2		424 NOx	422 NO2		
Sample Lines Connected				YES			

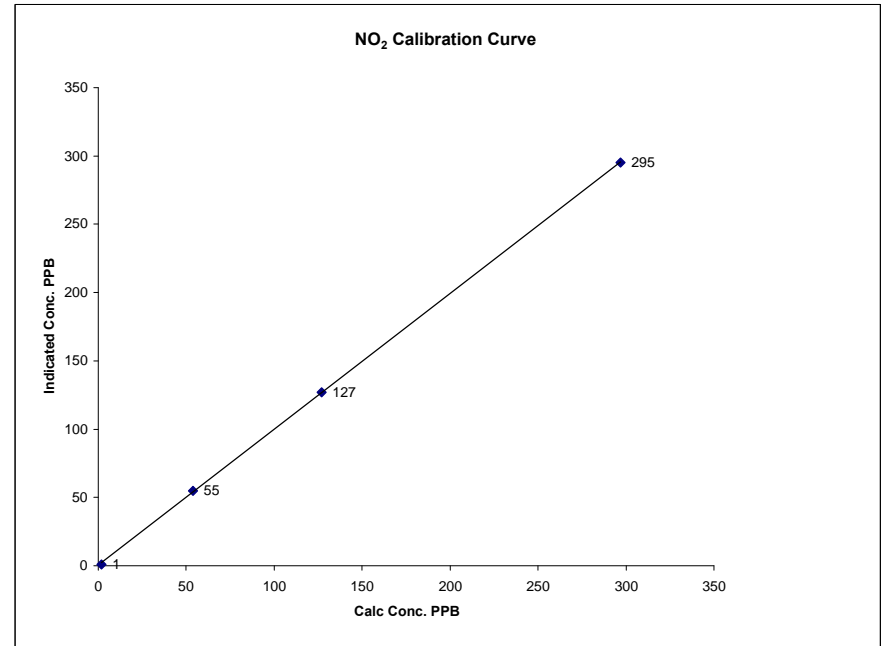
Notes

Calibration Performed by: Shea Beaton

## NO2 Calibration Curve

Calibration Date	April 13, 2010		<b>LICA</b>	
Company	LICA 1 - Cold Lake South			
Plant / Location	LICA 1 - Cold Lake South			
Start Time (MST)	7:25	End Time (MST)	14:09	

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999936
ppb	ppb		Slope	(0.85 to 1.15)	0.993918
2	1	N/A	Intercept	(± 3% F.S.)	0.22979
297	295	1.0068			
54	55	0.9818			
127	127	1.0000			

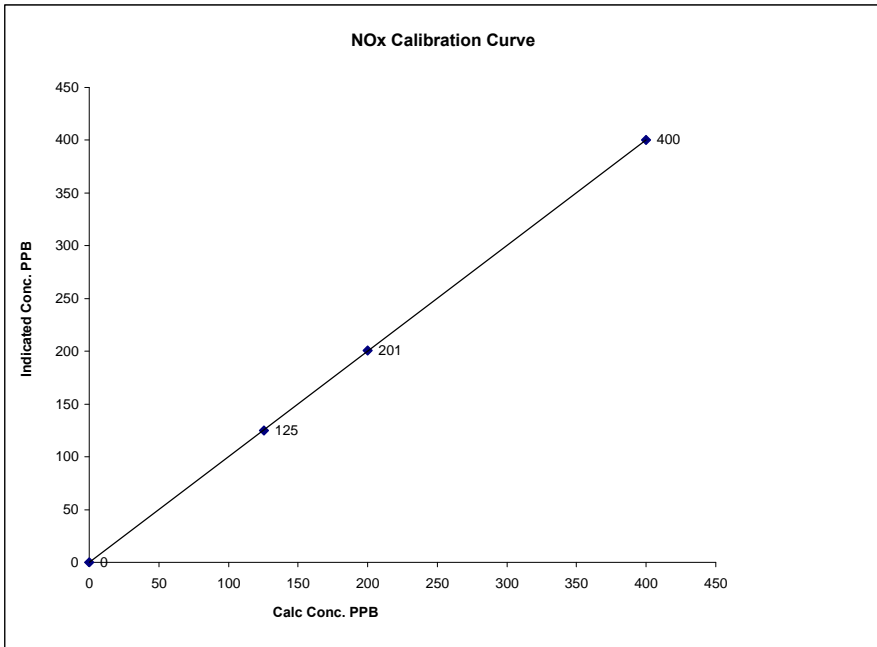


Notes:

### NOx Calibration Curve

Calibration Date April 13, 2010  
 Company LICA  
 Plant / Location LICA 1 - Cold Lake South  
 Start Time (MST) 7:25 End Time (MST) 14:09

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999988
0	0	N/A	Slope (0.85 to 1.15)	1.000732
126	125	1.0043	Intercept (± 3% F.S.)	-0.02197
200	201	0.9955		
400	400	0.9998		

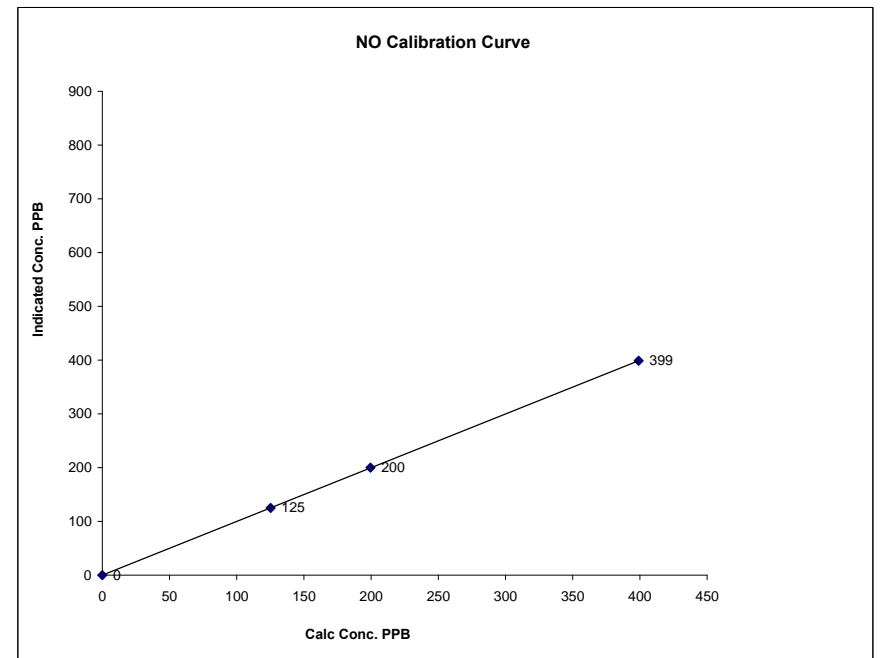


Notes:

### NO Calibration Curve

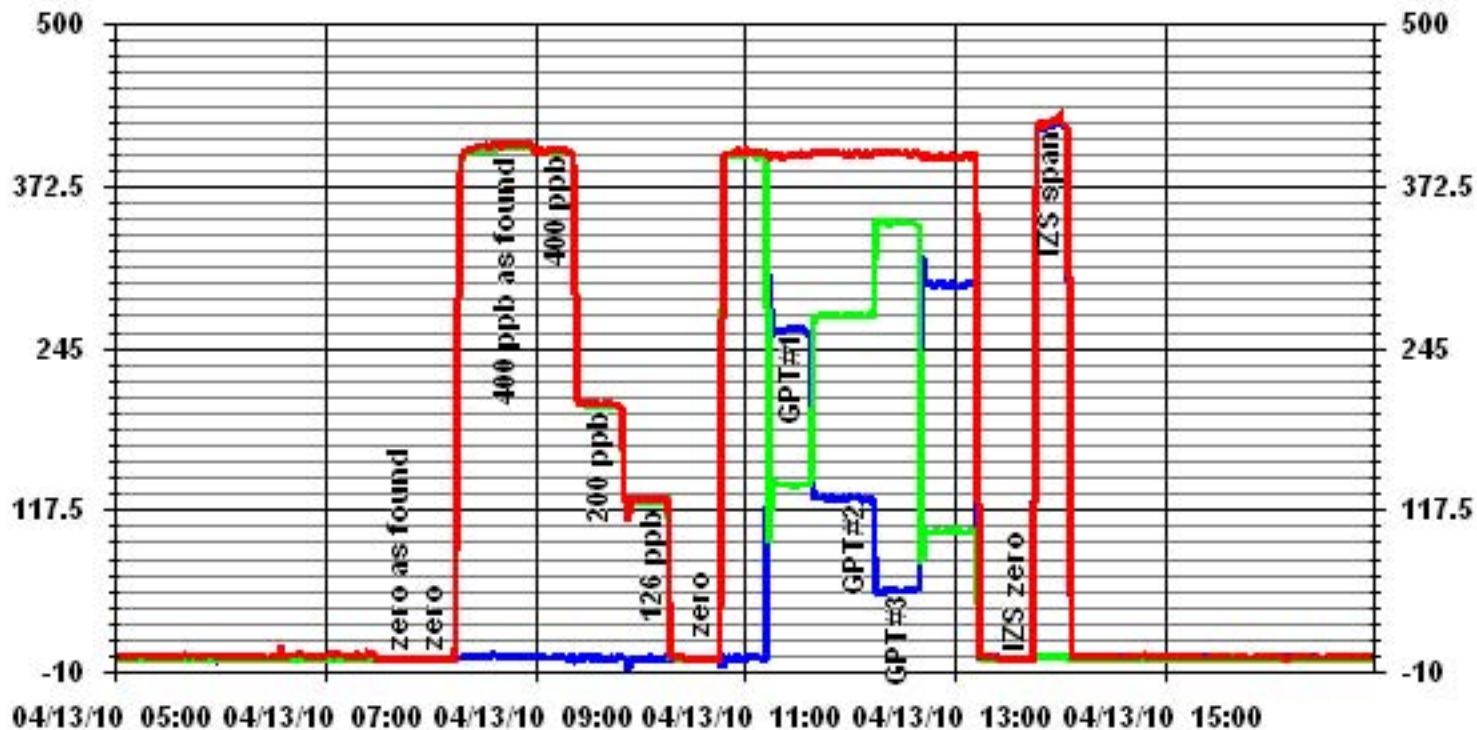
Calibration Date April 13, 2010  
 Company LICA  
 Plant / Location LICA 1 - Cold Lake South  
 Start Time (MST) 7:25 End Time (MST) 14:09

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999998
0	0	N/A	Slope (0.85 to 1.15)	0.999940
125	125	1.0023	Intercept (± 3% F.S.)	0.7612
200	200	0.9985		
399	399	1.0004		



Notes:

### 01 Minute Averages



— LICA NOX\_ PPB    
 — LICA NO\_ PPB    
 — LICA NO2\_ PPB

# Ozone

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

#### Station Information

Calibration Date	April 12, 2010	Previous Calibration	March 9, 2010
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	13:28	End Time (MST)	16:16
Reason:	Monthly Calibration		
Barometric Pressure	715 mm Hg	Station Temperature	23 Deg C
DAS Output Voltage	0 - 10 Volts		

#### Equipment Information

Analyzer Make / Model:	TEI 49i	S/N :	700419951	Method:	Fluorescent
Calibrator Make / Model:	EnviroNics 2000	S/N :	1991	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	3485		

#### Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0 - 500 ppb						
Sample Flow / Bench Temp	NA ccm	28.7 Deg C		NA ccm	29.1 Deg C		
Sample Flow A/B	0.737 LPM	0.752 LPM		0.736 LPM	0.751 LPM		
O <sub>3</sub> Set Level	29%			29%			
Offset / Slope	0.7	0.991		0.7	0.991		

#### Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
3001	0	0	0	N/A
3004	350	297	300	0.9900
3004	150	127	125	1.0160
3004	75	54	52	1.0385
3004	0	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				0.9900

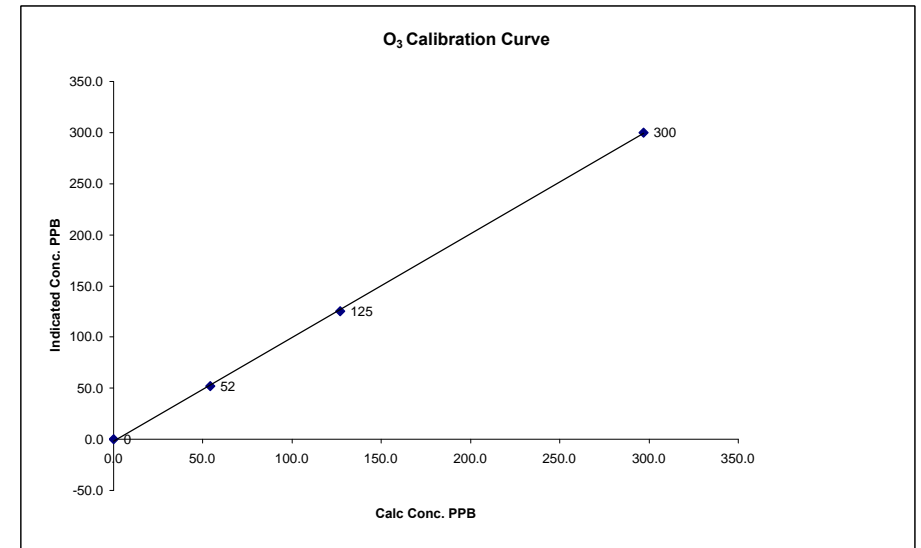
Before Calibration		After Calibration	
Auto Zero	0.0		-0.1
Auto Span	281		280
Sample Lines Connected			YES
Percent Change from Previous Calibration			0.4%

Calibration Performed by: Shea Beaton

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

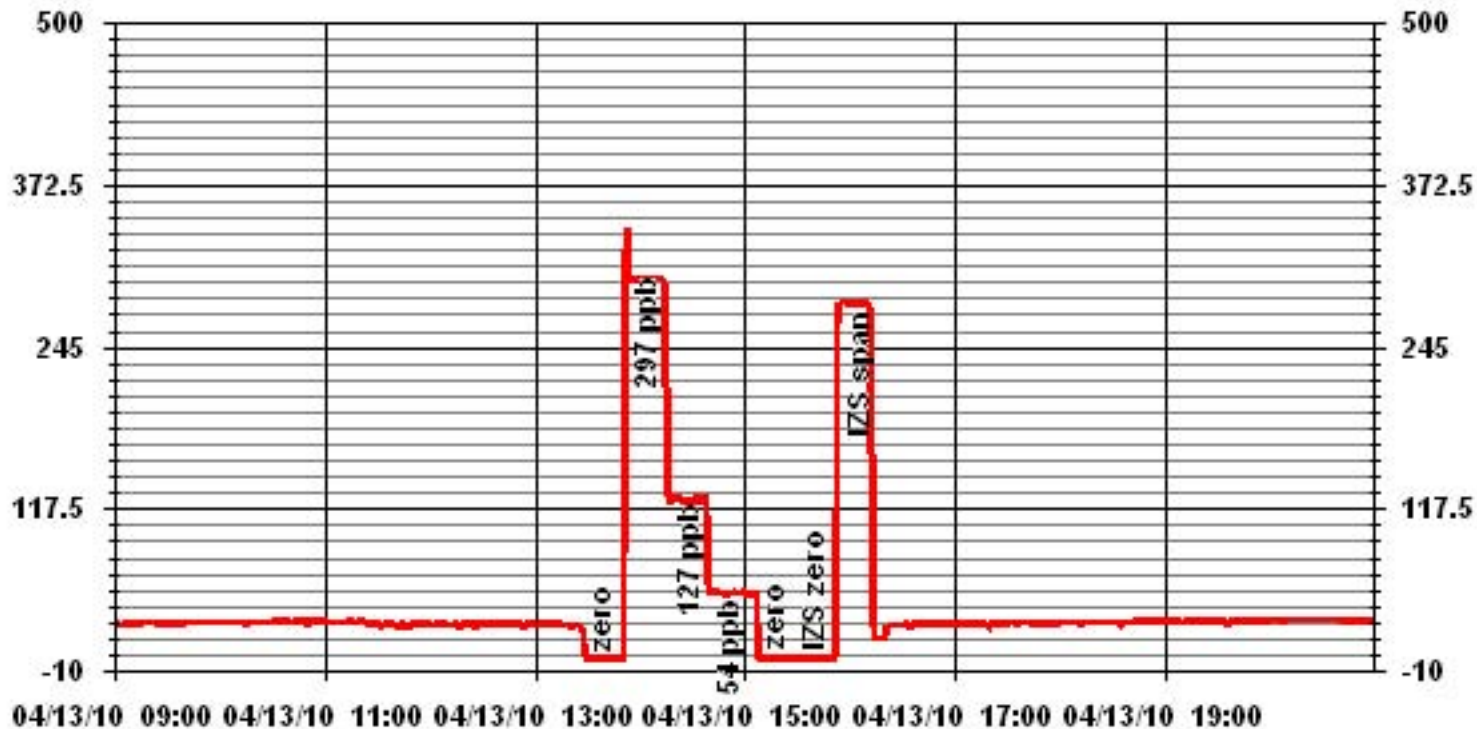
Calibration Date	April 12, 2010		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	13:28	End Time (MST)	16:16

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0	0	n/a	0.999837	1.012936	-1.795803
54	52	1.0385			
127	125	1.0160			
297	300	0.9900			



Notes: Bench Temp=53.5C, O<sub>3</sub> lamp temp=67.6C.

### 01 Minute Averages





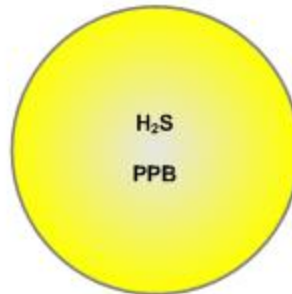
# Passive Bubble Maps

# Lakeland Industry & Community Association H<sub>2</sub>S Passive Bubble Map

APRIL 2010

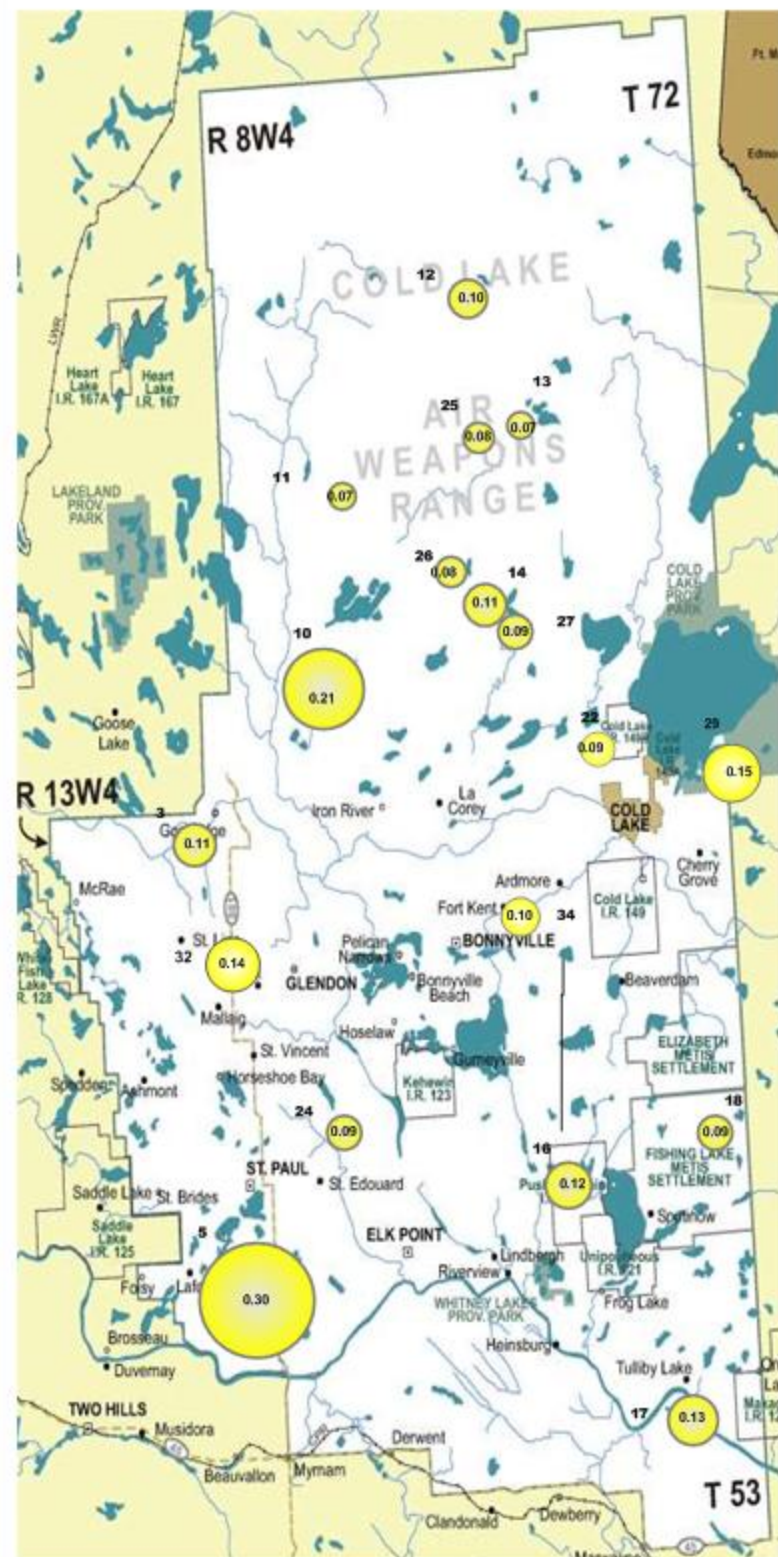
## PASSIVE STATIONS

		DUPLICATE
3 – Therien	0.11 PPB	0.11 PPB
5 – Lake Eliza	0.30 PPB	NA
10 – La Corey	0.21 PPB	NA
11 – Wolf Lake	0.07 PPB	0.06 PPB
12 – Foster Creek	0.10 PPB	NA
13 – Primrose	0.07 PPB	0.06 PPB
14 – Maskwa	0.11 PPB	NA
16 – Frog Lake	0.12 PPB	0.12 PPB
17 – Clear Range	0.13 PPB	NA
18 – Fishing Lake	0.08 PPB	0.09 PPB
22 – Cold Lake South	0.09 PPB	NA
24 – Fort George	0.09 PPB	NA
25 – Burnt Lake	0.08 PPB	0.08 PPB
26 – Mahihkan	0.08 PPB	NA
27 – Mahkeses	0.09 PPB	0.09 PPB
29 – Cold Lake South 2	0.15 PPB	NA
32 – St. Lina	0.14 PPB	NA
34 – Portable	0.10 PPB	NA



## Summary

Minimum : 0.07 PPB – Wolf Lake and Primrose  
Maximum: 0.30 PPB – Lake Eliza  
Average: 0.30 PPB \*Includes Duplicates



# Lakeland Industry & Community Association NO<sub>2</sub> Passive Bubble Map

APRIL 2010

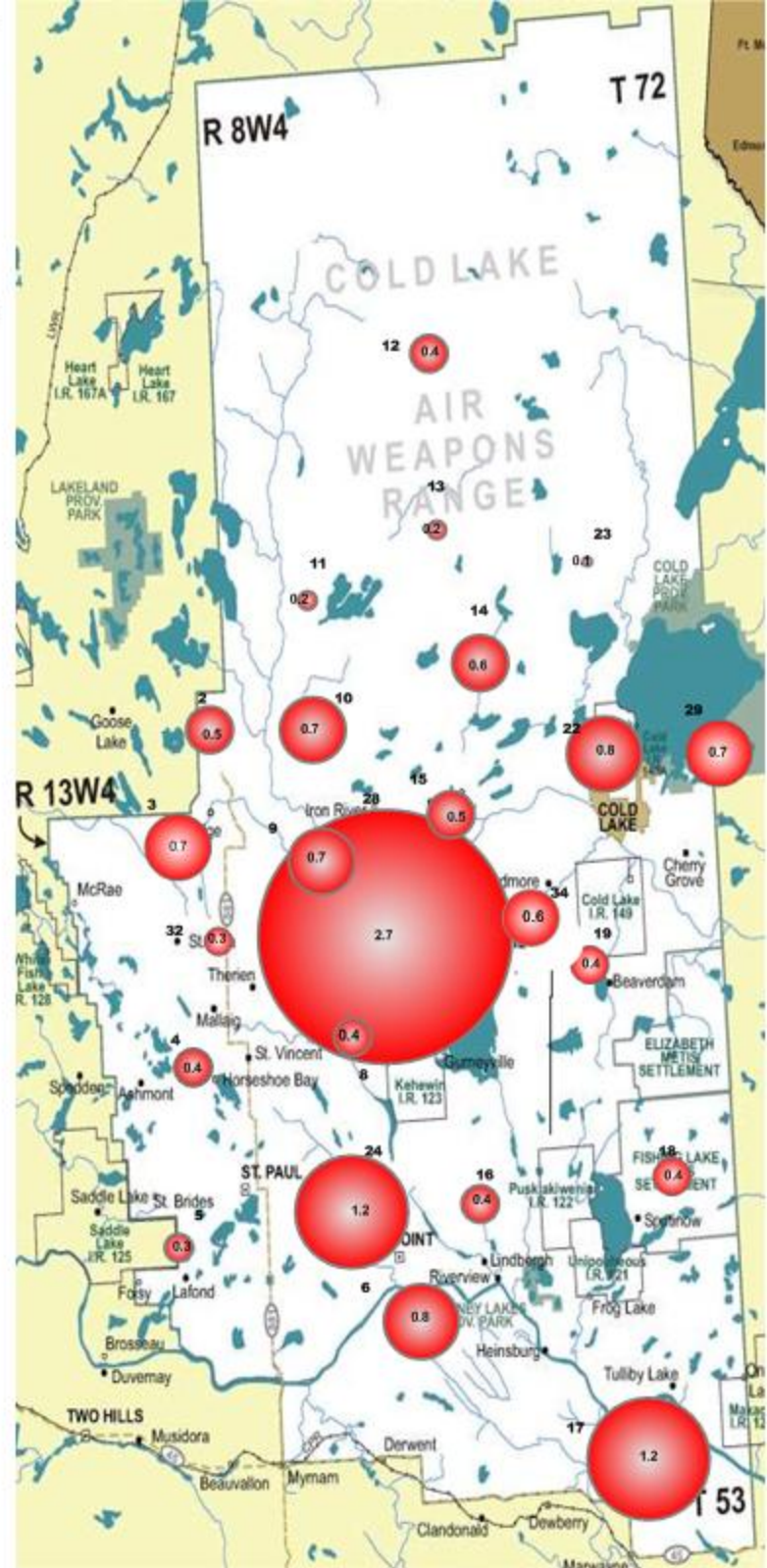
## PASSIVE STATIONS

		DUPLICATE
2 – Sand River	0.5 PPB	0.4 PPB
3 – Therien	0.7 PPB	NA
4 – Flat Lake	0.3 PPB	0.4 PPB
5 – Lake Eliza	0.3 PPB	NA
6 – Telegraph Creek	0.7 PPB	0.9 PPB
8 – Muriel-Kehewin	0.4 PPB	NA
9 – Dupre	0.7 PPB	0.7 PPB
10 – La Corey	0.7 PPB	NA
11 – Wolf Lake	0.2 PPB	0.2 PPB
12 – Foster Creek	0.4 PPB	NA
13 – Primrose	0.2 PPB	0.2 PPB
14 – Maskwa	0.6 PPB	NA
15 – Ardmore	0.5 PPB	0.5 PPB
16 – Frog Lake	0.4 PPB	NA
17 – Clear Range	1.3 PPB	1.0 PPB
18 – Fishing Lake	0.4 PPB	NA
19 – Beaverdam	0.4 PPB	0.3 PPB
22 – Cold Lake South	0.8 PPB	NA
23 – Medley-Martineau	0.1 PPB	NA
24 – Fort George	1.3 PPB	1.1 PPB
28 – Town of Bonnyville	2.7 PPB	NA
29 – Cold Lake South 2	0.7 PPB	0.7 PPB
32 – St. Lina	0.3 PPB	NA
34 – Portable	0.6 PPB	NA



## Summary

Minimum : 0.1 PPB – Medley-Martineau  
Maximum: 2.7 PPB – Town of Bonnyville  
Average: 0.6 PPB \*Includes Duplicates



# Lakeland Industry & Community Association O<sub>3</sub> Passive Bubble Map

APRIL 2010

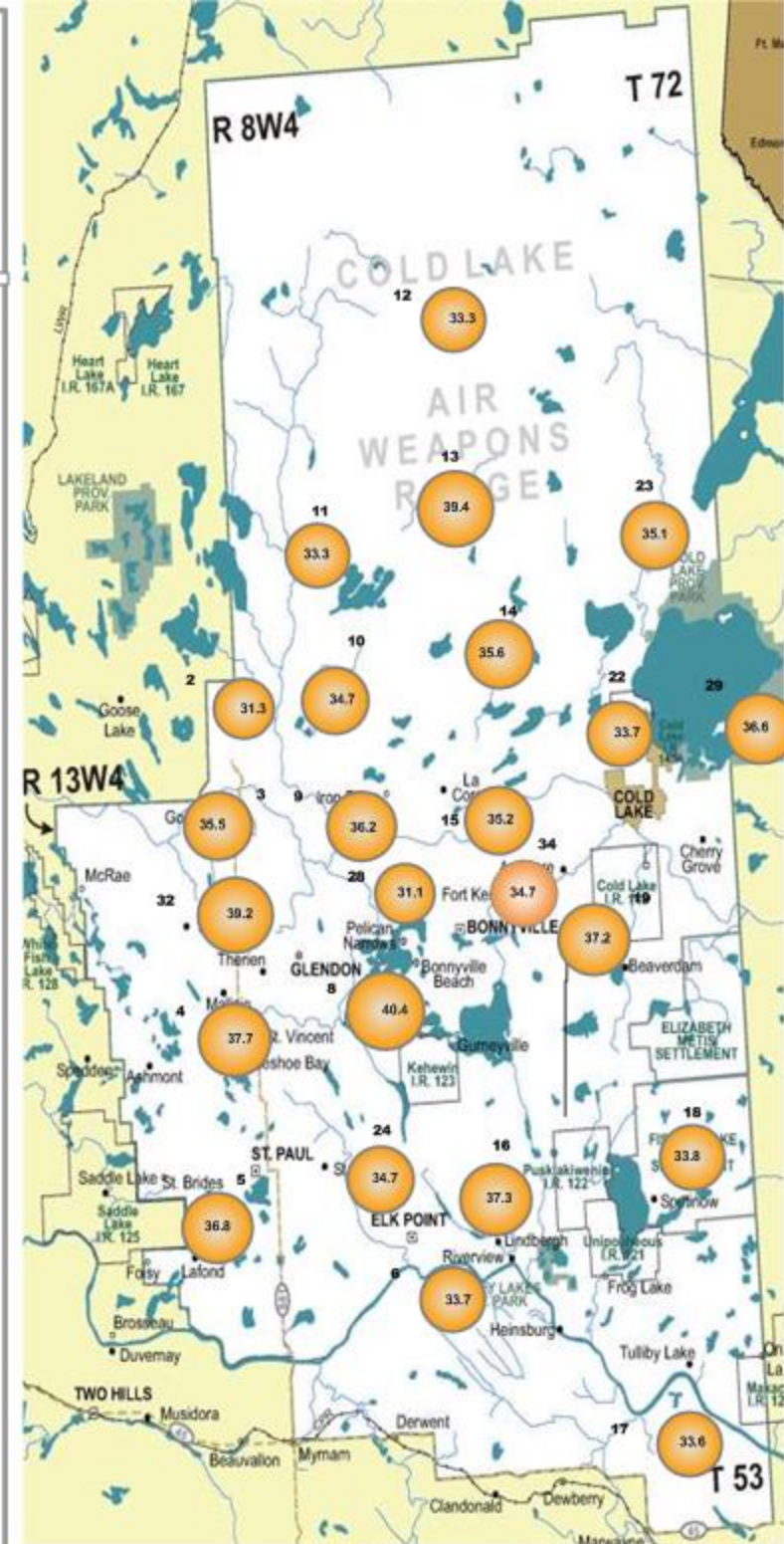
## PASSIVE STATIONS

		DUPLICATE
2 – Sand River	32.7 PPB	29.8 PPB
3 – Therien	35.5 PPB	NA
4 – Flat Lake	37.1 PPB	38.3 PPB
5 – Lake Eliza	36.8 PPB	NA
6 – Telegraph Creek	33.9 PPB	33.5 PPB
8 – Muriel-Kehewin	40.4 PPB	NA
9 – Dupre	36.5 PPB	35.8 PPB
10 – La Corey	34.7 PPB	NA
11 – Wolf Lake	33.2 PPB	33.4 PPB
12 – Foster Creek	33.3 PPB	NA
13 – Primrose	38.9 PPB	39.8 PPB
14 – Maskwa	35.6 PPB	NA
15 – Ardmore	33.9 PPB	36.4 PPB
16 – Frog Lake	37.3 PPB	NA
17 – Clear Range	32.4 PPB	34.7 PPB
18 – Fishing Lake	33.8 PPB	NA
19 – Beaverdam	37.8 PPB	36.5 PPB
22 – Cold Lake South	33.7 PPB	NA
23 – Medley-Martineau	35.1 PPB	NA
24 – Fort George	35.3 PPB	34.1 PPB
28 – Town of Bonnyville	31.1 PPB	NA
29 – Cold Lake South 2	36.6 PPB	36.6 PPB
32 – St. Lina	39.2 PPB	NA
34 – Portable	34.7 PPB	NA



## Summary

Minimum : 31.1 PPB –Town of Bonnyville  
 Maximum: 40.4 PPB –Muriel-Kehewin  
 Average: 35.4 PPB \*Includes Duplicates



# Lakeland Industry & Community Association SO<sub>2</sub> Passive Bubble Map

APRIL 2010

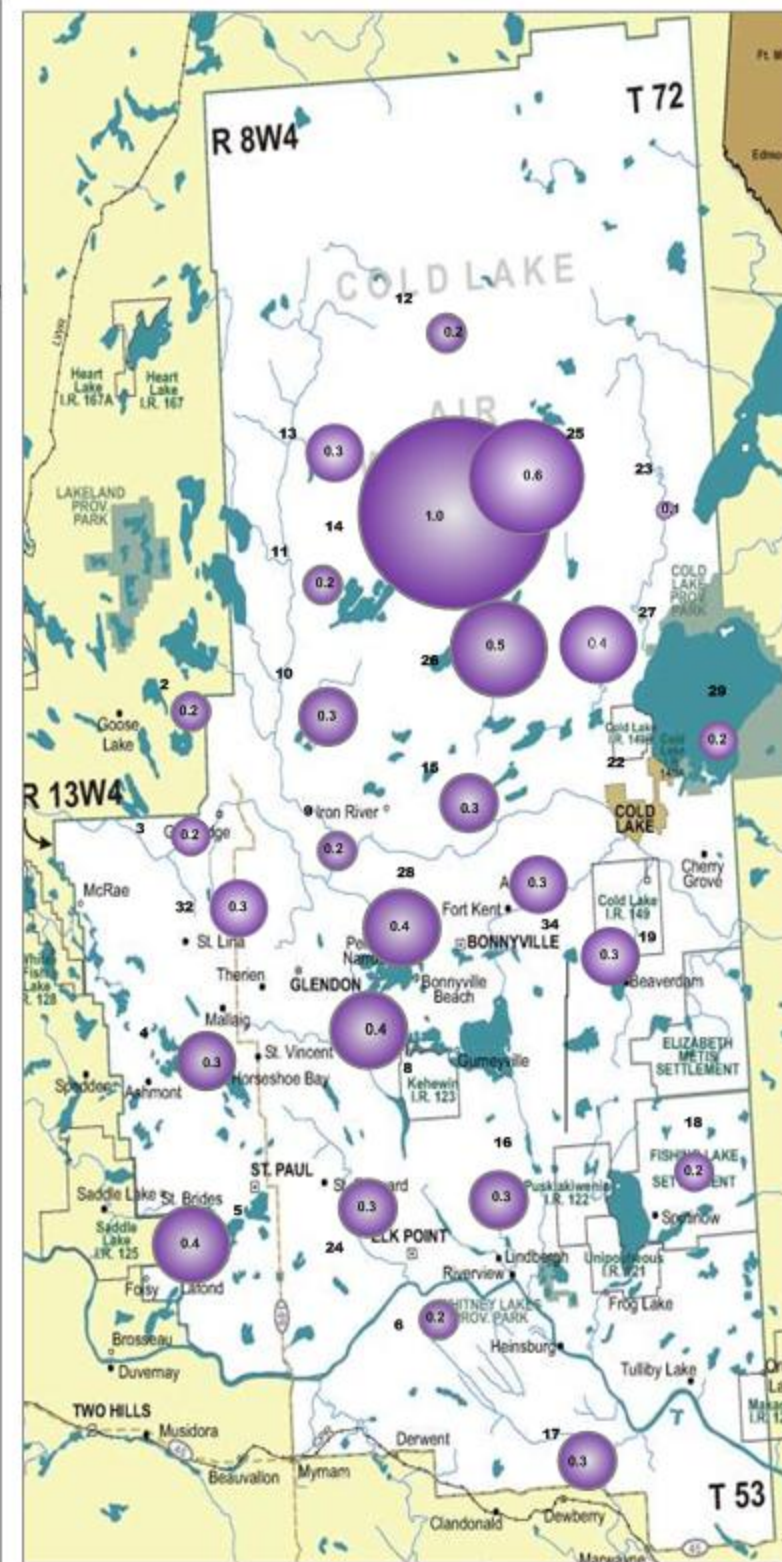
## PASSIVE STATIONS

		DUPLICATE
2 – Sand River	0.2 PPB	0.2 PPB
3 – Therien	0.2 PPB	NA
4 – Flat Lake	0.3 PPB	0.2 PPB
5 – Lake Eliza	0.4 PPB	NA
6 – Telegraph Creek	0.2 PPB	0.2 PPB
8 – Muriel-Kehewin	0.4 PPB	NA
9 – Dupre	0.2 PPB	0.3 PPB
10 – La Corey	0.3 PPB	NA
11 – Wolf Lake	0.2 PPB	0.3 PPB
12 – Foster Creek	0.2 PPB	NA
13 – Primrose	0.3 PPB	0.3 PPB
14 – Maskwa	1.0 PPB	NA
15 – Ardmore	0.2 PPB	0.3 PPB
16 – Frog Lake	0.3 PPB	NA
17 – Clear Range	0.3 PPB	0.3 PPB
18 – Fishing Lake	0.2 PPB	NA
19 – Beaverdam	0.2 PPB	0.3 PPB
22 – Cold Lake South	MISSING	
23 – Medley-Martineau	0.1 PPB	NA
24 – Fort George	0.2 PPB	0.3 PPB
25 – Burnt Lake	0.6 PPB	NA
26 – Mahikan	0.6 PPB	0.4 PPB
27 – Mahkeses	0.4 PPB	NA
28 – Town of Bonnyville	0.3 PPB	0.4 PPB
29 – Cold Lake South 2	0.2 PPB	NA
32 – St. Lina	0.3 PPB	NA
34 – Portable	0.3 PPB	NA



## Summary

Minimum : 0.1 PPB – Medley-Martineau  
 Maximum: 1.0 PPB –Maskwa  
 Average: 0.3 PPB \*Includes Duplicates



# Passive Field Data

# Field Notes

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
2	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	08:25	04/29/10	07:50	
2A (Dup)	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	08:25	04/29/10	07:50	
3	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	07:50	04/29/10	07:10	
3A (Dup)	H <sub>2</sub> S	04/01/10	07:50	04/29/10	07:10	
4	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	13:15	04/30/10	12:05	
4A (Dup)	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	13:15	04/30/10	12:05	
5	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	12:35	04/30/10	11:25	
5A (Dup)	NA	NA	NA	NA	NA	
6	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	11:15	04/30/10	10:05	
6A (Dup)	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	11:15	04/30/10	10:05	
8	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	14:10	04/30/10	13:05	
8A (Dup)	NA	NA	NA	NA	NA	
9	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	17:45	04/29/10	16:55	
9A (Dup)	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	17:45	04/29/10	16:55	
10	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	09:15	04/29/10	08:35	
10A (Dup)	NA	NA	NA	NA	NA	
11	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	09:55	04/29/10	09:15	
11A (Dup)	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	09:55	04/29/10	09:15	
12	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	11:20	04/29/10	10:35	
12A (Dup)	NA	NA	NA	NA	NA	
13	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	13:00	04/29/10	12:15	
13A (Dup)	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	13:00	04/29/10	12:15	
14	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	13:50	04/29/10	13:10	
14A (Dup)	NA	NA	NA	NA	NA	
15	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	17:15	04/29/10	16:20	
15A (Dup)	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	17:15	04/29/10	16:20	
16	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	09:40	04/30/10	08:30	
16A (Dup)	H <sub>2</sub> S	04/02/10	09:40	04/30/10	08:30	

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
17	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	10:30	04/30/10	09:20	
17A (Dup)	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	10:30	04/30/10	09:20	
18	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	09:00	04/30/10	07:40	
18A (Dup)	H <sub>2</sub> S	04/02/10	09:00	04/30/10	07:40	
19	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	08:10	04/30/10	06:45	
19A (Dup)	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	08:10	04/30/10	06:45	
22	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	16:25	04/29/10	15:25	
22A (Dup)	NA	NA	NA	NA	NA	
23	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	15:20	04/29/10	14:40	
23A (Dup)	NA	NA	NA	NA	NA	
24	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	11:50	04/30/10	10:40	
24A (Dup)	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	11:50	04/30/10	10:40	
25	H <sub>2</sub> S/SO <sub>2</sub>	04/01/10	12:40	04/29/10	11:50	
25A (Dup)	H <sub>2</sub> S	04/01/10	12:40	04/29/10	11:50	
26	H <sub>2</sub> S/SO <sub>2</sub>	04/01/10	13:35	04/29/10	12:55	
26A (Dup)	SO <sub>2</sub>	04/01/10	13:35	04/29/10	12:55	
27	H <sub>2</sub> S/SO <sub>2</sub>	04/01/10	14:20	04/29/10	13:35	
27A (Dup)	H <sub>2</sub> S	04/01/10	14:20	04/29/10	13:35	
28	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/02/10	14:50	04/30/10	13:45	
28A (Dup)	SO <sub>2</sub>	04/02/10	14:50	04/30/10	13:45	
29	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	16:10	04/29/10	15:35	
29A (Dup)	NO <sub>2</sub> /O <sub>3</sub>	04/01/10	16:10	04/29/10	15:35	
32	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	04/01/10	06:45	04/29/10	06:30	
32A (Dup)	NA	NA	NA	NA	NA	
34	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	03/31/10	08:45	04/29/10	15:00	
34A (Dup)	NA	NA	NA	NA	NA	



# Passive Network Laboratory Analysis



Your Project #: 2010/04/01 - 2010/04/29  
Site:LICA

**Attention: MICHAEL BISAGA**

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION  
PO BOX 8237  
5107W- 50TH STREET  
BONNYVILLE, AB  
CANADA T9N 2J5

**Report Date: 2010/05/25**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B028650**

**Received: 2010/05/04, 11:02**

Sample Matrix: Air  
# Samples Received: 45

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
H2S Passive Analysis (l)	25	2010/05/07	2010/05/21	EINDSOP-00150	Tang.Passive H2S in
NO2 Passive Analysis (l)	35	2010/05/18	2010/05/21	EINDSOP-00148	Tang Passive NO2 in
O3 Passive Analysis (l)	35	2010/05/18	2010/05/21	EINDSOP-00197	EPA 300 R2.1
SO2 Passive Analysis (l)	39	2010/05/18	2010/05/21	EINDSOP-00149	Tang Passive SO2 in

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

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

**Encryption Key**

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

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

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

**RESULTS OF CHEMICAL ANALYSES OF AIR**

Maxxam ID		T91947	T91948	T91949	T91950	T91951		
Sampling Date		2010/04/01 08:25	2010/04/01 08:25	2010/04/01 07:50	2010/04/01 07:50	2010/04/02 13:15		
	<b>Units</b>	<b>2</b>	<b>2A (DUP)</b>	<b>3</b>	<b>3A (DUP)</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb			0.11	0.11		0.02	3938458
Calculated NO2	ppb	0.5	0.4	0.7		0.3	0.1	3966204
Calculated O3	ppb	32.7	29.8	35.5		37.1	0.1	3966493
Calculated SO2	ppb	0.2	0.2	0.2		0.3	0.1	3966269
RDL = Reportable Detection Limit								

Maxxam ID		T91952	T91953	T91954	T91955	T91956		
Sampling Date		2010/04/02 13:15	2010/04/02 12:35	2010/04/02 11:15	2010/04/02 11:15	2010/04/02 14:10		
	<b>Units</b>	<b>4A (DUP)</b>	<b>5</b>	<b>6</b>	<b>6A (DUP)</b>	<b>8</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb		0.30				0.02	3938458
Calculated NO2	ppb	0.4	0.3	0.7	0.9	0.4	0.1	3966204
Calculated O3	ppb	38.3	36.8	33.9	33.5	40.4	0.1	3966493
Calculated SO2	ppb	0.2	0.4	0.2	0.2	0.4	0.1	3966269
RDL = Reportable Detection Limit								

Maxxam ID		T91957	T91958	T91959	T91960	T91961		
Sampling Date		2010/04/01 17:45	2010/04/01 17:45	2010/04/01 09:15	2010/04/01 09:55	2010/04/01 09:55		
	<b>Units</b>	<b>9</b>	<b>9A (DUP)</b>	<b>10</b>	<b>11</b>	<b>11A (DUP)</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb			0.21	0.07	0.06	0.02	3938458
Calculated NO2	ppb	0.7	0.7	0.7	0.2	0.2	0.1	3966204
Calculated O3	ppb	36.5	35.8	34.7	33.2	33.4	0.1	3966493
Calculated SO2	ppb	0.2	0.3	0.3	0.2	0.3	0.1	3966269
RDL = Reportable Detection Limit								

**RESULTS OF CHEMICAL ANALYSES OF AIR**

Maxxam ID		T91962	T91963	T91964	T91965		
Sampling Date		2010/04/01 11:20	2010/04/01 13:00	2010/04/01 13:00	2010/04/01 13:50		
	<b>Units</b>	<b>12</b>	<b>13</b>	<b>13A (DUP)</b>	<b>14</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>							
Calculated H2S	ppb	0.10	0.07	0.06	0.11	0.02	3938458
Calculated NO2	ppb	0.4	0.2	0.2	0.6	0.1	3966204
Calculated O3	ppb	33.3	38.9	39.8	35.6	0.1	3966493
Calculated SO2	ppb	0.2	0.3	0.3	1.0	0.1	3966269
RDL = Reportable Detection Limit							

Maxxam ID		T91966	T91967	T91968	T91969	T91970		
Sampling Date		2010/04/01 17:15	2010/04/01 17:15	2010/04/02 09:40	2010/04/02 09:40	2010/04/02 10:30		
	<b>Units</b>	<b>15</b>	<b>15A (DUP)</b>	<b>16</b>	<b>16A (DUP)</b>	<b>17</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb			0.12	0.12	0.13	0.02	3938458
Calculated NO2	ppb	0.5	0.5	0.4		1.3	0.1	3966213
Calculated O3	ppb	33.9	36.4	37.3		32.4	0.1	3966493
Calculated SO2	ppb	0.2	0.3	0.3		0.3	0.1	3966270
RDL = Reportable Detection Limit								

Maxxam ID		T91971	T91972	T91973	T91974		
Sampling Date		2010/04/02 10:30	2010/04/02 09:00	2010/04/02 09:00	2010/04/02 08:10		
	<b>Units</b>	<b>17A (DUP)</b>	<b>18</b>	<b>18A (DUP)</b>	<b>19</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>							
Calculated H2S	ppb		0.08	0.09		0.02	3938458
Calculated NO2	ppb	1.0	0.4		0.4	0.1	3966213
Calculated O3	ppb	34.7	33.8		37.8	0.1	3966493
Calculated SO2	ppb	0.3	0.2		0.2	0.1	3966270
RDL = Reportable Detection Limit							

**RESULTS OF CHEMICAL ANALYSES OF AIR**

Maxxam ID		T91975	T91976	T91977	T91978	T91979		
Sampling Date		2010/04/02 08:10	2010/04/01 16:25	2010/04/01 15:20	2010/04/02 11:50	2010/04/02 11:50		
	<b>Units</b>	<b>19A (DUP)</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>24A (DUP)</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb		0.09		0.09		0.02	3938458
Calculated NO2	ppb	0.3	0.8	0.1	1.3	1.1	0.1	3966213
Calculated O3	ppb	36.5	33.7	35.1	35.3	34.1	0.1	3966496
Calculated SO2	ppb	0.3	MISSING	0.1	0.2	0.3	0.1	3966270
RDL = Reportable Detection Limit								

Maxxam ID		T91980	T91981	T91982	T91983	T91984		
Sampling Date		2010/04/01 12:40	2010/04/01 12:40	2010/04/01 13:35	2010/04/01 13:35	2010/04/01 14:20		
	<b>Units</b>	<b>25</b>	<b>25A (DUP)</b>	<b>26</b>	<b>26A (DUP)</b>	<b>27</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb	0.08	0.08	0.08		0.09	0.02	3938458
Calculated SO2	ppb	0.6		0.6	0.4	0.4	0.1	3966270
RDL = Reportable Detection Limit								

Maxxam ID		T91986	T91992	T91994	T91998	T91999		
Sampling Date		2010/04/01 14:20	2010/04/02 14:50	2010/04/02 14:50	2010/04/01 16:10	2010/04/01 16:10		
	<b>Units</b>	<b>27A (DUP)</b>	<b>28</b>	<b>28A (DUP)</b>	<b>29</b>	<b>29A (DUP)</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb	0.09			0.15		0.02	3938458
Calculated NO2	ppb		2.7		0.7	0.7	0.1	3966213
Calculated O3	ppb		31.1		36.6	36.6	0.1	3966496
Calculated SO2	ppb		0.3	0.4	0.2		0.1	3966270
RDL = Reportable Detection Limit								

**RESULTS OF CHEMICAL ANALYSES OF AIR**

Maxxam ID		T92652	T92653		
Sampling Date		2010/04/01 06:45	2010/03/31 08:00		
	<b>Units</b>	<b>32</b>	<b>34</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>					
Calculated H2S	ppb	0.14	0.10	0.02	3938458
Calculated NO2	ppb	0.3	0.6	0.1	3966213
Calculated O3	ppb	39.2	34.7	0.1	3966496
Calculated SO2	ppb	0.3	0.3	0.1	3966270
RDL = Reportable Detection Limit					

**General Comments**

Sample: T91976 for SO2 parameter was not returned. - DF

**Results relate only to the items tested.**

Quality Assurance Report  
 Maxxam Job Number: PB028650

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3938458	TM5	Calibration Check	2010/05/07		101	%	80 - 120
		Spiked Blank	2010/05/07		100	%	N/A
3966204	DF4	Calibration Check	2010/05/18		100	%	76 - 118
		Spiked Blank	2010/05/18		101	%	N/A
		Method Blank	2010/05/18	<0.1		ppb	
3966213	DF4	Calibration Check	2010/05/18		100	%	76 - 118
		Spiked Blank	2010/05/18		103	%	N/A
		Method Blank	2010/05/18	<0.1		ppb	
3966269	DF4	Calibration Check	2010/05/18		100	%	95 - 105
		Spiked Blank	2010/05/18		95	%	N/A
		Method Blank	2010/05/18	<0.1		ppb	
3966270	DF4	Calibration Check	2010/05/18		97	%	95 - 105
		Spiked Blank	2010/05/18		100	%	N/A
		Method Blank	2010/05/18	<0.1		ppb	
3966493	OZ	Calibration Check	2010/05/18		101	%	91 - 107
		Spiked Blank	2010/05/18		101	%	N/A
		Method Blank	2010/05/18	<0.1		ppb	
3966496	OZ	Calibration Check	2010/05/18		99	%	91 - 107
		Spiked Blank	2010/05/18		101	%	N/A
		Method Blank	2010/05/18	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.  
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

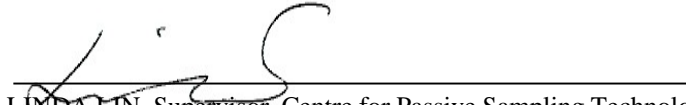


**Validation Signature Page**

**Maxxam Job #: B028650**

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The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



LINDA LIN, Supervisor, Centre for Passive Sampling Technology

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# **Volatile Organics Laboratory Analysis**

# Maxxam Analytics Inc.

## Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167  
 Location: Cold Lake South Canister ID: 7825  
 Station ID: Lica 1 Canister Installation Date/Time: Apr 1, 10 @ 06:55 mst  
 Field Sample ID: LICA VOC/ CLS /Apr 2, 10 Canister Removal Date/Time: Apr 5, 10 @ 07:30 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
02-Apr-10	04/02/2010 0:00	04/03/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	597	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	19.5

Canister valve open prior to sampling?: YES / NO  
 Timer set to 0.00 minutes prior to sampling? YES / NO  
 Canister valve closed prior to disconnection?: YES / NO

Comments: System leak check prior to sampling. COC # 2305  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signiture: Shea Beaton



Your C.O.C. #: 2305

**Attention: Shea Beaton**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/04/13**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B040929**

**Received: 2010/04/07, 12:58**

Sample Matrix: AIR  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/04/08	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/04/08	BRL SOP-00304	EPA TO-15

(1) Air sampling canisters have been cleaned in accordance with U.S. EPA Method TO14A. At the end of the cleaning, evacuation, and pressurization cycles, one canister was selected and was pressurized with Zero Air. This canister was then analyzed via TO14A on a GC/MS. The canister must have been found to contain <0.2 ppbv concentration of all target analytes in order for the batch to have been considered clean. Each canister also underwent a leak check prior to shipment.

Please Note: SUMMA® canister samples will be retained by Maxxam for a period of 5 calendar days from the date of this report, after which time they will be cleaned for reuse. If you require a longer sample storage period, please contact your service representative.

**Encryption Key**

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

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Total cover pages: 1

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**RESULTS OF ANALYSES OF AIR**

Maxxam ID		FN1245	FN1246	
Sampling Date		2010/04/02	2010/04/02	
COC Number		2305	2305	
	<b>Units</b>	<b>LICA</b>	<b>LICA</b>	<b>QC Batch</b>
		<b>VOC/CLS/APR2,10</b>	<b>VOC/PORT/APR2,10</b>	

<b>Volatile Organics</b>				
Pressure on Receipt	psig	18	20	2119712

QC Batch = Quality Control Batch

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1245				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
		<b>VOC/CLS/APR2,10</b>				

<b>Volatile Organics</b>						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2121743
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2121743
Propene	ppbv	<0.30	0.30	<0.516	0.516	2121743
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2121743
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2121743
Dichlorodifluoromethane (FREON 12)	ppbv	0.52	0.20	2.59	0.989	2121743
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2121743
Chloromethane	ppbv	0.63	0.30	1.30	0.620	2121743
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2121743
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2121743
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2121743
Trichlorofluoromethane (FREON 11)	ppbv	0.23	0.20	1.30	1.12	2121743
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2121743
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2121743
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2121743
2-Propanone	ppbv	2.07	0.80	4.92	1.90	2121743
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2121743
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2121743
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2121743
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2121743
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2121743
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2121743
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2121743
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2121743
Methylene Chloride(Dichloromethane)	ppbv	0.45	0.30	1.55	1.04	2121743
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2121743
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2121743
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2121743
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2121743
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2121743
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2121743
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2121743

 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1245				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
		<b>VOC/CLS/APR2,10</b>				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2121743
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2121743
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2121743
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2121743
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2121743
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2121743
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2121743
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2121743
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2121743
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2121743
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2121743
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2121743
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2121743
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2121743
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2121743
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2121743
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2121743
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2121743
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2121743
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2121743
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2121743
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2121743
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2121743
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2121743
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2121743
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2121743
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2121743
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2121743
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2121743
<b>Surrogate Recovery (%)</b>						
Bromochloromethane	%	82		N/A	N/A	2121743
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1245				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
		<b>VOC/CLS/APR2,10</b>				

D5-Chlorobenzene	%	74		N/A	N/A	2121743
Difluorobenzene	%	72		N/A	N/A	2121743

N/A = Not Applicable  
 QC Batch = Quality Control Batch



Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1246				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA VOC/PORT/APR2,10</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>

<b>Volatile Organics</b>						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2121743
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2121743
Propene	ppbv	<0.30	0.30	<0.516	0.516	2121743
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2121743
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2121743
Dichlorodifluoromethane (FREON 12)	ppbv	0.52	0.20	2.58	0.989	2121743
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2121743
Chloromethane	ppbv	0.61	0.30	1.25	0.620	2121743
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2121743
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2121743
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2121743
Trichlorofluoromethane (FREON 11)	ppbv	0.22	0.20	1.26	1.12	2121743
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2121743
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2121743
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2121743
2-Propanone	ppbv	1.31	0.80	3.12	1.90	2121743
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2121743
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2121743
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2121743
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2121743
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2121743
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2121743
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2121743
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2121743
Methylene Chloride(Dichloromethane)	ppbv	0.39	0.30	1.36	1.04	2121743
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2121743
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2121743
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2121743
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2121743
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2121743
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2121743
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2121743

 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1246				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
		<b>VOC/PORT/APR2,10</b>				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2121743
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2121743
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2121743
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2121743
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2121743
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2121743
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2121743
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2121743
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2121743
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2121743
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2121743
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2121743
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2121743
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2121743
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2121743
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2121743
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2121743
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2121743
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2121743
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2121743
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2121743
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2121743
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2121743
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2121743
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2121743
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2121743
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2121743
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2121743
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2121743
<b>Surrogate Recovery (%)</b>						
Bromochloromethane	%	82		N/A	N/A	2121743
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1246				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
		<b>VOC/PORT/APR2,10</b>				

D5-Chlorobenzene	%	72		N/A	N/A	2121743
Difluorobenzene	%	70		N/A	N/A	2121743

N/A = Not Applicable  
 QC Batch = Quality Control Batch

Maxxam Job #: B040929  
Report Date: 2010/04/13

**Test Summary**

<b>Maxxam ID</b>	FN1245	<b>Collected</b>	2010/04/02
<b>Sample ID</b>	LICA VOC/CLS/APR2,10	<b>Shipped</b>	
<b>Matrix</b>	AIR	<b>Received</b>	2010/04/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2119712	N/A	2010/04/08	S_S
Volatile Organics in Air (TO-15)	GC/MS	2121743	N/A	2010/04/08	S_S

<b>Maxxam ID</b>	FN1246	<b>Collected</b>	2010/04/02
<b>Sample ID</b>	LICA VOC/PORT/APR2,10	<b>Shipped</b>	
<b>Matrix</b>	AIR	<b>Received</b>	2010/04/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2119712	N/A	2010/04/08	S_S
Volatile Organics in Air (TO-15)	GC/MS	2121743	N/A	2010/04/08	S_S

Maxxam Job #: B040929  
Report Date: 2010/04/13

**GENERAL COMMENTS**

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB040929

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2121743 S_S	Spiked Blank	Bromochloromethane	2010/04/08		101	%	60 - 140
		D5-Chlorobenzene	2010/04/08		101	%	60 - 140
		Difluorobenzene	2010/04/08		101	%	60 - 140
		2,2,4-Trimethylpentane	2010/04/08		87	%	70 - 130
		Carbon Disulfide	2010/04/08		89	%	70 - 130
		Propene	2010/04/08		85	%	70 - 130
		Vinyl Acetate	2010/04/08		113	%	70 - 130
		Vinyl Bromide	2010/04/08		75	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/04/08		80	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/04/08		71	%	70 - 130
		Chloromethane	2010/04/08		81	%	70 - 130
		Vinyl Chloride	2010/04/08		81	%	70 - 130
		Chloroethane	2010/04/08		79	%	70 - 130
		1,3-Butadiene	2010/04/08		67 (1)	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/04/08		79	%	70 - 130
		Trichlorotrifluoroethane	2010/04/08		84	%	70 - 130
		Ethanol	2010/04/08		94	%	70 - 130
		2-propanol	2010/04/08		94	%	70 - 130
		2-Propanone	2010/04/08		94	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/04/08		123	%	70 - 130
		Methyl Isobutyl Ketone	2010/04/08		90	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/04/08		98	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/04/08		99	%	70 - 130
		Ethyl Acetate	2010/04/08		90	%	70 - 130
		1,1-Dichloroethylene	2010/04/08		81	%	70 - 130
		cis-1,2-Dichloroethylene	2010/04/08		92	%	70 - 130
		trans-1,2-Dichloroethylene	2010/04/08		92	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/04/08		79	%	70 - 130
		Chloroform	2010/04/08		82	%	70 - 130
		Carbon Tetrachloride	2010/04/08		87	%	70 - 130
		1,1-Dichloroethane	2010/04/08		87	%	70 - 130
		1,2-Dichloroethane	2010/04/08		83	%	70 - 130
		Ethylene Dibromide	2010/04/08		88	%	70 - 130
		1,1,1-Trichloroethane	2010/04/08		85	%	70 - 130
		1,1,2-Trichloroethane	2010/04/08		86	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/04/08		85	%	70 - 130
		cis-1,3-Dichloropropene	2010/04/08		99	%	70 - 130
		trans-1,3-Dichloropropene	2010/04/08		102	%	70 - 130
		1,2-Dichloropropane	2010/04/08		86	%	70 - 130
		Bromomethane	2010/04/08		74	%	70 - 130
		Bromoform	2010/04/08		94	%	70 - 130
		Bromodichloromethane	2010/04/08		86	%	70 - 130
		Dibromochloromethane	2010/04/08		90	%	70 - 130
		Heptane	2010/04/08		90	%	70 - 130
		Trichloroethylene	2010/04/08		87	%	70 - 130
		Tetrachloroethylene	2010/04/08		87	%	70 - 130
		Benzene	2010/04/08		91	%	70 - 130
		Toluene	2010/04/08		99	%	70 - 130
		Ethylbenzene	2010/04/08		96	%	70 - 130
		p+m-Xylene	2010/04/08		94	%	70 - 130
		o-Xylene	2010/04/08		93	%	70 - 130
		Styrene	2010/04/08		84	%	70 - 130
		1,3,5-Trimethylbenzene	2010/04/08		90	%	70 - 130
		1,2,4-Trimethylbenzene	2010/04/08		95	%	70 - 130
		4-ethyltoluene	2010/04/08		94	%	70 - 130

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

## Quality Assurance Report (Continued)

Maxxam Job Number: GB040929

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2121743 S_S	Spiked Blank	Chlorobenzene	2010/04/08		81	%	70 - 130
		Benzyl chloride	2010/04/08		95	%	70 - 130
		1,3-Dichlorobenzene	2010/04/08		90	%	70 - 130
		1,4-Dichlorobenzene	2010/04/08		84	%	70 - 130
		1,2-Dichlorobenzene	2010/04/08		88	%	70 - 130
		1,2,4-Trichlorobenzene	2010/04/08		77	%	70 - 130
		Hexachlorobutadiene	2010/04/08		79	%	70 - 130
		Hexane	2010/04/08		95	%	70 - 130
		Cyclohexane	2010/04/08		96	%	70 - 130
		Tetrahydrofuran	2010/04/08		97	%	70 - 130
		1,4-Dioxane	2010/04/08		92	%	70 - 130
	Method Blank	Bromochloromethane	2010/04/08		87	%	60 - 140
		D5-Chlorobenzene	2010/04/08		85	%	60 - 140
		Difluorobenzene	2010/04/08		86	%	60 - 140
		2,2,4-Trimethylpentane	2010/04/08	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2010/04/08	ND, RDL=0.50		ppbv	
		Propene	2010/04/08	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2010/04/08	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2010/04/08	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/04/08	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/04/08	ND, RDL=0.17		ppbv	
		Chloromethane	2010/04/08	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2010/04/08	ND, RDL=0.18		ppbv	
		Chloroethane	2010/04/08	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2010/04/08	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/04/08	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2010/04/08	ND, RDL=0.15		ppbv	
		Ethanol	2010/04/08	ND, RDL=2.3		ppbv	
		2-propanol	2010/04/08	ND, RDL=3.0		ppbv	
		2-Propanone	2010/04/08	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/04/08	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2010/04/08	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/04/08	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/04/08	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2010/04/08	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2010/04/08	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/04/08	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/04/08	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/04/08	ND, RDL=0.30		ppbv	
		Chloroform	2010/04/08	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2010/04/08	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2010/04/08	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2010/04/08	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2010/04/08	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2010/04/08	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2010/04/08	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/04/08	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2010/04/08	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2010/04/08	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2010/04/08	ND, RDL=0.40		ppbv	
		Bromomethane	2010/04/08	ND, RDL=0.18		ppbv	
		Bromoform	2010/04/08	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2010/04/08	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2010/04/08	ND, RDL=0.20		ppbv	
		Heptane	2010/04/08	ND, RDL=0.30		ppbv	

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)  
 Maxxam Job Number: GB040929

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2121743 S_S	Method Blank	Trichloroethylene	2010/04/08	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2010/04/08	ND, RDL=0.20		ppbv	
		Benzene	2010/04/08	ND, RDL=0.18		ppbv	
		Toluene	2010/04/08	ND, RDL=0.20		ppbv	
		Ethylbenzene	2010/04/08	ND, RDL=0.20		ppbv	
		p+m-Xylene	2010/04/08	ND, RDL=0.37		ppbv	
		o-Xylene	2010/04/08	ND, RDL=0.20		ppbv	
		Styrene	2010/04/08	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/04/08	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/04/08	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2010/04/08	ND, RDL=2.2		ppbv	
		Chlorobenzene	2010/04/08	ND, RDL=0.20		ppbv	
		Benzyl chloride	2010/04/08	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2010/04/08	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2010/04/08	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2010/04/08	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/04/08	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2010/04/08	ND, RDL=3.0		ppbv	
		Hexane	2010/04/08	ND, RDL=0.30		ppbv	
		Cyclohexane	2010/04/08	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2010/04/08	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2010/04/08	ND, RDL=2.0		ppbv	
		Xylene (Total)	2010/04/08	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	2-propanol	2010/04/08	0.7		%	25

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.  
 ( 1 ) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



# Maxxam Analytics Inc.

## Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167  
 Location: Cold Lake South Canister ID: S2355  
 Station ID: Lica 1 Canister Installation Date/Time: Apr 7, 10 @ 11:50 mst  
 Field Sample ID: LICA VOC/ CLS /Apr 8, 10 Canister Removal Date/Time: Apr 9, 10 @ 13:00 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
08-Apr-10	04/08/2010 0:00	04/09/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	597	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	17.5

Canister valve open prior to sampling?: YES / NO  
 Timer set to 0.00 minutes prior to sampling? YES / NO  
 Canister valve closed prior to disconnection?: YES / NO

Comments: System leak check prior to sampling. COC # 4513  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signiture: Shea Beaton



Your C.O.C. #: 4513

**Attention: Shea Beaton**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/04/22**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B044580**  
**Received: 2010/04/14, 17:11**

Sample Matrix: AIR  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/04/19	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/04/19	BRL SOP-00304	EPA TO-15

(1) Air sampling canisters have been cleaned in accordance with U.S. EPA Method TO14A. At the end of the cleaning, evacuation, and pressurization cycles, one canister was selected and was pressurized with Zero Air. This canister was then analyzed via TO14A on a GC/MS. The canister must have been found to contain <0.2 ppbv concentration of all target analytes in order for the batch to have been considered clean. Each canister also underwent a leak check prior to shipment.

Please Note: SUMMA® canister samples will be retained by Maxxam for a period of 5 calendar days from the date of this report, after which time they will be cleaned for reuse. If you require a longer sample storage period, please contact your service representative.

**Encryption Key**

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Total cover pages: 1

Maxxam Job #: B044580  
 Report Date: 2010/04/22

**RESULTS OF ANALYSES OF AIR**

Maxxam ID		FO9064	FO9065	
Sampling Date		2010/04/08	2010/04/08	
COC Number		4513	4513	
	<b>Units</b>	<b>LICA VOC/CLS/APR 8, 10 - S2355</b>	<b>LICA VOC/PORT/APR 8,10 - 7814</b>	<b>QC Batch</b>

<b>Volatile Organics</b>				
Pressure on Receipt	psig	16	19	2128841

QC Batch = Quality Control Batch

Maxxam Job #: B044580  
 Report Date: 2010/04/22

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FO9064			FO9065				
Sampling Date		2010/04/08			2010/04/08				
COC Number		4513			4513				
	<b>Units</b>	<b>LICA VOC/CLS/APR 8, 10 - S2355</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>LICA VOC/PORT/APR 8,10 - 7814</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>

<b>Volatile Organics</b>									
2,2,4-Trimethylpentane	ppbv	<0.20	<0.934	0.934	<0.20	0.20	<0.934	0.934	2128839
Carbon Disulfide	ppbv	<0.50	<1.56	1.56	<0.50	0.50	<1.56	1.56	2128839
Propene	ppbv	<0.30	<0.516	0.516	<0.30	0.30	<0.516	0.516	2128839
Vinyl Acetate	ppbv	<0.20	<0.704	0.704	<0.20	0.20	<0.704	0.704	2128839
Vinyl Bromide	ppbv	<0.20	<0.875	0.875	<0.20	0.20	<0.875	0.875	2128839
Dichlorodifluoromethane (FREON 12)	ppbv	0.59	2.91	0.989	0.60	0.20	2.98	0.989	2128839
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	<1.19	1.19	<0.17	0.17	<1.19	1.19	2128839
Chloromethane	ppbv	0.60	1.24	0.620	0.60	0.30	1.25	0.620	2128839
Vinyl Chloride	ppbv	<0.18	<0.460	0.460	<0.18	0.18	<0.460	0.460	2128839
Chloroethane	ppbv	<0.30	<0.792	0.792	<0.30	0.30	<0.792	0.792	2128839
1,3-Butadiene	ppbv	<0.50	<1.11	1.11	<0.50	0.50	<1.11	1.11	2128839
Trichlorofluoromethane (FREON 11)	ppbv	0.32	1.81	1.12	0.31	0.20	1.75	1.12	2128839
Trichlorotrifluoroethane	ppbv	<0.15	<1.15	1.15	<0.15	0.15	<1.15	1.15	2128839
Ethanol	ppbv	<2.3	<4.33	4.33	<2.3	2.3	<4.33	4.33	2128839
2-propanol	ppbv	<3.0	<7.37	7.37	<3.0	3.0	<7.37	7.37	2128839
2-Propanone	ppbv	2.16	5.14	1.90	2.18	0.80	5.17	1.90	2128839
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	<8.85	8.85	<3.0	3.0	<8.85	8.85	2128839
Methyl Isobutyl Ketone	ppbv	<3.2	<13.1	13.1	<3.2	3.2	<13.1	13.1	2128839
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	<8.19	8.19	<2.0	2.0	<8.19	8.19	2128839
Methyl t-butyl ether (MTBE)	ppbv	<0.20	<0.721	0.721	<0.20	0.20	<0.721	0.721	2128839
Ethyl Acetate	ppbv	<2.2	<7.93	7.93	<2.2	2.2	<7.93	7.93	2128839
1,1-Dichloroethylene	ppbv	<0.25	<0.991	0.991	<0.25	0.25	<0.991	0.991	2128839
cis-1,2-Dichloroethylene	ppbv	<0.19	<0.753	0.753	<0.19	0.19	<0.753	0.753	2128839
trans-1,2-Dichloroethylene	ppbv	<0.20	<0.793	0.793	<0.20	0.20	<0.793	0.793	2128839
Methylene Chloride(Dichloromethane)	ppbv	0.61	2.12	1.04	0.57	0.30	1.96	1.04	2128839
Chloroform	ppbv	<0.15	<0.732	0.732	<0.15	0.15	<0.732	0.732	2128839
Carbon Tetrachloride	ppbv	<0.30	<1.89	1.89	<0.30	0.30	<1.89	1.89	2128839
1,1-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2128839
1,2-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2128839
Ethylene Dibromide	ppbv	<0.17	<1.31	1.31	<0.17	0.17	<1.31	1.31	2128839
1,1,1-Trichloroethane	ppbv	<0.30	<1.64	1.64	<0.30	0.30	<1.64	1.64	2128839

 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B044580  
 Report Date: 2010/04/22

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FO9064			FO9065				
Sampling Date		2010/04/08			2010/04/08				
COC Number		4513			4513				
	Units	LICA VOC/CLS/APR 8, 10 - S2355	ug/m3	DL (ug/m3)	LICA VOC/PORT/APR 8,10 - 7814	RDL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	<0.818	0.818	<0.15	0.15	<0.818	0.818	2128839
1,1,2,2-Tetrachloroethane	ppbv	<0.20	<1.37	1.37	<0.20	0.20	<1.37	1.37	2128839
cis-1,3-Dichloropropene	ppbv	<0.18	<0.817	0.817	<0.18	0.18	<0.817	0.817	2128839
trans-1,3-Dichloropropene	ppbv	<0.17	<0.772	0.772	<0.17	0.17	<0.772	0.772	2128839
1,2-Dichloropropane	ppbv	<0.40	<1.85	1.85	<0.40	0.40	<1.85	1.85	2128839
Bromomethane	ppbv	<0.18	<0.699	0.699	<0.18	0.18	<0.699	0.699	2128839
Bromoform	ppbv	<0.20	<2.07	2.07	<0.20	0.20	<2.07	2.07	2128839
Bromodichloromethane	ppbv	<0.20	<1.34	1.34	<0.20	0.20	<1.34	1.34	2128839
Dibromochloromethane	ppbv	<0.20	<1.70	1.70	<0.20	0.20	<1.70	1.70	2128839
Heptane	ppbv	<0.30	<1.23	1.23	<0.30	0.30	<1.23	1.23	2128839
Trichloroethylene	ppbv	<0.30	<1.61	1.61	<0.30	0.30	<1.61	1.61	2128839
Tetrachloroethylene	ppbv	<0.20	<1.36	1.36	<0.20	0.20	<1.36	1.36	2128839
Benzene	ppbv	<0.18	<0.575	0.575	<0.18	0.18	<0.575	0.575	2128839
Toluene	ppbv	<0.20	<0.753	0.753	<0.20	0.20	<0.753	0.753	2128839
Ethylbenzene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2128839
p+m-Xylene	ppbv	<0.37	<1.61	1.61	<0.37	0.37	<1.61	1.61	2128839
o-Xylene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2128839
Styrene	ppbv	<0.20	<0.852	0.852	<0.20	0.20	<0.852	0.852	2128839
1,3,5-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2128839
1,2,4-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2128839
4-ethyltoluene	ppbv	<2.2	<10.8	10.8	<2.2	2.2	<10.8	10.8	2128839
Chlorobenzene	ppbv	<0.20	<0.921	0.921	<0.20	0.20	<0.921	0.921	2128839
Benzyl chloride	ppbv	<1.0	<5.18	5.18	<1.0	1.0	<5.18	5.18	2128839
1,3-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2128839
1,4-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2128839
1,2-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2128839
1,2,4-Trichlorobenzene	ppbv	<2.0	<14.8	14.8	<2.0	2.0	<14.8	14.8	2128839
Hexachlorobutadiene	ppbv	<3.0	<32.0	32.0	<3.0	3.0	<32.0	32.0	2128839
Hexane	ppbv	<0.30	<1.06	1.06	<0.30	0.30	<1.06	1.06	2128839
Cyclohexane	ppbv	<0.20	<0.688	0.688	0.27	0.20	0.929	0.688	2128839
Tetrahydrofuran	ppbv	<0.40	<1.18	1.18	<0.40	0.40	<1.18	1.18	2128839
1,4-Dioxane	ppbv	<2.0	<7.21	7.21	<2.0	2.0	<7.21	7.21	2128839
Xylene (Total)	ppbv	<0.60	<2.61	2.61	<0.60	0.60	<2.61	2.61	2128839
QC Batch = Quality Control Batch									

Maxxam Job #: B044580  
 Report Date: 2010/04/22

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FO9064			FO9065				
Sampling Date		2010/04/08			2010/04/08				
COC Number		4513			4513				
	<b>Units</b>	<b>LICA VOC/CLS/APR 8, 10 - S2355</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>LICA VOC/PORT/APR 8,10 - 7814</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>

<b>Surrogate Recovery (%)</b>									
Bromochloromethane	%	77	N/A	N/A	73		N/A	N/A	2128839
D5-Chlorobenzene	%	79	N/A	N/A	75		N/A	N/A	2128839
Difluorobenzene	%	79	N/A	N/A	76		N/A	N/A	2128839

N/A = Not Applicable  
 QC Batch = Quality Control Batch

Maxxam Job #: B044580  
 Report Date: 2010/04/22

### Test Summary

**Maxxam ID** FO9064 **Collected** 2010/04/08  
**Sample ID** LICA VOC/CLS/APR 8, 10 - S2355 **Shipped**  
**Matrix** AIR **Received** 2010/04/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2128841	N/A	2010/04/19	LSY
Volatile Organics in Air (TO-15)	GC/MS	2128839	N/A	2010/04/19	LSY

**Maxxam ID** FO9065 **Collected** 2010/04/08  
**Sample ID** LICA VOC/PORT/APR 8,10 - 7814 **Shipped**  
**Matrix** AIR **Received** 2010/04/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2128841	N/A	2010/04/19	LSY
Volatile Organics in Air (TO-15)	GC/MS	2128839	N/A	2010/04/19	LSY

Maxxam Job #: B044580  
Report Date: 2010/04/22

**GENERAL COMMENTS**

**Results relate only to the items tested.**



Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB044580

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2128839 LSY	Spiked Blank	Bromochloromethane	2010/04/19		101	%	60 - 140
		D5-Chlorobenzene	2010/04/19		102	%	60 - 140
		Difluorobenzene	2010/04/19		102	%	60 - 140
		2,2,4-Trimethylpentane	2010/04/19		93	%	70 - 130
		Carbon Disulfide	2010/04/19		83	%	70 - 130
		Propene	2010/04/19		91	%	70 - 130
		Vinyl Acetate	2010/04/19		105	%	70 - 130
		Vinyl Bromide	2010/04/19		96	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/04/19		98	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/04/19		88	%	70 - 130
		Chloromethane	2010/04/19		96	%	70 - 130
		Vinyl Chloride	2010/04/19		102	%	70 - 130
		Chloroethane	2010/04/19		101	%	70 - 130
		1,3-Butadiene	2010/04/19		86	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/04/19		101	%	70 - 130
		Trichlorotrifluoroethane	2010/04/19		102	%	70 - 130
		Ethanol	2010/04/19		113	%	70 - 130
		2-propanol	2010/04/19		106	%	70 - 130
		2-Propanone	2010/04/19		110	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/04/19		105	%	70 - 130
		Methyl Isobutyl Ketone	2010/04/19		101	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/04/19		112	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/04/19		93	%	70 - 130
		Ethyl Acetate	2010/04/19		96	%	70 - 130
		1,1-Dichloroethylene	2010/04/19		105	%	70 - 130
		cis-1,2-Dichloroethylene	2010/04/19		98	%	70 - 130
		trans-1,2-Dichloroethylene	2010/04/19		94	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/04/19		87	%	70 - 130
		Chloroform	2010/04/19		96	%	70 - 130
		Carbon Tetrachloride	2010/04/19		107	%	70 - 130
		1,1-Dichloroethane	2010/04/19		93	%	70 - 130
		1,2-Dichloroethane	2010/04/19		93	%	70 - 130
		Ethylene Dibromide	2010/04/19		98	%	70 - 130
		1,1,1-Trichloroethane	2010/04/19		98	%	70 - 130
		1,1,2-Trichloroethane	2010/04/19		96	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/04/19		90	%	70 - 130
		cis-1,3-Dichloropropene	2010/04/19		108	%	70 - 130
		trans-1,3-Dichloropropene	2010/04/19		112	%	70 - 130
		1,2-Dichloropropane	2010/04/19		95	%	70 - 130
		Bromomethane	2010/04/19		102	%	70 - 130
		Bromoform	2010/04/19		98	%	70 - 130
		Bromodichloromethane	2010/04/19		97	%	70 - 130
		Dibromochloromethane	2010/04/19		93	%	70 - 130
		Heptane	2010/04/19		95	%	70 - 130
		Trichloroethylene	2010/04/19		97	%	70 - 130
		Tetrachloroethylene	2010/04/19		93	%	70 - 130
		Benzene	2010/04/19		95	%	70 - 130
		Toluene	2010/04/19		98	%	70 - 130
		Ethylbenzene	2010/04/19		95	%	70 - 130
		p+m-Xylene	2010/04/19		96	%	70 - 130
		o-Xylene	2010/04/19		95	%	70 - 130
		Styrene	2010/04/19		98	%	70 - 130
		1,3,5-Trimethylbenzene	2010/04/19		96	%	70 - 130
		1,2,4-Trimethylbenzene	2010/04/19		95	%	70 - 130
		4-ethyltoluene	2010/04/19		88	%	70 - 130

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

## Quality Assurance Report (Continued)

Maxxam Job Number: GB044580

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2128839 LSY	Spiked Blank	Chlorobenzene	2010/04/19		95	%	70 - 130
		Benzyl chloride	2010/04/19		144 (1)	%	70 - 130
		1,3-Dichlorobenzene	2010/04/19		100	%	70 - 130
		1,4-Dichlorobenzene	2010/04/19		100	%	70 - 130
		1,2-Dichlorobenzene	2010/04/19		96	%	70 - 130
		1,2,4-Trichlorobenzene	2010/04/19		118	%	70 - 130
		Hexachlorobutadiene	2010/04/19		80	%	70 - 130
		Hexane	2010/04/19		88	%	70 - 130
		Cyclohexane	2010/04/19		94	%	70 - 130
		Tetrahydrofuran	2010/04/19		99	%	70 - 130
		1,4-Dioxane	2010/04/19		103	%	70 - 130
	Method Blank	Bromochloromethane	2010/04/19		89	%	60 - 140
		D5-Chlorobenzene	2010/04/19		90	%	60 - 140
		Difluorobenzene	2010/04/19		92	%	60 - 140
		2,2,4-Trimethylpentane	2010/04/19	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2010/04/19	ND, RDL=0.50		ppbv	
		Propene	2010/04/19	0.52, RDL=0.30		ppbv	
		Vinyl Acetate	2010/04/19	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2010/04/19	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/04/19	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/04/19	ND, RDL=0.17		ppbv	
		Chloromethane	2010/04/19	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2010/04/19	ND, RDL=0.18		ppbv	
		Chloroethane	2010/04/19	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2010/04/19	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/04/19	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2010/04/19	ND, RDL=0.15		ppbv	
		Ethanol	2010/04/19	ND, RDL=2.3		ppbv	
		2-propanol	2010/04/19	ND, RDL=3.0		ppbv	
		2-Propanone	2010/04/19	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/04/19	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2010/04/19	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/04/19	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/04/19	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2010/04/19	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2010/04/19	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/04/19	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/04/19	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/04/19	0.52, RDL=0.30		ppbv	
		Chloroform	2010/04/19	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2010/04/19	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2010/04/19	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2010/04/19	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2010/04/19	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2010/04/19	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2010/04/19	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/04/19	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2010/04/19	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2010/04/19	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2010/04/19	ND, RDL=0.40		ppbv	
		Bromomethane	2010/04/19	ND, RDL=0.18		ppbv	
		Bromoform	2010/04/19	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2010/04/19	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2010/04/19	ND, RDL=0.20		ppbv	
		Heptane	2010/04/19	ND, RDL=0.30		ppbv	

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB044580

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2128839 LSY	Method Blank	Trichloroethylene	2010/04/19	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2010/04/19	ND, RDL=0.20		ppbv	
		Benzene	2010/04/19	ND, RDL=0.18		ppbv	
		Toluene	2010/04/19	ND, RDL=0.20		ppbv	
		Ethylbenzene	2010/04/19	ND, RDL=0.20		ppbv	
		p+m-Xylene	2010/04/19	ND, RDL=0.37		ppbv	
		o-Xylene	2010/04/19	ND, RDL=0.20		ppbv	
		Styrene	2010/04/19	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/04/19	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/04/19	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2010/04/19	ND, RDL=2.2		ppbv	
		Chlorobenzene	2010/04/19	ND, RDL=0.20		ppbv	
		Benzyl chloride	2010/04/19	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2010/04/19	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2010/04/19	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2010/04/19	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/04/19	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2010/04/19	ND, RDL=3.0		ppbv	
		Hexane	2010/04/19	ND, RDL=0.30		ppbv	
		Cyclohexane	2010/04/19	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2010/04/19	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2010/04/19	ND, RDL=2.0		ppbv	
		Xylene (Total)	2010/04/19	ND, RDL=0.60		ppbv	

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.  
 ( 1 ) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

# Maxxam Analytics Inc.

## Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167  
 Location: Cold Lake South Canister ID: 7827  
 Station ID: Lica 1 Canister Installation Date/Time: Apr 13, 10 @ 14:00 mst  
 Field Sample ID: LICA VOC/ CLS /Apr 14, 10 Canister Removal Date/Time: Apr 15, 10 @ 07:20 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
14-Apr-10	04/14/2010 0:00	04/15/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	597	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	21

Canister valve open prior to sampling?: YES / NO  
 Timer set to 0.00 minutes prior to sampling? YES / NO  
 Canister valve closed prior to disconnection?: YES / NO

Comments: System leak check prior to sampling. COC # 0557

- Flow measured and adjusted prior to sample.

Technician Signiture: Shea Beaton

Your C.O.C. #: 0557

**Attention: Shea Beaton**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/04/29**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B046184**

**Received: 2010/04/17, 14:48**

Sample Matrix: AIR  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/04/27	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (ug/m3)	2	N/A	2010/04/29	BRL SOP-00304	

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

**Encryption Key**

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Page 1 of 5

Maxxam Job #: B046184  
 Report Date: 2010/04/29

**RESULTS OF ANALYSES OF AIR**

Maxxam ID		FP6506	FP6507	
Sampling Date		2010/04/14	2010/04/14	
COC Number		0557	0557	
	<b>Units</b>	<b>LICA VOC/CLS/APR 14, 10 - 7827</b>	<b>LICA VOC/PORT/APR 14, 10 - 72823</b>	<b>QC Batch</b>

<b>Volatile Organics</b>				
Pressure on Receipt	psig	19	20	2136339

QC Batch = Quality Control Batch

Maxxam Job #: B046184  
 Report Date: 2010/04/29

**CALCULATED VOLATILE ORGANICS (AIR)**

Maxxam ID		FP6506	FP6507		
Sampling Date		2010/04/14	2010/04/14		
COC Number		0557	0557		
	Units	LICA VOC/CLS/APR 14, 10 - 7827	LICA VOC/PORT/APR 14, 10 - 72823	RDL	QC Batch
<b>Calculated Parameters</b>					
2,2,4-Trimethylpentane	ug/m3	<0.93	<0.93	0.93	2137456
Carbon Disulfide	ug/m3	<1.6	<1.6	1.6	2137456
Propene	ug/m3	<0.52	<0.52	0.52	2137456
Vinyl Acetate	ug/m3	<0.70	<0.70	0.70	2137456
Vinyl Bromide	ug/m3	<0.87	<0.87	0.87	2137456
Dichlorodifluoromethane (FREON 12)	ug/m3	2.92	3.01	0.99	2137456
1,2-Dichlorotetrafluoroethane	ug/m3	<1.2	<1.2	1.2	2137456
Chloromethane	ug/m3	1.35	1.26	0.62	2137456
Vinyl Chloride	ug/m3	<0.46	<0.46	0.46	2137456
Chloroethane	ug/m3	<0.79	<0.79	0.79	2137456
1,3-Butadiene	ug/m3	<1.1	<1.1	1.1	2137456
Trichlorofluoromethane (FREON 11)	ug/m3	1.9	1.8	1.1	2137456
Ethanol	ug/m3	<4.3	<4.3	4.3	2137456
Trichlorotrifluoroethane	ug/m3	<1.1	<1.1	1.1	2137456
2-propanol	ug/m3	<7.4	<7.4	7.4	2137456
2-Propanone	ug/m3	6.8	18.6	1.9	2137456
Methyl Ethyl Ketone (2-Butanone)	ug/m3	<8.8	<8.8	8.8	2137456
Methyl Isobutyl Ketone	ug/m3	<13	<13	13	2137456
Methyl Butyl Ketone (2-Hexanone)	ug/m3	<8.2	<8.2	8.2	2137456
Methyl t-butyl ether (MTBE)	ug/m3	<0.72	<0.72	0.72	2137456
Ethyl Acetate	ug/m3	<7.9	<7.9	7.9	2137456
1,1-Dichloroethylene	ug/m3	<0.99	<0.99	0.99	2137456
cis-1,2-Dichloroethylene	ug/m3	<0.75	<0.75	0.75	2137456
trans-1,2-Dichloroethylene	ug/m3	<0.79	<0.79	0.79	2137456
Methylene Chloride(Dichloromethane)	ug/m3	2.6	2.6	1.0	2137456
Chloroform	ug/m3	<0.73	<0.73	0.73	2137456
Carbon Tetrachloride	ug/m3	<1.9	<1.9	1.9	2137456
1,1-Dichloroethane	ug/m3	<0.81	<0.81	0.81	2137456
1,2-Dichloroethane	ug/m3	<0.81	<0.81	0.81	2137456
Ethylene Dibromide	ug/m3	<1.3	<1.3	1.3	2137456
1,1,1-Trichloroethane	ug/m3	<1.6	<1.6	1.6	2137456
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Maxxam Job #: B046184  
 Report Date: 2010/04/29

**CALCULATED VOLATILE ORGANICS (AIR)**

Maxxam ID		FP6506	FP6507		
Sampling Date		2010/04/14	2010/04/14		
COC Number		0557	0557		
	Units	LICA VOC/CLS/APR 14, 10 - 7827	LICA VOC/PORT/APR 14, 10 - 72823	RDL	QC Batch
1,1,2-Trichloroethane	ug/m3	<0.82	<0.82	0.82	2137456
1,1,2,2-Tetrachloroethane	ug/m3	<1.4	<1.4	1.4	2137456
cis-1,3-Dichloropropene	ug/m3	<0.82	<0.82	0.82	2137456
trans-1,3-Dichloropropene	ug/m3	<0.77	<0.77	0.77	2137456
1,2-Dichloropropane	ug/m3	<1.8	<1.8	1.8	2137456
Bromomethane	ug/m3	<0.70	<0.70	0.70	2137456
Bromoform	ug/m3	<2.1	<2.1	2.1	2137456
Bromodichloromethane	ug/m3	<1.3	<1.3	1.3	2137456
Dibromochloromethane	ug/m3	<1.7	<1.7	1.7	2137456
Trichloroethylene	ug/m3	<1.6	<1.6	1.6	2137456
Tetrachloroethylene	ug/m3	<1.4	<1.4	1.4	2137456
Benzene	ug/m3	<0.58	<0.58	0.58	2137456
Toluene	ug/m3	<0.75	<0.75	0.75	2137456
Ethylbenzene	ug/m3	<0.87	<0.87	0.87	2137456
p+m-Xylene	ug/m3	<1.6	<1.6	1.6	2137456
o-Xylene	ug/m3	<0.87	<0.87	0.87	2137456
Styrene	ug/m3	<0.85	<0.85	0.85	2137456
4-ethyltoluene	ug/m3	<11	<11	11	2137456
1,3,5-Trimethylbenzene	ug/m3	<2.5	<2.5	2.5	2137456
1,2,4-Trimethylbenzene	ug/m3	<2.5	<2.5	2.5	2137456
Chlorobenzene	ug/m3	<0.92	<0.92	0.92	2137456
Benzyl chloride	ug/m3	<5.2	<5.2	5.2	2137456
1,3-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137456
1,4-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137456
1,2-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137456
1,2,4-Trichlorobenzene	ug/m3	<15	<15	15	2137456
Hexachlorobutadiene	ug/m3	<32	<32	32	2137456
Hexane	ug/m3	<1.1	<1.1	1.1	2137456
Tetrahydrofuran	ug/m3	<1.2	<1.2	1.2	2137456
1,4-Dioxane	ug/m3	<7.2	<7.2	7.2	2137456
Xylene (Total)	ug/m3	<2.6	<2.6	2.6	2137456
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					



Maxxam Job #: B046184  
Report Date: 2010/04/29

**GENERAL COMMENTS**

3 compounds were >140% in the reference standard. These compounds were not found in the samples so the data should not be affected.

**Results relate only to the items tested.**

# Maxxam Analytics Inc.

## Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167  
 Location: Cold Lake South Canister ID: 7839  
 Station ID: Lica 1 Canister Installation Date/Time: Apr 18, 10 @ 12:20 mst  
 Field Sample ID: LICA VOC/ CLS /Apr 20, 10 Canister Removal Date/Time: Apr 21, 10 @ 14:55 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
20-Apr-10	04/20/2010 0:00	04/21/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	597	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	21

Canister valve open prior to sampling?: YES / NO  
 Timer set to 0.00 minutes prior to sampling? YES / NO  
 Canister valve closed prior to disconnection?: YES / NO

Comments: System leak check prior to sampling. COC # 4569  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signiture: Shea Beaton

Your C.O.C. #: 4569

**Attention: Michael Bisaga**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/04/29**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B049793**

**Received: 2010/04/24, 15:51**

Sample Matrix: AIR  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/04/27	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (ug/m3)	2	N/A	2010/04/29	BRL SOP-00304	

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

**Encryption Key**

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====  
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Total cover pages: 1

Maxxam Job #: B049793  
 Report Date: 2010/04/29

**RESULTS OF ANALYSES OF AIR**

Maxxam ID		FR3574	FR3575	
Sampling Date		2010/04/20	2010/04/20	
COC Number		4569	4569	
	<b>Units</b>	<b>LICA VOC/CLS/APR 20,10 - 7839</b>	<b>LICA VOC/PORT/APR 20,10 - 7782</b>	<b>QC Batch</b>

<b>Volatile Organics</b>				
Pressure on Receipt	psig	20	20	2136244

QC Batch = Quality Control Batch

Maxxam Job #: B049793  
 Report Date: 2010/04/29

**CALCULATED VOLATILE ORGANICS (AIR)**

Maxxam ID		FR3574	FR3575		
Sampling Date		2010/04/20	2010/04/20		
COC Number		4569	4569		
	Units	LICA VOC/CLS/APR 20,10 - 7839	LICA VOC/PORT/APR 20,10 - 7782	RDL	QC Batch
<b>Calculated Parameters</b>					
2,2,4-Trimethylpentane	ug/m3	<0.93	<0.93	0.93	2137459
Carbon Disulfide	ug/m3	<1.6	<1.6	1.6	2137459
Propene	ug/m3	<0.52	<0.52	0.52	2137459
Vinyl Acetate	ug/m3	<0.70	<0.70	0.70	2137459
Vinyl Bromide	ug/m3	<0.87	<0.87	0.87	2137459
Dichlorodifluoromethane (FREON 12)	ug/m3	2.53	2.43	0.99	2137459
1,2-Dichlorotetrafluoroethane	ug/m3	<1.2	<1.2	1.2	2137459
Chloromethane	ug/m3	0.78	0.75	0.62	2137459
Vinyl Chloride	ug/m3	<0.46	<0.46	0.46	2137459
Chloroethane	ug/m3	<0.79	<0.79	0.79	2137459
1,3-Butadiene	ug/m3	<1.1	<1.1	1.1	2137459
Trichlorofluoromethane (FREON 11)	ug/m3	1.3	1.3	1.1	2137459
Ethanol	ug/m3	<4.3	<4.3	4.3	2137459
Trichlorotrifluoroethane	ug/m3	<1.1	<1.1	1.1	2137459
2-propanol	ug/m3	<7.4	<7.4	7.4	2137459
2-Propanone	ug/m3	5.1	4.7	1.9	2137459
Methyl Ethyl Ketone (2-Butanone)	ug/m3	<8.8	<8.8	8.8	2137459
Methyl Isobutyl Ketone	ug/m3	<13	<13	13	2137459
Methyl Butyl Ketone (2-Hexanone)	ug/m3	<8.2	<8.2	8.2	2137459
Methyl t-butyl ether (MTBE)	ug/m3	<0.72	<0.72	0.72	2137459
Ethyl Acetate	ug/m3	<7.9	<7.9	7.9	2137459
1,1-Dichloroethylene	ug/m3	<0.99	<0.99	0.99	2137459
cis-1,2-Dichloroethylene	ug/m3	<0.75	<0.75	0.75	2137459
trans-1,2-Dichloroethylene	ug/m3	<0.79	<0.79	0.79	2137459
Methylene Chloride(Dichloromethane)	ug/m3	1.3	1.4	1.0	2137459
Chloroform	ug/m3	<0.73	<0.73	0.73	2137459
Carbon Tetrachloride	ug/m3	<1.9	<1.9	1.9	2137459
1,1-Dichloroethane	ug/m3	<0.81	<0.81	0.81	2137459
1,2-Dichloroethane	ug/m3	<0.81	<0.81	0.81	2137459
Ethylene Dibromide	ug/m3	<1.3	<1.3	1.3	2137459
1,1,1-Trichloroethane	ug/m3	<1.6	<1.6	1.6	2137459
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Maxxam Job #: B049793  
 Report Date: 2010/04/29

**CALCULATED VOLATILE ORGANICS (AIR)**

Maxxam ID		FR3574	FR3575		
Sampling Date		2010/04/20	2010/04/20		
COC Number		4569	4569		
	Units	LICA VOC/CLS/APR 20,10 - 7839	LICA VOC/PORT/APR 20,10 - 7782	RDL	QC Batch
1,1,2-Trichloroethane	ug/m3	<0.82	<0.82	0.82	2137459
1,1,2,2-Tetrachloroethane	ug/m3	<1.4	<1.4	1.4	2137459
cis-1,3-Dichloropropene	ug/m3	<0.82	<0.82	0.82	2137459
trans-1,3-Dichloropropene	ug/m3	<0.77	<0.77	0.77	2137459
1,2-Dichloropropane	ug/m3	<1.8	<1.8	1.8	2137459
Bromomethane	ug/m3	<0.70	<0.70	0.70	2137459
Bromoform	ug/m3	<2.1	<2.1	2.1	2137459
Bromodichloromethane	ug/m3	<1.3	<1.3	1.3	2137459
Dibromochloromethane	ug/m3	<1.7	<1.7	1.7	2137459
Trichloroethylene	ug/m3	<1.6	<1.6	1.6	2137459
Tetrachloroethylene	ug/m3	<1.4	<1.4	1.4	2137459
Benzene	ug/m3	<0.58	<0.58	0.58	2137459
Toluene	ug/m3	<0.75	<0.75	0.75	2137459
Ethylbenzene	ug/m3	<0.87	<0.87	0.87	2137459
p+m-Xylene	ug/m3	<1.6	<1.6	1.6	2137459
o-Xylene	ug/m3	<0.87	<0.87	0.87	2137459
Styrene	ug/m3	<0.85	<0.85	0.85	2137459
4-ethyltoluene	ug/m3	<11	<11	11	2137459
1,3,5-Trimethylbenzene	ug/m3	<2.5	<2.5	2.5	2137459
1,2,4-Trimethylbenzene	ug/m3	<2.5	<2.5	2.5	2137459
Chlorobenzene	ug/m3	<0.92	<0.92	0.92	2137459
Benzyl chloride	ug/m3	<5.2	<5.2	5.2	2137459
1,3-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137459
1,4-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137459
1,2-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137459
1,2,4-Trichlorobenzene	ug/m3	<15	<15	15	2137459
Hexachlorobutadiene	ug/m3	<32	<32	32	2137459
Hexane	ug/m3	<1.1	<1.1	1.1	2137459
Tetrahydrofuran	ug/m3	<1.2	<1.2	1.2	2137459
1,4-Dioxane	ug/m3	<7.2	<7.2	7.2	2137459
Xylene (Total)	ug/m3	<2.6	<2.6	2.6	2137459
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Maxxam Job #: B049793  
Report Date: 2010/04/29

**GENERAL COMMENTS**

**Results relate only to the items tested.**

# Maxxam Analytics Inc.

## Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167  
 Location: Cold Lake South Canister ID: 7800  
 Station ID: Lica 1 Canister Installation Date/Time: Apr 23,10 @ 13:10 mst  
 Field Sample ID: LICA VOC/ CLS /Apr 26, 10 Canister Removal Date/Time: Apr 27, 10 @ 07:00 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
26-Apr-10	04/26/2010 0:00	04/27/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	597	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	20.5

Canister valve open prior to sampling?: YES / NO  
 Timer set to 0.00 minutes prior to sampling? YES / NO  
 Canister valve closed prior to disconnection?: YES / NO

Comments: System leak check prior to sampling. COC # 985  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signiture: Shea Beaton





Your C.O.C. #: 0985

**Attention: Michael Bisaga**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/05/10**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B052380**

**Received: 2010/04/29, 15:06**

Sample Matrix: AIR  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/05/04	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/05/04	BRL SOP-00304	EPA TO-15

(1) Air sampling canisters have been cleaned in accordance with U.S. EPA Method TO14A. At the end of the cleaning, evacuation, and pressurization cycles, one canister was selected and was pressurized with Zero Air. This canister was then analyzed via TO14A on a GC/MS. The canister must have been found to contain <0.2 ppbv concentration of all target analytes in order for the batch to have been considered clean. Each canister also underwent a leak check prior to shipment.

Please Note: SUMMA® canister samples will be retained by Maxxam for a period of 5 calendar days from the date of this report, after which time they will be cleaned for reuse. If you require a longer sample storage period, please contact your service representative.

**Encryption Key**

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Total cover pages: 1

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**RESULTS OF ANALYSES OF AIR**

Maxxam ID		FS5881	FS5882	
Sampling Date		2010/04/26	2010/04/26	
COC Number		0985	0985	
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7800</b>	<b>LICAVOC/CLS/APR2610 - 7845</b>	<b>QC Batch</b>

<b>Volatile Organics</b>				
Pressure on Receipt	psig	20	20	2143365

QC Batch = Quality Control Batch

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5881				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7800</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
<b>Volatile Organics</b>						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2143535
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2143535
Propene	ppbv	<0.30	0.30	<0.516	0.516	2143535
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2143535
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2143535
Dichlorodifluoromethane (FREON 12)	ppbv	0.49	0.20	2.40	0.989	2143535
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2143535
Chloromethane	ppbv	0.37	0.30	0.768	0.620	2143535
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2143535
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2143535
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2143535
Trichlorofluoromethane (FREON 11)	ppbv	<0.20	0.20	<1.12	1.12	2143535
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2143535
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2143535
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2143535
2-Propanone	ppbv	1.30	0.80	3.09	1.90	2143535
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2143535
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2143535
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2143535
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2143535
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2143535
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2143535
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2143535
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2143535
Methylene Chloride(Dichloromethane)	ppbv	<0.30	0.30	<1.04	1.04	2143535
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2143535
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2143535
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2143535
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2143535
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2143535
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2143535
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2143535
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5881				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7800</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2143535
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2143535
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2143535
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2143535
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2143535
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2143535
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2143535
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2143535
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2143535
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2143535
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2143535
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2143535
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2143535
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2143535
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2143535
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2143535
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2143535
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2143535
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2143535
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2143535
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2143535
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2143535
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2143535
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2143535
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2143535
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2143535
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2143535
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2143535
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2143535
<b>Surrogate Recovery (%)</b>						
Bromochloromethane	%	110		N/A	N/A	2143535
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5881				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7800</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>

D5-Chlorobenzene	%	108		N/A	N/A	2143535
Difluorobenzene	%	111		N/A	N/A	2143535

N/A = Not Applicable  
 QC Batch = Quality Control Batch

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5882				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7845</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
<b>Volatile Organics</b>						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2143535
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2143535
Propene	ppbv	<0.30	0.30	<0.516	0.516	2143535
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2143535
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2143535
Dichlorodifluoromethane (FREON 12)	ppbv	0.57	0.20	2.83	0.989	2143535
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2143535
Chloromethane	ppbv	0.36	0.30	0.741	0.620	2143535
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2143535
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2143535
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2143535
Trichlorofluoromethane (FREON 11)	ppbv	0.24	0.20	1.32	1.12	2143535
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2143535
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2143535
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2143535
2-Propanone	ppbv	1.32	0.80	3.14	1.90	2143535
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2143535
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2143535
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2143535
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2143535
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2143535
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2143535
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2143535
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2143535
Methylene Chloride(Dichloromethane)	ppbv	<0.30	0.30	<1.04	1.04	2143535
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2143535
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2143535
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2143535
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2143535
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2143535
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2143535
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2143535
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5882				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7845</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2143535
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2143535
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2143535
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2143535
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2143535
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2143535
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2143535
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2143535
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2143535
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2143535
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2143535
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2143535
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2143535
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2143535
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2143535
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2143535
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2143535
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2143535
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2143535
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2143535
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2143535
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2143535
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2143535
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2143535
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2143535
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2143535
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2143535
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2143535
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2143535
<b>Surrogate Recovery (%)</b>						
Bromochloromethane	%	74		N/A	N/A	2143535
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5882				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7845</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>

D5-Chlorobenzene	%	80		N/A	N/A	2143535
Difluorobenzene	%	76		N/A	N/A	2143535

N/A = Not Applicable  
 QC Batch = Quality Control Batch



Maxxam Job #: B052380  
 Report Date: 2010/05/10

### Test Summary

**Maxxam ID** FS5881 **Collected** 2010/04/26  
**Sample ID** LICAVOC/CLS/APR2610 - 7800 **Shipped**  
**Matrix** AIR **Received** 2010/04/29

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2143365	N/A	2010/05/04	S_S
Volatile Organics in Air (TO-15)	GC/MS	2143535	N/A	2010/05/04	S_S

**Maxxam ID** FS5882 **Collected** 2010/04/26  
**Sample ID** LICAVOC/CLS/APR2610 - 7845 **Shipped**  
**Matrix** AIR **Received** 2010/04/29

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2143365	N/A	2010/05/04	S_S
Volatile Organics in Air (TO-15)	GC/MS	2143535	N/A	2010/05/04	S_S

Maxxam Job #: B052380  
Report Date: 2010/05/10

**GENERAL COMMENTS**

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB052380

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2143535 S_S	Spiked Blank	Bromochloromethane	2010/05/04		96	%	60 - 140
		D5-Chlorobenzene	2010/05/04		97	%	60 - 140
		Difluorobenzene	2010/05/04		99	%	60 - 140
		2,2,4-Trimethylpentane	2010/05/04		74	%	70 - 130
		Carbon Disulfide	2010/05/04		77	%	70 - 130
		Propene	2010/05/04		82	%	70 - 130
		Vinyl Acetate	2010/05/04		93	%	70 - 130
		Vinyl Bromide	2010/05/04		80	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/05/04		81	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/05/04		70	%	70 - 130
		Chloromethane	2010/05/04		72	%	70 - 130
		Vinyl Chloride	2010/05/04		80	%	70 - 130
		Chloroethane	2010/05/04		79	%	70 - 130
		1,3-Butadiene	2010/05/04		63 (1)	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/05/04		77	%	70 - 130
		Trichlorotrifluoroethane	2010/05/04		75	%	70 - 130
		Ethanol	2010/05/04		94	%	70 - 130
		2-propanol	2010/05/04		81	%	70 - 130
		2-Propanone	2010/05/04		88	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/05/04		89	%	70 - 130
		Methyl Isobutyl Ketone	2010/05/04		74	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/05/04		85	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/05/04		87	%	70 - 130
		Ethyl Acetate	2010/05/04		76	%	70 - 130
		1,1-Dichloroethylene	2010/05/04		86	%	70 - 130
		cis-1,2-Dichloroethylene	2010/05/04		86	%	70 - 130
		trans-1,2-Dichloroethylene	2010/05/04		80	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/05/04		67 (1)	%	70 - 130
		Chloroform	2010/05/04		77	%	70 - 130
		Carbon Tetrachloride	2010/05/04		78	%	70 - 130
		1,1-Dichloroethane	2010/05/04		75	%	70 - 130
		1,2-Dichloroethane	2010/05/04		79	%	70 - 130
		Ethylene Dibromide	2010/05/04		81	%	70 - 130
		1,1,1-Trichloroethane	2010/05/04		78	%	70 - 130
		1,1,2-Trichloroethane	2010/05/04		76	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/05/04		76	%	70 - 130
		cis-1,3-Dichloropropene	2010/05/04		92	%	70 - 130
		trans-1,3-Dichloropropene	2010/05/04		102	%	70 - 130
		1,2-Dichloropropane	2010/05/04		76	%	70 - 130
		Bromomethane	2010/05/04		74	%	70 - 130
		Bromoform	2010/05/04		82	%	70 - 130
		Bromodichloromethane	2010/05/04		77	%	70 - 130
		Dibromochloromethane	2010/05/04		78	%	70 - 130
		Heptane	2010/05/04		74	%	70 - 130
		Trichloroethylene	2010/05/04		82	%	70 - 130
		Tetrachloroethylene	2010/05/04		78	%	70 - 130
		Benzene	2010/05/04		81	%	70 - 130
		Toluene	2010/05/04		88	%	70 - 130
		Ethylbenzene	2010/05/04		90	%	70 - 130
		p+m-Xylene	2010/05/04		89	%	70 - 130
		o-Xylene	2010/05/04		86	%	70 - 130
		Styrene	2010/05/04		104	%	70 - 130
		1,3,5-Trimethylbenzene	2010/05/04		84	%	70 - 130
		1,2,4-Trimethylbenzene	2010/05/04		91	%	70 - 130
		4-ethyltoluene	2010/05/04		85	%	70 - 130

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB052380

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2143535 S_S	Spiked Blank	Chlorobenzene	2010/05/04		78	%	70 - 130
		Benzyl chloride	2010/05/04		98	%	70 - 130
		1,3-Dichlorobenzene	2010/05/04		94	%	70 - 130
		1,4-Dichlorobenzene	2010/05/04		92	%	70 - 130
		1,2-Dichlorobenzene	2010/05/04		93	%	70 - 130
		1,2,4-Trichlorobenzene	2010/05/04		85	%	70 - 130
		Hexachlorobutadiene	2010/05/04		74	%	70 - 130
		Hexane	2010/05/04		74	%	70 - 130
		Cyclohexane	2010/05/04		78	%	70 - 130
		Tetrahydrofuran	2010/05/04		80	%	70 - 130
		1,4-Dioxane	2010/05/04		86	%	70 - 130
	Method Blank	Bromochloromethane	2010/05/04		86	%	60 - 140
		D5-Chlorobenzene	2010/05/04		83	%	60 - 140
		Difluorobenzene	2010/05/04		88	%	60 - 140
		2,2,4-Trimethylpentane	2010/05/04	<0.20		ppbv	
		Carbon Disulfide	2010/05/04	<0.50		ppbv	
		Propene	2010/05/04	<0.30		ppbv	
		Vinyl Acetate	2010/05/04	<0.20		ppbv	
		Vinyl Bromide	2010/05/04	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/05/04	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/05/04	<0.17		ppbv	
		Chloromethane	2010/05/04	<0.30		ppbv	
		Vinyl Chloride	2010/05/04	<0.18		ppbv	
		Chloroethane	2010/05/04	<0.30		ppbv	
		1,3-Butadiene	2010/05/04	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/05/04	<0.20		ppbv	
		Trichlorotrifluoroethane	2010/05/04	<0.15		ppbv	
		Ethanol	2010/05/04	<2.3		ppbv	
		2-propanol	2010/05/04	<3.0		ppbv	
		2-Propanone	2010/05/04	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/05/04	<3.0		ppbv	
		Methyl Isobutyl Ketone	2010/05/04	<3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/05/04	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/05/04	<0.20		ppbv	
		Ethyl Acetate	2010/05/04	<2.2		ppbv	
		1,1-Dichloroethylene	2010/05/04	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/05/04	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/05/04	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/05/04	<0.30		ppbv	
		Chloroform	2010/05/04	<0.15		ppbv	
		Carbon Tetrachloride	2010/05/04	<0.30		ppbv	
		1,1-Dichloroethane	2010/05/04	<0.20		ppbv	
		1,2-Dichloroethane	2010/05/04	<0.20		ppbv	
		Ethylene Dibromide	2010/05/04	<0.17		ppbv	
		1,1,1-Trichloroethane	2010/05/04	<0.30		ppbv	
		1,1,2-Trichloroethane	2010/05/04	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/05/04	<0.20		ppbv	
		cis-1,3-Dichloropropene	2010/05/04	<0.18		ppbv	
		trans-1,3-Dichloropropene	2010/05/04	<0.17		ppbv	
		1,2-Dichloropropane	2010/05/04	<0.40		ppbv	
		Bromomethane	2010/05/04	<0.18		ppbv	
		Bromoform	2010/05/04	<0.20		ppbv	
		Bromodichloromethane	2010/05/04	<0.20		ppbv	
		Dibromochloromethane	2010/05/04	<0.20		ppbv	
		Heptane	2010/05/04	<0.30		ppbv	

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB052380

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2143535 S_S	Method Blank	Trichloroethylene	2010/05/04	<0.30		ppbv	
		Tetrachloroethylene	2010/05/04	<0.20		ppbv	
		Benzene	2010/05/04	<0.18		ppbv	
		Toluene	2010/05/04	<0.20		ppbv	
		Ethylbenzene	2010/05/04	<0.20		ppbv	
		p+m-Xylene	2010/05/04	<0.37		ppbv	
		o-Xylene	2010/05/04	<0.20		ppbv	
		Styrene	2010/05/04	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/05/04	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/05/04	<0.50		ppbv	
		4-ethyltoluene	2010/05/04	<2.2		ppbv	
		Chlorobenzene	2010/05/04	<0.20		ppbv	
		Benzyl chloride	2010/05/04	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/05/04	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/05/04	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/05/04	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/05/04	<2.0		ppbv	
		Hexachlorobutadiene	2010/05/04	<3.0		ppbv	
		Hexane	2010/05/04	<0.30		ppbv	
		Cyclohexane	2010/05/04	<0.20		ppbv	
		Tetrahydrofuran	2010/05/04	<0.40		ppbv	
		1,4-Dioxane	2010/05/04	<2.0		ppbv	
		Xylene (Total)	2010/05/04	<0.60		ppbv	
	RPD - Sample/Sample Dup	Benzene	2010/05/04	NC		%	25
		Toluene	2010/05/04	NC		%	25
		Ethylbenzene	2010/05/04	NC		%	25
		p+m-Xylene	2010/05/04	NC		%	25
		o-Xylene	2010/05/04	NC		%	25
		Xylene (Total)	2010/05/04	NC		%	25

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.  
 NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.  
 ( 1 ) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

# **Polycyclic Aromatic Hydrocarbons Laboratory Analysis**

# Maxxam Analytics Inc.

## Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica  
 Location: Cold Lake South  
 Station ID: Lica1  
 Field Sample ID: LICA PUF/CLS/Apr 2, 10

Puf+ s/n: 100-1020  
 Motor s/n: 1138  
 Installation Date/Time: Apr 1, 10 @ 07:30 mst  
 Removal Date/Time: April 5, 10 @ 07:35 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
02-Apr-10	04/02/2010 0:00	04/03/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
31-Mar-10	05-Apr-10	12-Apr-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 13-Jan-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature ( C)	Volume (Vstd m <sup>3</sup> )
700	229	4.3	330.33

**Time set correctly prior to sampling? YES**  
**Timer set correctly prior to sampling? YES**  
**Sampling data saved to memory card after sampling? YES**

Comments: COC #No Number, Source COC  
GB024237 PUFF#1  
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Apr 2, 10  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signature: \_\_\_\_\_



Your C.O.C. #: na

**Attention: Shea Beaton**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/04/29**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B040858**

**Received: 2010/04/07, 09:20**

Sample Matrix: Filter  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/04/09	2010/04/26	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Total cover pages: 1



Maxxam Job #: B040858  
 Report Date: 2010/04/29

**SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)**

Maxxam ID		FN0902	FN0903		
Sampling Date		2010/04/02	2010/04/02		
		00:00	00:00		
COC Number		na	na		
	<b>Units</b>	<b>LICA/PUFF/QFF/CLS/APRIL</b>	<b>LICA/PUFF/QFF/PORT/APRIL</b>	<b>RDL</b>	<b>QC Batch</b>
		<b>2/10</b>	<b>2/10</b>		

<b>Semivolatile Organics</b>					
1-Methylnaphthalene	ug	0.14	0.14	0.10	2120841
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2120841
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2120841
2-Methylantracene	ug	<0.10	<0.10	0.10	2120841
2-Methylnaphthalene	ug	0.38	0.26	0.10	2120841
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2120841
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2120841
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2120841
Acenaphthene	ug	<0.050	<0.050	0.050	2120841
Acenaphthylene	ug	0.102	<0.050	0.050	2120841
Anthracene	ug	<0.050	<0.050	0.050	2120841
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2120841
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2120841
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2120841
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2120841
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2120841
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2120841
Benzo(g,h,i)perylene	ug	0.055	0.051	0.050	2120841
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2120841
Biphenyl	ug	0.11	<0.10	0.10	2120841
Chrysene	ug	<0.050	<0.050	0.050	2120841
Coronene	ug	<0.10	<0.10	0.10	2120841
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2120841
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2120841
Fluoranthene	ug	0.111	<0.050	0.050	2120841
Fluorene	ug	0.199	0.086	0.050	2120841
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2120841
m-Terphenyl	ug	<0.10	<0.10	0.10	2120841
Naphthalene	ug	0.351	0.139	0.072	2120841
o-Terphenyl	ug	<0.10	<0.10	0.10	2120841
Perylene	ug	<0.10	<0.10	0.10	2120841

 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B040858  
 Report Date: 2010/04/29

**SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)**

Maxxam ID		FN0902	FN0903		
Sampling Date		2010/04/02	2010/04/02		
		00:00	00:00		
COC Number		na	na		
	<b>Units</b>	<b>LICA/PUFF/QFF/CLS/APRIL</b>	<b>LICA/PUFF/QFF/PORT/APRIL</b>	<b>RDL</b>	<b>QC Batch</b>
		<b>2/10</b>	<b>2/10</b>		

Phenanthrene	ug	0.414	0.158	0.050	2120841
p-Terphenyl	ug	<0.10	<0.10	0.10	2120841
Pyrene	ug	0.095	<0.050	0.050	2120841
Quinoline	ug	<0.40	<0.40	0.40	2120841
Tetralin	ug	<0.10	<0.10	0.10	2120841
<b>Surrogate Recovery (%)</b>					
D10-2-Methylnaphthalene	%	79	70		2120841
D10-Fluoranthene	%	102	89		2120841
D10-Fluorene (FS)	%	56	57		2120841
D10-Phenanthrene	%	94	81		2120841
D12-Benzo(a)anthracene	%	106	96		2120841
D12-Benzo(a)pyrene	%	91	88		2120841
D12-Benzo(b)fluoranthene	%	88	80		2120841
D12-Benzo(ghi)perylene	%	102	96		2120841
D12-Benzo(k)fluoranthene	%	106	104		2120841
D12-Chrysene	%	93	92		2120841
D12-Indeno(1,2,3-cd)pyrene	%	98	90		2120841
D12-Perylene	%	96	93		2120841
D14-Dibenzo(a,h)anthracene	%	95	88		2120841
D14-Terphenyl (FS)	%	88	82		2120841
D8-Acenaphthylene	%	78	70		2120841
D8-Naphthalene	%	79	70		2120841

QC Batch = Quality Control Batch

Maxxam Job #: B040858  
 Report Date: 2010/04/29

### Test Summary

<b>Maxxam ID</b>	FN0902	<b>Collected</b>	2010/04/02
<b>Sample ID</b>	LICA/PUFF/QFF/CLS/APRIL 2/10	<b>Shipped</b>	
<b>Matrix</b>	Filter	<b>Received</b>	2010/04/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2120841	2010/04/09	2010/04/26	WZ

<b>Maxxam ID</b>	FN0903	<b>Collected</b>	2010/04/02
<b>Sample ID</b>	LICA/PUFF/QFF/PORT/APRIL 2/10	<b>Shipped</b>	
<b>Matrix</b>	Filter	<b>Received</b>	2010/04/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2120841	2010/04/09	2010/04/26	WZ

Maxxam Job #: B040858  
Report Date: 2010/04/29

**GENERAL COMMENTS**

PAHMS-F

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in initial calibration and Quinoline 2-Methylantracene are above 25% RSD in continuing calibration. No positives found for these compounds.

Not calibrated for Benzo(b)Anthracene, Picene, Dibenzo(a,c) anthracene or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

. Since Dibenzo(a,c) anthracene co-elutes with Dibenzo(a,h) anthracene and Triphenylene with Chrysene each would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB040858

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2120841 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/04/26		78	%	50 - 150
		D10-Fluoranthene	2010/04/26		92	%	50 - 150
		D10-Phenanthrene	2010/04/26		79	%	50 - 150
		D12-Benzo(a)anthracene	2010/04/26		93	%	50 - 150
		D12-Benzo(a)pyrene	2010/04/26		90	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/04/26		83	%	50 - 150
		D12-Benzo(ghi)perylene	2010/04/26		100	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/04/26		105	%	50 - 150
		D12-Chrysene	2010/04/26		95	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/04/26		93	%	50 - 150
		D12-Perylene	2010/04/26		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/04/26		90	%	50 - 150
		RPD	D8-Acenaphthylene	2010/04/26		73	%
	D8-Naphthalene		2010/04/26		81	%	50 - 150
	Spiked Blank	Acenaphthene	2010/04/26		80	%	60 - 130
		Acenaphthene	2010/04/26	4.0		%	50
	RPD	Acenaphthylene	2010/04/26		78	%	60 - 130
		Acenaphthylene	2010/04/26	2.5		%	50
	Spiked Blank	Anthracene	2010/04/26		72	%	60 - 130
		Anthracene	2010/04/26	3.8		%	50
	Spiked Blank	Benzo(a)anthracene	2010/04/26		85	%	60 - 130
		Benzo(a)anthracene	2010/04/26	2.7		%	50
	Spiked Blank	Benzo(a)pyrene	2010/04/26		85	%	60 - 130
		Benzo(a)pyrene	2010/04/26	4.8		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/04/26		95	%	60 - 130
		Benzo(b)fluoranthene	2010/04/26	1.8		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/04/26		95	%	60 - 130
		Benzo(g,h,i)perylene	2010/04/26	3.2		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/04/26		89	%	60 - 130
		Benzo(k)fluoranthene	2010/04/26	6.2		%	50
	Spiked Blank	Chrysene	2010/04/26		99	%	60 - 130
		Chrysene	2010/04/26	5.3		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/04/26		86	%	60 - 130
		Dibenz(a,h)anthracene	2010/04/26	5.1		%	50
	Spiked Blank	Fluoranthene	2010/04/26		92	%	60 - 130
		Fluoranthene	2010/04/26	1.9		%	50
	Spiked Blank	Fluorene	2010/04/26		78	%	60 - 130
		Fluorene	2010/04/26	4.9		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/04/26		90	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2010/04/26	4.2		%	50
Spiked Blank	Naphthalene	2010/04/26		77	%	60 - 130	
	Naphthalene	2010/04/26	3.0		%	50	
Spiked Blank	Phenanthrene	2010/04/26		72	%	60 - 130	
	Phenanthrene	2010/04/26	3.7		%	50	
Spiked Blank	Pyrene	2010/04/26		84	%	60 - 130	
	Pyrene	2010/04/26	0.5		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/04/26		87	%	50 - 150	
	D10-Fluoranthene	2010/04/26		103	%	50 - 150	
	D10-Phenanthrene	2010/04/26		91	%	50 - 150	
	D12-Benzo(a)anthracene	2010/04/26		100	%	50 - 150	
	D12-Benzo(a)pyrene	2010/04/26		96	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/04/26		87	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/04/26		104	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/04/26		108	%	50 - 150	
	D12-Chrysene	2010/04/26		95	%	50 - 150	

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)  
 Maxxam Job Number: GB040858

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2120841 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/04/26		99	%	50 - 150
		D12-Perylene	2010/04/26		100	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/04/26		97	%	50 - 150
		D8-Acenaphthylene	2010/04/26		84	%	50 - 150
		D8-Naphthalene	2010/04/26		91	%	50 - 150
		1-Methylnaphthalene	2010/04/26	<0.10		ug	
		1-Methylphenanthrene	2010/04/26	<0.10		ug	
		2-Chloronaphthalene	2010/04/26	<0.10		ug	
		2-Methylantracene	2010/04/26	<0.10		ug	
		2-Methylnaphthalene	2010/04/26	<0.10		ug	
		3-Methylcholanthrene	2010/04/26	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/04/26	<0.10		ug	
		9,10-Dimethylantracene	2010/04/26	<0.40		ug	
		Acenaphthene	2010/04/26	<0.050		ug	
		Acenaphthylene	2010/04/26	<0.050		ug	
		Anthracene	2010/04/26	<0.050		ug	
		Benzo(a)anthracene	2010/04/26	<0.050		ug	
		Benzo(a)fluorene	2010/04/26	<0.10		ug	
		Benzo(a)pyrene	2010/04/26	<0.050		ug	
		Benzo(b)fluoranthene	2010/04/26	<0.050		ug	
		Benzo(b)fluorene	2010/04/26	<0.10		ug	
		Benzo(e)pyrene	2010/04/26	<0.10		ug	
		Benzo(g,h,i)perylene	2010/04/26	<0.050		ug	
		Benzo(k)fluoranthene	2010/04/26	<0.050		ug	
		Biphenyl	2010/04/26	<0.10		ug	
		Chrysene	2010/04/26	<0.050		ug	
		Coronene	2010/04/26	<0.10		ug	
		Dibenz(a,h)anthracene	2010/04/26	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/04/26	<0.20		ug	
		Fluoranthene	2010/04/26	<0.050		ug	
		Fluorene	2010/04/26	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/04/26	<0.050		ug	
		m-Terphenyl	2010/04/26	<0.10		ug	
		Naphthalene	2010/04/26	<0.072		ug	
		o-Terphenyl	2010/04/26	<0.10		ug	
		Perylene	2010/04/26	<0.10		ug	
		Phenanthrene	2010/04/26	<0.050		ug	
		p-Terphenyl	2010/04/26	<0.10		ug	
		Pyrene	2010/04/26	<0.050		ug	
		Quinoline	2010/04/26	<0.40		ug	
		Tetralin	2010/04/26	<0.10		ug	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.  
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

# Maxxam Analytics Inc.

## Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica  
 Location: Cold Lake South  
 Station ID: Lica1  
 Field Sample ID: LICA PUF/CLS/Apr 8, 10

Puf+ s/n: 100-1020  
 Motor s/n: 1138  
 Installation Date/Time: Apr 7, 10 @ 12:00 mst  
 Removal Date/Time: Apr 9, 10 @ 13:25 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
08-Apr-10	04/08/2010 0:00	04/09/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
07-Apr-10	12-Apr-10	14-Apr-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 13-Jan-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature ( C)	Volume (Vstd m <sup>3</sup> )
695	229	7.6	330.34

**Time set correctly prior to sampling? YES**  
**Timer set correctly prior to sampling? YES**  
**Sampling data saved to memory card after sampling? YES**

Comments: COC #No Number, Source COC  
GB03916 PUFF#1  
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Apr 8, 10  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signature: \_\_\_\_\_



Your C.O.C. #: N/A

**Attention: Michael Bisaga**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/05/13**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B044185**

**Received: 2010/04/14, 09:21**

Sample Matrix: PUF AND FILTER

# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/04/15	2010/05/08	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

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Total cover pages: 1

Page 1 of 7



Maxxam Job #: B044185  
 Report Date: 2010/05/13

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		F07233	F07234		
Sampling Date		2010/04/08	2010/04/08		
COC Number		N/A	N/A		
	<b>Units</b>	<b>LICA</b>	<b>LICA</b>	<b>RDL</b>	<b>QC Batch</b>
		<b>PUF/QFF/CLS/APR8,10</b>	<b>PUF/QFF/PORT/APR8,10</b>		

<b>Semivolatile Organics</b>					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2129687
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2129687
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2129687
2-Methylantracene	ug	<0.10	<0.10	0.10	2129687
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2129687
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2129687
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2129687
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2129687
Acenaphthene	ug	<0.050	<0.050	0.050	2129687
Acenaphthylene	ug	<0.050	<0.050	0.050	2129687
Anthracene	ug	<0.050	<0.050	0.050	2129687
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2129687
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2129687
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2129687
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2129687
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2129687
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2129687
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2129687
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2129687
Biphenyl	ug	<0.10	<0.10	0.10	2129687
Chrysene	ug	<0.050	<0.050	0.050	2129687
Coronene	ug	<0.10	<0.10	0.10	2129687
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2129687
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2129687
Fluoranthene	ug	0.050	<0.050	0.050	2129687
Fluorene	ug	0.102	0.058	0.050	2129687
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2129687
m-Terphenyl	ug	<0.10	<0.10	0.10	2129687
Naphthalene	ug	<0.072	<0.072	0.072	2129687
o-Terphenyl	ug	<0.10	<0.10	0.10	2129687
Perylene	ug	<0.10	<0.10	0.10	2129687

N/A = Not Applicable  
 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B044185  
 Report Date: 2010/05/13

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		FO7233	FO7234		
Sampling Date		2010/04/08	2010/04/08		
COC Number		N/A	N/A		
	<b>Units</b>	<b>LICA</b>	<b>LICA</b>	<b>RDL</b>	<b>QC Batch</b>
		<b>PUF/QFF/CLS/APR8,10</b>	<b>PUF/QFF/PORT/APR8,10</b>		

Phenanthrene	ug	0.298	0.142	0.050	2129687
p-Terphenyl	ug	<0.10	<0.10	0.10	2129687
Pyrene	ug	<0.050	<0.050	0.050	2129687
Quinoline	ug	<0.40	<0.40	0.40	2129687
Tetralin	ug	<0.10	<0.10	0.10	2129687
<b>Surrogate Recovery (%)</b>					
D10-2-Methylnaphthalene	%	74	76		2129687
D10-Fluoranthene	%	82	80		2129687
D10-Fluorene (FS)	%	20 (1)	16 (1)		2129687
D10-Phenanthrene	%	88	86		2129687
D12-Benzo(a)anthracene	%	90	92		2129687
D12-Benzo(a)pyrene	%	84	88		2129687
D12-Benzo(b)fluoranthene	%	88	86		2129687
D12-Benzo(ghi)perylene	%	98	98		2129687
D12-Benzo(k)fluoranthene	%	100	102		2129687
D12-Chrysene	%	108	112		2129687
D12-Indeno(1,2,3-cd)pyrene	%	94	94		2129687
D12-Perylene	%	90	94		2129687
D14-Dibenzo(a,h)anthracene	%	90	90		2129687
D14-Terphenyl (FS)	%	92	94		2129687
D8-Acenaphthylene	%	64	68		2129687
D8-Naphthalene	%	78	80		2129687

N/A = Not Applicable

QC Batch = Quality Control Batch

( 1 ) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Job #: B044185  
 Report Date: 2010/05/13

### Test Summary

<b>Maxxam ID</b>	FO7233	<b>Collected</b>	2010/04/08
<b>Sample ID</b>	LICA PUF/QFF/CLS/APR8,10	<b>Shipped</b>	
<b>Matrix</b>	PUF AND FILTER	<b>Received</b>	2010/04/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2129687	2010/04/15	2010/05/08	WZ

<b>Maxxam ID</b>	FO7234	<b>Collected</b>	2010/04/08
<b>Sample ID</b>	LICA PUF/QFF/PORT/APR8,10	<b>Shipped</b>	
<b>Matrix</b>	PUF AND FILTER	<b>Received</b>	2010/04/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2129687	2010/04/15	2010/05/08	WZ

Maxxam Job #: B044185  
Report Date: 2010/05/13

**GENERAL COMMENTS**

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB044185

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2129687 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/05/07		84	%	50 - 150
		D10-Fluoranthene	2010/05/07		84	%	50 - 150
		D10-Phenanthrene	2010/05/07		90	%	50 - 150
		D12-Benzo(a)anthracene	2010/05/07		86	%	50 - 150
		D12-Benzo(a)pyrene	2010/05/07		88	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/05/07		90	%	50 - 150
		D12-Benzo(ghi)perylene	2010/05/07		100	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/05/07		102	%	50 - 150
		D12-Chrysene	2010/05/07		112	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/05/07		96	%	50 - 150
		D12-Perylene	2010/05/07		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/07		92	%	50 - 150
		RPD	D8-Acenaphthylene	2010/05/07		68	%
	D8-Naphthalene		2010/05/07		94	%	50 - 150
	Spiked Blank	Acenaphthene	2010/05/07		86	%	60 - 130
		Acenaphthene	2010/05/07	2.0		%	50
	RPD	Acenaphthylene	2010/05/07		75	%	60 - 130
		Acenaphthylene	2010/05/07	2.4		%	50
	Spiked Blank	Anthracene	2010/05/07		76	%	60 - 130
		Anthracene	2010/05/07	2.7		%	50
	Spiked Blank	Benzo(a)anthracene	2010/05/07		85	%	60 - 130
		Benzo(a)anthracene	2010/05/07	3.0		%	50
	Spiked Blank	Benzo(a)pyrene	2010/05/07		89	%	60 - 130
		Benzo(a)pyrene	2010/05/07	2.9		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/05/07		91	%	60 - 130
		Benzo(b)fluoranthene	2010/05/07	6.2		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/05/07		97	%	60 - 130
		Benzo(g,h,i)perylene	2010/05/07	1.3		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/05/07		111	%	60 - 130
		Benzo(k)fluoranthene	2010/05/07	2.2		%	50
	Spiked Blank	Chrysene	2010/05/07		117	%	60 - 130
		Chrysene	2010/05/07	2.1		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/05/07		95	%	60 - 130
		Dibenz(a,h)anthracene	2010/05/07	1.9		%	50
	Spiked Blank	Fluoranthene	2010/05/07		91	%	60 - 130
		Fluoranthene	2010/05/07	1.1		%	50
	Spiked Blank	Fluorene	2010/05/07		84	%	60 - 130
		Fluorene	2010/05/07	0.3		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/05/07		95	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2010/05/07	2.4		%	50
Spiked Blank	Naphthalene	2010/05/07		92	%	60 - 130	
	Naphthalene	2010/05/07	0.5		%	50	
Spiked Blank	Phenanthrene	2010/05/07		84	%	60 - 130	
	Phenanthrene	2010/05/07	2.7		%	50	
Spiked Blank	Pyrene	2010/05/07		83	%	60 - 130	
	Pyrene	2010/05/07	1.2		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/05/08		90	%	50 - 150	
	D10-Fluoranthene	2010/05/08		86	%	50 - 150	
	D10-Phenanthrene	2010/05/08		92	%	50 - 150	
	D12-Benzo(a)anthracene	2010/05/08		94	%	50 - 150	
	D12-Benzo(a)pyrene	2010/05/08		88	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/05/08		86	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/05/08		96	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/05/08		104	%	50 - 150	
	D12-Chrysene	2010/05/08		118	%	50 - 150	

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB044185

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2129687 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/05/08		92	%	50 - 150
		D12-Perylene	2010/05/08		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/08		88	%	50 - 150
		D8-Acenaphthylene	2010/05/08		72	%	50 - 150
		D8-Naphthalene	2010/05/08		102	%	50 - 150
		1-Methylnaphthalene	2010/05/08	<0.10		ug	
		1-Methylphenanthrene	2010/05/08	<0.10		ug	
		2-Chloronaphthalene	2010/05/08	<0.10		ug	
		2-Methylanthracene	2010/05/08	<0.10		ug	
		2-Methylnaphthalene	2010/05/08	<0.10		ug	
		3-Methylcholanthrene	2010/05/08	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/05/08	<0.10		ug	
		9,10-Dimethylanthracene	2010/05/08	<0.40		ug	
		Acenaphthene	2010/05/08	<0.050		ug	
		Acenaphthylene	2010/05/08	<0.050		ug	
		Anthracene	2010/05/08	<0.050		ug	
		Benzo(a)anthracene	2010/05/08	<0.050		ug	
		Benzo(a)fluorene	2010/05/08	<0.10		ug	
		Benzo(a)pyrene	2010/05/08	<0.050		ug	
		Benzo(b)fluoranthene	2010/05/08	<0.050		ug	
		Benzo(b)fluorene	2010/05/08	<0.10		ug	
		Benzo(e)pyrene	2010/05/08	<0.10		ug	
		Benzo(g,h,i)perylene	2010/05/08	<0.050		ug	
		Benzo(k)fluoranthene	2010/05/08	<0.050		ug	
		Biphenyl	2010/05/08	<0.10		ug	
		Chrysene	2010/05/08	<0.050		ug	
		Coronene	2010/05/08	<0.10		ug	
		Dibenz(a,h)anthracene	2010/05/08	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/05/08	<0.20		ug	
		Fluoranthene	2010/05/08	<0.050		ug	
		Fluorene	2010/05/08	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/05/08	<0.050		ug	
		m-Terphenyl	2010/05/08	<0.10		ug	
		Naphthalene	2010/05/08	<0.072		ug	
		o-Terphenyl	2010/05/08	<0.10		ug	
		Perylene	2010/05/08	<0.10		ug	
		Phenanthrene	2010/05/08	<0.050		ug	
		p-Terphenyl	2010/05/08	<0.10		ug	
		Pyrene	2010/05/08	<0.050		ug	
		Quinoline	2010/05/08	<0.40		ug	
		Tetralin	2010/05/08	<0.10		ug	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.  
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

# Maxxam Analytics Inc.

## Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica  
 Location: Cold Lake South  
 Station ID: Lica1  
 Field Sample ID: LICA PUF/CLS/Apr 14, 10

Puf+ s/n: 100-1020  
 Motor s/n: 1138  
 Installation Date/Time: Apr 13, 10 @ 15:50 mst  
 Removal Date/Time: Apr 15, 10 @ 07:30 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
14-Apr-10	04/14/2010 0:00	04/15/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
12-Apr-10	15-Apr-10	21-Apr-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 13-Jan-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature ( C)	Volume (Vstd m <sup>3</sup> )
706	229	4.8	330.36

**Time set correctly prior to sampling? YES**  
**Timer set correctly prior to sampling? YES**  
**Sampling data saved to memory card after sampling? YES**

Comments: COC #No Number, Source COC

GB037904 PUFF#1

Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Apr 14, 10

Technician Signature: \_\_\_\_\_



Your C.O.C. #: N/A

**Attention: Shea Beaton**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/05/26**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B046180**

**Received: 2010/04/17, 10:06**

Sample Matrix: Filter  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/04/20	2010/05/22	BRL SOP-00201	CARB429(ARBM1,M2)mod

**Encryption Key**

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

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Total cover pages: 1

Page 1 of 7



Maxxam Job #: B046180  
 Report Date: 2010/05/26

**SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)**

Maxxam ID		FP6487	FP6488		
Sampling Date		2010/04/14	2010/04/14		
COC Number		N/A	N/A		
	<b>Units</b>	<b>LICA QFF/PUF/CLS/APR 14, 10</b>	<b>LICA QFF/PUF/PORT/APR 14, 10</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Semivolatile Organics</b>					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2129696
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2129696
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2129696
2-Methylantracene	ug	<0.10	<0.10	0.10	2129696
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2129696
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2129696
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2129696
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2129696
Acenaphthene	ug	<0.050	<0.050	0.050	2129696
Acenaphthylene	ug	<0.050	<0.050	0.050	2129696
Anthracene	ug	<0.050	<0.050	0.050	2129696
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2129696
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2129696
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2129696
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2129696
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2129696
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2129696
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2129696
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2129696
Biphenyl	ug	<0.10	<0.10	0.10	2129696
Chrysene	ug	<0.050	<0.050	0.050	2129696
Coronene	ug	<0.10	<0.10	0.10	2129696
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2129696
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2129696
Fluoranthene	ug	<0.050	<0.050	0.050	2129696
Fluorene	ug	0.086	0.060	0.050	2129696
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2129696
m-Terphenyl	ug	<0.10	<0.10	0.10	2129696
Naphthalene	ug	0.138	0.132	0.072	2129696
o-Terphenyl	ug	<0.10	<0.10	0.10	2129696

N/A = Not Applicable  
 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B046180  
 Report Date: 2010/05/26

**SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)**

Maxxam ID		FP6487	FP6488		
Sampling Date		2010/04/14	2010/04/14		
COC Number		N/A	N/A		
	Units	LICA QFF/PUF/CLS/APR 14, 10	LICA QFF/PUF/PORT/APR 14, 10	RDL	QC Batch
Perylene	ug	<0.10	<0.10	0.10	2129696
Phenanthrene	ug	0.172	0.136	0.050	2129696
p-Terphenyl	ug	<0.10	<0.10	0.10	2129696
Pyrene	ug	<0.050	<0.050	0.050	2129696
Quinoline	ug	<0.40	<0.40	0.40	2129696
Tetralin	ug	<0.10	<0.10	0.10	2129696
<b>Surrogate Recovery (%)</b>					
D10-2-Methylnaphthalene	%	76	78		2129696
D10-Fluoranthene	%	90	116		2129696
D10-Fluorene (FS)	%	63	52		2129696
D10-Phenanthrene	%	82	98		2129696
D12-Benzo(a)anthracene	%	106	114		2129696
D12-Benzo(a)pyrene	%	92	102		2129696
D12-Benzo(b)fluoranthene	%	88	98		2129696
D12-Benzo(ghi)perylene	%	88	98		2129696
D12-Benzo(k)fluoranthene	%	92	96		2129696
D12-Chrysene	%	90	90		2129696
D12-Indeno(1,2,3-cd)pyrene	%	88	100		2129696
D12-Perylene	%	92	98		2129696
D14-Dibenzo(a,h)anthracene	%	82	94		2129696
D14-Terphenyl (FS)	%	86	83		2129696
D8-Acenaphthylene	%	96	100		2129696
D8-Naphthalene	%	78	80		2129696
N/A = Not Applicable QC Batch = Quality Control Batch					

Maxxam Job #: B046180  
 Report Date: 2010/05/26

### Test Summary

<b>Maxxam ID</b>	FP6487	<b>Collected</b>	2010/04/14
<b>Sample ID</b>	LICA QFF/PUF/CLS/APR 14, 10	<b>Shipped</b>	
<b>Matrix</b>	Filter	<b>Received</b>	2010/04/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2129696	2010/04/20	2010/05/22	WZ

<b>Maxxam ID</b>	FP6488	<b>Collected</b>	2010/04/14
<b>Sample ID</b>	LICA QFF/PUF/PORT/APR 14, 10	<b>Shipped</b>	
<b>Matrix</b>	Filter	<b>Received</b>	2010/04/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2129696	2010/04/20	2010/05/22	WZ

Maxxam Job #: B046180  
Report Date: 2010/05/26

**GENERAL COMMENTS**

PAHMS-F

9,10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in initial calibration. No positives found for these 2 compounds.

Not calibrated for Benzo(b)Anthracene, Picene, Dibenzo(a,c) anthracene or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

. Since Dibenzo(a,c) anthracene co-elutes with Dibenzo(a,h) anthracene and Triphenylene with Chrysene each would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

Sample FP6488-01: PAHMS-F

Internal Std area response criteria was high in Sample. Rerun with similar results. Original run reported.

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB046180

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2129696 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/05/22		86	%	50 - 150
		D10-Fluoranthene	2010/05/22		104	%	50 - 150
		D10-Phenanthrene	2010/05/22		90	%	50 - 150
		D12-Benzo(a)anthracene	2010/05/22		114	%	50 - 150
		D12-Benzo(a)pyrene	2010/05/22		106	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/05/22		102	%	50 - 150
		D12-Benzo(ghi)perylene	2010/05/22		100	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/05/22		100	%	50 - 150
		D12-Chrysene	2010/05/22		100	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/05/22		102	%	50 - 150
		D12-Perylene	2010/05/22		104	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/22		94	%	50 - 150
		D8-Acenaphthylene	2010/05/22		106	%	50 - 150
		D8-Naphthalene	2010/05/22		90	%	50 - 150
		RPD	Acenaphthene	2010/05/22		94	%
	Spiked Blank	Acenaphthene	2010/05/22	3.0		%	50
	RPD	Acenaphthylene	2010/05/22		111	%	60 - 130
	Spiked Blank	Acenaphthylene	2010/05/22	3.7		%	50
	RPD	Anthracene	2010/05/22		105	%	60 - 130
	Spiked Blank	Anthracene	2010/05/22	2.9		%	50
	RPD	Benzo(a)anthracene	2010/05/22		101	%	60 - 130
	Spiked Blank	Benzo(a)anthracene	2010/05/22	2.5		%	50
	RPD	Benzo(a)pyrene	2010/05/22		97	%	60 - 130
	Spiked Blank	Benzo(a)pyrene	2010/05/22	4.7		%	50
	RPD	Benzo(b)fluoranthene	2010/05/22		90	%	60 - 130
	Spiked Blank	Benzo(b)fluoranthene	2010/05/22	1.9		%	50
	RPD	Benzo(g,h,i)perylene	2010/05/22		94	%	60 - 130
	Spiked Blank	Benzo(g,h,i)perylene	2010/05/22	1.6		%	50
	RPD	Benzo(k)fluoranthene	2010/05/22		110	%	60 - 130
	Spiked Blank	Benzo(k)fluoranthene	2010/05/22	9.5		%	50
	RPD	Chrysene	2010/05/22		101	%	60 - 130
	Spiked Blank	Chrysene	2010/05/22	5.1		%	50
	RPD	Dibenz(a,h)anthracene	2010/05/22		94	%	60 - 130
	Spiked Blank	Dibenz(a,h)anthracene	2010/05/22	2.1		%	50
	RPD	Fluoranthene	2010/05/22		105	%	60 - 130
	Spiked Blank	Fluoranthene	2010/05/22	4.7		%	50
	RPD	Fluorene	2010/05/22		93	%	60 - 130
	Spiked Blank	Fluorene	2010/05/22	1.9		%	50
	RPD	Indeno(1,2,3-cd)pyrene	2010/05/22		95	%	60 - 130
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/05/22	1.9		%	50
	RPD	Naphthalene	2010/05/22		88	%	60 - 130
	Spiked Blank	Naphthalene	2010/05/22	4.0		%	50
	RPD	Phenanthrene	2010/05/22		86	%	60 - 130
	Spiked Blank	Phenanthrene	2010/05/22	2.0		%	50
	RPD	Pyrene	2010/05/22		96	%	60 - 130
Spiked Blank	Pyrene	2010/05/22	3.1		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/05/22		84	%	50 - 150	
	D10-Fluoranthene	2010/05/22		106	%	50 - 150	
	D10-Phenanthrene	2010/05/22		90	%	50 - 150	
	D12-Benzo(a)anthracene	2010/05/22		114	%	50 - 150	
	D12-Benzo(a)pyrene	2010/05/22		102	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/05/22		94	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/05/22		94	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/05/22		96	%	50 - 150	
	D12-Chrysene	2010/05/22		94	%	50 - 150	

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)  
 Maxxam Job Number: GB046180

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2129696 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/05/22		96	%	50 - 150
		D12-Perylene	2010/05/22		100	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/22		88	%	50 - 150
		D8-Acenaphthylene	2010/05/22		102	%	50 - 150
		D8-Naphthalene	2010/05/22		88	%	50 - 150
		1-Methylnaphthalene	2010/05/22	<0.10		ug	
		1-Methylphenanthrene	2010/05/22	<0.10		ug	
		2-Chloronaphthalene	2010/05/22	<0.10		ug	
		2-Methylanthracene	2010/05/22	<0.10		ug	
		2-Methylnaphthalene	2010/05/22	<0.10		ug	
		3-Methylcholanthrene	2010/05/22	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/05/22	<0.10		ug	
		9,10-Dimethylanthracene	2010/05/22	<0.40		ug	
		Acenaphthene	2010/05/22	<0.050		ug	
		Acenaphthylene	2010/05/22	<0.050		ug	
		Anthracene	2010/05/22	<0.050		ug	
		Benzo(a)anthracene	2010/05/22	<0.050		ug	
		Benzo(a)fluorene	2010/05/22	<0.10		ug	
		Benzo(a)pyrene	2010/05/22	<0.050		ug	
		Benzo(b)fluoranthene	2010/05/22	<0.050		ug	
		Benzo(b)fluorene	2010/05/22	<0.10		ug	
		Benzo(e)pyrene	2010/05/22	<0.10		ug	
		Benzo(g,h,i)perylene	2010/05/22	<0.050		ug	
		Benzo(k)fluoranthene	2010/05/22	<0.050		ug	
		Biphenyl	2010/05/22	<0.10		ug	
		Chrysene	2010/05/22	<0.050		ug	
		Coronene	2010/05/22	<0.10		ug	
		Dibenz(a,h)anthracene	2010/05/22	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/05/22	<0.20		ug	
		Fluoranthene	2010/05/22	<0.050		ug	
		Fluorene	2010/05/22	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/05/22	<0.050		ug	
		m-Terphenyl	2010/05/22	<0.10		ug	
		Naphthalene	2010/05/22	<0.072		ug	
		o-Terphenyl	2010/05/22	<0.10		ug	
		Perylene	2010/05/22	<0.10		ug	
		Phenanthrene	2010/05/22	<0.050		ug	
		p-Terphenyl	2010/05/22	<0.10		ug	
		Pyrene	2010/05/22	<0.050		ug	
		Quinoline	2010/05/22	<0.40		ug	
		Tetralin	2010/05/22	<0.10		ug	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.  
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

# Maxxam Analytics Inc.

## Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica  
 Location: Cold Lake South  
 Station ID: Lica1  
 Field Sample ID: LICA PUF/CLS/Apr 20, 10

Puf+ s/n: 100-1020  
 Motor s/n: 1138  
 Installation Date/Time: Apr 18, 10 @ 12:35 mst  
 Removal Date/Time: Apr 21, 10 @ 15:00 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
20-Apr-10	04/20/2010 0:00	04/21/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
16-Apr-10	22-Apr-10	28-Apr-10	????

Set Flow Rate (slpm): 230  
 Date of Last Calibration: 13-Jan-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature ( C)	Volume (Vstd m <sup>3</sup> )
710	229	15.2	330.33

**Time set correctly prior to sampling? YES**  
**Timer set correctly prior to sampling? YES**  
**Sampling data saved to memory card after sampling? YES**

Comments: COC #No Number, Source COC  
GB040138 PUFF#1  
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Apr 20, 10  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signature: \_\_\_\_\_



Your C.O.C. #: N/A

**Attention: Michael Bisaga**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/05/28**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B049794**

**Received: 2010/04/24, 15:59**

Sample Matrix: PUF AND FILTER

# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/04/27	2010/05/26	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Total cover pages: 1



Maxxam Job #: B049794  
 Report Date: 2010/05/28

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		FR3576	FR3577		
Sampling Date		2010/04/20	2010/04/20		
COC Number		N/A	N/A		
	<b>Units</b>	<b>LICA PUF/CLS/APR 20,10</b>	<b>LICA PUF/PORT/APR 20,10</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Semivolatile Organics</b>					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2135395
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2135395
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2135395
2-Methylanthracene	ug	<0.10	<0.10	0.10	2135395
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2135395
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2135395
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2135395
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2135395
Acenaphthene	ug	<0.050	<0.050	0.050	2135395
Acenaphthylene	ug	<0.050	<0.050	0.050	2135395
Anthracene	ug	<0.050	<0.050	0.050	2135395
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2135395
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2135395
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2135395
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2135395
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2135395
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2135395
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2135395
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2135395
Biphenyl	ug	<0.10	<0.10	0.10	2135395
Chrysene	ug	<0.050	<0.050	0.050	2135395
Coronene	ug	<0.10	<0.10	0.10	2135395
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2135395
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2135395
Fluoranthene	ug	0.052	<0.050	0.050	2135395
Fluorene	ug	0.074	<0.050	0.050	2135395
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2135395
m-Terphenyl	ug	<0.10	<0.10	0.10	2135395
Naphthalene	ug	0.126	0.088	0.072	2135395
o-Terphenyl	ug	<0.10	<0.10	0.10	2135395

N/A = Not Applicable  
 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B049794  
 Report Date: 2010/05/28

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		FR3576	FR3577		
Sampling Date		2010/04/20	2010/04/20		
COC Number		N/A	N/A		
	<b>Units</b>	<b>LICA PUF/CLS/APR 20,10</b>	<b>LICA PUF/PORT/APR 20,10</b>	<b>RDL</b>	<b>QC Batch</b>

Perylene	ug	<0.10	<0.10	0.10	2135395
Phenanthrene	ug	0.310	0.158	0.050	2135395
p-Terphenyl	ug	<0.10	<0.10	0.10	2135395
Pyrene	ug	<0.050	<0.050	0.050	2135395
Quinoline	ug	<0.40	<0.40	0.40	2135395
Tetralin	ug	<0.10	<0.10	0.10	2135395
<b>Surrogate Recovery (%)</b>					
D10-2-Methylnaphthalene	%	72	64		2135395
D10-Fluoranthene	%	98	102		2135395
D10-Fluorene (FS)	%	57	46 (1)		2135395
D10-Phenanthrene	%	86	86		2135395
D12-Benzo(a)anthracene	%	106	106		2135395
D12-Benzo(a)pyrene	%	90	92		2135395
D12-Benzo(b)fluoranthene	%	92	88		2135395
D12-Benzo(ghi)perylene	%	94	92		2135395
D12-Benzo(k)fluoranthene	%	98	94		2135395
D12-Chrysene	%	96	88		2135395
D12-Indeno(1,2,3-cd)pyrene	%	92	92		2135395
D12-Perylene	%	92	94		2135395
D14-Dibenzo(a,h)anthracene	%	86	86		2135395
D14-Terphenyl (FS)	%	93	83		2135395
D8-Acenaphthylene	%	78	70		2135395
D8-Naphthalene	%	72	64		2135395

N/A = Not Applicable  
 QC Batch = Quality Control Batch  
 ( 1 ) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Job #: B049794  
 Report Date: 2010/05/28

**Test Summary**

**Maxxam ID** FR3576 **Collected** 2010/04/20  
**Sample ID** LICA PUF/CLS/APR 20,10 **Shipped**  
**Matrix** PUF AND FILTER **Received** 2010/04/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2135395	2010/04/27	2010/05/26	WZ

**Maxxam ID** FR3577 **Collected** 2010/04/20  
**Sample ID** LICA PUF/PORT/APR 20,10 **Shipped**  
**Matrix** PUF AND FILTER **Received** 2010/04/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2135395	2010/04/27	2010/05/26	WZ

Maxxam Job #: B049794  
Report Date: 2010/05/28

**GENERAL COMMENTS**

PAHMS-F

9,10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in initial calibration. No positives found for these 2 compounds.

Sample FR3576-01: PAHMS-F

Not calibrated for Benzo(b)Anthracene, Picene, Dibenzo(a,c) anthracene or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

Since Dibenzo(a,c) anthracene co-elutes with Dibenzo(a,h) anthracene and Triphenylene with Chrysene each would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

Sample FR3577-01: PAHMS-F

Not calibrated for Benzo(b)Anthracene, Picene, Dibenzo(a,c) anthracene or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

Since Dibenzo(a,c) anthracene co-elutes with Dibenzo(a,h) anthracene and Triphenylene with Chrysene each would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB049794

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2135395 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/05/26		72	%	50 - 150
		D10-Fluoranthene	2010/05/26		100	%	50 - 150
		D10-Phenanthrene	2010/05/26		78	%	50 - 150
		D12-Benzo(a)anthracene	2010/05/26		104	%	50 - 150
		D12-Benzo(a)pyrene	2010/05/26		96	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/05/26		90	%	50 - 150
		D12-Benzo(ghi)perylene	2010/05/26		90	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/05/26		102	%	50 - 150
		D12-Chrysene	2010/05/26		102	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/05/26		90	%	50 - 150
		D12-Perylene	2010/05/26		96	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/26		86	%	50 - 150
		RPD	D8-Acenaphthylene	2010/05/26		66	%
	D8-Naphthalene		2010/05/26		76	%	50 - 150
	Spiked Blank	Acenaphthene	2010/05/26		76	%	60 - 130
		Acenaphthene	2010/05/26	0.7		%	50
	RPD	Acenaphthylene	2010/05/26		72	%	60 - 130
		Acenaphthylene	2010/05/26	2.1		%	50
	Spiked Blank	Anthracene	2010/05/26		95	%	60 - 130
		Anthracene	2010/05/26	11.4		%	50
	Spiked Blank	Benzo(a)anthracene	2010/05/26		92	%	60 - 130
		Benzo(a)anthracene	2010/05/26	1.6		%	50
	Spiked Blank	Benzo(a)pyrene	2010/05/26		92	%	60 - 130
		Benzo(a)pyrene	2010/05/26	2.5		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/05/26		85	%	60 - 130
		Benzo(b)fluoranthene	2010/05/26	5.8		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/05/26		83	%	60 - 130
		Benzo(g,h,i)perylene	2010/05/26	0		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/05/26		104	%	60 - 130
		Benzo(k)fluoranthene	2010/05/26	2.4		%	50
	Spiked Blank	Chrysene	2010/05/26		99	%	60 - 130
		Chrysene	2010/05/26	0.5		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/05/26		85	%	60 - 130
		Dibenz(a,h)anthracene	2010/05/26	1.8		%	50
	Spiked Blank	Fluoranthene	2010/05/26		100	%	60 - 130
		Fluoranthene	2010/05/26	3.0		%	50
	Spiked Blank	Fluorene	2010/05/26		76	%	60 - 130
		Fluorene	2010/05/26	2.0		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/05/26		85	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2010/05/26	2.4		%	50
Spiked Blank	Naphthalene	2010/05/26		72	%	60 - 130	
	Naphthalene	2010/05/26	6.4		%	50	
Spiked Blank	Phenanthrene	2010/05/26		72	%	60 - 130	
	Phenanthrene	2010/05/26	1.4		%	50	
Spiked Blank	Pyrene	2010/05/26		93	%	60 - 130	
	Pyrene	2010/05/26	4.7		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/05/26		70	%	50 - 150	
	D10-Fluoranthene	2010/05/26		92	%	50 - 150	
	D10-Phenanthrene	2010/05/26		82	%	50 - 150	
	D12-Benzo(a)anthracene	2010/05/26		96	%	50 - 150	
	D12-Benzo(a)pyrene	2010/05/26		92	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/05/26		84	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/05/26		86	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/05/26		90	%	50 - 150	
	D12-Chrysene	2010/05/26		84	%	50 - 150	

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)  
 Maxxam Job Number: GB049794

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2135395 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/05/26		88	%	50 - 150
		D12-Perylene	2010/05/26		92	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/26		84	%	50 - 150
		D8-Acenaphthylene	2010/05/26		66	%	50 - 150
		D8-Naphthalene	2010/05/26		74	%	50 - 150
		1-Methylnaphthalene	2010/05/26	<0.10		ug	
		1-Methylphenanthrene	2010/05/26	<0.10		ug	
		2-Chloronaphthalene	2010/05/26	<0.10		ug	
		2-Methylanthracene	2010/05/26	<0.10		ug	
		2-Methylnaphthalene	2010/05/26	<0.10		ug	
		3-Methylcholanthrene	2010/05/26	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/05/26	<0.10		ug	
		9,10-Dimethylanthracene	2010/05/26	<0.40		ug	
		Acenaphthene	2010/05/26	<0.050		ug	
		Acenaphthylene	2010/05/26	<0.050		ug	
		Anthracene	2010/05/26	<0.050		ug	
		Benzo(a)anthracene	2010/05/26	<0.050		ug	
		Benzo(a)fluorene	2010/05/26	<0.10		ug	
		Benzo(a)pyrene	2010/05/26	<0.050		ug	
		Benzo(b)fluoranthene	2010/05/26	<0.050		ug	
		Benzo(b)fluorene	2010/05/26	<0.10		ug	
		Benzo(e)pyrene	2010/05/26	<0.10		ug	
		Benzo(g,h,i)perylene	2010/05/26	<0.050		ug	
		Benzo(k)fluoranthene	2010/05/26	<0.050		ug	
		Biphenyl	2010/05/26	<0.10		ug	
		Chrysene	2010/05/26	<0.050		ug	
		Coronene	2010/05/26	<0.10		ug	
		Dibenz(a,h)anthracene	2010/05/26	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/05/26	<0.20		ug	
		Fluoranthene	2010/05/26	<0.050		ug	
		Fluorene	2010/05/26	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/05/26	<0.050		ug	
		m-Terphenyl	2010/05/26	<0.10		ug	
		Naphthalene	2010/05/26	<0.072		ug	
		o-Terphenyl	2010/05/26	<0.10		ug	
		Perylene	2010/05/26	<0.10		ug	
		Phenanthrene	2010/05/26	<0.050		ug	
		p-Terphenyl	2010/05/26	<0.10		ug	
		Pyrene	2010/05/26	<0.050		ug	
		Quinoline	2010/05/26	<0.40		ug	
		Tetralin	2010/05/26	<0.10		ug	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.  
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

# Maxxam Analytics Inc.

## Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica  
 Location: Cold Lake South  
 Station ID: Lica1  
 Field Sample ID: LICA PUF/CLS/Apr 26, 10

Puf+ s/n: 100-1020  
 Motor s/n: 1138  
 Installation Date/Time: Apr 23, 10 @ 13:20 mst  
 Removal Date/Time: Apr 27, 10 @ 07:15 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
26-Apr-10	04/26/2010 0:00	04/27/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
22-Apr-10	27-Apr-10	29-Apr-10	????

Set Flow Rate (slpm): 230  
 Date of Last Calibration: 13-Jan-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature ( C)	Volume (Vstd m <sup>3</sup> )
716	229	2.8	330.34

**Time set correctly prior to sampling? YES**  
**Timer set correctly prior to sampling? YES**  
**Sampling data saved to memory card after sampling? YES**

Comments: COC #No Number, Source COC  
GB040140 PUFF#1  
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Apr 26, 10  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signature: \_\_\_\_\_



**Attention: Michael Bisaga**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/05/28**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B052166**

**Received: 2010/04/29, 09:36**

Sample Matrix: PUF AND FILTER

# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/04/30	2010/05/27	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====

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Total cover pages: 1



Maxxam Job #: B052166  
 Report Date: 2010/05/28

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		FS5111	FS5112		
Sampling Date		2010/04/26	2010/04/26		
	Units	LICA QFF/PUF/CLC/APR26,10	LICAQFF/PUF/PORT/APR26,10	RDL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2139249
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2139249
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2139249
2-Methylantracene	ug	<0.10	<0.10	0.10	2139249
2-Methylnaphthalene	ug	0.23	0.10	0.10	2139249
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2139249
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2139249
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2139249
Acenaphthene	ug	<0.050	<0.050	0.050	2139249
Acenaphthylene	ug	<0.050	<0.050	0.050	2139249
Anthracene	ug	<0.050	<0.050	0.050	2139249
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2139249
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2139249
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2139249
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2139249
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2139249
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2139249
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2139249
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2139249
Biphenyl	ug	<0.10	<0.10	0.10	2139249
Chrysene	ug	<0.050	<0.050	0.050	2139249
Coronene	ug	<0.10	<0.10	0.10	2139249
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2139249
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2139249
Fluoranthene	ug	0.054	<0.050	0.050	2139249
Fluorene	ug	0.100	<0.050	0.050	2139249
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2139249
m-Terphenyl	ug	<0.10	<0.10	0.10	2139249
Naphthalene	ug	0.206	0.082	0.072	2139249
o-Terphenyl	ug	<0.10	<0.10	0.10	2139249
Perylene	ug	<0.10	<0.10	0.10	2139249
Phenanthrene	ug	0.186	0.080	0.050	2139249

 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B052166  
 Report Date: 2010/05/28

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		FS5111	FS5112		
Sampling Date		2010/04/26	2010/04/26		
	Units	LICA QFF/PUF/CLC/APR26,10	LICAQFF/PUF/PORT/APR26,10	RDL	QC Batch
p-Terphenyl	ug	<0.10	<0.10	0.10	2139249
Pyrene	ug	0.054	<0.050	0.050	2139249
Quinoline	ug	<0.40	<0.40	0.40	2139249
Tetralin	ug	<0.10	<0.10	0.10	2139249
<b>Surrogate Recovery (%)</b>					
D10-2-Methylnaphthalene	%	60	66		2139249
D10-Fluoranthene	%	94	92		2139249
D10-Fluorene (FS)	%	51	59		2139249
D10-Phenanthrene	%	78	78		2139249
D12-Benzo(a)anthracene	%	98	98		2139249
D12-Benzo(a)pyrene	%	82	88		2139249
D12-Benzo(b)fluoranthene	%	84	86		2139249
D12-Benzo(ghi)perylene	%	94	92		2139249
D12-Benzo(k)fluoranthene	%	96	96		2139249
D12-Chrysene	%	88	92		2139249
D12-Indeno(1,2,3-cd)pyrene	%	94	90		2139249
D12-Perylene	%	88	94		2139249
D14-Dibenzo(a,h)anthracene	%	86	82		2139249
D14-Terphenyl (FS)	%	83	86		2139249
D8-Acenaphthylene	%	68	72		2139249
D8-Naphthalene	%	62	70		2139249
QC Batch = Quality Control Batch					

Maxxam Job #: B052166  
 Report Date: 2010/05/28

**Test Summary**

**Maxxam ID** FS5111 **Collected** 2010/04/26  
**Sample ID** LICA QFF/PUF/CLC/APR26,10 **Shipped**  
**Matrix** PUF AND FILTER **Received** 2010/04/29

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2139249	2010/04/30	2010/05/27	WZ

**Maxxam ID** FS5112 **Collected** 2010/04/26  
**Sample ID** LICAQFF/PUF/PORT/APR26,10 **Shipped**  
**Matrix** PUF AND FILTER **Received** 2010/04/29

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2139249	2010/04/30	2010/05/27	WZ

Maxxam Job #: B052166  
Report Date: 2010/05/28

**GENERAL COMMENTS**

PAHMS-F

9,10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in initial calibration. No positives found for these 2 compounds.

Not calibrated for Benzo(b)Anthracene, Picene, Dibenzo(a,c) anthracene or Triphenylene. An estimated mdl for each of these compounds is 0.1ug. Since Dibenzo(a,c) anthracene co-elutes with Dibenzo(a,h) anthracene and Triphenylene with Chrysene each would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB052166

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2139249 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/05/27		70	%	50 - 150
		D10-Fluoranthene	2010/05/27		90	%	50 - 150
		D10-Phenanthrene	2010/05/27		84	%	50 - 150
		D12-Benzo(a)anthracene	2010/05/27		96	%	50 - 150
		D12-Benzo(a)pyrene	2010/05/27		94	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/05/27		90	%	50 - 150
		D12-Benzo(ghi)perylene	2010/05/27		94	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/05/27		98	%	50 - 150
		D12-Chrysene	2010/05/27		96	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/05/27		94	%	50 - 150
		D12-Perylene	2010/05/27		96	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/27		86	%	50 - 150
		RPD	D8-Acenaphthylene	2010/05/27		70	%
	D8-Naphthalene		2010/05/27		76	%	50 - 150
	RPD	Acenaphthene	2010/05/27		76	%	60 - 130
		Acenaphthene	2010/05/27	4.2		%	50
	Spiked Blank	Acenaphthylene	2010/05/27		75	%	60 - 130
		Acenaphthylene	2010/05/27	6.1		%	50
	Spiked Blank	Anthracene	2010/05/27		84	%	60 - 130
		Anthracene	2010/05/27	4.9		%	50
	Spiked Blank	Benzo(a)anthracene	2010/05/27		83	%	60 - 130
		Benzo(a)anthracene	2010/05/27	1.2		%	50
	Spiked Blank	Benzo(a)pyrene	2010/05/27		89	%	60 - 130
		Benzo(a)pyrene	2010/05/27	3.4		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/05/27		78	%	60 - 130
		Benzo(b)fluoranthene	2010/05/27	6.2		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/05/27		85	%	60 - 130
		Benzo(g,h,i)perylene	2010/05/27	3.8		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/05/27		106	%	60 - 130
		Benzo(k)fluoranthene	2010/05/27	1.2		%	50
	Spiked Blank	Chrysene	2010/05/27		101	%	60 - 130
		Chrysene	2010/05/27	5.9		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/05/27		84	%	60 - 130
		Dibenz(a,h)anthracene	2010/05/27	6.0		%	50
	Spiked Blank	Fluoranthene	2010/05/27		90	%	60 - 130
		Fluoranthene	2010/05/27	8.6		%	50
	Spiked Blank	Fluorene	2010/05/27		75	%	60 - 130
		Fluorene	2010/05/27	9.6		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/05/27		85	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2010/05/27	4.3		%	50
Spiked Blank	Naphthalene	2010/05/27		72	%	60 - 130	
	Naphthalene	2010/05/27	1.0		%	50	
Spiked Blank	Phenanthrene	2010/05/27		69	%	60 - 130	
	Phenanthrene	2010/05/27	7.4		%	50	
Spiked Blank	Pyrene	2010/05/27		83	%	60 - 130	
	Pyrene	2010/05/27	9.2		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/05/27		76	%	50 - 150	
	D10-Fluoranthene	2010/05/27		98	%	50 - 150	
	D10-Phenanthrene	2010/05/27		80	%	50 - 150	
	D12-Benzo(a)anthracene	2010/05/27		98	%	50 - 150	
	D12-Benzo(a)pyrene	2010/05/27		98	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/05/27		92	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/05/27		98	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/05/27		92	%	50 - 150	
	D12-Chrysene	2010/05/27		88	%	50 - 150	

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)  
 Maxxam Job Number: GB052166

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2139249 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/05/27		100	%	50 - 150
		D12-Perylene	2010/05/27		100	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/27		94	%	50 - 150
		D8-Acenaphthylene	2010/05/27		76	%	50 - 150
		D8-Naphthalene	2010/05/27		80	%	50 - 150
		1-Methylnaphthalene	2010/05/27	<0.10		ug	
		1-Methylphenanthrene	2010/05/27	<0.10		ug	
		2-Chloronaphthalene	2010/05/27	<0.10		ug	
		2-Methylantracene	2010/05/27	<0.10		ug	
		2-Methylnaphthalene	2010/05/27	<0.10		ug	
		3-Methylcholanthrene	2010/05/27	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/05/27	<0.10		ug	
		9,10-Dimethylantracene	2010/05/27	<0.40		ug	
		Acenaphthene	2010/05/27	<0.050		ug	
		Acenaphthylene	2010/05/27	<0.050		ug	
		Anthracene	2010/05/27	<0.050		ug	
		Benzo(a)anthracene	2010/05/27	<0.050		ug	
		Benzo(a)fluorene	2010/05/27	<0.10		ug	
		Benzo(a)pyrene	2010/05/27	<0.050		ug	
		Benzo(b)fluoranthene	2010/05/27	<0.050		ug	
		Benzo(b)fluorene	2010/05/27	<0.10		ug	
		Benzo(e)pyrene	2010/05/27	<0.10		ug	
		Benzo(g,h,i)perylene	2010/05/27	<0.050		ug	
		Benzo(k)fluoranthene	2010/05/27	<0.050		ug	
		Biphenyl	2010/05/27	<0.10		ug	
		Chrysene	2010/05/27	<0.050		ug	
		Coronene	2010/05/27	<0.10		ug	
		Dibenz(a,h)anthracene	2010/05/27	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/05/27	<0.20		ug	
		Fluoranthene	2010/05/27	<0.050		ug	
		Fluorene	2010/05/27	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/05/27	<0.050		ug	
		m-Terphenyl	2010/05/27	<0.10		ug	
		Naphthalene	2010/05/27	<0.072		ug	
		o-Terphenyl	2010/05/27	<0.10		ug	
		Perylene	2010/05/27	<0.10		ug	
		Phenanthrene	2010/05/27	<0.050		ug	
		p-Terphenyl	2010/05/27	<0.10		ug	
		Pyrene	2010/05/27	<0.050		ug	
		Quinoline	2010/05/27	<0.40		ug	
		Tetralin	2010/05/27	<0.10		ug	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.  
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

# Lakeland Industry & Community Association

Maskwa Monitoring Site  
Ambient Air Monitoring  
Data Report  
For  
April 2010

Prepared By:



May 10, 2010

# Lakeland Industry & Community Association Ambient Air Monitoring Maskwa

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## Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Maskwa  
Data Period: April 2010

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Craig Snider

# 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.

The calibrations conducted at the LICA - Maskwa Air Monitoring Stations conform to the following Maxxam Analytics Standard Operation Procedures:

- CAL SOP-00211
- CAL SOP-00209
- CAL SOP-00213
- CAL SOP-00214
- CAL SOP-00208

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. All calibration's and maintenance conforms to the procedures outlined in the *Air Monitoring Directive, Appendix A-10, Section 1.6*.

# MONTHLY CONTINUOUS DATA SUMMARY

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – MASKWA

### Continuous Ambient Monitoring – April 2010

LICA MASKWA SITE						MAXIMUM VALUES						OPERATIONAL TIME (PERCENT)	
						OBJECTIVES			EXCEEDENCES		MONTHLY AVERAGE		1-HOUR
PARAMETER	1-HR	24-HR	1-HR	24-HR	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING			DAY
SO2 (PPB)	172	57	0	0	0.66	11	15	5	3.5	300(WNW)	6.4	10	100.0
H2S (PPB)	10	3	0	0	0.18	3	21	3	3.3	63(ENE)	0.7	4	100.0
THC (PPM)	-	-	-	-	2.02	2.4	VAR	VAR	VAR	VAR	2.2	16	96.0
NOx (PPB)	-	-	-	-	1.97	24	9	8	17.8	300(WNW)	15.0	9	100.0
NO (PPB)	-	-	-	-	0.35	10	10	13	13.4	303(WNW)	4.5	10	100.0
NO <sub>2</sub> (PPB)	212	106	0	0	1.38	15	9	VAR	VAR	VAR	9.9	9	100.0
VECTOR WS (KPH)	-	-	-	-	7.01	20.7	9	14	-	296(WNW)	16.4	9	100.0
VECTOR WD (DEGREES)	-	-	-	-	41(NE)	-	-	-	-	-	-	-	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	59.75	90	7, 14	VAR	VAR	VAR	87.4	9	100.0
TEMPERATURE (DEG C)	-	-	-	-	5.25	23.8	22	VAR	VAR	VAR	15.6	21	100.0
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	937	955	15	VAR	VAR	VAR	952.4	15	100.0
PRECIPITATION (MM)	-	-	-	-	0.10	3.5	23	16	2.4	348(NNW)	26.3	9	100.0

VAR-VARIOUS

# General Monthly Summary

## 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 – Maskwa

#### Sulphur Dioxide (PPB)

- Analyzer make / model - API 100E, S/N: 508

No operational issue was observed during the month. The inlet filter was changed before the monthly calibration was started. The scrubbing material and felt pads in the zero air scrubber, and the DFU filter on the analyzer zero air scrubber were replaced following the as found points on April 26<sup>th</sup>. Data was corrected using daily zero information.

#### Hydrogen Sulphide (PPB)

- Analyzer make / model - API 101E, S/N: 511

No operational issue was observed during the month. The inlet filter was changed before the monthly calibration was started. The scrubbing material and felt pads in the zero air scrubber, and the DFU filter on the analyzer zero air scrubber were replaced following the as found points on April 26<sup>th</sup>. Data was corrected using daily zero information.

#### Total HydroCarbon (PPM)

- Analyzer make / model –TECO 51C-LT, S/N: 436609738

No operational issue was observed during the month. The analyzer did not span on April 25<sup>th</sup> due to running out of H<sub>2</sub> gas. The gas cylinder was replaced and the analyzer was re-lit on April 25<sup>th</sup>. A daily calibration program then was run; the result was good. 28 hours of data were invalidated due to this issue. The offsets on the temperature controls were adjusted to reduce the daily fluctuation in station temperature on April 25<sup>th</sup>. A multi-points calibration was performed on April 26<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

# General Monthly Summary

## AQM STATION – LICA – Maskwa

### Nitrogen Dioxide (PPB)

- Analyzer make / model - API 200E, S/N:594

No operational issue was observed during the month. The inlet filter was changed before the monthly calibration was started. The scrubbing material and felt pads in the zero air scrubber was replaced following the as found points on April 26<sup>th</sup>. During the NOx calibration, the as found NO2 point was initially noisy; this was due to O3 concentration from the calibrator fluctuating; halted the O3 flow and restarted the point. Data was corrected using daily zero information.

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

- System make / model - Climatronics MIII replaced to Met One 50.5H, S/N: H10703

The wind system is reported as vector wind speed and vector wind direction. The wind system went well throughout the month.

### Relative Humidity (PERCENT)

- System make / model - Met One 083

No operational issues observed during the month.

### Precipitation (MM)

- System make / model - Met One 387

No operational issues observed during this month.

# General Monthly Summary

## AQM STATION – LICA – Maskwa

### Barometric Pressure (MILLIBAR)

- System make / model - Met One 092

No operation issue was observed during the month.

### Ambient Temperature (DEGC)

- System make / model - Met One 060

No operational issue was observed during the month.

### Trailer Temperature (DEG C)

- System make / model – R&R 61

No operational issue was observed during the month.

### Standard Deviation Wind Direction (DEG)

- System make / model – Climatronics MIII replaced to Met One 50.5H

No operational issue was observed during the month.

# General Monthly Summary

## **AQM STATION – LICA – Maskwa**

### **Datalogger**

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

No operational issue was observed during the month.

### **Trailer**

The manifold and inlet pipe were cleaned on April 26<sup>th</sup>.

# Continuous Monitoring



# Monthly Summaries, Graphs & Wind Roses

# Sulphur Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 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	IZS	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	24	
2	IZS	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	9	8	IZS	9	0.9	24	
3	5	0	0	0	0	0	0	0	0	3	3	0	1	1	0	1	0	0	0	0	0	0	0	IZS	0	5	0.6	24
4	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	IZS	0	1	0.1	24	
5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	IZS	0	0	0	2	0.1	24	
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	1	0	1	0.0	24	
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24
8	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	1	0.0	24
9	0	0	0	0	1	1	2	3	4	4	4	5	4	5	3	1	IZS	6	6	6	7	8	5	7	8	3.6	24	
10	3	4	5	5	6	7	6	6	9	8	7	6	7	9	6	IZS	7	4	5	10	9	6	4	8	10	6.4	24	
11	1	3	2	1	2	3	3	2	2	0	2	2	2	2	IZS	2	2	1	1	1	0	0	0	0	3	1.5	24	
12	0	0	0	0	0	2	1	2	4	1	1	2	2	IZS	0	0	0	0	0	0	0	0	3	2	4	0.9	24	
13	2	2	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24
14	0	0	0	0	0	0	0	0	0	0	1	IZS	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1	24
15	0	0	0	0	3	11	2	2	0	0	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	11	0.9	24	
16	0	0	0	0	1	1	1	0	0	IZS	1	0	0	0	1	0	1	0	0	0	1	0	0	0	1	0.3	24	
17	0	1	0	0	0	0	0	1	IZS	1	1	1	1	1	2	2	1	1	0	0	0	0	0	0	0	2	0.6	24
18	0	0	0	0	0	0	0	IZS	0	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.2	24
19	0	0	0	0	0	0	IZS	0	0	0	0	1	1	1	2	2	3	3	2	1	0	0	2	3	3	0.9	24	
20	1	1	5	3	4	IZS	0	2	3	1	1	4	1	0	0	1	1	0	0	0	1	0	0	0	5	1.3	24	
21	0	0	0	0	IZS	0	1	1	1	1	2	1	0	0	0	1	1	1	1	0	1	0	0	0	2	0.5	24	
22	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	24	
23	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
24	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
25	IZS	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	IZS	1	0.2	24
26	0	0	0	0	0	0	0	1	C	C	C	C	0	0	0	0	0	0	0	0	1	0	IZS	0	1	0.1	24	
27	0	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	2	0.2	24
28	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	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	5	4	5	5	6	11	6	6	9	8	7	6	7	9	6	2	7	6	6	10	9	9	8	8				
HOURLY AVG	0.5	0.4	0.5	0.3	0.6	0.9	0.6	0.7	0.9	0.8	1.0	0.9	0.8	0.7	0.5	0.4	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.8				

### STATUS FLAG CODES

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

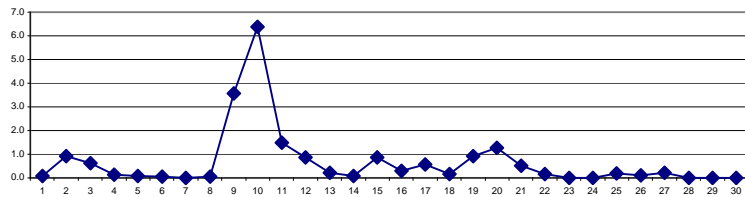
OBJECTIVE LIMIT:

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

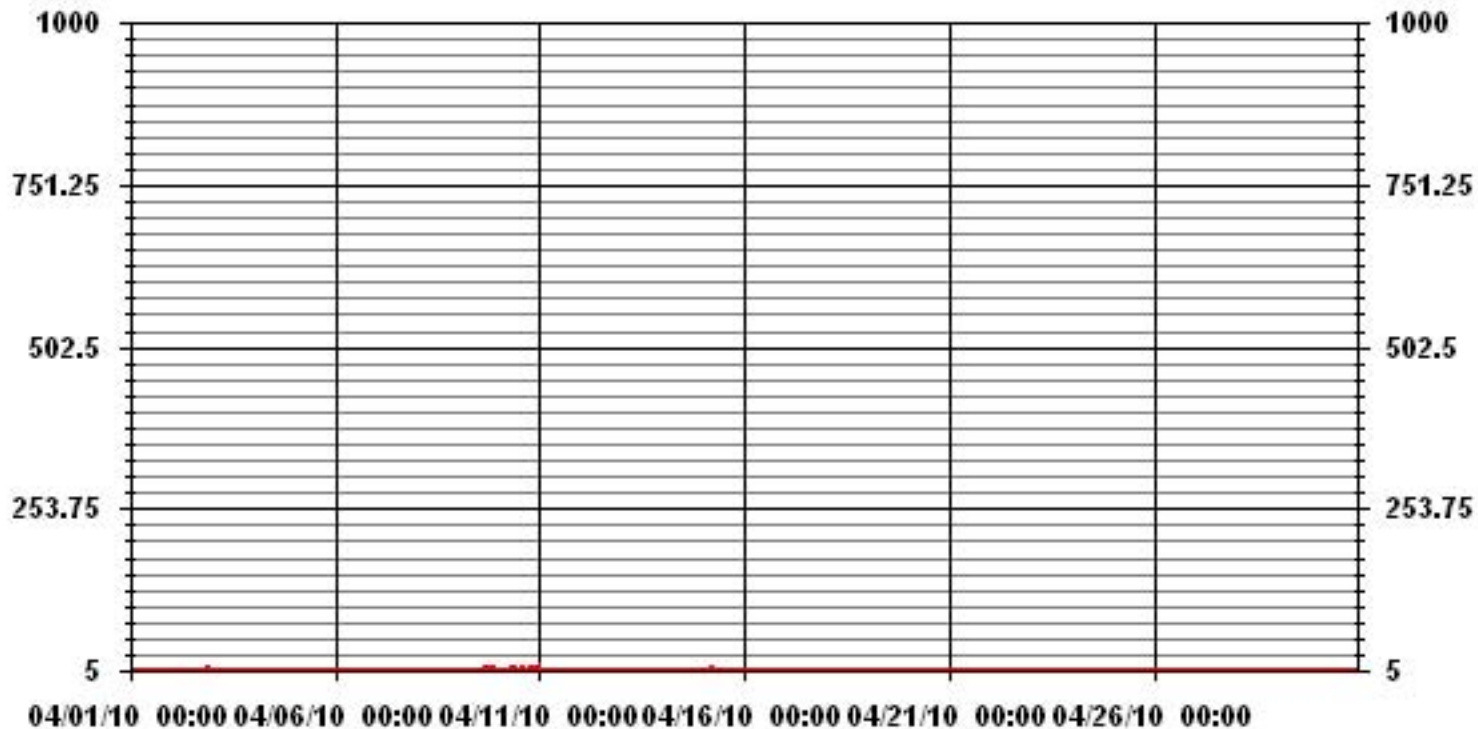
### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	170		
MAXIMUM 1-HR AVERAGE:	11 PPB @ HOUR(S) 5 ON DAY(S) 15		
MAXIMUM 24-HR AVERAGE:	6.4 PPB ON DAY(S) 10		
IZS CALIBRATION TIME:	32 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	4 HRS	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	1.63	MONTHLY AVERAGE:	0.66 PPB

24 HOUR AVERAGES FOR APRIL 2010



### 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

APRIL 2010

## SULPHUR DIOXIDE MAX instantaneous maximum in ppt

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		0	IZS	1	1	0	1	1	1	1	1	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	1.1	24
2		IZS	0	0	0	0	0	0	0	0	0	0	0	3	6	0	0	0	0	0	0	1	15	17	IZS	17	1.9	24	
3		11	0	0	0	0	0	0	0	1	8	6	1	4	4	3	5	0	0	0	0	0	0	0	IZS	0	11	1.9	24
4		0	0	0	0	0	0	0	0	0	4	2	6	1	0	0	1	1	3	0	1	3	IZS	0	0	6	1.0	24	
5		0	0	0	0	0	0	0	0	0	0	0	3	7	1	1	0	3	2	0	0	0	IZS	0	0	0	7	0.7	24
6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	1	1	1	0.2	24
7		1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	IZS	0	0	0	0	0	0	1	0.6	24
8		1	0	0	0	0	0	0	2	0	1	1	1	0	1	0	1	2	IZS	0	0	0	0	0	1	0	2	0.5	24
9		1	0	0	1	2	3	3	4	5	6	6	7	7	8	8	5	IZS	11	9	11	10	14	10	12	14	6.2	24	
10		9	10	10	12	12	14	10	10	13	13	12	10	13	15	12	IZS	11	7	12	17	12	11	11	13	17	11.7	24	
11		6	10	6	4	7	6	7	7	7	3	6	5	3	3	IZS	3	2	1	2	1	1	1	1	0	10	4.0	24	
12		0	0	1	0	0	5	2	5	5	2	2	4	6	IZS	1	1	1	0	0	1	0	0	6	5	6	2.0	24	
13		7	7	4	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	7	1.0	24	
14		1	1	1	1	1	1	1	1	1	1	1	1	IZS	0	1	1	1	1	1	1	1	1	2	0	0	2	0.9	24
15		0	0	0	1	8	22	3	2	1	0	IZS	2	1	1	0	0	0	0	0	0	0	0	0	0	22	1.8	24	
16		0	0	0	1	1	1	1	1	1	IZS	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0.8	24	
17		1	1	1	0	0	0	1	1	IZS	2	2	2	2	2	3	4	3	1	1	1	1	1	1	1	4	1.4	24	
18		1	1	1	0	0	0	0	IZS	4	3	3	3	2	1	1	0	0	2	2	1	0	0	0	0	4	1.1	24	
19		0	0	0	0	0	0	IZS	0	1	1	3	3	4	3	4	6	7	6	4	2	1	1	4	5	7	2.4	24	
20		1	1	8	6	6	IZS	1	5	4	2	3	7	2	1	1	1	1	1	1	1	1	1	1	1	8	2.5	24	
21		1	1	1	1	IZS	1	2	1	1	2	8	2	1	1	1	1	1	1	1	1	1	1	1	1	8	1.4	24	
22		1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	4	4	0.4	24	
23		0	0	IZS	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
24		0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
25		IZS	0	0	1	0	1	1	1	1	1	1	3	3	1	2	1	7	2	1	1	1	0	0	IZS	7	1.3	24	
26		0	0	0	0	0	0	1	3	C	C	C	C	C	1	1	2	2	0	2	1	3	1	IZS	0	3	0.9	24	
27		0	0	0	0	0	0	0	3	4	4	4	4	2	1	1	0	0	0	0	0	0	0	IZS	0	4	0.9	24	
28		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	
29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0.0	24	
30		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0.0	24	
HOURLY MAX		11	10	10	12	12	22	10	10	13	13	12	10	13	15	12	6	11	11	12	17	12	15	17	13				
HOURLY AVG		1.5	1.2	1.2	1.0	1.3	1.9	1.2	1.7	1.8	2.0	2.5	2.3	2.2	1.8	1.5	1.2	1.6	1.5	1.4	1.5	1.4	1.8	2.0	1.6				

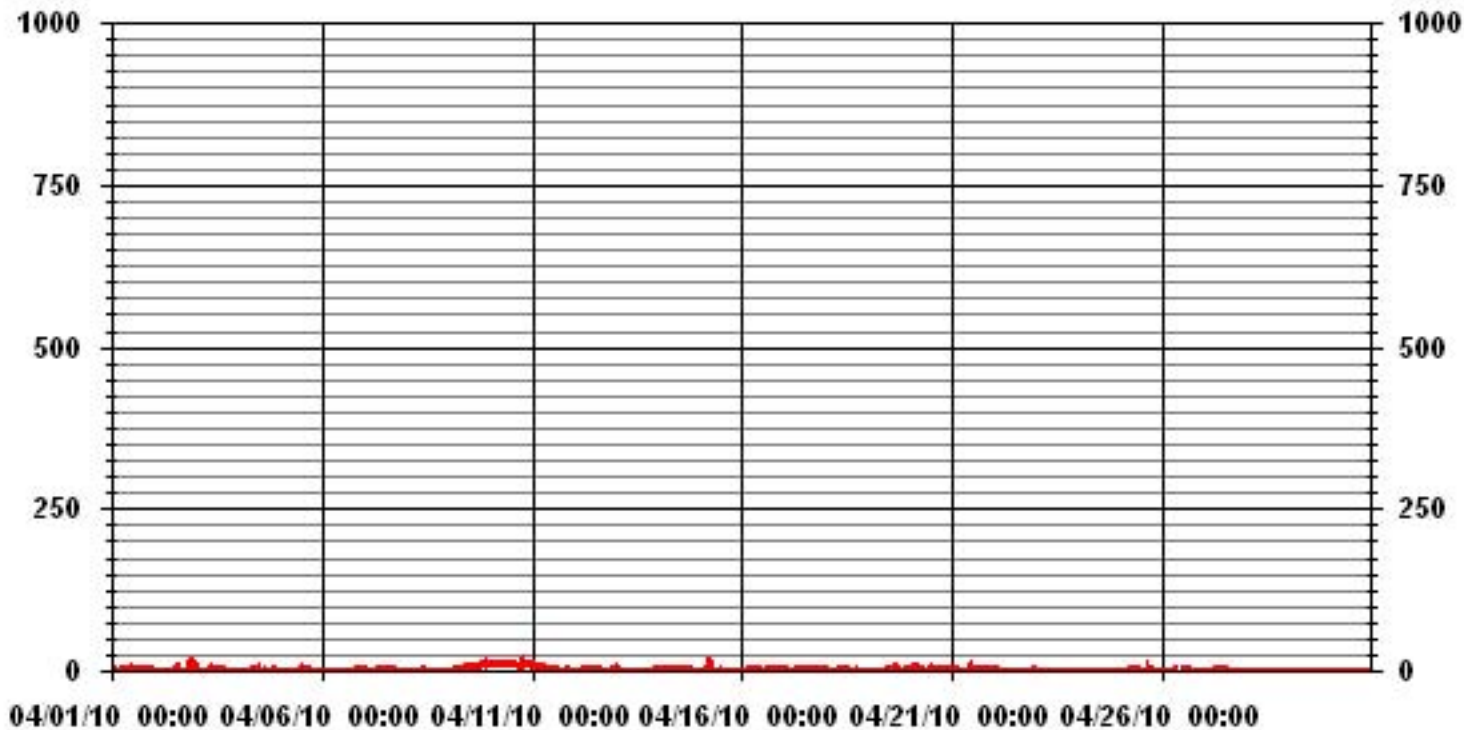
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	351					
MAXIMUM INSTANTANEOUS VALUE:	22	PPB	@ HOUR(S)	5	ON DAY(S)	15
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	3.01					

### 01 Hour Averages



— LICA30 SO2MAX PPB

LICA30  
SO2\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 30  
Site Name : LICA30  
Parameter : SO2\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	8.62	6.28	13.30	7.16	8.18	7.89	5.84	6.43	5.40	4.67	3.94	1.60	2.48	6.14	5.11	6.87	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	8.62	6.28	13.30	7.16	8.18	7.89	5.84	6.43	5.40	4.67	3.94	1.60	2.48	6.14	5.11	6.87	

Calm : .00 %

Total # Operational Hours : 684

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	59	43	91	49	56	54	40	44	37	32	27	11	17	42	35	47	684
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	59	43	91	49	56	54	40	44	37	32	27	11	17	42	35	47	

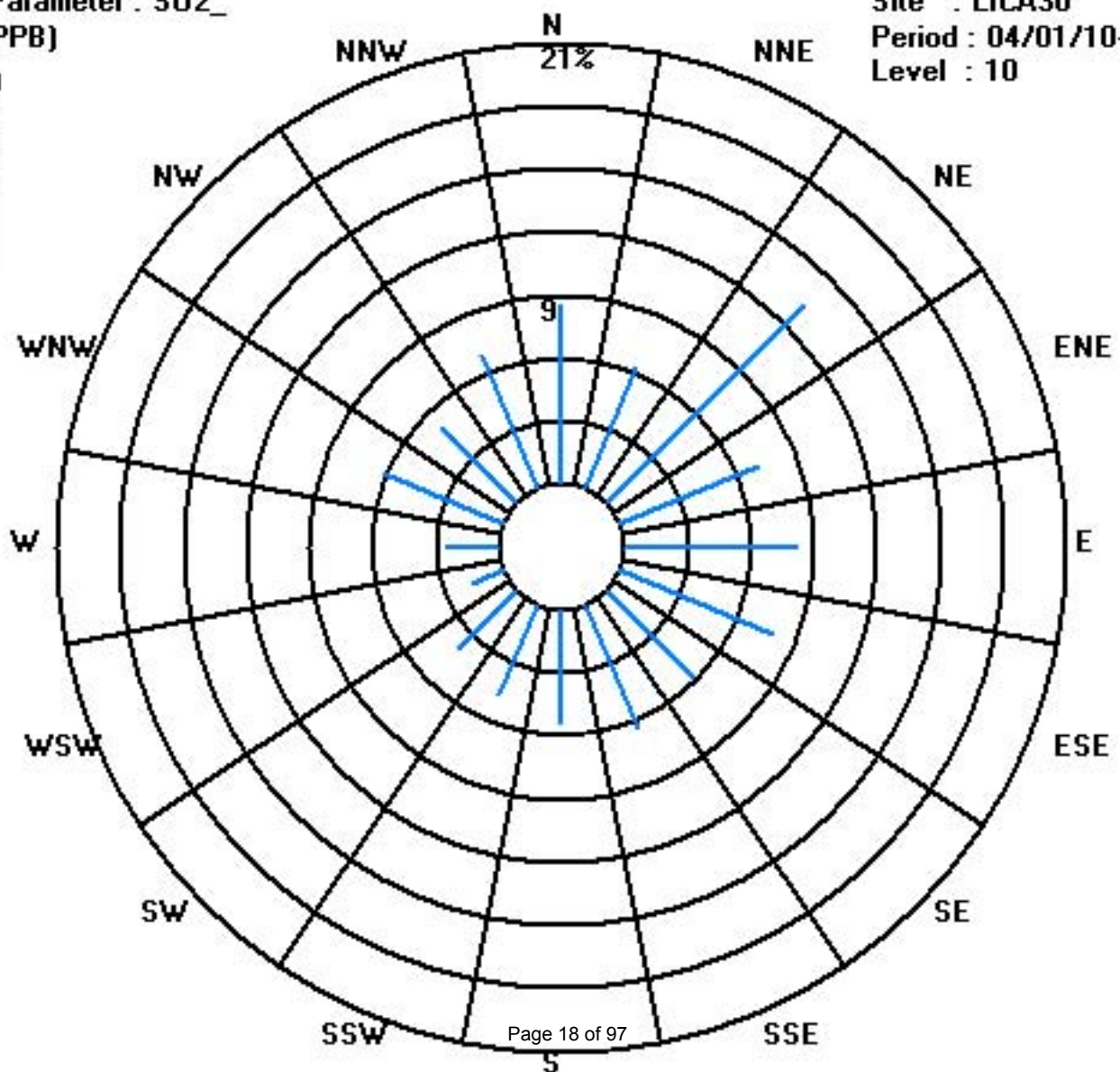
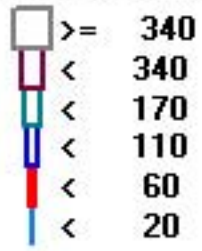
Calm : .00 %

Total # Operational Hours : 684

Class Limits (PPB)

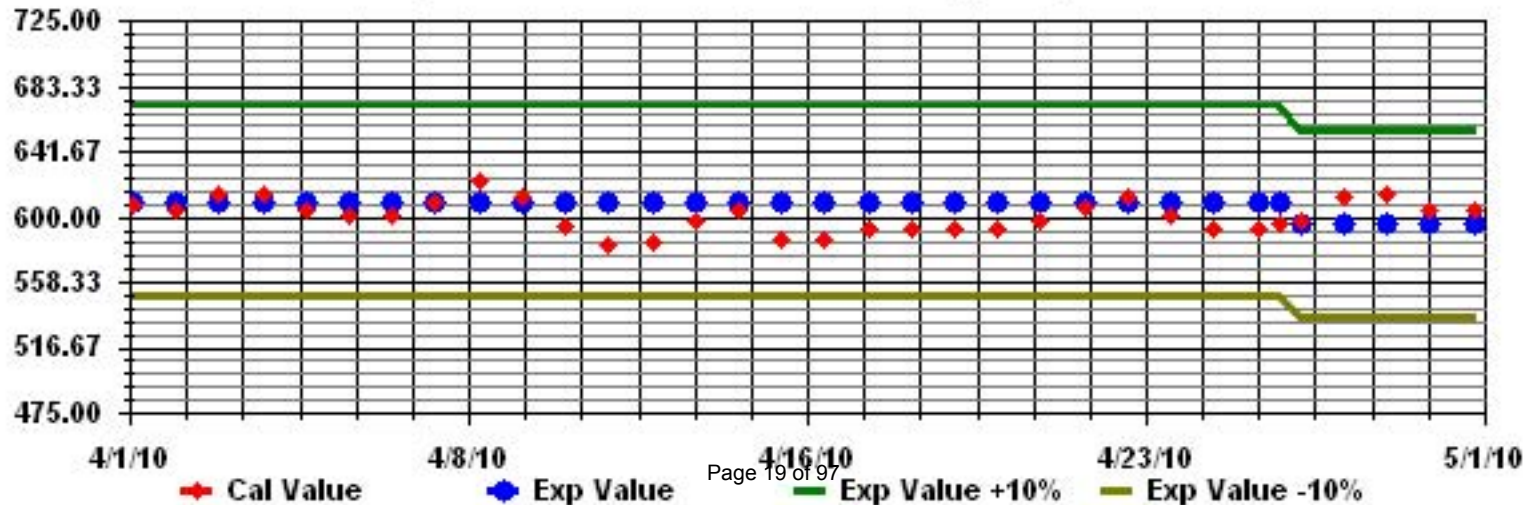
Period : 04/01/10-04/30/10

Level : 10





Calibration Graph for Site: LICA30 Parameter: SO2\_ Sequence: S02 Phase: SPAll



# Hydrogen Sulphide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

## HYDROGEN SULPHIDE (H<sub>2</sub>S) hourly averages in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 24-HOUR				
HOUR START		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
HOUR END		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
DAY																														
1		1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
2		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	IZS	0	0.0	24
3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	0.0	24
4		1	1	0	0	0	1	1	1	0	1	1	1	1	1	0	1	0	1	1	1	1	IZS	0	1	1	0.7	24		
5		0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	0	1	0	0	0	IZS	0	1	2	2	0.4	24		
6		1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	IZS	0	0	0	0	1	0.2	24		
7		0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	IZS	0	0	0	0	0	1	0.3	24		
8		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	IZS	0	0	0	0	0	0	1	0.0	24		
9		1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	1	0.1	24	
10		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24	
11		0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
12		0	0	0	0	0	0	0	0	0	0	1	0	0	IZS	0	1	1	0	1	1	1	0	1	0	1	0.3	24		
13		1	1	0	1	1	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24	
14		0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
15		0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
16		0	0	1	1	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
17		0	0	0	1	0	0	0	0	IZS	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0.2	24	
18		0	0	0	0	0	1	1	IZS	0	0	1	1	0	0	0	0	1	0	0	0	1	0	0	0	1	0.3	24		
19		1	1	1	0	0	0	IZS	0	1	0	0	0	1	0	0	0	0	1	0	0	0	1	1	1	1	1	0.4	24	
20		0	1	1	1	1	IZS	0	0	1	0	1	1	1	0	0	1	0	0	0	0	1	1	1	1	1	0	1.5	24	
21		0	1	1	3	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.3	24		
22		0	0	1	IZS	1	0	1	1	0	1	0	1	0	0	1	1	1	0	1	1	0	1	1	1	1	1	0.6	24	
23		1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
24		0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
25		IZS	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	0.1	24	
26		0	0	0	0	1	1	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	0.1	24	
27		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	IZS	0	0	1	0.0	24	
28		0	0	0	1	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	IZS	0	0	0	0	1	0.2	24	
29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0.0	24	
30		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0.0	24	
HOURLY MAX		1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2			
HOURLY AVG		0.3	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2				

**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

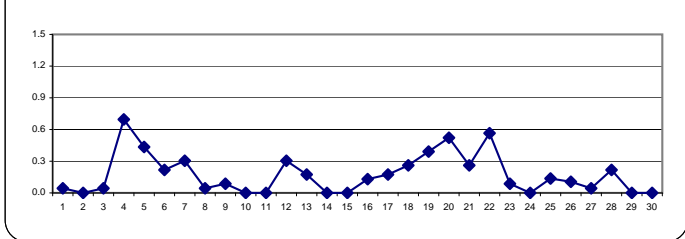
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 10 PPB 24-HR 3 PPB

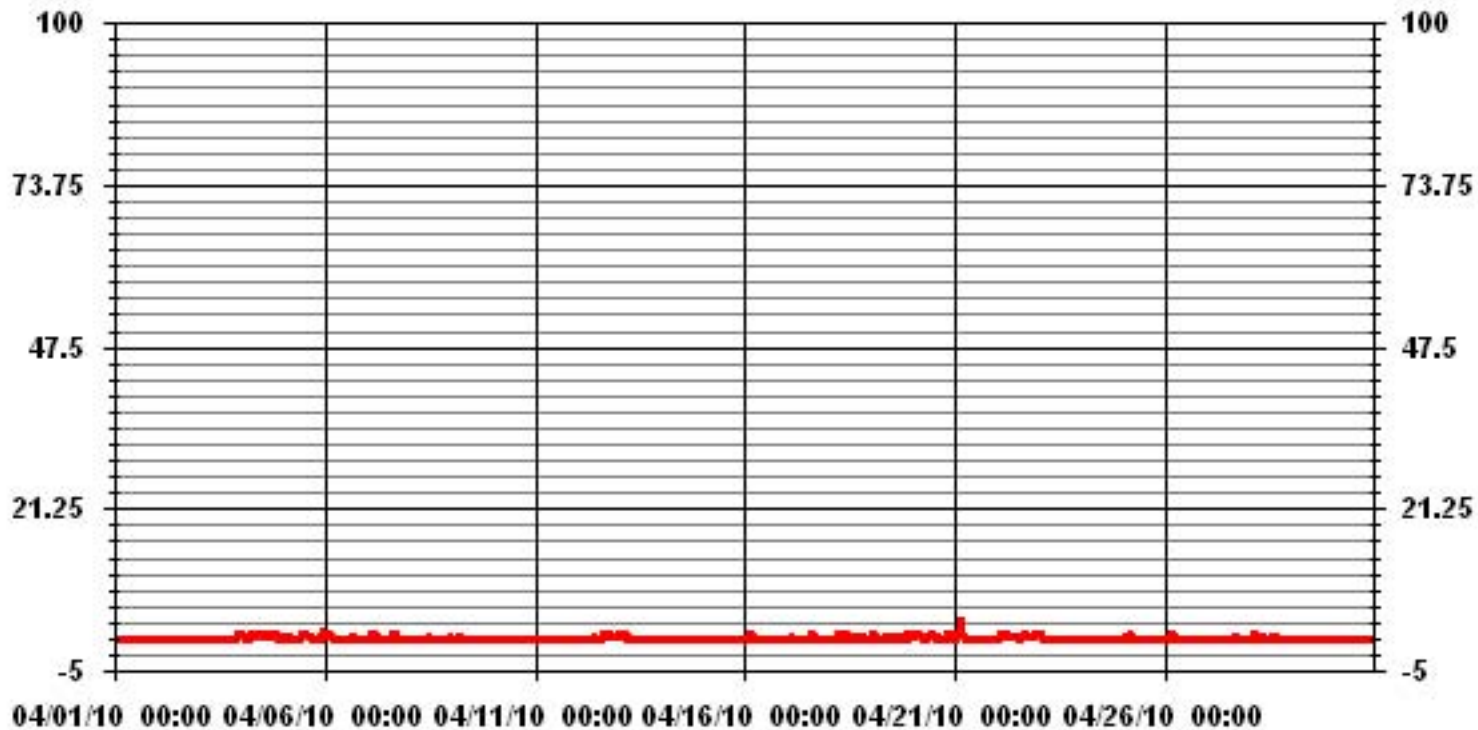
**MONTHLY SUMMARY**

NUMBER OF 1-HR EXCEEDENCES:	0				
NUMBER OF 24-HR EXCEEDENCES:	0				
NUMBER OF NON-ZERO READINGS:	117				
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	3	ON DAY(S) 21
MAXIMUM 24-HR AVERAGE:	0.7	PPB			ON DAY(S) 4
					VAR-VARIOUS
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.40		MONTHLY AVERAGE:	0.18	PPB

**24 HOUR AVERAGES FOR APRIL 2010**



### 01 Hour Averages



— LICA30 H2S\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

APRIL 2010

## HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR			
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
DAY																														
1		1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
2		IZS	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	0.0	24	
3		0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	2	2	0.2	24	
4		2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	2	1.1	24
5		1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	0	2	2	2	1.0	24	
6		2	1	3	3	1	1	1	1	1	0	0	1	1	0	0	1	1	1	1	0	IZS	0	1	1	0	3	0.9	24	
7		1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	1	1	1	IZS	0	0	0	0	0	1	0.7	24	
8		0	2	1	0	0	0	0	0	0	0	0	1	1	1	0	1	0	IZS	1	0	0	2	0	1	2	0.5	24		
9		2	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	IZS	0	0	1	1	1	0	0	2	0.4	24		
10		0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	IZS	0	0	0	0	0	0	0	0	1	0.1	24		
11		0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	1	1	1	1	0	1	0	1	0.3	24		
12		0	0	1	1	1	1	0	0	0	1	1	0	0	IZS	1	1	1	1	1	1	1	1	0	1	1	1	0.7	24	
13		1	1	1	1	1	1	0	1	1	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	1	0.5	24	
14		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	
15		0	0	0	0	1	0	0	0	0	0	0	IZS	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.2	24	
16		0	1	1	1	1	1	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24	
17		0	0	0	2	2	1	2	2	IZS	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24	
18		1	1	0	0	0	8	4	IZS	1	0	1	1	1	1	1	1	1	1	0	1	2	1	0	1	8	1.2	24		
19		1	1	1	1	1	1	IZS	1	1	1	0	1	1	1	1	1	1	2	2	1	1	3	3	2	3	1.3	24		
20		1	1	1	1	2	IZS	3	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	2	1.0	24		
21		1	1	2	6	IZS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.6	24		
22		0	0	2	IZS	1	1	1	3	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	3	1.1	24			
23		1	1	IZS	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	1.2	24		
24		0	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24		
25		IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0.0	24	
26		0	1	1	1	1	1	1	1	C	C	C	C	1	1	0	0	1	0	0	0	0	1	IZS	0	1	0.6	24		
27		1	1	0	0	0	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	IZS	1	1	0.7	24		
28		1	1	1	1	1	1	1	1	1	0	3	1	1	1	1	1	1	1	0	1	IZS	0	0	0	3	0.9	24		
29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0.0	24		
30		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	1	0.1	24		
HOURLY MAX		2	2	3	6	2	8	4	3	1	1	3	1	1	1	1	1	2	2	2	2	2	3	3	2					
HOURLY AVG		0.6	0.6	0.7	0.8	0.6	0.9	0.7	0.6	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.5	0.6	0.5	0.4	0.5	0.4	0.5	0.6	0.6					

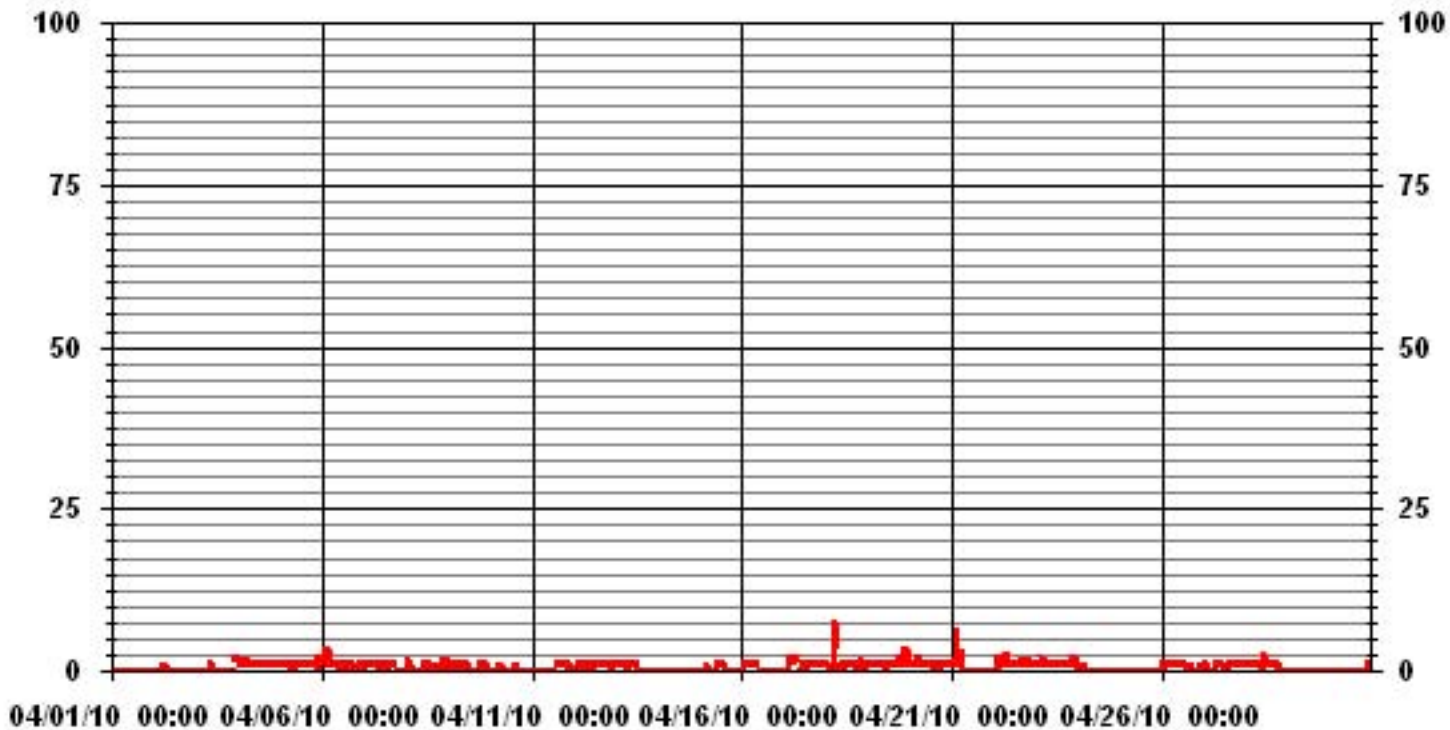
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	320
MAXIMUM INSTANTANEOUS VALUE:	8 PPB @ HOUR(S) 5 ON DAY(S) 18
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	0.73
OPERATIONAL TIME:	720 HRS

### 01 Hour Averages



— LICA30 H2S MAX PPB

LICA30  
H2S\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 30  
Site Name : LICA30  
Parameter : H2S\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

	Direction																	
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 3	8.62	6.28	13.30	7.01	8.18	7.89	5.84	6.43	5.40	4.67	3.94	1.60	2.48	6.14	5.11	6.87	99.85	
< 10	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	8.62	6.28	13.30	7.16	8.18	7.89	5.84	6.43	5.40	4.67	3.94	1.60	2.48	6.14	5.11	6.87		

Calm : .00 %

Total # Operational Hours : 684

Distribution By Samples

	Direction																	
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 3	59	43	91	48	56	54	40	44	37	32	27	11	17	42	35	47	683	
< 10				1													1	
< 50																		
>= 50																		
Totals	59	43	91	49	56	54	40	44	37	32	27	11	17	42	35	47		

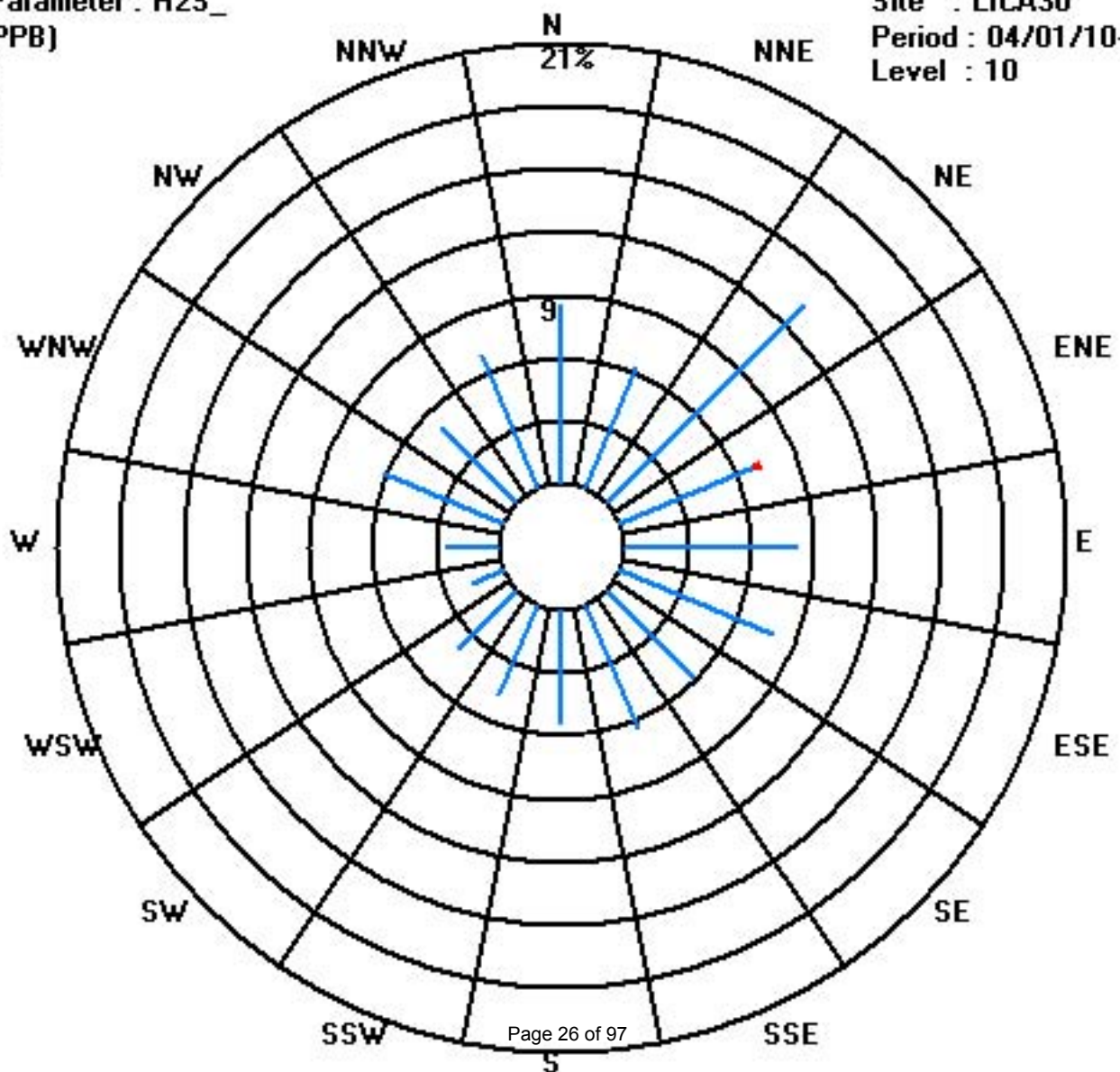
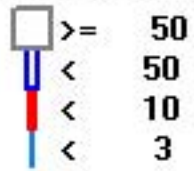
Calm : .00 %

Total # Operational Hours : 684

Class Limits (PPB)

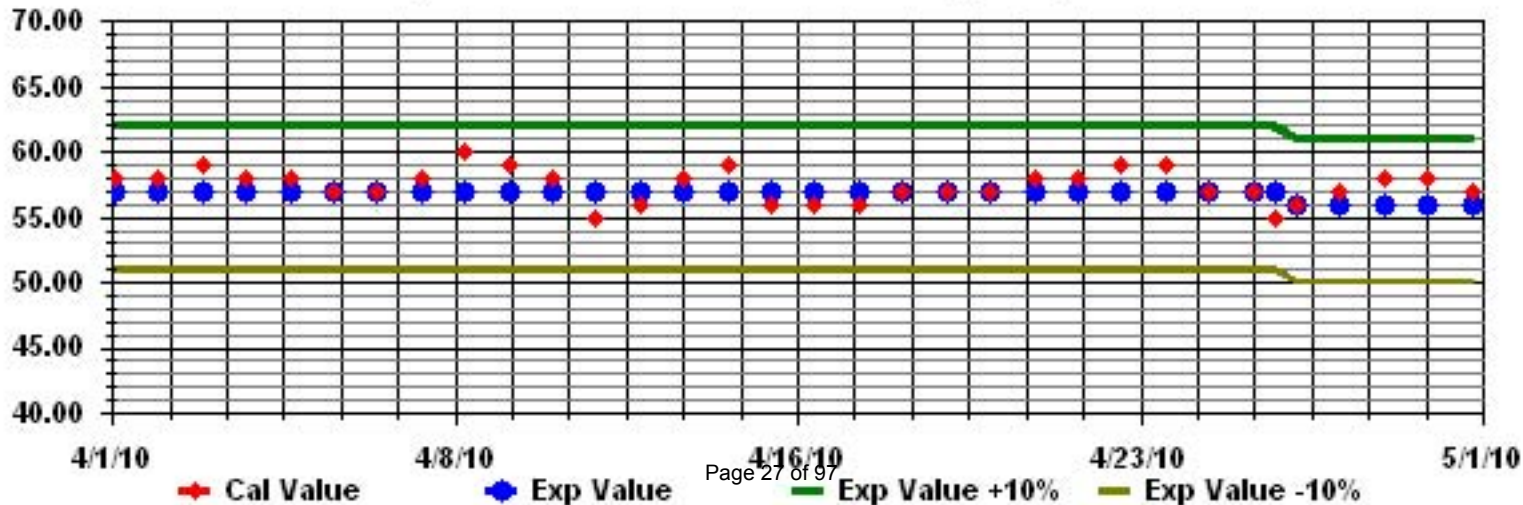
Period : 04/01/10-04/30/10

Level : 10





Calibration Graph for Site: LICA30 Parameter: H2S\_ Sequence: H2S Phase: SPAll



# Total Hydrocarbons

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

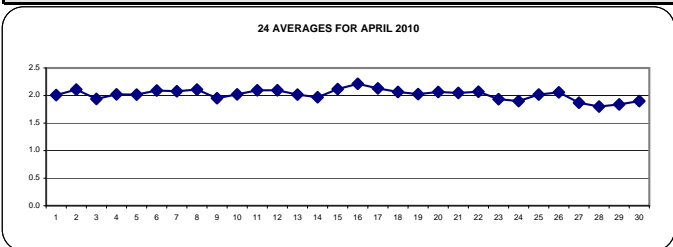
APRIL 2010

TOTAL HYDROCARBONS hourly averages in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 24-HOUR					
DAY	HOURLY MAX	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.			
1		2	IZS	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.2	2.2	2.0	24	
2		IZS	2.4	2.3	2.2	2.3	2.3	2.3	2.3	2	2	2	2	2	2	2.1	2	2	2	2	2	2	2	2	2.1	IZS	2.1	2.1	2.1	24	
3		2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2	IZS	2.1	2.1	1.9	24	
4		2.1	2.1	2	2	2	2.1	2.2	2.2	2.1	2	2	2	2	1.9	1.9	1.9	2	2	2	2	2	2	2	2	IZS	2	2	2.2	2.0	24
5		2	2	2	2	2	2	2.2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	IZS	2	2.1	2.1	2.2	2.0	24
6		2.1	2	2.1	2.1	2	2.1	2.1	2.2	2.3	2.2	2.3	2.2	2.1	2.1	2.1	2	2	2	2	2	2	IZS	2	2	2	2	2.1	2.3	2.1	24
7		2.1	2.1	2.1	2.1	2	2.1	2.1	2.3	2.2	2.1	2.1	2.1	2	2	2	2	2	2	2	IZS	2	2	2	2.1	2.1	2.2	2.3	2.1	24	
8		2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.4	2.4	2.3	2.3	2.1	2.1	2	2	2	2	2	IZS	2	2	2	1.9	1.9	1.9	1.9	2.4	2.1	24	
9		1.9	1.9	1.9	1.9	1.9	2	1.9	1.9	2	2	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	2.0	24
10		2	2	2	2	2	2	2	2	2	2.1	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2	2	2.1	2.1	2.0	2.0	24
11		2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	IZS	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	24
12		2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	IZS	2.1	2.1	2.1	2.1	2	2	2.1	2	2	2.2	2.2	2.2	2.1	2.1	24	
13		2.2	2.1	2.1	2	2	2	2	2	2	2	2	2	2	IZS	2	2	2	2	2	2	2	2	2	2	2	2	2	2.2	2.0	24
14		2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	IZS	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	2.0	24
15		2	2	2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	IZS	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.1	24
16		2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	IZS	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2.1	2.1	2.1	2.1	2.1	2.4	2.2	2.1	24
17		2.1	2.1	2.3	2.4	2.3	2.3	2.3	2.4	IZS	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.4	2.1	2.1	24
18		2	2.1	2.3	2.2	2.2	2.1	IZS	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2.2	2	2	2.1	2.3	2.1	2.1	24	
19		2	2	2	2	2	2.1	IZS	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2	2	2	2.1	2.1	2.1	2.1	2.1	2.0	2.1	24
20		2	2.2	2.3	2.3	2.3	IZS	2.1	2.1	2.1	2	2	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.3	2.1	2.1	24
21		2	2	2.1	2.3	IZS	2.2	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.3	2.0	2.1	24
22		2.1	2.1	2.2	IZS	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2.1	2	2.2	2.1	2.1	24	
23		1.9	1.9	IZS	1.9	1.9	1.9	1.9	2	1.9	1.9	2	1.9	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2	2	1.9	1.9	2.0	1.9	24	
24		1.9	IZS	1.9	1.9	1.9	1.9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	1.9	1.9	6	24
25		N	N	N	N	N	N	N	N	N	N	M	C	2.1	2	2	2	2	2	2	2	2	2	2	2	2.1	IZS	2.1	2.0	13	24
26		2.1	2.1	2.2	2.2	2.1	2.2	2.1	2	2.1	2.1	C	C	C	C	2	2	1.9	2	2	2	2	1.9	IZS	1.9	2.2	2.1	2.1	24		
27		2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	IZS	1.8	1.8	2.0	1.9	24	
28		1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	24
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	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	24
30		1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	24
HOURLY MAX		2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3				
HOURLY AVG		2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				

### STATUS FLAG CODES

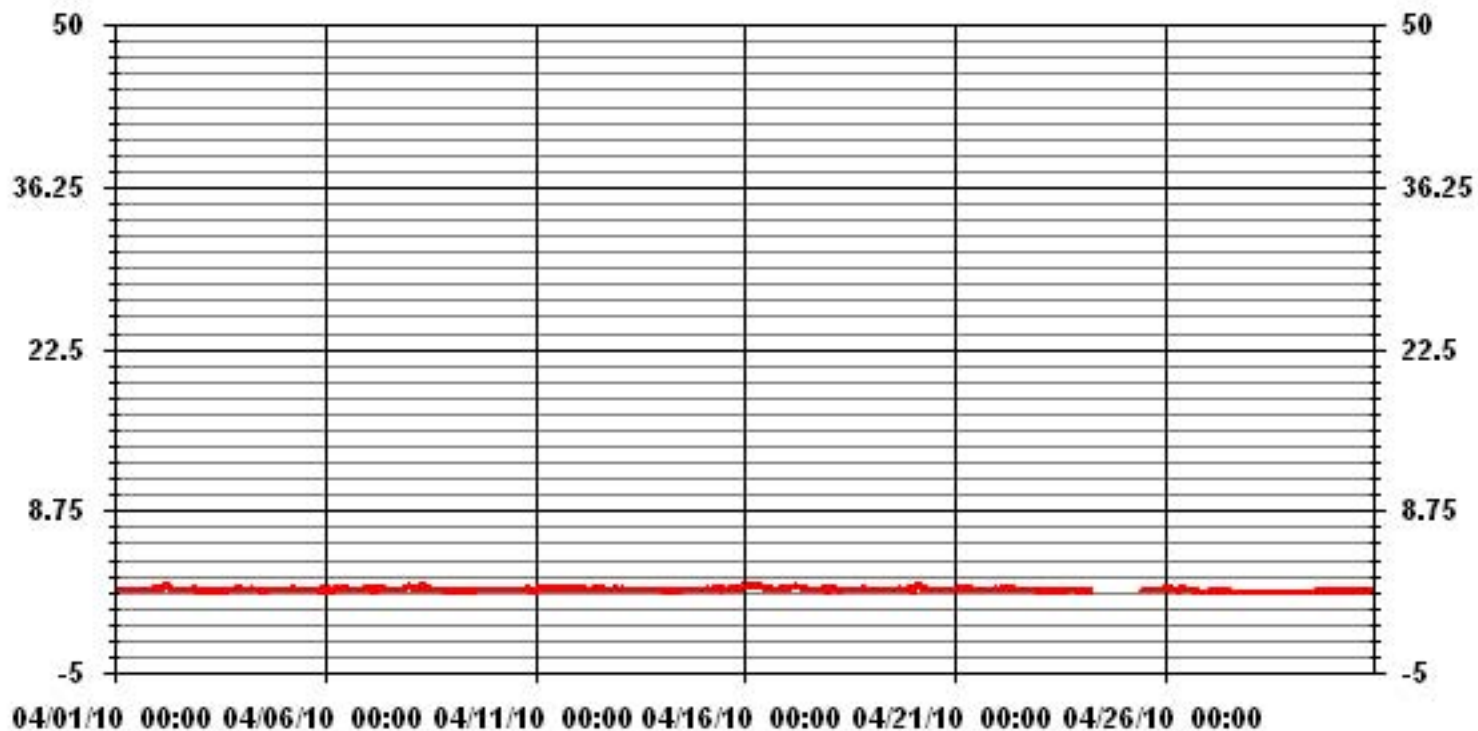
S - OUT OF SERVICE	IZS - DAILY ZERO/SPAN CHECK
N - INVALID DATA	M - MAINTENANCE
D - INSTRUMENT DRIFT	P - POWER FAILURE
C - CALIBRATION	NA - NOT APPLICABLE



### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	655				
MAXIMUM 1-HR AVERAGE:	2.4	PPM	@ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	2.2	PPM			ON DAY(S)
					VAR- VARIOUS
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	691	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	96.0	%
STANDARD DEVIATION:	0.12		MONTHLY AVERAGE:	2.02	PPM

### 01 Hour Averages



— LICA30 THC PPM

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

## TOTAL HYDROCARBONS MAX instantaneous maximum in ppr

MST

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

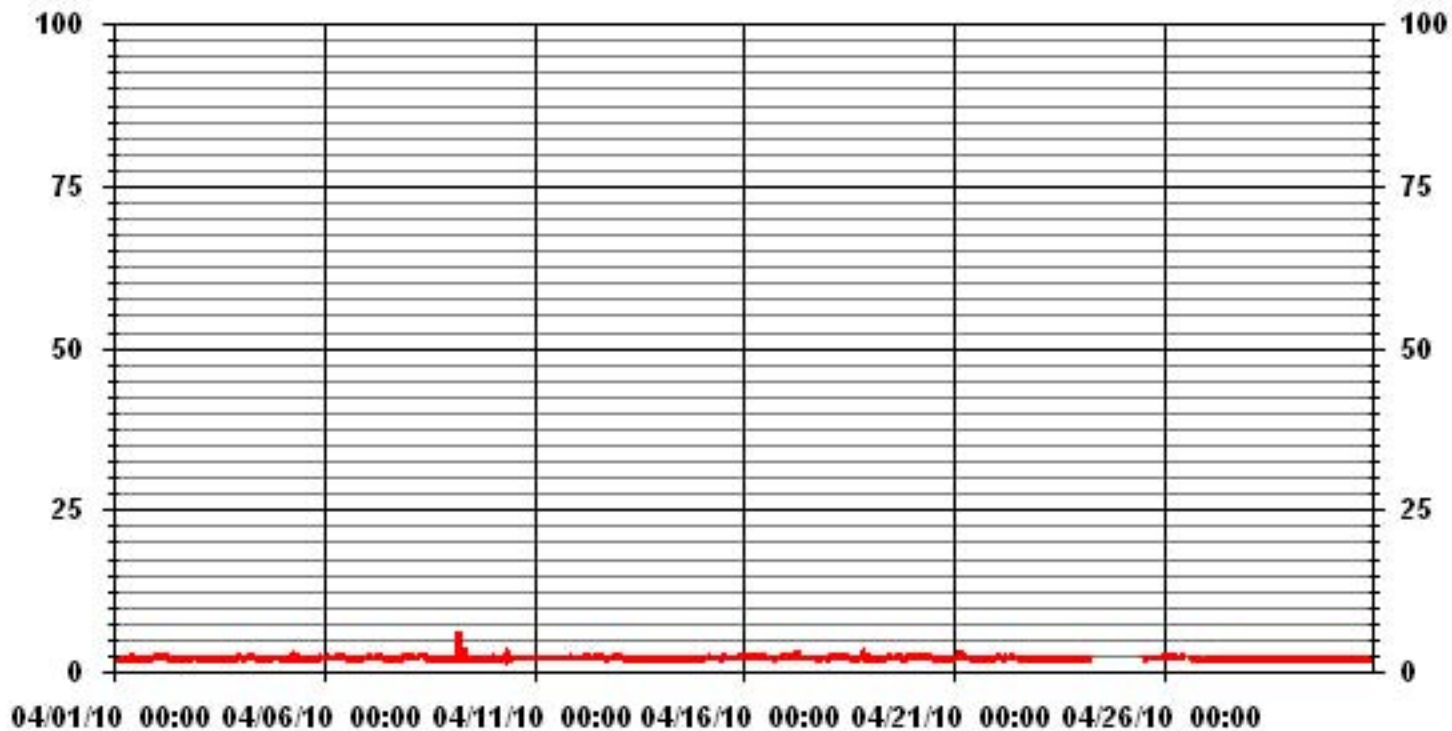
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	654					
MAXIMUM INSTANTANEOUS VALUE:	6.0	PPM	@ HOUR(S)	5	ON DAY(S)	9
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	690 HRS		
MONTHLY CALIBRATION TIME:	5 HRS					
STANDARD DEVIATION:	0.23					

### 01 Hour Averages



— LICA30 THCMAX PPM

LICA30  
 THC / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 30  
 Site Name : LICA30  
 Parameter : THC  
 Units : PPM

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	8.24	6.25	11.90	7.48	8.54	8.39	5.95	6.71	5.64	4.88	4.12	1.67	2.59	6.41	5.03	6.10	100.00
< 10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	8.24	6.25	11.90	7.48	8.54	8.39	5.95	6.71	5.64	4.88	4.12	1.67	2.59	6.41	5.03	6.10	

Calm : .00 %

Total # Operational Hours : 655

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	54	41	78	49	56	55	39	44	37	32	27	11	17	42	33	40	655
< 10.0																	
< 50.0																	
>= 50.0																	
Totals	54	41	78	49	56	55	39	44	37	32	27	11	17	42	33	40	

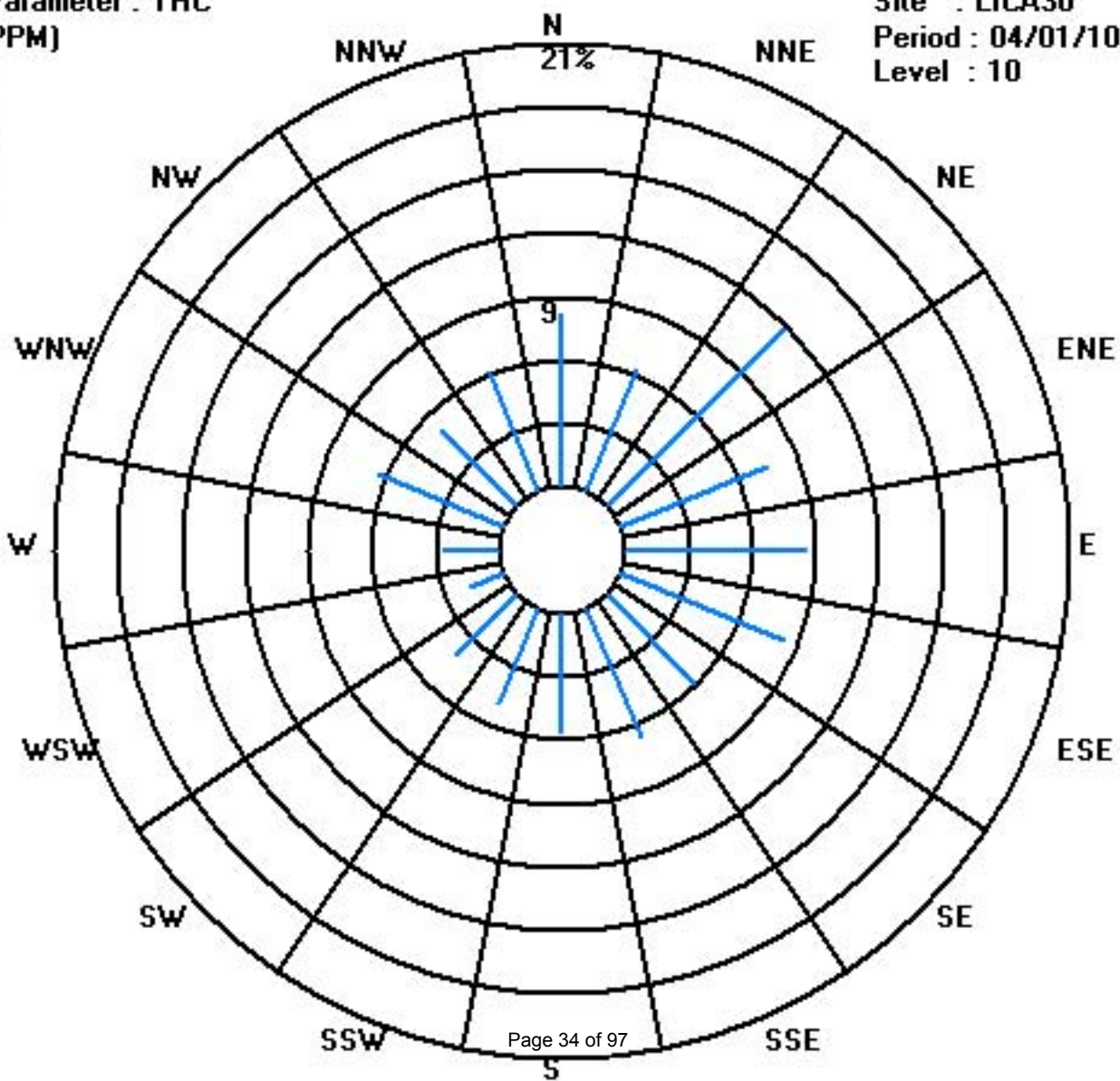
Calm : .00 %

Total # Operational Hours : 655

Class Limits (PPM)

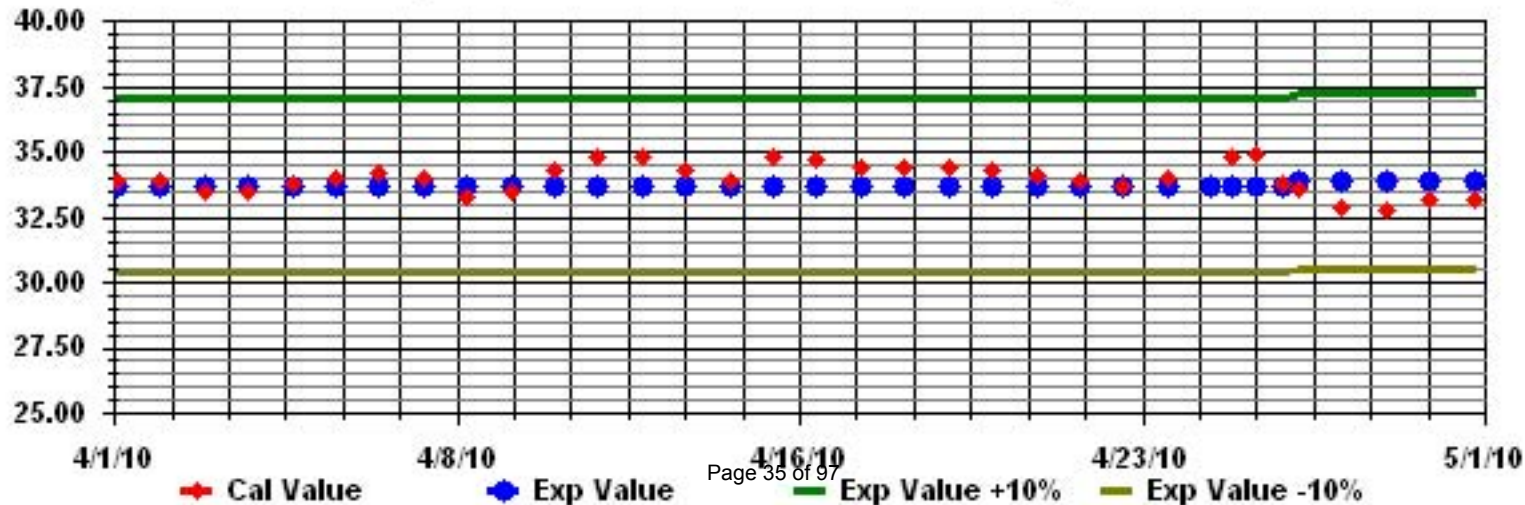
Period : 04/01/10-04/30/10

Level : 10





Calibration Graph for Site: LICA30 Parameter: THC Sequence: THC Phase: SPAll



# Nitrogen Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

## NITROGEN DIOXIDE hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
DAY																													
1		IZS	5	1	0	2	6	2	0	0	0	0	0	1	0	0	0	0	0	0	2	5	3	4	6	1.3	24		
2		IZS	4	3	3	2	5	2	1	2	1	0	0	1	2	0	0	0	0	0	0	0	14	11	IZS	14	2.3	24	
3		8	0	0	0	0	0	0	0	3	2	0	1	1	0	1	0	0	0	0	0	0	0	IZS	0	8	0.7	24	
4		0	0	0	0	0	1	1	8	2	3	3	1	0	0	1	2	0	4	2	IZS	1	1	8	1.4	24			
5		0	0	0	0	0	1	2	1	0	0	1	2	4	2	2	0	1	0	0	0	IZS	0	0	0	4	0.7	24	
6		0	0	0	0	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	IZS	0	0	1	1	2	0.4	24	
7		1	1	0	0	2	4	5	6	5	4	1	0	0	0	0	0	0	0	IZS	0	0	0	1	1	6	1.3	24	
8		2	1	1	1	0	0	0	1	1	2	1	1	0	0	0	0	0	0	IZS	0	0	0	1	0	2	0.5	24	
9		1	0	0	0	3	11	14	15	15	14	13	13	10	11	7	6	IZS	11	14	13	15	15	12	14	15	9.9	24	
10		8	10	10	11	11	13	11	10	11	8	7	5	6	9	6	IZS	6	3	6	12	11	7	5	11	13	8.6	24	
11		1	2	2	6	6	5	3	1	1	0	2	2	1	0	IZS	1	1	0	1	1	0	0	0	0	6	1.6	24	
12		0	0	0	0	0	4	2	3	6	1	0	1	2	IZS	0	0	0	0	0	0	0	8	5	8	1.4	24		
13		5	4	2	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	5	0.5	24	
14		0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	1	1	1	1	1	1	1	1	0	1	0.4	24	
15		1	1	0	1	7	14	5	3	1	1	IZS	2	2	1	0	0	0	0	0	0	0	0	1	1	14	1.8	24	
16		1	1	1	1	3	3	3	2	1	IZS	1	1	0	0	0	0	0	0	0	0	1	1	0	0	3	0.9	24	
17		1	0	0	0	0	0	0	1	IZS	1	1	1	2	1	2	2	0	0	0	0	0	0	0	0	2	0.5	24	
18		0	0	0	0	0	0	0	IZS	3	2	3	1	0	0	0	0	0	1	2	0	0	0	0	0	3	0.5	24	
19		0	0	0	0	0	0	IZS	0	0	0	0	1	1	1	2	2	5	5	2	0	0	0	1	2	5	1.0	24	
20		0	0	14	9	12	IZS	0	4	4	1	1	5	0	0	0	0	0	0	0	0	0	0	0	0	14	2.2	24	
21		0	0	0	0	IZS	0	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24	
22		0	0	0	0	IZS	0	1	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	2	2	0.4	24	
23		0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
24		0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
25		IZS	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.2	24	
26		0	0	0	0	0	0	1	1	C	C	C	C	C	C	2	3	1	2	2	8	1	IZS	0	8	1.3	24		
27		0	0	0	0	0	0	0	1	3	4	2	2	1	0	0	0	0	0	0	0	0	0	0	0	4	0.6	24	
28		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	
29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	24	
30		0	0	0	0	1	1	3	2	2	0	0	0	0	0	0	0	0	0	0	IZS	0	1	1	1	0	3	0.5	24
HOURLY MAX	NA	10	14	11	12	14	14	15	15	14	13	13	10	11	7	6	6	11	14	13	15	15	12	14					
HOURLY AVG	NA	0.9	1.3	1.2	1.7	2.3	2.1	2.3	2.2	1.7	1.5	1.4	1.1	1.0	0.8	0.5	0.7	0.8	1.0	1.2	1.5	1.6	1.7	1.5					

### 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

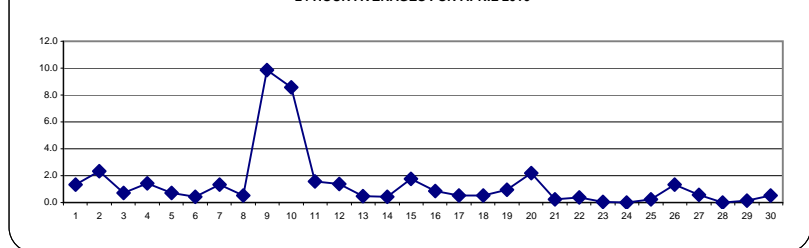
### OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	212	PPB	24-HR	106	PPB
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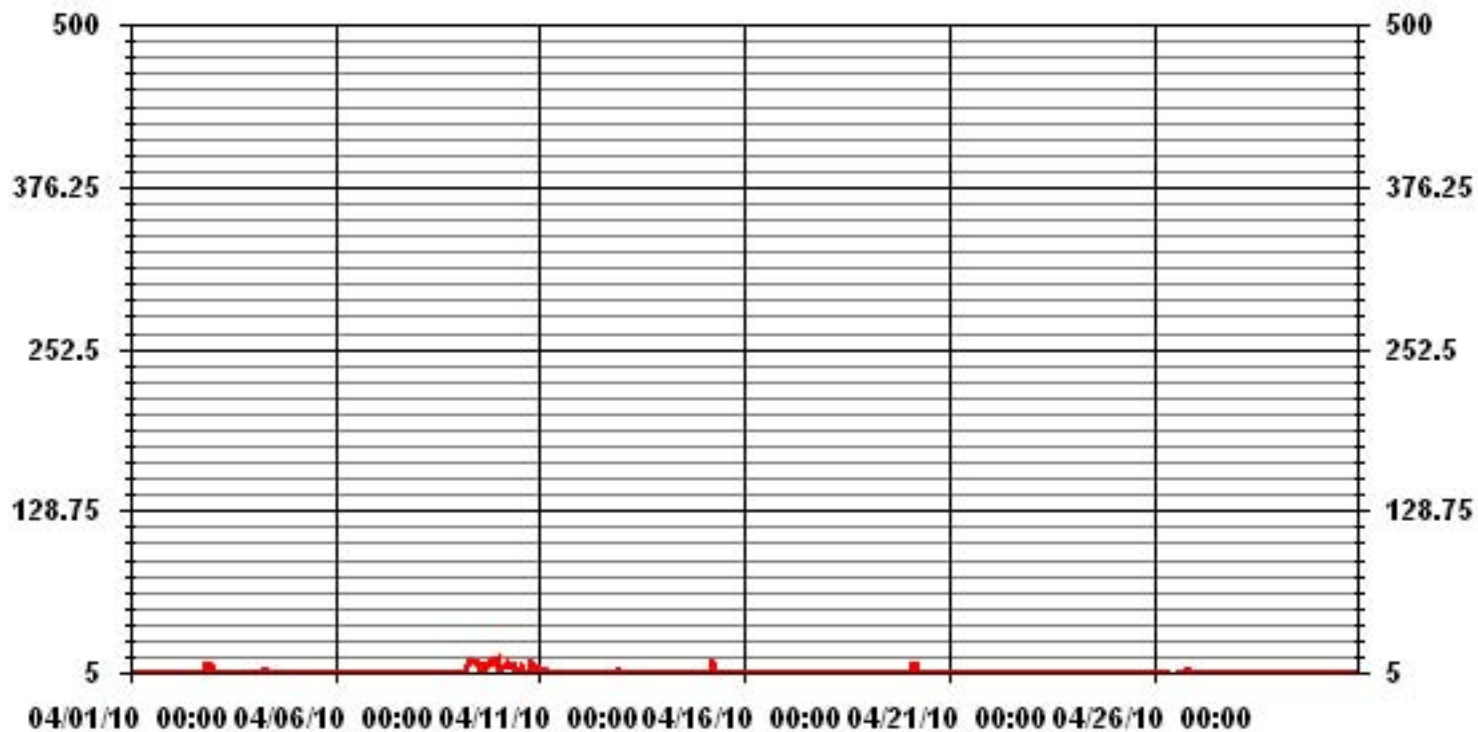
### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	267					
MAXIMUM 1-HR AVERAGE:	15	PPB	@ HOUR(S)	VAR	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	9.9	PPB			ON DAY(S)	9
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	2.92		MONTHLY AVERAGE:	1.38	PPB	

24 HOUR AVERAGES FOR APRIL 2010



### 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

## NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	0	<b>IZS</b>	6	2	4	11	17	7	1	3	5	1	1	1	3	2	0	0	0	0	7	7	8	5	17	4.0	24	
2	<b>IZS</b>	6	4	4	4	9	4	2	3	2	1	1	3	4	0	0	0	0	1	3	24	25	<b>IZS</b>	25	4.5	24		
3	17	0	0	0	0	0	1	0	1	6	5	1	4	5	5	7	0	0	0	1	1	1	<b>IZS</b>	1	17	2.4	24	
4	1	0	0	1	3	4	5	12	5	6	5	11	3	1	0	2	3	9	3	10	11	<b>IZS</b>	2	2	12	4.3	24	
5	1	0	0	1	1	23	4	3	1	2	3	5	10	3	4	1	5	2	0	1	<b>IZS</b>	1	1	0	23	3.1	24	
6	0	0	0	0	26	19	16	2	2	2	1	1	1	14	1	0	0	0	1	<b>IZS</b>	0	0	3	3	26	4.0	24	
7	3	2	1	1	9	10	11	10	6	6	4	1	0	1	0	0	2	0	<b>IZS</b>	1	1	1	2	2	11	3.2	24	
8	3	2	1	1	1	1	2	2	2	2	2	2	1	9	3	1	8	<b>IZS</b>	1	0	0	1	4	1	9	2.2	24	
9	4	0	0	4	7	18	20	20	18	19	17	16	14	16	14	14	<b>IZS</b>	18	19	19	20	23	16	21	23	14.7	24	
10	17	16	16	19	15	20	17	14	18	13	11	9	9	14	10	<b>IZS</b>	11	7	17	21	17	14	15	19	21	14.7	24	
11	7	11	6	9	13	9	2	7	7	2	7	4	4	1	<b>IZS</b>	3	2	1	2	2	1	1	1	1	13	4.5	24	
12	0	1	1	1	0	10	4	7	7	3	1	4	7	<b>IZS</b>	1	2	2	0	0	0	0	0	14	13	14	3.4	24	
13	15	16	7	0	0	0	1	0	0	0	0	0	0	<b>IZS</b>	0	0	0	0	0	0	0	0	0	0	16	1.7	24	
14	0	0	0	0	0	0	0	0	0	0	1	<b>IZS</b>	1	1	2	1	2	2	2	2	2	3	1	1	3	0.9	24	
15	2	1	1	3	13	<b>28</b>	6	4	3	1	<b>IZS</b>	3	3	2	2	1	0	0	0	0	0	1	2	1	<b>28</b>	3.3	24	
16	1	2	2	2	4	4	5	5	2	<b>IZS</b>	2	2	1	0	0	0	0	0	1	2	2	2	1	5	1.7	24		
17	4	1	1	0	0	1	2	2	<b>IZS</b>	2	3	3	3	2	4	4	2	0	0	0	0	0	0	0	4	1.5	24	
18	0	0	0	1	0	0	1	<b>IZS</b>	9	5	6	4	4	2	3	1	0	6	6	1	3	0	0	0	9	2.3	24	
19	0	0	0	0	0	0	<b>IZS</b>	0	0	1	2	3	5	4	6	8	11	9	6	1	1	0	3	4	11	2.8	24	
20	1	2	22	17	18	<b>IZS</b>	4	7	8	2	5	9	2	0	1	0	0	0	0	0	0	0	0	0	22	4.3	24	
21	1	1	1	1	<b>IZS</b>	1	5	2	2	2	10	2	0	0	0	0	0	0	0	1	0	0	1	10	1.3	24		
22	1	1	1	<b>IZS</b>	1	3	2	6	2	2	2	1	2	1	1	0	2	4	0	0	0	0	1	6	6	1.7	24	
23	1	1	<b>IZS</b>	1	0	0	2	2	1	0	0	4	1	0	0	0	0	1	0	0	0	0	0	0	4	0.6	24	
24	0	<b>IZS</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
25	<b>IZS</b>	0	0	2	1	1	3	3	1	1	1	1	2	0	0	2	4	0	1	0	0	0	0	<b>IZS</b>	4	1.0	24	
26	1	0	0	0	0	0	3	5	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	5	3	6	7	14	5	<b>IZS</b>	0	14	3.3	24	
27	0	0	0	0	0	0	0	5	5	7	7	3	3	4	3	0	0	0	0	0	0	<b>IZS</b>	0	0	7	1.6	24	
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>IZS</b>	0	0	0	0	0.0	24	
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	<b>IZS</b>	1	2	1	1	2	0.3	24	
30	1	1	1	2	2	1	5	3	3	1	1	1	1	0	0	0	0	0	<b>IZS</b>	0	2	3	2	1	5	1.3	24	
HOURLY MAX	17	16	22	19	26	28	20	20	18	19	17	16	14	16	14	14	11	18	19	21	20	24	25	21				
HOURLY AVG	2.9	2.3	2.4	2.5	4.2	6.0	4.9	4.5	3.8	3.2	3.6	3.3	3.0	3.0	2.3	1.8	2.1	2.1	2.3	2.4	3.1	3.2	3.7	3.0				

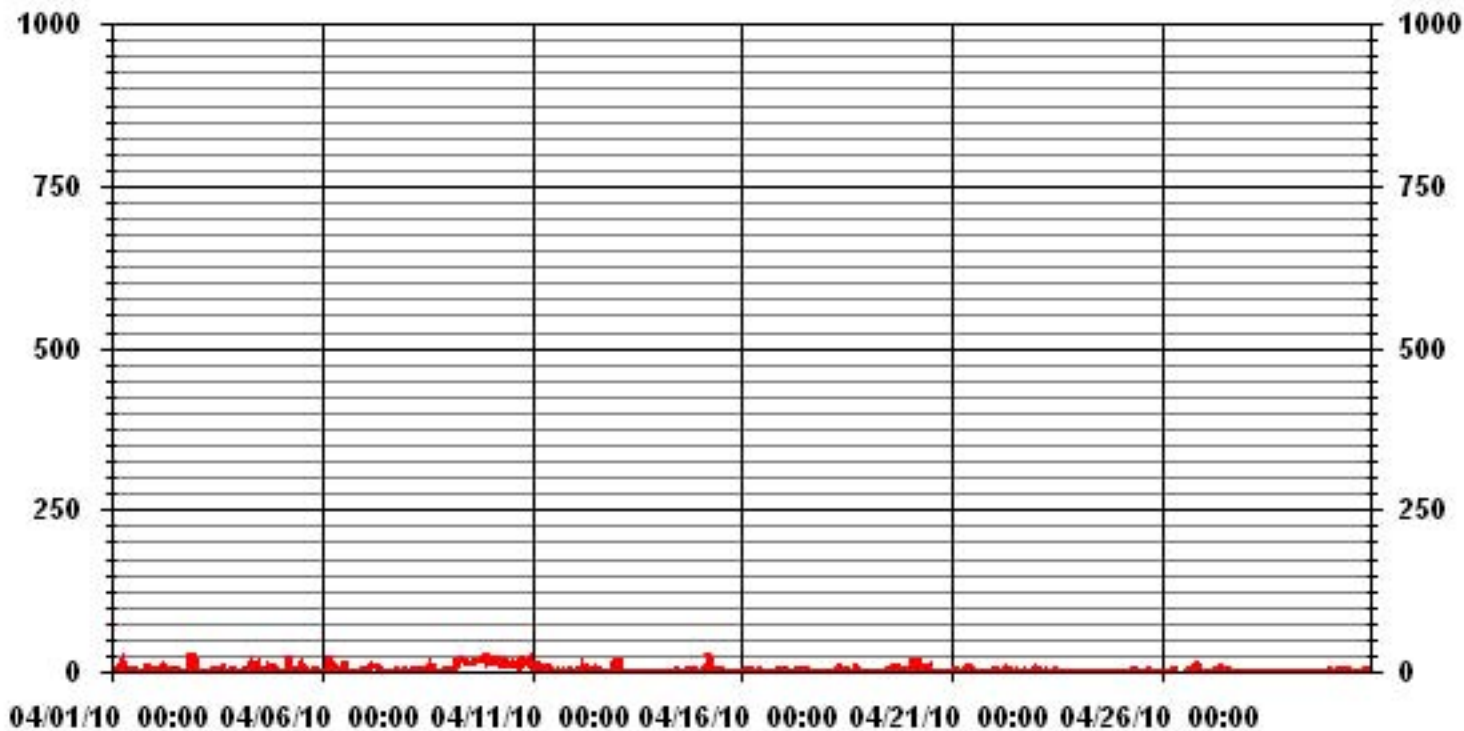
### STATUS FLAG CODES

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

### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	424
MAXIMUM INSTANTANEOUS VALUE:	28 PPB @ HOUR(S) 5 ON DAY(S) 15
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	5.04
OPERATIONAL TIME:	720 HRS

### 01 Hour Averages



— LICA30 NO2MAX PPB

LICA30  
NO2\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 30  
Site Name : LICA30  
Parameter : NO2\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	8.66	6.31	13.36	7.19	8.22	7.63	5.72	6.46	5.43	4.69	3.96	1.61	2.49	6.16	5.13	6.90	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	8.66	6.31	13.36	7.19	8.22	7.63	5.72	6.46	5.43	4.69	3.96	1.61	2.49	6.16	5.13	6.90	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	59	43	91	49	56	52	39	44	37	32	27	11	17	42	35	47	681
< 110																	
< 210																	
>= 210																	
Totals	59	43	91	49	56	52	39	44	37	32	27	11	17	42	35	47	

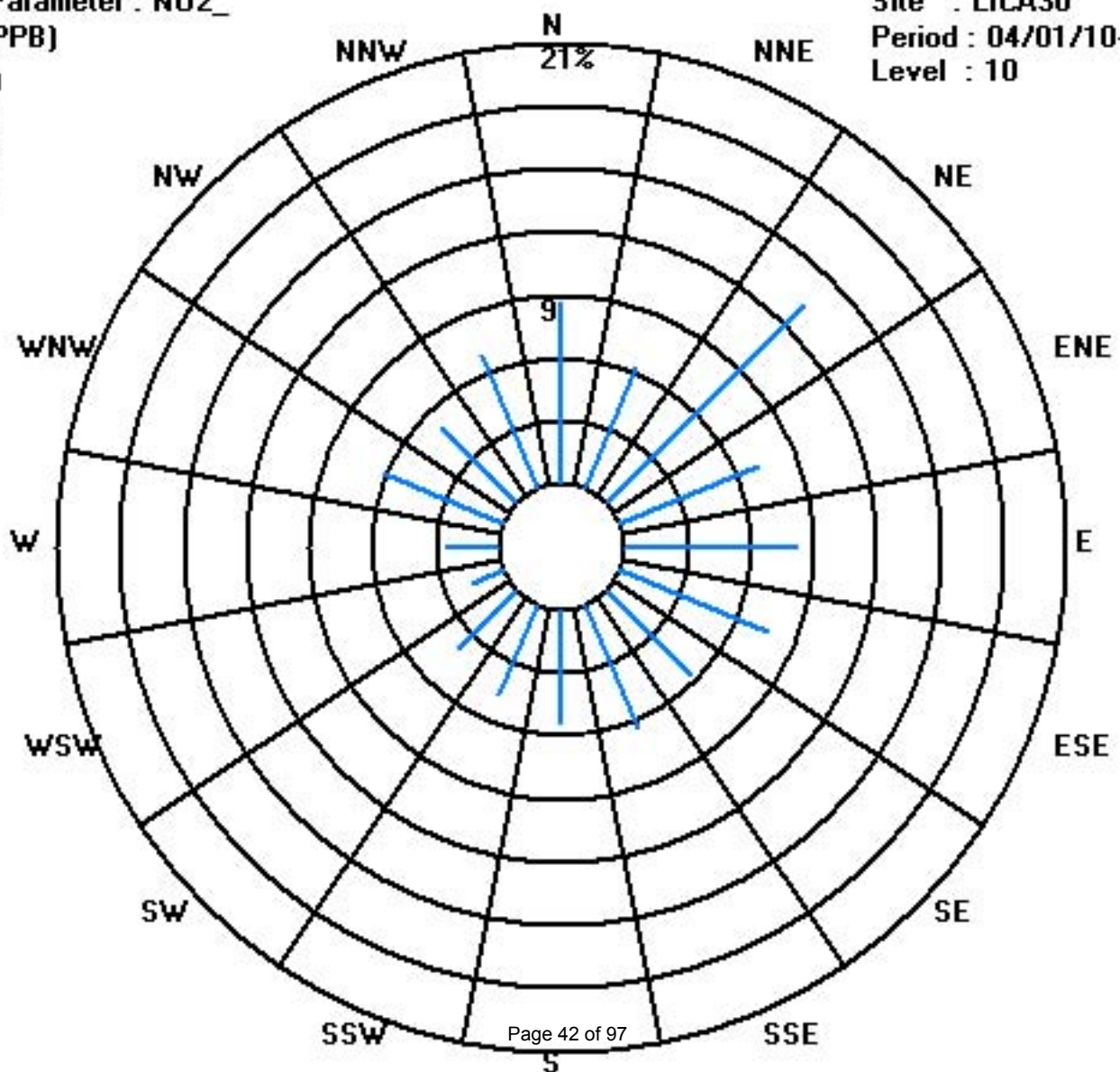
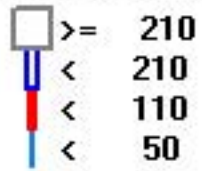
Calm : .00 %

Total # Operational Hours : 681

Class Limits (PPB)

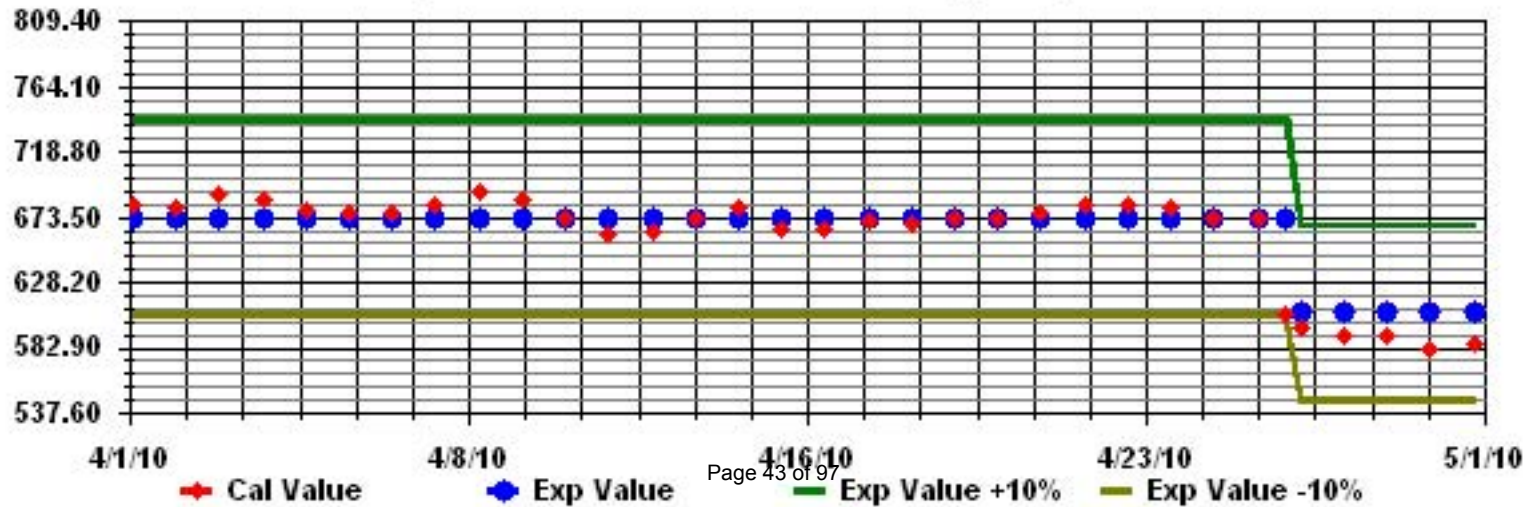
Period : 04/01/10-04/30/10

Level : 10





Calibration Graph for Site: LICA30 Parameter: NO2\_ Sequence: NO2 Phase: SPAN



# Nitric Oxide

# LAKELAND INDUSTRY & COMMUNITY ASSOICATION - MASKWA

APRIL 2010

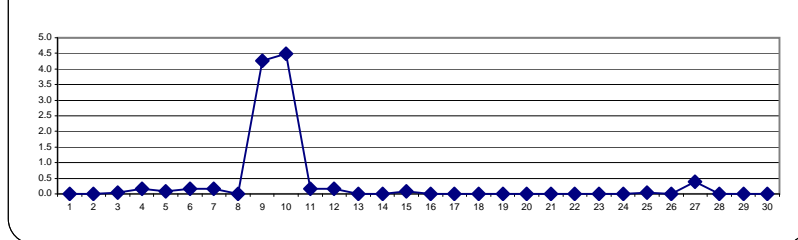
NITRIC OXIDE hourly averages in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 24-HOUR				
DAY	HOURLY MAX	HOURLY AVG	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	MAX.	AVG.	RDGS.		
1	0	0.1	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	
2	0	0.1	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	
3	0	0.1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	0.0	24	
4	0	0.1	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	2	0.2	24	
5	0	0.1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	IZS	0	0	0	2	0.1	24	
6	0	0.1	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	2	0.2	24	
7	0	0.1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	1	0.2	24	
8	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0.0	24	
9	0	0.1	0	0	0	0	3	5	6	8	8	9	9	6	7	3	2	IZS	5	5	4	5	5	3	5	9	4.3	24		
10	2	0.1	2	2	3	4	4	5	6	6	9	8	7	6	7	10	6	IZS	4	1	2	4	3	1	0	3	10	4.5	24	
11	0	0.1	0	0	0	0	0	0	0	0	0	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24	
12	0	0.1	0	0	0	0	0	0	0	2	0	0	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24	
13	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
14	0	0.1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
15	0	0.1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
16	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	24	
17	0	0.1	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
18	0	0.1	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
19	0	0.1	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	
20	0	0.1	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
21	0	0.1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
22	0	0.1	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
23	0	0.1	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
24	0	0.1	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	
25	0	0.1	IZS	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
26	0	0.1	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.0	24	
27	0	0.1	0	0	0	0	0	0	0	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.4	24
28	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	24	
29	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	24	
30	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	24	
HOURLY MAX	2	2	3	4	4	5	6	6	9	8	9	9	9	7	10	6	2	4	5	5	4	5	5	3	5					
HOURLY AVG	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.6	0.8	0.8	0.8	0.7	0.6	0.6	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.3					

**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

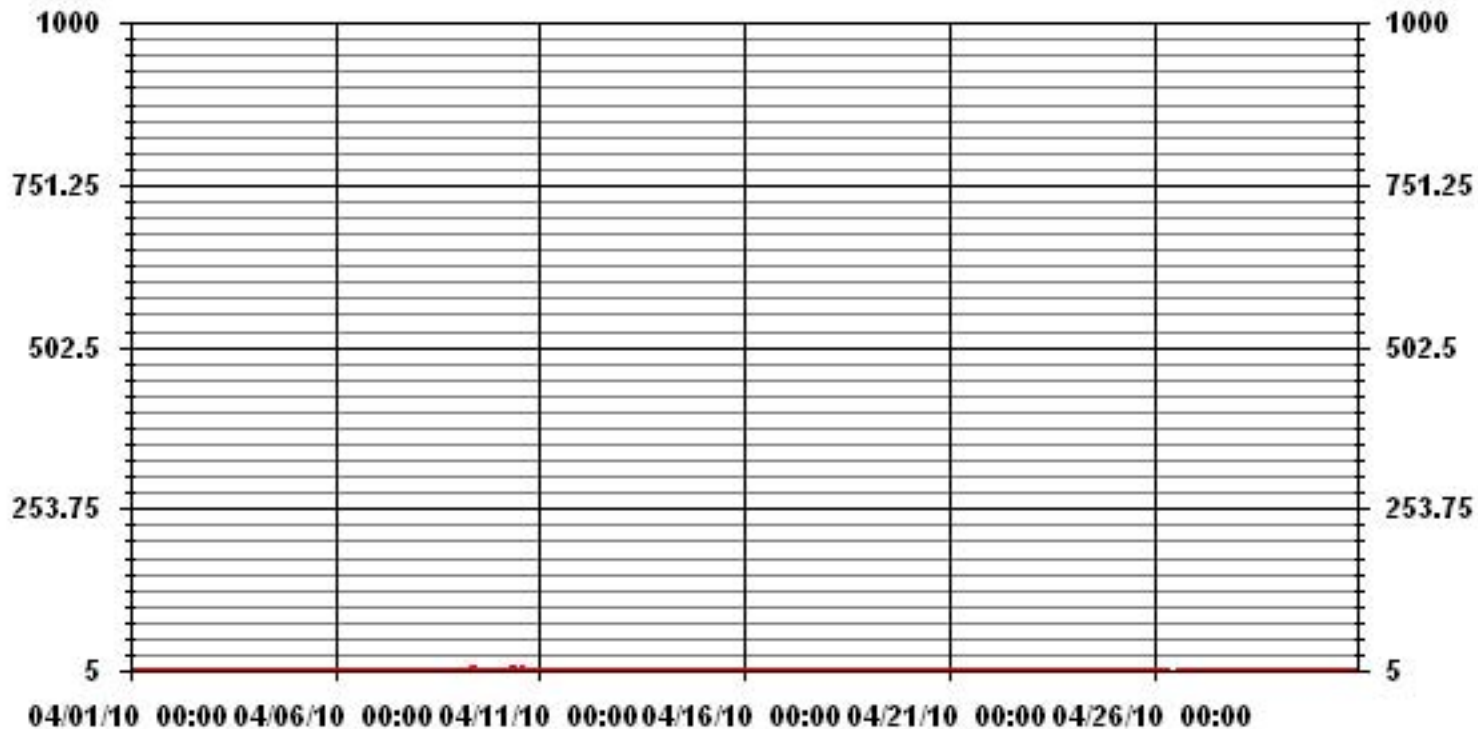
24 HOUR AVERAGES FOR APRIL 2010



**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	66
MAXIMUM 1-HR AVERAGE:	10 PPB @ HOUR(S) 13 ON DAY(S) 10
MAXIMUM 24-HR AVERAGE:	4.5 PPB ON DAY(S) 10
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	1.33
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	0.35 PPB

### 01 Hour Averages



— LICA30 NO\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

**NITRIC OXIDE MAX** instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	0	IZS	0	0	1	4	19	3	1	1	3	0	0	1	2	2	0	0	0	0	0	0	0	0	19	1.6	24	
2	IZS	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	1	1	IZS	1	0.3	24	
3	1	0	0	0	0	0	0	0	0	2	2	0	1	1	0	0	0	0	0	0	0	0	0	IZS	0	2	0.3	24
4	0	0	0	0	0	0	0	3	2	3	3	2	0	0	0	0	0	1	0	0	0	0	IZS	0	3	0.6	24	
5	0	0	0	0	0	15	1	0	0	1	1	3	7	1	2	0	0	0	0	0	0	IZS	0	0	15	1.3	24	
6	0	0	0	0	54	35	36	1	0	1	0	0	0	11	0	0	0	0	0	0	IZS	0	0	0	54	6.0	24	
7	0	0	0	0	1	3	4	3	2	2	2	0	0	0	0	0	0	0	0	IZS	0	0	0	0	4	0.7	24	
8	0	0	0	0	0	0	0	0	0	1	1	0	0	10	0	0	7	IZS	0	0	0	0	0	0	10	0.8	24	
9	0	0	0	1	1	7	10	9	11	12	12	12	10	10	9	9	IZS	10	7	8	8	11	6	10	12	7.5	24	
10	6	5	7	8	7	9	9	9	15	13	12	10	12	18	11	IZS	9	4	7	11	6	4	4	8	18	8.9	24	
11	1	2	1	1	2	1	2	4	4	1	7	4	3	1	IZS	1	1	0	0	0	0	0	0	0	7	1.6	24	
12	0	0	0	0	0	1	0	2	3	1	1	3	4	IZS	2	2	2	0	0	0	0	0	2	1	4	1.0	24	
13	2	2	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	2	0.2	24	
14	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
15	0	0	0	0	0	3	3	1	1	0	IZS	2	2	0	1	0	0	0	0	0	0	0	0	0	3	0.6	24	
16	0	0	0	0	0	0	0	1	0	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
17	0	0	0	0	0	0	0	0	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
18	0	0	0	0	0	0	0	IZS	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.2	24	
19	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.0	24	
20	0	0	0	0	0	IZS	0	1	2	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24	
21	0	0	0	0	IZS	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.1	24	
22	0	0	0	IZS	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24	
23	0	0	IZS	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
24	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
25	IZS	0	0	0	0	0	1	1	1	1	2	1	0	0	0	1	0	0	0	0	0	0	0	0	IZS	2	0.4	24
26	0	0	0	0	0	0	0	2	C	C	C	C	C	C	C	1	1	1	0	0	0	0	0	IZS	0	2	0.3	24
27	0	0	0	0	0	0	0	3	3	5	6	2	2	1	1	0	0	0	0	0	0	0	0	IZS	0	6	1.0	24
28	0	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	
29	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	
30	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	IZS	0	0	0	0	1	0.1	24	
HOURLY MAX	6	5	7	8	54	35	36	9	15	13	12	12	12	18	11	9	9	10	7	11	8	11	6	10				
HOURLY AVG	0.4	0.3	0.3	0.3	2.3	2.7	3.0	1.6	1.8	1.7	2.1	1.5	1.6	2.0	1.0	0.5	0.8	0.6	0.5	0.7	0.5	0.6	0.5	0.7				

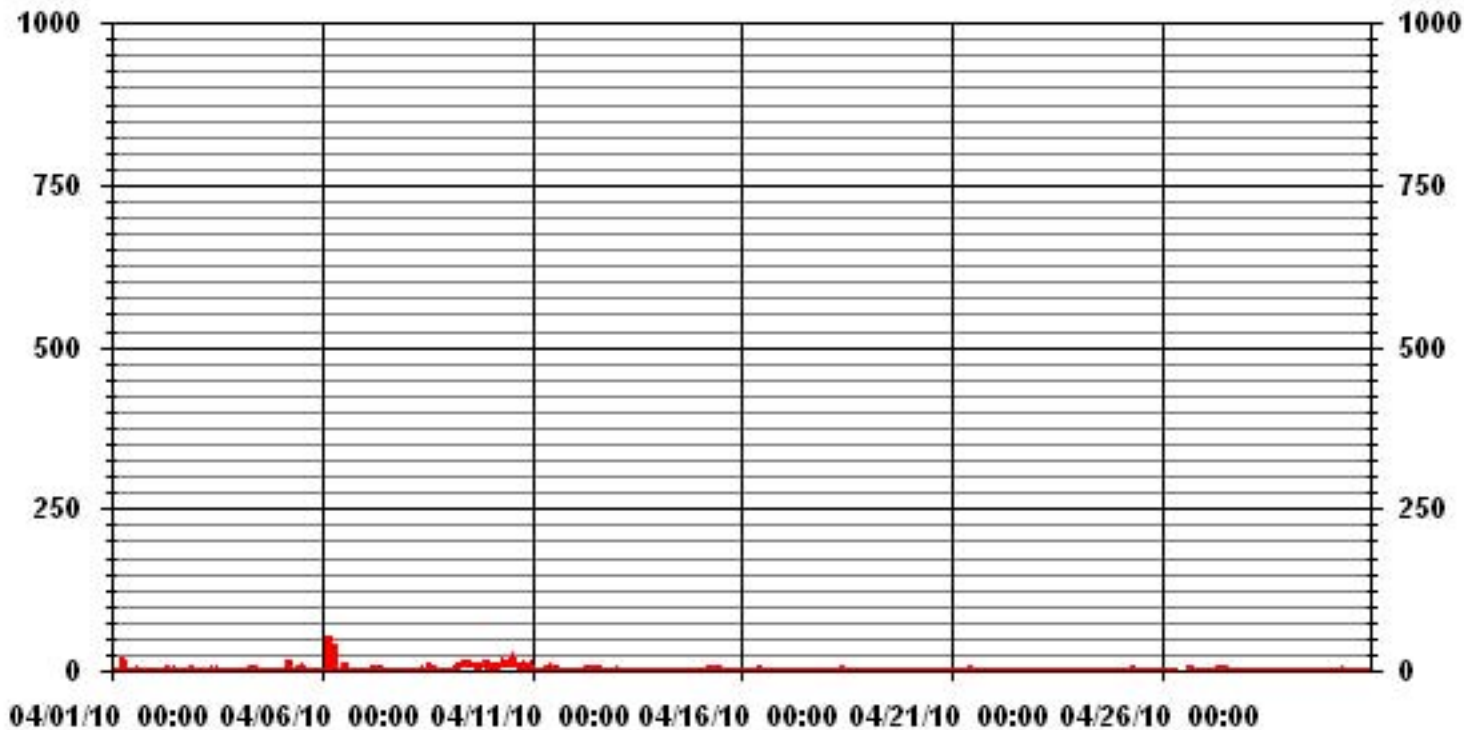
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	172					
MAXIMUM INSTANTANEOUS VALUE:	54	PPB	@ HOUR(S)	4	ON DAY(S)	6
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	3.79					

### 01 Hour Averages



LICA30  
 NO\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 30  
 Site Name : LICA30  
 Parameter : NO\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	8.66	6.31	13.36	7.19	8.22	7.63	5.72	6.46	5.43	4.69	3.96	1.61	2.49	6.16	5.13	6.90	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	8.66	6.31	13.36	7.19	8.22	7.63	5.72	6.46	5.43	4.69	3.96	1.61	2.49	6.16	5.13	6.90	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	59	43	91	49	56	52	39	44	37	32	27	11	17	42	35	47	681
< 110																	
< 210																	
>= 210																	
Totals	59	43	91	49	56	52	39	44	37	32	27	11	17	42	35	47	

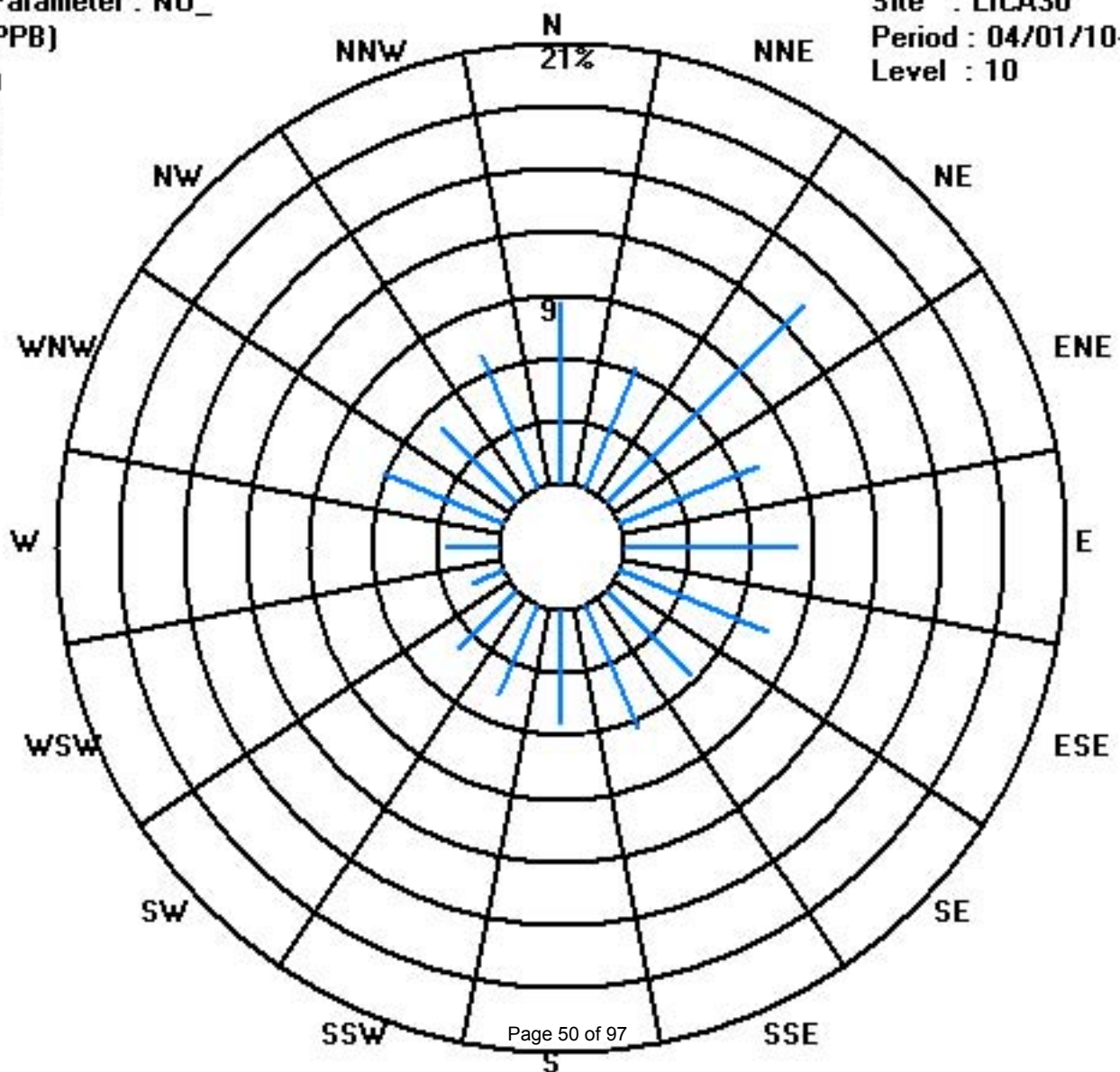
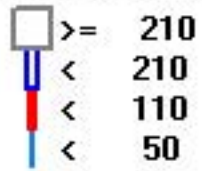
Calm : .00 %

Total # Operational Hours : 681

Class Limits (PPB)

Period : 04/01/10-04/30/10

Level : 10





# Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

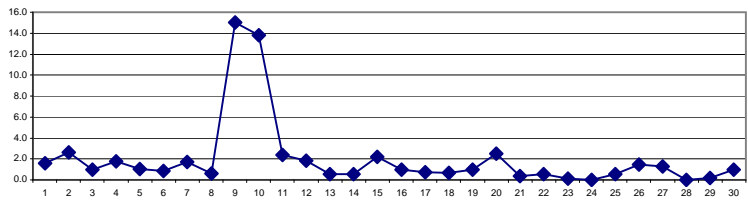
OXIDES OF NITROGEN hourly averages in ppb

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 24-HOUR			
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	0	IZS	5	1	0	3	7	3	0	1	1	0	0	0	1	1	0	0	0	0	2	5	3	4	7	1.6	24	
2	IZS	5	3	3	2	5	2	2	3	1	1	1	1	2	0	0	0	0	0	0	0	15	12	IZS	15	2.6	24	
3	9	0	0	0	0	0	0	0	0	4	4	0	2	2	0	1	0	0	0	0	0	0	0	IZS	0	9	1.0	24
4	0	0	0	0	0	1	1	11	2	4	5	4	1	0	0	1	2	0	4	2	IZS	2	1	11	1.8	24		
5	0	0	0	0	0	1	2	1	0	1	1	3	7	3	4	0	1	0	0	0	IZS	0	0	0	7	1.0	24	
6	0	0	0	0	4	4	3	2	1	2	1	1	0	0	0	0	0	0	0	IZS	0	0	1	1	4	0.9	24	
7	1	1	0	0	2	4	7	8	7	5	1	0	0	0	0	0	0	0	IZS	0	0	0	1	2	8	1.7	24	
8	2	1	0	0	0	0	0	2	2	2	2	1	0	1	0	0	0	IZS	0	0	0	0	1	0	2	0.6	24	
9	1	0	0	0	5	16	20	23	24	23	23	22	17	18	11	9	IZS	17	20	18	21	22	16	20	24	15.0	24	
10	11	13	14	16	15	18	18	16	21	17	14	12	14	20	12	IZS	11	5	9	17	15	9	6	15	21	13.8	24	
11	1	3	3	6	7	6	5	2	3	0	5	4	2	1	IZS	2	2	0	1	1	0	1	0	0	7	2.4	24	
12	0	0	0	0	0	4	2	4	8	1	1	2	4	IZS	0	1	0	0	0	0	0	0	9	6	9	1.8	24	
13	5	5	2	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	5	0.5	24
14	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	1	1	1	1	1	1	2	1	1	2	0.6	24	
15	0	1	1	1	7	15	6	5	2	1	IZS	4	4	1	1	0	0	0	0	0	0	0	1	0	15	2.2	24	
16	1	1	1	1	3	3	3	3	2	IZS	2	1	0	0	0	0	0	0	0	0	0	1	1	0	0	3	1.0	24
17	1	0	0	0	0	0	1	2	IZS	2	2	1	2	1	3	2	0	0	0	0	0	0	0	0	0	3	0.7	24
18	0	0	0	0	0	0	0	0	IZS	4	2	4	2	0	1	0	0	0	1	2	0	0	0	0	0	4	0.7	24
19	0	0	0	0	0	0	IZS	0	0	0	0	1	1	1	2	2	5	5	2	0	0	0	1	2	5	1.0	24	
20	0	0	15	9	13	IZS	1	5	5	1	1	7	0	0	0	0	0	0	0	0	0	0	0	0	15	2.5	24	
21	0	0	0	0	IZS	0	1	2	1	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0.4	24	
22	0	0	0	IZS	0	1	2	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0.5	24	
23	0	0	IZS	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
24	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
25	IZS	0	0	1	0	1	1	2	2	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	IZS	2	0.5	24
26	0	0	0	0	0	0	1	2	C	C	C	C	C	C	C	3	4	1	2	1	8	1	IZS	0	8	1.4	24	
27	0	0	0	0	0	0	0	3	6	8	5	3	2	1	1	0	0	0	0	0	0	0	IZS	0	8	1.3	24	
28	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	
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	1	1	1	0.2	24
30	1	1	1	1	1	1	4	3	2	1	1	0	0	0	0	0	0	0	0	IZS	0	1	2	2	1	4	1.0	24
HOURLY MAX	11	13	15	16	15	18	20	23	24	23	23	22	17	20	12	9	11	17	20	18	21	22	16	20				
HOURLY AVG	1.2	1.1	1.6	1.3	2.0	2.9	3.0	3.6	3.5	2.8	2.8	2.5	2.1	1.9	1.3	0.8	0.9	1.1	1.3	1.5	1.9	2.1	2.0	2.0				

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

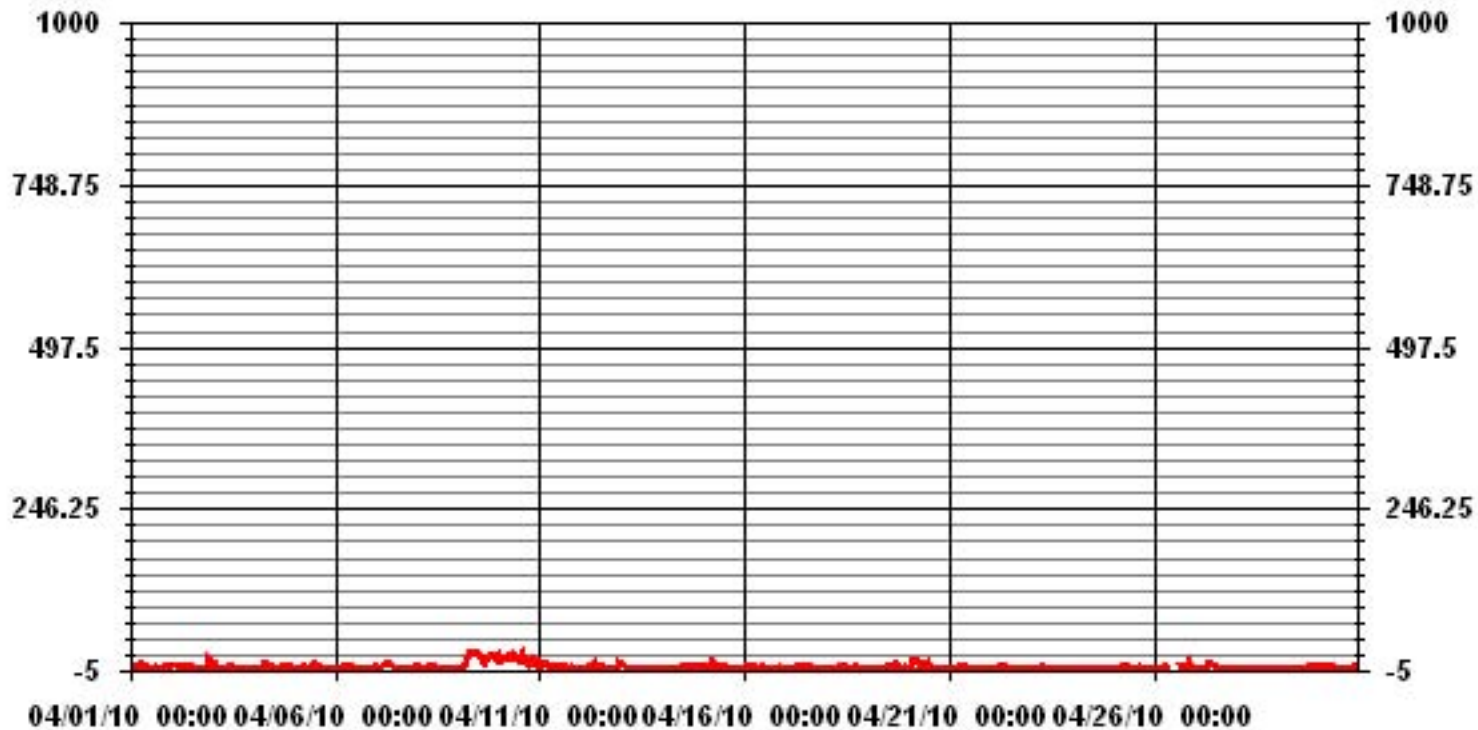
24 HOUR AVERAGES FOR APRIL 2010



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	300					
MAXIMUM 1-HR AVERAGE:	24	PPB	@ HOUR(S)	8	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	15.0	PPB			ON DAY(S)	9
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	4.24		MONTHLY AVERAGE	1.97	PPB	

### 01 Hour Averages



— LICA30 NOX\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

## OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	0	IZS	7	2	6	16	34	9	3	4	10	1	1	2	4	3	1	0	0	0	7	7	7	5	34	5.6	24	
2	IZS	6	4	5	4	10	4	3	4	4	2	2	5	6	1	0	0	0	0	0	3	25	27	IZS	27	5.2	24	
3	18	0	0	0	0	0	1	0	2	8	8	1	5	6	7	8	0	0	0	0	1	1	IZS	1	18	2.9	24	
4	1	0	0	1	3	4	6	16	8	10	8	14	4	1	0	2	3	10	3	11	12	IZS	3	2	16	5.3	24	
5	1	0	0	1	1	37	5	4	2	4	4	8	17	5	6	2	6	2	0	1	IZS	1	1	0	37	4.7	24	
6	0	0	0	0	72	49	48	3	2	3	2	1	1	26	1	0	0	0	1	IZS	1	0	3	3	72	9.4	24	
7	3	2	1	1	10	14	15	14	9	9	7	1	1	1	0	1	3	0	IZS	1	1	1	2	2	15	4.3	24	
8	3	3	1	1	1	1	2	3	3	3	3	3	1	15	4	1	10	IZS	1	0	0	1	4	1	15	2.8	24	
9	5	0	0	6	9	26	30	29	30	31	29	28	25	27	24	24	IZS	27	26	28	29	34	23	31	34	22.7	24	
10	24	22	23	28	23	30	27	24	33	26	24	19	22	31	21	IZS	20	10	24	33	24	19	19	27	33	24.0	24	
11	9	13	7	9	15	10	11	11	11	3	15	8	8	3	IZS	4	3	1	2	2	1	1	1	0	15	6.4	24	
12	0	1	1	0	0	11	4	9	11	4	2	7	11	IZS	3	4	4	1	0	1	0	0	17	15	17	4.6	24	
13	18	18	7	0	0	0	2	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	18	2.0	24	
14	0	0	0	0	0	1	0	0	0	0	1	IZS	2	2	2	2	2	2	2	2	2	3	1	1	3	1.1	24	
15	1	1	1	3	13	31	7	6	4	2	IZS	6	6	3	5	1	0	0	0	0	0	0	2	1	31	4.0	24	
16	1	2	2	2	4	4	6	6	3	IZS	4	3	1	0	0	0	0	0	0	1	2	2	2	1	6	2.0	24	
17	4	1	1	0	1	1	2	3	IZS	3	5	3	4	3	5	4	3	0	0	0	0	0	0	0	5	1.9	24	
18	0	0	0	0	0	0	1	IZS	13	6	8	5	6	3	4	1	0	7	6	1	2	0	0	0	13	2.7	24	
19	0	0	0	0	0	0	IZS	0	0	1	3	4	6	5	7	10	13	10	6	1	1	0	3	4	13	3.2	24	
20	0	2	22	18	19	IZS	5	9	10	3	7	12	3	0	1	0	0	0	0	0	0	0	0	0	22	4.8	24	
21	1	1	1	1	IZS	0	6	3	2	2	13	3	0	0	0	0	0	0	0	1	0	0	1	13	1.5	24		
22	1	1	1	IZS	1	3	3	8	3	2	2	1	3	2	1	0	2	4	0	0	0	1	6	8	2.0	24		
23	1	1	IZS	1	0	1	4	3	1	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	5	0.8	24	
24	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
25	IZS	0	0	3	1	1	4	4	3	2	2	2	3	0	1	3	6	1	1	0	0	0	0	IZS	6	1.7	24	
26	1	0	1	0	0	0	4	7	C	C	C	C	C	C	C	7	4	7	7	14	5	IZS	1	14	3.9	24		
27	1	1	1	1	0	1	1	8	9	12	13	6	5	6	5	0	0	0	0	1	IZS	0	0	13	3.1	24		
28	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	IZS	1	0	1	1	0.2	24	
29	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	1	1	1	1	IZS	2	2	2	2	2	0.8	24	
30	1	1	1	2	2	2	7	5	4	2	2	2	2	1	0	0	1	IZS	1	2	3	3	1	7	2.0	24		
HOURLY MAX	24	22	23	28	72	49	48	29	33	31	29	28	25	31	24	24	20	27	26	33	29	34	27	31				
HOURLY AVG	3.4	2.7	2.8	2.9	6.4	8.7	8.2	6.5	6.1	5.2	6.3	5.2	5.1	5.3	3.7	2.5	2.9	2.8	2.9	3.3	3.8	3.8	4.3	3.8				

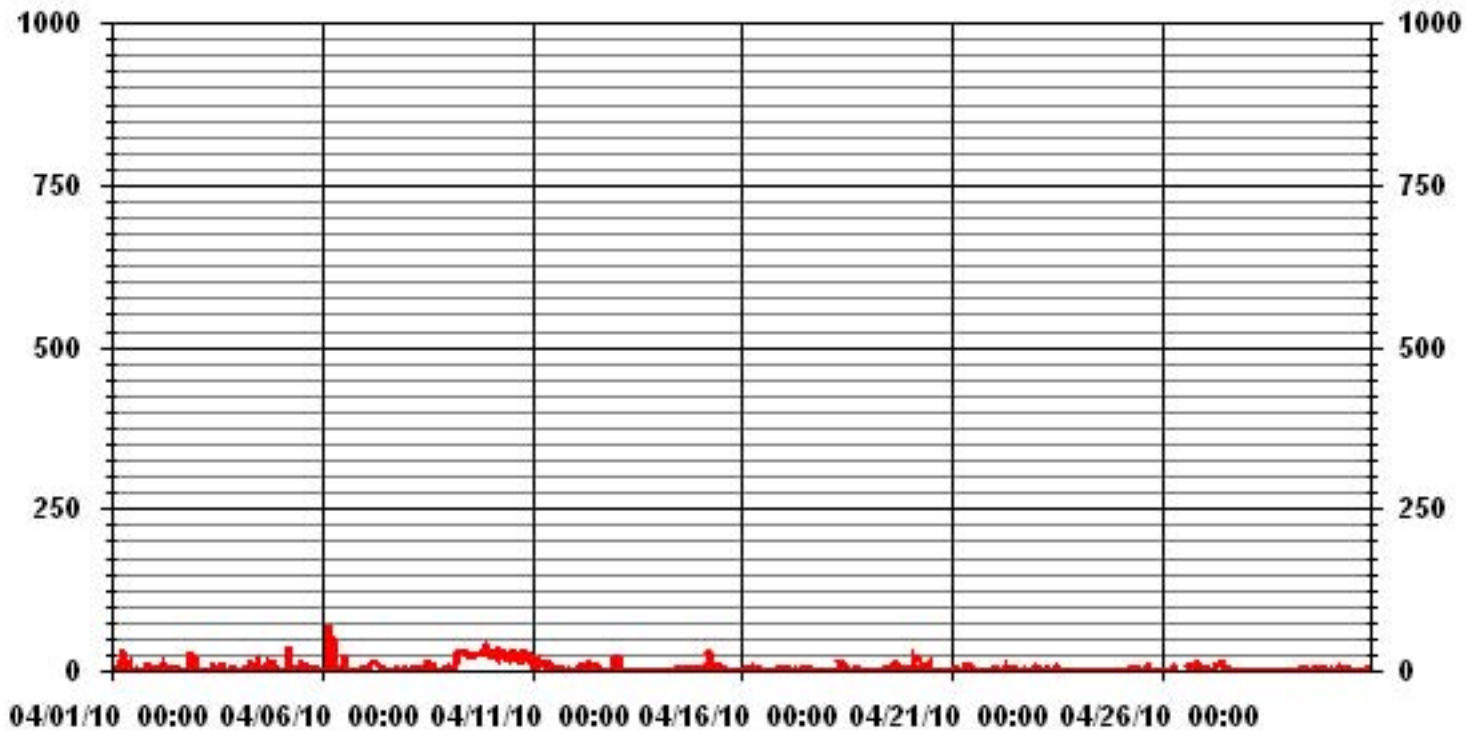
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	453					
MAXIMUM INSTANTANEOUS VALUE:	72	PPB	@ HOUR(S)	4	ON DAY(S)	6
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	7.94					

### 01 Hour Averages



— LICA30 NOxMAX PPB

LICA30  
NOX\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 30  
Site Name : LICA30  
Parameter : NOX\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	8.66	6.31	13.36	7.19	8.22	7.63	5.72	6.46	5.43	4.69	3.96	1.61	2.49	6.16	5.13	6.90	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	8.66	6.31	13.36	7.19	8.22	7.63	5.72	6.46	5.43	4.69	3.96	1.61	2.49	6.16	5.13	6.90	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	59	43	91	49	56	52	39	44	37	32	27	11	17	42	35	47	681
< 110																	
< 210																	
>= 210																	
Totals	59	43	91	49	56	52	39	44	37	32	27	11	17	42	35	47	

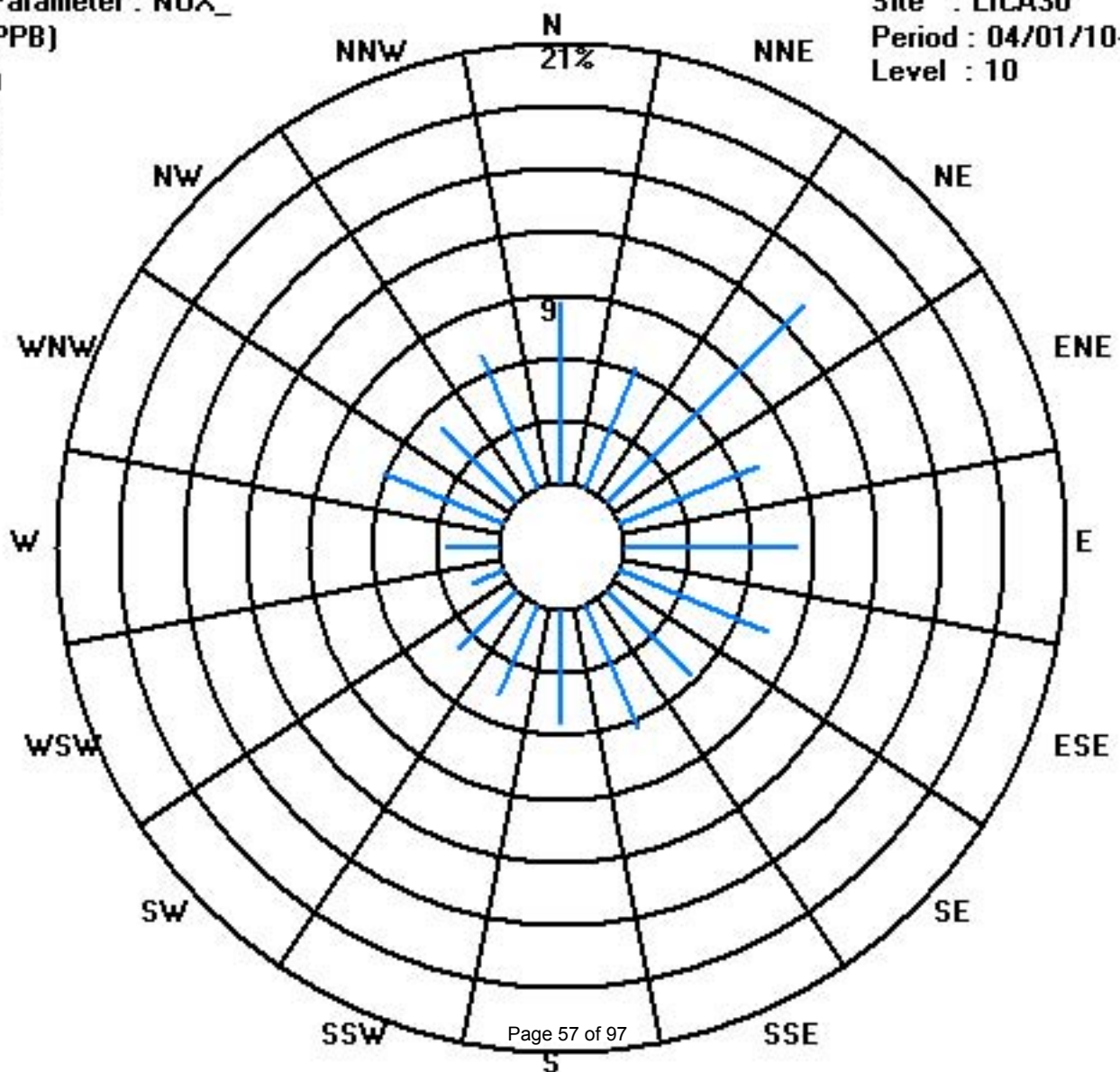
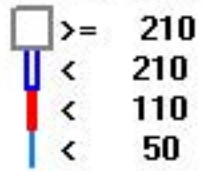
Calm : .00 %

Total # Operational Hours : 681

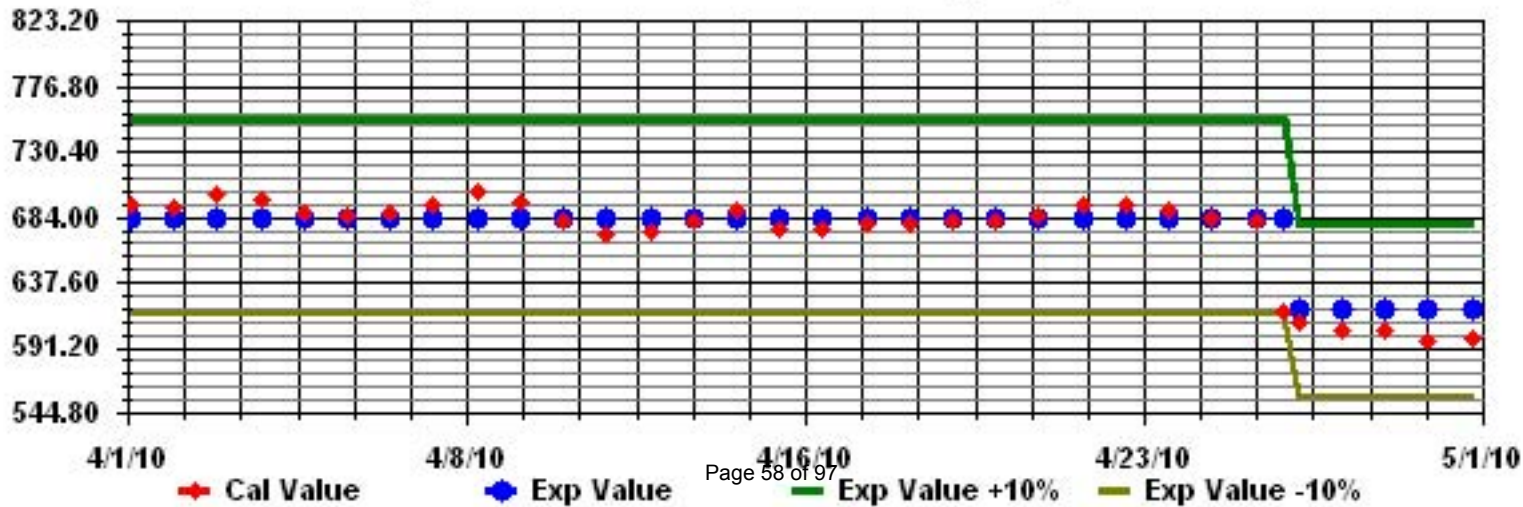
Class Limits (PPB)

Period : 04/01/10-04/30/10

Level : 10



Calibration Graph for Site: LICA30 Parameter: NOX\_ Sequence: NO2 Phase: SPAN





# Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

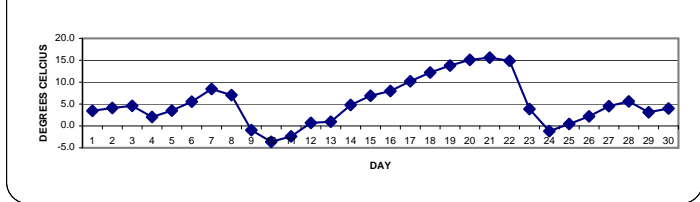
AMBIENT TEMPERATURE hourly averages (Degrees C)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	DAILY 24-HOUR	RDGS.	
DAY	HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	
1	0.8	0	-0.9	-1	-1.4	-1.4	-0.7	0.9	3.8	5.6	7	8.1	8	8.5	7.7	8.3	8.5	7.2	6.3	4.3	2.4	1.3	0.1	-0.6	8.5	3.5	24		
2	-1.3	-1.8	-2.8	-3.4	-4.5	-5.2	-4.8	-0.3	5.2	7.8	9	10.3	11.1	11.6	12	12.1	11.6	11	8.4	3.5	1.1	2.7	3	2	12.1	4.1	24		
3	0.7	-1.9	-2.8	-2.7	-2.4	-2.4	-2	0.4	3.1	5.7	9.3	10.6	11.5	12.4	11.9	11.1	11	10.5	8.3	5.7	4	4.8	2.8	0.6	12.4	4.6	24		
4	-1.5	-2	-2.4	-1.9	-2.6	-2.9	-2.3	-0.4	5.1	7.8	8.7	10.1	7.9	4.7	3.5	4.2	3.5	4	3	2.4	1.6	0.4	-1	-0.8	10.1	2.0	24		
5	-0.1	-0.3	0.1	0.5	0.3	0.3	0.5	1.3	2.3	3.6	4.6	6.2	8.1	9.9	10.8	10.3	10.5	9.1	7.3	4.6	2.1	-1.8	-2.8	-3.2	10.8	3.5	24		
6	-3.6	-4	-4.8	-5.3	-5.4	-5.7	-4	2	5.1	6.6	9.1	11.6	13.1	13.5	13.9	13.7	13.3	12.3	10.8	9.3	9	8.1	7.4	7.1	13.9	5.5	24		
7	6.3	5.7	4	2.9	2.3	0	0.3	5.2	8.4	10.7	11.7	12.6	13.6	14.1	14.3	14.5	13.9	13.4	11.5	7.6	7.2	7.6	7.7	7.2	14.5	8.4	24		
8	6.5	1.7	-0.4	-0.9	-2	-2.5	-0.8	5.8	7.6	9.2	11.3	14.4	15.6	16	15.2	14.7	12.6	10.5	9.9	7.5	5.5	4.8	3.9	2.9	16.0	7.0	24		
9	1.4	0.6	0.4	0.1	-0.2	-0.7	-0.9	-0.7	-0.5	-0.2	0	0.1	0	-0.3	-0.7	-0.9	-0.7	-1.3	-1.9	-2.5	-3	-3.3	-3.6	-4	1.4	-1.0	24		
10	-4.2	-4.4	-4.5	-4.7	-4.9	-5.3	-5.4	-5	-4.6	-3.8	-3.1	-2.3	-1.3	-1.6	-0.9	-1.6	-2.1	-2.8	-3.4	-4.1	-4	-4.1	-4.4	-4.6	-0.9	-3.6	24		
11	-5.1	-5.4	-5.5	-5.7	-5.8	-6.2	-5.4	-4.7	-3.3	-1.5	0.1	1	0.9	0.6	0.9	0.6	0	-0.8	-1.3	-1.7	-1.9	-2.1	-2.2	-2.7	1.0	-2.4	24		
12	-2.7	-2.7	-2.6	-2.7	-2.8	-2.7	-2.5	-1.8	-0.7	0.6	2.3	4	3.6	3.6	5.1	5.6	5.3	4.5	3	1.3	0.4	-1	-0.3	0	5.6	0.7	24		
13	0.2	0.6	0.5	0	-0.1	0	0.3	0.5	0.9	1.2	1.1	1.3	1.7	1.5	1.1	1.3	1.2	1.4	1.3	1.4	1.3	1.4	1.6	1.7	1.7	1.0	24		
14	1.6	1.6	1.8	1.8	1.7	1.7	1.9	2.2	2.5	3.1	3.8	4.8	6.3	6.5	7.3	7.6	9.8	11	9.5	7.8	6.8	5.5	4.7	3.7	11.0	4.8	24		
15	2.8	2.5	1.5	0	-1.4	-1.5	0.1	4.2	7.5	10.3	12.2	12.7	12.3	13	13.4	13.5	13.2	12.4	10.8	7.2	6.9	5	3.8	3.1	13.5	6.9	24		
16	2.3	0.6	0	0	-0.1	-0.2	1.3	3.7	5.6	8.7	11.2	12.6	12.9	14.1	14.3	14.4	14.3	14.2	13.3	11.7	10.1	9.8	8.9	7.8	14.4	8.0	24		
17	6.1	3.5	0.1	-1.2	-1.8	-2.2	1	5.9	11.1	13.7	15.3	17.1	19.2	19.8	20.9	21	20.4	18.7	16.6	11.6	8.9	7.1	6.4	5.8	21.0	10.2	24		
18	5.8	5.2	3.6	2.6	1.5	1.9	4.3	7.5	12	16.2	18.2	19.8	20.8	22	22	21.2	20.6	20.8	18.5	14.7	10.4	8.1	7.9	7.3	22.0	12.2	24		
19	6.8	5.7	5.2	4.2	2.6	1.1	3.6	8	12.6	16.2	19	20.8	22	22.2	22.2	22.2	22.6	22.5	20.3	18	16.2	14.3	10.9	11.8	22.6	13.8	24		
20	11.1	8.6	8.1	7.5	7.2	4.9	7	11.1	13.6	17	19.1	20.2	21.8	22.3	22.5	22.5	22.3	21.6	20.1	17.3	15.2	14.3	13.6	13.5	22.5	15.1	24		
21	12.2	10.9	9.7	5.6	2.7	2.9	6.2	12.1	15.1	17.9	20.5	22.2	22.3	22.9	23.5	23.6	23.4	22.7	21.2	18.1	14.6	15	14.9	14.2	23.6	15.6	24		
22	13.4	11.7	6.7	4.4	3.3	3.5	5.6	12.1	15.3	17.2	20	21.8	22.5	23.7	23.8	23.8	23.8	22.1	19	15.3	13.3	11.1	11.8	11.7	23.8	14.9	24		
23	10	8	6.8	5.8	5.1	5.1	6	6	6.4	5.8	5.4	5.9	5.9	5.3	3	1	0.6	0.4	0.3	0.2	0.1	0.1	0	-0.5	10.0	3.9	24		
24	-1	-1.5	-1.8	-2	-2.3	-2.5	-2.1	-1.4	-1.1	-0.9	0	0.6	1.3	1	0.3	-0.1	-0.3	-0.8	-1.3	-2.1	-2.5	-2.4	-2.7	-2.9	1.3	-1.2	24		
25	-3	-2.8	-3	-3.2	-3.1	-2.7	-1.5	0	1.8	2.2	3.3	4.2	3.6	2.5	2.5	2.7	3.2	3.7	2.3	0.7	-0.2	-0.9	-0.8	-0.6	4.2	0.5	24		
26	-0.9	-1.2	-1.2	-1.3	-1.4	-1.4	0	2.8	3.9	3.7	3.8	4.6	4.9	5.9	5.6	6.2	5.6	5.4	4	2.4	1.5	0.3	-0.5	0	6.2	2.2	24		
27	-1.9	-3.2	-3.9	-4.1	-4.6	-4	-1.2	2.5	5.2	6.5	8	8.6	9.4	9.6	10.3	9.8	10.5	10.1	9.2	8.2	7.3	6	5.5	4.7	10.5	4.5	24		
28	3.8	3.2	2.9	2.2	1.5	1.5	2.1	2.5	2.9	4.1	5.9	7.1	8.2	9.1	9.2	9.3	9.5	8.9	8.2	7.7	7	6.1	6	5.6	9.5	5.6	24		
29	5.2	5	4.7	4.2	3.6	3.1	3.1	3.3	3.6	3.5	3.9	4.1	3.4	3.4	3.6	3.7	3.3	2.7	2	1.6	0.9	1	1.1	1.1	5.2	3.1	24		
30	1	1	1	1	1	1.1	1.3	1.6	2	2.9	3.8	3.9	4.8	5.9	7.2	7.8	7.9	7.8	7.3	6.5	5.5	5	4.3	3.8	7.9	4.0	24		
HOURLY MAX	13.4	11.7	9.7	7.5	7.2	5.1	7.0	12.1	15.3	17.9	20.5	22.2	22.5	23.7	23.8	23.8	23.8	22.7	21.2	18.1	16.2	15.0	14.9	14.2					
HOURLY AVG	2.4	1.5	0.7	0.1	-0.5	-0.7	0.4	2.9	5.1	6.7	8.2	9.3	9.8	10.1	10.2	10.1	10.0	9.4	8.2	6.2	4.9	4.1	3.6	3.2					

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

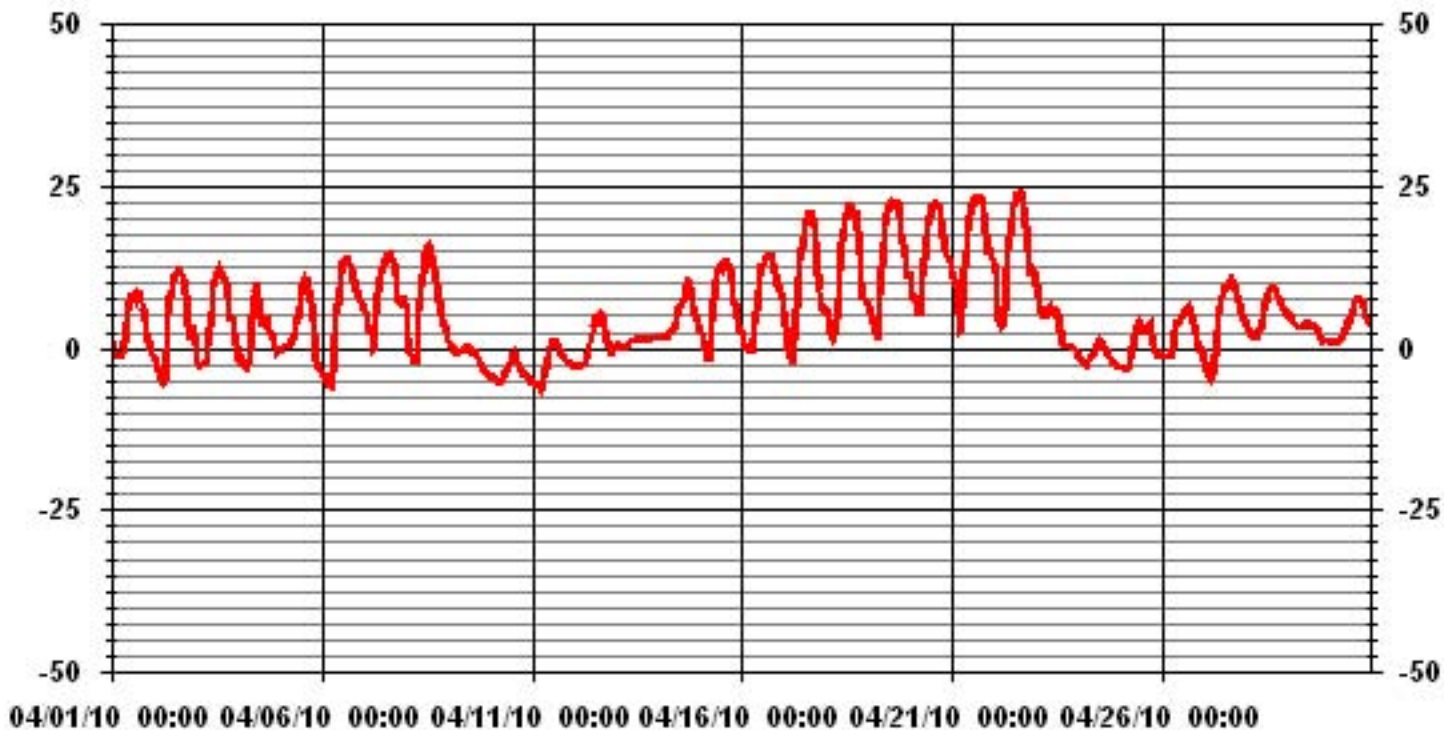
24 HOUR AVERAGES FOR APRIL 2010



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-6.2 °C	@ HOUR(S)	5	ON DAY(S)	11
MAXIMUM 1-HR AVERAGE:	23.8 °C	@ HOUR(S)	VAR	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	15.6 °C			ON DAY(S)	21
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS		
STANDARD DEVIATION:	6.94	AMD OPERATION UPTIME:	100.0 %		
		MONTHLY AVERAGE:	5.25 °C		

### 01 Hour Averages



— LICA30 TPX DGC

# Precipitation

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

PRECIPITATION hourly averages (mm)

MST		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	DAILY	
DAY	HOURLY MAX	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	TOTAL	RDGS.
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	24
2		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
3		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
4		0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	0.6	0	0.1	0	0	0	0	0	0	0	0.9	1.6	24
5		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
6		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
7		0	0.1	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5	24
8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	2.7	1.5	1.4	0.5	2.7	7.6	24
9		1	0.3	1.2	1.4	3.3	2.7	3.1	0.9	0.9	1.8	3.3	1.1	0.5	0.8	0.9	0.9	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0	3.3	26.3	24
10		0	0.1	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0.1	0.3	24
11		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
12		0	0	0	0	0	0	0.4	0.3	0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.7	24
13		0	0	0	0.2	0.6	0.6	0.2	1.1	0	0	0	0.1	0	0.1	0	0.1	0	0.6	0.3	0	0	0.9	1	1	1.1	6.8	24
14		0.5	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.6	24
15		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
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	0	0	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	0	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	0	0	0.0	0.0	24
20		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
21		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
22		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
23		0	0	0	0	0	0	0	0	0	0.2	0.1	0	0	0.2	2.1	2.1	3.5	2.6	1.3	1.5	1.5	1	0.5	0.6	3.5	17.2	24
24		0.7	1.3	0.3	0.1	0.3	0.4	0	0	0	0	0	0	0	0	0.1	0.2	0.1	0	0	0	0.1	0	0	1.3	3.6	24	
25		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	0.1	0.1	24
26		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
27		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
28		0	0	0	0.1	0.4	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0.4	0.9	24
29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1	1	0.6	0.7	0.1	0	0	1.0	3.7	24
30		0	0	0	0.1	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	24
HOURLY MAX		1.0	1.3	1.2	1.4	3.3	2.7	3.1	1.1	0.9	1.8	3.3	1.1	0.5	0.9	2.1	2.1	3.5	2.6	1.3	1.5	2.7	1.5	1.4	1.0			

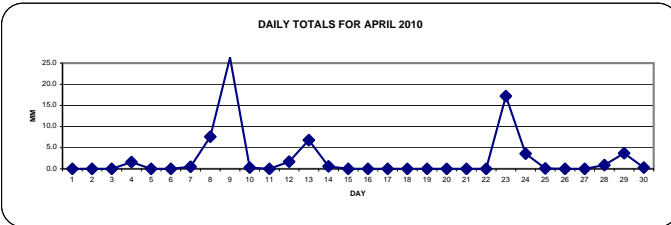
STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	MD	-MISSING DATA

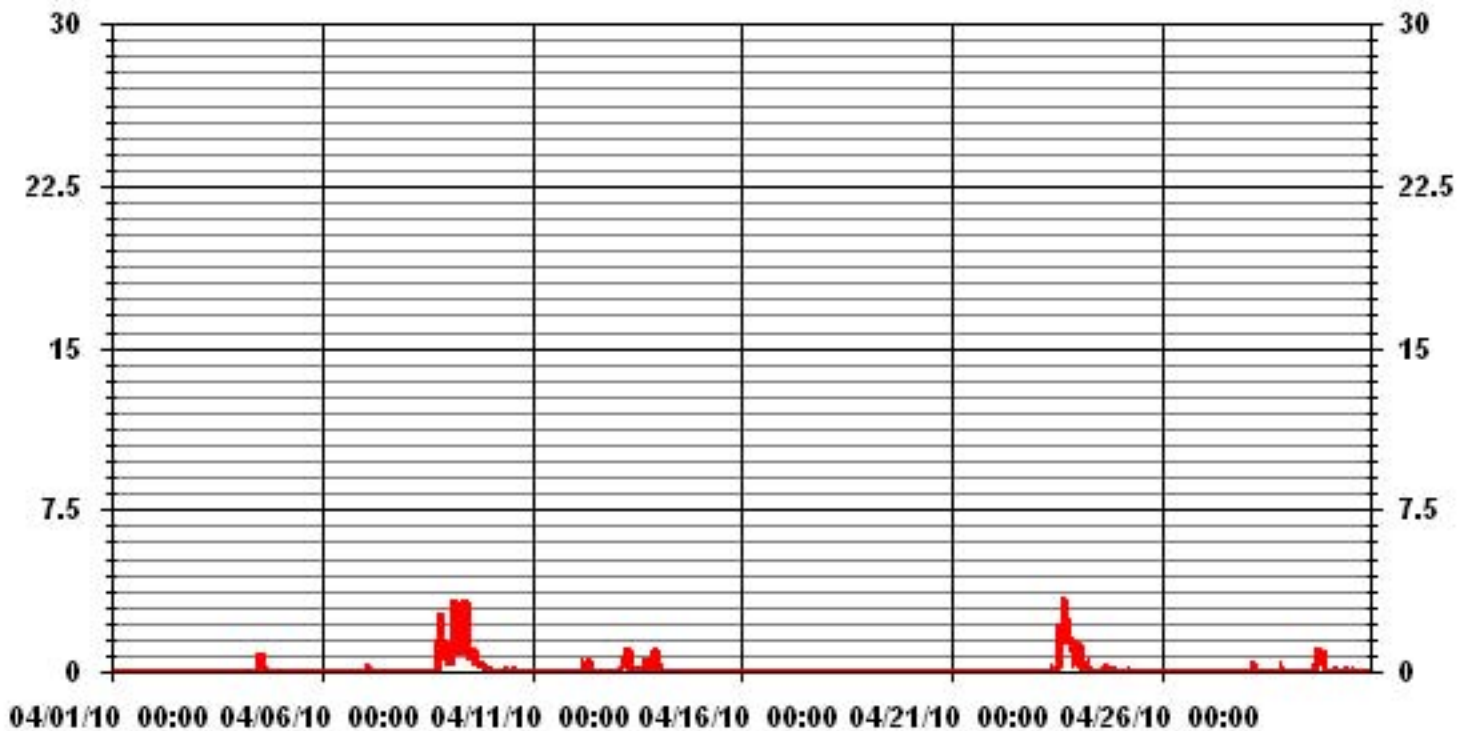
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	3.5	MM	HOUR(S)	16	ON DAY(S)	23
MAXIMUM DAILY TOTAL	26.3	MM			ON DAY(S)	9
MONTHLY TOTAL	71.2	MM				
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
STANDARD DEVIATION:	0.39		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	0.10	MM	

DAILY TOTALS FOR APRIL 2010



### 01 Hour Averages



# Relative Humidity

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

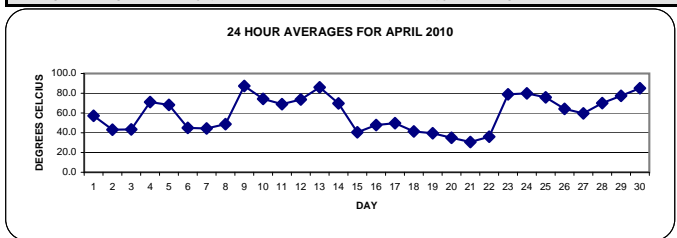
APRIL 2010

## RELATIVE HUMIDITY hourly averages (%)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
DAY	HR	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
1		77	80	83	84	86	86	84	76	64	54	50	44	42	36	38	38	35	34	31	40	46	51	55	59	86	57.2	24	
2		63	66	71	74	79	81	79	63	42	33	29	27	25	21	17	15	14	15	17	28	39	43	45	48	81	43.1	24	
3		52	63	67	67	67	66	64	57	46	38	29	26	24	21	21	23	25	26	30	38	43	42	49	57	67	43.4	24	
4		65	66	71	72	75	78	76	69	51	44	42	40	46	67	80	79	83	81	84	85	86	87	89	90	90	71.1	24	
5		90	89	90	89	89	89	89	87	82	78	73	65	57	46	37	36	37	39	42	49	57	73	75	79	90	68.2	24	
6		78	79	83	84	84	86	80	64	53	48	40	31	24	20	18	17	17	19	21	24	25	26	28	30	86	45.0	24	
7		36	65	85	90	88	89	90	74	58	45	33	29	23	20	19	18	19	19	22	30	30	28	27	28	90	44.4	24	
8		29	50	55	56	61	61	58	38	34	32	30	24	22	22	24	25	35	48	49	71	85	86	87	88	88	48.8	24	
9		88	88	88	89	90	90	90	90	90	89	89	88	87	87	87	86	86	86	86	86	86	85	85	84	83	90	87.4	24
10		82	82	81	79	77	77	76	74	74	71	69	66	65	69	67	72	72	73	73	76	76	77	77	78	82	74.3	24	
11		77	78	78	79	78	78	76	73	69	63	58	56	57	58	58	59	61	67	69	71	71	71	72	78	79	69.0	24	
12		81	81	78	78	79	81	83	82	80	77	73	68	69	68	62	59	59	60	66	71	76	83	78	76	83	73.7	24	
13		75	76	80	85	88	88	88	86	85	86	87	86	87	86	87	88	87	88	89	88	88	88	88	89	89	86.0	24	
14		89	89	89	90	90	90	90	88	86	83	80	76	69	65	63	62	57	46	42	44	43	45	47	51	90	69.8	24	
15		55	56	59	63	69	69	62	50	42	34	28	25	29	25	22	22	22	23	24	29	33	39	43	48	69	40.5	24	
16		51	59	62	61	62	65	61	56	51	44	39	36	33	27	30	32	36	39	42	47	52	52	54	56	65	47.8	24	
17		61	70	80	84	85	86	76	63	53	45	38	32	26	27	22	22	24	27	31	43	48	51	47	52	86	49.7	24	
18		56	62	68	71	75	74	66	58	46	33	27	25	23	21	19	20	19	16	18	24	36	42	45	48	75	41.3	24	
19		49	53	55	59	65	71	64	54	43	34	27	22	21	23	26	25	25	24	27	27	31	36	45	42	71	39.5	24	
20		44	51	52	54	56	66	61	49	42	36	32	30	21	19	19	17	16	17	24	29	29	29	29	27	66	35.0	24	
21		30	33	37	52	62	63	54	39	33	28	24	22	20	20	17	18	16	15	16	21	29	29	28	29	63	30.6	24	
22		31	36	51	58	63	63	59	44	35	33	29	24	20	17	16	17	17	19	24	35	37	41	40	55	63	36.0	24	
23		65	70	74	77	79	79	75	71	66	70	75	73	67	69	83	88	88	89	89	90	90	90	89	88	90	78.9	24	
24		88	88	88	87	87	87	84	79	75	73	70	68	67	69	72	75	77	77	80	83	86	85	86	86	88	79.9	24	
25		85	84	85	85	86	85	81	75	67	66	64	62	64	69	69	67	64	64	70	79	85	88	89	87	89	75.8	24	
26		88	89	90	90	89	89	83	69	60	51	47	49	48	44	45	43	45	47	51	59	62	66	69	67	90	64.2	24	
27		76	81	83	84	84	84	76	66	57	52	48	46	45	45	44	44	43	44	47	50	53	57	59	63	84	59.6	24	
28		67	69	71	78	86	88	87	87	86	82	76	70	66	63	60	58	57	56	56	57	60	65	67	69	88	70.0	24	
29		70	69	70	73	74	74	74	73	71	71	71	72	74	78	79	80	85	87	87	87	87	87	87	87	87	87	77.4	24
30		87	88	88	89	89	89	89	88	88	86	85	84	83	83	81	78	77	78	80	82	85	87	89	89	89	89	85.1	24
HOURLY MAX		90	89	90	90	90	90	90	90	89	89	88	87	87	87	88	88	89	89	89	90	90	90	89	90				
HOURLY AVG		66.2	70.3	73.7	76.0	78.1	79.1	75.8	68.1	61.0	55.9	52.0	48.9	46.8	46.2	46.0	46.1	46.5	47.3	49.3	54.6	58.4	61.0	62.2	64.2				

### 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

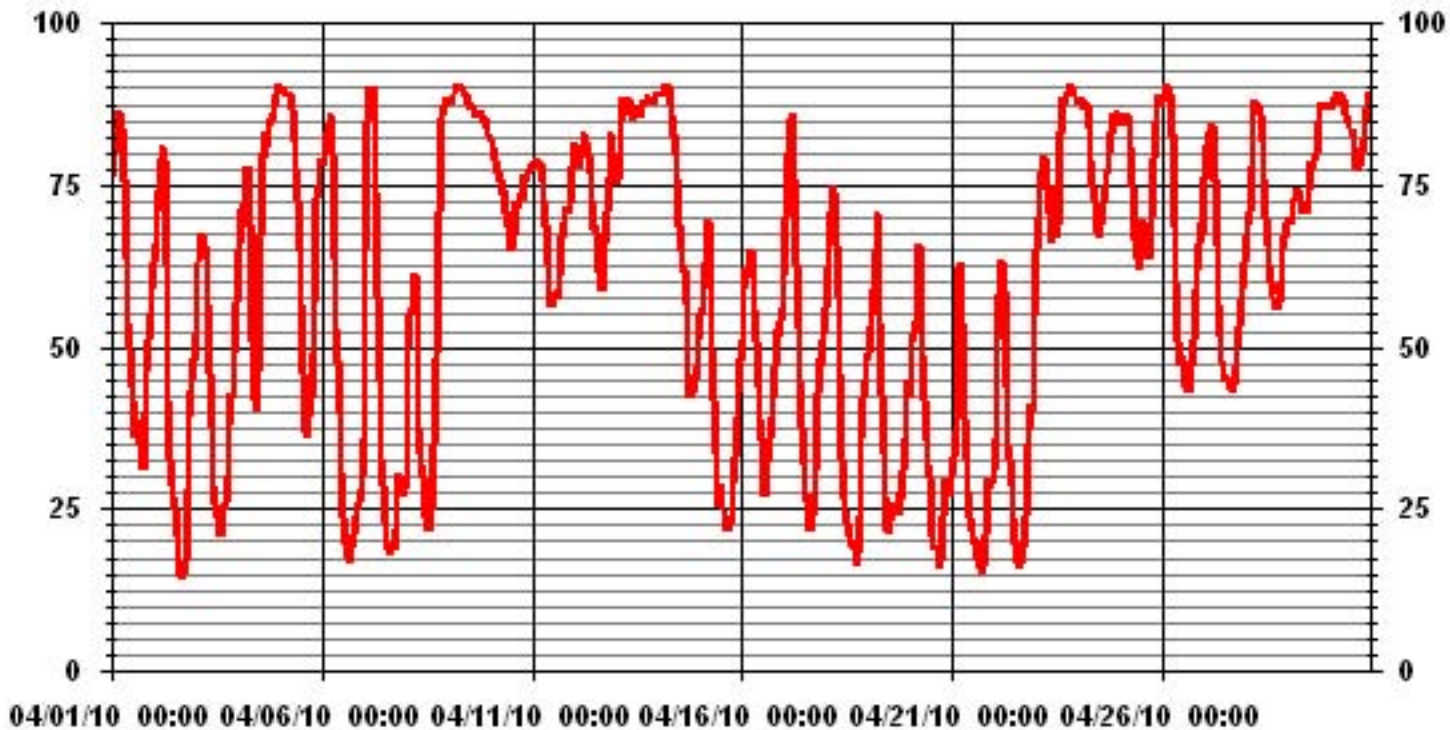


### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	90	%	@ HOUR(S)	VAR	ON DAY(S)	7, 14
MAXIMUM 24-HR AVERAGE:	87.4	%			ON DAY(S)	9
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
STANDARD DEVIATION:	23.18		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	59.75	%	



### 01 Hour Averages



— LICA30 RH %FS

# Barometric Pressure

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

## BAROMETRIC PRESSURE hourly averages (millibar)

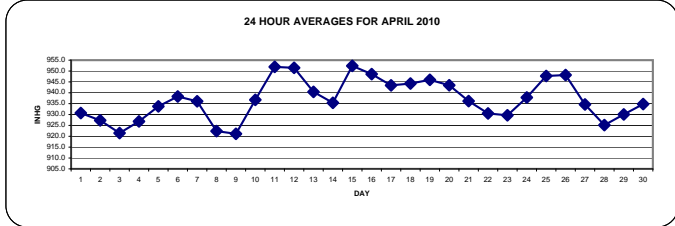
MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
DAY	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS
1	929	929	929	929	929	930	930	930	931	931	932	932	932	932	931	931	931	931	931	931	931	931	931	931	931	932	930.7	24
2	931	931	930	930	930	930	930	930	931	931	930	929	928	927	926	926	925	925	924	923	923	922	922	922	921	931	927.3	24
3	921	921	920	920	920	920	920	921	921	921	922	922	922	922	922	922	922	922	922	922	922	922	922	923	923	923	921.5	24
4	922	922	923	923	923	924	924	925	926	927	927	928	927	928	928	929	929	929	929	930	930	930	930	931	931	931	926.8	24
5	931	931	931	932	932	932	933	933	934	934	933	934	935	936	935	935	935	935	935	935	935	935	935	934	935	936	933.8	24
6	935	936	936	936	936	937	937	938	939	939	940	940	940	940	940	940	940	939	939	939	939	939	938	938	938	940	938.3	24
7	938	938	938	937	937	937	937	938	938	939	939	938	938	937	936	936	935	935	934	933	933	932	932	931	939	936.1	24	
8	931	930	928	927	926	925	925	924	924	923	922	922	921	920	919	919	919	919	919	919	919	919	919	918	918	931	922.4	24
9	917	917	917	917	917	918	918	917	918	918	918	919	920	921	922	923	924	924	925	926	927	928	928	928	928	928	921.1	24
10	929	929	928	929	930	931	932	933	933	934	935	936	937	938	939	940	941	942	943	943	944	945	945	946	946	946	936.8	24
11	947	947	948	948	949	950	950	951	952	952	953	954	954	954	954	953	953	953	954	954	954	954	954	954	954	954	951.9	24
12	954	954	954	953	953	953	953	953	953	953	953	953	953	952	952	951	950	950	949	949	948	948	947	947	954	951.5	24	
13	946	946	945	945	944	944	943	943	942	942	942	941	940	940	939	938	938	937	937	937	936	936	935	934	946	940.4	24	
14	934	933	932	932	931	931	931	931	932	932	932	932	933	934	935	936	937	938	939	940	942	943	944	945	945	945	935.4	24
15	946	946	947	948	949	950	951	952	953	954	955	955	955	955	955	955	954	954	954	954	954	954	953	953	953	955	952.4	24
16	953	953	953	952	952	951	951	951	951	951	951	950	949	948	948	947	946	946	945	944	944	944	943	943	943	943	948.6	24
17	943	943	942	942	942	942	943	944	944	945	945	945	945	945	944	944	944	944	944	943	943	942	942	942	942	945	943.4	24
18	943	943	943	942	942	943	943	944	945	946	946	946	945	945	945	945	945	945	945	945	944	944	944	944	946	944.3	24	
19	945	945	945	945	945	945	946	947	947	947	947	947	947	946	946	946	946	946	946	946	946	945	945	945	947	946.0	24	
20	945	945	945	945	945	944	945	945	945	945	945	945	944	944	944	943	943	942	942	941	941	940	940	940	945	943.5	24	
21	940	939	939	938	938	937	938	938	939	939	938	938	937	936	936	935	934	934	933	933	933	932	932	932	930	936.2	24	
22	932	932	932	931	931	931	931	931	932	933	933	933	932	932	931	931	930	930	929	928	928	927	927	927	927	933	930.5	24
23	928	928	928	927	927	927	928	928	928	928	928	928	929	929	930	931	931	932	932	932	933	933	933	933	933	933	929.6	24
24	934	934	934	935	935	935	934	935	936	937	937	938	938	939	939	940	941	941	941	941	941	942	942	942	942	942	937.8	24
25	942	943	944	944	945	945	946	947	948	948	948	949	949	949	949	950	950	950	950	950	950	950	950	950	950	950	947.7	24
26	950	950	950	950	950	950	950	951	951	951	950	950	950	949	949	948	947	946	946	945	944	944	943	942	951	948.2	24	
27	941	941	940	939	939	938	938	938	938	938	937	937	936	935	934	933	932	931	931	930	929	929	929	928	927	941	934.6	24
28	927	926	926	925	925	925	924	924	924	924	924	924	924	924	924	925	925	925	926	926	926	926	926	926	926	927	925.1	24
29	926	926	926	926	927	927	927	928	928	929	929	929	930	930	931	931	932	933	934	934	933	935	935	935	935	935	930.0	24
30	935	935	935	935	935	935	935	935	936	936	935	935	935	935	935	935	935	935	935	935	934	934	933	932	936	934.8	24	
HOURLY MAX	954	954	954	953	953	953	953	953	953	954	955	955	955	955	955	955	955	954	954	954	954	954	954	954	954	954		
HOURLY AVG	937	936	936	936	936	936	936	937	937	938	938	938	937	937	937	937	937	937	937	937	937	937	937	937	936	936		

### STATUS FLAG CODES

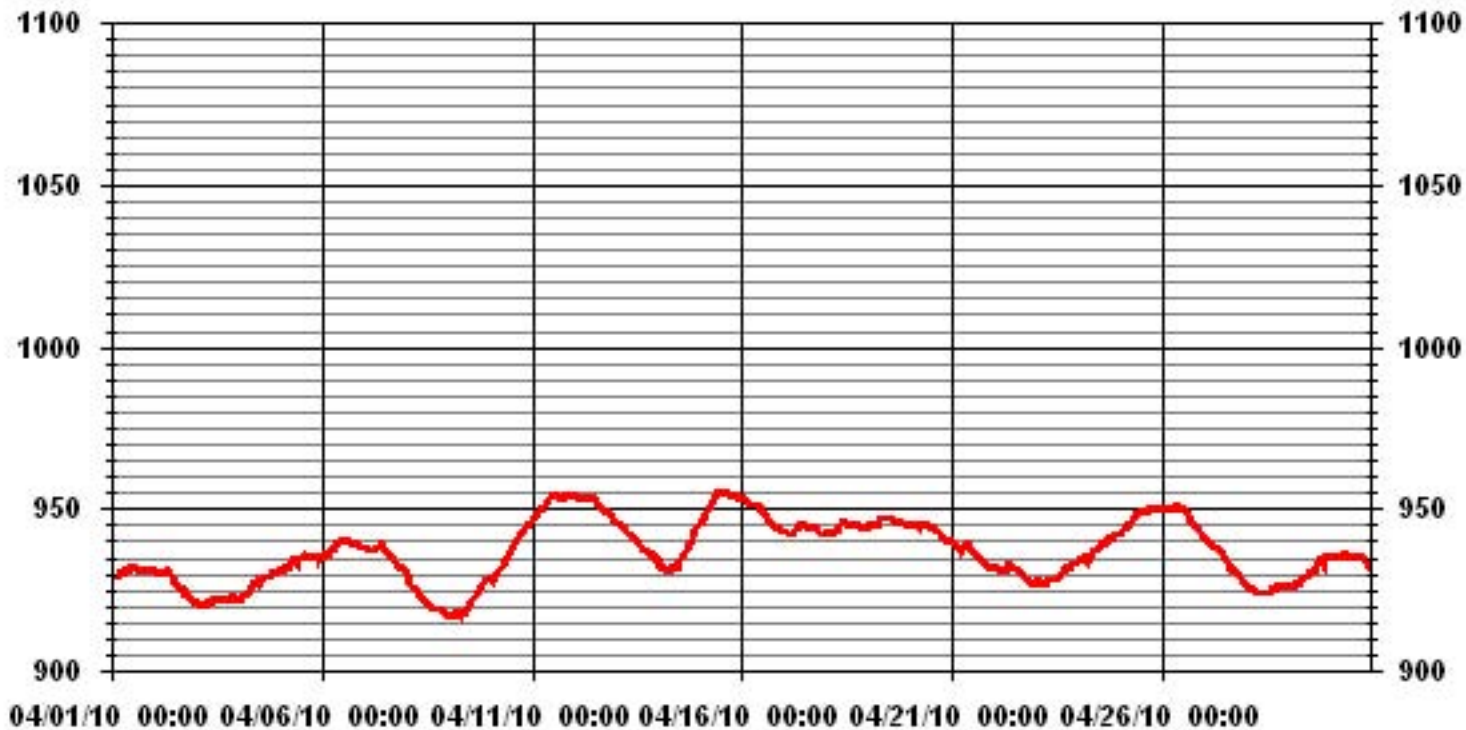
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	955	MB	@ HOUR(S)	VAR	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	952.4	MB			ON DAY(S)	15
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
			AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	9.59		MONTHLY AVERAGE:	937	MB	



### 01 Hour Averages



— LICA30 BP MB

# Vector Wind Speed

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

APRIL 2010

## WIND SPEED hourly averages (km/hr)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	3.7	3.6	3.2	3.9	3.9	3.7	4.5	5.5	8.3	11.8	10.9	9.7	9.2	9.4	7.1	5.9	6.5	5.5	5.1	4.8	3.9	4.3	3.7	4.2	11.8	5.4	24
2	4.1	3.4	3.3	2.7	2.1	2.5	0.7	1.6	1.4	5.2	7.8	8.4	9.9	9.3	10.1	10.3	10.4	8.3	4.3	2.7	3.7	7.7	8.1	7.3	10.4	4	24
3	4.8	3.7	3	4.1	5.1	5.3	4.4	4.6	3.9	6.2	9	10.4	9.1	8.4	9.8	8.8	8.4	4.3	2.2	2	1.8	2.5	0.6	3.6	10.4	4.1	24
4	1.7	0.1	1.5	0.8	0.4	1.1	1.4	0.8	2.7	1.9	4.9	5.2	7	6.5	6	2.6	4.6	4.2	6.9	6.1	3.1	1.9	1.1	1.1	7	1.1	24
5	1.1	0.6	2.8	2.9	0.9	1.2	1.7	2.4	1.3	1.8	3.4	1.4	3.6	1.1	2.8	5.4	7.3	4.9	4.4	4.1	3.8	1.2	1	1.9	7.3	0.7	24
6	1.6	0.7	0.9	0.4	1	0.6	1.4	4.1	7	10.4	10.1	9.7	11.4	11.2	10.5	10.5	7.7	6.4	5	5.4	9.9	9.9	10	5.3	11.4	5.4	24
7	2.2	3.8	1.7	1.7	4.1	2.1	1.7	4.5	3.5	4.2	8	8.5	8.6	10.3	10.7	9.6	10	7.1	3.8	4.3	4.9	5.4	6.5	6.5	10.7	5.1	24
8	5.8	1.8	2.5	4.2	2.7	2.8	3.1	5.8	7.1	7.8	8.5	9.4	9.8	7.3	4.3	0.6	3.3	4	5.3	4.9	4.2	7.5	9	8.2	9.8	0.8	24
9	10.3	12.1	11.8	13.4	15.8	17.7	18.3	17.7	17.8	15.9	18	18.3	20.6	20.6	<b>20.7</b>	20	18.1	17.3	16.3	17.5	16.3	15.4	15.3	15.3	<b>20.7</b>	<b>16.4</b>	24
10	14.6	14.5	16.3	15.6	16.6	15.4	16.7	15.3	16.2	14.9	15.6	15.9	14.1	13.4	13.3	12.7	11.8	11.9	11.8	10.7	9.6	8.5	7.8	8.6	16.7	13.3	24
11	8.1	6.9	6.3	7	8.6	6.5	5.9	6.3	4.6	5	5.5	5.2	4	4.3	2.6	1.7	1.2	1.4	2.3	2.6	2.7	2.1	1.7	3.4	8.6	3.1	24
12	3.2	3.9	5.4	5.3	5.1	5	5.5	5.4	6.4	6	8	8.5	7.7	7.9	8	9.6	9.7	9.5	6.7	4.8	4.1	3.4	5.6	5.5	9.7	6	24
13	5.9	6	5.1	4.7	6.3	6.5	7.4	6.9	8.3	6.4	6.3	6.2	7.5	9.2	10.1	9.9	9.5	9.2	9.3	9.6	9.5	8.2	7	7	10.1	6.8	24
14	6.8	7.8	8.1	9	8.9	9.3	11.1	11.9	10.1	11.4	11.9	12.2	13.3	12.1	10.2	10.4	7.5	10.2	10.4	9.9	8.6	6.7	7.3	6.5	13.3	9.5	24
15	6.5	7.8	5.3	3	3	3.5	3.3	2.9	2.1	1.4	3.8	6.3	9.1	8.9	9	7.9	7.8	8	6.9	4.1	7.6	5.5	5	6.1	9.1	2.9	24
16	5.8	4.8	4.1	3.7	4.8	4	3.5	7.7	9.8	10.2	10.7	11.7	15.1	15.4	15.4	15.1	15.5	13.5	10.5	7.6	6.4	7.7	8.5	7.3	15.5	8.9	24
17	4.2	2.8	0.5	1	1.7	1.4	1.1	2.6	1.4	4.6	5	3.7	1.1	2.4	1.9	6.4	6.7	7.4	3.7	2.2	3.9	3.9	3.8	4.2	7.4	2.4	24
18	5.2	5.2	4.3	4.2	4.4	4.3	4	4.4	4	6	8.6	10.2	12	10.4	10.9	9.5	8.5	7.8	6.8	4.1	2.9	3.4	4.5	5.4	12	5.5	24
19	4.9	5.9	5.7	4.9	4.2	4.1	4.5	5.2	5.8	7	7	9.8	10.1	10.2	9	9.3	10.6	9.9	7.5	7.8	7.4	5.5	4.7	6.4	10.6	5.8	24
20	5.5	4.4	6.7	5.6	5.6	4.5	4.6	4.6	7.2	6.9	10.6	11.6	13.5	15.4	13.1	11.8	11.1	11.6	9.4	6.9	6.4	6.8	7.8	8.7	15.4	6.9	24
21	7.4	6.4	6.1	3.3	4	5.1	3.9	5	5.2	5.8	7.6	10.7	13.9	12.5	13.2	11.9	10.7	11.4	8.1	5.3	5.4	6.8	8.2	8.8	13.9	6.7	24
22	9.6	6.2	4.3	2.8	2.4	4.1	2.7	0.8	4.8	5.9	5.3	8.1	9.4	6	7.5	4.5	5.6	6.3	3	1.5	3.8	3.1	2.1	5.9	9.6	2.2	24
23	7.5	5.6	6.4	6.2	5.9	6.5	7.4	8.4	9.3	10	5.4	1.3	8.4	9.8	7.8	5	2.4	4.3	4.6	4.8	5.1	6.6	9.6	11.5	11.5	5.9	24
24	11.3	11.2	8.1	6.8	7.8	8	8.5	9.4	8.9	8.8	8	6.6	6.1	6.2	7.5	7.5	6.5	5.7	6	4.6	1.7	4.2	3.8	3	11.3	6.8	24
25	3.1	3	2.4	2	3.2	3.3	3	2.8	3.4	3.6	4.3	4.1	4.4	4.7	4.5	3.7	3.7	3.8	3.1	2.6	1.6	0.6	1.8	1.1	4.7	2.5	24
26	0.5	0.9	1.2	2	4.1	3.1	3.4	4.2	6.4	6.3	6.4	3.7	4.5	6.2	7.5	6.4	6.6	6.6	6.1	4.5	5.8	4.7	4.6	6.1	7.5	4.4	24
27	2.6	2.7	3	3.7	3.3	4.7	5	4.6	7.8	9	10	10.8	11.5	11	10.3	11.4	12.3	9.9	8.2	6.5	5.3	5.5	5.2	4.5	12.3	6.6	24
28	5	5.7	6.6	7.1	6.9	9.5	10.3	9.7	14.4	15.3	14.8	16.1	19	16.8	19.2	20	18.6	16.2	19.9	16.1	16.5	14.7	16.6	16.1	20	13.6	24
29	15.7	16.5	17.3	13.6	12.2	14.2	14.3	15.2	13.3	14.8	14.2	14.4	16.6	16.4	15.1	14.9	12.4	10.8	9.8	8.1	6.5	5.8	6.2	6.7	17.3	12.4	24
30	6.2	4.7	5	4.4	4.4	3.9	4.6	4.8	4.8	6.8	9.1	9	7.5	7.7	6.8	6.2	6.8	6.4	4.5	4.2	3.2	3.6	3.2	3.7	9.1	5.3	24
HOURLY MAX	15.7	16.5	17.3	15.6	16.6	17.7	18.3	17.7	17.8	15.9	18.0	18.3	20.6	20.6	20.7	20.0	18.6	17.3	19.9	17.5	16.5	15.4	16.6	16.1			
HOURLY AVG	5.8	5.4	5.3	5.0	5.3	5.5	5.6	6.2	6.9	7.7	8.6	8.9	9.9	9.7	9.5	9.0	8.7	8.1	7.1	6.0	5.9	5.8	6.0	6.3			

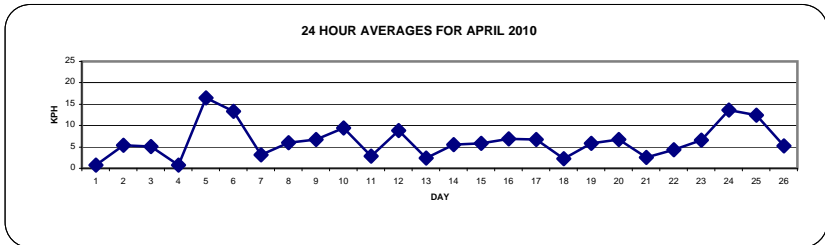
### STATUS FLAG CODES

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

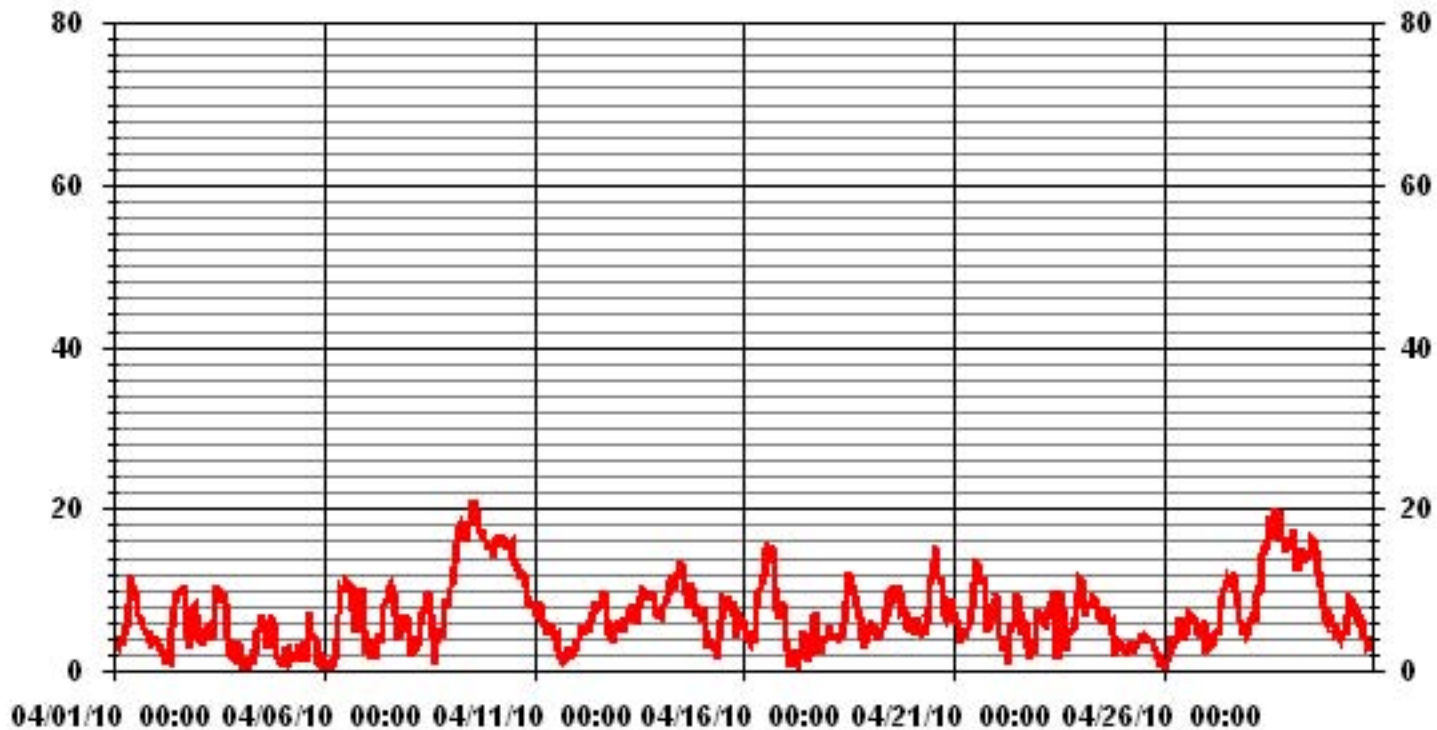
LAST CALIBRATION: February 4, 2009

### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	20.7	KPH	@ HOUR(S)	14	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	16.4	KPH			ON DAY(S)	9
CALMS ( $\leq$ 1 KPH)	2.02	%				
MONTHLY CALIBRATION TIME:	0	HRS			OPERATIONAL TIME:	720 HRS
STANDARD DEVIATION	4.26				AMD OPERATION UPTIME	100.0 %
					MONTHLY AVERAGE	7.01 KPH



### 01 Hour Averages



— LICA30 WSP KPH

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

### VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY	1	17.5	15.3	17.7	21.3	17.5	17	17.4	28.6	29.3	38.5	40.2	34.2	34.4	35.7	30.6	25.6	21.5	37.2	35.3	28.2	12.5	16.2	8.8	10.3	40.2
	2	10.4	12.5	11.4	9.9	10.8	12.5	10.1	9	11.6	18.5	21.5	25.2	31.9	33.8	30.6	34.2	31.4	21.1	14.4	17.4	16.2	26.5	26	23	34.2
	3	24.1	12.5	14.8	15.1	17.5	17.5	15.3	12.9	21.7	25.6	29.3	32.7	35.1	31.4	34	26.7	25.7	11.6	6.5	10.8	13.1	8	16.6	14.2	35.1
	4	14	10.6	12.5	14.9	10.8	10.6	12.3	11.9	14.2	14.2	20.7	20.7	28.2	23.9	19	15.1	19	18.5	27.5	24.3	15.7	16	11.4	11.4	28.2
	5	14.9	9.9	12.9	12.9	9.7	10.8	10.1	15.1	11.4	12.7	14	17	18.5	18.9	18.7	25.2	23.5	19.4	17.4	8	10.1	12.9	10.4	19.4	25.2
	6	10.3	9.3	10.1	9.3	10.4	11.9	17.7	15.7	21.5	24.3	24	26.2	32.1	30.6	36.1	38.9	19.4	19.6	13.1	15.1	26.5	24.3	25	18.3	38.9
	7	8.4	25	9.9	11.2	10.6	13.1	8.8	10.9	13.8	18.3	19.8	23.7	33.1	37.9	38.1	42.2	45.2	28.6	18.9	10.1	11.2	13.3	15.5	15.3	45.2
	8	15.7	10.3	13.4	15.1	13.3	13.4	14.6	20	15.7	17.9	22.4	23.4	30.5	24.7	15.1	16.2	34.2	27.3	14.9	25	19	30.8	37	29.5	37
	9	39.4	46.5	50.2	53	56	55.1	57.5	62	56.4	47.8	54.6	55.7	67	65.9	<b>68</b>	65.9	59.2	60.3	64.8	56.6	61.2	58.1	52.5	49.5	<b>68</b>
	10	55.4	47.8	49.3	55.5	52.5	47.6	50.6	49.1	57.7	46.3	51	48.7	57.3	44.6	45.4	48	43.1	39.6	50.2	35.3	31.9	31	31.2	31.2	57.7
	11	35.9	29.3	21.5	23.3	30	23.3	23.3	20.6	18.7	17.7	22	21.1	19.6	15.3	17.5	11.2	11.4	11.4	12.2	10.1	9.9	9.7	10.1	11.6	35.9
	12	15.7	15.1	20.3	21.5	18.9	19.2	20.3	20.9	21.5	21.1	24.3	30.6	25	26.7	30.6	31	30.5	30.4	24.3	19.4	19.8	18.8	20	22.2	31
	13	21.5	22.4	18.8	19.6	27.3	24.3	25	29.3	30.6	22.8	21.5	22.8	19.4	21.1	23	20.4	20.3	22	31.9	23.5	23.3	20.5	22.4	16.2	31.9
	14	16	20.5	19.6	23.6	28.2	25	33.6	35.3	32.7	41.1	35.3	45.4	37.7	43.5	42.6	36.4	28.6	48	48.6	42	34.6	23.2	27.1	25.4	48.6
	15	16.4	20.5	17.2	11	12.5	13.4	12.3	8.6	11.5	13.1	13.7	18.9	21.3	24.7	27.3	28	26	23	18.7	9.7	17.7	12.1	11.9	17.9	28
	16	18.7	14	11.2	11.2	13.7	17.9	14	22.6	25.4	29.3	28.6	36.1	44.3	43.2	54	40.4	52.3	48.6	29.7	18.1	14.9	18.7	18.5	15.7	54
	17	10.3	9.5	10.5	9.5	10.4	18.5	5	10.3	14.6	19.2	19.8	20	18.1	20.9	18.1	29.5	26.7	24.7	19.8	5	8.4	11.2	11.6	12.9	29.5
	18	17.4	17.6	11.4	14.2	13.3	16.2	11.2	14.4	20	28.6	27.3	32.1	36.3	34	35	32.3	29.5	26.7	28.4	13.8	6.5	7.1	9.3	10.1	36.3
	19	10.8	17.9	17.7	16.5	15	12.9	10.1	16.1	15.5	21.5	27.5	32.3	37	37.4	43.4	33.5	33.1	32.9	23.4	21.1	16.1	16.4	15.9	19.8	43.4
	20	16.1	21.7	26	26.9	28.2	9.9	11.6	22.3	24	26.8	32.2	36.8	42.4	46	41.5	36.8	37.4	30.3	27.3	23.4	19.4	18.3	19.4	28.4	46
	21	21.1	16.4	17.7	12.9	7.3	9	15.9	17.6	19.4	22.8	26	42.4	39.8	43.4	45.4	38.9	34.6	35.7	22.8	15.7	14.2	20.4	20.6	21.9	45.4
	22	24.2	18.7	11.1	9.3	11.6	26	12.3	14.4	14	17.4	18.9	27.5	28.4	27.5	36.3	23	25.4	23.6	18.5	4.5	15.1	7.3	16.4	28.4	36.3
	23	32.3	24.3	26.3	20.7	23.9	27.5	27.1	25.8	25.8	34	27.8	16.4	25.6	25.6	22.4	15.5	9	11.2	13.6	11.8	13.1	15.9	28.2	27.3	34
	24	29.3	28.6	21.3	16.6	21.1	20	20.3	23.3	25.6	24.8	19.4	21.3	15.9	19	21.7	18.7	23	19.8	19	15.5	11	11.9	12.7	11.9	29.3
	25	14.7	13.1	11.2	14.2	13.4	15.3	14	12.1	11.4	14.9	17.1	20.4	22.4	14.6	17.9	14.2	15.7	14	14	19.6	16.6	9.1	13.8	10.5	22.4
	26	10.5	9.1	10.8	16.8	13.6	12.7	14.2	15.7	22.6	22	23.9	20.4	22.1	26.3	26.3	26.5	23.5	21.5	23.5	19	22	17.5	14.7	19.2	26.5
	27	16	13.3	22.8	18.8	18.3	18.6	19.4	21.8	26	29.5	34.4	30.6	40	33.4	34.4	32.4	37.6	31.9	29.3	25.4	25.6	22.8	21.1	13.6	40
	28	20.9	20.7	22.8	24.8	19.8	21.5	29.7	26	33	40.9	39.6	49.1	51.6	48	44.8	54.2	48.8	41.7	45.2	39.6	37.9	37.9	38.3	44.3	54.2
	29	39.8	46	44.1	34.4	37.7	40.3	37	48.4	45.2	43.3	46.5	49.7	50.8	49.3	46.5	48	51.4	30.8	30.4	30.4	34.3	24.3	26.9	20.3	51.4
	30	17.9	14.9	17.5	14.2	16.1	15.3	17	18.3	15.1																18.3
PEAK		55.4	47.8	50.2	55.5	56.0	55.1	57.5	62.0	57.7	47.8	54.6	55.7	67.0	65.9	68.0	65.9	59.2	60.3	64.8	56.6	61.2	58.1	52.5	49.5	

**STATUS FLAG CODES**

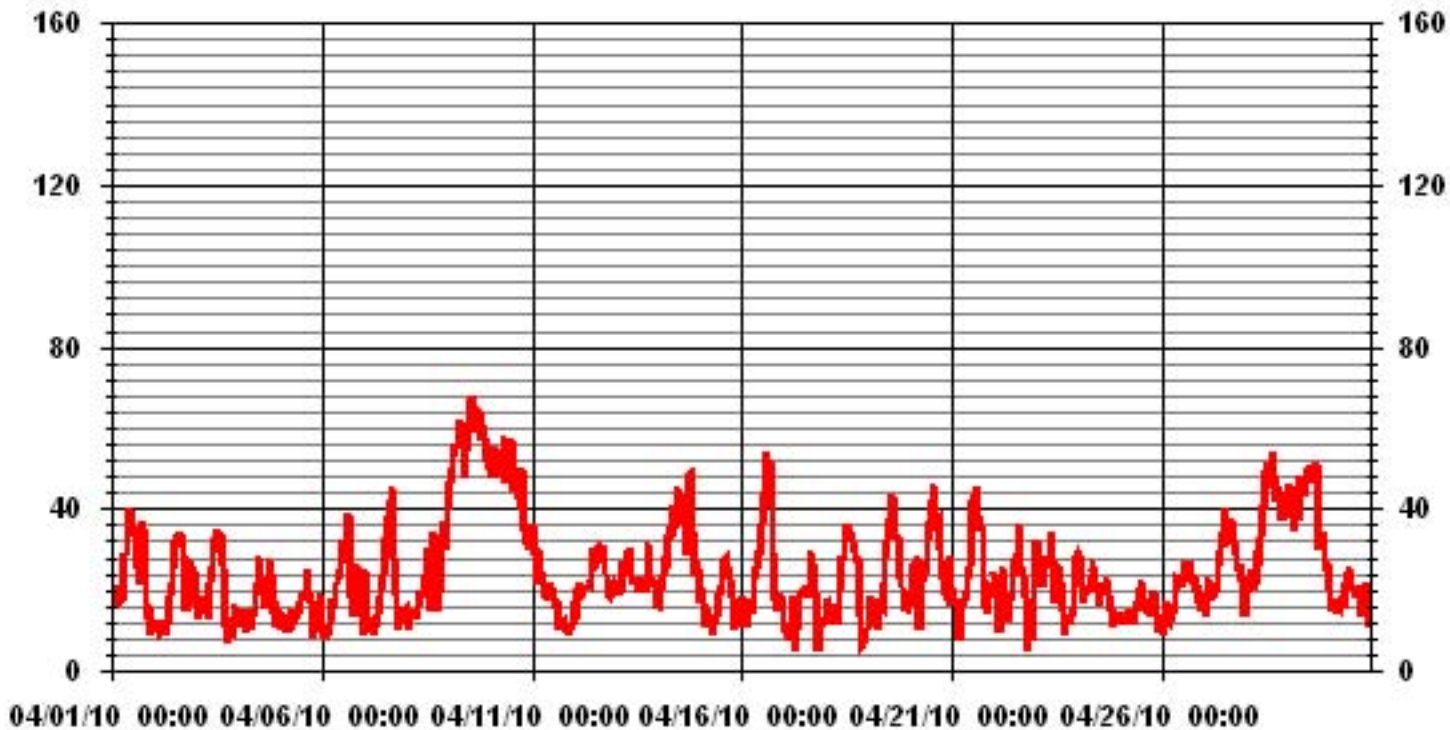
S - OUT OF SERVICE	IZS - IZS - DAILY ZERO/SPAN CHECK
N - INVALID DATA	M - MISSING DATA
D - INSTRUMENT DRIFT	P - POWER FAILURE
C - CALIBRATION	NA - NOT APPLICABLE

**MONTHLY SUMMARY**

MAXIMUM INSTANTANEOUS READING	68	KPH	@ HOUR(S)	14
			ON DAY(S)	9



### 01 Hour Averages



— LICA30 WSMAX KPH

LICA30  
WSP / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 30  
Site Name : LICA30  
Parameter : WSP  
Units : KPH

Wind Parameter : WDR  
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	3.47	2.36	6.80	6.38	4.30	2.50	2.22	2.50	1.25	2.63	2.63	1.52	1.66	1.11	2.08	3.88	47.36
< 12.0	3.33	2.22	5.27	.69	3.61	5.83	3.61	2.63	3.33	2.22	1.25	.13	.69	1.11	1.80	2.63	40.41
< 20.0	1.94	1.66	1.25	.13	.00	.13	.00	.97	.69	.00	.00	.00	.00	3.47	1.11	.13	11.52
< 29.0	.00	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.55	.00	.00	.69
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	8.75	6.38	13.33	7.22	7.91	8.47	5.83	6.11	5.27	4.86	3.88	1.66	2.36	6.25	5.00	6.66	

Calm : .00 %

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	25	17	49	46	31	18	16	18	9	19	19	11	12	8	15	28	341
< 12.0	24	16	38	5	26	42	26	19	24	16	9	1	5	8	13	19	291
< 20.0	14	12	9	1		1		7	5					25	8	1	83
< 29.0		1												4			5
< 39.0																	
>= 39.0																	
Totals	63	46	96	52	57	61	42	44	38	35	28	12	17	45	36	48	

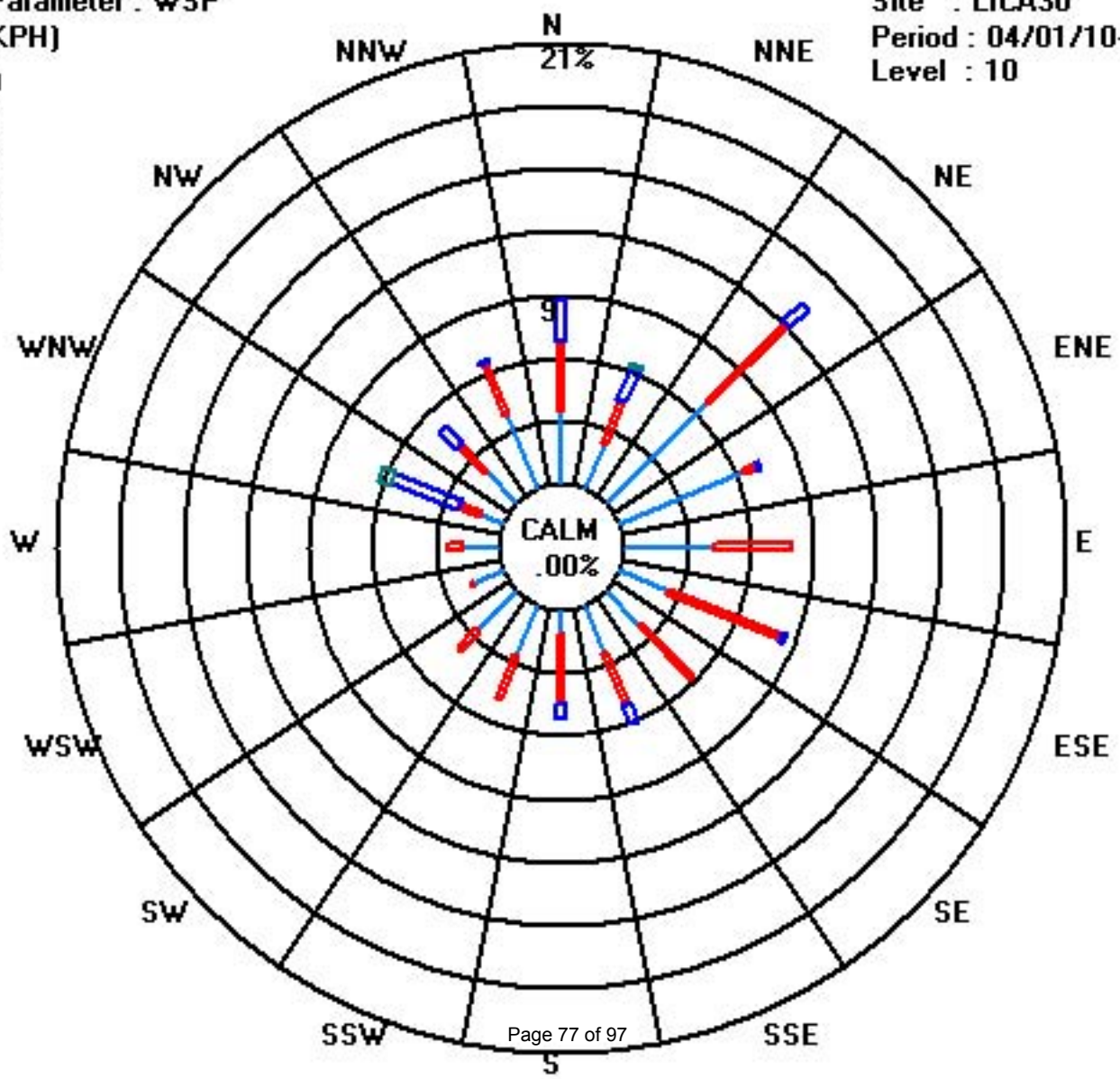
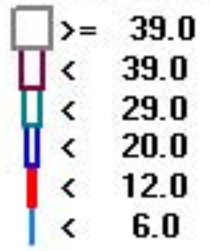
Calm : .00 %

Total # Operational Hours : 720

Class Limits (KPH)

Period : 04/01/10-04/30/10

Level : 10



# Vector Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -COLD LAKE- MASKWA

APRIL 2010

## WIND DIRECTION hourly averages in degrees

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	24-HOUR	24-HOUR	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	AVG.	QUADRANT		
DAY																												
1	257	244	243	246	263	238	228	265	281	284	283	286	268	278	254	249	218	217	266	267	226	224	215	210	257	WSW	24	
2	210	218	200	208	215	207	52	41	158	155	153	143	122	111	185	188	203	191	186	88	51	108	108	104	154	SSE	24	
3	88	32	33	49	55	57	38	32	101	104	121	126	121	112	134	132	146	177	155	123	127	115	117	96	106	ESE	24	
4	66	0	61	97	61	266	280	259	298	230	221	222	26	41	43	8	246	273	274	288	345	44	260	349	314	NW	24	
5	65	346	355	4	346	227	52	82	14	278	290	214	245	226	215	55	89	107	131	148	144	82	33	358	86	E	24	
6	31	68	3	78	77	38	71	180	191	190	182	180	196	199	189	190	182	160	135	134	140	140	149	173	171	S	24	
7	199	217	151	142	195	244	195	208	221	223	193	194	214	212	217	230	221	223	205	160	164	161	172	180	202	SSW	24	
8	186	44	58	76	55	65	62	115	150	162	170	156	188	198	186	356	217	2	18	18	336	339	327	328	131	SE	24	
9	323	335	327	318	312	306	303	303	300	300	299	302	297	296	296	291	294	299	298	298	298	298	296	298	302	WNW	24	
10	294	294	296	295	299	295	295	295	300	305	308	304	303	308	302	309	311	310	305	307	311	314	303	302	302	WNW	24	
11	316	314	295	281	292	294	305	316	315	323	290	291	313	330	285	318	342	41	145	153	162	164	161	42	302	WNW	24	
12	55	84	89	88	80	95	92	101	111	113	115	114	112	91	90	94	91	88	83	89	79	64	95	94	94	E	24	
13	99	118	88	68	82	85	87	82	82	74	56	52	38	33	32	36	34	36	43	39	34	37	38	25	53	NE	24	
14	14	15	14	12	6	3	8	13	0	0	356	357	4	358	349	347	348	346	344	348	346	346	354	355	358	N	24	
15	356	0	352	337	302	300	309	320	21	245	234	199	204	209	213	226	219	201	195	165	183	194	178	181	220	SW	24	
16	194	212	195	161	146	148	161	175	181	176	174	161	161	167	170	167	178	175	171	158	155	171	186	195	171	S	24	
17	190	208	209	24	116	94	18	36	63	65	50	68	106	72	265	85	94	95	67	54	65	62	53	68	76	ENE	24	
18	73	64	52	56	53	58	54	40	62	102	109	117	119	110	104	83	77	120	114	118	45	39	41	37	87	E	24	
19	49	67	69	65	56	50	45	41	38	45	66	94	111	106	105	118	105	108	135	152	145	126	115	121	94	E	24	
20	120	89	101	91	86	36	29	87	102	138	132	107	171	170	165	159	156	163	157	134	130	126	132	138	134	SE	24	
21	128	131	129	63	33	36	47	132	137	141	129	152	168	153	156	160	166	162	157	146	131	135	137	142	142	SE	24	
22	145	143	38	61	73	88	51	45	189	194	204	197	198	215	175	138	122	69	72	36	63	64	251	316	146	SE	24	
23	343	327	316	322	322	327	331	351	354	359	351	33	41	36	29	19	348	358	1	10	23	24	35	36	3	N	24	
24	33	33	36	37	37	33	35	36	44	42	40	45	40	41	33	44	54	48	41	35	4	22	9	3	36	NE	24	
25	1	358	342	336	321	322	329	340	351	336	328	327	307	356	357	354	319	302	323	38	72	164	116	205	340	NNW	24	
26	265	165	103	89	81	53	86	116	112	107	105	106	134	110	114	117	103	100	98	96	103	119	121	129	107	ESE	24	
27	45	71	69	70	64	65	65	83	114	112	113	105	97	91	79	77	76	84	83	83	75	63	63	45	84	E	24	
28	50	54	45	52	48	41	42	48	41	41	52	52	45	42	39	33	35	35	31	28	26	25	24	21	37	NE	24	
29	20	23	21	18	11	10	12	13	4	4	4	0	9	8	5	4	1	358	357	348	345	338	341	347	6	N	24	
30	354	343	346	338	344	332	323	342	350	359	6	12	8	10	2	340	356	352	351	344	346	346	340	345	352	N	24	
HOURLY AVG	356	358	355	338	346	332	331	351	354	359	356	357	313	358	357	356	356	358	357	348	346	346	354	358				

### 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:

February 4, 2009

DECLINATION :

19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME: 0 HRS

OPERATIONAL TIME:

720 HRS

STANDARD DEVIATION 109.94

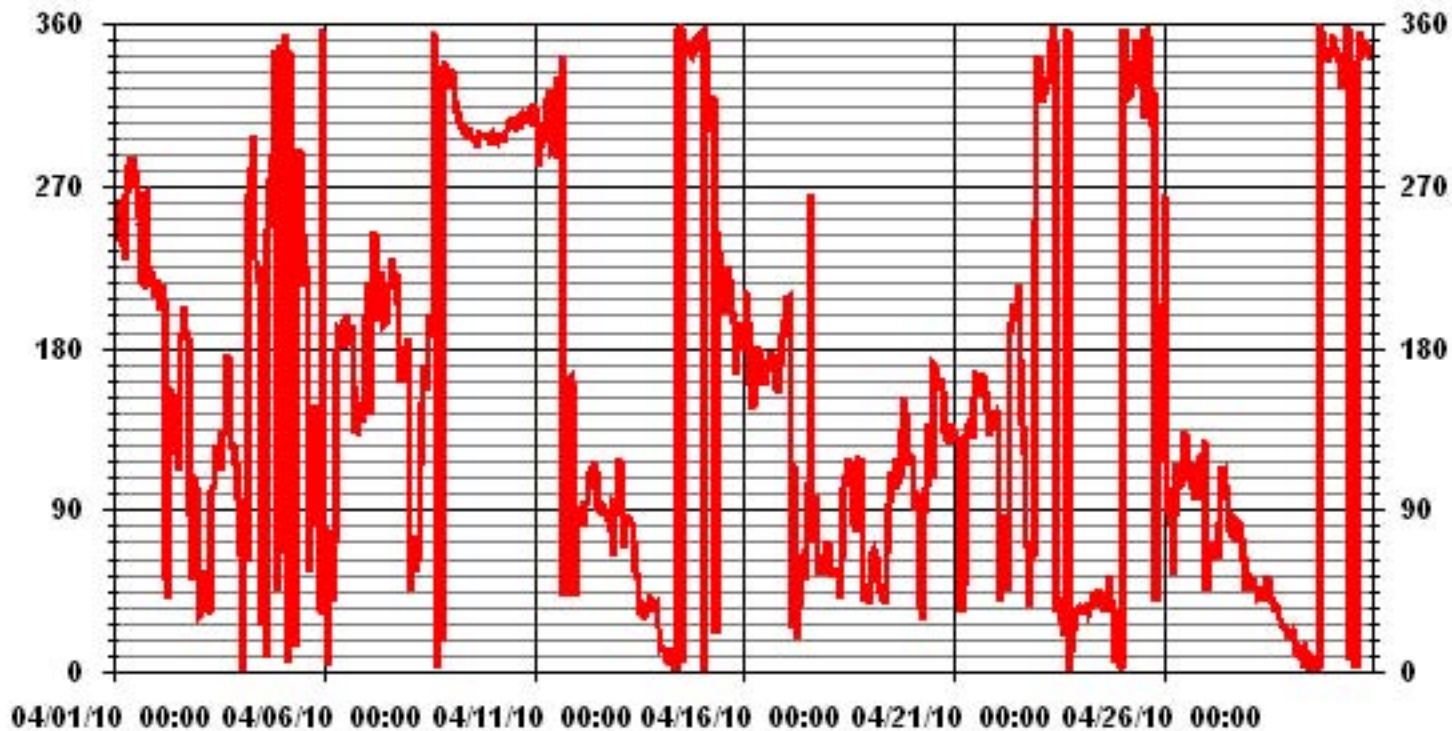
AMD OPERATION UPTIME

100.0 %

MONTHLY AVERAGE

41 DEG

### 01 Hour Averages



— LICA30 WDR DEG

# Standard Deviation Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2010

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
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	25	21	25	22	26	21	24	28	26	25	29	31	34	31	34	33	29	31	30	26	17	14	12	13	
2	13	33	13	16	25	22	45	47	45	35	28	30	29	36	33	26	22	20	17	16	20	17	19	19	
3	25	24	29	20	15	14	14	20	35	31	29	26	28	32	30	24	23	21	23	31	51	26	52	20	
4	41	61	35	55	63	34	44	54	47	64	28	32	32	26	23	34	22	25	22	24	35	28	38	45	
5	47	59	27	28	44	30	50	36	66	38	32	56	46	55	46	34	30	26	16	11	14	29	53	28	
6	35	59	47	62	57	38	40	47	21	18	23	29	26	24	27	23	25	21	15	14	17	16	16	20	
7	33	24	34	41	18	39	37	17	29	35	23	27	30	32	27	32	28	29	16	9	11	13	15	16	
8	13	36	19	20	22	24	20	23	25	26	30	28	29	32	37	80	63	52	18	37	32	30	34	33	
9	34	34	33	31	29	28	27	26	25	25	25	23	23	23	23	24	23	25	25	23	24	24	23	23	
10	24	23	23	24	26	24	22	26	25	29	29	31	26	27	33	28	33	32	30	30	30	30	33	29	
11	34	33	29	22	23	25	31	33	36	35	33	40	39	39	46	45	56	47	28	20	20	29	24	12	
12	17	20	22	24	20	26	24	25	22	25	24	24	26	25	28	26	25	24	23	22	22	18	21	21	
13	20	21	24	19	23	25	24	25	22	27	22	22	18	15	14	15	15	15	19	18	15	15	15	14	
14	18	18	20	20	29	21	21	20	24	25	26	25	23	25	28	29	29	30	30	29	37	30	26	24	
15	21	20	25	28	27	24	19	30	55	46	34	26	21	22	25	27	24	19	15	11	14	12	14	15	
16	22	19	19	23	20	28	31	25	22	23	24	26	23	23	23	21	23	22	20	16	13	17	13	14	
17	18	24	62	47	18	49	36	30	61	33	42	53	69	47	63	41	32	22	21	18	15	15	17	14	
18	15	16	17	15	15	17	17	17	32	35	30	27	25	31	28	30	25	25	20	14	17	13	14	11	
19	17	14	15	17	17	16	15	17	22	23	30	29	30	31	29	27	25	25	21	16	14	16	18	18	
20	19	23	22	28	29	19	19	33	26	35	28	26	27	24	26	30	25	21	20	16	16	15	17	17	
21	18	19	19	26	13	10	20	36	37	35	33	28	26	27	25	29	29	22	20	14	10	13	14	16	
22	16	20	26	21	37	15	18	58	33	25	36	30	35	52	39	47	43	26	24	30	15	15	55	34	
23	35	37	34	33	35	35	34	29	28	26	47	50	23	20	21	23	29	25	24	28	17	16	16	16	
24	15	14	15	17	17	13	17	18	21	21	21	24	25	21	19	21	25	25	19	16	26	15	19	20	
25	21	30	38	46	35	33	39	42	37	34	35	45	39	32	34	31	38	29	33	21	29	48	47	51	
26	40	40	57	47	17	24	22	34	28	27	31	40	41	33	26	33	28	26	23	20	21	19	16	21	
27	32	18	19	18	19	18	20	32	26	27	29	28	29	27	27	24	25	24	22	23	23	21	21	17	
28	21	21	20	20	19	18	19	21	17	18	23	22	22	21	19	16	18	19	16	16	16	17	17	17	
29	17	21	17	20	22	24	21	21	23	25	25	27	23	23	24	25	34	26	27	30	31	33	34	30	
30	28	30	28	31	32	31	30	32	28																

### STATUS FLAG CODES

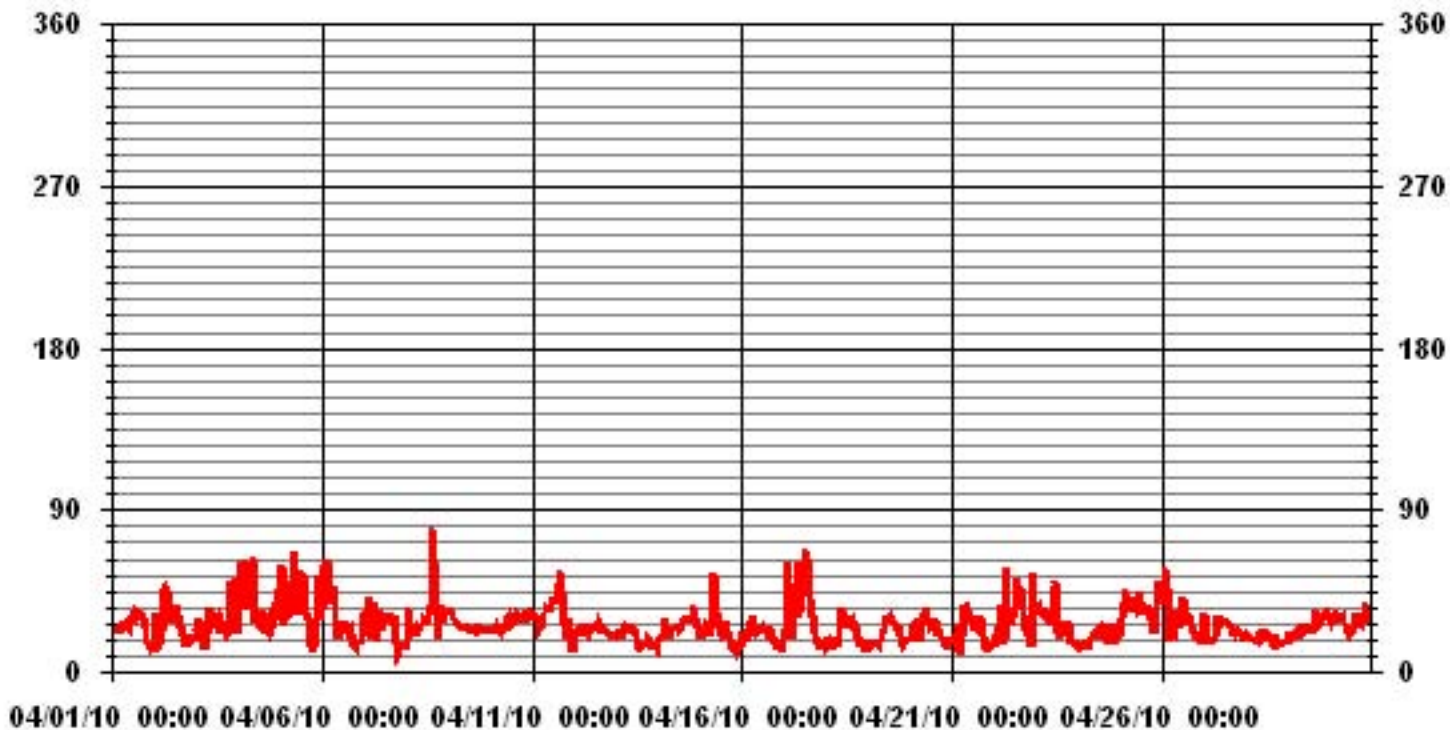
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION: February 4, 2009

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS



### 01 Hour Averages



— LICA30 STDWDIR DEG

# Calibration Reports

# Sulphur Dioxide

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

#### Station Information

Calibration Date	April 26, 2010	Previous Calibration	March 11, 2010
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	8:05	End Time (MST)	12:10
Reason:	Monthly Calibration		
Barometric Pressure	951 mBar	Station Temperature	24 Deg C
Cal Gas	51.4 ppm	Cal Gas Expiry date	02/05/2012
DAS Output Voltage	0 - 1 Volts	Chart Rec. Output	0 - 1 Volts

#### Equipment Information

Analyzer Make / Model:	API 100E	S/N :	508	Method:	Fluorescent
Converter Make / Model:	-	S/N :	-		
Calibrator Make / Model:	EnviroNics 2000		1991	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Flow Meter:	EnviroNics 2000	S/N :	1991		

#### Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 1000	ppb	
Sample Flow / Box Temp	605 ccm 32.2 Deg C	602 ccm 33.5 Deg C	
HVPS / Lamp Setting	494 3461	494 3462	
PMT / RxCell Temp	7.7 Deg C 50 Deg C	7.7 Deg C 50 Deg C	
Converter / IZS Temp	NA Deg C 45 Deg C	NA Deg C 45 Deg C	
Offset / Slope	32.2 0.953	34.4 0.959	

#### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
3005	0	0	1	N/A
3005	0	0	0	N/A
2967	44.4	758	752	1.0078
2967	44.4	758	760	0.9972
2989	23.7	404	399	1.0134
3002	11.9	203	197	1.0302
3010	0	0	-1	N/A
Sum of Least Squares				1.0022
New Correction Factor				0.9972

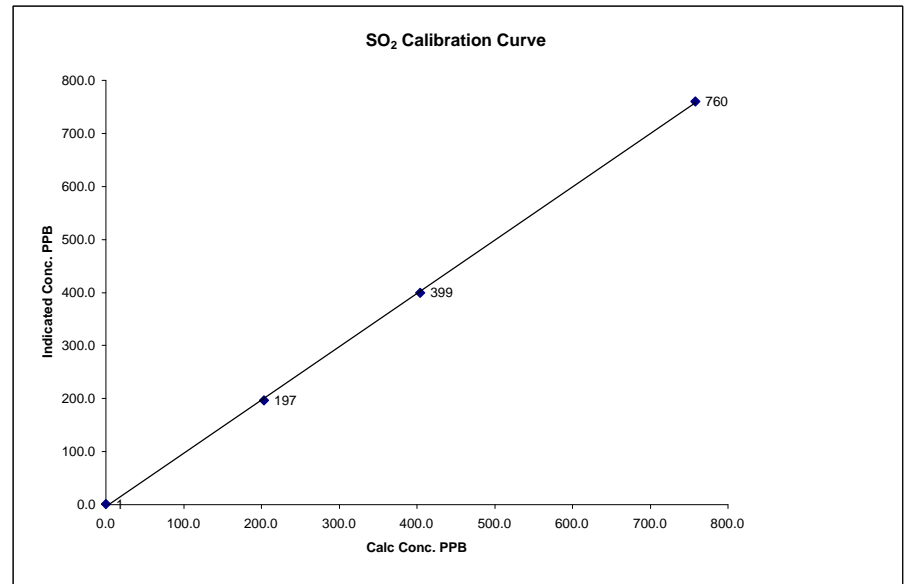
	Before Calibration	After Calibration
Auto Zero	0.8	-0.4
Auto Span	592.0	596.0
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.9%

Calibration Performed by: Shea Beaton

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

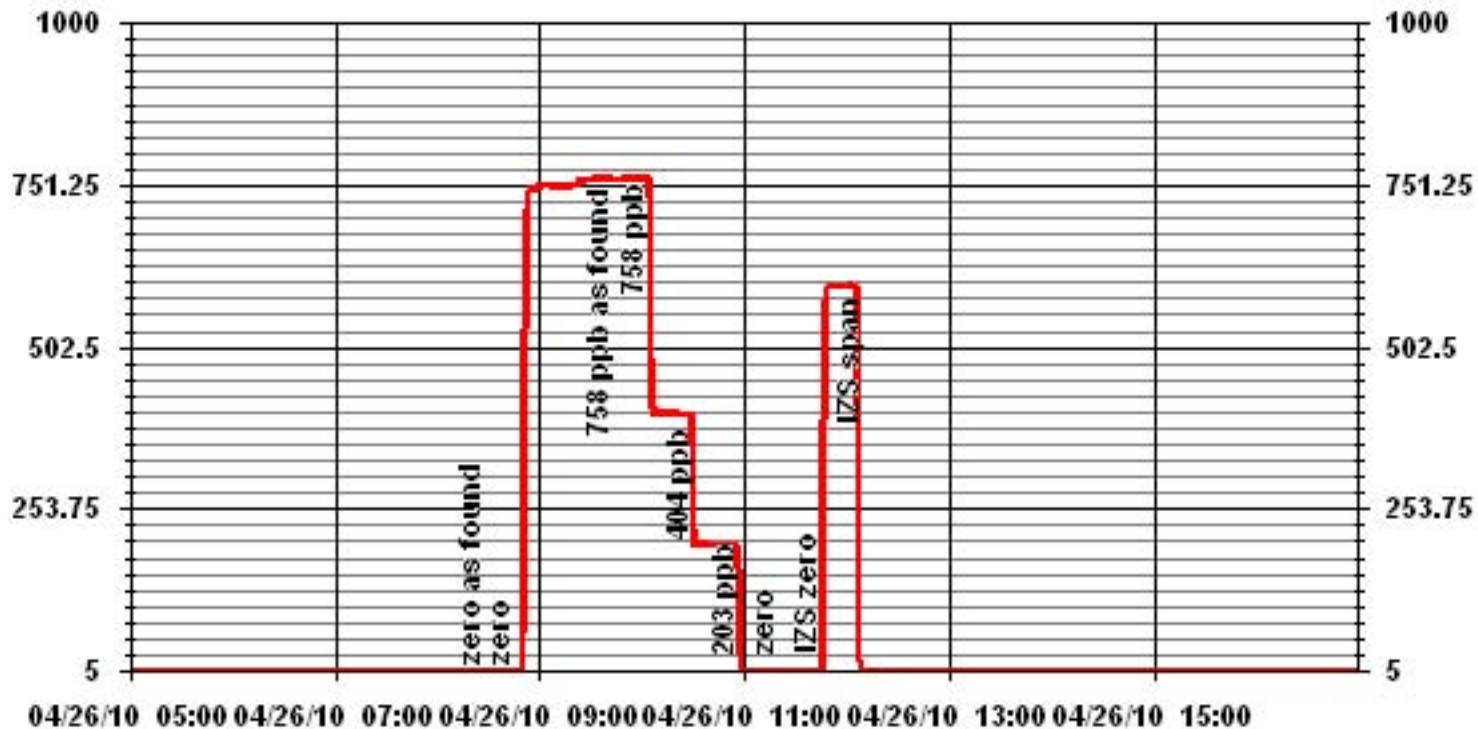
Calibration Date	April 26, 2010
Company	Lakeland Industry & Community Association
Plant / Location	Cold Lake - Maskwa
Start Time (MST)	8:05
End Time (MST)	12:10

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999843
0	1	n/a	Intercept	(± 3% F.S.)	-3.171332
203	197	1.0302			
404	399	1.0134			
758	760	0.9972			



Notes:

### 01 Minute Averages



# Hydrogen Sulphide

## H<sub>2</sub>S Calibration Report

### Station Information

Calibration Date	April 26, 2010		Previous Calibration	March 12, 2010	
Company	Lakelnad Industry & Community Association				
Plant / Location	Cold Lake - Maskwa				
Start Time (MST)	8:05	End Time (MST)	11:51		
Reason:	Monthly Calibration				
Barometric Pressure	951	mBar	Station Temperature	24	Deg C
Cal Gas	10.8	ppm	Cal Gas Install date	06/22/2009	
DAS Output Voltage	0 - 1		Volts		

### Equipment Information

Analyzer Make / Model:	API 101E	S/N :	511	Method:	Fluorescent
Converter Make / Model:	Internal	S/N :	N/A		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Flow Meter:	API 700	S/N :	831		

### Analyzer Settings

		Before Calibration		After Calibration	
Concentration Range		0 - 100		ppb	
Sample Flow / Box Temp	542	ccm	33.4	Deg C	538
HVPS / Lamp Setting	552		2279		552
PMT / RxCell Temp	7.8	Deg C	50	Deg C	7.9
Converter / IZS Temp	315.6	Deg C	45	Deg C	314.5
Offset / Slope	26.4		1.014		27.4
					0.995

### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	1	N/A
4995	0	0	0	N/A
4959	37	80	82	0.9754
4959	37	80	80	0.9998
4981	18.5	40	40	0.9991
4987	10.6	23	23	0.9960
4995	0	0	1	N/A
Sum of Least Squares				0.9994
New Correction Factor				0.9998

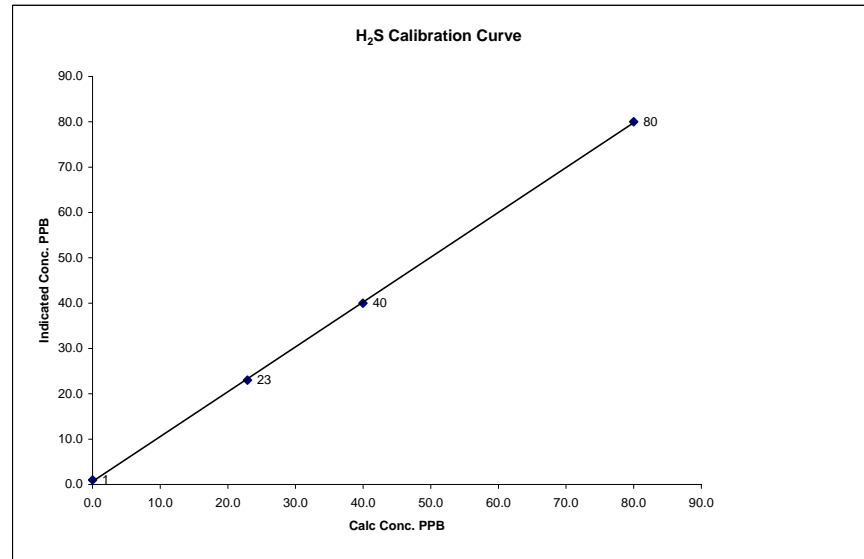
		Before Calibration	After Calibration
Auto Zero		0.7	0.7
Auto Span		57	56
Sample Lines Connected			YES
Percent Change from Previous Calibration			2.5%

Calibration Performed by: Shea Beaton

## H<sub>2</sub>S Calibration Curve

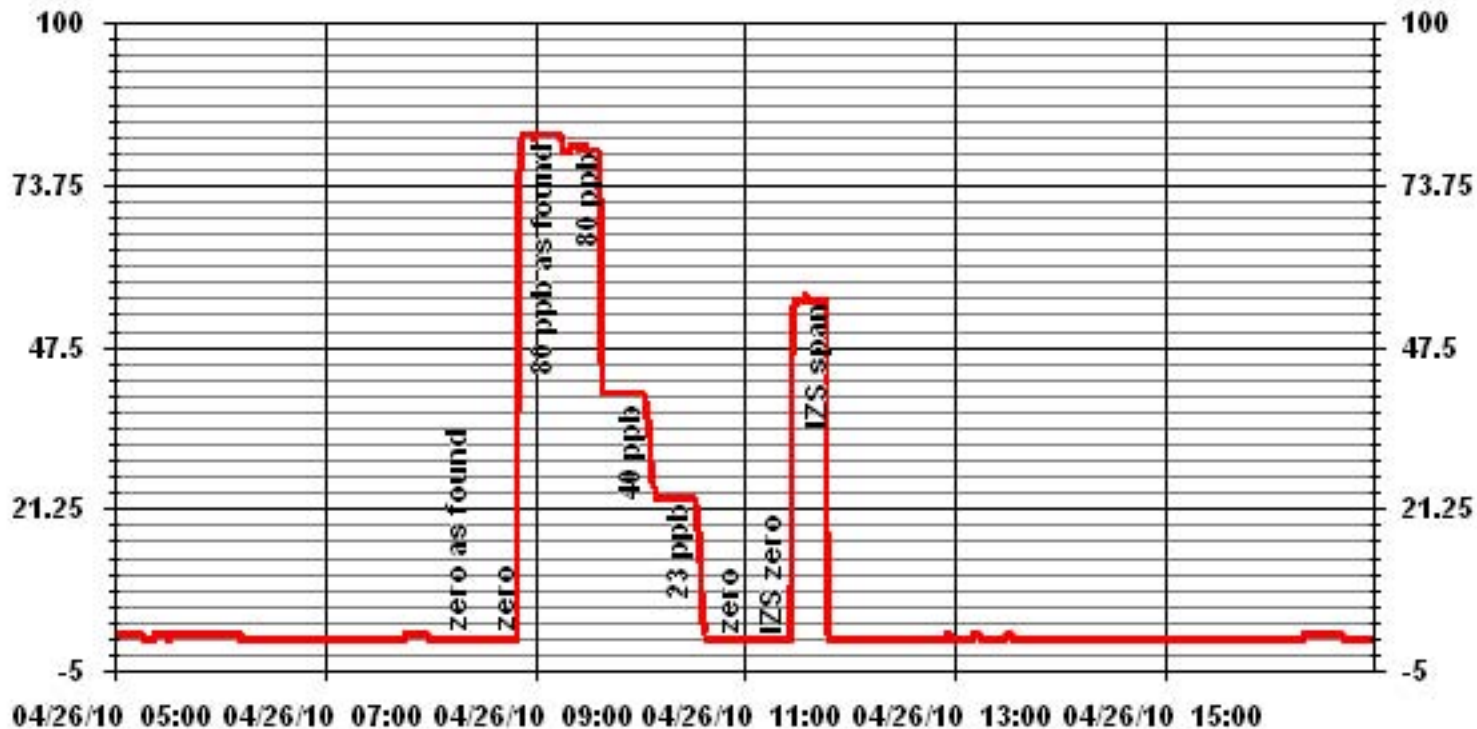
Calibration Date	April 26, 2010	
Company	Lakelnad Industry & Community Association	
Plant / Location	Cold Lake - Maskwa	
Start Time (MST)	8:05	End Time (MST)
		11:51

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999910
0	1	n/a	Intercept	(± 3% F.S.)	0.662924
23	23	0.9960			
40	40	0.9991			
80	80	0.9998			



Notes:

### 01 Minute Averages





# Total Hydrocarbons

### THC Calibration Report

Station Information			
Calibration Date:	April 26, 2010	Previous Calibration	March 11, 2010
Company:	Lakeland Industry & Community Association		
Plant / Location:	Cold Lake - Maskwa		
:	(MST) 11:10	End Time	(MST) 14:30
Reason:	Monthly Calibration		
Barometric Pressure:	951.4 mBar	Station Temperature:	25 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	207 Prop/ 602 Meth/1171.25THC	ppm	Cal Gas Expiry Date: August 21, 2011
DAS make & Model:	ESC 8832	S/N :	AO 791
Output Voltage Range:	0 - 10 VDC		

### Analyzer Information

Make / Model	TECO 51C-LT	S/N :	436609738	Method	Flame Ionization
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### Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 -50	ppm	0 - 50	ppm
Sample Pressure	7.5	psi	7.5	psi
Hydrogen Pressure	8	psi	8	psi
Air Pressure	20	psi	20	psi

### Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	0.0	N/A
2000	70.0	39.6	41.3	0.9590
2000	70.0	39.6	39.9	0.9927
2000	35.0	20.1	20.0	1.0072
2000	20.0	11.6	11.5	1.0084
2000	0	0.0	0.0	N/A
			Correction Factor:	0.9927

Previous Calibration Correction Factor:	0.9927
Current Correction Factor Before Span Adjust:	0.9590
Percent Change:	3.51%

### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	35.0	33.9
Sample Lines Connected		YES

### Cylinder Pressures

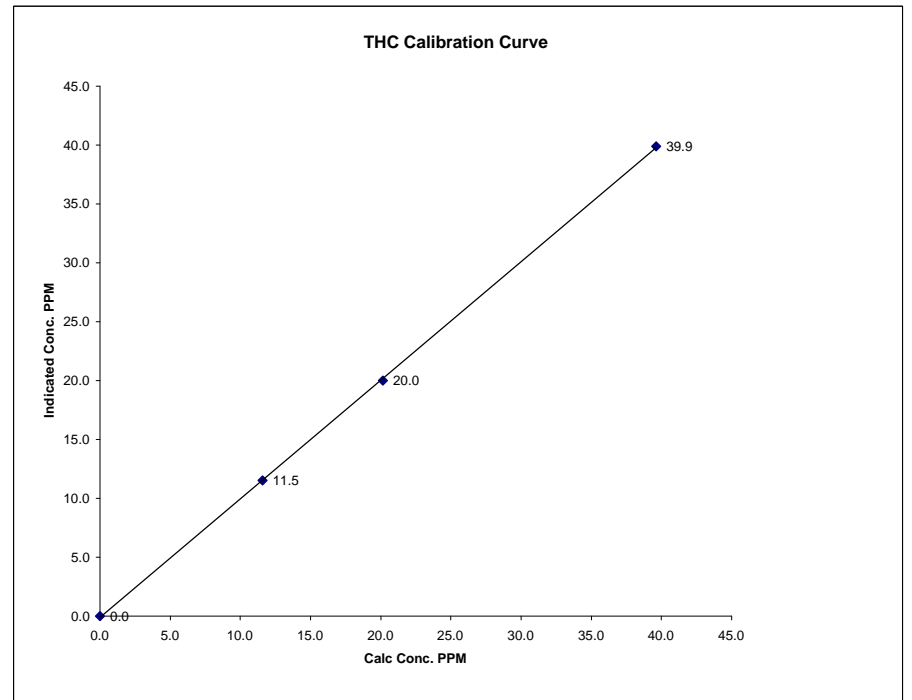
Span	700	psi
Hydrogen	2000	psi
Zero Air	33	psi

Calibration Performed by: Shea Beaton

### THC Calibration Curve

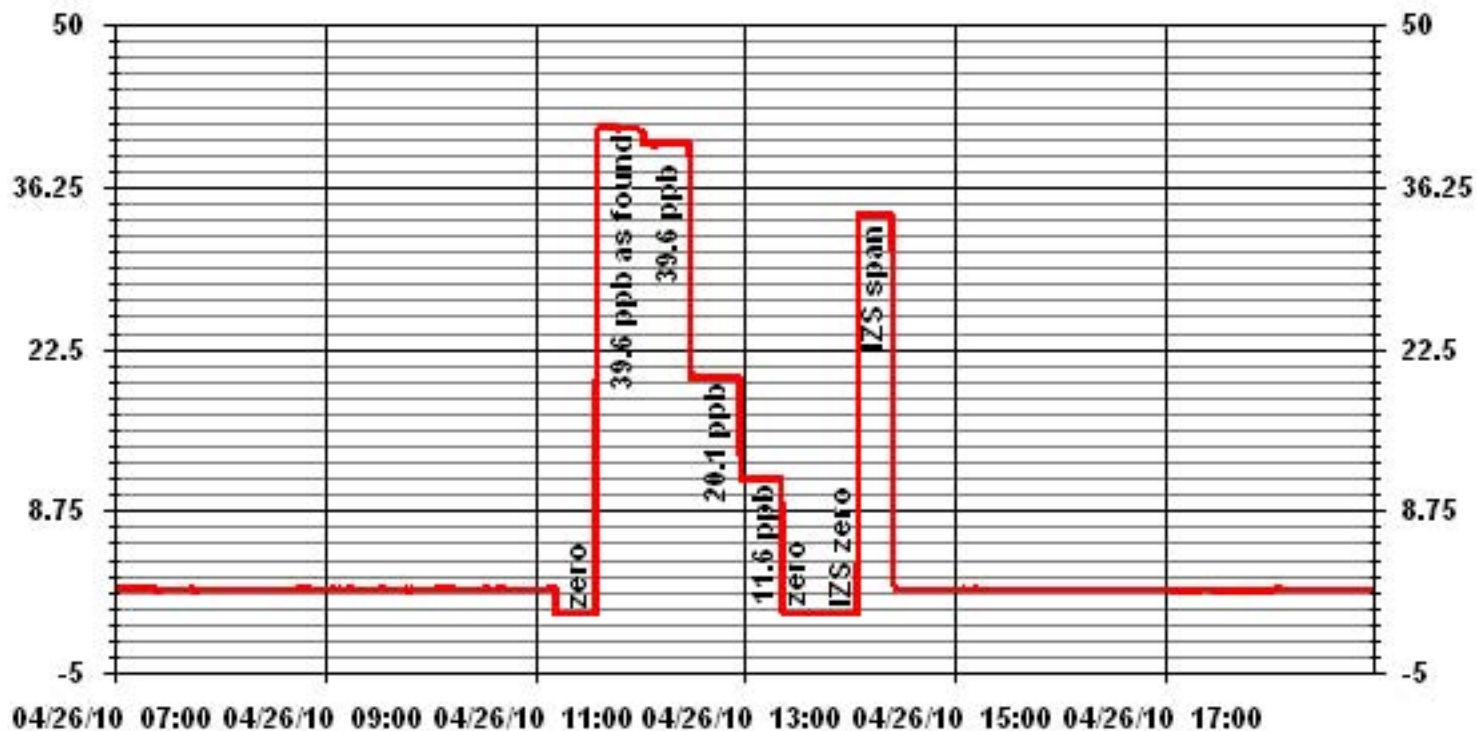
Calibration Date	April 26, 2010		
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	11:10	End Time (MST)	14:30

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0.0	0.0		0.999927	1.007936	-0.128647
11.6	11.5	1.0084			
20.1	20.0	1.0072			
39.6	39.9	0.9927			



Notes:

### 01 Minute Averages



# Nitrogen Dioxide

**NOx - NO- NO2 Calibration Report**

**Station Information**

Calibration Date	April 26, 2010	Previous Calibration	March 26, 2010
Company	LICA	Plant/Location	Maskwa
Start Time (MST)	8:05	End Time (MST)	15:01
Reason:	Monthly Calibration	Other	
Barometric Pressure	951 mmHg	Station Temperature	24 Deg C
Cal Gas Concentration	NOx 50.9 ppm	NO 50.8 ppm	Cal Gas Expiry date 08-Feb-12
DAS Output Voltage	0 - 1	Chart Rec. Output	NA Volts

**Equipment Information**

Analyzer Make / Model:	API 200E	S/N :	594	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 2000	S/N:	1991		
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	EnviroNics 2000	S/N :	1991		

**Analyzer Settings**

	Before Calibration				After Calibration			
Concentration Range	0-1000				ppb			
Sample Flow/Conv. Temp	463	ccm	315.9	Deg C	463	ccm	313.7	Deg C
Ozone Flow / Vacuum	79	ccm	4.6	"Hg-A	79	ccm	4.5	"Hg-A
HVPS / A ZERO	767	Volts	17.0	MV	767	Volts	16.9	MV
Rx/ Temp / PMT Temp	50.0	Deg C	6.6	Deg C	50.0	Deg C	6.6	Deg C
Box Temp / IZS Temp	32.6	Deg C	45.0	Deg C	34.5	Deg C	45.3	Deg C
Offset	1.4	NOx	0.6	NO	0	NOx	-0.2	NO
Slope	1.143	NOx	1.140	NO	1.124	NOx	1.123	NO
NO2 COEF / Conv Efficiency	NA	NO2	1.000		NA	NO2	0.994	

**Dilution Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
3005	0.0	----	0	0	0	-1	-1	-1	----	----
3005	0.0	----	0	0	1	0	0	-1	----	----
2967	44.4	----	750	749	----	761	759	1	0.9849	0.9855
2967	44.4	----	750	749	----	752	750	1	0.9966	0.9973
2989	23.7	----	400	400	----	397	396	0	1.0061	1.0066
3002	11.9	----	201	201	----	199	198	0	1.0049	1.0079
3010	0.0	----	0	0	0	0	0	-1	----	----

**Gas Phase Titration Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO2 Correction Factor	NO2 Conv Efficiency
			NOx	NO	NO2	NOx	NO	NO2		
2970	44.4	----	750	748	----	758	757	0	----	----
2970	44.4	600	750	----	523	753	234	517	1.0097	98.85%
2970	44.4	600	750	----	527	757	230	525	1.0019	99.62%
2970	44.4	300	750	----	265	758	492	265	0.9962	100.00%
2970	44.4	150	750	----	127	759	630	127	0.9922	100.00%

Linearity	Sum of Least Squares	NOx= 1.001	NO= 1.002	NO2= 1.003
OK?	Correction Factors:	NOx= 0.9966	NO= 0.9973	NO2= 1.0019
	Average Converter Efficiency=	99.62%		

	Before Calibration				After Calibration			
Auto Zero	-0.6	NOx	-0.5	NO2	0.0	NOx	1.0	NO2
Auto Span	683	NOx	673	NO2	617	NOx	606	NO2
	Sample Lines Connected				YES			

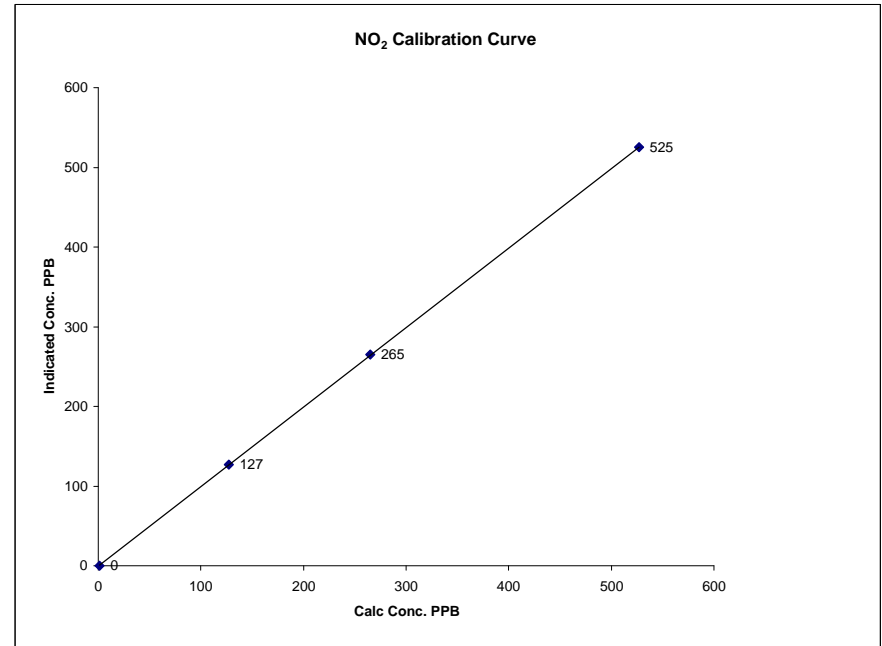
Notes

Calibration Performed by: Shea Beaton

**NO2 Calibration Curve**

Calibration Date	April 26, 2010	<b>LICA</b>	
Company		<b>Maskwa</b>	
Plant / Location		End Time (MST)	15:01
Start Time (MST)	8:05		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
1	0	N/A	0.999988		0.997606
127	127	1.0000			-0.19945
265	265	1.0000			
527	525	1.0038			

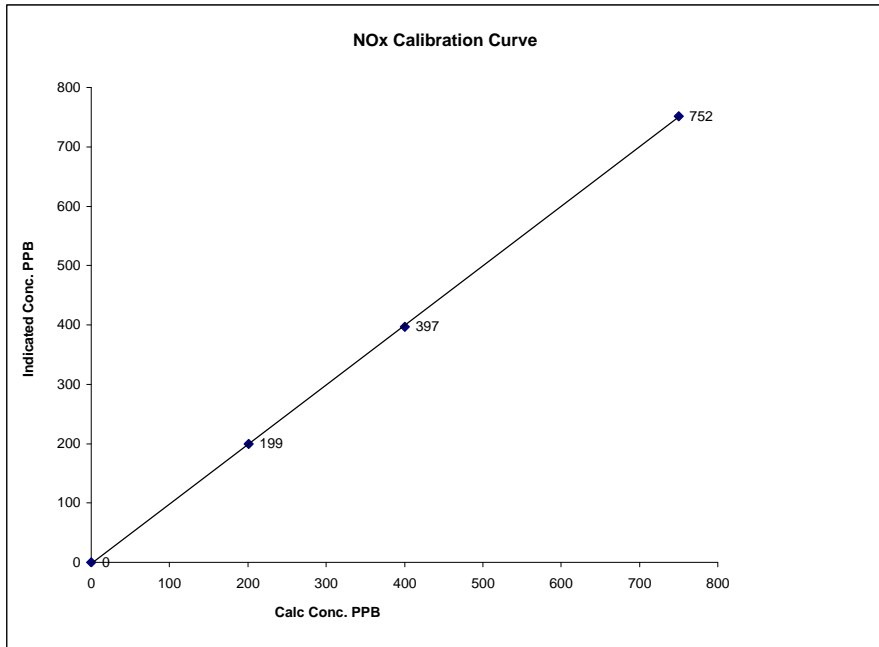


Notes: Ozone concentration fluctuating during as found GPT point, halted O3 flow then restarted, calibrator issue. Adjusted the NO2 Coef value.

### NOx Calibration Curve

Calibration Date April 26, 2010  
 Company LICA  
 Plant / Location Maskwa  
 Start Time (MST) 8:05 End Time (MST) 15:01

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999959
0	0	N/A	Slope (0.85 to 1.15)	1.002243
201	199	1.0099	Intercept (± 3% F.S.)	-1.72195
400	397	1.0086		
750	752	0.9980		

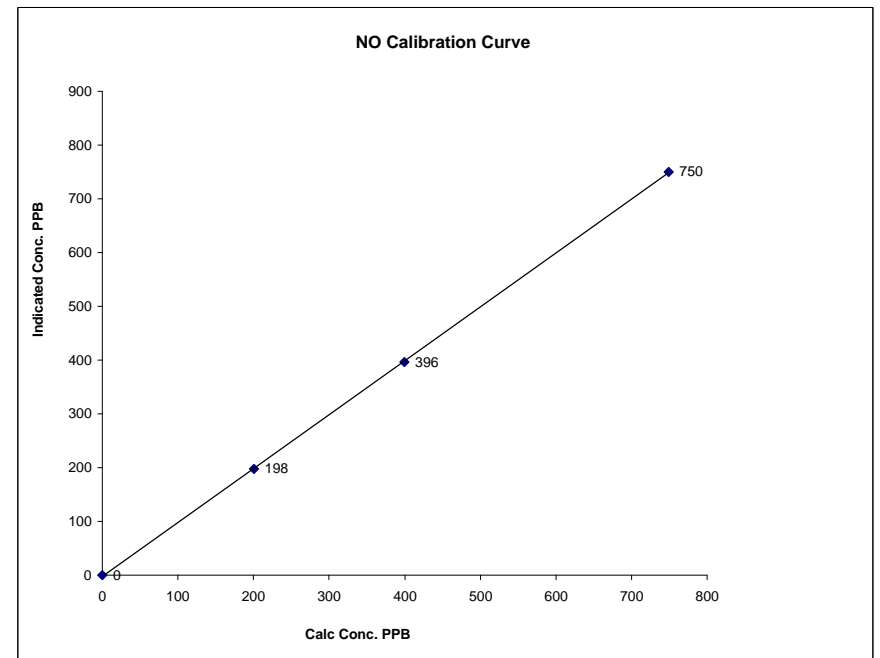


Notes:

### NO Calibration Curve

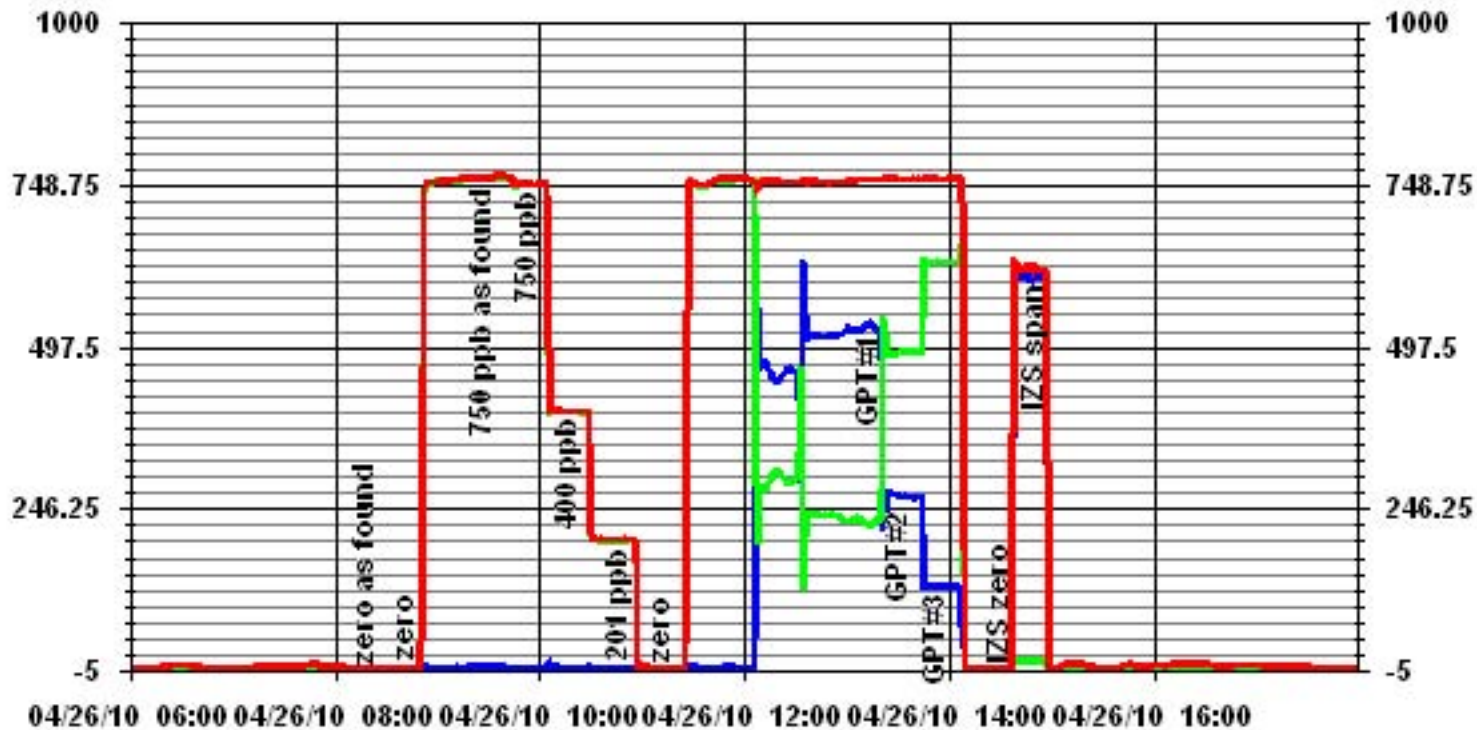
Calibration Date April 26, 2010  
 Company LICA  
 Plant / Location Maskwa  
 Start Time (MST) 8:05 End Time (MST) 15:01

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999957
0	0	N/A	Slope (0.85 to 1.15)	1.007299
201	198	1.0130	Intercept (± 3% F.S.)	-8.9294
400	396	1.0092		
749	750	0.9987		



Notes:

### 01 Minute Averages



# Lakeland Industry & Community Association

St. Lina Monitoring Site  
Ambient Air Monitoring  
Data Report  
For  
April 2010

Prepared By:



May 11, 2010



# Lakeland Industry & Community Association

## St. Lina

### Ambient Air Monitoring

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## Introduction

The following Ambient Air Monitoring report was prepared for:

Mr. Mike Bisaga

**Lakeland Industry & Community Association**

Box 8237

5107W – 50 Street

Bonnyville, Alberta

T9N 2J5

Monitoring Location: St. Lina

Data Period: April 2010

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Craig Snider

# 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.

The calibrations conducted at the LICA – St. Lina Air Monitoring Stations conform to the following Maxxam Analytics Standard Operation Procedures:

- CAL SOP-00211
- CAL SOP-00209
- CAL SOP-00213
- CAL SOP-00214
- CAL SOP-00208

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. All calibration's and maintenance conforms to the procedures outlined in the *Air Monitoring Directive, Appendix A-10, Section 1.6*.

# MONTHLY CONTINUOUS DATA SUMMARY

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – ST. LINA

### Continuous Ambient Monitoring – April 2010

LICA ST. LINA SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO2 (PPB)	172	57	0	0	0.01	1	15, 16; 15,16	2,3; 2,3	10.8, 10.1; 15.3, 12.8	330(NNW), 325(NW); 163(SSE), 165(SSE)	0.1	15, 16	100.0
H2S (PPB)	10	3	0	0	0.00	0	ALL	ALL	VAR	VAR	0.0	ALL	99.7
THC (PPM)	-	-	-	-	2.16	2.9	25	22	4.8	272(W)	2.4	18	100.0
NOx (PPB)	-	-	-	-	0.82	7	7	6, 7	12.1, 6.7	227(SW), 224(SW)	2.2	7	100.0
NO (PPB)	-	-	-	-	0.03	2	7	7, 8	6.7, 8.3	224(SW), 220(SW)	0.3	7	100.0
NO <sub>2</sub> (PPB)	212	106	0	0	0.89	7	7	6	12.1	227(SW)	2.1	7	100.0
VECTOR WS (KPH)	-	-	-	-	14.53	39.0	9	4	-	303(WNW)	32.5	9	100.0
VECTOR WD (DEGREES)	-	-	-	-	69(ENE)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

# General Monthly Summary

## 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 – St. Lina

#### Sulphur Dioxide (PPB)

- Analyzer make / model - API 100E, S/N: 468

No operational issue was observed during this month. The inlet filter was changed before the monthly calibration was started. Two hours of SO<sub>2</sub> maximum data were invalidated due to power failures this month. Data was corrected using daily zero information.

#### Hydrogen Sulphide (PPB)

- Analyzer make / model - API 101E, S/N: 510

No operational issue was observed during this month. The SO<sub>2</sub> scrubber beads was replaced and the pump was rebuilt following the as found points on April 28<sup>th</sup>. A multi-points calibration was performed on April 29<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. One hour of the H<sub>2</sub>S maximum data was invalidated after the monthly calibration on April 29<sup>th</sup> due to the analyzer instability. Two hours of H<sub>2</sub>S maximum data were invalidated due to power failures this month. Some span values went outside of –10% limited range this month because the expected span value was setup lower than it should be after the monthly calibration last month. Data was corrected using daily zero information.

#### Ozone (PPB)

- Analyzer make / model –Thermo 49i, S/N: 1002240371

The O<sub>3</sub> analyzer was installed on April 28<sup>th</sup>, and an installation calibration was performed on April 29<sup>th</sup>. The O<sub>3</sub> IZS control is on the same relays as the SO<sub>2</sub> IZS control as only one relay board in the data logger. The O<sub>3</sub> data will be included in the monthly report, starting May 2010.

# General Monthly Summary

## AQM STATION – LICA – St. Lina

### Total HydroCarbon (PPM)

- Analyzer make / model –TECO 51C, S/N: 77021-384

No operational issue was observed during this month. The H2 cylinder was replaced and the flows were optimized following the as found points on April 28<sup>th</sup>. After that, a monthly calibration was performed. The inlet filter was changed before the monthly calibration was started. Two hours of THC maximum data were invalidated due to power failures this month. Data was corrected using daily zero information, except data collected on April 29<sup>th</sup> and 30<sup>th</sup>. After the monthly calibration performed on April 28<sup>th</sup>, the zero system is unstable. If the data were corrected using the daily zero values, they would be bias too much. The issue will be watched closely, and any necessary maintenance will be performed as required.

### Nitrogen Dioxide (PPB)

- Analyzer make / model - API 200E, S/N: 592

No operational issue was observed during this month. The inlet filter was changed before the monthly calibration was started. The NO2 converter efficiency gain was adjusted following the as found point on April 29<sup>th</sup>. An extra GPT point was done for the O3 calibration (O3 set point =450). Two hours of the NO2 maximum data were invalidated due to power failures this month. Data was corrected using daily zero information.

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

- System make / model – Met 50.5, S/N: H12635

The wind system is reported as vector wind speed and vector wind direction. Two hours of the wind speed maximum data were invalidated due to power failures this month.

### Datalogger

- System make / model - ESC 8832, S/N: AO717
- Software make/version - ESC v 5.51a

The station is connected to a modem to allow for daily polling of the station.

### Trailer

No issue was discovered this month.

# Continuous Monitoring

# Monthly Summaries, Graphs & Wind Roses



# Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2010

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

MST

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

STATUS FLAG CODES

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

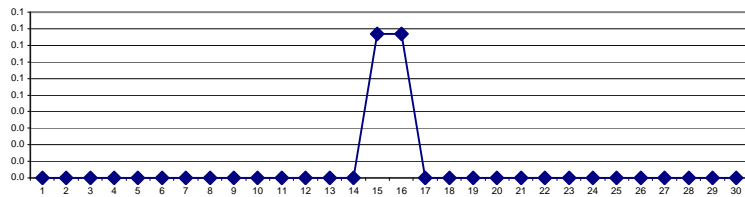
OBJECTIVE LIMIT:

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

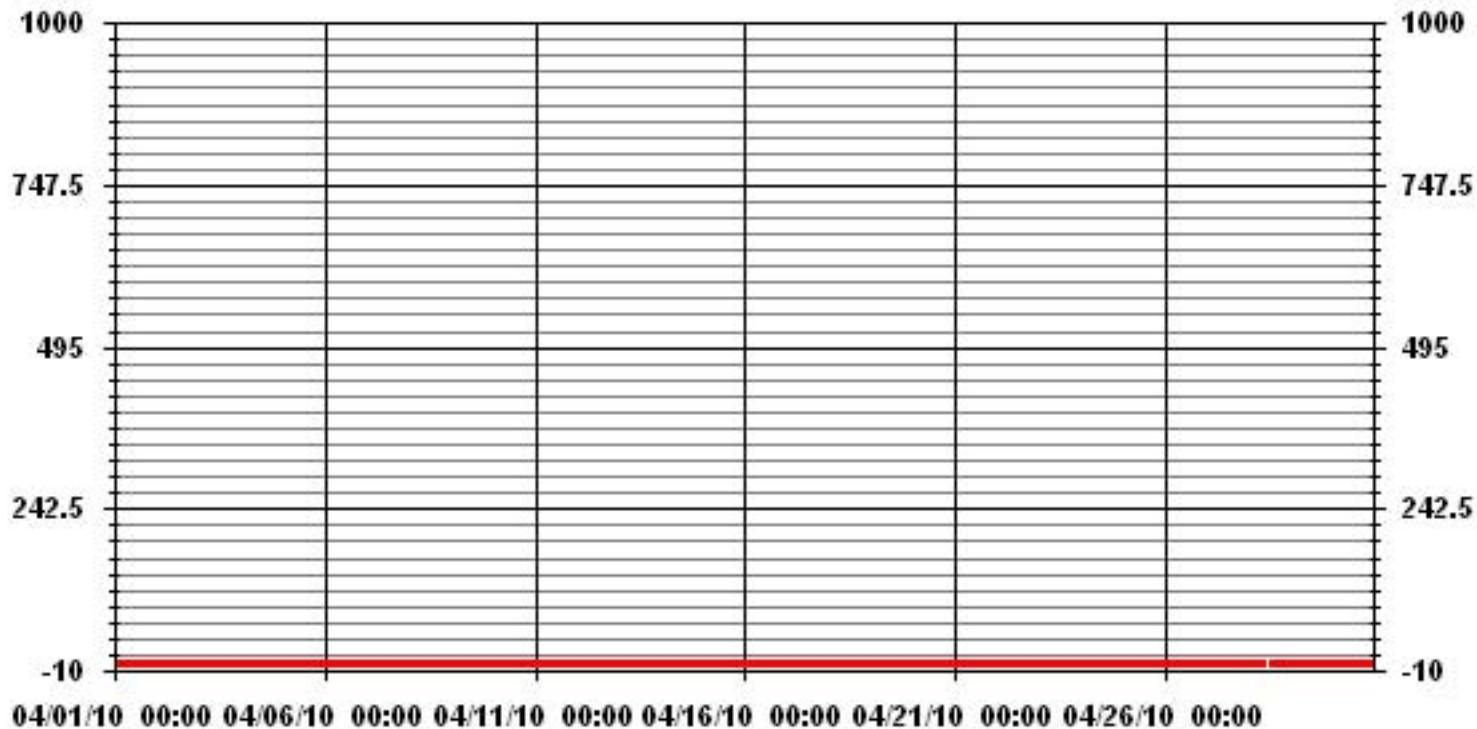
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	4					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	2, 3; 2, 3	ON DAY(S)	15, 16
MAXIMUM 24-HR AVERAGE:	0.1	PPB			ON DAY(S)	15, 16
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.08		MONTHLY AVERAGE:	0.01	PPB	

24 HOUR AVERAGES FOR APRIL 2010



### 01 Hour Averages



— LICA31 SO2\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST. LINA

APRIL 2010

## SULPHUR DIOXIDE MAX instantaneous maximum in ppt

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

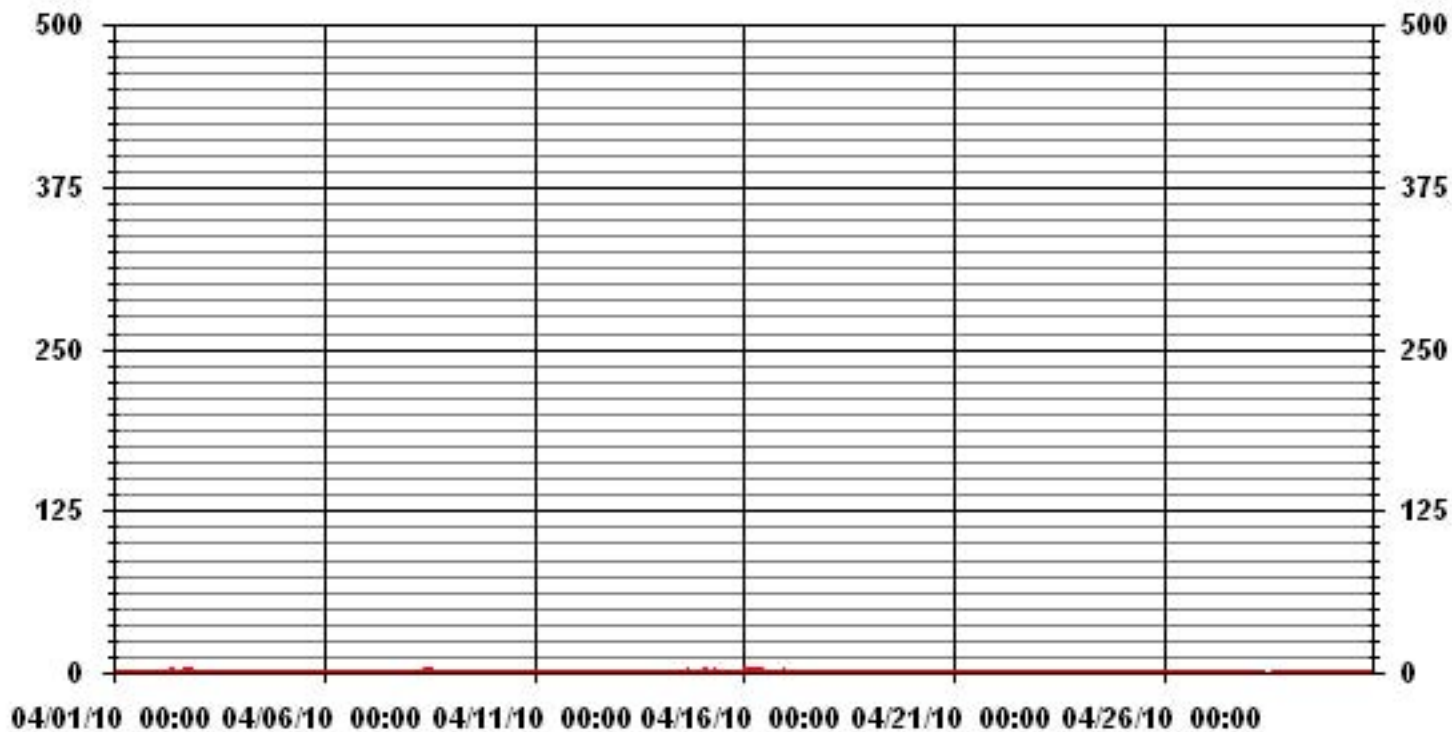
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	40
MAXIMUM INSTANTANEOUS VALUE:	3 PPB @ HOUR(S) 2 ON DAY(S) 16
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	0.28
OPERATIONAL TIME:	718 HRS

### 01 Hour Averages



— LICA31 SO2MAX PPB

LICA31  
 SO2\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 31  
 Site Name : LICA31  
 Parameter : SO2\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	6.89	2.93	4.10	6.01	10.85	9.97	5.86	11.14	6.74	2.78	3.66	2.63	3.37	6.59	9.23	7.18	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	6.89	2.93	4.10	6.01	10.85	9.97	5.86	11.14	6.74	2.78	3.66	2.63	3.37	6.59	9.23	7.18	

Calm : .00 %

Total # Operational Hours : 682

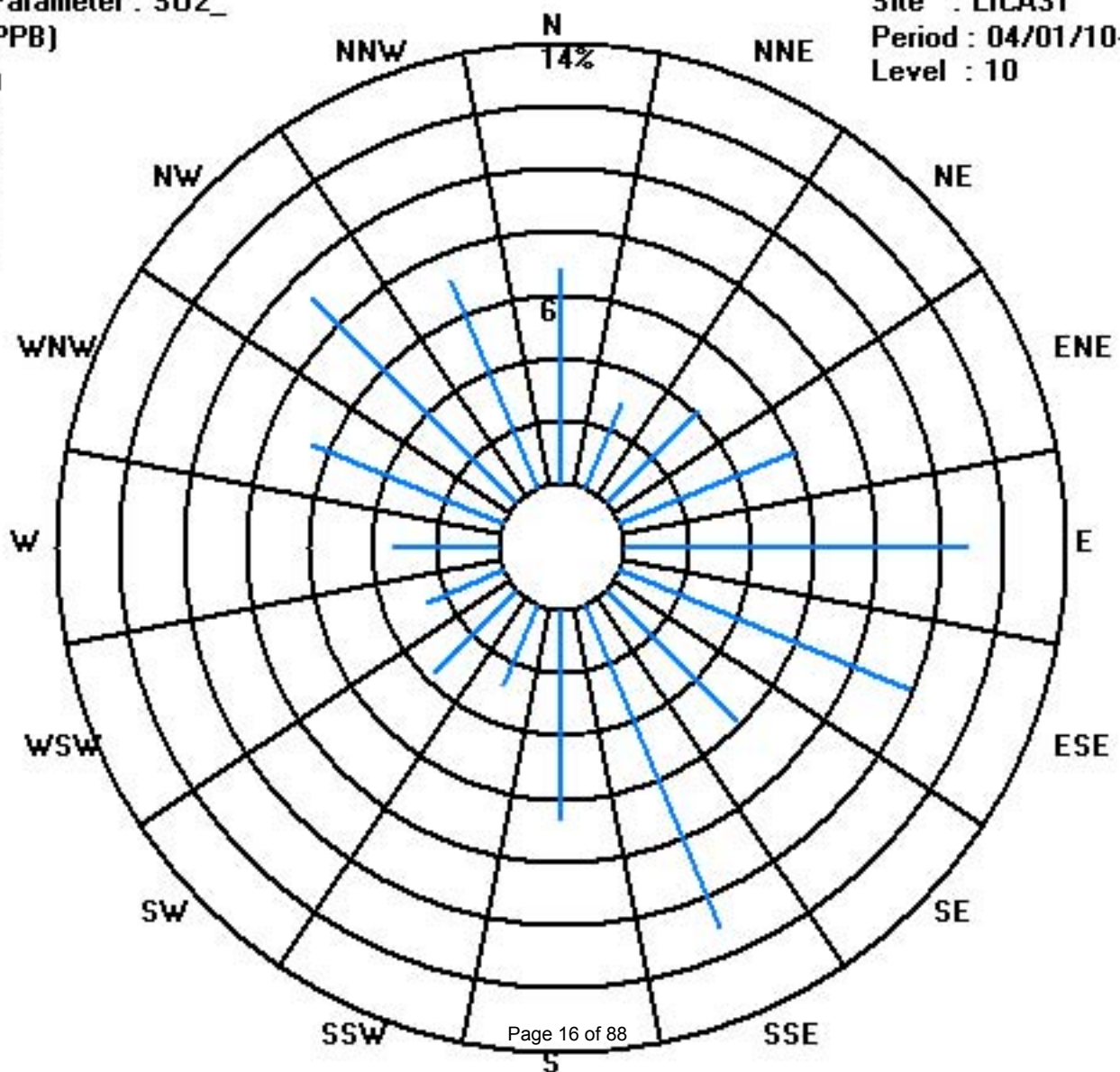
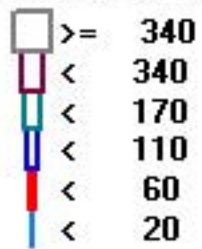
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	47	20	28	41	74	68	40	76	46	19	25	18	23	45	63	49	682
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	47	20	28	41	74	68	40	76	46	19	25	18	23	45	63	49	

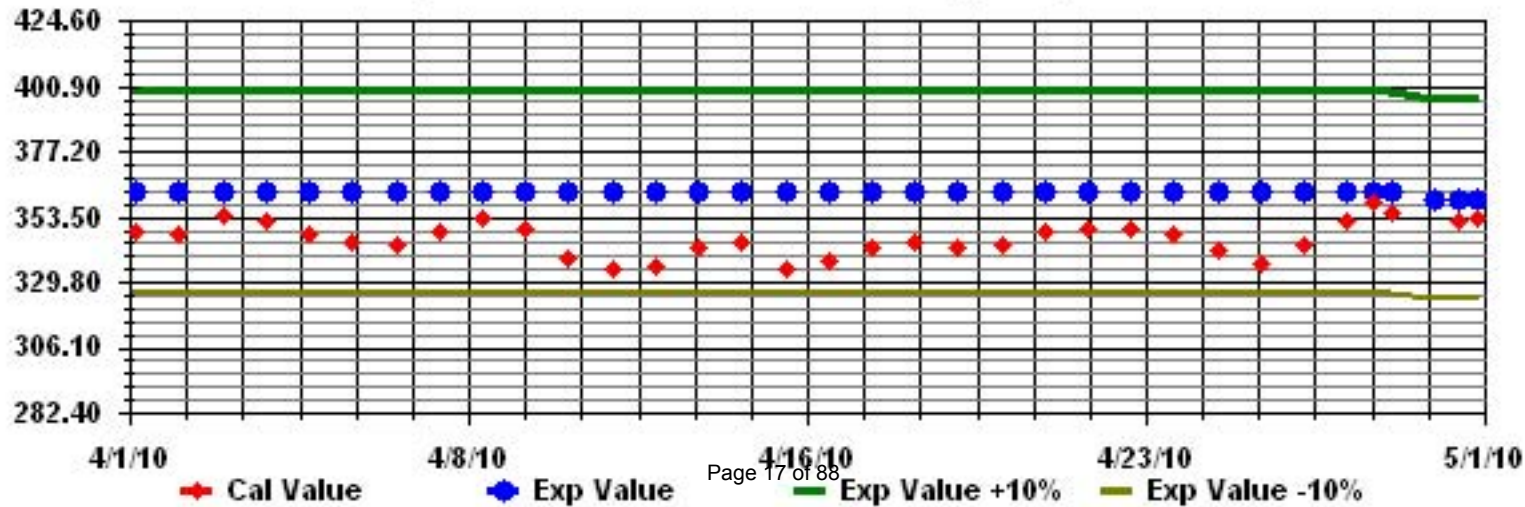
Calm : .00 %

Total # Operational Hours : 682

Class Limits (PPB)



Calibration Graph for Site: LICA31 Parameter: S02\_ Sequence: S02 Phase: SPAll





# Hydrogen Sulphide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2010

## HYDROGEN SULPHIDE (H<sub>2</sub>S) hourly averages in ppb

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

### STATUS FLAG CODES

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

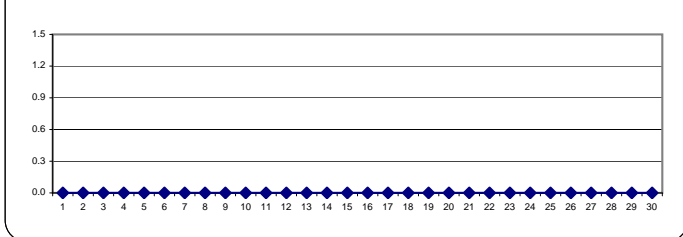
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 10 PPB 24-HR 3 PPB

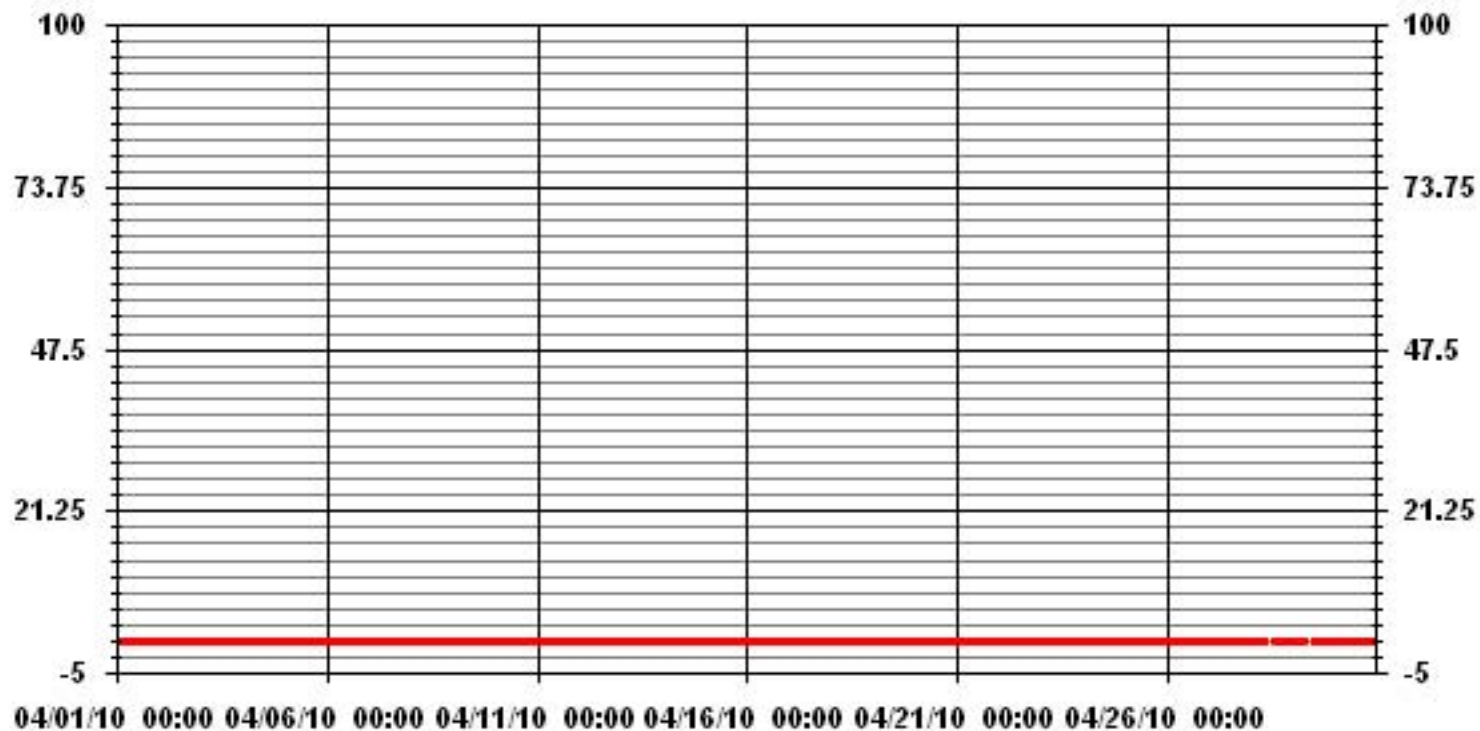
### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	0
MAXIMUM 1-HR AVERAGE:	0 PPB @ HOUR(S) ALL ON DAY(S) ALL
MAXIMUM 24-HR AVERAGE:	0.0 PPB ON DAY(S) ALL
	VAR-VARIOUS
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	7 HRS
OPERATIONAL TIME:	718 HRS
AMD OPERATION UPTIME:	99.7 %
STANDARD DEVIATION:	0.00
MONTHLY AVERAGE:	0.00 PPB

24 HOUR AVERAGES FOR APRIL 2010



### 01 Hour Averages



— LICA31 H2S\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST. LINA

APRIL 2010

## HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

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

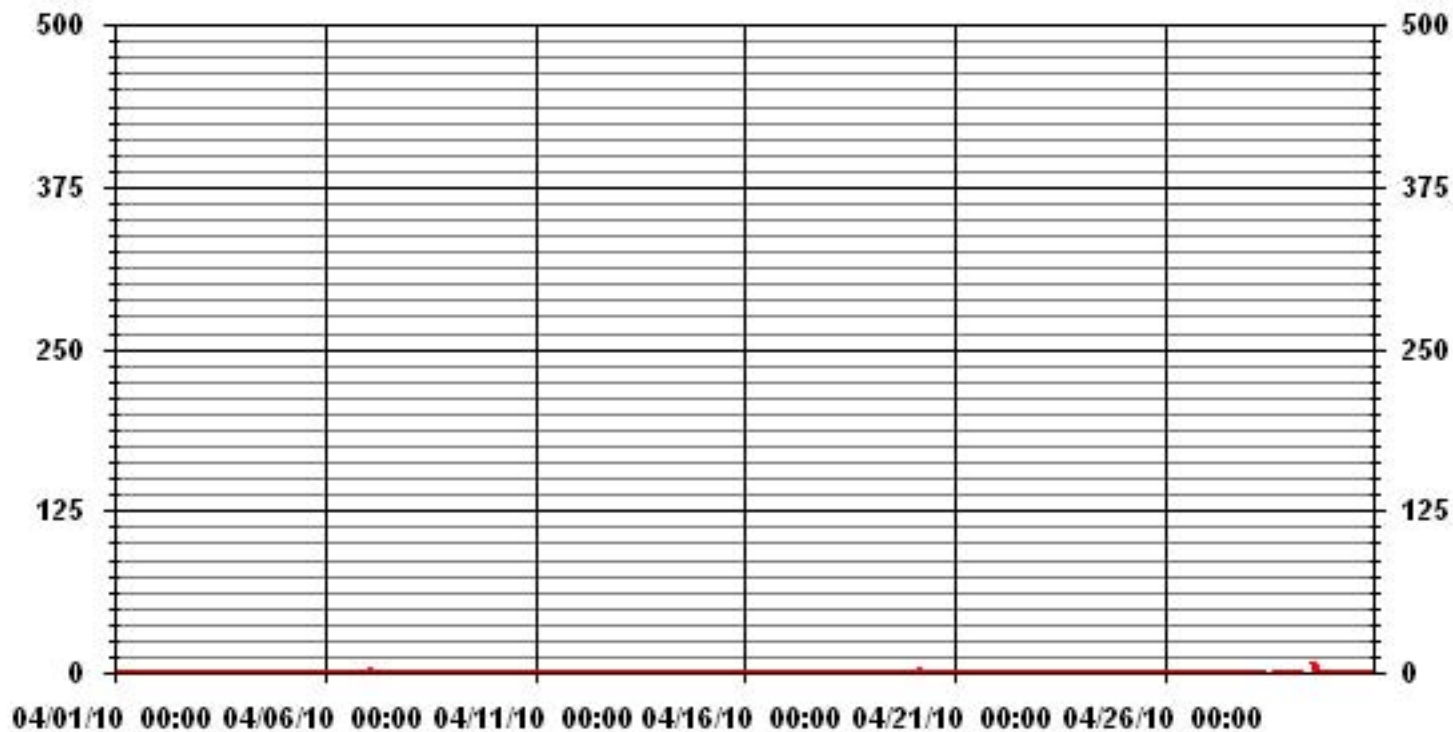
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	6					
MAXIMUM INSTANTANEOUS VALUE:	2	PPB	@ HOUR(S)	4	ON DAY(S)	20
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	715	HRS	
MONTHLY CALIBRATION TIME:	10	HRS				
STANDARD DEVIATION:	0.12					

### 01 Hour Averages



— LICA31 H2S MAX PPB

LICA31  
H2S\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 31  
Site Name : LICA31  
Parameter : H2S\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	7.06	2.94	4.12	6.03	10.89	10.01	5.89	11.19	6.77	2.79	3.68	2.65	3.38	6.62	9.27	6.62	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	7.06	2.94	4.12	6.03	10.89	10.01	5.89	11.19	6.77	2.79	3.68	2.65	3.38	6.62	9.27	6.62	

Calm : .00 %

Total # Operational Hours : 679

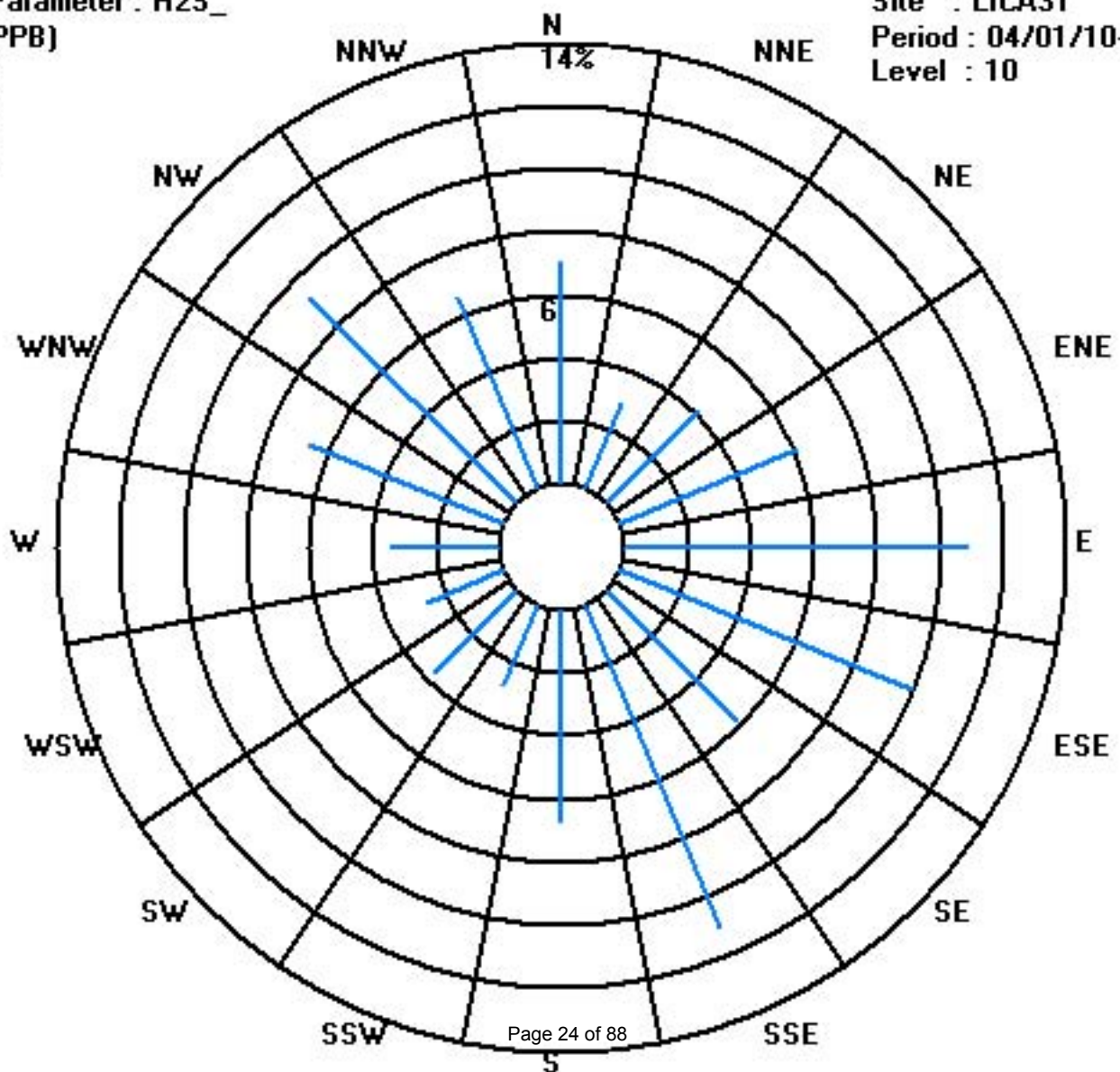
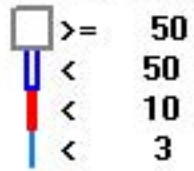
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	48	20	28	41	74	68	40	76	46	19	25	18	23	45	63	45	679
< 10																	
< 50																	
>= 50																	
Totals	48	20	28	41	74	68	40	76	46	19	25	18	23	45	63	45	

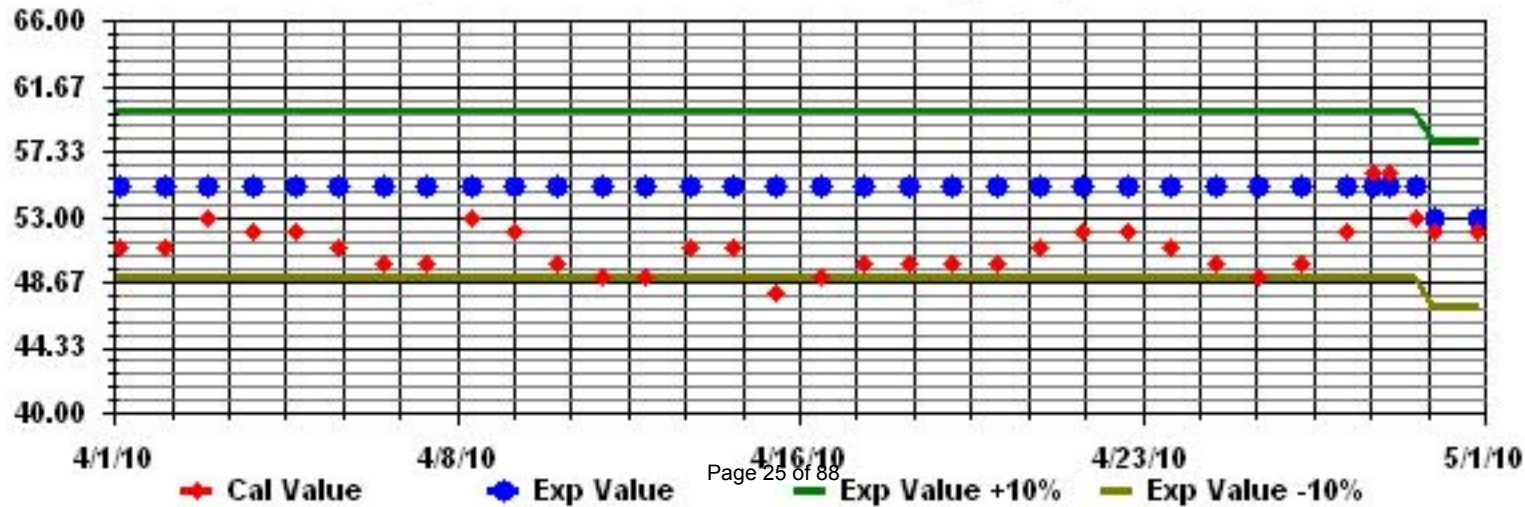
Calm : .00 %

Total # Operational Hours : 679

Class Limits (PPB)



Calibration Graph for Site: LICA31 Parameter: H2S\_ Sequence: H2S Phase: SPAll





# Total Hydrocarbons

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

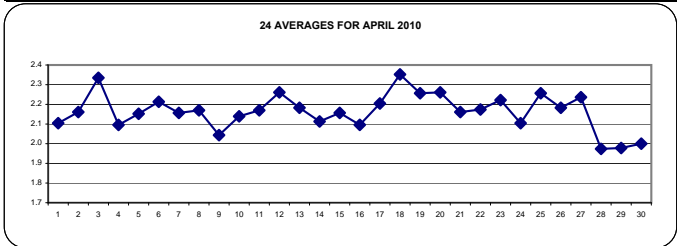
APRIL 2010

### TOTAL HYDROCARBONS hourly averages in ppm

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

**STATUS FLAG CODES**

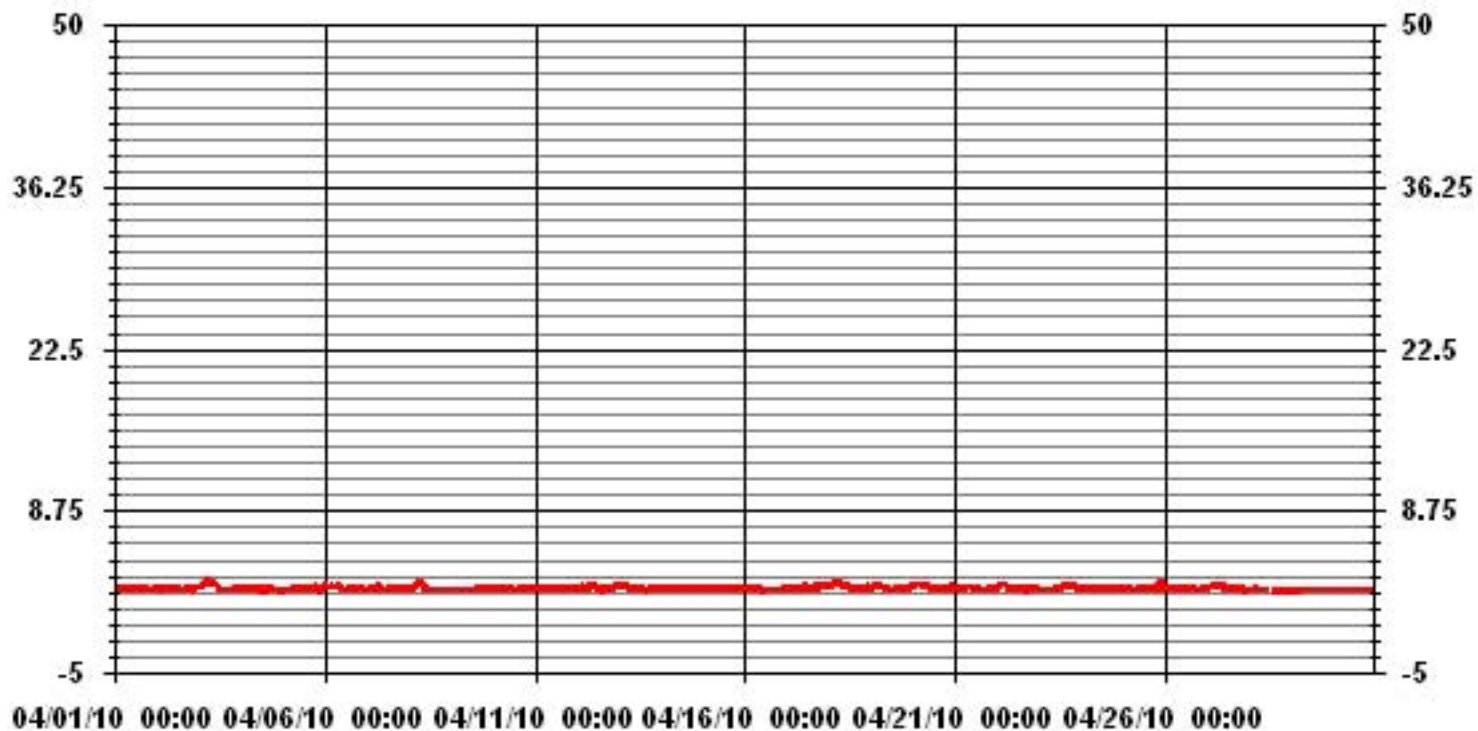
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	684					
MAXIMUM 1-HR AVERAGE:	2.9	PPM	@ HOUR(S)	22	ON DAY(S)	25
MAXIMUM 24-HR AVERAGE:	2.4	PPM			ON DAY(S)	18
					VAR- VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.15		MONTHLY AVERAGE:	2.16	PPM	

### 01 Hour Averages



— LICA31 THC PPM

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2010

## TOTAL HYDROCARBONS MAX instantaneous maximum in ppr

MST																										DAILY	24-HOUR		
HOURLY MAX	HOURLY AVG	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	23:00	MAX.	AVG.	RDGS.
DAY																													
1		2.1	2.1	2.1	<b>IZS</b>	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.3	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.3	2.1	2.4	
2		2.1	2.1	<b>IZS</b>	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.3	2.4	2.2	2.1	2.1	2.1	2.1	2.1	3	3.1	2.7	2.5	2.6	2.8	3.1	2.3	2.4	
3		2.5	<b>IZS</b>	2.6	3.2	3.2	3.2	3.3	3	3	2.8	2.6	2.5	2.4	2.2	2.1	2	2	2	2	2.1	2.1	2.1	2.1	2.1	3.3	2.5	2.4	
4		<b>IZS</b>	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.7	2.3	2.2	2.1	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.2	2.7	2.2	<b>IZS</b>	2.7	2.2	2.4	
5		2.1	2.8	3.6	3.3	2.6	2.1	2.1	2.2	2.3	2.4	2.5	2.3	2.3	2.3	2.3	2.4	2.4	2.6	2.8	2.7	2.2	<b>IZS</b>	2.4	3.6	2.5	2.4		
6		2.4	2.4	2.4	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	<b>IZS</b>	2.5	2.9	2.9	2.3	2.4	
7		4.3	2.6	3.8	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	<b>IZS</b>	2.1	2.1	2.1	4.3	2.4	2.4	
8		2.1	2.1	2.1	2.3	2.5	2.6	2.8	2.8	2.8	2.5	2.2	2.2	2.1	2.1	2.4	2.4	2.3	2.2	2.2	<b>IZS</b>	2.1	2.1	2.1	2.1	2.8	2.3	2.4	
9		2.1	<b>P</b>	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.4	2.2	2.1	2.2	<b>IZS</b>	2.2	2.2	2.2	2.3	2.3	2.4	2.2	2.3	
10		2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.3	2.3	<b>IZS</b>	2.3	2.6	2.3	2.5	2.5	2.4	2.6	2.3	2.4	
11		2.3	2.4	2.4	2.6	2.5	2.6	2.6	2.4	2.4	2.6	2.7	2.7	2.6	2.8	3	2.4	<b>IZS</b>	2.3	2.5	2.2	2.4	2.4	2.5	2.1	3	2.5	2.4	
12		2.1	2.2	2.2	2.6	2.7	2.6	2.3	3.1	2.9	2.7	2.7	2.5	2.3	2.3	<b>IZS</b>	2.3	2.2	2.2	2.2	2.7	2.7	2.6	2.7	3.1	2.5	2.4		
13		2.4	2.4	2.3	2.6	2.6	2.4	2.5	2.5	2.4	2.4	3	2.3	2.3	2.2	<b>IZS</b>	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	3	2.3	2.4	
14		2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	<b>IZS</b>	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.4	
15		2.2	2.2	2.2	2.3	3.6	2.8	2.3	2.7	2.5	2.2	2.2	2.2	<b>IZS</b>	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.6	2.3	2.4	
16		2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.1	<b>IZS</b>	2.1	2.1	2.1	2.1	2	2	2	2.1	2.1	2.1	2.1	2.1	2.3	2.1	2.4	
17		2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.8	2.2	2.3	<b>IZS</b>	2.4	2.4	2.3	2.5	2.4	2.5	2.5	2.4	2.6	2.7	2.6	2.7	2.7	2.8	2.4	2.4	
18		2.6	2.5	2.7	2.9	3	3	3	3	2.7	<b>IZS</b>	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.8	2.8	2.2	2.7	2.7	2.6	3	2.6	2.4	
19		2.4	2.7	2.8	2.7	2.9	2.6	2.4	2.5	<b>IZS</b>	2.4	2.4	2.3	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.9	2.4	2.4
20		2.4	2.4	2.5	2.7	2.8	2.9	2.7	<b>IZS</b>	2.4	2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.9	2.3	2.4	
21		2.3	2.3	2.2	2.2	2.2	2.3	<b>IZS</b>	2.4	2.4	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.2	2.4	
22		2.3	2.3	2.4	2.5	2.6	<b>IZS</b>	3.8	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	3.8	2.3	2.4	
23		2.2	2.2	2.3	2.2	<b>IZS</b>	2.2	2.2	2.2	2.9	3	2.9	3.1	3.3	<b>P</b>	3.3	4.5	4.1	4	5	4.6	4.2	4.7	3	4.1	5	3.3	2.3	
24		3.2	3.2	2.2	<b>IZS</b>	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	3.2	2.3	2.4
25		2.2	2.2	<b>IZS</b>	3.9	2.2	2.2	2.2	2.2	2.4	2.3	2.2	2.2	2.3	2.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2	<b>27.3</b>	5.1	11.2	7.2	<b>27.3</b>	4.1	2.4
26		2.3	<b>IZS</b>	2.1	2.3	2.5	2.4	2.3	2.3	2.4	2.5	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.5	2.2	2.4
27		<b>IZS</b>	2.3	2.4	2.4	2.5	2.6	2.5	2.5	2.4	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.6	2.3	2.4	
28		2.1	2	2.1	2.1	2.1	2.1	2	2	2	2	2	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	1.9	1.9	1.9	2	2	1.9	<b>IZS</b>	1.9	2.1	2.0	2.4
29		1.9	1.9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	<b>IZS</b>	2	2	2	2.0	2.4
30		2	2.2	2.1	2.2	2	2.1	2	2.2	2.1	2	2	2	2	2	2	2	2	2	2	2	2	<b>IZS</b>	2	2	2	2.2	2.0	2.4
HOURLY MAX		4	3	4	4	4	3	4	3	3	3	3	3	3	3	3	5	4	4	4	5	5	27	5	11	7			
HOURLY AVG		2.3	2.3	2.4	2.5	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.3	2.3	2.2	2.2	2.3	2.3	3.2	2.5	2.6	2.5				

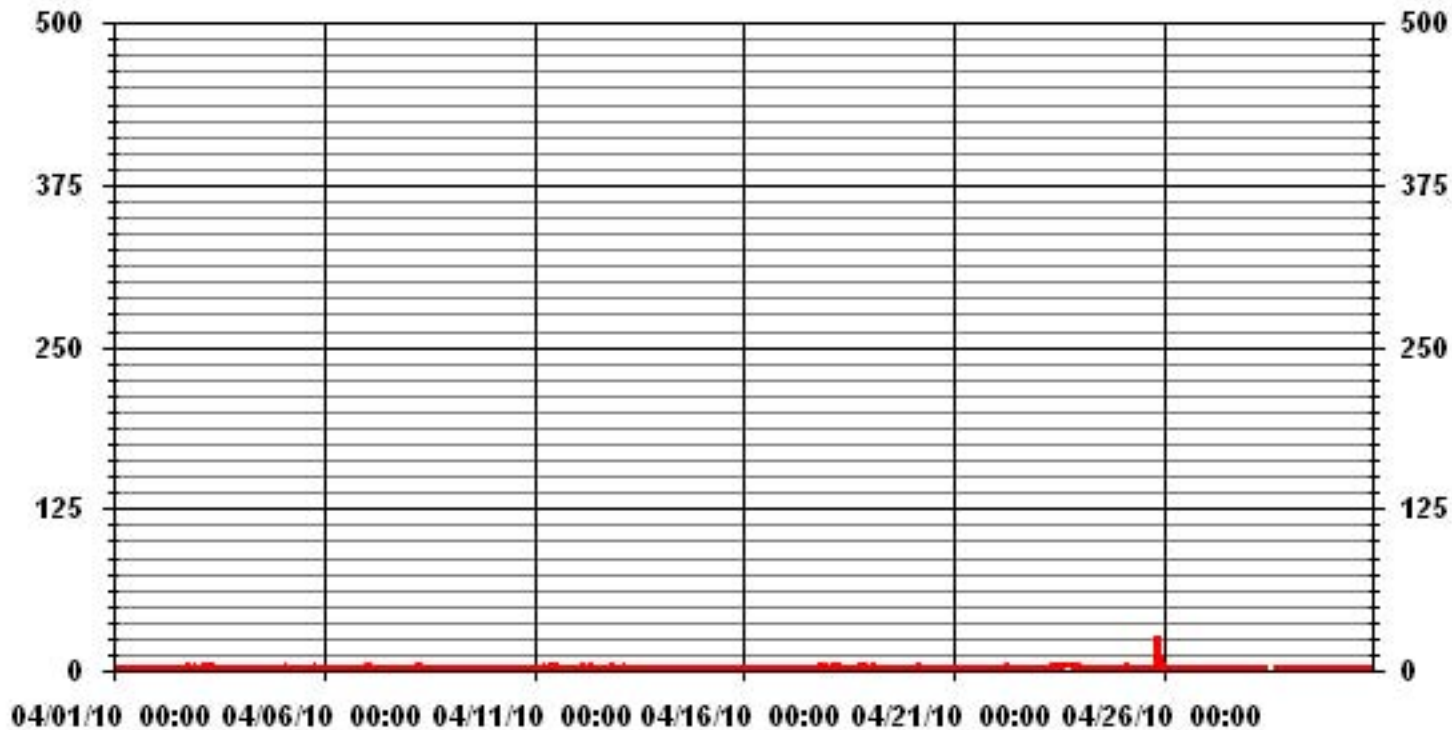
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	681					
MAXIMUM INSTANTANEOUS VALUE:	27.3	PPM	@ HOUR(S)	20	ON DAY(S)	25
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	718 HRS		
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	1.10					

### 01 Hour Averages



— LICA31 THCMAX PPM

LICA31  
 THC / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 31  
 Site Name : LICA31  
 Parameter : THC  
 Units : PPM

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	7.01	2.77	4.38	5.99	10.81	9.94	5.84	11.11	6.72	2.77	3.65	2.63	3.36	6.57	9.21	7.16	100.00
< 10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	7.01	2.77	4.38	5.99	10.81	9.94	5.84	11.11	6.72	2.77	3.65	2.63	3.36	6.57	9.21	7.16	

Calm : .00 %

Total # Operational Hours : 684

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	48	19	30	41	74	68	40	76	46	19	25	18	23	45	63	49	684
< 10.0																	
< 50.0																	
>= 50.0																	
Totals	48	19	30	41	74	68	40	76	46	19	25	18	23	45	63	49	

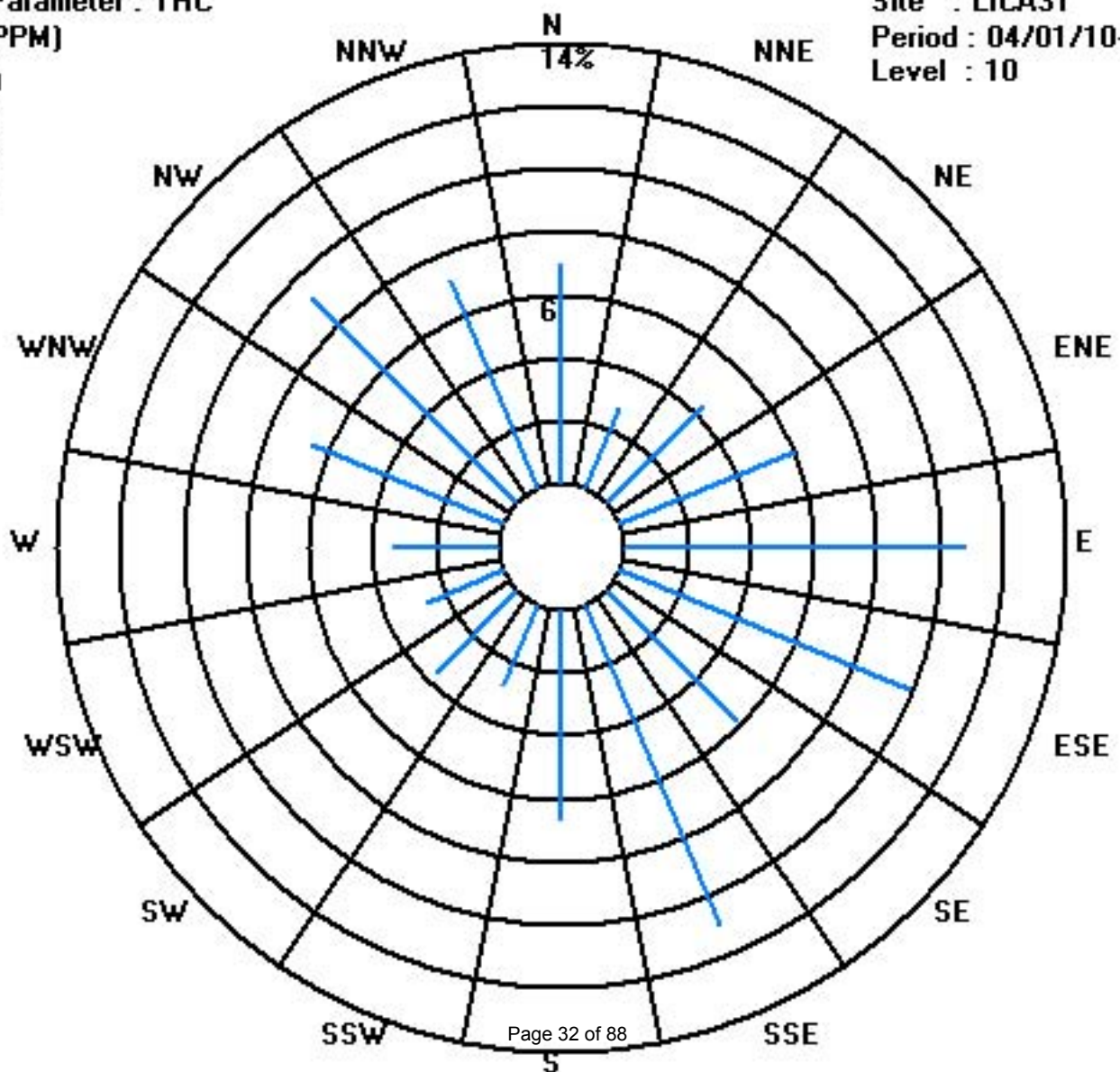
Calm : .00 %

Total # Operational Hours : 684

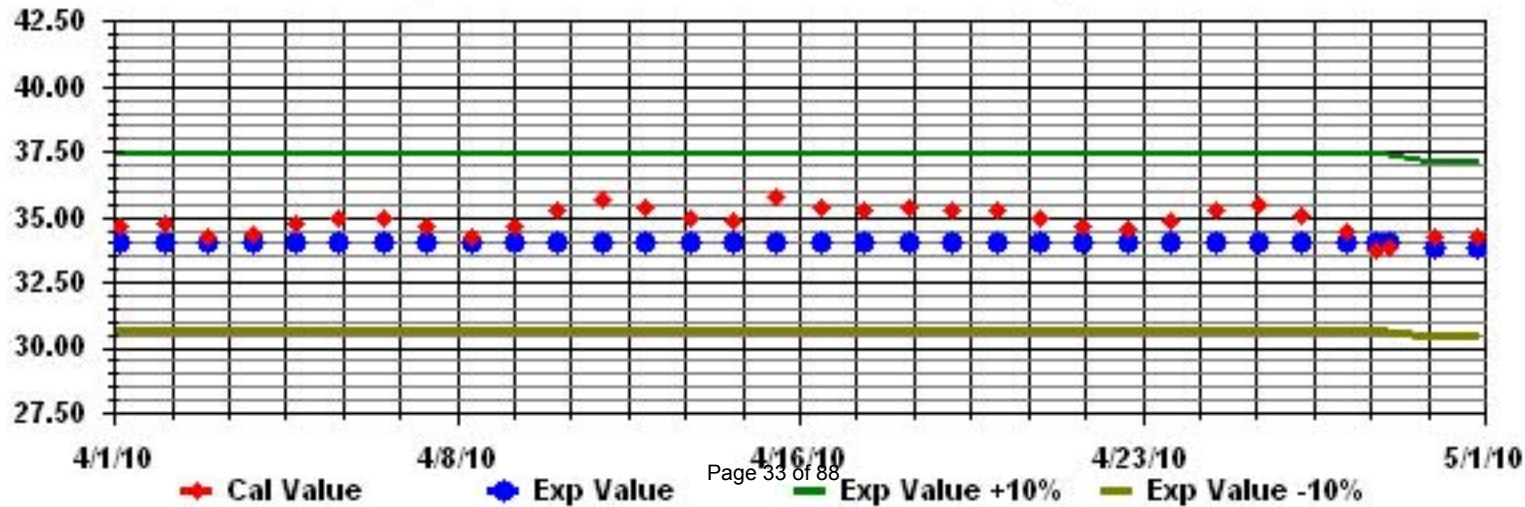
Class Limits (PPM)

Period : 04/01/10-04/30/10

Level : 10



Calibration Graph for Site: LICA31 Parameter: THC Sequence: THC Phase: SPAll





# Nitrogen Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION. - ST. LINA

APRIL 2010

## NITROGEN DIOXIDE hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.		
DAY	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						
1	1	1	0	IZS	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	2	0.6	24		
2	2	1	IZS	2	2	3	3	2	2	2	1	1	1	1	1	0	0	1	1	1	2	1	1	2	3	3	1.4	24		
3	2	IZS	2	2	2	2	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1.5	24		
4	IZS	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	1	1	1	1	IZS	1	1	0.7	24	
5	1	2	1	1	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	2	1.2	24		
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1.0	24		
7	1	1	1	1	2	4	7	6	5	3	2	1	1	1	1	1	1	1	1	1	IZS	2	2	2	7	2.1	24			
8	2	1	2	2	2	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	IZS	0	1	0	0	3	1.5	24		
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	IZS	0	0	0	0	0	0	0.0	24		
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	IZS	0	0	0	1	0	0	1	0.0	24		
11	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	0.0	24		
12	0	1	1	2	1	1	1	2	1	2	2	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	2	1.1	24		
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	0	0	1	0.9	24		
14	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	1	0	1	0	1	1	1	1	1	1	0.3	24		
15	1	1	1	1	1	1	1	2	1	1	1	1	1	IZS	1	1	0	0	0	1	1	1	1	1	1	2	0.9	24		
16	1	1	2	2	1	2	2	2	2	2	1	IZS	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.4	24		
17	2	2	2	2	2	2	2	2	2	2	IZS	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.5	24		
18	1	3	3	3	2	3	3	2	2	IZS	1	1	1	0	0	0	0	0	0	0	0	1	1	0	3	1.2	24			
19	1	2	2	2	2	2	3	3	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.4	24		
20	1	2	2	2	2	2	3	IZS	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.4	24		
21	1	1	1	1	1	2	IZS	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.2	24		
22	2	2	2	2	2	IZS	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1.3	24		
23	1	0	1	0	IZS	0	1	0	0	1	0	0	0	1	1	1	1	1	0	0	0	0	1	1	1	1	0.5	24		
24	1	0	0	IZS	0	1	1	1	1	1	1	0	0	1	0	0	0	1	1	1	1	1	0	0	1	0.6	24			
25	1	1	IZS	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0.3	24		
26	1	IZS	0	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	2	0.7	24			
27	IZS	1	1	1	1	1	2	1	1	1	1	1	1	0	1	0	0	1	0	1	1	1	1	1	IZS	2	0.9	24		
28	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	IZS	0	1	0.5	24		
29	0	0	0	0	0	0	0	0	C	C	C	C	C	C	1	1	1	1	1	1	1	1	IZS	1	0	1	0.5	24		
30	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	1	0.1	24		
HOURLY MAX	2	3	3	3	2	4	7	6	5	3	2	2	1	1	1	1	1	1	1	1	1	2	2	2	2					
HOURLY AVG	0.9	1.0	1.0	1.1	1.1	1.2	1.6	1.4	1.3	1.2	0.9	0.7	0.6	0.6	0.6	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.8	0.8						

**STATUS FLAG CODES**

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

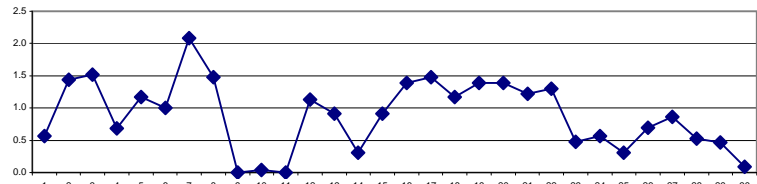
**OBJECTIVE LIMIT:**

ALBERTA ENVIRONMENT:	1-HR	212	PPB	24-HR	106	PPB
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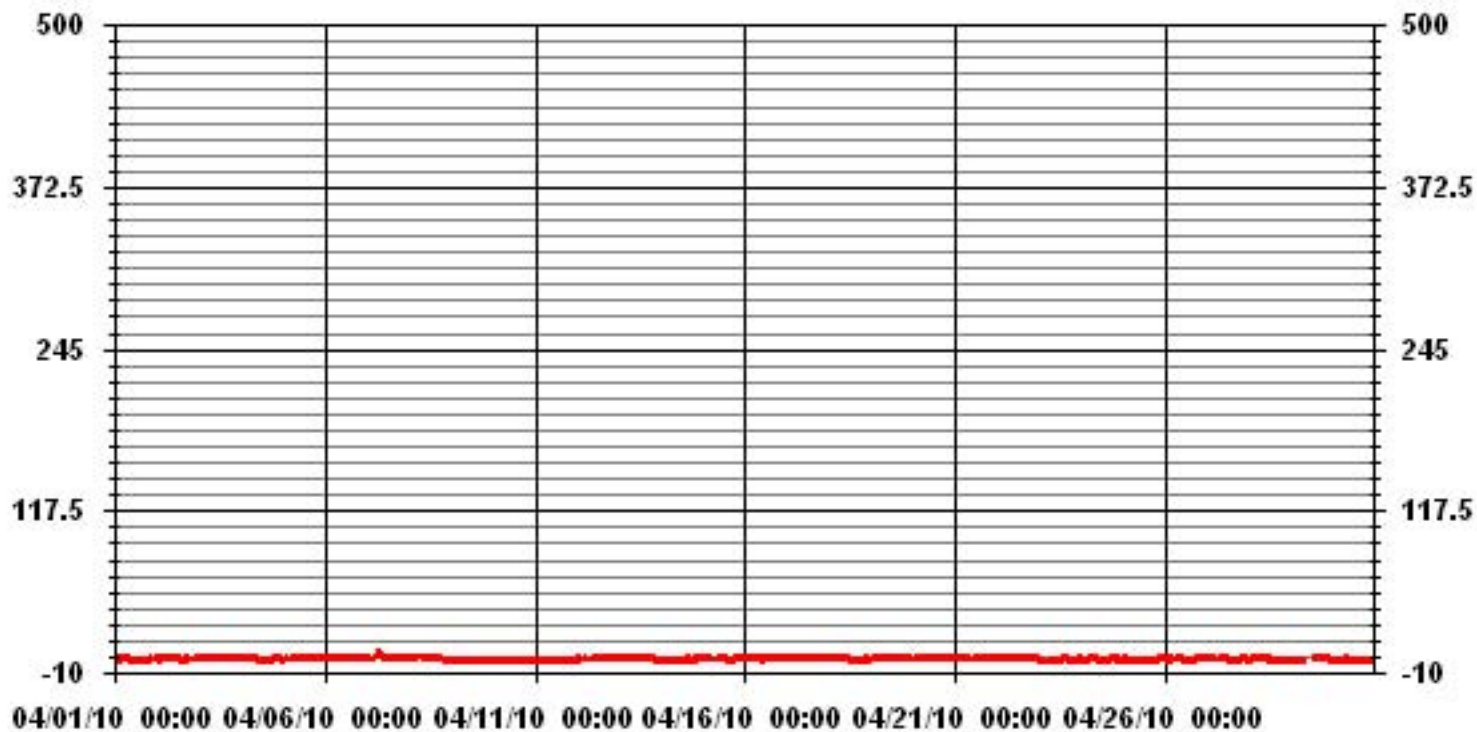
**MONTHLY SUMMARY**

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	469					
MAXIMUM 1-HR AVERAGE:	7	PPB	@ HOUR(S)	6	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	2.1	PPB			ON DAY(S)	7
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.81		MONTHLY AVERAGE:	0.89	PPB	

**24 HOUR AVERAGES FOR APRIL 2010**



### 01 Hour Averages



— LICA31 NO2\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2010

## NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	DAILY	24-HOUR	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	MAX.	AVG.		
DAY																												
1	1	1	1	IZS	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	3	1.4	24
2	3	2	IZS	3	3	5	5	2	2	2	2	2	1	1	1	1	1	2	2	3	2	2	3	5	5	2.3	24	
3	2	IZS	2	3	3	3	3	3	3	3	2	2	2	1	2	2	2	2	2	1	1	2	2	3	3	2.2	24	
4	IZS	2	2	2	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2	2	IZS	2	1.4	24	
5	3	4	1	2	2	2	1	3	2	2	3	2	2	2	1	1	1	1	1	1	2	2	IZS	2	4	1.9	24	
6	2	2	2	2	1	2	2	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	IZS	2	2	1.4	24	
7	2	1	2	2	2	6	8	7	5	4	3	2	1	1	2	2	2	1	2	4	IZS	2	3	2	8	2.9	24	
8	2	2	2	3	3	4	4	4	4	3	2	2	2	2	1	2	2	2	2	IZS	1	1	1	1	4	2.3	24	
9	1	P	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1.0	23	
10	1	1	1	1	1	0	0	1	1	1	1	0	1	1	1	1	1	IZS	1	1	1	1	2	1	1	2	0.9	24
11	1	1	1	1	1	1	3	1	1	1	1	2	2	1	1	1	IZS	1	1	1	1	1	1	1	3	1.2	24	
12	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	IZS	1	1	1	1	1	2	2	2	1.7	24	
13	2	2	1	2	2	2	1	1	1	1	1	1	1	1	IZS	2	2	2	1	1	1	1	1	1	2	1.3	24	
14	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	2	1	2	1	1	2	1	2	2	1.2	24	
15	1	1	1	2	2	2	9	19	2	2	1	12	IZS	1	16	1	1	1	1	1	1	1	1	1	19	3.5	24	
16	2	3	3	3	2	2	2	2	2	2	2	IZS	1	1	1	2	1	1	2	1	2	2	3	3	3	1.9	24	
17	3	3	2	2	2	3	3	3	2	3	IZS	2	2	2	1	2	1	1	2	2	2	2	2	2	3	2.1	24	
18	2	5	4	3	3	3	3	3	3	IZS	2	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1.9	24	
19	2	3	3	3	2	3	3	3	IZS	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	1.9	24	
20	2	2	2	2	3	3	3	IZS	3	2	2	2	2	1	1	1	1	1	1	1	2	2	2	3	3	1.9	24	
21	2	2	2	2	2	3	IZS	3	3	2	3	2	1	2	2	1	1	1	1	2	2	2	2	3	3	2.0	24	
22	2	2	3	3	3	IZS	3	2	2	2	2	2	2	1	1	1	2	2	3	2	1	1	1	1	3	1.9	24	
23	1	1	1	1	IZS	1	2	1	1	2	1	2	1	P	2	2	1	1	1	1	1	1	1	1	2	1.2	23	
24	1	2	1	IZS	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24	
25	1	1	IZS	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24	
26	2	IZS	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1.5	24	
27	IZS	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	2	1.5	24	
28	1	2	2	2	2	2	1	2	2	1	2	2	1	1	1	1	1	1	1	1	1	1	IZS	0	2	1.3	24	
29	1	1	1	1	0	1	1	C	C	C	C	C	C	C	C	1	1	2	2	2	2	IZS	1	1	2	1.2	24	
30	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	0.9	24	
HOURLY MAX	3	5	4	3	3	6	9	19	5	4	3	12	2	2	16	2	2	2	3	4	3	2	3	3				
HOURLY AVG	1.6	1.9	1.7	1.9	1.9	2.1	2.5	2.8	1.9	1.8	1.6	1.9	1.4	1.3	1.7	1.2	1.2	1.2	1.4	1.3	1.4	1.5	1.5	1.6				

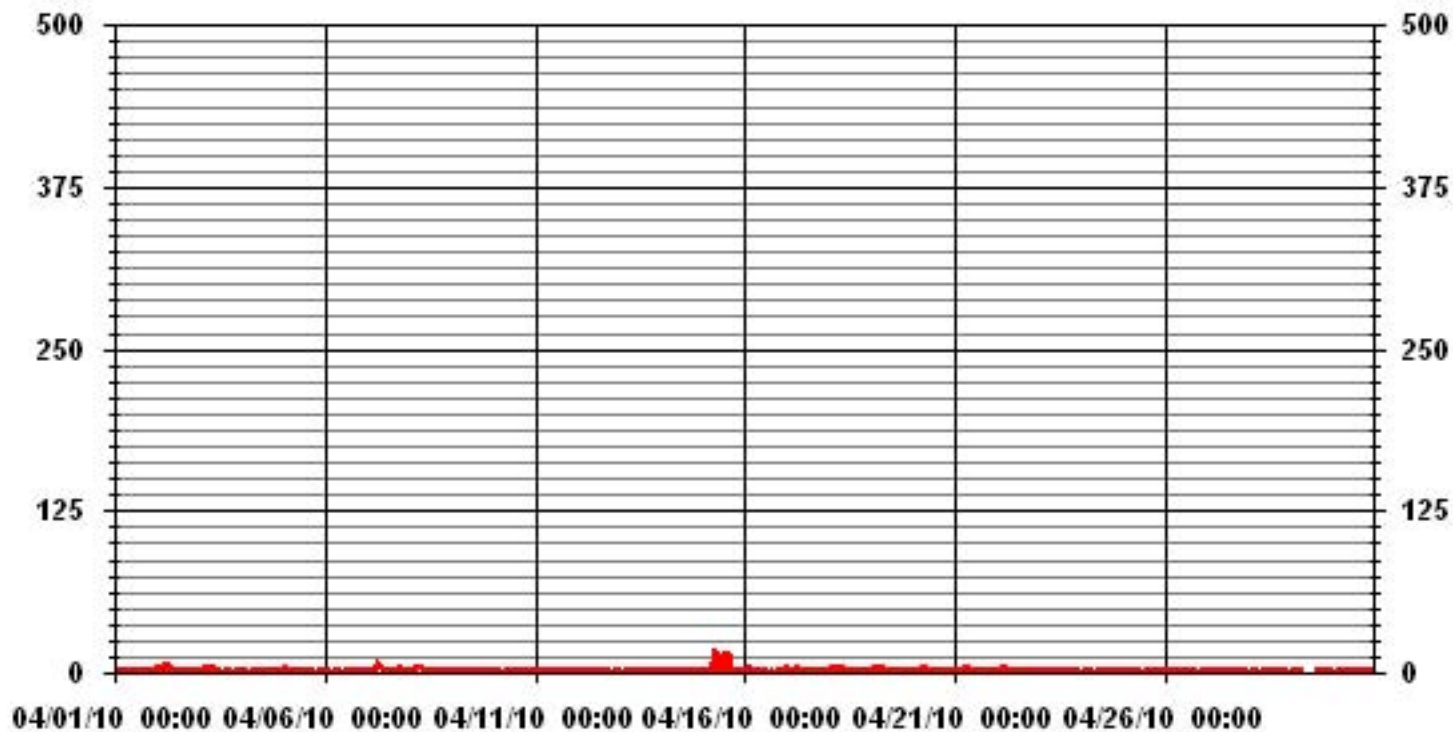
### STATUS FLAG CODES

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

### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	671
MAXIMUM INSTANTANEOUS VALUE:	19 PPB @ HOUR(S) 7 ON DAY(S) 15
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	1.30
OPERATIONAL TIME:	718 HRS

### 01 Hour Averages



— LICA31 NO2MAX PPB

LICA31  
 NO2\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 31  
 Site Name : LICA31  
 Parameter : NO2\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	7.03	2.93	4.83	6.01	10.85	9.97	5.86	11.14	6.74	2.78	3.66	2.63	3.37	6.59	9.23	6.30	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	7.03	2.93	4.83	6.01	10.85	9.97	5.86	11.14	6.74	2.78	3.66	2.63	3.37	6.59	9.23	6.30	

Calm : .00 %

Total # Operational Hours : 682

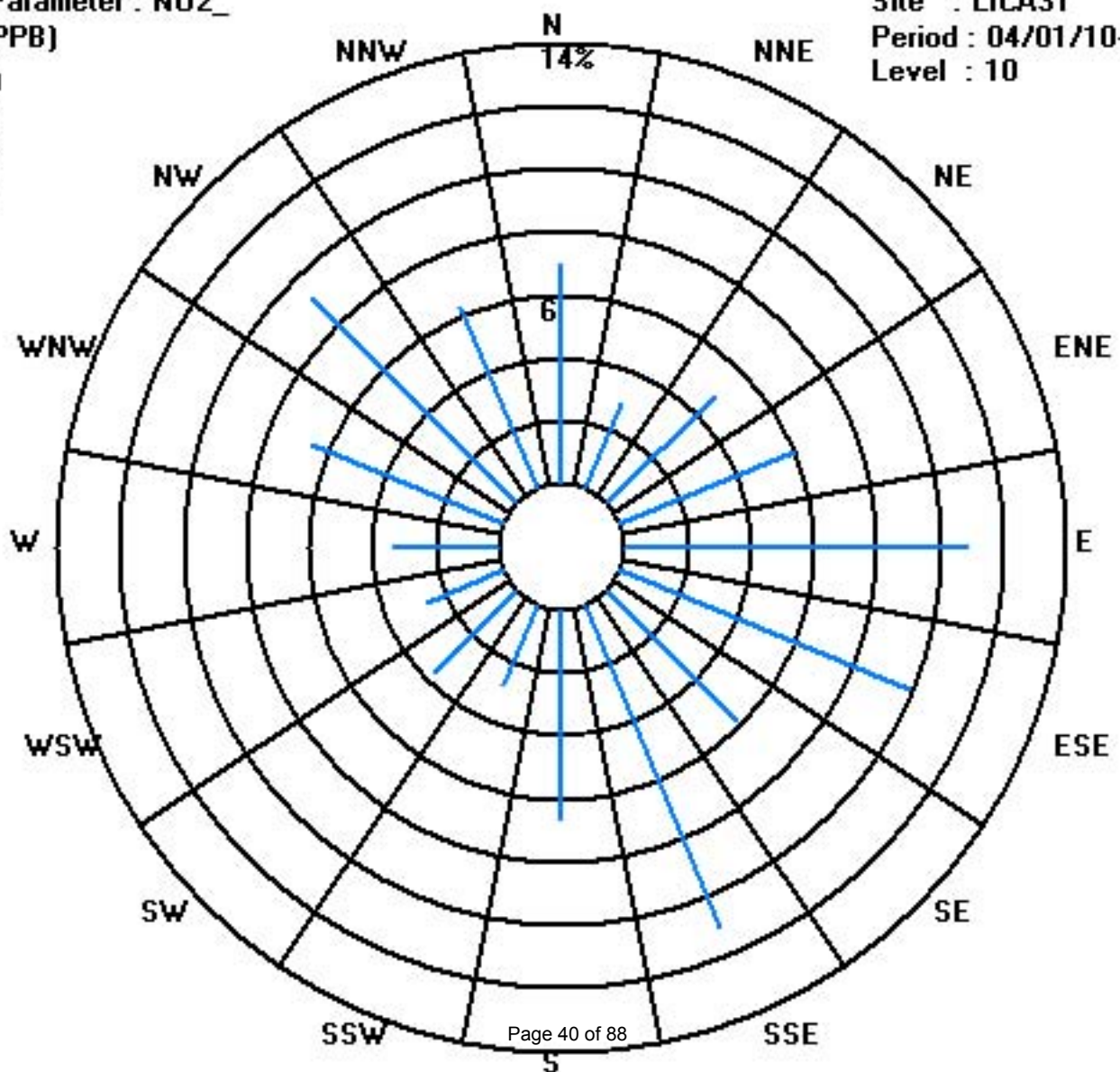
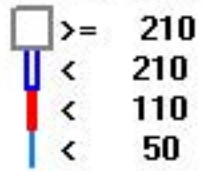
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	48	20	33	41	74	68	40	76	46	19	25	18	23	45	63	43	682
< 110																	
< 210																	
>= 210																	
Totals	48	20	33	41	74	68	40	76	46	19	25	18	23	45	63	43	

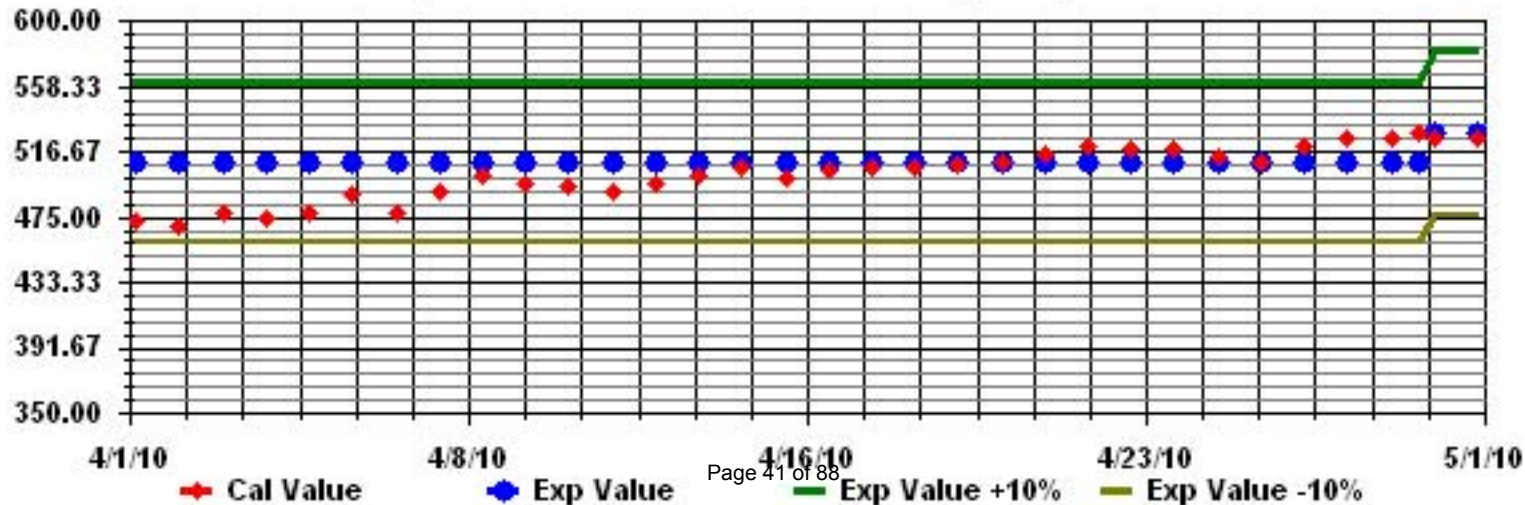
Calm : .00 %

Total # Operational Hours : 682

Class Limits (PPB)



Calibration Graph for Site: LICA31 Parameter: NO2\_ Sequence: NO2 Phase: SPAN





# Nitric Oxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2010

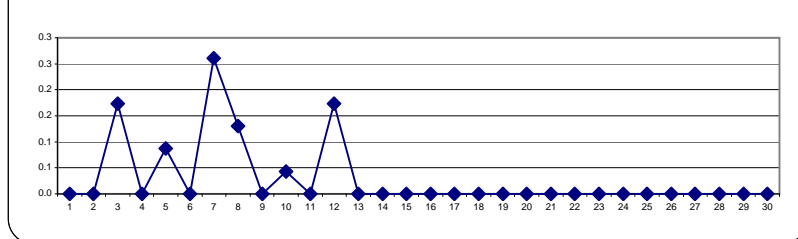
NITRIC OXIDE hourly averages in ppb

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

**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

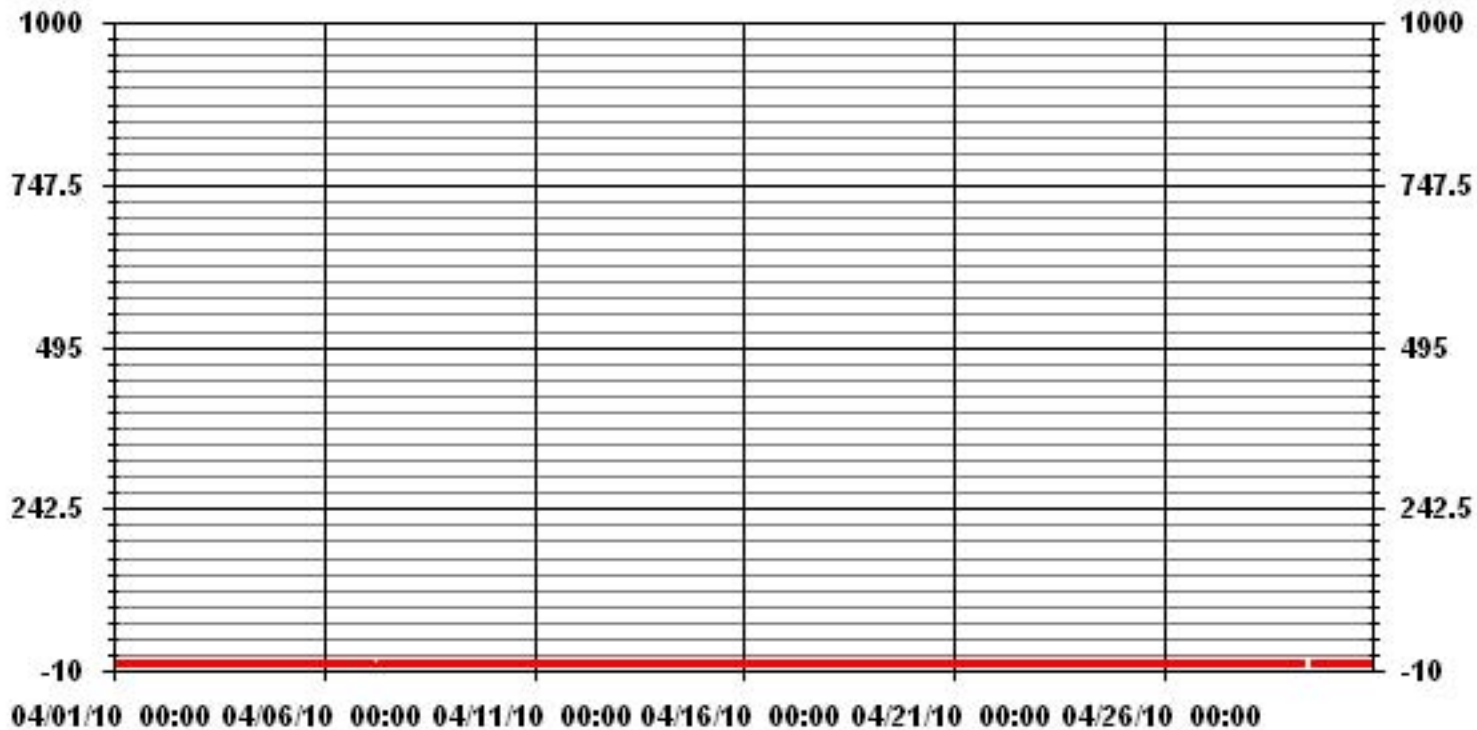
**24 HOUR AVERAGES FOR APRIL 2010**



**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	18					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	7, 8	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	0.3	PPB			ON DAY(S)	7
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.19		MONTHLY AVERAGE:	0.03	PPB	

### 01 Hour Averages



— LICA31 NO\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2010

**NITRIC OXIDE MAX** instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR			
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
DAY																													
1	0	0	0	IZS	1	0	1	1	1	1	1	1	1	0	0	1	1	0	1	1	0	0	0	1	1	1	0.6	24	
2	0	0	IZS	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	0.5	24	
3	0	IZS	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	0.5	24	
4	IZS	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	IZS	1	1	0.2	24
5	1	0	0	0	0	0	0	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	IZS	1	2	0.5	24	
6	0	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	IZS	1	1	1	0.3	24	
7	1	0	0	0	0	0	1	2	2	2	1	1	0	0	1	0	0	0	0	0	1	IZS	1	0	0	2	0.6	24	
8	0	1	0	0	0	1	1	1	2	1	1	1	1	1	0	0	0	0	0	0	IZS	1	0	0	0	2	0.5	24	
9	0	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	IZS	1	0	0	1	1	1	1	0.2	23	
10	0	0	0	1	0	0	0	0	0	1	1	1	1	1	3	1	1	IZS	1	1	1	1	1	1	1	3	0.7	24	
11	1	1	1	1	1	1	0	0	1	1	1	1	2	1	1	1	IZS	1	1	0	1	1	1	1	1	2	0.9	24	
12	1	1	1	1	1	1	1	1	1	2	2	1	1	1	0	IZS	1	1	0	1	0	0	0	0	0	2	0.8	24	
13	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	IZS	1	1	1	0	0	0	0	0	0	1	0.7	24	
14	0	0	1	0	0	0	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	0	0	0	0	1	0.6	24	
15	1	1	1	0	0	0	19	20	1	1	1	10	IZS	1	8	0	0	0	0	0	0	0	1	1	1	20	2.9	24	
16	0	0	1	0	1	1	1	1	1	1	1	1	IZS	1	1	0	0	0	0	0	0	0	0	1	1	1	0.6	24	
17	0	1	0	0	1	1	1	1	1	1	1	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24	
18	0	0	0	0	0	0	0	1	1	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
19	0	0	0	0	0	0	1	1	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
20	0	0	0	0	0	0	0	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
21	0	0	0	0	0	0	IZS	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24	
22	0	0	0	0	0	IZS	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.1	24	
23	0	0	0	0	IZS	1	2	0	0	1	1	2	1	P	1	1	1	1	1	1	1	1	1	0	2	2	0.8	23	
24	2	0	0	IZS	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	0	0	0	0	0	2	0.7	24	
25	0	0	IZS	1	0	1	0	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	1	1	0.7	24	
26	0	IZS	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0.8	24	
27	IZS	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	1	IZS	1	0.6	24	
28	1	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	0.3	24
29	0	0	0	0	0	0	0	C	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	1	0.1	24		
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	IZS	0	0	0	1	0.0	24
HOURLY MAX	2	1	1	1	1	1	19	20	2	2	2	10	2	1	8	1	1	1	1	1	1	1	1	1	2				
HOURLY AVG	0.3	0.3	0.3	0.3	0.3	0.4	1.3	1.4	0.9	0.9	0.8	1.0	0.6	0.6	0.8	0.4	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.4					

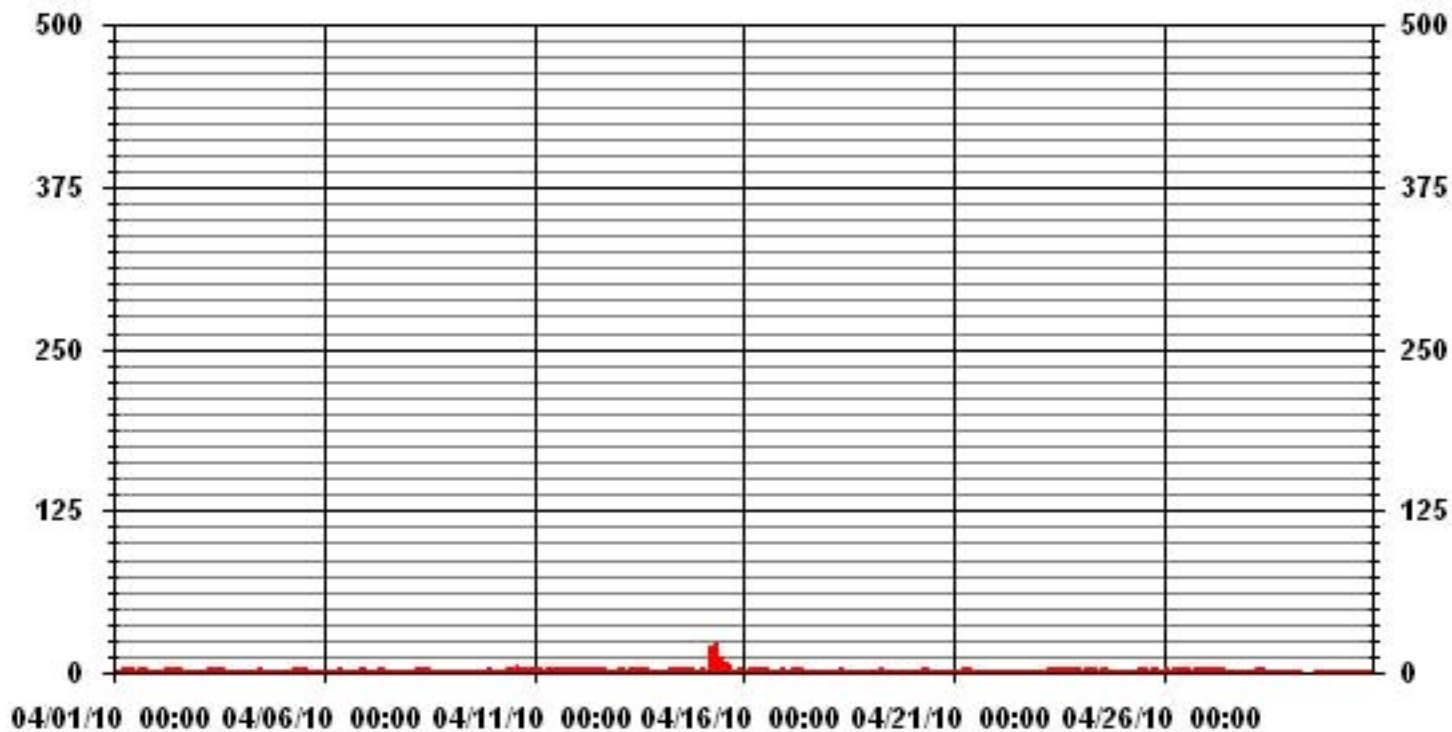
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	297					
MAXIMUM INSTANTANEOUS VALUE:	20	PPB	@ HOUR(S)	7	ON DAY(S)	15
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	1.25					

### 01 Hour Averages



LICA31  
 NO\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 31  
 Site Name : LICA31  
 Parameter : NO\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	7.03	2.93	4.83	6.01	10.85	9.97	5.86	11.14	6.74	2.78	3.66	2.63	3.37	6.59	9.23	6.30	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	7.03	2.93	4.83	6.01	10.85	9.97	5.86	11.14	6.74	2.78	3.66	2.63	3.37	6.59	9.23	6.30	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	48	20	33	41	74	68	40	76	46	19	25	18	23	45	63	43	682
< 110																	
< 210																	
>= 210																	
Totals	48	20	33	41	74	68	40	76	46	19	25	18	23	45	63	43	

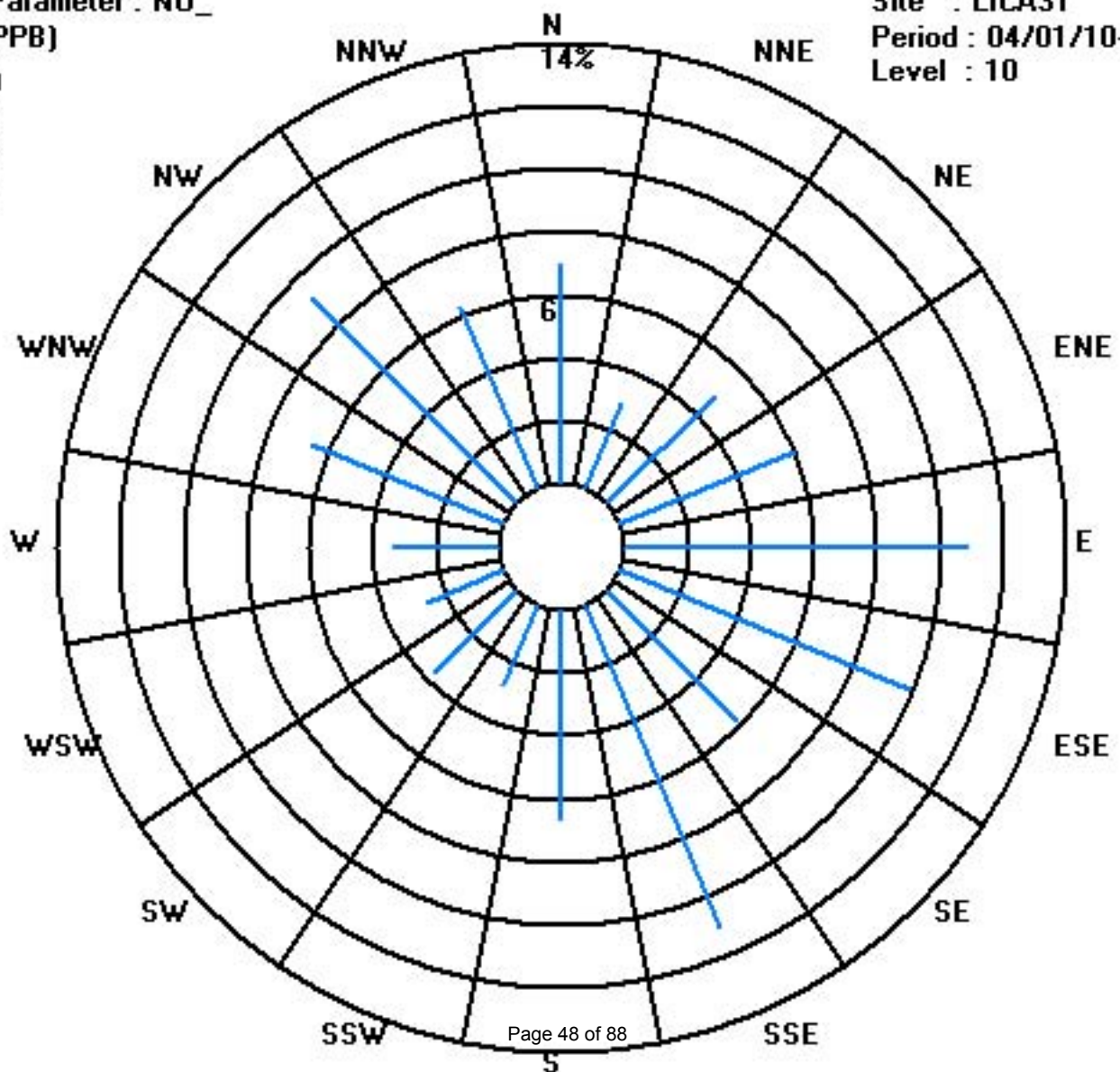
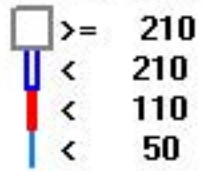
Calm : .00 %

Total # Operational Hours : 682

Class Limits (PPB)

Period : 04/01/10-04/30/10

Level : 10



# Oxides of Nitrogen



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2010

OXIDES OF NITROGEN 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 24-HOUR			
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	1	0	0	IZS	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0.5	24
2	1	1	IZS	2	2	3	3	2	2	2	2	1	1	1	0	0	0	0	1	1	2	1	1	2	3	3	1.3	24
3	2	IZS	2	2	2	2	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	3	1.6	24	
4	IZS	1	1	1	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	1	1	1	IZS	1	0.5	24
5	1	2	1	1	1	1	1	1	2	2	3	1	1	1	1	0	0	0	0	1	1	1	IZS	1	3	1.0	24	
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	IZS	1	1	1	0.9	24	
7	1	1	1	1	2	4	7	7	6	5	3	1	1	1	1	1	0	1	1	IZS	2	2	1	7	2.2	24		
8	1	1	1	2	2	3	3	4	4	3	2	2	2	1	1	1	1	1	IZS	0	0	0	0	0	4	1.6	24	
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0.0	24	
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	IZS	0	0	0	1	0	0	1	0.1	24	
11	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	IZS	0	0	0	0	0	0	0	1	0.1	24	
12	0	0	1	1	1	1	1	2	2	2	2	2	1	1	0	IZS	1	0	1	1	1	1	1	1	2	1.0	24	
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	0	0	0	0	0	1	0.8	24	
14	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	0	1	0	1	0	0	1	1	1	1	0.3	24	
15	1	1	1	1	1	1	1	2	1	1	1	1	IZS	1	1	0	0	0	0	0	1	1	0	1	2	0.8	24	
16	1	1	2	2	1	1	2	2	2	2	2	IZS	1	1	1	1	1	1	1	1	1	1	1	2	2	1.3	24	
17	2	2	2	1	2	2	2	2	2	2	IZS	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1.4	24	
18	1	3	3	2	2	3	3	2	2	IZS	1	1	1	0	0	0	0	0	0	0	1	1	0	3	1.1	24		
19	1	2	2	2	2	2	3	3	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.4	24	
20	1	1	2	2	2	2	3	IZS	2	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	3	1.3	24	
21	1	1	1	1	1	1	IZS	2	2	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	2	1.1	24	
22	1	1	2	2	2	IZS	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	2	1.1	24		
23	0	0	0	0	IZS	0	1	0	0	1	0	0	0	1	1	1	1	1	0	0	0	0	1	0	1	0.3	24	
24	0	0	0	IZS	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24	
25	0	0	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0.2	24	
26	0	IZS	0	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	2	0.6	24		
27	IZS	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	1	IZS	1	0.6	24	
28	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	1	0.6	24	
29	0	0	0	0	0	0	0	0	C	C	C	C	C	C	1	1	1	1	1	1	1	IZS	1	0	1	0.5	24	
30	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	1	0.1	24	
HOURLY MAX	2	3	3	2	2	4	7	7	6	5	3	2	2	1	1	1	1	1	1	1	1	2	2	2				
HOURLY AVG	0.7	0.8	0.9	1.0	1.1	1.1	1.5	1.4	1.4	1.3	1.0	0.8	0.7	0.6	0.6	0.4	0.4	0.4	0.5	0.5	0.7	0.6	0.7	0.6				

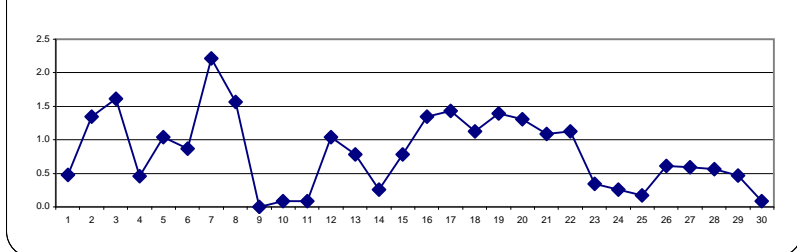
STATUS FLAG CODES

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

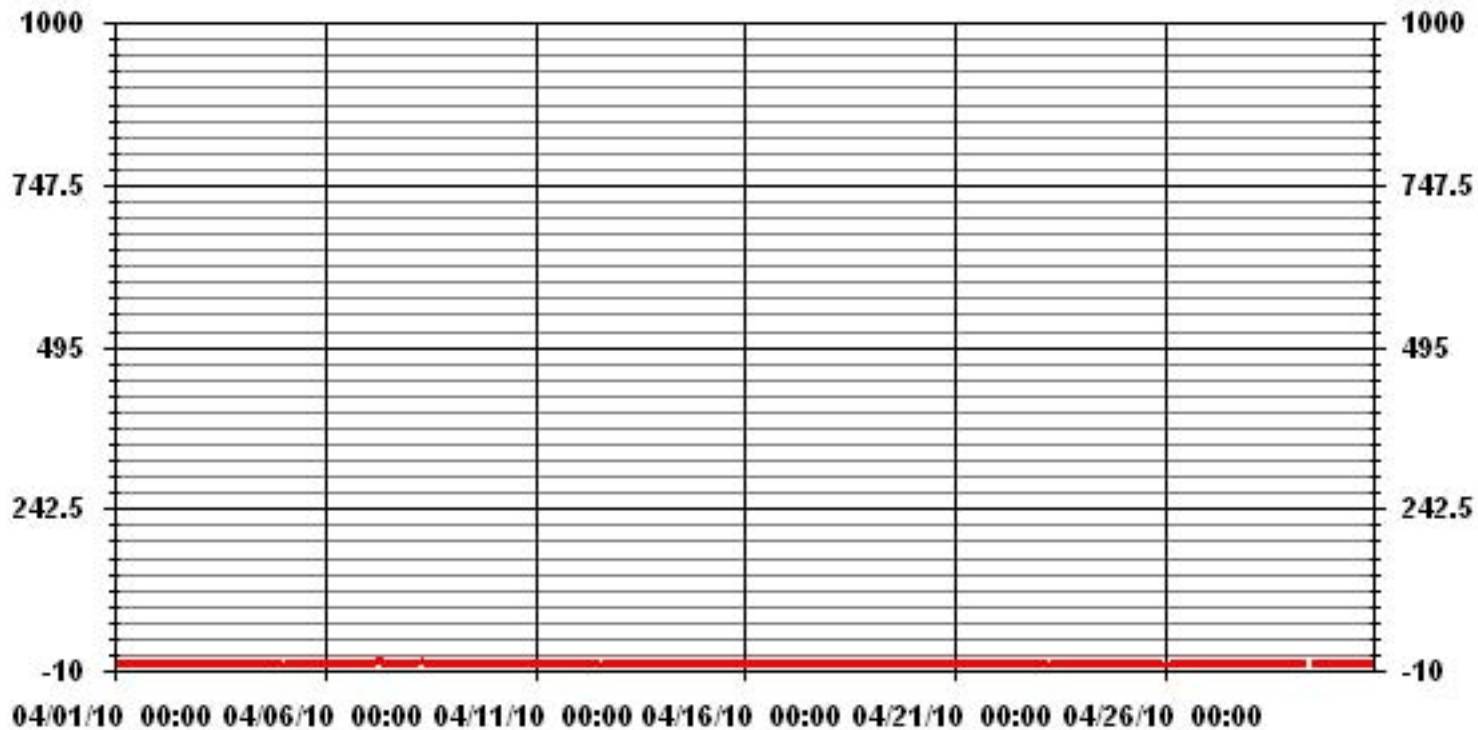
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	421		
MAXIMUM 1-HR AVERAGE:	7	PPB @ HOUR(S)	6.7 ON DAY(S) 7
MAXIMUM 24-HR AVERAGE:	2.2	PPB	ON DAY(S) 7
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME: 720 HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME 100.0 %
STANDARD DEVIATION	0.87		MONTHLY AVERAGE 0.82 PPB

24 HOUR AVERAGES FOR APRIL 2010



### 01 Hour Averages



— LICA31 NOX\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2010

**OXIDES OF NITROGEN MAX** instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	1	1	1	IZS	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	1.4	24	
2	2	2	IZS	3	3	5	5	3	2	2	2	2	2	2	1	1	1	1	2	2	2	2	3	5	2.3	24		
3	2	IZS	2	3	3	3	3	3	3	3	3	3	2	2	1	2	2	2	1	1	1	1	2	2	3	2.2	24	
4	IZS	2	2	2	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	2	2	2	IZS	2	1.4	24	
5	2	4	1	2	2	2	2	3	3	3	4	2	1	1	1	1	1	1	1	1	1	1	IZS	2	4	1.8	24	
6	2	2	1	2	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	IZS	2	1	2	1.4	24	
7	1	1	1	2	2	6	8	9	7	6	5	2	1	1	2	2	2	1	2	4	IZS	2	2	2	9	3.1	24	
8	2	2	2	2	3	3	4	5	5	4	3	3	2	2	1	1	2	2	1	IZS	1	1	1	1	5	2.3	24	
9	1	P	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1.0	23	
10	1	0	0	0	1	0	0	0	0	1	1	1	1	2	3	2	1	IZS	1	1	2	2	1	1	3	1.0	24	
11	1	1	1	0	1	1	0	1	1	1	1	2	3	2	1	1	IZS	1	1	1	1	1	1	1	3	1.1	24	
12	1	1	1	2	2	2	2	2	3	3	3	2	2	1	1	1	IZS	1	1	1	1	2	1	1	3	1.6	24	
13	2	2	1	2	2	1	1	1	2	2	2	1	1	1	IZS	2	2	2	1	1	1	1	1	1	2	1.4	24	
14	1	1	0	1	1	1	1	1	1	1	1	1	1	IZS	1	1	3	1	2	1	1	2	1	1	3	1.1	24	
15	1	1	1	1	1	2	27	37	2	2	1	20	IZS	2	24	1	1	1	1	1	1	1	1	1	37	5.7	24	
16	2	2	3	2	2	2	2	3	3	3	2	IZS	1	2	1	1	1	1	1	1	2	2	2	2	3	1.9	24	
17	2	2	2	2	2	3	4	3	3	3	IZS	2	2	2	1	1	1	1	1	1	2	2	2	2	4	2.0	24	
18	2	4	4	3	3	3	3	3	3	IZS	2	1	1	1	1	1	1	1	1	1	1	2	1	1	4	1.9	24	
19	2	3	2	3	2	3	4	4	IZS	3	2	2	1	1	1	1	1	1	1	2	2	2	2	2	4	2.0	24	
20	2	2	2	2	2	2	3	IZS	3	3	2	2	2	1	1	1	1	1	1	1	2	2	2	2	3	1.8	24	
21	2	1	1	2	2	2	IZS	3	3	2	5	1	1	2	2	1	1	1	1	2	2	2	2	5	1.9	24		
22	2	2	2	3	3	IZS	3	2	3	2	2	2	2	1	1	1	2	2	3	3	1	1	1	1	3	2.0	24	
23	1	1	1	1	IZS	1	3	1	1	2	1	3	1	P	2	2	2	1	1	1	1	2	1	3	3	1.5	23	
24	2	2	1	IZS	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	24	
25	1	1	IZS	2	1	1	1	1	1	0	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24	
26	1	IZS	1	1	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.3	24	
27	IZS	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	IZS	2	1.5	24	
28	1	1	1	1	2	2	1	2	1	2	1	1	1	1	1	1	1	1	1	0	1	0	IZS	1	2	1.1	24	
29	0	0	1	0	0	0	1	C	C	C	C	C	C	C	C	1	2	2	1	2	2	IZS	1	1	2	0.9	24	
30	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	1	0	IZS	1	0	1	1	1	0.7	24	
HOURLY MAX	2	4	4	3	3	6	27	37	7	6	5	20	3	2	24	2	3	2	3	4	2	2	2	3				
HOURLY AVG	1.5	1.6	1.4	1.7	1.7	1.9	3.1	3.5	2.3	2.2	1.9	2.3	1.4	1.4	2.0	1.2	1.3	1.1	1.2	1.2	1.3	1.5	1.4	1.5				

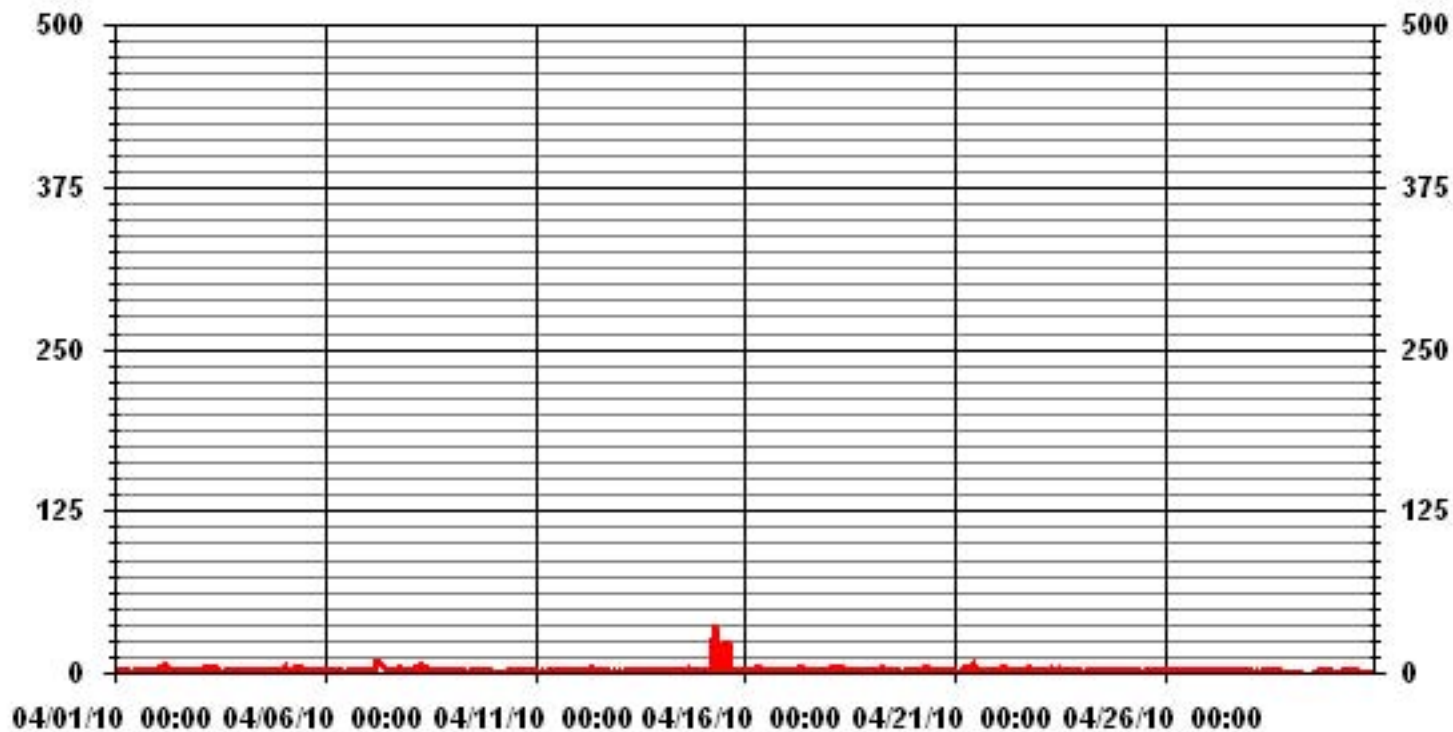
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	651				
MAXIMUM INSTANTANEOUS VALUE:	37	PPB	@ HOUR(S)	7	ON DAY(S) 15
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	718	HRS
MONTHLY CALIBRATION TIME:	8	HRS			
STANDARD DEVIATION:	2.23				

### 01 Hour Averages



— LICA31 NOxMAX PPB

LICA31  
 NOX\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 31  
 Site Name : LICA31  
 Parameter : NOX\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	7.03	2.93	4.83	6.01	10.85	9.97	5.86	11.14	6.74	2.78	3.66	2.63	3.37	6.59	9.23	6.30	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	7.03	2.93	4.83	6.01	10.85	9.97	5.86	11.14	6.74	2.78	3.66	2.63	3.37	6.59	9.23	6.30	

Calm : .00 %

Total # Operational Hours : 682

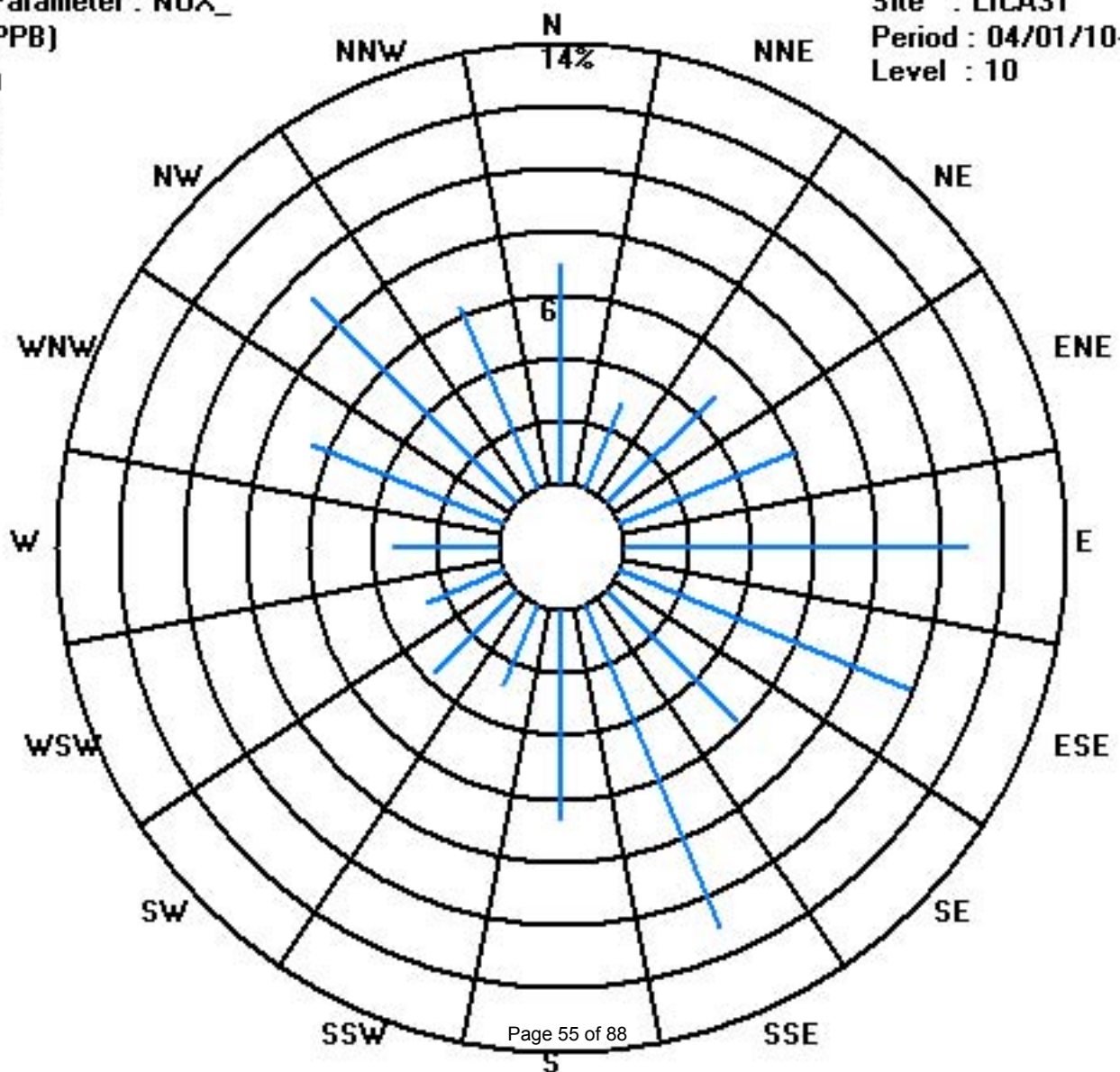
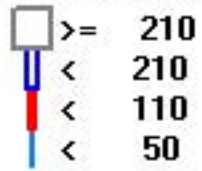
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	48	20	33	41	74	68	40	76	46	19	25	18	23	45	63	43	682
< 110																	
< 210																	
>= 210																	
Totals	48	20	33	41	74	68	40	76	46	19	25	18	23	45	63	43	

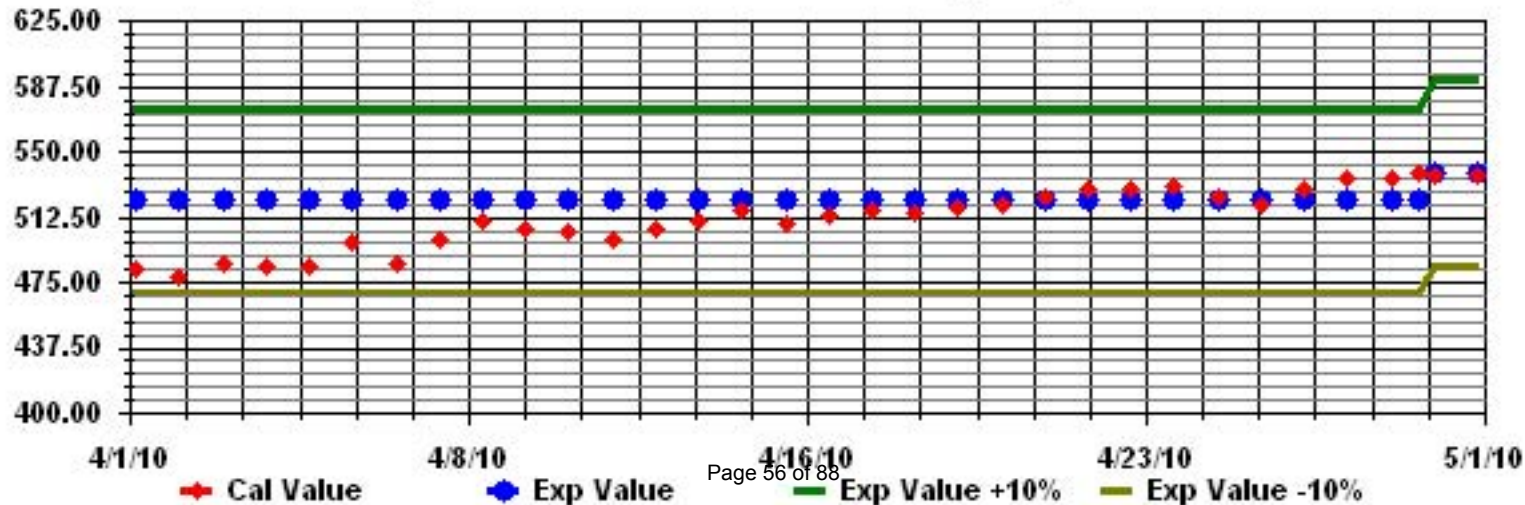
Calm : .00 %

Total # Operational Hours : 682

Class Limits (PPB)



Calibration Graph for Site: LICA31 Parameter: NOX\_ Sequence: NO2 Phase: SPAll



# Vector Wind Speed



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2010

## WIND SPEED hourly averages (km/hr)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	9.2	10	10.2	9.7	8.9	8.9	9.5	8.8	10.4	10.8	12.4	16.8	18.5	22.7	21.1	18.9	23.5	18.2	8	6.9	8.8	7.5	7.9	8	23.5	11.8	24
2	7.6	8.5	7.9	8.1	8.7	8.9	10.4	10.1	10	14.9	18.8	17.1	12.3	13.2	10.1	13	13	10.4	6.1	11.1	13	14.3	13.5	13.7	18.8	9.4	24
3	12.5	11.1	10.8	11	11.8	12.8	11.2	10.6	9.4	14.7	16	14.4	13.2	9.9	9.8	7	8.1	7.4	4.5	9.8	11.4	9.8	10.7	10	16	6.4	24
4	10.4	10.8	12.7	13	13.8	13.3	12.2	12.5	17.5	16.7	16.1	20.2	12.8	16.4	19	18.3	12.3	11.6	9.5	8.2	7.7	6.8	4.9	8.5	20.2	9.2	24
5	7.7	5.7	4.8	6.8	7.2	7.4	6.9	7	7.9	8.1	9.5	9	10.5	11.8	11.6	10.8	10.2	13.2	13.3	12.2	14.7	15	15	14.1	15	6.7	24
6	15.5	15.7	14.5	13.7	12.9	12.8	12.1	12.1	15.5	17.9	18.4	17.5	15.7	16.6	17.5	17	17.3	14.3	13.2	10.5	17.3	11.1	1.4	6.8	18.4	13.1	24
7	6.2	9.4	6.1	8.2	8.7	11.8	12.1	6.7	8.3	7.5	7.7	13.3	18.3	21.7	22.9	21.9	20.1	17.7	11.8	7.7	9.9	11.8	11.9	11	22.9	10.5	24
8	11.9	12	12	12.2	14.1	11.6	11.6	9.9	8.6	10.4	13.6	12.2	9.9	8.5	8.1	4.6	11.6	10.9	16.8	21.4	24.8	27.5	30	32	32	2.7	24
9	34.6	34.6	34.4	34.2	<b>39</b>	35.4	32.8	34.2	35.7	34.2	33.7	36	35.7	38	32.7	35.5	30.1	30.7	27.3	27.5	27.6	25.1	29.2	28.6	<b>39</b>	<b>32.5</b>	24
10	26.3	25.5	28.2	28	28.4	26.8	25.8	24.1	25.3	31.7	29.5	27.5	26.3	27.3	23.9	24.1	21.5	19.9	18.1	17.9	17.5	13.2	15.4	14.5	31.7	23.5	24
11	13.7	13.9	13.5	12.4	11.1	10.7	9.4	10.8	11.1	10.1	7.6	8.3	6.4	3.2	3.4	5.2	5.9	6.1	4.4	4.5	5.6	7.2	7	6.5	13.9	5.1	24
12	7.2	8.5	9.3	9.9	11.1	8.7	5.8	5.1	7.3	10.6	12.5	13.2	17.9	17.3	19.2	18.9	17.1	18.6	17.8	16.5	13.5	12.3	13.5	12.6	19.2	12.1	24
13	15.3	15.1	17	15.7	16.2	14.9	15.6	14.8	14.5	13.8	12.4	14.1	10.8	11.2	13.5	14.4	11.8	12.6	12.7	12.9	12	10.8	10.8	12.4	17	10.8	24
14	13.2	14.1	14.7	18.3	19.1	19.3	19.6	20	21	19.9	20.3	18.9	21.9	20.9	14.5	12.8	23.1	19.8	13.2	12.5	15.1	12.7	11	13.1	23.1	16.8	24
15	12.1	9.7	10.8	10.1	9.5	8.1	6.2	5.1	2.6	6.8	10.2	11.9	11	10.9	10.2	10.8	14	14.5	15.1	14.8	12.2	10.2	11.1	13.9	15.1	5.4	24
16	15.3	16.7	15.3	12.8	14.7	19.5	19.8	17.4	19.1	18.5	20.1	22.4	26.7	28.9	25.7	24.5	22.6	22.5	14.4	12.5	13.2	12.2	11.6	10.5	28.9	18	24
17	11.2	13	12.3	11.9	9.6	9.3	7.6	2.9	2.5	9.9	12	10.3	8.7	6.6	8.8	9.8	9.1	12.6	12.8	14.6	15.3	15.4	14	14.9	15.4	7.3	24
18	12.9	12.8	13.2	13.9	12.7	13.3	12.1	11.9	10.7	14.1	18.7	19.3	19	17.4	16.1	13.5	13.5	10.8	12.7	12.9	13.7	13.7	15.2	15.4	19.3	13.2	24
19	12.1	13.1	12.4	12.1	12.4	12.1	10.4	11.8	11.5	14.3	14.8	16.3	19.5	20.5	21	17.3	19.9	21.3	19	16.9	16.9	18.7	19.6	18.8	21.3	14.9	24
20	16.8	18	18.1	15.2	14.8	15.3	14.5	15.3	15.6	16.6	22.8	25.3	24.5	23.1	21.1	23.1	22.7	20.6	16.9	14.2	16	17.4	18	18	25.3	17.5	24
21	14.9	13.7	13.2	12.9	13.3	13.6	13.6	14.1	14.5	14.2	15.3	19.2	18.4	18.7	19.4	17.7	18	19.1	15.1	10.7	13	14.3	13.2	12.7	19.4	14.8	24
22	12.1	13.2	13.8	14.1	14.8	10.7	3.5	5.7	4.3	2.3	2.6	2.9	9.8	8.5	7.1	6.7	8.9	5	8.3	23.1	21.9	23	23.5	24.1	24.1	3.9	24
23	22.3	20.6	19.2	21.9	22	20.5	21.2	21.7	23.5	17.7	17.9	17.3	15.3	16.9	15.9	14.3	10.8	11.3	11.1	11	10.7	7.8	6.4	6.6	23.5	15.7	24
24	7.1	6.6	6	7.4	7.5	9.8	10	8.4	7.6	7.5	5.8	6.9	8.1	6.3	8.7	8.9	8.4	9.2	10.8	9.2	8.4	8.8	6	2.6	10.8	6.8	24
25	3.9	2.6	3.4	4.4	5.2	5.9	5.2	4.4	4.4	6.9	7.9	8.1	7.9	10.8	12.1	12.6	12.2	11.2	8.2	5.9	3.1	2.1	4.8	3.9	12.6	5.6	24
26	3.9	3.9	5.1	6.3	6.9	7.2	8.1	9.2	10.7	13.5	13.1	11.6	13.6	13	11.9	15.8	14.8	15.1	15.1	13.8	14.2	16.5	15.5	16.6	16.6	11	24
27	13.7	13.9	13.5	12	14.4	14.6	15.4	19	19	19.5	24.7	26.6	25.8	26.6	26.9	24.3	22.7	21.6	19.8	15.7	16.2	17.2	15.4	16	26.9	18.4	24
28	16.4	16.9	18.5	19.5	22.5	23.8	24.3	23.7	23.8	23.7	25	24.1	24.2	22.8	22	21.2	22.6	20.5	22.5	22	20.7	19.3	19.6	18.9	25	21	24
29	18.4	15.4	16.5	18.2	19.1	19.1	22.9	24.3	24.4	23.6	26.8	28.1	25.8	23	25.8	26	26.3	22.6	16.9	17.5	17.4	16.4	17.8	13.8	28.1	20.7	24
30	12.9	14.3	14.3	14.3	15.2	14.8	13.4	13.9	12.6	12.8	13.1	11.3	12.1	13.3	14.4	13.8	13.8	10.5	10.6	12.1	9.6	8.4	8.7	8.6	15.2	11.7	24
HOURLY MAX	34.6	34.6	34.4	34.2	39.0	35.4	32.8	34.2	35.7	34.2	33.7	36.0	35.7	38.0	32.7	35.5	30.1	30.7	27.3	27.5	27.6	27.5	30.0	32.0			
HOURLY AVG	13.2	13.3	13.4	13.6	14.2	14.0	13.4	13.2	13.6	14.8	16.0	16.7	16.7	16.9	16.5	16.1	16.2	15.3	13.5	13.6	14.0	13.6	13.4	13.6			

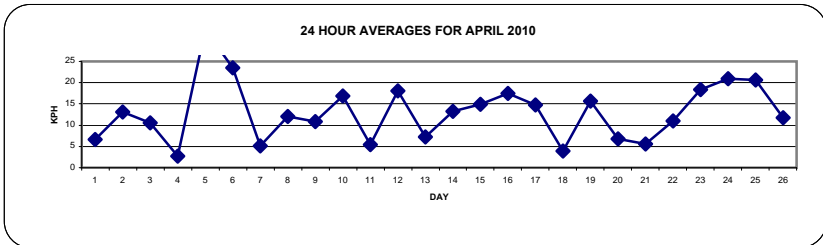
### STATUS FLAG CODES

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

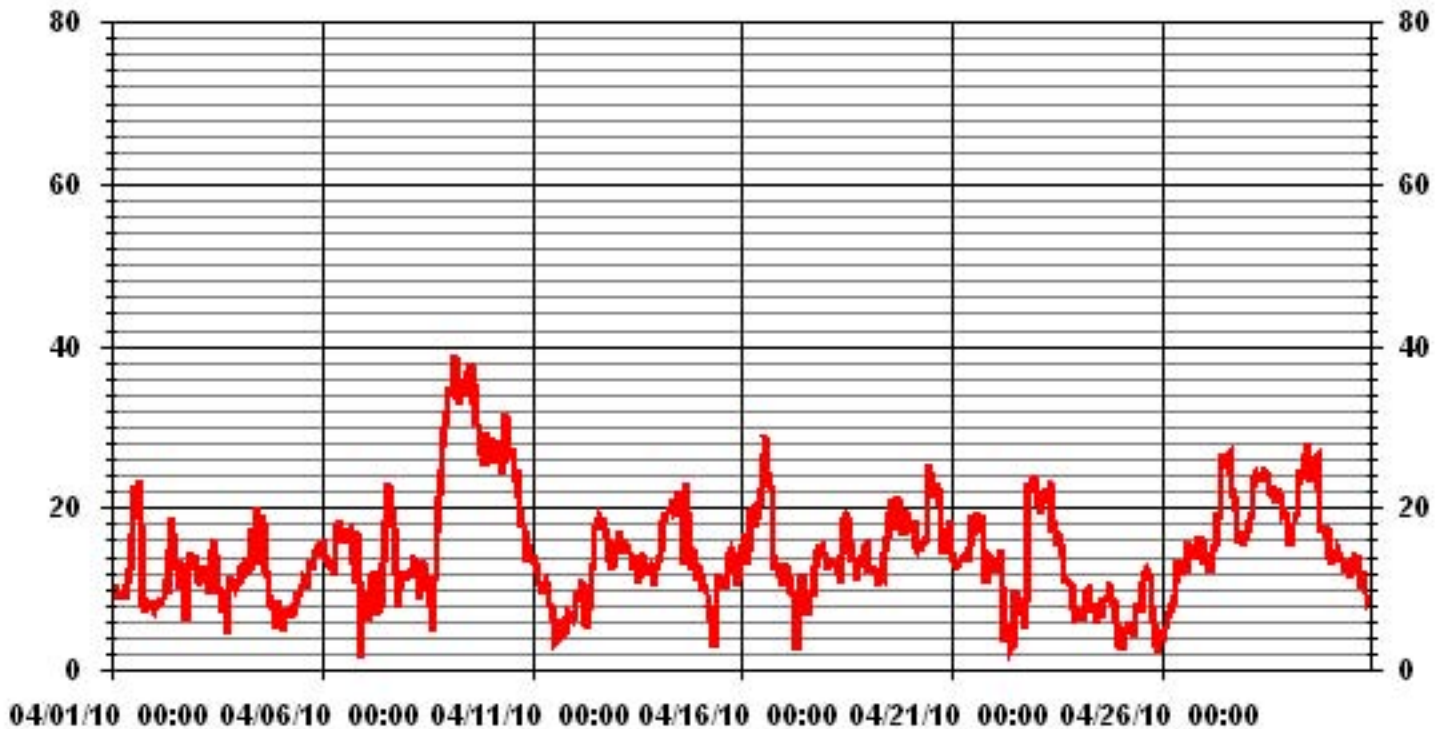
LAST CALIBRATION: February 3, 2009

### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	39.0	KPH	@ HOUR(S)	4	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	32.5	KPH			ON DAY(S)	9
CALMS (≤ 0 KPH)	0.00	%	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME		100.0	%
STANDARD DEVIATION	6.63		MONTHLY AVERAGE		14.53	KPH



### 01 Hour Averages



— LICA31 WSP KPH

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2010

### VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST		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
DAY	PEAK	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
1		13.2	23.1	22.2	15.3	16	20.1	16.4	20.3	17.7	28.9	33.9	41	50.9	53	51.8	47.5	52	41.9	24.2	9.7	14	11.6	12.7	14.2	53
2		11.4	12.7	11.4	14.2	12.7	13.6	16.2	17.5	19.2	28.3	36.7	38.6	29.1	30.2	31.1	34.1	28.3	25.9	12.9	14.2	21.2	24	22.2	24.5	38.6
3		26.9	25.3	22.7	25.7	20.9	26.3	20.9	20.7	22.7	32.2	32	32.6	27.8	26.1	30.6	24.4	23.5	20.7	11.2	25	25.5	22	21.4	22.4	32.6
4		24.6	24.4	27.8	27.4	31.5	29.4	28.5	29.6	43.8	39.2	49.9	53.8	36.7	52	61.3	56.8	39.3	32.6	30.4	16.4	15.8	9.9	9.3	12.5	61.3
5		10.8	10.8	11.4	10.6	12.1	16	11	13.8	13.6	15.5	20.3	18.8	21.1	22.7	25	30.4	25.5	31.1	31.5	23.1	25.8	27	27.4	26.5	31.5
6		27.6	29.8	27.6	25	22.2	21.2	19.4	22.7	33.3	35.6	38.4	41.2	36.5	38	46.2	34.5	38.6	44.8	34.3	23.1	43	39.3	15.3	12.9	46.2
7		19.4	30.9	19.6	14.2	14.9	16	15.5	13.4	14.2	14.9	21.1	33	37.1	41.9	47.9	43.6	39.4	37.5	23.7	11	13.8	19.2	18.8	15.7	47.9
8		17.3	16.8	17.3	19	24	19.2	23.5	21.8	19	21.4	26.3	25.5	23.9	23.7	41.4	32.2	38.2	31.9	54.6	53.1	55	60.2	67.2	69.8	69.8
9		84.5	P	80.8	78.6	82.7	93.5	75.8	74.8	83.6	79.1	76.7	84.8	86.6	86.6	77.5	75	77.8	74.2	69.8	65.9	64.8	66.5	67.4	71.7	93.5
10		62	60.9	58.6	62.9	62.4	59.2	54.7	52.5	58.6	65.6	61.1	56.4	54.9	64.4	56.8	55.5	47.3	48	42.1	40.2	41.2	30.3	35	29.4	65.6
11		31.3	34.1	29.6	27.9	23.5	22.7	21.2	25.3	23.3	19.6	16.8	18.1	17.7	16.8	15.3	20.5	16.8	15.7	17.4	10.8	14.2	13	15.3	9.5	34.1
12		12.7	12.9	16.4	17.7	19.6	16.6	11.9	12.3	15.8	25.7	28.2	27.4	38.4	39.7	38.9	39.7	36.5	35.8	33.3	30	23.7	24.4	26.8	28.7	39.7
13		31.8	32.4	32.8	35.2	34.3	28.4	30.9	34.3	32.4	28.1	24.4	25.5	22	24.6	24.8	31.3	23.5	30.9	28.9	30.5	28.5	30	32.6	29.4	35.2
14		43.9	39.3	42.3	42.8	47.1	46.7	47.2	62.6	50.8	57.2	48	49	49.8	56.8	43	39.7	73	61.5	40.2	23.7	41.9	28.9	26.3	38.9	73
15		37.4	20.9	20.1	18.3	15.3	17.5	16.8	10.4	11.2	14	18.8	25.5	28.3	22.7	22	24.8	31.3	32.3	38.8	33	24.8	18.1	19.6	27.6	38.8
16		24.8	29.8	27.6	26.3	28.7	31.3	34.5	33.5	46.9	39.3	60.5	52.7	59.6	58.7	54.5	67.6	45.8	45.5	31.1	22.4	24.2	21.4	18.3	19.2	67.6
17		16	20.9	19.4	19.9	14.2	14.2	12.9	8.8	8.4	19	22.9	23.5	20	19.4	19.2	20.9	20.9	22.9	22.9	30.4	27.8	28.5	26.5	26.5	30.4
18		25.2	19.4	25.5	21.6	25.8	26.9	24.8	25.2	19.2	31.3	36.5	40.3	41	33.9	39.9	30.6	31.5	23.3	30.9	28.3	21.8	28	28.6	28.9	41
19		17.7	22.9	19.2	23.3	27.2	19.2	17.5	28.7	28.7	25	28.3	53.5	41	40.3	48.5	36.9	38.6	38.4	36.2	37.3	33	36.9	36.5	36.4	53.5
20		32.8	33.2	33.7	31.5	33.7	32.4	27.3	30.2	31.3	32.8	49.4	55.9	50.7	49.2	46.6	48.7	46.1	44.6	37.7	26.3	29.1	30.2	33.7	33.7	55.9
21		28.3	27	25.5	22.2	22.7	22.2	25	26.9	27.2	27.2	34.1	45.3	49.6	45.1	44.4	41.6	44.4	39.2	35.2	18.5	23.5	25.2	25.4	24.4	49.6
22		21.1	24.1	21.1	21.6	23.3	32.2	14.7	13.4	11.4	10.6	13.7	25.4	28	38.4	25.4	25.4	23.1	18.3	32.2	60.4	49.9	47.1	54.6	58.5	60.4
23		53.5	49.9	47.7	49.2	48.1	44.9	45.6	50.3	55.1	43.1	41.9	43	33.1	P	34.1	30.5	25.9	24.8	24.6	22.2	21.6	20.3	14.7	13.8	55.1
24		14.7	14	14.2	16.2	17.1	22.2	21.1	19.9	19.2	14.9	14.5	14.5	16.8	15.1	17.9	19.6	16	17.5	25	17.5	18.4	17.7	13.6	11.6	25
25		13.1	11.6	11.6	15.1	17.7	16.6	14.8	14	15.5	22.9	22.5	23.5	20	29.8	40.6	26.6	24	23.5	16.2	11.4	12.1	10.8	13.8	12.3	40.6
26		13	6.6	8.4	10.6	11	11.9	14.6	17.3	19.9	25.9	24.2	22.9	25.7	31.5	29.2	31.5	28.9	29.8	29.6	28.9	33.8	28.7	28.1	31.1	33.8
27		26.6	31.8	28.5	22.7	27	32.6	35.6	34.8	47.5	38.1	50.9	55.3	58.7	56.1	53.1	57.4	54.1	51.2	39.9	35.6	35	36.1	38.6	35	58.7
28		26.5	28.9	34.1	39.7	40.6	44.7	43	46.4	44.3	44.5	51	50.9	50.9	55.5	50.1	40.4	45.8	44.3	49	52.5	41.9	39.4	48.4	40.2	55.5
29		49.5	43.6	46.9	57.2	51.4	57.7	60	64.4	58.1	59.7	69.5	71.7	66.5	58.5	86.2	62.6	73.4	69.5	61.3	48.8	44.7	46.7	57	38.8	86.2
30		28.5	27.6	44.9	30.5	43.6	30.9	33.3	32.8	30.9	37.4	40.4	31.9	30	37.8	36.3	40.6	28.7	25.7	27.6	24.8	19.9	17.9	19.4	16.8	44.9
PEAK		84.5	60.9	80.8	78.6	82.7	93.5	75.8	74.8	83.6	79.1	76.7	84.8	86.6	86.6	86.2	75.0	77.8	74.2	69.8	65.9	64.8	66.5	67.4	71.7	

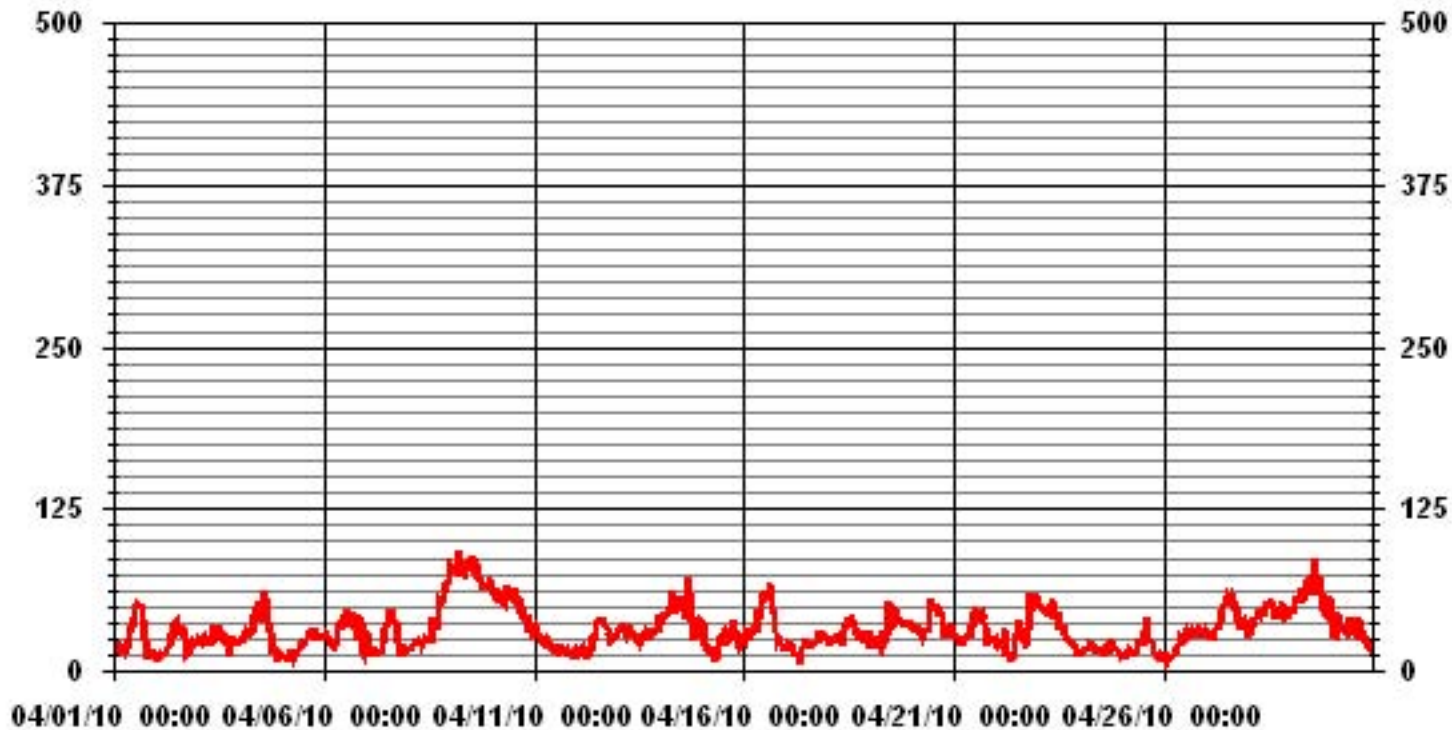
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

MAXIMUM INSTANTANEOUS READING	93.5	KPH	@ HOUR(S)	5
			ON DAY(S)	9

### 01 Hour Averages



— LICA31 WSMAX KPH

LICA31  
WSP / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 31  
Site Name : LICA31  
Parameter : WSP  
Units : KPH

Wind Parameter : WDR  
Instrument Height : 10 Meters

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 6.0	.41	.97	.69	.27	.27	.41	.41	.00	.27	.13	.27	1.11	.41	.00	.27	.27	6.25	
< 12.0	2.36	.55	1.94	3.47	3.47	1.66	.69	2.22	2.77	2.08	2.36	.69	1.80	.97	2.36	1.25	30.69	
< 20.0	3.88	1.38	.41	2.08	6.38	7.22	3.75	7.08	3.61	.69	.41	.27	1.25	1.66	1.80	3.19	45.13	
< 29.0	.13	.27	2.08	.00	.27	.97	.83	1.66	.00	.00	.55	.41	.00	1.66	3.61	2.22	14.72	
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.08	.97	.00	3.05	
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00	.13	
Totals	6.80	3.19	5.13	5.83	10.41	10.27	5.69	10.97	6.66	2.91	3.61	2.50	3.47	6.52	9.02	6.94		

Calm : .00 %

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	3	7	5	2	2	3	3		2	1	2	8	3		2	2	45	
< 12.0	17	4	14	25	25	12	5	16	20	15	17	5	13	7	17	9	221	
< 20.0	28	10	3	15	46	52	27	51	26	5	3	2	9	12	13	23	325	
< 29.0	1	2	15		2	7	6	12			4	3		12	26	16	106	
< 39.0														15	7		22	
>= 39.0														1			1	
Totals	49	23	37	42	75	74	41	79	48	21	26	18	25	47	65	50		

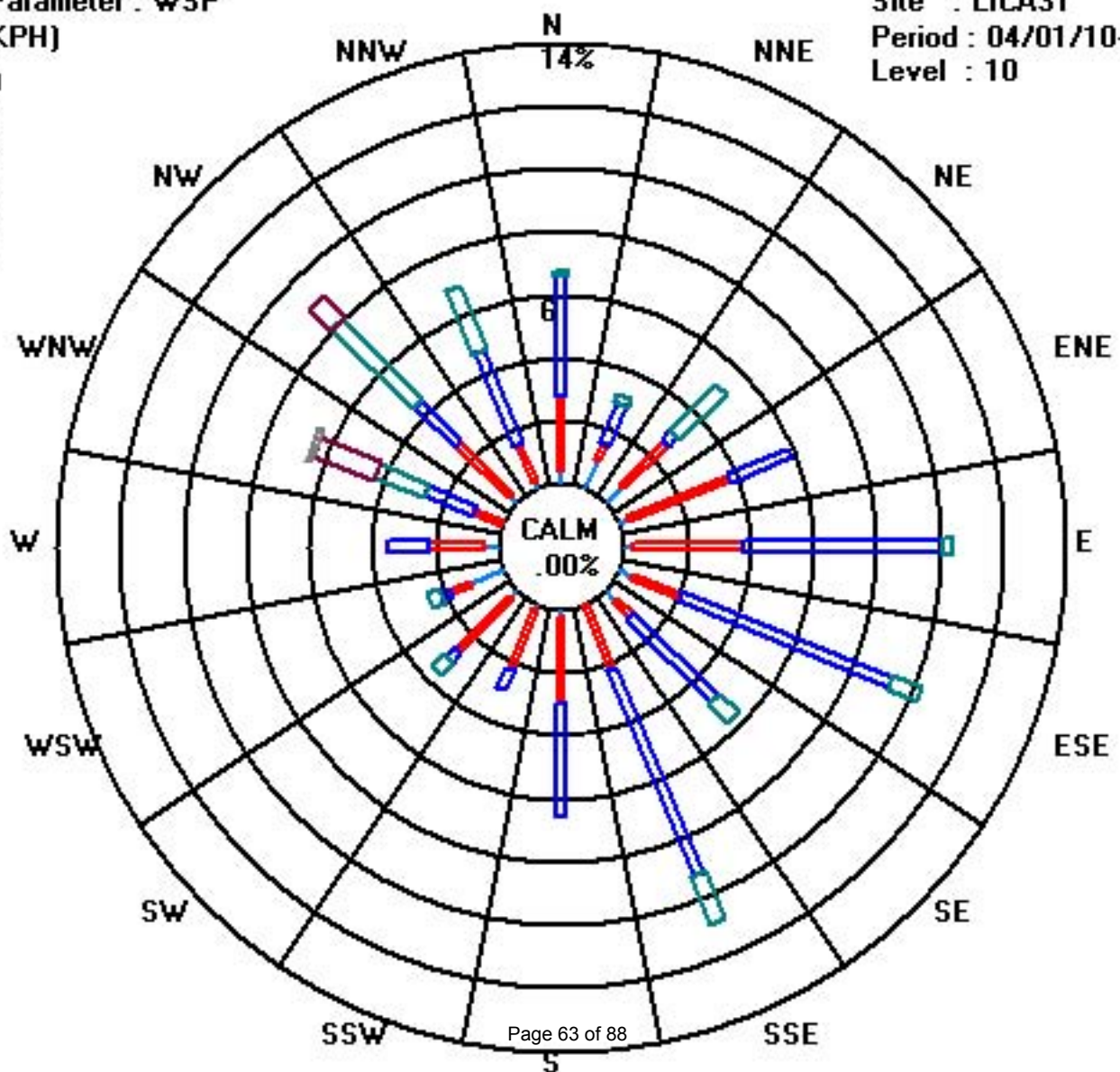
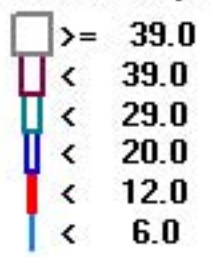
Calm : .00 %

Total # Operational Hours : 720

Class Limits (KPH)

Period : 04/01/10-04/30/10

Level : 10



# Vector Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2010

## WIND DIRECTION hourly averages in degrees

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG		
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUADRANT	RDGS.	
DAY																													
1		263	268	266	260	257	264	280	263	246	247	259	241	255	243	249	264	248	271	266	231	226	220	218	209	251	WSW	24	
2		200	191	202	191	186	167	162	155	164	153	155	161	174	186	176	189	190	180	111	91	94	104	108	107	157	SSE	24	
3		121	141	122	96	96	89	96	89	119	98	113	137	140	198	191	179	192	173	178	216	230	245	251	274	143	SE	24	
4		270	263	265	268	268	275	279	280	289	285	297	317	327	294	307	2	346	346	349	20	58	83	137	213	301	WNW	24	
5		221	258	270	290	320	9	43	59	66	69	78	82	81	89	88	83	93	94	87	87	97	103	116	148	88	E	24	
6		162	168	172	171	167	168	167	168	172	177	174	186	170	163	155	157	153	173	176	197	206	173	244	326	171	S	24	
7		303	300	260	226	210	219	227	224	220	213	207	187	223	227	235	233	222	225	219	182	163	160	167	172	216	SW	24	
8		170	165	162	166	165	166	170	162	159	161	147	161	148	125	188	238	328	348	332	325	312	316	314	315	248	WSW	24	
9		313	308	304	303	303	298	296	293	291	290	288	287	287	291	286	291	288	288	287	287	291	291	294	301	294	294	WNW	24
10		299	300	305	305	305	307	304	304	304	304	305	307	301	305	303	302	307	306	303	312	315	318	315	310	312	305	WNW	24
11		318	311	308	312	307	309	308	319	314	311	278	285	307	321	339	20	35	51	83	142	112	109	73	58	325	NW	24	
12		53	56	53	65	85	96	114	99	98	93	92	105	109	104	104	113	121	113	108	104	101	90	93	95	98	E	24	
13		126	114	100	94	85	84	79	79	76	70	66	62	59	32	34	32	29	16	17	16	11	2	359	354	57	ENE	24	
14		357	357	354	344	343	343	337	343	342	339	328	338	326	332	345	356	348	345	336	334	344	340	349	354	342	NNW	24	
15		5	350	330	325	317	331	1	271	246	217	213	229	232	223	220	191	192	195	192	193	186	168	163	188	220	SW	24	
16		182	169	163	165	166	161	164	167	179	178	165	166	162	167	160	161	167	168	168	167	181	184	185	192	168	SSE	24	
17		186	183	186	191	196	200	188	134	109	92	106	115	96	104	70	86	91	70	72	81	88	89	85	87	113	ESE	24	
18		72	68	84	94	87	88	90	99	102	117	124	125	128	124	125	118	127	121	95	81	71	76	92	96	101	E	24	
19		74	91	90	94	94	72	65	68	70	90	97	110	133	129	120	128	126	129	113	110	111	113	124	130	108	ESE	24	
20		133	132	131	117	97	93	91	104	120	141	158	148	160	150	146	144	142	141	140	122	114	113	124	134	132	SE	24	
21		143	155	157	157	154	159	159	159	156	149	150	161	167	167	169	180	167	155	162	138	130	131	141	154	156	SSE	24	
22		154	156	156	160	165	185	243	255	247	223	230	180	138	161	144	147	208	205	349	292	295	304	311	311	235	SW	24	
23		309	308	313	313	315	308	311	316	308	296	288	290	293	295	296	297	294	292	296	304	306	310	320	319	304	WNW	24	
24		322	327	342	42	56	59	54	55	66	68	55	43	51	41	60	63	65	68	66	76	65	66	74	76	53	NE	24	
25		13	25	21	320	0	8	24	30	356	356	352	5	352	348	5	24	44	49	52	50	47	251	272	332	12	NNE	24	
26		32	56	63	80	88	100	101	116	122	115	121	119	112	121	116	110	129	122	117	112	113	114	117	118	112	ESE	24	
27		120	117	106	121	101	94	101	98	106	107	100	102	108	107	106	105	99	102	107	114	148	141	111	83	107	ESE	24	
28		74	62	57	56	53	52	50	53	53	53	55	56	46	40	27	37	42	41	37	35	27	22	18	15	44	NE	24	
29		9	355	2	0	352	354	346	346	345	342	344	346	340	339	341	341	345	353	3	4	356	358	11	6	350	N	24	
30		338	326	329	330	336	327	329	327	336	349	349	354	356	1	11	10	26	0	342	29	21	11	358	350	349	NNW	24	
HOURLY AVG		357	357	354	344	352	354	346	346	356	356	352	354	356	348	345	356	348	353	349	334	356	358	359	354				

### STATUS FLAG CODES

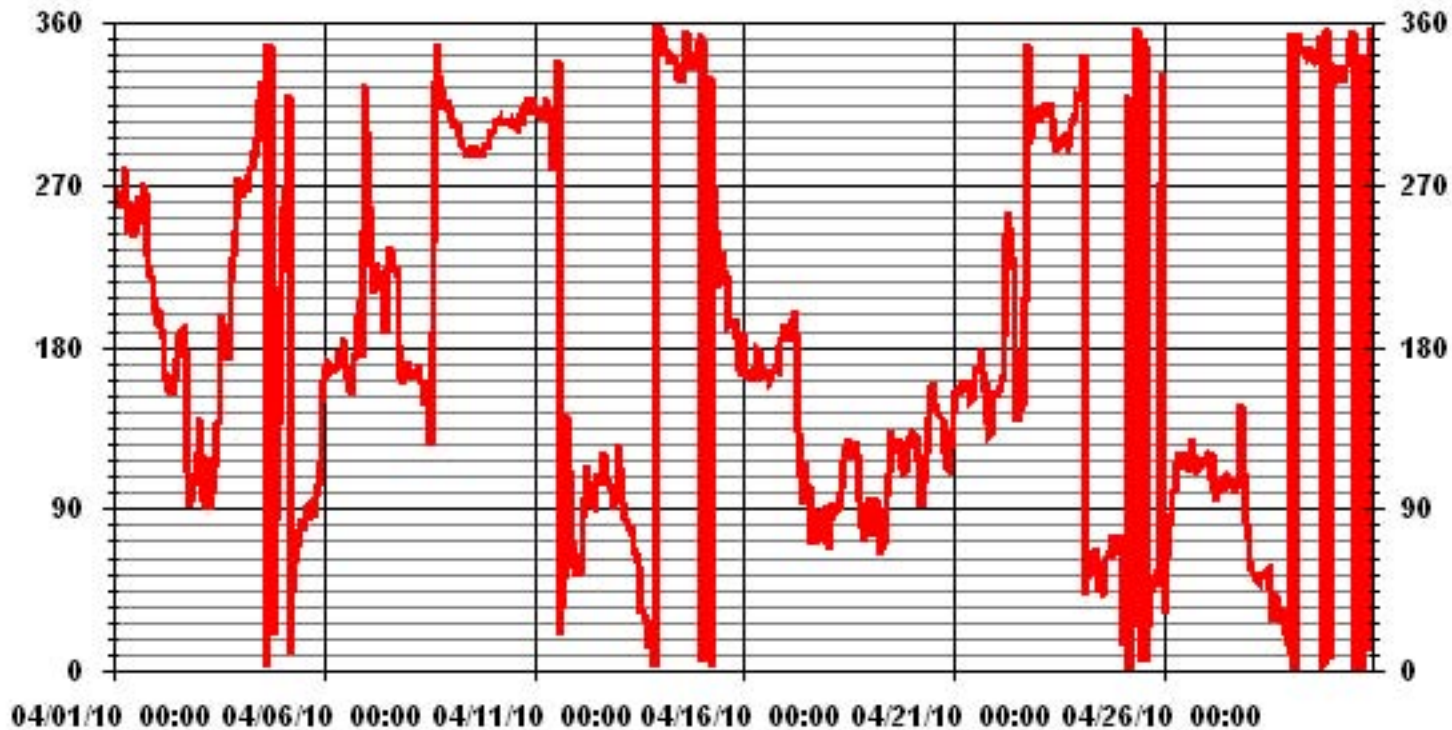
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION:	February 3, 2009
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS
STANDARD DEVIATION	103.02	AMD OPERATION UPTIME	100.0 %
		MONTHLY AVERAGE	69 DEG



### 01 Hour Averages



— LICA31 WDR DEG

# Standard Deviation Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST.LINA

APRIL 2010

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
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	6	7	7	5	9	8	10	10	11	18	20	15	14	11	13	17	12	17	12	5	5	6	5	7	
2	5	5	6	7	6	6	6	10	12	13	15	17	23	25	30	25	20	17	15	3	4	6	9	9	
3	13	12	13	10	12	9	9	21	19	12	16	19	19	34	32	43	29	20	35	19	7	7	5	9	
4	8	9	7	8	8	11	12	14	15	16	20	14	18	19	19	18	21	23	15	10	7	5	10	6	
5	4	11	11	10	8	6	4	8	11	15	16	18	20	17	20	23	18	13	8	5	5	6	9	10	
6	9	8	9	8	8	8	8	11	12	14	15	17	18	21	16	16	15	17	15	17	12	27	52	13	
7	13	15	20	6	7	5	4	13	11	18	19	22	18	16	17	15	12	10	7	5	5	6	6	6	
8	5	5	7	7	8	7	9	12	15	19	18	19	25	32	35	42	22	22	19	14	13	14	13	13	
9	12	13	13	13	13	14	14	14	15	15	14	14	15	14	15	14	15	15	14	15	14	15	15	14	
10	14	14	14	13	13	13	13	13	14	13	13	13	13	14	15	14	14	14	13	13	12	13	13	12	
11	14	14	13	14	13	13	13	14	14	16	28	22	35	61	49	29	21	20	22	22	17	12	11	6	
12	8	7	7	9	9	9	10	12	14	12	12	16	12	14	12	13	13	12	10	9	8	8	6	8	
13	12	12	9	9	9	9	10	11	10	11	11	10	12	13	12	11	11	16	12	11	13	16	16	23	
14	16	16	16	14	14	17	15	15	15	14	14	16	17	15	16	17	17	16	15	13	14	14	15	15	
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17	7	8	8	8	5	6	13	31	31	13	18	21	25	34	23	20	18	12	8	8	6	5	6	5	
18	6	7	6	6	7	6	7	8	12	14	15	17	19	19	21	23	21	18	11	9	6	6	6	6	
19	7	6	7	8	7	7	9	10	14	13	15	21	19	19	16	17	15	13	12	10	9	10	11	11	
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21	11	11	10	10	8	9	10	13	13	15	17	18	22	19	20	18	19	15	13	10	9	9	11	11	
22	10	10	8	7	7	19	42	20	35	60	58	63	32	37	42	39	23	13	45	16	13	12	13	13	
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24	15	14	20	13	12	13	13	14	18	16	17	15	16	22	15	14	15	14	11	12	11	14	15	49	
25	14	19	15	22	14	12	9	18	24	27	23	24	27	19	18	16	14	11	11	10	31	23	8	12	
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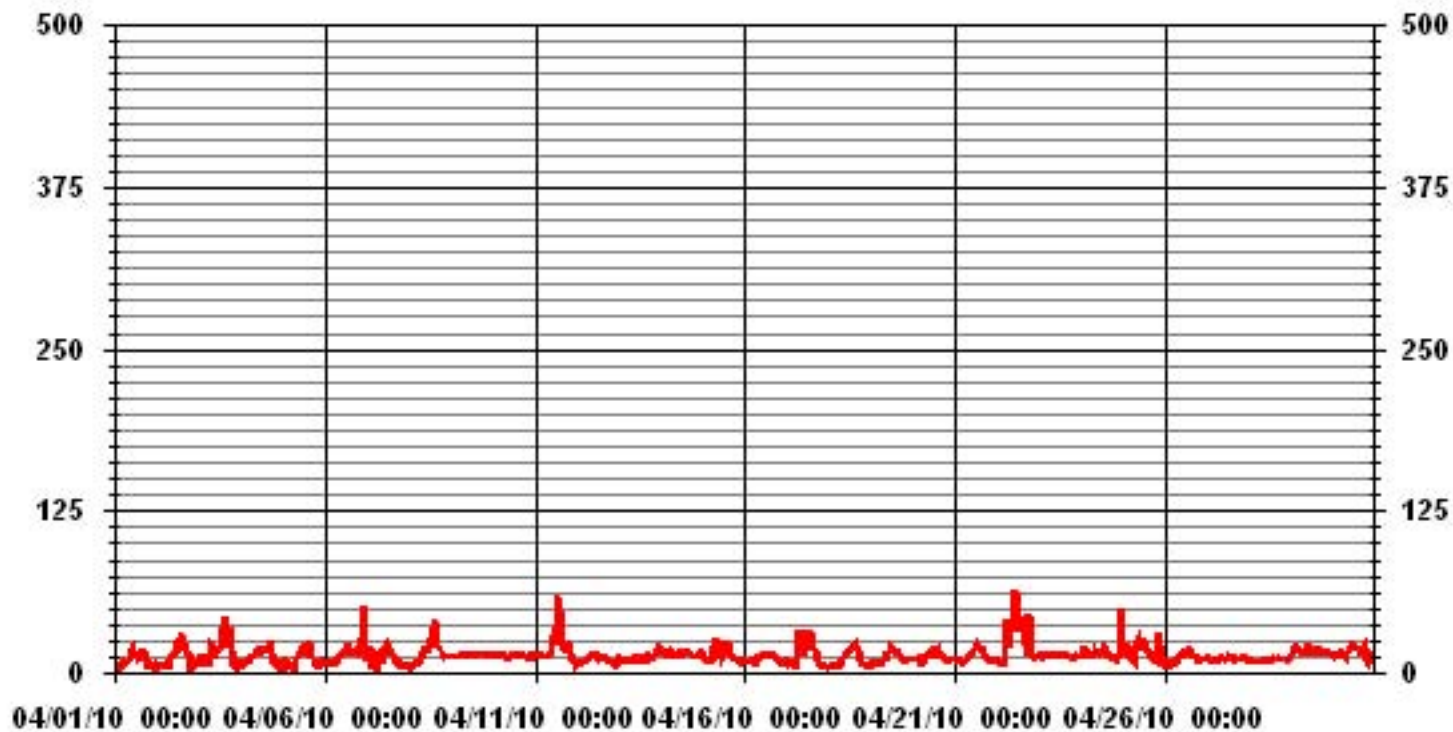
### STATUS FLAG CODES

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

LAST CALIBRATION: February 3, 2009

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS

### 01 Hour Averages



— LICA31 STDWDIR DEG

# Calibration Reports

# Sulphur Dioxide

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

#### Station Information

Calibration Date	April 28, 2010	Previous Calibration	March 30, 2010
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	9:10	End Time (MST)	14:06
Reason:	Monthly Calibration		
Barometric Pressure	687 mmHg	Station Temperature	22 Deg C
Cal Gas	51.4 ppm	Cal Gas Expiry date	08/02/2012
DAS Output Voltage	0 - 1 Volts		

#### Equipment Information

Analyzer Make / Model:	API 100E	S/N :	468	Method:	Fluorescent
Converter Make / Model:	-	S/N :	-		
Calibrator Make / Model:	Enviroics 2000	S/N :	1991	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Flow Meter:	Enviroics 2000	S/N :	1991		

#### Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 1000	ppb	
Sample Flow / Box Temp	540 ccm 29.8 Deg C	537 ccm 32.9 Deg C	
HVPS / Lamp Setting	529 2562	529 2564	
PMT / RxCell Temp	7.8 Deg C 50 Deg C	7.9 Deg C 50 Deg C	
Converter / IZS Temp	NA Deg C 40 Deg C	NA Deg C 40 Deg C	
Offset / Slope	61.1 1.092	61.1 1.108	

#### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
3006	0	0	0	N/A
2961	43.8	749	738	1.0152
2961	43.8	749	751	0.9977
2983	23.3	398	396	1.0060
2999	8.8	150	147	1.0230
3006	0	0	-1	N/A
Sum of Least Squares				1.0002
New Correction Factor				0.9977

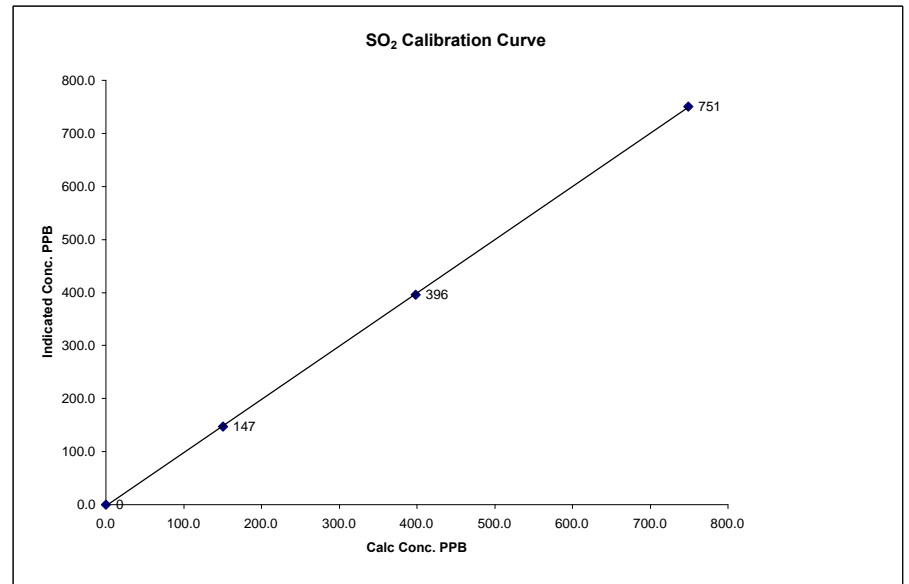
	Before Calibration	After Calibration
Auto Zero	-0.8	-0.7
Auto Span	352	360
Sample Lines Connected		YES
Percent Change from Previous Calibration		-1.5%

Calibration Performed by: Shea Beaton

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

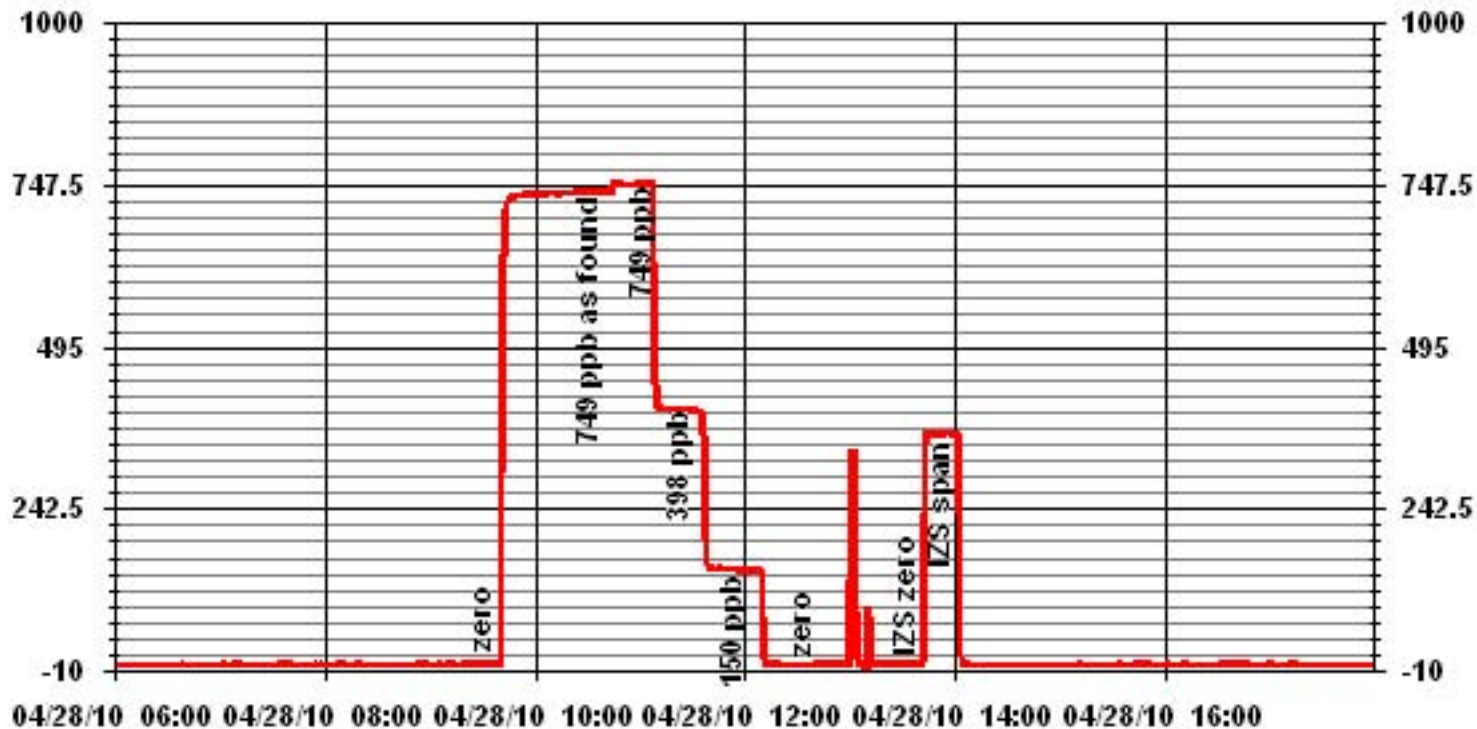
Calibration Date	April 28, 2010
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Plant / Location	ST. LINA
Start Time (MST)	9:10
End Time (MST)	14:06

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999963
0	0	n/a	Intercept	(± 3% F.S.)	-2.170182
150	147	1.0230			
398	396	1.0060			
749	751	0.9977			



Notes:

### 01 Minute Averages

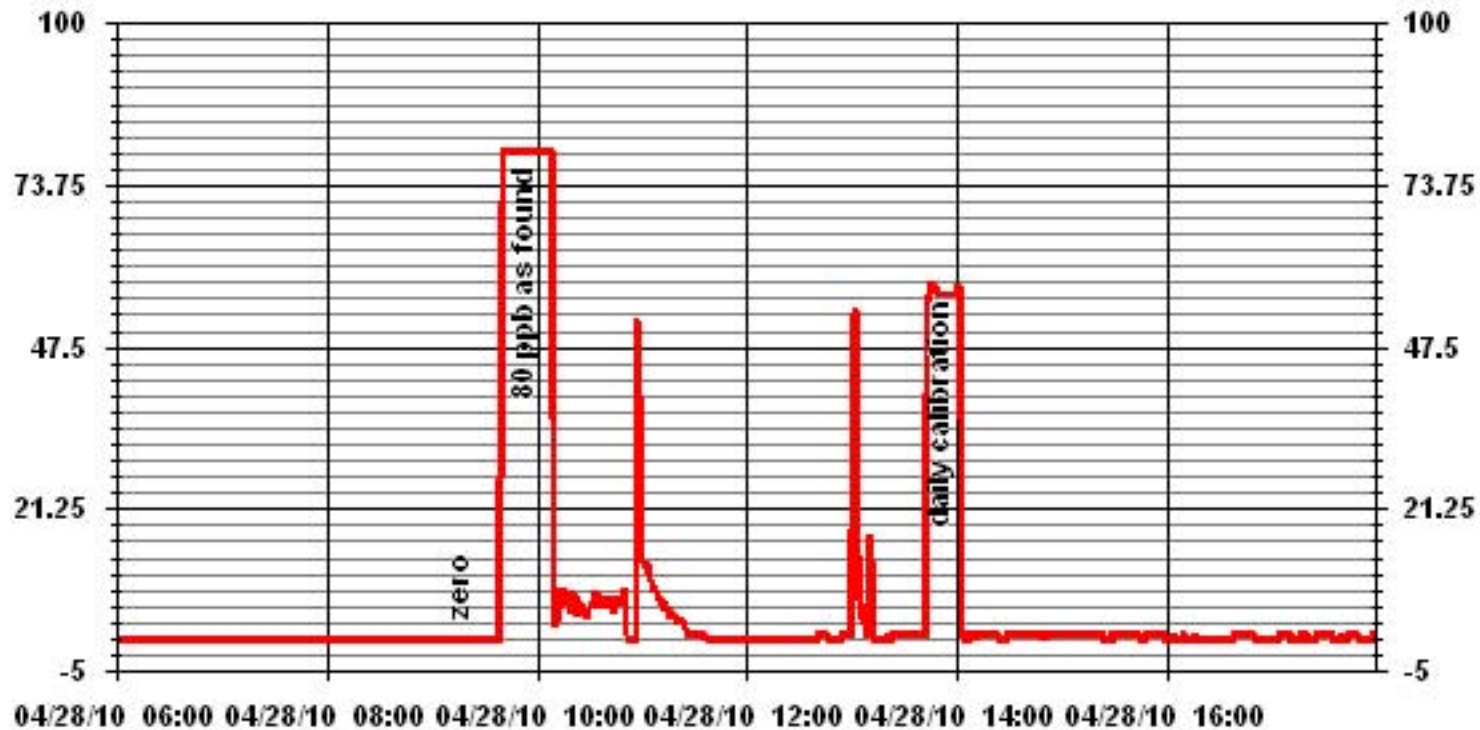




# Hydrogen Sulphide



### 01 Minute Averages



— LICA31 H2S\_ PPB

## H<sub>2</sub>S Calibration Report

### Station Information

Calibration Date	April 29, 2010		Previous Calibration	March 30, 2010	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST.LINA				
Start Time (MST)	7:55	End Time (MST)	12:01		
Reason:	Post Repair Calibration				
Barometric Pressure	691	mmHg	Station Temperature	22	Deg C
Cal Gas	10.8	ppm	Cal Gas Expiry date	06/22/2010	
DAS Output Voltage	0 - 1 Volts				

### Equipment Information

Analyzer Make / Model:	API 101E	S/N :	510	Method:	Fluorescent
Converter Make / Model:	Internal	S/N :	N/A		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Flow Meter:	API 700	S/N :	831		

### Analyzer Settings

		Before Calibration		After Calibration	
Concentration Range		0 - 100		ppb	
Sample Flow / Box Temp	538	ccm	34.1	Deg C	538
HVPS / Lamp Setting	534		2456		534
PMT / RxCell Temp	8.4	Deg C	50	Deg C	8.4
Converter / IZS Temp	315.4	Deg C	45	Deg C	314.8
Offset / Slope	58		0.899		59.6
					0.87

### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4996	0	0	1	N/A
4960	37	80	84	0.9520
4996	0	0	0	N/A
4960	37	80	80	0.9996
4981	18.5	40	40	0.9991
4986	10.7	23	23	1.0055
4996	0	0	0	N/A
Sum of Least Squares				0.9999
New Correction Factor				0.9996

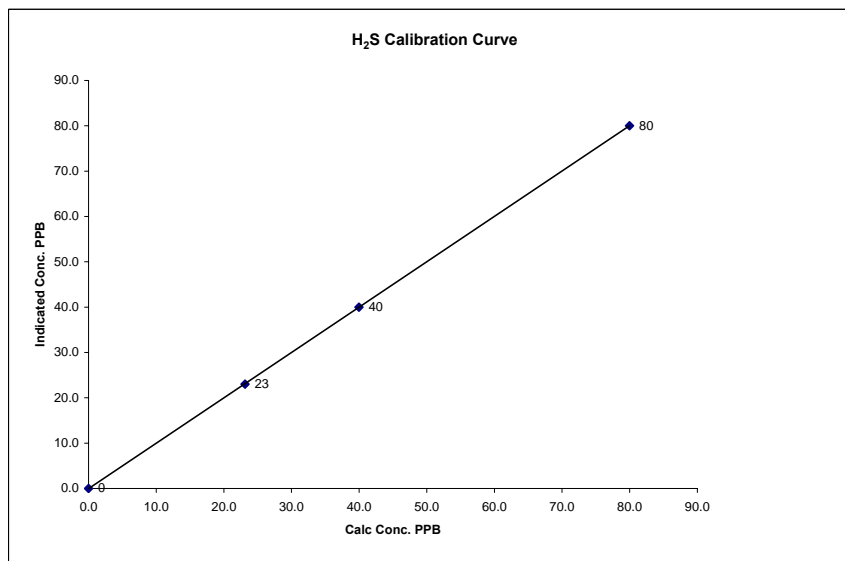
		Before Calibration	After Calibration
Auto Zero		1.2	0.3
Auto Span		56.0	53.0
Sample Lines Connected			YES
Percent Change from Previous Calibration			-

Calibration Performed by: Shea Beaton

## H<sub>2</sub>S Calibration Curve

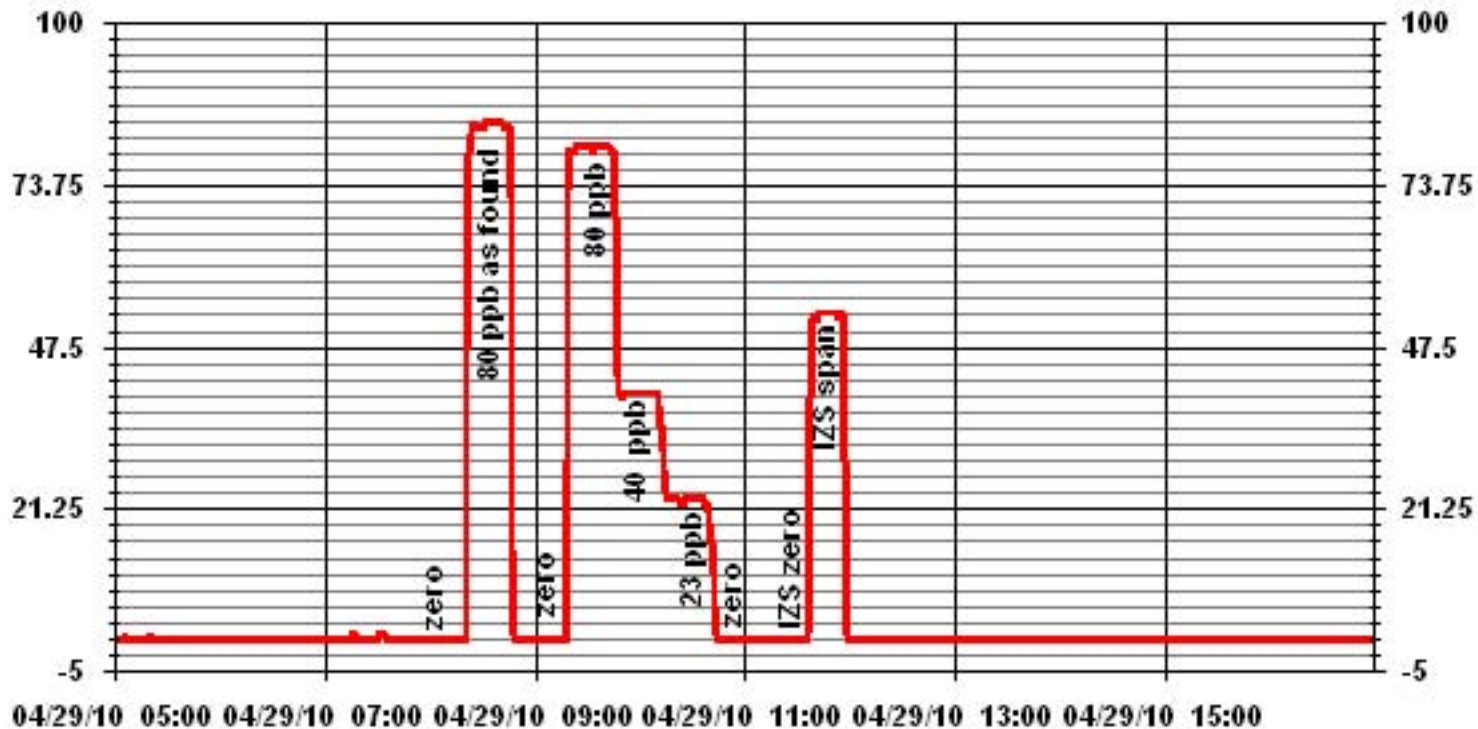
Calibration Date	April 29, 2010	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION	
Plant / Location	ST.LINA	
Start Time (MST)	7:55	End Time (MST)
		12:01

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999996
ppb	ppb		Slope	(0.85 to 1.15)	1.000931
0	0	n/a	Intercept	(± 3% F.S.)	-0.048105
23	23	1.0055			
40	40	0.9991			
80	80	0.9996			



Notes:

### 01 Minute Averages



# Total Hydrocarbons

### THC Calibration Report

Station Information			
Calibration Date:	April 28, 2010	Previous Calibration	March 30, 2010
Company:	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location:	ST. LINA		
:	(MST) 11:10	End Time	(MST) 15:03
Reason:	Monthly Calibration		
Barometric Pressure:	687 mmHg	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	207 Prop/ 602 Meth/1171.25 THC	ppm	Cal Gas Expiry Date: August 21, 2011
DAS make & Model:	ESC 8832	S/N :	AO717
Output Voltage Range:	0 - 10 VDC		

### Analyzer Information

Make / Model	TECO 51C	S/N :	77021-384	Method	Flame Ionization
--------------	----------	-------	-----------	--------	------------------

### Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 -50	ppm	0 - 50	ppm
Sample Pressure	6.9	psi	6.9	psi
Hydrogen Pressure	8.5	psi	8.5	psi
Air Pressure	19	psi	21	psi

### Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2001	0	0.0	0.0	N/A
2001	70.0	39.6	40.5	0.9775
2000	0.0	0.0	0.0	N/A
2001	70.0	39.6	39.9	0.9922
2001	35.0	20.1	19.9	1.0118
2000	20.0	11.6	11.4	1.0172
2001	0	0.0	0.0	N/A
Correction Factor:				0.9922

Previous Calibration Correction Factor:	0.9897
Current Correction Factor Before Span Adjust:	0.9775
Percent Change:	1.25%

### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	34.6	33.8
Sample Lines Connected		YES

### Cylinder Pressures

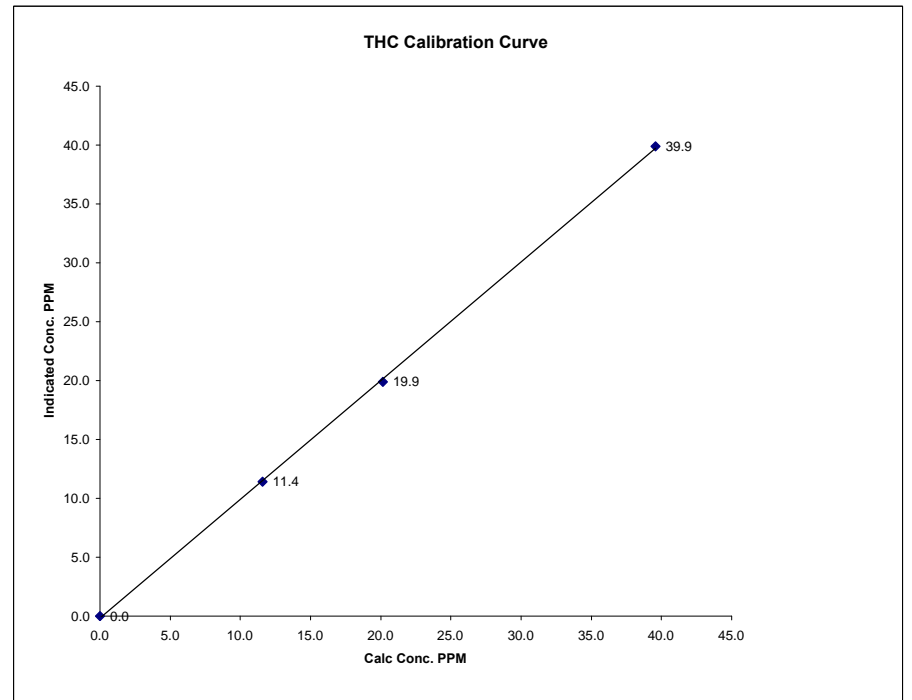
Span	500	psi	
Hydrogen	2000	psi	
Zero Air	32	psi	Unlimited API 701

Calibration Performed by: Shea Beaton

### THC Calibration Curve

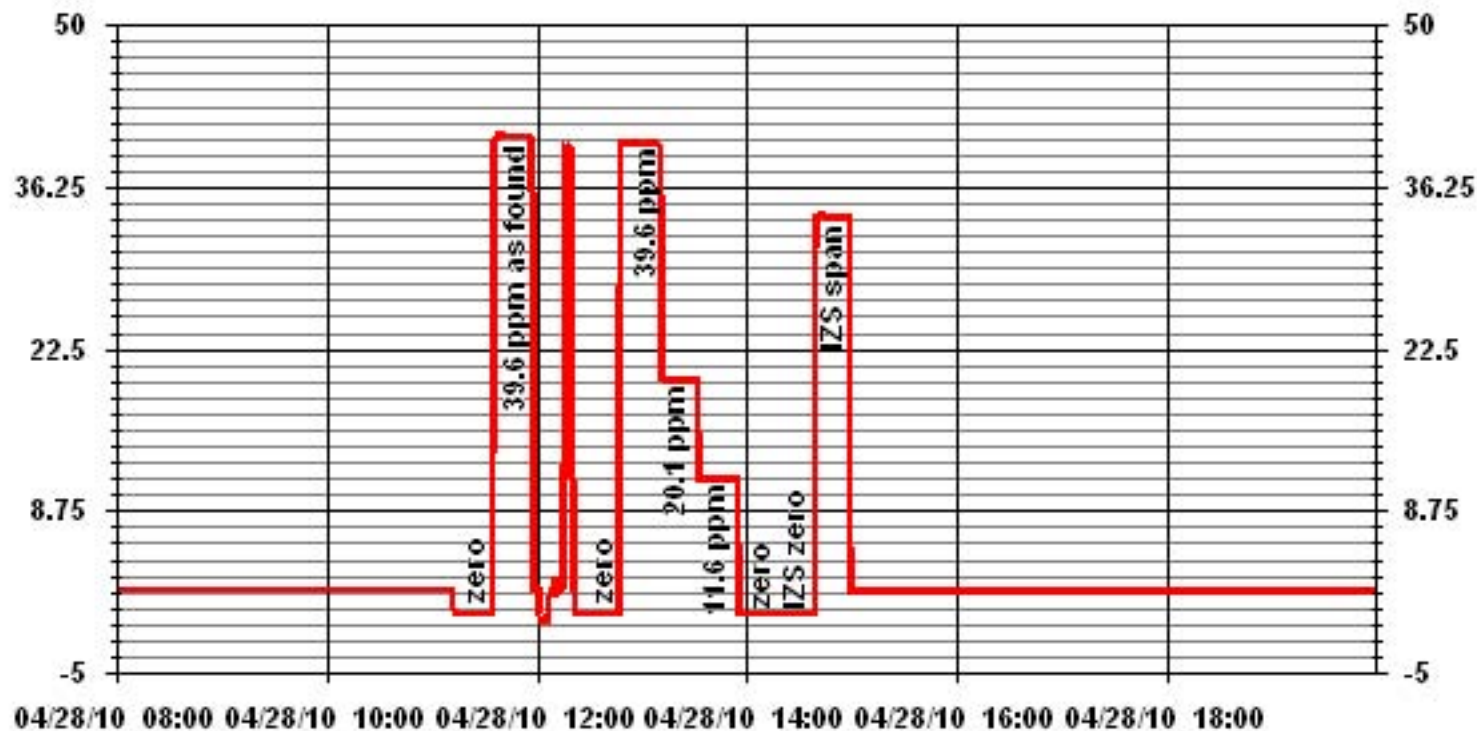
Calibration Date	April 28, 2010		
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	11:10	End Time (MST)	15:03

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0.0	0.0		0.999858	1.008935	-0.189154
11.6	11.4	1.0172			
20.1	19.9	1.0118			
39.6	39.9	0.9922			



Notes: Flame temp 179. Following the A/F points, the H2 cylinder was changed and the FID was optimized.

### 01 Minute Averages





# Nitrogen Dioxide

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

### Station Information

Calibration Date	April 29, 2010	Previous Calibration	March 30, 2010
Company	LICA	Plant/Location	St. Lina
Start Time (MST)	7:55	End Time (MST)	14:13
Reason:	Monthly Calibration		Other
Barometric Pressure	691 mmHg	Station Temperature	24 Deg C
Cal Gas Concentration	NOx 50.9 ppm	NO 50.8 ppm	Cal Gas Expiry date 02/08/0212
DAS Output Voltage	0 - 1 Volts	Chart Rec. Output	NA Volts

### Equipment Information

Analyzer Make / Model:	API 100E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 2000	S/N:	1991		
DAS Make / Model:	ESC 8832	S/N :	AO 717		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	EnviroNics 2000	S/N :	1991		

### Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0-1000			ppb			
Sample Flow/Conv. Temp	469 ccm	315.6 Deg C		469 ccm	316.3 Deg C		
Ozone Flow / Vacuum	72 ccm	3.9 "Hg-A		72 ccm	3.9 "Hg-A		
HVPS / A ZERO	646 Volts	17.1 MV		646 Volts	17.7 MV		
Rx/ Temp / PMT Temp	50.0 Deg C	6.9 Deg C		50.0 Deg C	6.9 Deg C		
Box Temp / IZS Temp	30.2 Deg C	45.3 Deg C		32.5 Deg C	45.2 Deg C		
Offset	1.6 NOx	0.4 NO		1.6 NOx	0.4 NO		
Slope	1.077 NOx	1.069 NO		1.084 NOx	1.081 NO		
NO <sub>2</sub> COEF / Conv Efficiency	NA NO <sub>2</sub>	1.000		NA NO <sub>2</sub>	0.993		

### Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO <sub>2</sub>	NOx	NO	NO <sub>2</sub>	NOx	NO
3001	0.0	----	0	0	0	0	0	0	----	----
2958	44.3	----	751	750	----	744	742	2	1.0095	1.0102
2958	44.3	----	751	750	----	751	750	1	1.0001	0.9994
2984	23.6	----	399	399	----	397	398	-1	1.0060	1.0015
2998	11.8	----	200	199	----	200	200	0	0.9978	0.9958
3005	0.0	----	0	0	0	0	1	0	----	----

### Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO <sub>2</sub> Correction Factor	NO <sub>2</sub> Conv Efficiency
			NOx	NO	NO <sub>2</sub>	NOx	NO	NO <sub>2</sub>		
2955	44.3	----	752	750	----	753	753	1	----	
2955	44.3	550	752	----	474	749	280	469	1.0107	98.94%
2955	44.3	550	752	----	479	752	275	477	1.0042	99.58%
2955	44.3	300	752	----	264	755	490	265	0.9962	100.38%
2955	44.3	100	752	----	80	753	674	80	1.0000	100.00%

Linearity	Sum of Least Squares	NOx= 1.001	NO= 1.000	NO <sub>2</sub> = 1.002
OK? Yes No	Correction Factors:	NOx= 1.0001	NO= 0.9994	NO <sub>2</sub> = 1.0042
		Average Converter Efficiency= 99.73%		

Before Calibration				After Calibration			
Auto Zero	0.0 NOx	0.2 NO <sub>2</sub>		-0.2 NOx	-0.4 NO <sub>2</sub>		
Auto Span	536 NOx	526 NO <sub>2</sub>		538 NOx	529 NO <sub>2</sub>		
Sample Lines Connected				YES			

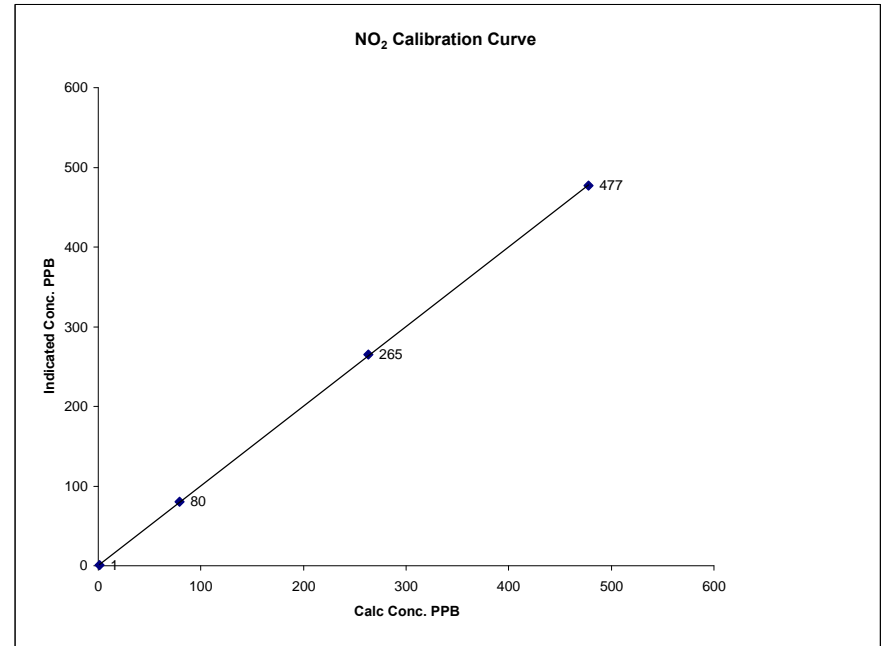
Notes: No adjustment to the analyzer NO<sub>2</sub> CE gain required.  
 During the initial GPT point, the O<sub>3</sub> concentration being generated by the calibrator changed, re-set the O<sub>3</sub> concentration and restarted the point.

Calibration Performed by: Shea Beaton

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

Calibration Date	April 29, 2010	<b>LICA</b>	
Company		<b>St. Lina</b>	
Plant / Location		Start Time (MST)	End Time (MST)
Start Time (MST)	7:55	14:13	

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
1	1	N/A	Slope	(0.85 to 1.15) 0.999967
79	80	0.9875	Intercept	(± 3% F.S.) 0.997906
263	265	0.9925		0.92980
478	477	1.0021		

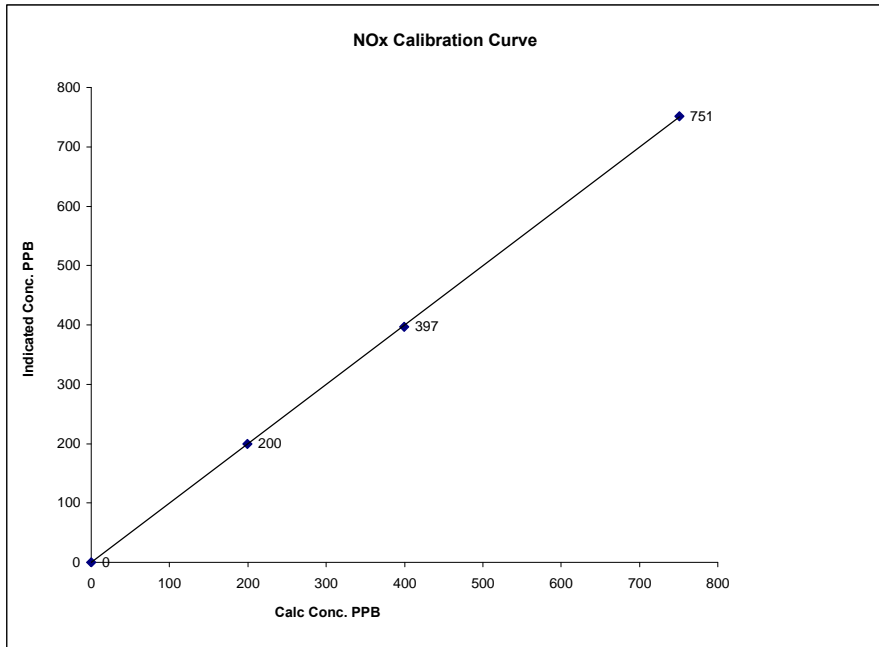


Notes: Following the GPT portion of the calibration, an additional GPT point was done (O<sub>3</sub> Set Point 450) to be used for the ozone analyzer calibration. Result - NOx= 753, NO= 364, NO<sub>2</sub>= 388

### NOx Calibration Curve

Calibration Date April 29, 2010  
 Company LICA  
 Plant / Location St. Lina  
 Start Time (MST) 7:55 End Time (MST) 14:13

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999984
0	0	N/A	Slope (0.85 to 1.15)	0.999254
200	200	0.9978	Intercept (± 3% F.S.)	-0.24906
399	397	1.0060		
751	751	1.0001		

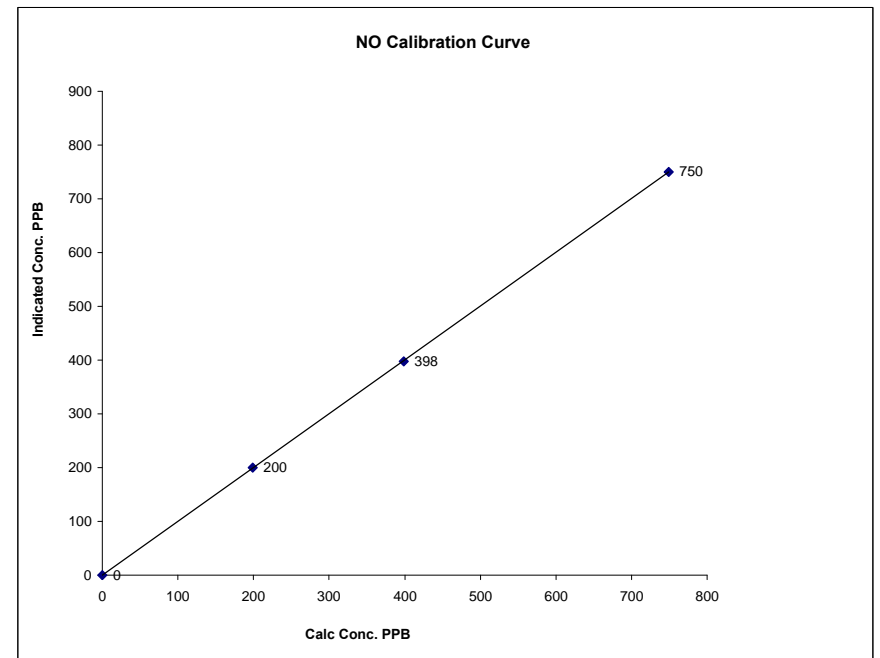


Notes:

### NO Calibration Curve

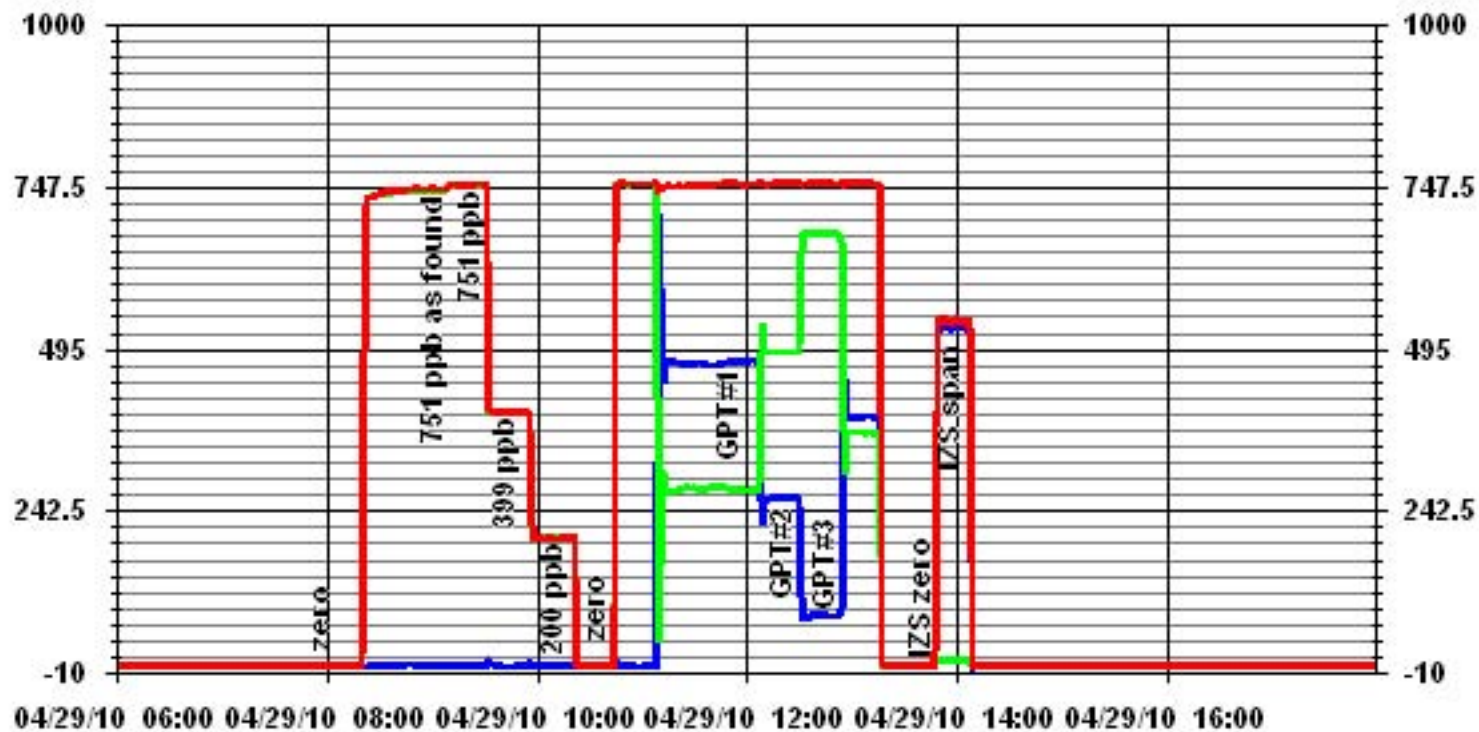
Calibration Date April 29, 2010  
 Company LICA  
 Plant / Location St. Lina  
 Start Time (MST) 7:55 End Time (MST) 14:13

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999996
0	0	N/A	Slope (0.85 to 1.15)	0.999681
199	200	0.9958	Intercept (± 3% F.S.)	-1.8036
399	398	1.0015		
750	750	0.9994		



Notes:

### 01 Minute Averages



# Ozone

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

#### Station Information

Calibration Date	April 26, 2010	Previous Calibration	-
Company	Lakeland Industry & Community Association		
Plant / Location	St. Lina		
Start Time (MST)	13:20	End Time (MST)	16:21
Reason:	Installation Calibration		
Barometric Pressure	691 mm Hg	Station Temperature	23 Deg C
DAS Output Voltage	0 - 10 Volts		

#### Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	1002240371	Method:	Fluorescent
Calibrator Make / Model:	Enviroics 2000	S/N :	1991	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	AO 717		

#### Analyzer Settings

	Before Calibration		After Calibration	
	0 - 500			
Concentration Range	697 ccm		695 ccm	
Cell A Flow / Cell B Flow	690 ccm		688 ccm	
Pressure	6.847 mmHg		685.6 mmHg	
Bench Temp	53.8 Deg C		53.8 Deg C	
O3 Lamp / Box Temp	68 Deg C	34.6 Deg C	67.9 Deg C	33.9 Deg C
Offset / Slope	-0.5	1.025	-0.2	0.986

#### Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
3004	0	0	0	N/A
3001	450	389	390	0.9974
3001	300	263	266	0.9887
3001	100	79	81	0.9753
3000	0	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				0.9974

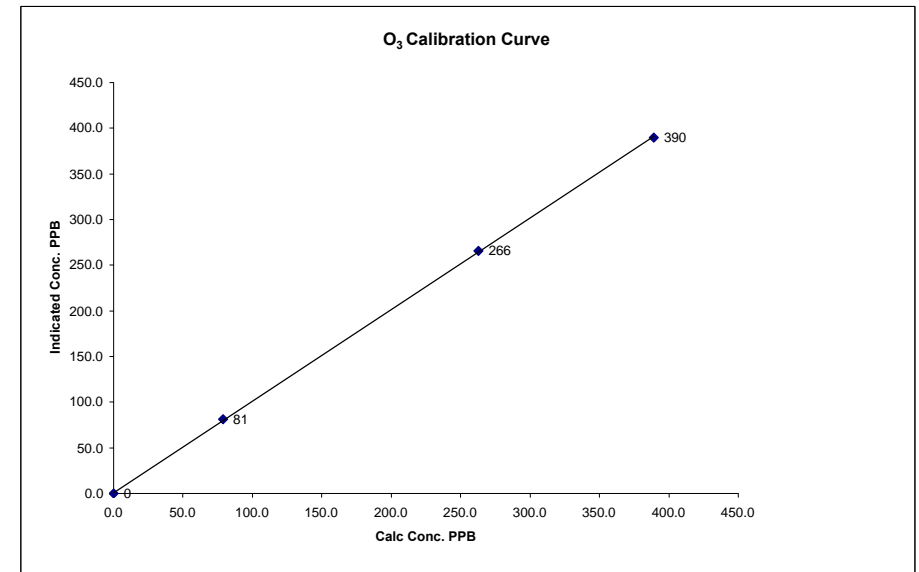
	Before Calibration	After Calibration
Auto Zero	-	0.3
Auto Span	-	309
Sample Lines Connected		YES
Percent Change from Previous Calibration		-

Calibration Performed by: Shea Beaton

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

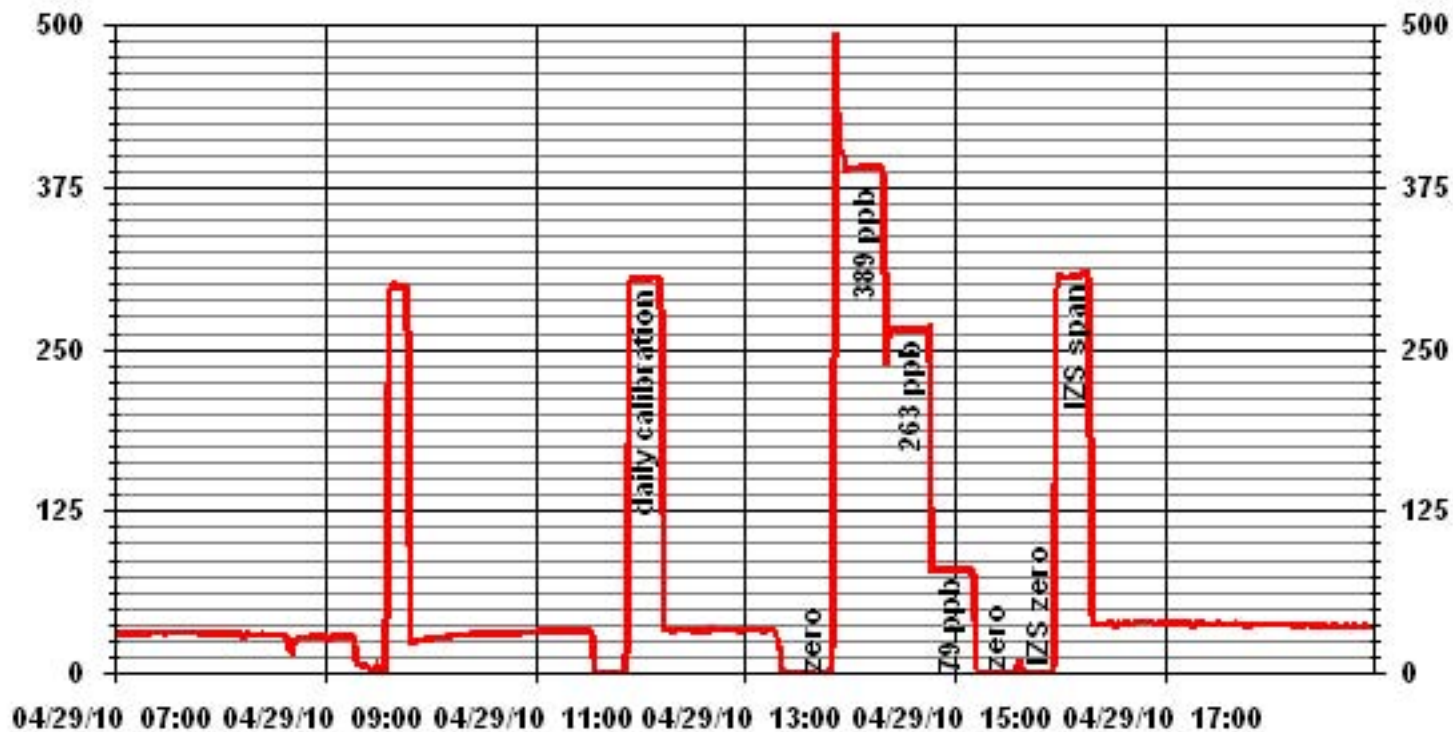
Calibration Date	April 26, 2010		
Company	Lakeland Industry & Community Association		
Plant / Location	St. Lina		
Start Time (MST)	13:20	End Time (MST)	16:21

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999953
0	0	n/a	Intercept	(± 3% F.S.)	1.002571
79	81	0.9753			
263	266	0.9887			
389	390	0.9974			



Notes: Analyzer installed yesterday, allowed to stabilize overnight.

### 01 Minute Averages



# Lakeland Industry & Community Association

Portable / Devon Wellsite 13-16-62-5 W4M Monitoring Site

Ambient Air Monitoring Data Report

For

April 2010

Prepared By:



*Driven by Service and Science*

May 28, 2010



# Lakeland Industry & Community Association Portable / Devon Wellsite 13-16-62-5 W4M Ambient Air Monitoring

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# Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Portable / Devon Wellsite 13-16-62-5 W4M  
Data Period: April 2010

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Craig Snider

The 6-days analytical report for VOCs and PAHs:  
Authorized by Petro Oh

## Calibration Procedure

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

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

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

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

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

# MONTHLY CONTINUOUS DATA SUMMARY

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE

### Continuous Ambient Monitoring – April 2010

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PORTABEL / DEVON WELLSITE 13-16-62-5 W4M SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						OBJECTIVES					1-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO <sub>2</sub> (PPB)	172	57	0	0	0.01	1	VAR	VAR	VAR	VAR	0.1	8, 14	100.0
H <sub>2</sub> S (PPB)	10	3	-	-	0.01	1	VAR	VAR	VAR	VAR	0.1	8, 22	100.0
THC (PPM)	-	-	-	-	2.42	7.1	26	2	1	56(NE)	3.3	17	100.0
NO <sub>2</sub> (PPB)	212	106	0	0	0.85	10	5	3	2.2	228(SW)	3.4	5	100.0
NO (PPB)	-	-	-	-	0.04	3	5	10	2	330(NNW)	0.2	VAR	100.0
NO <sub>x</sub> (PPB)	-	-	-	-	0.95	10	5	3	2.2	228(SW)	4.0	5	100.0
O <sub>3</sub> (PPB)	82	-	0	-	35.35	60	22	16, 17	7.5, 7.5	188(S), 146(SE)	46.2	21	99.7
PM 2.5 (UG/M <sup>3</sup> )	-	30	-	0	4.40	20.1	22	19	4.7	75(ENE)	11.5	22	71.0
VECTOR WS (KPH)	-	-	-	-	12.12	39.9	9	14	-	290(WNW)	33.6	9	100.0
VECTOR WD (DEGREES)	-	-	-	-	17(NNE)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

## Volatile Organics Data Summary

### LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE

#### Xontech Model 910A – April 02, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

#### Xontech Model 910A – April 08, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

#### Xontech Model 910A – April 14, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Note: Heptane and Cyclohexane data are missing. The result was reported in 2 significant figures because the detection limit was entered in as 2 sig figs by the lab.

#### Xontech Model 910A – April 20, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Note: Heptane and Cyclohexane data are missing. The result was reported in 2 significant figures because the detection limit was entered in as 2 sig figs by the lab.

#### Xontech Model 910A – April 26, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

# Polycyclic Aromatic Hydrocarbons (PAHs) Data Summary

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

### PUF cartridge – April 02, 2010

<b>Maximum reading (ng/m3)</b>	<b>Semi-Volatile Organic</b>
<6.055	3-Methylcholanthrene

### PUF cartridge – April 08, 2010

<b>Maximum reading (ng/m3)</b>	<b>Semi-Volatile Organic</b>
<6.055	3-Methylcholanthrene

### PUF cartridge – April 14, 2010

<b>Maximum reading (ng/m3)</b>	<b>Semi-Volatile Organic</b>
<6.055	3-Methylcholanthrene

### PUF cartridge – April 20, 2010

<b>Maximum reading (ng/m3)</b>	<b>Semi-Volatile Organic</b>
<6.055	3-Methylcholanthrene

### PUF cartridge – April 26, 2010

<b>Maximum reading (ng/m3)</b>	<b>Semi-Volatile Organic</b>
<6.055	3-Methylcholanthrene

# General Monthly Summary

## 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 – PORTABLE

#### Sulphur Dioxide (PPB)

- Analyzer make / model – API 100E, S/N: 467

No operational issues observed during the month. The inlet filter was replaced before the monthly calibration was started. 2 hours of SO<sub>2</sub> maximum data were invalidated due to power failures this month. Data was corrected using daily zero information.

#### Hydrogen Sulphide (PPB)

- Analyzer make / model –API 101E, S/N: 509
- Converter - Internal

No operational issues observed during the month. The inlet filter was replaced before the monthly calibration was started. 2 hours of H<sub>2</sub>S maximum data were invalidated due to power failures this month. Data was corrected using daily zero information.

#### Nitrogen Dioxide (PPB)

- Analyzer make / model – API 200E, S/N: 593

No operational issues observed during the month. The inlet filter was replaced before the monthly calibration was started. The first NO<sub>2</sub> point of the monthly calibration was halted and restarted due to O<sub>3</sub> fluctuations in calibrator; it is the calibrator issue, the analyzer was good. 2 hours of NO<sub>x</sub> maximum data were invalidated due to power failures this month. Data was corrected using daily zero information.

# General Monthly Summary

## AQM STATION – LICA – PORTABLE

### Ozone (PPB)

- Analyzer make / model – API 700, S/N: 446 replaced to Thermo 49i, S/N: 1002240372

No operational issues observed during the month. A removal calibration of the Maxxam-supplied API 700 O3 analyzer was performed on April 15<sup>th</sup>. During the removal calibration, it was noticed that linearity if the three-points calibration was not good. It was due to the O3 flow issue on the calibrator; the analyzer was OK. A new Thermo 49i O3 analyzer was installed on April 15<sup>th</sup>. The analyzer was allowed time to warm time, then the zero and span points were adjusted. The linearity was checked with a short span point; the result was OK. The analyzer was allowed time to stabilize overnight. An installation calibration was performed on April 16<sup>th</sup>. It was noticed that the internal sample pump causes more vibration than normal for an ambient analyzer; had to cut tie-wrap on the tubing closes to the pump as the vibration was causing the tubing to rub together-eventually a hole would have been worn in the tubing. Will follow-up with the distributor. Some span values went outside +10% guideline range after the new analyzer installation because a new internal span would take time to stabilize. 2 hours of O3 maximum data were invalidated due to power failures this month. Data was corrected using daily zero information.

### THC (PPM)

- Analyzer make / model – TECO 51C, S/N: 04366-09739

No operational issues observed during the month. The inlet filter was replaced before the monthly calibration was started. 2 hours of THC maximum data were invalidated due to power failures this month. Data was corrected using daily zero information.



# General Monthly Summary

## AQM STATION – LICA – PORTABLE

### Particulate Matter 2.5 ( $\mu\text{g}/\text{m}^3$ )

- Analyzer make / model –TEOM1400A, S/N: 140AB2207400101 replaced to TEOM 1405F , S/N: 1405A207691003

The Teom unit was broken on March 25<sup>th</sup>. The unit was removed from station for repair on April 5. A new 1405F Teom unit was installed on April 7<sup>th</sup>; the sampling tubing, tripod, bypass line, temperature/RH sensor, inlet and FDMS filter was all installed on April 7<sup>th</sup>. A flow calibration, ambient temperature/ pressure calibration and analog output calibration were performed on April 8<sup>th</sup>, and then the Teom was audit; everything was OK. The analog output was re-calibrated to more closely match the data logger on April 9<sup>th</sup>. 179 hours of data were invalidated due to the issue. A Ko confirmation was performed on the new Teom on April 16<sup>th</sup>– the Ko audit result was within tolerance (audit Ko was 15364.9, actual Ko was 15634.0, 1.72% difference). When the Teom filter was re-installed, a warning message was observed, indicating an issue with the filter. The filter was replaced with a new, conditioned one- same message. Rebooted the Teom unit and allowed time for it to stabilize, then the filter is OK. Data was corrected using Alberta air quality guideline for PM2.5 analyzer. If the data was between 0 to –3, the data was corrected to 0. If the data was below –3, the data was invalidated. 30 hours of data were invalidated as they were below –3.0  $\mu\text{g}/\text{m}^3$ . The new Teom 1405F unit output provides hourly average, but no instantaneous output. As a result, no hourly maximum value is recorded, and no wind speed maximum value will be included in the report.

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

- System make / model – RM Young 5103VK, S/N: 41334

No operational issues observed during the month. The wind system is reported as vector wind speed and vector wind direction. 2 hours of THC maximum data were invalidated due to power failures this month.

### Datalogger

- System make / model - ESC 8832, S/N: AO717
- Software make / version - ESC v 5.51a

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

# General Monthly Summary

## AQM STATION – LICA – PORTABLE

### Trailer

The fan control thermostat in the pump closet was replaced with a different model on April 16<sup>th</sup>. Also, a temperature sensor was installed in the pump cabinet on the same day; a channel was added to the data logger (PCTEMP) to monitor temperature in the pump cabinet to predict when the pump cabinet exhaust fan should be changed. It was noticed that the AC compressor in the BARD HVAC unit was not running when there was a call for AV from the thermostat. Performed troubleshooting on April 16<sup>th</sup>, and now the compressor is working properly. On April 23<sup>rd</sup>, it was found there was leaking at the supply vent of the Bard. Removed vent cover; noticed water seeping in from above. Inspected the top of the Bard outside the station and noticed a small gap between the station wall and the Bard. Temporarily sealed the gap on April 27<sup>th</sup>.

### Air Quality Index (AQI)

The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. 46 hours of fair AQI values recorded in April 2010, and all were due to Ozone. The highest hourly concentration of Ozone was 60 ppb and an AQI value of 33 on April 16<sup>th</sup>, hour 16 and 17. Only one hour of the AQI values recorded in this month is for PM2.5, hour 3 on April 26<sup>th</sup>, AQI reading of 7.

### Volatile Organics (VOCs)

The volatile organics were sampled from April 2<sup>nd</sup> to April 26<sup>th</sup>. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle.

The values for the VOCs in this report were reported as ug/m3 in 3 significant figures.

The results of Heptane and Cyclohexane are missing in the samples collected on April 14<sup>th</sup> and 20<sup>th</sup>. The results for April 14<sup>th</sup> and 20<sup>th</sup> are reported in 2 significant figures because the detection limit was entered in as 2 sig figs by the lab.

### Polycyclic Aromatic Hydrocarbons (PAHs)

The PAHs were sampled from April 2<sup>nd</sup> to April 26<sup>th</sup>. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle. The values for the PAHs in this report were reported as ng/m3.

# Continuous Monitoring

# Monthly Summaries, Graphs & Wind Roses

# Air Quality Index

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

AIR QUALITY INDEX (AQI)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	
HOUR START		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	
DAY	HOUR END																										
1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	03	03	03	03	03	03	03	03	03	03
9	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
10	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
11	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
12	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
13	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
14	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
15	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
16	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
17	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
18	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
19	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
20	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
21	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
22	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
23	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
24	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
25	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
26	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
27	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
28	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
29	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
30	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
PEAK	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03

STATUS FLAG CODES NA - NOT APPLICABLE

AQI CLASS	OZONE (O <sub>3</sub> )				PARTICULATE MATTER 2.5 (PM <sub>2.5</sub> )				NITROGEN DIOXIDE (NO <sub>2</sub> )				SULPHUR DIOXIDE (SO <sub>2</sub> )				FREQUENCY					
	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%
VERY POOR (101-255)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
POOR (51-100)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
FAIR (26-50)	46	6.4%	33	VAR	VAR	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	46	6.4%
GOOD (1-25)	428	59.4%	-	-	-	1	0.1%	7	3	26	0	0.0%	-	-	-	0	0.0%	-	-	-	429	59.6%
OVERALL	474	65.8%	-	-	-	1	0.1%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	475	66.0%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	245	34.0%

VAR: VARIOUS

# Sulphur Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	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	IZS	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0.0	24
3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	0	0	0	0	0	1	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
9	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
10	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	0.0	24
11	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	0.0	24
12	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	0.0	24
13	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	0.0	24
14	0	0	0	0	IZS	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
15	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	0.0	24
16	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	0.0	24
17	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	0.0	24
18	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	IZS	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	0	0	0	IZS	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0.0	24
21	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	IZS	0	0.0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0.0	24
26	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	0.0	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	0	0	0	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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		

**STATUS FLAG CODES**

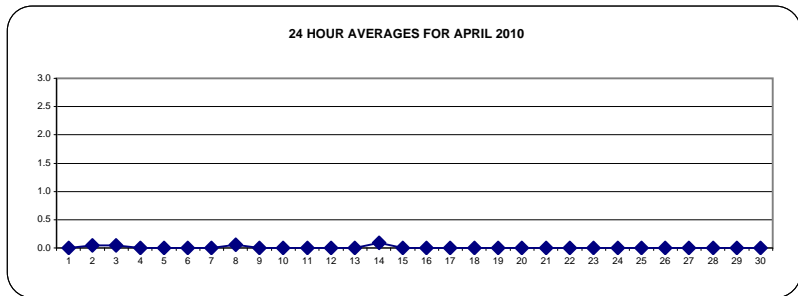
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
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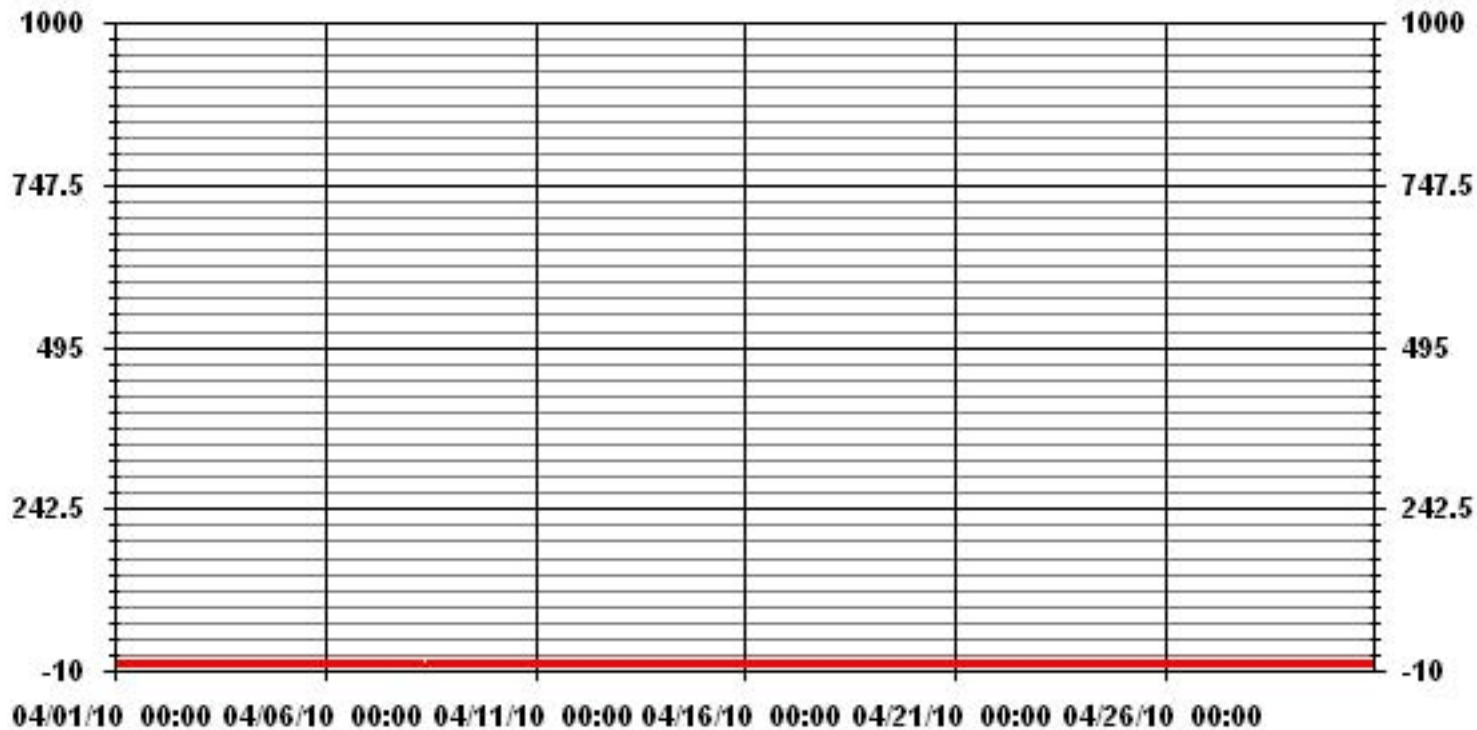
**MONTHLY SUMMARY**

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	5					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.1	PPB			ON DAY(S)	8, 14
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.09		MONTHLY AVERAGE:	0.01	PPB	





### 01 Hour Averages



— LICA33 SO2\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -PORTABLE SITE

APRIL 2010

## SULPHUR DIOXIDE MAX instantaneous maximum in ppt

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR			
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
DAY																														
1		1	0	0	0	1	1	0	1	0	0	1	0	0	1	1	1	0	IZS	0	1	0	1	1	1	1	1	1	0.5	24
2		1	0	0	1	0	1	0	0	1	1	1	1	1	3	1	1	IZS	1	1	1	1	1	1	1	1	1	3	0.9	24
3		1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	2	1.1	24	
4		1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	0	1	1	1	1	1	1	1.0	24
5		0	0	1	1	0	0	0	0	1	1	1	1	1	IZS	0	1	1	1	1	0	1	1	1	1	1	1	0.7	24	
6		1	0	1	1	1	1	1	1	1	0	1	1	IZS	0	1	1	1	0	0	1	0	0	1	0	1	0	0.7	24	
7		0	1	1	1	0	0	0	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24	
8		1	1	1	1	1	1	1	2	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24	
9		1	1	1	0	1	2	1	1	0	IZS	0	1	0	0	P	0	0	0	0	0	0	0	0	0	0	2	0.4	23	
10		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	
11		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	
12		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	
13		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	0.0	24	
14		0	0	0	0	IZS	0	0	0	0	0	0	1	2	2	2	1	1	1	1	1	2	0	1	0	2	0.7	24		
15		0	0	0	IZS	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
16		0	0	IZS	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
17		0	IZS	0	0	0	0	0	0	P	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	23	
18		IZS	0	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	
19		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	
20		0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	0	IZS	0	0	1	0.3	24		
21		0	0	1	0	0	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	IZS	0	0	1	1	0.6	24	
22		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	0	1	1.0	24	
23		1	1	1	0	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	IZS	0	0	0	1	1	1	0.5	24	
24		0	0	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0	0	IZS	0	0	0	0	0	0	1	0.3	24	
25		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	0.0	24	
26		0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	1	0.0	24	
27		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	1	0	0	1	1	1	1	1	0.3	24	
28		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	
29		1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	0	0	0	1	0.9	24	
30		0	0	0	0	0	0	0	0	0	0	1	IZS	1	1	3	1	1	0	1	1	0	1	1	1	1	3	0.6	24	
HOURLY MAX		1	1	1	1	1	2	1	2	2	2	1	1	2	3	3	1	1	1	1	1	2	1	1	1	1				
HOURLY AVG		0.4	0.3	0.4	0.4	0.4	0.3	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.4					

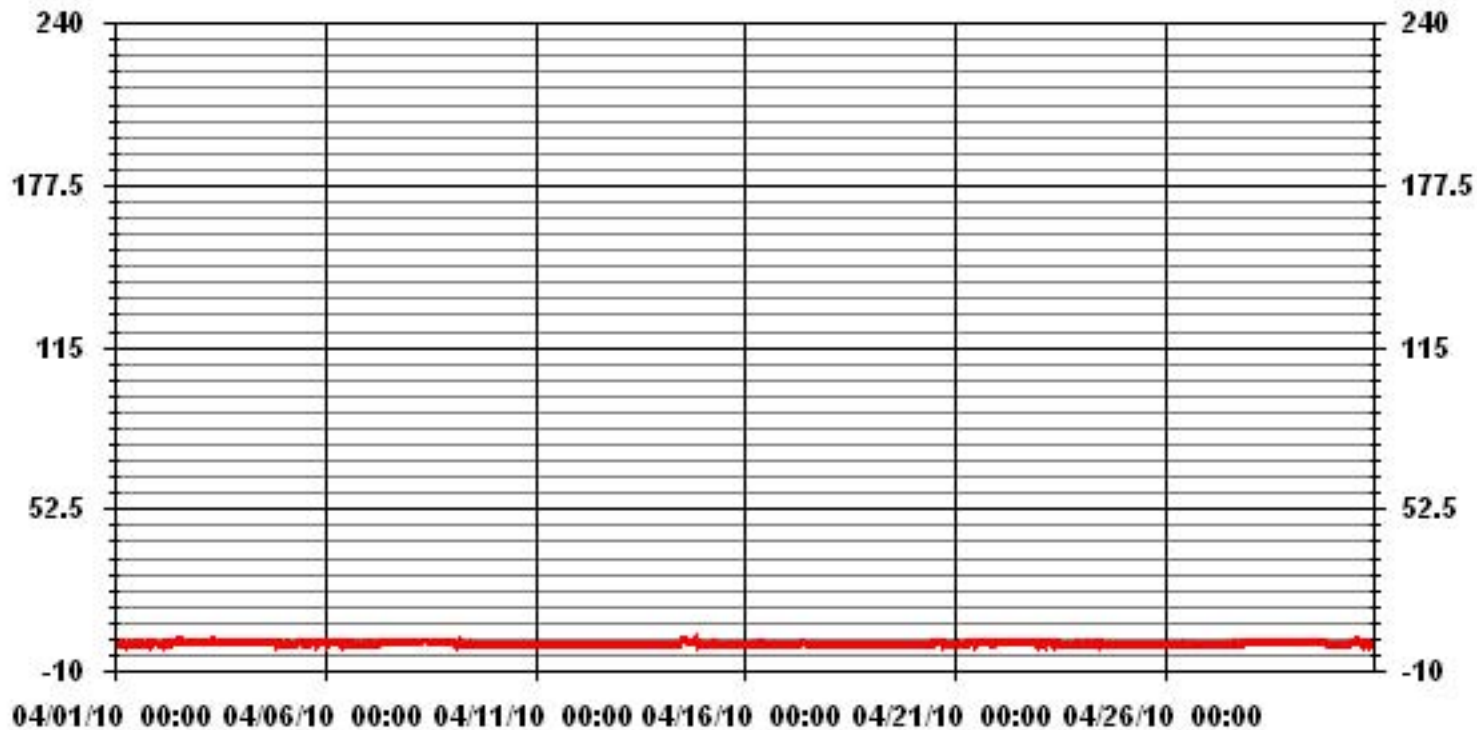
**STATUS FLAG CODES**

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:	292					
MAXIMUM INSTANTANEOUS VALUE:	3	PPB	@ HOUR(S)	13, 14	ON DAY(S)	2, 30
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.54					

### 01 Hour Averages



— LICA33 SO2MAX PPB

LICA33  
 SO2\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 33  
 Site Name : LICA33  
 Parameter : SO2\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	5.83	4.96	5.25	6.42	14.45	7.59	6.13	9.63	4.23	.87	3.50	3.06	2.62	13.13	6.56	5.69	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	5.83	4.96	5.25	6.42	14.45	7.59	6.13	9.63	4.23	.87	3.50	3.06	2.62	13.13	6.56	5.69	

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
< 20	40	34	36	44	99	52	42	66	29	6	24	21	18	90	45	39	685
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	40	34	36	44	99	52	42	66	29	6	24	21	18	90	45	39	

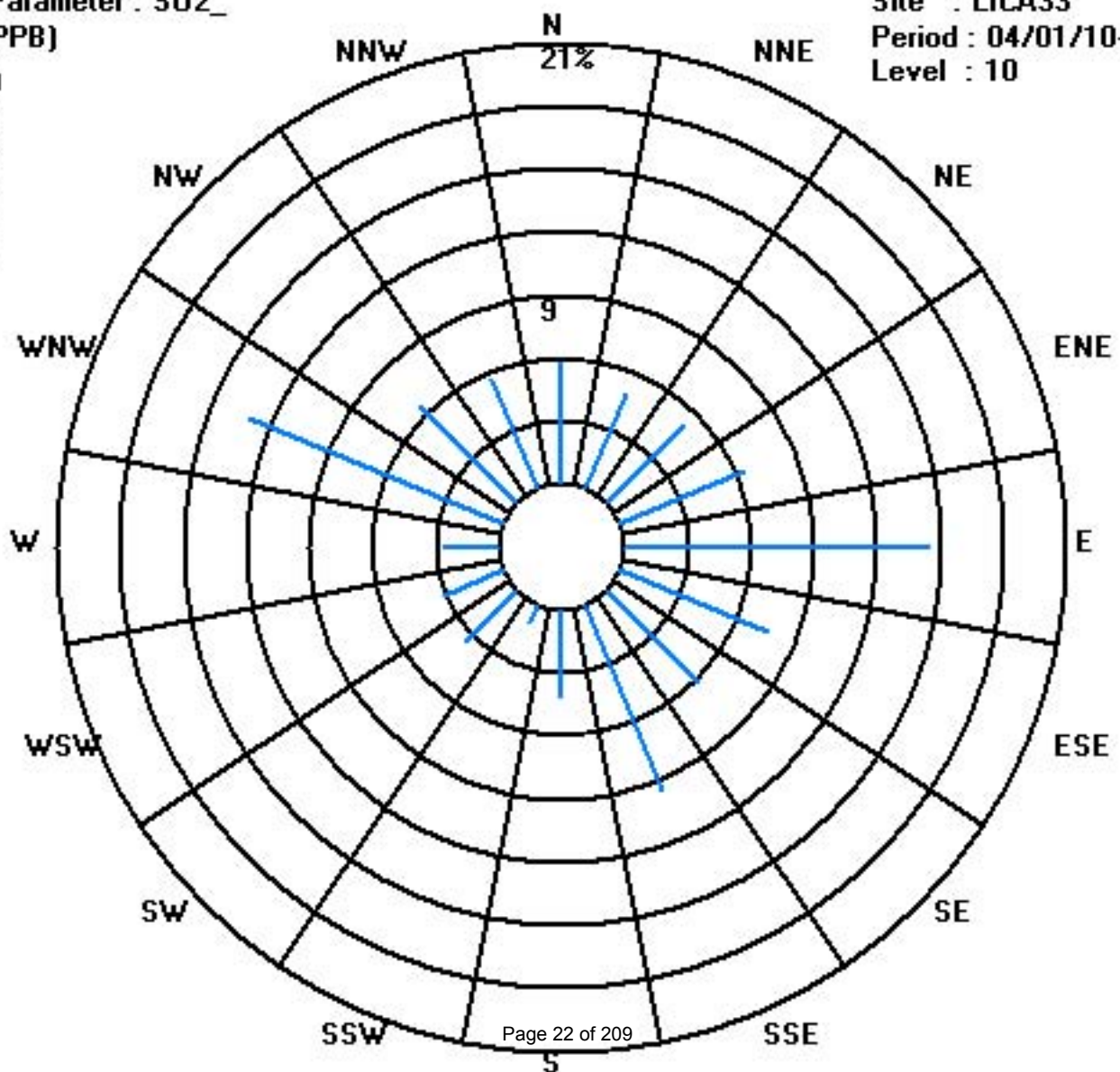
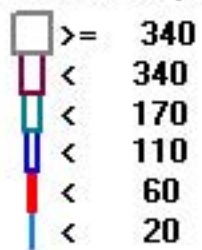
Calm : .00 %

Total # Operational Hours : 685

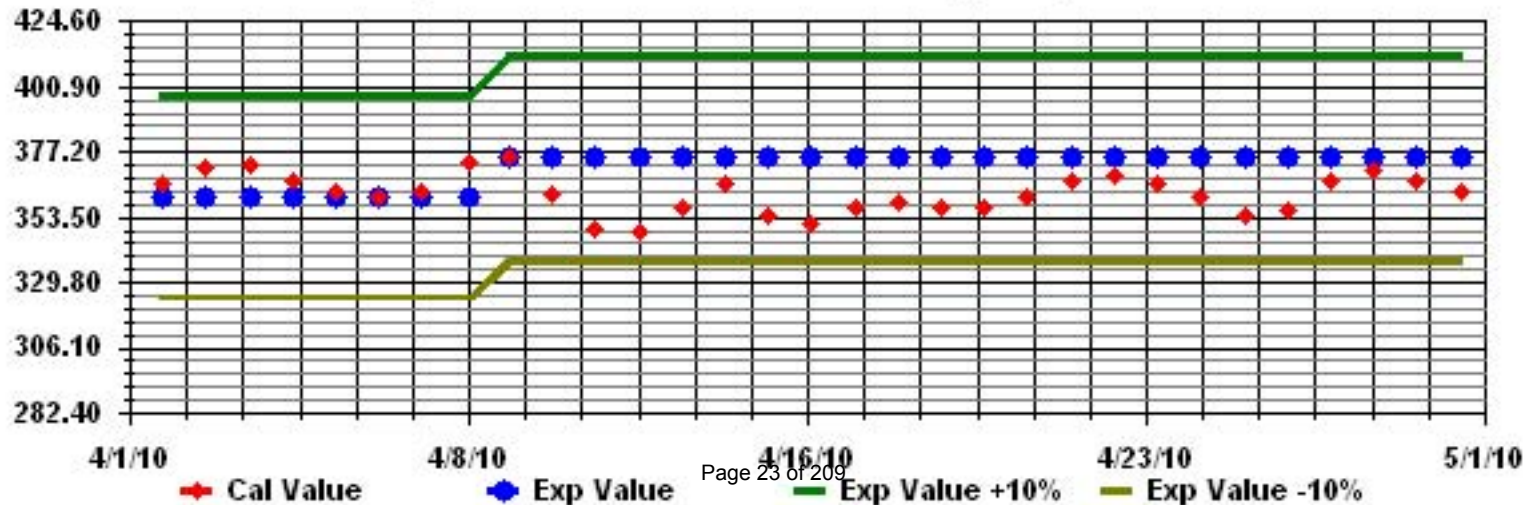
Class Limits (PPB)

Period : 04/01/10-04/30/10

Level : 10



Calibration Graph for Site: LICA33 Parameter: S02\_ Sequence: S02 Phase: SPAN



# Hydrogen Sulphide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE

APRIL 2010

HYDROGEN SULPHIDE (H<sub>2</sub>S) hourly averages in ppb

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

**STATUS FLAG CODES**

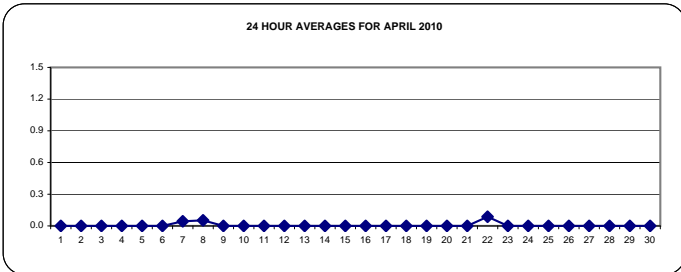
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 10 PPB 24-HR 3 PPB

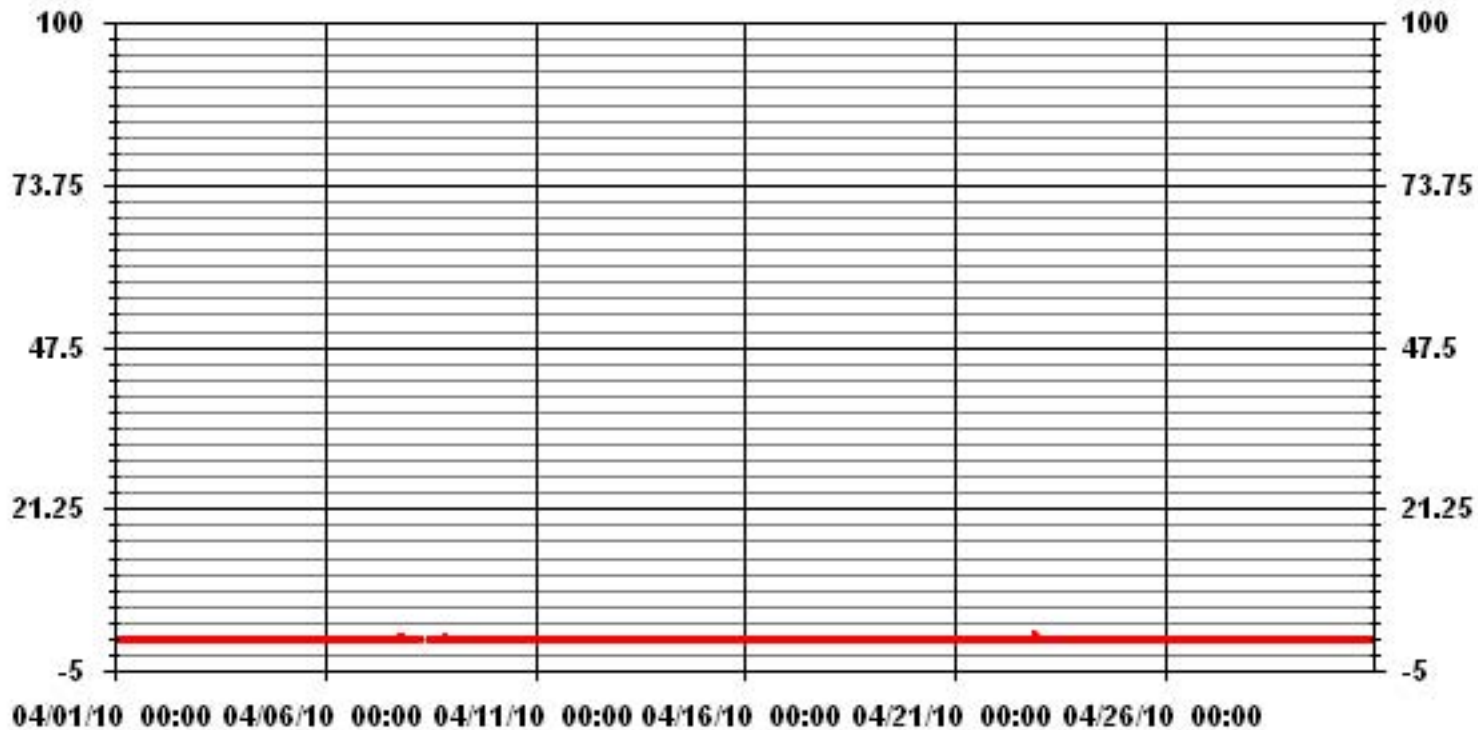
**MONTHLY SUMMARY**

NUMBER OF 1-HR EXCEEDENCES:	0				
NUMBER OF 24-HR EXCEEDENCES:	0				
NUMBER OF NON-ZERO READINGS:	4				
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	0.1	PPB			ON DAY(S) 8, 22
					VAR-VARIOUS
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	720	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.08		MONTHLY AVERAGE:	0.01	PPB





### 01 Hour Averages



— LICA33 H2S\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

## HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

HOUR START																									DAILY 24-HOUR					
	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	MAX.	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	0.0	24	
2	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	24	
3	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	0.3	24	
4	1	1	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	0.5	24	
5	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	1	0.0	24	
6	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	1	1	0.0	24
7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0.2	24	
8	1	0	1	1	1	1	1	1	C	C	C	C	C	0	0	0	0	0	0	0	0	1	2	2	0	2	2	0.6	24	
9	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	23	
10	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	24	
11	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	24	
12	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	24	
13	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	24	
14	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	24	
15	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	1	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	1	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	0	0	0	0	0	0.0	23	
18	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	24	
19	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	24	
20	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	24	
21	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	24	
22	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	0.2	24	
23	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	24	
24	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	24	
25	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	24	
26	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	24	
27	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	24	
28	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	24	
29	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	24	
30	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	24	
HOURLY MAX	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	1	1	3	1	1	2	3	1						
HOURLY AVG	0.1	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	0.2	0.0	0.1	0.2	0.2	0.1						

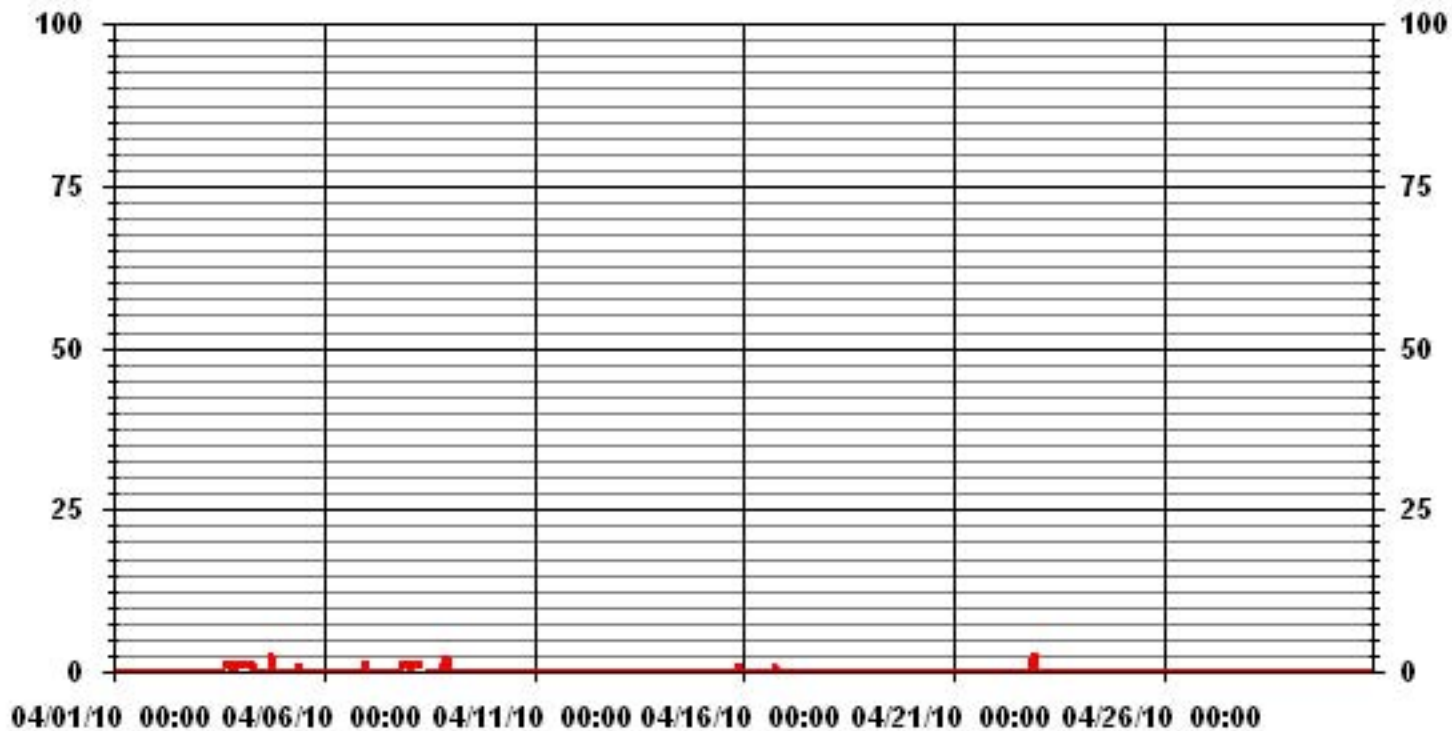
**STATUS FLAG CODES**

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:	37					
MAXIMUM INSTANTANEOUS VALUE:	3	PPB	@ HOUR(S)	18, 22	ON DAY(S)	4, 22
	VAR - VARIOUS					
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	718 HRS		
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.29					

### 01 Hour Averages



LICA33  
H2S\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 33  
Site Name : LICA33  
Parameter : H2S\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	5.83	4.96	5.25	6.42	14.45	7.59	6.13	9.63	4.23	.87	3.50	3.06	2.62	13.13	6.56	5.69	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.83	4.96	5.25	6.42	14.45	7.59	6.13	9.63	4.23	.87	3.50	3.06	2.62	13.13	6.56	5.69	

Calm : .00 %

Total # Operational Hours : 685

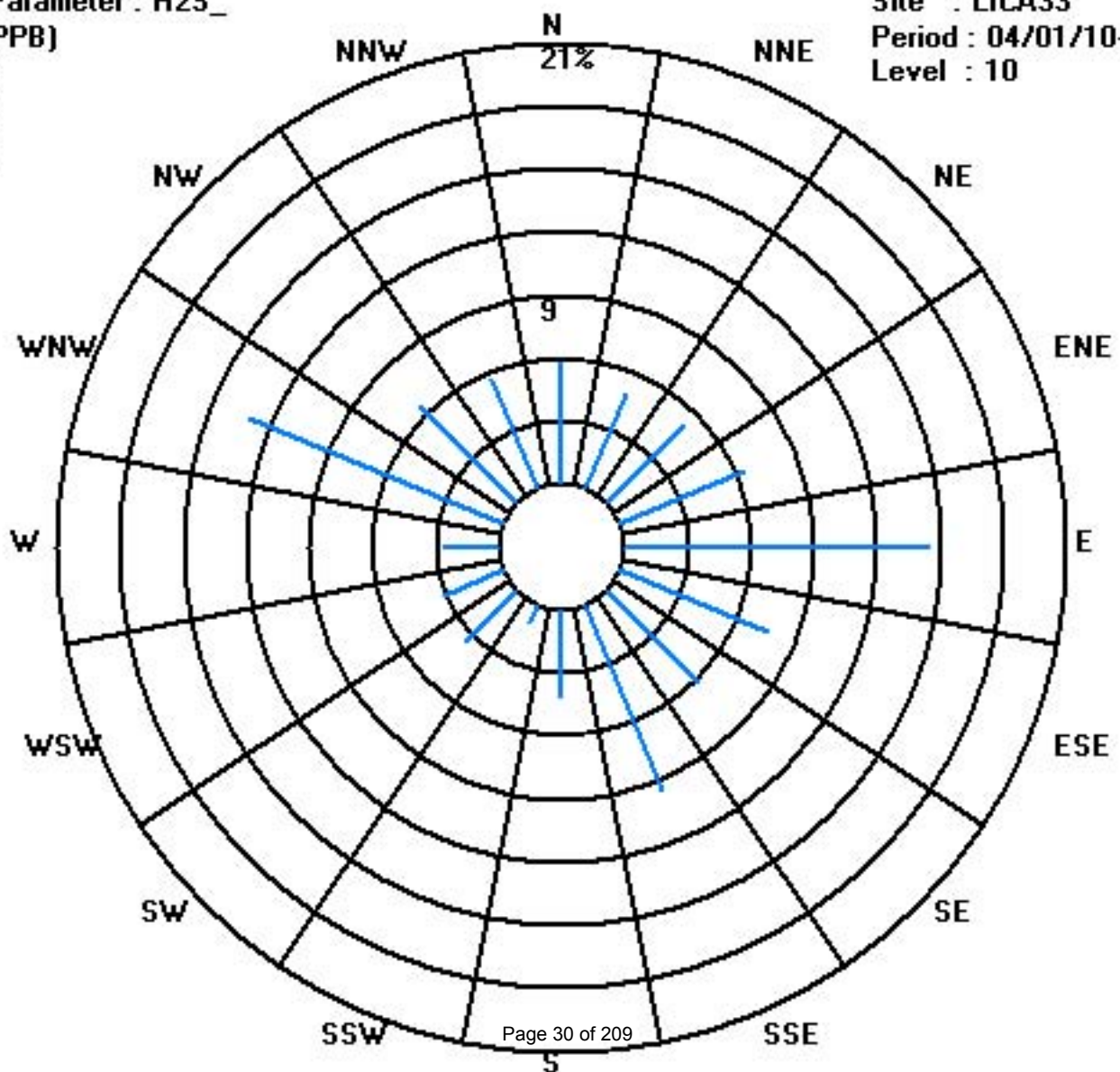
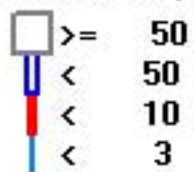
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	40	34	36	44	99	52	42	66	29	6	24	21	18	90	45	39	685
< 10																	
< 50																	
>= 50																	
Totals	40	34	36	44	99	52	42	66	29	6	24	21	18	90	45	39	

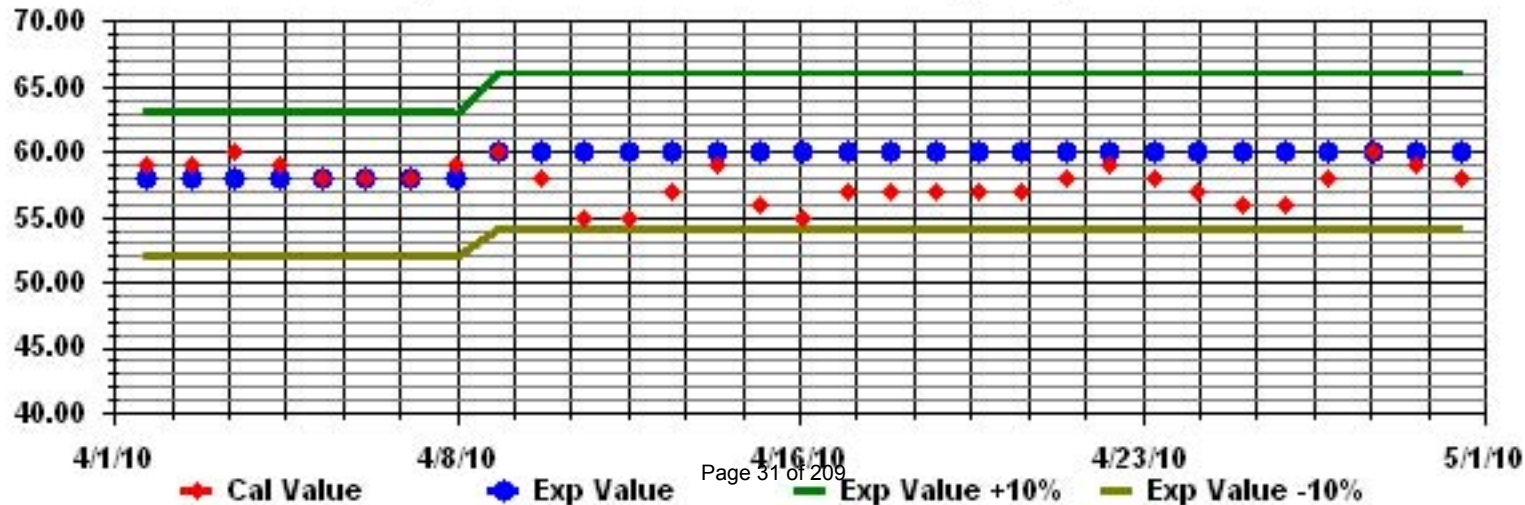
Calm : .00 %

Total # Operational Hours : 685

Class Limits (PPB)



Calibration Graph for Site: LICA33 Parameter: H2S\_ Sequence: H2S Phase: SPAll



# Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			0
2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			0
3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			0
4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			0
5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			0
6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			0
7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			0
8	N	N	N	N	N	N	N	N	N	N	N	C	C	C	9	6.5	15.5	8.4	6.5	2	0	1.4	0	N	15.5	5.5	12	
9	1	0	3.4	0	2.4	0	2	3	9.2	1.7	0.2	N	1.2	0	0.1	5.1	5.6	3.1	4.7	0	1.6	N	3.6	0	9.2	2.2	22	
10	2.6	N	0	0.7	0	0	4.1	N	0	0	N	N	2.6	0	1.6	3.1	N	2.6	15.1	N	1.1	14.6	3.1	15.1	2.8	18		
11	0.6	N	N	0.1	6.6	0	N	3.6	2.6	3.1	0	2.6	0	1.1	1.6	5.6	1.1	1.1	3.6	2.6	4.1	1.6	0	4.6	6.6	2.2	21	
12	0.1	3.6	2.6	6.1	2.6	4.6	N	4.7	0	3.6	0	0.1	3.6	1.6	1.6	3.6	1.6	2.2	0	0.7	5.7	6.2	3.1	6.2	6.2	2.8	23	
13	8.1	0	2.6	0.1	4.2	4.2	2.6	2.2	N	0.1	0	4.1	4.2	0	N	0.7	1.7	0	0.7	0	6.2	4.1	2.6	0	8.1	2.2	22	
14	7.2	7.2	3.1	4.2	N	6.7	2.2	2.6	7.2	0	0	8.7	4.2	4.7	5.7	5.2	3.7	5.2	2.6	8.1	1.7	0.2	2.6	0	8.7	4.0	23	
15	1.1	4.7	N	6.2	10.1	N	4.7	3.6	0	3.1	4.7	6.6	5.2	3.1	1.6	0.7	4.1	1.2	3.1	2.2	4.1	1.2	3.6	3.6	10.1	3.6	22	
16	0	7.2	2.6	2.2	8.6	0	9.1	1.1	9.1	1.6	C	C	8.6	3.1	5.6	6.2	6.2	5.1	4.1	1.7	12.7	4.1	6.6	4.7	12.7	5.0	24	
17	3.1	2.6	3.6	2.6	2.2	6.2	5.1	8.2	0	3.6	10.6	4.1	5.6	2.6	5.6	9	3.1	4.6	8.6	6.6	9.6	5.1	4.6	6.6	10.6	5.1	24	
18	10.6	8.6	9.1	4.1	7.6	8.1	4.6	1.6	5.6	8.6	8.1	10.6	4.1	2.1	7.6	6.1	7.1	2.6	1.6	5.1	5.1	0.1	7.1	10.6	10.6	6.1	24	
19	13.6	3.1	3.6	5.1	5.6	7.1	6.1	4.6	3.1	4.6	1.6	5.1	5.6	7.6	0	11.1	11.1	2.1	5.6	4.1	7.1	4.6	8.6	4.6	13.6	5.6	24	
20	0	6.1	7.7	4.1	8.6	11.6	4.1	6.1	11.6	10.1	7.1	9.6	12.6	13.1	12.6	11.1	8.6	13.6	15.1	7.1	11.1	11.1	8.1	4.1	15.1	9.0	24	
21	13.1	8.6	9.6	6.6	12.1	8.6	18.6	10.1	10.6	11.6	6.1	16.1	12.1	10.6	8.6	9.6	15.6	11.1	12.1	8.6	8.6	8.6	12.1	4.1	18.6	10.6	24	
22	13.7	14.6	11.1	8.1	13.1	10.6	11.1	18.1	13.6	16.1	17.1	9.1	14.1	10.6	10.1	6.1	10.6	15.1	11.6	<b>20.1</b>	18.1	2.6	0	0	<b>20.1</b>	<b>11.5</b>	24	
23	4.6	1.1	6.1	1.1	3.6	3.6	N	N	0	0.1	2.6	12.6	0.6	5.1	0.6	2.1	0	0	N	3.6	5.1	0	4.1	0	12.6	2.7	21	
24	0	4.1	N	0	1.1	1.1	0.6	3.6	0.6	N	1.1	2.1	1.6	0	0	1.1	6.6	1.6	2.6	7.7	2.6	1.1	0.1	0	7.7	1.8	22	
25	5.6	3.1	2.1	0.6	0	0.6	N	1.1	0	7.1	0.1	0.6	0	0	2.1	0	N	N	3.1	3.6	6.6	2.6	5.1	3.6	7.1	2.3	21	
26	8.1	5.6	7.6	8.6	6.6	7.1	0	4.6	4.1	0.1	10.1	0.1	5.6	0.6	5.6	3.1	4.6	5.6	4.1	2.1	1.1	2.6	1.1	3.6	10.1	4.3	24	
27	6.1	3.1	1.1	1.1	9.6	1.6	2.1	0	N	N	4.6	5.1	2.6	3.1	1.6	2.6	2.1	2.1	2.6	0.1	3.6	2.6	6.6	6.1	9.6	3.2	22	
28	2.6	0.6	1.1	4.6	4.6	0.1	0	0	0	7.1	3.6	4.1	2.6	4.1	0	3.6	2.1	3.1	1.6	1.1	5.6	3.1	6.1	4.6	7.1	2.8	24	
29	0.1	1.6	N	1.1	3.6	5.1	0	0	0	6.6	2.6	2.2	6.6	1.6	7.1	7.1	N	0	3.6	2.1	0	5.1	0	1.1	7.1	2.6	22	
30	2.1	0	3.6	0	5.1	0	2.6	0.6	3.6	3.6	2.6	0.1	3.6	0	2.6	0.1	4.1	0.6	4.1	2.1	2.6	1.6	3.1	3.6	5.1	2.2	24	
HOURLY MAX	14	15	11	9	13	12	19	18	14	16	17	16	14	13	13	11	16	15	15	20	18	11	15	11				
HOURLY AVG	4.7	4.3	4.5	3.1	5.6	4.1	4.4	4.0	4.0	4.6	4.1	5.5	4.9	3.4	4.1	4.7	5.6	4.2	4.7	4.6	5.6	3.2	4.5	3.4				

STATUS FLAG CODES

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

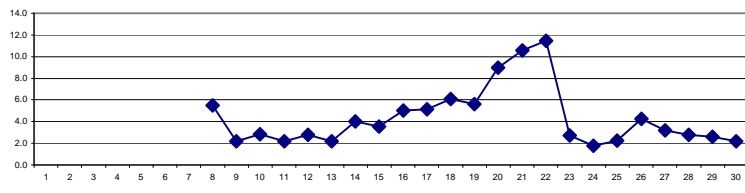
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	-	PPB	24-HR	30	PPB
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MONTHLY SUMMARY

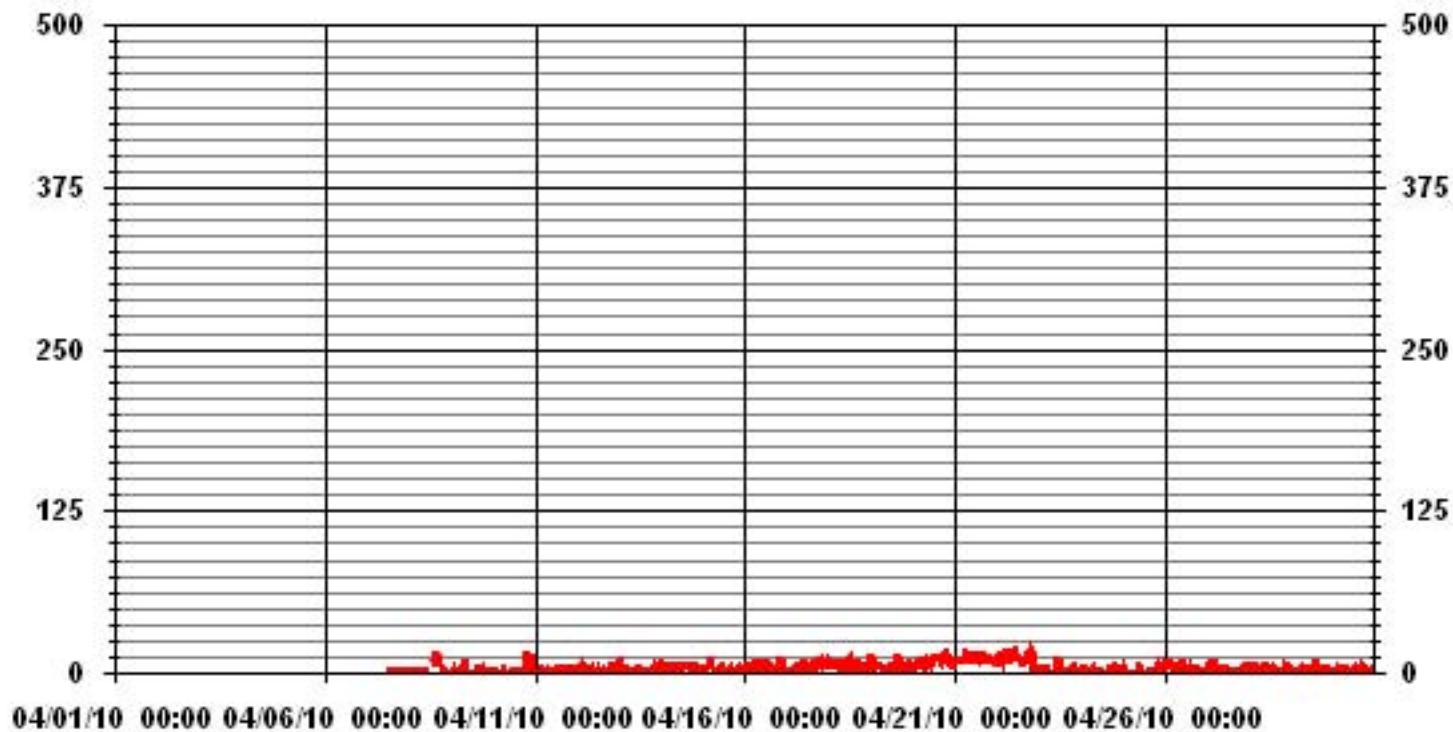
NUMBER OF 1-HR EXCEEDENCES:	-				
NUMBER OF 24-HR EXCEEDENCES:	0	PROPOSED CANADA WIDE GUIDELINE			
NUMBER OF NON-ZERO READINGS:	436				
MAXIMUM 1-HR AVERAGE:	20.1	UG/M <sup>3</sup>	@ HOUR(S)	19	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	11.5	UG/M <sup>3</sup>			ON DAY(S)
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	511	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	71.0	%
STANDARD DEVIATION:	3.99		MONTHLY AVERAGE:	4.40	UG/M <sup>3</sup>

24 HOUR AVERAGES FOR APRIL 2010





### 01 Hour Averages



— LICA33 PM2 UG/M3

LICA33  
 PM2 / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 33  
 Site Name : LICA33  
 Parameter : PM2  
 Units : UG/M3

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	7.57	5.87	6.06	7.95	15.53	8.71	5.11	9.65	2.84	.37	2.27	.56	.18	13.06	7.57	6.62	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	7.57	5.87	6.06	7.95	15.53	8.71	5.11	9.65	2.84	.37	2.27	.56	.18	13.06	7.57	6.62	

Calm : .00 %

Total # Operational Hours : 528

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	40	31	32	42	82	46	27	51	15	2	12	3	1	69	40	35	528
< 60.0																	
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	40	31	32	42	82	46	27	51	15	2	12	3	1	69	40	35	

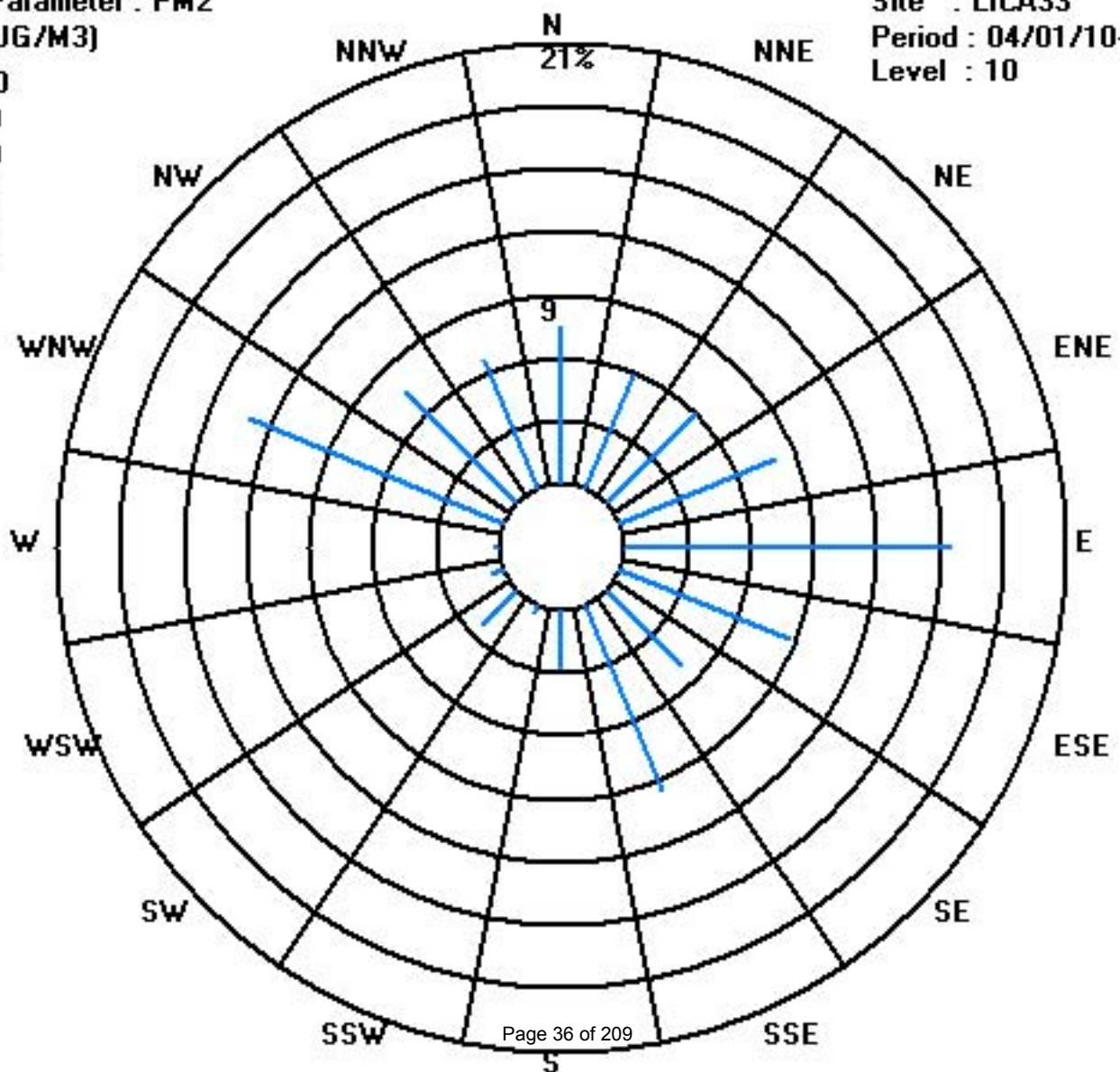
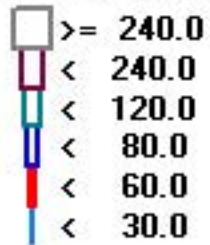
Calm : .00 %

Total # Operational Hours : 528

Class Limits (UG/M3)

Period : 04/01/10-04/30/10

Level : 10



# Nitrogen Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

## NITROGEN DIOXIDE hourly averages in ppb

MST		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	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		4	2	1	4	2	2	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	1	1	0	0	4	0.8	24	2		0	0	0	1	2	2	4	4	3	1	0	0	0	0	0	0	0	IZS	0	0	1	1	2	0	0	4	0.9	24	3		1	1	2	2	1	2	4	1	0	1	0	0	0	0	0	0	0	IZS	0	0	0	0	2	1	1	4	0.8	24	4		1	2	2	7	2	2	1	1	1	1	0	0	0	0	IZS	0	0	1	1	1	0	2	3	3	7	1.3	24	5		3	4	7	10	7	7	7	5	4	3	3	3	2	IZS	0	0	0	0	0	0	2	3	4	3	2	10	3.4	24	6		2	1	1	1	2	2	2	2	1	1	0	0	0	IZS	0	0	0	0	0	0	1	1	1	1	1	2	0.9	24	7		0	0	0	1	2	2	2	2	3	2	3	IZS	0	0	0	0	0	0	0	1	3	2	3	2	3	1.2	24	8		3	3	4	5	4	7	4	5	C	C	C	C	C	C	C	C	C	0	1	0	2	1	0	0	7	2.4	24	9		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	10		0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	11		0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.0	24	12		0	1	2	1	0	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0.3	24	13		1	0	1	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	24	14		1	0	1	1	IZS	1	1	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0.3	24	15		0	1	2	IZS	1	3	6	4	2	1	4	1	0	0	0	0	0	0	0	1	0	1	2	2	6	1.3	24	16		2	2	IZS	1	1	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	1	1	2	6	6	1.1	24	17		2	IZS	6	4	1	2	3	3	3	2	2	1	1	0	0	0	0	0	0	0	1	3	3	1	6	1.7	24	18		IZS	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3	3	IZS	3	0.7	24	19		1	4	2	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	4	0.7	24	20		3	5	3	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	1	5	0.9	24	21		1	1	1	2	3	5	3	2	1	1	1	0	0	0	0	0	0	0	1	1	IZS	2	2	1	5	1.2	24	22		1	2	2	3	3	3	3	3	2	2	1	1	0	0	0	0	0	0	1	IZS	3	1	0	0	3	1.3	24	23		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	4	IZS	3	3	3	1	1	4	0.8	24	24		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	1	1	0.1	24	25		2	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	3	1	2	1	3	0.7	24	26		5	5	4	4	3	4	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1.5	24	27		1	2	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0	2	2	3	0.7	24	28		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	30		0	0	0	0	0	0	1	1	1	1	0	0	0	IZS	1	0	1	0	0	0	1	0	1	2	1	2	0.5	24	HOURLY MAX		NA	5	7	10	7	7	7	5	4	3	4	3	2	1	1	1	1	2	4	1	3	3	4	3	6				HOURLY AVG		NA	1.3	1.7	1.9	1.3	1.7	1.9	1.4	0.9	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.6	0.9	1.1	1.1	1.1			
1		4	2	1	4	2	2	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	1	1	0	0	4	0.8	24	2		0	0	0	1	2	2	4	4	3	1	0	0	0	0	0	0	0	IZS	0	0	1	1	2	0	0	4	0.9	24	3		1	1	2	2	1	2	4	1	0	1	0	0	0	0	0	0	0	IZS	0	0	0	0	2	1	1	4	0.8	24	4		1	2	2	7	2	2	1	1	1	1	0	0	0	0	IZS	0	0	1	1	1	0	2	3	3	7	1.3	24	5		3	4	7	10	7	7	7	5	4	3	3	3	2	IZS	0	0	0	0	0	0	2	3	4	3	2	10	3.4	24	6		2	1	1	1	2	2	2	2	1	1	0	0	0	IZS	0	0	0	0	0	0	1	1	1	1	1	2	0.9	24	7		0	0	0	1	2	2	2	2	3	2	3	IZS	0	0	0	0	0	0	0	1	3	2	3	2	3	1.2	24	8		3	3	4	5	4	7	4	5	C	C	C	C	C	C	C	C	C	0	1	0	2	1	0	0	7	2.4	24	9		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	10		0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	11		0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.0	24	12		0	1	2	1	0	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0.3	24	13		1	0	1	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	24	14		1	0	1	1	IZS	1	1	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0.3	24	15		0	1	2	IZS	1	3	6	4	2	1	4	1	0	0	0	0	0	0	0	1	0	1	2	2	6	1.3	24	16		2	2	IZS	1	1	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	1	1	2	6	6	1.1	24	17		2	IZS	6	4	1	2	3	3	3	2	2	1	1	0	0	0	0	0	0	0	1	3	3	1	6	1.7	24	18		IZS	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3	3	IZS	3	0.7	24	19		1	4	2	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	4	0.7	24	20		3	5	3	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	1	5	0.9	24	21		1	1	1	2	3	5	3	2	1	1	1	0	0	0	0	0	0	0	1	1	IZS	2	2	1	5	1.2	24	22		1	2	2	3	3	3	3	3	2	2	1	1	0	0	0	0	0	0	1	IZS	3	1	0	0	3	1.3	24	23		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	4	IZS	3	3	3	1	1	4	0.8	24	24		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	1	1	0.1	24	25		2	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	3	1	2	1	3	0.7	24	26		5	5	4	4	3	4	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1.5	24	27		1	2	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0	2	2	3	0.7	24	28		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	30		0	0	0	0	0	0	1	1	1	1	0	0	0	IZS	1	0	1	0	0	0	1	0	1	2	1	2	0.5	24	HOURLY MAX		NA	5	7	10	7	7	7	5	4	3	4	3	2	1	1	1	1	2	4	1	3	3	4	3	6				HOURLY AVG		NA	1.3	1.7	1.9	1.3	1.7	1.9	1.4	0.9	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.6	0.9	1.1	1.1	1.1																																	
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14		1	0	1	1	IZS	1	1	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0.3	24	15		0	1	2	IZS	1	3	6	4	2	1	4	1	0	0	0	0	0	0	0	1	0	1	2	2	6	1.3	24	16		2	2	IZS	1	1	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	1	1	2	6	6	1.1	24	17		2	IZS	6	4	1	2	3	3	3	2	2	1	1	0	0	0	0	0	0	0	1	3	3	1	6	1.7	24	18		IZS	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3	3	IZS	3	0.7	24	19		1	4	2	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	4	0.7	24	20		3	5	3	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	1	5	0.9	24	21		1	1	1	2	3	5	3	2	1	1	1	0	0	0	0	0	0	0	1	1	IZS	2	2	1	5	1.2	24	22		1	2	2	3	3	3	3	3	2	2	1	1	0	0	0	0	0	0	1	IZS	3	1	0	0	3	1.3	24	23		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	4	IZS	3	3	3	1	1	4	0.8	24	24		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	1	1	0.1	24	25		2	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	3	1	2	1	3	0.7	24	26		5	5	4	4	3	4	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1.5	24	27		1	2	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0	2	2	3	0.7	24	28		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	30		0	0	0	0	0	0	1	1	1	1	0	0	0	IZS	1	0	1	0	0	0	1	0	1	2	1	2	0.5	24	HOURLY MAX		NA	5	7	10	7	7	7	5	4	3	4	3	2	1	1	1	1	2	4	1	3	3	4	3	6				HOURLY AVG		NA	1.3	1.7	1.9	1.3	1.7	1.9	1.4	0.9	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.6	0.9	1.1	1.1	1.1																																																																																																																																																																																																																																																																																																																																																																																																																																	
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16		2	2	IZS	1	1	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	1	1	2	6	6	1.1	24	17		2	IZS	6	4	1	2	3	3	3	2	2	1	1	0	0	0	0	0	0	0	1	3	3	1	6	1.7	24	18		IZS	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3	3	IZS	3	0.7	24	19		1	4	2	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	4	0.7	24	20		3	5	3	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	1	5	0.9	24	21		1	1	1	2	3	5	3	2	1	1	1	0	0	0	0	0	0	0	1	1	IZS	2	2	1	5	1.2	24	22		1	2	2	3	3	3	3	3	2	2	1	1	0	0	0	0	0	0	1	IZS	3	1	0	0	3	1.3	24	23		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	4	IZS	3	3	3	1	1	4	0.8	24	24		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	1	1	0.1	24	25		2	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	3	1	2	1	3	0.7	24	26		5	5	4	4	3	4	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1.5	24	27		1	2	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0	2	2	3	0.7	24	28		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	30		0	0	0	0	0	0	1	1	1	1	0	0	0	IZS	1	0	1	0	0	0	1	0	1	2	1	2	0.5	24	HOURLY MAX		NA	5	7	10	7	7	7	5	4	3	4	3	2	1	1	1	1	2	4	1	3	3	4	3	6				HOURLY AVG		NA	1.3	1.7	1.9	1.3	1.7	1.9	1.4	0.9	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.6	0.9	1.1	1.1	1.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
17		2	IZS	6	4	1	2	3	3	3	2	2	1	1	0	0	0	0	0	0	0	1	3	3	1	6	1.7	24	18		IZS	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3	3	IZS	3	0.7	24	19		1	4	2	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	4	0.7	24	20		3	5	3	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	1	5	0.9	24	21		1	1	1	2	3	5	3	2	1	1	1	0	0	0	0	0	0	0	1	1	IZS	2	2	1	5	1.2	24	22		1	2	2	3	3	3	3	3	2	2	1	1	0	0	0	0	0	0	1	IZS	3	1	0	0	3	1.3	24	23		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	4	IZS	3	3	3	1	1	4	0.8	24	24		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	1	1	0.1	24	25		2	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	3	1	2	1	3	0.7	24	26		5	5	4	4	3	4	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1.5	24	27		1	2	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0	2	2	3	0.7	24	28		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	30		0	0	0	0	0	0	1	1	1	1	0	0	0	IZS	1	0	1	0	0	0	1	0	1	2	1	2	0.5	24	HOURLY MAX		NA	5	7	10	7	7	7	5	4	3	4	3	2	1	1	1	1	2	4	1	3	3	4	3	6				HOURLY AVG		NA	1.3	1.7	1.9	1.3	1.7	1.9	1.4	0.9	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.6	0.9	1.1	1.1	1.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
18		IZS	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3	3	IZS	3	0.7	24	19		1	4	2	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	4	0.7	24	20		3	5	3	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	1	5	0.9	24	21		1	1	1	2	3	5	3	2	1	1	1	0	0	0	0	0	0	0	1	1	IZS	2	2	1	5	1.2	24	22		1	2	2	3	3	3	3	3	2	2	1	1	0	0	0	0	0	0	1	IZS	3	1	0	0	3	1.3	24	23		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	4	IZS	3	3	3	1	1	4	0.8	24	24		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	1	1	0.1	24	25		2	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	3	1	2	1	3	0.7	24	26		5	5	4	4	3	4	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1.5	24	27		1	2	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0	2	2	3	0.7	24	28		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	30		0	0	0	0	0	0	1	1	1	1	0	0	0	IZS	1	0	1	0	0	0	1	0	1	2	1	2	0.5	24	HOURLY MAX		NA	5	7	10	7	7	7	5	4	3	4	3	2	1	1	1	1	2	4	1	3	3	4	3	6				HOURLY AVG		NA	1.3	1.7	1.9	1.3	1.7	1.9	1.4	0.9	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.6	0.9	1.1	1.1	1.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
19		1	4	2	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	4	0.7	24	20		3	5	3	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	1	5	0.9	24	21		1	1	1	2	3	5	3	2	1	1	1	0	0	0	0	0	0	0	1	1	IZS	2	2	1	5	1.2	24	22		1	2	2	3	3	3	3	3	2	2	1	1	0	0	0	0	0	0	1	IZS	3	1	0	0	3	1.3	24	23		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	4	IZS	3	3	3	1	1	4	0.8	24	24		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	1	1	0.1	24	25		2	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	3	1	2	1	3	0.7	24	26		5	5	4	4	3	4	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1.5	24	27		1	2	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0	2	2	3	0.7	24	28		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	30		0	0	0	0	0	0	1	1	1	1	0	0	0	IZS	1	0	1	0	0	0	1	0	1	2	1	2	0.5	24	HOURLY MAX		NA	5	7	10	7	7	7	5	4	3	4	3	2	1	1	1	1	2	4	1	3	3	4	3	6				HOURLY AVG		NA	1.3	1.7	1.9	1.3	1.7	1.9	1.4	0.9	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.6	0.9	1.1	1.1	1.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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28		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	30		0	0	0	0	0	0	1	1	1	1	0	0	0	IZS	1	0	1	0	0	0	1	0	1	2	1	2	0.5	24	HOURLY MAX		NA	5	7	10	7	7	7	5	4	3	4	3	2	1	1	1	1	2	4	1	3	3	4	3	6				HOURLY AVG		NA	1.3	1.7	1.9	1.3	1.7	1.9	1.4	0.9	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.6	0.9	1.1	1.1	1.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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30		0	0	0	0	0	0	1	1	1	1	0	0	0	IZS	1	0	1	0	0	0	1	0	1	2	1	2	0.5	24	HOURLY MAX		NA	5	7	10	7	7	7	5	4	3	4	3	2	1	1	1	1	2	4	1	3	3	4	3	6				HOURLY AVG		NA	1.3	1.7	1.9	1.3	1.7	1.9	1.4	0.9	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.6	0.9	1.1	1.1	1.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
HOURLY MAX		NA	5	7	10	7	7	7	5	4	3	4	3	2	1	1	1	1	2	4	1	3	3	4	3	6				HOURLY AVG		NA	1.3	1.7	1.9	1.3	1.7	1.9	1.4	0.9	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.6	0.9	1.1	1.1	1.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
HOURLY AVG		NA	1.3	1.7	1.9	1.3	1.7	1.9	1.4	0.9	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.6	0.9	1.1	1.1	1.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

### 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

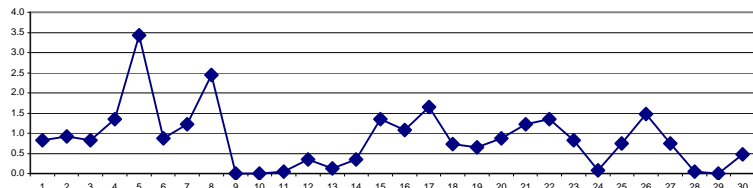
### OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	212	PPB	24-HR	106	PPB
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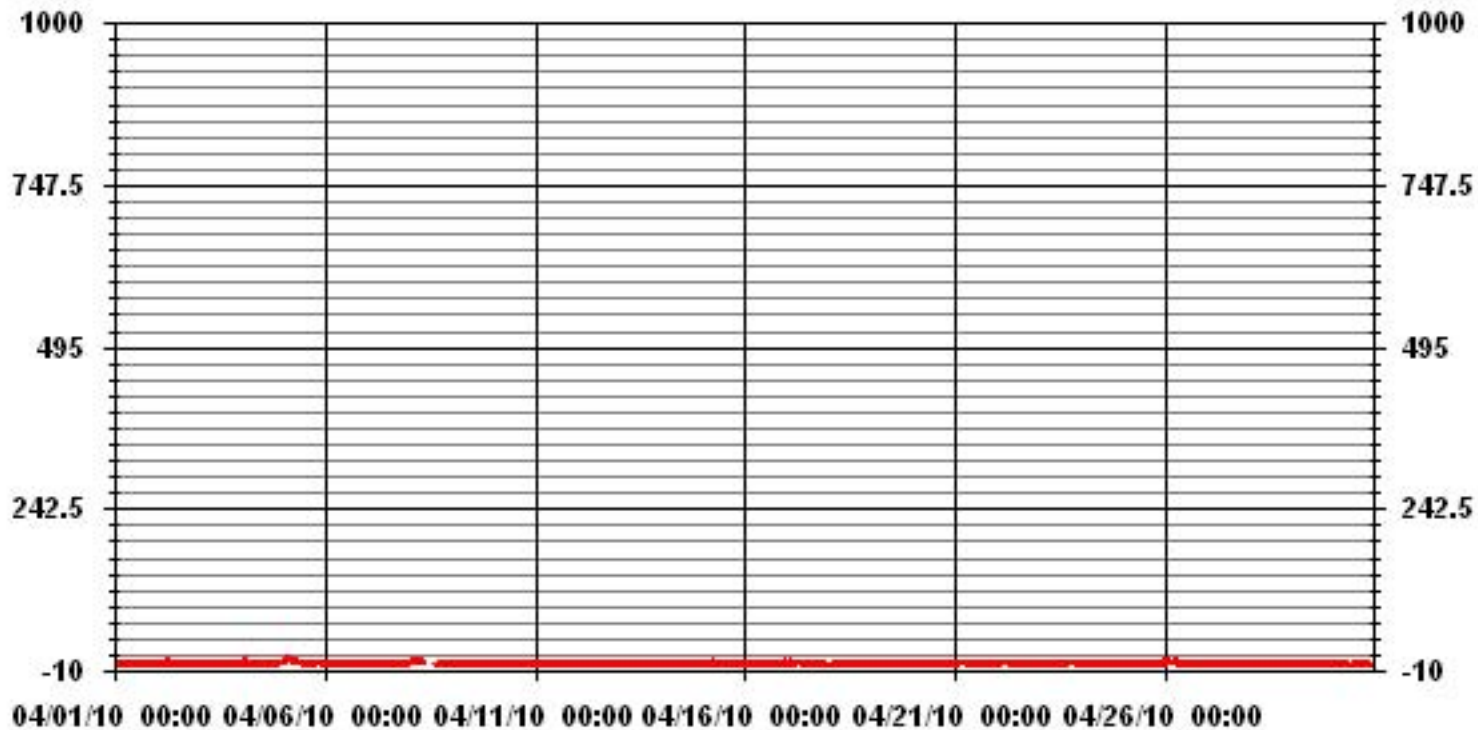
### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	283					
MAXIMUM 1-HR AVERAGE:	10	PPB	@ HOUR(S)	3	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	3.4	PPB			ON DAY(S)	5
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	1.38		MONTHLY AVERAGE:	0.85	PPB	

24 HOUR AVERAGES FOR APRIL 2010



### 01 Hour Averages



— LICA33 IIO2\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

**NITROGEN DIOXIDE MAX** instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	10	6	1	14	6	5	2	2	1	0	0	1	0	0	0	1	0	<b>IZS</b>	1	0	5	4	1	1	14	2.7	24	
2	1	1	1	2	3	3	6	5	4	3	1	0	0	1	0	0	<b>IZS</b>	0	1	2	2	4	1	0	6	1.8	24	
3	5	2	4	5	2	6	7	4	1	2	1	0	0	0	0	<b>IZS</b>	0	0	0	1	1	4	2	1	7	2.1	24	
4	2	4	3	11	7	3	2	2	1	2	1	1	0	0	<b>IZS</b>	1	1	2	2	3	2	4	4	4	11	2.7	24	
5	4	6	9	12	8	10	10	5	5	4	23	3	3	<b>IZS</b>	1	0	0	0	1	5	8	6	4	3	23	5.7	24	
6	3	2	2	1	2	2	3	3	2	2	1	0	<b>IZS</b>	0	0	0	0	0	1	1	1	1	3	2	3	1.4	24	
7	1	1	1	3	3	3	4	4	5	3	48	<b>IZS</b>	1	0	0	0	8	1	1	2	4	3	4	3	48	4.5	24	
8	5	4	7	9	5	13	8	9	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	0	6	1	4	3	2	2	1	13	4.9	24	
9	0	1	0	0	0	0	0	0	0	<b>IZS</b>	0	0	0	0	<b>P</b>	0	0	0	0	0	0	0	0	0	0	1	0.0	23
10	0	0	0	0	0	0	0	0	<b>IZS</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
11	1	0	1	0	1	0	0	<b>IZS</b>	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	5	5	0.5	24	
12	4	4	3	3	1	1	<b>IZS</b>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	4	1.1	24	
13	3	0	3	0	1	<b>IZS</b>	1	1	0	0	1	1	1	0	0	1	1	1	1	0	0	1	1	3	3	0.9	24	
14	3	1	1	1	<b>IZS</b>	1	2	1	1	1	1	1	1	2	1	0	1	1	1	2	2	2	1	1	3	1.3	24	
15	1	2	3	<b>IZS</b>	2	5	9	8	3	2	<b>141</b>	2	1	0	1	0	3	0	1	1	1	2	3	3	<b>141</b>	8.4	24	
16	2	3	<b>IZS</b>	2	2	2	3	3	3	2	1	1	1	0	1	0	0	1	1	1	2	1	4	14	14	2.2	24	
17	5	<b>IZS</b>	9	8	2	4	8	5	<b>P</b>	3	2	2	1	1	1	1	1	1	1	2	3	6	4	4	9	3.4	23	
18	<b>IZS</b>	2	3	2	2	2	2	2	1	1	1	1	0	0	0	0	0	0	1	1	1	6	5	<b>IZS</b>	6	1.5	24	
19	4	6	4	4	1	2	5	1	1	1	1	0	0	0	0	0	0	0	1	1	2	2	<b>IZS</b>	3	6	1.7	24	
20	5	9	6	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	3	<b>IZS</b>	1	2	9	2.1	24	
21	2	2	2	7	9	14	4	3	2	1	1	1	1	1	1	1	1	1	2	1	<b>IZS</b>	2	3	2	14	2.8	24	
22	2	3	3	6	6	5	8	6	3	2	2	2	1	1	1	2	1	1	2	<b>IZS</b>	5	2	1	1	8	2.9	24	
23	1	1	1	0	0	1	1	0	0	1	1	1	1	1	1	3	5	<b>IZS</b>	5	5	5	5	3	2	5	1.7	24	
24	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	<b>IZS</b>	0	1	1	0	3	4	4	0.6	24	
25	6	2	4	4	3	4	2	2	1	0	0	0	0	0	1	0	<b>IZS</b>	1	1	2	5	3	4	3	6	2.1	24	
26	7	9	5	8	4	5	7	4	2	1	0	0	0	1	1	0	<b>IZS</b>	0	0	0	0	1	0	0	9	2.4	24	
27	3	4	5	4	4	2	2	1	0	0	0	0	0	1	<b>IZS</b>	0	0	0	0	0	0	1	2	3	3	5	1.5	24
28	2	2	2	1	1	1	1	1	0	0	0	0	0	<b>IZS</b>	0	0	0	0	0	0	0	0	0	0	1	2	0.5	24
29	1	0	0	0	1	1	0	0	0	0	1	1	<b>IZS</b>	0	0	0	0	1	2	2	1	0	0	0	2	0.5	24	
30	0	0	0	0	0	1	2	2	3	2	1	<b>IZS</b>	1	1	2	1	1	1	0	3	1	3	3	2	3	1.3	24	
HOURLY MAX	10	9	9	14	9	14	10	9	5	4	141	3	3	2	2	2	8	6	2	5	8	6	5	14				
HOURLY AVG	2.9	2.7	2.9	3.8	2.7	3.4	3.5	2.6	1.5	1.2	7.9	0.7	0.6	0.4	0.5	0.4	0.8	0.9	0.8	1.4	2.0	2.3	2.2	2.5				

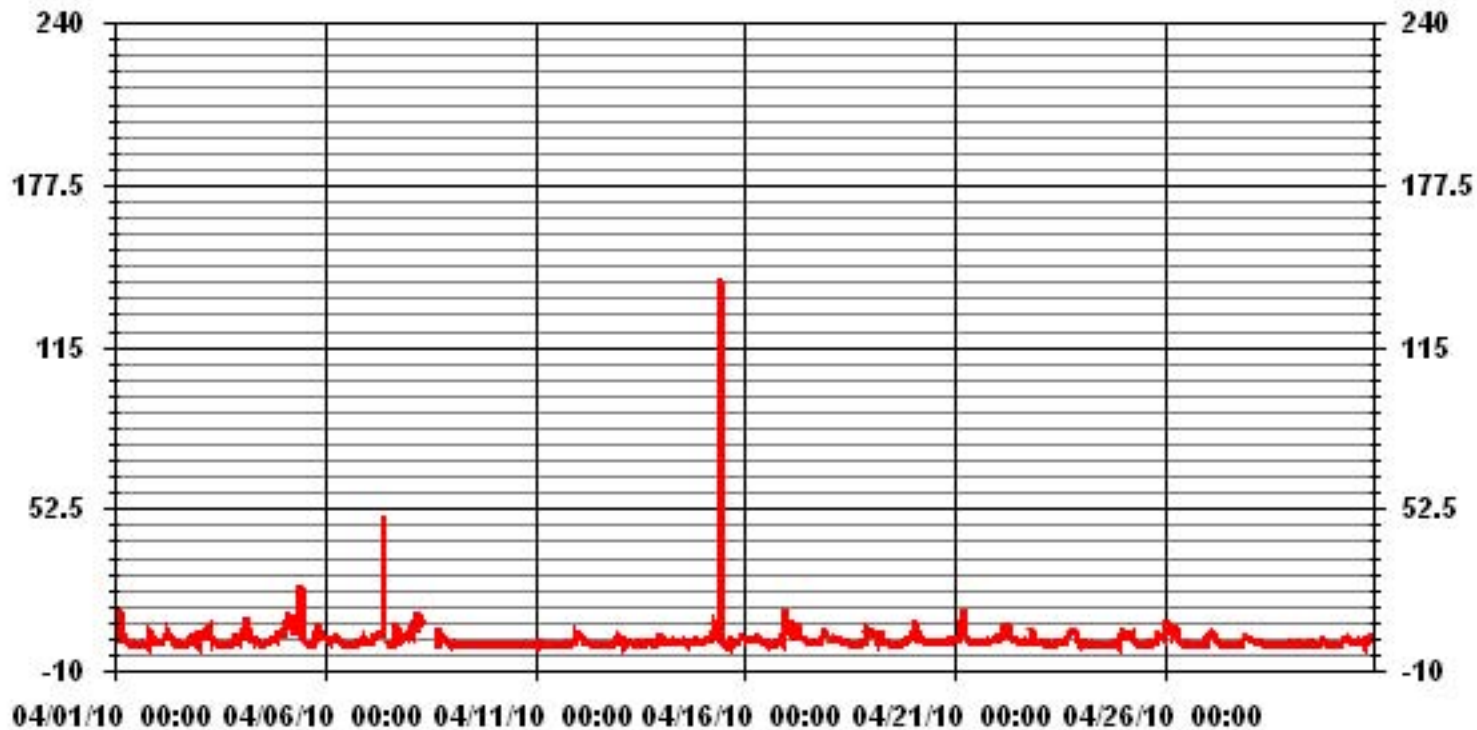
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	465					
MAXIMUM INSTANTANEOUS VALUE:	141	PPB	@ HOUR(S)	10	ON DAY(S)	15
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	6.11					

### 01 Hour Averages



— LICA33 IIO2MAX PPB



LICA33  
 NO2\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 33  
 Site Name : LICA33  
 Parameter : NO2\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	5.86	4.98	5.27	6.45	14.51	7.47	6.15	9.53	4.10	.87	3.51	3.07	2.63	13.19	6.59	5.71	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.86	4.98	5.27	6.45	14.51	7.47	6.15	9.53	4.10	.87	3.51	3.07	2.63	13.19	6.59	5.71	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	40	34	36	44	99	51	42	65	28	6	24	21	18	90	45	39	682
< 110																	
< 210																	
>= 210																	
Totals	40	34	36	44	99	51	42	65	28	6	24	21	18	90	45	39	

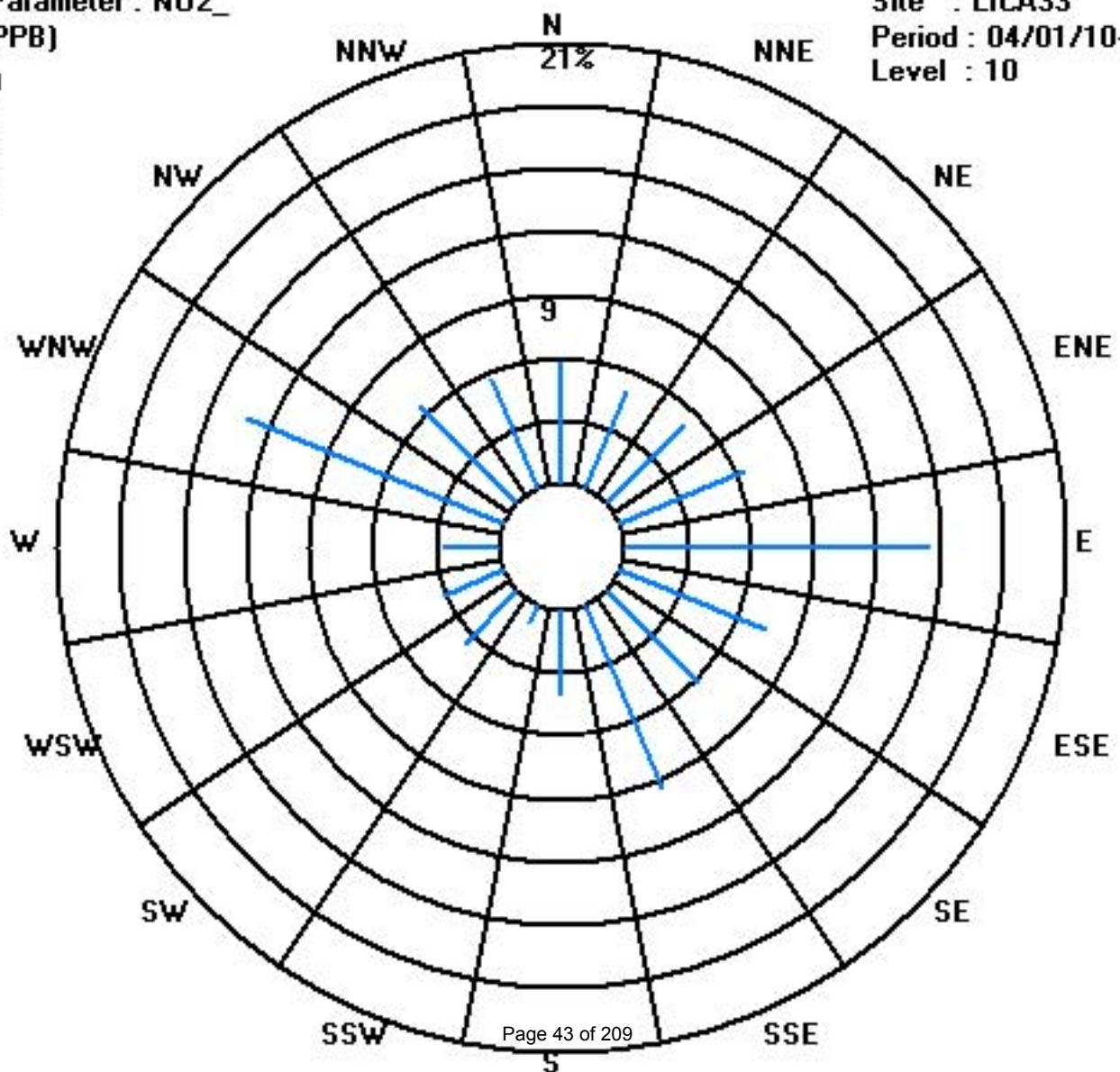
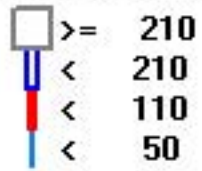
Calm : .00 %

Total # Operational Hours : 682

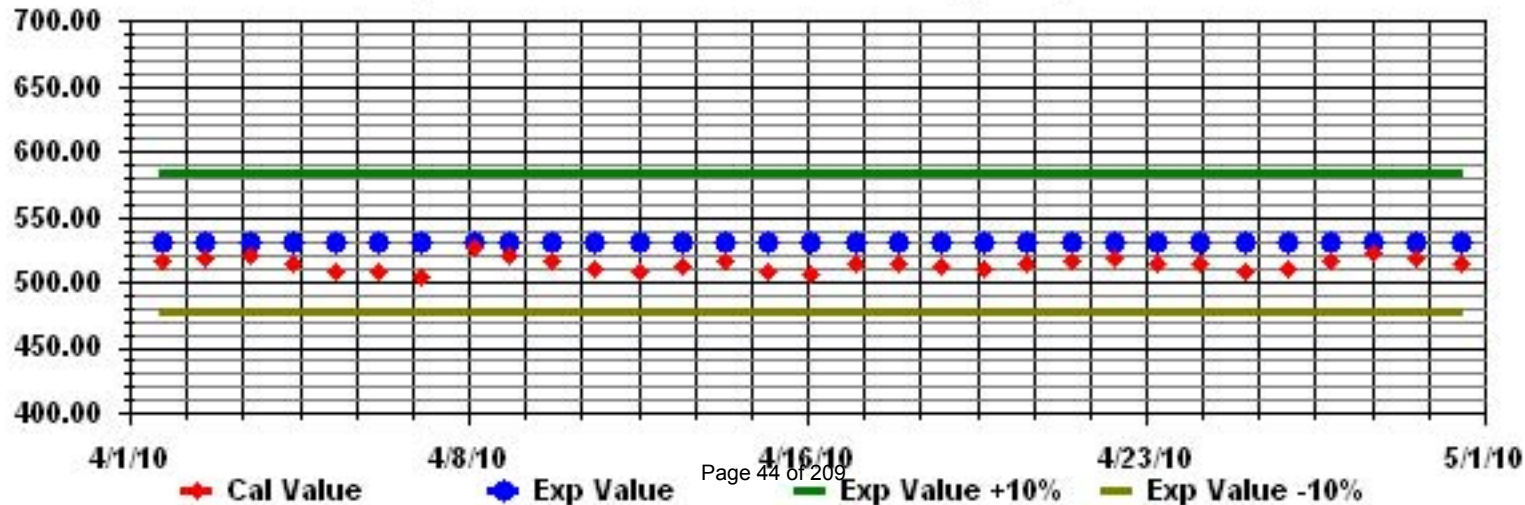
Class Limits (PPB)

Period : 04/01/10-04/30/10

Level : 10



Calibration Graph for Site: LICA33 Parameter: NO2\_ Sequence: NO2 Phase: SPAN



# Nitric Oxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

NITRIC OXIDE hourly averages in ppb

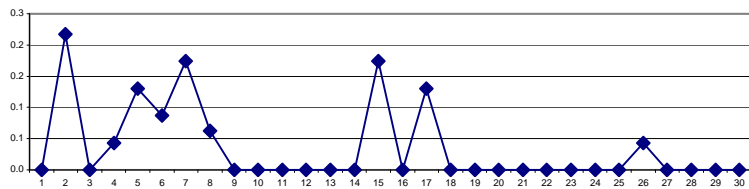
MST

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

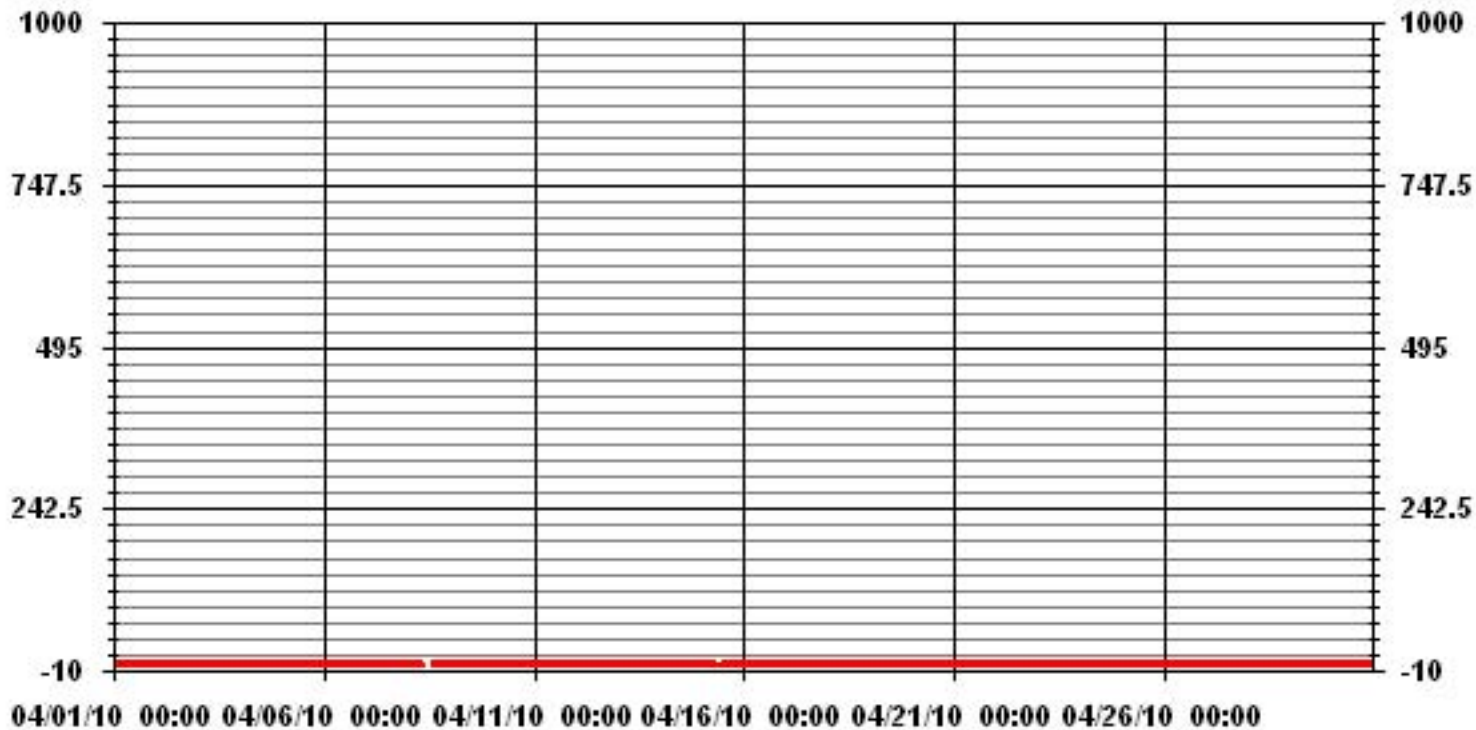
24 HOUR AVERAGES FOR APRIL 2010



### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	20
MAXIMUM 1-HR AVERAGE:	3 PPB @ HOUR(S) 10 ON DAY(S) 5
MAXIMUM 24-HR AVERAGE:	0.2 PPB ON DAY(S) VAR
IZS CALIBRATION TIME:	30 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	0.22
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	0.04 PPB

### 01 Hour Averages



— LICA33 NO\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

**NITRIC OXIDE MAX** instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	1	0	0	1	1	1	1	0	2	0	0	0	1	0	<b>IZS</b>	1	0	0	0	0	1	2	0.4	24
2	0	0	0	0	0	0	2	2	3	2	1	0	1	1	0	0	<b>IZS</b>	0	0	0	0	0	0	0	3	0.5	24
3	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	<b>IZS</b>	1	0	0	0	0	0	0	0	1	0.3	24
4	0	0	0	0	0	0	0	1	1	2	1	1	0	0	<b>IZS</b>	0	0	0	0	0	0	0	0	0	2	0.3	24
5	0	0	0	0	0	0	0	0	0	0	<b>157</b>	0	0	<b>IZS</b>	1	0	0	0	0	0	0	0	0	0	<b>157</b>	6.9	24
6	0	0	0	0	0	0	1	1	1	1	1	1	<b>IZS</b>	0	1	0	0	0	0	0	0	0	0	0	1	0.3	24
7	0	0	0	0	0	0	1	2	2	2	24	<b>IZS</b>	6	1	1	1	8	1	0	0	0	0	0	24	2.1	24	
8	0	0	0	0	1	1	2	2	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	0	0	0	0	0	0	0	0	0	2	0.4	24
9	0	0	0	0	0	0	0	0	0	<b>IZS</b>	0	0	0	0	<b>P</b>	0	0	0	0	0	0	0	0	0	0	0.0	23
10	0	0	0	0	0	0	0	0	<b>IZS</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
11	0	0	0	0	0	0	0	<b>IZS</b>	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
12	0	0	0	0	0	0	<b>IZS</b>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
13	0	0	0	0	0	<b>IZS</b>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
14	0	0	0	0	<b>IZS</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
15	0	0	0	<b>IZS</b>	0	0	2	2	1	1	71	1	2	0	1	0	16	0	0	0	0	0	0	0	71	4.2	24
16	0	0	<b>IZS</b>	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
17	0	<b>IZS</b>	0	0	0	0	5	2	<b>P</b>	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0.5	23
18	<b>IZS</b>	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
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>IZS</b>	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>IZS</b>	0	0	0.0	24
21	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>IZS</b>	0	0	1	0.0	24
22	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	<b>IZS</b>	0	0	0	0	1	0.1	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	<b>IZS</b>	0	0	0	0	0	1	0.1	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>IZS</b>	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	<b>IZS</b>	0	0	0	0	0	0	0	1	0.1	24
26	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	<b>IZS</b>	0	0	0	0	0	0	0	0	1	0.1	24
27	0	0	0	0	0	0	1	1	0	0	0	0	0	1	<b>IZS</b>	0	0	0	0	0	0	0	0	0	1	0.1	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>IZS</b>	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	1	<b>IZS</b>	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
30	0	0	0	0	0	0	1	0	0	1	1	<b>IZS</b>	1	1	1	1	0	0	0	0	0	0	0	1	0.3	24	
HOURLY MAX	0	0	0	1	1	1	5	2	3	2	157	2	6	1	1	1	16	1	1	1	0	0	0	0	1		
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.5	0.4	9.0	0.3	0.4	0.1	0.2	0.2	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0			

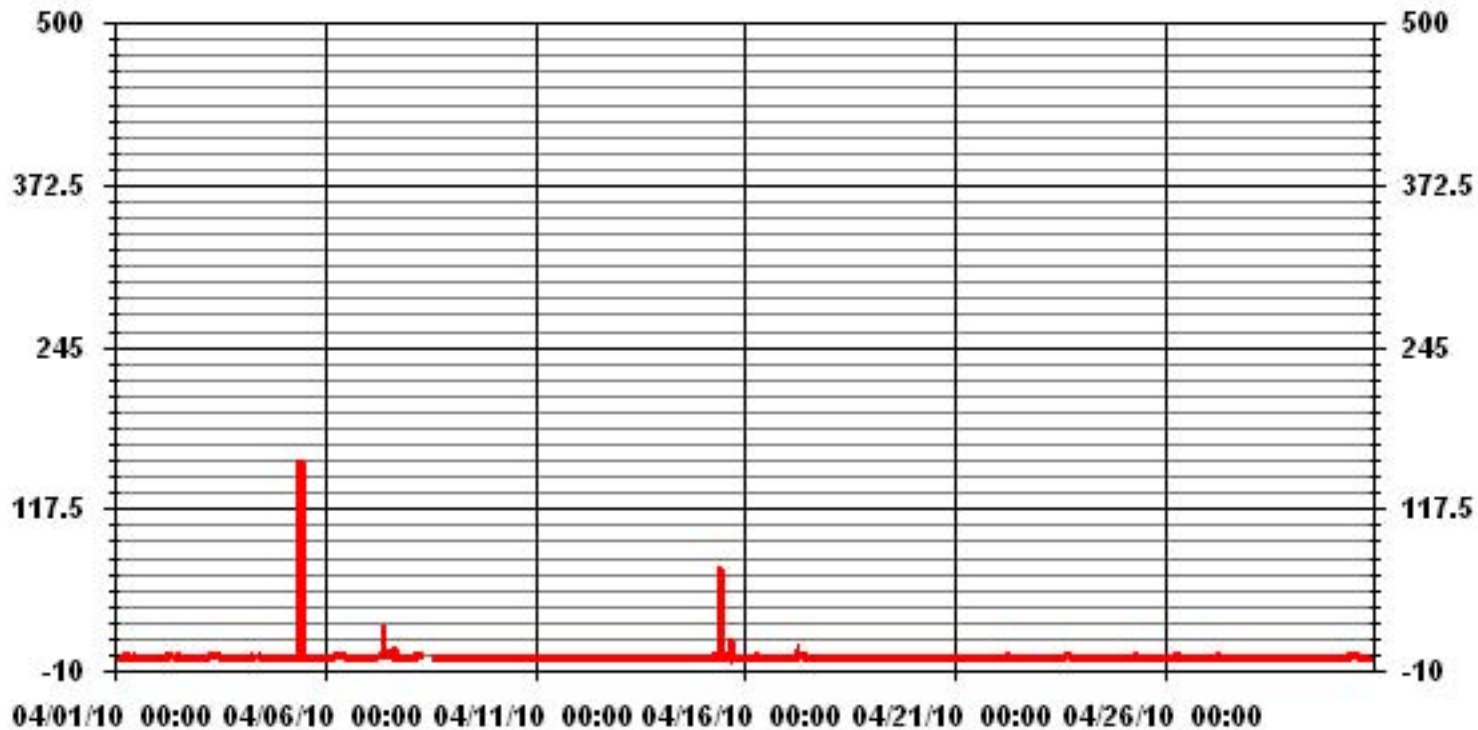
**STATUS FLAG CODES**

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:	96					
MAXIMUM INSTANTANEOUS VALUE:	157	PPB	@ HOUR(S)	10	ON DAY(S)	5
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	6.70					

### 01 Hour Averages





LICA33  
 NO\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 33  
 Site Name : LICA33  
 Parameter : NO\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	5.86	4.98	5.27	6.45	14.51	7.47	6.15	9.53	4.10	.87	3.51	3.07	2.63	13.19	6.59	5.71	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.86	4.98	5.27	6.45	14.51	7.47	6.15	9.53	4.10	.87	3.51	3.07	2.63	13.19	6.59	5.71	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	40	34	36	44	99	51	42	65	28	6	24	21	18	90	45	39	682
< 110																	
< 210																	
>= 210																	
Totals	40	34	36	44	99	51	42	65	28	6	24	21	18	90	45	39	

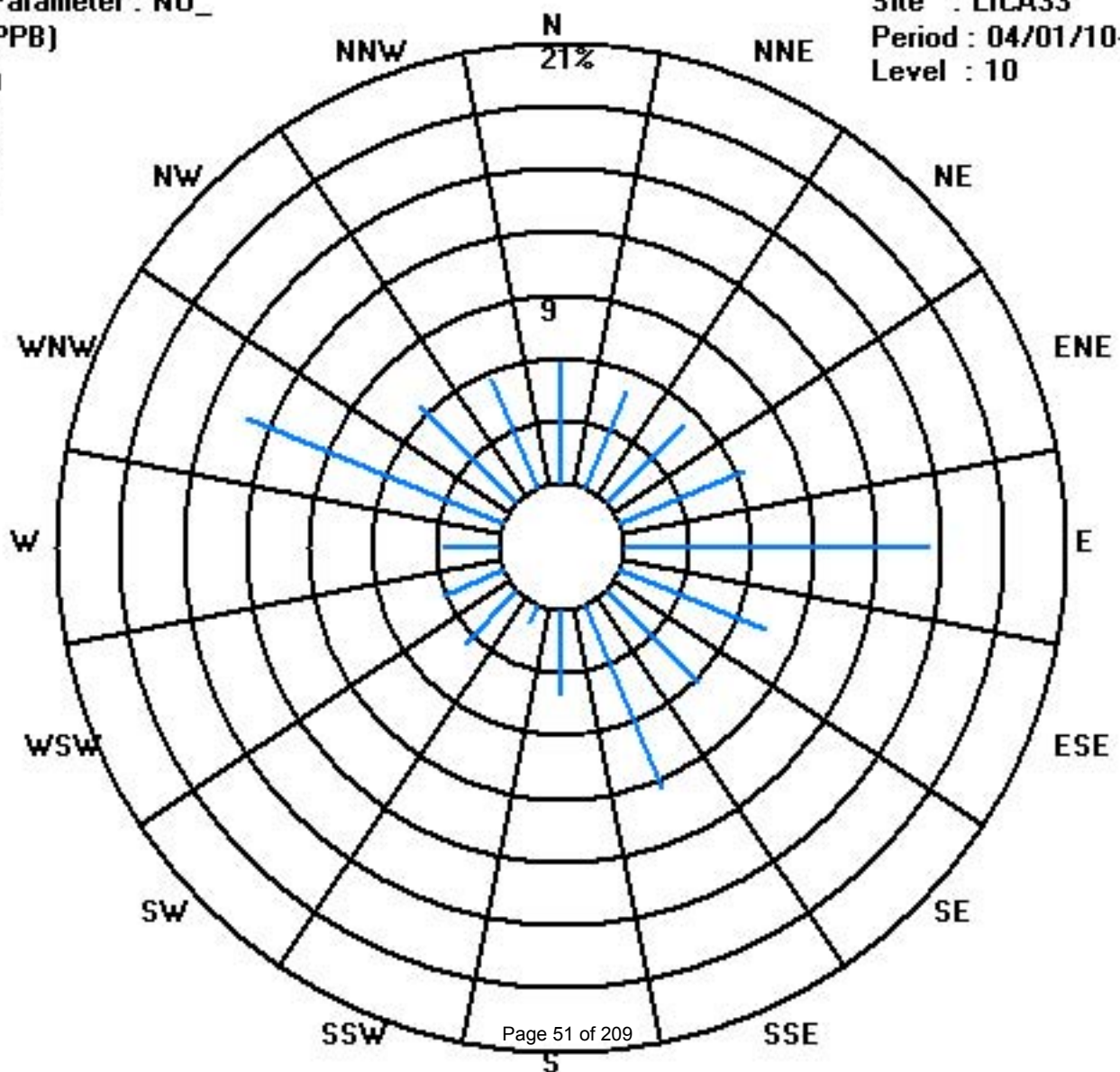
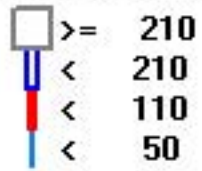
Calm : .00 %

Total # Operational Hours : 682

Class Limits (PPB)

Period : 04/01/10-04/30/10

Level : 10



# Oxides of Nitrogen

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

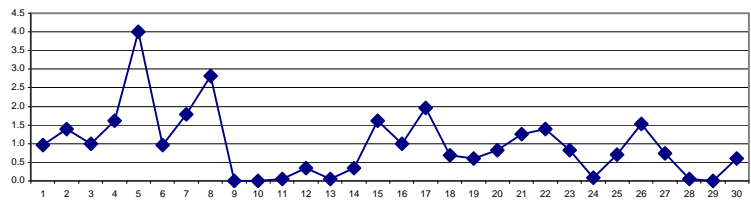
### OXIDES OF NITROGEN hourly averages in ppb

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 24-HOUR			
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	4	2	1	4	3	2	1	1	1	0	0	0	0	0	0	0	0	IZS	0	0	1	2	0	0	4	1.0	24	
2	0	0	0	1	2	3	6	5	5	3	1	0	0	1	0	0	IZS	0	1	1	1	2	0	0	6	1.4	24	
3	1	1	3	3	1	2	4	1	1	1	1	0	0	0	0	IZS	0	0	0	0	0	2	1	1	4	1.0	24	
4	1	2	2	7	2	2	1	2	1	2	1	0	0	0	0	IZS	1	1	1	1	1	2	3	3	7	1.6	24	
5	3	4	7	10	7	7	8	6	5	4	8	4	3	IZS	1	0	0	0	0	2	4	4	3	2	10	4.0	24	
6	2	1	1	1	2	2	2	3	2	1	0	0	IZS	0	0	0	0	0	0	1	1	1	1	1	3	1.0	24	
7	0	0	1	1	2	3	2	3	5	4	5	IZS	0	0	0	0	0	1	1	1	3	3	3	2	5	1.8	24	
8	4	3	4	5	5	8	5	7	C	C	C	C	C	C	C	C	0	1	0	2	1	0	0	0	8	2.8	24	
9	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
10	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
11	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.0	24
12	0	1	2	1	0	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0.3	24
13	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
14	1	0	1	0	IZS	1	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	1	0.3	24	
15	0	1	2	IZS	1	3	7	6	3	2	6	1	0	0	0	0	0	0	0	0	0	1	2	2	7	1.6	24	
16	1	2	IZS	1	1	1	2	3	2	1	1	0	0	0	0	0	0	0	0	0	1	1	1	5	5	1.0	24	
17	2	IZS	6	4	1	2	4	5	5	3	2	2	1	0	0	0	0	0	0	0	1	3	3	1	6	2.0	24	
18	IZS	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3	2	IZS	3	0.7	24	
19	1	3	2	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	3	0.6	24	
20	3	5	3	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	IZS	1	1	5	0.8	24	
21	1	1	1	2	3	5	3	3	1	1	1	0	0	0	0	0	0	0	1	1	IZS	2	2	1	5	1.3	24	
22	1	1	1	3	3	3	4	4	2	2	2	1	0	0	0	0	0	1	IZS	3	1	0	0	4	1.4	24		
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	IZS	3	3	3	1	1	1	4	0.8	24	
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	1	1	0.1	24	
25	2	0	2	1	1	1	1	2	0	0	0	0	0	0	0	0	0	IZS	0	0	0	3	0	2	1	3	0.7	24
26	5	5	4	4	2	4	7	3	1	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	7	1.5	24	
27	1	2	2	2	2	1	2	1	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	2	2	2	2	0.7	24
28	0	0	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0.0	24	
29	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
30	0	0	0	0	0	0	1	1	2	1	1	IZS	1	1	1	1	0	0	0	1	0	1	2	0	2	0.6	24	
HOURLY MAX	5	5	7	10	7	8	8	7	5	4	8	4	3	1	1	1	3	4	1	3	4	4	3	5				
HOURLY AVG	1.2	1.2	1.7	1.9	1.4	1.8	2.2	2.0	1.3	1.0	1.0	0.3	0.2	0.1	0.1	0.1	0.2	0.3	0.2	0.5	0.9	1.1	1.1	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

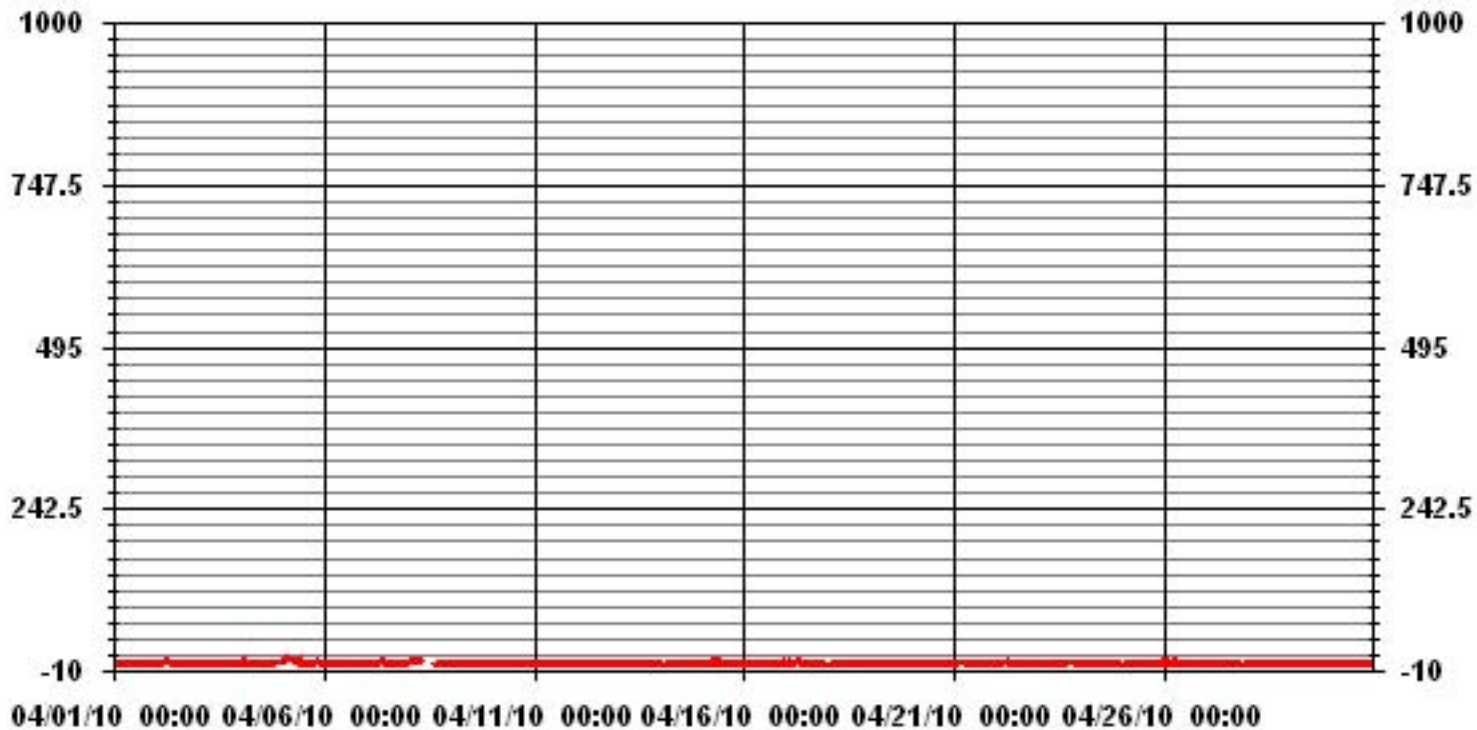
24 HOUR AVERAGES FOR APRIL 2010



#### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	293					
MAXIMUM 1-HR AVERAGE:	10	PPB	@ HOUR(S)	3	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	4.0	PPB			ON DAY(S)	5
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	1.54		MONTHLY AVERAGE	0.95	PPB	

### 01 Hour Averages



— LICA33 NOX\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

## OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	10	6	2	15	6	6	3	2	2	1	1	3	0	0	0	1	0	IZS	1	1	5	4	1	2	15	3.1	24	
2	1	1	1	2	3	4	8	7	7	5	2	1	1	1	0	1	IZS	0	1	2	2	4	1	1	8	2.4	24	
3	5	2	4	6	2	6	7	5	2	2	1	1	0	0	IZS	1	1	1	1	1	5	2	2	2	7	2.5	24	
4	2	5	3	12	8	3	2	2	2	3	2	1	1	1	IZS	2	2	3	2	4	2	4	4	4	12	3.2	24	
5	4	6	10	12	9	11	11	7	6	5	181	5	5	IZS	2	0	1	0	1	6	8	7	5	3	181	13.3	24	
6	3	3	2	2	2	3	5	4	3	2	1	1	IZS	0	1	0	1	1	1	1	1	1	3	2	5	1.9	24	
7	1	1	1	3	3	4	4	6	7	5	65	IZS	8	1	1	1	16	3	2	2	4	3	4	3	65	6.4	24	
8	5	4	8	9	6	14	9	12	C	C	C	C	C	C	C	0	6	1	4	3	2	2	1	14	5.4	24		
9	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	P	0	0	0	0	1	0	0	0	0	1	0.0	23
10	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
11	0	0	1	0	0	0	0	0	IZS	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
12	4	3	3	3	1	2	IZS	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	3	4	4	1.1	24	
13	2	0	2	0	1	IZS	1	1	1	0	2	1	1	0	1	1	1	1	1	0	0	0	1	2	2	0.9	24	
14	3	1	1	1	IZS	1	1	1	1	1	1	1	1	2	1	0	1	1	1	2	2	1	1	1	3	1.2	24	
15	1	2	3	IZS	1	5	12	10	3	3	212	2	2	0	1	0	19	0	1	1	2	2	2	2	212	12.4	24	
16	2	2	IZS	2	2	2	3	4	3	2	2	1	1	0	0	1	0	0	1	1	2	1	4	14	14	2.2	24	
17	5	IZS	9	8	2	3	13	6	P	4	3	3	1	1	1	1	1	1	1	1	3	5	4	4	13	3.6	23	
18	IZS	2	3	2	2	2	2	2	2	1	1	1	0	0	0	0	0	0	1	1	1	5	5	IZS	5	1.5	24	
19	4	6	4	4	1	2	5	1	1	1	0	0	0	0	0	0	0	0	1	1	1	2	IZS	3	6	1.6	24	
20	5	9	6	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	3	IZS	1	2	9	2.0	24	
21	2	2	2	7	9	14	4	4	2	1	1	1	1	1	1	1	1	1	2	1	IZS	2	3	2	14	2.8	24	
22	2	3	3	6	6	5	9	7	4	3	3	2	1	1	1	2	0	0	3	IZS	4	2	1	1	9	3.0	24	
23	1	1	1	0	0	1	1	0	0	0	1	1	1	1	1	2	4	6	IZS	5	4	5	3	2	6	1.8	24	
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	1	0	2	3	3	0.3	24	
25	6	1	4	4	4	4	2	3	2	0	0	0	0	0	1	0	IZS	1	0	2	5	3	4	3	6	2.1	24	
26	7	9	5	8	4	6	9	6	2	1	0	0	1	1	0	IZS	0	0	0	0	0	1	0	0	9	2.6	24	
27	3	4	4	4	4	2	2	2	0	0	0	0	0	2	IZS	0	0	0	0	0	1	2	3	3	4	1.6	24	
28	2	2	2	1	1	1	1	1	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	2	0.5	24
29	1	0	0	0	1	1	0	1	1	0	1	1	1	IZS	0	0	0	0	1	2	2	0	0	0	2	0.5	24	
30	0	0	0	0	0	1	2	2	3	3	2	IZS	2	2	2	1	1	1	0	3	0	3	3	2	3	1.4	24	
HOURLY MAX	10	9	10	15	9	14	13	12	7	5	212	5	8	2	2	2	19	6	3	6	8	7	5	14				
HOURLY AVG	2.8	2.6	2.9	3.9	2.7	3.6	4.1	3.4	2.0	1.6	16.7	1.0	1.1	0.6	0.6	0.6	1.8	1.0	0.9	1.5	1.9	2.3	2.2	2.5				

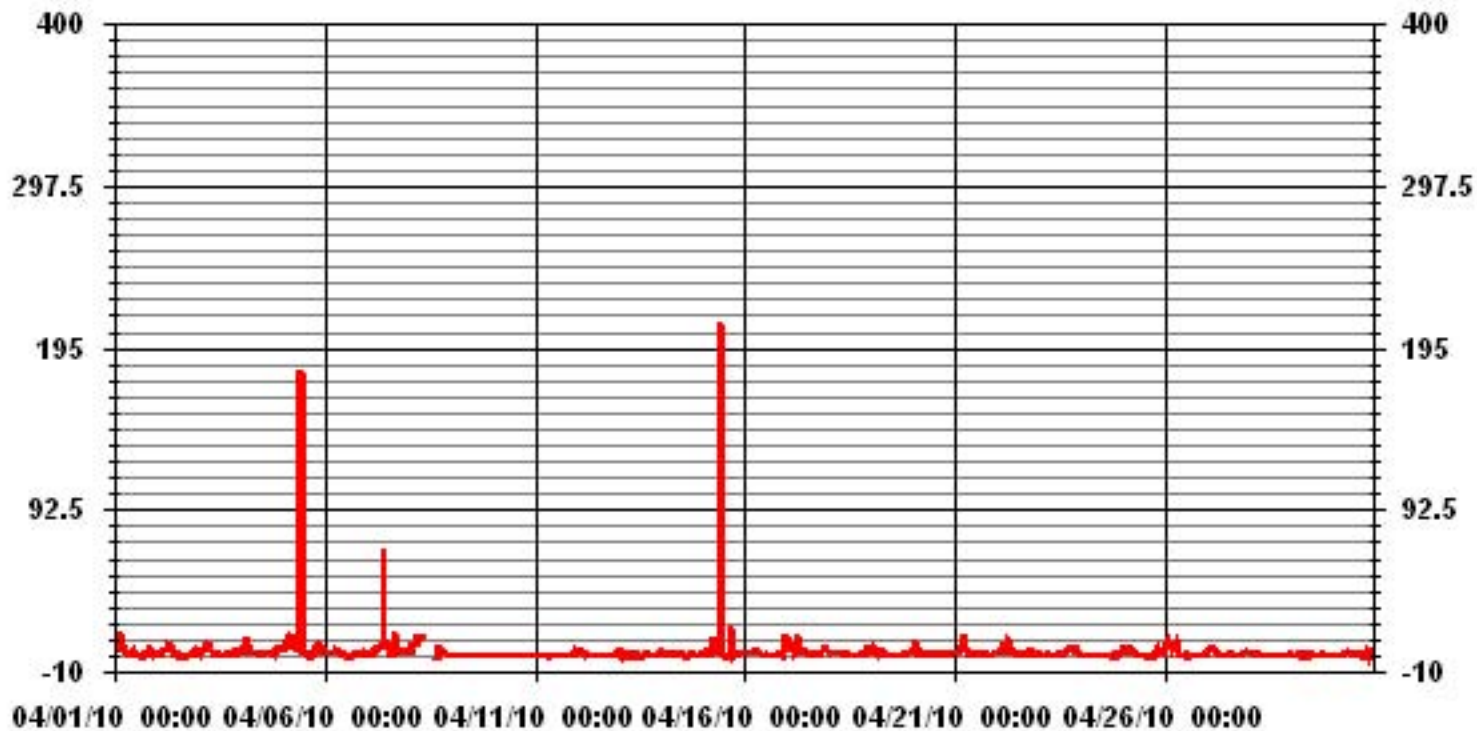
### STATUS FLAG CODES

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

### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	477					
MAXIMUM INSTANTANEOUS VALUE:	212	PPB	@ HOUR(S)	10	ON DAY(S)	15
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	11.14					

### 01 Hour Averages



— LICA33 NOXMAX PPB

LICA33  
 NOX\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 33  
 Site Name : LICA33  
 Parameter : NOX\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	5.86	4.98	5.27	6.45	14.51	7.47	6.15	9.53	4.10	.87	3.51	3.07	2.63	13.19	6.59	5.71	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.86	4.98	5.27	6.45	14.51	7.47	6.15	9.53	4.10	.87	3.51	3.07	2.63	13.19	6.59	5.71	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	40	34	36	44	99	51	42	65	28	6	24	21	18	90	45	39	682
< 110																	
< 210																	
>= 210																	
Totals	40	34	36	44	99	51	42	65	28	6	24	21	18	90	45	39	

Calm : .00 %

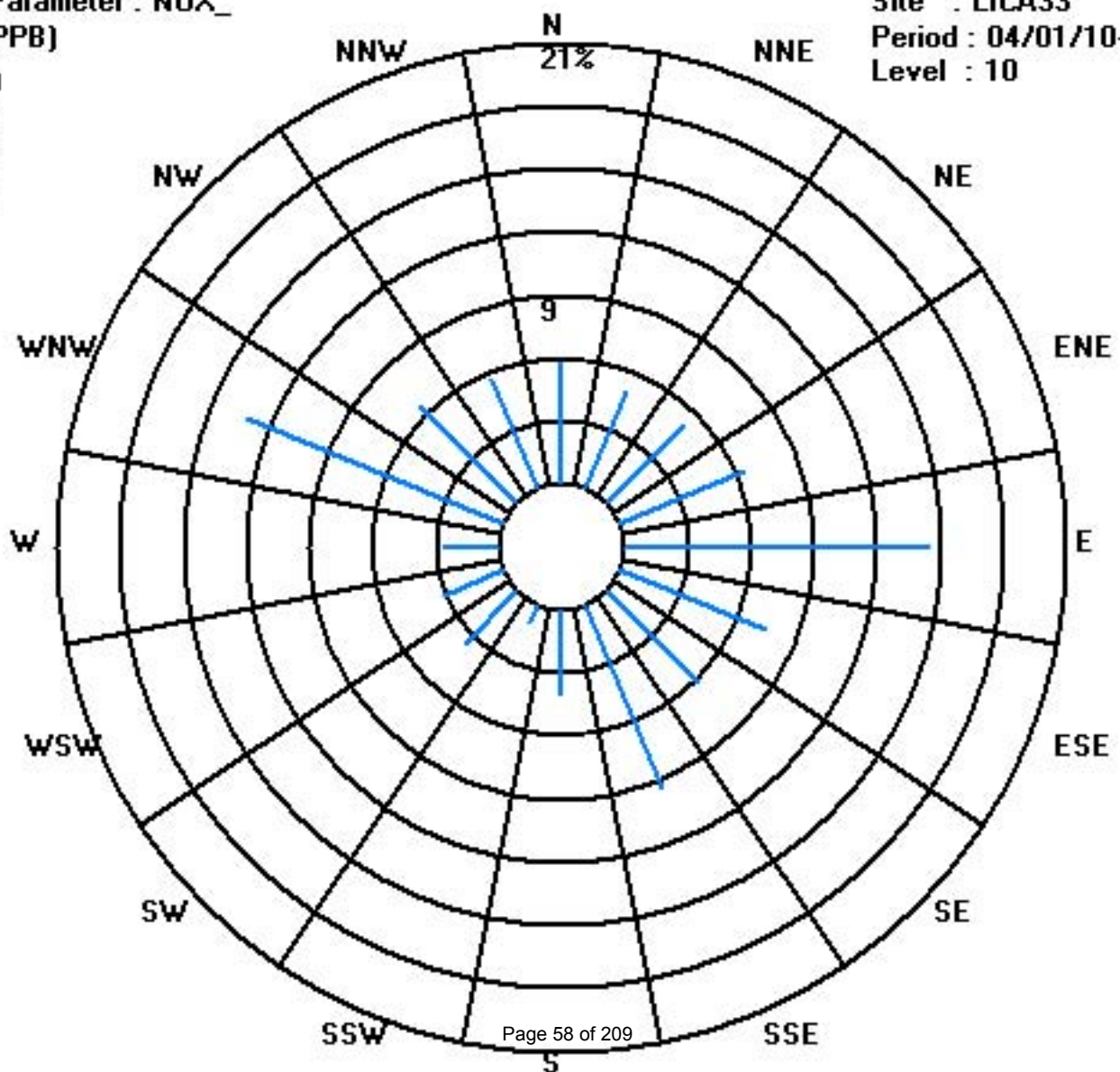
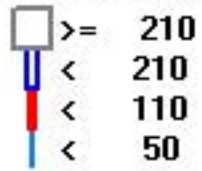
Total # Operational Hours : 682



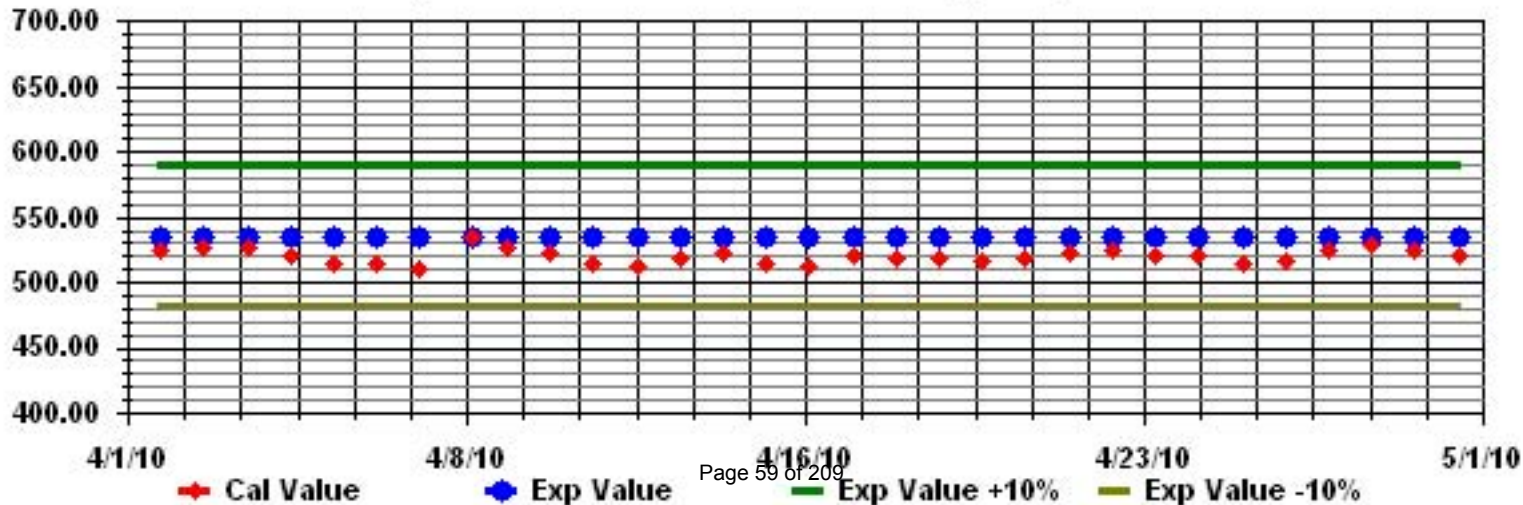
Class Limits (PPB)

Period : 04/01/10-04/30/10

Level : 10



Calibration Graph for Site: LICA33 Parameter: NOX\_ Sequence: NO2 Phase: SPAN



# Ozone

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

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

MST

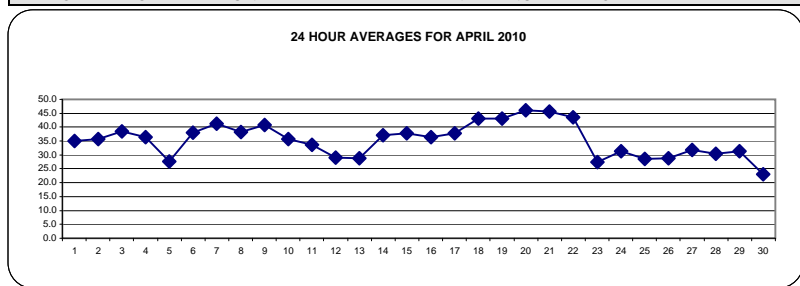
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
DAY																												
1	25	27	26	21	23	26	29	32	35	36	38	41	43	44	46	46	46	IZS	44	43	38	34	33	32	46	35.1	24	
2	32	30	28	20	16	16	15	25	31	38	44	49	50	48	50	50	IZS	50	43	37	36	35	39	38	50	35.7	24	
3	34	33	30	30	32	29	28	32	33	35	38	41	47	50	51	IZS	49	50	48	44	43	41	36	33	51	38.6	24	
4	26	30	29	24	31	35	35	37	40	40	43	47	49	47	IZS	45	46	45	43	40	34	30	27	16	49	36.5	24	
5	14	14	12	12	11	9	10	14	19	32	35	36	39	IZS	45	47	48	47	43	34	31	31	26	28	48	27.7	24	
6	27	30	28	25	24	23	22	24	32	38	43	46	IZS	52	53	53	51	50	46	42	42	41	41	41	53	38.0	24	
7	47	44	41	33	28	32	35	35	36	39	41	IZS	50	51	53	54	54	51	47	42	34	35	30	35	54	41.2	24	
8	31	30	27	26	27	22	29	30	34	35	IZS	40	46	50	50	51	50	46	47	45	45	45	39	35	51	38.3	24	
9	38	39	38	39	40	42	43	41	42	IZS	42	42	42	41	41	42	42	41	41	40	41	41	40	39	43	40.7	24	
10	38	38	37	37	37	36	36	36	IZS	35	35	35	35	35	36	36	36	36	35	35	35	34	34	33	38	35.7	24	
11	33	32	32	32	32	32	32	IZS	32	32	32	33	34	35	35	36	36	36	35	36	35	34	34	33	36	33.6	24	
12	32	29	28	29	31	30	IZS	31	30	29	30	31	31	32	32	30	28	28	28	27	27	25	25	25	32	29.0	24	
13	28	29	28	27	25	IZS	26	26	27	28	29	30	30	30	29	28	28	29	29	31	31	31	31	30	31	28.7	24	
14	29	30	29	29	IZS	28	29	32	33	35	37	35	37	37	38	39	42	45	48	45	45	46	44	42	48	37.1	24	
15	40	38	38	IZS	36	32	28	34	40	C	C	C	C	M	M	C	C	49	46	43	40	38	35	29	49	37.7	22	
16	32	26	IZS	27	24	26	27	31	C	C	C	C	50	50	50	49	47	46	44	39	38	35	30	21	50	36.4	24	
17	22	IZS	20	18	18	11	13	22	30	36	40	45	52	55	58	59	58	55	49	46	42	37	39	42	59	37.7	24	
18	IZS	39	35	36	35	35	36	36	38	41	45	53	54	53	53	51	51	51	49	43	40	38	38	IZS	54	43.2	24	
19	35	34	32	32	34	32	33	35	38	43	47	51	52	55	55	56	56	55	52	45	42	39	IZS	39	56	43.1	24	
20	37	33	36	37	39	37	36	38	41	48	56	57	57	59	58	57	57	57	55	48	42	IZS	41	36	59	46.2	24	
21	41	39	35	33	30	29	33	37	46	49	52	55	56	58	58	59	60	60	54	47	IZS	43	39	37	60	45.7	24	
22	38	37	36	31	30	28	34	35	39	42	46	51	57	59	58	58	57	55	48	IZS	43	39	38	40	59	43.4	24	
23	38	37	37	35	35	35	35	35	35	33	29	28	27	26	25	23	19	16	IZS	13	13	15	18	21	38	27.3	24	
24	28	30	32	33	33	32	33	33	32	32	32	32	33	33	33	32	32	IZS	32	31	31	30	27	26	33	31.4	24	
25	23	24	24	25	25	24	24	26	30	33	33	33	33	33	33	33	33	IZS	33	33	33	29	28	22	21	33	28.5	24
26	17	13	16	12	14	13	13	23	30	39	41	41	39	39	39	IZS	41	41	41	36	30	30	29	28	41	28.9	24	
27	27	25	23	24	23	24	25	27	30	33	37	39	39	39	IZS	40	39	39	38	37	33	32	29	28	40	31.7	24	
28	29	29	29	29	29	28	27	27	27	26	26	28	30	IZS	31	33	34	34	34	34	34	35	34	33	35	30.4	24	
29	30	28	28	29	28	28	29	29	30	31	31	32	IZS	33	33	35	37	37	34	33	33	32	31	31	37	31.4	24	
30	28	26	25	25	23	21	19	18	16	15	17	IZS	24	25	25	25	27	29	30	28	26	21	19	19	30	23.1	24	
HOURLY MAX	47	44	41	39	40	42	43	41	46	49	56	57	57	59	58	59	60	60	55	48	45	46	44	42				
HOURLY AVG	31.0	30.8	29.6	27.9	28.0	27.4	28.1	30.4	33.1	35.3	37.7	40.4	42.1	43.3	43.3	43.2	43.4	43.3	41.9	37.8	35.6	34.3	32.7	31.4				

**STATUS FLAG CODES**

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

OBJECTIVE LIMIT:

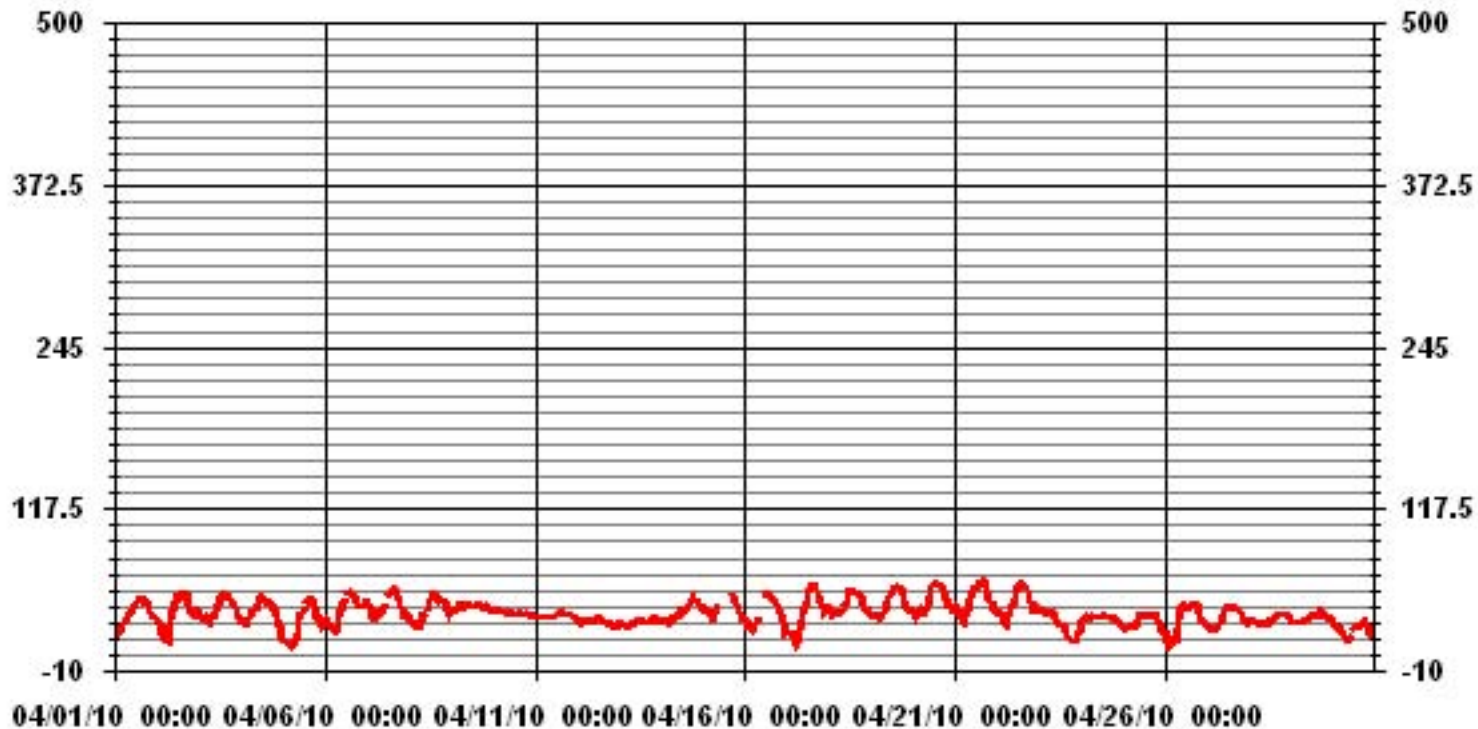
ALBERTA ENVIRONMENT: 1-HR 82 PPB



**MONTHLY SUMMARY**

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	677					
MAXIMUM 1-HR AVERAGE:	60	PPB	@ HOUR(S)	16, 17	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	46.2	PPB			ON DAY(S)	21
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	10	HRS	AMD OPERATION UPTIME	99.7	%	
STANDARD DEVIATION	9.89		MONTHLY AVERAGE	35.35	PPB	

### 01 Hour Averages



— LICA33\_03\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

**OZONE MAX** instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	32	29	29	26	25	29	32	33	36	38	40	42	45	46	47	47	47	<b>IZS</b>	46	46	42	36	35	35	47	37.5	24	
2	34	31	33	25	29	19	20	28	34	43	48	51	51	50	50	51	<b>IZS</b>	51	50	42	39	39	40	39	51	39.0	24	
3	38	35	33	32	33	33	32	33	35	38	39	44	48	52	52	<b>IZS</b>	51	51	50	50	47	46	43	43	52	41.7	24	
4	33	34	35	34	34	36	37	39	42	42	46	50	50	49	<b>IZS</b>	46	48	47	45	45	40	32	32	20	50	39.8	24	
5	19	18	14	14	13	10	14	16	32	36	37	38	41	<b>IZS</b>	49	48	48	48	47	41	36	34	31	32	49	31.1	24	
6	33	35	32	29	27	25	25	28	35	42	47	47	<b>IZS</b>	53	55	54	53	52	48	46	45	43	42	44	55	40.9	24	
7	51	48	46	42	36	37	37	36	38	42	44	<b>IZS</b>	51	52	54	55	55	53	51	51	43	41	35	36	55	45.0	24	
8	34	32	30	29	29	31	32	35	35	38	<b>IZS</b>	45	48	52	52	52	51	50	51	48	47	48	43	37	52	41.3	24	
9	39	40	39	41	42	44	44	42	43	<b>IZS</b>	42	44	44	42	<b>P</b>	42	43	42	42	41	41	42	41	40	44	41.8	23	
10	39	39	38	38	37	37	36	37	<b>IZS</b>	36	35	35	36	36	36	36	37	36	36	36	35	35	35	34	39	36.3	24	
11	34	33	33	33	33	33	33	<b>IZS</b>	33	33	33	34	35	36	36	36	36	36	36	36	37	37	36	35	36	37	34.7	24
12	34	31	30	31	31	31	<b>IZS</b>	31	31	30	31	31	31	35	33	31	29	29	30	29	27	27	26	27	35	30.3	24	
13	30	30	30	28	27	<b>IZS</b>	27	28	29	29	30	31	31	31	30	28	29	30	30	32	32	32	32	32	32	32	29.9	24
14	31	31	30	30	<b>IZS</b>	30	31	33	34	36	38	37	39	39	40	41	43	49	50	47	47	47	45	44	50	38.8	24	
15	43	40	39	<b>IZS</b>	39	36	32	41	41	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>M</b>	<b>M</b>	<b>C</b>	<b>C</b>	50	48	45	41	39	37	33	50	40.3	22	
16	35	28	<b>IZS</b>	31	27	29	29	34	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	51	50	51	51	48	47	46	43	41	40	41	31	51	39.6	24	
17	26	<b>IZS</b>	26	23	22	15	19	27	<b>P</b>	38	44	49	54	57	60	61	61	59	52	49	47	42	43	45	61	41.8	23	
18	<b>IZS</b>	43	37	40	37	37	37	37	41	43	50	57	55	54	54	52	52	53	52	46	43	41	41	<b>IZS</b>	57	45.5	24	
19	40	37	35	36	37	35	35	37	42	45	51	53	54	56	56	57	57	56	54	50	44	42	<b>IZS</b>	43	57	45.7	24	
20	42	39	40	41	41	40	38	40	47	56	60	59	59	<b>63</b>	62	60	57	59	57	54	45	<b>IZS</b>	43	42	<b>63</b>	49.7	24	
21	43	43	38	38	36	35	35	46	48	51	54	57	58	61	61	62	62	62	59	52	<b>IZS</b>	47	46	39	62	49.3	24	
22	41	40	40	37	35	33	38	38	41	43	48	55	60	60	60	59	58	58	56	<b>IZS</b>	47	46	40	41	60	46.7	24	
23	40	39	38	36	36	36	36	36	36	36	33	29	28	27	26	25	21	17	<b>IZS</b>	14	14	18	20	26	40	29.0	24	
24	29	32	33	34	34	34	35	34	33	33	33	33	34	33	33	33	33	<b>IZS</b>	33	32	32	32	29	28	35	32.6	24	
25	27	27	26	27	27	25	26	29	32	34	35	34	35	35	34	35	<b>IZS</b>	35	34	35	33	32	27	27	35	30.9	24	
26	21	16	19	16	16	15	19	28	34	41	42	42	40	40	40	<b>IZS</b>	42	42	42	40	32	33	30	30	42	31.3	24	
27	29	28	26	26	25	25	26	29	32	36	39	40	40	40	<b>IZS</b>	40	40	40	39	39	34	34	30	29	40	33.3	24	
28	31	30	31	30	30	29	28	29	28	27	27	29	40	<b>IZS</b>	33	33	35	35	34	35	35	36	35	34	40	31.9	24	
29	31	29	29	29	28	29	29	30	31	32	33	33	<b>IZS</b>	34	35	36	42	41	36	34	34	33	32	33	42	32.7	24	
30	29	27	26	26	24	22	20	18	18	17	21	<b>IZS</b>	25	27	27	27	29	30	31	30	28	25	21	22	31	24.8	24	
HOURLY MAX	51	48	46	42	42	44	44	46	48	56	60	59	60	63	62	62	62	62	59	54	47	48	46	45				
HOURLY AVG	34.1	33.2	32.2	31.1	30.7	30.0	30.4	32.8	35.6	37.6	40.0	42.3	43.8	44.8	44.8	44.4	44.7	44.9	44.3	41.0	38.2	37.2	35.5	34.6				

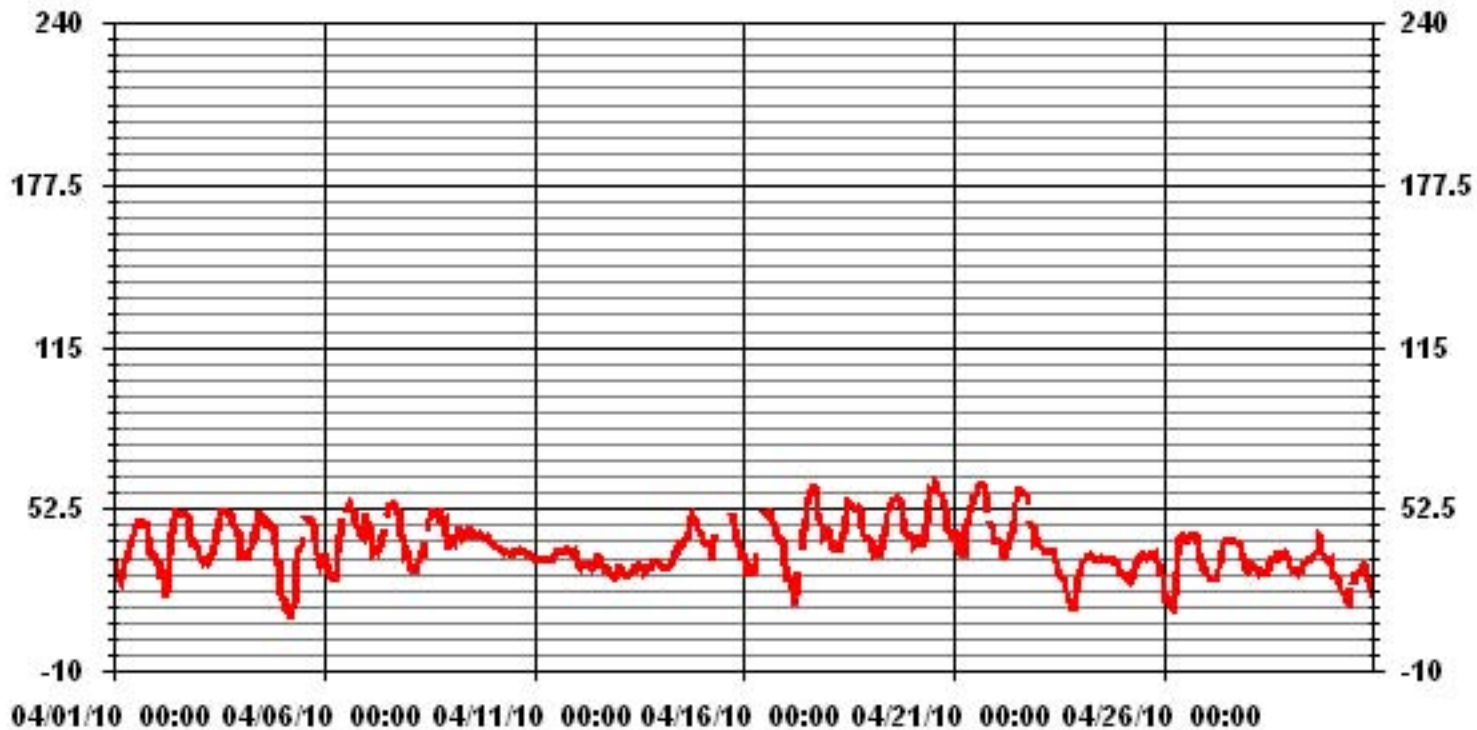
**STATUS FLAG CODES**

S - OUT OF SERVICE	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:	675					
MAXIMUM INSTANTANEOUS VALUE:	63	PPB	@ HOUR(S)	13	ON DAY(S)	20
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	716	HRS	
MONTHLY CALIBRATION TIME:	10	HRS				
STANDARD DEVIATION:	9.84					

### 01 Hour Averages



— LICA33 O3MAX PPB

LICA33  
 O3\_ / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 33  
 Site Name : LICA33  
 Parameter : O3\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	5.90	4.87	5.16	6.35	13.73	6.94	5.16	4.72	2.65	.73	2.21	2.65	2.65	13.29	6.64	5.76	89.51
< 110	.00	.14	.14	.14	.88	.73	1.18	4.72	1.62	.00	.73	.14	.00	.00	.00	.00	10.48
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.90	5.02	5.31	6.49	14.62	7.68	6.35	9.45	4.28	.73	2.95	2.80	2.65	13.29	6.64	5.76	

Calm : .00 %

Total # Operational Hours : 677

Distribution By Samples

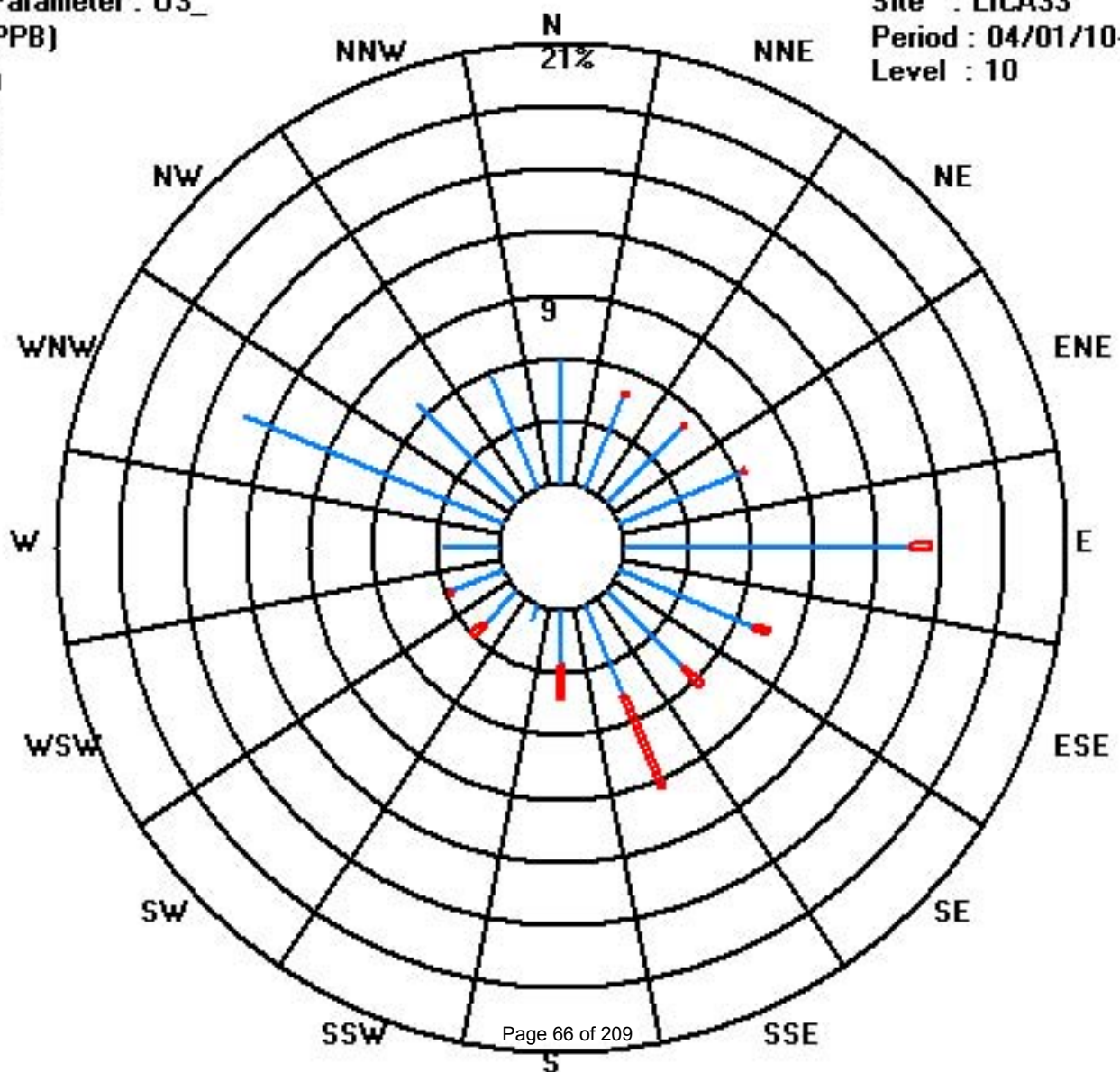
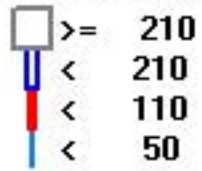
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	40	33	35	43	93	47	35	32	18	5	15	18	18	90	45	39	606
< 110		1	1	1	6	5	8	32	11		5	1					71
< 210																	
>= 210																	
Totals	40	34	36	44	99	52	43	64	29	5	20	19	18	90	45	39	

Calm : .00 %

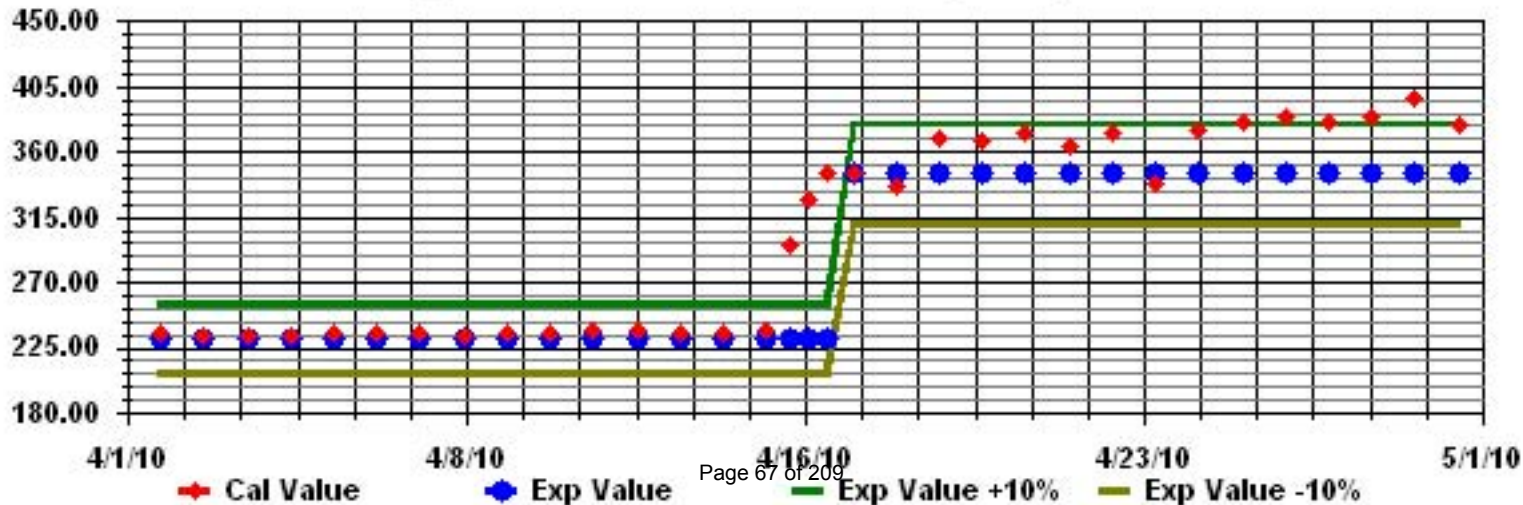
Total # Operational Hours : 677



Class Limits (PPB)



Calibration Graph for Site: LICA33 Parameter: 03\_ Sequence: 03 Phase: SPAN



# Total Hydrocarbons

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

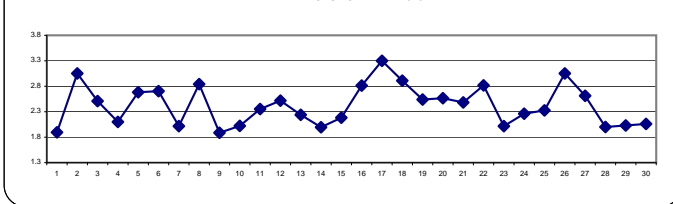
### TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
DAY	HOURLY MAX	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
1		2	2	1.9	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	IZS	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.9	24	
2		1.9	4.6	3.8	2.6	3.8	4.8	5.2	4	3.1	2.4	2.4	1.9	1.9	2	1.8	1.8	IZS	1.8	3.6	3.9	3.3	3.7	3	2.9	5.2	3.1	24	
3		2.7	3.7	3.1	2	2.1	3.7	2.9	3.1	2.5	2.4	2.3	2.3	1.9	1.8	1.8	IZS	2.6	2.2	2	2.9	2.1	2.2	2.9	2.5	3.7	2.5	24	
4		2.1	2.1	2.1	2.1	2.9	2	2	2.1	2	2	2	2	2	1.9	1.9	IZS	2.1	2.2	2.5	2	1.9	1.9	2	2.2	2.3	2.9	2.1	24
5		2.2	2.8	2.9	3	5	2.9	2.9	2.6	3.1	2.2	2	2.1	1.9	IZS	2	2	2.1	2.2	2.6	2.8	3	3	3	3.4	5.0	2.7	24	
6		4.4	3.2	2.8	5.1	5.1	4.4	3.1	3.5	2.5	2.1	2.1	2	IZS	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2.2	2.1	2	2.1	5.1	2.7	24
7		2	1.9	1.9	2	2.3	2	2	2	2	2	2	2	IZS	1.9	1.8	1.8	1.8	1.8	1.9	2	2.2	2.4	2.6	2.3	2.6	2.0	24	
8		2.9	3.2	4.8	4.5	4.2	3.8	3.1	3.1	2.8	2.4	IZS	2.1	C	C	C	C	2.2	2.8	2.2	2.1	2.1	1.9	1.9	1.9	4.8	2.8	24	
9		1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.8	1.9	IZS	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	24
10		1.9	2	2	2	2	2	2	2	2	IZS	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	24	
11		2.1	2.1	2.2	2.2	2.2	2.2	2.2	IZS	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.8	5.3	5.3	2.4	24	
12		3.3	3.7	3.1	2.6	2.2	2.2	IZS	2.8	2.5	2.6	2.5	2.4	2.3	2.3	2.2	2.1	2	2	2	2.1	2.2	2.2	3.7	2.9	3.7	2.5	24	
13		2.4	2.7	2.1	2.1	2.1	IZS	2	2.1	2	2	2.2	2.4	2.1	2	1.9	2	2.5	2.3	2	2	2.4	3.1	3.1	2	3.1	2.2	24	
14		2	2	2	1.9	IZS	2	2	1.9	2	2.1	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2.1	2.1	2	2.1	2.1	2.0	24	
15		2.1	2.2	2.3	IZS	2.1	2.3	2.4	2.3	2.2	2.3	2.3	2	2	2	2	2	2	2	2	2	2	2.3	2.4	3	3.0	2.2	24	
16		2.4	3	IZS	3	6	3.6	4.1	3.1	2.4	2.2	2.2	2.1	2	2	2	2	2	2	2	2.5	2.2	3.7	4.7	3.5	6.0	2.8	24	
17		4.2	IZS	4.7	4.9	3.2	4.8	4.5	4.4	4	2.4	2.4	2.3	2.3	2.1	2.3	2.4	2.3	2.3	2.6	2.9	2.5	4.2	4.2	4	4.9	3.3	24	
18		IZS	3.6	5	3.5	4	3.2	2.4	2.2	2.3	2.3	2.5	2.1	2.1	2.3	2.4	2.3	2.5	2.3	2.1	2.5	4.5	4.2	3.7	IZS	5.0	2.9	24	
19		3.5	3.2	4.9	3	2.4	3.4	2.3	2.3	2.4	2.4	2.3	2.4	2.3	2.1	2	2	2	2	2	2	2.1	2.1	2.1	IZS	3.2	4.9	2.5	24
20		3.8	4.4	3.3	3.5	3.5	3.8	3.2	2.8	2.7	2.4	2.1	2.1	2.1	2	2	2	2	2	2	2	2.1	IZS	2.1	2.1	4.4	2.6	24	
21		2.2	2.2	2.5	3.7	4.2	4.3	3.2	2.9	2.1	2.1	2.1	2.1	2.1	2	2	2	1.9	1.9	1.9	2	IZS	2.4	2.5	2.8	4.3	2.5	24	
22		3.7	2.7	4.1	4.8	4	3.8	3.1	2.7	2.4	2.3	2.2	2.2	2	2	1.9	1.9	1.9	2.1	5	IZS	4	2.1	2	1.9	5.0	2.8	24	
23		1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2	2.2	2.2	IZS	2.1	2.2	2.3	2.2	2.1	2.3	2.0	24	
24		2.3	2.2	2.1	2	2.2	2.1	2.1	2.1	2.4	2.3	2.5	3.4	2.4	2.1	2.1	2.3	2.2	IZS	2.3	2.1	2.1	2.1	2.3	2.3	3.4	2.3	24	
25		2.2	2.2	2.4	2.9	2.6	2.2	2.2	2.1	2.1	2.3	2.2	2.1	2.1	2.1	2.1	2.1	IZS	2	2	2.1	2.3	2.7	4	2.4	4.0	2.3	24	
26		2.7	4.5	7.1	3.7	4.8	4	3.7	3.1	2.4	2.1	2	2.1	2.1	2.1	2.5	IZS	2.4	2.2	2.5	2.8	2.1	2.2	4.2	2.9	7.1	3.1	24	
27		3.7	3.4	3.5	2.7	2.6	2.2	2.3	2.5	2.4	2.4	2.4	2.2	2.2	2.2	IZS	2.3	2.4	2.6	2.4	3.1	2.3	3.2	2.5	2.6	3.7	2.6	24	
28		2.3	2.3	2.2	2.2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	IZS	1.9	1.9	2	2	1.9	1.9	2	2.2	2	2	2.3	2.0	24
29		2	2	2	2	2	2	2.6	2.5	2	2	1.9	2	IZS	1.9	1.9	1.9	2	2	2	2	2	2	2	2	2	2.6	2.0	24
30		2	2	2	2	2	2	2	2	2.1	2	2	IZS	2.6	2.4	2	2	2	2	2	2	2	2.1	2.1	2.1	2.6	2.1	24	
HOURLY MAX		4.4	4.6	7.1	5.1	6.0	4.8	5.2	4.4	4.0	2.6	2.5	3.4	2.6	2.4	2.5	2.4	2.6	2.8	5.0	3.9	4.5	4.2	5.3	4.0				
HOURLY AVG		2.6	2.7	3.0	2.8	3.0	2.9	2.7	2.5	2.3	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.2	2.3	2.3	2.5	2.8	2.5				

**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
BB - BELOW BACKGROUND OF 1.5 PPM	

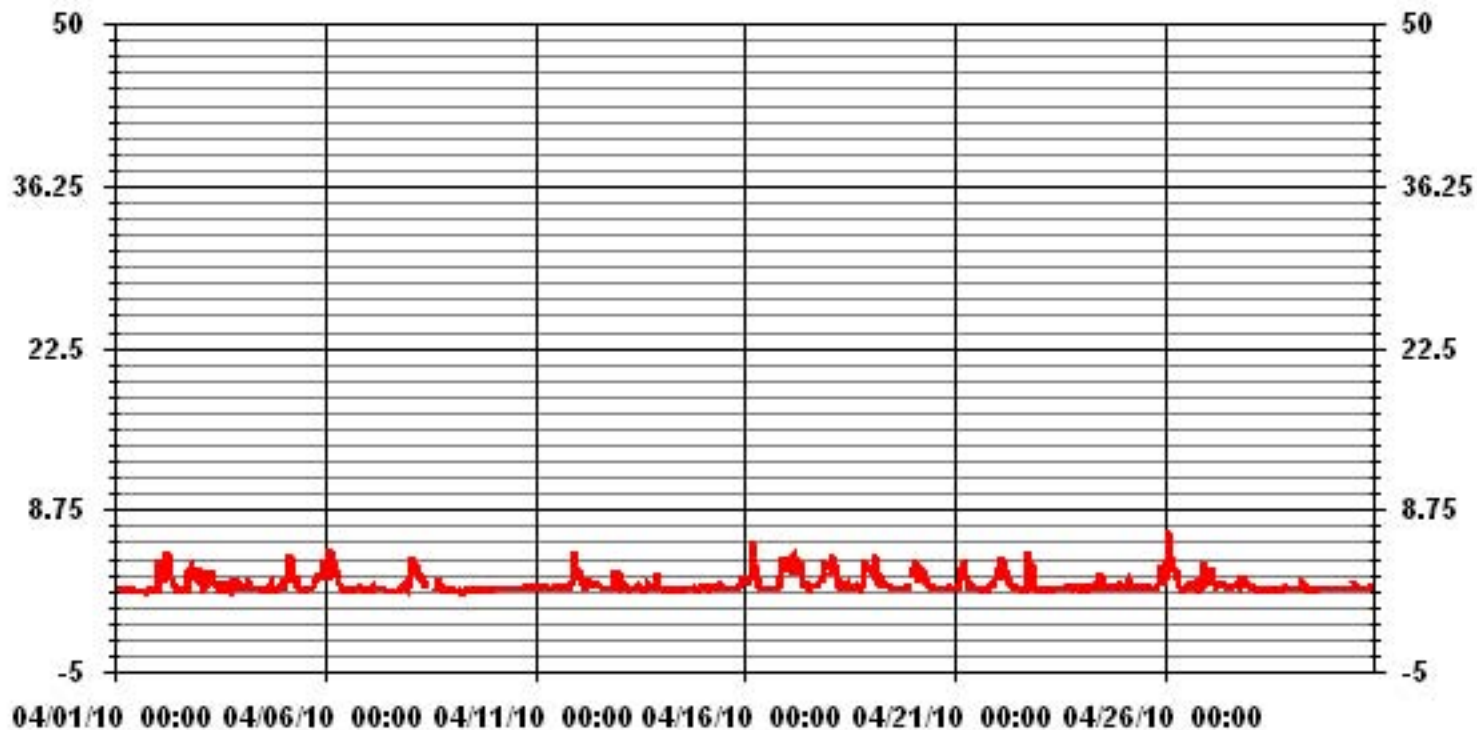
**24 AVERAGES FOR APRIL 2010**



**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	685
MAXIMUM 1-HR AVERAGE:	7.1 PPM @ HOUR(S) 2 ON DAY(S) 26
MAXIMUM 24-HR AVERAGE:	3.3 PPM ON DAY(S) 17
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	0.74
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	2.42 PPM

### 01 Hour Averages



— LICA33 THC PPM

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

## TOTAL HYDROCARBONS MAX instantaneous maximum in ppr

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
DAY	HOURLY MAX	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
1		2.1	2.1	2	2.2	2.1	2	2	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.8	<b>IZS</b>	1.9	1.9	2	2	2	2.3	2.3	2.0	24	
2		1.9	54.1	29.2	14.4	30.5	22.4	16.2	12.1	7.3	5	5.6	3.1	2	2.1	1.8	1.8	<b>IZS</b>	1.8	42	20.3	10	10.3	8.9	19.1	54.1	14.0	24	
3		11.7	17.8	13.1	3.1	4.1	8.3	5.9	4.9	4.5	4.8	5	5.2	4.1	4.3	4.5	<b>IZS</b>	<b>54.2</b>	9.9	9.6	24.6	14.3	17.8	36.9	21.5	<b>54.2</b>	12.6	24	
4		14.6	2.4	2.2	2.2	11.4	2.4	2.1	2.2	2.2	2.1	2	2	2	<b>IZS</b>	3.4	7.1	7	4.5	2.3	2	2.1	9.1	3.2	14.6	4.0	24		
5		2.4	12	3.4	3.4	24.7	7.5	4.6	2.9	14.5	6.6	3.3	3.1	2.6	<b>IZS</b>	4.9	4.7	6.1	9	16.3	10.9	9.1	3.2	11	16	24.7	7.9	24	
6		16.6	15.4	11.2	15.5	12.7	19.6	11.1	8.3	5.7	2.3	2.1	2.1	<b>IZS</b>	1.9	1.9	1.9	1.9	2	4.2	2.2	2.4	2.1	2.1	2.2	19.6	6.4	24	
7		2.2	1.9	2.3	12.1	10.3	5	2	2	2	2	<b>IZS</b>	1.9	1.9	1.9	1.9	1.9	1.9	1.9	3.6	10.1	11.8	2.8	4.1	2.4	12.1	3.9	24	
8		9.9	14.2	18.5	8.7	10.9	8.4	8.2	7.7	6.4	2.5	<b>IZS</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	9.8	17.4	5.9	2.7	2.7	2.3	1.9	1.9	18.5	7.8	24	
9		1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	<b>IZS</b>	1.9	1.9	1.9	1.9	<b>P</b>	1.9	1.9	1.9	1.9	1.9	2	2	2	2	2	1.9	23	
10		2	2	2	2	2	2	2	2	<b>IZS</b>	2	2	2	2	2	2.1	2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.0	24	
11		2.2	2.2	2.3	2.2	2.2	2.2	<b>IZS</b>	2	2.1	2.1	2.1	4.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	8.7	16.8	13.3	19.8	13.8	19.8	4.9	24	
12		14.6	20.1	13.8	10.7	3.6	4.9	<b>IZS</b>	6.1	5.7	5.5	5.2	4.6	4.4	5.2	3.8	3.4	2.9	2.3	2.2	2.4	2.9	2.3	8.3	9.4	20.1	6.3	24	
13		4.8	6.1	2.9	3.5	3.8	<b>IZS</b>	2.8	4.6	4.3	3.5	3.9	6.3	4.8	2.6	2.4	2.5	5	4.2	2.6	5.3	11.4	16.8	16.5	2.2	16.8	5.3	24	
14		2.2	2.1	2.1	2.2	<b>IZS</b>	2.5	2	2	2.1	2.3	2	2	2	2	2	2	2	2	2.2	2.1	2.1	2.1	2.1	2.2	2.5	2.1	24	
15		2.2	2.3	2.5	<b>IZS</b>	2.2	2.3	2.5	2.5	2.2	7.6	5.3	2.1	2	2	2	2	2	2	2	2	2	2.1	2.5	2.5	14.5	14.5	3.1	24
16		2.5	14.8	<b>IZS</b>	12.2	15.6	11.9	13.7	8.4	2.5	2.3	2.2	2.1	2	2	2.1	2	2	2	2	14.5	4.9	19.6	23.2	11.9	23.2	7.7	24	
17		47.3	<b>IZS</b>	9.7	54	14.6	39	11	17.2	<b>P</b>	5.4	5	4.3	6.2	4.2	6.2	5.8	5.5	6.1	8.2	9.8	6.5	54	23.2	19.6	54	16.5	23	
18		<b>IZS</b>	14.1	18.2	8.1	9.3	9.4	3	3.3	3.8	4	4.7	3.8	3.3	5.2	6.3	4.2	5.6	4.7	3.2	6.9	11	11.7	9.5	<b>IZS</b>	18.2	7.0	24	
19		14.5	9.8	13.3	7.8	3.6	16.1	4.4	3.6	5.3	4.5	4.3	4	4.1	4	2.1	2.1	2.1	2	2.1	7.9	2.2	2.2	<b>IZS</b>	15.8	16.1	6.0	24	
20		14.9	11.3	8.4	12.9	6.6	7.4	6.9	5.9	4.5	4.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2.2	2.1	<b>IZS</b>	2.1	2.2	14.9	4.8	24	
21		2.3	2.4	10.9	16.5	12.2	12.8	13	7.1	2.2	2.2	2.1	2.1	2.1	2	2	2	2	2	2	3.6	<b>IZS</b>	2.7	8.9	17.6	17.6	5.8	24	
22		11.2	13.2	30.2	13.4	21	15.4	10.2	8.2	4.2	3.2	3.8	3.1	2.4	2.4	3.3	2	2.4	6.9	13.1	<b>IZS</b>	15.3	7.2	2	2	30.2	8.5	24	
23		2	2	2	1.9	1.9	1.9	2	2	2	4.5	2.1	2	2.1	2	2	2.1	2.3	2.3	<b>IZS</b>	2.2	2.3	2.4	2.3	2.6	4.5	2.2	24	
24		3.4	2.9	3.3	2.9	3.8	3.2	3.6	4	4.4	4.6	9.1	19.8	10.3	4.6	3.6	3.8	4.3	<b>IZS</b>	5	4.8	3.6	3.5	2.5	2.5	19.8	4.9	24	
25		2.5	2.3	2.6	8.8	8.5	2.3	2.3	2.3	2.5	2.8	9.9	9.8	2.1	2.1	2.2	2.1	<b>IZS</b>	2.1	2.2	2.2	2.5	14.6	34	2.7	34	5.5	24	
26		3	23.9	54	34	16.4	13.8	8.6	6.3	5.9	4.2	3.6	5	3.2	3.7	5.5	<b>IZS</b>	4.7	5.5	5.1	10.4	7.7	5.8	10.3	9.1	54	10.9	24	
27		8.8	8.5	14.5	10.2	9.4	3.9	4.4	5.2	3.9	4.7	4.2	3.8	3.6	3.2	<b>IZS</b>	4.7	4.3	4.5	5.6	8.6	5.2	6.7	7	6.9	14.5	6.2	24	
28		4.1	4.6	3.6	4	2.8	2.7	2.5	2.8	2.3	2.5	2.6	2.2	2.1	<b>IZS</b>	2.3	2.4	2.7	3.4	1.9	2	2.8	3	2.5	2.5	4.6	2.8	24	
29		2.2	2.5	2.2	2.4	3	4.1	9.5	5.7	2.4	2	2	<b>IZS</b>	2	2	2	2	2	2.1	2.2	4.1	2	2	2	2	9.5	2.8	24	
30		2	2	2.1	2	2.1	2.1	2.1	2.1	2.2	2.2	2.1	<b>IZS</b>	8.6	13.1	2.1	2	2	2.1	2.1	2	2.1	2.1	2.4	2.1	2.2	13.1	2.9	24
HOURLY MAX		47	54	54	54	31	39	16	17	15	8	10	20	10	13	6	6	54	17	42	25	17	54	37	22				
HOURLY AVG		7.3	9.3	9.8	9.5	8.7	8.2	5.6	5.0	4.0	3.6	3.6	3.9	3.3	3.1	2.9	2.6	5.2	4.0	5.5	6.2	5.7	7.6	9.0	7.4				

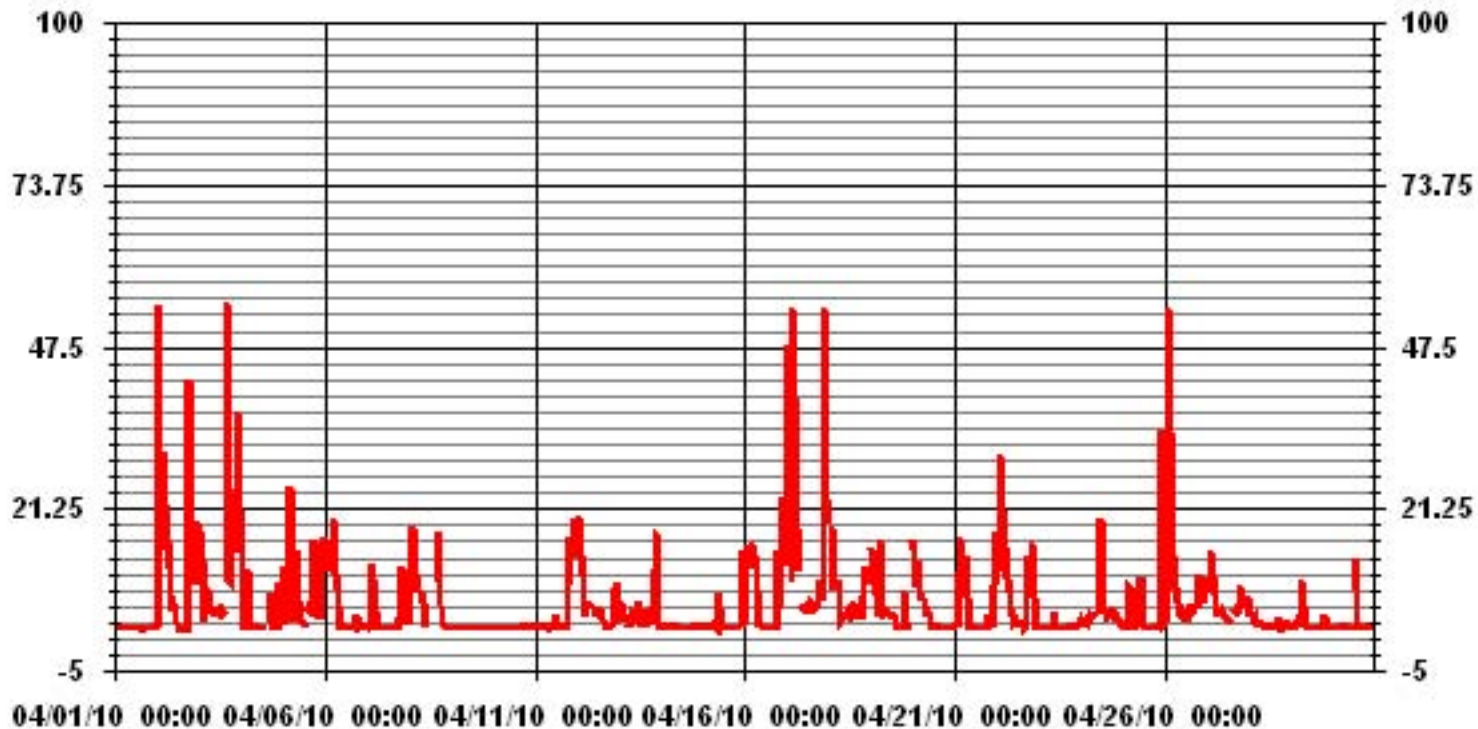
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	682					
MAXIMUM INSTANTANEOUS VALUE:	54.2	PPM	@ HOUR(S)	16	ON DAY(S)	3
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	7.19					

### 01 Hour Averages



— LICA33 THCMAX PPM

LICA33  
 THC / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 33  
 Site Name : LICA33  
 Parameter : THC  
 Units : PPM

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	5.40	4.08	4.23	2.77	8.46	5.40	4.67	9.63	3.94	.72	3.06	3.06	2.62	13.13	6.56	5.69	83.50
< 10.0	.43	.87	1.02	3.64	5.98	2.04	1.60	.14	.14	.14	.43	.00	.00	.00	.00	.00	16.49
< 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	5.83	4.96	5.25	6.42	14.45	7.44	6.27	9.78	4.08	.87	3.50	3.06	2.62	13.13	6.56	5.69	

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
< 3.0	37	28	29	19	58	37	32	66	27	5	21	21	18	90	45	39	572
< 10.0	3	6	7	25	41	14	11	1	1	1	3						113
< 50.0																	
>= 50.0																	
Totals	40	34	36	44	99	51	43	67	28	6	24	21	18	90	45	39	

Calm : .00 %

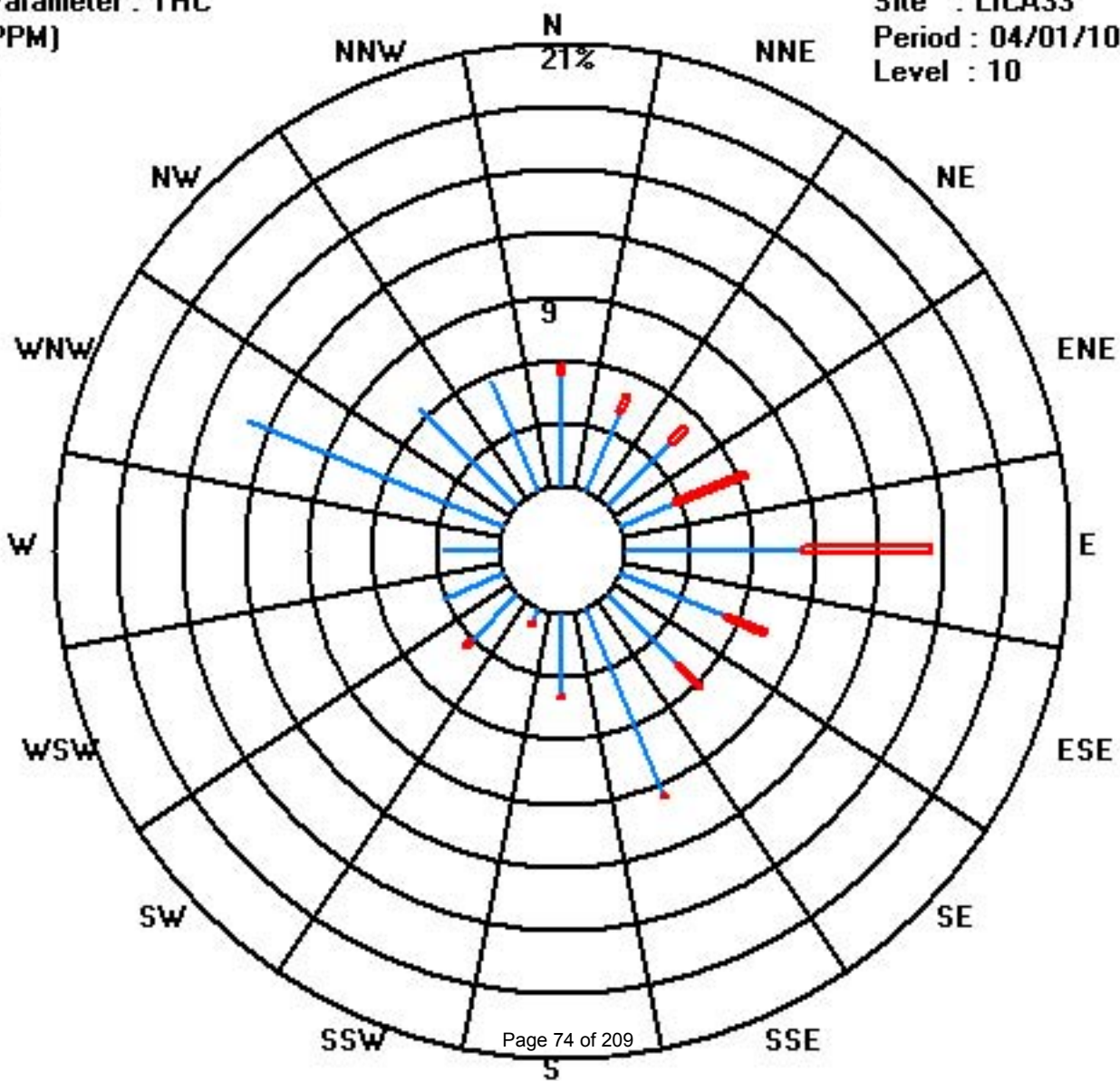
Total # Operational Hours : 685



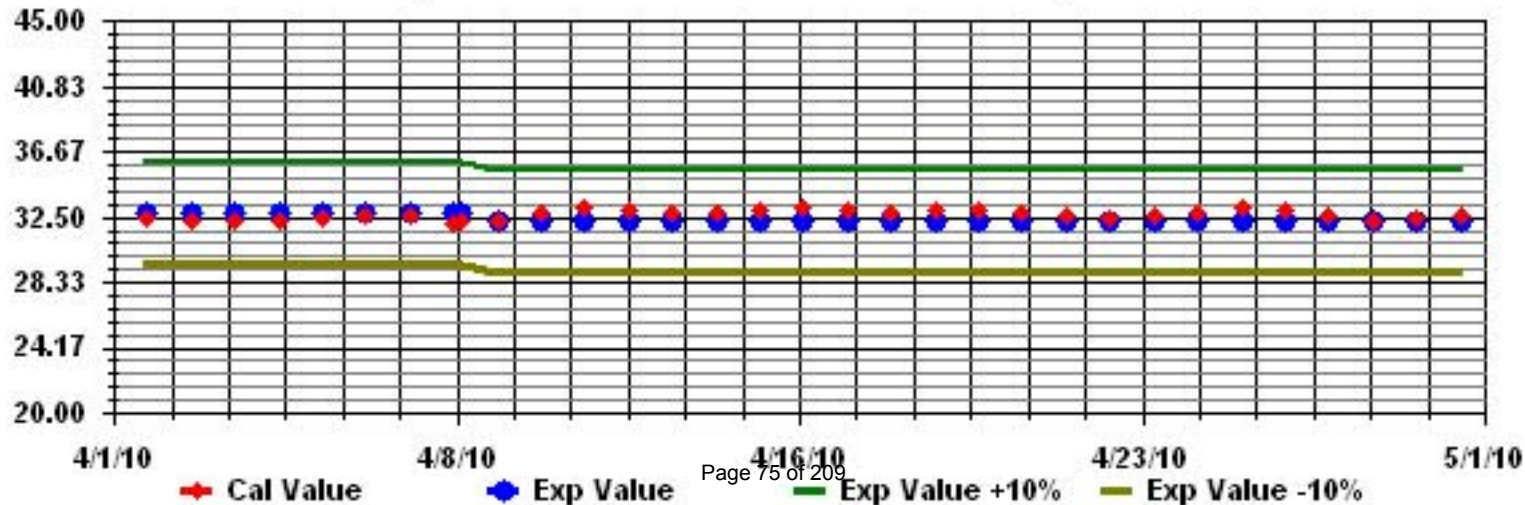
Class Limits (PPM)

Period : 04/01/10-04/30/10

Level : 10



Calibration Graph for Site: LICA33 Parameter: THC Sequence: THC Phase: SPAll



# Vector Wind Speed

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

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

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY	HOUR																											
1	1	9.5	9.6	10.2	9.7	10.1	11.6	10.4	10.6	13.2	13.7	15.1	14.1	14	14.4	13.1	14.9	10.4	13	14.6	11.2	8.1	8.6	8.5	6.5	15.1	10.9	24
2	2	9.6	5.5	1.4	2.5	3.4	2	4.6	4.6	6.8	8.9	11.9	14.1	15.4	16.7	12.8	10.3	14.1	12.6	4.7	7.1	8.7	10.7	13.1	9.4	16.7	6.7	24
3	3	10.1	7.4	6.8	9.8	12	11.5	12.7	14.4	14.7	14.7	11	8.4	13.9	14.1	11	9.9	6.6	2.8	5.1	8.3	6.9	1.6	1.5	5	14.7	7.3	24
4	4	4.9	4.7	8.7	7.9	3.4	11.1	13.5	18.4	19.1	15.6	13.2	19.1	15.3	13	10.2	10.9	6.6	6.2	7.4	5.8	6	4.9	2.8	3.1	19.1	7	24
5	5	4.5	2.8	3.1	2.2	0.4	1	2.9	1.5	1.7	2.4	2	2.8	3.2	0.6	0.7	3.3	2.2	2.1	5.1	6.7	5.6	6.3	5.2	4.6	6.7	3.0	24
6	6	3.7	5.7	6.5	8	8.1	6.9	4	5.7	7.2	8.5	14.6	17.1	15.5	16	15.1	14	13.2	13	12.1	11	10.4	8.7	8.4	6.2	17.1	10.0	24
7	7	9	6.9	3.2	3.9	4	8.7	9.8	8	6.9	5.2	6.2	9.2	19.2	20.1	20.5	17.5	13.9	11.9	6.3	3.8	6.6	6.2	6.9	7.8	20.5	9.2	24
8	8	4.9	5.2	7.5	8.6	7.9	6.6	10	8.1	9.2	9.7	11.8	12.6	10.6	9.1	7.7	5.2	5.1	9.5	7.5	12.1	13.1	18.1	22.8	22.3	22.8	10.2	24
9	9	23.9	25.6	25.1	28.1	31.6	33.9	36.7	37.9	37.2	37.6	36.8	36.7	36.9	38.2	<b>39.9</b>	37.6	37.7	37.2	35.9	32.1	29.3	33.3	29.3	28.2	<b>39.9</b>	<b>33.6</b>	24
10	10	25.2	27.7	28.3	28.8	28.1	27.9	26.1	30.2	28	28.8	31.1	30.4	27.4	26.5	25.4	24.8	24.4	23	20.8	21.6	20.6	17.2	15.2	14.6	31.1	25.1	24
11	11	11.6	11.6	12.4	12.7	13.8	13.1	13.4	14.4	12.3	11.8	11	9.4	7.1	5.3	4.4	2.9	4.1	4.9	3.8	3.3	0.2	3.8	5.1	6.6	14.4	8.3	24
12	12	5.4	4.4	6.7	7.5	11	12.6	11.6	11.5	12	12.7	13.8	16.6	15.7	14.4	16.7	17.6	18.9	17.9	15.7	12	11.1	10.8	12.3	11.5	18.9	12.5	24
13	13	13	12.5	10.8	12.1	14.3	14.2	14.2	14.5	15.1	15	15.6	13.6	10.5	11.1	13.2	13.1	11.7	13.1	13.4	13.6	13.9	13.2	10.6	15.6	13.1	24	
14	14	10.3	9.3	11.3	11.4	12.1	13.6	13.8	13.8	15	16.6	16.2	17.1	16.3	16.2	16.3	16	11.1	12.9	15.8	12.4	15.9	13.8	11.9	8.8	17.1	13.7	24
15	15	7.4	8.4	8.5	9	8.6	8.2	6.5	5.7	2.5	1.4	2.6	6.5	7.7	8.3	8.5	10.8	11.4	11.3	5.3	8.1	9.4	8.9	7.3	7.7	11.4	7.5	24
16	16	5.1	4.4	5.6	8.3	6.5	6.1	8.9	10.8	13.9	14.4	14.4	17.7	23.5	22.6	22.3	21.2	21.3	17.1	10.3	5.4	6	1.5	1.7	3.6	23.5	11.4	24
17	17	4.6	3.2	2.4	3.3	2.9	0.7	2.1	1.3	1.8	1.8	5.5	4	3.5	2.5	3.5	3.4	7.1	13.5	10.7	8.4	6.3	4.8	6.2	6.6	13.5	4.6	24
18	18	6.6	5.7	6.9	10.3	8	9.1	12.5	14.4	13.8	13.6	11.8	12.4	12.3	12.7	12.3	14.7	14.1	18.7	16	11.2	10.4	9	7.9	6.6	18.7	11.3	24
19	19	8.7	7.5	8.3	11	10.3	9.8	10.3	13.2	13.8	13.4	14.2	16.6	18.1	16	16.8	17.1	16	11.4	10.2	9.5	10.8	9.8	7.1	18.1	12.3	24	
20	20	4.4	9.8	11.7	9.3	10.4	12.3	13.3	16.5	15.7	16.5	20.9	22.1	21.4	21.4	19.1	20.5	22.2	22.3	18	12.7	11.8	11.4	9.7	9.9	22.3	15.1	24
21	21	4.8	11	9.7	4.5	5.1	5.1	7.3	7.4	12.5	12.6	15.4	18.3	18.4	19.8	18.3	18.6	16.9	15.4	10.6	9.4	10.6	9.6	9.4	8.5	19.8	11.6	24
22	22	5.6	8	6	7.7	6.1	7.2	6.1	2.4	3.9	4.8	5.3	6	10.7	9.2	11.5	10.6	7.5	7.5	6	4.7	5.1	19.2	16.8	15.2	19.2	8.0	24
23	23	13.8	15	17	14.2	15.1	14.1	14.7	20.9	17.1	13.7	11.1	17.8	20	19.1	16.7	12	6.9	6.8	6.9	7.4	7.6	6.3	6	6.5	20.9	12.8	24
24	24	7.9	9.9	9.8	9.9	7.7	8.6	10.2	11.2	10.2	9.2	7.1	7.3	11.1	10.4	9.1	11.8	12.3	12.1	11.6	9.2	9.1	5.6	5.7	3.9	12.3	9.2	24
25	25	3.1	3.3	3.6	5.9	4.3	3.4	4.4	4.8	6.2	6.6	8.6	8.5	9.8	11.1	9.8	10.4	7.1	7	5.5	4	2.3	1.9	1	4.3	11.1	5.7	24
26	26	3.8	2.6	1	2.5	2.6	3.7	8	10.2	12	13.4	12.8	8.9	8.6	9.8	10.6	11.3	11.5	11.5	14	11.2	10.6	10.5	11.1	9.1	14.0	8.8	24
27	27	9	9.2	9.1	10	9.3	10.4	12.2	15.1	17.6	16.4	17.5	20.3	23	21.5	21.6	22.3	21.1	20.2	17.4	12.9	13.9	12.5	10.9	10.1	23.0	15.1	24
28	28	13.2	12.5	14.8	16.7	21.4	21.2	21.6	22.2	20.2	20	18	19.3	24.1	27.8	29.7	26.2	23.4	23.3	24.6	22.6	19.2	18.5	21.6	21.7	29.7	21.0	24
29	29	22.1	20.2	21.8	21.8	20.5	20.4	22.8	23.2	22.9	23.1	21.1	21	23.9	24.8	23.2	24.3	23.5	19.8	18	13.2	14.4	14	12.4	12	24.8	20.2	24
30	30	11	11.6	11.8	11.3	11.1	11.9	11.8	11	8.2	8.7	10.9	13.5	14.3	12.4	12.1	11.8	13.9	12.7	10.3	9.2	9.3	9.8	10.9	8.8	14.3	11.2	24
HOURLY MAX		25.2	27.7	28.3	28.8	31.6	33.9	36.7	37.9	37.2	37.6	36.8	36.7	36.9	38.2	39.9	37.6	37.7	37.2	35.9	32.1	29.3	33.3	29.3	28.2			
HOURLY AVG		9.2	9.4	9.7	10.3	10.3	10.9	11.9	12.8	13.0	13.0	13.6	14.7	15.7	15.5	15.0	14.8	13.9	13.8	12.2	10.7	10.4	10.4	10.2	9.6			

### STATUS FLAG CODES

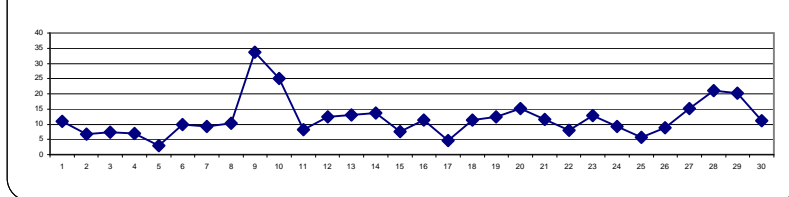
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION: September 24, 2009

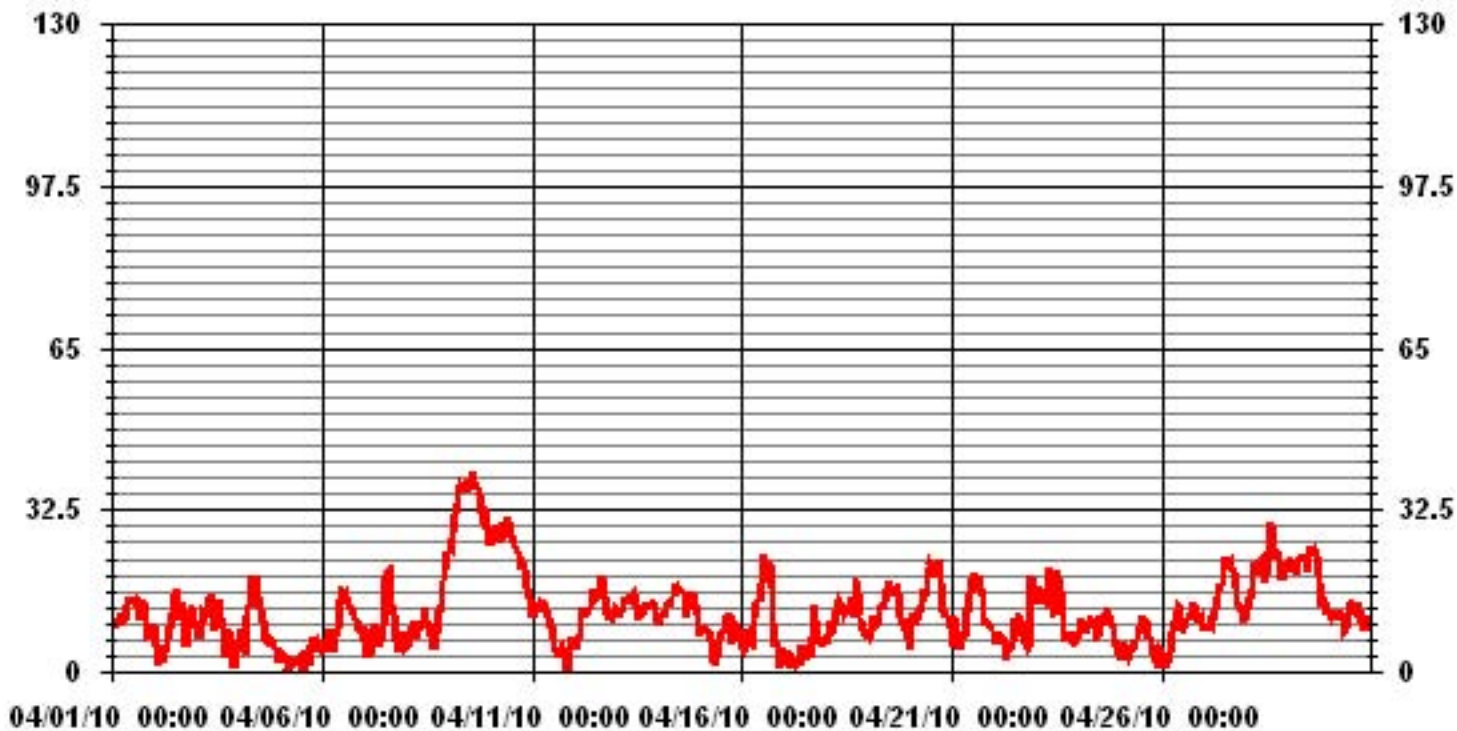
### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	39.9	KPH	@ HOUR(S)	14	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	33.6	KPH			ON DAY(S)	9
CALMS (≤ 1 KPH)	0.13	%	OPERATIONAL TIME:			720
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:			100.0
STANDARD DEVIATION:	7.24		MONTHLY AVERAGE			12.12
						KPH

24 HOUR AVERAGES FOR APRIL 2010



### 01 Hour Averages



— LICA33 WSP KPH

**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE**

APRIL 2010

**VECTOR WIND SPEED MAX instantaneous maximum in km/hr**

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY	1	14	14.2	14.6	14.7	14.2	18.3	17.6	17.7	23.6	25.4	28.7	27.3	31.4	32	40.5	29.5	24.3	25.8	30.4	25.9	10.8	11.4	11.9	13.2	40.5
	2	14.5	11.3	5.6	6.5	9.1	5.6	6.7	7.2	12.9	16.1	25	25.9	30.2	39.5	25.3	27	27.3	25.7	12.7	12.1	14.7	17.5	18.1	14.5	39.5
	3	13	11.4	10.8	15.1	17.3	15	20.4	20.3	21.4	22.8	20.7	19.1	27.3	35.3	28.8	24.4	21.7	20.5	19.6	12.8	14.7	14.5	7.3	10.4	35.3
	4	12.1	10.2	13.2	13.4	8.6	21.7	23.2	31	31.9	27.3	27.9	36.7	38.1	35.1	39	25.6	17	14.7	20.6	9.8	10.3	8.4	7.4	6.4	39
	5	7.1	7.1	9.2	7	3.7	3.4	8.1	4.6	6.7	8.3	8.2	10.7	11.1	9.8	11.6	13.9	12.3	7.2	8.1	9.3	8.4	8.2	7.5	6.4	13.9
	6	6.3	11.7	12.4	10.8	11.1	10.7	8.6	8.4	12	24.5	34.1	35.1	29.4	33.1	29.2	26	23.5	20.9	17.2	15	16.9	16.3	15.4	15.3	35.1
	7	26.7	17.2	10.1	10.8	11.3	13.1	17.5	12.8	12.5	12.5	15.1	28.3	37.4	38	37	35.1	29.2	23.4	15.3	8.3	10.5	9.5	10.1	11.9	38
	8	8.7	10	12.6	11.1	12.2	13.5	15.8	12.4	18.3	18.7	23.2	25.3	27.8	20.8	15	49.3	43	19.2	23.1	32.4	29.7	48.8	45.5	43.9	49.3
	9	45	52.8	44.5	48.3	53.5	62	66.9	<b>70</b>	62.2	64.2	58.4	61.2	63.7	66.2	<b>P</b>	60.8	64.6	57.6	60.1	55.4	56	58.5	52.1	46.1	<b>70</b>
	10	42.4	49.6	49.1	45.7	52.4	49.1	43.7	49.3	46.7	54.5	52.7	54.6	51	45.9	41.3	47.4	44.6	42.7	34	36.1	33.7	30.1	25.2	24.3	54.6
	11	20	22.5	19.4	18.9	20.2	20.2	21.6	22.2	22.3	18.7	20.3	16.9	17.4	13.6	10.9	7.4	8.8	8.5	7.4	9.2	4.6	6.1	9.1	9.2	22.5
	12	8.4	7.8	10.9	12.9	16.7	18.4	16.2	15.9	16.4	17.6	19.3	22.6	22.4	21.6	24.4	26.9	28.6	26.4	24.2	19.5	14.8	14.6	16.6	16.6	28.6
	13	22.9	18.4	16.1	18.4	20.6	21.2	21.1	21.2	22.5	22.6	23.2	19.8	18	17.8	21.2	20.5	18.7	20.8	21.1	21.6	22	20.7	21.4	17.2	23.2
	14	17	17	20.5	19.2	21.7	23.5	26.5	26.9	27.8	31.9	30.9	31	32.9	37.2	32.6	34.6	21.2	41.6	35.8	26.4	36.1	28.6	24.5	17	41.6
	15	14	12.8	15.9	16.8	12.2	10.4	10.1	10.6	7.3	7.5	11	16	17.1	19.8	18.2	22.8	20.7	22.9	12.7	15.5	13.4	12.7	11.7	11.9	22.9
	16	11.8	5.9	8.9	11.4	11.1	10.4	11.6	22.6	25.1	26	26.5	31.1	39.3	40.8	39.6	37.9	40.5	34.9	22.1	15.4	10.7	5.9	6.3	5.8	40.8
	17	8.4	5.6	4.3	5.6	5.5	2.8	4.7	4.5	<b>P</b>	15.4	13.6	12.9	12.4	10.3	11.6	11.3	16.6	21.6	16.8	12	10.9	11.1	9.5	10.1	21.6
	18	9.5	8.8	11.4	14.8	13.2	15	18	20.4	19.8	20.3	20.7	25.8	26	26.1	24.4	35.2	26.6	29.8	26.3	14.8	13.3	11.2	11	11.4	35.2
	19	12.7	9.9	11	15.1	14.5	14.6	16.2	20.1	20.6	20.6	23.2	27.8	33	39.4	34.9	36.5	33.2	28.6	24.1	16.9	12	15.5	12.1	11.1	39.4
	20	11.9	13.8	16.1	13.9	14.1	17.4	22.6	25.2	23.5	39.6	40.2	38.3	37.6	40.5	40.7	37.9	39.2	35.2	32.9	17.4	16	14.9	11	12.3	40.7
	21	8.7	14.6	14	12.6	7.8	9.2	10	20.9	21.7	22.1	30.7	36.4	35.8	34.7	37.8	33	30.4	27.4	20.7	13.2	13.1	12.6	12.2	11.3	37.8
	22	9.6	13.8	11.4	11.4	9.6	10.8	12.9	9.4	13.9	14.5	17.4	21.8	28.8	25.5	27.8	27.8	21.3	16.5	8.9	10.6	8	34.9	30.4	34.1	34.9
	23	32.2	26.4	27.9	23.6	25.3	26	30.4	43	35.2	36.8	25	33.7	34.2	34.7	25.7	24.1	14.5	10.7	11.4	11.1	11.7	11.2	10.4	15	43
	24	14.1	17.6	18.6	17.5	13.6	16	15.9	17.7	18.4	16.2	12.7	12.7	16.9	19.6	16.6	23.4	19.2	21.1	18.7	13.5	14.2	10.2	11	7.9	23.4
	25	5.8	6.6	8.3	9.5	8.4	7.2	9.2	10.6	12.9	12.9	17.8	21.5	19.4	23.6	19.8	22	14.4	15.4	12.7	9.3	5	4.4	3.7	5.8	23.6
	26	6.1	6.7	4.5	6.5	7.7	8.5	11.2	15.6	18.5	21.4	24.6	18.4	17.6	20.4	23.4	19.9	20.9	24.9	20.5	18	14.4	13.5	13.9	13.5	24.9
	27	12.4	12.3	12.3	15.7	13	14.2	22.8	22	25.9	26.9	28.5	33.2	37.7	37	34.2	37.2	39.7	32.6	25.9	22.6	21.9	20.5	16.3	15.1	39.7
	28	20.8	22.2	25.7	26.6	33.8	33	34.9	38	32.9	33.1	32.2	35.2	40.8	44.1	47.2	43.2	41.6	40	42.2	40.3	39	38.1	38.4	37.3	47.2
	29	38.5	34.9	38.3	36.8	39.6	44.6	40.4	41.4	41.5	43.9	42	44.7	45.1	45	42.8	44.2	46.1	41.3	33.9	28	31.6	28.3	26.3	22.8	46.1
	30	21.5	20.9	21.6	21.8	19	18.9	21.8	18.9	15.6	17.2	21.3	22.7	21.8	20.1	19.8	20.7	24.3	24.2	19	18.3	16.6	17	16.9	14.6	24.3
PEAK		45.0	52.8	49.1	48.3	53.5	62.0	66.9	70.0	62.2	64.2	58.4	61.2	63.7	66.2	47.2	60.8	64.6	57.6	60.1	55.4	56.0	58.5	52.1	46.1	

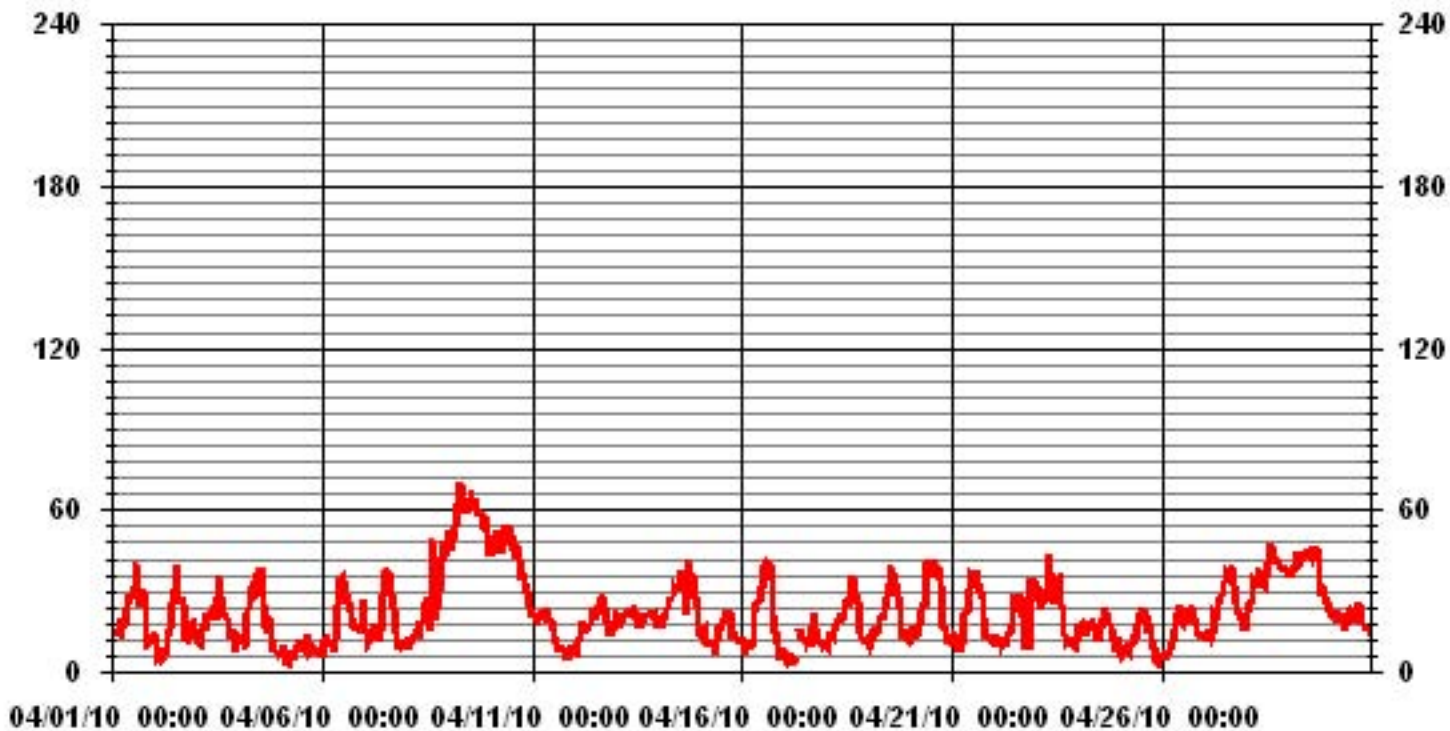
**STATUS FLAG CODES**

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**

MAXIMUM INSTANTANEOUS READING	70	KPH	@ HOUR(S)	7
			ON DAY(S)	9

### 01 Hour Averages



— LICA33 WSMAX KPH

LICA33  
WSP / WDR Joint Frequency Distribution (Percent)

April 2010

Distribution By % Of Samples

Logger Id : 33  
Site Name : LICA33  
Parameter : WSP  
Units : KPH

Wind Parameter : WDR  
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	1.80	.69	1.11	1.52	1.80	1.66	1.25	1.52	1.66	.83	.69	.41	.55	1.11	.97	.69	18.33
< 12.0	1.52	2.08	2.08	3.47	6.25	3.88	2.77	3.05	1.66	.00	2.22	1.94	.69	2.36	3.19	1.38	38.61
< 20.0	.69	1.38	.41	1.80	5.97	1.52	1.66	4.02	.83	.00	.27	.55	1.38	3.75	1.25	3.19	28.75
< 29.0	2.08	.55	1.52	.00	.00	.97	.27	1.11	.27	.00	.27	.00	.00	2.77	.97	.27	11.11
< 39.0	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.91	.00	.00	3.05
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00	.13
Totals	6.11	4.72	5.27	6.80	14.02	8.05	5.97	9.72	4.44	.83	3.47	2.91	2.63	13.05	6.38	5.55	

Calm : .00 %

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	13	5	8	11	13	12	9	11	12	6	5	3	4	8	7	5	132
< 12.0	11	15	15	25	45	28	20	22	12		16	14	5	17	23	10	278
< 20.0	5	10	3	13	43	11	12	29	6		2	4	10	27	9	23	207
< 29.0	15	4	11			7	2	8	2		2			20	7	2	80
< 39.0			1											21			22
>= 39.0														1			1
Totals	44	34	38	49	101	58	43	70	32	6	25	21	19	94	46	40	

Calm : .00 %

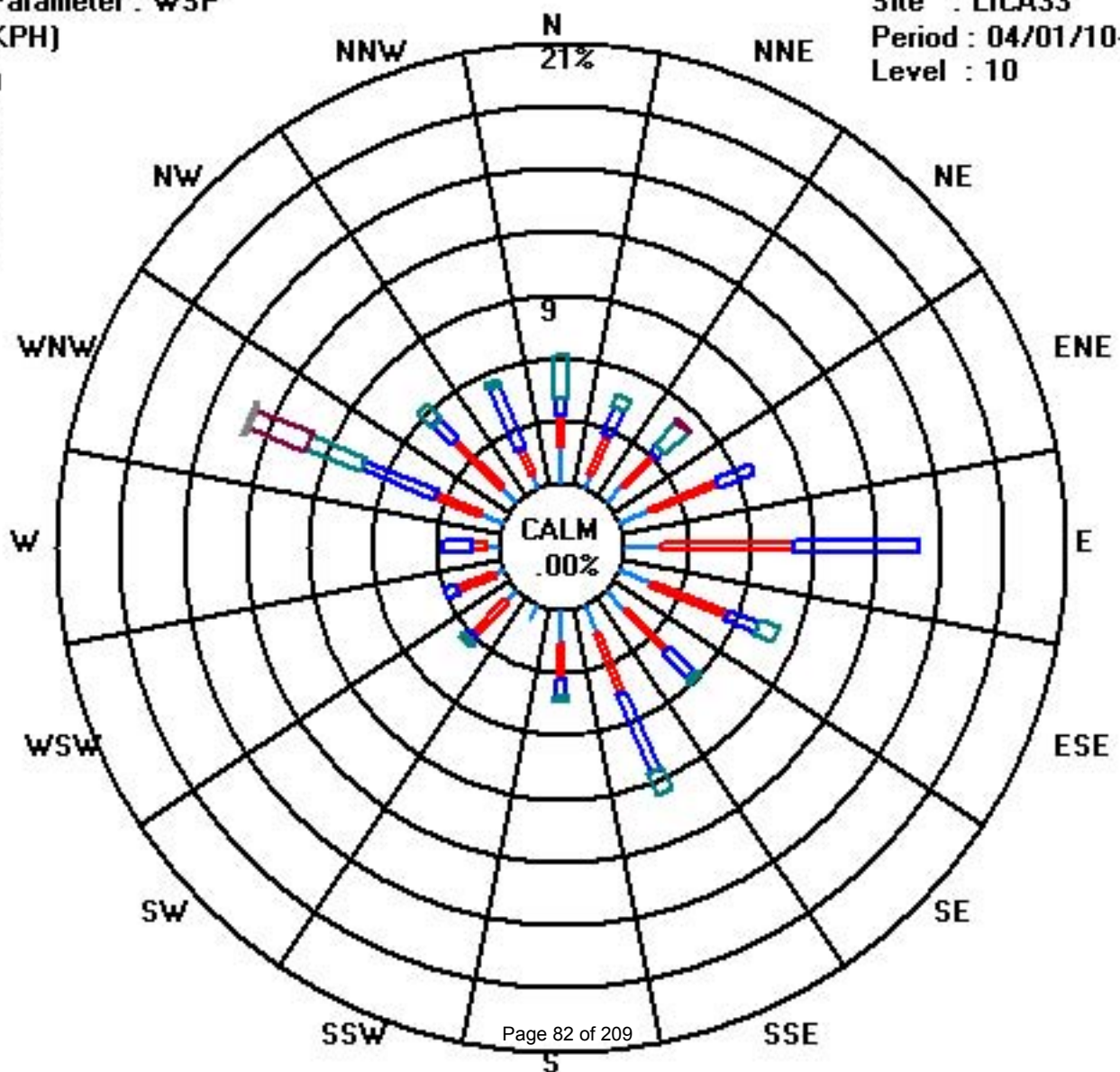
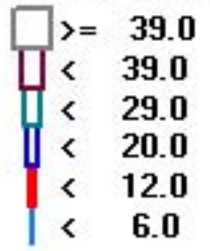
Total # Operational Hours : 720



Class Limits (KPH)

Period : 04/01/10-04/30/10

Level : 10



# Vector Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUADRANT	RDGS.	
DAY																												
1	241	239	247	240	233	250	265	278	273	281	288	284	263	252	275	246	249	262	264	271	243	230	231	225	258	WSW	24	
2	228	228	196	168	171	138	87	88	118	127	118	141	165	163	185	185	157	169	141	80	82	90	102	107	142	SE	24	
3	96	86	77	72	78	94	95	98	94	92	102	108	158	142	155	175	176	180	173	125	147	289	189	211	116	ESE	24	
4	242	271	243	240	255	262	259	278	297	299	295	282	277	257	9	47	47	55	344	307	270	274	270	291	286	WNW	24	
5	289	252	280	228	67	164	211	188	109	124	330	341	301	71	42	41	57	51	112	96	102	114	125	137	110	ESE	24	
6	129	164	143	109	96	91	90	96	138	167	178	176	174	167	168	158	155	139	134	137	141	149	165	185	150	SSE	24	
7	240	282	298	170	194	225	244	241	227	215	217	220	233	227	227	240	235	226	218	180	153	149	149	155	222	SW	24	
8	161	118	83	73	74	67	85	98	131	158	157	168	172	176	158	106	105	53	38	325	339	331	314	312	74	ENE	24	
9	315	311	307	303	301	301	297	296	292	292	290	291	292	290	288	288	290	295	301	301	303	298	298	296	296	296	WNW	24
10	294	291	292	291	291	296	290	295	294	297	300	297	301	302	297	304	301	297	285	292	289	293	293	297	295	295	WNW	24
11	296	297	284	288	289	292	294	299	301	300	293	298	296	292	217	172	160	161	171	148	352	3	22	51	292	WNW	24	
12	54	64	83	80	82	88	94	95	92	94	94	92	91	84	79	85	82	81	81	82	80	82	94	86	85	E	24	
13	100	104	79	82	74	77	79	74	77	79	73	71	46	27	32	24	16	23	26	32	26	26	19	3	54	NE	24	
14	352	0	355	349	340	340	340	348	348	342	331	329	335	332	326	327	329	326	336	335	336	328	325	329	336	NNW	24	
15	292	297	316	321	308	299	285	292	294	148	194	230	232	248	239	220	220	219	191	181	174	166	162	138	239	WSW	24	
16	196	124	111	134	103	114	111	132	157	169	159	156	164	166	162	165	162	165	157	151	148	218	350	94	154	SSE	24	
17	139	99	64	44	23	30	358	70	38	112	117	114	148	25	49	88	74	81	70	57	83	98	69	54	76	ENE	24	
18	44	66	58	64	65	69	79	84	84	79	85	145	149	114	108	88	85	85	88	80	75	70	75	75	86	E	24	
19	77	71	62	73	79	79	74	80	78	84	90	97	110	141	150	162	162	164	153	129	115	120	118	103	111	ESE	24	
20	83	82	86	77	82	93	95	98	106	125	158	163	170	170	165	150	146	141	137	127	115	109	115	112	130	SE	24	
21	122	128	132	108	85	65	80	107	157	163	163	165	159	152	151	161	158	161	151	135	122	128	134	132	144	SE	24	
22	145	156	111	92	51	82	69	323	189	177	158	159	180	167	177	171	188	146	96	75	75	274	285	302	167	SSE	24	
23	300	294	295	298	302	303	318	321	329	328	311	291	289	290	294	307	314	302	301	301	303	310	313	348	305	WNW	24	
24	28	29	29	29	29	29	29	29	29	29	29	29	29	34	42	59	77	66	56	44	48	31	4	4	37	NE	24	
25	318	312	329	3	353	317	308	340	355	328	324	323	309	306	322	2	356	346	4	358	355	8	355	306	334	NNW	24	
26	331	79	56	78	80	81	89	98	127	125	140	142	155	139	110	108	104	121	107	108	108	104	98	101	112	ESE	24	
27	94	90	84	91	83	78	87	93	94	105	102	106	103	107	106	108	106	103	109	105	89	97	90	80	98	E	24	
28	74	74	50	59	51	47	48	49	43	43	43	35	38	37	41	42	43	44	33	28	21	18	17	15	40	NE	24	
29	11	9	6	8	4	356	1	1	354	353	347	341	356	358	353	353	351	349	347	332	327	322	320	326	352	N	24	
30	326	321	319	321	320	317	310	327	341	347	353	4	7	349	334	320	313	354	0	336	320	303	300	312	330	NNW	24	
HOURLY AVG	352	321	355	349	353	356	358	348	355	353	353	341	356	358	353	353	356	354	347	358	355	331	355	348				

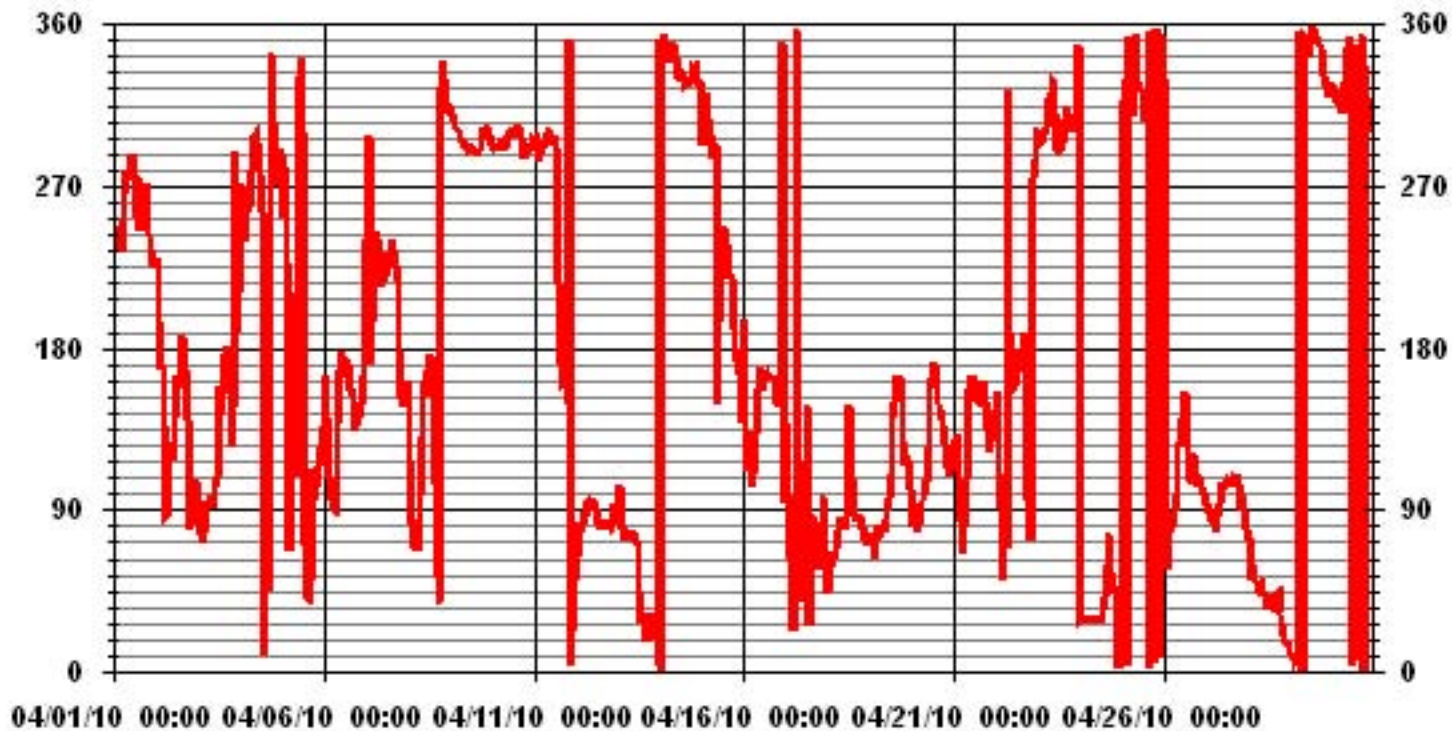
**STATUS FLAG CODES**

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:	September 24, 2009
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS
STANDARD DEVIATION	105.72	AMD OPERATION UPTIME	100.0 %
		MONTHLY AVERAGE	17 DEG

### 01 Hour Averages



— LICA33 WDR DEG

# Standard Deviation Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2010

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
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	4	6	5	6	4	7	10	9	10	15	15	17	22	15	19	15	12	12	11	6	5	4	4	9
2	5	19	41	17	16	20	7	12	13	17	16	16	19	21	22	28	16	12	11	4	4	5	5	6
3	6	8	8	5	6	6	6	6	8	10	12	21	15	15	23	20	36	45	15	17	12	53	43	17
4	17	21	10	9	21	10	9	9	9	12	17	13	13	14	18	32	39	14	20	12	6	10	48	26
5	13	34	25	27	41	40	22	31	42	27	60	51	54	55	67	54	36	27	7	8	12	6	6	6
6	9	15	11	5	4	5	15	7	15	22	16	16	16	17	16	15	14	8	6	5	6	11	19	23
7	25	8	14	33	22	6	11	10	13	18	24	21	16	16	17	19	14	12	24	14	11	7	7	11
8	13	15	8	3	5	14	7	10	15	16	17	18	25	21	19	53	37	15	29	14	15	14	12	12
9	12	11	11	10	10	10	9	9	9	9	9	9	9	9	9	8	8	8	9	10	10	11	9	9
10	9	9	8	9	8	9	9	10	10	10	10	9	11	10	10	11	11	10	8	8	8	8	9	9
11	8	9	8	8	8	8	8	10	12	12	14	16	21	31	25	33	19	14	16	17	41	9	7	6
12	8	12	7	6	6	6	5	5	6	6	6	7	7	9	8	8	7	6	6	5	5	5	5	5
13	7	6	7	6	6	6	7	6	6	7	6	7	8	9	8	8	9	8	8	8	8	8	9	11
14	12	12	12	12	12	12	13	13	13	14	14	12	14	14	13	13	14	17	13	13	13	11	12	12
15	10	6	7	9	5	3	5	12	24	52	37	23	23	24	22	18	19	15	19	13	8	11	13	7
16	19	7	8	4	9	8	6	12	14	14	16	15	14	15	15	14	14	14	16	12	34	32	15	
17	15	14	11	12	10	8	15	27	42	41	32	39	52	48	47	47	25	8	5	4	5	9	4	6
18	7	4	4	4	7	7	7	7	8	9	15	20	18	16	19	17	13	11	6	4	4	3	4	6
19	4	4	4	4	4	4	5	7	9	11	13	14	15	19	17	18	15	14	11	5	2	2	3	8
20	13	3	4	6	5	5	6	7	8	12	15	16	14	16	17	17	14	9	7	3	2	2	2	3
21	10	3	3	22	11	12	7	15	15	15	16	16	14	16	16	15	14	11	4	3	3	4	3	
22	9	12	14	11	12	10	32	39	54	35	35	29	26	30	23	26	28	18	6	15	7	27	10	13
23	13	10	9	10	10	10	13	13	14	36	16	11	9	9	8	10	9	7	8	5	7	7	9	10
24	5	0	0	0	0	0	0	0	0	0	0	0	0	7	12	11	10	10	8	10	7	9	10	12
25	13	10	12	10	14	11	11	17	23	23	16	30	19	17	20	15	17	16	14	16	15	22	35	4
26	9	29	17	21	23	16	8	8	11	13	15	19	22	18	16	16	17	16	11	6	4	3	4	4
27	4	4	5	5	5	6	7	8	9	11	12	12	11	12	9	12	10	8	7	6	6	6	5	8
28	7	7	8	7	7	7	7	7	8	8	10	10	9	9	9	10	11	9	10	10	11	11	11	13
29	12	12	12	13	13	14	14	14	15	14	14	15	15	14	14	15	15	15	14	14	13	12	13	12
30	12	11	11	11	11	9	10	11	15	14	13	17	13	14	15	15	12	15	13	12	10	8	8	10

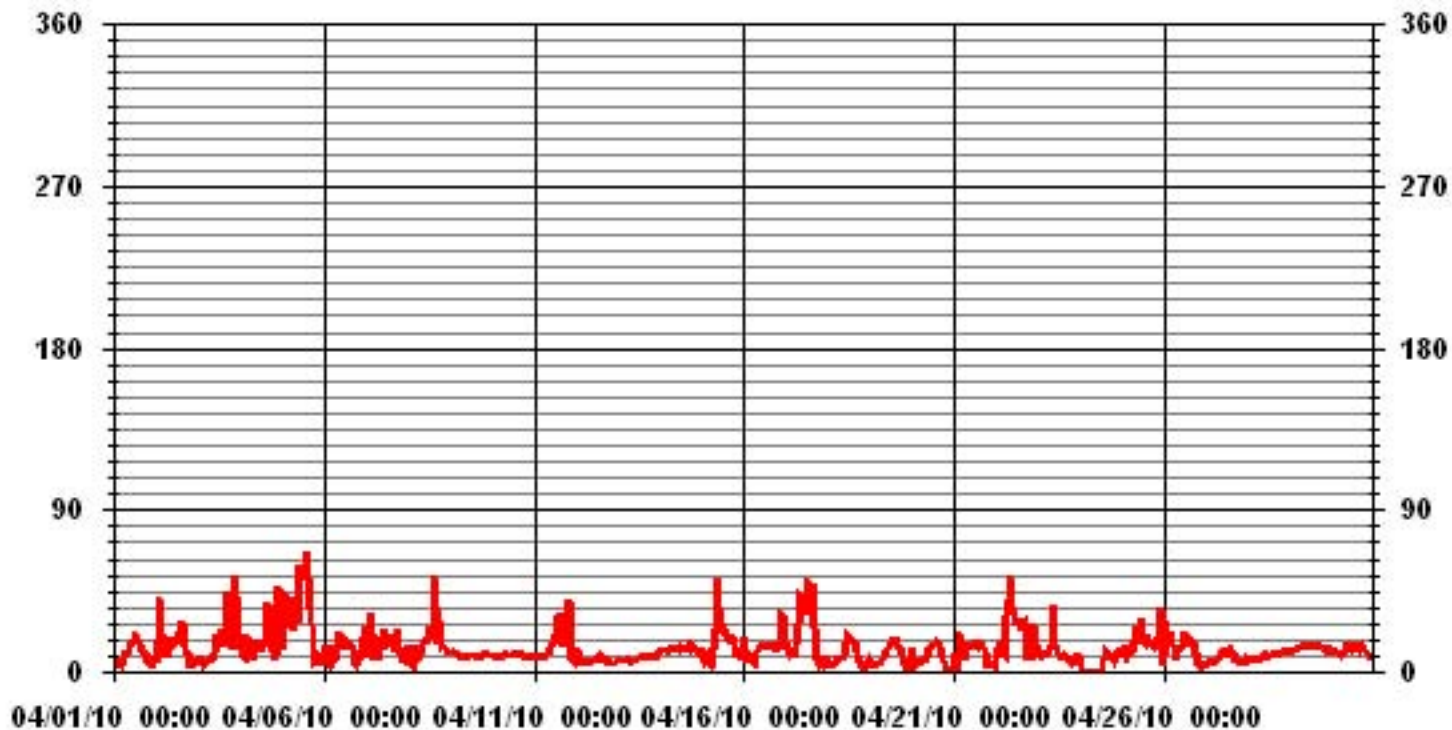
### STATUS FLAG CODES

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: September 24, 2009

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS

### 01 Hour Averages

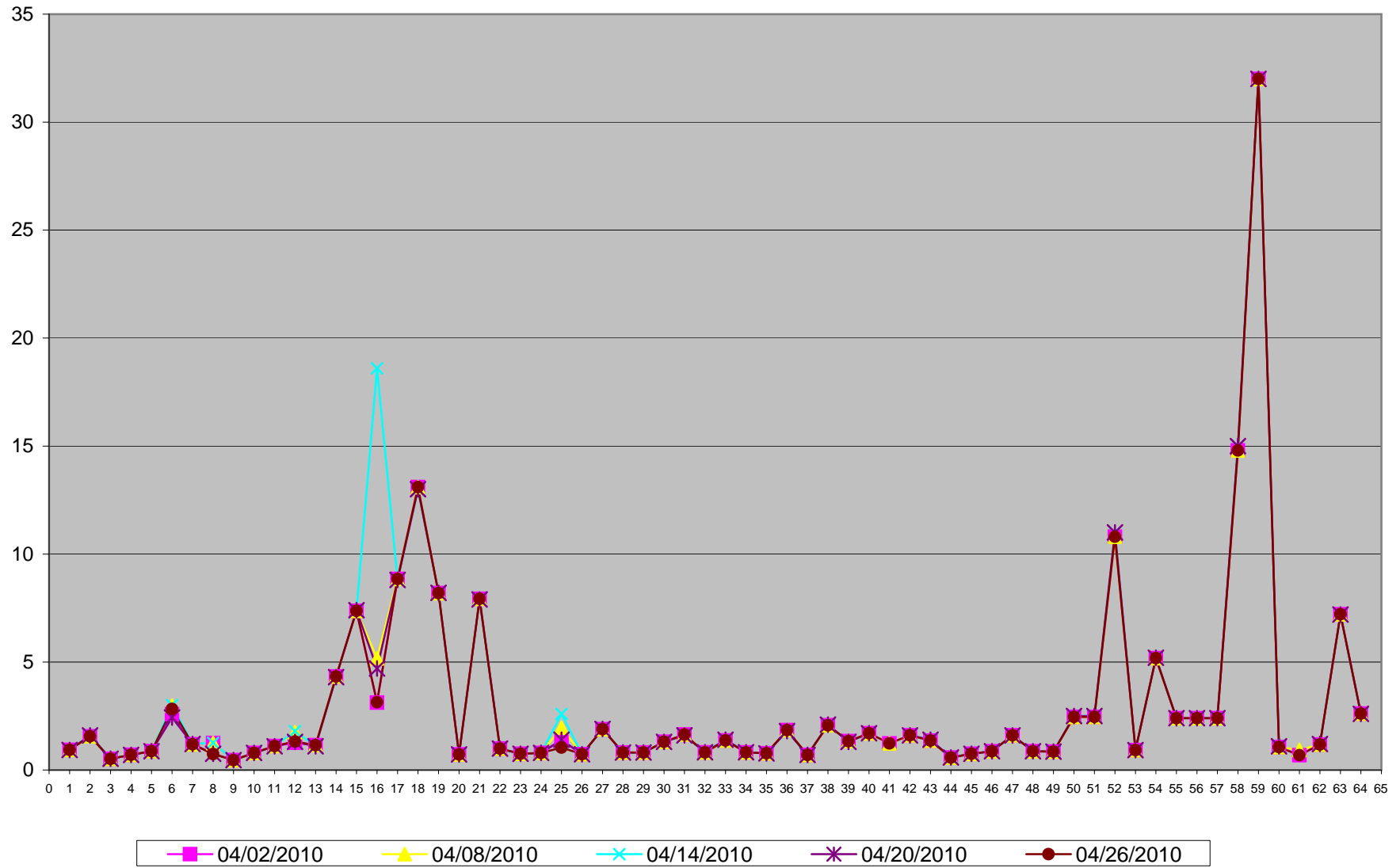


— LICA33 STDWDIR DEG

# **Volatile Organics**



Volatile Organics in ug/m3 Site: LICA - Portable Site



1	2,2,4-Trimethylpentane	33	1,1,2,2-Tetrachloroethane
2	Carbon Disulfide	34	cis-1,3-Dichloropropene
3	Propene	35	trans-1,3-Dichloropropene
4	Vinyl Acetate	36	1,2-Dichloropropane
5	Vinyl Bromide	37	Bromomethane
6	Dichlorodifluoromethane (FREON 12)	38	Bromoform
7	1,2-Dichlorotetrafluoroethane	39	Bromodichloromethane
8	Chloromethane	40	Dibromochloromethane
9	Vinyl Chloride	41	Heptane
10	Chloroethane	42	Trichloroethylene
11	1,3-Butadiene	43	Tetrachloroethylene
12	Trichlorofluoromethane (FREON 11)	44	Benzene
13	Trichlorotrifluoroethane	45	Toluene
14	Ethanol	46	Ethylbenzene
15	2-Propanol	47	p+m-Xylene
16	2-Propanone	48	o-Xylene
17	Methyl Ethyl Ketone (2-Butanone)	49	Styrene
18	Methyl Isobutyl Ketone	50	1,3,5-Trimethylbenzene
19	Methyl Butyl Ketone (2-Hexanone)	51	1,2,4-Trimethylbenzene
20	Methyl t-butyl ether (MTBE)	52	4-ethyltoluene
21	Ethyl Acetate	53	Chlorobenzene
22	1,1-Dichloroethylene	54	Benzyl chloride
23	cis-1,2-Dichloroethylene	55	1,3-Dichlorobenzene
24	trans-1,2-Dichloroethylene	56	1,4-Dichlorobenzene
25	Methylene Chloride (Dichloromethane)	57	1,2-Dichlorobenzene
26	Chloroform	58	1,2,4-Trichlorobenzene
27	Carbon Tetrachloride	59	Hexachlorobutadiene
28	1,1-Dichloroethane	60	Hexane
29	1,2-Dichloroethane	61	Cyclohexane
30	Ethylene Dibromide	62	Tetrahydrofuran
31	1,1,1-Trichloroethane	63	1,4-Dioxane
32	1,1,2-Trichloroethane	64	Xylene (Total)

# Polycyclic Aromatic Hydrocarbons

## Polycyclic Aromatic Hydrocarbons (PAHs) Results for April 2010

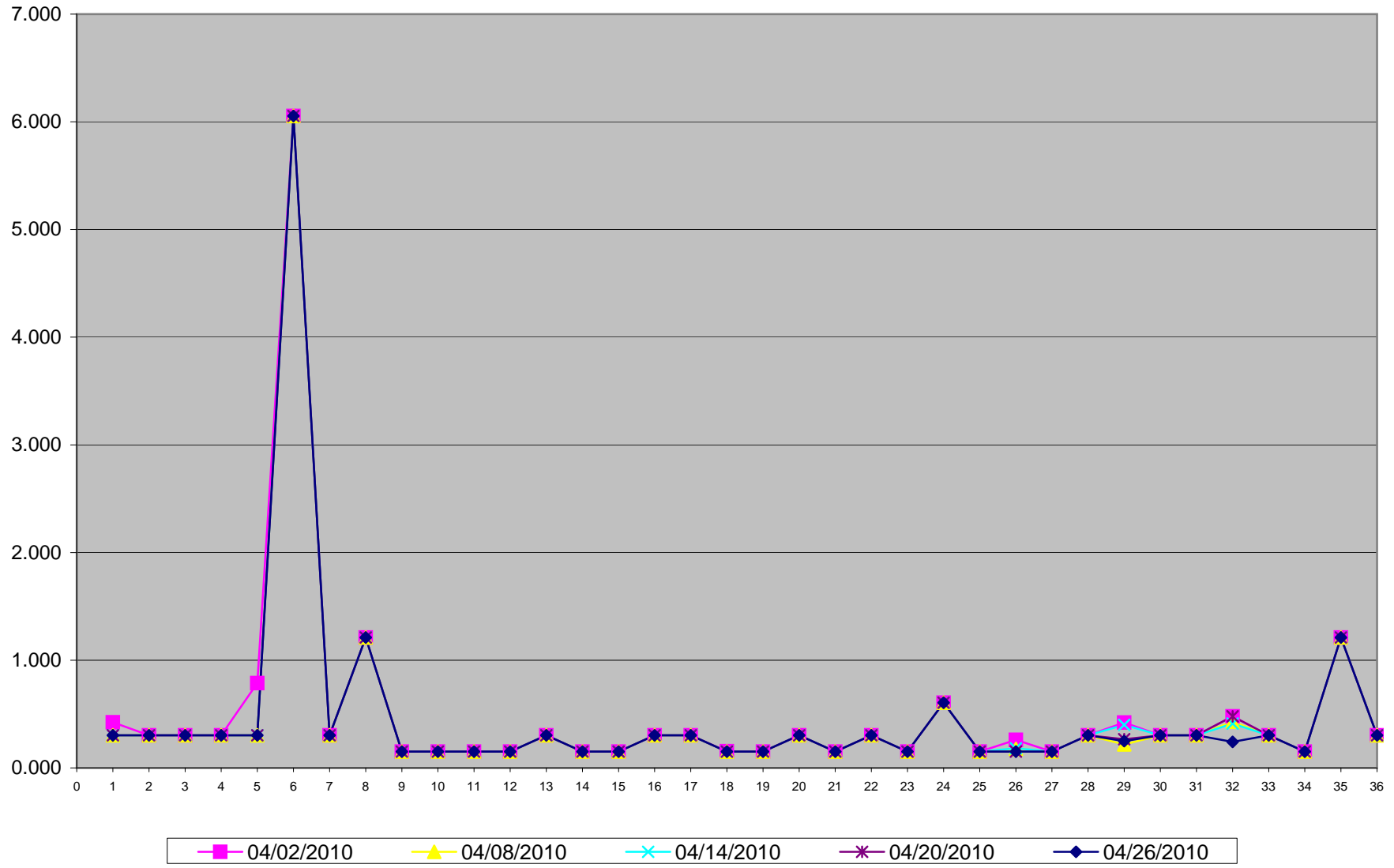
LICA- Portable Site

Unit: ng/m<sup>3</sup>

PAHs	04/02/2010	04/08/2010	04/14/2010	04/20/2010	04/26/2010
Sample Volume (unit: m3)	330.34	330.34	330.34	330.34	330.35
1 1-Methylnaphthalene	0.424	0.303	0.303	0.303	0.303
2 1-Methylphenanthrene	0.303	0.303	0.303	0.303	0.303
3 2-Chloronaphthalene	0.303	0.303	0.303	0.303	0.303
4 2-Methylantracene	0.303	0.303	0.303	0.303	0.303
5 2-Methylnaphthalene	0.787	0.303	0.303	0.303	0.303
6 3-Methylcholanthrene	6.054	6.054	6.054	6.054	6.054
7 7,12-Dimethylbenzo(a)anthracene	0.303	0.303	0.303	0.303	0.303
8 9,10-Dimethylantracene	1.211	1.211	1.211	1.211	1.211
9 Acenaphthene	0.151	0.151	0.151	0.151	0.151
10 Acenaphthylene	0.151	0.151	0.151	0.151	0.151
11 Anthracene	0.151	0.151	0.151	0.151	0.151
12 Benzo(a)anthracene	0.151	0.151	0.151	0.151	0.151
13 Benzo(a)fluorene	0.303	0.303	0.303	0.303	0.303
14 Benzo(a)pyrene	0.151	0.151	0.151	0.151	0.151
15 Benzo(b)fluoranthene	0.151	0.151	0.151	0.151	0.151
16 Benzo(b)fluorene	0.303	0.303	0.303	0.303	0.303
17 Benzo(e)pyrene	0.303	0.303	0.303	0.303	0.303
18 Benzo(g,h,l)perylene	0.154	0.151	0.151	0.151	0.151
19 Benzo(k)fluoranthene	0.151	0.151	0.151	0.151	0.151
20 Biphenyl	0.303	0.303	0.303	0.303	0.303
21 Chrysene	0.151	0.151	0.151	0.151	0.151
22 Coronene	0.303	0.303	0.303	0.303	0.303
23 Dibenz(a,h)anthracene	0.151	0.151	0.151	0.151	0.151
24 Dibenzo(a,e)pyrene	0.605	0.605	0.605	0.605	0.605
25 Fluoranthene	0.151	0.151	0.151	0.151	0.151
26 Fluorene	0.260	0.176	0.182	0.151	0.151
27 Indeno(1,2,3-cd)pyrene	0.151	0.151	0.151	0.151	0.151
28 m-Terphenyl	0.303	0.303	0.303	0.303	0.303
29 Naphthalene	0.421	0.218	0.400	0.266	0.248
30 o-Terphenyl	0.303	0.303	0.303	0.303	0.303
31 Perylene	0.303	0.303	0.303	0.303	0.303
32 Phenanthrene	0.478	0.430	0.412	0.478	0.242
33 p-Terphenyl	0.303	0.303	0.303	0.303	0.303
34 Pyrene	0.151	0.151	0.151	0.151	0.151
35 Quinoline	1.211	1.211	1.211	1.211	1.211
36 Tetralin	0.303	0.303	0.303	0.303	0.303

Note: - values were calculated by the formula of [reading (ug) x 1000 / sample volume (m3)].  
 - Where the analytical results are less than the minimum detection limit (MDL), the MDL has been used in calculations.  
 - See analytical for details.

PAHs in ng/m3 Site: LICA - Portable Site



1	1-Methylnaphthalene
2	1-Methylphenanthrene
3	2-Chloronaphthalene
4	2-Methlyanthracene
5	2-Methylnaphthalene
6	3-Methylcholanthrene
7	7,12-Dimethylbenzo(a)anthracene
8	9,10-Dimethylanthracene
9	Acenaphthene
10	Acenaphthylene
11	Anthracene
12	Benzo(a)anthracene
13	Benzo(a)fluorene
14	Benzo(a)pyrene
15	Benzo(b)fluoranthene
16	Benzo(b)fluorene
17	Benzo(e)pyrene
18	Benzo(g,h,l)perylene
19	Benzo(k)fluoranthene
20	Biphenyl
21	Chrysene
22	Coronene
23	Dibenz(a,h)anthracene
24	Dibenzo(a,e)pyrene
25	Fluoranthene
26	Fluorene
27	Indeno(1,2,3-cd)pyrene
28	m-Terphenyl
29	Naphthalene
30	o-Terphenyl
31	Perylene
32	Phenanthrene
33	p-Terphenyl
34	Pyrene
35	Quinoline
36	Tetralin

# Calibration Reports

# Sulphur Dioxide



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

#### Station Information

Calibration Date	April 8, 2010	Previous Calibration	March 5, 2010
Company	Lakeland Community and Industry Association		
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M		
Start Time (MST)	8:30	End Time (MST)	12:45
Reason:	Monthly Calibration		
Barometric Pressure	698 mmHg	Station Temperature	24 Deg C
Cal Gas	51.4 ppm	Cal Gas Expiry date	12/19/2010
DAS Output Voltage	0 - 10 Volts		

#### Equipment Information

Analyzer Make / Model:	API 100E	S/N :	467	Method:	UV absorbtion
Converter Make / Model:	-	S/N :	-		
Calibrator Make / Model:	EnviroNics 2000	S/N :	1991	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 717		
Flow Meter:	EnviroNics 2000	S/N :	1991		

#### Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0 - 500			ppb			
Sample Flow / Box Temp	573 ccm	32 Deg C	564	580 ccm	34 Deg C	3279	
HVPS / Lamp Setting	580	3292	580	3279			
PMT / RxCell Temp	8.1 Deg C	50.0 Deg C	8.1 Deg C	50.0 Deg C			
Converter / IZS Temp	NA Deg C	45.0 Deg C	NA Deg C	45.0 Deg C			
Offset / Slope	48	1.003	50.9	1.009			

#### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
3007	0	0	2	N/A
3007	0	0	0	N/A
2964	44.4	759	755	1.0048
2964	44.4	759	763	0.9942
2991	20.7	353	352	1.0036
2999	8.9	152	149	1.0207
3008	0	0	0	N/A
Sum of Least Squares				0.9967
New Correction Factor				0.9942

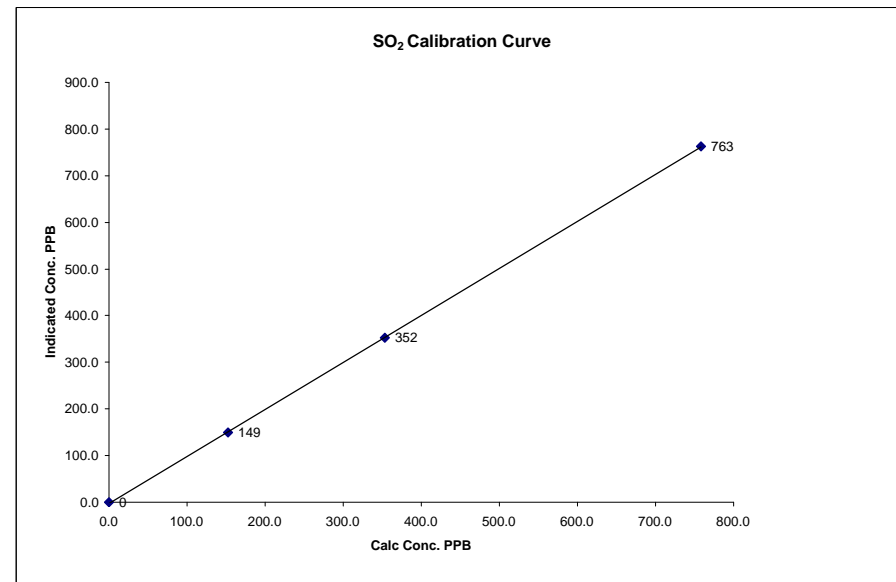
	Before Calibration	After Calibration
Auto Zero	1.5	0.5
Auto Span	364	375
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.3%

Calibration Performed by: Shea Beaton

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

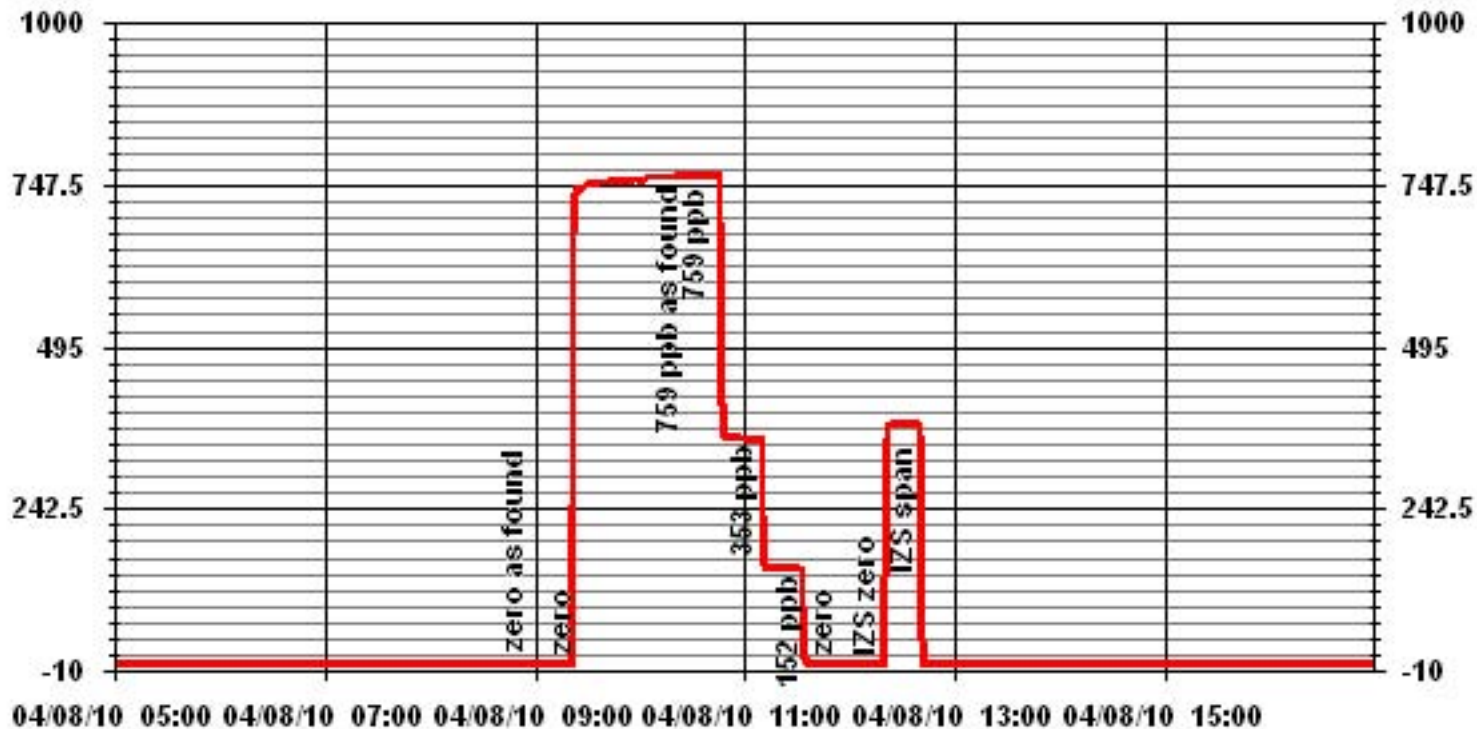
Calibration Date	April 8, 2010
Company	Lakeland Community and Industry Association
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M
Start Time (MST)	8:30
End Time (MST)	12:45

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope (≥ 0.995) (0.85 to 1.15)	Intercept (± 3% F.S.)
0	0	n/a	0.999961	1.007430
152	149	1.0207		-2.338822
353	352	1.0036		
759	763	0.9942		



Notes:

### 01 Minute Averages



— LICA33 SO2\_ PPB

# Hydrogen Sulphide

## H<sub>2</sub>S Calibration Report

### Station Information

Calibration Date	April 8, 2010	Previous Calibration	March 5, 2010
Company	<b>LAKELAND INDUSTRY &amp; COMMUNITY ASSOCIATION</b>		
Plant / Location	<b>Portable/ Devon Wellsite 13-16-62-5-W4M</b>		
Start Time (MST)	8:30	End Time (MST)	12:18
Reason:	Monthly Calibration		
Barometric Pressure	698 mmHg	Station Temperature	24 Deg C
Cal Gas	10.8 ppm	Cal Gas Expiry date	06/22/2010
DAS Output Voltage	0 - 1 Volts		

### Equipment Information

Analyzer Make / Model:	API 101E	S/N :	509	Method:	Fluorescent
Converter Make / Model:	Internal	S/N :	N/A		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Flow Meter:	API 700	S/N :	831		

### Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 100 ppb		
Sample Flow / Box Temp	537 ccm 32 Deg C	530 ccm 33.6 Deg C	
HVPS / Lamp Setting	528 2678	528 2675	
PMT / RxCell Temp	7.9 Deg C 50 Deg C	7.9 Deg C 50 Deg C	
Converter / IZS Temp	314.9 Deg C 45 Deg C	315.2 Deg C 45 Deg C	
Offset / Slope	45.3 0.966	46.4 0.973	

### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4997	0	0	1	N/A
4997	0	0	0	N/A
4960	37	80	79	1.0123
4960	37	80	80	0.9996
4981	18.5	40	40	0.9991
4987	10.6	23	23	0.9960
4998	0	0	0	N/A
Sum of Least Squares				0.9993
New Correction Factor				0.9996

### Before Calibration

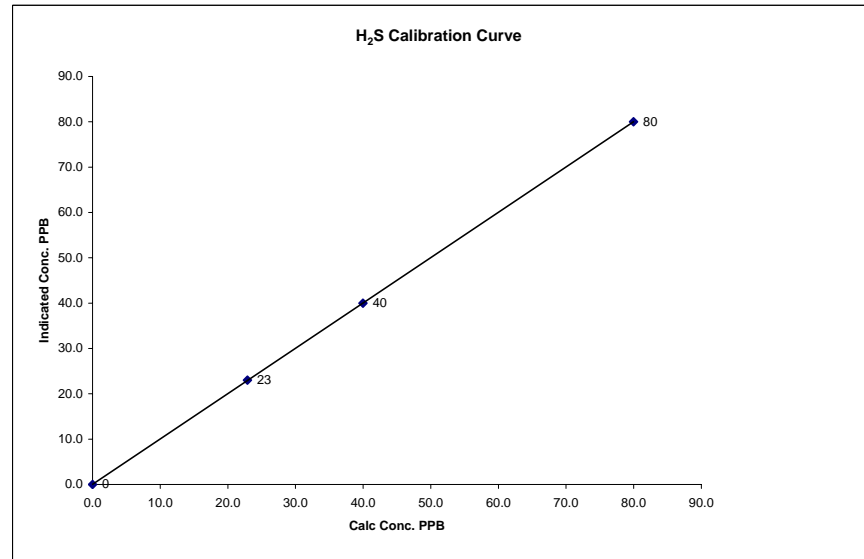
Before Calibration		After Calibration	
Auto Zero	0.7		0.6
Auto Span	59		60
Sample Lines Connected			YES
Percent Change from Previous Calibration			-1.3%

Calibration Performed by: Shea Beaton

## H<sub>2</sub>S Calibration Curve

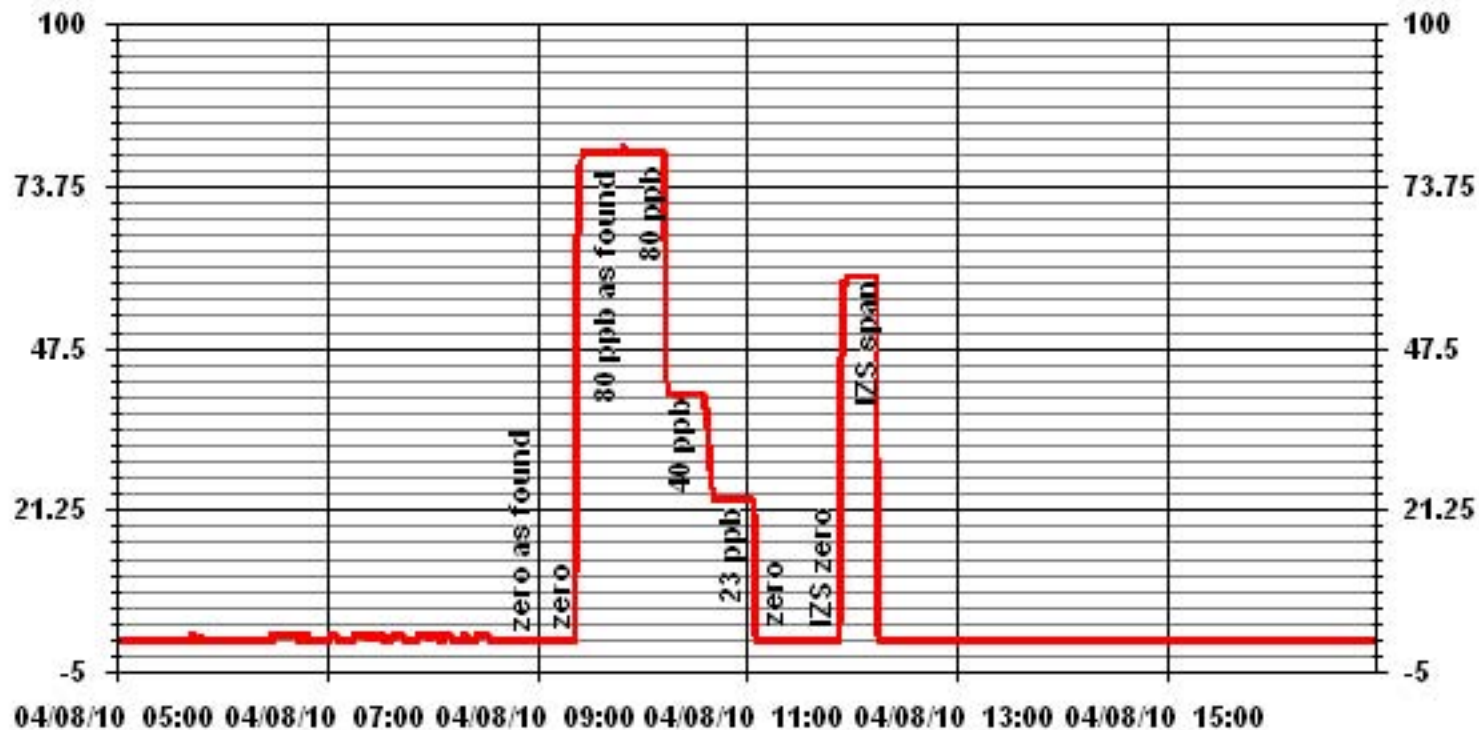
Calibration Date	April 8, 2010
Company	<b>LAKELAND INDUSTRY &amp; COMMUNITY ASSOCIATION</b>
Plant / Location	<b>Portable/ Devon Wellsite 13-16-62-5-W4M</b>
Start Time (MST)	8:30
End Time (MST)	12:18

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	( $\geq 0.995$ )	(0.85 to 1.15)
0	0	n/a	Intercept		0.036289
23	23	0.9960			
40	40	0.9991			
80	80	0.9996			



Notes:

### 01 Minute Averages



# Particulate Matter 2.5

**TEOM 1405F Audit**

	<b><u>Station</u></b>		<b><u>Audit Transfer Standard</u></b>
Date:	April 8, 2010	Make/Model:	Chinook FTS
Station Name:	Lica Portable (CASA # 33)	Serial Number:	Hi - 091001
Location:	Devon Wellsite 13-16-62-5 W4M	Cell s/n:	Lo - 091099
Operator:	LICA	Thermometer s/n:	VWR

	<b><u>Sampler</u></b>		<b><u>Set-up and current Sampler readings</u></b>
Make/Model	Thermo Scientific Series 1405F	F-Main Set Pt (l/min)	3.00
Unit #	NA	F-Aux Set Pt (l/min)	13.67
Unit s/n	1405A207691003	Filter Load (%)	17.0%
Firmware Ver.	1.51	K <sub>o</sub> Factor	15634.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	11.8
		Press (ATM)	0.918

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

ATM = (mmHg) X (1.316 X 10<sup>-3</sup>)    or    ATM = ("Hg) X (3.34207 X 10<sup>-2</sup>)

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

**Audit**

<b>Status</b>			
Noise <b>&lt;0.10ug</b>	0.004	Warnings	None
Pump Vacuum <b>&lt;0.40atm</b>	0.31	Pump Gauge (inHg)	-20
<b>Temperature/Pressure</b>			
Measured Temp ( <b>± 2 °C</b> )	12.0	D °C	-0.2
Measured Press ( <b>± 0.01atm</b> )	0.919	DATM	-0.001
<b>Flow Audit</b>			
Indicated Main Flow (l/min)	3.00	Main Flow Drift ( <b>±10.0%</b> )	0.48%
Measured Main Flow (l/min)	3.02	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.66	Bypass Flow Drift ( <b>±10.0%</b> )	0.00%
Measured Bypass Flow (l/min)	13.67	Flow Adjusted to Measured?	Yes
<b>Leak Check</b>		<b>Instrument Setup</b>	
Main ( <b>&lt; 0.15 l/min</b> )	Base = -0.02 Ref = -0.02	Flow Control = Active	
Aux ( <b>&lt; 0.6 l/min</b> )	Base = 0.0 Ref = 0.0	Report Conditions = Standard (25.0 C and 1atm)	
<b>K<sub>o</sub> Factor</b>			
Measured	NA		
K <sub>o</sub> Difference ( <b>± 2.5%</b> )	NA		

**Start Time:** 11:30      **Finish Time:** 13:00

**Sample Inlet Cleaned:** Yes      **New Filters Installed:** Yes

**New Filter Loading %:** na

**Comments:** - New Teom, installation yesterday and today, prior to audit the flows, temp, and pressure were all calibrated, analog output calibrated.

**Auditor/s:** Shea Beaton

# Nitrogen Dioxide



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

### Station Information

Calibration Date	April 8, 2010		Previous Calibration	March 5, 2010	
Company	LICA		Plant/Location	Maskwa	
Start Time (MST)	8:30		End Time (MST)	15:33	
Reason:	Monthly Calibration		Other		
Barometric Pressure	698 mmHg	Station Temperature	24 Deg C	MFCF	1
Cal Gas Concentration	NOx 50.9 ppm	NO	50.8 ppm	Cal Gas Expiry date	08-Feb-12
DAS Output Voltage	0 - 1 Volts		Chart Rec. Output	NA Volts	

### Equipment Information

Analyzer Make / Model:	API 200E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 2000	S/N:	1991		
DAS Make / Model:	ESC 8832	S/N :	AO 717		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	EnviroNics 2000	S/N :	1991		

### Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0-1000			ppb			
Sample Flow/Conv. Temp	468 ccm	315 Deg C		465 ccm	314.1 Deg C		
Ozone Flow / Vacuum	77 ccm	4.5 "Hg-A		77 ccm	4.5 "Hg-A		
HVPS / A ZERO	634 Volts	5.2 MV		634 Volts	5.4 MV		
Rx/ Temp / PMT Temp	50.0 Deg C	6.7 Deg C		50.0 Deg C	6.7 Deg C		
Box Temp / IZS Temp	31.6 Deg C	45.1 Deg C		34 Deg C	45.1 Deg C		
Offset	0.7 NOx	-0.9 NO		0.9 NOx	-0.2 NO		
Slope	1.012 NOx	1.000 NO		1.031 NOx	1.022 NO		
NO <sub>2</sub> COEF / Conv Efficiency	NA NO <sub>2</sub>	1.000		NA NO <sub>2</sub>	1.000		

### Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO <sub>2</sub>	NOx	NO	NO <sub>2</sub>	NOx	NO
3007	0.0	----	0	0	0	0	1	0	----	----
3007	0.0	----	0	0	1	0	0	0	----	----
2964	44.4	----	751	750	----	738	734	4	1.0179	1.0228
2964	44.4	----	751	750	----	753	750	3	0.9976	1.0010
2991	20.7	----	350	349	----	348	347	1	1.0053	1.0091
2999	8.9	----	151	150	----	147	148	-1	1.0245	1.0225
3001	0.0	----	0	0	0	0	1	-1	----	----

### Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO <sub>2</sub> Correction Factor	NO <sub>2</sub> Conv Efficiency
			NOx	NO	NO <sub>2</sub>	NOx	NO	NO <sub>2</sub>		
2964	44.4	----	751	750	----	750	748	1	----	
				----	749					
2964	44.4	600	751	----	520	744	229	514	1.0117 98.84%	
2964	44.4	275	751	----	244	747	505	242	1.0083 99.18%	
2964	44.4	140	751	----	121	747	628	119	1.0168 98.33%	

Linearity	Sum of Least Squares		NOx= 1.000	NO= 1.001	NO <sub>2</sub> = 1.011
OK?	Yes	No	Correction Factors: NOx= 0.9976	NO= 1.0010	NO <sub>2</sub> = 1.0117
			Average Converter Efficiency= 98.78%		

Before Calibration				After Calibration			
Auto Zero	-0.2 NOx	-0.6 NO <sub>2</sub>		-0.6 NOx	-0.6 NO <sub>2</sub>		
Auto Span	512 NOx	506 NO <sub>2</sub>		535 NOx	528 NO <sub>2</sub>		
Sample Lines Connected				YES			

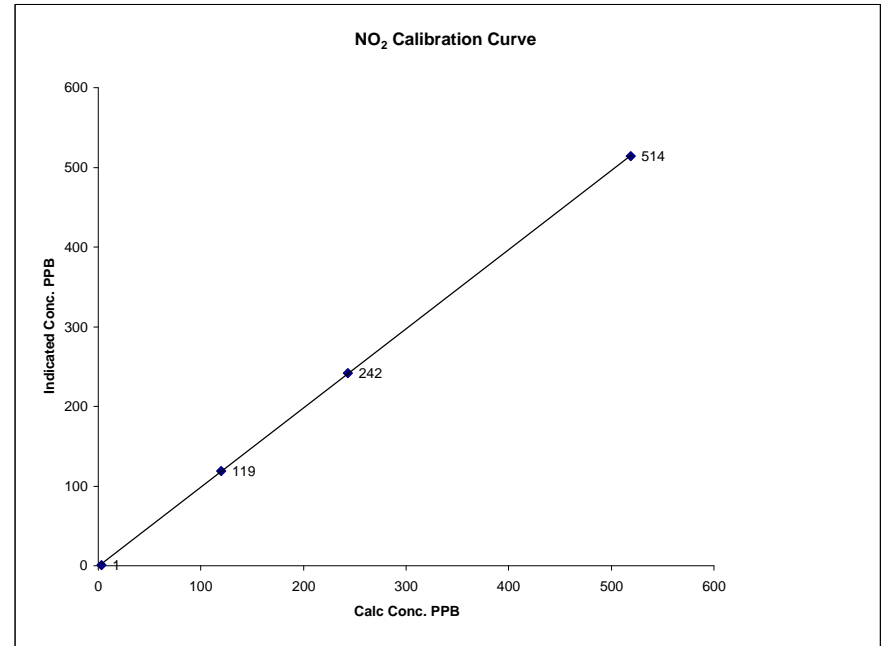
Notes: No No<sub>2</sub> adjustments made.

Calibration Performed by: Shea Beaton

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

Calibration Date	April 8, 2010		<b>LICA</b>	
Company				
Plant / Location	<b>Maskwa</b>			
Start Time (MST)	8:30	End Time (MST)	15:33	

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999970
ppb	ppb		Slope	(0.85 to 1.15)	0.993383
3	1	N/A	Intercept	(± 3% F.S.)	-0.78604
120	119	1.0084			
243	242	1.0041			
519	514	1.0097			

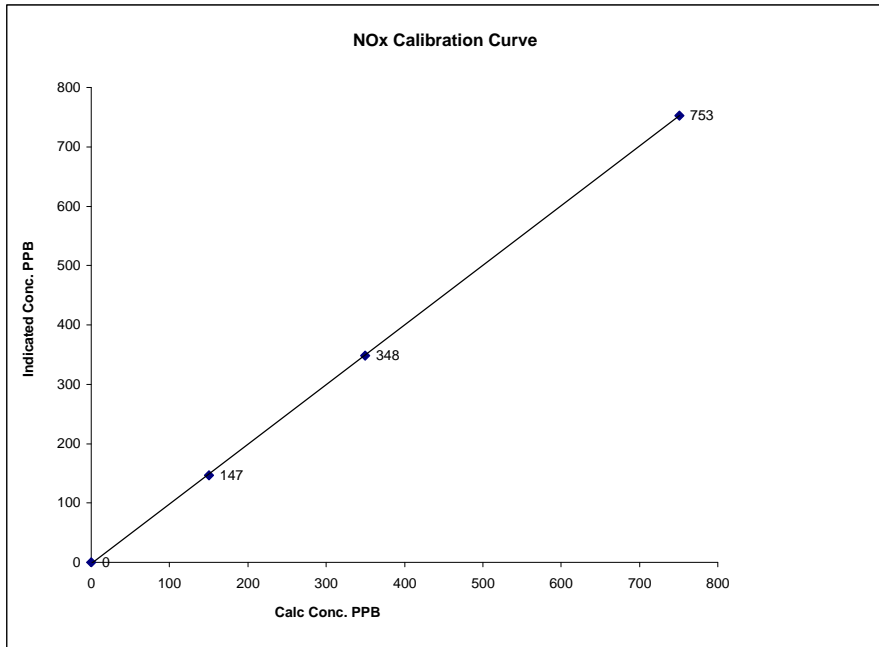


Notes:

### NOx Calibration Curve

Calibration Date April 8, 2010  
 Company LICA  
 Plant / Location Maskwa  
 Start Time (MST) 8:30 End Time (MST) 15:33

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999966
ppb	ppb		Slope	(0.85 to 1.15)	1.004088
0	0	N/A	Intercept	(± 3% F.S.)	-2.19647
151	147	1.0245			
350	348	1.0053			
751	753	0.9976			

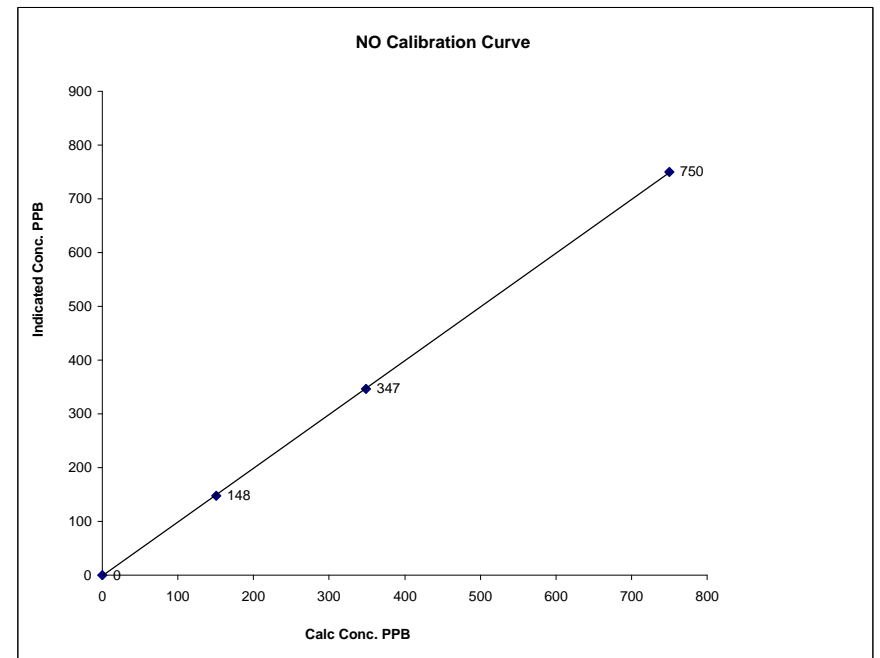


Notes:

### NO Calibration Curve

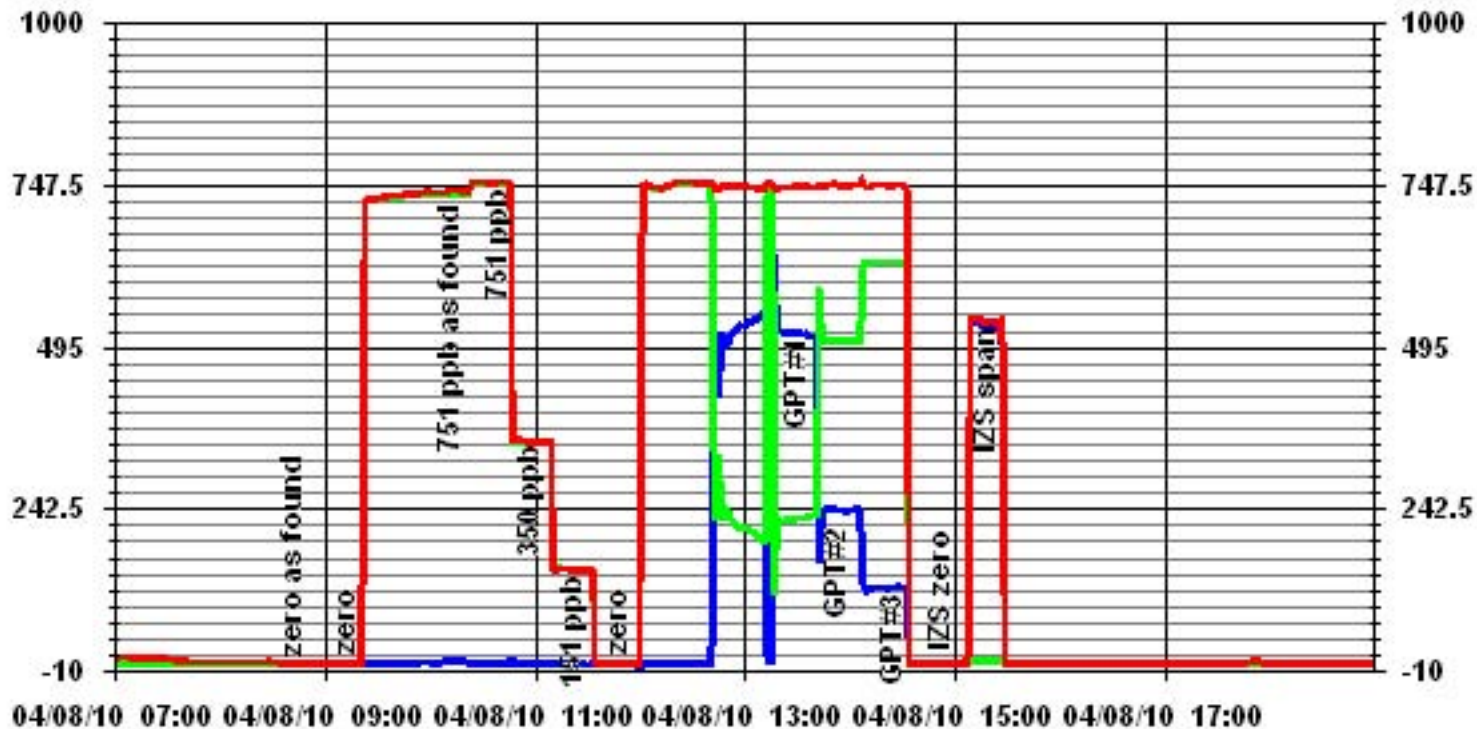
Calibration Date April 8, 2010  
 Company LICA  
 Plant / Location Maskwa  
 Start Time (MST) 8:30 End Time (MST) 15:33

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999984
ppb	ppb		Slope	(0.85 to 1.15)	1.004540
0	0	N/A	Intercept	(± 3% F.S.)	-4.2655
150	148	1.0156			
349	347	1.0062			
750	750	0.9997			



Notes:

### 01 Minute Averages



# Ozone

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

#### Station Information

Calibration Date	April 15, 2010	Previous Calibration	March 5, 2010
Company	Lakeland Industry & Community Association		
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M		
Start Time (MST)	9:00	End Time (MST)	12:32
Reason:	Removal Calibration		
Barometric Pressure	718 mm Hg	Station Temperature	24 Deg C
DAS Output Voltage	0 - 10 Volts		

#### Equipment Information

Analyzer Make / Model:	API 700	S/N :	446	Method:	Photometric
Calibrator Make / Model:	EnviroNics 2000	S/N :	1991	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	AO717		

#### Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 - 500				ppb			
Sample Flow / Box Temp	826 ccm	26.1 Deg C	811	28.4 Deg C	11 ccm	26.6 IN-HG-A	11 IN-HG-A	26.3 IN-HG-A
VAC / PRES	11	IN-HG-A	26.6	IN-HG-A	11	IN-HG-A	26.3	IN-HG-A
Sample Temp/ Photo Temp	34 Deg C	52 Deg C	35.9 Deg C	52 Deg C	47.8 Deg C	48 Deg C	47.8 Deg C	48.2 Deg C
O3 Gen Temp/Orific Temp	47.8 Deg C	48 Deg C	47.8 Deg C	48.2 Deg C	0.966	-3.7	0.966	-3.7
Offset/Slop	-3.7	0.966	-3.7	0.966				

#### Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
3002	0	0	0	N/A
3004	350	297	320	0.9281
3002	150	127	135	0.9407
3009	75	54	57	0.9474
3009	0	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				0.9281

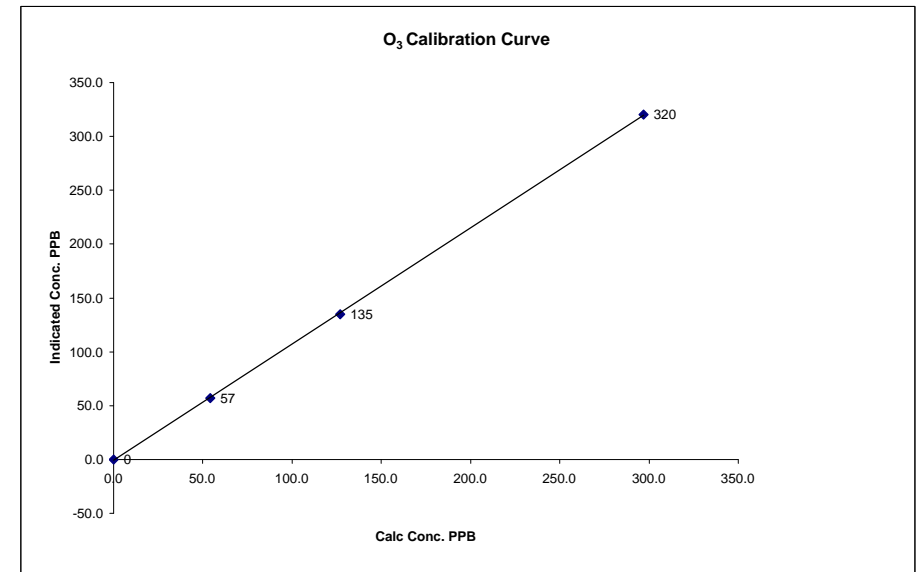
	Before Calibration	After Calibration
Auto Zero	0.4	NA
Auto Span	238	NA
Sample Lines Connected		YES
Percent Change from Previous Calibration		7.4%

Calibration Performed by: Shea Beaton

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

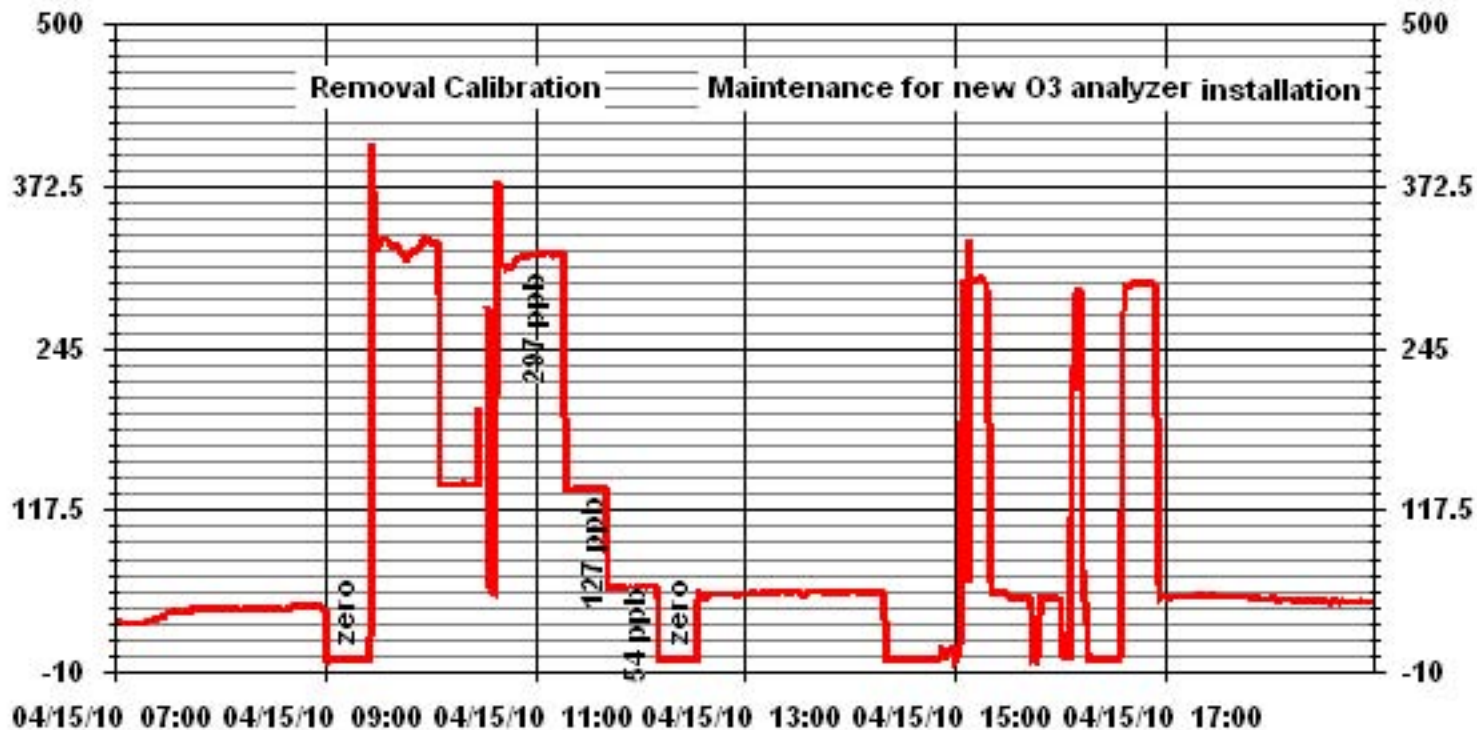
Calibration Date	April 15, 2010
Company	Lakeland Industry & Community Association
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M
Start Time (MST)	9:00
End Time (MST)	12:32

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999959
0	0	n/a	Intercept	(± 3% F.S.)	-0.905920
54	57	0.9474			
127	135	0.9407			
297	320	0.9281			



Notes: Calibrator issues, halted calibration at beginning of low span point and restarted.

### 01 Minute Averages



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

#### Station Information

Calibration Date	April 16, 2010	Previous Calibration	NA
Company	Lakeland Industry & Community Association		
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M		
Start Time (MST)	8:10	End Time (MST)	11:31
Reason:	Installation Calibration		
Barometric Pressure	718 mm Hg	Station Temperature	23 Deg C
DAS Output Voltage	0 - 10 Volts		

#### Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	1002240372	Method:	Photometric
Calibrator Make / Model:	Enviroics 2000	S/N :	1991	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	AO717		

#### Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500			
Cell A Flow / Cell B Flow	735 ccm	714 ccm	731 ccm	710 Deg C
Pressure	709 mmHg		705.1 mmHg	
Bench Lamp Temp	54.1 Deg C		54.1 Deg C	
O3 Lamp / Box Temp	68.2 Deg C	36.6 Deg C	68.4 Deg C	37.5 Deg C
Offset/Slop	0	0.936	0	0.941

#### Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
3006	0	0	0	N/A
3006	350	297	295	1.0068
3008	350	297	299	0.9933
3008	150	127	126	1.0079
3004	75	54	53	1.0189
3006	0	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				0.9933

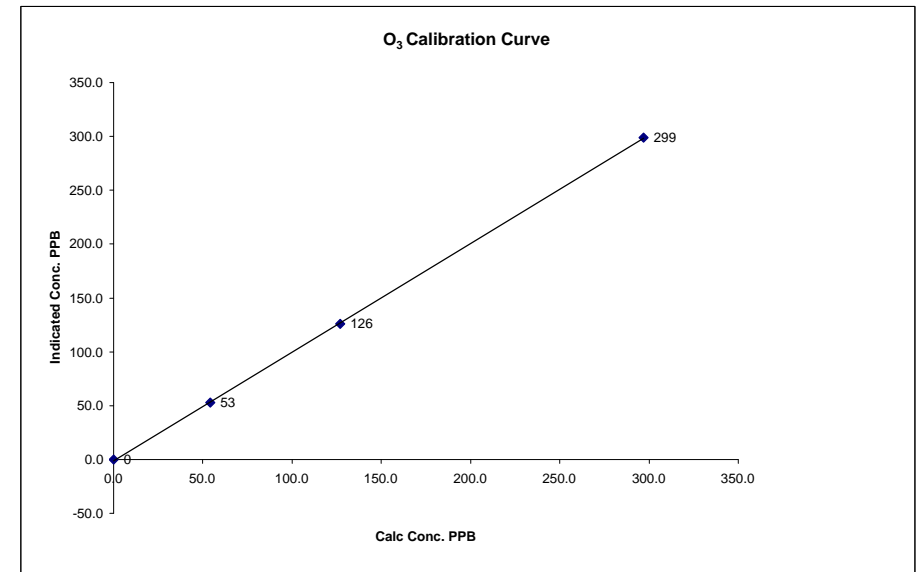
	Before Calibration	After Calibration
Auto Zero	0.1	0.0
Auto Span	328	345
Sample Lines Connected		YES
Percent Change from Previous Calibration		-

Calibration Performed by: Shea Beaton

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

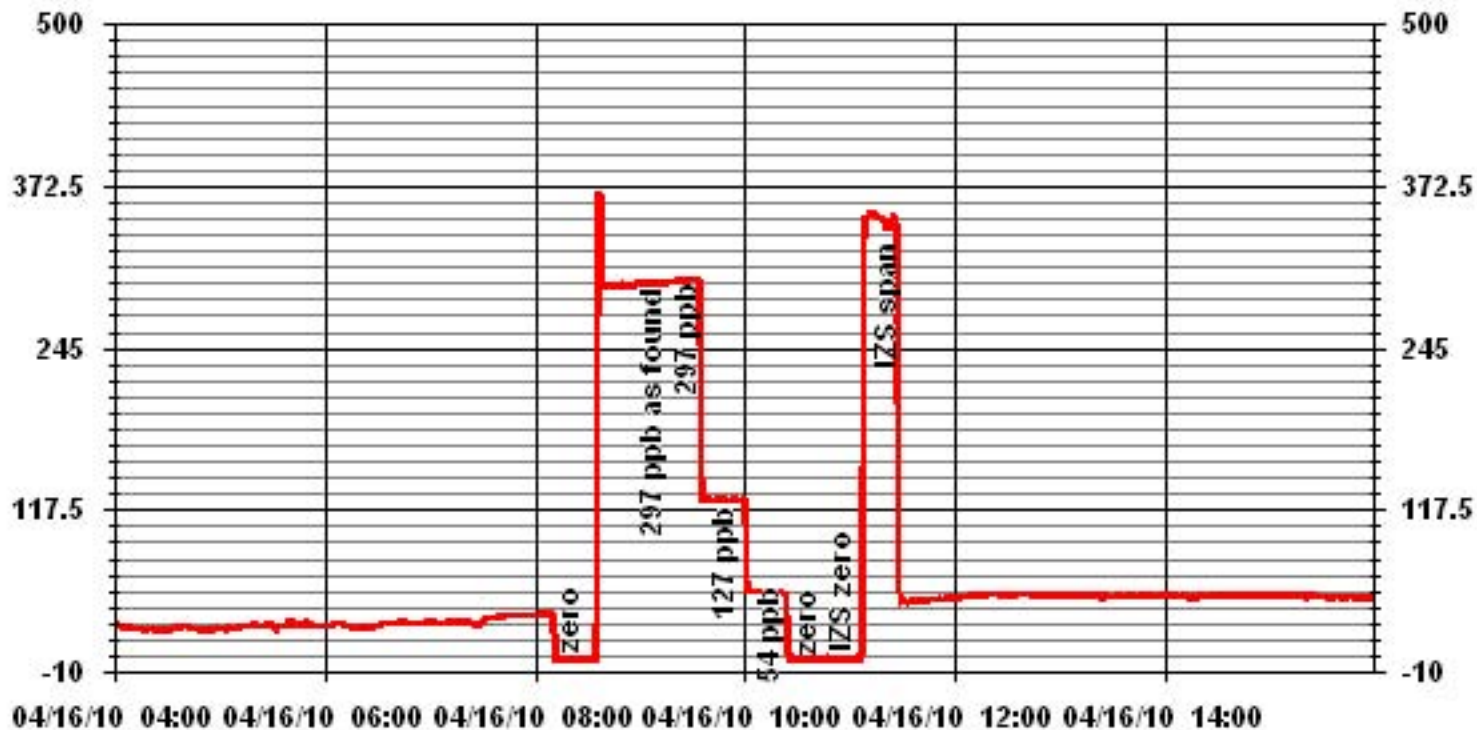
Calibration Date	April 16, 2010		
Company	Lakeland Industry & Community Association		
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M		
Start Time (MST)	8:10	End Time (MST)	11:31

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999949
0	0	n/a	Intercept	(± 3% F.S.)	-0.984451
54	53	1.0189			
127	126	1.0079			
297	299	0.9933			



Notes: This analyzer was installed yesterday then allowed to stabilize overnight.

### 01 Minute Averages





# Total Hydrocarbons

### THC Calibration Report

#### Station Information

Calibration Date:	April 8, 2010	Previous Calibration	March 5, 2010
Company:	Lakeland Industry and Community Association		
Plant / Location:	LICA1/Cold Lake		
Start Time (MST)	11:50	End Time (MST)	15:17
Reason:	Monthly Calibration		
Barometric Pressure:	698 mmHg	Station Temperature:	24 Deg C
Calibrator:	API 700	S/N:	813
Cal Gas Concentration:	207Prop/602Meth/1171.25THC	ppm	Cal Gas Expiry Date: 9/21/2011
DAS make & Model:	ESC 8832	S/N :	AO717
Output Voltage Range:	0 - 10 VDC		

#### Analyzer Information

Make / Model	TECO 51C	S/N :	04366-09739	Method	Flame Ionization
--------------	----------	-------	-------------	--------	------------------

#### Analyzer Settings

	Before Calibration	After Calibration
Concentration Range	0 - 50 ppm	0 - 50 ppm
Sample Pressure	6.8 psi	6.8 psi
Hydrogen Pressure	7.5 psi	7.5 psi
Air Pressure	21 psi	21 psi

#### Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0	0.0	-0.1	N/A
2001	0.0	0.0	0.0	N/A
2000	70.0	39.6	39.6	1.0002
2001	35.0	20.1	19.7	1.0221
2001	20.0	11.6	11.3	1.0257
2001	0	0.0	0.0	N/A
Correction Factor:				1.0002

#### Percent Change

Previous Calibration Correction Factor:	0.9897
Current Correction Factor Before Span Adjust:	1.0002
Percent Change:	-1.0%

#### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	-0.1	0.0
Auto Span	32.2	32.3
Sample Lines Connected		YES

#### Cylinder Pressures

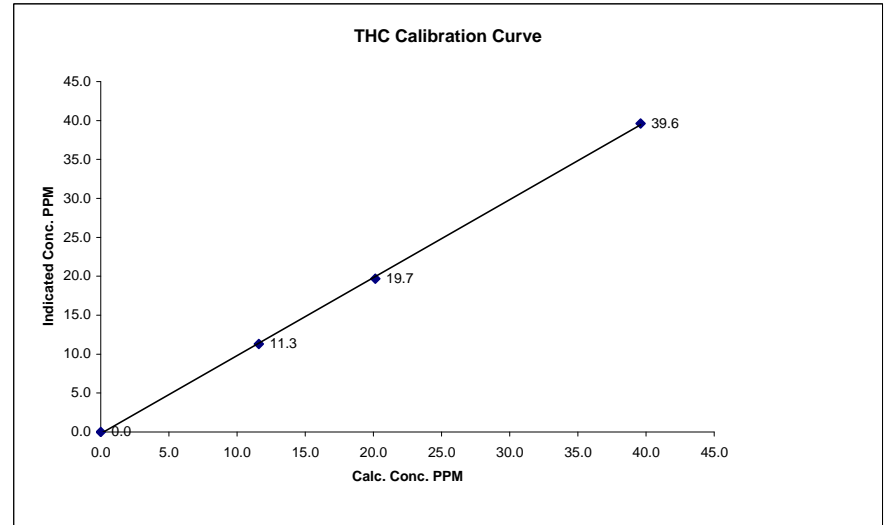
Span	550 psi
Hydrogen	900 psi
Zero Air	unlimited psi Using API 700

Calibration Performed by: Shea Beaton

### THC Calibration Curve

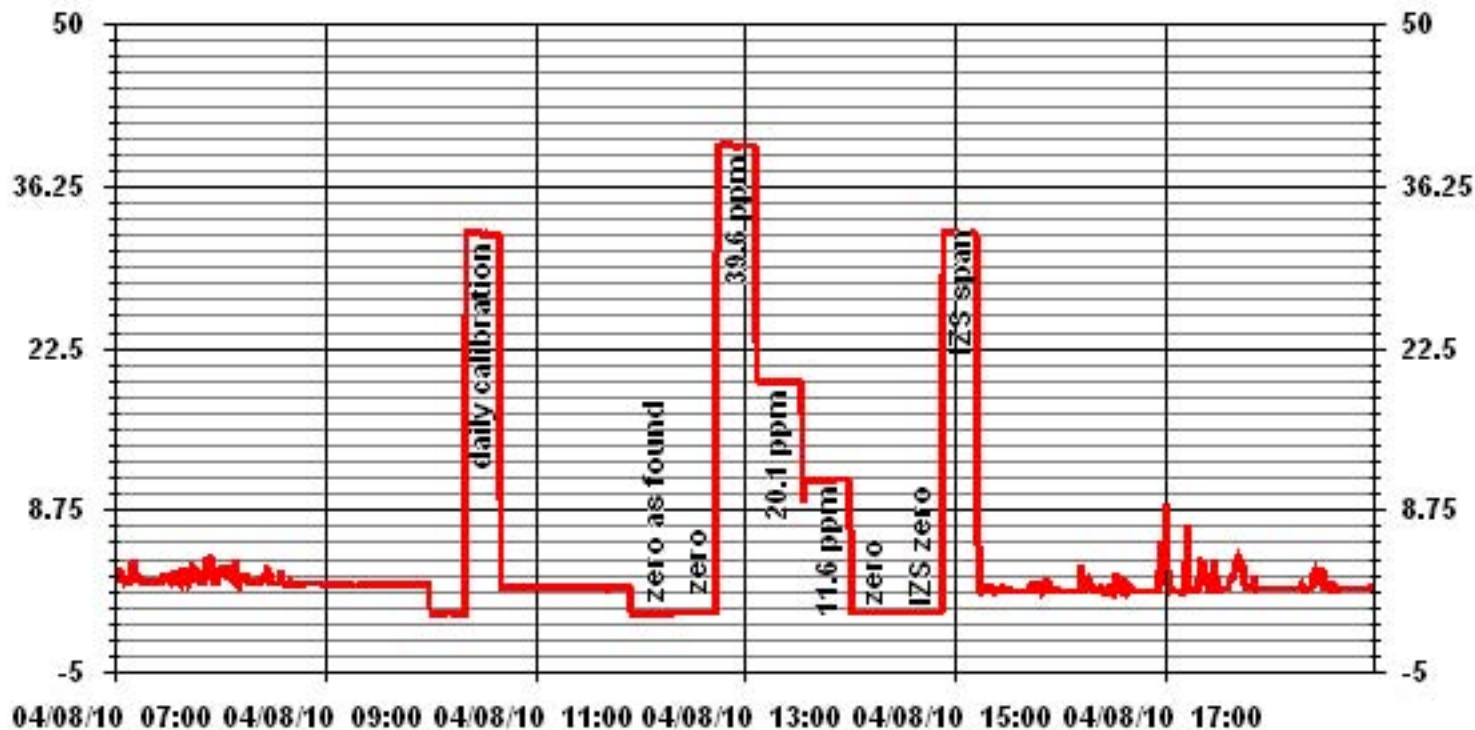
Calibration Date	April 8, 2010
Company	Lakeland Industry and Community Association
Plant / Location	LICA1/Cold Lake
Start Time (MST)	11:50
End Time (MST)	15:17

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999835
0.0	0.0		Intercept	(0.85 to 1.15)	1.000780
11.6	11.3	1.0257		(± 3% F.S.)	-0.197095
20.1	19.7	1.0221			
39.6	39.6	1.0002			



Notes: Cal gas THC concentration = 1171.25 ppm THC

### 01 Minute Averages



# **Volatile Organics Laboratory Analysis**

# Maxxam Analytics Inc.

## Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200  
 Location: 13-16-62-5 W4M Canister ID: 7793  
 Station ID: Lica 33 (Portable) Canister Installation Date/Time: Apr 1, 10 @ 08:58 mst  
 Field Sample ID: LICA VOC/PORT/ Apr 2, 10 Canister Removal Date/Time: Apr 5, 10 @ 08:43 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
02-Apr-10	04/02/2010 0:00	04/03/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1478	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	20.5

**Canister valve open prior to sampling?: YES / NO**  
**Timer set to 0.00 minutes prior to sampling? YES / NO**  
**Canister valve closed prior to disconnection?: YES / NO**

Comments: System leak check prior to sampling. COC# 2305  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signature: Shea Beaton



Your C.O.C. #: 2305

**Attention: Shea Beaton**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/04/13**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B040929**

**Received: 2010/04/07, 12:58**

Sample Matrix: AIR  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/04/08	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/04/08	BRL SOP-00304	EPA TO-15

(1) Air sampling canisters have been cleaned in accordance with U.S. EPA Method TO14A. At the end of the cleaning, evacuation, and pressurization cycles, one canister was selected and was pressurized with Zero Air. This canister was then analyzed via TO14A on a GC/MS. The canister must have been found to contain <0.2 ppbv concentration of all target analytes in order for the batch to have been considered clean. Each canister also underwent a leak check prior to shipment.

Please Note: SUMMA® canister samples will be retained by Maxxam for a period of 5 calendar days from the date of this report, after which time they will be cleaned for reuse. If you require a longer sample storage period, please contact your service representative.

**Encryption Key**

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Total cover pages: 1

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**RESULTS OF ANALYSES OF AIR**

Maxxam ID		FN1245	FN1246	
Sampling Date		2010/04/02	2010/04/02	
COC Number		2305	2305	
	<b>Units</b>	<b>LICA</b>	<b>LICA</b>	<b>QC Batch</b>
		<b>VOC/CLS/APR2,10</b>	<b>VOC/PORT/APR2,10</b>	

<b>Volatile Organics</b>				
Pressure on Receipt	psig	18	20	2119712

QC Batch = Quality Control Batch

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1245				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
		<b>VOC/CLS/APR2,10</b>				

<b>Volatile Organics</b>						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2121743
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2121743
Propene	ppbv	<0.30	0.30	<0.516	0.516	2121743
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2121743
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2121743
Dichlorodifluoromethane (FREON 12)	ppbv	0.52	0.20	2.59	0.989	2121743
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2121743
Chloromethane	ppbv	0.63	0.30	1.30	0.620	2121743
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2121743
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2121743
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2121743
Trichlorofluoromethane (FREON 11)	ppbv	0.23	0.20	1.30	1.12	2121743
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2121743
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2121743
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2121743
2-Propanone	ppbv	2.07	0.80	4.92	1.90	2121743
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2121743
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2121743
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2121743
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2121743
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2121743
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2121743
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2121743
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2121743
Methylene Chloride(Dichloromethane)	ppbv	0.45	0.30	1.55	1.04	2121743
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2121743
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2121743
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2121743
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2121743
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2121743
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2121743
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2121743

 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch



Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1245				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
		<b>VOC/CLS/APR2,10</b>				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2121743
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2121743
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2121743
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2121743
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2121743
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2121743
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2121743
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2121743
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2121743
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2121743
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2121743
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2121743
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2121743
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2121743
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2121743
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2121743
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2121743
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2121743
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2121743
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2121743
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2121743
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2121743
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2121743
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2121743
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2121743
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2121743
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2121743
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2121743
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2121743
<b>Surrogate Recovery (%)</b>						
Bromochloromethane	%	82		N/A	N/A	2121743
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1245				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
		<b>VOC/CLS/APR2,10</b>				

D5-Chlorobenzene	%	74		N/A	N/A	2121743
Difluorobenzene	%	72		N/A	N/A	2121743

N/A = Not Applicable  
 QC Batch = Quality Control Batch

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1246				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
		<b>VOC/PORT/APR2,10</b>				

<b>Volatile Organics</b>						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2121743
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2121743
Propene	ppbv	<0.30	0.30	<0.516	0.516	2121743
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2121743
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2121743
Dichlorodifluoromethane (FREON 12)	ppbv	0.52	0.20	2.58	0.989	2121743
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2121743
Chloromethane	ppbv	0.61	0.30	1.25	0.620	2121743
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2121743
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2121743
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2121743
Trichlorofluoromethane (FREON 11)	ppbv	0.22	0.20	1.26	1.12	2121743
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2121743
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2121743
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2121743
2-Propanone	ppbv	1.31	0.80	3.12	1.90	2121743
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2121743
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2121743
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2121743
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2121743
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2121743
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2121743
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2121743
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2121743
Methylene Chloride(Dichloromethane)	ppbv	0.39	0.30	1.36	1.04	2121743
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2121743
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2121743
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2121743
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2121743
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2121743
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2121743
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2121743
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1246				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
		<b>VOC/PORT/APR2,10</b>				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2121743
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2121743
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2121743
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2121743
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2121743
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2121743
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2121743
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2121743
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2121743
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2121743
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2121743
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2121743
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2121743
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2121743
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2121743
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2121743
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2121743
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2121743
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2121743
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2121743
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2121743
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2121743
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2121743
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2121743
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2121743
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2121743
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2121743
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2121743
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2121743
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2121743
<b>Surrogate Recovery (%)</b>						
Bromochloromethane	%	82		N/A	N/A	2121743
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B040929  
 Report Date: 2010/04/13

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FN1246				
Sampling Date		2010/04/02				
COC Number		2305				
	<b>Units</b>	<b>LICA</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
		<b>VOC/PORT/APR2,10</b>				

D5-Chlorobenzene	%	72		N/A	N/A	2121743
Difluorobenzene	%	70		N/A	N/A	2121743

N/A = Not Applicable  
 QC Batch = Quality Control Batch

Maxxam Job #: B040929  
 Report Date: 2010/04/13

### Test Summary

**Maxxam ID** FN1245 **Collected** 2010/04/02  
**Sample ID** LICA VOC/CLS/APR2,10 **Shipped**  
**Matrix** AIR **Received** 2010/04/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2119712	N/A	2010/04/08	S_S
Volatile Organics in Air (TO-15)	GC/MS	2121743	N/A	2010/04/08	S_S

**Maxxam ID** FN1246 **Collected** 2010/04/02  
**Sample ID** LICA VOC/PORT/APR2,10 **Shipped**  
**Matrix** AIR **Received** 2010/04/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2119712	N/A	2010/04/08	S_S
Volatile Organics in Air (TO-15)	GC/MS	2121743	N/A	2010/04/08	S_S

Maxxam Job #: B040929  
Report Date: 2010/04/13

**GENERAL COMMENTS**

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB040929

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2121743 S_S	Spiked Blank	Bromochloromethane	2010/04/08		101	%	60 - 140
		D5-Chlorobenzene	2010/04/08		101	%	60 - 140
		Difluorobenzene	2010/04/08		101	%	60 - 140
		2,2,4-Trimethylpentane	2010/04/08		87	%	70 - 130
		Carbon Disulfide	2010/04/08		89	%	70 - 130
		Propene	2010/04/08		85	%	70 - 130
		Vinyl Acetate	2010/04/08		113	%	70 - 130
		Vinyl Bromide	2010/04/08		75	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/04/08		80	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/04/08		71	%	70 - 130
		Chloromethane	2010/04/08		81	%	70 - 130
		Vinyl Chloride	2010/04/08		81	%	70 - 130
		Chloroethane	2010/04/08		79	%	70 - 130
		1,3-Butadiene	2010/04/08		67 (1)	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/04/08		79	%	70 - 130
		Trichlorotrifluoroethane	2010/04/08		84	%	70 - 130
		Ethanol	2010/04/08		94	%	70 - 130
		2-propanol	2010/04/08		94	%	70 - 130
		2-Propanone	2010/04/08		94	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/04/08		123	%	70 - 130
		Methyl Isobutyl Ketone	2010/04/08		90	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/04/08		98	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/04/08		99	%	70 - 130
		Ethyl Acetate	2010/04/08		90	%	70 - 130
		1,1-Dichloroethylene	2010/04/08		81	%	70 - 130
		cis-1,2-Dichloroethylene	2010/04/08		92	%	70 - 130
		trans-1,2-Dichloroethylene	2010/04/08		92	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/04/08		79	%	70 - 130
		Chloroform	2010/04/08		82	%	70 - 130
		Carbon Tetrachloride	2010/04/08		87	%	70 - 130
		1,1-Dichloroethane	2010/04/08		87	%	70 - 130
		1,2-Dichloroethane	2010/04/08		83	%	70 - 130
		Ethylene Dibromide	2010/04/08		88	%	70 - 130
		1,1,1-Trichloroethane	2010/04/08		85	%	70 - 130
		1,1,2-Trichloroethane	2010/04/08		86	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/04/08		85	%	70 - 130
		cis-1,3-Dichloropropene	2010/04/08		99	%	70 - 130
		trans-1,3-Dichloropropene	2010/04/08		102	%	70 - 130
		1,2-Dichloropropane	2010/04/08		86	%	70 - 130
		Bromomethane	2010/04/08		74	%	70 - 130
		Bromoform	2010/04/08		94	%	70 - 130
		Bromodichloromethane	2010/04/08		86	%	70 - 130
		Dibromochloromethane	2010/04/08		90	%	70 - 130
		Heptane	2010/04/08		90	%	70 - 130
		Trichloroethylene	2010/04/08		87	%	70 - 130
		Tetrachloroethylene	2010/04/08		87	%	70 - 130
		Benzene	2010/04/08		91	%	70 - 130
		Toluene	2010/04/08		99	%	70 - 130
		Ethylbenzene	2010/04/08		96	%	70 - 130
		p+m-Xylene	2010/04/08		94	%	70 - 130
		o-Xylene	2010/04/08		93	%	70 - 130
		Styrene	2010/04/08		84	%	70 - 130
		1,3,5-Trimethylbenzene	2010/04/08		90	%	70 - 130
		1,2,4-Trimethylbenzene	2010/04/08		95	%	70 - 130
		4-ethyltoluene	2010/04/08		94	%	70 - 130



Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

## Quality Assurance Report (Continued)

Maxxam Job Number: GB040929

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2121743 S_S	Spiked Blank	Chlorobenzene	2010/04/08		81	%	70 - 130
		Benzyl chloride	2010/04/08		95	%	70 - 130
		1,3-Dichlorobenzene	2010/04/08		90	%	70 - 130
		1,4-Dichlorobenzene	2010/04/08		84	%	70 - 130
		1,2-Dichlorobenzene	2010/04/08		88	%	70 - 130
		1,2,4-Trichlorobenzene	2010/04/08		77	%	70 - 130
		Hexachlorobutadiene	2010/04/08		79	%	70 - 130
		Hexane	2010/04/08		95	%	70 - 130
		Cyclohexane	2010/04/08		96	%	70 - 130
		Tetrahydrofuran	2010/04/08		97	%	70 - 130
		1,4-Dioxane	2010/04/08		92	%	70 - 130
	Method Blank	Bromochloromethane	2010/04/08		87	%	60 - 140
		D5-Chlorobenzene	2010/04/08		85	%	60 - 140
		Difluorobenzene	2010/04/08		86	%	60 - 140
		2,2,4-Trimethylpentane	2010/04/08	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2010/04/08	ND, RDL=0.50		ppbv	
		Propene	2010/04/08	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2010/04/08	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2010/04/08	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/04/08	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/04/08	ND, RDL=0.17		ppbv	
		Chloromethane	2010/04/08	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2010/04/08	ND, RDL=0.18		ppbv	
		Chloroethane	2010/04/08	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2010/04/08	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/04/08	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2010/04/08	ND, RDL=0.15		ppbv	
		Ethanol	2010/04/08	ND, RDL=2.3		ppbv	
		2-propanol	2010/04/08	ND, RDL=3.0		ppbv	
		2-Propanone	2010/04/08	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/04/08	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2010/04/08	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/04/08	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/04/08	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2010/04/08	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2010/04/08	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/04/08	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/04/08	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/04/08	ND, RDL=0.30		ppbv	
		Chloroform	2010/04/08	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2010/04/08	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2010/04/08	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2010/04/08	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2010/04/08	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2010/04/08	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2010/04/08	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/04/08	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2010/04/08	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2010/04/08	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2010/04/08	ND, RDL=0.40		ppbv	
		Bromomethane	2010/04/08	ND, RDL=0.18		ppbv	
		Bromoform	2010/04/08	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2010/04/08	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2010/04/08	ND, RDL=0.20		ppbv	
		Heptane	2010/04/08	ND, RDL=0.30		ppbv	

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)  
 Maxxam Job Number: GB040929

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2121743 S_S	Method Blank	Trichloroethylene	2010/04/08	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2010/04/08	ND, RDL=0.20		ppbv	
		Benzene	2010/04/08	ND, RDL=0.18		ppbv	
		Toluene	2010/04/08	ND, RDL=0.20		ppbv	
		Ethylbenzene	2010/04/08	ND, RDL=0.20		ppbv	
		p+m-Xylene	2010/04/08	ND, RDL=0.37		ppbv	
		o-Xylene	2010/04/08	ND, RDL=0.20		ppbv	
		Styrene	2010/04/08	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/04/08	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/04/08	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2010/04/08	ND, RDL=2.2		ppbv	
		Chlorobenzene	2010/04/08	ND, RDL=0.20		ppbv	
		Benzyl chloride	2010/04/08	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2010/04/08	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2010/04/08	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2010/04/08	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/04/08	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2010/04/08	ND, RDL=3.0		ppbv	
		Hexane	2010/04/08	ND, RDL=0.30		ppbv	
		Cyclohexane	2010/04/08	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2010/04/08	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2010/04/08	ND, RDL=2.0		ppbv	
		Xylene (Total)	2010/04/08	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	2-propanol	2010/04/08	0.7		%	25

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.  
 ( 1 ) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

# Maxxam Analytics Inc.

## Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200  
 Location: 13-16-62-5 W4M Canister ID: 7814  
 Station ID: Lica 33 (Portable) Canister Installation Date/Time: Apr 7, 10 @ 15:10 mst  
 Field Sample ID: LICA VOC/PORT/ Apr 8, 10 Canister Removal Date/Time: Apr 9, 10 @ 09:45 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
08-Apr-10	04/08/2010 0:00	04/09/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1478	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	21

**Canister valve open prior to sampling?: YES / NO**  
**Timer set to 0.00 minutes prior to sampling? YES / NO**  
**Canister valve closed prior to disconnection?: YES / NO**

Comments: System leak check prior to sampling. COC# 4513  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signature: Shea Beaton



Your C.O.C. #: 4513

**Attention: Shea Beaton**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/04/22**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B044580**

**Received: 2010/04/14, 17:11**

Sample Matrix: AIR  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/04/19	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/04/19	BRL SOP-00304	EPA TO-15

(1) Air sampling canisters have been cleaned in accordance with U.S. EPA Method TO14A. At the end of the cleaning, evacuation, and pressurization cycles, one canister was selected and was pressurized with Zero Air. This canister was then analyzed via TO14A on a GC/MS. The canister must have been found to contain <0.2 ppbv concentration of all target analytes in order for the batch to have been considered clean. Each canister also underwent a leak check prior to shipment.

Please Note: SUMMA® canister samples will be retained by Maxxam for a period of 5 calendar days from the date of this report, after which time they will be cleaned for reuse. If you require a longer sample storage period, please contact your service representative.

**Encryption Key**

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Total cover pages: 1

Maxxam Job #: B044580  
 Report Date: 2010/04/22

**RESULTS OF ANALYSES OF AIR**

Maxxam ID		FO9064	FO9065	
Sampling Date		2010/04/08	2010/04/08	
COC Number		4513	4513	
	<b>Units</b>	<b>LICA VOC/CLS/APR 8, 10 - S2355</b>	<b>LICA VOC/PORT/APR 8,10 - 7814</b>	<b>QC Batch</b>

<b>Volatile Organics</b>				
Pressure on Receipt	psig	16	19	2128841

QC Batch = Quality Control Batch

Maxxam Job #: B044580  
 Report Date: 2010/04/22

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FO9064			FO9065				
Sampling Date		2010/04/08			2010/04/08				
COC Number		4513			4513				
	<b>Units</b>	<b>LICA VOC/CLS/APR 8, 10 - S2355</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>LICA VOC/PORT/APR 8,10 - 7814</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>

<b>Volatile Organics</b>									
2,2,4-Trimethylpentane	ppbv	<0.20	<0.934	0.934	<0.20	0.20	<0.934	0.934	2128839
Carbon Disulfide	ppbv	<0.50	<1.56	1.56	<0.50	0.50	<1.56	1.56	2128839
Propene	ppbv	<0.30	<0.516	0.516	<0.30	0.30	<0.516	0.516	2128839
Vinyl Acetate	ppbv	<0.20	<0.704	0.704	<0.20	0.20	<0.704	0.704	2128839
Vinyl Bromide	ppbv	<0.20	<0.875	0.875	<0.20	0.20	<0.875	0.875	2128839
Dichlorodifluoromethane (FREON 12)	ppbv	0.59	2.91	0.989	0.60	0.20	2.98	0.989	2128839
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	<1.19	1.19	<0.17	0.17	<1.19	1.19	2128839
Chloromethane	ppbv	0.60	1.24	0.620	0.60	0.30	1.25	0.620	2128839
Vinyl Chloride	ppbv	<0.18	<0.460	0.460	<0.18	0.18	<0.460	0.460	2128839
Chloroethane	ppbv	<0.30	<0.792	0.792	<0.30	0.30	<0.792	0.792	2128839
1,3-Butadiene	ppbv	<0.50	<1.11	1.11	<0.50	0.50	<1.11	1.11	2128839
Trichlorofluoromethane (FREON 11)	ppbv	0.32	1.81	1.12	0.31	0.20	1.75	1.12	2128839
Trichlorotrifluoroethane	ppbv	<0.15	<1.15	1.15	<0.15	0.15	<1.15	1.15	2128839
Ethanol	ppbv	<2.3	<4.33	4.33	<2.3	2.3	<4.33	4.33	2128839
2-propanol	ppbv	<3.0	<7.37	7.37	<3.0	3.0	<7.37	7.37	2128839
2-Propanone	ppbv	2.16	5.14	1.90	2.18	0.80	5.17	1.90	2128839
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	<8.85	8.85	<3.0	3.0	<8.85	8.85	2128839
Methyl Isobutyl Ketone	ppbv	<3.2	<13.1	13.1	<3.2	3.2	<13.1	13.1	2128839
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	<8.19	8.19	<2.0	2.0	<8.19	8.19	2128839
Methyl t-butyl ether (MTBE)	ppbv	<0.20	<0.721	0.721	<0.20	0.20	<0.721	0.721	2128839
Ethyl Acetate	ppbv	<2.2	<7.93	7.93	<2.2	2.2	<7.93	7.93	2128839
1,1-Dichloroethylene	ppbv	<0.25	<0.991	0.991	<0.25	0.25	<0.991	0.991	2128839
cis-1,2-Dichloroethylene	ppbv	<0.19	<0.753	0.753	<0.19	0.19	<0.753	0.753	2128839
trans-1,2-Dichloroethylene	ppbv	<0.20	<0.793	0.793	<0.20	0.20	<0.793	0.793	2128839
Methylene Chloride(Dichloromethane)	ppbv	0.61	2.12	1.04	0.57	0.30	1.96	1.04	2128839
Chloroform	ppbv	<0.15	<0.732	0.732	<0.15	0.15	<0.732	0.732	2128839
Carbon Tetrachloride	ppbv	<0.30	<1.89	1.89	<0.30	0.30	<1.89	1.89	2128839
1,1-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2128839
1,2-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2128839
Ethylene Dibromide	ppbv	<0.17	<1.31	1.31	<0.17	0.17	<1.31	1.31	2128839
1,1,1-Trichloroethane	ppbv	<0.30	<1.64	1.64	<0.30	0.30	<1.64	1.64	2128839

 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B044580  
 Report Date: 2010/04/22

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FO9064			FO9065				
Sampling Date		2010/04/08			2010/04/08				
COC Number		4513			4513				
	Units	LICA VOC/CLS/APR 8, 10 - S2355	ug/m3	DL (ug/m3)	LICA VOC/PORT/APR 8,10 - 7814	RDL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	<0.818	0.818	<0.15	0.15	<0.818	0.818	2128839
1,1,2,2-Tetrachloroethane	ppbv	<0.20	<1.37	1.37	<0.20	0.20	<1.37	1.37	2128839
cis-1,3-Dichloropropene	ppbv	<0.18	<0.817	0.817	<0.18	0.18	<0.817	0.817	2128839
trans-1,3-Dichloropropene	ppbv	<0.17	<0.772	0.772	<0.17	0.17	<0.772	0.772	2128839
1,2-Dichloropropane	ppbv	<0.40	<1.85	1.85	<0.40	0.40	<1.85	1.85	2128839
Bromomethane	ppbv	<0.18	<0.699	0.699	<0.18	0.18	<0.699	0.699	2128839
Bromoform	ppbv	<0.20	<2.07	2.07	<0.20	0.20	<2.07	2.07	2128839
Bromodichloromethane	ppbv	<0.20	<1.34	1.34	<0.20	0.20	<1.34	1.34	2128839
Dibromochloromethane	ppbv	<0.20	<1.70	1.70	<0.20	0.20	<1.70	1.70	2128839
Heptane	ppbv	<0.30	<1.23	1.23	<0.30	0.30	<1.23	1.23	2128839
Trichloroethylene	ppbv	<0.30	<1.61	1.61	<0.30	0.30	<1.61	1.61	2128839
Tetrachloroethylene	ppbv	<0.20	<1.36	1.36	<0.20	0.20	<1.36	1.36	2128839
Benzene	ppbv	<0.18	<0.575	0.575	<0.18	0.18	<0.575	0.575	2128839
Toluene	ppbv	<0.20	<0.753	0.753	<0.20	0.20	<0.753	0.753	2128839
Ethylbenzene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2128839
p+m-Xylene	ppbv	<0.37	<1.61	1.61	<0.37	0.37	<1.61	1.61	2128839
o-Xylene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2128839
Styrene	ppbv	<0.20	<0.852	0.852	<0.20	0.20	<0.852	0.852	2128839
1,3,5-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2128839
1,2,4-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2128839
4-ethyltoluene	ppbv	<2.2	<10.8	10.8	<2.2	2.2	<10.8	10.8	2128839
Chlorobenzene	ppbv	<0.20	<0.921	0.921	<0.20	0.20	<0.921	0.921	2128839
Benzyl chloride	ppbv	<1.0	<5.18	5.18	<1.0	1.0	<5.18	5.18	2128839
1,3-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2128839
1,4-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2128839
1,2-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2128839
1,2,4-Trichlorobenzene	ppbv	<2.0	<14.8	14.8	<2.0	2.0	<14.8	14.8	2128839
Hexachlorobutadiene	ppbv	<3.0	<32.0	32.0	<3.0	3.0	<32.0	32.0	2128839
Hexane	ppbv	<0.30	<1.06	1.06	<0.30	0.30	<1.06	1.06	2128839
Cyclohexane	ppbv	<0.20	<0.688	0.688	0.27	0.20	0.929	0.688	2128839
Tetrahydrofuran	ppbv	<0.40	<1.18	1.18	<0.40	0.40	<1.18	1.18	2128839
1,4-Dioxane	ppbv	<2.0	<7.21	7.21	<2.0	2.0	<7.21	7.21	2128839
Xylene (Total)	ppbv	<0.60	<2.61	2.61	<0.60	0.60	<2.61	2.61	2128839
QC Batch = Quality Control Batch									

Maxxam Job #: B044580  
 Report Date: 2010/04/22

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FO9064			FO9065				
Sampling Date		2010/04/08			2010/04/08				
COC Number		4513			4513				
	<b>Units</b>	<b>LICA VOC/CLS/APR 8, 10 - S2355</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>LICA VOC/PORT/APR 8,10 - 7814</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>

<b>Surrogate Recovery (%)</b>									
Bromochloromethane	%	77	N/A	N/A	73		N/A	N/A	2128839
D5-Chlorobenzene	%	79	N/A	N/A	75		N/A	N/A	2128839
Difluorobenzene	%	79	N/A	N/A	76		N/A	N/A	2128839

N/A = Not Applicable  
 QC Batch = Quality Control Batch



Maxxam Job #: B044580  
 Report Date: 2010/04/22

### Test Summary

<b>Maxxam ID</b>	FO9064	<b>Collected</b>	2010/04/08
<b>Sample ID</b>	LICA VOC/CLS/APR 8, 10 - S2355	<b>Shipped</b>	
<b>Matrix</b>	AIR	<b>Received</b>	2010/04/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2128841	N/A	2010/04/19	LSY
Volatile Organics in Air (TO-15)	GC/MS	2128839	N/A	2010/04/19	LSY

<b>Maxxam ID</b>	FO9065	<b>Collected</b>	2010/04/08
<b>Sample ID</b>	LICA VOC/PORT/APR 8,10 - 7814	<b>Shipped</b>	
<b>Matrix</b>	AIR	<b>Received</b>	2010/04/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2128841	N/A	2010/04/19	LSY
Volatile Organics in Air (TO-15)	GC/MS	2128839	N/A	2010/04/19	LSY

Maxxam Job #: B044580  
Report Date: 2010/04/22

**GENERAL COMMENTS**

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB044580

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2128839 LSY	Spiked Blank	Bromochloromethane	2010/04/19		101	%	60 - 140
		D5-Chlorobenzene	2010/04/19		102	%	60 - 140
		Difluorobenzene	2010/04/19		102	%	60 - 140
		2,2,4-Trimethylpentane	2010/04/19		93	%	70 - 130
		Carbon Disulfide	2010/04/19		83	%	70 - 130
		Propene	2010/04/19		91	%	70 - 130
		Vinyl Acetate	2010/04/19		105	%	70 - 130
		Vinyl Bromide	2010/04/19		96	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/04/19		98	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/04/19		88	%	70 - 130
		Chloromethane	2010/04/19		96	%	70 - 130
		Vinyl Chloride	2010/04/19		102	%	70 - 130
		Chloroethane	2010/04/19		101	%	70 - 130
		1,3-Butadiene	2010/04/19		86	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/04/19		101	%	70 - 130
		Trichlorotrifluoroethane	2010/04/19		102	%	70 - 130
		Ethanol	2010/04/19		113	%	70 - 130
		2-propanol	2010/04/19		106	%	70 - 130
		2-Propanone	2010/04/19		110	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/04/19		105	%	70 - 130
		Methyl Isobutyl Ketone	2010/04/19		101	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/04/19		112	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/04/19		93	%	70 - 130
		Ethyl Acetate	2010/04/19		96	%	70 - 130
		1,1-Dichloroethylene	2010/04/19		105	%	70 - 130
		cis-1,2-Dichloroethylene	2010/04/19		98	%	70 - 130
		trans-1,2-Dichloroethylene	2010/04/19		94	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/04/19		87	%	70 - 130
		Chloroform	2010/04/19		96	%	70 - 130
		Carbon Tetrachloride	2010/04/19		107	%	70 - 130
		1,1-Dichloroethane	2010/04/19		93	%	70 - 130
		1,2-Dichloroethane	2010/04/19		93	%	70 - 130
		Ethylene Dibromide	2010/04/19		98	%	70 - 130
		1,1,1-Trichloroethane	2010/04/19		98	%	70 - 130
		1,1,2-Trichloroethane	2010/04/19		96	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/04/19		90	%	70 - 130
		cis-1,3-Dichloropropene	2010/04/19		108	%	70 - 130
		trans-1,3-Dichloropropene	2010/04/19		112	%	70 - 130
		1,2-Dichloropropane	2010/04/19		95	%	70 - 130
		Bromomethane	2010/04/19		102	%	70 - 130
		Bromoform	2010/04/19		98	%	70 - 130
		Bromodichloromethane	2010/04/19		97	%	70 - 130
		Dibromochloromethane	2010/04/19		93	%	70 - 130
		Heptane	2010/04/19		95	%	70 - 130
		Trichloroethylene	2010/04/19		97	%	70 - 130
		Tetrachloroethylene	2010/04/19		93	%	70 - 130
		Benzene	2010/04/19		95	%	70 - 130
		Toluene	2010/04/19		98	%	70 - 130
		Ethylbenzene	2010/04/19		95	%	70 - 130
		p+m-Xylene	2010/04/19		96	%	70 - 130
		o-Xylene	2010/04/19		95	%	70 - 130
		Styrene	2010/04/19		98	%	70 - 130
		1,3,5-Trimethylbenzene	2010/04/19		96	%	70 - 130
		1,2,4-Trimethylbenzene	2010/04/19		95	%	70 - 130
		4-ethyltoluene	2010/04/19		88	%	70 - 130

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

## Quality Assurance Report (Continued)

Maxxam Job Number: GB044580

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2128839 LSY	Spiked Blank	Chlorobenzene	2010/04/19		95	%	70 - 130
		Benzyl chloride	2010/04/19		144 (1)	%	70 - 130
		1,3-Dichlorobenzene	2010/04/19		100	%	70 - 130
		1,4-Dichlorobenzene	2010/04/19		100	%	70 - 130
		1,2-Dichlorobenzene	2010/04/19		96	%	70 - 130
		1,2,4-Trichlorobenzene	2010/04/19		118	%	70 - 130
		Hexachlorobutadiene	2010/04/19		80	%	70 - 130
		Hexane	2010/04/19		88	%	70 - 130
		Cyclohexane	2010/04/19		94	%	70 - 130
		Tetrahydrofuran	2010/04/19		99	%	70 - 130
		1,4-Dioxane	2010/04/19		103	%	70 - 130
	Method Blank	Bromochloromethane	2010/04/19		89	%	60 - 140
		D5-Chlorobenzene	2010/04/19		90	%	60 - 140
		Difluorobenzene	2010/04/19		92	%	60 - 140
		2,2,4-Trimethylpentane	2010/04/19	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2010/04/19	ND, RDL=0.50		ppbv	
		Propene	2010/04/19	0.52, RDL=0.30		ppbv	
		Vinyl Acetate	2010/04/19	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2010/04/19	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/04/19	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/04/19	ND, RDL=0.17		ppbv	
		Chloromethane	2010/04/19	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2010/04/19	ND, RDL=0.18		ppbv	
		Chloroethane	2010/04/19	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2010/04/19	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/04/19	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2010/04/19	ND, RDL=0.15		ppbv	
		Ethanol	2010/04/19	ND, RDL=2.3		ppbv	
		2-propanol	2010/04/19	ND, RDL=3.0		ppbv	
		2-Propanone	2010/04/19	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/04/19	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2010/04/19	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/04/19	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/04/19	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2010/04/19	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2010/04/19	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/04/19	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/04/19	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/04/19	0.52, RDL=0.30		ppbv	
		Chloroform	2010/04/19	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2010/04/19	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2010/04/19	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2010/04/19	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2010/04/19	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2010/04/19	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2010/04/19	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/04/19	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2010/04/19	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2010/04/19	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2010/04/19	ND, RDL=0.40		ppbv	
		Bromomethane	2010/04/19	ND, RDL=0.18		ppbv	
		Bromoform	2010/04/19	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2010/04/19	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2010/04/19	ND, RDL=0.20		ppbv	
		Heptane	2010/04/19	ND, RDL=0.30		ppbv	

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB044580

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2128839 LSY	Method Blank	Trichloroethylene	2010/04/19	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2010/04/19	ND, RDL=0.20		ppbv	
		Benzene	2010/04/19	ND, RDL=0.18		ppbv	
		Toluene	2010/04/19	ND, RDL=0.20		ppbv	
		Ethylbenzene	2010/04/19	ND, RDL=0.20		ppbv	
		p+m-Xylene	2010/04/19	ND, RDL=0.37		ppbv	
		o-Xylene	2010/04/19	ND, RDL=0.20		ppbv	
		Styrene	2010/04/19	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/04/19	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/04/19	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2010/04/19	ND, RDL=2.2		ppbv	
		Chlorobenzene	2010/04/19	ND, RDL=0.20		ppbv	
		Benzyl chloride	2010/04/19	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2010/04/19	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2010/04/19	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2010/04/19	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/04/19	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2010/04/19	ND, RDL=3.0		ppbv	
		Hexane	2010/04/19	ND, RDL=0.30		ppbv	
		Cyclohexane	2010/04/19	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2010/04/19	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2010/04/19	ND, RDL=2.0		ppbv	
		Xylene (Total)	2010/04/19	ND, RDL=0.60		ppbv	

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.  
 ( 1 ) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

# Maxxam Analytics Inc.

## Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200  
 Location: 13-16-62-5 W4M Canister ID: 7823  
 Station ID: Lica 33 (Portable) Canister Installation Date/Time: Apr 12, 10 @ 15:20 mst  
 Field Sample ID: LICA VOC/PORT/ Apr 14, 10 Canister Removal Date/Time: Apr 15, 10 @ 11:11 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
14-Apr-10	04/14/2010 0:00	04/15/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1478	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	21

**Canister valve open prior to sampling?: YES / NO**  
**Timer set to 0.00 minutes prior to sampling? YES / NO**  
**Canister valve closed prior to disconnection?: YES / NO**

Comments: System leak check prior to sampling. COC# 0557

- Adjusted timer clock to match logger clock exactly prior to installation

Technician Signature: Shea Beaton

Your C.O.C. #: 0557

**Attention: Shea Beaton**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/04/29**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B046184**

**Received: 2010/04/17, 14:48**

Sample Matrix: AIR  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/04/27	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (ug/m3)	2	N/A	2010/04/29	BRL SOP-00304	

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

Encryption Key

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Page 1 of 5

Maxxam Job #: B046184  
 Report Date: 2010/04/29

**RESULTS OF ANALYSES OF AIR**

Maxxam ID		FP6506	FP6507	
Sampling Date		2010/04/14	2010/04/14	
COC Number		0557	0557	
	<b>Units</b>	<b>LICA VOC/CLS/APR 14, 10 - 7827</b>	<b>LICA VOC/PORT/APR 14, 10 - 72823</b>	<b>QC Batch</b>

<b>Volatile Organics</b>				
Pressure on Receipt	psig	19	20	2136339

QC Batch = Quality Control Batch



Maxxam Job #: B046184  
 Report Date: 2010/04/29

**CALCULATED VOLATILE ORGANICS (AIR)**

Maxxam ID		FP6506	FP6507		
Sampling Date		2010/04/14	2010/04/14		
COC Number		0557	0557		
	Units	LICA VOC/CLS/APR 14, 10 - 7827	LICA VOC/PORT/APR 14, 10 - 72823	RDL	QC Batch
<b>Calculated Parameters</b>					
2,2,4-Trimethylpentane	ug/m3	<0.93	<0.93	0.93	2137456
Carbon Disulfide	ug/m3	<1.6	<1.6	1.6	2137456
Propene	ug/m3	<0.52	<0.52	0.52	2137456
Vinyl Acetate	ug/m3	<0.70	<0.70	0.70	2137456
Vinyl Bromide	ug/m3	<0.87	<0.87	0.87	2137456
Dichlorodifluoromethane (FREON 12)	ug/m3	2.92	3.01	0.99	2137456
1,2-Dichlorotetrafluoroethane	ug/m3	<1.2	<1.2	1.2	2137456
Chloromethane	ug/m3	1.35	1.26	0.62	2137456
Vinyl Chloride	ug/m3	<0.46	<0.46	0.46	2137456
Chloroethane	ug/m3	<0.79	<0.79	0.79	2137456
1,3-Butadiene	ug/m3	<1.1	<1.1	1.1	2137456
Trichlorofluoromethane (FREON 11)	ug/m3	1.9	1.8	1.1	2137456
Ethanol	ug/m3	<4.3	<4.3	4.3	2137456
Trichlorotrifluoroethane	ug/m3	<1.1	<1.1	1.1	2137456
2-propanol	ug/m3	<7.4	<7.4	7.4	2137456
2-Propanone	ug/m3	6.8	18.6	1.9	2137456
Methyl Ethyl Ketone (2-Butanone)	ug/m3	<8.8	<8.8	8.8	2137456
Methyl Isobutyl Ketone	ug/m3	<13	<13	13	2137456
Methyl Butyl Ketone (2-Hexanone)	ug/m3	<8.2	<8.2	8.2	2137456
Methyl t-butyl ether (MTBE)	ug/m3	<0.72	<0.72	0.72	2137456
Ethyl Acetate	ug/m3	<7.9	<7.9	7.9	2137456
1,1-Dichloroethylene	ug/m3	<0.99	<0.99	0.99	2137456
cis-1,2-Dichloroethylene	ug/m3	<0.75	<0.75	0.75	2137456
trans-1,2-Dichloroethylene	ug/m3	<0.79	<0.79	0.79	2137456
Methylene Chloride(Dichloromethane)	ug/m3	2.6	2.6	1.0	2137456
Chloroform	ug/m3	<0.73	<0.73	0.73	2137456
Carbon Tetrachloride	ug/m3	<1.9	<1.9	1.9	2137456
1,1-Dichloroethane	ug/m3	<0.81	<0.81	0.81	2137456
1,2-Dichloroethane	ug/m3	<0.81	<0.81	0.81	2137456
Ethylene Dibromide	ug/m3	<1.3	<1.3	1.3	2137456
1,1,1-Trichloroethane	ug/m3	<1.6	<1.6	1.6	2137456
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Maxxam Job #: B046184  
 Report Date: 2010/04/29

**CALCULATED VOLATILE ORGANICS (AIR)**

Maxxam ID		FP6506	FP6507		
Sampling Date		2010/04/14	2010/04/14		
COC Number		0557	0557		
	Units	LICA VOC/CLS/APR 14, 10 - 7827	LICA VOC/PORT/APR 14, 10 - 72823	RDL	QC Batch
1,1,2-Trichloroethane	ug/m3	<0.82	<0.82	0.82	2137456
1,1,2,2-Tetrachloroethane	ug/m3	<1.4	<1.4	1.4	2137456
cis-1,3-Dichloropropene	ug/m3	<0.82	<0.82	0.82	2137456
trans-1,3-Dichloropropene	ug/m3	<0.77	<0.77	0.77	2137456
1,2-Dichloropropane	ug/m3	<1.8	<1.8	1.8	2137456
Bromomethane	ug/m3	<0.70	<0.70	0.70	2137456
Bromoform	ug/m3	<2.1	<2.1	2.1	2137456
Bromodichloromethane	ug/m3	<1.3	<1.3	1.3	2137456
Dibromochloromethane	ug/m3	<1.7	<1.7	1.7	2137456
Trichloroethylene	ug/m3	<1.6	<1.6	1.6	2137456
Tetrachloroethylene	ug/m3	<1.4	<1.4	1.4	2137456
Benzene	ug/m3	<0.58	<0.58	0.58	2137456
Toluene	ug/m3	<0.75	<0.75	0.75	2137456
Ethylbenzene	ug/m3	<0.87	<0.87	0.87	2137456
p+m-Xylene	ug/m3	<1.6	<1.6	1.6	2137456
o-Xylene	ug/m3	<0.87	<0.87	0.87	2137456
Styrene	ug/m3	<0.85	<0.85	0.85	2137456
4-ethyltoluene	ug/m3	<11	<11	11	2137456
1,3,5-Trimethylbenzene	ug/m3	<2.5	<2.5	2.5	2137456
1,2,4-Trimethylbenzene	ug/m3	<2.5	<2.5	2.5	2137456
Chlorobenzene	ug/m3	<0.92	<0.92	0.92	2137456
Benzyl chloride	ug/m3	<5.2	<5.2	5.2	2137456
1,3-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137456
1,4-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137456
1,2-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137456
1,2,4-Trichlorobenzene	ug/m3	<15	<15	15	2137456
Hexachlorobutadiene	ug/m3	<32	<32	32	2137456
Hexane	ug/m3	<1.1	<1.1	1.1	2137456
Tetrahydrofuran	ug/m3	<1.2	<1.2	1.2	2137456
1,4-Dioxane	ug/m3	<7.2	<7.2	7.2	2137456
Xylene (Total)	ug/m3	<2.6	<2.6	2.6	2137456
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Maxxam Job #: B046184  
Report Date: 2010/04/29

**GENERAL COMMENTS**

3 compounds were >140% in the reference standard. These compounds were not found in the samples so the data should not be affected.

**Results relate only to the items tested.**

# Maxxam Analytics Inc.

## Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200  
 Location: 13-16-62-5 W4M Canister ID: 7782  
 Station ID: Lica 33 (Portable) Canister Installation Date/Time: Apr 18, 10 @ 10:50 mst  
 Field Sample ID: LICA VOC/PORT/ Apr 20, 10 Canister Removal Date/Time: Apr 21, 10 @ 13:50 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
20-Apr-10	04/20/2010 0:00	04/21/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1478	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	21

**Canister valve open prior to sampling?: YES / NO**  
**Timer set to 0.00 minutes prior to sampling? YES / NO**  
**Canister valve closed prior to disconnection?: YES / NO**

Comments: System leak check prior to sampling. COC# 4569  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signature: Shea Beaton

Your C.O.C. #: 4569

**Attention: Michael Bisaga**

Lakeland Industry & Community Assoc.  
 P.O. Box 8237  
 Bonnyville, AB  
 CANADA T9N 2J5

**Report Date: 2010/04/29**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B049793**  
**Received: 2010/04/24, 15:51**

Sample Matrix: AIR  
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/04/27	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (ug/m3)	2	N/A	2010/04/29	BRL SOP-00304	

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

Encryption Key

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

THERESA STEPHENSON, Project Manager  
 Email: Theresa.Stephenson@MaxxamAnalytics.com  
 Phone# (905) 817-5763

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Total cover pages: 1

Maxxam Job #: B049793  
 Report Date: 2010/04/29

**RESULTS OF ANALYSES OF AIR**

Maxxam ID		FR3574	FR3575	
Sampling Date		2010/04/20	2010/04/20	
COC Number		4569	4569	
	<b>Units</b>	<b>LICA VOC/CLS/APR 20,10 - 7839</b>	<b>LICA VOC/PORT/APR 20,10 - 7782</b>	<b>QC Batch</b>

<b>Volatile Organics</b>				
Pressure on Receipt	psig	20	20	2136244

QC Batch = Quality Control Batch

Maxxam Job #: B049793  
 Report Date: 2010/04/29

**CALCULATED VOLATILE ORGANICS (AIR)**

Maxxam ID		FR3574	FR3575		
Sampling Date		2010/04/20	2010/04/20		
COC Number		4569	4569		
	Units	LICA VOC/CLS/APR 20,10 - 7839	LICA VOC/PORT/APR 20,10 - 7782	RDL	QC Batch
<b>Calculated Parameters</b>					
2,2,4-Trimethylpentane	ug/m3	<0.93	<0.93	0.93	2137459
Carbon Disulfide	ug/m3	<1.6	<1.6	1.6	2137459
Propene	ug/m3	<0.52	<0.52	0.52	2137459
Vinyl Acetate	ug/m3	<0.70	<0.70	0.70	2137459
Vinyl Bromide	ug/m3	<0.87	<0.87	0.87	2137459
Dichlorodifluoromethane (FREON 12)	ug/m3	2.53	2.43	0.99	2137459
1,2-Dichlorotetrafluoroethane	ug/m3	<1.2	<1.2	1.2	2137459
Chloromethane	ug/m3	0.78	0.75	0.62	2137459
Vinyl Chloride	ug/m3	<0.46	<0.46	0.46	2137459
Chloroethane	ug/m3	<0.79	<0.79	0.79	2137459
1,3-Butadiene	ug/m3	<1.1	<1.1	1.1	2137459
Trichlorofluoromethane (FREON 11)	ug/m3	1.3	1.3	1.1	2137459
Ethanol	ug/m3	<4.3	<4.3	4.3	2137459
Trichlorotrifluoroethane	ug/m3	<1.1	<1.1	1.1	2137459
2-propanol	ug/m3	<7.4	<7.4	7.4	2137459
2-Propanone	ug/m3	5.1	4.7	1.9	2137459
Methyl Ethyl Ketone (2-Butanone)	ug/m3	<8.8	<8.8	8.8	2137459
Methyl Isobutyl Ketone	ug/m3	<13	<13	13	2137459
Methyl Butyl Ketone (2-Hexanone)	ug/m3	<8.2	<8.2	8.2	2137459
Methyl t-butyl ether (MTBE)	ug/m3	<0.72	<0.72	0.72	2137459
Ethyl Acetate	ug/m3	<7.9	<7.9	7.9	2137459
1,1-Dichloroethylene	ug/m3	<0.99	<0.99	0.99	2137459
cis-1,2-Dichloroethylene	ug/m3	<0.75	<0.75	0.75	2137459
trans-1,2-Dichloroethylene	ug/m3	<0.79	<0.79	0.79	2137459
Methylene Chloride(Dichloromethane)	ug/m3	1.3	1.4	1.0	2137459
Chloroform	ug/m3	<0.73	<0.73	0.73	2137459
Carbon Tetrachloride	ug/m3	<1.9	<1.9	1.9	2137459
1,1-Dichloroethane	ug/m3	<0.81	<0.81	0.81	2137459
1,2-Dichloroethane	ug/m3	<0.81	<0.81	0.81	2137459
Ethylene Dibromide	ug/m3	<1.3	<1.3	1.3	2137459
1,1,1-Trichloroethane	ug/m3	<1.6	<1.6	1.6	2137459
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Maxxam Job #: B049793  
 Report Date: 2010/04/29

**CALCULATED VOLATILE ORGANICS (AIR)**

Maxxam ID		FR3574	FR3575		
Sampling Date		2010/04/20	2010/04/20		
COC Number		4569	4569		
	Units	LICA VOC/CLS/APR 20,10 - 7839	LICA VOC/PORT/APR 20,10 - 7782	RDL	QC Batch
1,1,2-Trichloroethane	ug/m3	<0.82	<0.82	0.82	2137459
1,1,2,2-Tetrachloroethane	ug/m3	<1.4	<1.4	1.4	2137459
cis-1,3-Dichloropropene	ug/m3	<0.82	<0.82	0.82	2137459
trans-1,3-Dichloropropene	ug/m3	<0.77	<0.77	0.77	2137459
1,2-Dichloropropane	ug/m3	<1.8	<1.8	1.8	2137459
Bromomethane	ug/m3	<0.70	<0.70	0.70	2137459
Bromoform	ug/m3	<2.1	<2.1	2.1	2137459
Bromodichloromethane	ug/m3	<1.3	<1.3	1.3	2137459
Dibromochloromethane	ug/m3	<1.7	<1.7	1.7	2137459
Trichloroethylene	ug/m3	<1.6	<1.6	1.6	2137459
Tetrachloroethylene	ug/m3	<1.4	<1.4	1.4	2137459
Benzene	ug/m3	<0.58	<0.58	0.58	2137459
Toluene	ug/m3	<0.75	<0.75	0.75	2137459
Ethylbenzene	ug/m3	<0.87	<0.87	0.87	2137459
p+m-Xylene	ug/m3	<1.6	<1.6	1.6	2137459
o-Xylene	ug/m3	<0.87	<0.87	0.87	2137459
Styrene	ug/m3	<0.85	<0.85	0.85	2137459
4-ethyltoluene	ug/m3	<11	<11	11	2137459
1,3,5-Trimethylbenzene	ug/m3	<2.5	<2.5	2.5	2137459
1,2,4-Trimethylbenzene	ug/m3	<2.5	<2.5	2.5	2137459
Chlorobenzene	ug/m3	<0.92	<0.92	0.92	2137459
Benzyl chloride	ug/m3	<5.2	<5.2	5.2	2137459
1,3-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137459
1,4-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137459
1,2-Dichlorobenzene	ug/m3	<2.4	<2.4	2.4	2137459
1,2,4-Trichlorobenzene	ug/m3	<15	<15	15	2137459
Hexachlorobutadiene	ug/m3	<32	<32	32	2137459
Hexane	ug/m3	<1.1	<1.1	1.1	2137459
Tetrahydrofuran	ug/m3	<1.2	<1.2	1.2	2137459
1,4-Dioxane	ug/m3	<7.2	<7.2	7.2	2137459
Xylene (Total)	ug/m3	<2.6	<2.6	2.6	2137459
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					



Maxxam Job #: B049793  
Report Date: 2010/04/29

**GENERAL COMMENTS**

**Results relate only to the items tested.**

# Maxxam Analytics Inc.

## Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200  
 Location: 13-16-62-5 W4M Canister ID: 7845  
 Station ID: Lica 33 (Portable) Canister Installation Date/Time: Apr 23, 10 @ 14:40 mst  
 Field Sample ID: LICA VOC/PORT/ Apr 26, 10 Canister Removal Date/Time: Apr 27, 10 @ 08:45 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
26-Apr-10	04/26/2010 0:00	04/27/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1478	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	20.5

**Canister valve open prior to sampling?: YES / NO**  
**Timer set to 0.00 minutes prior to sampling? YES / NO**  
**Canister valve closed prior to disconnection?: YES / NO**

Comments: System leak check prior to sampling. COC# 0985  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signature: Shea Beaton



Your C.O.C. #: 0985

**Attention: Michael Bisaga**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/05/10**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B052380**

**Received: 2010/04/29, 15:06**

Sample Matrix: AIR  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/05/04	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/05/04	BRL SOP-00304	EPA TO-15

(1) Air sampling canisters have been cleaned in accordance with U.S. EPA Method TO14A. At the end of the cleaning, evacuation, and pressurization cycles, one canister was selected and was pressurized with Zero Air. This canister was then analyzed via TO14A on a GC/MS. The canister must have been found to contain <0.2 ppbv concentration of all target analytes in order for the batch to have been considered clean. Each canister also underwent a leak check prior to shipment.

Please Note: SUMMA® canister samples will be retained by Maxxam for a period of 5 calendar days from the date of this report, after which time they will be cleaned for reuse. If you require a longer sample storage period, please contact your service representative.

**Encryption Key**

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

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Total cover pages: 1

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**RESULTS OF ANALYSES OF AIR**

Maxxam ID		FS5881	FS5882	
Sampling Date		2010/04/26	2010/04/26	
COC Number		0985	0985	
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7800</b>	<b>LICAVOC/CLS/APR2610 - 7845</b>	<b>QC Batch</b>

<b>Volatile Organics</b>				
Pressure on Receipt	psig	20	20	2143365

QC Batch = Quality Control Batch

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5881				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7800</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
<b>Volatile Organics</b>						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2143535
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2143535
Propene	ppbv	<0.30	0.30	<0.516	0.516	2143535
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2143535
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2143535
Dichlorodifluoromethane (FREON 12)	ppbv	0.49	0.20	2.40	0.989	2143535
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2143535
Chloromethane	ppbv	0.37	0.30	0.768	0.620	2143535
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2143535
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2143535
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2143535
Trichlorofluoromethane (FREON 11)	ppbv	<0.20	0.20	<1.12	1.12	2143535
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2143535
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2143535
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2143535
2-Propanone	ppbv	1.30	0.80	3.09	1.90	2143535
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2143535
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2143535
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2143535
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2143535
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2143535
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2143535
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2143535
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2143535
Methylene Chloride(Dichloromethane)	ppbv	<0.30	0.30	<1.04	1.04	2143535
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2143535
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2143535
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2143535
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2143535
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2143535
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2143535
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2143535
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5881				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7800</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2143535
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2143535
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2143535
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2143535
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2143535
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2143535
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2143535
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2143535
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2143535
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2143535
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2143535
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2143535
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2143535
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2143535
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2143535
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2143535
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2143535
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2143535
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2143535
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2143535
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2143535
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2143535
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2143535
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2143535
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2143535
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2143535
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2143535
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2143535
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2143535
<b>Surrogate Recovery (%)</b>						
Bromochloromethane	%	110		N/A	N/A	2143535
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5881				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7800</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>

D5-Chlorobenzene	%	108		N/A	N/A	2143535
Difluorobenzene	%	111		N/A	N/A	2143535

N/A = Not Applicable  
 QC Batch = Quality Control Batch

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5882				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7845</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>

<b>Volatile Organics</b>						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2143535
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2143535
Propene	ppbv	<0.30	0.30	<0.516	0.516	2143535
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2143535
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2143535
Dichlorodifluoromethane (FREON 12)	ppbv	0.57	0.20	2.83	0.989	2143535
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2143535
Chloromethane	ppbv	0.36	0.30	0.741	0.620	2143535
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2143535
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2143535
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2143535
Trichlorofluoromethane (FREON 11)	ppbv	0.24	0.20	1.32	1.12	2143535
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2143535
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2143535
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2143535
2-Propanone	ppbv	1.32	0.80	3.14	1.90	2143535
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2143535
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2143535
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2143535
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2143535
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2143535
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2143535
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2143535
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2143535
Methylene Chloride(Dichloromethane)	ppbv	<0.30	0.30	<1.04	1.04	2143535
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2143535
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2143535
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2143535
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2143535
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2143535
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2143535
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2143535

 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch



Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5882				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7845</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2143535
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2143535
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2143535
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2143535
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2143535
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2143535
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2143535
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2143535
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2143535
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2143535
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2143535
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2143535
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2143535
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2143535
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2143535
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2143535
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2143535
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2143535
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2143535
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2143535
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2143535
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2143535
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2143535
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2143535
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2143535
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2143535
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2143535
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2143535
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2143535
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2143535
<b>Surrogate Recovery (%)</b>						
Bromochloromethane	%	74		N/A	N/A	2143535
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B052380  
 Report Date: 2010/05/10

**VOLATILE ORGANICS BY GC/MS (AIR)**

Maxxam ID		FS5882				
Sampling Date		2010/04/26				
COC Number		0985				
	<b>Units</b>	<b>LICAVOC/CLS/APR2610 - 7845</b>	<b>RDL</b>	<b>ug/m3</b>	<b>DL (ug/m3)</b>	<b>QC Batch</b>
D5-Chlorobenzene	%	80		N/A	N/A	2143535
Difluorobenzene	%	76		N/A	N/A	2143535
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B052380  
 Report Date: 2010/05/10

### Test Summary

**Maxxam ID** FS5881 **Collected** 2010/04/26  
**Sample ID** LICAVOC/CLS/APR2610 - 7800 **Shipped**  
**Matrix** AIR **Received** 2010/04/29

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2143365	N/A	2010/05/04	S_S
Volatile Organics in Air (TO-15)	GC/MS	2143535	N/A	2010/05/04	S_S

**Maxxam ID** FS5882 **Collected** 2010/04/26  
**Sample ID** LICAVOC/CLS/APR2610 - 7845 **Shipped**  
**Matrix** AIR **Received** 2010/04/29

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2143365	N/A	2010/05/04	S_S
Volatile Organics in Air (TO-15)	GC/MS	2143535	N/A	2010/05/04	S_S

Maxxam Job #: B052380  
Report Date: 2010/05/10

**GENERAL COMMENTS**

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB052380

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2143535 S_S	Spiked Blank	Bromochloromethane	2010/05/04		96	%	60 - 140
		D5-Chlorobenzene	2010/05/04		97	%	60 - 140
		Difluorobenzene	2010/05/04		99	%	60 - 140
		2,2,4-Trimethylpentane	2010/05/04		74	%	70 - 130
		Carbon Disulfide	2010/05/04		77	%	70 - 130
		Propene	2010/05/04		82	%	70 - 130
		Vinyl Acetate	2010/05/04		93	%	70 - 130
		Vinyl Bromide	2010/05/04		80	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/05/04		81	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/05/04		70	%	70 - 130
		Chloromethane	2010/05/04		72	%	70 - 130
		Vinyl Chloride	2010/05/04		80	%	70 - 130
		Chloroethane	2010/05/04		79	%	70 - 130
		1,3-Butadiene	2010/05/04		63 (1)	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/05/04		77	%	70 - 130
		Trichlorotrifluoroethane	2010/05/04		75	%	70 - 130
		Ethanol	2010/05/04		94	%	70 - 130
		2-propanol	2010/05/04		81	%	70 - 130
		2-Propanone	2010/05/04		88	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/05/04		89	%	70 - 130
		Methyl Isobutyl Ketone	2010/05/04		74	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/05/04		85	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/05/04		87	%	70 - 130
		Ethyl Acetate	2010/05/04		76	%	70 - 130
		1,1-Dichloroethylene	2010/05/04		86	%	70 - 130
		cis-1,2-Dichloroethylene	2010/05/04		86	%	70 - 130
		trans-1,2-Dichloroethylene	2010/05/04		80	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/05/04		67 (1)	%	70 - 130
		Chloroform	2010/05/04		77	%	70 - 130
		Carbon Tetrachloride	2010/05/04		78	%	70 - 130
		1,1-Dichloroethane	2010/05/04		75	%	70 - 130
		1,2-Dichloroethane	2010/05/04		79	%	70 - 130
		Ethylene Dibromide	2010/05/04		81	%	70 - 130
		1,1,1-Trichloroethane	2010/05/04		78	%	70 - 130
		1,1,2-Trichloroethane	2010/05/04		76	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/05/04		76	%	70 - 130
		cis-1,3-Dichloropropene	2010/05/04		92	%	70 - 130
		trans-1,3-Dichloropropene	2010/05/04		102	%	70 - 130
		1,2-Dichloropropane	2010/05/04		76	%	70 - 130
		Bromomethane	2010/05/04		74	%	70 - 130
		Bromoform	2010/05/04		82	%	70 - 130
		Bromodichloromethane	2010/05/04		77	%	70 - 130
		Dibromochloromethane	2010/05/04		78	%	70 - 130
		Heptane	2010/05/04		74	%	70 - 130
		Trichloroethylene	2010/05/04		82	%	70 - 130
		Tetrachloroethylene	2010/05/04		78	%	70 - 130
		Benzene	2010/05/04		81	%	70 - 130
		Toluene	2010/05/04		88	%	70 - 130
		Ethylbenzene	2010/05/04		90	%	70 - 130
		p+m-Xylene	2010/05/04		89	%	70 - 130
		o-Xylene	2010/05/04		86	%	70 - 130
		Styrene	2010/05/04		104	%	70 - 130
		1,3,5-Trimethylbenzene	2010/05/04		84	%	70 - 130
		1,2,4-Trimethylbenzene	2010/05/04		91	%	70 - 130
		4-ethyltoluene	2010/05/04		85	%	70 - 130

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB052380

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2143535 S_S	Spiked Blank	Chlorobenzene	2010/05/04		78	%	70 - 130
		Benzyl chloride	2010/05/04		98	%	70 - 130
		1,3-Dichlorobenzene	2010/05/04		94	%	70 - 130
		1,4-Dichlorobenzene	2010/05/04		92	%	70 - 130
		1,2-Dichlorobenzene	2010/05/04		93	%	70 - 130
		1,2,4-Trichlorobenzene	2010/05/04		85	%	70 - 130
		Hexachlorobutadiene	2010/05/04		74	%	70 - 130
		Hexane	2010/05/04		74	%	70 - 130
		Cyclohexane	2010/05/04		78	%	70 - 130
		Tetrahydrofuran	2010/05/04		80	%	70 - 130
		1,4-Dioxane	2010/05/04		86	%	70 - 130
	Method Blank	Bromochloromethane	2010/05/04		86	%	60 - 140
		D5-Chlorobenzene	2010/05/04		83	%	60 - 140
		Difluorobenzene	2010/05/04		88	%	60 - 140
		2,2,4-Trimethylpentane	2010/05/04	<0.20		ppbv	
		Carbon Disulfide	2010/05/04	<0.50		ppbv	
		Propene	2010/05/04	<0.30		ppbv	
		Vinyl Acetate	2010/05/04	<0.20		ppbv	
		Vinyl Bromide	2010/05/04	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/05/04	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/05/04	<0.17		ppbv	
		Chloromethane	2010/05/04	<0.30		ppbv	
		Vinyl Chloride	2010/05/04	<0.18		ppbv	
		Chloroethane	2010/05/04	<0.30		ppbv	
		1,3-Butadiene	2010/05/04	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/05/04	<0.20		ppbv	
		Trichlorotrifluoroethane	2010/05/04	<0.15		ppbv	
		Ethanol	2010/05/04	<2.3		ppbv	
		2-propanol	2010/05/04	<3.0		ppbv	
		2-Propanone	2010/05/04	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/05/04	<3.0		ppbv	
		Methyl Isobutyl Ketone	2010/05/04	<3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/05/04	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/05/04	<0.20		ppbv	
		Ethyl Acetate	2010/05/04	<2.2		ppbv	
		1,1-Dichloroethylene	2010/05/04	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/05/04	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/05/04	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/05/04	<0.30		ppbv	
		Chloroform	2010/05/04	<0.15		ppbv	
		Carbon Tetrachloride	2010/05/04	<0.30		ppbv	
		1,1-Dichloroethane	2010/05/04	<0.20		ppbv	
		1,2-Dichloroethane	2010/05/04	<0.20		ppbv	
		Ethylene Dibromide	2010/05/04	<0.17		ppbv	
		1,1,1-Trichloroethane	2010/05/04	<0.30		ppbv	
		1,1,2-Trichloroethane	2010/05/04	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/05/04	<0.20		ppbv	
		cis-1,3-Dichloropropene	2010/05/04	<0.18		ppbv	
		trans-1,3-Dichloropropene	2010/05/04	<0.17		ppbv	
		1,2-Dichloropropane	2010/05/04	<0.40		ppbv	
		Bromomethane	2010/05/04	<0.18		ppbv	
		Bromoform	2010/05/04	<0.20		ppbv	
		Bromodichloromethane	2010/05/04	<0.20		ppbv	
		Dibromochloromethane	2010/05/04	<0.20		ppbv	
		Heptane	2010/05/04	<0.30		ppbv	

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB052380

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2143535 S_S	Method Blank	Trichloroethylene	2010/05/04	<0.30		ppbv	
		Tetrachloroethylene	2010/05/04	<0.20		ppbv	
		Benzene	2010/05/04	<0.18		ppbv	
		Toluene	2010/05/04	<0.20		ppbv	
		Ethylbenzene	2010/05/04	<0.20		ppbv	
		p+m-Xylene	2010/05/04	<0.37		ppbv	
		o-Xylene	2010/05/04	<0.20		ppbv	
		Styrene	2010/05/04	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/05/04	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/05/04	<0.50		ppbv	
		4-ethyltoluene	2010/05/04	<2.2		ppbv	
		Chlorobenzene	2010/05/04	<0.20		ppbv	
		Benzyl chloride	2010/05/04	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/05/04	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/05/04	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/05/04	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/05/04	<2.0		ppbv	
		Hexachlorobutadiene	2010/05/04	<3.0		ppbv	
		Hexane	2010/05/04	<0.30		ppbv	
		Cyclohexane	2010/05/04	<0.20		ppbv	
		Tetrahydrofuran	2010/05/04	<0.40		ppbv	
		1,4-Dioxane	2010/05/04	<2.0		ppbv	
		Xylene (Total)	2010/05/04	<0.60		ppbv	
	RPD - Sample/Sample Dup	Benzene	2010/05/04	NC		%	25
		Toluene	2010/05/04	NC		%	25
		Ethylbenzene	2010/05/04	NC		%	25
		p+m-Xylene	2010/05/04	NC		%	25
		o-Xylene	2010/05/04	NC		%	25
		Xylene (Total)	2010/05/04	NC		%	25

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.  
 NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.  
 ( 1 ) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

# **Polycyclic Aromatic Hydrocarbons Laboratory Analysis**



# Maxxam Analytics Inc.

## Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica Puf+ s/n: 100-1015  
 Location: 13-16-62-5 W4M Motor s/n: 1139  
 Station ID: Lica 33 (Portable) Installation Date/Time: Apr 1, 10 @ 09:22 mst  
 Field Sample ID: LICA PUF/PORT/Apr 2, 10 Removal Date/Time: Apr 5, 10 @ 08:50 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
02-Apr-10	04/02/2010 0:00	04/03/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
31-Mar-10	05-Apr-10	12-Apr-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 29-Mar-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature ( C)	Volume (Vstd m <sup>3</sup> )
700	229	4.1	330.34

**Time set correctly prior to sampling? YES**  
**Timer set correctly prior to sampling? YES**  
**Sampling data saved to memory card after sampling? YES**

Comments: COC # Source Form, no number  
GB024237 PUFF#2  
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Apr 2, 10  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signature: \_\_\_\_\_



Your C.O.C. #: na

**Attention: Shea Beaton**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/04/29**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B040858**

**Received: 2010/04/07, 09:20**

Sample Matrix: Filter  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/04/09	2010/04/26	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====

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Total cover pages: 1

Maxxam Job #: B040858  
 Report Date: 2010/04/29

**SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)**

Maxxam ID		FN0902	FN0903		
Sampling Date		2010/04/02	2010/04/02		
		00:00	00:00		
COC Number		na	na		
	<b>Units</b>	<b>LICA/PUFF/QFF/CLS/APRIL</b>	<b>LICA/PUFF/QFF/PORT/APRIL</b>	<b>RDL</b>	<b>QC Batch</b>
		<b>2/10</b>	<b>2/10</b>		

<b>Semivolatile Organics</b>					
1-Methylnaphthalene	ug	0.14	0.14	0.10	2120841
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2120841
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2120841
2-Methylantracene	ug	<0.10	<0.10	0.10	2120841
2-Methylnaphthalene	ug	0.38	0.26	0.10	2120841
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2120841
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2120841
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2120841
Acenaphthene	ug	<0.050	<0.050	0.050	2120841
Acenaphthylene	ug	0.102	<0.050	0.050	2120841
Anthracene	ug	<0.050	<0.050	0.050	2120841
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2120841
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2120841
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2120841
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2120841
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2120841
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2120841
Benzo(g,h,i)perylene	ug	0.055	0.051	0.050	2120841
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2120841
Biphenyl	ug	0.11	<0.10	0.10	2120841
Chrysene	ug	<0.050	<0.050	0.050	2120841
Coronene	ug	<0.10	<0.10	0.10	2120841
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2120841
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2120841
Fluoranthene	ug	0.111	<0.050	0.050	2120841
Fluorene	ug	0.199	0.086	0.050	2120841
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2120841
m-Terphenyl	ug	<0.10	<0.10	0.10	2120841
Naphthalene	ug	0.351	0.139	0.072	2120841
o-Terphenyl	ug	<0.10	<0.10	0.10	2120841
Perylene	ug	<0.10	<0.10	0.10	2120841

 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B040858  
 Report Date: 2010/04/29

**SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)**

Maxxam ID		FN0902	FN0903		
Sampling Date		2010/04/02	2010/04/02		
		00:00	00:00		
COC Number		na	na		
	<b>Units</b>	<b>LICA/PUFF/QFF/CLS/APRIL</b>	<b>LICA/PUFF/QFF/PORT/APRIL</b>	<b>RDL</b>	<b>QC Batch</b>
		<b>2/10</b>	<b>2/10</b>		
Phenanthrene	ug	0.414	0.158	0.050	2120841
p-Terphenyl	ug	<0.10	<0.10	0.10	2120841
Pyrene	ug	0.095	<0.050	0.050	2120841
Quinoline	ug	<0.40	<0.40	0.40	2120841
Tetralin	ug	<0.10	<0.10	0.10	2120841
<b>Surrogate Recovery (%)</b>					
D10-2-Methylnaphthalene	%	79	70		2120841
D10-Fluoranthene	%	102	89		2120841
D10-Fluorene (FS)	%	56	57		2120841
D10-Phenanthrene	%	94	81		2120841
D12-Benzo(a)anthracene	%	106	96		2120841
D12-Benzo(a)pyrene	%	91	88		2120841
D12-Benzo(b)fluoranthene	%	88	80		2120841
D12-Benzo(ghi)perylene	%	102	96		2120841
D12-Benzo(k)fluoranthene	%	106	104		2120841
D12-Chrysene	%	93	92		2120841
D12-Indeno(1,2,3-cd)pyrene	%	98	90		2120841
D12-Perylene	%	96	93		2120841
D14-Dibenzo(a,h)anthracene	%	95	88		2120841
D14-Terphenyl (FS)	%	88	82		2120841
D8-Acenaphthylene	%	78	70		2120841
D8-Naphthalene	%	79	70		2120841
QC Batch = Quality Control Batch					

Maxxam Job #: B040858  
 Report Date: 2010/04/29

### Test Summary

<b>Maxxam ID</b>	FN0902	<b>Collected</b>	2010/04/02
<b>Sample ID</b>	LICA/PUFF/QFF/CLS/APRIL 2/10	<b>Shipped</b>	
<b>Matrix</b>	Filter	<b>Received</b>	2010/04/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2120841	2010/04/09	2010/04/26	WZ

<b>Maxxam ID</b>	FN0903	<b>Collected</b>	2010/04/02
<b>Sample ID</b>	LICA/PUFF/QFF/PORT/APRIL 2/10	<b>Shipped</b>	
<b>Matrix</b>	Filter	<b>Received</b>	2010/04/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2120841	2010/04/09	2010/04/26	WZ

Maxxam Job #: B040858  
Report Date: 2010/04/29

**GENERAL COMMENTS**

PAHMS-F

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in initial calibration and Quinoline 2-Methylantracene are above 25% RSD in continuing calibration. No positives found for these compounds.

Not calibrated for Benzo(b)Anthracene, Picene, Dibenzo(a,c) anthracene or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

. Since Dibenzo(a,c) anthracene co-elutes with Dibenzo(a,h) anthracene and Triphenylene with Chrysene each would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB040858

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits		
2120841 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/04/26		78	%	50 - 150		
		D10-Fluoranthene	2010/04/26		92	%	50 - 150		
		D10-Phenanthrene	2010/04/26		79	%	50 - 150		
		D12-Benzo(a)anthracene	2010/04/26		93	%	50 - 150		
		D12-Benzo(a)pyrene	2010/04/26		90	%	50 - 150		
		D12-Benzo(b)fluoranthene	2010/04/26		83	%	50 - 150		
		D12-Benzo(ghi)perylene	2010/04/26		100	%	50 - 150		
		D12-Benzo(k)fluoranthene	2010/04/26		105	%	50 - 150		
		D12-Chrysene	2010/04/26		95	%	50 - 150		
		D12-Indeno(1,2,3-cd)pyrene	2010/04/26		93	%	50 - 150		
		D12-Perylene	2010/04/26		94	%	50 - 150		
		D14-Dibenzo(a,h)anthracene	2010/04/26		90	%	50 - 150		
		RPD	Acenaphthylene	2010/04/26		4.0		%	50
	Acenaphthylene		2010/04/26			78	%	60 - 130	
	Acenaphthylene		2010/04/26		2.5		%	50	
	Anthracene		2010/04/26			72	%	60 - 130	
	Anthracene		2010/04/26		3.8		%	50	
	Benzo(a)anthracene		2010/04/26			85	%	60 - 130	
	Benzo(a)anthracene		2010/04/26		2.7		%	50	
	Benzo(a)pyrene		2010/04/26			85	%	60 - 130	
	Benzo(a)pyrene		2010/04/26		4.8		%	50	
	Benzo(b)fluoranthene		2010/04/26			95	%	60 - 130	
	Benzo(b)fluoranthene		2010/04/26		1.8		%	50	
	Benzo(g,h,i)perylene		2010/04/26			95	%	60 - 130	
	Benzo(g,h,i)perylene		2010/04/26		3.2		%	50	
	Benzo(k)fluoranthene		2010/04/26			89	%	60 - 130	
	Benzo(k)fluoranthene		2010/04/26		6.2		%	50	
	Spiked Blank		Chrysene	2010/04/26			99	%	60 - 130
			Chrysene	2010/04/26		5.3		%	50
		Dibenz(a,h)anthracene	2010/04/26			86	%	60 - 130	
		Dibenz(a,h)anthracene	2010/04/26		5.1		%	50	
		Fluoranthene	2010/04/26			92	%	60 - 130	
		Fluoranthene	2010/04/26		1.9		%	50	
		Fluorene	2010/04/26			78	%	60 - 130	
		Fluorene	2010/04/26		4.9		%	50	
		Indeno(1,2,3-cd)pyrene	2010/04/26			90	%	60 - 130	
		Indeno(1,2,3-cd)pyrene	2010/04/26		4.2		%	50	
		Naphthalene	2010/04/26			77	%	60 - 130	
		Naphthalene	2010/04/26		3.0		%	50	
		Phenanthrene	2010/04/26			72	%	60 - 130	
Phenanthrene		2010/04/26		3.7		%	50		
Pyrene		2010/04/26			84	%	60 - 130		
Pyrene		2010/04/26		0.5		%	50		
Method Blank	D10-2-Methylnaphthalene	2010/04/26			87	%	50 - 150		
	D10-Fluoranthene	2010/04/26			103	%	50 - 150		
	D10-Phenanthrene	2010/04/26			91	%	50 - 150		
	D12-Benzo(a)anthracene	2010/04/26			100	%	50 - 150		
	D12-Benzo(a)pyrene	2010/04/26			96	%	50 - 150		
	D12-Benzo(b)fluoranthene	2010/04/26			87	%	50 - 150		
	D12-Benzo(ghi)perylene	2010/04/26			104	%	50 - 150		
	D12-Benzo(k)fluoranthene	2010/04/26			108	%	50 - 150		
D12-Chrysene	2010/04/26			95	%	50 - 150			

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB040858

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2120841 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/04/26		99	%	50 - 150
		D12-Perylene	2010/04/26		100	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/04/26		97	%	50 - 150
		D8-Acenaphthylene	2010/04/26		84	%	50 - 150
		D8-Naphthalene	2010/04/26		91	%	50 - 150
		1-Methylnaphthalene	2010/04/26	<0.10		ug	
		1-Methylphenanthrene	2010/04/26	<0.10		ug	
		2-Chloronaphthalene	2010/04/26	<0.10		ug	
		2-Methylanthracene	2010/04/26	<0.10		ug	
		2-Methylnaphthalene	2010/04/26	<0.10		ug	
		3-Methylcholanthrene	2010/04/26	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/04/26	<0.10		ug	
		9,10-Dimethylanthracene	2010/04/26	<0.40		ug	
		Acenaphthene	2010/04/26	<0.050		ug	
		Acenaphthylene	2010/04/26	<0.050		ug	
		Anthracene	2010/04/26	<0.050		ug	
		Benzo(a)anthracene	2010/04/26	<0.050		ug	
		Benzo(a)fluorene	2010/04/26	<0.10		ug	
		Benzo(a)pyrene	2010/04/26	<0.050		ug	
		Benzo(b)fluoranthene	2010/04/26	<0.050		ug	
		Benzo(b)fluorene	2010/04/26	<0.10		ug	
		Benzo(e)pyrene	2010/04/26	<0.10		ug	
		Benzo(g,h,i)perylene	2010/04/26	<0.050		ug	
		Benzo(k)fluoranthene	2010/04/26	<0.050		ug	
		Biphenyl	2010/04/26	<0.10		ug	
		Chrysene	2010/04/26	<0.050		ug	
		Coronene	2010/04/26	<0.10		ug	
		Dibenz(a,h)anthracene	2010/04/26	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/04/26	<0.20		ug	
		Fluoranthene	2010/04/26	<0.050		ug	
		Fluorene	2010/04/26	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/04/26	<0.050		ug	
		m-Terphenyl	2010/04/26	<0.10		ug	
		Naphthalene	2010/04/26	<0.072		ug	
		o-Terphenyl	2010/04/26	<0.10		ug	
		Perylene	2010/04/26	<0.10		ug	
		Phenanthrene	2010/04/26	<0.050		ug	
		p-Terphenyl	2010/04/26	<0.10		ug	
		Pyrene	2010/04/26	<0.050		ug	
		Quinoline	2010/04/26	<0.40		ug	
		Tetralin	2010/04/26	<0.10		ug	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.  
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.



# Maxxam Analytics Inc.

## Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica  
 Location: 13-16-62-5 W4M  
 Station ID: Lica 33 (Portable)  
 Field Sample ID: LICA PUF/PORT/Apr 8, 10

Puf+ s/n: 100-1015  
 Motor s/n: 1139  
 Installation Date/Time: Apr 7, 10 @ 15:50 mst  
 Removal Date/Time: Apr 9, 10 @ 10:05 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
08-Apr-10	04/08/2010 0:00	04/09/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
07-Apr-10	12-Apr-10	14-Apr-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 29-Mar-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature ( C)	Volume (Vstd m <sup>3</sup> )
695	229	7.0	330.34

**Time set correctly prior to sampling? YES**  
**Timer set correctly prior to sampling? YES**  
**Sampling data saved to memory card after sampling? YES**

Comments: COC # Source Form, no number

GB03916 PUFF#2

Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Apr 8, 10

Technician Signature: \_\_\_\_\_



Your C.O.C. #: N/A

**Attention: Michael Bisaga**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/05/13**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B044185**

**Received: 2010/04/14, 09:21**

Sample Matrix: PUF AND FILTER

# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/04/15	2010/05/08	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====

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Total cover pages: 1

Maxxam Job #: B044185  
 Report Date: 2010/05/13

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		F07233	F07234		
Sampling Date		2010/04/08	2010/04/08		
COC Number		N/A	N/A		
	<b>Units</b>	<b>LICA</b>	<b>LICA</b>	<b>RDL</b>	<b>QC Batch</b>
		<b>PUF/QFF/CLS/APR8,10</b>	<b>PUF/QFF/PORT/APR8,10</b>		

<b>Semivolatile Organics</b>					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2129687
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2129687
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2129687
2-Methylantracene	ug	<0.10	<0.10	0.10	2129687
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2129687
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2129687
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2129687
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2129687
Acenaphthene	ug	<0.050	<0.050	0.050	2129687
Acenaphthylene	ug	<0.050	<0.050	0.050	2129687
Anthracene	ug	<0.050	<0.050	0.050	2129687
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2129687
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2129687
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2129687
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2129687
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2129687
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2129687
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2129687
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2129687
Biphenyl	ug	<0.10	<0.10	0.10	2129687
Chrysene	ug	<0.050	<0.050	0.050	2129687
Coronene	ug	<0.10	<0.10	0.10	2129687
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2129687
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2129687
Fluoranthene	ug	0.050	<0.050	0.050	2129687
Fluorene	ug	0.102	0.058	0.050	2129687
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2129687
m-Terphenyl	ug	<0.10	<0.10	0.10	2129687
Naphthalene	ug	<0.072	<0.072	0.072	2129687
o-Terphenyl	ug	<0.10	<0.10	0.10	2129687
Perylene	ug	<0.10	<0.10	0.10	2129687

N/A = Not Applicable  
 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B044185  
 Report Date: 2010/05/13

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		FO7233	FO7234		
Sampling Date		2010/04/08	2010/04/08		
COC Number		N/A	N/A		
	Units	LICA	LICA	RDL	QC Batch
		PUF/QFF/CLS/APR8,10	PUF/QFF/PORT/APR8,10		
Phenanthrene	ug	0.298	0.142	0.050	2129687
p-Terphenyl	ug	<0.10	<0.10	0.10	2129687
Pyrene	ug	<0.050	<0.050	0.050	2129687
Quinoline	ug	<0.40	<0.40	0.40	2129687
Tetralin	ug	<0.10	<0.10	0.10	2129687
<b>Surrogate Recovery (%)</b>					
D10-2-Methylnaphthalene	%	74	76		2129687
D10-Fluoranthene	%	82	80		2129687
D10-Fluorene (FS)	%	20 (1)	16 (1)		2129687
D10-Phenanthrene	%	88	86		2129687
D12-Benzo(a)anthracene	%	90	92		2129687
D12-Benzo(a)pyrene	%	84	88		2129687
D12-Benzo(b)fluoranthene	%	88	86		2129687
D12-Benzo(ghi)perylene	%	98	98		2129687
D12-Benzo(k)fluoranthene	%	100	102		2129687
D12-Chrysene	%	108	112		2129687
D12-Indeno(1,2,3-cd)pyrene	%	94	94		2129687
D12-Perylene	%	90	94		2129687
D14-Dibenzo(a,h)anthracene	%	90	90		2129687
D14-Terphenyl (FS)	%	92	94		2129687
D8-Acenaphthylene	%	64	68		2129687
D8-Naphthalene	%	78	80		2129687
N/A = Not Applicable QC Batch = Quality Control Batch ( 1 ) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.					

Maxxam Job #: B044185  
 Report Date: 2010/05/13

### Test Summary

**Maxxam ID** FO7233 **Collected** 2010/04/08  
**Sample ID** LICA PUF/QFF/CLS/APR8,10 **Shipped**  
**Matrix** PUF AND FILTER **Received** 2010/04/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2129687	2010/04/15	2010/05/08	WZ

**Maxxam ID** FO7234 **Collected** 2010/04/08  
**Sample ID** LICA PUF/QFF/PORT/APR8,10 **Shipped**  
**Matrix** PUF AND FILTER **Received** 2010/04/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2129687	2010/04/15	2010/05/08	WZ

Maxxam Job #: B044185  
Report Date: 2010/05/13

**GENERAL COMMENTS**

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB044185

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2129687 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/05/07		84	%	50 - 150
		D10-Fluoranthene	2010/05/07		84	%	50 - 150
		D10-Phenanthrene	2010/05/07		90	%	50 - 150
		D12-Benzo(a)anthracene	2010/05/07		86	%	50 - 150
		D12-Benzo(a)pyrene	2010/05/07		88	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/05/07		90	%	50 - 150
		D12-Benzo(ghi)perylene	2010/05/07		100	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/05/07		102	%	50 - 150
		D12-Chrysene	2010/05/07		112	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/05/07		96	%	50 - 150
		D12-Perylene	2010/05/07		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/07		92	%	50 - 150
		RPD	D8-Acenaphthylene	2010/05/07		68	%
	D8-Naphthalene		2010/05/07		94	%	50 - 150
	Spiked Blank	Acenaphthene	2010/05/07		86	%	60 - 130
		Acenaphthene	2010/05/07	2.0		%	50
	RPD	Acenaphthylene	2010/05/07		75	%	60 - 130
		Acenaphthylene	2010/05/07	2.4		%	50
	Spiked Blank	Anthracene	2010/05/07		76	%	60 - 130
		Anthracene	2010/05/07	2.7		%	50
	Spiked Blank	Benzo(a)anthracene	2010/05/07		85	%	60 - 130
		Benzo(a)anthracene	2010/05/07	3.0		%	50
	Spiked Blank	Benzo(a)pyrene	2010/05/07		89	%	60 - 130
		Benzo(a)pyrene	2010/05/07	2.9		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/05/07		91	%	60 - 130
		Benzo(b)fluoranthene	2010/05/07	6.2		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/05/07		97	%	60 - 130
		Benzo(g,h,i)perylene	2010/05/07	1.3		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/05/07		111	%	60 - 130
		Benzo(k)fluoranthene	2010/05/07	2.2		%	50
	Spiked Blank	Chrysene	2010/05/07		117	%	60 - 130
		Chrysene	2010/05/07	2.1		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/05/07		95	%	60 - 130
		Dibenz(a,h)anthracene	2010/05/07	1.9		%	50
	Spiked Blank	Fluoranthene	2010/05/07		91	%	60 - 130
		Fluoranthene	2010/05/07	1.1		%	50
	Spiked Blank	Fluorene	2010/05/07		84	%	60 - 130
		Fluorene	2010/05/07	0.3		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/05/07		95	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2010/05/07	2.4		%	50
Spiked Blank	Naphthalene	2010/05/07		92	%	60 - 130	
	Naphthalene	2010/05/07	0.5		%	50	
Spiked Blank	Phenanthrene	2010/05/07		84	%	60 - 130	
	Phenanthrene	2010/05/07	2.7		%	50	
Spiked Blank	Pyrene	2010/05/07		83	%	60 - 130	
	Pyrene	2010/05/07	1.2		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/05/08		90	%	50 - 150	
	D10-Fluoranthene	2010/05/08		86	%	50 - 150	
	D10-Phenanthrene	2010/05/08		92	%	50 - 150	
	D12-Benzo(a)anthracene	2010/05/08		94	%	50 - 150	
	D12-Benzo(a)pyrene	2010/05/08		88	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/05/08		86	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/05/08		96	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/05/08		104	%	50 - 150	
	D12-Chrysene	2010/05/08		118	%	50 - 150	

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)  
 Maxxam Job Number: GB044185

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2129687 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/05/08		92	%	50 - 150
		D12-Perylene	2010/05/08		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/08		88	%	50 - 150
		D8-Acenaphthylene	2010/05/08		72	%	50 - 150
		D8-Naphthalene	2010/05/08		102	%	50 - 150
		1-Methylnaphthalene	2010/05/08	<0.10		ug	
		1-Methylphenanthrene	2010/05/08	<0.10		ug	
		2-Chloronaphthalene	2010/05/08	<0.10		ug	
		2-Methylantracene	2010/05/08	<0.10		ug	
		2-Methylnaphthalene	2010/05/08	<0.10		ug	
		3-Methylcholanthrene	2010/05/08	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/05/08	<0.10		ug	
		9,10-Dimethylantracene	2010/05/08	<0.40		ug	
		Acenaphthene	2010/05/08	<0.050		ug	
		Acenaphthylene	2010/05/08	<0.050		ug	
		Anthracene	2010/05/08	<0.050		ug	
		Benzo(a)anthracene	2010/05/08	<0.050		ug	
		Benzo(a)fluorene	2010/05/08	<0.10		ug	
		Benzo(a)pyrene	2010/05/08	<0.050		ug	
		Benzo(b)fluoranthene	2010/05/08	<0.050		ug	
		Benzo(b)fluorene	2010/05/08	<0.10		ug	
		Benzo(e)pyrene	2010/05/08	<0.10		ug	
		Benzo(g,h,i)perylene	2010/05/08	<0.050		ug	
		Benzo(k)fluoranthene	2010/05/08	<0.050		ug	
		Biphenyl	2010/05/08	<0.10		ug	
		Chrysene	2010/05/08	<0.050		ug	
		Coronene	2010/05/08	<0.10		ug	
		Dibenz(a,h)anthracene	2010/05/08	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/05/08	<0.20		ug	
		Fluoranthene	2010/05/08	<0.050		ug	
		Fluorene	2010/05/08	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/05/08	<0.050		ug	
		m-Terphenyl	2010/05/08	<0.10		ug	
		Naphthalene	2010/05/08	<0.072		ug	
		o-Terphenyl	2010/05/08	<0.10		ug	
		Perylene	2010/05/08	<0.10		ug	
		Phenanthrene	2010/05/08	<0.050		ug	
		p-Terphenyl	2010/05/08	<0.10		ug	
		Pyrene	2010/05/08	<0.050		ug	
		Quinoline	2010/05/08	<0.40		ug	
		Tetralin	2010/05/08	<0.10		ug	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.  
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.



# Maxxam Analytics Inc.

## Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica  
 Location: 13-16-62-5 W4M  
 Station ID: Lica 33 (Portable)  
 Field Sample ID: LICA PUF/PORT/Apr 14, 10

Puf+ s/n: 100-1015  
 Motor s/n: 1139  
 Installation Date/Time: Apr 12, 10 @ 15:27 mst  
 Removal Date/Time: Apr 15, 10 @ 11:30 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
14-Apr-10	04/14/2010 0:00	04/15/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
12-Apr-10	15-Apr-10	21-Apr-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 29-Mar-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature ( C)	Volume (Vstd m <sup>3</sup> )
705	229	4.1	330.34

**Time set correctly prior to sampling? YES**  
**Timer set correctly prior to sampling? YES**  
**Sampling data saved to memory card after sampling? YES**

Comments: COC # Source Form, no number  
GB03916 PUFF#2  
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Apr 14, 10  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signature: \_\_\_\_\_



Your C.O.C. #: N/A

**Attention: Shea Beaton**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/05/26**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B046180**

**Received: 2010/04/17, 10:06**

Sample Matrix: Filter  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/04/20	2010/05/22	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Total cover pages: 1

Maxxam Job #: B046180  
 Report Date: 2010/05/26

**SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)**

Maxxam ID		FP6487	FP6488		
Sampling Date		2010/04/14	2010/04/14		
COC Number		N/A	N/A		
	<b>Units</b>	<b>LICA QFF/PUF/CLS/APR 14, 10</b>	<b>LICA QFF/PUF/PORT/APR 14, 10</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Semivolatile Organics</b>					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2129696
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2129696
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2129696
2-Methylantracene	ug	<0.10	<0.10	0.10	2129696
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2129696
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2129696
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2129696
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2129696
Acenaphthene	ug	<0.050	<0.050	0.050	2129696
Acenaphthylene	ug	<0.050	<0.050	0.050	2129696
Anthracene	ug	<0.050	<0.050	0.050	2129696
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2129696
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2129696
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2129696
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2129696
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2129696
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2129696
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2129696
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2129696
Biphenyl	ug	<0.10	<0.10	0.10	2129696
Chrysene	ug	<0.050	<0.050	0.050	2129696
Coronene	ug	<0.10	<0.10	0.10	2129696
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2129696
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2129696
Fluoranthene	ug	<0.050	<0.050	0.050	2129696
Fluorene	ug	0.086	0.060	0.050	2129696
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2129696
m-Terphenyl	ug	<0.10	<0.10	0.10	2129696
Naphthalene	ug	0.138	0.132	0.072	2129696
o-Terphenyl	ug	<0.10	<0.10	0.10	2129696

N/A = Not Applicable  
 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B046180  
 Report Date: 2010/05/26

**SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)**

Maxxam ID		FP6487	FP6488		
Sampling Date		2010/04/14	2010/04/14		
COC Number		N/A	N/A		
	Units	LICA QFF/PUF/CLS/APR 14, 10	LICA QFF/PUF/PORT/APR 14, 10	RDL	QC Batch
Perylene	ug	<0.10	<0.10	0.10	2129696
Phenanthrene	ug	0.172	0.136	0.050	2129696
p-Terphenyl	ug	<0.10	<0.10	0.10	2129696
Pyrene	ug	<0.050	<0.050	0.050	2129696
Quinoline	ug	<0.40	<0.40	0.40	2129696
Tetralin	ug	<0.10	<0.10	0.10	2129696
<b>Surrogate Recovery (%)</b>					
D10-2-Methylnaphthalene	%	76	78		2129696
D10-Fluoranthene	%	90	116		2129696
D10-Fluorene (FS)	%	63	52		2129696
D10-Phenanthrene	%	82	98		2129696
D12-Benzo(a)anthracene	%	106	114		2129696
D12-Benzo(a)pyrene	%	92	102		2129696
D12-Benzo(b)fluoranthene	%	88	98		2129696
D12-Benzo(ghi)perylene	%	88	98		2129696
D12-Benzo(k)fluoranthene	%	92	96		2129696
D12-Chrysene	%	90	90		2129696
D12-Indeno(1,2,3-cd)pyrene	%	88	100		2129696
D12-Perylene	%	92	98		2129696
D14-Dibenzo(a,h)anthracene	%	82	94		2129696
D14-Terphenyl (FS)	%	86	83		2129696
D8-Acenaphthylene	%	96	100		2129696
D8-Naphthalene	%	78	80		2129696
N/A = Not Applicable QC Batch = Quality Control Batch					

Maxxam Job #: B046180  
 Report Date: 2010/05/26

### Test Summary

<b>Maxxam ID</b>	FP6487	<b>Collected</b>	2010/04/14
<b>Sample ID</b>	LICA QFF/PUF/CLS/APR 14, 10	<b>Shipped</b>	
<b>Matrix</b>	Filter	<b>Received</b>	2010/04/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2129696	2010/04/20	2010/05/22	WZ

<b>Maxxam ID</b>	FP6488	<b>Collected</b>	2010/04/14
<b>Sample ID</b>	LICA QFF/PUF/PORT/APR 14, 10	<b>Shipped</b>	
<b>Matrix</b>	Filter	<b>Received</b>	2010/04/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2129696	2010/04/20	2010/05/22	WZ

Maxxam Job #: B046180  
Report Date: 2010/05/26

**GENERAL COMMENTS**

PAHMS-F

9,10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in initial calibration. No positives found for these 2 compounds.

Not calibrated for Benzo(b)Anthracene, Picene, Dibenzo(a,c) anthracene or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

. Since Dibenzo(a,c) anthracene co-elutes with Dibenzo(a,h) anthracene and Triphenylene with Chrysene each would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

Sample FP6488-01: PAHMS-F

Internal Std area response criteria was high in Sample. Rerun with similar results. Original run reported.

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB046180

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits	
2129696 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/05/22		86	%	50 - 150	
		D10-Fluoranthene	2010/05/22		104	%	50 - 150	
		D10-Phenanthrene	2010/05/22		90	%	50 - 150	
		D12-Benzo(a)anthracene	2010/05/22		114	%	50 - 150	
		D12-Benzo(a)pyrene	2010/05/22		106	%	50 - 150	
		D12-Benzo(b)fluoranthene	2010/05/22		102	%	50 - 150	
		D12-Benzo(ghi)perylene	2010/05/22		100	%	50 - 150	
		D12-Benzo(k)fluoranthene	2010/05/22		100	%	50 - 150	
		D12-Chrysene	2010/05/22		100	%	50 - 150	
		D12-Indeno(1,2,3-cd)pyrene	2010/05/22		102	%	50 - 150	
		D12-Perylene	2010/05/22		104	%	50 - 150	
		D14-Dibenzo(a,h)anthracene	2010/05/22		94	%	50 - 150	
		RPD	Acenaphthylene	2010/05/22		106	%	50 - 150
	D8-Naphthalene		2010/05/22		90	%	50 - 150	
	Acenaphthene		2010/05/22		94	%	60 - 130	
	Acenaphthene		2010/05/22	3.0		%	50	
	Acenaphthylene		2010/05/22		111	%	60 - 130	
	Acenaphthylene		2010/05/22	3.7		%	50	
	Anthracene		2010/05/22		105	%	60 - 130	
	Anthracene		2010/05/22	2.9		%	50	
	Benzo(a)anthracene		2010/05/22		101	%	60 - 130	
	Benzo(a)anthracene		2010/05/22	2.5		%	50	
	Benzo(a)pyrene		2010/05/22		97	%	60 - 130	
	Benzo(a)pyrene		2010/05/22	4.7		%	50	
	Benzo(b)fluoranthene		2010/05/22		90	%	60 - 130	
	Benzo(b)fluoranthene		2010/05/22	1.9		%	50	
	Benzo(g,h,i)perylene		2010/05/22		94	%	60 - 130	
	Spiked Blank		Benzo(g,h,i)perylene	2010/05/22	1.6		%	50
			Benzo(k)fluoranthene	2010/05/22		110	%	60 - 130
		Benzo(k)fluoranthene	2010/05/22	9.5		%	50	
		Chrysene	2010/05/22		101	%	60 - 130	
		Chrysene	2010/05/22	5.1		%	50	
		Dibenz(a,h)anthracene	2010/05/22		94	%	60 - 130	
		Dibenz(a,h)anthracene	2010/05/22	2.1		%	50	
		Fluoranthene	2010/05/22		105	%	60 - 130	
		Fluoranthene	2010/05/22	4.7		%	50	
		Fluorene	2010/05/22		93	%	60 - 130	
		Fluorene	2010/05/22	1.9		%	50	
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/05/22		95	%	60 - 130	
		Indeno(1,2,3-cd)pyrene	2010/05/22	1.9		%	50	
Naphthalene		2010/05/22		88	%	60 - 130		
Naphthalene		2010/05/22	4.0		%	50		
Phenanthrene		2010/05/22		86	%	60 - 130		
Phenanthrene		2010/05/22	2.0		%	50		
Pyrene		2010/05/22		96	%	60 - 130		
Pyrene		2010/05/22	3.1		%	50		
Method Blank		D10-2-Methylnaphthalene	2010/05/22		84	%	50 - 150	
		D10-Fluoranthene	2010/05/22		106	%	50 - 150	
	D10-Phenanthrene	2010/05/22		90	%	50 - 150		
	D12-Benzo(a)anthracene	2010/05/22		114	%	50 - 150		
	D12-Benzo(a)pyrene	2010/05/22		102	%	50 - 150		
	D12-Benzo(b)fluoranthene	2010/05/22		94	%	50 - 150		
	D12-Benzo(ghi)perylene	2010/05/22		94	%	50 - 150		
	D12-Benzo(k)fluoranthene	2010/05/22		96	%	50 - 150		
	D12-Chrysene	2010/05/22		94	%	50 - 150		

Lakeland Industry & Community Assoc.  
 Attention: Shea Beaton  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)  
 Maxxam Job Number: GB046180

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2129696 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/05/22		96	%	50 - 150
		D12-Perylene	2010/05/22		100	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/22		88	%	50 - 150
		D8-Acenaphthylene	2010/05/22		102	%	50 - 150
		D8-Naphthalene	2010/05/22		88	%	50 - 150
		1-Methylnaphthalene	2010/05/22	<0.10		ug	
		1-Methylphenanthrene	2010/05/22	<0.10		ug	
		2-Chloronaphthalene	2010/05/22	<0.10		ug	
		2-Methylanthracene	2010/05/22	<0.10		ug	
		2-Methylnaphthalene	2010/05/22	<0.10		ug	
		3-Methylcholanthrene	2010/05/22	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/05/22	<0.10		ug	
		9,10-Dimethylanthracene	2010/05/22	<0.40		ug	
		Acenaphthene	2010/05/22	<0.050		ug	
		Acenaphthylene	2010/05/22	<0.050		ug	
		Anthracene	2010/05/22	<0.050		ug	
		Benzo(a)anthracene	2010/05/22	<0.050		ug	
		Benzo(a)fluorene	2010/05/22	<0.10		ug	
		Benzo(a)pyrene	2010/05/22	<0.050		ug	
		Benzo(b)fluoranthene	2010/05/22	<0.050		ug	
		Benzo(b)fluorene	2010/05/22	<0.10		ug	
		Benzo(e)pyrene	2010/05/22	<0.10		ug	
		Benzo(g,h,i)perylene	2010/05/22	<0.050		ug	
		Benzo(k)fluoranthene	2010/05/22	<0.050		ug	
		Biphenyl	2010/05/22	<0.10		ug	
		Chrysene	2010/05/22	<0.050		ug	
		Coronene	2010/05/22	<0.10		ug	
		Dibenz(a,h)anthracene	2010/05/22	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/05/22	<0.20		ug	
		Fluoranthene	2010/05/22	<0.050		ug	
		Fluorene	2010/05/22	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/05/22	<0.050		ug	
		m-Terphenyl	2010/05/22	<0.10		ug	
		Naphthalene	2010/05/22	<0.072		ug	
		o-Terphenyl	2010/05/22	<0.10		ug	
		Perylene	2010/05/22	<0.10		ug	
		Phenanthrene	2010/05/22	<0.050		ug	
		p-Terphenyl	2010/05/22	<0.10		ug	
		Pyrene	2010/05/22	<0.050		ug	
		Quinoline	2010/05/22	<0.40		ug	
		Tetralin	2010/05/22	<0.10		ug	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.  
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.



# Maxxam Analytics Inc.

## Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica  
 Location: 13-16-62-5 W4M  
 Station ID: Lica 33 (Portable)  
 Field Sample ID: LICA PUF/PORT/Apr 20, 10

Puf+ s/n: 100-1015  
 Motor s/n: 1139  
 Installation Date/Time: Apr 18, 10 @ 11:05 mst  
 Removal Date/Time: Apr 21, 10 @ 14:00 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
20-Apr-10	04/20/2010 0:00	04/21/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
16-Apr-10	22-Apr-10	28-Apr-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 29-Mar-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature ( C)	Volume (Vstd m <sup>3</sup> )
710	229	13.4	330.34

**Time set correctly prior to sampling? YES**  
**Timer set correctly prior to sampling? YES**  
**Sampling data saved to memory card after sampling? YES**

Comments: COC # Source Form, no number

GB040138 PUFF#2

Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Apr 20, 10

Technician Signature: \_\_\_\_\_



Your C.O.C. #: N/A

**Attention: Michael Bisaga**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/05/28**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B049794**

**Received: 2010/04/24, 15:59**

Sample Matrix: PUF AND FILTER

# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/04/27	2010/05/26	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====

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Total cover pages: 1

Maxxam Job #: B049794  
 Report Date: 2010/05/28

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		FR3576	FR3577		
Sampling Date		2010/04/20	2010/04/20		
COC Number		N/A	N/A		
	<b>Units</b>	<b>LICA PUF/CLS/APR 20,10</b>	<b>LICA PUF/PORT/APR 20,10</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Semivolatile Organics</b>					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2135395
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2135395
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2135395
2-Methylanthracene	ug	<0.10	<0.10	0.10	2135395
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2135395
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2135395
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2135395
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2135395
Acenaphthene	ug	<0.050	<0.050	0.050	2135395
Acenaphthylene	ug	<0.050	<0.050	0.050	2135395
Anthracene	ug	<0.050	<0.050	0.050	2135395
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2135395
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2135395
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2135395
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2135395
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2135395
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2135395
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2135395
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2135395
Biphenyl	ug	<0.10	<0.10	0.10	2135395
Chrysene	ug	<0.050	<0.050	0.050	2135395
Coronene	ug	<0.10	<0.10	0.10	2135395
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2135395
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2135395
Fluoranthene	ug	0.052	<0.050	0.050	2135395
Fluorene	ug	0.074	<0.050	0.050	2135395
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2135395
m-Terphenyl	ug	<0.10	<0.10	0.10	2135395
Naphthalene	ug	0.126	0.088	0.072	2135395
o-Terphenyl	ug	<0.10	<0.10	0.10	2135395

N/A = Not Applicable  
 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B049794  
 Report Date: 2010/05/28

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		FR3576	FR3577		
Sampling Date		2010/04/20	2010/04/20		
COC Number		N/A	N/A		
	<b>Units</b>	<b>LICA PUF/CLS/APR 20,10</b>	<b>LICA PUF/PORT/APR 20,10</b>	<b>RDL</b>	<b>QC Batch</b>

Perylene	ug	<0.10	<0.10	0.10	2135395
Phenanthrene	ug	0.310	0.158	0.050	2135395
p-Terphenyl	ug	<0.10	<0.10	0.10	2135395
Pyrene	ug	<0.050	<0.050	0.050	2135395
Quinoline	ug	<0.40	<0.40	0.40	2135395
Tetralin	ug	<0.10	<0.10	0.10	2135395
<b>Surrogate Recovery (%)</b>					
D10-2-Methylnaphthalene	%	72	64		2135395
D10-Fluoranthene	%	98	102		2135395
D10-Fluorene (FS)	%	57	46 (1)		2135395
D10-Phenanthrene	%	86	86		2135395
D12-Benzo(a)anthracene	%	106	106		2135395
D12-Benzo(a)pyrene	%	90	92		2135395
D12-Benzo(b)fluoranthene	%	92	88		2135395
D12-Benzo(ghi)perylene	%	94	92		2135395
D12-Benzo(k)fluoranthene	%	98	94		2135395
D12-Chrysene	%	96	88		2135395
D12-Indeno(1,2,3-cd)pyrene	%	92	92		2135395
D12-Perylene	%	92	94		2135395
D14-Dibenzo(a,h)anthracene	%	86	86		2135395
D14-Terphenyl (FS)	%	93	83		2135395
D8-Acenaphthylene	%	78	70		2135395
D8-Naphthalene	%	72	64		2135395

N/A = Not Applicable  
 QC Batch = Quality Control Batch  
 ( 1 ) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Job #: B049794  
 Report Date: 2010/05/28

### Test Summary

**Maxxam ID** FR3576 **Collected** 2010/04/20  
**Sample ID** LICA PUF/CLS/APR 20,10 **Shipped**  
**Matrix** PUF AND FILTER **Received** 2010/04/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2135395	2010/04/27	2010/05/26	WZ

**Maxxam ID** FR3577 **Collected** 2010/04/20  
**Sample ID** LICA PUF/PORT/APR 20,10 **Shipped**  
**Matrix** PUF AND FILTER **Received** 2010/04/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2135395	2010/04/27	2010/05/26	WZ

Maxxam Job #: B049794  
Report Date: 2010/05/28**GENERAL COMMENTS**

PAHMS-F

9,10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in initial calibration. No positives found for these 2 compounds.

Sample FR3576-01: PAHMS-F

Not calibrated for Benzo(b)Anthracene, Picene, Dibenzo(a,c) anthracene or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

Since Dibenzo(a,c) anthracene co-elutes with Dibenzo(a,h) anthracene and Triphenylene with Chrysene each would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

Sample FR3577-01: PAHMS-F

Not calibrated for Benzo(b)Anthracene, Picene, Dibenzo(a,c) anthracene or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

Since Dibenzo(a,c) anthracene co-elutes with Dibenzo(a,h) anthracene and Triphenylene with Chrysene each would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB049794

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2135395 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/05/26		72	%	50 - 150
		D10-Fluoranthene	2010/05/26		100	%	50 - 150
		D10-Phenanthrene	2010/05/26		78	%	50 - 150
		D12-Benzo(a)anthracene	2010/05/26		104	%	50 - 150
		D12-Benzo(a)pyrene	2010/05/26		96	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/05/26		90	%	50 - 150
		D12-Benzo(ghi)perylene	2010/05/26		90	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/05/26		102	%	50 - 150
		D12-Chrysene	2010/05/26		102	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/05/26		90	%	50 - 150
		D12-Perylene	2010/05/26		96	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/26		86	%	50 - 150
		D8-Acenaphthylene	2010/05/26		66	%	50 - 150
		D8-Naphthalene	2010/05/26		76	%	50 - 150
		RPD	Acenaphthene	2010/05/26		76	%
	RPD	Acenaphthene	2010/05/26	0.7		%	50
	Spiked Blank	Acenaphthylene	2010/05/26		72	%	60 - 130
	RPD	Acenaphthylene	2010/05/26	2.1		%	50
	Spiked Blank	Anthracene	2010/05/26		95	%	60 - 130
	RPD	Anthracene	2010/05/26	11.4		%	50
	Spiked Blank	Benzo(a)anthracene	2010/05/26		92	%	60 - 130
	RPD	Benzo(a)anthracene	2010/05/26	1.6		%	50
	Spiked Blank	Benzo(a)pyrene	2010/05/26		92	%	60 - 130
	RPD	Benzo(a)pyrene	2010/05/26	2.5		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/05/26		85	%	60 - 130
	RPD	Benzo(b)fluoranthene	2010/05/26	5.8		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/05/26		83	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2010/05/26	0		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/05/26		104	%	60 - 130
	RPD	Benzo(k)fluoranthene	2010/05/26	2.4		%	50
	Spiked Blank	Chrysene	2010/05/26		99	%	60 - 130
	RPD	Chrysene	2010/05/26	0.5		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/05/26		85	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2010/05/26	1.8		%	50
	Spiked Blank	Fluoranthene	2010/05/26		100	%	60 - 130
	RPD	Fluoranthene	2010/05/26	3.0		%	50
	Spiked Blank	Fluorene	2010/05/26		76	%	60 - 130
	RPD	Fluorene	2010/05/26	2.0		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/05/26		85	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2010/05/26	2.4		%	50
	Spiked Blank	Naphthalene	2010/05/26		72	%	60 - 130
	RPD	Naphthalene	2010/05/26	6.4		%	50
	Spiked Blank	Phenanthrene	2010/05/26		72	%	60 - 130
	RPD	Phenanthrene	2010/05/26	1.4		%	50
	Spiked Blank	Pyrene	2010/05/26		93	%	60 - 130
RPD	Pyrene	2010/05/26	4.7		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/05/26		70	%	50 - 150	
	D10-Fluoranthene	2010/05/26		92	%	50 - 150	
	D10-Phenanthrene	2010/05/26		82	%	50 - 150	
	D12-Benzo(a)anthracene	2010/05/26		96	%	50 - 150	
	D12-Benzo(a)pyrene	2010/05/26		92	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/05/26		84	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/05/26		86	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/05/26		90	%	50 - 150	
	D12-Chrysene	2010/05/26		84	%	50 - 150	

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

## Quality Assurance Report (Continued)

Maxxam Job Number: GB049794

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2135395 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/05/26		88	%	50 - 150
		D12-Perylene	2010/05/26		92	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/26		84	%	50 - 150
		D8-Acenaphthylene	2010/05/26		66	%	50 - 150
		D8-Naphthalene	2010/05/26		74	%	50 - 150
		1-Methylnaphthalene	2010/05/26	<0.10		ug	
		1-Methylphenanthrene	2010/05/26	<0.10		ug	
		2-Chloronaphthalene	2010/05/26	<0.10		ug	
		2-Methylanthracene	2010/05/26	<0.10		ug	
		2-Methylnaphthalene	2010/05/26	<0.10		ug	
		3-Methylcholanthrene	2010/05/26	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/05/26	<0.10		ug	
		9,10-Dimethylanthracene	2010/05/26	<0.40		ug	
		Acenaphthene	2010/05/26	<0.050		ug	
		Acenaphthylene	2010/05/26	<0.050		ug	
		Anthracene	2010/05/26	<0.050		ug	
		Benzo(a)anthracene	2010/05/26	<0.050		ug	
		Benzo(a)fluorene	2010/05/26	<0.10		ug	
		Benzo(a)pyrene	2010/05/26	<0.050		ug	
		Benzo(b)fluoranthene	2010/05/26	<0.050		ug	
		Benzo(b)fluorene	2010/05/26	<0.10		ug	
		Benzo(e)pyrene	2010/05/26	<0.10		ug	
		Benzo(g,h,i)perylene	2010/05/26	<0.050		ug	
		Benzo(k)fluoranthene	2010/05/26	<0.050		ug	
		Biphenyl	2010/05/26	<0.10		ug	
		Chrysene	2010/05/26	<0.050		ug	
		Coronene	2010/05/26	<0.10		ug	
		Dibenz(a,h)anthracene	2010/05/26	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/05/26	<0.20		ug	
		Fluoranthene	2010/05/26	<0.050		ug	
		Fluorene	2010/05/26	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/05/26	<0.050		ug	
		m-Terphenyl	2010/05/26	<0.10		ug	
		Naphthalene	2010/05/26	<0.072		ug	
		o-Terphenyl	2010/05/26	<0.10		ug	
		Perylene	2010/05/26	<0.10		ug	
		Phenanthrene	2010/05/26	<0.050		ug	
		p-Terphenyl	2010/05/26	<0.10		ug	
		Pyrene	2010/05/26	<0.050		ug	
		Quinoline	2010/05/26	<0.40		ug	
		Tetralin	2010/05/26	<0.10		ug	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.



# Maxxam Analytics Inc.

## Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica  
 Location: 13-16-62-5 W4M  
 Station ID: Lica 33 (Portable)  
 Field Sample ID: LICA PUF/PORT/Apr 26, 10

Puf+ s/n: 100-1015  
 Motor s/n: 1139  
 Installation Date/Time: Apr 23, 10 @ 11:13 mst  
 Removal Date/Time: Apr 27, 10 @ 09:15 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
26-Apr-10	04/26/2010 0:00	04/27/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
22-Apr-10	27-Apr-10	29-Apr-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 29-Mar-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature ( C)	Volume (Vstd m <sup>3</sup> )
707	229	2.4	330.35

**Time set correctly prior to sampling? YES**  
**Timer set correctly prior to sampling? YES**  
**Sampling data saved to memory card after sampling? YES**

Comments: COC # Source Form, no number  
GB040140 PUFF#2  
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Apr 26, 10  
 \_\_\_\_\_  
 \_\_\_\_\_

Technician Signiture: \_\_\_\_\_



**Attention: Michael Bisaga**

Lakeland Industry & Community Assoc.  
P.O. Box 8237  
Bonnyville, AB  
CANADA T9N 2J5

**Report Date: 2010/05/28**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B052166**

**Received: 2010/04/29, 09:36**

Sample Matrix: PUF AND FILTER

# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/04/30	2010/05/27	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager  
Email: Theresa.Stephenson@MaxxamAnalytics.com  
Phone# (905) 817-5763

=====

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Total cover pages: 1

Maxxam Job #: B052166  
 Report Date: 2010/05/28

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		FS5111	FS5112		
Sampling Date		2010/04/26	2010/04/26		
	Units	LICA QFF/PUF/CLC/APR26,10	LICAQFF/PUF/PORT/APR26,10	RDL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2139249
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2139249
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2139249
2-Methylantracene	ug	<0.10	<0.10	0.10	2139249
2-Methylnaphthalene	ug	0.23	0.10	0.10	2139249
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2139249
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2139249
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2139249
Acenaphthene	ug	<0.050	<0.050	0.050	2139249
Acenaphthylene	ug	<0.050	<0.050	0.050	2139249
Anthracene	ug	<0.050	<0.050	0.050	2139249
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2139249
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2139249
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2139249
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2139249
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2139249
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2139249
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2139249
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2139249
Biphenyl	ug	<0.10	<0.10	0.10	2139249
Chrysene	ug	<0.050	<0.050	0.050	2139249
Coronene	ug	<0.10	<0.10	0.10	2139249
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2139249
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2139249
Fluoranthene	ug	0.054	<0.050	0.050	2139249
Fluorene	ug	0.100	<0.050	0.050	2139249
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2139249
m-Terphenyl	ug	<0.10	<0.10	0.10	2139249
Naphthalene	ug	0.206	0.082	0.072	2139249
o-Terphenyl	ug	<0.10	<0.10	0.10	2139249
Perylene	ug	<0.10	<0.10	0.10	2139249
Phenanthrene	ug	0.186	0.080	0.050	2139249

 RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch

Maxxam Job #: B052166  
 Report Date: 2010/05/28

**SEMI-VOLATILE ORGANICS BY GC-MS (PUF AND FILTER)**

Maxxam ID		FS5111	FS5112		
Sampling Date		2010/04/26	2010/04/26		
	Units	LICA QFF/PUF/CLC/APR26,10	LICAQFF/PUF/PORT/APR26,10	RDL	QC Batch
p-Terphenyl	ug	<0.10	<0.10	0.10	2139249
Pyrene	ug	0.054	<0.050	0.050	2139249
Quinoline	ug	<0.40	<0.40	0.40	2139249
Tetralin	ug	<0.10	<0.10	0.10	2139249
<b>Surrogate Recovery (%)</b>					
D10-2-Methylnaphthalene	%	60	66		2139249
D10-Fluoranthene	%	94	92		2139249
D10-Fluorene (FS)	%	51	59		2139249
D10-Phenanthrene	%	78	78		2139249
D12-Benzo(a)anthracene	%	98	98		2139249
D12-Benzo(a)pyrene	%	82	88		2139249
D12-Benzo(b)fluoranthene	%	84	86		2139249
D12-Benzo(ghi)perylene	%	94	92		2139249
D12-Benzo(k)fluoranthene	%	96	96		2139249
D12-Chrysene	%	88	92		2139249
D12-Indeno(1,2,3-cd)pyrene	%	94	90		2139249
D12-Perylene	%	88	94		2139249
D14-Dibenzo(a,h)anthracene	%	86	82		2139249
D14-Terphenyl (FS)	%	83	86		2139249
D8-Acenaphthylene	%	68	72		2139249
D8-Naphthalene	%	62	70		2139249
QC Batch = Quality Control Batch					

Maxxam Job #: B052166  
 Report Date: 2010/05/28

### Test Summary

**Maxxam ID** FS5111 **Collected** 2010/04/26  
**Sample ID** LICA QFF/PUF/CLC/APR26,10 **Shipped**  
**Matrix** PUF AND FILTER **Received** 2010/04/29

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2139249	2010/04/30	2010/05/27	WZ

**Maxxam ID** FS5112 **Collected** 2010/04/26  
**Sample ID** LICAQFF/PUF/PORT/APR26,10 **Shipped**  
**Matrix** PUF AND FILTER **Received** 2010/04/29

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2139249	2010/04/30	2010/05/27	WZ

Maxxam Job #: B052166  
Report Date: 2010/05/28

**GENERAL COMMENTS**

PAHMS-F

9,10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in initial calibration. No positives found for these 2 compounds.

Not calibrated for Benzo(b)Anthracene, Picene, Dibenzo(a,c) anthracene or Triphenylene. An estimated mdl for each of these compounds is 0.1ug. Since Dibenzo(a,c) anthracene co-elutes with Dibenzo(a,h) anthracene and Triphenylene with Chrysene each would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected

**Results relate only to the items tested.**

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report  
 Maxxam Job Number: GB052166

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2139249 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/05/27		70	%	50 - 150
		D10-Fluoranthene	2010/05/27		90	%	50 - 150
		D10-Phenanthrene	2010/05/27		84	%	50 - 150
		D12-Benzo(a)anthracene	2010/05/27		96	%	50 - 150
		D12-Benzo(a)pyrene	2010/05/27		94	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/05/27		90	%	50 - 150
		D12-Benzo(ghi)perylene	2010/05/27		94	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/05/27		98	%	50 - 150
		D12-Chrysene	2010/05/27		96	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/05/27		94	%	50 - 150
		D12-Perylene	2010/05/27		96	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/27		86	%	50 - 150
		RPD	D8-Acenaphthylene	2010/05/27		70	%
	D8-Naphthalene		2010/05/27		76	%	50 - 150
	Spiked Blank	Acenaphthene	2010/05/27		76	%	60 - 130
		Acenaphthene	2010/05/27	4.2		%	50
	Spiked Blank	Acenaphthylene	2010/05/27		75	%	60 - 130
		Acenaphthylene	2010/05/27	6.1		%	50
	Spiked Blank	Anthracene	2010/05/27		84	%	60 - 130
		Anthracene	2010/05/27	4.9		%	50
	Spiked Blank	Benzo(a)anthracene	2010/05/27		83	%	60 - 130
		Benzo(a)anthracene	2010/05/27	1.2		%	50
	Spiked Blank	Benzo(a)pyrene	2010/05/27		89	%	60 - 130
		Benzo(a)pyrene	2010/05/27	3.4		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/05/27		78	%	60 - 130
		Benzo(b)fluoranthene	2010/05/27	6.2		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/05/27		85	%	60 - 130
		Benzo(g,h,i)perylene	2010/05/27	3.8		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/05/27		106	%	60 - 130
		Benzo(k)fluoranthene	2010/05/27	1.2		%	50
	Spiked Blank	Chrysene	2010/05/27		101	%	60 - 130
		Chrysene	2010/05/27	5.9		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/05/27		84	%	60 - 130
		Dibenz(a,h)anthracene	2010/05/27	6.0		%	50
	Spiked Blank	Fluoranthene	2010/05/27		90	%	60 - 130
		Fluoranthene	2010/05/27	8.6		%	50
	Spiked Blank	Fluorene	2010/05/27		75	%	60 - 130
		Fluorene	2010/05/27	9.6		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/05/27		85	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2010/05/27	4.3		%	50
Spiked Blank	Naphthalene	2010/05/27		72	%	60 - 130	
	Naphthalene	2010/05/27	1.0		%	50	
Spiked Blank	Phenanthrene	2010/05/27		69	%	60 - 130	
	Phenanthrene	2010/05/27	7.4		%	50	
Spiked Blank	Pyrene	2010/05/27		83	%	60 - 130	
	Pyrene	2010/05/27	9.2		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/05/27		76	%	50 - 150	
	D10-Fluoranthene	2010/05/27		98	%	50 - 150	
	D10-Phenanthrene	2010/05/27		80	%	50 - 150	
	D12-Benzo(a)anthracene	2010/05/27		98	%	50 - 150	
	D12-Benzo(a)pyrene	2010/05/27		98	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/05/27		92	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/05/27		98	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/05/27		92	%	50 - 150	
	D12-Chrysene	2010/05/27		88	%	50 - 150	

Lakeland Industry & Community Assoc.  
 Attention: Michael Bisaga  
 Client Project #:  
 P.O. #:  
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB052166

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2139249 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/05/27		100	%	50 - 150
		D12-Perylene	2010/05/27		100	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/05/27		94	%	50 - 150
		D8-Acenaphthylene	2010/05/27		76	%	50 - 150
		D8-Naphthalene	2010/05/27		80	%	50 - 150
		1-Methylnaphthalene	2010/05/27	<0.10		ug	
		1-Methylphenanthrene	2010/05/27	<0.10		ug	
		2-Chloronaphthalene	2010/05/27	<0.10		ug	
		2-Methylantracene	2010/05/27	<0.10		ug	
		2-Methylnaphthalene	2010/05/27	<0.10		ug	
		3-Methylcholanthrene	2010/05/27	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/05/27	<0.10		ug	
		9,10-Dimethylantracene	2010/05/27	<0.40		ug	
		Acenaphthene	2010/05/27	<0.050		ug	
		Acenaphthylene	2010/05/27	<0.050		ug	
		Anthracene	2010/05/27	<0.050		ug	
		Benzo(a)anthracene	2010/05/27	<0.050		ug	
		Benzo(a)fluorene	2010/05/27	<0.10		ug	
		Benzo(a)pyrene	2010/05/27	<0.050		ug	
		Benzo(b)fluoranthene	2010/05/27	<0.050		ug	
		Benzo(b)fluorene	2010/05/27	<0.10		ug	
		Benzo(e)pyrene	2010/05/27	<0.10		ug	
		Benzo(g,h,i)perylene	2010/05/27	<0.050		ug	
		Benzo(k)fluoranthene	2010/05/27	<0.050		ug	
		Biphenyl	2010/05/27	<0.10		ug	
		Chrysene	2010/05/27	<0.050		ug	
		Coronene	2010/05/27	<0.10		ug	
		Dibenz(a,h)anthracene	2010/05/27	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/05/27	<0.20		ug	
		Fluoranthene	2010/05/27	<0.050		ug	
		Fluorene	2010/05/27	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/05/27	<0.050		ug	
		m-Terphenyl	2010/05/27	<0.10		ug	
		Naphthalene	2010/05/27	<0.072		ug	
		o-Terphenyl	2010/05/27	<0.10		ug	
		Perylene	2010/05/27	<0.10		ug	
		Phenanthrene	2010/05/27	<0.050		ug	
		p-Terphenyl	2010/05/27	<0.10		ug	
		Pyrene	2010/05/27	<0.050		ug	
		Quinoline	2010/05/27	<0.40		ug	
		Tetralin	2010/05/27	<0.10		ug	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.  
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.