

Lakeland Industry & Community Association

Cold Lake Monitoring Site

Ambient Air Monitoring

Data Report

For

November 2010

Prepared By:



December 16, 2010

Lakeland Industry & Community Association

Cold Lake Monitoring Site

Ambient Air Monitoring

Table of Contents		Page		Page
Introduction		3	Calibration Reports	108
Calibration Procedure		4	• Sulphur Dioxide	109
Monthly Continuous Summary		5	• Total Reduced Sulphur	112
Monthly Non-Continuous Summary		6	• Total Hydrocarbons	115
Volatile Organics Data Summary		7	• Particulate Matter 2.5	118
Polycyclic Aromatic Hydrocarbons Data Summary		8	• Nitrogen Dioxide	120
General Monthly Summary		9	• Ozone	124
Continuous Monitoring		13	• Wind System	127
• Monthly Summaries, Graphs & Wind Roses		14	Passive Bubble Maps	129
○ Air Quality Index		15	Passive Field Data	134
○ Sulphur Dioxide		17	• Field Notes	135
○ Total Reduced Sulphur		25	Passive Monitoring Laboratory Analysis	137
○ Total Hydrocarbons		33	Volatile Organics Laboratory Analysis	145
○ Particulate Matter 2.5		41	Polycyclic Aromatic Hydrocarbons Laboratory Analysis	217
○ Nitrogen Dioxide		46		
○ Nitric Oxide		54		
○ Oxides of Nitrogen		61		
○ Ozone		69		
○ Ambient Temperature		77		
○ Relative Humidity		80		
○ Vector Wind Speed		83		
○ Vector Wind Direction		90		
○ Standard Deviation Wind Direction		93		
Non-Continuous Monitoring		96		
Volatile Organics		101		
Polycyclic Aromatic Hydrocarbons		104		

Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Cold Lake
Data Period: November 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 – November 2010

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION COLD LAKE SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)	
						OBJECTIVES					EXCEEDENCES			MONTHLY AVERAGE
PARAMETER	1-HR	24-HR	1-HR	24-HR		READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY		
SO ₂ (PPB)	172	57	0	0	0.07	3	20	14, 15	6, 4.7	239(WSW), 235(SW)	0.4	20	100.0	
TRS (PPB)	-	-	-	-	0.00	0	ALL	ALL	VAR	VAR	0.0	ALL	100.0	
NO ₂ (PPB)	212	106	0	0	5.67	28	24	16	0.6	186(S)	13.7	24	100.0	
NO (PPB)	-	-	-	-	1.12	29	7	8	0.8	79(ENE)	5.0	1	100.0	
NO _x (PPB)	-	-	-	-	7.11	47	24	16	0.6	186(S)	18.0	24	100.0	
O ₃ (PPB)	82	-	0	-	19.16	37	17	11	7.2	96(E)	33.3	17	100.0	
THC (PPM)	-	-	-	-	2.13	3.5	1	4	1.2	125(SE)	2.7	12	100.0	
PM 2.5 (UG/M ³)	-	30	-	0	6.66	34.9	12	9	3.7	129(SE)	15.7	12	98.9	
TEMPERATURE (DEG C)	-	-	-	-	-6.69	12.8	5	14	9.8	291(WNW)	5.6	2	99.7	
RELATIVE HUMIDITY (%)	-	-	-	-	74.04	98	14	9	4	231(SW)	92.1	10	99.7	
VECTOR WS (KPH)	-	-	-	-	4.89	19.0	15	23	-	8(N)	13.0	16	99.7	
VECTOR WD (DEGREES)	-	-	-	-	260(WSW)	-	-	-	-	-	-	-	99.7	

VAR-VARIOUS

Monthly Non-Continuous Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Passive Ambient Monitoring Network – November 2010

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO ₂	#14	1.6	0.5
H ₂ S	#27	0.20	0.10
NO ₂	#28	6.6	2.7
O ₃	#19	23.3	18.4

Volatile Organics Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – COLD LAKE

Xontech Model 910A – November 4, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Xontech Model 910A – November 10, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Xontech Model 910A – November 16, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Xontech Model 910A – November 22, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Xontech Model 910A – November 28, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Polycyclic Aromatic Hydrocarbons (PAHs) Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – COLD LAKE

PUF cartridge – November 4, 2010

Maximum reading (ng/m3)	Semi-Volatile Organic
<6.055	3-Methylcholanthrene

PUF cartridge – November 10, 2010

Maximum reading (ng/m3)	Semi-Volatile Organic
<6.055	3-Methylcholanthrene

PUF cartridge – November 16, 2010

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

PUF cartridge – November 22, 2010

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

PUF cartridge – November 28, 2010

Maximum reading (ng/m3)	Semi-Volatile Organic
<6.055	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. 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. Data was corrected using daily zero information.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

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.

Nitrogen Dioxide (PPB)

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

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

Particulate Matter 2.5 (ug/m³)

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

No operational issues observed during the month. 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. 8 hours of data were invalidated as the data were below –3.0 ug/m³.

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

- System make / model – Met One 50.5, S/N: F1644 replaced to RM Young, S/N: 46553

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

The Met One 50.5 wind system was removed for shipment to the factory for wind tunnel calibration, and a Maxxam-Supplied RM Young 5103VK wind system was installed on November 8th. A wind system calibration was performed prior to installation.

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. The RH sensor was disconnected temporarily during the wind system installation on November 8th.

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month. The Temperature sensor was disconnected temporarily during the wind system installation on November 8th

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 and inlet were cleaned on November 3rd.

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. Four AQI values recorded in November 2010 were in the Fair range, and they are all due to PM2.5. Others were within the Good range. The highest hourly concentration of PM2.5 was 34.9ug/m³ and an AQI value of 28, hour 9 on November 12th. The highest hourly concentration of Ozone was 37 ppb and an AQI value of 19 on November 17th, hour of 11.

Passive Network

No issue was observed during this month.

Volatile Organics (VOCs)

The volatile organics were sampled from November 4th to November 28th. 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.

A flow verification on the Xontech was performed using Bios DC-2, S/N 1193, on November 8th; the as found flow was 9.49slpm, adjusted to 10.00slpm.

Polycyclic Aromatic Hydrocarbons (PAHs)

The PAHs were sampled from November 4th to November 28th. 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

NOVEMBER 2010

SULPHUR DIOXIDE (SO₂) 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	0	0	0	0	IZS	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	0.2	24	
2	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
3	0	0	0	0	0	IZS	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
4	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	
5	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	
6	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	
7	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	
8	IZS	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
19	0	0	0	0	0	0	1	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
20	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	3	3	1	0	1	0	0	0	0	0	3	0.4	24	
21	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	
22	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	2	0	0	0	0	0	0	0	0	0	2	0.1	24	
23	0	0	0	0	0	0	0	0	IZS	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	1	0.3	24	
24	0	0	0	0	0	0	0	IZS	0	1	1	1	2	1	2	1	0	0	0	0	0	0	0	1	2	0.4	24	
25	1	0	0	1	1	1	IZS	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.4	24	
26	0	0	0	0	0	IZS	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
27	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	
28	0	0	0	IZS	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
29	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	
30	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	
HOURLY MAX	1	0	0	1	1	1	1	1	1	1	1	1	2	1	3	3	1	1	1	0	0	0	0	1				
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.2	0.3	0.2	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	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

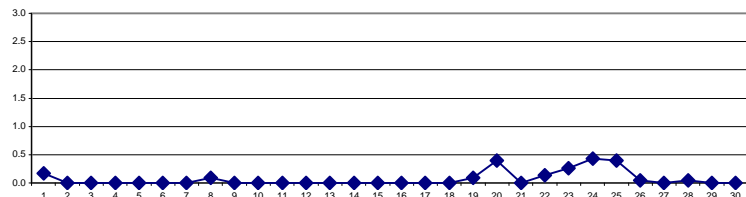
OBJECTIVE LIMIT:

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

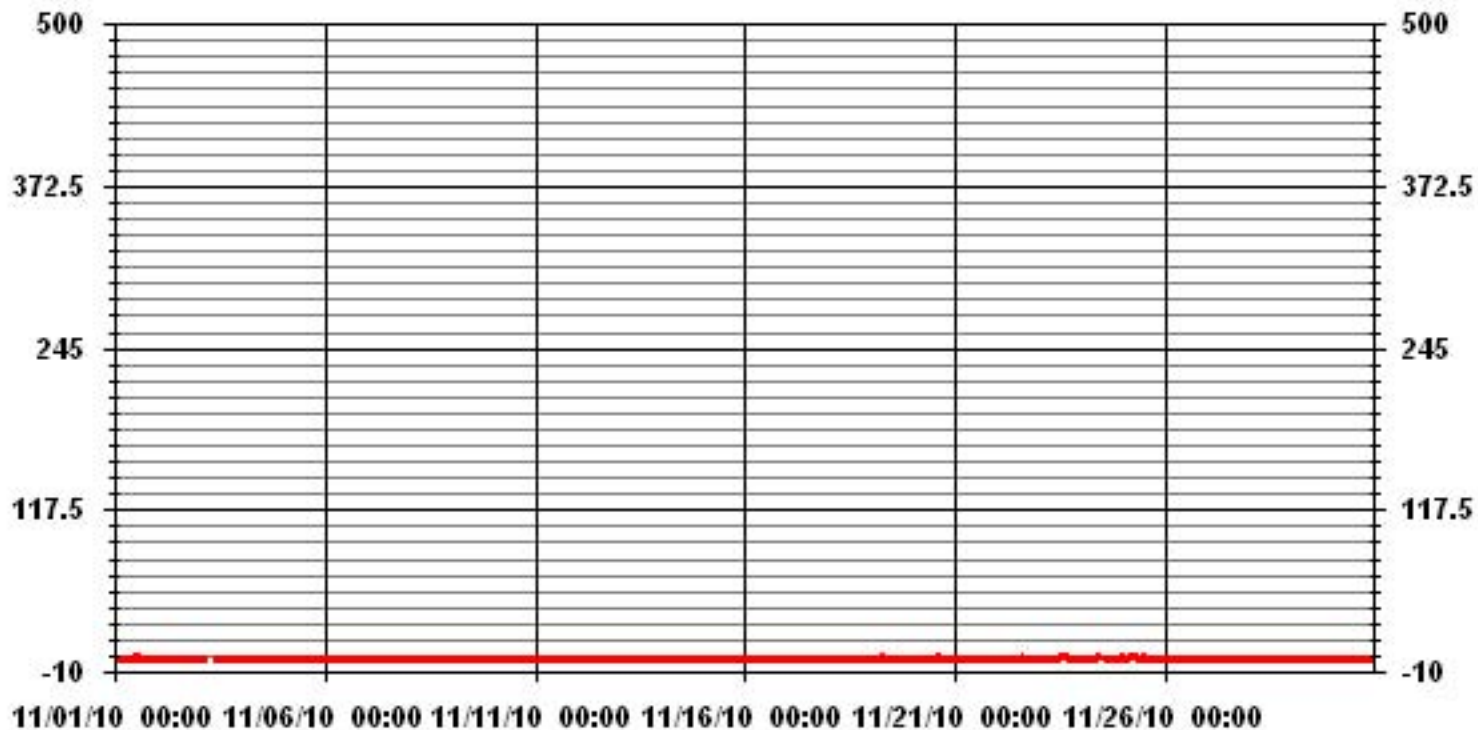
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	40		
MAXIMUM 1-HR AVERAGE:	3 PPB @ HOUR(S) 14, 15 ON DAY(S) 20		
MAXIMUM 24-HR AVERAGE:	0.4 PPB ON DAY(S) 20		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	4 HRS	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.30	MONTHLY AVERAGE:	0.07 PPB

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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	0	0	0	0	IZS	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.3	24
2		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
3		0	0	0	0	0	IZS	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
4		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	
5		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	
6		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	
7		0	IZS	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
8		IZS	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.3	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	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	1	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0.0	24
12		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	
13		0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	IZS	0	0	0	0	1	0.1	24
14		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	1	0.0	24
15		0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	0	IZS	0	0	0	0	0	0	0	0	1	0.2	24
16		0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	IZS	1	1	1	1	0	0	0	0	0	1	0.3	24
17		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
18		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24
19		0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
20		0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	2	4	3	2	1	1	1	0	0	0	4	0.7	24
21		0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	1	1	1	1	0	0	1	0	0	0	0	1	0.3	24
22		0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	1	1	1	1	1	2	0.5	24
23		0	0	0	0	0	0	0	0	0	IZS	1	1	1	1	1	1	1	1	2	1	0	1	0	0	1	2	0.6	24
24		0	0	0	0	0	0	0	0	IZS	1	1	2	2	2	2	2	1	1	1	1	1	0	0	0	1	2	0.8	24
25		1	1	1	1	2	2	IZS	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	2	0.8	24
26		0	0	0	0	0	0	IZS	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0.5	24
27		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
28		0	0	0	IZS	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
29		0	0	0	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
30		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
HOURLY MAX		1	1	1	1	2	2	1	1	1	1	2	2	2	2	4	3	2	2	1	1	1	1	1	1	1			
HOURLY AVG		0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.5	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.0	0.0	0.1				

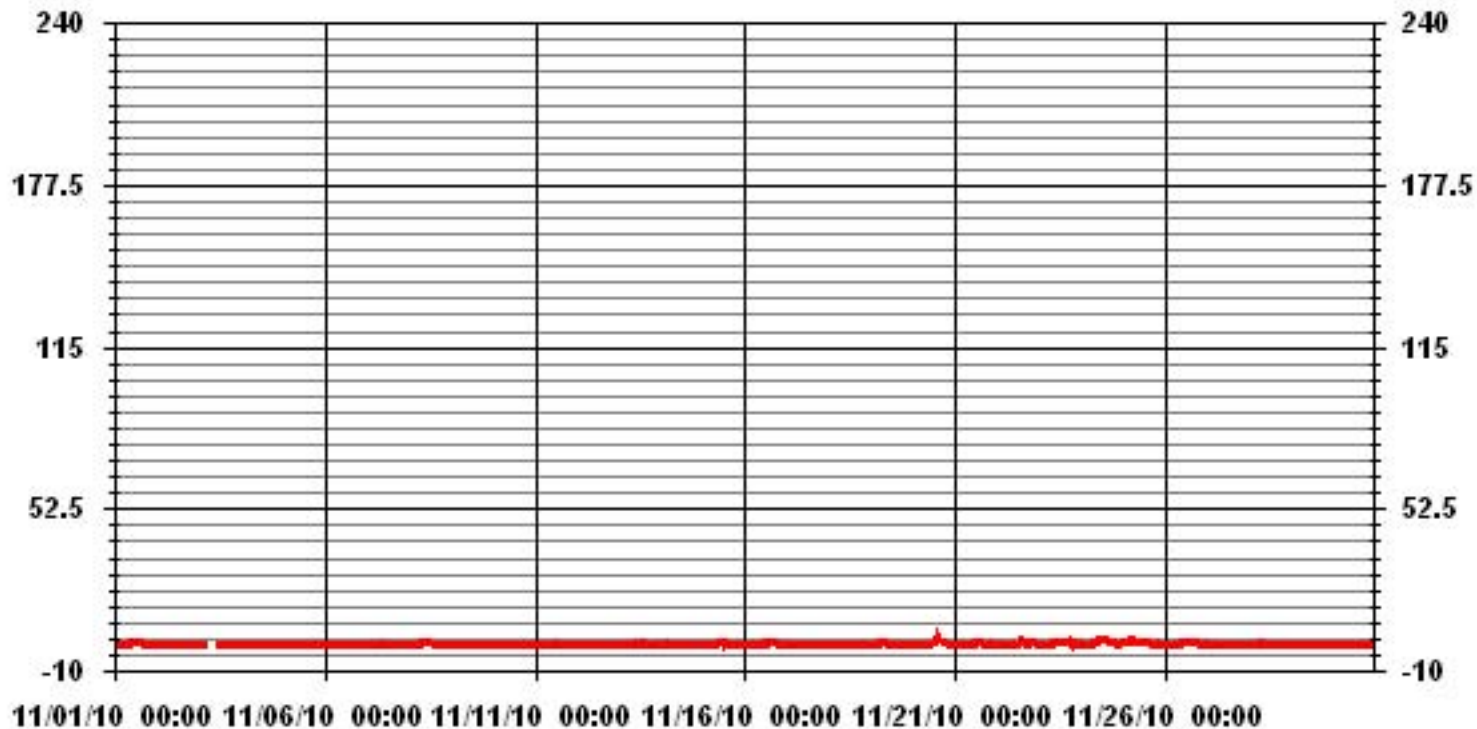
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	115
MAXIMUM INSTANTANEOUS VALUE:	4 PPB @ HOUR(S) 14 ON DAY(S) 20
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	5 HRS
STANDARD DEVIATION:	0.47
OPERATIONAL TIME:	720 HRS

01 Hour Averages



— LICA SO2MAX PPB

LICA
 SO2_ / WDR Joint Frequency Distribution (Percent)

November 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	2.78	1.90	1.31	3.51	5.86	4.98	10.41	2.63	2.49	3.95	13.19	24.92	8.50	6.45	3.81	3.22	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.78	1.90	1.31	3.51	5.86	4.98	10.41	2.63	2.49	3.95	13.19	24.92	8.50	6.45	3.81	3.22	

Calm : .00 %

Total # Operational Hours : 682

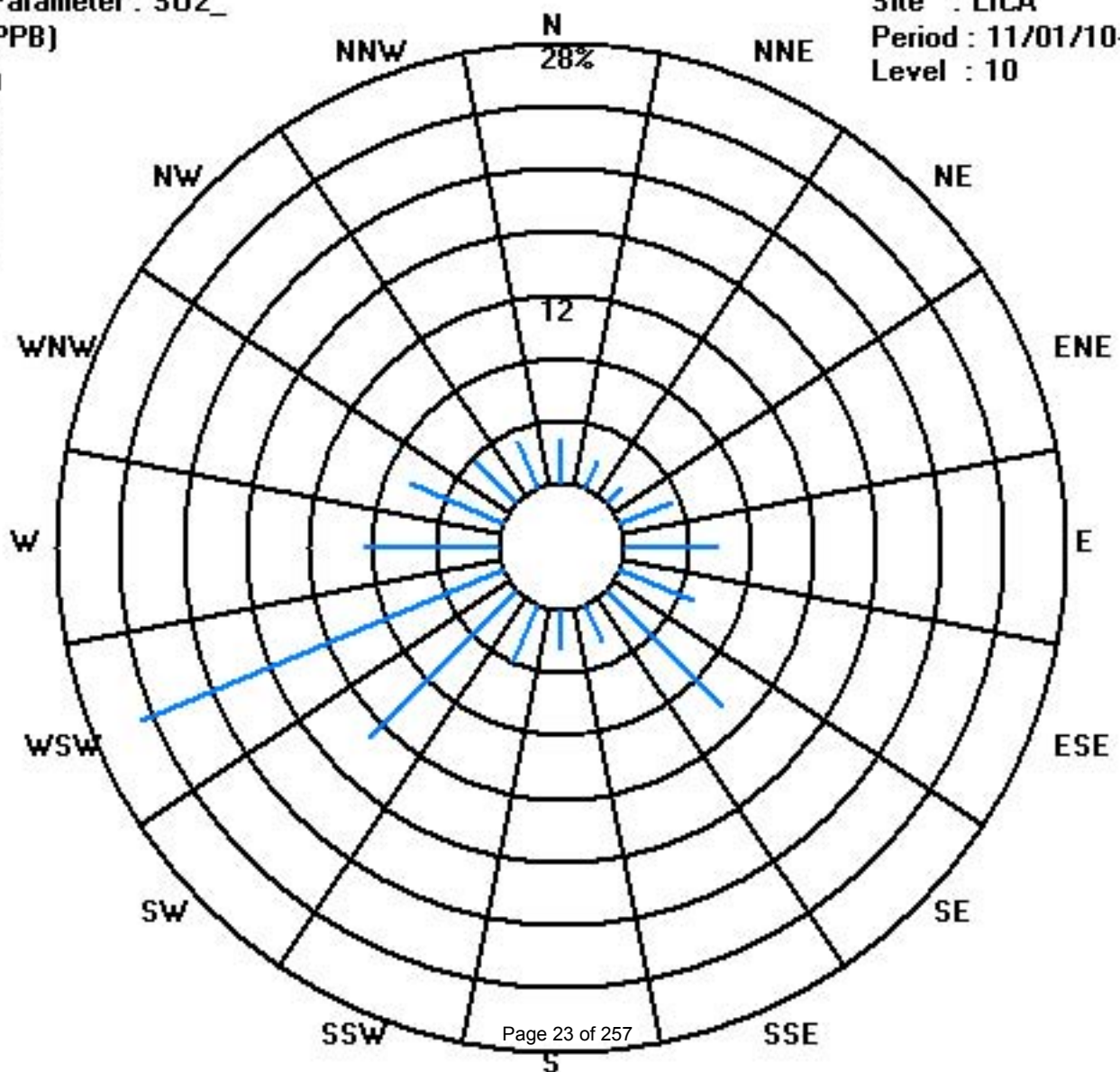
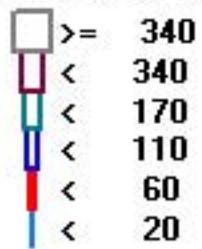
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	19	13	9	24	40	34	71	18	17	27	90	170	58	44	26	22	682
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	19	13	9	24	40	34	71	18	17	27	90	170	58	44	26	22	

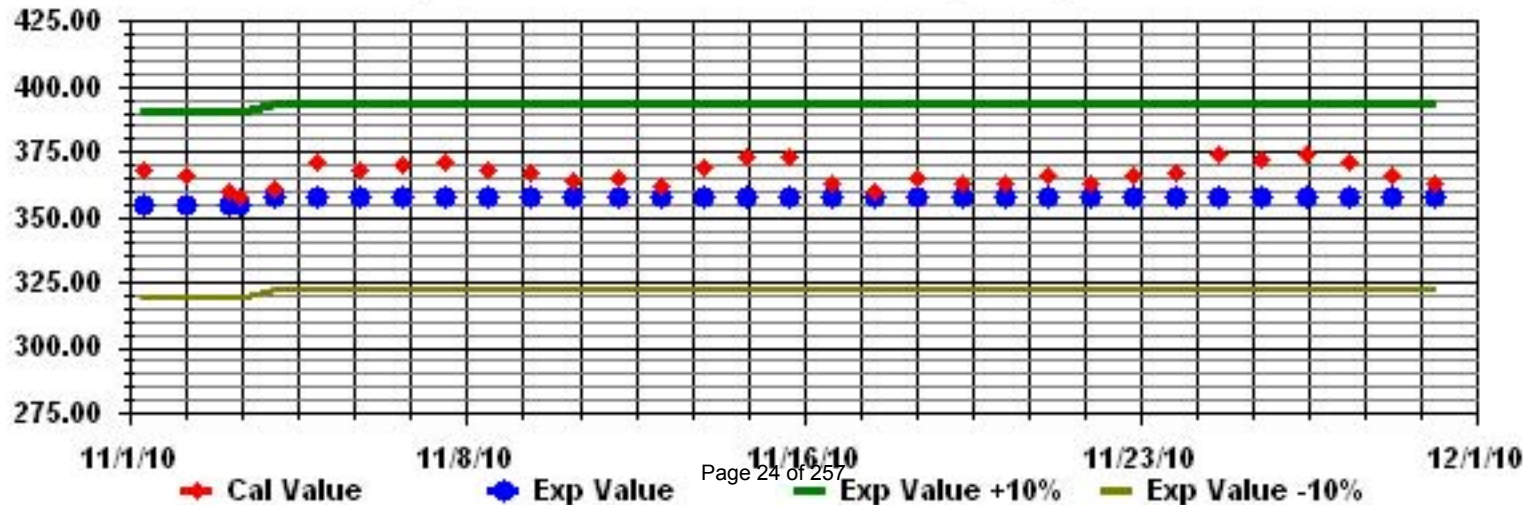
Calm : .00 %

Total # Operational Hours : 682

Class Limits (PPB)



Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAN



Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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	IZS	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	IZS	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	3	0	0	0	0	0	IZS	0	0	0	0	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
4	4	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
5	5	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
6	6	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
7	7	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
8	8	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
9	9	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
10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0.0	24
11	11	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
12	12	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
13	13	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
14	14	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
15	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	24
16	16	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
17	17	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
18	18	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
19	19	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
20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	21	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
22	22	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
23	23	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
24	24	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
25	25	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
26	26	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
27	27	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
28	28	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
29	29	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
30	30	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
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

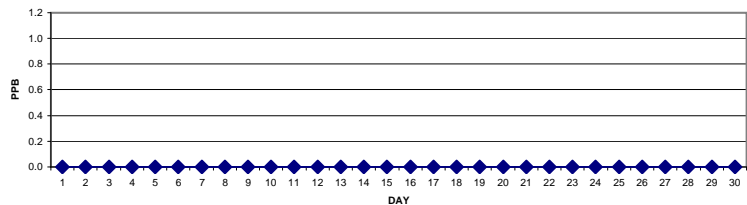
OBJECTIVE LIMIT:

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

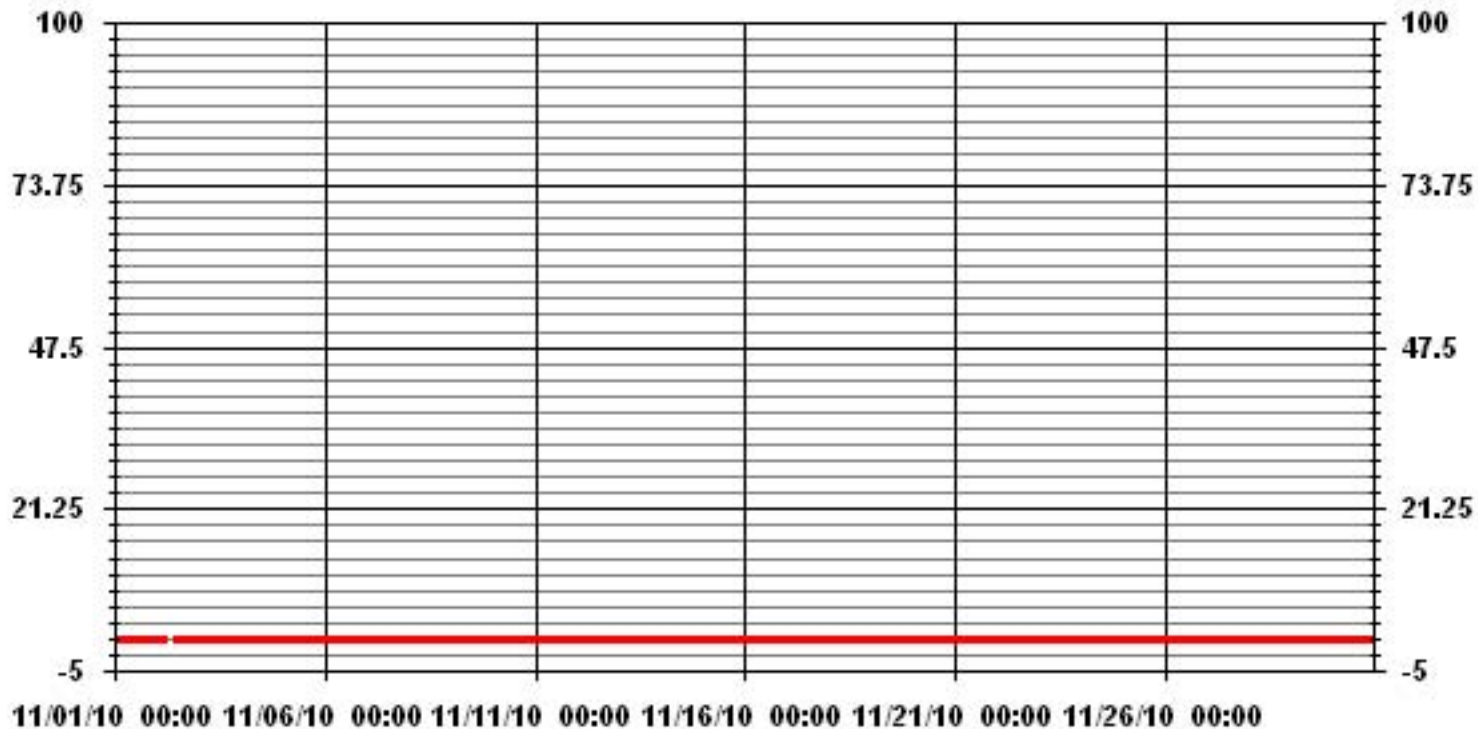
MONTHLY SUMMARY

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:	720	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	0.00		MONTHLY AVERAGE	0.00	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA TRS_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2010

TOTAL REDUCED SULPHUR MAX instantaneous maximum in ppb

MST

DAY	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.			
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	0.0	24		
2		0	0	0	0	0	0	0	IZS	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24		
3		0	0	0	0	0	IZS	0	0	0	0	0	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24		
4		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		
5		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		
6		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		
7		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		
8		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		
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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	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	
27		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	
28		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	
29		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	
30		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	
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

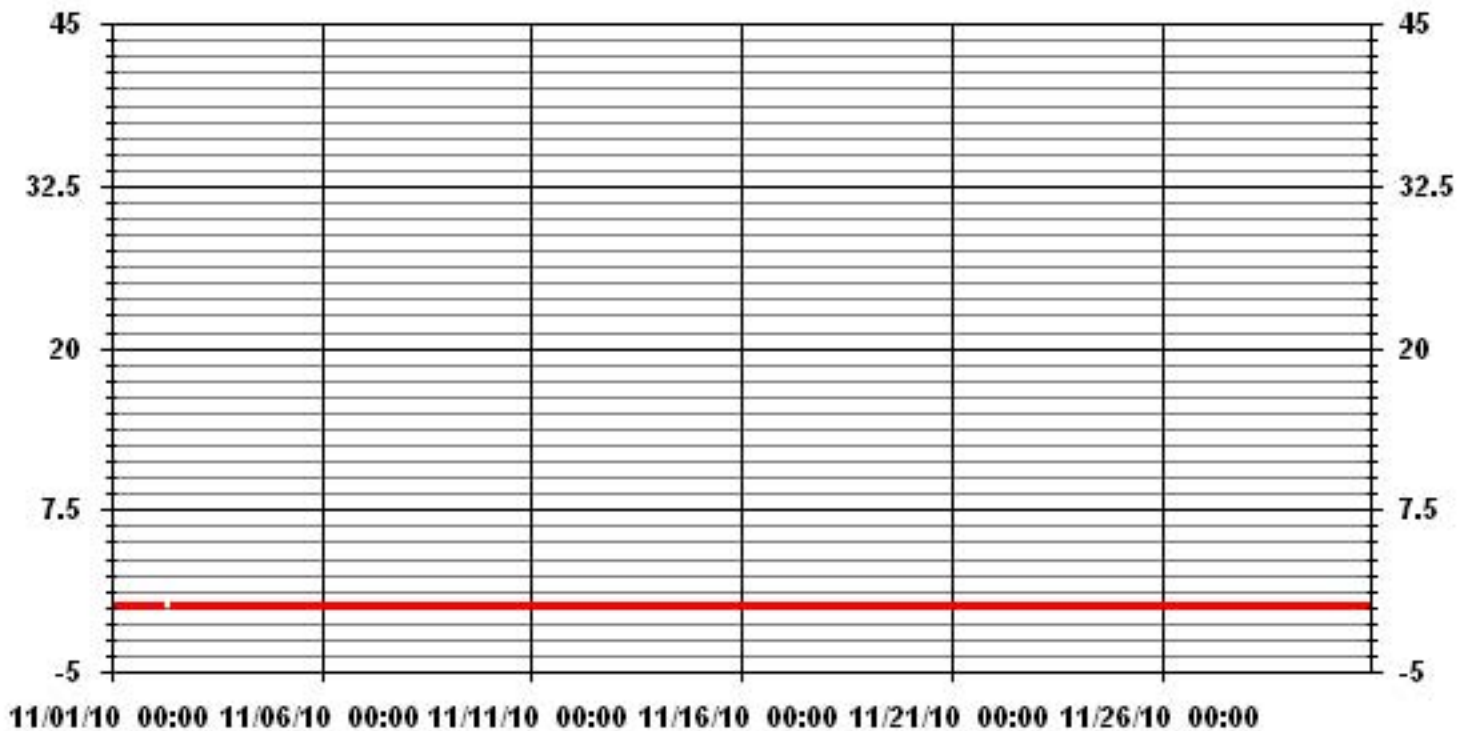
STATUS FLAG CODES

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)
				VAR	VARIOUS
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS
MONTHLY CALIBRATION TIME:	7	HRS			
STANDARD DEVIATION:	0.00				

01 Hour Averages



— LICA TRSMAX PPB

LICA
 TRS_ / WD Joint Frequency Distribution (Percent)

November 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	2.79	1.90	1.32	3.52	5.87	4.99	10.42	2.64	2.49	3.96	13.21	24.96	8.37	6.46	3.81	3.23	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.79	1.90	1.32	3.52	5.87	4.99	10.42	2.64	2.49	3.96	13.21	24.96	8.37	6.46	3.81	3.23	

Calm : .00 %

Total # Operational Hours : 681

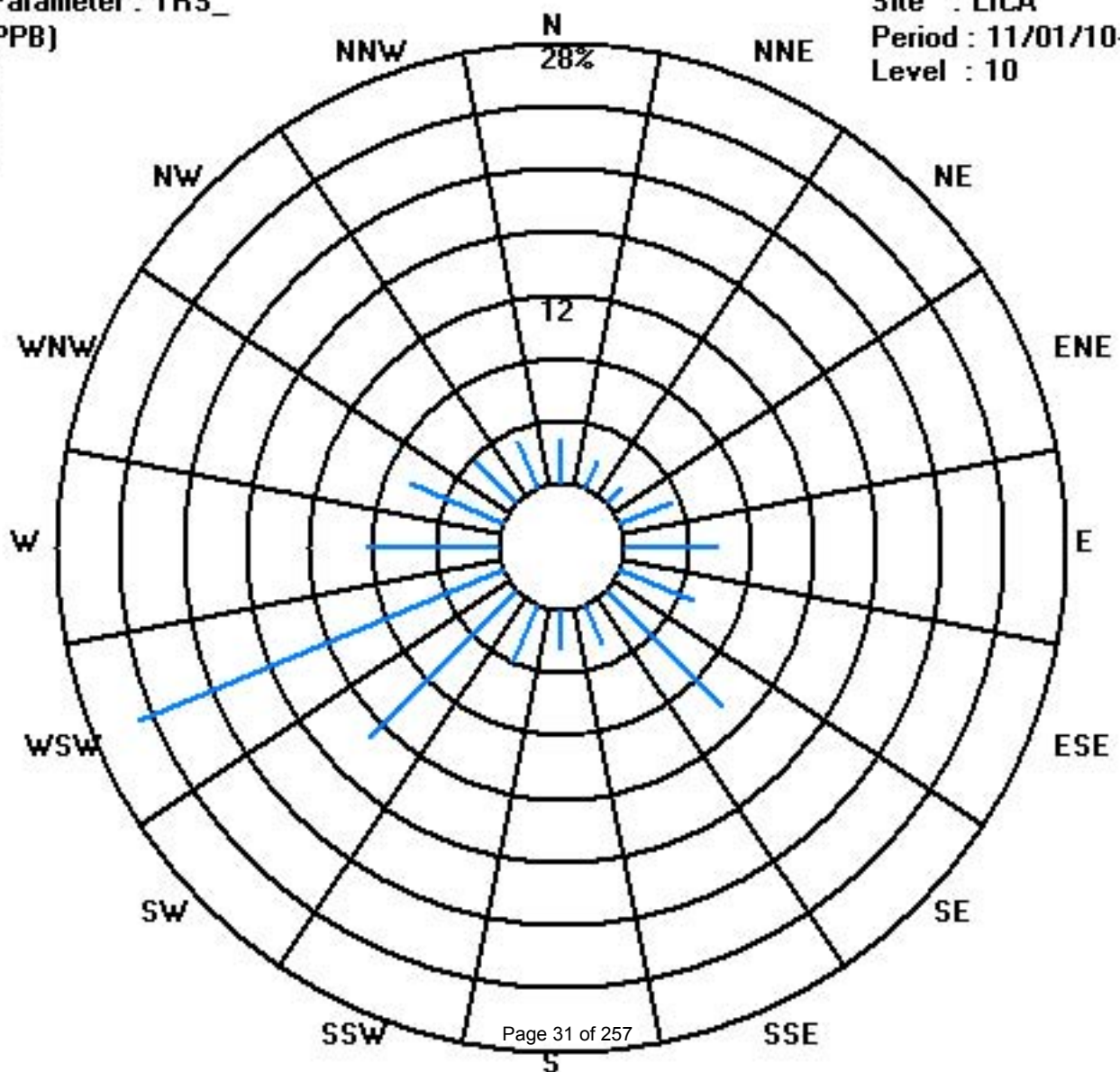
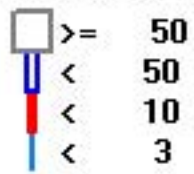
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	19	13	9	24	40	34	71	18	17	27	90	170	57	44	26	22	681
< 10																	
< 50																	
>= 50																	
Totals	19	13	9	24	40	34	71	18	17	27	90	170	57	44	26	22	

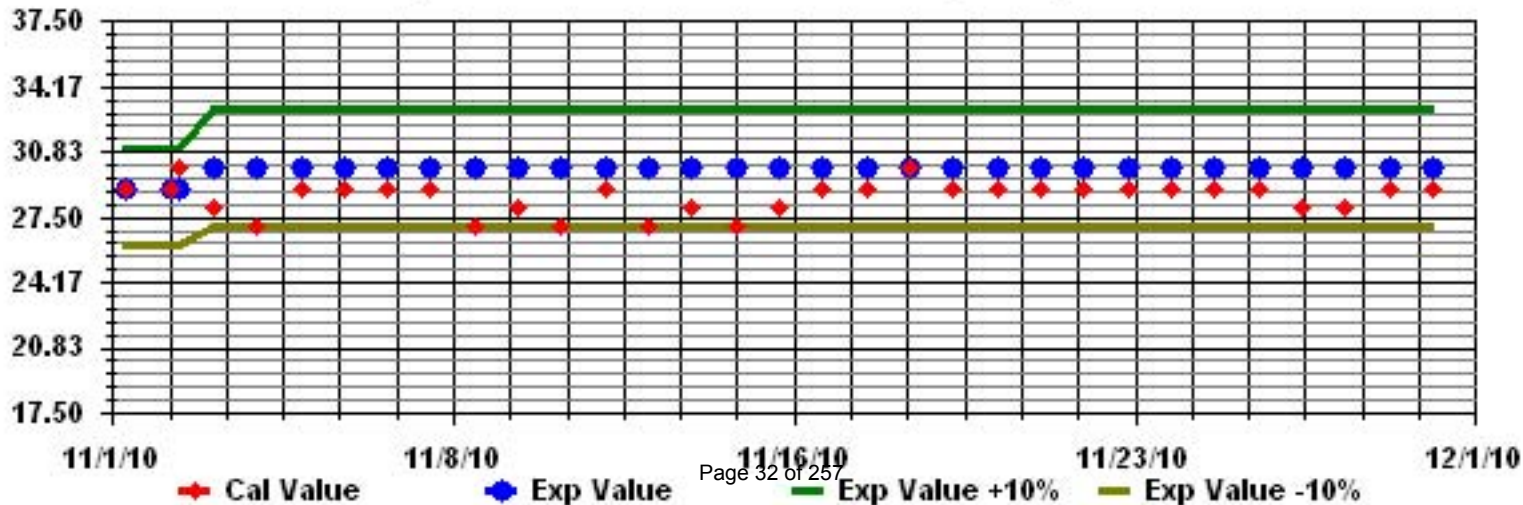
Calm : .00 %

Total # Operational Hours : 681

Class Limits (PPB)



Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

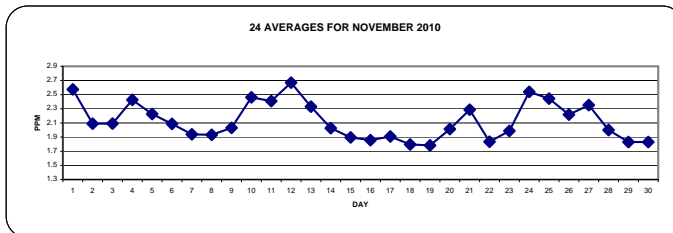
NOVEMBER 2010

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

STATUS FLAG CODES

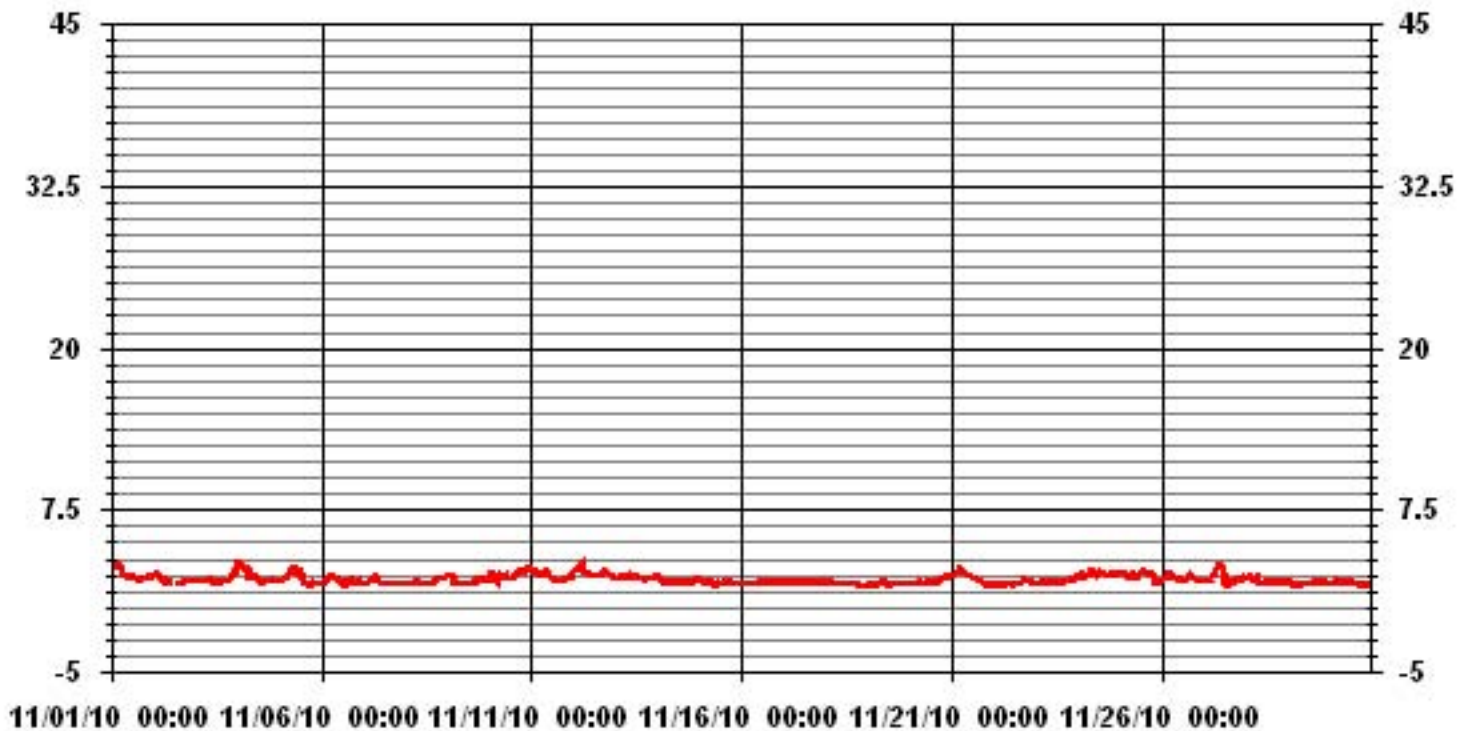
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE
BB	- BELOW BACKGROUND OF 1.5 PPM		



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	684		
MAXIMUM 1-HR AVERAGE:	3.5 PPM	@ HOUR(S)	4 ON DAY(S)
MAXIMUM 24-HR AVERAGE:	2.7 PPM	ON DAY(S)	
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	5 HRS	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.36	MONTHLY AVERAGE:	2.13 PPM

01 Hour Averages



— LICA THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2010

TOTAL HYDROCARBONS MAX instantaneous maximum in ppr

MST																											
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	24:00	DAILY MAX.	24-HOUR AVG.	RDGS.
1	3.3	3.4	3.6	3.7	3.6	3.6	3.2	IZS	2.5	2.5	2.4	2.4	2.5	2.5	3.5	2.2	2.3	2.4	2.4	2.3	2.4	2.4	2.4	2.5	3.7	2.8	24
2	2.7	2.6	2.6	2.6	2.6	2.4	IZS	2.1	2	2	1.9	C	C	C	1.9	1.9	2	2	2	2.1	2.1	2.1	2.1	2	2.7	2.2	24
3	2	2	2	2	2	IZS	2.1	2	2.2	2.2	C	C	1.9	2	2	2	2.2	2.1	2.3	2.6	2.6	2.9	3.3	3.3	2.2	24	
4	4.5	4.1	3.7	3.4	IZS	3.2	4.5	4	2.4	2.5	2.5	2.4	2.3	2.1	2.7	2.1	2.2	2.1	2.1	2.1	2.1	2.4	2.3	2.2	4.5	2.8	24
5	2.2	2.2	2.7	IZS	2.6	2.8	4.9	3.2	2.7	3.5	3.2	2.6	2.9	2.9	2.3	1.9	2	1.9	1.9	2	1.9	1.9	1.8	1.8	4.9	2.5	24
6	1.8	2	IZS	2.2	2.4	2.5	2.6	2.4	2.6	2.6	2.2	2.1	2	2	1.9	2	2.2	2.2	2.1	2.3	2.3	2.7	2.2	2.7	2.2	24	
7	2.2	IZS	2.2	2.4	2.4	2.3	2.3	2.9	2.6	2.3	2	1.9	1.8	1.8	1.8	1.8	1.9	1.8	1.8	2.7	1.8	1.9	1.9	1.9	2.9	2.1	24
8	IZS	1.9	1.8	1.8	1.8	2	2.1	1.9	1.9	1.9	2	1.9	1.9	2	1.8	2	2.1	2.2	2.3	2.4	2.3	2.4	IZS	2.4	2.0	24	
9	2.5	2.9	2.5	2.6	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.1	2.2	2.6	2.4	2.5	2.3	2.3	IZS	2.3	2.9	2.2	24
10	2.5	3.3	2.3	2.5	2.4	2.7	2.5	2.5	2.5	2.7	2.3	2.3	2.3	3.1	2.5	2.6	2.8	2.9	2.8	2.9	3.2	IZS	3.2	3.2	3.3	2.7	24
11	3	3	2.9	2.9	2.8	2.6	2.6	2.9	3.1	2.9	2.7	2.4	2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.2	IZS	2.5	2.4	2.7	3.1	2.6	24
12	3	3	3.3	3.2	3.7	3.6	3.1	2.8	3.1	2.7	2.5	2.5	2.5	2.5	2.5	3.2	2.9	2.9	IZS	2.7	2.8	2.6	2.5	3.7	2.9	24	
13	2.3	2.5	2.9	2.9	2.5	2.5	2.7	2.5	2.5	2.5	2.5	2.4	2.6	2.6	2.3	2.4	2.3	2.2	IZS	2.3	2.3	2.4	2.4	2.4	2.9	2.5	24
14	2.5	2.7	2.1	2.1	1.9	2	1.9	1.9	2	1.9	2	2.1	2.1	1.9	1.9	2	2.1	IZS	2.2	2.1	2.1	2.2	2.3	2.4	2.7	2.1	24
15	2.4	2.2	2.1	1.9	1.9	2	2	2.4	2.1	1.9	1.9	2	2	1.9	1.9	2.3	IZS	2	1.9	2	1.9	1.8	1.8	1.8	2.4	2.0	24
16	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2	2	1.9	2	1.9	1.9	1.9	IZS	1.9	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	1.9	24
17	1.9	1.9	2	2.1	2	2	2	2	2.1	2	1.9	2	2	1.9	IZS	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.0	24
18	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	1.9	2	1.9	2.3	IZS	1.9	1.9	1.9	1.9	2	1.7	1.7	1.7	1.7	1.7	2.3	1.9	24
19	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.1	2	2	1.9	IZS	1.9	1.9	1.8	1.9	1.9	1.8	1.9	1.9	1.8	1.8	1.8	2.1	1.9	24
20	1.8	1.9	1.9	1.8	1.9	1.9	2	1.9	2	2	2.1	IZS	2.3	2.2	2	2.1	2.6	4.4	2.5	2.4	2.5	2.4	2.6	2.5	4.4	2.2	24
21	2.5	2.7	2.7	3.1	3.4	2.8	2.9	3	2.9	2.9	IZS	2.5	2.4	2.3	2.3	2.5	2.3	2.1	2.1	1.8	1.8	1.8	1.8	1.8	3.4	2.5	24
22	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	IZS	1.8	1.9	2	2	1.9	2	2	2.3	2.2	2.2	2	2.1	2.1	2	2.3	1.9	24
23	1.9	1.9	2	2	2.1	2.3	2.1	2.3	IZS	2	2	2	2.1	2	2	2.1	2.6	2.2	2.2	2.1	2.2	2.2	2.4	2.5	2.6	2.1	24
24	2.4	2.5	2.9	2.6	2.5	2.5	IZS	2.9	2.9	2.7	2.8	3	3.1	2.7	2.8	2.8	3	2.6	2.6	2.6	2.5	2.6	2.8	3.1	2.7	24	
25	2.8	2.9	2.9	2.9	2.6	2.4	IZS	2.6	2.6	2.4	2.6	2.7	2.8	2.7	3.1	2.7	2.7	2.6	2.6	2.3	1.9	2	2	2	3.1	2.6	24
26	2.2	2.4	2.4	4.4	4	IZS	3.1	2.7	2.1	2.3	2.4	2.3	2.3	2.2	2.3	4.2	2.3	2.4	2.4	2.5	2.2	2.1	2.1	4.4	2.6	24	
27	2	2.1	2.1	2.2	IZS	3	3.2	3.2	3.3	3.4	3.4	3.1	2.4	1.9	2	2	2.4	2.3	2.3	2.2	2.1	2.4	2.5	2.6	3.4	2.5	24
28	2.5	2.6	2.6	IZS	2.2	2.3	2.4	2	2	1.9	1.9	1.9	1.9	1.9	2.2	1.9	2	2	2.1	2.1	2.4	2	1.9	2.6	2.1	24	
29	1.9	2	IZS	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.9	1.9	1.9	1.9	2.1	2.3	2.1	1.9	2	1.9	1.9	1.9	2.3	1.9	24
30	1.9	IZS	2.2	2.3	1.8	1.8	1.9	1.9	2.5	1.9	1.9	2	2	1.9	1.9	2.3	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.8	2.5	1.9	24
HOURLY MAX	5	4	4	4	4	4	5	4	3	4	3	3	3	3	4	4	3	4	3	3	3	3	3	3	3		
HOURLY AVG	2.3	2.4	2.4	2.5	2.4	2.4	2.5	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2		

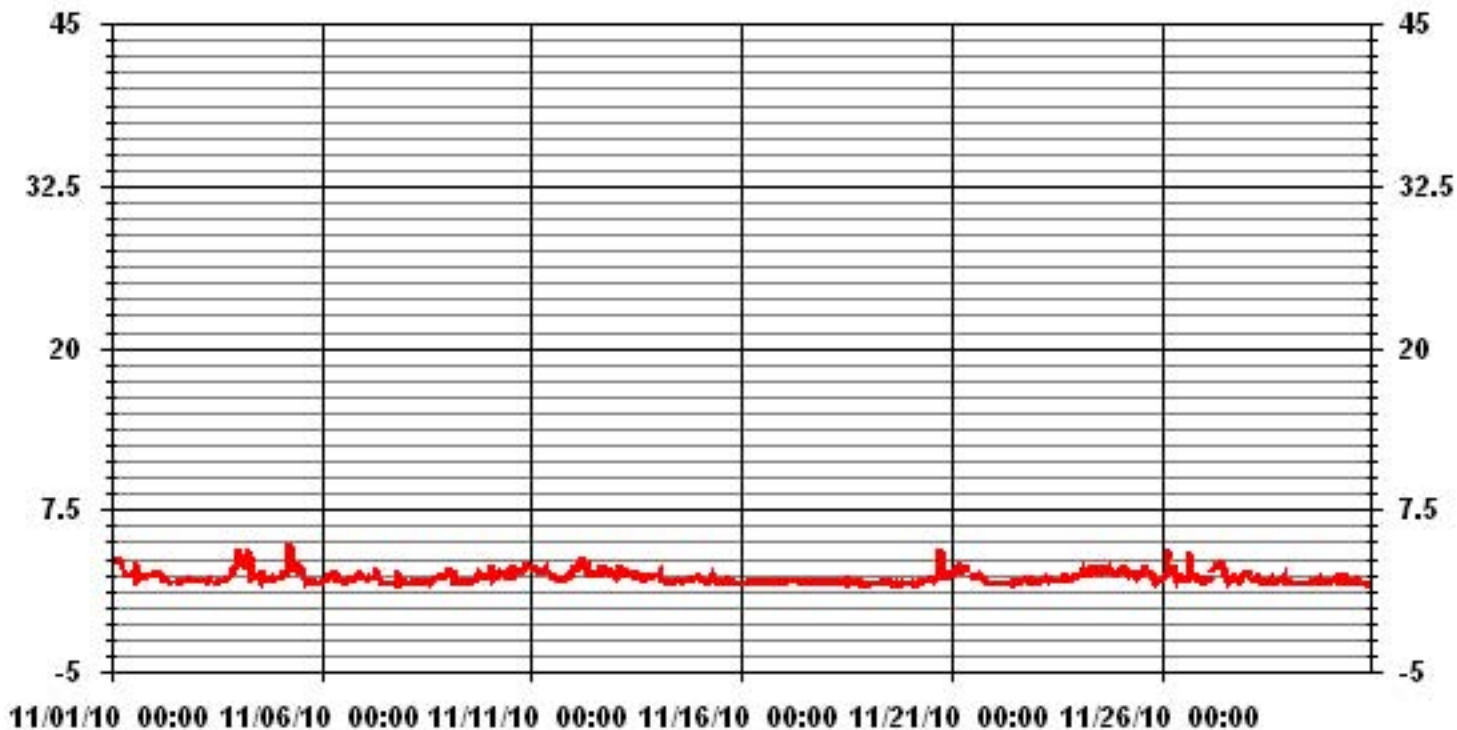
STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- 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:	683					
MAXIMUM INSTANTANEOUS VALUE:	4.9	PPM	@ HOUR(S)	6	ON DAY(S)	5
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720 HRS		
MONTHLY CALIBRATION TIME:	6 HRS					
STANDARD DEVIATION:	0.47					

01 Hour Averages



— LICA THCMAX PPM

LICA
 THC / WD Joint Frequency Distribution (Percent)

November 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	2.49	1.90	1.32	3.08	5.43	4.69	9.98	2.49	2.49	3.96	13.06	24.52	7.92	6.46	3.67	3.23	96.76
< 10.0	.29	.00	.00	.44	.44	.29	.44	.14	.00	.00	.29	.73	.00	.00	.14	.00	3.23
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.79	1.90	1.32	3.52	5.87	4.99	10.42	2.64	2.49	3.96	13.36	25.25	7.92	6.46	3.81	3.23	

Calm : .00 %

Total # Operational Hours : 681

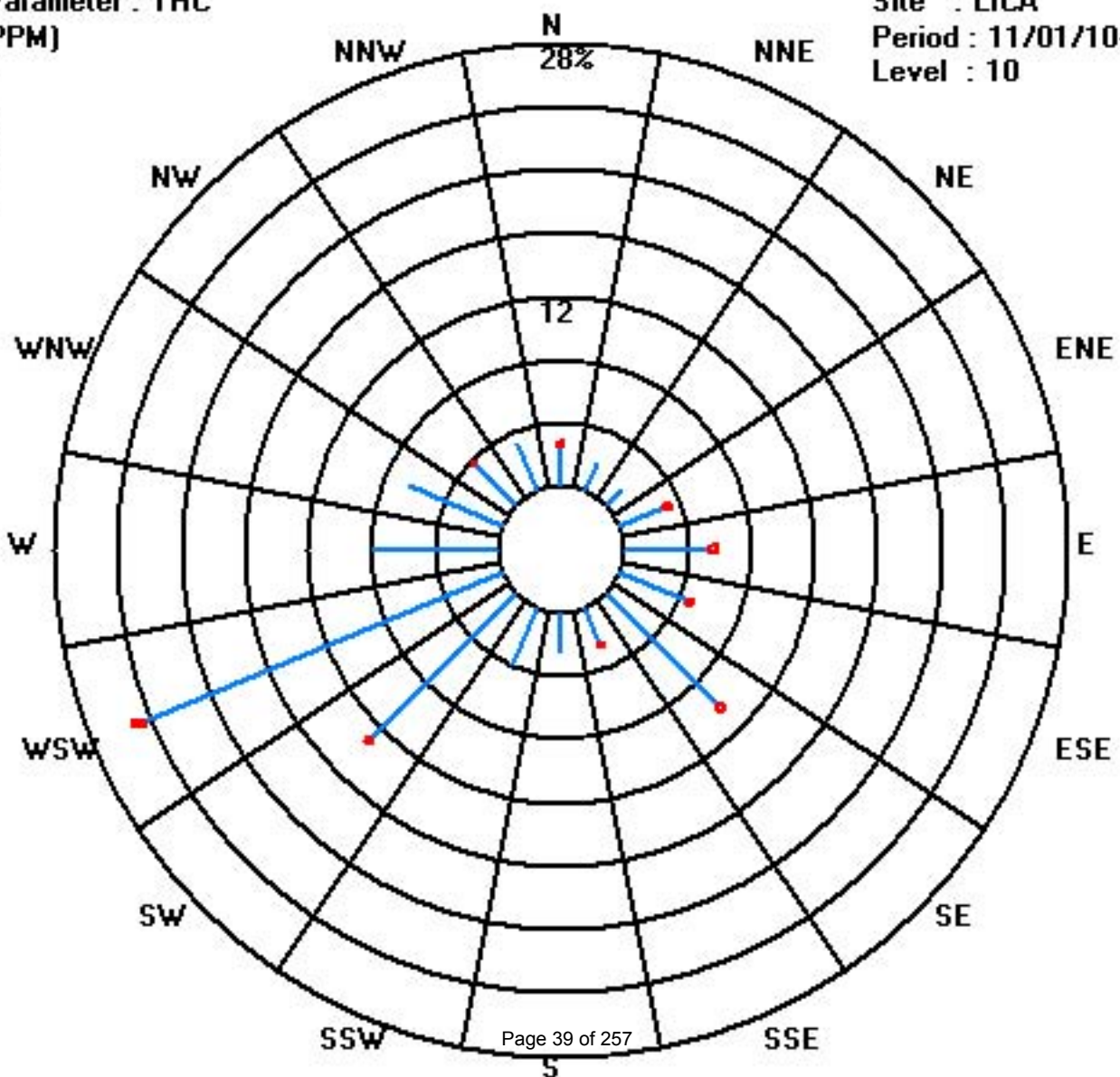
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	17	13	9	21	37	32	68	17	17	27	89	167	54	44	25	22	659
< 10.0	2			3	3	2	3	1			2	5			1		22
< 50.0																	
>= 50.0																	
Totals	19	13	9	24	40	34	71	18	17	27	91	172	54	44	26	22	

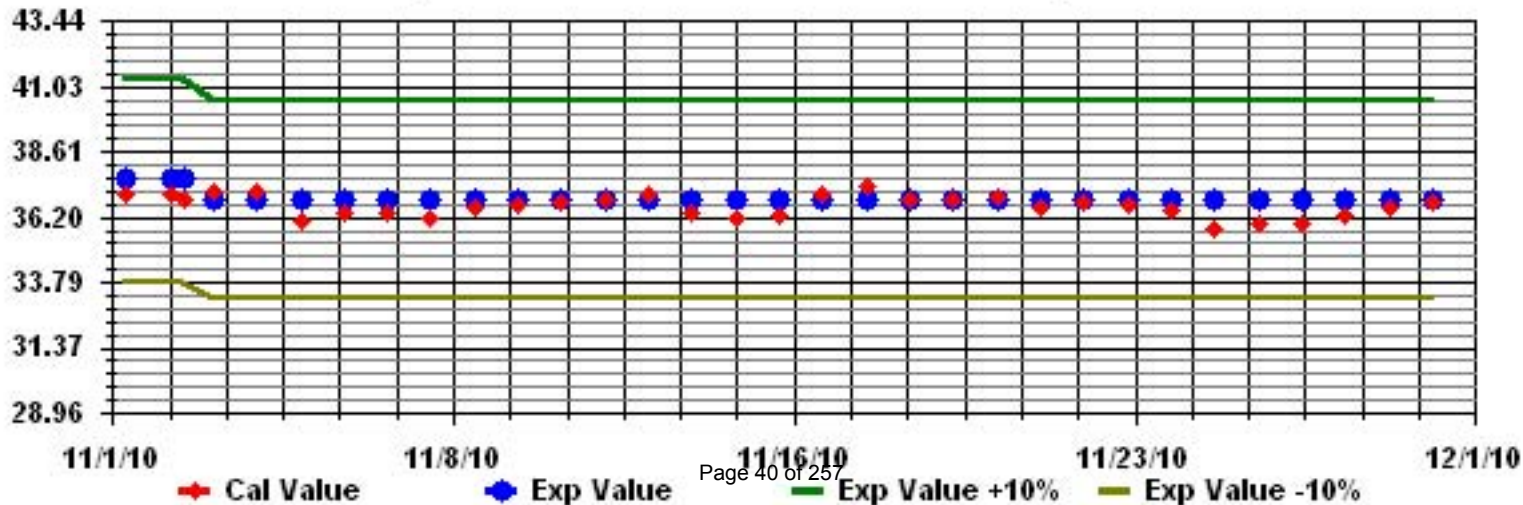
Calm : .00 %

Total # Operational Hours : 681

Class Limits (PPM)



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



Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2010

PARTICULATE MATTER 2.5 (PM2.5) hourly averages in ug/m³

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	DAILY MAX.	24-HOUR AVG.	RDGS.
	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			
1	7.9	5.9	15.4	11.9	8.9	10.4	12.9	8.9	6.9	8.9	2.9	3.9	3.4	4.9	0.9	0.4	1.4	1.9	3.9	6.4	2.9	7.4	5.9	6.4	15.4	6.3	24
2	7.9	6.4	7.4	5.4	6.9	4.4	0	0	4.9	2.4	0	0.4	2.4	6.4	1.9	2.4	2.9	1.4	0	1.4	4.9	2.9	1.4	0	7.9	3.1	24
3	5.4	0	0.4	1.9	3.9	0	0.4	4.4	1.4	1.9	0.4	1.4	4.4	4.9	0	2.9	0.4	4.9	7.4	5.4	4.9	2.9	0.9	5.4	7.4	2.7	24
4	8.4	5.9	8.9	6.4	0.4	0	9.4	6.4	3.4	3.4	4.9	3.4	1.4	4.9	1.4	1.4	4.4	5.4	0.9	3.9	1.4	3.4	1.4	5.4	9.4	4.0	24
5	1.4	4.4	2.9	0	8.4	2.9	3.4	9.4	2.9	4.9	3.9	4.9	5.4	0.9	5.4	5.4	1.4	3.9	3.9	1.9	3.4	3.9	0	3.4	9.4	3.7	24
6	3.4	1.9	1.4	0.9	0	3.9	3.9	1.9	2.9	7.4	1.9	1.9	6.4	1.4	2.4	1.4	6.9	9.4	8.4	7.9	10.9	6.9	10.4	3.9	10.9	0.0	24
7	8.9	6.4	8.4	4.4	9.9	6.9	6.9	6.4	3.9	13.9	7.4	3.4	0	5.9	4.9	3.9	5.9	3.4	4.9	2.9	3.4	3.9	0	1.4	13.9	5.3	24
8	0	0	1.9	2.4	0	1.4	2.9	2.4	1.9	1.4	1.9	1.4	C	2.4	4.9	4.9	4.9	6.9	6.4	11.4	4.9	9.9	6.9	4.4	11.4	3.7	24
9	6.9	7.9	2.4	4.9	4.9	4.9	4.4	3.4	6.4	5.9	3.9	3.9	1.9	4.4	2.4	4.9	6.9	4.4	8.4	8.9	6.9	8.4	3.9	4.9	8.9	5.3	24
10	7.9	4.4	6.9	4.9	1.4	8.9	4.9	7.9	6.4	9.4	4.4	4.4	8.4	8.9	8.4	8.9	9.4	10.9	14.9	14.9	11.9	10.9	11.4	13.4	14.9	8.5	24
11	15.4	12.4	9.9	11.4	12.9	11.9	9.9	16.4	11.4	6.4	5.4	5.9	8.4	8.9	14.4	9.4	8.4	13.4	9.9	11.4	6.4	8.9	7.9	8.9	16.4	10.2	24
12	7.9	16.9	13.4	13.4	19.4	20.4	16.9	23.9	33.9	34.9	31.9	11.4	8.4	8.9	9.9	6.9	13.9	15.4	11.9	6.4	11.4	11.9	13.9	12.9	34.9	15.7	24
13	8.4	0.9	6.9	9.4	11.9	6.9	8.4	4.4	9.4	2.9	7.9	7.9	7.4	2.9	5.9	2.4	4.4	5.9	21.9	5.4	6.4	6.9	8.9	9.4	21.9	7.2	24
14	9.9	10.4	4.9	5.4	2.9	1.9	3.9	4.9	7.9	14.4	9.9	6.9	5.9	8.9	5.4	2.9	0.9	3.4	5.4	2.9	7.9	5.4	7.9	14.4	6.0	24	
15	1.9	3.4	4.9	4.9	4.4	2.4	0	5.9	4.9	2.9	5.4	3.4	6.4	3.9	1.9	5.9	6.4	3.9	3.4	5.4	4.4	2.4	4.4	1.9	6.4	3.9	24
16	2.4	0.4	4.9	0.9	2.4	0	0	0	2.9	0	4.9	2.9	3.9	6.4	0.4	2.4	4.9	2.9	2.4	4.9	3.9	0.4	2.4	0	6.4	2.4	24
17	0	0	3.4	0	1.4	0	2.9	1.4	0	0.9	2.9	0	0.9	0.4	0	0.4	0.4	0.4	2.9	0	0.4	0	0	0	3.4	0.8	24
18	0	2.9	1.4	0	1.9	2.4	2.9	0.9	0.4	0	2.4	0	0	0	1.9	0.4	0	0	3.4	1.4	0	0	0	0	3.4	0.9	24
19	0	0	4.4	1.9	1.4	4.9	2.4	0	4.4	2.4	0	1.9	0	3.4	3.4	0	4.4	1.9	3.4	0	0	5.4	0	4.9	5.4	2.1	24
20	0	5.4	2.9	1.4	5.4	2.4	9.9	3.4	1.9	7.4	4.4	3.9	5.9	5.4	3.9	5.4	4.4	7.9	15.9	17	16.9	15.4	13.9	12.4	17.0	7.2	24
21	11.9	13.4	15.9	17.9	22.4	24.4	29.9	30.9	23.9	18.9	21.9	15.9	17.4	18.9	16.4	17.9	16.4	12.9	9.4	2.9	2.4	3.9	1.9	0.9	30.9	15.4	24
22	3.4	4.9	3.9	2.4	2.9	3.4	5.4	0	3.9	4.9	1.9	1.4	6.4	6.4	0.9	6.9	4.9	3.4	4.4	4.4	4.9	4.4	3.9	7.9	7.9	4.1	24
23	5.4	7.4	4.4	3.4	7.4	3.4	4.4	10.9	12.9	14.4	17	15.9	17.9	18.4	12.4	7.9	4.4	11.4	4.9	5.9	8.4	6.4	4.9	9.4	18.4	9.1	24
24	7.9	5.9	7.4	6.4	8.4	10.9	7.9	9.4	8.9	7.4	12.4	10.9	12.9	8.4	10.9	13.4	12.4	8.9	8.9	12.4	14.9	15.9	19.4	17.9	19.4	10.8	24
25	14.4	12.4	14.4	12.9	11.4	7.9	12.4	12.9	12.4	8.4	7.4	11.4	11.4	18.9	11.4	9.4	7.9	9.4	9.9	6.4	4.4	4.9	4.4	16.4	18.9	10.5	24
26	3.4	12.4	0	6.9	2.4	22.4	0	8.4	8.9	5.4	7.9	4.9	3.9	6.9	8.9	17.9	12.4	7.9	13.4	10.4	11.9	11.4	11.4	10.4	22.4	8.7	24
27	11.9	12.4	13.4	10.9	19.9	12.4	10.9	16.9	13.4	20.4	21.4	19.4	13.4	10.4	6.9	6.4	8.4	5.4	9.4	8.9	10.4	15.4	17.4	15.4	21.4	13.0	24
28	0	14.9	9.4	9.9	18.4	16.9	14.9	2.9	1.9	12.9	12.4	N	9.9	1.4	N	N	N	N	2.4	17.9	3.9	8.4	15.4	N	18.4	9.7	18
29	20.9	0	19.9	22.4	20.4	16.4	0	8.9	9.9	N	0	14.9	N	0	0	5.9	5.4	9.4	4.9	10.9	7.9	18.9	3.4	6.4	22.4	9.4	22
30	5.4	4.4	11.9	11.9	8.4	4.9	4.4	7.9	5.4	8.4	5.9	10.9	1.4	12.9	0	4.9	13.9	2.9	8.9	0.9	0	7.9	14.4	0	14.4	6.6	24
HOURLY MAX	21	17	20	22	22	24	30	31	34	35	32	19	18	19	16	18	16	15	22	18	17	19	19	18			
HOURLY AVG	6.3	6.1	7.1	6.6	7.7	7.3	6.6	7.3	7.2	7.8	7.3	6.3	6.3	6.5	5.2	5.7	6.2	6.1	7.0	6.8	6.0	7.2	6.5	6.6			

STATUS FLAG CODES

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

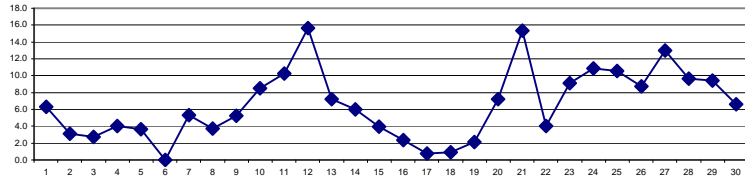
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	
1-HR	30 ug/m ³
24-HR	30 ug/m ³

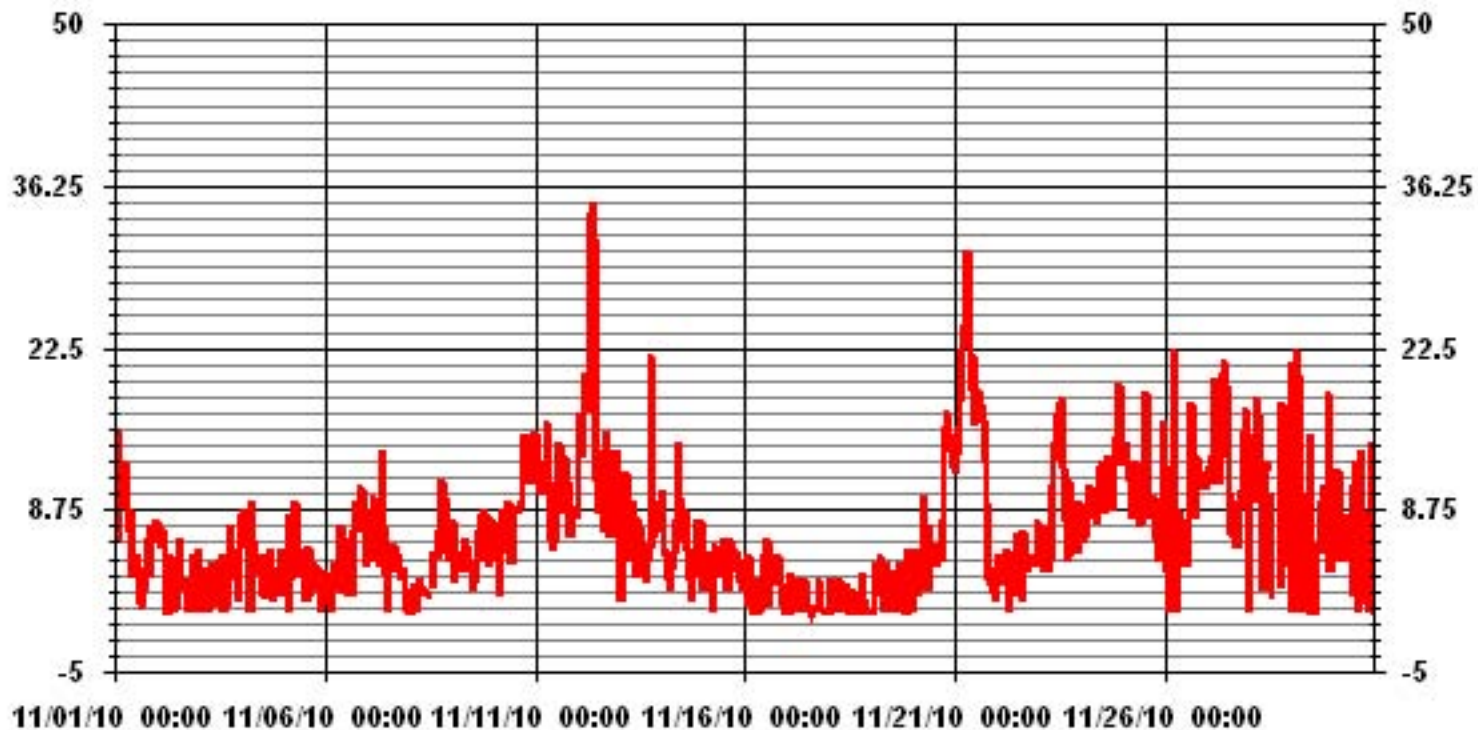
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-	PROPOSED CANADA WIDE GUIDELINE	
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	643		
MAXIMUM 1-HR AVERAGE:	34.9 UG/M ³	@ HOUR(S)	9 ON DAY(S)
MAXIMUM 24-HR AVERAGE:	15.7 UG/M ³		12 ON DAY(S)
IZS CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	712 HRS
MONTHLY CALIBRATION TIME:	1 HRS	AMD OPERATION UPTIME:	98.9 %
STANDARD DEVIATION:	5.62	MONTHLY AVERAGE:	6.66 UG/M ³

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA PM2 UG/M3

LICA
PM2 / WD Joint Frequency Distribution (Percent)

November 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	2.82	1.83	1.27	3.53	6.07	5.22	10.16	2.54	2.68	3.95	13.13	25.28	8.33	5.79	3.53	3.24	99.43
< 60.0	.00	.00	.00	.00	.00	.00	.28	.00	.00	.00	.14	.14	.00	.00	.00	.00	.56
< 80.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 120.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.82	1.83	1.27	3.53	6.07	5.22	10.45	2.54	2.68	3.95	13.27	25.42	8.33	5.79	3.53	3.24	

Calm : .00 %

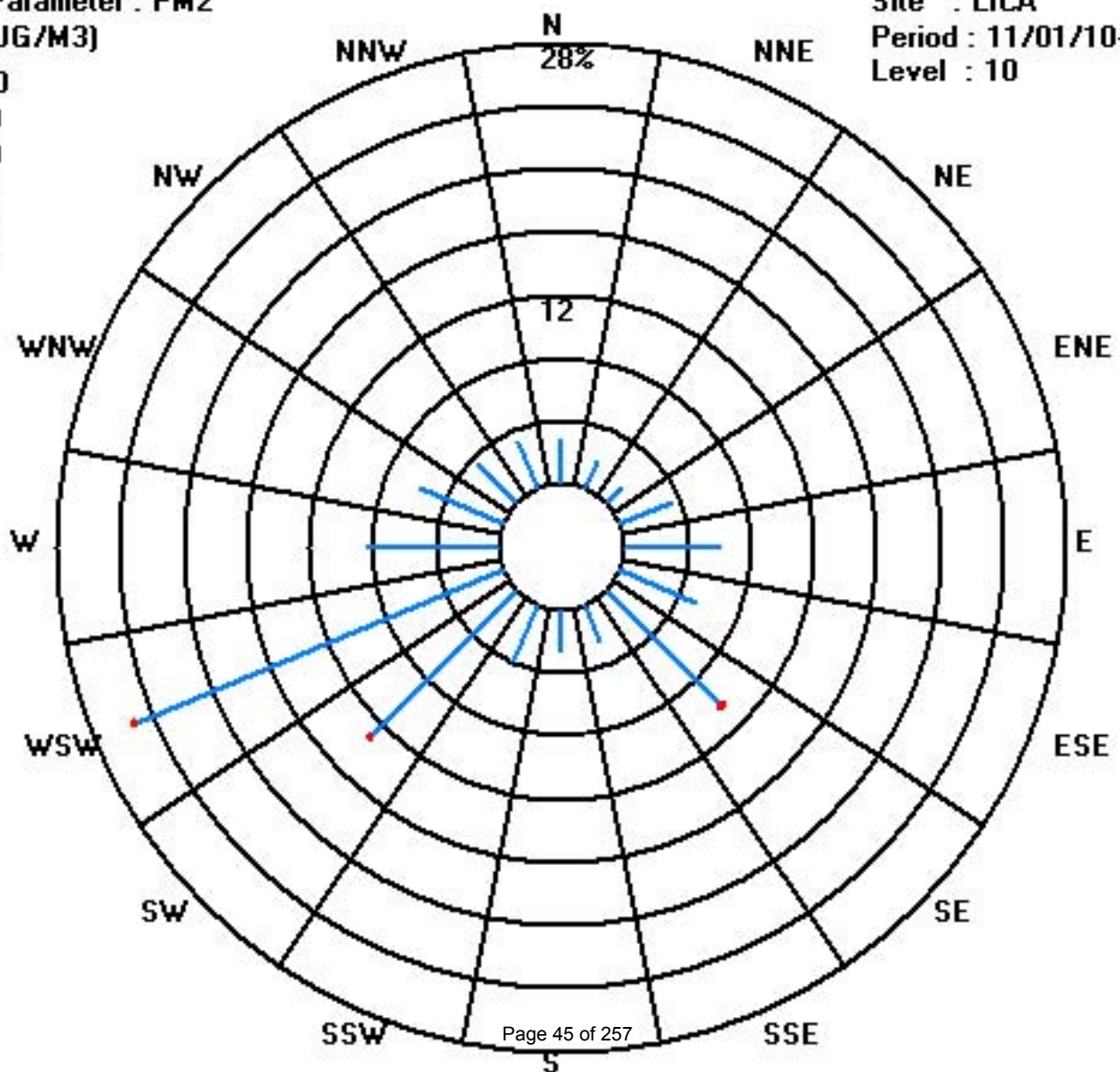
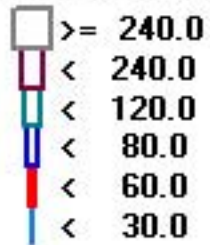
Total # Operational Hours : 708

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	20	13	9	25	43	37	72	18	19	28	93	179	59	41	25	23	704
< 60.0							2				1	1					4
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	20	13	9	25	43	37	74	18	19	28	94	180	59	41	25	23	

Calm : .00 %

Total # Operational Hours : 708



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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	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	5	8	7	10	10	IZS	5	5	4	4	4	5	4	4	7	14	11	6	7	10	7	7	14	6.8	24	
2	6	6	8	8	7	6	IZS	6	C	C	C	C	C	C	1	1	2	2	4	6	4	2	2	2	8	4.3	24	
3	2	2	1	1	2	IZS	4	4	5	4	C	1	1	1	2	3	4	10	6	7	9	11	10	12	12	4.6	24	
4	10	14	13	12	IZS	11	15	12	6	4	4	2	2	1	2	2	3	4	2	2	3	3	3	3	15	5.8	24	
5	3	2	3	IZS	8	14	13	15	9	11	6	6	9	7	2	2	3	2	2	3	3	1	0	1	15	5.4	24	
6	1	1	IZS	4	4	6	7	6	8	6	4	3	1	1	1	4	9	15	21	9	10	14	17	11	21	7.1	24	
7	6	IZS	6	6	11	8	8	12	13	13	5	2	2	6	6	4	2	2	2	2	2	2	3	3	13	5.5	24	
8	IZS	1	0	0	0	2	4	7	8	4	2	3	2	1	1	2	9	10	9	12	13	11	11	IZS	13	5.1	24	
9	5	5	5	4	0	0	1	1	2	1	0	0	0	1	2	4	11	7	9	9	7	8	IZS	4	11	3.7	24	
10	4	4	3	4	4	6	4	4	4	5	4	3	4	4	4	7	10	12	11	9	10	IZS	9	10	12	6.0	24	
11	8	6	4	6	6	6	6	7	8	7	6	4	3	4	3	3	5	5	9	7	IZS	7	6	7	9	5.8	24	
12	7	6	6	7	9	9	7	8	8	6	5	4	3	3	3	5	10	12	12	IZS	14	11	8	6	14	7.3	24	
13	3	3	4	6	5	4	8	6	6	5	6	5	6	6	5	7	6	5	IZS	7	6	6	7	8	8	5.7	24	
14	9	8	5	3	3	3	2	1	2	2	2	2	3	2	3	3	5	IZS	6	7	7	6	7	6	9	4.2	24	
15	4	4	2	1	3	3	6	8	9	3	2	3	4	4	4	6	IZS	5	3	5	0	0	0	0	9	3.4	24	
16	0	0	0	0	0	0	0	0	0	1	2	2	3	2	1	IZS	1	1	1	1	0	0	0	0	3	0.7	24	
17	0	0	0	2	1	2	2	2	4	3	1	1	2	2	IZS	3	3	2	3	3	2	2	2	2	1	4	1.9	24
18	1	1	1	1	1	3	3	2	3	3	2	2	2	IZS	2	3	3	3	3	3	2	1	0	1	3	2.0	24	
19	1	3	3	5	5	6	7	7	13	10	7	2	IZS	2	2	2	2	2	1	1	2	2	1	1	1	13	3.7	24
20	1	1	1	1	1	1	3	3	3	3	2	IZS	2	2	4	7	10	14	12	12	12	14	15	15	15	6.0	24	
21	11	12	13	14	18	20	19	18	17	12	IZS	9	9	9	10	10	9	8	5	2	1	2	1	1	20	10.0	24	
22	0	0	1	0	0	1	1	1	1	IZS	1	1	2	3	7	8	10	7	10	10	9	5	5	4	10	3.8	24	
23	2	3	5	4	4	5	6	8	IZS	5	6	5	5	8	7	10	15	12	16	13	13	14	11	10	16	8.1	24	
24	10	9	10	9	8	8	11	IZS	17	9	8	8	8	8	12	15	28	24	20	20	20	19	17	16	28	13.7	24	
25	16	15	14	16	15	14	IZS	14	14	12	10	10	11	16	19	16	23	19	18	8	6	5	6	7	23	13.2	24	
26	5	7	7	10	11	IZS	18	12	6	7	7	9	7	6	13	16	16	16	14	10	10	13	7	4	18	10.0	24	
27	4	3	4	4	IZS	6	7	9	9	9	10	7	4	3	4	5	7	8	10	8	7	9	10	11	11	6.9	24	
28	9	6	7	IZS	7	7	8	2	1	1	1	1	1	1	1	1	1	1	3	4	3	5	3	3	9	3.3	24	
29	4	4	IZS	1	1	1	1	2	1	2	2	2	1	2	3	4	8	15	7	4	3	2	2	2	15	3.2	24	
30	2	IZS	1	4	2	1	2	2	3	3	2	2	3	2	3	4	4	3	2	1	1	1	1	2	4	2.2	24	
HOURLY MAX	16	15	14	16	18	20	19	18	17	13	10	10	11	16	19	16	28	24	21	20	20	19	17	16				
HOURLY AVG	4.8	4.7	4.7	5.0	5.1	5.8	6.5	6.4	6.6	5.6	4.1	3.7	3.7	4.0	4.5	5.6	7.8	8.2	8.0	6.6	6.4	6.4	5.9	5.4				

STATUS FLAG CODES

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

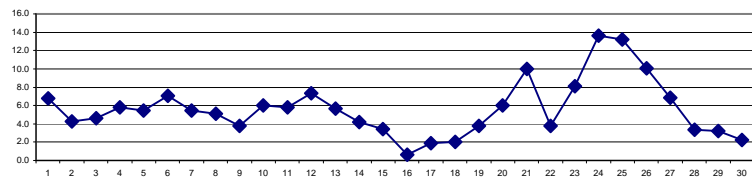
OBJECTIVE LIMIT:

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

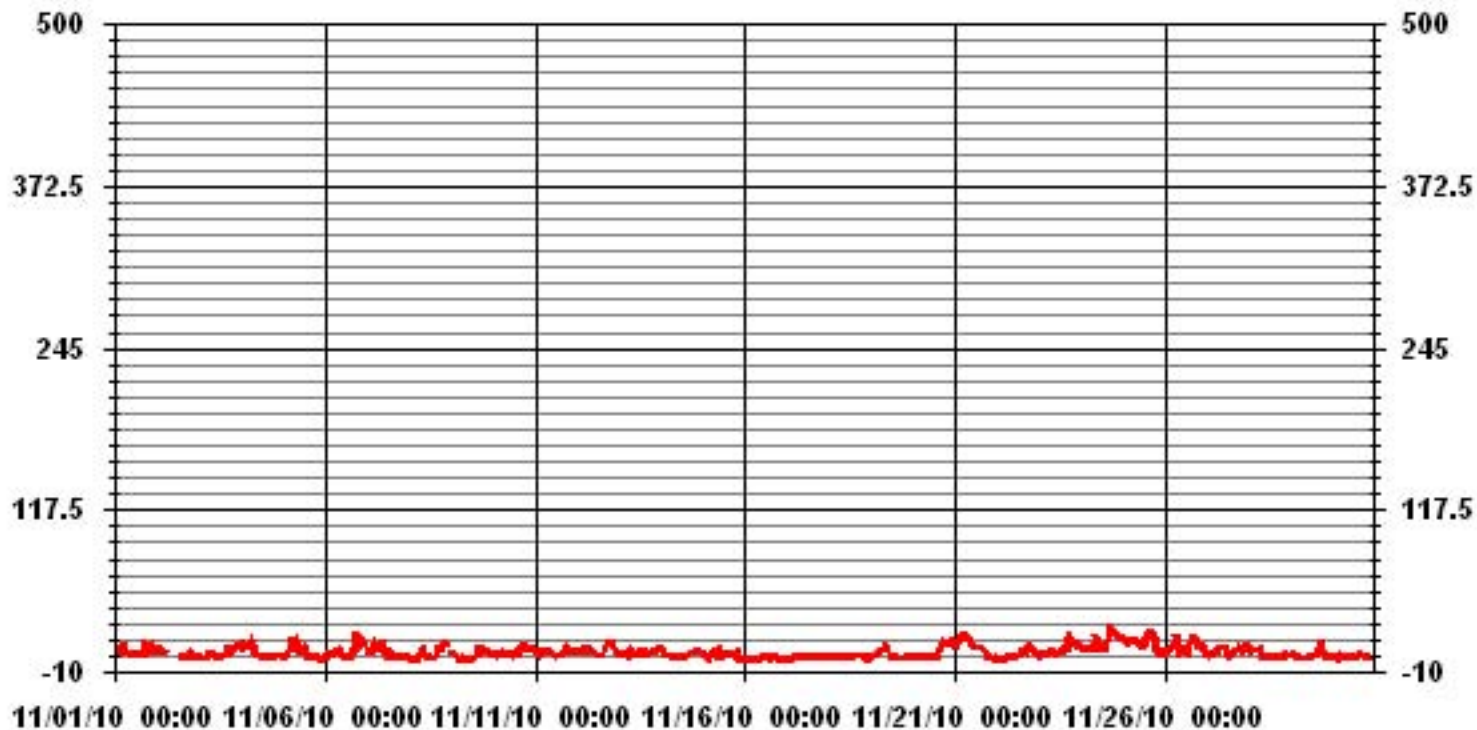
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	648		
MAXIMUM 1-HR AVERAGE:	28 PPB @ HOUR(S) 16 ON DAY(S) 24		
MAXIMUM 24-HR AVERAGE:	13.7 PPB ON DAY(S) 24		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	7 HRS	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION	4.64	MONTHLY AVERAGE	5.67 PPB

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA ^{1102_} PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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	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	9	7	13	11	13	13	IZS	6	7	6	5	6	6	7	5	18	20	16	10	11	13	12	10	20	10.2	24	
2	9	8	9	10	8	8	IZS	C	C	C	C	C	C	C	4	2	3	3	10	16	6	5	4	4	16	6.8	24	
3	3	3	2	2	3	IZS	5	7	7	8	C	C	2	3	4	5	9	21	13	17	17	16	14	17	21	8.5	24	
4	17	18	15	14	IZS	19	22	21	8	6	23	3	3	3	3	6	5	6	5	3	8	5	8	5	23	9.8	24	
5	6	5	11	IZS	13	26	18	39	14	14	10	8	20	16	4	4	5	3	4	5	4	2	1	2	39	10.2	24	
6	3	2	IZS	6	7	8	9	8	13	9	5	3	3	3	2	20	20	24	37	15	34	18	25	16	37	12.6	24	
7	17	IZS	12	13	15	12	11	21	23	32	15	8	8	27	22	26	15	4	6	8	4	3	8	5	32	13.7	24	
8	IZS	5	1	1	4	3	6	23	10	9	4	3	3	2	1	5	12	13	12	15	19	14	13	IZS	23	8.1	24	
9	8	8	8	7	1	1	1	2	3	2	1	1	1	15	5	5	29	13	14	13	9	9	IZS	6	29	7.0	24	
10	7	5	5	6	8	10	4	5	5	9	5	5	6	5	5	18	12	14	13	11	12	IZS	14	13	18	8.6	24	
11	11	9	6	8	7	7	9	11	10	9	7	7	4	4	4	4	9	8	18	13	IZS	12	10	17	18	8.9	24	
12	11	7	9	8	12	11	10	11	29	15	7	4	4	4	5	7	16	17	19	IZS	18	19	11	8	29	11.4	24	
13	14	13	12	19	7	6	12	11	10	7	13	7	9	9	7	10	11	8	IZS	22	12	7	10	11	22	10.7	24	
14	12	13	8	5	6	6	5	3	3	3	4	3	4	4	6	4	6	IZS	8	9	8	9	10	8	13	6.4	24	
15	6	5	4	3	6	4	12	16	15	4	3	5	8	4	5	11	IZS	16	5	8	2	1	0	0	16	6.2	24	
16	0	0	0	0	0	0	1	1	2	2	6	6	6	5	5	IZS	3	2	2	2	1	0	0	0	6	1.9	24	
17	0	0	2	2	3	2	3	5	7	9	3	3	5	4	IZS	6	6	4	5	5	4	3	3	2	9	3.7	24	
18	2	3	3	3	3	6	4	6	5	4	12	4	3	IZS	4	8	5	5	7	8	5	2	2	4	12	4.7	24	
19	2	5	5	8	8	9	8	13	29	13	12	5	IZS	4	5	3	4	3	3	3	4	4	4	2	29	6.8	24	
20	3	2	3	1	2	3	4	5	5	4	4	IZS	6	3	7	9	13	23	16	15	15	16	20	18	23	8.6	24	
21	16	15	15	19	21	21	20	19	19	14	IZS	10	11	11	11	12	12	13	8	9	2	2	2	1	21	12.3	24	
22	1	1	1	1	1	2	2	2	7	IZS	2	4	4	5	10	15	17	12	15	13	13	8	8	5	17	6.5	24	
23	4	5	7	6	7	8	8	13	IZS	7	9	6	7	17	9	15	20	15	22	19	17	19	14	12	22	11.6	24	
24	13	12	12	10	9	10	18	IZS	35	12	11	11	10	9	14	30	38	86	23	25	22	22	19	18	86	20.4	24	
25	17	16	17	18	16	15	IZS	15	16	15	16	13	15	18	22	19	26	22	22	14	7	6	9	13	26	16.0	24	
26	6	10	15	20	19	IZS	28	21	10	16	14	16	13	10	22	20	25	23	19	19	15	24	17	5	28	16.8	24	
27	6	5	4	10	IZS	8	9	12	13	11	12	10	7	5	6	9	13	13	14	10	8	12	18	20	20	10.2	24	
28	11	9	10	IZS	9	8	9	7	2	1	1	1	2	2	2	1	3	3	5	7	5	8	5	4	11	5.0	24	
29	8	7	IZS	3	1	1	4	3	2	3	3	6	3	4	4	8	13	23	19	5	4	4	3	4	23	5.9	24	
30	3	IZS	4	6	3	3	4	4	4	6	8	3	4	4	4	7	12	5	4	2	3	3	3	3	12	4.4	24	
HOURLY MAX	17	18	17	20	21	26	28	39	35	32	23	16	20	27	22	30	38	86	37	25	34	24	25	20				
HOURLY AVG	7.8	7.1	7.4	7.9	7.5	8.2	9.3	11.3	11.1	9.0	8.0	5.9	6.3	7.4	7.2	10.1	13.1	14.6	12.6	11.1	10.0	9.2	9.2	8.0				

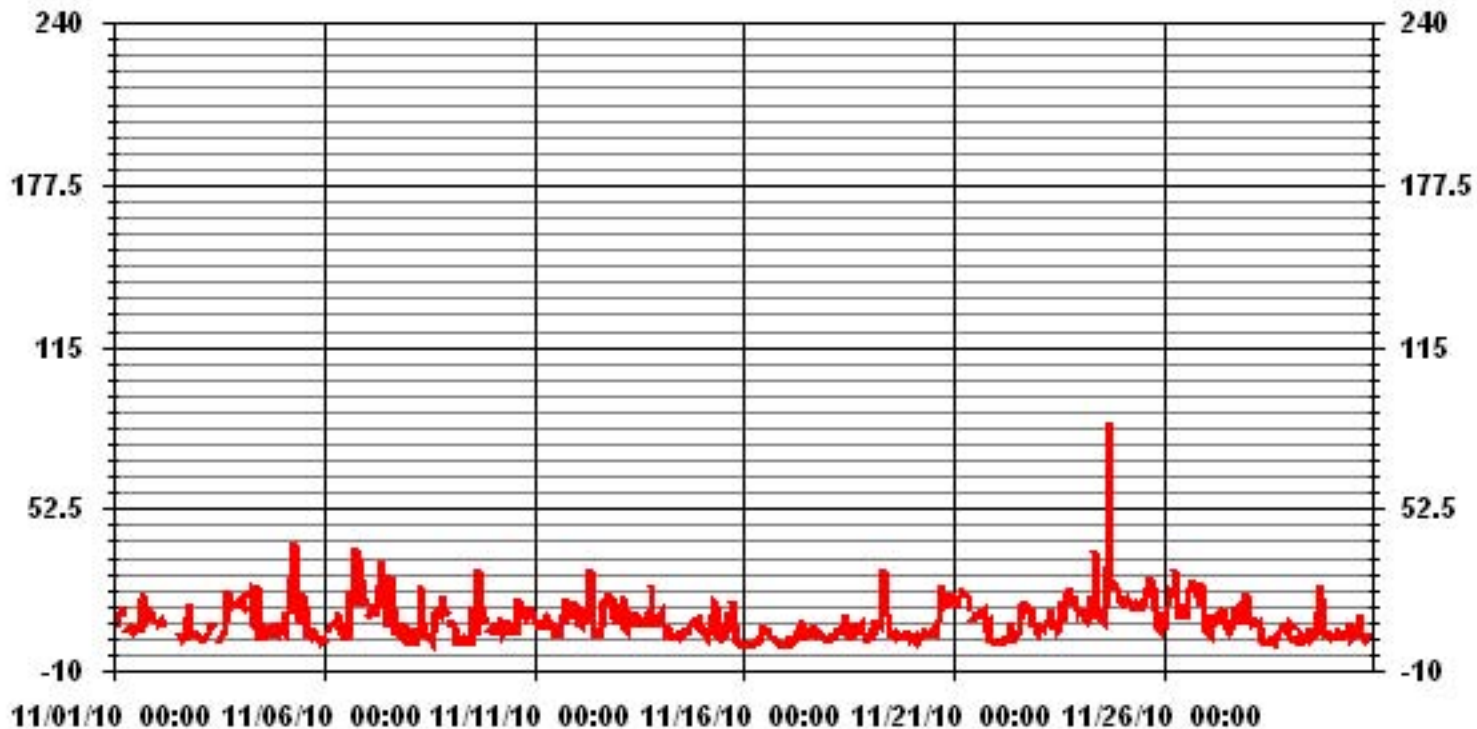
STATUS FLAG CODES

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:	667					
MAXIMUM INSTANTANEOUS VALUE:	86	PPB	@ HOUR(S)	17	ON DAY(S)	24
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	9	HRS				
STANDARD DEVIATION:	7.31					

01 Hour Averages



— LICA NO2MAX PPB

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

November 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	2.79	1.91	1.32	3.53	5.89	5.00	10.45	2.65	2.50	3.97	13.25	25.03	8.10	6.48	3.82	3.24	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.79	1.91	1.32	3.53	5.89	5.00	10.45	2.65	2.50	3.97	13.25	25.03	8.10	6.48	3.82	3.24	

Calm : .00 %

Total # Operational Hours : 679

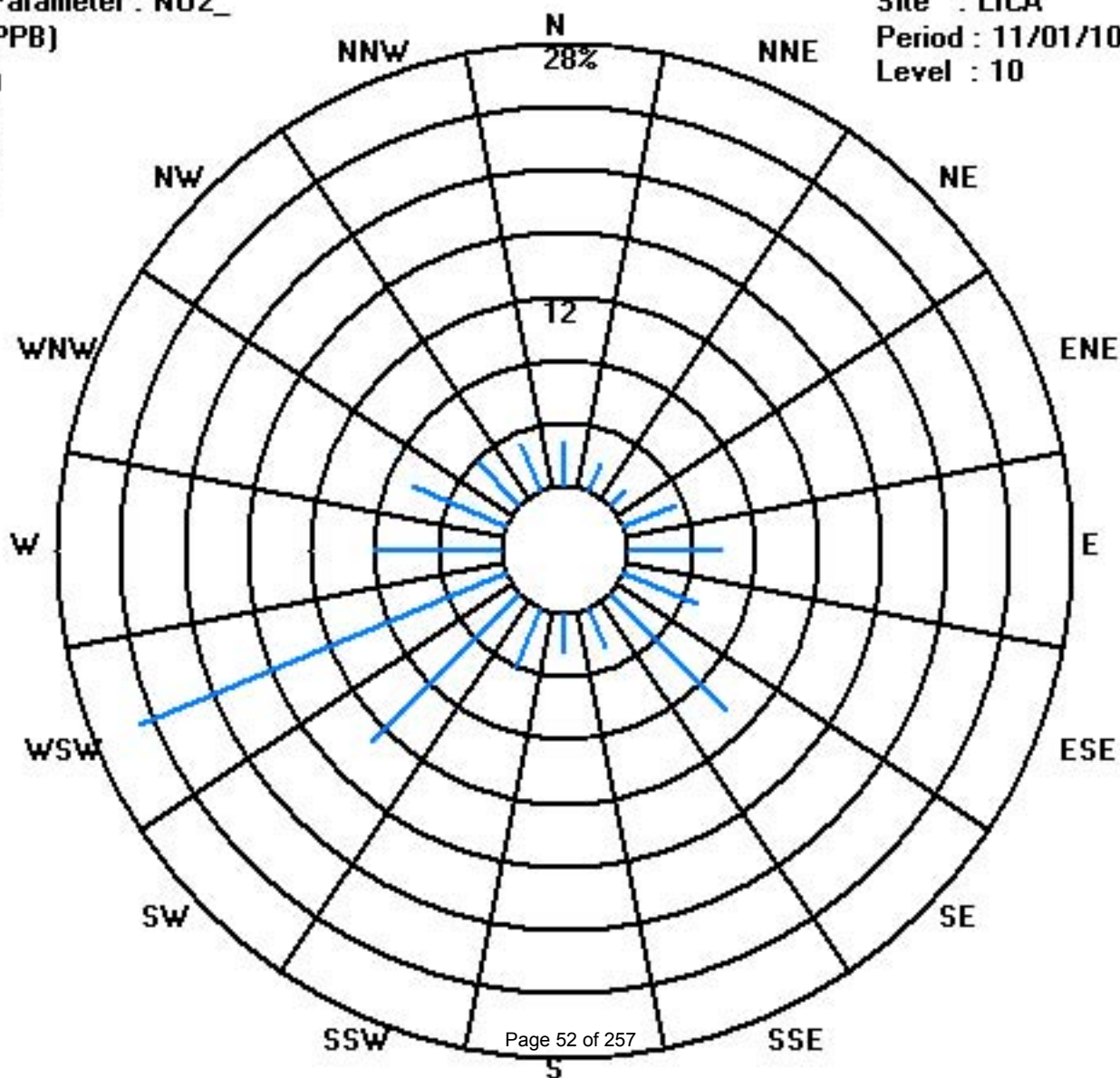
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	19	13	9	24	40	34	71	18	17	27	90	170	55	44	26	22	679
< 110																	
< 210																	
>= 210																	
Totals	19	13	9	24	40	34	71	18	17	27	90	170	55	44	26	22	

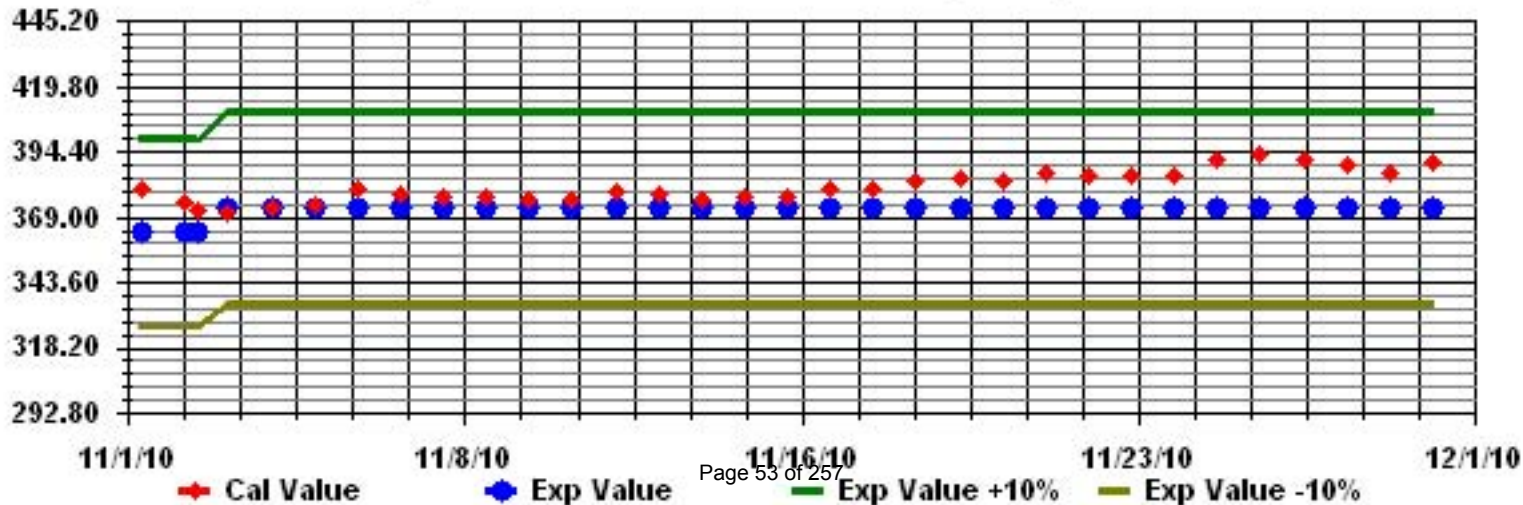
Calm : .00 %

Total # Operational Hours : 679

Class Limits (PPB)



Calibration Graph for Site: LICA Parameter: H02_ Sequence: H02 Phase: SPAN



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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 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	6	10	8	22	20	24	4	IZS	0	1	1	1	2	1	0	0	1	3	1	0	0	5	2	4	24	5.0	24	
2	3	0	0	0	0	0	IZS	0	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	3	0.2	24	
3	0	0	0	0	0	IZS	0	0	1	1	C	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0.3	24	
4	2	10	9	7	IZS	12	27	9	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	27	3.5	24	
5	0	0	0	IZS	0	5	9	27	1	7	3	3	3	3	0	0	0	0	0	0	0	0	0	0	27	2.7	24	
6	0	0	IZS	0	0	0	0	0	1	1	1	1	0	0	0	1	2	1	2	0	1	0	2	0	2	0.6	24	
7	0	IZS	0	1	3	1	2	22	29	15	2	0	1	1	0	1	0	0	0	0	0	0	0	0	29	3.4	24	
8	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	1	IZS	3	0.2	24	
9	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	IZS	0	2	0.3	24	
10	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	3	3	3	5	7	8	IZS	3	6	8	2.2	24	
11	4	2	1	0	0	0	0	0	3	4	3	2	1	1	0	0	0	0	2	0	IZS	1	1	3	4	1.2	24	
12	1	0	2	4	2	2	1	1	4	4	1	1	1	1	0	0	1	2	1	IZS	7	6	1	0	7	1.9	24	
13	0	0	0	1	0	0	4	1	5	3	1	0	1	0	0	0	0	0	IZS	2	0	0	0	0	5	0.8	24	
14	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	IZS	0	0	0	0	0	1	0.0	24	
15	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	IZS	1	0	0	0	0	0	0	3	0.3	24	
16	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	
17	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	
18	0	0	0	0	0	0	0	0	0	0	1	0	0	0	IZS	0	0	0	0	1	0	0	0	0	0	1	0.1	24
19	0	0	0	0	0	0	0	0	3	2	2	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	3	0.3	24
20	0	0	0	0	0	0	0	0	0	0	1	IZS	1	1	1	1	0	1	0	0	0	1	1	5	5	0.6	24	
21	1	1	2	2	4	3	1	1	3	5	IZS	6	6	5	2	0	0	0	0	0	0	0	0	0	6	1.8	24	
22	0	0	0	0	0	0	0	0	0	IZS	0	0	1	1	2	1	0	0	0	0	0	0	0	0	2	0.2	24	
23	0	0	0	0	0	0	0	0	IZS	1	3	3	3	6	2	1	1	0	1	0	0	1	1	0	6	1.0	24	
24	0	0	0	0	0	0	1	IZS	16	5	6	6	6	5	5	3	18	12	2	2	2	2	1	0	18	4.0	24	
25	0	0	0	0	0	0	IZS	0	1	2	3	4	4	4	7	3	2	1	0	0	0	0	0	0	7	1.3	24	
26	0	0	0	0	0	IZS	4	2	0	2	2	4	2	2	3	2	1	1	1	0	0	0	0	0	4	1.1	24	
27	0	0	0	0	IZS	0	0	0	0	2	3	3	1	0	0	0	0	0	0	0	0	0	0	0	3	0.4	24	
28	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	
29	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	
30	0	IZS	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
HOURLY MAX	6	10	9	22	20	24	27	27	29	15	6	6	6	6	7	3	18	12	5	7	8	6	3	6				
HOURLY AVG	0.6	0.9	0.8	1.4	1.0	1.7	1.9	2.3	2.5	2.1	1.3	1.3	1.3	1.2	0.9	0.6	1.1	0.9	0.6	0.4	0.8	0.6	0.4	0.7				

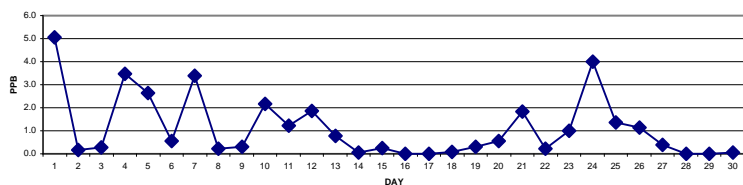
STATUS FLAG CODES

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

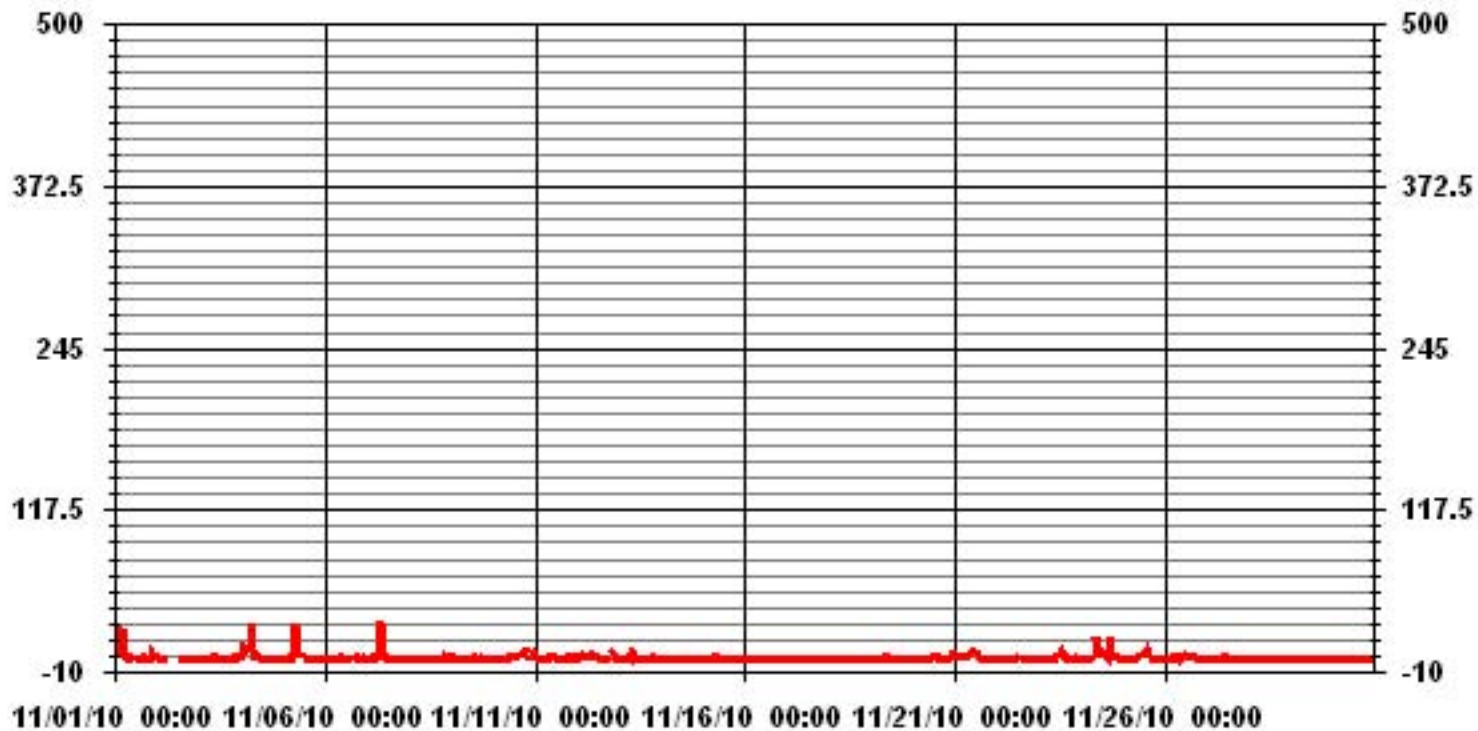
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	218					
MAXIMUM 1-HR AVERAGE:	29	PPB	@ HOUR(S)	8	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	5.0	PPB			ON DAY(S)	1
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION	3.12		MONTHLY AVERAGE	1.12	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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	22	18	14	40	27	41	21	IZS	1	2	4	3	3	2	2	0	34	13	4	1	9	17	8	7	41	12.7	24	
2	6	2	1	2	1	0	IZS	C	C	C	C	C	C	0	0	0	0	0	1	1	0	1	0	1	6	1.0	24	
3	0	0	0	0	0	IZS	1	0	1	2	C	C	0	0	0	0	0	0	10	2	22	5	1	6	22	2.4	24	
4	10	15	12	15	IZS	27	46	55	9	1	6	3	1	5	5	5	2	1	3	1	3	1	4	1	55	10.0	24	
5	1	0	3	IZS	2	17	22	87	7	13	7	5	15	14	1	1	2	0	0	0	0	0	0	0	87	8.6	24	
6	0	0	IZS	4	1	1	1	0	3	3	2	2	1	2	0	9	72	9	13	1	12	6	10	3	72	6.7	24	
7	0	IZS	0	10	9	6	6	59	114	89	7	6	15	36	12	21	11	0	1	15	0	0	1	0	114	18.2	24	
8	IZS	2	0	0	1	0	0	5	1	0	0	0	0	2	0	0	1	1	1	4	22	4	1	IZS	22	2.0	24	
9	3	6	13	5	0	0	0	1	0	0	0	0	0	18	7	0	28	1	3	4	1	1	IZS	2	28	4.0	24	
10	0	0	1	0	0	0	1	1	2	4	3	7	3	9	3	21	5	5	14	15	17	IZS	14	30	30	6.7	24	
11	9	4	3	1	1	1	5	2	6	6	4	3	2	1	1	1	1	1	65	6	IZS	5	2	31	65	7.0	24	
12	8	1	8	7	5	6	6	3	59	26	3	1	4	1	2	0	14	15	5	IZS	15	15	4	1	59	9.1	24	
13	6	6	9	12	1	1	10	4	12	7	2	1	2	4	0	1	1	2	IZS	45	10	0	1	2	45	6.0	24	
14	1	2	4	0	2	2	1	1	2	1	1	7	1	2	1	1	1	IZS	1	1	0	2	3	2	7	1.7	24	
15	3	1	2	1	1	0	3	9	14	0	0	1	5	1	0	4	IZS	11	0	1	6	0	0	0	14	2.7	24	
16	0	0	0	0	0	0	0	0	3	0	2	0	1	0	0	IZS	1	0	0	0	0	0	0	0	3	0.3	24	
17	0	0	0	0	1	0	0	2	2	2	0	0	5	1	IZS	4	2	1	1	1	0	1	0	0	5	1.0	24	
18	2	2	1	1	0	1	1	1	4	1	11	1	1	IZS	1	2	1	5	22	15	1	0	1	2	22	3.3	24	
19	0	1	2	3	3	4	3	15	49	6	4	1	IZS	1	1	1	1	0	1	0	2	1	0	1	49	4.3	24	
20	0	0	1	0	0	0	1	2	1	2	1	IZS	2	2	3	3	4	9	2	2	4	8	5	14	14	2.9	24	
21	3	3	7	5	7	5	3	2	4	6	IZS	7	8	7	7	1	0	2	1	8	0	0	0	0	8	3.7	24	
22	0	0	0	0	0	0	1	0	8	IZS	0	1	3	1	3	5	2	3	3	1	1	0	2	1	8	1.5	24	
23	1	1	1	1	1	1	3	2	IZS	3	5	4	4	15	3	3	6	2	5	3	3	7	10	2	15	3.7	24	
24	2	1	1	1	0	2	12	IZS	56	8	9	9	13	6	8	25	65	121	5	14	5	6	3	3	121	16.3	24	
25	1	1	2	2	1	0	IZS	1	3	8	14	7	4	6	10	5	6	5	1	1	1	1	1	1	14	3.6	24	
26	0	2	4	6	14	IZS	12	8	5	19	9	12	8	7	8	5	4	6	3	4	5	4	23	0	23	7.3	24	
27	0	0	0	2	IZS	0	0	0	0	4	4	4	2	1	1	0	5	1	2	1	0	3	10	6	10	2.0	24	
28	0	1	1	IZS	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2	0.4	24	
29	1	0	IZS	0	0	0	1	0	0	0	0	1	0	1	1	3	0	5	6	1	0	0	2	10	10	1.4	24	
30	0	IZS	0	1	0	1	0	3	3	15	3	1	1	1	2	1	7	1	3	1	7	1	0	0	15	2.3	24	
HOURLY MAX	22	18	14	40	27	41	46	87	114	89	14	12	15	36	12	25	72	121	65	45	22	17	23	31				
HOURLY AVG	2.7	2.5	3.2	4.3	2.9	4.2	5.7	9.7	13.2	8.1	3.7	3.2	3.7	5.2	2.8	4.2	9.5	7.6	6.1	5.2	5.0	3.1	3.7	4.4				

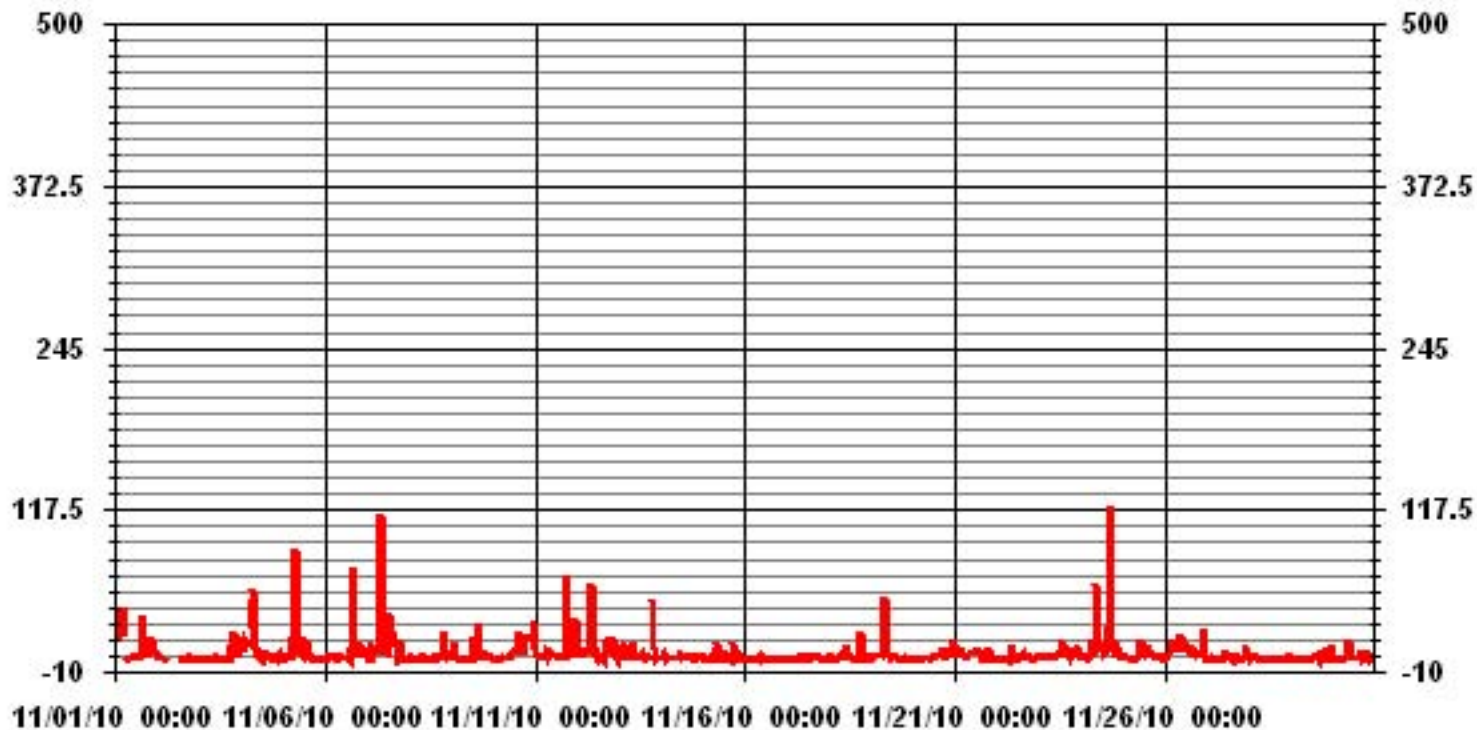
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	504				
MAXIMUM INSTANTANEOUS VALUE:	121	PPB	@ HOUR(S)	17	ON DAY(S) 24
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS
MONTHLY CALIBRATION TIME:	9	HRS			
STANDARD DEVIATION:	11.49				

01 Hour Averages



LICA
NO_ / WD Joint Frequency Distribution (Percent)

November 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	2.79	1.91	1.32	3.53	5.89	5.00	10.45	2.65	2.50	3.97	13.25	25.03	8.10	6.48	3.82	3.24	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.79	1.91	1.32	3.53	5.89	5.00	10.45	2.65	2.50	3.97	13.25	25.03	8.10	6.48	3.82	3.24	

Calm : .00 %

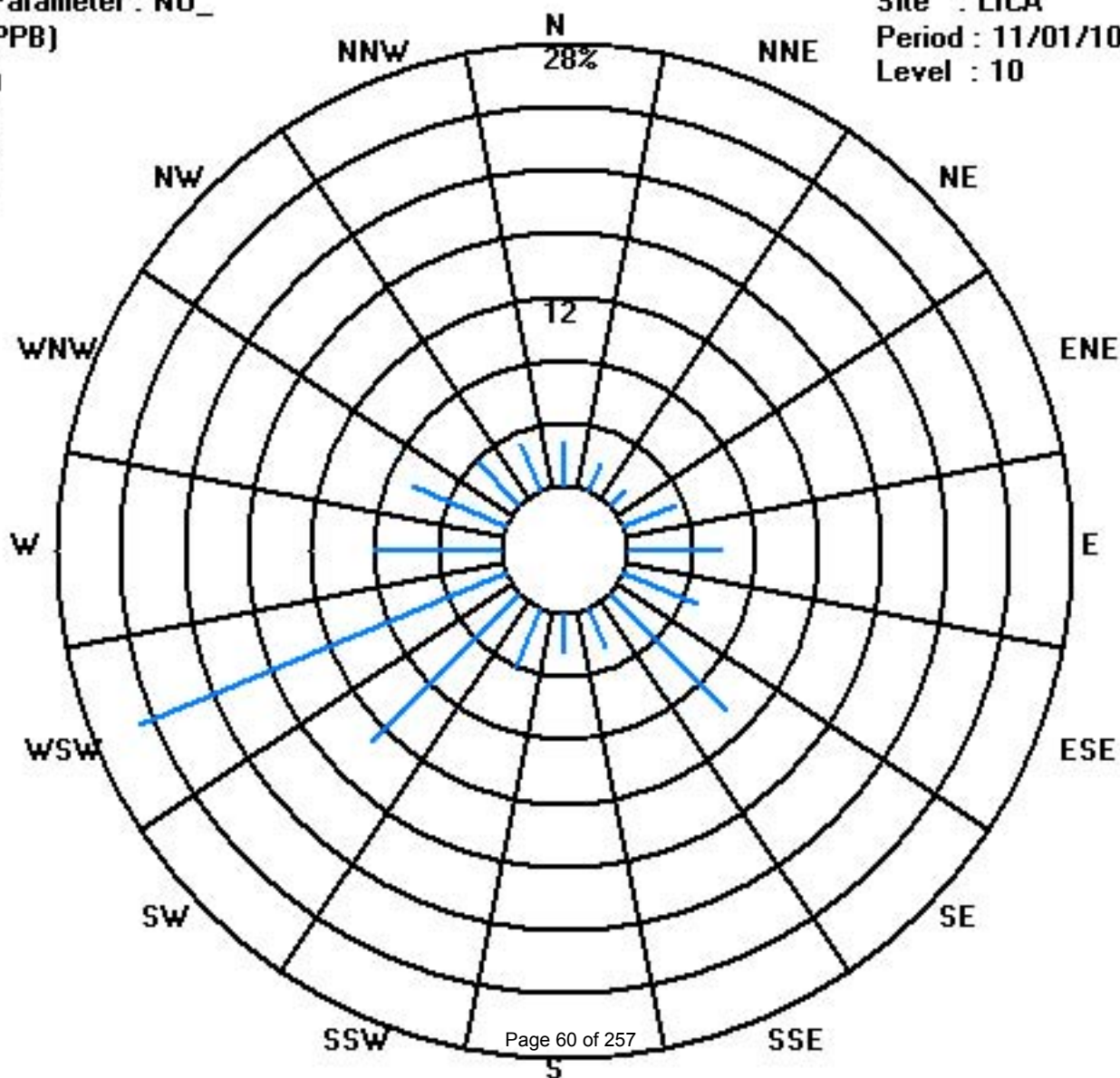
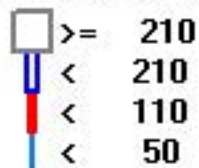
Total # Operational Hours : 679

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	19	13	9	24	40	34	71	18	17	27	90	170	55	44	26	22	679
< 110																	
< 210																	
>= 210																	
Totals	19	13	9	24	40	34	71	18	17	27	90	170	55	44	26	22	

Calm : .00 %

Total # Operational Hours : 679



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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	13	17	13	30	27	34	14	IZS	6	6	5	5	6	6	5	5	9	17	12	6	8	16	9	11	34	12.2	24
2	10	7	9	8	7	6	IZS	6	C	C	C	C	C	C	1	1	1	2	4	6	4	3	3	2	10	4.7	24
3	2	2	1	1	2	IZS	4	5	6	5	C	1	1	2	2	4	4	10	7	8	10	12	11	15	15	5.2	24
4	12	24	22	20	IZS	23	43	21	7	5	5	3	2	2	2	3	4	2	2	4	3	3	3	3	43	9.4	24
5	3	2	4	IZS	8	19	22	42	11	19	10	10	12	10	3	2	3	2	2	3	3	1	0	1	42	8.3	24
6	1	1	IZS	4	4	7	7	6	10	8	6	4	2	1	1	6	12	16	24	9	12	15	20	12	24	8.2	24
7	6	IZS	7	7	14	10	10	34	42	28	8	3	3	8	7	5	3	2	3	3	2	2	4	3	42	9.3	24
8	IZS	1	0	0	0	2	4	7	8	4	3	3	2	1	1	2	10	10	9	13	16	12	12	IZS	16	5.5	24
9	5	6	6	5	0	0	1	1	2	1	0	0	1	2	3	4	14	7	9	10	8	8	IZS	4	14	4.2	24
10	4	4	3	4	4	6	4	4	5	8	6	6	6	6	7	10	13	15	16	16	18	IZS	13	16	18	8.4	24
11	12	8	5	6	6	6	6	8	11	12	9	6	5	5	3	4	6	5	11	8	IZS	9	7	10	12	7.3	24
12	8	6	9	11	12	11	8	10	12	10	7	5	4	4	4	6	12	14	14	IZS	21	17	9	6	21	9.6	24
13	4	4	4	8	5	4	12	8	12	8	7	6	8	6	6	7	7	5	IZS	9	7	6	8	9	12	7.0	24
14	10	9	5	3	4	3	2	2	2	3	3	3	4	3	4	4	5	IZS	6	8	7	7	8	7	10	4.9	24
15	5	4	3	2	3	3	7	11	12	3	2	3	5	4	4	6	IZS	6	3	5	1	0	0	0	12	4.0	24
16	0	0	0	0	0	0	0	0	1	1	3	2	3	3	1	IZS	1	1	1	1	0	0	0	0	3	0.8	24
17	0	0	0	2	2	2	2	2	4	4	1	2	2	2	IZS	4	3	2	3	3	2	2	2	1	4	2.0	24
18	1	2	2	2	2	3	3	3	3	3	3	3	2	IZS	3	4	4	4	4	4	3	1	0	1	4	2.6	24
19	1	3	3	5	5	7	7	7	17	12	9	2	IZS	2	3	2	2	1	1	2	2	2	2	1	17	4.3	24
20	1	1	1	1	1	1	3	4	4	4	4	IZS	3	3	5	8	10	15	13	13	13	15	17	20	20	7.0	24
21	12	14	15	17	22	23	21	20	20	17	IZS	15	15	14	11	11	10	8	5	3	1	2	1	1	23	12.1	24
22	0	0	1	0	1	1	1	1	1	IZS	1	2	4	5	9	9	11	8	11	10	10	5	6	4	11	4.4	24
23	3	3	5	4	5	5	7	8	IZS	7	10	8	9	14	9	12	16	13	17	14	13	15	12	10	17	9.5	24
24	10	10	11	9	8	8	13	IZS	33	14	14	14	14	14	17	19	47	37	22	23	22	21	18	17	47	18.0	24
25	17	15	14	16	15	14	IZS	14	15	14	14	14	15	21	26	20	26	21	19	9	6	5	6	7	26	14.9	24
26	5	8	8	11	11	IZS	23	14	7	9	10	13	9	8	17	18	18	18	15	11	10	13	8	4	23	11.7	24
27	4	3	4	4	IZS	6	7	9	9	11	13	11	5	4	5	5	8	8	10	8	7	9	10	11	13	7.4	24
28	9	6	8	IZS	7	7	8	2	1	1	1	1	1	1	1	1	1	2	3	4	3	5	3	3	9	3.4	24
29	5	4	IZS	1	1	1	2	2	1	2	2	2	2	2	3	5	8	16	8	4	3	2	2	2	16	3.5	24
30	2	IZS	1	4	2	2	3	3	3	4	3	3	4	3	4	5	5	3	2	1	2	2	2	2	5	2.8	24
HOURLY MAX	17	24	22	30	27	34	43	42	42	28	14	15	15	21	26	20	47	37	24	23	22	21	20	20			
HOURLY AVG	5.7	5.9	5.9	6.6	6.4	7.6	8.7	9.1	9.5	8.0	5.9	5.4	5.3	5.5	5.8	6.6	9.4	9.4	8.8	7.4	7.5	7.2	6.8	6.3			

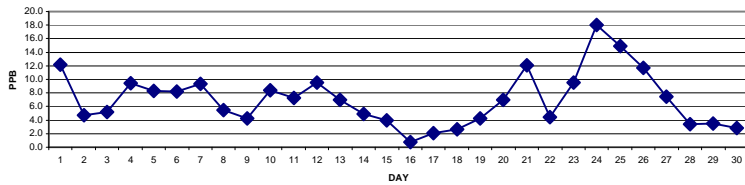
STATUS FLAG CODES

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

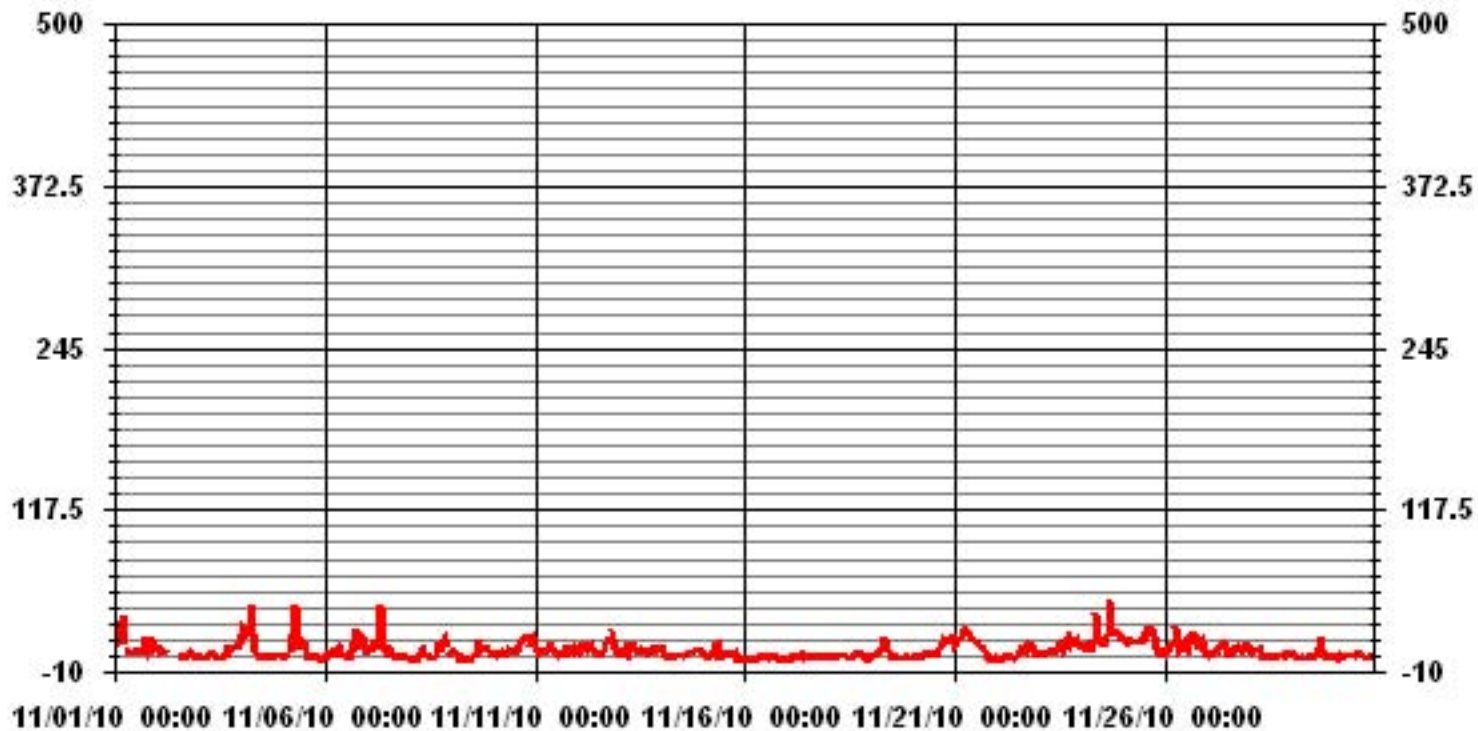
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	652					
MAXIMUM 1-HR AVERAGE:	47	PPB	@ HOUR(S)	16	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	18.0	PPB			ON DAY(S)	24
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	6.63		MONTHLY AVERAGE	7.11	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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	32	26	21	54	38	53	34	IZS	7	9	10	9	8	9	9	6	48	29	19	12	20	29	20	18	54	22.6	24
2	15	9	10	11	10	9	IZS	C	C	C	C	C	C	C	5	2	3	3	10	17	7	5	5	5	17	7.9	24
3	4	4	3	2	3	IZS	6	8	8	10	C	C	2	3	5	6	9	22	19	19	32	19	16	23	32	10.6	24
4	25	33	27	29	IZS	44	64	74	11	7	29	4	5	6	6	12	7	7	8	5	12	7	12	6	74	19.1	24
5	7	5	14	IZS	15	37	40	120	18	28	18	12	31	30	6	6	7	4	5	5	5	3	2	2	120	18.3	24
6	4	3	IZS	6	7	8	9	8	16	12	8	5	4	6	3	28	51	34	51	17	45	22	32	19	51	17.3	24
7	18	IZS	13	24	24	16	18	62	133	109	22	15	17	50	26	43	16	4	7	19	5	4	10	6	133	28.7	24
8	IZS	6	1	1	6	3	6	28	11	10	4	4	3	4	1	5	13	15	14	20	39	17	15	IZS	39	10.3	24
9	8	11	21	12	2	1	1	4	3	3	1	1	2	33	12	6	56	13	17	17	10	11	IZS	7	56	11.0	24
10	7	6	5	7	8	10	5	6	7	13	8	12	10	13	9	36	17	17	24	24	29	IZS	28	41	41	14.9	24
11	20	11	10	10	7	7	14	14	15	15	11	10	7	6	5	5	10	8	78	20	IZS	15	13	43	78	15.4	24
12	16	8	18	15	17	17	14	84	28	10	6	8	5	7	8	26	26	25	IZS	32	35	14	9	9	84	19.3	24
13	20	20	21	32	9	7	20	16	20	13	15	9	11	13	7	11	12	10	IZS	66	16	8	11	13	66	16.5	24
14	14	14	11	5	9	8	7	4	4	4	5	5	6	5	8	5	8	IZS	8	10	8	11	13	8	14	7.8	24
15	8	7	6	5	7	4	16	21	29	4	3	7	12	6	5	16	IZS	28	6	10	5	1	1	0	29	9.0	24
16	0	0	0	1	0	0	2	1	2	3	8	6	7	6	6	IZS	4	2	2	3	1	1	0	0	8	2.4	24
17	0	0	2	3	5	2	3	5	8	11	3	4	8	5	IZS	9	7	5	6	6	4	4	4	2	11	4.6	24
18	4	4	5	4	3	8	5	7	8	5	22	5	4	IZS	5	10	6	6	18	18	6	2	4	5	22	7.1	24
19	3	7	6	9	9	12	10	22	78	18	17	7	IZS	5	7	4	6	3	3	3	5	5	4	2	78	10.7	24
20	3	3	4	1	3	4	5	6	5	6	6	IZS	9	5	10	11	16	32	17	15	20	24	24	30	32	11.3	24
21	19	19	22	24	29	26	23	21	22	19	IZS	17	18	18	18	13	13	15	9	17	3	3	2	2	29	16.2	24
22	1	1	2	2	2	2	3	3	15	IZS	3	6	7	7	12	21	19	13	18	14	14	8	10	6	21	8.2	24
23	5	5	9	7	7	8	9	16	IZS	10	14	10	11	32	11	18	23	15	27	23	19	24	23	15	32	14.8	24
24	16	12	13	12	10	11	31	IZS	83	20	20	20	21	16	21	54	71	170	29	39	27	29	23	22	170	33.5	24
25	19	17	19	20	18	16	IZS	16	19	20	21	19	19	24	30	24	32	28	23	15	8	7	10	14	32	19.0	24
26	7	11	20	27	32	IZS	34	30	14	34	24	29	21	15	31	25	28	30	22	20	20	27	24	5	34	23.0	24
27	7	6	5	13	IZS	8	10	12	14	15	16	14	9	6	7	9	17	14	15	10	9	15	26	25	26	12.3	24
28	12	9	10	IZS	10	9	9	7	3	2	1	1	3	2	2	2	3	3	6	7	6	9	5	5	12	5.5	24
29	8	8	IZS	4	1	2	5	4	2	4	4	7	4	4	6	11	14	28	24	7	4	4	5	8	28	7.3	24
30	3	IZS	4	7	3	4	5	4	5	14	10	5	6	5	6	8	19	7	5	3	7	4	3	4	19	6.1	24
HOURLY MAX	32	33	27	54	38	53	64	120	133	109	29	29	31	50	31	54	71	170	78	66	45	35	32	43			
HOURLY AVG	10.5	9.5	10.8	12.4	10.5	12.0	14.7	19.7	23.0	15.9	11.6	9.2	9.8	12.1	9.9	14.3	19.3	20.4	17.8	15.9	14.4	12.2	12.4	11.9			

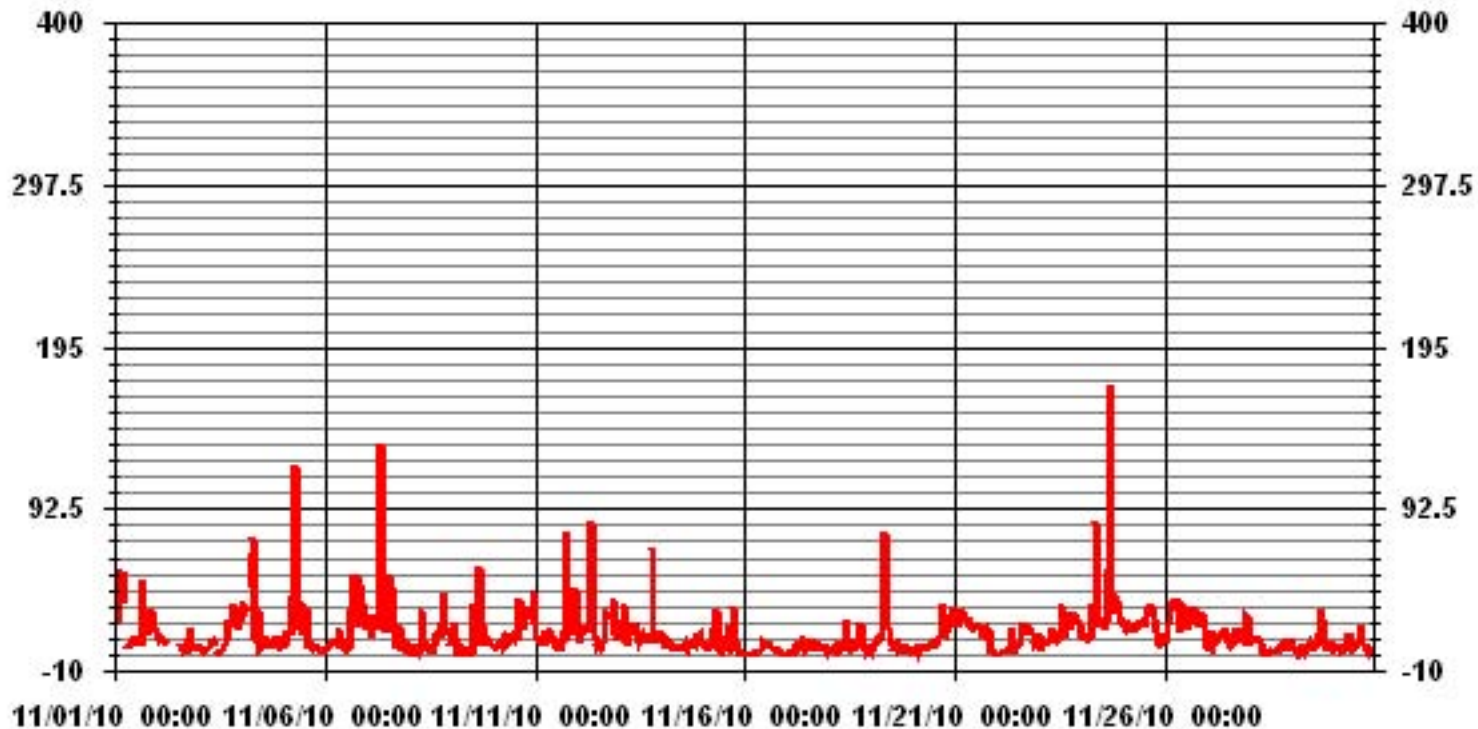
STATUS FLAG CODES

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:	670		
MAXIMUM INSTANTANEOUS VALUE:	170 PPB @ HOUR(S) 17 ON DAY(S) 24		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	9 HRS		
STANDARD DEVIATION:	15.32		

01 Hour Averages



— LICA NOXMAX PPB

LICA
 NOX_ / WD Joint Frequency Distribution (Percent)

November 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	2.79	1.91	1.32	3.53	5.89	5.00	10.45	2.65	2.50	3.97	13.25	25.03	8.10	6.48	3.82	3.24	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.79	1.91	1.32	3.53	5.89	5.00	10.45	2.65	2.50	3.97	13.25	25.03	8.10	6.48	3.82	3.24	

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
< 50	19	13	9	24	40	34	71	18	17	27	90	170	55	44	26	22	679
< 110																	
< 210																	
>= 210																	
Totals	19	13	9	24	40	34	71	18	17	27	90	170	55	44	26	22	

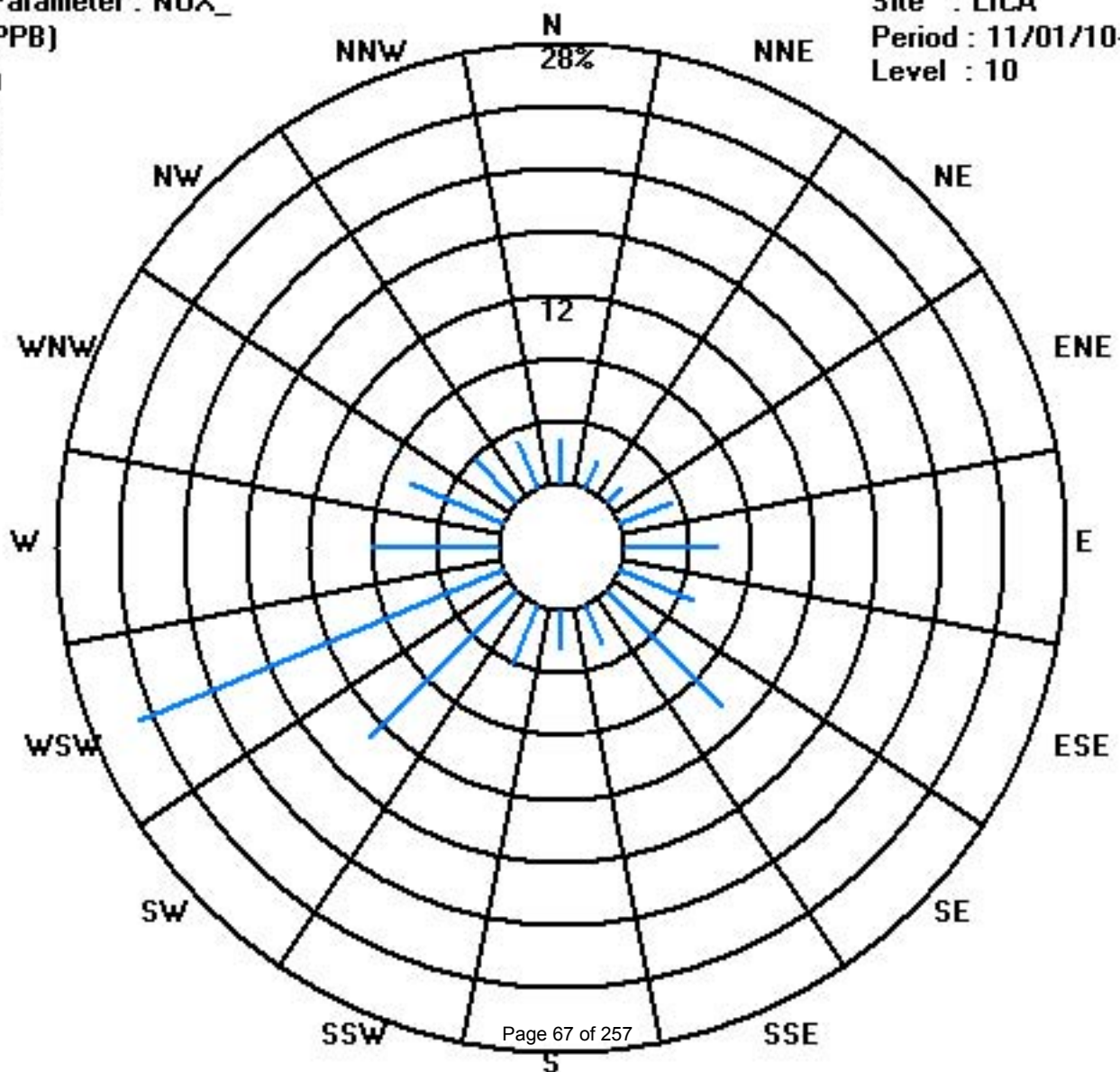
Calm : .00 %

Total # Operational Hours : 679

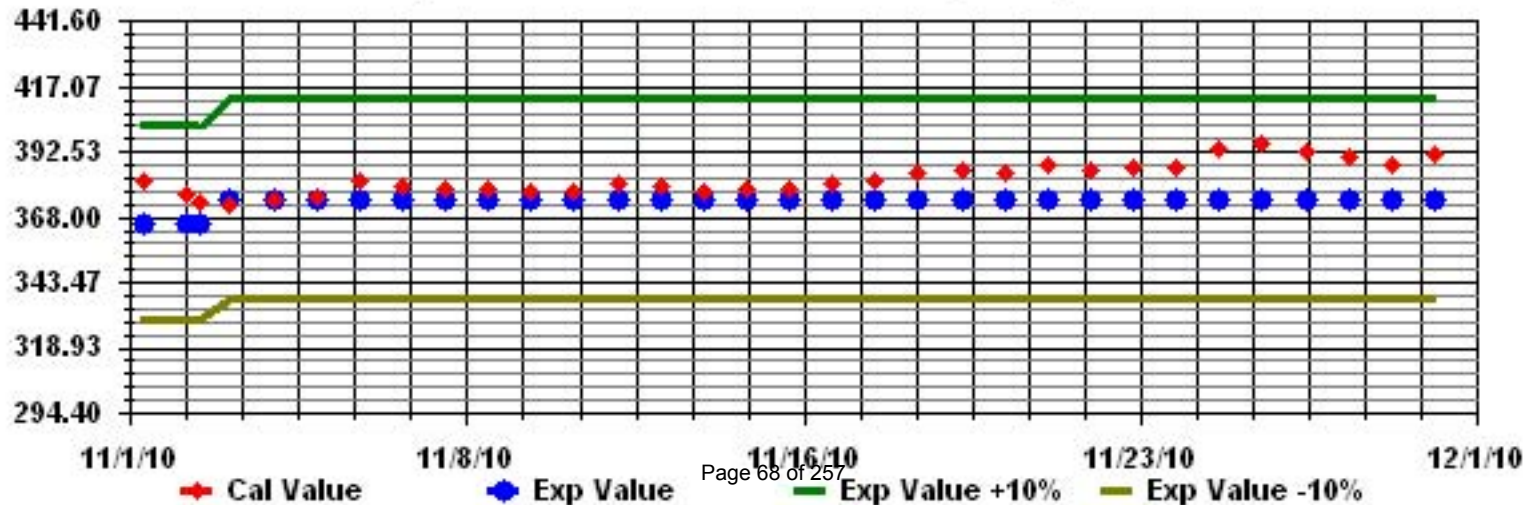
Class Limits (PPB)

Period : 11/01/10-11/30/10

Level : 10



Calibration Graph for Site: LICA Parameter: NOX_ Sequence: NO2 Phase: SPAN



Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2010

OZONE (O₃) 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	7	IZS	14	16	17	16	15	15	19	18	15	7	7	12	5	0	1	0	19	8.0	24	
2	0	7	7	10	12	14	IZS	23	26	30	32	35	36	C	C	C	35	34	30	24	27	28	28	28	36	23.3	24	
3	29	29	31	31	30	IZS	27	25	24	27	C	31	32	33	33	32	30	22	19	12	8	4	5	1	33	23.4	24	
4	2	1	0	0	IZS	1	1	12	21	24	25	28	33	36	35	34	31	28	30	29	25	24	22	21	36	20.1	24	
5	20	19	14	IZS	6	3	3	2	7	5	10	14	13	20	31	32	30	34	35	32	30	34	34	33	35	20.0	24	
6	31	28	IZS	22	21	19	17	17	14	22	26	28	31	33	35	29	21	11	7	20	12	9	7	11	35	20.5	24	
7	10	IZS	6	5	1	1	1	0	2	10	26	28	28	27	28	30	33	32	30	31	31	31	29	26	33	19.4	24	
8	IZS	23	27	27	26	24	22	19	18	21	24	24	26	27	28	26	16	12	11	5	1	2	2	IZS	28	18.7	24	
9	5	3	1	4	18	18	19	20	20	22	24	24	25	24	23	22	12	14	8	7	9	9	IZS	9	25	14.8	24	
10	10	11	12	11	10	8	11	10	10	10	12	12	12	11	10	8	3	1	1	0	0	IZS	0	0	12	7.5	24	
11	0	1	1	6	6	6	4	5	5	9	13	19	21	21	26	23	20	19	11	8	IZS	4	3	2	26	10.1	24	
12	2	3	2	0	1	1	5	5	5	8	13	14	16	21	27	23	14	10	8	IZS	1	0	4	8	27	8.3	24	
13	14	8	6	3	3	2	1	2	3	12	16	18	16	20	20	18	18	20	IZS	11	8	10	8	5	20	10.5	24	
14	4	7	16	20	21	20	23	22	19	18	18	18	18	21	20	19	15	IZS	13	11	11	10	6	8	23	15.6	24	
15	12	12	13	15	13	14	10	6	7	17	17	18	18	19	18	16	IZS	15	14	12	21	21	28	30	30	15.9	24	
16	30	28	29	32	34	34	34	34	33	32	31	30	30	31	31	IZS	29	29	31	31	30	29	29	29	34	30.9	24	
17	30	31	30	28	29	30	30	30	32	35	36	37	36	36	IZS	35	35	36	35	34	35	35	35	36	37	33.3	24	
18	35	34	34	34	34	34	33	34	33	33	34	34	34	IZS	34	32	32	32	32	32	33	33	32	33	31	35	33.2	24
19	30	27	26	24	23	22	21	23	17	20	24	32	IZS	32	31	32	31	32	32	30	30	31	32	32	32	27.6	24	
20	32	32	31	31	30	28	26	26	25	25	26	IZS	29	29	25	20	15	9	10	10	8	4	3	1	32	20.7	24	
21	3	2	1	0	0	0	0	1	3	8	IZS	12	13	13	11	14	16	22	27	26	26	28	30	30	11.7	24		
22	30	31	31	31	30	30	30	27	27	IZS	30	30	29	29	25	24	20	22	19	19	19	19	23	23	26	31	26.3	24
23	28	28	26	26	25	25	23	20	IZS	23	23	25	26	26	26	23	17	17	11	11	9	6	9	11	28	20.2	24	
24	9	9	12	11	10	9	6	IZS	3	14	19	20	21	21	19	16	2	3	5	4	4	4	5	8	21	10.2	24	
25	9	7	7	9	10	11	IZS	9	10	12	15	18	17	13	11	12	5	7	10	25	28	29	25	20	29	13.9	24	
26	24	24	18	11	9	IZS	4	15	22	21	21	21	24	25	19	17	14	15	17	20	22	21	25	28	28	19.0	24	
27	28	27	26	21	IZS	15	15	13	12	13	12	18	26	28	27	26	20	20	17	19	19	16	14	12	28	19.3	24	
28	16	19	17	IZS	15	13	9	21	28	25	23	22	21	24	25	24	24	22	21	22	20	23	24	28	28	21.0	24	
29	23	24	IZS	29	30	30	29	28	28	28	28	29	29	29	28	26	20	10	18	23	24	25	25	25	30	25.6	24	
30	25	IZS	25	22	25	26	25	24	23	24	25	26	26	27	27	26	26	27	29	30	30	31	31	31	31	26.6	24	
HOURLY MAX	35	34	34	34	34	34	34	34	33	35	36	37	36	36	35	35	35	36	35	34	35	35	35	36				
HOURLY AVG	16.9	17.0	16.0	16.5	16.9	15.6	15.6	16.9	16.9	19.4	22.1	23.5	24.2	24.7	24.8	23.4	20.6	19.2	18.4	19.0	18.2	17.9	17.8	18.1				

STATUS FLAG CODES

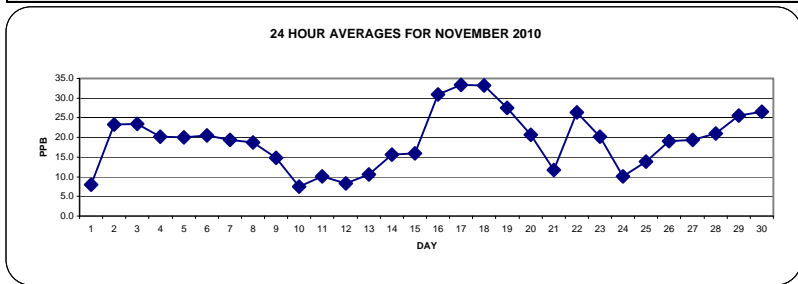
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

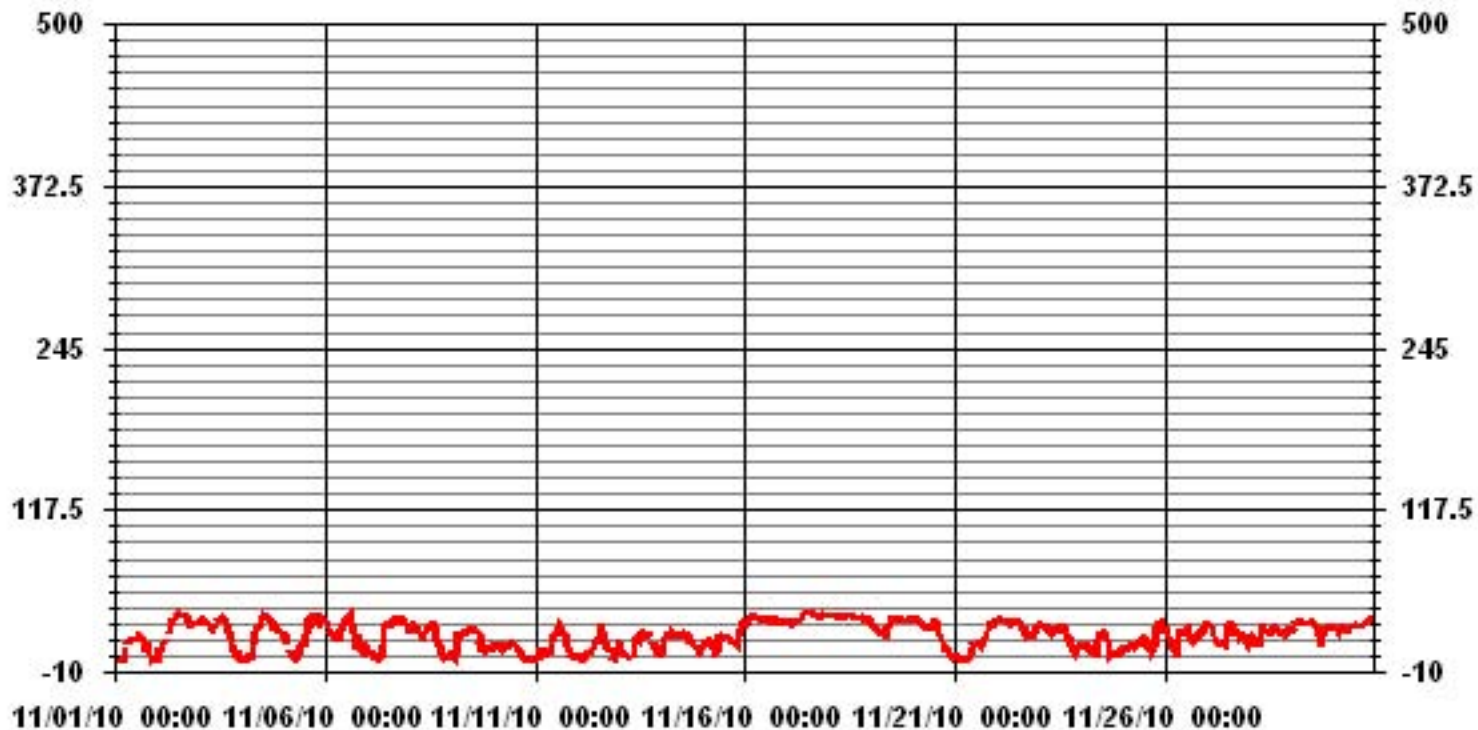
ALBERTA ENVIRONMENT: 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	662
MAXIMUM 1-HR AVERAGE:	37 PPB @ HOUR(S) 11 ON DAY(S) 17
MAXIMUM 24-HR AVERAGE:	33.3 PPB ON DAY(S) 17 VAR-VARIOUS
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION	10.38
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME	100.0 %
MONTHLY AVERAGE	19.16 PPB



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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	1	0	0	0	0	2	11	IZS	15	17	18	17	16	19	20	20	18	14	14	15	11	2	3	1	20	10.2	24	
2	5	8	8	12	13	21	IZS	25	28	32	34	36	C	C	C	C	35	33	30	30	30	30	29	36	24.4	24		
3	30	30	32	32	31	IZS	28	26	27	29	C	C	34	34	34	34	33	26	32	18	12	13	11	3	34	26.1	24	
4	9	8	1	2	IZS	1	6	19	25	25	27	30	36	36	36	35	34	30	31	30	28	25	24	23	36	22.7	24	
5	22	22	20	IZS	13	9	9	6	11	8	12	15	15	26	36	36	32	37	37	35	33	35	35	34	37	23.4	24	
6	33	30	IZS	23	24	21	20	21	21	25	29	30	33	35	36	35	29	23	16	27	19	14	15	18	36	25.1	24	
7	14	IZS	11	11	6	4	2	1	11	23	30	30	30	30	33	34	33	32	32	32	32	32	30	34	22.7	24		
8	IZS	27	28	28	27	26	24	21	20	23	24	25	27	28	28	28	23	14	13	8	5	5	3	IZS	28	20.7	24	
9	7	5	2	15	19	19	20	22	21	24	25	26	26	25	25	23	22	17	13	11	11	9	IZS	11	26	17.3	24	
10	12	12	13	12	12	11	12	11	11	13	13	13	13	12	11	10	6	2	2	2	2	IZS	1	1	13	9.0	24	
11	1	2	2	7	7	8	6	7	7	11	16	21	22	23	29	25	23	20	16	14	IZS	7	5	4	29	12.3	24	
12	3	5	3	0	2	3	8	8	7	11	15	16	17	28	29	26	20	15	14	IZS	4	4	7	13	29	11.2	24	
13	17	12	8	5	6	4	2	4	8	18	18	20	18	21	22	20	21	22	IZS	16	11	12	10	7	22	13.1	24	
14	5	16	18	22	23	24	24	24	21	19	18	19	19	23	23	20	18	IZS	14	13	12	12	9	10	24	17.7	24	
15	13	14	15	16	15	15	16	10	16	18	18	19	20	21	19	19	IZS	17	16	18	22	24	31	31	31	18.4	24	
16	30	29	32	33	34	35	35	35	34	33	32	32	31	32	32	IZS	30	29	32	31	31	30	30	30	35	31.8	24	
17	31	32	31	29	30	31	31	31	35	36	37	38	38	37	IZS	36	37	36	36	36	36	36	36	37	38	34.5	24	
18	36	35	35	35	35	35	35	35	34	34	36	35	35	IZS	35	34	34	34	34	34	34	35	34	34	33	36	34.6	24
19	31	29	27	25	25	23	24	25	21	24	30	34	IZS	33	32	33	33	33	33	33	32	32	32	33	33	34	29.4	24
20	33	33	33	32	31	30	27	27	26	26	27	IZS	30	30	28	23	18	14	12	11	11	6	5	4	33	22.5	24	
21	5	3	1	1	0	1	1	1	6	10	IZS	13	13	14	14	13	17	18	27	29	27	27	30	30	30	13.1	24	
22	31	32	32	31	31	31	30	30	28	IZS	31	32	32	29	27	27	25	24	22	22	23	25	24	27	32	28.1	24	
23	28	29	27	27	27	26	24	23	IZS	24	24	26	26	27	28	25	19	19	16	17	14	12	12	13	29	22.3	24	
24	11	13	14	13	12	12	10	IZS	12	17	21	20	22	22	20	21	8	11	8	7	6	8	7	10	22	13.3	24	
25	10	8	9	10	11	11	IZS	10	11	14	17	19	19	16	12	14	10	9	16	28	29	30	29	25	30	16.0	24	
26	26	26	24	17	15	IZS	11	23	23	23	23	26	27	27	20	20	18	21	24	25	24	27	28	28	28	22.7	24	
27	29	29	27	25	IZS	17	17	15	13	14	13	23	29	29	29	28	23	23	20	21	21	18	17	14	29	21.5	24	
28	19	19	19	IZS	17	15	11	26	29	27	24	23	27	26	26	26	26	26	24	23	23	22	25	25	29	23.0	24	
29	25	26	IZS	30	30	30	30	29	28	28	30	30	30	30	29	28	26	16	23	24	25	26	25	25	30	27.1	24	
30	25	IZS	26	24	26	27	26	24	24	25	27	27	27	28	28	27	27	29	30	30	31	32	32	31	32	27.5	24	
HOURLY MAX	36	35	35	35	35	35	35	35	35	36	37	38	38	37	36	36	37	37	37	37	36	36	36	36	37			
HOURLY AVG	18.7	19.1	17.8	18.5	18.6	17.6	17.9	19.3	19.8	21.8	23.9	24.7	25.4	26.5	26.6	25.7	23.8	22.2	22.0	22.0	20.7	20.2	20.1	20.0				

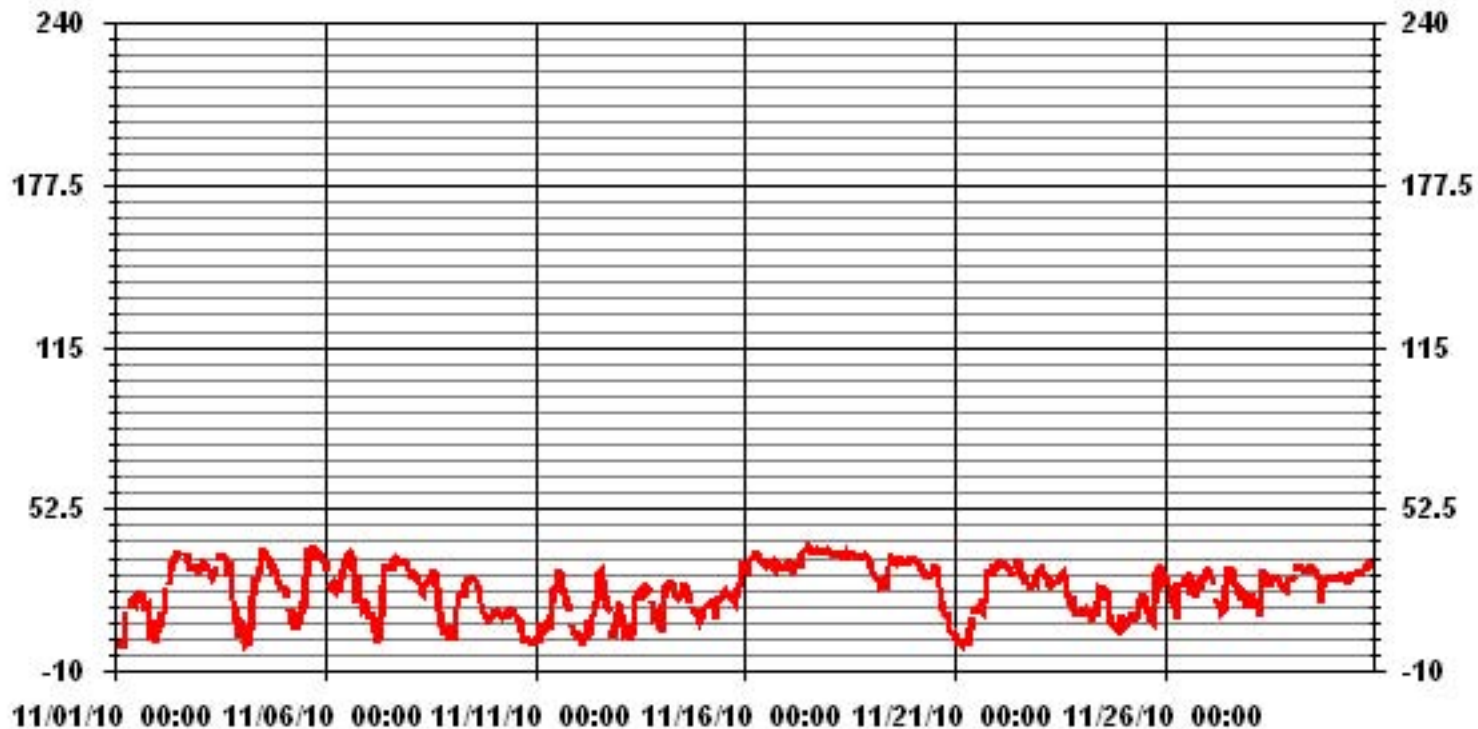
STATUS FLAG CODES

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:	676					
MAXIMUM INSTANTANEOUS VALUE:	38	PPB	@ HOUR(S)	11, 12	ON DAY(S)	17
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	9.88					

01 Hour Averages



— LICA O3MAX PPB

LICA
O3_ / WD Joint Frequency Distribution (Percent)

November 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	2.78	1.90	1.31	3.51	5.86	4.98	10.41	2.63	2.49	3.95	13.34	25.21	8.06	6.45	3.81	3.22	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.78	1.90	1.31	3.51	5.86	4.98	10.41	2.63	2.49	3.95	13.34	25.21	8.06	6.45	3.81	3.22	

Calm : .00 %

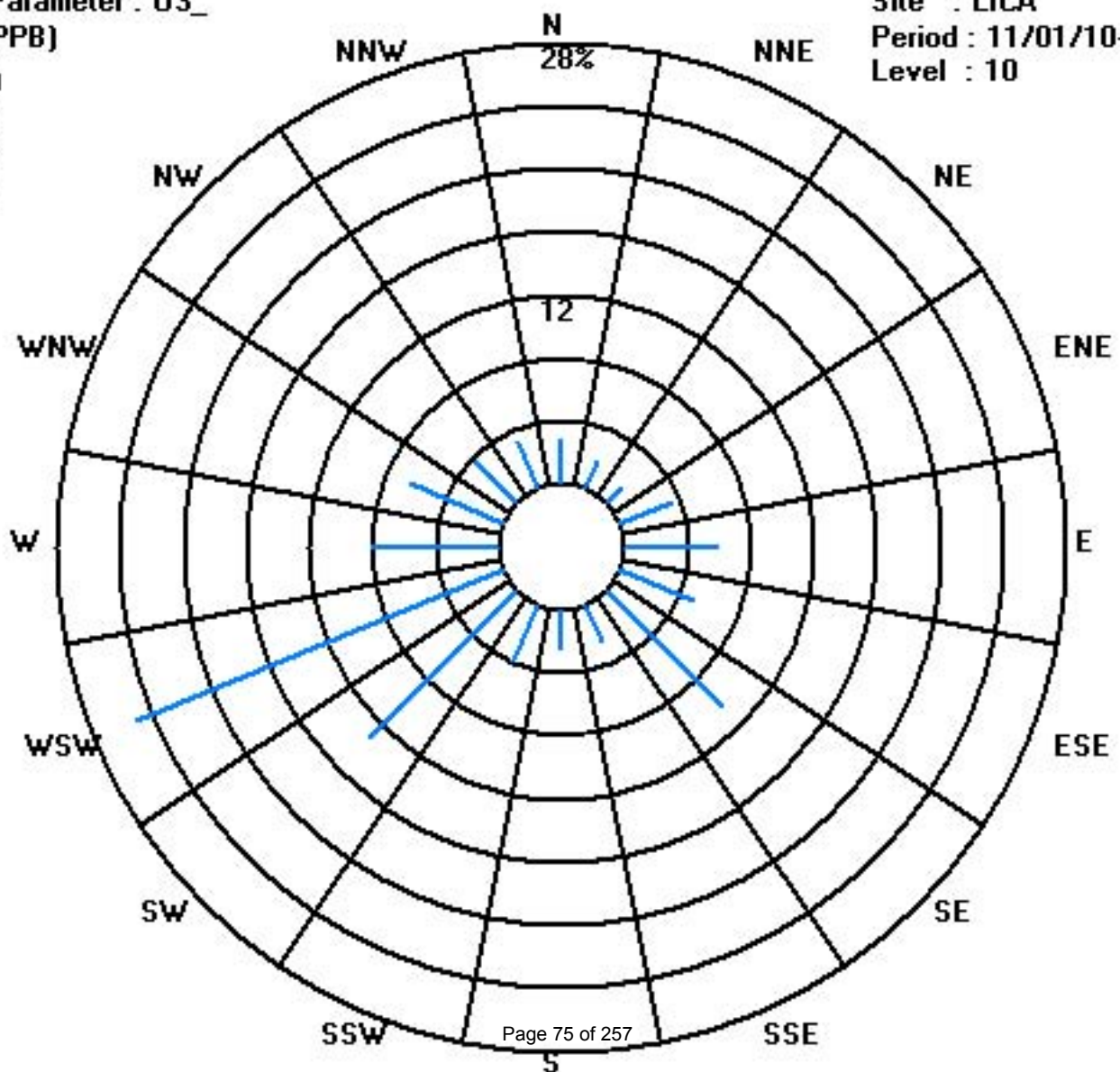
Total # Operational Hours : 682

Distribution By Samples

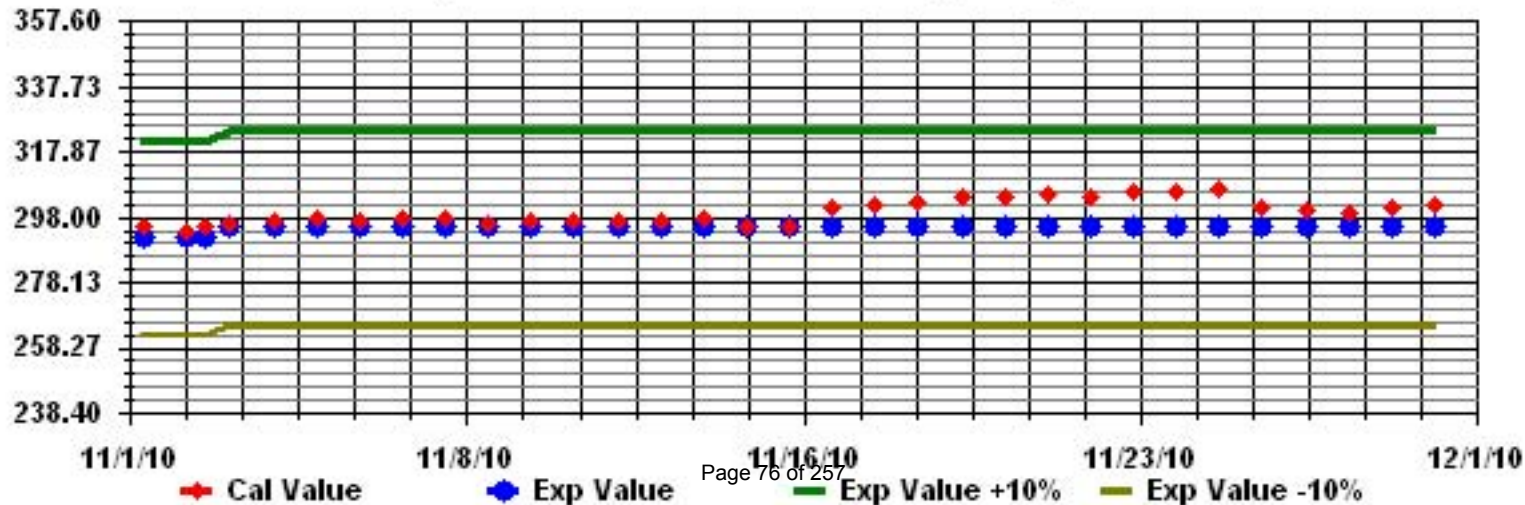
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	19	13	9	24	40	34	71	18	17	27	91	172	55	44	26	22	682
< 110																	
< 210																	
>= 210																	
Totals	19	13	9	24	40	34	71	18	17	27	91	172	55	44	26	22	

Calm : .00 %

Total # Operational Hours : 682



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



Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2010

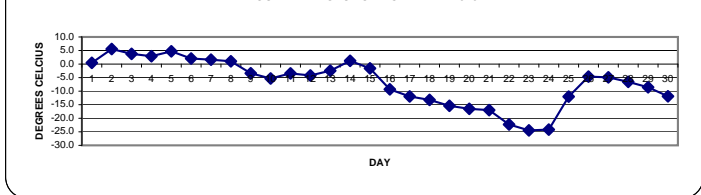
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	DAILY	24-HOUR	RDGS
DAY	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	MAX.	AVG.	
1	1	-4	-4.4	-5	-5	-4.5	-3.6	-0.8	1	1.4	1.9	2.7	3.3	4.2	5.2	5.4	5.2	3.6	2.3	1.7	1.9	0.9	-0.4	-1	-1	5.4	0.5	24
2	2	-0.7	1.3	2.5	2.8	2.5	1.2	2.1	1.9	3.8	6.7	8.7	10.1	10.9	11.4	11.4	11.2	10.1	8.6	6.6	4.1	4.3	4.4	3.9	3.5	11.4	5.6	24
3	3	3.5	3.6	4.2	4.1	3.7	3.3	2.5	2	2.7	4.7	6.5	8.4	9.8	10	10.1	9.6	7.8	4.9	1.4	-0.9	-2	-2.7	-3.1	-3.7	10.1	3.8	24
4	4	-4.3	-4.6	-4.9	-5.2	-5.6	-5.6	-5	-2.6	0.5	2.6	4.6	7.3	10.7	12.3	12.6	11.7	9.5	7.2	6.7	5.9	4.8	4.5	3.6	3	12.6	2.9	24
5	5	2.3	2	0.6	0.5	-0.4	-0.2	0.2	0.2	1.7	2.2	3.8	6.8	7.5	10.5	12.8	11.1	8.9	7.4	6.6	6.1	5.8	6.6	5.8	4.1	12.8	4.7	24
6	6	2.8	1.4	0.5	-0.5	-1	-1.3	-2.1	-2.5	-1.5	1.4	3.2	5.1	6.6	7.6	8	6.8	4.9	2.8	3.2	2.8	0	0	0.6	0.5	8.0	2.1	24
7	7	-1.5	-2	-2.5	-3.3	-3.8	-4.5	-4.8	-4.6	-2.2	1.8	3.9	3.8	4.4	4.9	5.3	5.4	5.5	5.5	5.3	4.9	4.4	4.1	3.2	5.5	1.6	24	
8	8	2.6	1.8	2.1	2	1.8	1.5	1.6	1.4	M	M	2	2.3	2.9	3	3.3	3.4	2.3	0.8	-0.4	-1.3	-2.3	-2.7	-2.6	-3.2	3.4	1.0	22
9	9	-4.6	-5.6	-6.3	-5.7	-3.3	-3.2	-2.7	-2.4	-2.2	-1.8	-1.8	-1.5	-1.1	-0.1	1.1	1.2	-1.1	-2.8	-4.3	-5.5	-6	-6.5	-7.1	-8	1.2	-3.4	24
10	10	-7.5	-7.4	-7.1	-7.5	-7.7	-7.8	-7.9	-7.9	-7.1	-6.3	-4.8	-4	-3.2	-2	-1.5	-2.4	-3.4	-4.6	-5.1	-4.1	-3.8	-3.5	-3.4	-1.5	-5.3	24	
11	11	-3.4	-3.6	-3.7	-3	-2.8	-3.4	-5	-5.9	-5.6	-3.2	-1.8	-0.5	0.4	1.5	1.5	0.8	-1.1	-2.5	-4	-6.1	-7.3	-7.9	-7.9	-8.1	1.5	-3.4	24
12	12	-8	-9.1	-9.8	-9.7	-8.2	-6.6	-6.1	-6.2	-5.5	-4.7	-3.5	-2.2	-0.6	2.1	2.4	1.6	0	-1	-1.8	-3.2	-4.5	-5.6	-5.6	-5	2.4	-4.2	24
13	13	-3.9	-6.2	-7.5	-8.1	-8.3	-8.5	-8.5	-8.8	-7.2	-2	-0.2	0.7	1.2	2.3	2.4	2.2	1.7	0.3	0	-0.1	-0.4	0	0	0.1	2.4	-2.5	24
14	14	0.1	0.3	1	1.1	0.5	0.2	0.3	-0.1	-0.4	-0.2	0.3	1.7	2.5	4.3	4.3	3.3	2.2	1.9	1.7	1.5	1.5	0.9	0.1	-0.1	4.3	1.2	24
15	15	0.2	-0.1	-0.6	-0.8	-1.6	-2	-2.4	-3.5	-2.6	-1.2	-1	-0.6	-0.5	-0.7	-1.1	-1.2	-1.2	-1.3	-1.5	-1.4	-1.1	-2.1	-4.4	-5.5	0.2	-1.6	24
16	16	-6.6	-7.9	-9	-9.7	-9.8	-9.6	-9.5	-9.3	-9.1	-8.9	-8.9	-8.6	-8.3	-8.4	-8.5	-8.8	-8.9	-9.5	-10.4	-10.7	-11	-11.7	-12	-6.6	-9.3	24	
17	17	-12.2	-12.1	-12.1	-12.2	-12	-12.1	-12	-11.8	-11.5	-11.5	-11.3	-11.3	-11.2	-11.2	-11.4	-11.8	-12.1	-12.3	-12.4	-12.3	-12.3	-12.4	-12.5	-12.6	-11.2	-11.9	24
18	18	-13	-13.2	-13.4	-13.5	-13.7	-13.7	-13.6	-13.6	-13.4	-12.9	-12.7	-12.4	-12.6	-12.7	-12.8	-13	-13.1	-13.2	-13.2	-13.2	-13.3	-13.6	-13.9	-12.4	-13.2	24	
19	19	-14.2	-14.8	-15.6	-16.2	-18.1	-18.7	-18.2	-16.4	-16.1	-15.4	-14.9	-14.3	-14.3	-14.1	-14.4	-14.7	-14.9	-14.9	-14.9	-14.9	-14.9	-15	-15.1	-15.3	-14.1	-15.4	24
20	20	-15.2	-15.2	-15.2	-15.2	-15.2	-15.3	-15.7	-16.1	-16.2	-16.2	-15.5	-14.6	-13.8	-13.3	-13.1	-14	-16	-18	-18.4	-18.5	-19.3	-21.1	-22.4	-22.9	-13.1	-16.5	24
21	21	-23.7	-24.5	-24.9	-24.7	-22.2	-20.4	-19.5	-18.7	-17.7	-16.6	-15.7	-15	-14.2	-13.3	-13.2	-13.3	-13.5	-13.2	-13.2	-13	-14.1	-13.7	-14.5	-15	-13.0	-17.0	24
22	22	-16.3	-17.3	-17.6	-18.8	-19.4	-19.8	-20.5	-22.2	-23.6	-23	-22.3	-22	-21.4	-21.7	-22.8	-24	-24.7	-25.3	-25.7	-25.9	-26.1	-25.9	-25.4	-16.3	-22.3	24	
23	23	-25.1	-25.4	-25.9	-26.2	-26.3	-26.7	-26.9	-27	-27	-25.7	-24.4	-22.7	-21.1	-19.9	-19.2	-19.4	-20.9	-21.9	-23.5	-24.8	-26	-27	-27.4	-27	-19.2	-24.5	24
24	24	-28.3	-28.8	-27.5	-28.7	-29.3	-30	-30.6	-30.1	-29	-24.6	-23	-21.6	-19	-17.4	-15.8	-16	-19.5	-21.6	-22.2	-22.7	-24	-24.2	-24	-22.6	-15.8	-24.2	24
25	25	-22.5	-23.6	-23.3	-20.9	-19.5	-18.7	-17.9	-17.3	-16.5	-15.5	-13.9	-11.5	-9.9	-9.1	-7.8	-6	-6	-4.8	-4.3	-2.4	-2.2	-3.2	-4.6	-7.1	-2.2	-12.0	24
26	26	-6.3	-6.2	-8.8	-9.6	-9.8	-9	-8.4	-5.5	-4.3	-4	-3.7	-2.4	-0.6	0	-0.1	-1.2	-1.9	-2.4	-3.4	-4.4	-5.2	-4.8	-4.6	0.0	-4.6	24	
27	27	-4.9	-5.2	-5.6	-6.4	-7.4	-7.6	-7.2	-7	-7.2	-6.5	-5.1	-2.6	-1.3	-0.7	-0.8	-0.8	-2.8	-4.6	-5.3	-4.5	-4	-4.9	-7	-8.3	-0.7	-4.9	24
28	28	-7.1	-6.3	-5.9	-5.6	-5.6	-5.4	-5.2	-5.9	-6.4	-6.6	-6.5	-6.4	-6.4	-6.6	-6.8	-7.2	-7.5	-7.7	-7.6	-7.5	-7.2	-7	-6.7	-6.4	-5.2	-6.6	24
29	29	-6.4	-6.3	-6.1	-6.3	-6.7	-7	-7.4	-7.6	-7.9	-8	-7.9	-7.8	-7.6	-7.8	-8	-8.6	-9.9	-12.6	-11.5	-10.4	-10.5	-10.8	-11.1	-11.2	-6.1	-8.6	24
30	30	-11.5	-12	-12.6	-13.4	-13.5	-13.5	-13.7	-14.2	-14.4	-13.7	-13.3	-12.8	-12	-11.1	-11.1	-11	-10.8	-10.6	-10.5	-10.4	-10.1	-9.8	-9.7	-9.7	-9.7	-11.9	24
HOURLY MAX		3.5	3.6	4.2	4.1	3.7	3.3	2.5	2.0	3.8	6.7	8.7	10.1	10.9	12.3	12.8	11.7	10.1	8.6	6.7	6.1	5.8	6.6	5.8	4.1			
HOURLY AVG		-8.0	-8.4	-8.7	-8.9	-8.9	-8.9	-8.8	-8.7	-8.5	-7.2	-6.0	-4.9	-4.0	-3.2	-2.9	-3.2	-4.4	-5.4	-5.9	-6.4	-6.8	-7.2	-7.6	-7.9			

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

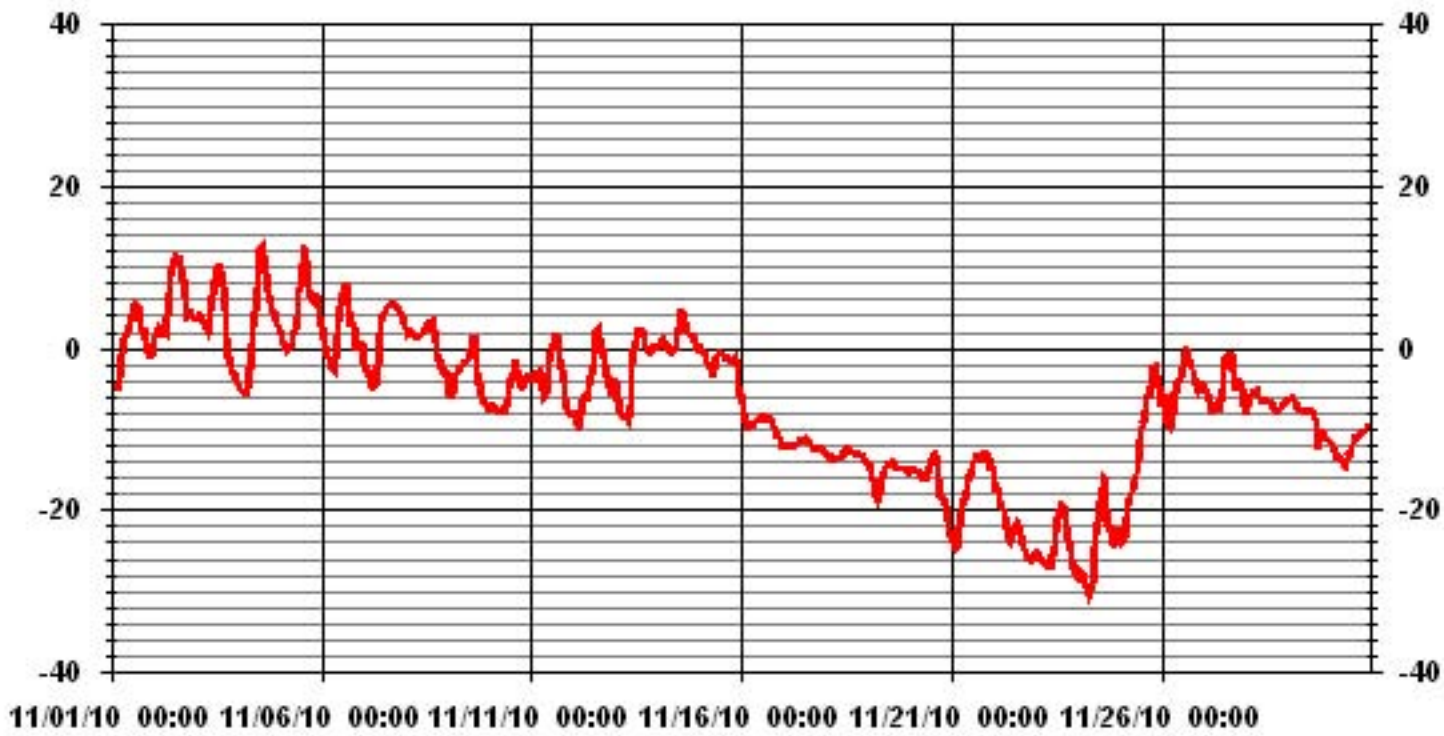
24 HOUR AVERAGES FOR NOVEMBER 2010



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-30.6 °C	@ HOUR(S)	6	ON DAY(S)	24
MAXIMUM 1-HR AVERAGE:	12.8 °C	@ HOUR(S)	14	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	5.6 °C			ON DAY(S)	2
				VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	718	HRS
STANDARD DEVIATION:	9.07		AMD OPERATION UPTIME:	99.7	%
			MONTHLY AVERAGE:	-6.69	°C

01 Hour Averages



— LICA TPX DGC

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2010

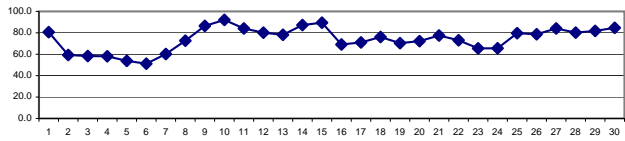
RELATIVE HUMIDITY hourly averages (%)

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	0:00	DAILY MAX.	24-HOUR AVG.	RDGS
DAY	1	91	90	90	89	90	90	88	80	75	74	73	72	70	66	62	64	72	78	82	81	85	90	92	91	92	92	80.6	24
	2	91	86	80	77	78	83	81	82	73	60	52	44	39	36	37	37	37	39	45	53	51	53	54	55	91	91	59.3	24
	3	55	56	55	57	60	62	66	70	67	60	53	45	39	38	36	37	41	50	62	72	77	79	81	82	82	58.3	24	
	4	84	85	86	86	88	86	85	76	64	57	50	43	32	26	25	28	35	42	43	46	51	55	59	62	88	58.1	24	
	5	65	67	73	74	78	78	76	78	73	73	66	56	54	44	31	33	38	35	29	32	35	31	33	39	78	53.8	24	
	6	45	50	54	59	60	60	64	65	63	52	44	39	33	30	28	32	39	49	49	52	64	66	66	65	66	51.2	24	
	7	74	75	78	81	81	84	85	83	75	60	46	48	48	48	47	47	45	44	42	40	45	51	56	61	85	60.2	24	
	8	67	73	71	72	73	74	71	70	M	M	66	63	61	61	61	61	68	75	80	83	86	87	87	88	88	72.6	22	
	9	91	89	89	90	93	93	91	90	89	87	86	84	79	74	68	68	78	86	90	92	94	92	91	91	94	86.5	24	
	10	92	92	91	92	91	91	91	90	91	91	91	92	93	93	93	93	94	94	92	92	92	93	93	93	94	92.1	24	
	11	93	93	93	93	93	93	91	92	91	90	89	83	76	68	60	63	71	76	80	84	86	87	86	87	93	84.1	24	
	12	87	87	87	86	87	88	88	89	88	88	86	81	75	61	50	56	66	72	77	82	85	86	87	84	89	80.1	24	
	13	79	85	87	87	87	87	86	87	83	69	67	62	65	56	53	54	58	82	90	92	93	90	89	88	93	78.2	24	
	14	89	90	89	88	89	91	91	94	97	98	96	85	80	71	71	76	80	83	85	86	88	90	92	95	98	87.3	24	
	15	95	94	94	92	93	91	91	92	92	90	90	88	88	89	90	90	91	91	92	92	85	85	78	74	95	89.5	24	
	16	73	75	73	72	71	71	70	69	67	68	74	69	69	67	63	64	65	67	65	69	68	69	69	71	75	69.1	24	
	17	73	75	76	75	76	78	79	81	69	69	67	67	65	66	67	65	67	68	69	72	70	69	71	71	81	71.0	24	
	18	77	80	79	79	78	76	77	77	78	74	73	75	68	71	69	76	72	73	74	76	79	82	82	81	82	76.1	24	
	19	80	80	80	79	79	78	77	76	74	71	64	63	62	62	63	64	65	65	68	67	66	65	65	65	80	70.4	24	
	20	67	68	70	70	71	74	77	77	76	74	70	67	65	64	63	67	75	77	78	78	78	76	76	76	78	72.3	24	
	21	75	74	74	75	77	76	77	78	78	79	79	78	77	76	78	81	82	82	80	75	79	78	77	75	82	77.5	24	
	22	77	77	76	77	77	77	77	76	75	75	75	72	69	64	63	67	71	72	73	73	73	72	72	72	77	73.0	24	
	23	71	70	70	69	69	69	70	70	69	66	63	59	55	51	49	51	58	61	69	72	72	73	72	73	72	65.5	24	
	24	72	71	72	71	71	70	71	69	62	58	53	47	46	44	49	69	72	72	72	74	74	72	72	74	74	65.5	24	
	25	71	73	73	72	71	71	72	73	78	80	80	77	78	84	84	85	87	88	89	85	82	84	86	88	89	79.6	24	
	26	88	86	87	86	86	86	87	86	83	81	78	72	66	64	68	73	75	75	75	77	78	77	77	77	88	78.7	24	
	27	77	79	80	84	86	85	83	84	87	85	84	83	82	80	82	81	84	84	87	87	86	88	90	90	90	84.1	24	
	28	89	89	88	88	89	89	88	83	77	78	77	76	75	72	71	71	74	76	78	79	80	79	79	89	89	80.2	24	
	29	80	79	76	77	76	76	77	78	80	79	79	78	77	79	80	83	86	85	90	91	90	90	89	88	91	81.8	24	
	30	87	87	86	85	85	85	85	84	84	84	85	85	86	86	86	86	87	86	86	84	82	81	80	80	87	84.7	24	
HOURLY MAX		95	94	94	93	93	93	91	94	97	98	96	92	93	93	93	93	94	94	92	92	94	93	95					
HOURLY AVG		78.5	79.2	79.2	79.4	80.1	80.4	80.4	80.0	78.2	75.1	72.3	68.7	65.8	63.1	61.4	63.4	67.6	70.9	72.9	74.6	75.8	76.5	76.7	77.1				

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

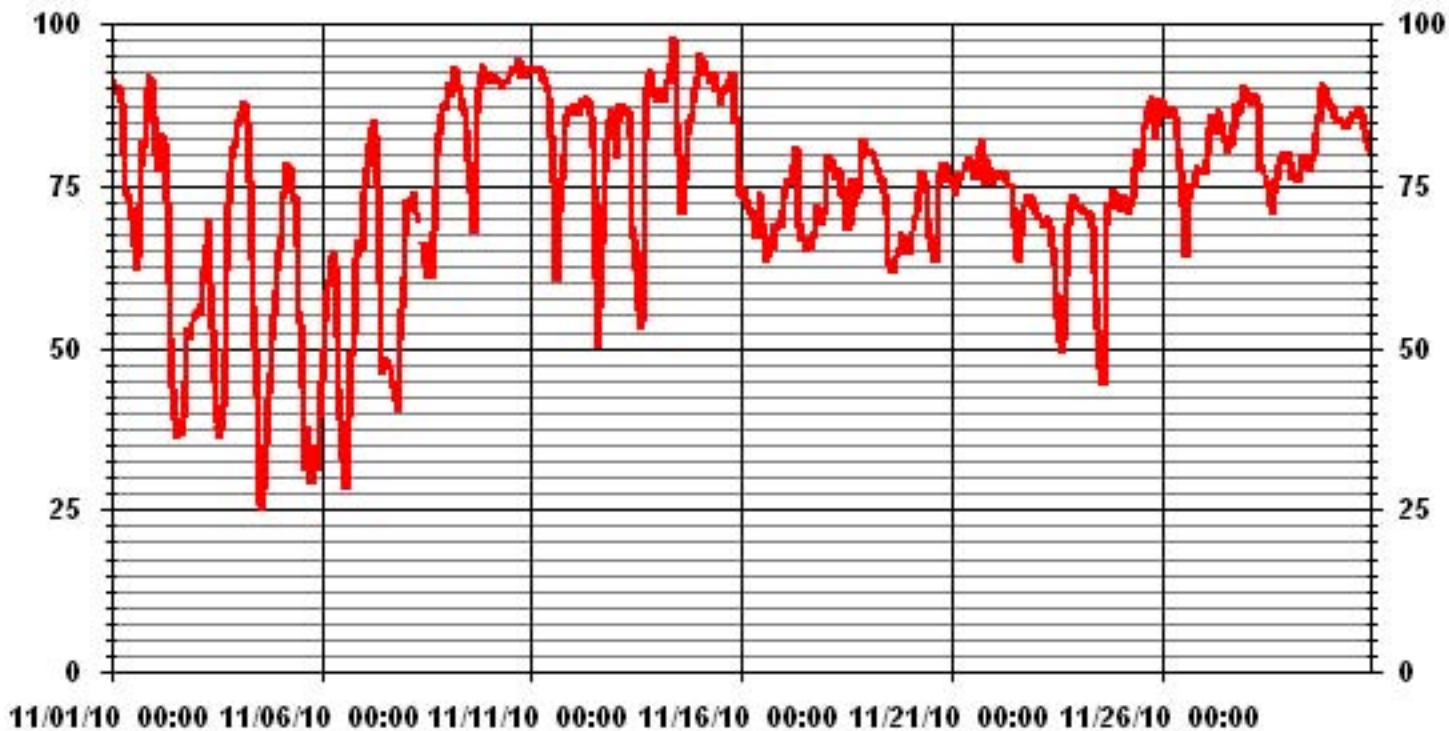
24 HOUR AVERAGES FOR NOVEMBER 2010



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	98 %	@ HOUR(S)	9	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	92.1 %			ON DAY(S)	10
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	718 HRS		
		AMD OPERATION UPTIME:	99.7 %		
STANDARD DEVIATION:	14.62	MONTHLY AVERAGE:	74.04 %		

01 Hour Averages



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2010

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

MST																									DAILY	24-HOUR	
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	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	0.2	0.6	0.4	1.1	1.2	2.3	5.8	7.6	8.4	9.5	7.7	6.7	5.4	3.2	2.9	3.1	1.9	2.3	0.8	1	0.2	0.4	2	0.2	9.5	2.6	24
2	1.6	5.7	6	7.2	5.7	5.3	7.2	5.5	8.3	11.9	14.3	15.8	18.1	17.3	17.2	14.1	10	8.3	5.7	5	7.3	7.8	8.4	8.5	18.1	9	24
3	10.6	10.3	10.6	11.5	10.8	11.9	8.6	5.5	5.8	8.1	9.1	8.6	9.5	11.1	9.8	9.3	5.7	3.3	2.3	1.2	0.9	1.3	0.6	0.5	11.9	6.5	24
4	0.7	2.1	0.3	0.8	0.9	1.6	1.8	5.2	6.4	6.3	9.5	9	11.6	12.5	11.3	9.9	6.8	6	8.2	6	4.7	4.5	3.4	3.5	12.5	5.3	24
5	3.3	3.1	2.3	1	0.4	1.3	0.8	0.7	1	2.7	4.8	5.7	6.4	7.4	9.8	7.4	5.9	7.6	5.7	6.1	4	6.5	10.5	6.8	10.5	4.6	24
6	4.3	4.4	4.2	4.5	4.3	5.1	4.3	3.5	3.6	4.3	4.7	3	5.7	5.7	4	1.4	0.4	1.1	2.3	1.2	1.2	0.7	2.1	2.1	5.7	3.3	24
7	0.5	0.8	1.2	0.2	0.6	0.4	0.3	1.4	0.8	2.4	5	8.1	8.5	8.1	9.8	7.9	9.7	8.6	7.3	8.1	6.2	5.6	3.8	1.4	9.8	4.4	24
8	1.1	3.6	4.2	4.7	2.8	5	3.9	4.7	M	M	C	9.7	10.1	8.7	7.9	3.4	4.6	3.8	2.7	2.1	0.7	2.6	2.8	3.1	10.1	4.4	22
9	1.1	0.4	0.9	1.4	6.9	4.7	5	5.4	5	6	6.8	6.2	2	2.1	0.2	0.6	1.3	3.2	0.2	3.3	2.7	0.8	0.7	2.8	6.9	2.9	24
10	3.4	2.8	1.6	3.5	1.2	1.8	2	2.3	3	3	3.1	2.2	3.3	3.4	4.8	3.8	3.9	4.9	2.5	1.2	0.9	0.5	0.5	0.7	4.9	2.5	24
11	0.2	0.4	0.9	3.8	3.4	2.3	2.6	4.5	4.6	2.7	3.3	3.9	5.9	5.8	8.3	6.9	5.3	4.7	1.4	1.2	0.2	1	0.2	0.5	8.3	3.1	24
12	0.2	1.3	0.7	0.4	0.4	0.9	1.1	1.3	0.7	3.7	4.7	2.2	2.3	3.3	5.8	3.8	1.7	1	0.4	0.2	0.1	0.3	3.7	4.2	5.8	1.9	24
13	3.1	0.9	0.5	0.5	0.3	0.3	0.3	0.2	1.2	2.9	1.9	1.8	1.8	1.6	1.7	0.8	4.9	5.7	2.7	0.6	1.4	2.3	3	3	5.7	1.8	24
14	4	5.6	3.9	5.6	3.9	4.8	3.8	4.6	6.8	4	4.5	4.8	6.1	4.3	1.7	4.1	3.3	4.9	5.1	4.5	3.9	3.2	4.1	4.9	6.8	4.4	24
15	4.3	5	5	4.9	3.9	2.9	2	3.4	3.3	7.8	6	2.1	3.6	6.3	3.3	2.8	1.4	2.9	2.3	5.5	12.6	14.8	17.3	19	19.0	5.9	24
16	15.2	15.5	16.8	16	17.2	15	14.8	15.2	15.5	10.6	10.1	11	9	13.4	13.6	13.1	11.8	11	13.4	12.5	10.7	10.3	11	10.2	17.2	13.0	24
17	8.2	7.5	7	4.9	3.2	5.6	3.5	1	6.4	8.8	7.3	7.2	6	8	8.7	8.7	8	7.8	6.5	5.2	8.3	9.4	9.1	11.3	11.3	7.0	24
18	9.9	8.2	9.4	8.5	9.6	9.7	8	8.5	9	9.6	9.9	8.5	8.7	8.4	9.9	7.5	7.2	8.1	7.1	5	1.3	0.4	1.7	2.7	9.9	7.4	24
19	1.8	2.5	2.5	3.3	5.1	5.7	5.9	3.4	2	2.3	3	3.6	5.1	4.4	3.4	5	3	3.7	2.8	2.5	4.2	3.9	4.5	4.8	5.9	3.7	24
20	3.3	3.1	2.3	2.1	3.1	6.3	6.2	5.3	4.9	5.2	6	5.7	6.3	7.1	6	4.7	3	3.8	3.8	3.4	1	0.4	1.6	0.8	7.1	4.0	24
21	0.7	1.4	0.8	3.1	0.9	1	2.1	2.5	3	3.6	4.5	3	2.1	1.9	1.8	2.4	4.5	1	3	6.4	6.6	9.6	12	10.6	12.0	3.7	24
22	10.9	10.3	11	11.5	10.1	9.8	9.6	9.3	8.2	8.9	6.6	7.6	8.6	7.5	6.8	6.8	5.1	5.2	6.2	6	5.2	6.2	5.8	5.9	11.5	7.9	24
23	6.2	7.1	6.5	7.4	6.4	6.2	7.4	7	6.8	7.7	8.8	8.8	9	8.2	7.6	5.2	4.4	4.7	1.7	1.7	1.1	0.4	1.2	1.3	9.0	5.5	24
24	0	1.4	1.3	0.2	0.6	0.7	0.4	1.1	0.7	1	3.8	4.3	5.4	5.1	3.5	2.5	0.6	2.1	1.8	0.5	0.9	0.6	0.8	2	5.4	1.7	24
25	0.9	0.2	0.5	2.3	2.7	3.7	4.1	4.3	4	5.2	4.3	3.6	3.4	1.9	2.7	4.1	3.7	3.6	6.1	8.5	8.3	8.3	6.6	3.8	8.5	4.0	24
26	6.8	5.8	1.5	0.6	0.9	0.5	2	3.9	3.5	2.8	2.9	1.4	2.7	3.1	1.7	3.5	3.8	3.1	3	4.6	3.7	1.9	3.4	3.7	6.8	3.0	24
27	4.8	2.8	1.2	0.9	0.7	3.2	1.6	1.2	1.4	4.2	4.6	5.6	8.3	8.5	7	3.3	4.4	5.4	5.2	4.4	2.3	3.5	4	2.6	8.5	3.8	24
28	4.7	4.6	3.7	2	4	3	3.5	9.7	7.3	7	8.1	8.2	8.4	8.6	7.9	7.8	7	4.9	3.7	3.9	3.4	4.7	5.5	4.6	9.7	5.7	24
29	5.4	5.1	6.6	5.2	6.1	7.2	5.6	4.4	4.7	4.2	4.9	4.7	6.2	5.4	6.4	5.1	2.1	1.1	4.4	3	2.5	3.9	4	3.7	7.2	4.7	24
30	2.6	5.1	6.1	5.9	6.3	5.8	6.1	9.3	9.2	6.7	8.5	8.9	8.3	9.5	6.7	6.2	6.7	8.1	11.3	12.7	8.7	7.9	6.7	5.4	12.7	7.4	24
HOURLY MAX	15.2	15.5	16.8	16.0	17.2	15.0	14.8	15.2	15.5	11.9	14.3	15.8	18.1	17.3	17.2	14.1	11.8	11.0	13.4	12.7	12.6	14.8	17.3	19.0			
HOURLY AVG	4.0	4.3	4.0	4.2	4.1	4.5	4.3	4.7	5.0	5.6	6.2	6.1	6.6	6.7	6.4	5.5	4.7	4.7	4.3	4.3	3.8	4.1	4.7	4.5			

STATUS FLAG CODES

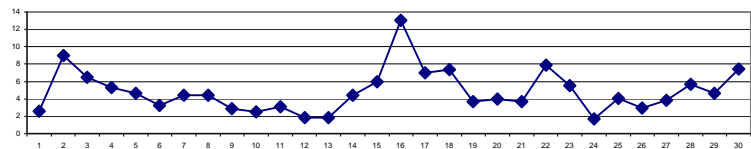
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION: November 8, 2010

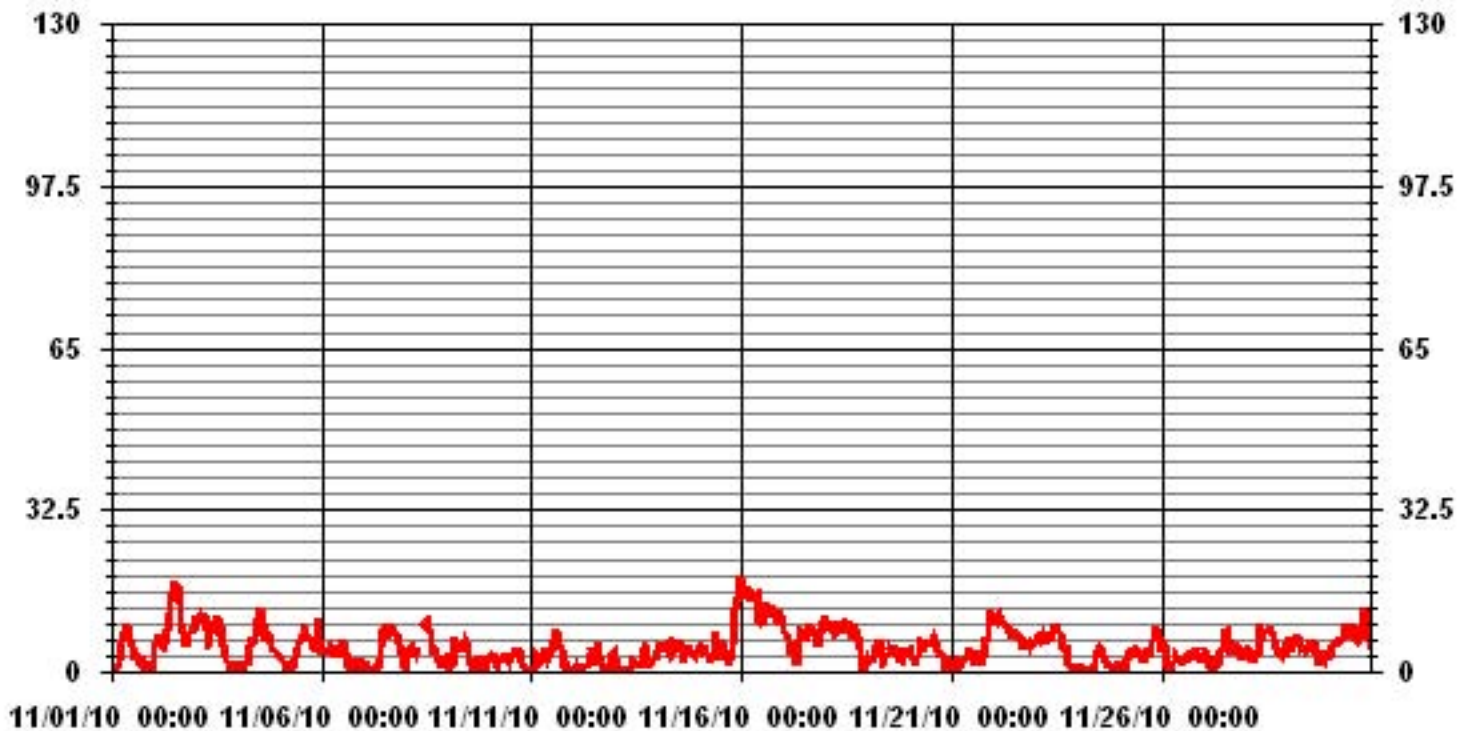
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	19.0	KPH	@ HOUR(S)	23	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	13.0	KPH			ON DAY(S)	16
CALMS (≤ 0 KPH)	2.96	%	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	1	HRS	AMD OPERATION UPTIME:	99.7	%	
STANDARD DEVIATION:	3.53		MONTHLY AVERAGE:	4.89	KPH	

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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	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.
1		6.4	2	1.5	3.2	3.3	4.6	10	12.6	13.3	16.3	12.9	10.6	9.1	7.8	6.6	5.9	8.1	5.5	10.8	4.3	3.5	5.8	4	2.3	16.3
2		5	8.9	11.5	10.2	10.4	9.3	10.4	8.8	13.3	18	18.7	24.5	28.6	27.7	27.9	21.1	14.2	12.3	9.4	8.3	10.5	11.2	11.5	11.9	28.6
3		14.8	12.5	15.1	16.7	15.3	17.2	13.9	8.4	10.1	12.5	13.8	14.5	15.2	17.6	15.9	14.6	9.7	7.3	6.4	4	3.6	4.9	4	2.9	17.6
4		2.5	4	2.3	3.4	2.3	3.3	4.7	7.7	11	10.5	14.7	13.2	18.7	17.6	15.9	13	10.1	8.4	11.2	10.2	6.9	8	6.5	6.8	18.7
5		5.9	6.4	4.1	2.8	3	4.5	3.7	13	8.4	4.6	7.2	9.2	11.2	12.2	16.8	18.7	8.6	13.5	8.7	8.6	6.5	18.5	23.7	11.4	23.7
6		9.3	6.9	5.9	6.2	6	6.8	6.2	6.3	5.4	7.6	7.9	7.1	11.3	10.9	7.1	3.9	3.3	3.5	6.1	5.5	3.1	3.6	4.3	4.8	11.3
7		3.9	3.1	3.2	3	3.2	2.2	2.2	3.2	2.4	5.9	8.9	13.1	13.4	12.5	14.5	11.4	15.2	14.1	13	13.8	10.2	8.2	6.1	3.1	15.2
8		3.3	8.1	7.3	6.4	6.2	8.1	6.6	9.5	M	M	C	C	15.3	14.9	12.3	10.3	7	6	4.5	4.4	2.9	3.7	4.5	4.9	15.3
9		3.7	2.3	3.8	7.1	9.8	8.2	8.8	8	7.4	10	11	9.6	7.1	6.7	5.8	3.3	4.1	5.5	2.1	7.3	6.2	2.7	2.5	5.5	11
10		6.9	5.3	3.6	6.1	5.3	4.6	4.9	4.7	5.6	5.5	7	5.4	5.9	6.2	8.5	5.9	5.2	7.4	6.2	3.6	3.5	3	3	3.9	8.5
11		2.6	2.8	3.7	6.3	5.3	4.8	4.9	7.6	5.8	5.4	6	6.7	9.1	10.2	13.7	12.3	7	7.3	3.5	3.9	1.1	3.2	1.9	3.6	13.7
12		1.2	3.6	4.5	2.7	2.3	3.7	4.3	3.9	2.7	6.6	8.2	5	4.6	8.3	11.8	6.3	3.3	3.5	1.9	1.5	0.7	3.1	5.1	6.7	11.8
13		7.4	4.6	2.8	2.8	1.9	3.8	2.4	2	3.1	6.1	5.3	4.9	5.5	9.5	6.6	2.6	11.2	12.1	5.6	3.5	3.8	4.3	5.5	5.5	12.1
14		5.6	11.1	8.8	9.5	8.1	7.3	7.7	10.1	11.3	7.2	9.9	9.3	10.7	8.8	4.1	7.7	5	7.9	7.4	7.5	5.7	4.4	6.9	6.1	11.3
15		5.8	7.7	7.8	7.6	5.9	4.7	4.6	4.8	13.9	13.1	10.7	7.3	8.1	12.1	7.5	6.8	3.2	6.6	5	15.6	18.7	21.6	24.9	29	29
16		23.6	26.4	22.2	23.4	22.7	20.8	22.1	22.3	23.6	19.1	14.3	17.3	14.5	20.9	20.7	19	18.1	18.3	21.2	20	14.5	15.1	15.5	15	26.4
17		12.8	12.1	10.7	9.7	6.1	8.4	7.5	4.3	14.1	15.1	11.6	13.5	11.1	14.5	13.7	14.4	14.9	12.9	10.9	9.7	14	15.6	15.6	18.2	18.2
18		16.6	14.1	14.1	16.5	16	20.3	13.2	12.2	14	17.4	17.9	15.8	13.1	12.5	16	14.4	13.9	13.9	13	9.1	5.9	4.8	4.4	4.3	20.3
19		3.2	4.3	4.4	5	7.8	7.8	10.8	8	5.4	6.7	6.3	7.4	9.2	8.3	9.1	10.9	8.2	9	6.3	5.8	7.3	6.8	9	8.6	10.9
20		7.4	6.3	5.9	4.4	7.2	10.7	12.3	9.6	7.9	8.9	10.8	11.6	9.2	11.5	11	8.6	5.1	5.5	6.1	5.8	3	2.2	4.2	5.1	12.3
21		4.3	4.4	3.1	6.6	5.6	2.9	4.9	5.5	5.6	6.5	7.3	5.3	4.5	3.3	4.5	5.9	8.7	4.2	9.1	13.6	13.5	15.3	19.6	17.4	19.6
22		15.5	16.7	16	15.9	16.2	15	14.3	12.5	12.8	13.9	11.1	12.4	14.4	12.3	10.9	10.2	7.7	9.1	7.8	9	7.3	12	9.1	9.2	16.7
23		10	10.2	12.1	10.6	9.4	9.2	10.9	11.5	10.7	14.5	13.3	14.8	14.9	12.9	11.5	10.2	6.5	7.3	3.2	3.8	3.8	3.1	3	3.9	14.9
24		4.1	4.8	3.7	3.6	2.8	4.2	8.1	4.8	3.6	5.4	7.9	7	10.6	10.8	8.1	5.5	2.1	5.1	5.1	2.8	3.7	2.3	3.6	4.3	10.8
25		3.5	0.9	3.5	4.6	6.6	6.6	9.7	7.9	8.1	11.2	7.6	7.1	7.9	4.7	6.1	6.2	6.1	5.7	8.6	11.4	11.6	11	9.5	7.3	11.6
26		9.7	9.7	4.2	2.7	3.7	2	3.7	6.2	7	5.1	5.6	4.9	6.1	6.6	6.3	7.6	7.4	4.8	5.3	9.9	7.5	5.2	9.2	7.7	9.9
27		8.9	5.9	5.5	4.1	2.3	5.5	3.5	4.2	3.5	7	9.1	10.4	12.5	14.2	12	6.9	7.3	7.3	7	8.1	5.1	7	6.6	5.3	14.2
28		7.5	6.7	5.8	3.7	6.3	6	8.1	17.8	13.4	11.2	11.5	13.9	12.7	13.6	12.5	11.7	11.5	11.2	7.1	7.4	6.5	8.3	7.8	7.9	17.8
29		8.9	8.4	16.3	11.1	9.7	12.3	8.6	7.3	9.2	10.3	9.4	9.4	12.5	9.3	9.3	8.9	6.6	3.4	7.5	5.9	7.4	9	8.1	6.1	16.3
30		6.9	10.1	9.5	10.3	10	9.9	10.8	15.2	14.3	12.7	13	17.2	13	14	10.5	11.8	11.5	14.1	19.3	21.6	16.3	15.3	10.7	10.3	21.6
PEAK		23.6	26.4	22.2	23.4	22.7	20.8	22.1	22.3	23.6	19.1	18.7	24.5	28.6	27.7	27.9	21.1	18.1	18.3	21.2	21.6	18.7	21.6	24.9	29.0	

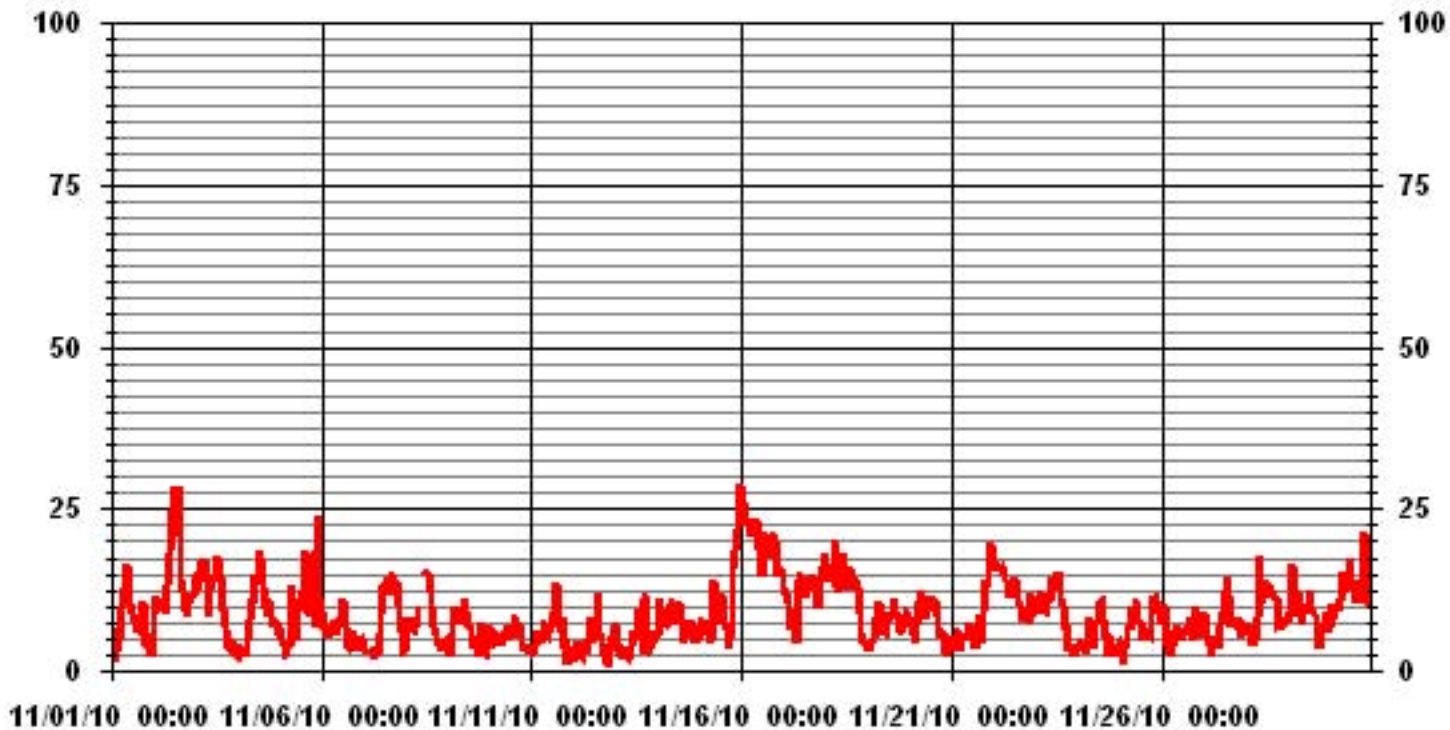
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	29	KPH	@ HOUR(S)	23
			ON DAY(S)	15

01 Hour Averages



— LICA WSMAX KPH

LICA
WSP / WD Joint Frequency Distribution (Percent)

November 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	.27	.55	.55	1.39	2.64	2.51	6.69	2.37	1.95	3.90	11.85	17.99	5.85	3.20	1.81	.55	64.15	
< 12.0	.55	.97	.27	2.09	3.34	2.37	2.92	.00	.00	.00	1.25	7.11	1.39	2.92	1.81	1.95	29.00	
< 20.0	1.67	.13	.00	.00	.00	.00	.27	.00	.00	.00	.00	.13	.69	.00	.13	.69	3.76	
< 29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	2.51	1.67	.83	3.48	5.99	4.88	9.90	2.37	1.95	3.90	13.11	25.24	7.94	6.13	3.76	3.20		

Calm : 3.06 %

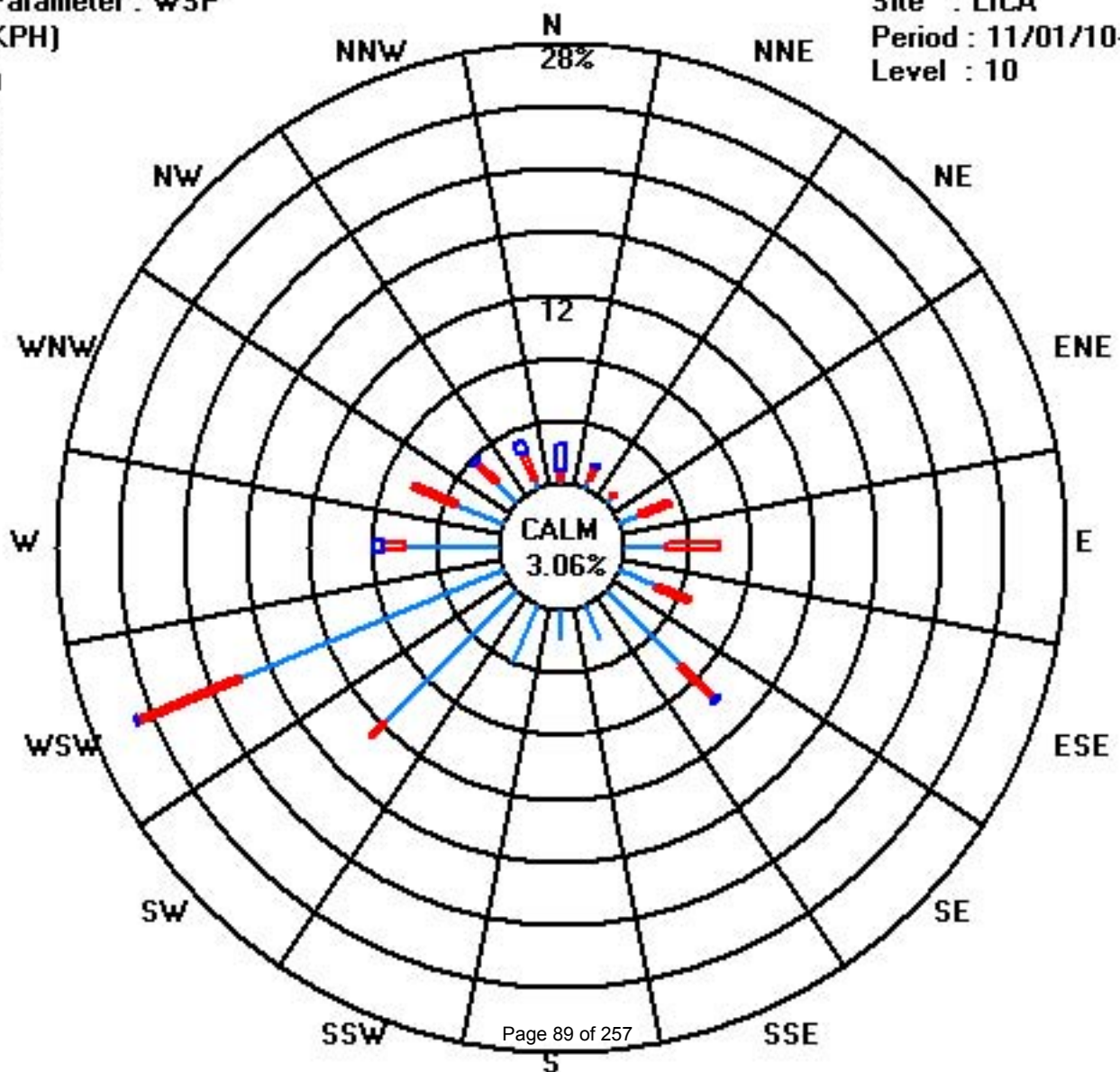
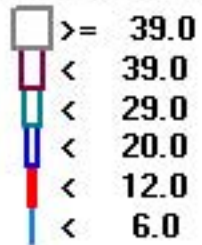
Total # Operational Hours : 717

Distribution By Samples

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 6.0	2	4	4	10	19	18	48	17	14	28	85	129	42	23	13	4	460	
< 12.0	4	7	2	15	24	17	21				9	51	10	21	13	14	208	
< 20.0	12	1					2					1	5		1	5	27	
< 29.0																		
< 39.0																		
>= 39.0																		
Totals	18	12	6	25	43	35	71	17	14	28	94	181	57	44	27	23		

Calm : 3.06 %

Total # Operational Hours : 717



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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	24-HOUR QUADRANT	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	RDGS		
DAY																													
1	10	142	80	61	125	91	116	121	124	125	127	131	127	141	185	167	179	109	222	245	133	266	246	189	132		SE	24	
2	223	232	233	235	235	222	232	233	235	249	254	262	265	267	264	260	256	252	238	228	240	243	243	243	249		WSW	24	
3	249	253	259	267	265	266	258	244	221	253	257	268	257	252	262	253	252	221	201	131	222	183	125	107	254		WSW	24	
4	125	58	352	69	252	43	124	121	124	125	124	127	132	133	131	130	128	123	127	127	125	124	122	121	125		SE	24	
5	126	124	130	90	90	137	80	298	299	240	238	246	226	252	291	287	236	243	242	233	237	282	290	289	256		WSW	24	
6	265	233	233	230	224	227	223	225	242	232	239	219	230	235	248	262	78	30	103	30	47	91	74	84	231		SW	24	
7	31	95	221	51	89	228	174	79	79	74	77	86	64	58	56	63	80	75	74	76	70	61	63	33	69		ENE	24	
8	8	309	338	328	290	291	290	281	M	M	C	303	304	298	305	289	255	268	278	255	235	257	251	252	292		WNW	22	
9	272	258	269	341	334	316	325	321	322	319	326	329	350	295	45	47	211	250	280	257	259	233	191	253	309		NW	24	
10	253	244	227	269	236	200	211	244	229	237	258	262	238	232	240	237	235	249	245	244	252	195	126	83	239		WSW	24	
11	150	239	241	244	238	252	250	257	259	252	258	278	271	262	269	273	251	253	235	226	284	263	136	147	258		WSW	24	
12	112	244	99	257	110	249	223	122	239	129	132	168	200	212	217	219	194	171	139	105	24	191	221	225	194		SSW	24	
13	214	148	148	140	173	297	136	260	160	226	240	256	270	197	205	168	229	232	224	204	190	235	246	253	223		SW	24	
14	253	285	279	309	288	257	256	252	243	231	232	233	245	240	218	238	229	249	249	245	242	255	253	251	252		WSW	24	
15	263	258	265	287	279	296	274	269	302	324	305	288	257	249	212	259	251	256	302	308	10	4	6	8	320		NW	24	
16	11	355	359	352	346	346	356	359	4	350	334	338	333	333	327	325	324	331	342	352	329	339	336	334	344		NNW	24	
17	323	320	314	295	277	305	305	290	93	99	110	96	91	93	91	101	104	114	102	104	93	93	92	96	84		E	24	
18	93	93	87	89	85	87	75	81	81	86	78	73	72	67	64	67	75	84	85	79	51	249	213	282	80		E	24	
19	266	246	243	250	256	262	292	311	259	297	265	259	242	251	262	256	257	208	204	229	249	249	255	241	254		WSW	24	
20	241	242	209	208	229	225	248	252	230	236	243	249	242	246	239	235	232	232	248	244	222	253	279	212	239		WSW	24	
21	161	250	208	235	307	220	200	220	235	242	249	240	238	243	214	198	132	234	341	36	359	16	15	23	333		NNW	24	
22	358	0	24	19	18	19	19	343	336	331	330	319	299	292	272	254	247	246	251	249	234	225	240	243	322		NW	24	
23	244	242	239	240	241	241	245	248	243	242	244	242	237	240	243	236	231	227	185	203	230	142	152	156	238		SW	24	
24	50	156	156	261	167	253	184	133	176	216	253	252	230	227	243	228	186	200	196	193	130	145	196	141	215		SSW	24	
25	148	176	176	132	132	134	131	131	141	140	145	202	258	290	261	264	250	235	249	258	254	251	248	242	220		SW	24	
26	236	246	223	91	116	108	133	135	136	137	127	105	127	121	96	66	94	111	98	128	113	88	103	143	130		SE	24	
27	126	155	174	225	186	211	217	221	167	241	243	255	255	255	260	264	225	249	253	247	237	248	236	230	238		SW	24	
28	237	243	264	263	257	289	299	297	287	301	303	301	292	294	296	297	296	277	240	241	234	241	251	239	279		W	24	
29	247	260	284	300	306	308	280	278	310	319	269	250	289	256	244	247	225	224	229	214	174	143	140	131	264		W	24	
30	150	139	137	131	130	130	124	128	127	123	130	125	121	123	110	108	109	108	121	127	123	119	119	116	123		ESE	24	
HOURLY AVG	358	355	359	352	346	346	356	359	336	350	334	338	350	333	327	325	324	331	342	352	359	339	336	334					

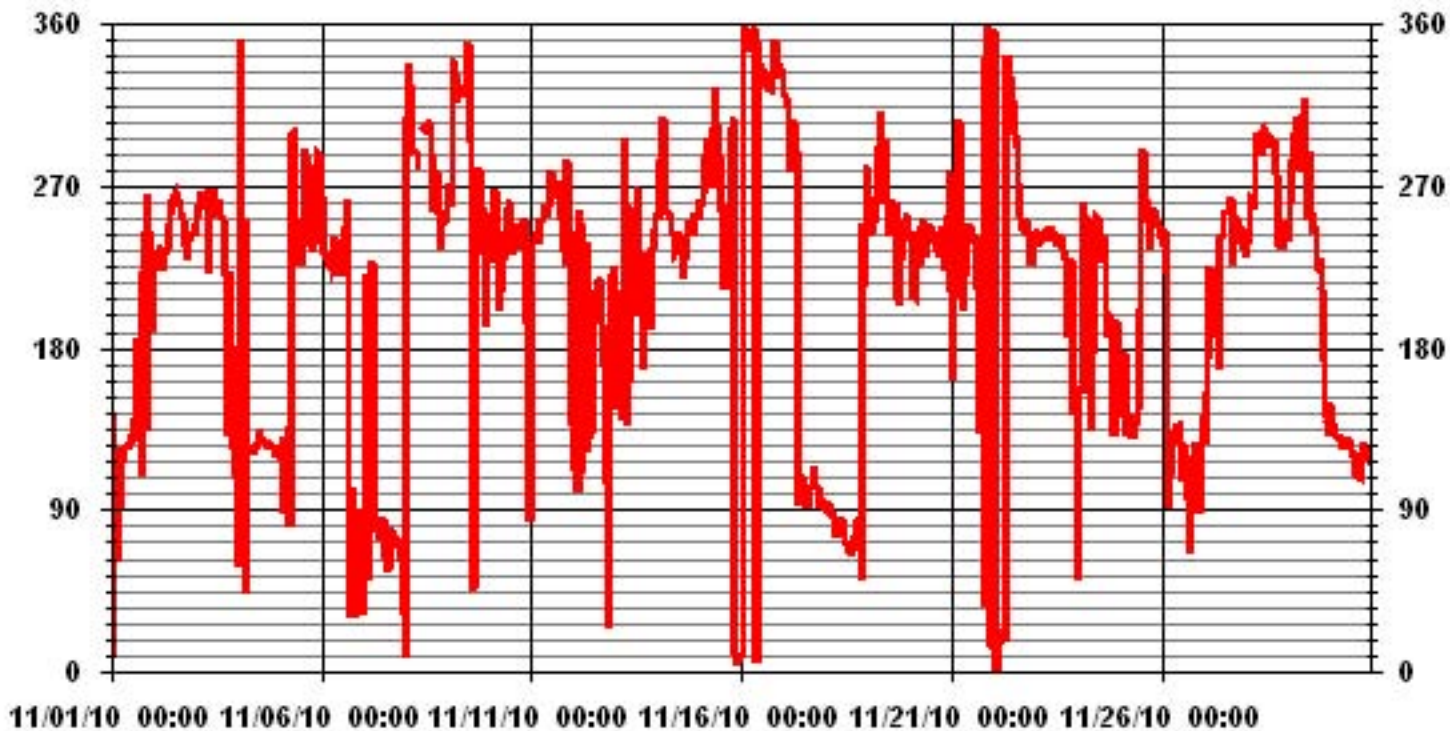
STATUS FLAG CODES

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 8, 2010
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	1 HRS	OPERATIONAL TIME:	718 HRS
STANDARD DEVIATION	81.49	AMD OPERATION UPTIME	99.7 %
		MONTHLY AVERAGE	260 DEG

01 Hour Averages



— LICA WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 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	33	57	58	40	23	24	16	17	15	14	24	16	16	35	40	38	43	24	44	42	62	44	28	53
2	33	16	17	14	17	16	15	17	16	17	17	19	19	19	19	18	17	16	14	14	12	13	15	14
3	14	15	16	18	18	16	17	18	16	18	19	20	21	19	19	17	16	21	27	35	59	41	76	49
4	44	16	59	54	47	30	24	14	11	17	16	17	13	14	14	12	13	12	12	15	13	15	16	19
5	19	17	26	41	77	45	49	55	74	24	19	21	18	18	18	20	14	16	15	18	18	16	15	15
6	17	14	13	11	14	11	11	14	14	18	25	37	26	26	25	38	50	46	17	24	40	44	23	24
7	59	47	34	53	55	66	41	39	40	28	19	20	18	17	15	17	18	20	18	18	18	16	15	33
8	34	15	17	14	15	13	15	17	57	44	32	17	16	19	16	16	12	10	12	7	8	5	5	8
9	10	44	35	31	14	13	13	13	12	14	18	17	61	40	67	49	24	11	10	13	21	34	24	17
10	19	23	29	18	39	39	34	27	28	26	29	44	29	24	22	18	15	11	11	40	60	63	64	41
11	39	42	21	15	13	15	14	9	8	23	23	22	19	24	20	19	14	9	23	17	2	17	21	41
12	28	13	17	29	22	15	38	22	25	12	16	32	34	35	26	21	27	32	37	40	17	45	14	12
13	21	15	23	47	47	47	40	29	17	25	27	33	33	50	47	35	18	20	20	20	15	17	14	11
14	13	14	20	14	19	16	21	22	18	25	22	22	20	28	29	17	14	15	13	12	14	10	7	9
15	14	11	16	14	15	13	15	11	22	14	15	47	22	23	34	27	19	17	33	21	19	17	19	18
16	20	18	19	19	17	19	20	20	19	20	16	19	18	15	16	15	15	15	17	17	14	16	15	13
17	15	16	16	19	27	16	16	58	23	21	22	22	24	23	20	21	22	22	21	20	19	19	21	21
18	19	20	17	18	18	19	19	19	18	19	21	21	21	20	18	19	20	18	18	21	30	44	27	13
19	13	14	13	9	14	11	14	22	22	36	25	35	23	27	32	22	29	27	28	24	20	20	19	22
20	21	18	24	20	20	18	19	18	20	18	20	24	22	20	22	17	15	13	19	17	22	19	22	35
21	54	36	37	34	55	27	22	23	16	20	20	25	27	24	34	37	22	38	44	24	23	19	18	19
22	17	18	20	18	18	19	19	16	15	14	15	17	14	20	18	13	11	15	12	12	15	18	18	16
23	16	17	17	17	19	17	16	18	18	19	18	21	21	22	20	17	13	13	23	20	44	48	21	27
24	56	17	25	44	41	60	64	28	35	30	27	22	27	27	23	26	22	24	24	31	7	25	33	19
25	32	3	34	17	21	18	18	23	19	19	27	30	29	20	19	16	12	13	11	14	13	11	10	18
26	14	11	15	11	15	12	20	15	36	19	13	33	16	17	34	16	23	17	21	19	17	34	25	23
27	21	24	18	25	30	19	27	22	24	22	18	19	17	18	16	20	15	9	9	12	20	29	11	20
28	16	15	15	24	14	22	15	17	19	17	15	15	18	21	18	17	17	20	17	20	17	20	17	20
29	20	17	19	16	14	14	19	18	21	24	24	25	24	19	20	19	13	20	18	27	41	30	25	18
30	36	17	15	17	16	18	21	16	15	19	17	20	20	20	23	23	24	22	22	19	21	22	21	21

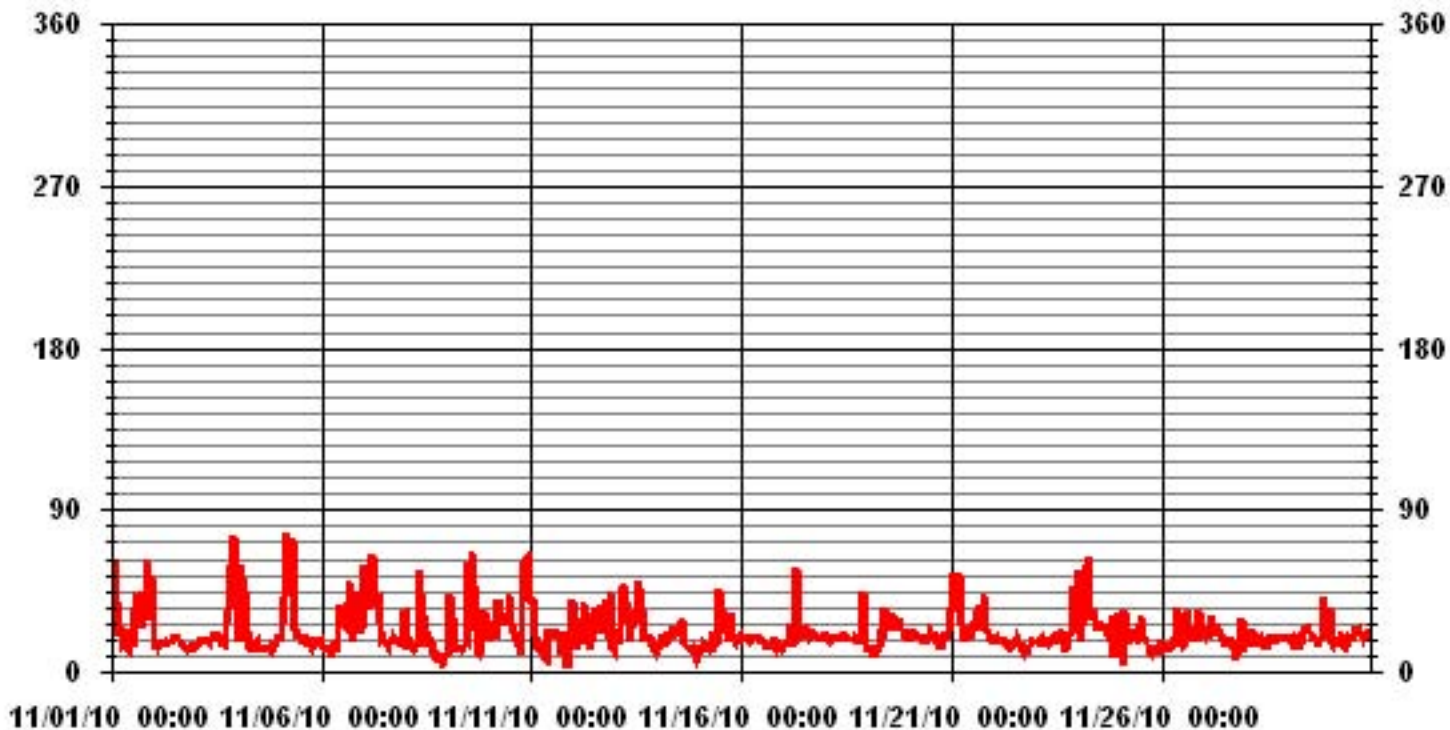
STATUS FLAG CODES

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 8, 2010

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS

01 Hour Averages



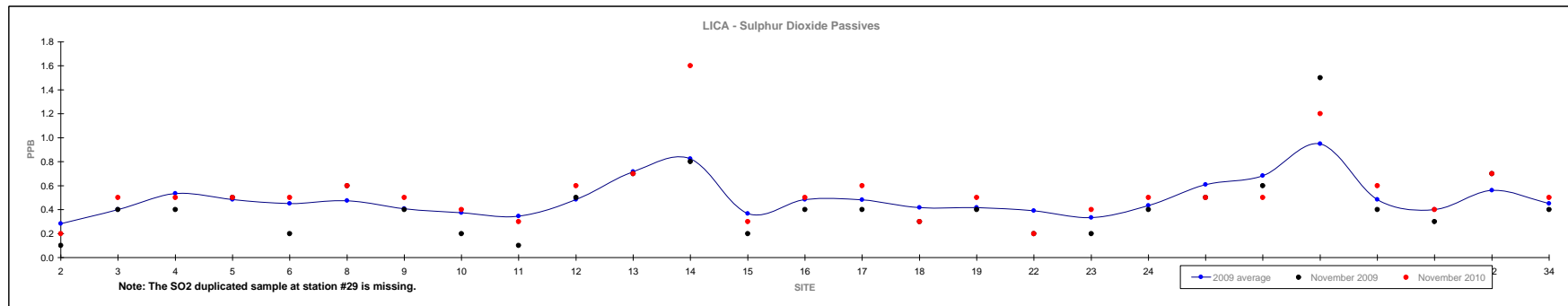
— LICA STDWDIR DEG

Non-Continuous Monitoring

Passive Summary Results for November 2010

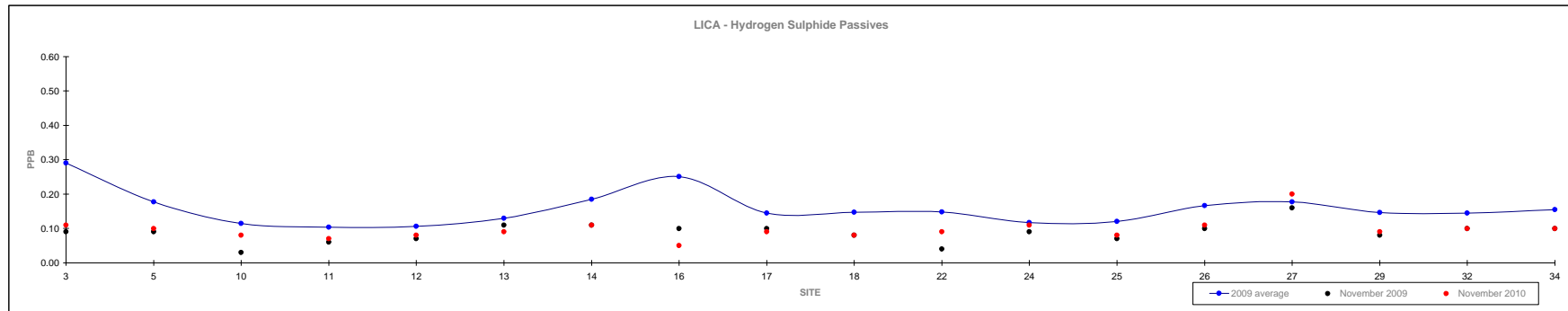
Lakeland Industry & Community Association

	Sulphur Dioxide ppb																												Reading	Site		
	2009														November 2010																	
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	0.5	0.5	0.5	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	0.2	0.4	0.2	0.2	0.2	-
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	1.6	1.6	1.6	1.6	#2 #14



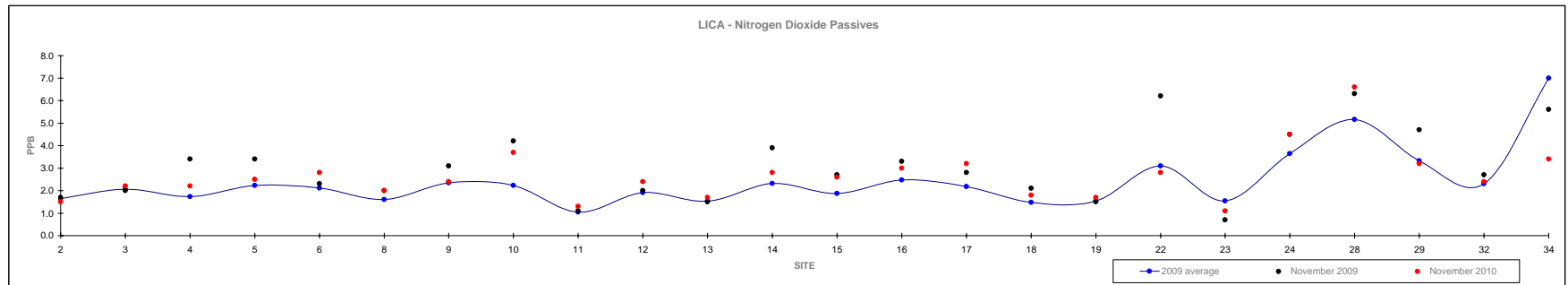
Passive Summary Results for November 2010 Lakeland Industry & Community Association

	Hydrogen Sulphide ppb																November 2010			
	3	5	10	11	12	13	14	16	17	18	22	24	25	26	27	29	32	34	Reading	Site
Mean	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	0.10	-
Minimum	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	0.05	#16
Maximum	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	0.20	#27



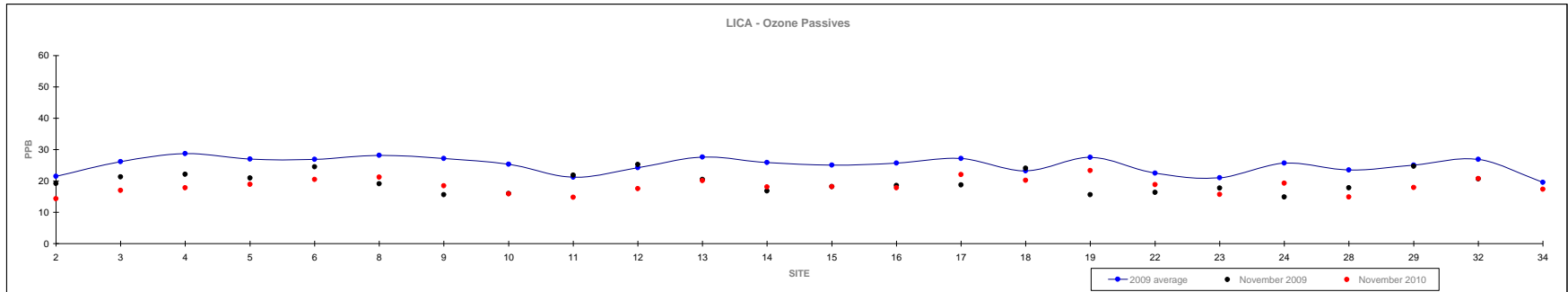
Passive Summary Results for November 2010 Lakeland Industry & Community Association

	Nitrogen Dioxide ppb																												November 2010	
	2009																												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	2.7	-				
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	1.1	#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	6.6	#28				



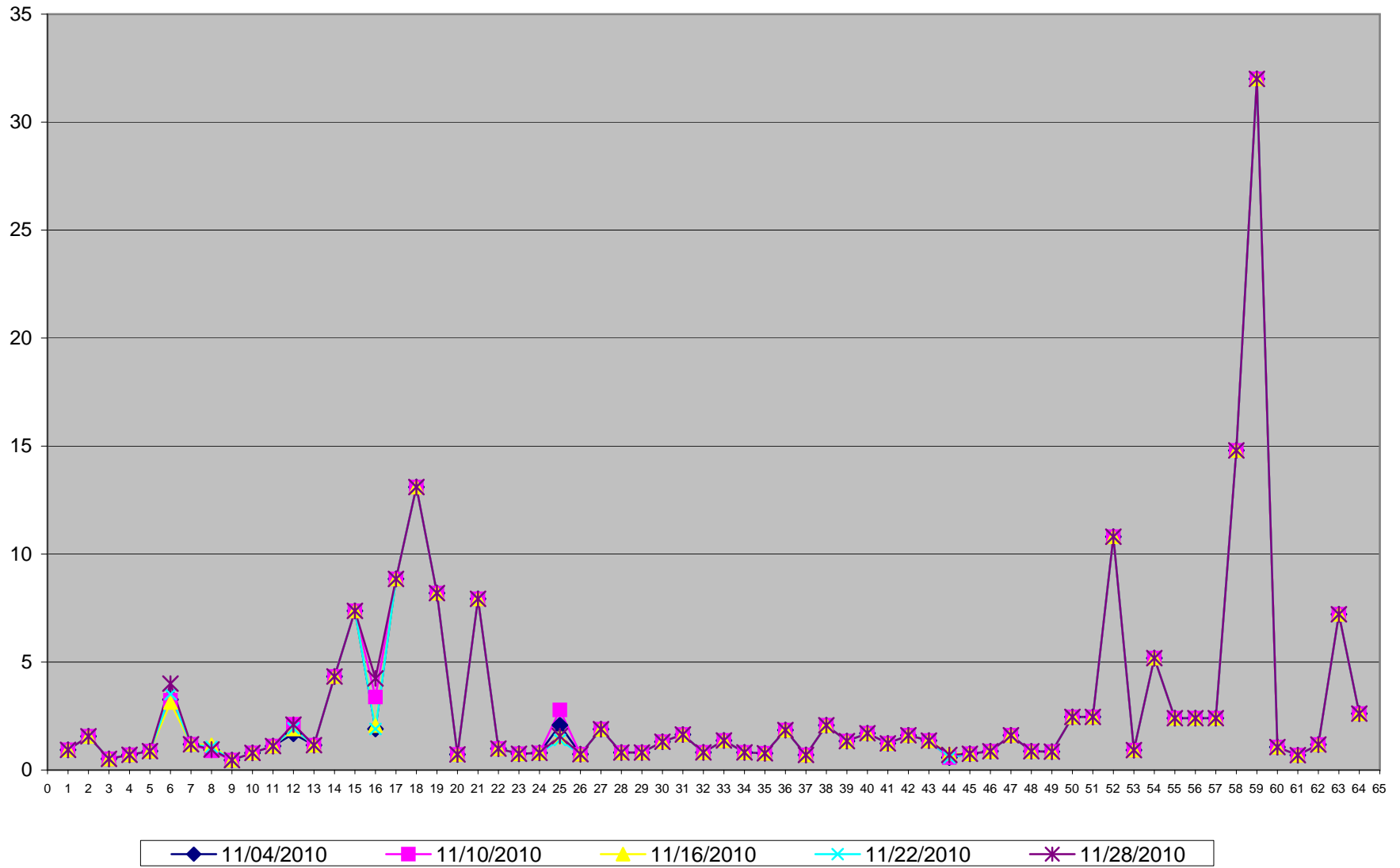
Passive Summary Results for November 2010 Lakeland Industry & Community Association

	Ozone ppb																												November 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	21.5	26.2	28.8	26.9	26.9	28.2	27.2	25.4	21.2	24.2	27.7	25.9	25.1	25.7	27.2	23.3	27.6	22.5	21.0	25.7	23.5	25.0	26.9	19.6	18.4	-				
Minimum	12.8	14.2	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	18.9	18.5	14.3	#2				
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	32.0	20.6	23.3	#19				



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)

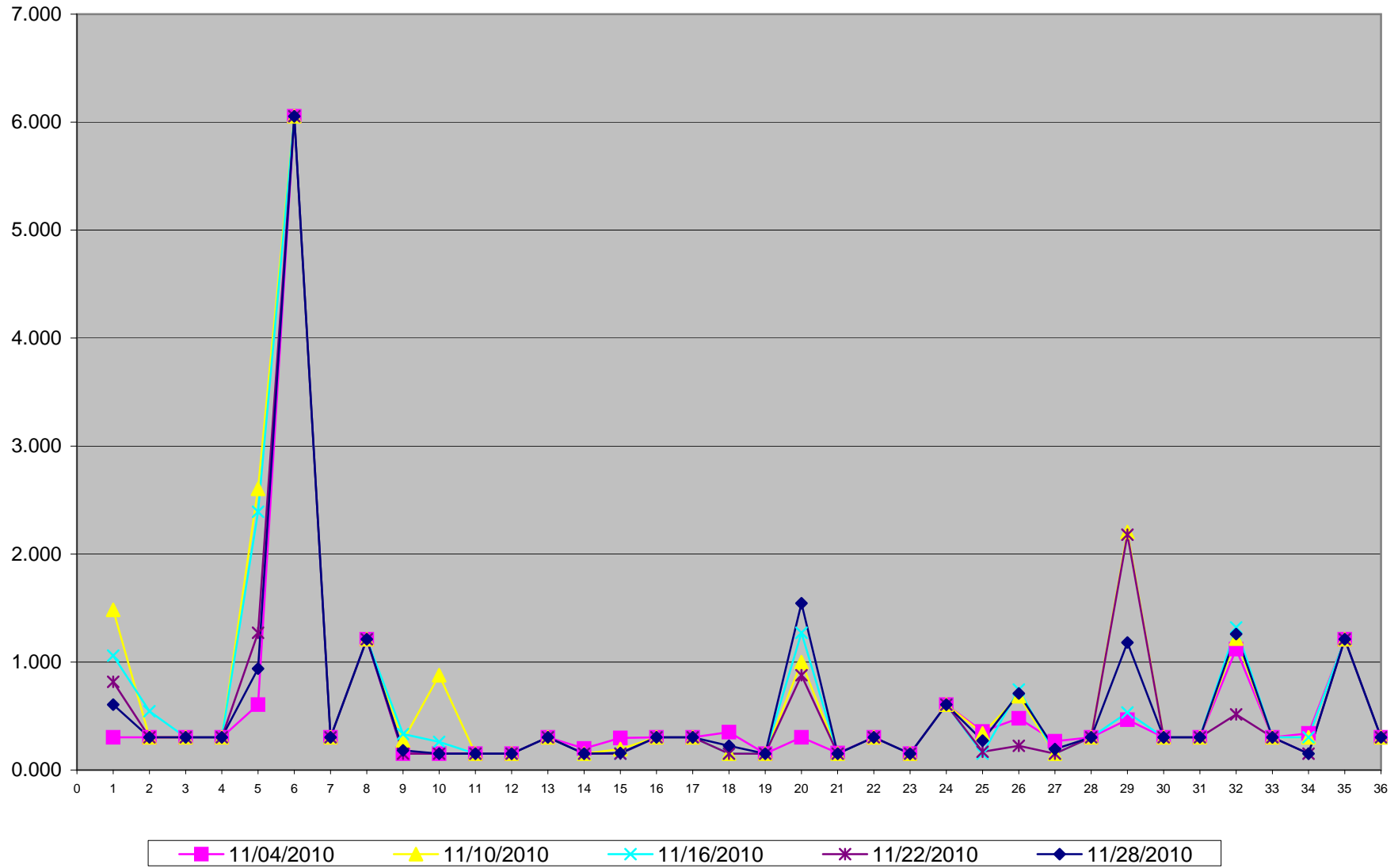
Polycyclic Aromatic Hydrocarbons

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

PAHs	11/04/2010	11/10/2010	11/16/2010	11/22/2010	11/28/2010
Sample Volume (unit: m3)	330.33	330.32	330.34	330.35	330.33
1 1-Methylnaphthalene	0.303	1.483	1.060	0.817	0.605
2 1-Methylphenanthrene	0.303	0.303	0.545	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	0.605	2.604	2.391	1.271	0.938
6 3-Methylcholanthrene	6.055	6.055	6.054	6.054	6.055
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	0.272	0.333	0.151	0.182
10 Acenaphthylene	0.151	0.878	0.260	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	0.200	0.151	0.151	0.151	0.151
15 Benzo(b)fluoranthene	0.297	0.194	0.151	0.151	0.157
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	0.351	0.151	0.151	0.151	0.224
19 Benzo(k)fluoranthene	0.151	0.151	0.151	0.151	0.151
20 Biphenyl	0.303	0.999	1.271	0.878	1.544
21 Chrysene	0.157	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	0.357	0.339	0.151	0.170	0.272
26 Fluorene	0.478	0.684	0.745	0.224	0.708
27 Indeno(1,2,3-cd)pyrene	0.266	0.151	0.151	0.151	0.194
28 m-Terphenyl	0.303	0.303	0.303	0.303	0.303
29 Naphthalene	0.466	2.204	0.533	2.180	1.181
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	1.120	1.217	1.320	0.515	1.259
33 p-Terphenyl	0.303	0.303	0.303	0.303	0.303
34 Pyrene	0.339	0.303	0.303	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.

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

SO₂ Calibration Report

Station Information

Calibration Date	November 3, 2010	Previous Calibration	October 6, 2010
Company	Lakeland Community and Industry Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:26	End Time (MST)	11:05
Reason:	Monthly Calibration		
Barometric Pressure	NA mmHg	Station Temperature	23 Deg C
Cal Gas	51.4 ppm	Cal Gas Expiry date	5/8/2012
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	454 ccm, 28.4 Deg C	450 ccm, 29.2 Deg C	
HVPS / Lamp Setting	-632, 745	-632, 743	
PMT / RxCell Temp	OK Deg C, 45.3 Deg C	OK Deg C, 45.2 Deg C	
Converter / IZS Temp	NA Deg C, 44.9 Deg C	NA Deg C, 45.0 Deg C	
Offset / Slope	5.4, 1.026	5.4, 1.026	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4999	0	0	0	N/A
4961	38.9	400	400	0.9997
4977	19.4	200	201	0.9929
4982	14.6	150	151	0.9946
4999	0	0	0	N/A
Sum of Least Squares				0.2801
New Correction Factor				0.9997

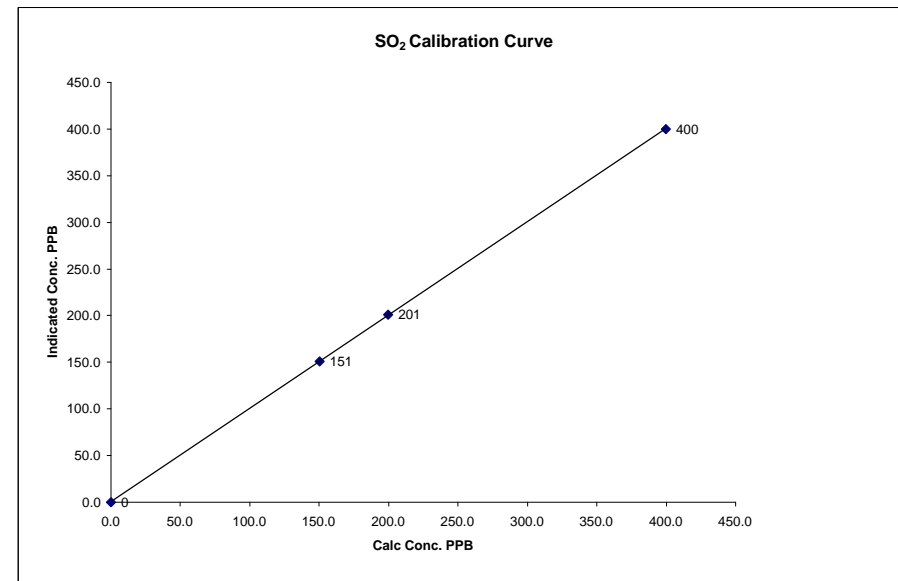
	Before Calibration	After Calibration
Auto Zero	0.2	0.2
Auto Span	360	358
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.2%

Calibration Performed by: Ting Xyu

SO₂ Calibration Curve

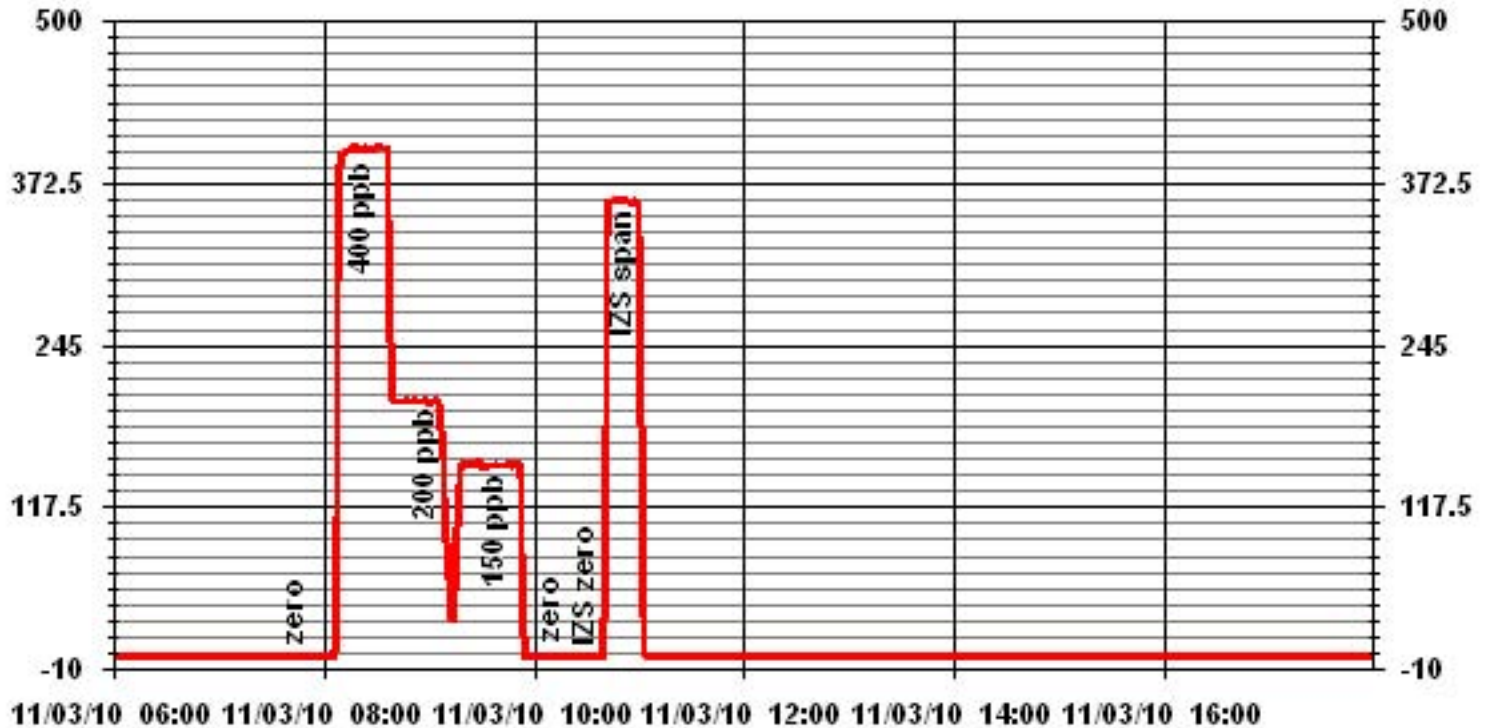
Calibration Date	November 3, 2010
Company	Lakeland Community and Industry Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	7:26
End Time (MST)	11:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope (≥ 0.995)	(0.85 to 1.15)	0.999984
0	0	n/a	Intercept	(± 3% F.S.)	0.564258
150	151	0.9946			
200	201	0.9929			
400	400	0.9997			



Notes: When started the third point, there was calibration gas pressure warning, checked and found out the wire which connected analyzer and calibration gas cylinder was damaged, fixed it and re-did the point.

01 Minute Averages



Total Reduced Sulphur

**TRS Calibration Report
Station Information**

Calibration Date	November 2, 2010	Previous Calibration	October 5, 2010
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:58	End Time (MST)	11:51
Reason:	Post Repair Calibration		
Barometric Pressure	NA mm Hg	Station Temperature	24 Deg C
Cal Gas	10.6 ppm	Cal Gas Expiry date	May 12, 2011
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	0 - 100 ppb				
Sample Flow / Box Temp	357 ccm	31.8 Deg C	358 ccm	33.1 Deg C	
HVPS / Lamp Setting	-623.1	757	-623.1	755	
PMT / RxCell Temp	OK Deg C	45.0 Deg C	OK Deg C	45.0 Deg C	
Converter / IZS Temp	850 Deg C	45.0 Deg C	849 Deg C	45.0 Deg C	
Offset / Slope	11.5	1.197	11.2	1.171	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4999	0	0	0	N/A
4962	37.7	80	81	0.9868
4962	37.7	80	80	0.9991
4983	18.8	40	40	0.9960
4988	10.9	23	23	1.0049
4998	0	0	0	N/A
Sum of Least Squares				0.9989
New Correction Factor				0.9991

Before Calibration

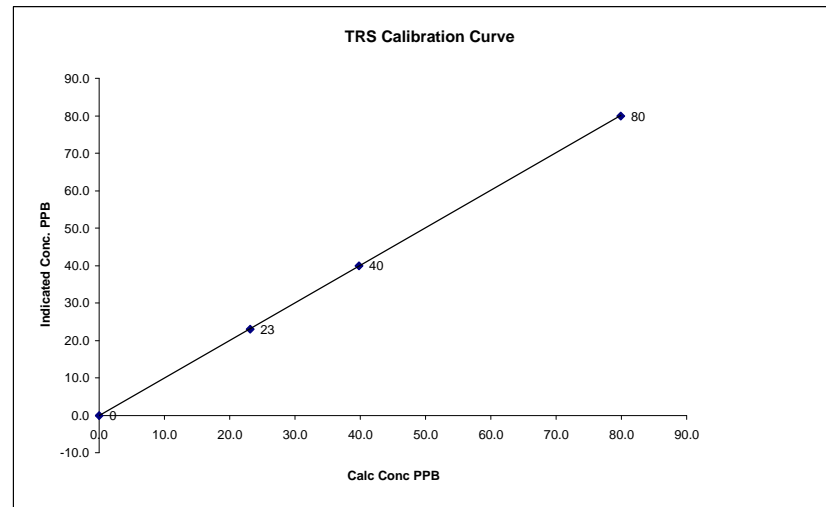
	Before Calibration	After Calibration
Auto Zero	0.0	0.1
Auto Span	30	30
Sample Lines Connected		YES
Percent Change from Previous Calibration		1.3%

Calibration Performed by: Ting Xu

TRS Calibration Curve

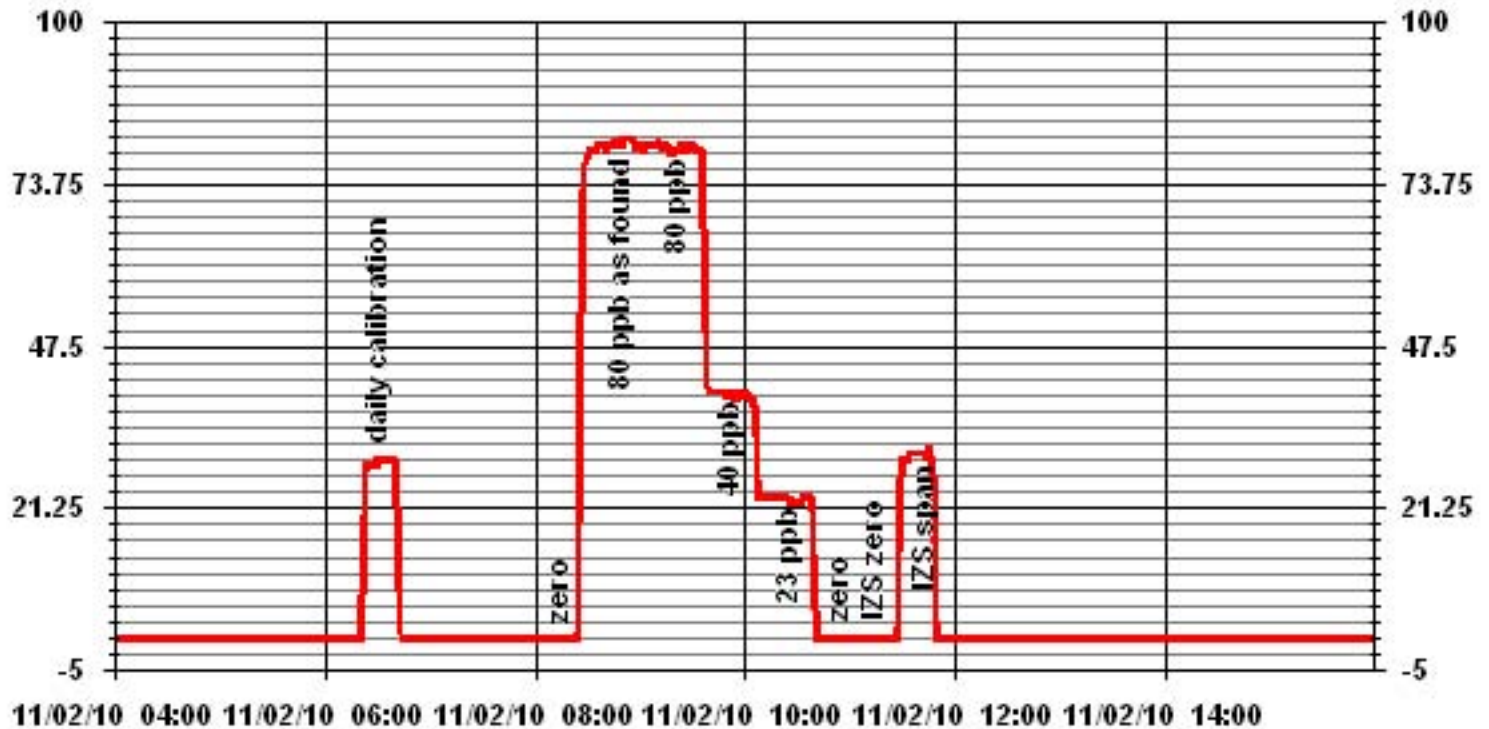
Calibration Date	November 2, 2010
Company	Lakeland Industry & Community Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	7:58
End Time (MST)	11:51

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999991
0	0	n/a	Intercept	(0.85 to 1.15)	1.001534
23	23	1.0049		(± 3% F.S.)	-0.025689
40	40	0.9960			
80	80	0.9991			



Notes: _____

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	November 2, 2010	Previous Calibration	October 7, 2010
Company:	Lakeland Industry and Community Association		
Plant / Location:	LICA1/Cold Lake		
Start Time (MST)	11:14	End Time (MST)	14:30
Reason:	Monthly Calibration		
Barometric Pressure:	NA 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
--------------	-------------	-------	------------------	--------	------------------

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
1999	0	0.0	0.0	N/A
1999	70	39.6	40.5	0.9784
1999	70	39.6	39.9	0.9931
1999	35	20.2	20.2	0.9977
1999	20	11.6	11.5	1.0089
1999	0	0.0	0.0	N/A
Correction Factor:				0.9931

Percent Change

Previous Calibration Correction Factor:	0.9931
Current Correction Factor Before Span Adjust:	0.9784
Percent Change:	1.5%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	37.2	36.9
Sample Lines Connected		YES

Cylinder Pressures

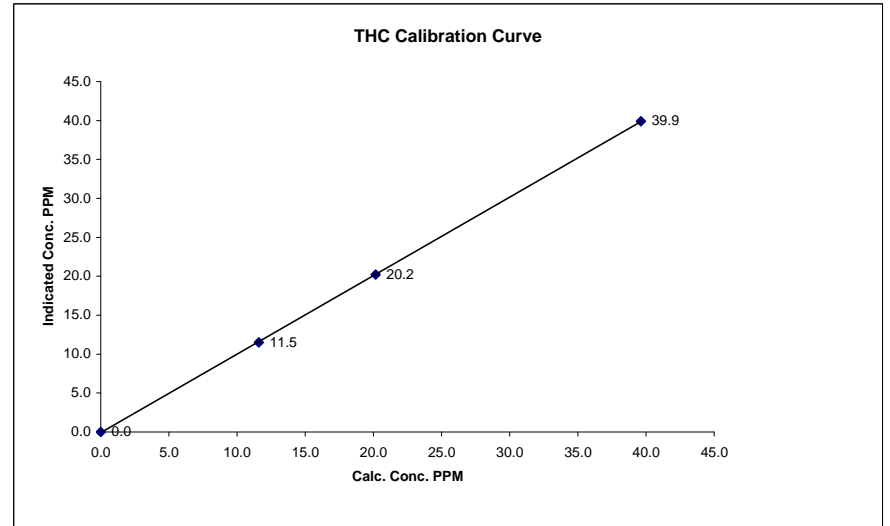
Span	1350 psi
Hydrogen	500 psi
Zero Air	32 psi Maxxam-owned API 701 zero air supply with catalytic oxidizer

Calibration Performed by: Ting Xu

THC Calibration Curve

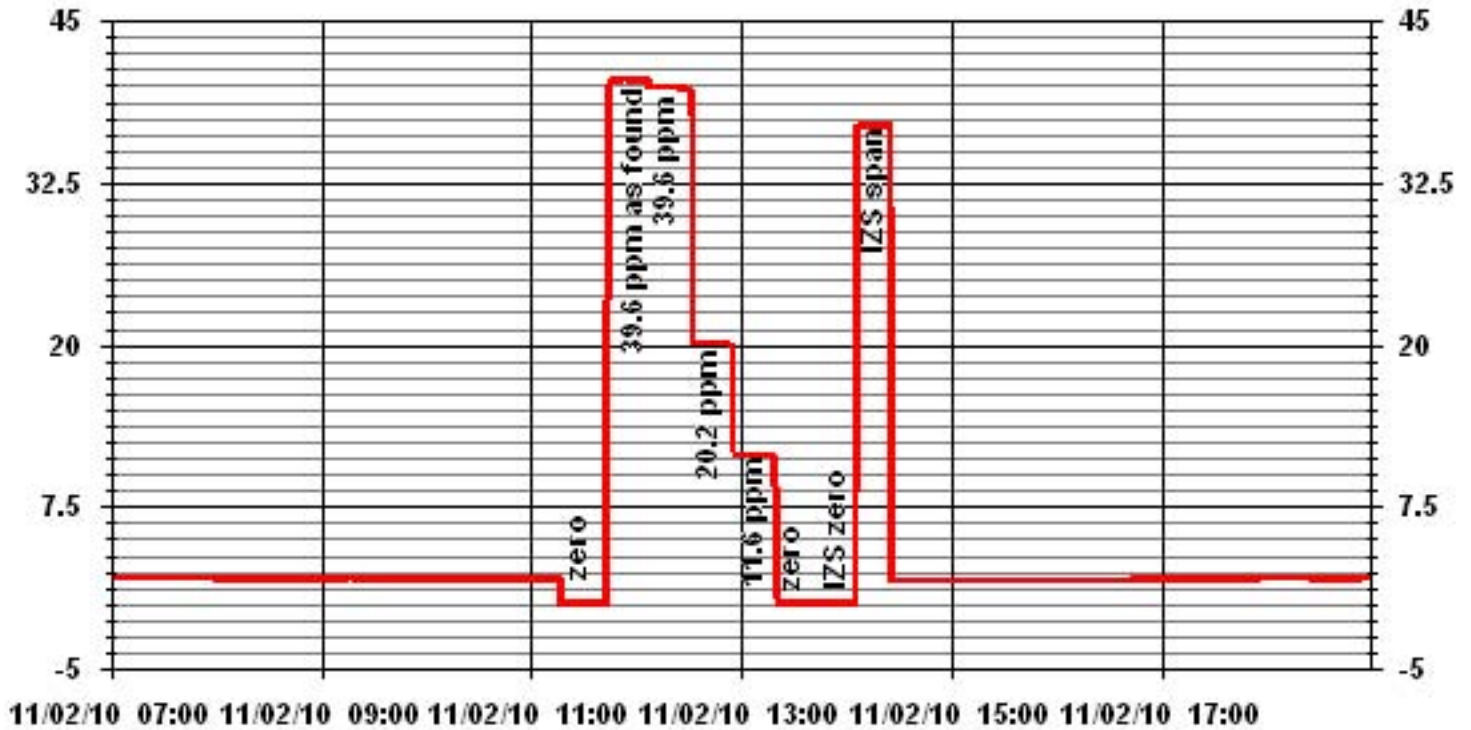
Calibration Date	November 2, 2010
Company	Lakeland Industry and Community Association
Plant / Location	LICA1/Cold Lake
Start Time (MST)	11:14
End Time (MST)	14:30

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999974
0.0	0.0		Intercept	(0.85 to 1.15)	1.008001
11.6	11.5	1.0089		(± 3% F.S.)	-0.088576
20.2	20.2	0.9977			
39.6	39.9	0.9931			



Notes:

01 Minute Averages



Particulate Matter 2.5

TEOM 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	November 8, 2010	Make/Model:	Streamline FTS
Station Name:	LICA 1	Serial Number:	Hi 091001
Location:	Cold Lake South	Cell s/n:	Lo 091099
Operator:	LICA	Thermometer s/n:	VWR90758398

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
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 (%)	22.7%
Firmware Ver.	1.52	K _o Factor	14578.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	3.0
		Press (ATM)	0.928

Conversion from mmHg or "Hg to ATM (Atmospheres)

ATM = (mmHg) X (1.316 X 10⁻³) or ATM = ("Hg) X (3.34207 X 10⁻²)

Note: Tolerances are noted as BOLD in Brackets

Audit

Status			
Noise <0.10ug	0.004	Warnings	None
Pump Vacuum <0.40atm	0.33		
Temperature/Pressure			
Measured Temp (± 2 °C)	3.0	D °C	0.0
Measured Press (± 0.01atm)	0.932	DATM	-0.004
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	1.33%
Measured Main Flow (l/min)	2.98	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (±10.0%)	2.33%
Measured Bypass Flow (l/min)	13.67	Flow Adjusted to Measured?	Yes
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	NA	Flow Control = Active	
Aux (< 0.6 l/min)	NA	Report Conditions = Standard (25.0 C and 1atm)	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 12:16 **Finish Time:** 13:24

Sample Inlet Cleaned: Yes **New Filters Installed:** NO
New Filter Loading %: NA

Comments: Filter has been changed on Oct 26, 2010, no need to change.

Auditor/s: Shea Beaton / Ting Xu

Nitrogen Dioxide

NOx - NO- NO₂ Calibration Report

Station Information

Calibration Date	November 2, 2010	Previous Calibration	October 5, 2010
Company	LICA	Plant/Location	LICA 1 - Cold Lake South
Start Time (MST)	7:59	End Time (MST)	13:36
Reason:	Monthly Calibration		Other
Barometric Pressure	NA mmHg	Station Temperature	23 Deg C
Cal Gas Concentration	NOx 50.8 ppm	NO 50.4 ppm	Cal Gas Expiry date 05-Aug-12
DAS Output Voltage	0 - 10	Chart Rec. Output	NA Volts

Equipment Information

Analyzer Make / Model:	TECO 42C	S/N :	427408716	Method:	Chemiluminescent
Calibrator Make / Model:	Envionics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	Envionics 6100	S/N :	4760		

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0 - 500			ppb			
Sample Flow/Conv. Temp	717	ccm	317	Deg C	719	ccm	317.0
Ozone Flow / Vacuum	OK	ccm	181.4	"Hg-A	OK	ccm	182.2
HVPS / A ZERO	-821	Volts	NA	MV	-821	Volts	NA
Rx/ Temp / PMT Temp	49.7	Deg C	-2.5	Deg C	49.5	Deg C	-2.4
Box Temp / IZS Temp	27.0	Deg C	OK	Deg C	28.7	Deg C	OK
Offset	3.9	NOx	3.6	NO	3.8	NOx	3.5
Slope	1.009	NOx	0.920	NO	1.009	NOx	0.908
NO ₂ COEF / Conv Efficiency	0.998	NO ₂	NA		0.998	NO ₂	NA

Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO ₂	NOx	NO	NO ₂	NOx	NO
4995	0.0	----	0	0	----	0	0	0	----	----
4956	39.6	----	403	400	----	408	405	3	0.9870	0.9865
4956	39.6	----	403	400	----	403	400	3	0.9992	0.9988
4975	19.8	----	201	200	----	202	201	2	0.9969	0.9940
4984	9.9	----	101	100	----	102	101	1	0.9873	0.9892
4995	0.0	----	0	0	0	0	0	0	----	----

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO ₂ Correction Factor	NO ₂ Conv Efficiency
			NOx	NO	NO ₂	NOx	NO	NO ₂		
4957	39.6	----	403	399	----	402	399	3	----	----
4956	39.6	350	403	----	331	402	71	331	1.0091	100.00%
4956	39.6	150	403	----	146	402	256	146	1.0210	100.00%
4956	39.6	75	403	----	74	401	328	73	1.0571	98.59%

Linearity	Sum of Least Squares	NOx= 0.998	NO= 0.997	NO ₂ = 1.001		
OK?	Yes	No	Correction Factors:	NOx= 0.9992	NO= 0.9988	NO ₂ = 1.0091
		Average Converter Efficiency= 99.53%				

Before Calibration				After Calibration			
Auto Zero	0.1	NOx	0.2	NO ₂	0.1	NOx	0.2
Auto Span	378	NOx	376	NO ₂	375	NOx	373
Sample Lines Connected				YES			

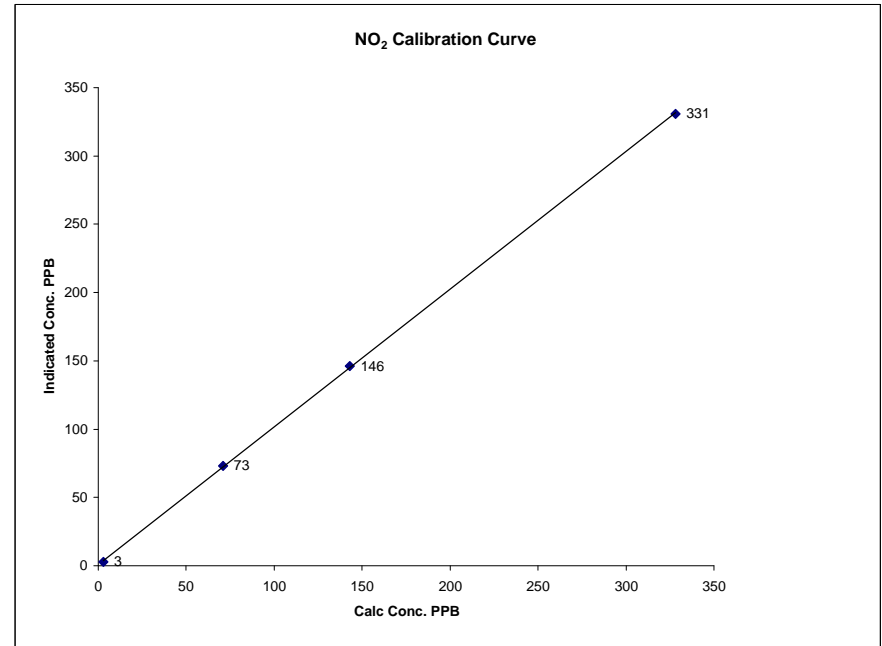
Notes

Calibration Performed by: Ting Xu

NO₂ Calibration Curve

Calibration Date	November 2, 2010	LICA	
Company	LICA 1 - Cold Lake South		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:59	End Time (MST)	13:36

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999961
ppb	ppb		Slope	(0.85 to 1.15)	1.007905
3	3	N/A	Intercept	(± 3% F.S.)	0.92300
71	73	0.9726			
143	146	0.9795			
328	331	0.9909			

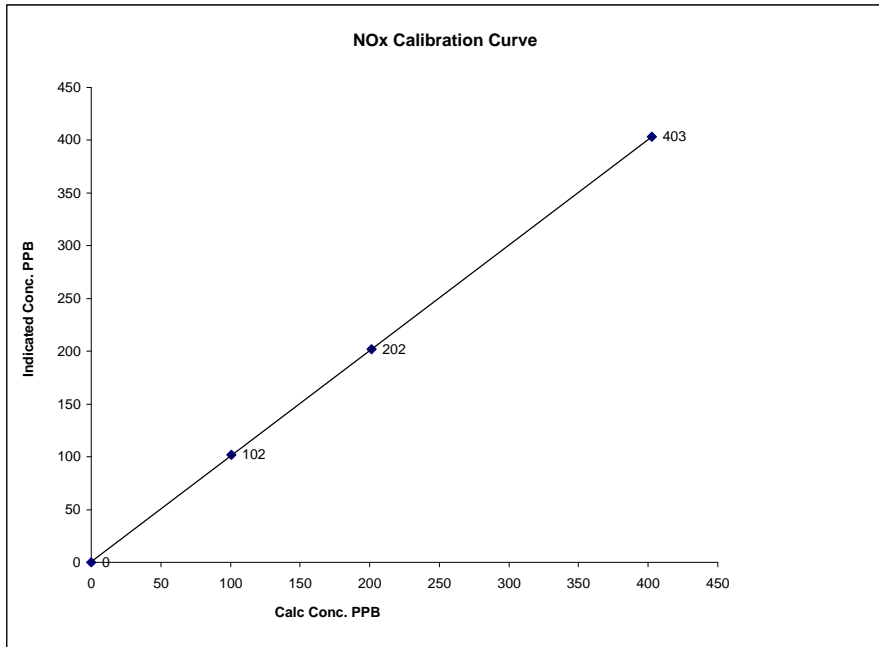


Notes:

NOx Calibration Curve

Calibration Date	November 2, 2010	
Company	LICA	
Plant / Location	LICA 1 - Cold Lake South	
Start Time (MST)	7:59	End Time (MST) 13:36

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999990
0	0	N/A	Slope (0.85 to 1.15)	0.999867
101	102	0.9873	Intercept (± 3% F.S.)	0.57979
201	202	0.9969		
403	403	0.9992		

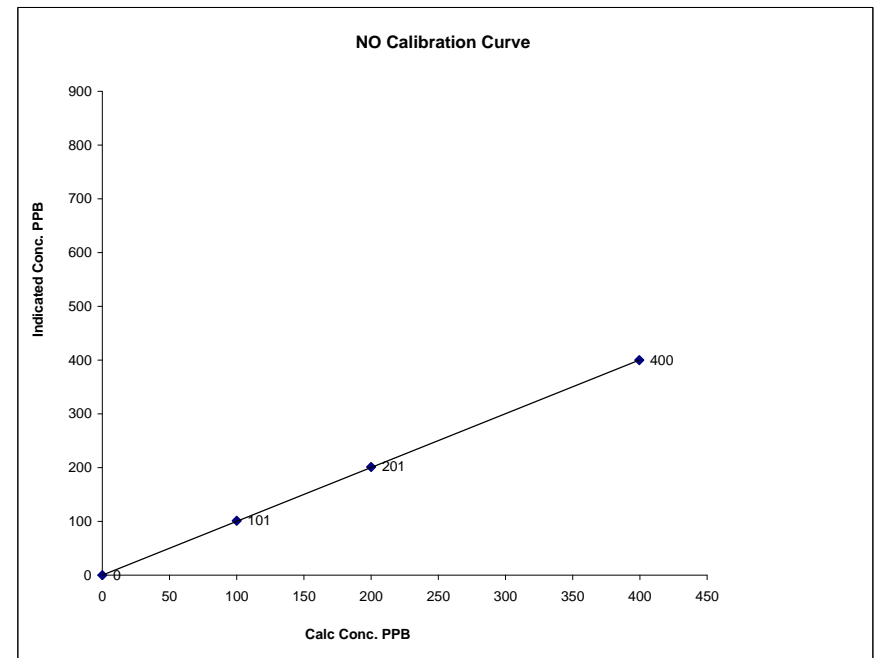


Notes:

NO Calibration Curve

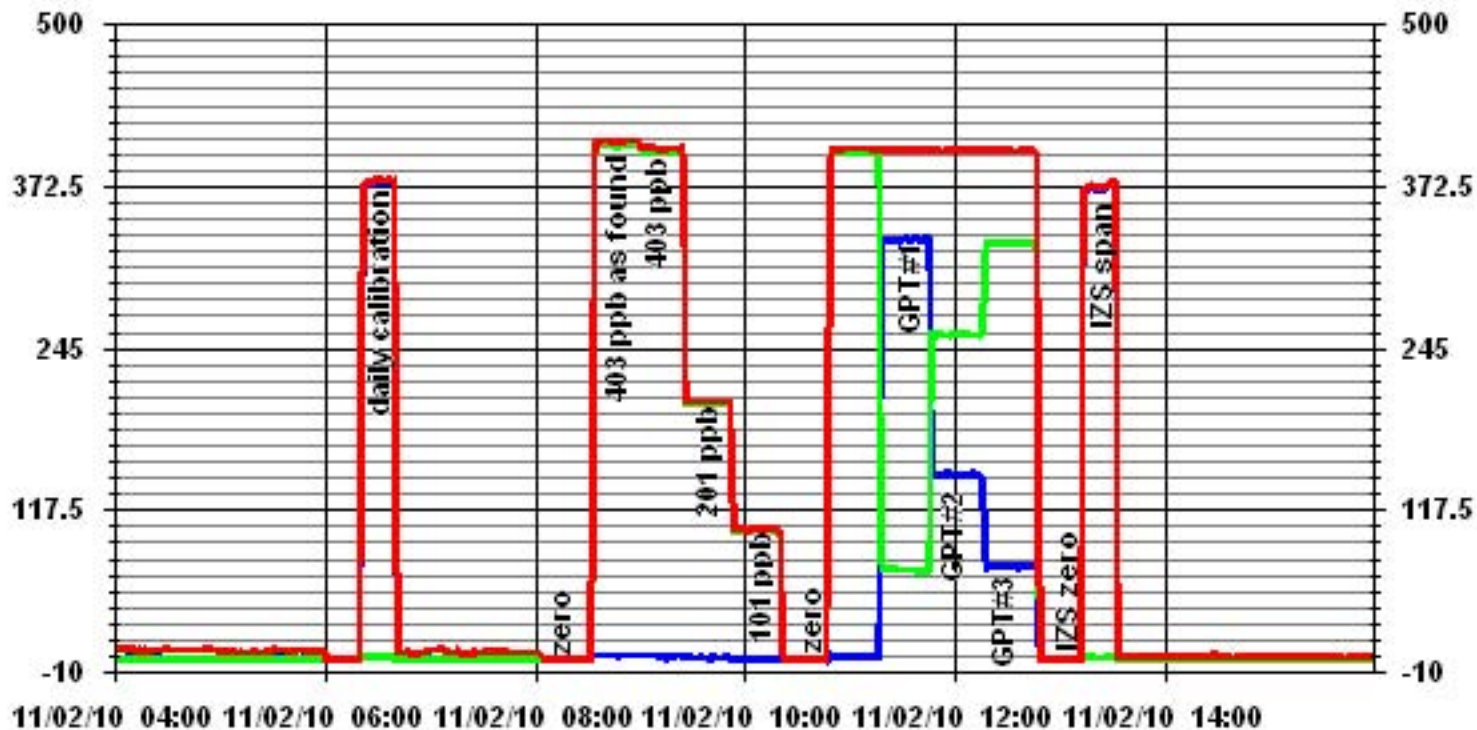
Calibration Date	November 2, 2010	
Company	LICA	
Plant / Location	LICA 1 - Cold Lake South	
Start Time (MST)	7:59	End Time (MST) 13:36

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999990
0	0	N/A	Slope (0.85 to 1.15)	0.997747
100	101	0.9892	Intercept (± 3% F.S.)	1.9362
200	201	0.9940		
400	400	0.9988		



Notes:

01 Minute Averages



Ozone

O₃ Calibration Report

Station Information

Calibration Date	November 2, 2010	Previous Calibration	October 6, 2010
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	12:55	End Time (MST)	16:11
Reason:	Monthly Calibration		
Barometric Pressure	NA 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:	Enviroics 6100	S/N :	4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	3485		

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500			
Cell A Flow/ Cell B Flow	740 ccm	755 ccm	745 ccm	759 ccm
Pressure	707 mmHg		714 mmHg	
Bench Lamp Temp	53.5 Deg C		53.5 Deg C	
O ₃ Lamp/Box Temp	67.6 Deg C	29.1 Deg C	67.7 Deg C	28.7 Deg C
Offset / Slope	0.7	-	0.7	0.996

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4996	0	0	0	N/A
4966	350	328	328	1.0000
4996	150	143	142	1.0070
4996	75	71	70	1.0143
4996	0	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				1.0000

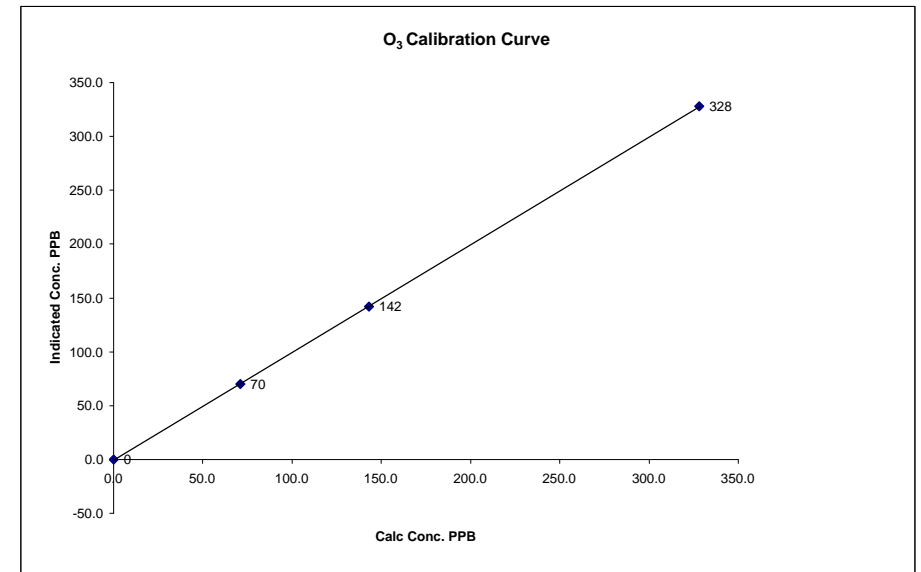
	Before Calibration	After Calibration
Auto Zero	-0.05	-0.06
Auto Span	295	295
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.3%

Calibration Performed by: Ting Xu

O₃ Calibration Curve

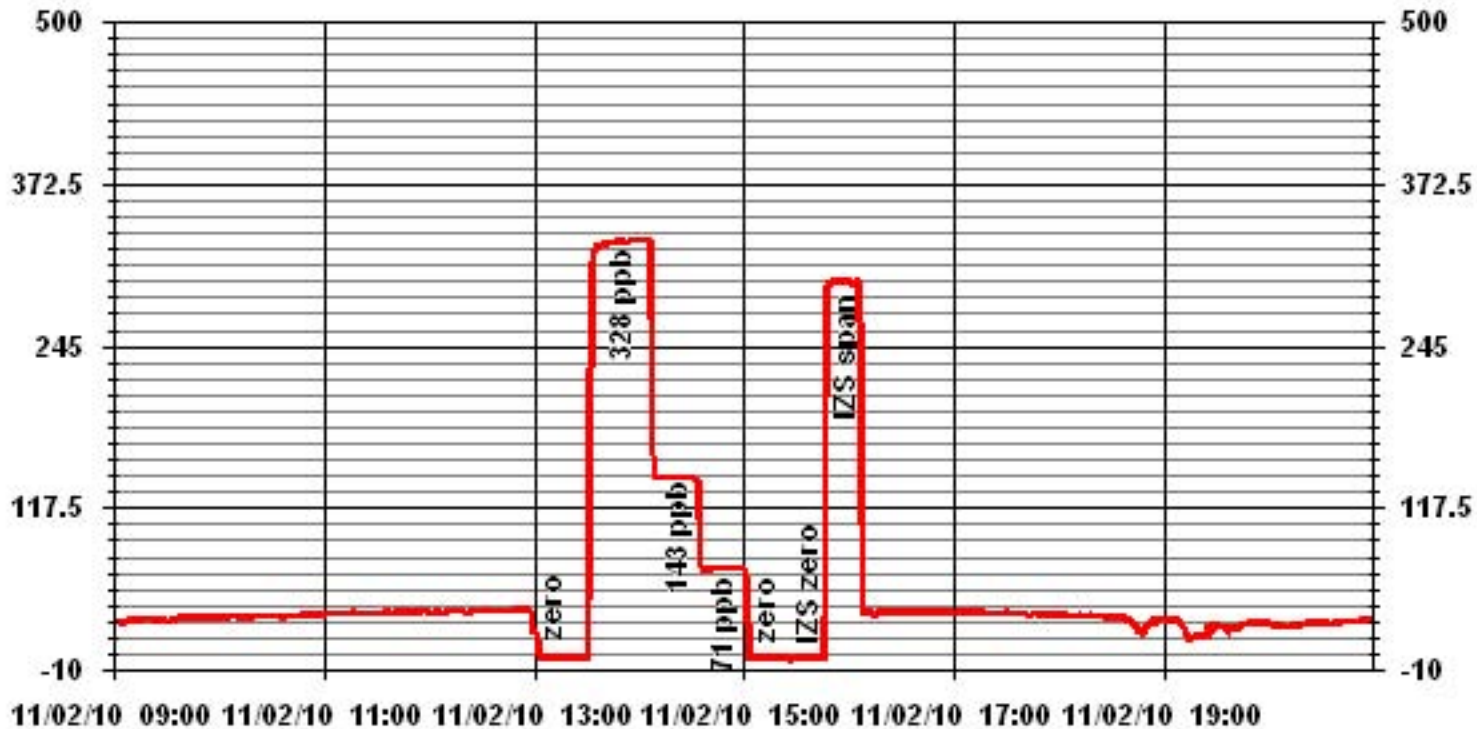
Calibration Date	November 2, 2010		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	12:55	End Time (MST)	16:11

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999984
0	0	n/a	Intercept	(± 3% F.S.)	-0.629517
71	70	1.0143			
143	142	1.0070			
328	328	1.0000			



Notes:

01 Minute Averages



Wind System

Meteorological Sensor Audit Report Station Information

Audit Date	November 8, 2010	Previous Audit	NA
Company	Lakeland Industry and Community Association Airshed Zone		
Plant / Location	Cold Lake South		
Start Time (MST)	9:36	End Time (MST)	11:00
Reason:	Installation		
Translator make/model:	RM Young 5103VK	S/N:	46553
DAS make/model:	ESC 8832	S/N:	3485

Wind Speed

Sensor make/model:	RM Young 5103VK	S/N:	46553
Calibrator:	RM Young 18802	Variable speed motor	CA3309
Output voltage range:	0-1 vdc	Output signal range:	0-200 kph
Sensor height:	>10M		

Wind Speed Audit Data

RPM	Wind Speed Actual	Indicated WS - CW	Indicated WS-CCW	Correction Factor
0	0	0.22	0.22	n/a
1000	17.64	18.09	18.12	0.9743
2000	35.28	36.25	36.23	0.9735
3000	52.92	54.34	54.33	0.9740
4000	70.56	72.43	72.45	0.9740
5000	88.2	90.55	90.56	0.9740
6000	105.84	108.7	108.7	0.9737
7000	123.48	126.7	126.7	0.9746
8000	141.12	144.8	144.8	0.9746
9000	158.76	163	163	0.9740
10000	176.4	180.6	181	0.9757
Average Correction Factor				0.97

Wind Direction

Sensor make/model:	RM Young 5103VK	S/N:	46553
Calibrator:	RM Young 18112	Direction wheel	RM Young
Output voltage range:	0-1vdc	Output signal range:	0-360
Sensor height:	>10M		

Wind Direction Audit Data

Wind Direction	Indicated	Correction Factor
0	0.4	n/a
45	45.0	1.00
90	90.2	1.00
135	135.2	1.00
180	179.6	1.00
225	224.5	1.00
270	269.3	1.00
315	314.0	1.00
360	354.6	1.02
Average Correction Factor		1.00

Remarks: Wind system installed as a temporary replacement.

Audit Performed by: Shea Beaton

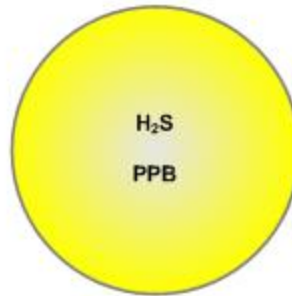
Passive Bubble Maps

Lakeland Industry & Community Association H₂S Passive Bubble Map

NOVEMBER 2010

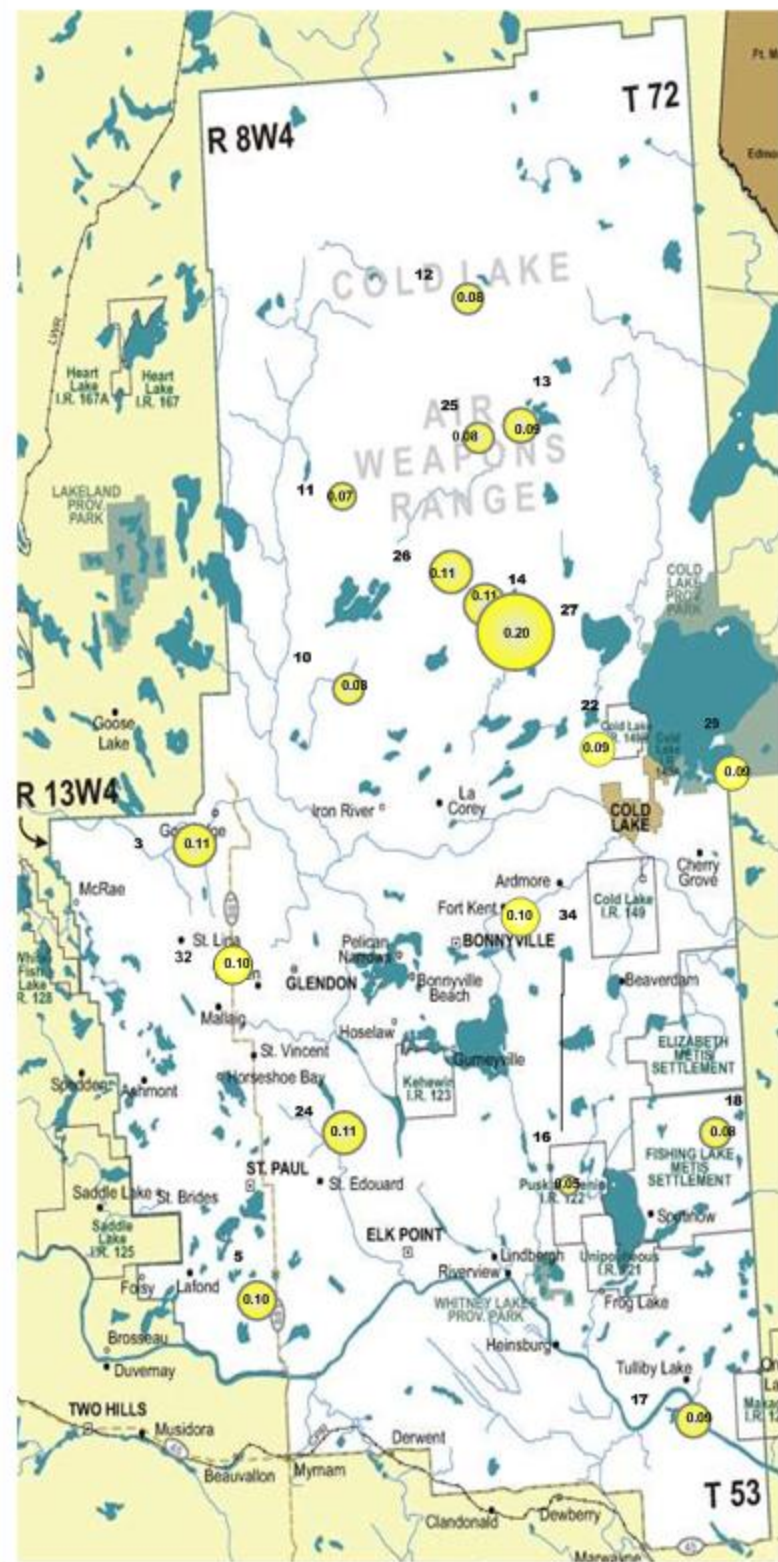
PASSIVE STATIONS

		DUPLICATE
3 – Therien	0.11 PPB	NA
5 – Lake Eliza	0.12 PPB	0.07 PPB
10 – La Corey	0.07 PPB	0.08 PPB
11 – Wolf Lake	0.07 PPB	NA
12 – Foster Creek	0.07 PPB	0.08 PPB
13 – Primrose	0.09 PPB	NA
14 – Maskwa	0.11 PPB	0.11 PPB
16 – Frog Lake	0.05 PPB	NA
17 – Clear Range	0.06 PPB	0.12 PPB
18 – Fishing Lake	0.08 PPB	NA
22 – Cold Lake South	0.09 PPB	NA
24 – Fort George	0.11 PPB	0.11 PPB
25 – Burnt Lake	0.08 PPB	NA
26 – Mahihkan	0.06 PPB	0.15 PPB
27 – Mahkeses	0.20 PPB	NA
29 – Cold Lake South 2	0.10 PPB	0.08 PPB
32 – St. Lina	0.10 PPB	NA
34 – Portable	0.10 PPB	NA



Summary

Minimum : 0.05 PPB – Frog Lake
 Maximum: 0.20 PPB – Mahkeses
 Average: 0.10 PPB *Includes Duplicates

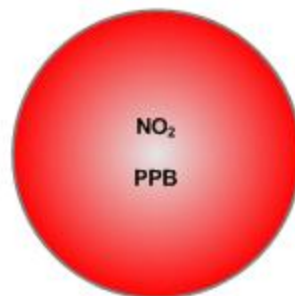


Lakeland Industry & Community Association NO₂ Passive Bubble Map

NOVEMBER 2010

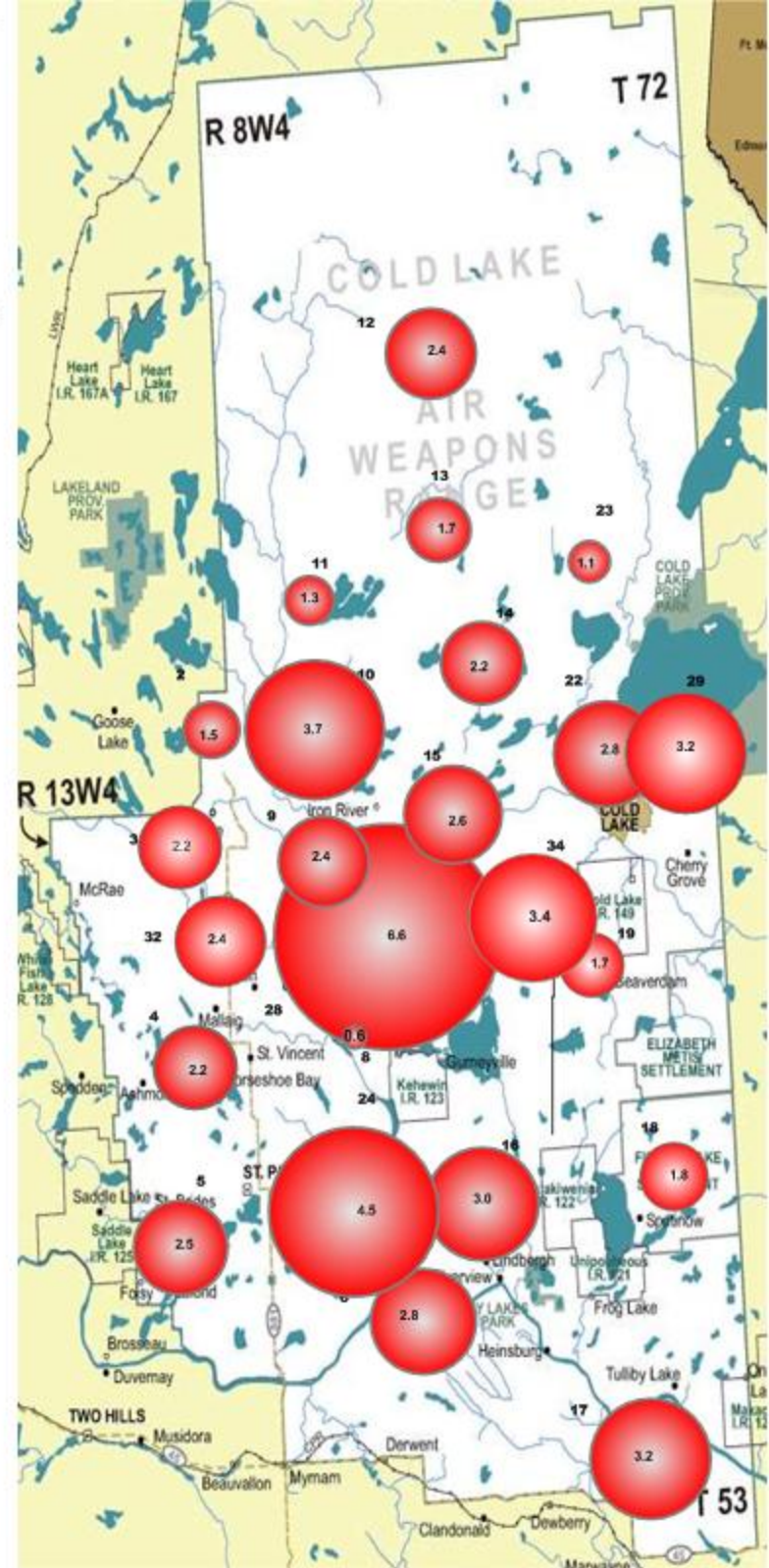
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	1.5 PPB	NA
3 – Therien	2.3 PPB	2.1 PPB
4 – Flat Lake	2.2 PPB	NA
5 – Lake Eliza	2.4 PPB	2.5 PPB
6 – Telegraph Creek	2.8 PPB	NA
8 – Muriel-Kehewin	2.3 PPB	1.6 PPB
9 – Dupre	2.4 PPB	NA
10 – La Corey	3.9 PPB	3.4 PPB
11 – Wolf Lake	1.3 PPB	NA
12 – Foster Creek	1.9 PPB	2.8 PPB
13 – Primrose	1.7 PPB	NA
14 – Maskwa	3.3 PPB	2.2 PPB
15 – Ardmore	2.6 PPB	NA
16 – Frog Lake	3.2 PPB	2.7 PPB
17 – Clear Range	3.2 PPB	NA
18 – Fishing Lake	1.7 PPB	1.8 PPB
19 – Beaverdam	1.7 PPB	NA
22 – Cold Lake South	2.8 PPB	NA
23 – Medley-Martineau	1.1 PPB	1.0 PPB
24 – Fort George	4.5 PPB	NA
28 – Town of Bonnyville	6.5 PPB	6.6 PPB
29 – Cold Lake South 2	3.2 PPB	NA
32 – St. Lina	2.4 PPB	NA
34 – Portable	3.4 PPB	NA



Summary

Minimum : 1.1 PPB – Medley-Martineau
Maximum: 6.6 PPB – Town of Bonnyville
Average: 2.7 PPB *Includes Duplicates

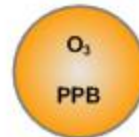


Lakeland Industry & Community Association O₃ Passive Bubble Map

NOVEMBER 2010

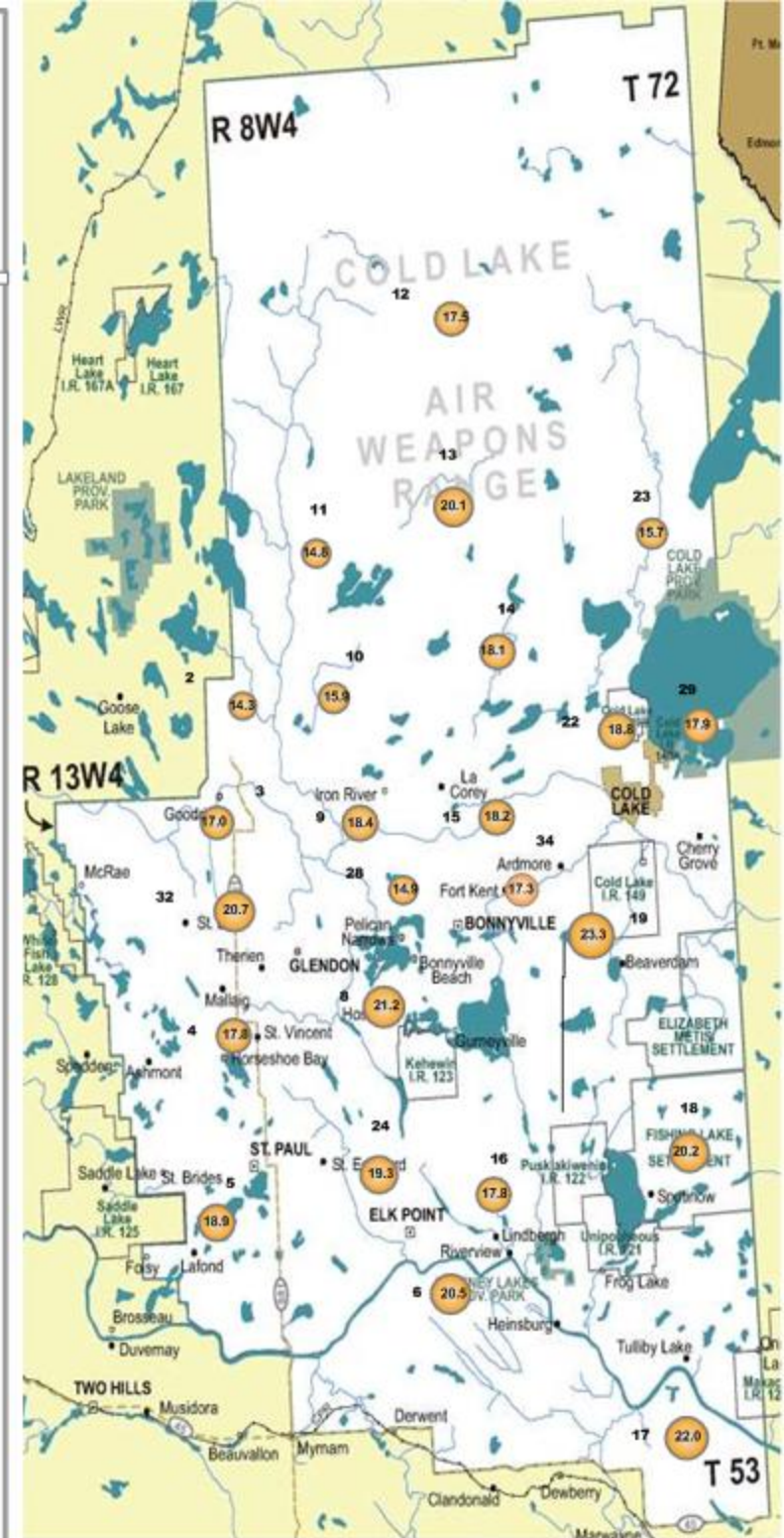
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	14.3 PPB	NA
3 – Therien	17.0 PPB	17.0 PPB
4 – Flat Lake	20.1 PPB	NA
5 – Lake Eliza	19.2 PPB	18.5 PPB
6 – Telegraph Creek	20.5 PPB	NA
8 – Muriel-Kehewin	20.7 PPB	21.7 PPB
9 – Dupre	18.4 PPB	NA
10 – La Corey	15.6 PPB	16.2 PPB
11 – Wolf Lake	14.8 PPB	NA
12 – Foster Creek	17.7 PPB	17.2 PPB
13 – Primrose	20.1 PPB	NA
14 – Maskwa	18.1 PPB	18.1 PPB
15 – Ardmore	18.2 PPB	NA
16 – Frog Lake	18.9 PPB	16.7 PPB
17 – Clear Range	22.0 PPB	NA
18 – Fishing Lake	19.9 PPB	20.4 PPB
19 – Beaverdam	23.3 PPB	NA
22 – Cold Lake South	18.8 PPB	NA
23 – Medley-Martineau	15.3 PPB	16.1 PPB
24 – Fort George	19.3 PPB	NA
28 – Town of Bonnyville	15.6 PPB	14.1 PPB
29 – Cold Lake South 2	17.9 PPB	NA
32 – St. Lina	20.7 PPB	NA
34 – Portable	17.3 PPB	NA



Summary

Minimum : 14.3 PPB – Sand River
 Maximum: 23.3 PPB – Beaverdam
 Average: 18.4 PPB *Includes Duplicates



Lakeland Industry & Community Association SO₂ Passive Bubble Map

NOVEMBER 2010

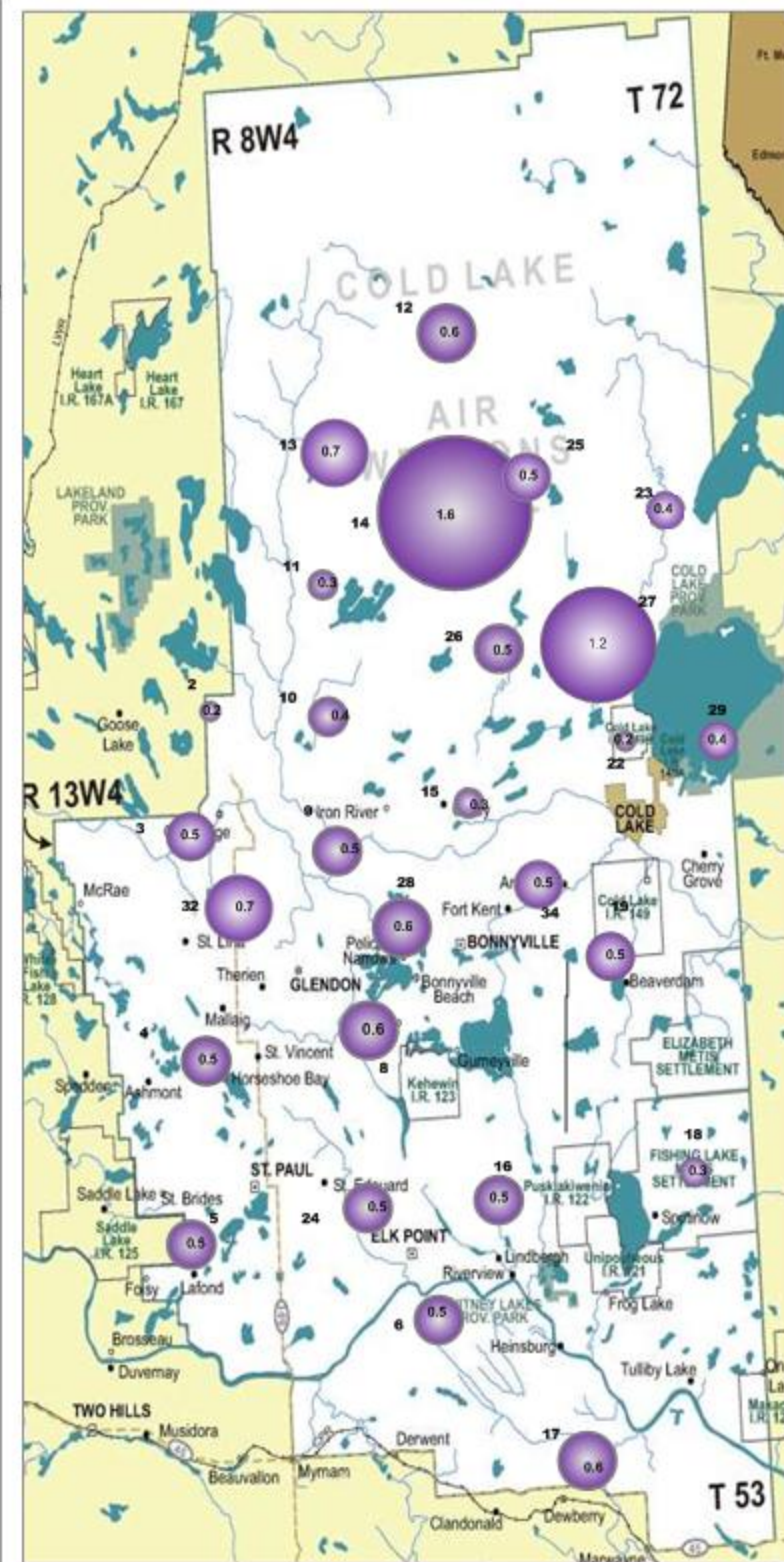
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	0.2 PPB	NA
3 – Therien	0.5 PPB	0.4 PPB
4 – Flat Lake	0.5 PPB	NA
5 – Lake Eliza	0.4 PPB	0.6 PPB
6 – Telegraph Creek	0.5 PPB	NA
8 – Muriel-Kehewin	0.6 PPB	0.5 PPB
9 – Dupre	0.5 PPB	NA
10 – La Corey	0.3 PPB	0.5 PPB
11 – Wolf Lake	0.3 PPB	NA
12 – Foster Creek	0.5 PPB	0.6 PPB
13 – Primrose	0.7 PPB	NA
14 – Maskwa	1.4 PPB	1.7 PPB
15 – Ardmore	0.3 PPB	NA
16 – Frog Lake	0.6 PPB	0.4 PPB
17 – Clear Range	0.6 PPB	NA
18 – Fishing Lake	0.3 PPB	0.3 PPB
19 – Beaverdam	0.5 PPB	NA
22 – Cold Lake South	0.2 PPB	NA
23 – Medley-Martineau	0.3 PPB	0.4 PPB
24 – Fort George	0.5 PPB	NA
25 – Burnt Lake	0.5 PPB	0.5 PPB
26 – Mahikan	0.5 PPB	NA
27 – Mahkeses	1.2 PPB	1.1 PPB
28 – Town of Bonnyville	0.6 PPB	NA
29 – Cold Lake South 2	0.4 PPB	0.3 PPB
32 – St. Lina	0.7 PPB	NA
34 – Portable	0.5 PPB	NA



Summary

Minimum : 0.2 PPB – Sand River
 Maximum: 1.6 PPB – Maskwa
 Average: 0.5 PPB *Includes Duplicates



Passive Field Data

Field Notes

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
2	SO ₂ /NO ₂ /O ₃	10/27/10	09:50	11/30/10	10:51	
2A (Dup)	NA	NA	NA	NA	NA	
3	H ₂ S/SO ₂ /NO ₂ /O ₃	10/27/10	09:05	11/30/10	10:09	
3A (Dup)	H ₂ S	10/27/10	09:05	11/30/10	10:09	
4	SO ₂ /NO ₂ /O ₃	10/29/10	14:09	12/01/10	14:02	
4A (Dup)	NA	NA	NA	NA	NA	
5	H ₂ S/SO ₂ /NO ₂ /O ₃	10/29/10	13:20	12/01/10	13:15	
5A (Dup)	H ₂ S/SO ₂ /NO ₂ /O ₃	10/29/10	13:20	12/01/10	13:15	
6	SO ₂ /NO ₂ /O ₃	10/29/10	11:44	12/01/10	11:50	
6A (Dup)	NA	NA	NA	NA	NA	
8	SO ₂ /NO ₂ /O ₃	10/29/10	15:08	12/01/10	14:51	
8A (Dup)	SO ₂ /NO ₂ /O ₃	10/29/10	15:08	12/01/10	14:51	
9	SO ₂ /NO ₂ /O ₃	10/28/10	10:56	11/29/10	15:52	
9A (Dup)	NA	NA	NA	NA	NA	
10	H ₂ S/SO ₂ /NO ₂ /O ₃	10/27/10	10:54	11/30/10	11:47	
10A (Dup)	H ₂ S/SO ₂ /NO ₂ /O ₃	10/27/10	10:54	11/30/10	11:47	
11	H ₂ S/SO ₂ /NO ₂ /O ₃	10/27/10	11:41	11/30/10	12:31	
11A (Dup)	NA	NA	NA	NA	NA	
12	H ₂ S/SO ₂ /NO ₂ /O ₃	10/27/10	13:26	11/30/10	14:07	
12A (Dup)	H ₂ S/SO ₂ /NO ₂ /O ₃	10/27/10	13:26	11/30/10	14:07	
13	H ₂ S/SO ₂ /NO ₂ /O ₃	10/27/10	15:21	11/30/10	15:53	
13A (Dup)	NA	NA	NA	NA	NA	
14	H ₂ S/SO ₂ /NO ₂ /O ₃	10/27/10	16:24	11/30/10	16:56	
14A (Dup)	H ₂ S/SO ₂ /NO ₂ /O ₃	10/27/10	16:24	11/30/10	16:56	
15	SO ₂ /NO ₂ /O ₃	10/28/10	13:09	11/29/10	16:32	
15A (Dup)	NA	NA	NA	NA	NA	
16	H ₂ S/SO ₂ /NO ₂ /O ₃	10/29/10	09:59	12/01/10	10:15	
16A (Dup)	SO ₂ /NO ₂ /O ₃	10/29/10	09:59	12/01/10	10:15	

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
17	H ₂ S/SO ₂ /NO ₂ /O ₃	10/29/10	10:52	12/01/10	11:03	
17A (Dup)	H ₂ S	10/29/10	10:52	12/01/10	11:03	
18	H ₂ S/SO ₂ /NO ₂ /O ₃	10/29/10	09:06	12/01/10	9:27	
18A (Dup)	SO ₂ /NO ₂ /O ₃	10/29/10	09:06	12/01/10	9:27	
19	SO ₂ /NO ₂ /O ₃	10/29/10	07:49	12/01/10	8:25	
19A (Dup)	NA	NA	NA	NA	NA	
22	H ₂ S/SO ₂ /NO ₂ /O ₃	10/28/10	13:52	12/01/10	7:11	
22A (Dup)	NA	NA	NA	NA	NA	
23	SO ₂ /NO ₂ /O ₃	10/28/10	09:25	11/29/10	17:52	
23A (Dup)	SO ₂ /NO ₂ /O ₃	10/28/10	09:25	11/29/10	17:52	
24	H ₂ S/SO ₂ /NO ₂ /O ₃	10/29/10	12:28	12/01/10	12:20	
24A (Dup)	H ₂ S	10/29/10	12:28	12/01/10	12:20	
25	H ₂ S/SO ₂	10/27/10	14:51	11/30/10	15:23	
25A (Dup)	SO ₂	10/27/10	14:51	11/30/10	15:23	
26	H ₂ S/SO ₂	10/27/10	15:53	11/30/10	16:23	
26A (Dup)	H ₂ S	10/27/10	15:53	11/30/10	16:23	
27	H ₂ S/SO ₂	10/27/10	16:41	11/30/10	17:20	
27A (Dup)	SO ₂	10/27/10	16:41	11/30/10	17:20	
28	SO ₂ /NO ₂ /O ₃	10/28/10	11:16	11/29/10	15:28	
28A (Dup)	NO ₂ /O ₃	10/28/10	11:16	11/29/10	15:28	
29	H ₂ S/SO ₂ /NO ₂ /O ₃	10/28/10	14:06	12/01/10	07:30	
29A (Dup)	H ₂ S/SO ₂	10/28/10	14:06	12/01/10	07:30	
32	H ₂ S/SO ₂ /NO ₂ /O ₃	10/27/10	08:20	11/29/10	13:53	
32A (Dup)	NA	NA	NA	NA	NA	
34	H ₂ S/SO ₂ /NO ₂ /O ₃	10/28/10	11:49	11/29/10	12:05	
34A (Dup)	NA	NA	NA	NA	NA	

Passive Network Laboratory Analysis



Your Project #: 2010/10/27 - 2010/11/30
Site:LICA

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

Report Date: 2010/12/10

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0B7893
Received: 2010/12/03, 15:27

Sample Matrix: Air
Samples Received: 43

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
H2S Passive Analysis (l)	26	2010/12/08	2010/12/09	EINDSOP-00150	Tang.Passive H2S in
NO2 Passive Analysis (l)	34	2010/12/08	2010/12/09	EINDSOP-00148	Tang Passive NO2 in
O3 Passive Analysis (l)	34	2010/12/07	2010/12/09	EINDSOP-00197	EPA 300 R2.1
SO2 Passive Analysis (l)	39	2010/12/09	2010/12/10	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: LManchak@maxxam.ca
Phone# (780) 378-8500

=====

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

Total cover pages: 1



Maxxam Job #: B0B7893
 Report Date: 2010/12/10

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Client Project #: 2010/10/27 - 2010/11/30
 Site Reference: LICA
 Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		Y82398	Y82400	Y82401	Y82402	Y82404		
Sampling Date		2010/10/27 09:50	2010/10/27 09:05	2010/10/27 09:05	2010/10/29 14:09	2010/10/29 13:20		
	Units	2	3	3A (DUP)	4	5	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb		0.11			0.12	0.02	4488969
Calculated NO2	ppb	1.5	2.3	2.1	2.2	2.4	0.1	4487501
Calculated O3	ppb	14.3	17.0	17.0	17.8	19.2	0.1	4482605
Calculated SO2	ppb	0.2	0.5	0.4	0.5	0.4	0.1	4491445
RDL = Reportable Detection Limit								

Maxxam ID		Y82405	Y82406	Y82407	Y82408	Y82409		
Sampling Date		2010/10/29 13:20	2010/10/29 11:44	2010/10/29 15:08	2010/10/29 15:08	2010/10/28 10:56		
	Units	5A (DUP)	6	8	8A (DUP)	9	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.07					0.02	4488969
Calculated NO2	ppb	2.5	2.8	2.3	1.6	2.4	0.1	4487501
Calculated O3	ppb	18.5	20.5	20.7	21.7	18.4	0.1	4482605
Calculated SO2	ppb	0.6	0.5	0.6	0.5	0.5	0.1	4491445
RDL = Reportable Detection Limit								

Maxxam ID		Y82410	Y82411	Y82412	Y82413	Y82414		
Sampling Date		2010/10/27 10:54	2010/10/27 10:54	2010/10/27 11:41	2010/10/27 13:26	2010/10/27 13:26		
	Units	10	10A DUP)	11	12	12A (DUP)	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.07	0.08	0.07	0.07	0.08	0.02	4488969
Calculated NO2	ppb	3.9	3.4	1.3	1.9	2.8	0.1	4487501
Calculated O3	ppb	15.6	16.2	14.8	17.7	17.2	0.1	4482605
Calculated SO2	ppb	0.3	0.5	0.3	0.5	0.6	0.1	4491445
RDL = Reportable Detection Limit								



Maxxam Job #: B0B7893
 Report Date: 2010/12/10

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Client Project #: 2010/10/27 - 2010/11/30
 Site Reference: LICA
 Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		Y82415	Y82416	Y82417		Y82418		
Sampling Date		2010/10/27 15:21	2010/10/27 16:24	2010/10/27 16:24		2010/10/28 13:09		
	Units	13	14	14A (DUP)	QC Batch	15	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.09	0.11	0.11	4488969		0.02	4488969
Calculated NO2	ppb	1.7	3.3	2.2	4487503	2.6	0.1	4487503
Calculated O3	ppb	20.1	18.1	18.1	4482606	18.2	0.1	4482606
Calculated SO2	ppb	0.7	1.4	1.7	4491445	0.3	0.1	4491448
RDL = Reportable Detection Limit								

Maxxam ID		Y82419	Y82420	Y82421	Y82422	Y82423		
Sampling Date		2010/10/29 09:59	2010/10/29 09:59	2010/10/29 10:52	2010/10/29 10:52	2010/10/29 09:06		
	Units	16	16A (DUP)	17	17A (DUP)	18	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.05		0.06	0.12	0.08	0.02	4488969
Calculated NO2	ppb	3.2	2.7	3.2		1.7	0.1	4487503
Calculated O3	ppb	18.9	16.7	22.0		19.9	0.1	4482606
Calculated SO2	ppb	0.6	0.4	0.6		0.3	0.1	4491448
RDL = Reportable Detection Limit								

Maxxam ID		Y82424	Y82425	Y82427	Y82428	Y82429		
Sampling Date		2010/10/29 09:06	2010/10/29 07:49	2010/10/28 13:52	2010/10/28 09:25	2010/10/28 09:25		
	Units	18A (DUP)	19	22	23	23A (DUP)	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb			0.09			0.02	4488969
Calculated NO2	ppb	1.8	1.7	2.8	1.1	1.0	0.1	4487503
Calculated O3	ppb	20.4	23.3	18.8	15.3	16.1	0.1	4482606
Calculated SO2	ppb	0.3	0.5	0.2	0.3	0.4	0.1	4491448
RDL = Reportable Detection Limit								



Maxxam Job #: B0B7893
 Report Date: 2010/12/10

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Client Project #: 2010/10/27 - 2010/11/30
 Site Reference: LICA
 Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		Y82430	Y82431	Y82432	Y82433	Y82434		
Sampling Date		2010/10/29 12:28	2010/10/29 12:28	2010/10/27 14:51	2010/10/27 14:51	2010/10/27 15:53		
	Units	24	24A (DUP)	25	25A (DUP)	26	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.11	0.11	0.08		0.06	0.02	4488969
Calculated NO2	ppb	4.5					0.1	4487503
Calculated O3	ppb	19.3					0.1	4482606
Calculated SO2	ppb	0.5		0.5	0.5	0.5	0.1	4491448
RDL = Reportable Detection Limit								

Maxxam ID		Y82435	Y82436	Y82437	Y82438	Y82439		
Sampling Date		2010/10/27 15:53	2010/10/27 16:41	2010/10/28 11:16	2010/10/28 11:16	2010/10/28 14:06		
	Units	26A (DUP)	27	28	28A (DUP)	29	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.15	0.20			0.10	0.02	4488969
Calculated NO2	ppb			6.5	6.6	3.2	0.1	4487503
Calculated O3	ppb			15.6	14.1	17.9	0.1	4482606
Calculated SO2	ppb		1.2	0.6		0.4	0.1	4491448
RDL = Reportable Detection Limit								

Maxxam ID		Y82440	Y82441	Y82442	Y82529		
Sampling Date		2010/10/28 14:06	2010/10/27 08:20	2010/10/28 11:49	2010/10/27 16:41		
	Units	29A (DUP)	32	34	27A (DUP)	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.08	0.10	0.10		0.02	4488969	
Calculated NO2	ppb		2.4	3.4		0.1	4487503	
Calculated O3	ppb		20.7	17.3		0.1	4482606	
Calculated SO2	ppb	0.3	0.7	0.5	1.1	0.1	4491448	
RDL = Reportable Detection Limit								



Maxxam Job #: B0B7893
Report Date: 2010/12/10

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2010/10/27 - 2010/11/30
Site Reference: LICA
Sampler Initials: SB

General Comments

Results relate only to the items tested.



LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Attention: MICHAEL BISAGA
 Client Project #: 2010/10/27 - 2010/11/30
 P.O. #:
 Site Reference: LICA

Quality Assurance Report
 Maxxam Job Number: PB0B7893

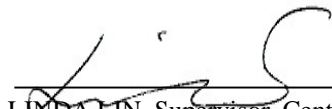
QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4482605 OZ	Calibration Check	Calculated O3	2010/12/07		100	%	91 - 107
	Spiked Blank	Calculated O3	2010/12/07		99	%	N/A
	Method Blank	Calculated O3	2010/12/07	<0.1		ppb	
4482606 OZ	Calibration Check	Calculated O3	2010/12/07		101	%	91 - 107
	Spiked Blank	Calculated O3	2010/12/07		99	%	N/A
	Method Blank	Calculated O3	2010/12/07	<0.1		ppb	
4487501 DF4	Calibration Check	Calculated NO2	2010/12/08		101	%	76 - 118
	Spiked Blank	Calculated NO2	2010/12/08		99	%	N/A
	Method Blank	Calculated NO2	2010/12/08	<0.1		ppb	
4487503 DF4	Calibration Check	Calculated NO2	2010/12/08		102	%	76 - 118
	Spiked Blank	Calculated NO2	2010/12/08		97	%	N/A
	Method Blank	Calculated NO2	2010/12/08	<0.1		ppb	
4488969 TM5	Calibration Check	Calculated H2S	2010/12/08		101	%	80 - 120
	Spiked Blank	Calculated H2S	2010/12/08		99	%	N/A
4491445 DF4	Calibration Check	Calculated SO2	2010/12/09		101	%	95 - 105
	Spiked Blank	Calculated SO2	2010/12/09		99	%	N/A
	Method Blank	Calculated SO2	2010/12/09	<0.1		ppb	
4491448 DF4	Calibration Check	Calculated SO2	2010/12/09		99	%	95 - 105
	Spiked Blank	Calculated SO2	2010/12/09		99	%	N/A
	Method Blank	Calculated SO2	2010/12/09	<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 #: B0B7893

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

A handwritten signature in black ink, appearing to read "Linda Lin". The signature is written over a horizontal line.

LINDA LIN, Supervisor, Centre for Passive Sampling Technology

=====

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.

Volatile Organics Laboratory Analysis

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167
Location: Cold Lake South Canister ID: 7795
Station ID: Lica 1 Canister Installation Date/Time: Nov 03, 2010 @ 11:07 mst
Field Sample ID: LICA VOC/ CLS /Nov 04, 10 Canister Removal Date/Time: Nov 05, 2010 @ 7:27 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
04-Nov-10	04/11/2010 0:00	05/10/2010 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

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 # 2329

Technician Signiture: Ting Xu



Your C.O.C. #: 2329

Attention: Michael Bisaga

Maxxam Analytics
 2608 6A Ave.
 Cold Lake, AB
 CANADA T9M 2C7

Report Date: 2010/11/17

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0G1104

Received: 2010/11/10, 09:13

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/11/11	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/11/11	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: TStephenson@maxxam.ca
 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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0G1104
 Report Date: 2010/11/17

RESULTS OF ANALYSES OF AIR

Maxxam ID		HU6099	HU6100	
Sampling Date		2010/11/04	2010/11/04	
COC Number		2329	2329	
	Units	LICA VOC\CLS\ NOV 4, 2010 - 7795	LICA VOC\PORT\ NOV 4, 2010 - 7794	QC Batch

Volatile Organics				
Pressure on Receipt	psig	20	21	2329893
QC Batch = Quality Control Batch				

Maxxam Job #: B0G1104
 Report Date: 2010/11/17

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HU6099			HU6100				
Sampling Date		2010/11/04			2010/11/04				
COC Number		2329			2329				
	Units	LICA VOC\CLS\ NOV 4, 2010 - 7795	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 4, 2010 - 7794	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics									
2,2,4-Trimethylpentane	ppbv	<0.20	<0.934	0.934	<0.20	0.20	<0.934	0.934	2329908
Carbon Disulfide	ppbv	<0.50	<1.56	1.56	<0.50	0.50	<1.56	1.56	2329908
Propene	ppbv	<0.30	<0.516	0.516	<0.30	0.30	<0.516	0.516	2329908
Vinyl Acetate	ppbv	<0.20	<0.704	0.704	<0.20	0.20	<0.704	0.704	2329908
Vinyl Bromide	ppbv	<0.20	<0.875	0.875	<0.20	0.20	<0.875	0.875	2329908
Dichlorodifluoromethane (FREON 12)	ppbv	0.66	3.26	0.989	0.63	0.20	3.14	0.989	2329908
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	<1.19	1.19	<0.17	0.17	<1.19	1.19	2329908
Chloromethane	ppbv	0.45	0.932	0.620	0.43	0.30	0.881	0.620	2329908
Vinyl Chloride	ppbv	<0.18	<0.460	0.460	<0.18	0.18	<0.460	0.460	2329908
Chloroethane	ppbv	<0.30	<0.792	0.792	<0.30	0.30	<0.792	0.792	2329908
1,3-Butadiene	ppbv	<0.50	<1.11	1.11	<0.50	0.50	<1.11	1.11	2329908
Trichlorofluoromethane (FREON 11)	ppbv	0.30	1.68	1.12	0.30	0.20	1.66	1.12	2329908
Trichlorotrifluoroethane	ppbv	<0.15	<1.15	1.15	<0.15	0.15	<1.15	1.15	2329908
Ethanol	ppbv	<2.3	<4.33	4.33	<2.3	2.3	<4.33	4.33	2329908
2-propanol	ppbv	<3.0	<7.37	7.37	<3.0	3.0	<7.37	7.37	2329908
2-Propanone	ppbv	<0.80	<1.90	1.90	<0.80	0.80	<1.90	1.90	2329908
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	<8.85	8.85	<3.0	3.0	<8.85	8.85	2329908
Methyl Isobutyl Ketone	ppbv	<3.2	<13.1	13.1	<3.2	3.2	<13.1	13.1	2329908
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	<8.19	8.19	<2.0	2.0	<8.19	8.19	2329908
Methyl t-butyl ether (MTBE)	ppbv	<0.20	<0.721	0.721	<0.20	0.20	<0.721	0.721	2329908
Ethyl Acetate	ppbv	<2.2	<7.93	7.93	<2.2	2.2	<7.93	7.93	2329908
1,1-Dichloroethylene	ppbv	<0.25	<0.991	0.991	<0.25	0.25	<0.991	0.991	2329908
cis-1,2-Dichloroethylene	ppbv	<0.19	<0.753	0.753	<0.19	0.19	<0.753	0.753	2329908
trans-1,2-Dichloroethylene	ppbv	<0.20	<0.793	0.793	<0.20	0.20	<0.793	0.793	2329908
Methylene Chloride(Dichloromethane)	ppbv	<0.60	<2.08	2.08	<0.60	0.60	<2.08	2.08	2329908
Chloroform	ppbv	<0.15	<0.732	0.732	<0.15	0.15	<0.732	0.732	2329908
Carbon Tetrachloride	ppbv	<0.30	<1.89	1.89	<0.30	0.30	<1.89	1.89	2329908
1,1-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2329908
1,2-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2329908
Ethylene Dibromide	ppbv	<0.17	<1.31	1.31	<0.17	0.17	<1.31	1.31	2329908

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G1104
 Report Date: 2010/11/17

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HU6099			HU6100				
Sampling Date		2010/11/04			2010/11/04				
COC Number		2329			2329				
	Units	LICA VOC\CLS\ NOV 4, 2010 - 7795	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 4, 2010 - 7794	RDL	ug/m3	DL (ug/m3)	QC Batch

1,1,1-Trichloroethane	ppbv	<0.30	<1.64	1.64	<0.30	0.30	<1.64	1.64	2329908
1,1,2-Trichloroethane	ppbv	<0.15	<0.818	0.818	<0.15	0.15	<0.818	0.818	2329908
1,1,2,2-Tetrachloroethane	ppbv	<0.20	<1.37	1.37	<0.20	0.20	<1.37	1.37	2329908
cis-1,3-Dichloropropene	ppbv	<0.18	<0.817	0.817	<0.18	0.18	<0.817	0.817	2329908
trans-1,3-Dichloropropene	ppbv	<0.17	<0.772	0.772	<0.17	0.17	<0.772	0.772	2329908
1,2-Dichloropropane	ppbv	<0.40	<1.85	1.85	<0.40	0.40	<1.85	1.85	2329908
Bromomethane	ppbv	<0.18	<0.699	0.699	<0.18	0.18	<0.699	0.699	2329908
Bromoform	ppbv	<0.20	<2.07	2.07	<0.20	0.20	<2.07	2.07	2329908
Bromodichloromethane	ppbv	<0.20	<1.34	1.34	<0.20	0.20	<1.34	1.34	2329908
Dibromochloromethane	ppbv	<0.20	<1.70	1.70	<0.20	0.20	<1.70	1.70	2329908
Heptane	ppbv	<0.30	<1.23	1.23	<0.30	0.30	<1.23	1.23	2329908
Trichloroethylene	ppbv	<0.30	<1.61	1.61	<0.30	0.30	<1.61	1.61	2329908
Tetrachloroethylene	ppbv	<0.20	<1.36	1.36	<0.20	0.20	<1.36	1.36	2329908
Benzene	ppbv	<0.18	<0.575	0.575	<0.18	0.18	<0.575	0.575	2329908
Toluene	ppbv	<0.20	<0.753	0.753	<0.20	0.20	<0.753	0.753	2329908
Ethylbenzene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2329908
p+m-Xylene	ppbv	<0.37	<1.61	1.61	<0.37	0.37	<1.61	1.61	2329908
o-Xylene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2329908
Styrene	ppbv	<0.20	<0.852	0.852	<0.20	0.20	<0.852	0.852	2329908
1,3,5-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2329908
1,2,4-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2329908
4-ethyltoluene	ppbv	<2.2	<10.8	10.8	<2.2	2.2	<10.8	10.8	2329908
Chlorobenzene	ppbv	<0.20	<0.921	0.921	<0.20	0.20	<0.921	0.921	2329908
Benzyl chloride	ppbv	<1.0	<5.18	5.18	<1.0	1.0	<5.18	5.18	2329908
1,3-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2329908
1,4-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2329908
1,2-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2329908
1,2,4-Trichlorobenzene	ppbv	<2.0	<14.8	14.8	<2.0	2.0	<14.8	14.8	2329908
Hexachlorobutadiene	ppbv	<3.0	<32.0	32.0	<3.0	3.0	<32.0	32.0	2329908
Hexane	ppbv	<0.30	<1.06	1.06	<0.30	0.30	<1.06	1.06	2329908
Cyclohexane	ppbv	<0.20	<0.688	0.688	<0.20	0.20	<0.688	0.688	2329908
Tetrahydrofuran	ppbv	<0.40	<1.18	1.18	<0.40	0.40	<1.18	1.18	2329908

QC Batch = Quality Control Batch

Maxxam Job #: B0G1104
 Report Date: 2010/11/17

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HU6099			HU6100				
Sampling Date		2010/11/04			2010/11/04				
COC Number		2329			2329				
	Units	LICA VOC\CLS\ NOV 4, 2010 - 7795	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 4, 2010 - 7794	RDL	ug/m3	DL (ug/m3)	QC Batch

1,4-Dioxane	ppbv	<2.0	<7.21	7.21	<2.0	2.0	<7.21	7.21	2329908
Xylene (Total)	ppbv	<0.60	<2.61	2.61	<0.60	0.60	<2.61	2.61	2329908
Surrogate Recovery (%)									
Bromochloromethane	%	96	N/A	N/A	98		N/A	N/A	2329908
D5-Chlorobenzene	%	86	N/A	N/A	88		N/A	N/A	2329908
Difluorobenzene	%	98	N/A	N/A	99		N/A	N/A	2329908

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

Maxxam Job #: B0G1104
 Report Date: 2010/11/17

Test Summary

Maxxam ID HU6099
Sample ID LICA VOC\CLS\ NOV 4, 2010 - 7795
Matrix AIR
Collected 2010/11/04
Shipped
Received 2010/11/10

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2329893	N/A	2010/11/11	S_S
Volatile Organics in Air (TO-15)	GC/MS	2329908	N/A	2010/11/11	S_S

Maxxam ID HU6099 Dup
Sample ID LICA VOC\CLS\ NOV 4, 2010 - 7795
Matrix AIR
Collected 2010/11/04
Shipped
Received 2010/11/10

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Volatile Organics in Air (TO-15)	GC/MS	2329908	N/A	2010/11/11	S_S

Maxxam ID HU6100
Sample ID LICA VOC\PORT\ NOV 4, 2010 - 7794
Matrix AIR
Collected 2010/11/04
Shipped
Received 2010/11/10

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2329893	N/A	2010/11/11	S_S
Volatile Organics in Air (TO-15)	GC/MS	2329908	N/A	2010/11/11	S_S

Maxxam Job #: B0G1104
Report Date: 2010/11/17

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report
 Maxxam Job Number: GB0G1104

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2329908 S_S	Spiked Blank	Bromochloromethane	2010/11/11		117	%	60 - 140
		D5-Chlorobenzene	2010/11/11		114	%	60 - 140
		Difluorobenzene	2010/11/11		121	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/11		102	%	70 - 130
		Carbon Disulfide	2010/11/11		91	%	70 - 130
		Propene	2010/11/11		109	%	70 - 130
		Vinyl Acetate	2010/11/11		111	%	70 - 130
		Vinyl Bromide	2010/11/11		97	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/11/11		102	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/11/11		111	%	70 - 130
		Chloromethane	2010/11/11		102	%	70 - 130
		Vinyl Chloride	2010/11/11		98	%	70 - 130
		Chloroethane	2010/11/11		94	%	70 - 130
		1,3-Butadiene	2010/11/11		102	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/11/11		96	%	70 - 130
		Trichlorotrifluoroethane	2010/11/11		92	%	70 - 130
		Ethanol	2010/11/11		103	%	70 - 130
		2-propanol	2010/11/11		110	%	70 - 130
		2-Propanone	2010/11/11		85	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/11/11		111	%	70 - 130
		Methyl Isobutyl Ketone	2010/11/11		108	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/11/11		130	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/11/11		105	%	70 - 130
		Ethyl Acetate	2010/11/11		106	%	70 - 130
		1,1-Dichloroethylene	2010/11/11		100	%	70 - 130
		cis-1,2-Dichloroethylene	2010/11/11		102	%	70 - 130
		trans-1,2-Dichloroethylene	2010/11/11		102	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/11/11		91	%	70 - 130
		Chloroform	2010/11/11		97	%	70 - 130
		Carbon Tetrachloride	2010/11/11		98	%	70 - 130
		1,1-Dichloroethane	2010/11/11		98	%	70 - 130
		1,2-Dichloroethane	2010/11/11		101	%	70 - 130
		Ethylene Dibromide	2010/11/11		97	%	70 - 130
		1,1,1-Trichloroethane	2010/11/11		97	%	70 - 130
		1,1,2-Trichloroethane	2010/11/11		96	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/11/11		91	%	70 - 130
		cis-1,3-Dichloropropene	2010/11/11		104	%	70 - 130
		trans-1,3-Dichloropropene	2010/11/11		112	%	70 - 130
		1,2-Dichloropropane	2010/11/11		97	%	70 - 130
		Bromomethane	2010/11/11		92	%	70 - 130
		Bromoform	2010/11/11		98	%	70 - 130
		Bromodichloromethane	2010/11/11		99	%	70 - 130
		Dibromochloromethane	2010/11/11		104	%	70 - 130
		Heptane	2010/11/11		104	%	70 - 130
		Trichloroethylene	2010/11/11		92	%	70 - 130
		Tetrachloroethylene	2010/11/11		92	%	70 - 130
		Benzene	2010/11/11		97	%	70 - 130
		Toluene	2010/11/11		101	%	70 - 130
		Ethylbenzene	2010/11/11		101	%	70 - 130
		p+m-Xylene	2010/11/11		99	%	70 - 130
		o-Xylene	2010/11/11		98	%	70 - 130
		Styrene	2010/11/11		115	%	70 - 130
		1,3,5-Trimethylbenzene	2010/11/11		91	%	70 - 130
		1,2,4-Trimethylbenzene	2010/11/11		92	%	70 - 130
		4-ethyltoluene	2010/11/11		99	%	70 - 130

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G1104

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits	
2329908 S_S	Spiked Blank	Chlorobenzene	2010/11/11		88	%	70 - 130	
		Benzyl chloride	2010/11/11		101	%	70 - 130	
1,3-Dichlorobenzene		2010/11/11		84	%	70 - 130		
1,4-Dichlorobenzene		2010/11/11		83	%	70 - 130		
1,2-Dichlorobenzene		2010/11/11		82	%	70 - 130		
1,2,4-Trichlorobenzene		2010/11/11		80	%	70 - 130		
Hexachlorobutadiene		2010/11/11		80	%	70 - 130		
Hexane		2010/11/11		106	%	70 - 130		
Cyclohexane		2010/11/11		103	%	70 - 130		
Tetrahydrofuran		2010/11/11		109	%	70 - 130		
Method Blank	Method Blank	1,4-Dioxane	2010/11/11		112	%	70 - 130	
		Bromochloromethane	2010/11/11		97	%	60 - 140	
		D5-Chlorobenzene	2010/11/11		87	%	60 - 140	
		Difluorobenzene	2010/11/11		101	%	60 - 140	
		2,2,4-Trimethylpentane	2010/11/11	<0.20			ppbv	
		Carbon Disulfide	2010/11/11	<0.50			ppbv	
		Propene	2010/11/11	<0.30			ppbv	
		Vinyl Acetate	2010/11/11	<0.20			ppbv	
		Vinyl Bromide	2010/11/11	<0.20			ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/11/11	<0.20			ppbv	
		1,2-Dichlorotetrafluoroethane	2010/11/11	<0.17			ppbv	
		Chloromethane	2010/11/11	<0.30			ppbv	
		Vinyl Chloride	2010/11/11	<0.18			ppbv	
		Chloroethane	2010/11/11	<0.30			ppbv	
		1,3-Butadiene	2010/11/11	<0.50			ppbv	
		Trichlorofluoromethane (FREON 11)	2010/11/11	<0.20			ppbv	
		Trichlorotrifluoroethane	2010/11/11	<0.15			ppbv	
		Ethanol	2010/11/11	<2.3			ppbv	
		2-propanol	2010/11/11	<3.0			ppbv	
		2-Propanone	2010/11/11	<0.80			ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/11/11	<3.0			ppbv	
		Methyl Isobutyl Ketone	2010/11/11	<3.2			ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/11/11	<2.0			ppbv	
		Methyl t-butyl ether (MTBE)	2010/11/11	<0.20			ppbv	
		Ethyl Acetate	2010/11/11	<2.2			ppbv	
		1,1-Dichloroethylene	2010/11/11	<0.25			ppbv	
		cis-1,2-Dichloroethylene	2010/11/11	<0.19			ppbv	
		trans-1,2-Dichloroethylene	2010/11/11	<0.20			ppbv	
		Methylene Chloride(Dichloromethane)	2010/11/11	<0.60			ppbv	
		Chloroform	2010/11/11	<0.15			ppbv	
		Carbon Tetrachloride	2010/11/11	<0.30			ppbv	
		1,1-Dichloroethane	2010/11/11	<0.20			ppbv	
		1,2-Dichloroethane	2010/11/11	<0.20			ppbv	
		Ethylene Dibromide	2010/11/11	<0.17			ppbv	
		1,1,1-Trichloroethane	2010/11/11	<0.30			ppbv	
		1,1,2-Trichloroethane	2010/11/11	<0.15			ppbv	
		1,1,2,2-Tetrachloroethane	2010/11/11	<0.20			ppbv	
		cis-1,3-Dichloropropene	2010/11/11	<0.18			ppbv	
trans-1,3-Dichloropropene	2010/11/11	<0.17			ppbv			
1,2-Dichloropropane	2010/11/11	<0.40			ppbv			
Bromomethane	2010/11/11	<0.18			ppbv			
Bromoform	2010/11/11	<0.20			ppbv			
Bromodichloromethane	2010/11/11	<0.20			ppbv			
Dibromochloromethane	2010/11/11	<0.20			ppbv			
Heptane	2010/11/11	<0.30			ppbv			

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G1104

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2329908 S_S	Method Blank	Trichloroethylene	2010/11/11	<0.30		ppbv	
		Tetrachloroethylene	2010/11/11	<0.20		ppbv	
		Benzene	2010/11/11	<0.18		ppbv	
		Toluene	2010/11/11	<0.20		ppbv	
		Ethylbenzene	2010/11/11	<0.20		ppbv	
		p+m-Xylene	2010/11/11	<0.37		ppbv	
		o-Xylene	2010/11/11	<0.20		ppbv	
		Styrene	2010/11/11	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/11/11	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/11/11	<0.50		ppbv	
		4-ethyltoluene	2010/11/11	<2.2		ppbv	
		Chlorobenzene	2010/11/11	<0.20		ppbv	
		Benzyl chloride	2010/11/11	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/11/11	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/11/11	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/11/11	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/11/11	<2.0		ppbv	
		Hexachlorobutadiene	2010/11/11	<3.0		ppbv	
		Hexane	2010/11/11	<0.30		ppbv	
		Cyclohexane	2010/11/11	<0.20		ppbv	
		Tetrahydrofuran	2010/11/11	<0.40		ppbv	
		1,4-Dioxane	2010/11/11	<2.0		ppbv	
		Xylene (Total)	2010/11/11	<0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2010/11/11	NC		%	25
		Carbon Disulfide	2010/11/11	NC		%	25
		Propene	2010/11/11	NC		%	25
		Vinyl Acetate	2010/11/11	NC		%	25
		Vinyl Bromide	2010/11/11	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2010/11/11	NC		%	25
		1,2-Dichlorotetrafluoroethane	2010/11/11	NC		%	25
		Chloromethane	2010/11/11	NC		%	25
		Vinyl Chloride	2010/11/11	NC		%	25
		Chloroethane	2010/11/11	NC		%	25
		1,3-Butadiene	2010/11/11	NC		%	25
		Trichlorofluoromethane (FREON 11)	2010/11/11	NC		%	25
		Trichlorotrifluoroethane	2010/11/11	NC		%	25
		Ethanol	2010/11/11	NC		%	25
		2-propanol	2010/11/11	NC		%	25
		2-Propanone	2010/11/11	NC		%	25
		Methyl Ethyl Ketone (2-Butanone)	2010/11/11	NC		%	25
		Methyl Isobutyl Ketone	2010/11/11	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2010/11/11	NC		%	25
		Methyl t-butyl ether (MTBE)	2010/11/11	NC		%	25
		Ethyl Acetate	2010/11/11	NC		%	25
		1,1-Dichloroethylene	2010/11/11	NC		%	25
		cis-1,2-Dichloroethylene	2010/11/11	NC		%	25
		trans-1,2-Dichloroethylene	2010/11/11	NC		%	25
		Methylene Chloride(Dichloromethane)	2010/11/11	NC		%	25
		Chloroform	2010/11/11	NC		%	25
		Carbon Tetrachloride	2010/11/11	NC		%	25
		1,1-Dichloroethane	2010/11/11	NC		%	25
		1,2-Dichloroethane	2010/11/11	NC		%	25
		Ethylene Dibromide	2010/11/11	NC		%	25

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G1104

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2329908 S_S	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2010/11/11	NC		%	25
		1,1,2-Trichloroethane	2010/11/11	NC		%	25
		1,1,2,2-Tetrachloroethane	2010/11/11	NC		%	25
		cis-1,3-Dichloropropene	2010/11/11	NC		%	25
		trans-1,3-Dichloropropene	2010/11/11	NC		%	25
		1,2-Dichloropropane	2010/11/11	NC		%	25
		Bromomethane	2010/11/11	NC		%	25
		Bromoform	2010/11/11	NC		%	25
		Bromodichloromethane	2010/11/11	NC		%	25
		Dibromochloromethane	2010/11/11	NC		%	25
		Heptane	2010/11/11	NC		%	25
		Trichloroethylene	2010/11/11	NC		%	25
		Tetrachloroethylene	2010/11/11	NC		%	25
		Benzene	2010/11/11	NC		%	25
		Toluene	2010/11/11	NC		%	25
		Ethylbenzene	2010/11/11	NC		%	25
		p+m-Xylene	2010/11/11	NC		%	25
		o-Xylene	2010/11/11	NC		%	25
		Styrene	2010/11/11	NC		%	25
		1,3,5-Trimethylbenzene	2010/11/11	NC		%	25
		1,2,4-Trimethylbenzene	2010/11/11	NC		%	25
		4-ethyltoluene	2010/11/11	NC		%	25
		Chlorobenzene	2010/11/11	NC		%	25
		Benzyl chloride	2010/11/11	NC		%	25
		1,3-Dichlorobenzene	2010/11/11	NC		%	25
		1,4-Dichlorobenzene	2010/11/11	NC		%	25
		1,2-Dichlorobenzene	2010/11/11	NC		%	25
		1,2,4-Trichlorobenzene	2010/11/11	NC		%	25
		Hexachlorobutadiene	2010/11/11	NC		%	25
		Hexane	2010/11/11	NC		%	25
		Cyclohexane	2010/11/11	NC		%	25
		Tetrahydrofuran	2010/11/11	NC		%	25
		1,4-Dioxane	2010/11/11	NC		%	25
		Xylene (Total)	2010/11/11	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.

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167
Location: Cold Lake South Canister ID: 7821
Station ID: Lica 1 Canister Installation Date/Time: Nov 9, 2010 @ 8:27 mst
Field Sample ID: LICA VOC/ CLS /Nov 10, 10 Canister Removal Date/Time: Nov 11, 2010 @ 8:31 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
10-Nov-10	10/11/2010 0:00	11/11/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	622	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	22.5

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 # 2331

Technician Signiture: Ting Xu

Your C.O.C. #: 2331

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7**Report Date: 2010/11/23****CERTIFICATE OF ANALYSIS****MAXXAM JOB #: B0G4510****Received: 2010/11/16, 10:00**Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/11/22	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/11/22	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

RESULTS OF ANALYSES OF AIR

Maxxam ID		HW3363	HW3364	
Sampling Date		2010/11/10	2010/11/10	
COC Number		2331	2331	
	Units	LICAVOC/CLS/NOV 10,10 - 7821	LICAVOC/PORT/NOV 10,10 - 7813	QC Batch

Volatile Organics				
Pressure on Receipt	psig	21	22	2337948

QC Batch = Quality Control Batch

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3363				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/CLS/NOV 10,10 - 7821	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2337348
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2337348
Propene	ppbv	<0.30	0.30	<0.516	0.516	2337348
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2337348
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2337348
Dichlorodifluoromethane (FREON 12)	ppbv	0.65	0.20	3.23	0.989	2337348
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2337348
Chloromethane	ppbv	0.43	0.30	0.886	0.620	2337348
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2337348
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2337348
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2337348
Trichlorofluoromethane (FREON 11)	ppbv	0.38	0.20	2.12	1.12	2337348
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2337348
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2337348
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2337348
2-Propanone	ppbv	1.42	0.80	3.38	1.90	2337348
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2337348
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2337348
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2337348
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2337348
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2337348
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2337348
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2337348
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2337348
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2337348
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2337348
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2337348
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337348
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337348
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2337348
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2337348
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2337348

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3363				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/CLS/NOV 10,10 - 7821	RDL	ug/m3	DL (ug/m3)	QC Batch

1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2337348
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2337348
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2337348
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2337348
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2337348
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2337348
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2337348
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2337348
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2337348
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2337348
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2337348
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2337348
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2337348
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2337348
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2337348
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2337348
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2337348
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337348
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337348
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2337348
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2337348
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2337348
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2337348
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2337348
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2337348
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2337348
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2337348
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2337348
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2337348
Surrogate Recovery (%)						
Bromochloromethane	%	99		N/A	N/A	2337348

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

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3363				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/CLS/NOV	RDL	ug/m3	DL (ug/m3)	QC Batch
		10,10 - 7821				

D5-Chlorobenzene	%	95		N/A	N/A	2337348
Difluorobenzene	%	99		N/A	N/A	2337348

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

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3364				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/PORT/NOV 10,10 - 7813	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatiles Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2337348
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2337348
Propene	ppbv	<0.30	0.30	<0.516	0.516	2337348
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2337348
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2337348
Dichlorodifluoromethane (FREON 12)	ppbv	0.67	0.20	3.29	0.989	2337348
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2337348
Chloromethane	ppbv	0.41	0.30	0.857	0.620	2337348
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2337348
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2337348
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2337348
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.09	1.12	2337348
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2337348
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2337348
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2337348
2-Propanone	ppbv	1.23	0.80	2.91	1.90	2337348
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2337348
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2337348
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2337348
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2337348
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2337348
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2337348
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2337348
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2337348
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2337348
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2337348
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2337348
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337348
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337348
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2337348
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2337348
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2337348

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3364				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/PORT/NOV 10,10 - 7813	RDL	ug/m3	DL (ug/m3)	QC Batch
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2337348
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2337348
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2337348
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2337348
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2337348
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2337348
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2337348
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2337348
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2337348
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2337348
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2337348
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2337348
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2337348
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2337348
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2337348
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2337348
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2337348
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337348
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337348
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2337348
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2337348
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2337348
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2337348
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2337348
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2337348
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2337348
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2337348
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2337348
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2337348
Surrogate Recovery (%)						
Bromochloromethane	%	97		N/A	N/A	2337348

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

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3364				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/PORT/NOV 10,10 - 7813	RDL	ug/m3	DL (ug/m3)	QC Batch

D5-Chlorobenzene	%	93		N/A	N/A	2337348
Difluorobenzene	%	96		N/A	N/A	2337348

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

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

Test Summary

Maxxam ID HW3363
Sample ID LICAVOC/CLS/NOV 10,10 - 7821
Matrix AIR
Collected 2010/11/10
Shipped
Received 2010/11/16

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2337948	N/A	2010/11/22	S_S
Volatile Organics in Air (TO-15)	GC/MS	2337348	N/A	2010/11/22	S_S

Maxxam ID HW3364
Sample ID LICAVOC/PORT/NOV 10,10 - 7813
Matrix AIR
Collected 2010/11/10
Shipped
Received 2010/11/16

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2337948	N/A	2010/11/22	S_S
Volatile Organics in Air (TO-15)	GC/MS	2337348	N/A	2010/11/22	S_S

Maxxam Job #: B0G4510
Report Date: 2010/11/23

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report
 Maxxam Job Number: GB0G4510

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337348 S_S	Spiked Blank	Bromochloromethane	2010/11/22		102	%	60 - 140
		D5-Chlorobenzene	2010/11/22		105	%	60 - 140
		Difluorobenzene	2010/11/22		104	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/22		99	%	70 - 130
		Carbon Disulfide	2010/11/22		90	%	70 - 130
		Propene	2010/11/22		91	%	70 - 130
		Vinyl Acetate	2010/11/22		104	%	70 - 130
		Vinyl Bromide	2010/11/22		115	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/11/22		120	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/11/22		129	%	70 - 130
		Chloromethane	2010/11/22		112	%	70 - 130
		Vinyl Chloride	2010/11/22		102	%	70 - 130
		Chloroethane	2010/11/22		98	%	70 - 130
		1,3-Butadiene	2010/11/22		107	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/11/22		132 (1)	%	70 - 130
		Trichlorotrifluoroethane	2010/11/22		104	%	70 - 130
		Ethanol	2010/11/22		109	%	70 - 130
		2-propanol	2010/11/22		104	%	70 - 130
		2-Propanone	2010/11/22		128	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/11/22		107	%	70 - 130
		Methyl Isobutyl Ketone	2010/11/22		105	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/11/22		111	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/11/22		109	%	70 - 130
		Ethyl Acetate	2010/11/22		101	%	70 - 130
		1,1-Dichloroethylene	2010/11/22		105	%	70 - 130
		cis-1,2-Dichloroethylene	2010/11/22		100	%	70 - 130
		trans-1,2-Dichloroethylene	2010/11/22		106	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/11/22		95	%	70 - 130
		Chloroform	2010/11/22		108	%	70 - 130
		Carbon Tetrachloride	2010/11/22		124	%	70 - 130
		1,1-Dichloroethane	2010/11/22		101	%	70 - 130
		1,2-Dichloroethane	2010/11/22		118	%	70 - 130
		Ethylene Dibromide	2010/11/22		102	%	70 - 130
		1,1,1-Trichloroethane	2010/11/22		115	%	70 - 130
		1,1,2-Trichloroethane	2010/11/22		98	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/11/22		94	%	70 - 130
		cis-1,3-Dichloropropene	2010/11/22		105	%	70 - 130
		trans-1,3-Dichloropropene	2010/11/22		108	%	70 - 130
		1,2-Dichloropropane	2010/11/22		92	%	70 - 130
		Bromomethane	2010/11/22		103	%	70 - 130
		Bromoform	2010/11/22		126	%	70 - 130
		Bromodichloromethane	2010/11/22		117	%	70 - 130
		Dibromochloromethane	2010/11/22		125	%	70 - 130
		Heptane	2010/11/22		97	%	70 - 130
		Trichloroethylene	2010/11/22		96	%	70 - 130
		Tetrachloroethylene	2010/11/22		102	%	70 - 130
		Benzene	2010/11/22		90	%	70 - 130
		Toluene	2010/11/22		97	%	70 - 130
		Ethylbenzene	2010/11/22		97	%	70 - 130
		p+m-Xylene	2010/11/22		99	%	70 - 130
		o-Xylene	2010/11/22		105	%	70 - 130
		Styrene	2010/11/22		97	%	70 - 130
		1,3,5-Trimethylbenzene	2010/11/22		97	%	70 - 130
		1,2,4-Trimethylbenzene	2010/11/22		94	%	70 - 130
		4-ethyltoluene	2010/11/22		103	%	70 - 130

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G4510

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337348 S_S	Spiked Blank	Chlorobenzene	2010/11/22		94	%	70 - 130
		Benzyl chloride	2010/11/22		105	%	70 - 130
		1,3-Dichlorobenzene	2010/11/22		87	%	70 - 130
		1,4-Dichlorobenzene	2010/11/22		87	%	70 - 130
		1,2-Dichlorobenzene	2010/11/22		87	%	70 - 130
		1,2,4-Trichlorobenzene	2010/11/22		87	%	70 - 130
		Hexachlorobutadiene	2010/11/22		99	%	70 - 130
		Hexane	2010/11/22		97	%	70 - 130
		Cyclohexane	2010/11/22		95	%	70 - 130
		Tetrahydrofuran	2010/11/22		98	%	70 - 130
		1,4-Dioxane	2010/11/22		103	%	70 - 130
	Method Blank	Bromochloromethane	2010/11/22		107	%	60 - 140
		D5-Chlorobenzene	2010/11/22		101	%	60 - 140
		Difluorobenzene	2010/11/22		110	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/22	<0.20		ppbv	
		Carbon Disulfide	2010/11/22	<0.50		ppbv	
		Propene	2010/11/22	<0.30		ppbv	
		Vinyl Acetate	2010/11/22	<0.20		ppbv	
		Vinyl Bromide	2010/11/22	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/11/22	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/11/22	<0.17		ppbv	
		Chloromethane	2010/11/22	<0.30		ppbv	
		Vinyl Chloride	2010/11/22	<0.18		ppbv	
		Chloroethane	2010/11/22	<0.30		ppbv	
		1,3-Butadiene	2010/11/22	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/11/22	<0.20		ppbv	
		Trichlorotrifluoroethane	2010/11/22	<0.15		ppbv	
		Ethanol	2010/11/22	<2.3		ppbv	
		2-propanol	2010/11/22	<3.0		ppbv	
		2-Propanone	2010/11/22	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/11/22	<3.0		ppbv	
		Methyl Isobutyl Ketone	2010/11/22	<3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/11/22	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/11/22	<0.20		ppbv	
		Ethyl Acetate	2010/11/22	<2.2		ppbv	
		1,1-Dichloroethylene	2010/11/22	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/11/22	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/11/22	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/11/22	<0.80		ppbv	
		Chloroform	2010/11/22	<0.15		ppbv	
		Carbon Tetrachloride	2010/11/22	<0.30		ppbv	
		1,1-Dichloroethane	2010/11/22	<0.20		ppbv	
		1,2-Dichloroethane	2010/11/22	<0.20		ppbv	
		Ethylene Dibromide	2010/11/22	<0.17		ppbv	
		1,1,1-Trichloroethane	2010/11/22	<0.30		ppbv	
		1,1,2-Trichloroethane	2010/11/22	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/11/22	<0.20		ppbv	
		cis-1,3-Dichloropropene	2010/11/22	<0.18		ppbv	
		trans-1,3-Dichloropropene	2010/11/22	<0.17		ppbv	
		1,2-Dichloropropane	2010/11/22	<0.40		ppbv	
		Bromomethane	2010/11/22	<0.18		ppbv	
		Bromoform	2010/11/22	<0.20		ppbv	
		Bromodichloromethane	2010/11/22	<0.20		ppbv	
		Dibromochloromethane	2010/11/22	<0.20		ppbv	
		Heptane	2010/11/22	<0.30		ppbv	

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G4510

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337348 S_S	Method Blank	Trichloroethylene	2010/11/22	<0.30		ppbv	
		Tetrachloroethylene	2010/11/22	<0.20		ppbv	
		Benzene	2010/11/22	<0.18		ppbv	
		Toluene	2010/11/22	<0.20		ppbv	
		Ethylbenzene	2010/11/22	<0.20		ppbv	
		p+m-Xylene	2010/11/22	<0.37		ppbv	
		o-Xylene	2010/11/22	<0.20		ppbv	
		Styrene	2010/11/22	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/11/22	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/11/22	<0.50		ppbv	
		4-ethyltoluene	2010/11/22	<2.2		ppbv	
		Chlorobenzene	2010/11/22	<0.20		ppbv	
		Benzyl chloride	2010/11/22	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/11/22	<2.0		ppbv	
		Hexachlorobutadiene	2010/11/22	<3.0		ppbv	
		Hexane	2010/11/22	<0.30		ppbv	
		Cyclohexane	2010/11/22	<0.20		ppbv	
		Tetrahydrofuran	2010/11/22	<0.40		ppbv	
		1,4-Dioxane	2010/11/22	<2.0		ppbv	
		Xylene (Total)	2010/11/22	<0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2010/11/22	NC		%	25
		Carbon Disulfide	2010/11/22	NC		%	25
		Propene	2010/11/22	NC		%	25
		Vinyl Acetate	2010/11/22	NC		%	25
		Vinyl Bromide	2010/11/22	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2010/11/22	NC		%	25
		1,2-Dichlorotetrafluoroethane	2010/11/22	NC		%	25
		Chloromethane	2010/11/22	NC		%	25
		Vinyl Chloride	2010/11/22	NC		%	25
		Chloroethane	2010/11/22	NC		%	25
		1,3-Butadiene	2010/11/22	NC		%	25
		Trichlorofluoromethane (FREON 11)	2010/11/22	NC		%	25
		Trichlorotrifluoroethane	2010/11/22	NC		%	25
		Ethanol	2010/11/22	NC		%	25
		2-propanol	2010/11/22	NC		%	25
		2-Propanone	2010/11/22	0.6		%	25
		Methyl Ethyl Ketone (2-Butanone)	2010/11/22	NC		%	25
		Methyl Isobutyl Ketone	2010/11/22	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2010/11/22	NC		%	25
		Methyl t-butyl ether (MTBE)	2010/11/22	NC		%	25
		Ethyl Acetate	2010/11/22	NC		%	25
		1,1-Dichloroethylene	2010/11/22	NC		%	25
		cis-1,2-Dichloroethylene	2010/11/22	NC		%	25
		trans-1,2-Dichloroethylene	2010/11/22	NC		%	25
		Methylene Chloride(Dichloromethane)	2010/11/22	NC		%	25
		Chloroform	2010/11/22	NC		%	25
		Carbon Tetrachloride	2010/11/22	NC		%	25
		1,1-Dichloroethane	2010/11/22	NC		%	25
		1,2-Dichloroethane	2010/11/22	NC		%	25
		Ethylene Dibromide	2010/11/22	NC		%	25

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G4510

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337348 S_S	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2010/11/22	NC		%	25
		1,1,2-Trichloroethane	2010/11/22	NC		%	25
		1,1,2,2-Tetrachloroethane	2010/11/22	NC		%	25
		cis-1,3-Dichloropropene	2010/11/22	NC		%	25
		trans-1,3-Dichloropropene	2010/11/22	NC		%	25
		1,2-Dichloropropane	2010/11/22	NC		%	25
		Bromomethane	2010/11/22	NC		%	25
		Bromoform	2010/11/22	NC		%	25
		Bromodichloromethane	2010/11/22	NC		%	25
		Dibromochloromethane	2010/11/22	NC		%	25
		Heptane	2010/11/22	NC		%	25
		Trichloroethylene	2010/11/22	NC		%	25
		Tetrachloroethylene	2010/11/22	NC		%	25
		Benzene	2010/11/22	NC		%	25
		Toluene	2010/11/22	1.9		%	25
		Ethylbenzene	2010/11/22	NC		%	25
		p+m-Xylene	2010/11/22	NC		%	25
		o-Xylene	2010/11/22	NC		%	25
		Styrene	2010/11/22	NC		%	25
		1,3,5-Trimethylbenzene	2010/11/22	NC		%	25
		1,2,4-Trimethylbenzene	2010/11/22	NC		%	25
		4-ethyltoluene	2010/11/22	NC		%	25
		Chlorobenzene	2010/11/22	NC		%	25
		Benzyl chloride	2010/11/22	NC		%	25
		1,3-Dichlorobenzene	2010/11/22	NC		%	25
		1,4-Dichlorobenzene	2010/11/22	NC		%	25
		1,2-Dichlorobenzene	2010/11/22	NC		%	25
		1,2,4-Trichlorobenzene	2010/11/22	NC		%	25
		Hexachlorobutadiene	2010/11/22	NC		%	25
		Hexane	2010/11/22	NC		%	25
		Cyclohexane	2010/11/22	NC		%	25
		Tetrahydrofuran	2010/11/22	NC		%	25
		1,4-Dioxane	2010/11/22	NC		%	25
		Xylene (Total)	2010/11/22	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.

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167
Location: Cold Lake South Canister ID: 7831
Station ID: Lica 1 Canister Installation Date/Time: Nov 15, 2010 @ 16:14 mst
Field Sample ID: LICA VOC/ CLS /Nov 16, 10 Canister Removal Date/Time: Nov 17, 2010 @ 8:43 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
16-Nov-10	16/11/2010 0:00	17/11/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	618	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	22

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 # 5077

Technician Signiture: Ting Xu

Your C.O.C. #: 5077

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/11/29

CERTIFICATE OF ANALYSIS**MAXXAM JOB #: B0G6636****Received: 2010/11/19, 09:27**Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	1	N/A	2010/11/22	BRL SOP-00304	EPA TO-15
Canister Pressure (TO-15)	1	N/A	2010/11/23	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	1	N/A	2010/11/22	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	1	N/A	2010/11/23	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

RESULTS OF ANALYSES OF AIR

Maxxam ID		HX2504		HX2505	
Sampling Date		2010/11/16		2010/11/16	
COC Number		5077		5077	
	Units	LICA	QC Batch	LICA	QC Batch
		VOC\CLSNOV16,10 - 7831		VOC\PORTNOV16,10 - 7818	

Volatile Organics					
Pressure on Receipt	psig	21	2339479	21	2337881

QC Batch = Quality Control Batch

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2504				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA VOCCLSNOV16,10 - 7831	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2339348
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2339348
Propene	ppbv	<0.30	0.30	<0.516	0.516	2339348
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2339348
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2339348
Dichlorodifluoromethane (FREON 12)	ppbv	0.63	0.20	3.13	0.989	2339348
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2339348
Chloromethane	ppbv	0.56	0.30	1.16	0.620	2339348
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2339348
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2339348
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2339348
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.90	1.12	2339348
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2339348
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2339348
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2339348
2-Propanone	ppbv	0.87	0.80	2.06	1.90	2339348
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2339348
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2339348
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2339348
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2339348
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2339348
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2339348
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2339348
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2339348
Methylene Chloride(Dichloromethane)	ppbv	0.44	0.30	1.54	1.04	2339348
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2339348
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2339348
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2339348
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2339348
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2339348
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2339348

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2504				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA VOCICLSNOV16,10 - 7831	RDL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2339348
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2339348
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2339348
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2339348
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2339348
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2339348
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2339348
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2339348
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2339348
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2339348
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2339348
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2339348
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2339348
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2339348
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2339348
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2339348
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2339348
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2339348
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2339348
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2339348
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2339348
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2339348
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2339348
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2339348
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2339348
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2339348
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2339348
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2339348
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2339348
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2339348
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2339348
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2339348
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2339348
QC Batch = Quality Control Batch						

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2504				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOC\CLSNOV16,10				
		- 7831				

Surrogate Recovery (%)						
Bromochloromethane	%	78		N/A	N/A	2339348
D5-Chlorobenzene	%	69		N/A	N/A	2339348
Difluorobenzene	%	78		N/A	N/A	2339348

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

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2505				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA VOC\PORT\NOV16,10 - 7818	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2337773
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2337773
Propene	ppbv	<0.30	0.30	<0.516	0.516	2337773
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2337773
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2337773
Dichlorodifluoromethane (FREON 12)	ppbv	0.58	0.20	2.89	0.989	2337773
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2337773
Chloromethane	ppbv	0.47	0.30	0.964	0.620	2337773
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2337773
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2337773
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2337773
Trichlorofluoromethane (FREON 11)	ppbv	0.28	0.20	1.56	1.12	2337773
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2337773
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2337773
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2337773
2-Propanone	ppbv	1.11	0.80	2.64	1.90	2337773
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2337773
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2337773
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2337773
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2337773
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2337773
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2337773
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2337773
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2337773
Methylene Chloride(Dichloromethane)	ppbv	0.34	0.30	1.18	1.04	2337773
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2337773
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2337773
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337773
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337773
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2337773
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2337773

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2505				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA VOC\PORT\NOV16,10 - 7818	RDL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2337773
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2337773
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2337773
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2337773
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2337773
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2337773
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2337773
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2337773
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2337773
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2337773
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2337773
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2337773
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2337773
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2337773
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2337773
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2337773
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2337773
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2337773
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337773
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337773
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2337773
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2337773
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2337773
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337773
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337773
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337773
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2337773
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2337773
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2337773
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2337773
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2337773
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2337773
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2337773
QC Batch = Quality Control Batch						

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2505				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOC\PORT\NOV16,10				
		- 7818				

Surrogate Recovery (%)						
Bromochloromethane	%	68		N/A	N/A	2337773
D5-Chlorobenzene	%	64		N/A	N/A	2337773
Difluorobenzene	%	71		N/A	N/A	2337773

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

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

Test Summary

Maxxam ID HX2504 **Collected** 2010/11/16
Sample ID LICA VOC\CLS\NOV16,10 - 7831 **Shipped**
Matrix AIR **Received** 2010/11/19

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2339479	N/A	2010/11/23	DBJ
Volatile Organics in Air (TO-15)	GC/MS	2339348	N/A	2010/11/23	DBJ

Maxxam ID HX2504 Dup **Collected** 2010/11/16
Sample ID LICA VOC\CLS\NOV16,10 - 7831 **Shipped**
Matrix AIR **Received** 2010/11/19

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Volatile Organics in Air (TO-15)	GC/MS	2339348	N/A	2010/11/23	DBJ

Maxxam ID HX2505 **Collected** 2010/11/16
Sample ID LICA VOC\PORT\NOV16,10 - 7818 **Shipped**
Matrix AIR **Received** 2010/11/19

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2337881	N/A	2010/11/22	DVO
Volatile Organics in Air (TO-15)	GC/MS	2337773	N/A	2010/11/22	DVO

Maxxam Job #: B0G6636
Report Date: 2010/11/29

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report
 Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337773 DVO	Spiked Blank	Bromochloromethane	2010/11/22		102	%	60 - 140
		D5-Chlorobenzene	2010/11/22		100	%	60 - 140
		Difluorobenzene	2010/11/22		104	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/22		101	%	70 - 130
		Carbon Disulfide	2010/11/22		90	%	70 - 130
		Propene	2010/11/22		97	%	70 - 130
		Vinyl Acetate	2010/11/22		107	%	70 - 130
		Vinyl Bromide	2010/11/22		101	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/11/22		96	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/11/22		105	%	70 - 130
		Chloromethane	2010/11/22		91	%	70 - 130
		Vinyl Chloride	2010/11/22		91	%	70 - 130
		Chloroethane	2010/11/22		85	%	70 - 130
		1,3-Butadiene	2010/11/22		96	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/11/22		87	%	70 - 130
		Trichlorotrifluoroethane	2010/11/22		84	%	70 - 130
		Ethanol	2010/11/22		93	%	70 - 130
		2-propanol	2010/11/22		105	%	70 - 130
		2-Propanone	2010/11/22		103	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/11/22		108	%	70 - 130
		Methyl Isobutyl Ketone	2010/11/22		93	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/11/22		91	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/11/22		109	%	70 - 130
		Ethyl Acetate	2010/11/22		101	%	70 - 130
		1,1-Dichloroethylene	2010/11/22		90	%	70 - 130
		cis-1,2-Dichloroethylene	2010/11/22		93	%	70 - 130
		trans-1,2-Dichloroethylene	2010/11/22		96	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/11/22		81	%	70 - 130
		Chloroform	2010/11/22		89	%	70 - 130
		Carbon Tetrachloride	2010/11/22		94	%	70 - 130
		1,1-Dichloroethane	2010/11/22		90	%	70 - 130
		1,2-Dichloroethane	2010/11/22		92	%	70 - 130
		Ethylene Dibromide	2010/11/22		92	%	70 - 130
		1,1,1-Trichloroethane	2010/11/22		91	%	70 - 130
		1,1,2-Trichloroethane	2010/11/22		91	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/11/22		88	%	70 - 130
		cis-1,3-Dichloropropene	2010/11/22		99	%	70 - 130
		trans-1,3-Dichloropropene	2010/11/22		107	%	70 - 130
		1,2-Dichloropropane	2010/11/22		89	%	70 - 130
		Bromomethane	2010/11/22		83	%	70 - 130
		Bromoform	2010/11/22		115	%	70 - 130
		Bromodichloromethane	2010/11/22		99	%	70 - 130
		Dibromochloromethane	2010/11/22		109	%	70 - 130
		Heptane	2010/11/22		96	%	70 - 130
		Trichloroethylene	2010/11/22		88	%	70 - 130
		Tetrachloroethylene	2010/11/22		90	%	70 - 130
		Benzene	2010/11/22		88	%	70 - 130
		Toluene	2010/11/22		94	%	70 - 130
		Ethylbenzene	2010/11/22		96	%	70 - 130
		p+m-Xylene	2010/11/22		96	%	70 - 130
		o-Xylene	2010/11/22		95	%	70 - 130
		Styrene	2010/11/22		93	%	70 - 130
		1,3,5-Trimethylbenzene	2010/11/22		88	%	70 - 130
		1,2,4-Trimethylbenzene	2010/11/22		86	%	70 - 130
		4-ethyltoluene	2010/11/22		97	%	70 - 130

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337773 DVO	Spiked Blank	Chlorobenzene	2010/11/22		90	%	70 - 130
		Benzyl chloride	2010/11/22		110	%	70 - 130
		1,3-Dichlorobenzene	2010/11/22		86	%	70 - 130
		1,4-Dichlorobenzene	2010/11/22		87	%	70 - 130
		1,2-Dichlorobenzene	2010/11/22		83	%	70 - 130
		1,2,4-Trichlorobenzene	2010/11/22		72	%	70 - 130
		Hexachlorobutadiene	2010/11/22		75	%	70 - 130
		Hexane	2010/11/22		92	%	70 - 130
		Cyclohexane	2010/11/22		95	%	70 - 130
		Tetrahydrofuran	2010/11/22		102	%	70 - 130
	Method Blank	1,4-Dioxane	2010/11/22		92	%	70 - 130
		Bromochloromethane	2010/11/22		92	%	60 - 140
		D5-Chlorobenzene	2010/11/22		84	%	60 - 140
		Difluorobenzene	2010/11/22		95	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/22	<0.20			ppbv
		Carbon Disulfide	2010/11/22	<0.50			ppbv
		Propene	2010/11/22	<0.30			ppbv
		Vinyl Acetate	2010/11/22	<0.20			ppbv
		Vinyl Bromide	2010/11/22	<0.20			ppbv
		Dichlorodifluoromethane (FREON 12)	2010/11/22	<0.20			ppbv
	1,2-Dichlorotetrafluoroethane	2010/11/22	<0.17			ppbv	
	Chloromethane	2010/11/22	<0.30			ppbv	
	Vinyl Chloride	2010/11/22	<0.18			ppbv	
	Chloroethane	2010/11/22	<0.30			ppbv	
	1,3-Butadiene	2010/11/22	<0.50			ppbv	
	Trichlorofluoromethane (FREON 11)	2010/11/22	<0.20			ppbv	
	Trichlorotrifluoroethane	2010/11/22	<0.15			ppbv	
	Ethanol	2010/11/22	<2.3			ppbv	
	2-propanol	2010/11/22	<3.0			ppbv	
	2-Propanone	2010/11/22	<0.80			ppbv	
	Methyl Ethyl Ketone (2-Butanone)	2010/11/22	<3.0			ppbv	
	Methyl Isobutyl Ketone	2010/11/22	<3.2			ppbv	
	Methyl Butyl Ketone (2-Hexanone)	2010/11/22	<2.0			ppbv	
	Methyl t-butyl ether (MTBE)	2010/11/22	<0.20			ppbv	
	Ethyl Acetate	2010/11/22	<2.2			ppbv	
	1,1-Dichloroethylene	2010/11/22	<0.25			ppbv	
	cis-1,2-Dichloroethylene	2010/11/22	<0.19			ppbv	
	trans-1,2-Dichloroethylene	2010/11/22	<0.20			ppbv	
	Methylene Chloride(Dichloromethane)	2010/11/22	<0.30			ppbv	
	Chloroform	2010/11/22	<0.15			ppbv	
	Carbon Tetrachloride	2010/11/22	<0.30			ppbv	
	1,1-Dichloroethane	2010/11/22	<0.20			ppbv	
	1,2-Dichloroethane	2010/11/22	<0.20			ppbv	
	Ethylene Dibromide	2010/11/22	<0.17			ppbv	
	1,1,1-Trichloroethane	2010/11/22	<0.30			ppbv	
	1,1,2-Trichloroethane	2010/11/22	<0.15			ppbv	
	1,1,2,2-Tetrachloroethane	2010/11/22	<0.20			ppbv	
	cis-1,3-Dichloropropene	2010/11/22	<0.18			ppbv	
trans-1,3-Dichloropropene	2010/11/22	<0.17			ppbv		
1,2-Dichloropropane	2010/11/22	<0.40			ppbv		
Bromomethane	2010/11/22	<0.18			ppbv		
Bromoform	2010/11/22	<0.20			ppbv		
Bromodichloromethane	2010/11/22	<0.20			ppbv		
Dibromochloromethane	2010/11/22	<0.20			ppbv		
Heptane	2010/11/22	<0.30			ppbv		

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337773 DVO	Method Blank	Trichloroethylene	2010/11/22	<0.30		ppbv	
		Tetrachloroethylene	2010/11/22	<0.20		ppbv	
		Benzene	2010/11/22	<0.18		ppbv	
		Toluene	2010/11/22	<0.20		ppbv	
		Ethylbenzene	2010/11/22	<0.20		ppbv	
		p+m-Xylene	2010/11/22	<0.37		ppbv	
		o-Xylene	2010/11/22	<0.20		ppbv	
		Styrene	2010/11/22	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/11/22	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/11/22	<0.50		ppbv	
		4-ethyltoluene	2010/11/22	<2.2		ppbv	
		Chlorobenzene	2010/11/22	<0.20		ppbv	
		Benzyl chloride	2010/11/22	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/11/22	<2.0		ppbv	
		Hexachlorobutadiene	2010/11/22	<3.0		ppbv	
		Hexane	2010/11/22	<0.30		ppbv	
		Cyclohexane	2010/11/22	<0.20		ppbv	
		Tetrahydrofuran	2010/11/22	<0.40		ppbv	
		1,4-Dioxane	2010/11/22	<2.0		ppbv	
		Xylene (Total)	2010/11/22	<0.60		ppbv	
2339348 DBJ	Spiked Blank	Bromochloromethane	2010/11/23		103	%	60 - 140
		D5-Chlorobenzene	2010/11/23		105	%	60 - 140
		Difluorobenzene	2010/11/23		106	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/23		113	%	70 - 130
		Carbon Disulfide	2010/11/23		92	%	70 - 130
		Propene	2010/11/23		104	%	70 - 130
		Vinyl Acetate	2010/11/23		117	%	70 - 130
		Vinyl Bromide	2010/11/23		107	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/11/23		92	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/11/23		108	%	70 - 130
		Chloromethane	2010/11/23		98	%	70 - 130
		Vinyl Chloride	2010/11/23		101	%	70 - 130
		Chloroethane	2010/11/23		93	%	70 - 130
		1,3-Butadiene	2010/11/23		111	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/11/23		95	%	70 - 130
		Trichlorotrifluoroethane	2010/11/23		95	%	70 - 130
		Ethanol	2010/11/23		115	%	70 - 130
		2-propanol	2010/11/23		109	%	70 - 130
		2-Propanone	2010/11/23		111	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/11/23		115	%	70 - 130
		Methyl Isobutyl Ketone	2010/11/23		117	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/11/23		119	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/11/23		107	%	70 - 130
		Ethyl Acetate	2010/11/23		115	%	70 - 130
		1,1-Dichloroethylene	2010/11/23		96	%	70 - 130
		cis-1,2-Dichloroethylene	2010/11/23		100	%	70 - 130
		trans-1,2-Dichloroethylene	2010/11/23		105	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/11/23		86	%	70 - 130
		Chloroform	2010/11/23		98	%	70 - 130
		Carbon Tetrachloride	2010/11/23		106	%	70 - 130
1,1-Dichloroethane	2010/11/23		100	%	70 - 130		
1,2-Dichloroethane	2010/11/23		101	%	70 - 130		

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2339348 DBJ	Spiked Blank	Ethylene Dibromide	2010/11/23		107	%	70 - 130
		1,1,1-Trichloroethane	2010/11/23		102	%	70 - 130
		1,1,2-Trichloroethane	2010/11/23		104	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/11/23		96	%	70 - 130
		cis-1,3-Dichloropropene	2010/11/23		110	%	70 - 130
		trans-1,3-Dichloropropene	2010/11/23		114	%	70 - 130
		1,2-Dichloropropane	2010/11/23		102	%	70 - 130
		Bromomethane	2010/11/23		83	%	70 - 130
		Bromoform	2010/11/23		121	%	70 - 130
		Bromodichloromethane	2010/11/23		111	%	70 - 130
		Dibromochloromethane	2010/11/23		122	%	70 - 130
		Heptane	2010/11/23		112	%	70 - 130
		Trichloroethylene	2010/11/23		99	%	70 - 130
		Tetrachloroethylene	2010/11/23		105	%	70 - 130
		Benzene	2010/11/23		100	%	70 - 130
		Toluene	2010/11/23		107	%	70 - 130
		Ethylbenzene	2010/11/23		101	%	70 - 130
		p+m-Xylene	2010/11/23		101	%	70 - 130
		o-Xylene	2010/11/23		103	%	70 - 130
		Styrene	2010/11/23		110	%	70 - 130
		1,3,5-Trimethylbenzene	2010/11/23		101	%	70 - 130
		1,2,4-Trimethylbenzene	2010/11/23		101	%	70 - 130
		4-ethyltoluene	2010/11/23		111	%	70 - 130
		Chlorobenzene	2010/11/23		96	%	70 - 130
		Benzyl chloride	2010/11/23		134 (1)	%	70 - 130
		1,3-Dichlorobenzene	2010/11/23		101	%	70 - 130
		1,4-Dichlorobenzene	2010/11/23		106	%	70 - 130
		1,2-Dichlorobenzene	2010/11/23		96	%	70 - 130
		1,2,4-Trichlorobenzene	2010/11/23		107	%	70 - 130
		Hexachlorobutadiene	2010/11/23		81	%	70 - 130
		Hexane	2010/11/23		106	%	70 - 130
		Cyclohexane	2010/11/23		112	%	70 - 130
		Tetrahydrofuran	2010/11/23		114	%	70 - 130
		1,4-Dioxane	2010/11/23		116	%	70 - 130
	Method Blank	Bromochloromethane	2010/11/23		83	%	60 - 140
		D5-Chlorobenzene	2010/11/23		77	%	60 - 140
		Difluorobenzene	2010/11/23		84	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/23	<0.20		ppbv	
		Carbon Disulfide	2010/11/23	0.53, RDL=0.50		ppbv	
		Propene	2010/11/23	<0.30		ppbv	
		Vinyl Acetate	2010/11/23	<0.20		ppbv	
		Vinyl Bromide	2010/11/23	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/11/23	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/11/23	<0.17		ppbv	
		Chloromethane	2010/11/23	<0.30		ppbv	
		Vinyl Chloride	2010/11/23	<0.18		ppbv	
		Chloroethane	2010/11/23	<0.30		ppbv	
		1,3-Butadiene	2010/11/23	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/11/23	<0.20		ppbv	
		Trichlorotrifluoroethane	2010/11/23	<0.15		ppbv	
		Ethanol	2010/11/23	<2.3		ppbv	
		2-propanol	2010/11/23	<3.0		ppbv	
		2-Propanone	2010/11/23	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/11/23	<3.0		ppbv	
		Methyl Isobutyl Ketone	2010/11/23	<3.2		ppbv	

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2339348 DBJ	Method Blank	Methyl Butyl Ketone (2-Hexanone)	2010/11/23	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/11/23	<0.20		ppbv	
		Ethyl Acetate	2010/11/23	<2.2		ppbv	
		1,1-Dichloroethylene	2010/11/23	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/11/23	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/11/23	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/11/23	0.34, RDL=0.30		ppbv	
		Chloroform	2010/11/23	<0.15		ppbv	
		Carbon Tetrachloride	2010/11/23	<0.30		ppbv	
		1,1-Dichloroethane	2010/11/23	<0.20		ppbv	
		1,2-Dichloroethane	2010/11/23	<0.20		ppbv	
		Ethylene Dibromide	2010/11/23	<0.17		ppbv	
		1,1,1-Trichloroethane	2010/11/23	<0.30		ppbv	
		1,1,2-Trichloroethane	2010/11/23	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/11/23	<0.20		ppbv	
		cis-1,3-Dichloropropene	2010/11/23	<0.18		ppbv	
		trans-1,3-Dichloropropene	2010/11/23	<0.17		ppbv	
		1,2-Dichloropropane	2010/11/23	<0.40		ppbv	
		Bromomethane	2010/11/23	<0.18		ppbv	
		Bromoform	2010/11/23	<0.20		ppbv	
		Bromodichloromethane	2010/11/23	<0.20		ppbv	
		Dibromochloromethane	2010/11/23	<0.20		ppbv	
		Heptane	2010/11/23	<0.30		ppbv	
		Trichloroethylene	2010/11/23	<0.30		ppbv	
		Tetrachloroethylene	2010/11/23	<0.20		ppbv	
		Benzene	2010/11/23	<0.18		ppbv	
		Toluene	2010/11/23	<0.20		ppbv	
		Ethylbenzene	2010/11/23	<0.20		ppbv	
		p+m-Xylene	2010/11/23	<0.37		ppbv	
		o-Xylene	2010/11/23	<0.20		ppbv	
		Styrene	2010/11/23	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/11/23	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/11/23	<0.50		ppbv	
		4-ethyltoluene	2010/11/23	<2.2		ppbv	
		Chlorobenzene	2010/11/23	<0.20		ppbv	
		Benzyl chloride	2010/11/23	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/11/23	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/11/23	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/11/23	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/11/23	<2.0		ppbv	
		Hexachlorobutadiene	2010/11/23	<3.0		ppbv	
		Hexane	2010/11/23	<0.30		ppbv	
		Cyclohexane	2010/11/23	<0.20		ppbv	
		Tetrahydrofuran	2010/11/23	<0.40		ppbv	
		1,4-Dioxane	2010/11/23	<2.0		ppbv	
		Xylene (Total)	2010/11/23	<0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2010/11/23	NC		%	25
		Carbon Disulfide	2010/11/23	NC		%	25
		Propene	2010/11/23	NC		%	25
		Vinyl Acetate	2010/11/23	NC		%	25
		Vinyl Bromide	2010/11/23	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2010/11/23	NC		%	25
		1,2-Dichlorotetrafluoroethane	2010/11/23	NC		%	25

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2339348 DBJ	RPD - Sample/Sample Dup	Chloromethane	2010/11/23	NC		%	25
		Vinyl Chloride	2010/11/23	NC		%	25
		Chloroethane	2010/11/23	NC		%	25
		1,3-Butadiene	2010/11/23	NC		%	25
		Trichlorofluoromethane (FREON 11)	2010/11/23	NC		%	25
		Trichlorotrifluoroethane	2010/11/23	NC		%	25
		Ethanol	2010/11/23	NC		%	25
		2-propanol	2010/11/23	NC		%	25
		2-Propanone	2010/11/23	NC		%	25
		Methyl Ethyl Ketone (2-Butanone)	2010/11/23	NC		%	25
		Methyl Isobutyl Ketone	2010/11/23	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2010/11/23	NC		%	25
		Methyl t-butyl ether (MTBE)	2010/11/23	NC		%	25
		Ethyl Acetate	2010/11/23	NC		%	25
		1,1-Dichloroethylene	2010/11/23	NC		%	25
		cis-1,2-Dichloroethylene	2010/11/23	NC		%	25
		trans-1,2-Dichloroethylene	2010/11/23	NC		%	25
		Methylene Chloride(Dichloromethane)	2010/11/23	NC		%	25
		Chloroform	2010/11/23	NC		%	25
		Carbon Tetrachloride	2010/11/23	NC		%	25
		1,1-Dichloroethane	2010/11/23	NC		%	25
		1,2-Dichloroethane	2010/11/23	NC		%	25
		Ethylene Dibromide	2010/11/23	NC		%	25
		1,1,1-Trichloroethane	2010/11/23	NC		%	25
		1,1,2-Trichloroethane	2010/11/23	NC		%	25
		1,1,2,2-Tetrachloroethane	2010/11/23	NC		%	25
		cis-1,3-Dichloropropene	2010/11/23	NC		%	25
		trans-1,3-Dichloropropene	2010/11/23	NC		%	25
		1,2-Dichloropropane	2010/11/23	NC		%	25
		Bromomethane	2010/11/23	NC		%	25
		Bromoform	2010/11/23	NC		%	25
		Bromodichloromethane	2010/11/23	NC		%	25
		Dibromochloromethane	2010/11/23	NC		%	25
		Heptane	2010/11/23	NC		%	25
		Trichloroethylene	2010/11/23	NC		%	25
		Tetrachloroethylene	2010/11/23	NC		%	25
		Benzene	2010/11/23	NC		%	25
		Toluene	2010/11/23	NC		%	25
		Ethylbenzene	2010/11/23	NC		%	25
		p+m-Xylene	2010/11/23	NC		%	25
		o-Xylene	2010/11/23	NC		%	25
		Styrene	2010/11/23	NC		%	25
		1,3,5-Trimethylbenzene	2010/11/23	NC		%	25
		1,2,4-Trimethylbenzene	2010/11/23	NC		%	25
		4-ethyltoluene	2010/11/23	NC		%	25
		Chlorobenzene	2010/11/23	NC		%	25
		Benzyl chloride	2010/11/23	NC		%	25
		1,3-Dichlorobenzene	2010/11/23	NC		%	25
		1,4-Dichlorobenzene	2010/11/23	NC		%	25
		1,2-Dichlorobenzene	2010/11/23	NC		%	25
		1,2,4-Trichlorobenzene	2010/11/23	NC		%	25
		Hexachlorobutadiene	2010/11/23	NC		%	25
		Hexane	2010/11/23	NC		%	25

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2339348 DBJ	RPD - Sample/Sample Dup	Cyclohexane	2010/11/23	NC		%	25
		Tetrahydrofuran	2010/11/23	NC		%	25
		1,4-Dioxane	2010/11/23	NC		%	25
		Xylene (Total)	2010/11/23	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.



Your C.O.C. #: 2333

Attention: Michael Bisaga

Maxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/12/02

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0H0675

Received: 2010/11/26, 09:03

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/11/26	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/11/26	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

RESULTS OF ANALYSES OF AIR

Maxxam ID		HZ2421	HZ2422	
Sampling Date		2010/11/22 00:00	2010/11/22 00:00	
COC Number		2333	2333	
	Units	LICA	LICA	QC Batch
		VOC\CLS\NOV22,10	VOC\PORT\NOV22,10	

Volatile Organics				
Pressure on Receipt	psig	22	22	2344371

QC Batch = Quality Control Batch

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2421				
Sampling Date		2010/11/22 00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOCICLSNOV22,10				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2343965
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2343965
Propene	ppbv	<0.30	0.30	<0.516	0.516	2343965
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2343965
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2343965
Dichlorodifluoromethane (FREON 12)	ppbv	0.71	0.20	3.51	0.989	2343965
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2343965
Chloromethane	ppbv	0.52	0.30	1.07	0.620	2343965
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2343965
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2343965
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2343965
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.93	1.12	2343965
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2343965
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2343965
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2343965
2-Propanone	ppbv	<0.80	0.80	<1.90	1.90	2343965
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2343965
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2343965
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2343965
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2343965
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2343965
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2343965
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2343965
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2343965
Methylene Chloride(Dichloromethane)	ppbv	0.40	0.30	1.39	1.04	2343965
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2343965
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2343965
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2343965
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2343965
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2343965
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2343965

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2421				
Sampling Date		2010/11/22 00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOCICLSNOV22,10				
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2343965
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2343965
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2343965
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2343965
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2343965
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2343965
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2343965
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2343965
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2343965
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2343965
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2343965
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2343965
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2343965
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2343965
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2343965
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2343965
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2343965
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2343965
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2343965
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2343965
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2343965
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2343965
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2343965
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2343965
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2343965
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2343965
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2343965
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2343965
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2343965
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2343965
QC Batch = Quality Control Batch						

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2421				
Sampling Date		2010/11/22 00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOCICLSNOV22,10				

Surrogate Recovery (%)						
Bromochloromethane	%	79		N/A	N/A	2343965
D5-Chlorobenzene	%	73		N/A	N/A	2343965
Difluorobenzene	%	79		N/A	N/A	2343965

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

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2422				
Sampling Date		2010/11/22 00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOC\PORTNOV22,10				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2343965
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2343965
Propene	ppbv	<0.30	0.30	<0.516	0.516	2343965
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2343965
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2343965
Dichlorodifluoromethane (FREON 12)	ppbv	0.72	0.20	3.56	0.989	2343965
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2343965
Chloromethane	ppbv	0.53	0.30	1.09	0.620	2343965
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2343965
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2343965
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2343965
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.92	1.12	2343965
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2343965
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2343965
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2343965
2-Propanone	ppbv	<0.80	0.80	<1.90	1.90	2343965
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2343965
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2343965
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2343965
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2343965
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2343965
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2343965
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2343965
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2343965
Methylene Chloride(Dichloromethane)	ppbv	0.37	0.30	1.29	1.04	2343965
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2343965
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2343965
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2343965
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2343965
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2343965
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2343965

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2422				
Sampling Date		2010/11/22 00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOC\PORTNOV22,10				
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2343965
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2343965
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2343965
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2343965
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2343965
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2343965
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2343965
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2343965
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2343965
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2343965
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2343965
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2343965
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2343965
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2343965
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2343965
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2343965
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2343965
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2343965
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2343965
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2343965
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2343965
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2343965
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2343965
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2343965
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2343965
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2343965
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2343965
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2343965
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2343965
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2343965
QC Batch = Quality Control Batch						

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2422				
Sampling Date		2010/11/22 00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOC\PORT\NOV22,10				

Surrogate Recovery (%)						
Bromochloromethane	%	81		N/A	N/A	2343965
D5-Chlorobenzene	%	78		N/A	N/A	2343965
Difluorobenzene	%	81		N/A	N/A	2343965

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

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

Test Summary

Maxxam ID HZ2421 **Collected** 2010/11/22
Sample ID LICA VOC\CLS\NOV22,10 **Shipped**
Matrix AIR **Received** 2010/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2344371	N/A	2010/11/26	DBJ
Volatile Organics in Air (TO-15)	GC/MS	2343965	N/A	2010/11/26	DBJ

Maxxam ID HZ2422 **Collected** 2010/11/22
Sample ID LICA VOC\PORT\NOV22,10 **Shipped**
Matrix AIR **Received** 2010/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2344371	N/A	2010/11/26	DBJ
Volatile Organics in Air (TO-15)	GC/MS	2343965	N/A	2010/11/26	DBJ

Maxxam Job #: B0H0675
Report Date: 2010/12/02

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report
 Maxxam Job Number: GB0H0675

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2343965 DBJ	Spiked Blank	Bromochloromethane	2010/11/26		103	%	60 - 140
		D5-Chlorobenzene	2010/11/26		109	%	60 - 140
		Difluorobenzene	2010/11/26		106	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/26		115	%	70 - 130
		Carbon Disulfide	2010/11/26		91	%	70 - 130
		Propene	2010/11/26		103	%	70 - 130
		Vinyl Acetate	2010/11/26		119	%	70 - 130
		Vinyl Bromide	2010/11/26		106	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/11/26		95	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/11/26		111	%	70 - 130
		Chloromethane	2010/11/26		102	%	70 - 130
		Vinyl Chloride	2010/11/26		103	%	70 - 130
		Chloroethane	2010/11/26		92	%	70 - 130
		1,3-Butadiene	2010/11/26		112	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/11/26		97	%	70 - 130
		Trichlorotrifluoroethane	2010/11/26		97	%	70 - 130
		Ethanol	2010/11/26		115	%	70 - 130
		2-propanol	2010/11/26		107	%	70 - 130
		2-Propanone	2010/11/26		112	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/11/26		120	%	70 - 130
		Methyl Isobutyl Ketone	2010/11/26		118	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/11/26		119	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/11/26		109	%	70 - 130
		Ethyl Acetate	2010/11/26		116	%	70 - 130
		1,1-Dichloroethylene	2010/11/26		96	%	70 - 130
		cis-1,2-Dichloroethylene	2010/11/26		101	%	70 - 130
		trans-1,2-Dichloroethylene	2010/11/26		106	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/11/26		85	%	70 - 130
		Chloroform	2010/11/26		100	%	70 - 130
		Carbon Tetrachloride	2010/11/26		111	%	70 - 130
		1,1-Dichloroethane	2010/11/26		102	%	70 - 130
		1,2-Dichloroethane	2010/11/26		102	%	70 - 130
		Ethylene Dibromide	2010/11/26		109	%	70 - 130
		1,1,1-Trichloroethane	2010/11/26		105	%	70 - 130
		1,1,2-Trichloroethane	2010/11/26		107	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/11/26		97	%	70 - 130
		cis-1,3-Dichloropropene	2010/11/26		112	%	70 - 130
		trans-1,3-Dichloropropene	2010/11/26		116	%	70 - 130
		1,2-Dichloropropane	2010/11/26		105	%	70 - 130
		Bromomethane	2010/11/26		80	%	70 - 130
		Bromoform	2010/11/26		122	%	70 - 130
		Bromodichloromethane	2010/11/26		115	%	70 - 130
		Dibromochloromethane	2010/11/26		125	%	70 - 130
		Heptane	2010/11/26		116	%	70 - 130
		Trichloroethylene	2010/11/26		102	%	70 - 130
		Tetrachloroethylene	2010/11/26		108	%	70 - 130
		Benzene	2010/11/26		102	%	70 - 130
		Toluene	2010/11/26		109	%	70 - 130
		Ethylbenzene	2010/11/26		101	%	70 - 130
		p+m-Xylene	2010/11/26		101	%	70 - 130
		o-Xylene	2010/11/26		104	%	70 - 130
		Styrene	2010/11/26		100	%	70 - 130
		1,3,5-Trimethylbenzene	2010/11/26		98	%	70 - 130
		1,2,4-Trimethylbenzene	2010/11/26		98	%	70 - 130
		4-ethyltoluene	2010/11/26		110	%	70 - 130

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H0675

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2343965 DBJ	Spiked Blank	Chlorobenzene	2010/11/26		96	%	70 - 130
		Benzyl chloride	2010/11/26		128	%	70 - 130
		1,3-Dichlorobenzene	2010/11/26		98	%	70 - 130
		1,4-Dichlorobenzene	2010/11/26		103	%	70 - 130
		1,2-Dichlorobenzene	2010/11/26		92	%	70 - 130
		1,2,4-Trichlorobenzene	2010/11/26		105	%	70 - 130
		Hexachlorobutadiene	2010/11/26		82	%	70 - 130
		Hexane	2010/11/26		116	%	70 - 130
		Cyclohexane	2010/11/26		114	%	70 - 130
		Tetrahydrofuran	2010/11/26		113	%	70 - 130
		1,4-Dioxane	2010/11/26		116	%	70 - 130
	Method Blank	Bromochloromethane	2010/11/26		83	%	60 - 140
		D5-Chlorobenzene	2010/11/26		75	%	60 - 140
		Difluorobenzene	2010/11/26		85	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/26	<0.20		ppbv	
		Carbon Disulfide	2010/11/26	<0.50		ppbv	
		Propene	2010/11/26	<0.30		ppbv	
		Vinyl Acetate	2010/11/26	<0.20		ppbv	
		Vinyl Bromide	2010/11/26	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/11/26	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/11/26	<0.17		ppbv	
		Chloromethane	2010/11/26	<0.30		ppbv	
		Vinyl Chloride	2010/11/26	<0.18		ppbv	
		Chloroethane	2010/11/26	<0.30		ppbv	
		1,3-Butadiene	2010/11/26	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/11/26	<0.20		ppbv	
		Trichlorotrifluoroethane	2010/11/26	<0.15		ppbv	
		Ethanol	2010/11/26	<2.3		ppbv	
		2-propanol	2010/11/26	<3.0		ppbv	
		2-Propanone	2010/11/26	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/11/26	<3.0		ppbv	
		Methyl Isobutyl Ketone	2010/11/26	<3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/11/26	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/11/26	<0.20		ppbv	
		Ethyl Acetate	2010/11/26	<2.2		ppbv	
		1,1-Dichloroethylene	2010/11/26	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/11/26	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/11/26	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/11/26	0.36, RDL=0.30		ppbv	
		Chloroform	2010/11/26	<0.15		ppbv	
		Carbon Tetrachloride	2010/11/26	<0.30		ppbv	
		1,1-Dichloroethane	2010/11/26	<0.20		ppbv	
		1,2-Dichloroethane	2010/11/26	<0.20		ppbv	
		Ethylene Dibromide	2010/11/26	<0.17		ppbv	
		1,1,1-Trichloroethane	2010/11/26	<0.30		ppbv	
		1,1,2-Trichloroethane	2010/11/26	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/11/26	<0.20		ppbv	
		cis-1,3-Dichloropropene	2010/11/26	<0.18		ppbv	
		trans-1,3-Dichloropropene	2010/11/26	<0.17		ppbv	
		1,2-Dichloropropane	2010/11/26	<0.40		ppbv	
		Bromomethane	2010/11/26	<0.18		ppbv	
		Bromoform	2010/11/26	<0.20		ppbv	
		Bromodichloromethane	2010/11/26	<0.20		ppbv	
		Dibromochloromethane	2010/11/26	<0.20		ppbv	
		Heptane	2010/11/26	<0.30		ppbv	

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H0675

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2343965 DBJ	Method Blank	Trichloroethylene	2010/11/26	<0.30		ppbv	
		Tetrachloroethylene	2010/11/26	<0.20		ppbv	
		Benzene	2010/11/26	<0.18		ppbv	
		Toluene	2010/11/26	<0.20		ppbv	
		Ethylbenzene	2010/11/26	<0.20		ppbv	
		p+m-Xylene	2010/11/26	<0.37		ppbv	
		o-Xylene	2010/11/26	<0.20		ppbv	
		Styrene	2010/11/26	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/11/26	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/11/26	<0.50		ppbv	
		4-ethyltoluene	2010/11/26	<2.2		ppbv	
		Chlorobenzene	2010/11/26	<0.20		ppbv	
		Benzyl chloride	2010/11/26	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/11/26	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/11/26	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/11/26	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/11/26	<2.0		ppbv	
		Hexachlorobutadiene	2010/11/26	<3.0		ppbv	
		Hexane	2010/11/26	<0.30		ppbv	
		Cyclohexane	2010/11/26	<0.20		ppbv	
		Tetrahydrofuran	2010/11/26	<0.40		ppbv	
		1,4-Dioxane	2010/11/26	<2.0		ppbv	
		Xylene (Total)	2010/11/26	<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.

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167
Location: Cold Lake South Canister ID: 7840
Station ID: Lica 1 Canister Installation Date/Time: Nov 25, 2010 @ 12:05 mst
Field Sample ID: LICA VOC/ CLS /Nov 28, 10 Canister Removal Date/Time: Nov 29, 2010 @ 9:52 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
28-Nov-10	28/11/2010 0:00	29/11/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	618	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	23

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 # 5160

Technician Signiture: Ting Xu



Your C.O.C. #: 5160

Attention: Michael Bisaga

Maxxam Analytics
 2608 6A Ave.
 Cold Lake, AB
 CANADA T9M 2C7

Report Date: 2010/12/06

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0H3086

Received: 2010/12/01, 11:10

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/12/01	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/12/01	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: TStephenson@maxxam.ca
 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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0H3086
 Report Date: 2010/12/06

RESULTS OF ANALYSES OF AIR

Maxxam ID		IA3102	IA3103	
Sampling Date		2010/11/28	2010/11/28	
COC Number		5160	5160	
	Units	LICA VOC\CLS\ NOV 28,10	LICA VOC\PORT\ NOV 28,10	QC Batch

Volatile Organics				
Pressure on Receipt	psig	23	21	2348896

QC Batch = Quality Control Batch

Maxxam Job #: B0H3086
 Report Date: 2010/12/06

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		IA3102			IA3103				
Sampling Date		2010/11/28			2010/11/28				
COC Number		5160			5160				
	Units	LICA VOC\CLS\ NOV 28,10	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 28,10	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics									
2,2,4-Trimethylpentane	ppbv	<0.20	<0.934	0.934	<0.20	0.20	<0.934	0.934	2348902
Carbon Disulfide	ppbv	<0.50	<1.56	1.56	<0.50	0.50	<1.56	1.56	2348902
Propene	ppbv	<0.30	<0.516	0.516	<0.30	0.30	<0.516	0.516	2348902
Vinyl Acetate	ppbv	<0.20	<0.704	0.704	<0.20	0.20	<0.704	0.704	2348902
Vinyl Bromide	ppbv	<0.20	<0.875	0.875	<0.20	0.20	<0.875	0.875	2348902
Dichlorodifluoromethane (FREON 12)	ppbv	0.81	4.00	0.989	0.82	0.20	4.06	0.989	2348902
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	<1.19	1.19	<0.17	0.17	<1.19	1.19	2348902
Chloromethane	ppbv	0.46	0.948	0.620	0.46	0.30	0.959	0.620	2348902
Vinyl Chloride	ppbv	<0.18	<0.460	0.460	<0.18	0.18	<0.460	0.460	2348902
Chloroethane	ppbv	<0.30	<0.792	0.792	<0.30	0.30	<0.792	0.792	2348902
1,3-Butadiene	ppbv	<0.50	<1.11	1.11	<0.50	0.50	<1.11	1.11	2348902
Trichlorofluoromethane (FREON 11)	ppbv	0.37	2.10	1.12	0.37	0.20	2.08	1.12	2348902
Trichlorotrifluoroethane	ppbv	<0.15	<1.15	1.15	<0.15	0.15	<1.15	1.15	2348902
Ethanol	ppbv	<2.3	<4.33	4.33	<2.3	2.3	<4.33	4.33	2348902
2-propanol	ppbv	<3.0	<7.37	7.37	<3.0	3.0	<7.37	7.37	2348902
2-Propanone	ppbv	1.79	4.24	1.90	1.93	0.80	4.59	1.90	2348902
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	<8.85	8.85	<3.0	3.0	<8.85	8.85	2348902
Methyl Isobutyl Ketone	ppbv	<3.2	<13.1	13.1	<3.2	3.2	<13.1	13.1	2348902
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	<8.19	8.19	<2.0	2.0	<8.19	8.19	2348902
Methyl t-butyl ether (MTBE)	ppbv	<0.20	<0.721	0.721	<0.20	0.20	<0.721	0.721	2348902
Ethyl Acetate	ppbv	<2.2	<7.93	7.93	<2.2	2.2	<7.93	7.93	2348902
1,1-Dichloroethylene	ppbv	<0.25	<0.991	0.991	<0.25	0.25	<0.991	0.991	2348902
cis-1,2-Dichloroethylene	ppbv	<0.19	<0.753	0.753	<0.19	0.19	<0.753	0.753	2348902
trans-1,2-Dichloroethylene	ppbv	<0.20	<0.793	0.793	<0.20	0.20	<0.793	0.793	2348902
Methylene Chloride(Dichloromethane)	ppbv	0.45	1.57	1.04	0.48	0.30	1.66	1.04	2348902
Chloroform	ppbv	<0.15	<0.732	0.732	<0.15	0.15	<0.732	0.732	2348902
Carbon Tetrachloride	ppbv	<0.30	<1.89	1.89	<0.30	0.30	<1.89	1.89	2348902
1,1-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2348902
1,2-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2348902
Ethylene Dibromide	ppbv	<0.17	<1.31	1.31	<0.17	0.17	<1.31	1.31	2348902
1,1,1-Trichloroethane	ppbv	<0.30	<1.64	1.64	<0.30	0.30	<1.64	1.64	2348902

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0H3086
 Report Date: 2010/12/06

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		IA3102			IA3103				
Sampling Date		2010/11/28			2010/11/28				
COC Number		5160			5160				
	Units	LICA VOC\CLS\ NOV 28,10	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 28,10	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	2348902
1,1,2,2-Tetrachloroethane	ppbv	<0.20	<1.37	1.37	<0.20	0.20	<1.37	1.37	2348902
cis-1,3-Dichloropropene	ppbv	<0.18	<0.817	0.817	<0.18	0.18	<0.817	0.817	2348902
trans-1,3-Dichloropropene	ppbv	<0.17	<0.772	0.772	<0.17	0.17	<0.772	0.772	2348902
1,2-Dichloropropane	ppbv	<0.40	<1.85	1.85	<0.40	0.40	<1.85	1.85	2348902
Bromomethane	ppbv	<0.18	<0.699	0.699	<0.18	0.18	<0.699	0.699	2348902
Bromoform	ppbv	<0.20	<2.07	2.07	<0.20	0.20	<2.07	2.07	2348902
Bromodichloromethane	ppbv	<0.20	<1.34	1.34	<0.20	0.20	<1.34	1.34	2348902
Dibromochloromethane	ppbv	<0.20	<1.70	1.70	<0.20	0.20	<1.70	1.70	2348902
Heptane	ppbv	<0.30	<1.23	1.23	<0.30	0.30	<1.23	1.23	2348902
Trichloroethylene	ppbv	<0.30	<1.61	1.61	<0.30	0.30	<1.61	1.61	2348902
Tetrachloroethylene	ppbv	<0.20	<1.36	1.36	<0.20	0.20	<1.36	1.36	2348902
Benzene	ppbv	0.22	0.698	0.575	0.24	0.18	0.778	0.575	2348902
Toluene	ppbv	<0.20	<0.753	0.753	<0.20	0.20	<0.753	0.753	2348902
Ethylbenzene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2348902
p+m-Xylene	ppbv	<0.37	<1.61	1.61	<0.37	0.37	<1.61	1.61	2348902
o-Xylene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2348902
Styrene	ppbv	<0.20	<0.852	0.852	<0.20	0.20	<0.852	0.852	2348902
1,3,5-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2348902
1,2,4-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2348902
4-ethyltoluene	ppbv	<2.2	<10.8	10.8	<2.2	2.2	<10.8	10.8	2348902
Chlorobenzene	ppbv	<0.20	<0.921	0.921	<0.20	0.20	<0.921	0.921	2348902
Benzyl chloride	ppbv	<1.0	<5.18	5.18	<1.0	1.0	<5.18	5.18	2348902
1,3-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2348902
1,4-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2348902
1,2-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2348902
1,2,4-Trichlorobenzene	ppbv	<2.0	<14.8	14.8	<2.0	2.0	<14.8	14.8	2348902
Hexachlorobutadiene	ppbv	<3.0	<32.0	32.0	<3.0	3.0	<32.0	32.0	2348902
Hexane	ppbv	<0.30	<1.06	1.06	<0.30	0.30	<1.06	1.06	2348902
Cyclohexane	ppbv	<0.20	<0.688	0.688	0.23	0.20	0.805	0.688	2348902
Tetrahydrofuran	ppbv	<0.40	<1.18	1.18	<0.40	0.40	<1.18	1.18	2348902
1,4-Dioxane	ppbv	<2.0	<7.21	7.21	<2.0	2.0	<7.21	7.21	2348902
Xylene (Total)	ppbv	<0.60	<2.61	2.61	<0.60	0.60	<2.61	2.61	2348902
QC Batch = Quality Control Batch									

Maxxam Job #: B0H3086
 Report Date: 2010/12/06

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		IA3102			IA3103				
Sampling Date		2010/11/28			2010/11/28				
COC Number		5160			5160				
	Units	LICA VOC\CLS\ NOV 28,10	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 28,10	RDL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)									
Bromochloromethane	%	90	N/A	N/A	87		N/A	N/A	2348902
D5-Chlorobenzene	%	75	N/A	N/A	72		N/A	N/A	2348902
Difluorobenzene	%	88	N/A	N/A	86		N/A	N/A	2348902

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

Maxxam Job #: B0H3086
 Report Date: 2010/12/06

Test Summary

Maxxam ID IA3102 **Collected** 2010/11/28
Sample ID LICA VOC\CLS\ NOV 28,10 **Shipped**
Matrix AIR **Received** 2010/12/01

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2348896	N/A	2010/12/01	LSY
Volatile Organics in Air (TO-15)	GC/MS	2348902	N/A	2010/12/01	LSY

Maxxam ID IA3103 **Collected** 2010/11/28
Sample ID LICA VOC\PORT\ NOV 28,10 **Shipped**
Matrix AIR **Received** 2010/12/01

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2348896	N/A	2010/12/01	LSY
Volatile Organics in Air (TO-15)	GC/MS	2348902	N/A	2010/12/01	LSY

Maxxam Job #: B0H3086
Report Date: 2010/12/06

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0H3086

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2348902 LSY	Spiked Blank	Bromochloromethane	2010/12/01		108	%	60 - 140
		D5-Chlorobenzene	2010/12/01		106	%	60 - 140
		Difluorobenzene	2010/12/01		110	%	60 - 140
		2,2,4-Trimethylpentane	2010/12/01		98	%	70 - 130
		Carbon Disulfide	2010/12/01		84	%	70 - 130
		Propene	2010/12/01		94	%	70 - 130
		Vinyl Acetate	2010/12/01		104	%	70 - 130
		Vinyl Bromide	2010/12/01		93	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/12/01		98	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/12/01		102	%	70 - 130
		Chloromethane	2010/12/01		93	%	70 - 130
		Vinyl Chloride	2010/12/01		86	%	70 - 130
		Chloroethane	2010/12/01		83	%	70 - 130
		1,3-Butadiene	2010/12/01		80	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/12/01		97	%	70 - 130
		Trichlorotrifluoroethane	2010/12/01		90	%	70 - 130
		Ethanol	2010/12/01		81	%	70 - 130
		2-propanol	2010/12/01		89	%	70 - 130
		2-Propanone	2010/12/01		98	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/12/01		101	%	70 - 130
		Methyl Isobutyl Ketone	2010/12/01		99	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/12/01		104	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/12/01		99	%	70 - 130
		Ethyl Acetate	2010/12/01		99	%	70 - 130
		1,1-Dichloroethylene	2010/12/01		95	%	70 - 130
		cis-1,2-Dichloroethylene	2010/12/01		96	%	70 - 130
		trans-1,2-Dichloroethylene	2010/12/01		99	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/12/01		84	%	70 - 130
		Chloroform	2010/12/01		96	%	70 - 130
		Carbon Tetrachloride	2010/12/01		104	%	70 - 130
		1,1-Dichloroethane	2010/12/01		90	%	70 - 130
		1,2-Dichloroethane	2010/12/01		103	%	70 - 130
		Ethylene Dibromide	2010/12/01		96	%	70 - 130
		1,1,1-Trichloroethane	2010/12/01		98	%	70 - 130
		1,1,2-Trichloroethane	2010/12/01		93	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/12/01		82	%	70 - 130
		cis-1,3-Dichloropropene	2010/12/01		100	%	70 - 130
		trans-1,3-Dichloropropene	2010/12/01		108	%	70 - 130
		1,2-Dichloropropane	2010/12/01		89	%	70 - 130
		Bromomethane	2010/12/01		81	%	70 - 130
		Bromoform	2010/12/01		106	%	70 - 130
		Bromodichloromethane	2010/12/01		104	%	70 - 130
		Dibromochloromethane	2010/12/01		111	%	70 - 130
		Heptane	2010/12/01		96	%	70 - 130
		Trichloroethylene	2010/12/01		90	%	70 - 130
		Tetrachloroethylene	2010/12/01		97	%	70 - 130
		Benzene	2010/12/01		87	%	70 - 130
		Toluene	2010/12/01		94	%	70 - 130
		Ethylbenzene	2010/12/01		92	%	70 - 130
		p+m-Xylene	2010/12/01		92	%	70 - 130
		o-Xylene	2010/12/01		92	%	70 - 130
		Styrene	2010/12/01		94	%	70 - 130
		1,3,5-Trimethylbenzene	2010/12/01		85	%	70 - 130
		1,2,4-Trimethylbenzene	2010/12/01		84	%	70 - 130
		4-ethyltoluene	2010/12/01		93	%	70 - 130

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H3086

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2348902 LSY	Spiked Blank	Chlorobenzene	2010/12/01		90	%	70 - 130
		Benzyl chloride	2010/12/01		104	%	70 - 130
		1,3-Dichlorobenzene	2010/12/01		83	%	70 - 130
		1,4-Dichlorobenzene	2010/12/01		83	%	70 - 130
		1,2-Dichlorobenzene	2010/12/01		76	%	70 - 130
		1,2,4-Trichlorobenzene	2010/12/01		109	%	70 - 130
		Hexachlorobutadiene	2010/12/01		112	%	70 - 130
		Hexane	2010/12/01		92	%	70 - 130
		Cyclohexane	2010/12/01		94	%	70 - 130
		Tetrahydrofuran	2010/12/01		95	%	70 - 130
		1,4-Dioxane	2010/12/01		85	%	70 - 130
	Method Blank	Bromochloromethane	2010/12/01		91	%	60 - 140
		D5-Chlorobenzene	2010/12/01		77	%	60 - 140
		Difluorobenzene	2010/12/01		90	%	60 - 140
		2,2,4-Trimethylpentane	2010/12/01	<0.20		ppbv	
		Carbon Disulfide	2010/12/01	<0.50		ppbv	
		Propene	2010/12/01	<0.30		ppbv	
		Vinyl Acetate	2010/12/01	<0.20		ppbv	
		Vinyl Bromide	2010/12/01	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/12/01	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/12/01	<0.17		ppbv	
		Chloromethane	2010/12/01	<0.30		ppbv	
		Vinyl Chloride	2010/12/01	<0.18		ppbv	
		Chloroethane	2010/12/01	<0.30		ppbv	
		1,3-Butadiene	2010/12/01	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/12/01	<0.20		ppbv	
		Trichlorotrifluoroethane	2010/12/01	<0.15		ppbv	
		Ethanol	2010/12/01	<2.3		ppbv	
		2-propanol	2010/12/01	<3.0		ppbv	
		2-Propanone	2010/12/01	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/12/01	<3.0		ppbv	
		Methyl Isobutyl Ketone	2010/12/01	<3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/12/01	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/12/01	<0.20		ppbv	
		Ethyl Acetate	2010/12/01	<2.2		ppbv	
		1,1-Dichloroethylene	2010/12/01	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/12/01	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/12/01	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/12/01	0.40, RDL=0.30		ppbv	
		Chloroform	2010/12/01	<0.15		ppbv	
		Carbon Tetrachloride	2010/12/01	<0.30		ppbv	
		1,1-Dichloroethane	2010/12/01	<0.20		ppbv	
		1,2-Dichloroethane	2010/12/01	<0.20		ppbv	
		Ethylene Dibromide	2010/12/01	<0.17		ppbv	
		1,1,1-Trichloroethane	2010/12/01	<0.30		ppbv	
		1,1,2-Trichloroethane	2010/12/01	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/12/01	<0.20		ppbv	
		cis-1,3-Dichloropropene	2010/12/01	<0.18		ppbv	
		trans-1,3-Dichloropropene	2010/12/01	<0.17		ppbv	
		1,2-Dichloropropane	2010/12/01	<0.40		ppbv	
		Bromomethane	2010/12/01	<0.18		ppbv	
		Bromoform	2010/12/01	<0.20		ppbv	
		Bromodichloromethane	2010/12/01	<0.20		ppbv	
		Dibromochloromethane	2010/12/01	<0.20		ppbv	
		Heptane	2010/12/01	<0.30		ppbv	

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H3086

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2348902 LSY	Method Blank	Trichloroethylene	2010/12/01	<0.30		ppbv	
		Tetrachloroethylene	2010/12/01	<0.20		ppbv	
		Benzene	2010/12/01	<0.18		ppbv	
		Toluene	2010/12/01	<0.20		ppbv	
		Ethylbenzene	2010/12/01	<0.20		ppbv	
		p+m-Xylene	2010/12/01	<0.37		ppbv	
		o-Xylene	2010/12/01	<0.20		ppbv	
		Styrene	2010/12/01	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/12/01	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/12/01	<0.50		ppbv	
		4-ethyltoluene	2010/12/01	<2.2		ppbv	
		Chlorobenzene	2010/12/01	<0.20		ppbv	
		Benzyl chloride	2010/12/01	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/12/01	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/12/01	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/12/01	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/12/01	<2.0		ppbv	
		Hexachlorobutadiene	2010/12/01	<3.0		ppbv	
		Hexane	2010/12/01	<0.30		ppbv	
		Cyclohexane	2010/12/01	<0.20		ppbv	
		Tetrahydrofuran	2010/12/01	<0.40		ppbv	
		1,4-Dioxane	2010/12/01	<2.0		ppbv	
		Xylene (Total)	2010/12/01	<0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane		TBA		%	25
		Carbon Disulfide		TBA		%	25
		Propene		TBA		%	25
		Vinyl Acetate		TBA		%	25
		Vinyl Bromide		TBA		%	25
		Dichlorodifluoromethane (FREON 12)		TBA		%	25
		1,2-Dichlorotetrafluoroethane		TBA		%	25
		Chloromethane		TBA		%	25
		Vinyl Chloride		TBA		%	25
		Chloroethane		TBA		%	25
		1,3-Butadiene		TBA		%	25
		Trichlorofluoromethane (FREON 11)		TBA		%	25
		Trichlorotrifluoroethane		TBA		%	25
		Ethanol		TBA		%	25
		2-propanol		TBA		%	25
		2-Propanone		TBA		%	25
		Methyl Ethyl Ketone (2-Butanone)		TBA		%	25
		Methyl Isobutyl Ketone		TBA		%	25
		Methyl Butyl Ketone (2-Hexanone)		TBA		%	25
		Methyl t-butyl ether (MTBE)		TBA		%	25
		Ethyl Acetate		TBA		%	25
		1,1-Dichloroethylene		TBA		%	25
		cis-1,2-Dichloroethylene		TBA		%	25
		trans-1,2-Dichloroethylene		TBA		%	25
		Methylene Chloride(Dichloromethane)		TBA		%	25
		Chloroform		TBA		%	25
		Carbon Tetrachloride		TBA		%	25
		1,1-Dichloroethane		TBA		%	25
		1,2-Dichloroethane		TBA		%	25
		Ethylene Dibromide		TBA		%	25

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H3086

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2348902 LSY	RPD - Sample/Sample Dup	1,1,1-Trichloroethane		TBA		%	25
		1,1,2-Trichloroethane		TBA		%	25
		1,1,2,2-Tetrachloroethane		TBA		%	25
		cis-1,3-Dichloropropene		TBA		%	25
		trans-1,3-Dichloropropene		TBA		%	25
		1,2-Dichloropropane		TBA		%	25
		Bromomethane		TBA		%	25
		Bromoform		TBA		%	25
		Bromodichloromethane		TBA		%	25
		Dibromochloromethane		TBA		%	25
		Heptane		TBA		%	25
		Trichloroethylene		TBA		%	25
		Tetrachloroethylene		TBA		%	25
		Benzene		TBA		%	25
		Toluene		TBA		%	25
		Ethylbenzene		TBA		%	25
		p+m-Xylene		TBA		%	25
		o-Xylene		TBA		%	25
		Styrene		TBA		%	25
		1,3,5-Trimethylbenzene		TBA		%	25
		1,2,4-Trimethylbenzene		TBA		%	25
		4-ethyltoluene		TBA		%	25
		Chlorobenzene		TBA		%	25
		Benzyl chloride		TBA		%	25
		1,3-Dichlorobenzene		TBA		%	25
		1,4-Dichlorobenzene		TBA		%	25
		1,2-Dichlorobenzene		TBA		%	25
		1,2,4-Trichlorobenzene		TBA		%	25
		Hexachlorobutadiene		TBA		%	25
		Hexane		TBA		%	25
		Cyclohexane		TBA		%	25
		Tetrahydrofuran		TBA		%	25
		1,4-Dioxane		TBA		%	25
		Xylene (Total)		TBA		%	25

TBA = Result to follow

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.

Polycyclic Aromatic Hydrocarbons Laboratory Analysis

MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: Cold Lake South
Station ID: Lica1
Field Sample ID: LICA PUF/CLS/Nov 04, 10

Puf+ s/n: 100-1020
Motor s/n: 1138
Installation Date/Time: Nov 03, 2010 @ 11:31 mst
Removal Date/Time: Nov 05, 2010 @ 7:34 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
04-Nov-10	04/11/2010 0:00	05/11/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
02-Nov-10	08-Nov-10	12-Nov-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 05-May-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
713	229	3.2	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# 2330

GB0D7608 PUFF # 1

Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Nov 04 , 10

- Noticed condensation on the PUFF glass holder

Technician Signiture: Ting Xu

Your C.O.C. #: 2330

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/12/16

CERTIFICATE OF ANALYSIS**MAXXAM JOB #: B0G1215****Received: 2010/11/10, 09:10**

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/11/11	2010/11/12	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Page 1 of 7

Page 219 of 257

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

Maxxam ID		HU6546	HU6547		
Sampling Date		2010/11/04	2010/11/04		
COC Number		2330	2330		
	Units	LICA PUFF+QFF/CLS/NOV 4,10	LICA PUFF+QFF/PORT/NOV 4	RDL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2328565
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2328565
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2328565
2-Methylantracene	ug	<0.10	<0.10	0.10	2328565
2-Methylnaphthalene	ug	0.20	0.11	0.10	2328565
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2328565
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2328565
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2328565
Acenaphthene	ug	<0.050	<0.050	0.050	2328565
Acenaphthylene	ug	<0.050	<0.050	0.050	2328565
Anthracene	ug	<0.050	<0.050	0.050	2328565
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2328565
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2328565
Benzo(a)pyrene	ug	0.066	<0.050	0.050	2328565
Benzo(b)fluoranthene	ug	0.098	<0.050	0.050	2328565
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2328565
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2328565
Benzo(g,h,i)perylene	ug	0.116	0.062	0.050	2328565
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2328565
Biphenyl	ug	<0.10	<0.10	0.10	2328565
Chrysene	ug	0.052	<0.050	0.050	2328565
Coronene	ug	<0.10	<0.10	0.10	2328565
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2328565
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2328565
Fluoranthene	ug	0.118	0.068	0.050	2328565
Fluorene	ug	0.158	0.120	0.050	2328565
Indeno(1,2,3-cd)pyrene	ug	0.088	<0.050	0.050	2328565
m-Terphenyl	ug	<0.10	<0.10	0.10	2328565
Naphthalene	ug	0.154	0.090	0.072	2328565
o-Terphenyl	ug	<0.10	<0.10	0.10	2328565
Perylene	ug	<0.10	<0.10	0.10	2328565

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G1215
 Report Date: 2010/12/16

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

Maxxam ID		HU6546	HU6547		
Sampling Date		2010/11/04	2010/11/04		
COC Number		2330	2330		
	Units	LICA PUFF+QFF/CLS/NOV 4,10	LICA PUFF+QFF/PORT/NOV 4	RDL	QC Batch

Phenanthrene	ug	0.370	0.240	0.050	2328565
p-Terphenyl	ug	<0.10	<0.10	0.10	2328565
Pyrene	ug	0.112	0.054	0.050	2328565
Quinoline	ug	<0.40	<0.40	0.40	2328565
Tetralin	ug	<0.10	<0.10	0.10	2328565
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	72	74		2328565
D10-Fluoranthene	%	96	102		2328565
D10-Fluorene (FS)	%	23 (1)	11 (1)		2328565
D10-Phenanthrene	%	88	90		2328565
D12-Benzo(a)anthracene	%	96	104		2328565
D12-Benzo(a)pyrene	%	100	102		2328565
D12-Benzo(b)fluoranthene	%	92	94		2328565
D12-Benzo(ghi)perylene	%	98	100		2328565
D12-Benzo(k)fluoranthene	%	94	96		2328565
D12-Chrysene	%	86	88		2328565
D12-Indeno(1,2,3-cd)pyrene	%	100	102		2328565
D12-Perylene	%	98	100		2328565
D14-Dibenzo(a,h)anthracene	%	100	104		2328565
D14-Terphenyl (FS)	%	81	83		2328565
D8-Acenaphthylene	%	78	84		2328565
D8-Naphthalene	%	70	70		2328565

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 #: B0G1215
 Report Date: 2010/12/16

Test Summary

Maxxam ID	HU6546	Collected	2010/11/04
Sample ID	LICA PUFF+QFF/CLS/NOV 4,10	Shipped	
Matrix	PUF AND FILTER	Received	2010/11/10

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2328565	2010/11/11	2010/11/12	JIW

Maxxam ID	HU6547	Collected	2010/11/04
Sample ID	LICA PUFF+QFF/PORT/NOV 4	Shipped	
Matrix	PUF AND FILTER	Received	2010/11/10

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2328565	2010/11/11	2010/11/12	JIW

Maxxam Job #: B0G1215
Report Date: 2010/12/16

GENERAL COMMENTS

PAHMS-F(WS:2328965)

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in initial calibration. No positive found for this compound.

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in continuing calibration.

Sample HU6546-01: PAHMS-F(WS:2328565)

Low D10-Fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of D14-Terphenyl field spike.

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(a,h) anthracene it would have a value below estimated mdl.

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.052ug, which is the value reported for Chrysene.

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

Sample HU6547-01: PAHMS-F(WS:2328565)

Low D10-Fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of D14-Terphenyl field spike.

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(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 Dibenz(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.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0G1215

QA/QC Batch	Date Analyzed	Parameter	Value	%Recovery	Units	QC Limits
Num Init	QC Type	yyyy/mm/dd				
2328565 JIW	Spiked Blank	D10-2-Methylnaphthalene		78	%	50 - 150
		D10-Fluoranthene		94	%	50 - 150
		D10-Phenanthrene		88	%	50 - 150
		D12-Benzo(a)anthracene		98	%	50 - 150
		D12-Benzo(a)pyrene		98	%	50 - 150
		D12-Benzo(b)fluoranthene		90	%	50 - 150
		D12-Benzo(ghi)perylene		94	%	50 - 150
		D12-Benzo(k)fluoranthene		92	%	50 - 150
		D12-Chrysene		90	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene		96	%	50 - 150
		D12-Perylene		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene		98	%	50 - 150
		D8-Acenaphthylene		90	%	50 - 150
		D8-Naphthalene		78	%	50 - 150
		Acenaphthene		80	%	60 - 130
	RPD	Acenaphthene	5.5		%	50
	Spiked Blank	Acenaphthylene		84	%	60 - 130
	RPD	Acenaphthylene	3.8		%	50
	Spiked Blank	Anthracene		80	%	60 - 130
	RPD	Anthracene	8.1		%	50
	Spiked Blank	Benzo(a)anthracene		85	%	60 - 130
	RPD	Benzo(a)anthracene	2.9		%	50
	Spiked Blank	Benzo(a)pyrene		86	%	60 - 130
	RPD	Benzo(a)pyrene	1.8		%	50
	Spiked Blank	Benzo(b)fluoranthene		87	%	60 - 130
	RPD	Benzo(b)fluoranthene	1.1		%	50
	Spiked Blank	Benzo(g,h,i)perylene		89	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2.5		%	50
	Spiked Blank	Benzo(k)fluoranthene		94	%	60 - 130
	RPD	Benzo(k)fluoranthene	3.2		%	50
	Spiked Blank	Chrysene		86	%	60 - 130
	RPD	Chrysene	3.2		%	50
	Spiked Blank	Dibenz(a,h)anthracene		86	%	60 - 130
	RPD	Dibenz(a,h)anthracene	4.8		%	50
	Spiked Blank	Fluoranthene		87	%	60 - 130
	RPD	Fluoranthene	9.9		%	50
	Spiked Blank	Fluorene		80	%	60 - 130
	RPD	Fluorene	6.3		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene		90	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2.5		%	50
	Spiked Blank	Naphthalene		71	%	60 - 130
	RPD	Naphthalene	4.8		%	50
	Spiked Blank	Phenanthrene		78	%	60 - 130
	RPD	Phenanthrene	8.9		%	50
	Spiked Blank	Pyrene		80	%	60 - 130
	RPD	Pyrene	8.4		%	50
	Method Blank	D10-2-Methylnaphthalene		74	%	50 - 150
		D10-Fluoranthene		96	%	50 - 150
		D10-Phenanthrene		86	%	50 - 150
		D12-Benzo(a)anthracene		106	%	50 - 150
		D12-Benzo(a)pyrene		104	%	50 - 150
		D12-Benzo(b)fluoranthene		94	%	50 - 150
		D12-Benzo(ghi)perylene		96	%	50 - 150
		D12-Benzo(k)fluoranthene		98	%	50 - 150
		D12-Chrysene		92	%	50 - 150

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G1215

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2328565 JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/11/15		100	%	50 - 150
		D12-Perylene	2010/11/15		102	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/15		100	%	50 - 150
		D8-Acenaphthylene	2010/11/15		86	%	50 - 150
		D8-Naphthalene	2010/11/15		72	%	50 - 150
		1-Methylnaphthalene	2010/11/15	<0.10		ug	
		1-Methylphenanthrene	2010/11/15	<0.10		ug	
		2-Chloronaphthalene	2010/11/15	<0.10		ug	
		2-Methylanthracene	2010/11/15	<0.10		ug	
		2-Methylnaphthalene	2010/11/15	<0.10		ug	
		3-Methylcholanthrene	2010/11/15	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/11/15	<0.10		ug	
		9,10-Dimethylanthracene	2010/11/15	<0.40		ug	
		Acenaphthene	2010/11/15	<0.050		ug	
		Acenaphthylene	2010/11/15	<0.050		ug	
		Anthracene	2010/11/15	<0.050		ug	
		Benzo(a)anthracene	2010/11/15	<0.050		ug	
		Benzo(a)fluorene	2010/11/15	<0.10		ug	
		Benzo(a)pyrene	2010/11/15	<0.050		ug	
		Benzo(b)fluoranthene	2010/11/15	<0.050		ug	
		Benzo(b)fluorene	2010/11/15	<0.10		ug	
		Benzo(e)pyrene	2010/11/15	<0.10		ug	
		Benzo(g,h,i)perylene	2010/11/15	<0.050		ug	
		Benzo(k)fluoranthene	2010/11/15	<0.050		ug	
		Biphenyl	2010/11/15	<0.10		ug	
		Chrysene	2010/11/15	<0.050		ug	
		Coronene	2010/11/15	<0.10		ug	
		Dibenz(a,h)anthracene	2010/11/15	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/11/15	<0.20		ug	
		Fluoranthene	2010/11/15	<0.050		ug	
		Fluorene	2010/11/15	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/11/15	<0.050		ug	
		m-Terphenyl	2010/11/15	<0.10		ug	
		Naphthalene	2010/11/15	<0.072		ug	
		o-Terphenyl	2010/11/15	<0.10		ug	
		Perylene	2010/11/15	<0.10		ug	
		Phenanthrene	2010/11/15	<0.050		ug	
		p-Terphenyl	2010/11/15	<0.10		ug	
		Pyrene	2010/11/15	<0.050		ug	
		Quinoline	2010/11/15	<0.40		ug	
		Tetralin	2010/11/15	<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

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

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

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Nov 09, 2010 @ 8:33 mst
 Removal Date/Time: Nov 11, 2010 @ 8:35 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
10-Nov-10	10/11/2010 0:00	11/11/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
08-Nov-10	11-Nov-10	15-Nov-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 05-May-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
714	229	-4.0	330.32

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# 2332
GB0D9026 PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Nov 10 , 10
- Noticed condensation on the PUFF glass holder

Technician Signiture: Ting Xu

Your C.O.C. #: 2332

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/11/19

CERTIFICATE OF ANALYSIS**MAXXAM JOB #: B0G4342****Received: 2010/11/16, 09:57**

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/11/17	2010/11/18	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Page 1 of 7

Page 227 of 257

Maxxam Job #: B0G4342
 Report Date: 2010/11/19

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

Maxxam ID		HW2736	HW2737		
Sampling Date		2010/11/10	2010/11/10		
COC Number		2332	2332		
	Units	LICAPUFF/QFF/CLS/NOV 10,10	LICAPUFF/QFF/PORT/NOV 10,10	RDL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	0.49	0.14	0.10	2332895
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2332895
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2332895
2-Methylantracene	ug	<0.10	<0.10	0.10	2332895
2-Methylnaphthalene	ug	0.86	0.21	0.10	2332895
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2332895
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2332895
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2332895
Acenaphthene	ug	0.090	<0.050	0.050	2332895
Acenaphthylene	ug	0.290	0.138	0.050	2332895
Anthracene	ug	<0.050	<0.050	0.050	2332895
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2332895
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2332895
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2332895
Benzo(b)fluoranthene	ug	0.064	<0.050	0.050	2332895
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2332895
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2332895
Benzo(g,h,i)perylene	ug	0.050	<0.050	0.050	2332895
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2332895
Biphenyl	ug	0.33	0.27	0.10	2332895
Chrysene	ug	0.050	<0.050	0.050	2332895
Coronene	ug	<0.10	<0.10	0.10	2332895
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2332895
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2332895
Fluoranthene	ug	0.112	0.094	0.050	2332895
Fluorene	ug	0.226	0.178	0.050	2332895
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2332895
m-Terphenyl	ug	<0.10	<0.10	0.10	2332895
Naphthalene	ug	0.728	0.294	0.072	2332895
o-Terphenyl	ug	<0.10	<0.10	0.10	2332895
Perylene	ug	<0.10	<0.10	0.10	2332895
Phenanthrene	ug	0.402	0.334	0.050	2332895

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G4342
 Report Date: 2010/11/19

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

Maxxam ID		HW2736	HW2737		
Sampling Date		2010/11/10	2010/11/10		
COC Number		2332	2332		
	Units	LICAPUFF/QFF/CLS/NOV	LICAPUFF/QFF/PORT/NOV	RDL	QC Batch
		10,10	10,10		

p-Terphenyl	ug	<0.10	<0.10	0.10	2332895
Pyrene	ug	0.100	0.076	0.050	2332895
Quinoline	ug	<0.40	<0.40	0.40	2332895
Tetralin	ug	<0.10	<0.10	0.10	2332895
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	66	78		2332895
D10-Fluoranthene	%	94	100		2332895
D10-Fluorene (FS)	%	37 (1)	33 (1)		2332895
D10-Phenanthrene	%	82	86		2332895
D12-Benzo(a)anthracene	%	90	88		2332895
D12-Benzo(a)pyrene	%	96	98		2332895
D12-Benzo(b)fluoranthene	%	88	88		2332895
D12-Benzo(ghi)perylene	%	92	96		2332895
D12-Benzo(k)fluoranthene	%	94	94		2332895
D12-Chrysene	%	92	88		2332895
D12-Indeno(1,2,3-cd)pyrene	%	94	96		2332895
D12-Perylene	%	98	100		2332895
D14-Dibenzo(a,h)anthracene	%	92	98		2332895
D14-Terphenyl (FS)	%	80	77		2332895
D8-Acenaphthylene	%	74	88		2332895
D8-Naphthalene	%	66	78		2332895

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 #: B0G4342
 Report Date: 2010/11/19

Test Summary

Maxxam ID	HW2736	Collected	2010/11/10
Sample ID	LICAPUFF/QFF/CLS/NOV 10,10	Shipped	
Matrix	PUF AND FILTER	Received	2010/11/16

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2332895	2010/11/17	2010/11/18	JIW

Maxxam ID	HW2737	Collected	2010/11/10
Sample ID	LICAPUFF/QFF/PORT/NOV 10,10	Shipped	
Matrix	PUF AND FILTER	Received	2010/11/16

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2332895	2010/11/17	2010/11/18	JIW

Maxxam Job #: B0G4342
Report Date: 2010/11/19

GENERAL COMMENTS

PAHMS-F(WS:2332895)

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in initial calibration.

2-Chloronaphthalene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in continuing calibration.

Sample HW2736-01: PAHMS-F(WS:2332895)

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

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.05ug, which is the value reported for Chrysene.

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(a,h) anthracene, it would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenz(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.

Sample HW2737-01: PAHMS-F(WS:2332895)

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(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 Dibenz(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.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report
 Maxxam Job Number: GB0G4342

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2332895 JIW	Spiked Blank	D10-2-Methylnaphthalene	2010/11/18		78	%	50 - 150
		D10-Fluoranthene	2010/11/18		92	%	50 - 150
		D10-Phenanthrene	2010/11/18		84	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/18		88	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/18		92	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/18		88	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/18		90	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/18		94	%	50 - 150
		D12-Chrysene	2010/11/18		86	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/11/18		90	%	50 - 150
		D12-Perylene	2010/11/18		92	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/18		90	%	50 - 150
		RPD	D8-Acenaphthylene	2010/11/18		86	%
	D8-Naphthalene		2010/11/18		80	%	50 - 150
	Acenaphthene		2010/11/18		80	%	60 - 130
	Acenaphthene		2010/11/18	1.2		%	50
	Acenaphthylene		2010/11/18		83	%	60 - 130
	Acenaphthylene		2010/11/18	0		%	50
	Anthracene		2010/11/18		76	%	60 - 130
	Anthracene		2010/11/18	0		%	50
	Benzo(a)anthracene		2010/11/18		79	%	60 - 130
	Benzo(a)anthracene		2010/11/18	0		%	50
	Benzo(a)pyrene		2010/11/18		77	%	60 - 130
	Benzo(a)pyrene		2010/11/18	1.6		%	50
	Benzo(b)fluoranthene		2010/11/18		80	%	60 - 130
	Benzo(b)fluoranthene		2010/11/18	0		%	50
	Benzo(g,h,i)perylene		2010/11/18		80	%	60 - 130
	Benzo(g,h,i)perylene		2010/11/18	1.2		%	50
	Benzo(k)fluoranthene		2010/11/18		90	%	60 - 130
	Benzo(k)fluoranthene	2010/11/18	7.3		%	50	
	Spiked Blank	Chrysene	2010/11/18		87	%	60 - 130
		Chrysene	2010/11/18	0.3		%	50
		Dibenz(a,h)anthracene	2010/11/18		81	%	60 - 130
		Dibenz(a,h)anthracene	2010/11/18	2.4		%	50
		Fluoranthene	2010/11/18		89	%	60 - 130
		Fluoranthene	2010/11/18	0		%	50
		Fluorene	2010/11/18		78	%	60 - 130
		Fluorene	2010/11/18	0.3		%	50
		Indeno(1,2,3-cd)pyrene	2010/11/18		81	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2010/11/18	0.3		%	50
Naphthalene		2010/11/18		74	%	60 - 130	
Naphthalene		2010/11/18	1.0		%	50	
Phenanthrene		2010/11/18		75	%	60 - 130	
Phenanthrene		2010/11/18	0		%	50	
Pyrene		2010/11/18		80	%	60 - 130	
Pyrene		2010/11/18	1.2		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/11/18		80	%	50 - 150	
	D10-Fluoranthene	2010/11/18		100	%	50 - 150	
	D10-Phenanthrene	2010/11/18		82	%	50 - 150	
	D12-Benzo(a)anthracene	2010/11/18		88	%	50 - 150	
	D12-Benzo(a)pyrene	2010/11/18		96	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/11/18		88	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/11/18		96	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/11/18		96	%	50 - 150	
	D12-Chrysene	2010/11/18		90	%	50 - 150	

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G4342

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2332895 JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/11/18		96	%	50 - 150
		D12-Perylene	2010/11/18		98	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/18		96	%	50 - 150
		D8-Acenaphthylene	2010/11/18		90	%	50 - 150
		D8-Naphthalene	2010/11/18		82	%	50 - 150
		1-Methylnaphthalene	2010/11/18	<0.10		ug	
		1-Methylphenanthrene	2010/11/18	<0.10		ug	
		2-Chloronaphthalene	2010/11/18	<0.10		ug	
		2-Methylanthracene	2010/11/18	<0.10		ug	
		2-Methylnaphthalene	2010/11/18	<0.10		ug	
		3-Methylcholanthrene	2010/11/18	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/11/18	<0.10		ug	
		9,10-Dimethylanthracene	2010/11/18	<0.40		ug	
		Acenaphthene	2010/11/18	<0.050		ug	
		Acenaphthylene	2010/11/18	<0.050		ug	
		Anthracene	2010/11/18	<0.050		ug	
		Benzo(a)anthracene	2010/11/18	<0.050		ug	
		Benzo(a)fluorene	2010/11/18	<0.10		ug	
		Benzo(a)pyrene	2010/11/18	<0.050		ug	
		Benzo(b)fluoranthene	2010/11/18	<0.050		ug	
		Benzo(b)fluorene	2010/11/18	<0.10		ug	
		Benzo(e)pyrene	2010/11/18	<0.10		ug	
		Benzo(g,h,i)perylene	2010/11/18	<0.050		ug	
		Benzo(k)fluoranthene	2010/11/18	<0.050		ug	
		Biphenyl	2010/11/18	<0.10		ug	
		Chrysene	2010/11/18	<0.050		ug	
		Coronene	2010/11/18	<0.10		ug	
		Dibenz(a,h)anthracene	2010/11/18	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/11/18	<0.20		ug	
		Fluoranthene	2010/11/18	<0.050		ug	
		Fluorene	2010/11/18	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/11/18	<0.050		ug	
		m-Terphenyl	2010/11/18	<0.10		ug	
		Naphthalene	2010/11/18	<0.072		ug	
		o-Terphenyl	2010/11/18	<0.10		ug	
		Perylene	2010/11/18	<0.10		ug	
		Phenanthrene	2010/11/18	<0.050		ug	
		p-Terphenyl	2010/11/18	<0.10		ug	
		Pyrene	2010/11/18	<0.050		ug	
		Quinoline	2010/11/18	<0.40		ug	
		Tetralin	2010/11/18	<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

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
 Location: Cold Lake South
 Station ID: Lica1
 Field Sample ID: LICA PUF/CLS/Nov 16, 10

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Nov 15, 2010 @ 16:23 mst
 Removal Date/Time: Nov 17, 2010 @ 8:53 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
16-Nov-10	16/11/2010 0:00	17/11/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
15-Nov-10	17-Nov-10	24-Nov-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 05-May-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
716	229	-8.9	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# 5078

GB0D9038 PUFF # 1

Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Nov 16 , 10

- Noticed condensation on the PUFF glass holder

Technician Signiture: Ting Xu

Your C.O.C. #: 5078

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/11/25

CERTIFICATE OF ANALYSIS**MAXXAM JOB #: B0G6936****Received: 2010/11/19, 09:32**

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/11/22	2010/11/24	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Page 1 of 7

Page 235 of 257

Maxxam Job #: B0G6936
 Report Date: 2010/11/25

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

Maxxam ID		HX3969		HX3970		
Sampling Date		2010/11/16		2010/11/16		
COC Number		5078		5078		
	Units	LICA PUFF/QFF/CLS/NOV 16,10	RDL	LICA PUFF/QFF/PORT/NOV 16,10	RDL	QC Batch

Semivolatile Organics						
1-Methylnaphthalene	ug	0.35	0.10	<0.10	0.10	2337382
1-Methylphenanthrene	ug	0.18	0.10	<0.10	0.10	2337382
2-Chloronaphthalene	ug	<0.10	0.10	<0.10	0.10	2337382
2-Methylantracene	ug	<0.10	0.10	<0.10	0.10	2337382
2-Methylnaphthalene	ug	0.79	0.10	0.12	0.10	2337382
3-Methylcholanthrene	ug	<2.0	2.0	<2.0	2.0	2337382
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	0.10	<0.10	0.10	2337382
9,10-Dimethylantracene	ug	<0.40	0.40	<0.40	0.40	2337382
Acenaphthene	ug	<0.11	0.11	<0.050	0.050	2337382
Acenaphthylene	ug	0.086	0.050	<0.050	0.050	2337382
Anthracene	ug	<0.050	0.050	<0.050	0.050	2337382
Benzo(a)anthracene	ug	<0.050	0.050	<0.050	0.050	2337382
Benzo(a)fluorene	ug	<0.10	0.10	<0.10	0.10	2337382
Benzo(a)pyrene	ug	<0.050	0.050	<0.050	0.050	2337382
Benzo(b)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2337382
Benzo(b)fluorene	ug	<0.10	0.10	<0.10	0.10	2337382
Benzo(e)pyrene	ug	<0.10	0.10	<0.10	0.10	2337382
Benzo(g,h,i)perylene	ug	<0.050	0.050	<0.050	0.050	2337382
Benzo(k)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2337382
Biphenyl	ug	0.42	0.10	<0.10	0.10	2337382
Chrysene	ug	<0.050	0.050	<0.050	0.050	2337382
Coronene	ug	<0.10	0.10	<0.10	0.10	2337382
Dibenz(a,h)anthracene	ug	<0.050	0.050	<0.050	0.050	2337382
Dibenzo(a,e)pyrene	ug	<0.20	0.20	<0.20	0.20	2337382
Fluoranthene	ug	<0.050	0.050	<0.050	0.050	2337382
Fluorene	ug	0.246	0.050	<0.050	0.050	2337382
Indeno(1,2,3-cd)pyrene	ug	<0.050	0.050	<0.050	0.050	2337382
m-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2337382
Naphthalene	ug	0.176	0.072	0.090	0.072	2337382
o-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2337382
Perylene	ug	<0.10	0.10	<0.10	0.10	2337382

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G6936
 Report Date: 2010/11/25

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

Maxxam ID		HX3969		HX3970		
Sampling Date		2010/11/16		2010/11/16		
COC Number		5078		5078		
	Units	LICA PUFF/QFF/CLS/NOV 16,10	RDL	LICA PUFF/QFF/PORT/NOV 16,10	RDL	QC Batch
Phenanthrene	ug	0.436	0.050	0.108	0.050	2337382
p-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2337382
Pyrene	ug	0.100	0.050	<0.050	0.050	2337382
Quinoline	ug	<0.40	0.40	<0.40	0.40	2337382
Tetralin	ug	<0.10	0.10	<0.10	0.10	2337382
Surrogate Recovery (%)						
D10-2-Methylnaphthalene	%	74		70		2337382
D10-Fluoranthene	%	100		98		2337382
D10-Fluorene (FS)	%	68		57		2337382
D10-Phenanthrene	%	90		88		2337382
D12-Benzo(a)anthracene	%	104		102		2337382
D12-Benzo(a)pyrene	%	100		98		2337382
D12-Benzo(b)fluoranthene	%	98		94		2337382
D12-Benzo(ghi)perylene	%	98		100		2337382
D12-Benzo(k)fluoranthene	%	92		92		2337382
D12-Chrysene	%	90		88		2337382
D12-Indeno(1,2,3-cd)pyrene	%	102		102		2337382
D12-Perylene	%	96		96		2337382
D14-Dibenzo(a,h)anthracene	%	104		102		2337382
D14-Terphenyl (FS)	%	86		84		2337382
D8-Acenaphthylene	%	84		78		2337382
D8-Naphthalene	%	72		66		2337382
QC Batch = Quality Control Batch						

Maxxam Job #: B0G6936
 Report Date: 2010/11/25

Test Summary

Maxxam ID HX3969 **Collected** 2010/11/16
Sample ID LICA PUFF/QFF/CLS/NOV 16,10 **Shipped**
Matrix PUF AND FILTER **Received** 2010/11/19

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2337382	2010/11/22	2010/11/24	JIW

Maxxam ID HX3970 **Collected** 2010/11/16
Sample ID LICA PUFF/QFF/PORT/NOV 16,10 **Shipped**
Matrix PUF AND FILTER **Received** 2010/11/19

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2337382	2010/11/22	2010/11/24	JIW

Maxxam Job #: B0G6936
Report Date: 2010/11/25

GENERAL COMMENTS

PAHMS-F(WS:2337382)

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in initial calibration. No positive found for this compound.

9,10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in continuing calibration.

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(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 Dibenz(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

Sample HX3969-01: PAHMS-F(WS:2337382)

Mdl raised for Acenaphthene due to matrix interference on a possible positive.

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0G6936

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337382 JIW	Spiked Blank	D10-2-Methylnaphthalene	2010/11/24		78	%	50 - 150
		D10-Fluoranthene	2010/11/24		92	%	50 - 150
		D10-Phenanthrene	2010/11/24		86	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/24		98	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/24		96	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/24		94	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/24		96	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/24		92	%	50 - 150
		D12-Chrysene	2010/11/24		90	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/11/24		98	%	50 - 150
		D12-Perylene	2010/11/24		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/24		100	%	50 - 150
		D8-Acenaphthylene	2010/11/24		82	%	50 - 150
		D8-Naphthalene	2010/11/24		76	%	50 - 150
		Acenaphthene	2010/11/24		77	%	60 - 130
	RPD	Acenaphthene	2010/11/24	5.4		%	50
	Spiked Blank	Acenaphthylene	2010/11/24		79	%	60 - 130
	RPD	Acenaphthylene	2010/11/24	6.4		%	50
	Spiked Blank	Anthracene	2010/11/24		79	%	60 - 130
	RPD	Anthracene	2010/11/24	5.8		%	50
	Spiked Blank	Benzo(a)anthracene	2010/11/24		88	%	60 - 130
	RPD	Benzo(a)anthracene	2010/11/24	1.4		%	50
	Spiked Blank	Benzo(a)pyrene	2010/11/24		76	%	60 - 130
	RPD	Benzo(a)pyrene	2010/11/24	5.1		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/11/24		85	%	60 - 130
	RPD	Benzo(b)fluoranthene	2010/11/24	1.7		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/11/24		86	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2010/11/24	2.0		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/11/24		90	%	60 - 130
	RPD	Benzo(k)fluoranthene	2010/11/24	1.9		%	50
	Spiked Blank	Chrysene	2010/11/24		87	%	60 - 130
	RPD	Chrysene	2010/11/24	1.7		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/11/24		91	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2010/11/24	1.1		%	50
	Spiked Blank	Fluoranthene	2010/11/24		90	%	60 - 130
	RPD	Fluoranthene	2010/11/24	3.3		%	50
	Spiked Blank	Fluorene	2010/11/24		79	%	60 - 130
	RPD	Fluorene	2010/11/24	5.5		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/11/24		89	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2010/11/24	1.7		%	50
	Spiked Blank	Naphthalene	2010/11/24		70	%	60 - 130
	RPD	Naphthalene	2010/11/24	3.8		%	50
	Spiked Blank	Phenanthrene	2010/11/24		80	%	60 - 130
	RPD	Phenanthrene	2010/11/24	5.8		%	50
	Spiked Blank	Pyrene	2010/11/24		82	%	60 - 130
	RPD	Pyrene	2010/11/24	4.5		%	50
	Method Blank	D10-2-Methylnaphthalene	2010/11/24		86	%	50 - 150
		D10-Fluoranthene	2010/11/24		96	%	50 - 150
		D10-Phenanthrene	2010/11/24		88	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/24		100	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/24		100	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/24		96	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/24		98	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/24		94	%	50 - 150
		D12-Chrysene	2010/11/24		90	%	50 - 150

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6936

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337382 JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/11/24		102	%	50 - 150
		D12-Perylene	2010/11/24		96	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/24		102	%	50 - 150
		D8-Acenaphthylene	2010/11/24		88	%	50 - 150
		D8-Naphthalene	2010/11/24		84	%	50 - 150
		1-Methylnaphthalene	2010/11/24	<0.10		ug	
		1-Methylphenanthrene	2010/11/24	<0.10		ug	
		2-Chloronaphthalene	2010/11/24	<0.10		ug	
		2-Methylanthracene	2010/11/24	<0.10		ug	
		2-Methylnaphthalene	2010/11/24	<0.10		ug	
		3-Methylcholanthrene	2010/11/24	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/11/24	<0.10		ug	
		9,10-Dimethylanthracene	2010/11/24	<0.40		ug	
		Acenaphthene	2010/11/24	<0.050		ug	
		Acenaphthylene	2010/11/24	<0.050		ug	
		Anthracene	2010/11/24	<0.050		ug	
		Benzo(a)anthracene	2010/11/24	<0.050		ug	
		Benzo(a)fluorene	2010/11/24	<0.10		ug	
		Benzo(a)pyrene	2010/11/24	<0.050		ug	
		Benzo(b)fluoranthene	2010/11/24	<0.050		ug	
		Benzo(b)fluorene	2010/11/24	<0.10		ug	
		Benzo(e)pyrene	2010/11/24	<0.10		ug	
		Benzo(g,h,i)perylene	2010/11/24	<0.050		ug	
		Benzo(k)fluoranthene	2010/11/24	<0.050		ug	
		Biphenyl	2010/11/24	<0.10		ug	
		Chrysene	2010/11/24	<0.050		ug	
		Coronene	2010/11/24	<0.10		ug	
		Dibenz(a,h)anthracene	2010/11/24	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/11/24	<0.20		ug	
		Fluoranthene	2010/11/24	<0.050		ug	
		Fluorene	2010/11/24	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/11/24	<0.050		ug	
		m-Terphenyl	2010/11/24	<0.10		ug	
		Naphthalene	2010/11/24	<0.072		ug	
		o-Terphenyl	2010/11/24	<0.10		ug	
		Perylene	2010/11/24	<0.10		ug	
		Phenanthrene	2010/11/24	<0.050		ug	
		p-Terphenyl	2010/11/24	<0.10		ug	
		Pyrene	2010/11/24	<0.050		ug	
		Quinoline	2010/11/24	<0.40		ug	
		Tetralin	2010/11/24	<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

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
 Location: Cold Lake South
 Station ID: Lica1
 Field Sample ID: LICA PUF/CLS/Nov 22, 10

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Nov 19, 2010 @ 17:31 mst
 Removal Date/Time: Nov 24, 2010 @ 7:25 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
22-Nov-10	22/11/2010 0:00	23/11/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
18-Nov-10	24-Nov-10	30-Nov-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 05-May-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
721	229	-22.1	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# 2334
GB0D9049 PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Nov 22 , 10
- Noticed condensation on the PUFF glass holder

Technician Signiture: Ting Xu

Your C.O.C. #: 2334

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/12/01

CERTIFICATE OF ANALYSIS**MAXXAM JOB #: B0H0753****Received: 2010/11/26, 09:05**

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/11/26	2010/11/30	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0H0753
 Report Date: 2010/12/01

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

Maxxam ID		HZ2777	HZ2778		
Sampling Date		2010/11/22	2010/11/22		
		00:00	00:00		
COC Number		2334	2334		
	Units	LICA	LICA	RDL	QC Batch
		PUFF&QFF/CLS/NOV22,10	PUFF&QFF/PORT/NOV22,10		

Semivolatile Organics					
1-Methylnaphthalene	ug	0.27	0.38	0.10	2342741
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2342741
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2342741
2-Methylanthracene	ug	<0.10	<0.10	0.10	2342741
2-Methylnaphthalene	ug	0.42	0.67	0.10	2342741
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2342741
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2342741
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2342741
Acenaphthene	ug	<0.050	<0.050	0.050	2342741
Acenaphthylene	ug	<0.050	<0.050	0.050	2342741
Anthracene	ug	<0.050	<0.050	0.050	2342741
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2342741
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2342741
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2342741
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2342741
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2342741
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2342741
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2342741
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2342741
Biphenyl	ug	0.29	0.23	0.10	2342741
Chrysene	ug	<0.050	<0.050	0.050	2342741
Coronene	ug	<0.10	<0.10	0.10	2342741
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2342741
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2342741
Fluoranthene	ug	0.056	0.090	0.050	2342741
Fluorene	ug	0.074	0.094	0.050	2342741
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2342741
m-Terphenyl	ug	<0.10	<0.10	0.10	2342741
Naphthalene	ug	0.720	0.958	0.072	2342741
o-Terphenyl	ug	<0.10	<0.10	0.10	2342741
Perylene	ug	<0.10	<0.10	0.10	2342741

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0H0753
 Report Date: 2010/12/01

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

Maxxam ID		HZ2777	HZ2778		
Sampling Date		2010/11/22	2010/11/22		
		00:00	00:00		
COC Number		2334	2334		
	Units	LICA	LICA	RDL	QC Batch
		PUFF&QFF/CLS/NOV22,10	PUFF&QFF/PORT/NOV22,10		
Phenanthrene	ug	0.170	0.206	0.050	2342741
p-Terphenyl	ug	<0.10	<0.10	0.10	2342741
Pyrene	ug	<0.050	0.064	0.050	2342741
Quinoline	ug	<0.40	<0.40	0.40	2342741
Tetralin	ug	<0.10	<0.10	0.10	2342741
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	60	62		2342741
D10-Fluoranthene	%	82	86		2342741
D10-Fluorene (FS)	%	68	67		2342741
D10-Phenanthrene	%	74	74		2342741
D12-Benzo(a)anthracene	%	96	98		2342741
D12-Benzo(a)pyrene	%	90	90		2342741
D12-Benzo(b)fluoranthene	%	88	90		2342741
D12-Benzo(ghi)perylene	%	92	96		2342741
D12-Benzo(k)fluoranthene	%	88	88		2342741
D12-Chrysene	%	86	86		2342741
D12-Indeno(1,2,3-cd)pyrene	%	94	98		2342741
D12-Perylene	%	88	90		2342741
D14-Dibenzo(a,h)anthracene	%	92	98		2342741
D14-Terphenyl (FS)	%	81	85		2342741
D8-Acenaphthylene	%	66	68		2342741
D8-Naphthalene	%	58	60		2342741
QC Batch = Quality Control Batch					

Maxxam Job #: B0H0753
 Report Date: 2010/12/01

Test Summary

Maxxam ID HZ2777 **Collected** 2010/11/22
Sample ID LICA PUFF&QFF/CLS/NOV22,10 **Shipped**
Matrix PUF AND FILTER **Received** 2010/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2342741	2010/11/26	2010/11/30	JIW

Maxxam ID HZ2778 **Collected** 2010/11/22
Sample ID LICA PUFF&QFF/PORT/NOV22,10 **Shipped**
Matrix PUF AND FILTER **Received** 2010/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2342741	2010/11/26	2010/11/30	JIW

Maxxam Job #: B0H0753
Report Date: 2010/12/01

GENERAL COMMENTS

PAHMS-F(WS:2342741)

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in initial and continuing calibrations.

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(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 Dibenz(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.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0H0753

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2342741 JIW	Spiked Blank	D10-2-Methylnaphthalene	2010/11/30		68	%	50 - 150
		D10-Fluoranthene	2010/11/30		88	%	50 - 150
		D10-Phenanthrene	2010/11/30		78	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/30		94	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/30		92	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/30		90	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/30		96	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/30		90	%	50 - 150
		D12-Chrysene	2010/11/30		88	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/11/30		96	%	50 - 150
		D12-Perylene	2010/11/30		90	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/30		98	%	50 - 150
		D8-Acenaphthylene	2010/11/30		72	%	50 - 150
		D8-Naphthalene	2010/11/30		66	%	50 - 150
		Acenaphthene	2010/11/30		70	%	60 - 130
	RPD	Acenaphthene	2010/11/30	10.2		%	50
	Spiked Blank	Acenaphthylene	2010/11/30		70	%	60 - 130
	RPD	Acenaphthylene	2010/11/30	12.1		%	50
	Spiked Blank	Anthracene	2010/11/30		69	%	60 - 130
	RPD	Anthracene	2010/11/30	3.2		%	50
	Spiked Blank	Benzo(a)anthracene	2010/11/30		85	%	60 - 130
	RPD	Benzo(a)anthracene	2010/11/30	2.9		%	50
	Spiked Blank	Benzo(a)pyrene	2010/11/30		76	%	60 - 130
	RPD	Benzo(a)pyrene	2010/11/30	3.6		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/11/30		84	%	60 - 130
	RPD	Benzo(b)fluoranthene	2010/11/30	2.9		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/11/30		85	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2010/11/30	2.3		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/11/30		89	%	60 - 130
	RPD	Benzo(k)fluoranthene	2010/11/30	4.7		%	50
	Spiked Blank	Chrysene	2010/11/30		89	%	60 - 130
	RPD	Chrysene	2010/11/30	0.6		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/11/30		88	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2010/11/30	2.5		%	50
	Spiked Blank	Fluoranthene	2010/11/30		85	%	60 - 130
	RPD	Fluoranthene	2010/11/30	2.0		%	50
	Spiked Blank	Fluorene	2010/11/30		71	%	60 - 130
	RPD	Fluorene	2010/11/30	8.1		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/11/30		87	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2010/11/30	2.3		%	50
	Spiked Blank	Naphthalene	2010/11/30		62	%	60 - 130
	RPD	Naphthalene	2010/11/30	15.7		%	50
	Spiked Blank	Phenanthrene	2010/11/30		72	%	60 - 130
	RPD	Phenanthrene	2010/11/30	4.1		%	50
	Spiked Blank	Pyrene	2010/11/30		79	%	60 - 130
	RPD	Pyrene	2010/11/30	1		%	50
	Method Blank	D10-2-Methylnaphthalene	2010/11/30		78	%	50 - 150
		D10-Fluoranthene	2010/11/30		92	%	50 - 150
		D10-Phenanthrene	2010/11/30		84	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/30		92	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/30		94	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/30		90	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/30		96	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/30		90	%	50 - 150
		D12-Chrysene	2010/11/30		88	%	50 - 150

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H0753

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2342741 JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/11/30		98	%	50 - 150
		D12-Perylene	2010/11/30		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/30		100	%	50 - 150
		D8-Acenaphthylene	2010/11/30		84	%	50 - 150
		D8-Naphthalene	2010/11/30		78	%	50 - 150
		1-Methylnaphthalene	2010/11/30	<0.10		ug	
		1-Methylphenanthrene	2010/11/30	<0.10		ug	
		2-Chloronaphthalene	2010/11/30	<0.10		ug	
		2-Methylanthracene	2010/11/30	<0.10		ug	
		2-Methylnaphthalene	2010/11/30	<0.10		ug	
		3-Methylcholanthrene	2010/11/30	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/11/30	<0.10		ug	
		9,10-Dimethylanthracene	2010/11/30	<0.40		ug	
		Acenaphthene	2010/11/30	<0.050		ug	
		Acenaphthylene	2010/11/30	<0.050		ug	
		Anthracene	2010/11/30	<0.050		ug	
		Benzo(a)anthracene	2010/11/30	<0.050		ug	
		Benzo(a)fluorene	2010/11/30	<0.10		ug	
		Benzo(a)pyrene	2010/11/30	<0.050		ug	
		Benzo(b)fluoranthene	2010/11/30	<0.050		ug	
		Benzo(b)fluorene	2010/11/30	<0.10		ug	
		Benzo(e)pyrene	2010/11/30	<0.10		ug	
		Benzo(g,h,i)perylene	2010/11/30	<0.050		ug	
		Benzo(k)fluoranthene	2010/11/30	<0.050		ug	
		Biphenyl	2010/11/30	<0.10		ug	
		Chrysene	2010/11/30	<0.050		ug	
		Coronene	2010/11/30	<0.10		ug	
		Dibenz(a,h)anthracene	2010/11/30	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/11/30	<0.20		ug	
		Fluoranthene	2010/11/30	<0.050		ug	
		Fluorene	2010/11/30	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/11/30	<0.050		ug	
		m-Terphenyl	2010/11/30	<0.10		ug	
		Naphthalene	2010/11/30	<0.072		ug	
		o-Terphenyl	2010/11/30	<0.10		ug	
		Perylene	2010/11/30	<0.10		ug	
		Phenanthrene	2010/11/30	<0.050		ug	
		p-Terphenyl	2010/11/30	<0.10		ug	
		Pyrene	2010/11/30	<0.050		ug	
		Quinoline	2010/11/30	<0.40		ug	
		Tetralin	2010/11/30	<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

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
 Location: Cold Lake South
 Station ID: Lica1
 Field Sample ID: LICA PUF/CLS/Nov 28, 10

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Nov 25, 2010 @ 12:18 mst
 Removal Date/Time: Nov 29, 2010 @ 9:57 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
28-Nov-10	28/11/2010 0:00	29/11/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
24-Nov-10	29-Nov-10	29-Nov-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 05-May-10

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
710	229	-5.5	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# 5161
GB0D9068 PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Nov 28 , 10
- Noticed condensation on the PUFF glass holder

Technician Signiture: Ting Xu

Your C.O.C. #: 5161

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/12/07

CERTIFICATE OF ANALYSIS**MAXXAM JOB #: B0H3015****Received: 2010/12/01, 09:26**

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/12/01	2010/12/06	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0H3015
 Report Date: 2010/12/07

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

Maxxam ID		IA2764		IA2765		
Sampling Date		2010/11/28		2010/11/28		
COC Number		5161		5161		
	Units	LICA PUFF+QFF/CLS/NOV 28,10	RDL	LICA PUFF+QFF/PORT/NOV 28,10	RDL	QC Batch

Semivolatile Organics						
1-Methylnaphthalene	ug	0.20	0.10	0.21	0.10	2346879
1-Methylphenanthrene	ug	<0.10	0.10	<0.10	0.10	2346879
2-Chloronaphthalene	ug	<0.10	0.10	<0.10	0.10	2346879
2-Methylantracene	ug	<0.10	0.10	<0.10	0.10	2346879
2-Methylnaphthalene	ug	0.31	0.10	0.30	0.10	2346879
3-Methylcholanthrene	ug	<2.0	2.0	<2.0	2.0	2346879
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	0.10	<0.10	0.10	2346879
9,10-Dimethylantracene	ug	<0.40	0.40	<0.40	0.40	2346879
Acenaphthene	ug	<0.060	0.060	<0.070	0.070	2346879
Acenaphthylene	ug	<0.050	0.050	0.106	0.050	2346879
Anthracene	ug	<0.050	0.050	<0.050	0.050	2346879
Benzo(a)anthracene	ug	<0.050	0.050	<0.050	0.050	2346879
Benzo(a)fluorene	ug	<0.10	0.10	<0.10	0.10	2346879
Benzo(a)pyrene	ug	<0.050	0.050	<0.050	0.050	2346879
Benzo(b)fluoranthene	ug	0.052	0.050	0.062	0.050	2346879
Benzo(b)fluorene	ug	<0.10	0.10	<0.10	0.10	2346879
Benzo(e)pyrene	ug	<0.10	0.10	<0.10	0.10	2346879
Benzo(g,h,i)perylene	ug	0.074	0.050	0.078	0.050	2346879
Benzo(k)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2346879
Biphenyl	ug	0.51	0.10	0.71	0.10	2346879
Chrysene	ug	<0.050	0.050	0.060	0.050	2346879
Coronene	ug	<0.10	0.10	<0.10	0.10	2346879
Dibenz(a,h)anthracene	ug	<0.050	0.050	0.058	0.050	2346879
Dibenzo(a,e)pyrene	ug	<0.20	0.20	<0.20	0.20	2346879
Fluoranthene	ug	0.090	0.050	0.140	0.050	2346879
Fluorene	ug	0.234	0.050	0.352	0.050	2346879
Indeno(1,2,3-cd)pyrene	ug	0.064	0.050	0.070	0.050	2346879
m-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2346879
Naphthalene	ug	0.390	0.072	0.420	0.072	2346879
o-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2346879
Perylene	ug	<0.10	0.10	<0.10	0.10	2346879

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0H3015
 Report Date: 2010/12/07

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

Maxxam ID		IA2764		IA2765		
Sampling Date		2010/11/28		2010/11/28		
COC Number		5161		5161		
	Units	LICA PUFF+QFF/CLS/NOV 28,10	RDL	LICA PUFF+QFF/PORT/NOV 28,10	RDL	QC Batch

Phenanthrene	ug	0.416	0.050	0.664	0.050	2346879
p-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2346879
Pyrene	ug	0.050	0.050	0.090	0.050	2346879
Quinoline	ug	<0.40	0.40	<0.40	0.40	2346879
Tetralin	ug	<0.10	0.10	<0.10	0.10	2346879
Surrogate Recovery (%)						
D10-2-Methylnaphthalene	%	66		78		2346879
D10-Fluoranthene	%	90		88		2346879
D10-Fluorene (FS)	%	49 (1)		48 (1)		2346879
D10-Phenanthrene	%	82		84		2346879
D12-Benzo(a)anthracene	%	108		108		2346879
D12-Benzo(a)pyrene	%	98		98		2346879
D12-Benzo(b)fluoranthene	%	94		90		2346879
D12-Benzo(ghi)perylene	%	96		96		2346879
D12-Benzo(k)fluoranthene	%	88		94		2346879
D12-Chrysene	%	88		90		2346879
D12-Indeno(1,2,3-cd)pyrene	%	98		98		2346879
D12-Perylene	%	98		98		2346879
D14-Dibenzo(a,h)anthracene	%	100		100		2346879
D14-Terphenyl (FS)	%	87		90		2346879
D8-Acenaphthylene	%	72		82		2346879
D8-Naphthalene	%	62		74		2346879

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 #: B0H3015
 Report Date: 2010/12/07

Test Summary

Maxxam ID	IA2764	Collected	2010/11/28
Sample ID	LICA PUFF+QFF/CLS/NOV 28,10	Shipped	
Matrix	PUF AND FILTER	Received	2010/12/01

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2346879	2010/12/01	2010/12/06	JIW

Maxxam ID	IA2765	Collected	2010/11/28
Sample ID	LICA PUFF+QFF/PORT/NOV 28,10	Shipped	
Matrix	PUF AND FILTER	Received	2010/12/01

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2346879	2010/12/01	2010/12/06	JIW

Maxxam Job #: B0H3015
Report Date: 2010/12/07

GENERAL COMMENTS

Sample IA2764-01: PAHMS-F(WS:2346879)
Low D10-Fluorene field spike recovery.

Mdl raised further for Acenaphthene due to matrix interference on a possible positive.

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(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 Dibenz(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

Sample IA2765-01: PAHMS-F(WS:2346879)
Low D10-Fluorene field spike recovery.

Mdl raised further for Acenaphthene due to matrix interference on a possible positive.

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

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.06ug, which is the value reported for Chrysene.

Since Dibenzo(a,c)anthracene co-elutes with Dibenz(a,h)anthracene, the maximum possible value for this compound would be 0.058ug, which is the value reported for Dibenz(a,h)anthracene.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenz(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.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0H3015

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2346879 JIW	Spiked Blank	D10-2-Methylnaphthalene	2010/12/06		78	%	50 - 150
		D10-Fluoranthene	2010/12/06		90	%	50 - 150
		D10-Phenanthrene	2010/12/06		84	%	50 - 150
		D12-Benzo(a)anthracene	2010/12/06		100	%	50 - 150
		D12-Benzo(a)pyrene	2010/12/06		96	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/12/06		94	%	50 - 150
		D12-Benzo(ghi)perylene	2010/12/06		96	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/12/06		90	%	50 - 150
		D12-Chrysene	2010/12/06		90	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/12/06		96	%	50 - 150
		D12-Perylene	2010/12/06		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/12/06		98	%	50 - 150
		D8-Acenaphthylene	2010/12/06		80	%	50 - 150
		D8-Naphthalene	2010/12/06		76	%	50 - 150
		Acenaphthene	2010/12/06		76	%	60 - 130
	RPD	Acenaphthene	2010/12/06	7.9		%	50
	Spiked Blank	Acenaphthylene	2010/12/06		79	%	60 - 130
	RPD	Acenaphthylene	2010/12/06	10.0		%	50
	Spiked Blank	Anthracene	2010/12/06		77	%	60 - 130
	RPD	Anthracene	2010/12/06	6.0		%	50
	Spiked Blank	Benzo(a)anthracene	2010/12/06		89	%	60 - 130
	RPD	Benzo(a)anthracene	2010/12/06	1.1		%	50
	Spiked Blank	Benzo(a)pyrene	2010/12/06		76	%	60 - 130
	RPD	Benzo(a)pyrene	2010/12/06	0.3		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/12/06		86	%	60 - 130
	RPD	Benzo(b)fluoranthene	2010/12/06	0.3		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/12/06		92	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2010/12/06	1.1		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/12/06		86	%	60 - 130
	RPD	Benzo(k)fluoranthene	2010/12/06	1.8		%	50
	Spiked Blank	Chrysene	2010/12/06		86	%	60 - 130
	RPD	Chrysene	2010/12/06	1.8		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/12/06		95	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2010/12/06	1.8		%	50
	Spiked Blank	Fluoranthene	2010/12/06		86	%	60 - 130
	RPD	Fluoranthene	2010/12/06	3.6		%	50
	Spiked Blank	Fluorene	2010/12/06		78	%	60 - 130
	RPD	Fluorene	2010/12/06	9.0		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/12/06		95	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2010/12/06	0.3		%	50
	Spiked Blank	Naphthalene	2010/12/06		71	%	60 - 130
	RPD	Naphthalene	2010/12/06	8.4		%	50
	Spiked Blank	Phenanthrene	2010/12/06		79	%	60 - 130
	RPD	Phenanthrene	2010/12/06	7.9		%	50
	Spiked Blank	Pyrene	2010/12/06		80	%	60 - 130
	RPD	Pyrene	2010/12/06	3.2		%	50
	Method Blank	D10-2-Methylnaphthalene	2010/12/06		70	%	50 - 150
		D10-Fluoranthene	2010/12/06		92	%	50 - 150
		D10-Phenanthrene	2010/12/06		84	%	50 - 150
		D12-Benzo(a)anthracene	2010/12/06		102	%	50 - 150
		D12-Benzo(a)pyrene	2010/12/06		96	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/12/06		92	%	50 - 150
		D12-Benzo(ghi)perylene	2010/12/06		94	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/12/06		86	%	50 - 150
		D12-Chrysene	2010/12/06		86	%	50 - 150

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H3015

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2346879 JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/12/06		96	%	50 - 150
		D12-Perylene	2010/12/06		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/12/06		98	%	50 - 150
		D8-Acenaphthylene	2010/12/06		74	%	50 - 150
		D8-Naphthalene	2010/12/06		68	%	50 - 150
		1-Methylnaphthalene	2010/12/06	<0.10		ug	
		1-Methylphenanthrene	2010/12/06	<0.10		ug	
		2-Chloronaphthalene	2010/12/06	<0.10		ug	
		2-Methylanthracene	2010/12/06	<0.10		ug	
		2-Methylnaphthalene	2010/12/06	<0.10		ug	
		3-Methylcholanthrene	2010/12/06	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/12/06	<0.10		ug	
		9,10-Dimethylanthracene	2010/12/06	<0.40		ug	
		Acenaphthene	2010/12/06	<0.050		ug	
		Acenaphthylene	2010/12/06	<0.050		ug	
		Anthracene	2010/12/06	<0.050		ug	
		Benzo(a)anthracene	2010/12/06	<0.050		ug	
		Benzo(a)fluorene	2010/12/06	<0.10		ug	
		Benzo(a)pyrene	2010/12/06	<0.050		ug	
		Benzo(b)fluoranthene	2010/12/06	<0.050		ug	
		Benzo(b)fluorene	2010/12/06	<0.10		ug	
		Benzo(e)pyrene	2010/12/06	<0.10		ug	
		Benzo(g,h,i)perylene	2010/12/06	<0.050		ug	
		Benzo(k)fluoranthene	2010/12/06	<0.050		ug	
		Biphenyl	2010/12/06	<0.10		ug	
		Chrysene	2010/12/06	<0.050		ug	
		Coronene	2010/12/06	<0.10		ug	
		Dibenz(a,h)anthracene	2010/12/06	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/12/06	<0.20		ug	
		Fluoranthene	2010/12/06	<0.050		ug	
		Fluorene	2010/12/06	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/12/06	<0.050		ug	
		m-Terphenyl	2010/12/06	<0.10		ug	
		Naphthalene	2010/12/06	<0.072		ug	
		o-Terphenyl	2010/12/06	<0.10		ug	
		Perylene	2010/12/06	<0.10		ug	
		Phenanthrene	2010/12/06	<0.050		ug	
		p-Terphenyl	2010/12/06	<0.10		ug	
		Pyrene	2010/12/06	<0.050		ug	
		Quinoline	2010/12/06	<0.40		ug	
		Tetralin	2010/12/06	<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
November 2010

Prepared By:



December 10, 2010

Lakeland Industry & Community Association Ambient Air Monitoring Maskwa

Table of Contents

	Page		Page
Introduction	3	Calibration Reports	84
Calibration Procedure	4	• Sulphur Dioxide	85
Monthly Continuous Summary	5	• Hydrogen Sulphide	88
General Monthly Summary	6	• Total Hydrocarbons	91
Continuous Monitoring	10	• Nitrogen Dioxide	94
• Monthly Summaries, Graphs & Wind Roses	11		
• Sulphur Dioxide	12		
• Hydrogen Sulphide	20		
• Total Hydrocarbons	28		
• Nitrogen Dioxide	36		
• Nitric Oxide	44		
• Oxides of Nitrogen	51		
• Temperature	59		
• Precipitation	62		
• Relative Humidity	65		
• Barometric Pressure	68		
• Vector Wind Speed	71		
• Vector Wind Direction	78		
• Standard Deviation Wind Direction	81		

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: November 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 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 – November 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	0.84	44	24	13	5.8	222(SW)	6.0	24	100.0
H2S (PPB)	10	3	0	0	0.001	1	VAR	VAR	VAR	VAR	0.1	10	100.0
THC (PPM)	-	-	-	-	2.15	3.0	1	VAR	VAR	VAR	2.6	1	100.0
NOx (PPB)	-	-	-	-	5.33	46	24	16	2.8	223(SW)	15.7	24	100.0
NO (PPB)	-	-	-	-	0.65	22	24	16	2.8	223(SW)	2.8	24	100.0
NO ₂ (PPB)	212	106	0	0	4.56	24	24	16	2.8	223(SW)	12.7	24	100.0
VECTOR WS (KPH)	-	-	-	-	4.91	18.5	2	11	-	281(W)	8.9	2	100.0
VECTOR WD (DEGREES)	-	-	-	-	260(WSW)	-	-	-	-	-	-	-	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	70.01	90	14	8, 9	3.2, 5	223(SW), 204(SSW)	85.4	14	100.0
TEMPERATURE (DEG C)	-	-	-	-	-6.69	13.1	5	13	8.3	311(NW)	6.5	2	100.0
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	940	958	3	VAR	VAR	VAR	955.3	3	100.0
PRECIPITATION (MM)	-	-	-	-	0.01	0.6	25	12, 13	2.2, 3	228(SW), 228(SW)	2.8	25	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. 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. 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 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. Data was corrected using daily zero information.

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

- System make / model - Met One 50.5H, S/N: H10703

The wind system is reported as vector wind speed and vector wind direction. The wind system worked 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 –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 November 10th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA
NOVEMBER 2010
SULPHUR DIOXIDE (SO₂) 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.
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	1	1	1	1	1	1	IZS	0	0	0	0	0	0	0	1	0.3	24
2	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
3	0	0	0	0	0	0	0	0	0	2	3	5	0	0	0	IZS	0	0	0	0	0	0	0	0	5	0.4	24	
4	0	0	0	0	0	0	0	0	0	0	1	0	0	1	IZS	0	1	1	0	1	1	1	1	1	1	1	0.4	24
5	1	1	1	0	0	0	0	0	1	8	44	18	18	IZS	11	7	0	0	0	0	2	15	8	2	44	6.0	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	24	
7	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	
8	0	0	0	0	0	0	0	1	2	4	IZS	6	6	3	3	5	3	5	1	0	0	0	1	2	6	1.8	24	
9	1	0	0	0	0	0	0	0	0	IZS	5	C	C	C	C	5	2	1	0	0	0	0	0	0	5	0.7	24	
10	0	0	0	0	0	0	0	0	IZS	0	0	1	1	2	2	C	0	0	0	0	0	0	0	0	2	0.3	24	
11	0	0	0	0	0	1	0	IZS	0	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	3	0.6	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	24	
13	0	0	0	0	0	IZS	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1	24	
14	7	3	3	2	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9	8	9	1.5	24
15	14	20	31	IZS	32	21	6	0	1	1	0	0	3	2	1	0	0	0	0	0	0	0	0	0	32	5.7	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	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	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	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	24	
20	0	0	0	0	0	0	0	0	0	0	0	1	2	3	1	1	1	1	1	1	1	1	IZS	1	1	3	0.7	24
21	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	1	0	0	0	IZS	0	0	0	1	0.3	24	
22	0	0	0	0	0	0	0	0	0	0	7	8	6	2	1	1	1	1	IZS	0	0	0	0	0	8	1.1	24	
23	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	1	IZS	2	2	2	2	1	1	2	0.6	24	
24	1	1	1	1	1	1	1	1	2	2	2	3	4	3	3	3	3	IZS	1	1	0	0	1	1	4	1.6	24	
25	1	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0	IZS	0	0	0	0	0	0	0	1	0.4	24	
26	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	IZS	0	0	0	0	0	0	0	0	1	0.0	24	
27	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	2	0.1	24	
28	0	0	0	2	0	1	6	7	7	2	2	2	1	IZS	2	0	0	0	0	0	0	0	0	0	7	1.4	24	
29	0	3	0	0	0	0	0	2	1	0	0	0	0	IZS	1	0	0	0	0	0	0	0	0	1	3	0.3	24	
30	2	1	0	0	0	0	0	0	0	2	0	IZS	0	0	1	1	1	2	1	1	1	0	2	1	2	0.7	24	
HOURLY MAX	14	20	31	2	32	21	6	7	7	8	44	18	18	6	11	7	3	5	1	2	2	15	9	8				
HOURLY AVG	0.9	1.0	1.3	0.2	1.2	0.9	0.5	0.5	0.6	0.9	2.1	1.8	1.8	1.0	1.0	1.0	0.5	0.4	0.1	0.2	0.2	0.7	0.8	0.6				

STATUS FLAG CODES

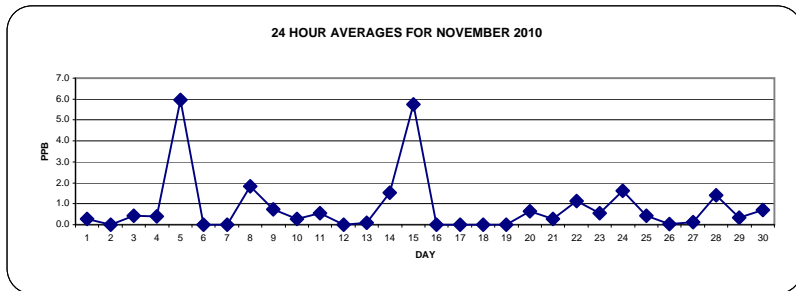
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

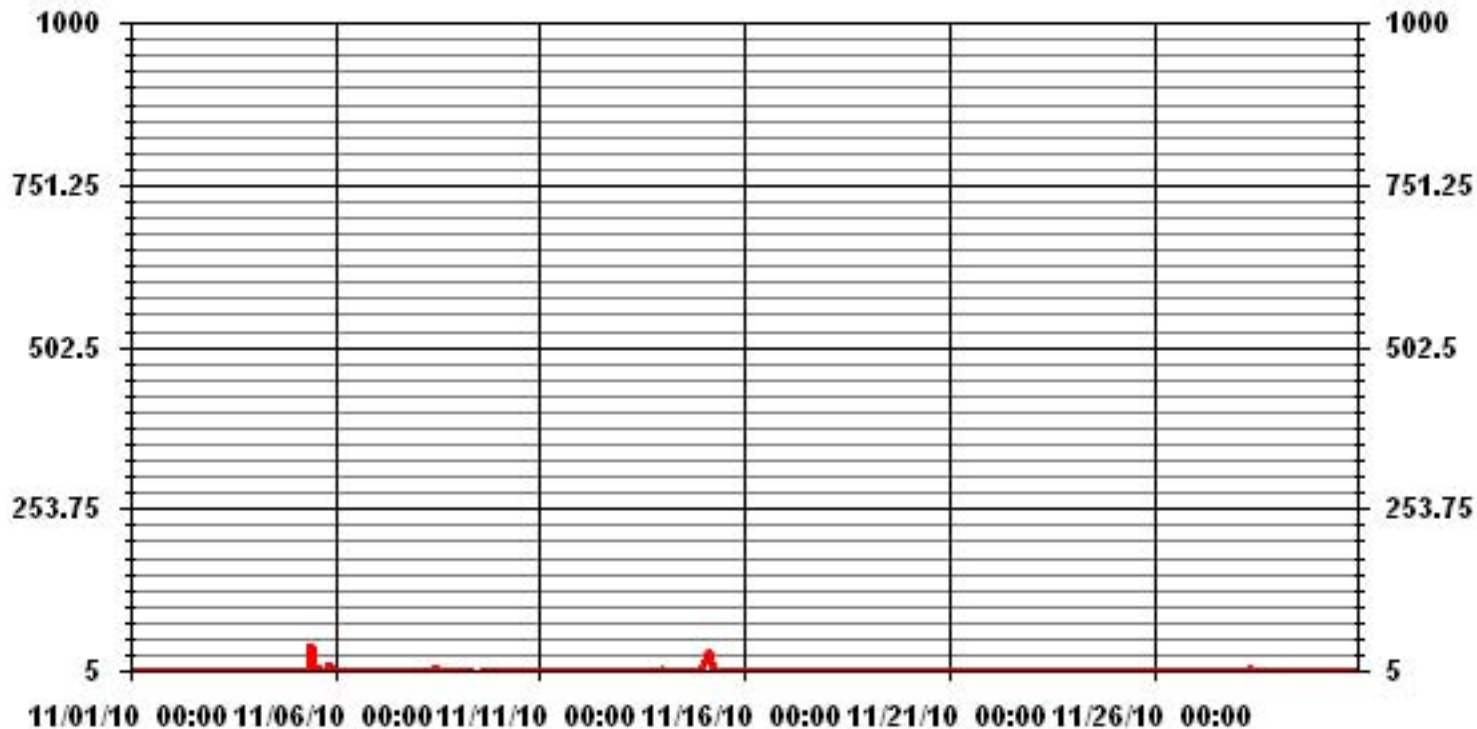
ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
----------------------	------	-----	-----	-------	----	-----

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	175					
MAXIMUM 1-HR AVERAGE:	44	PPB	@ HOUR(S)	13	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	6.0	PPB			ON DAY(S)	24
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	3.15		MONTHLY AVERAGE:	0.84	PPB	



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

NOVEMBER 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	1	0	1	0	0	1	1	1	1	1	2	1	1	1	IZS	0	0	0	0	0	0	0	2	0.5	24
2		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
3		0	0	0	0	0	0	0	0	0	13	16	27	3	0	0	IZS	0	0	0	0	0	0	0	0	27	2.6	24	
4		0	0	0	0	0	0	0	0	1	1	1	1	1	1	IZS	0	2	3	1	1	1	1	1	2	3	0.8	24	
5		2	1	1	1	1	1	1	1	3	24	84	56	55	IZS	60	20	0	0	0	0	46	47	37	4	84	19.3	24	
6		0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	1	1	1	1	1	1	1	1	1	1	0.5	24	
7		1	1	1	1	1	1	1	1	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.5	24
8		0	0	0	0	0	0	0	4	14	17	IZS	27	20	7	13	11	10	10	5	1	1	1	2	4	27	6.4	24	
9		2	2	1	1	0	0	0	0	0	IZS	16	C	C	C	C	C	7	3	1	1	0	0	0	0	16	1.8	24	
10		0	1	1	1	1	1	0	0	IZS	0	1	3	2	7	C	C	0	0	1	0	1	0	0	0	7	1.0	24	
11		0	0	0	0	1	4	1	IZS	1	11	12	8	13	1	1	1	0	0	0	0	0	0	0	0	13	2.3	24	
12		0	0	0	0	0	0	IZS	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	1	1	1	0.2	24	
13		0	0	0	0	0	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24	
14		15	10	13	7	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	13	19	19	3.8	24	
15		25	41	38	IZS	47	35	29	3	6	1	1	1	5	4	1	1	1	0	0	0	0	0	0	0	47	10.4	24	
16		0	0	IZS	0	0	0	0	0	1	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	2	0.2	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	24	
18		IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	IZS	1	0.0	24
19		0	0	0	0	0	0	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24	
20		0	0	0	0	0	0	1	1	0	1	1	2	3	4	2	1	1	1	2	2	1	IZS	1	1	4	1.1	24	
21		1	1	1	1	1	1	5	3	1	1	1	1	1	2	2	2	1	1	0	1	IZS	1	0	0	5	1.3	24	
22		0	0	0	0	0	0	0	0	0	0	2	17	17	22	5	2	1	1	1	IZS	1	1	1	1	22	3.1	24	
23		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	IZS	IZS	3	3	2	2	2	3	1.3	24	
24		2	1	1	1	1	2	1	2	2	2	3	5	4	4	4	4	4	IZS	IZS	1	1	1	1	1	1	5	2.1	24
25		1	2	2	2	1	2	2	1	1	1	1	1	1	1	0	IZS	0	0	0	0	0	0	0	0	2	0.9	24	
26		0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	IZS	0	0	1	1	0	1	1	0	1	0.3	24	
27		1	1	0	0	0	0	1	0	10	9	0	0	0	0	IZS	0	0	0	2	1	0	0	0	0	10	1.1	24	
28		0	0	3	3	1	2	25	18	16	12	15	10	8	IZS	6	0	0	0	0	0	0	0	0	0	25	5.2	24	
29		0	13	1	0	1	0	0	10	5	1	1	5	IZS	1	1	1	2	1	0	0	0	0	0	2	13	2.0	24	
30		2	2	1	1	0	1	1	1	1	5	1	IZS	1	1	2	3	2	3	2	1	1	1	4	2	5	1.7	24	
HOURLY MAX		25	41	38	7	47	35	29	18	16	24	84	56	55	22	60	20	10	10	5	3	46	47	37	19				
HOURLY AVG		1.8	2.7	2.2	0.7	2.0	1.8	2.5	1.7	2.3	3.6	5.6	6.2	5.1	2.3	4.0	2.1	1.1	0.9	0.7	0.5	2.0	2.4	2.3	1.4				

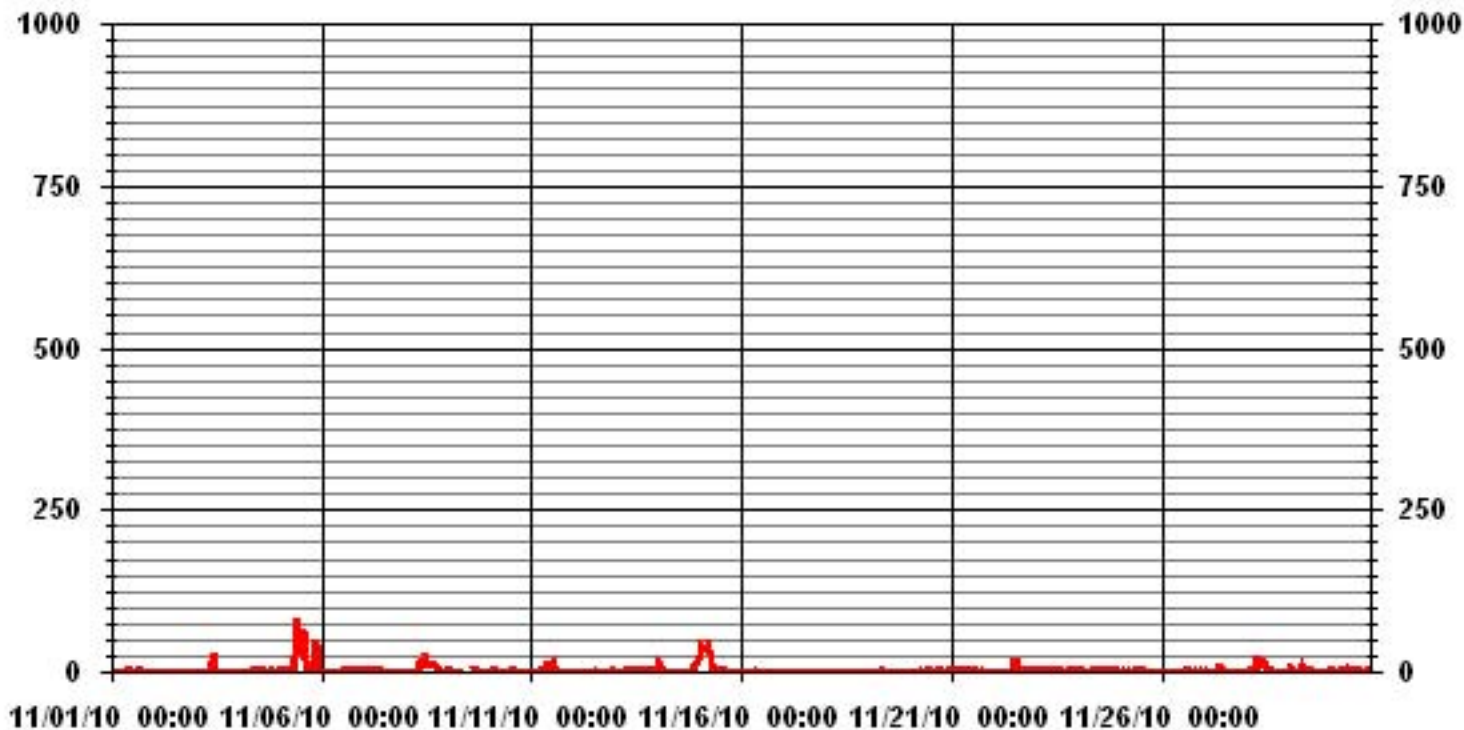
STATUS FLAG CODES

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:	345					
MAXIMUM INSTANTANEOUS VALUE:	84	PPB	@ HOUR(S)	10	ON DAY(S)	5
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	7.38					

01 Hour Averages



LICA30
 SO2_ / WDR Joint Frequency Distribution (Percent)

November 2010

Distribution By % Of Samples

Logger Id : 30
 Site Name : LICA30
 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	5.40	7.01	4.67	5.99	1.60	2.77	4.38	3.07	2.77	18.27	13.88	5.70	10.52	6.57	3.21	3.36	99.26
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.29	.43	.00	.73
< 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	5.40	7.01	4.67	5.99	1.60	2.77	4.38	3.07	2.77	18.27	13.88	5.70	10.52	6.87	3.65	3.36	

Calm : .00 %

Total # Operational Hours : 684

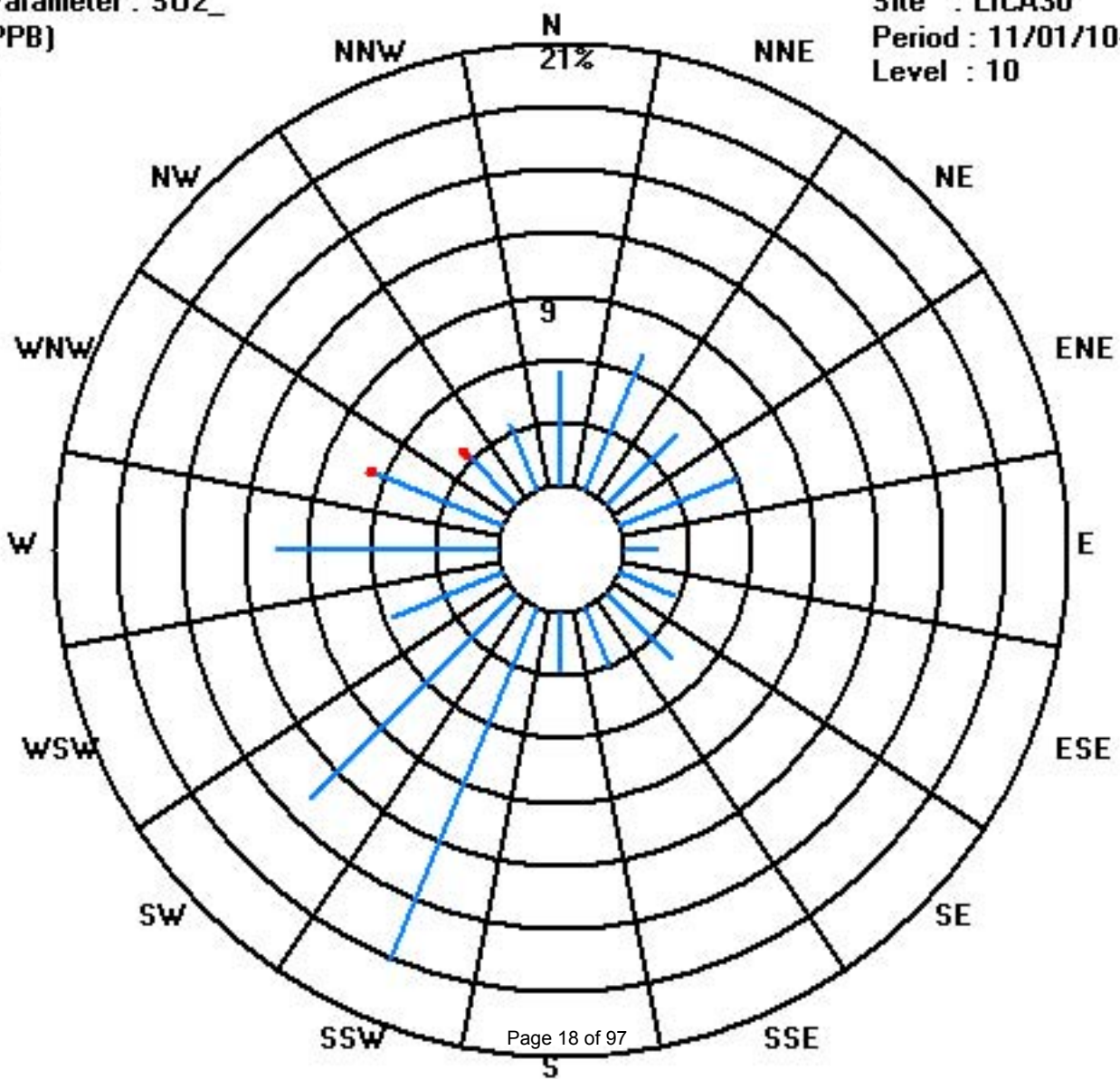
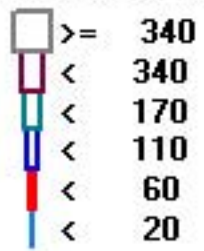
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	37	48	32	41	11	19	30	21	19	125	95	39	72	45	22	23	679
< 60														2	3		5
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	37	48	32	41	11	19	30	21	19	125	95	39	72	47	25	23	

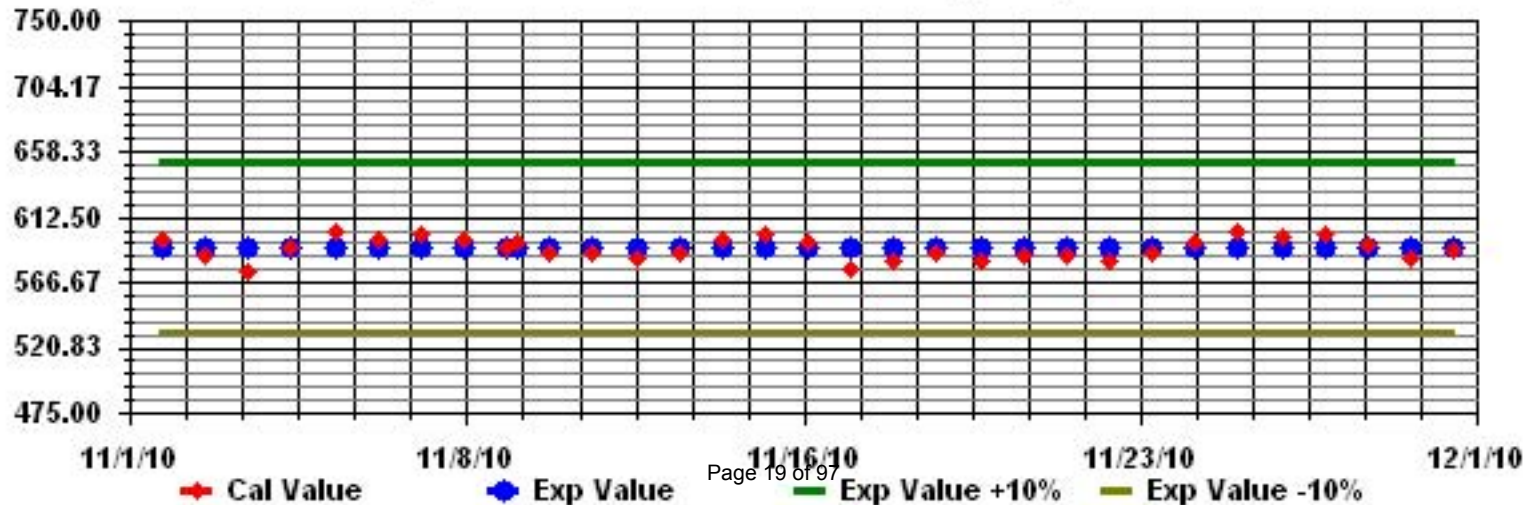
Calm : .00 %

Total # Operational Hours : 684

Class Limits (PPB)



Calibration Graph for Site: LICA30 Parameter: S02_ Sequence: S02 Phase: SPAll



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2010

HYDROGEN SULPHIDE (H₂S) 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	0	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	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	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	1	0	0	0	0	0	0	0	0	0	0	0	0	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	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	1	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1	0	0	0	1	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

STATUS FLAG CODES

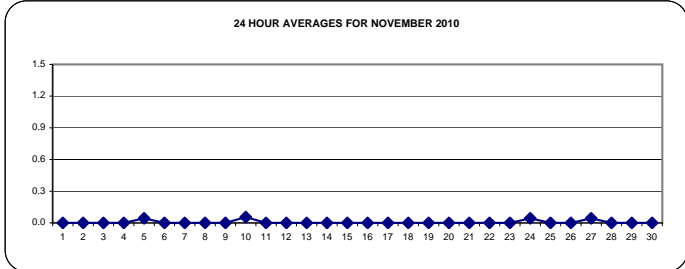
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

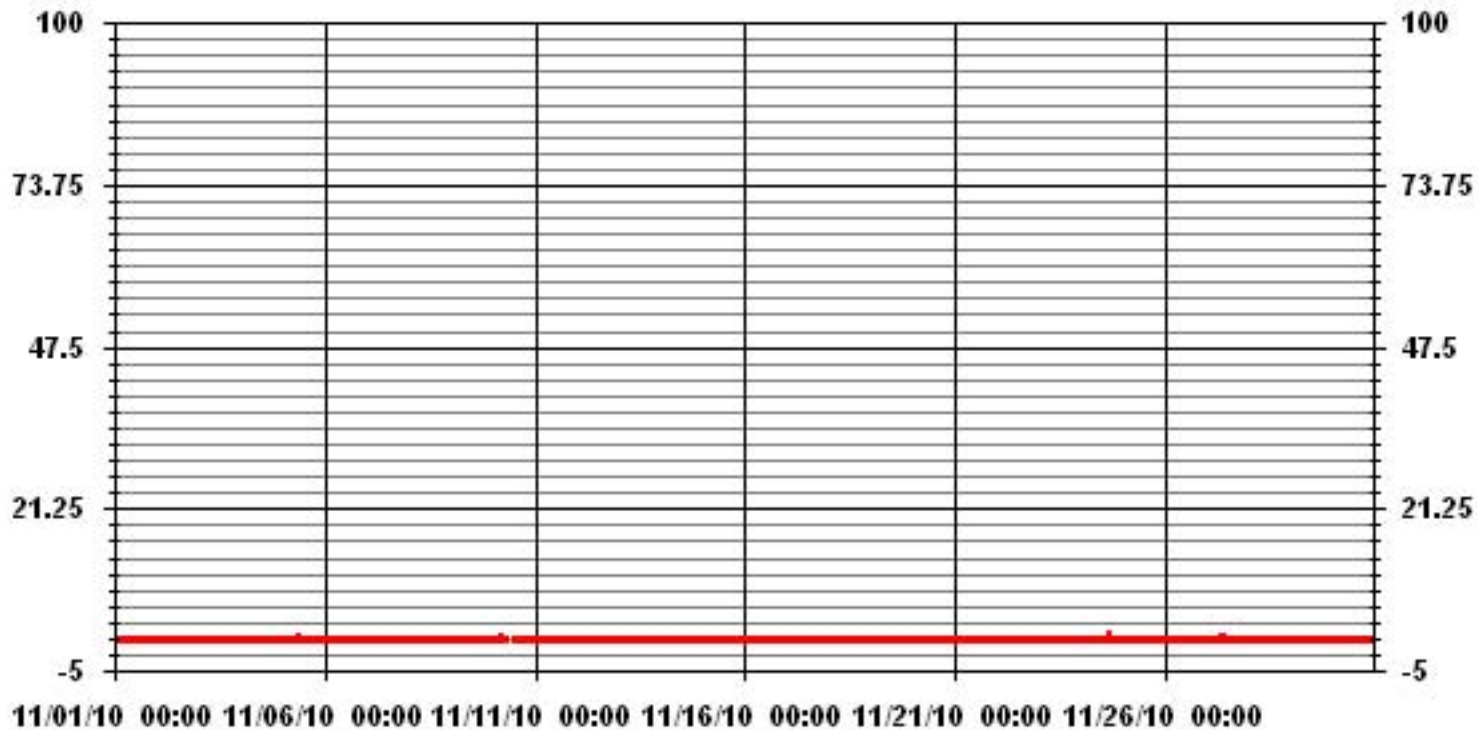
ALBERTA ENVIRONMENT: 1-HR 10 PPB 24-HR 3 PPB

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)
					VAR-VARIOUS
IZS CALIBRATION TIME:	31	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



— LICA30 H2S_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

NOVEMBER 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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	IZS	0	0	0	0	1	1	1	1	0.2	24
2		1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	1	0.1	24
3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	1	0	0	0	1	0.1	24	
4		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	1	0	0	0	0	0	1	0.1	24	
5		0	0	0	0	0	0	0	0	1	2	1	0	1	IZS	1	0	0	0	0	0	0	0	0	1	0	2	0.3	24
6		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	0.1	24	
7		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	1	0.0	24
8		0	0	0	0	0	1	0	0	0	0	0	IZS	1	0	0	1	1	1	0	0	0	0	0	0	1	0.3	24	
9		1	0	0	1	0	0	0	0	0	IZS	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0.2	24	
10		0	0	1	1	1	1	1	0	IZS	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	1	0.3	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
13		0	0	0	0	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
14		1	0	0	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	1	0.3	24	
15		0	1	1	IZS	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0.3	24
16		0	0	IZS	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.1	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	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	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	0.1	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	1	0	1	0.0	24
24		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	IZS	1	0	1	0	1	1	1	1	0.2	24
25		1	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0	IZS	0	1	0	0	0	0	0	0	1	0.3	24
26		0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	IZS	0	1	0	0	0	1	1	0	1	0.2	24
27		1	0	0	0	0	0	0	0	0	1	1	1	1	0	0	IZS	1	0	0	0	0	0	0	0	0	1	0.3	24
28		2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	2	0.1	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	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX		2	1	1	1	3	1	1	0	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
HOURLY AVG		0.3	0.1	0.1	0.1	0.2	0.1	0.1	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	0.1	0.1	0.1	0.2	0.2			

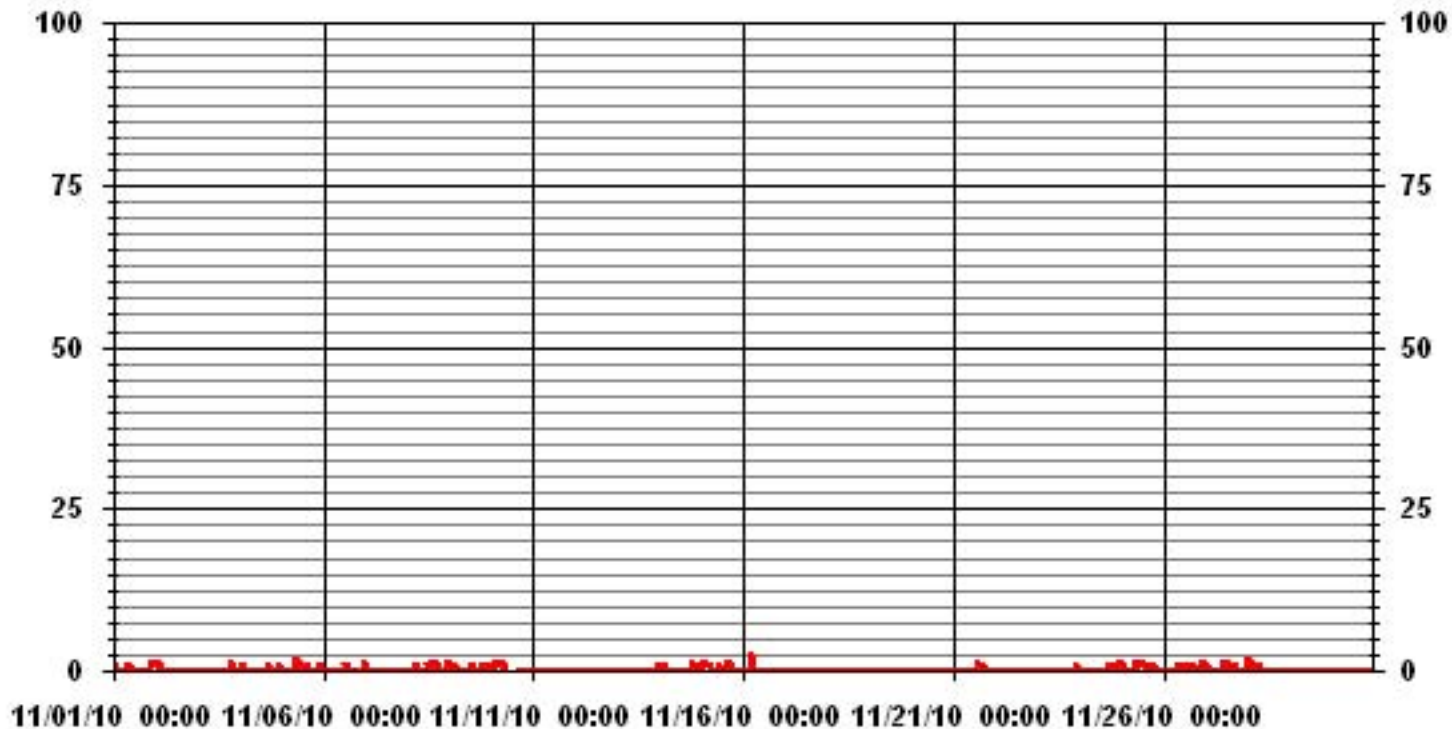
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	81
MAXIMUM INSTANTANEOUS VALUE:	3 PPB @ HOUR(S) 4 ON DAY(S) 16
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	6 HRS
STANDARD DEVIATION:	0.35
OPERATIONAL TIME:	720 HRS

01 Hour Averages



— LICA30 H2S MAX PPB

LICA30
H2S_ / WDR Joint Frequency Distribution (Percent)

November 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	5.40	7.01	4.82	5.99	1.60	2.77	4.38	3.07	2.77	18.27	14.03	5.55	10.38	6.87	3.65	3.36	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	5.40	7.01	4.82	5.99	1.60	2.77	4.38	3.07	2.77	18.27	14.03	5.55	10.38	6.87	3.65	3.36	

Calm : .00 %

Total # Operational Hours : 684

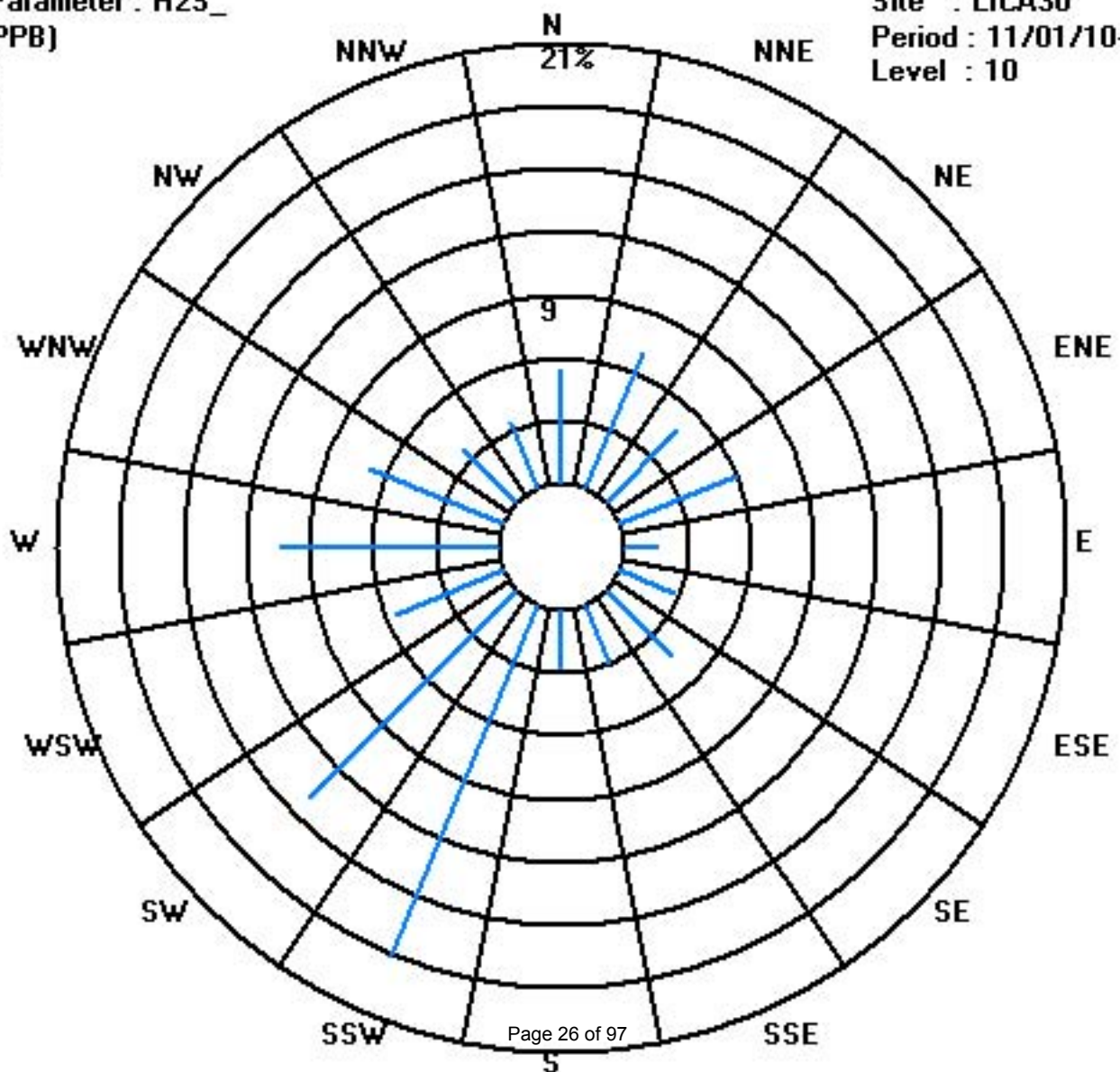
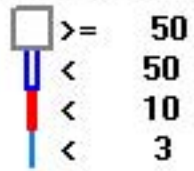
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	37	48	33	41	11	19	30	21	19	125	96	38	71	47	25	23	684
< 10																	
< 50																	
>= 50																	
Totals	37	48	33	41	11	19	30	21	19	125	96	38	71	47	25	23	

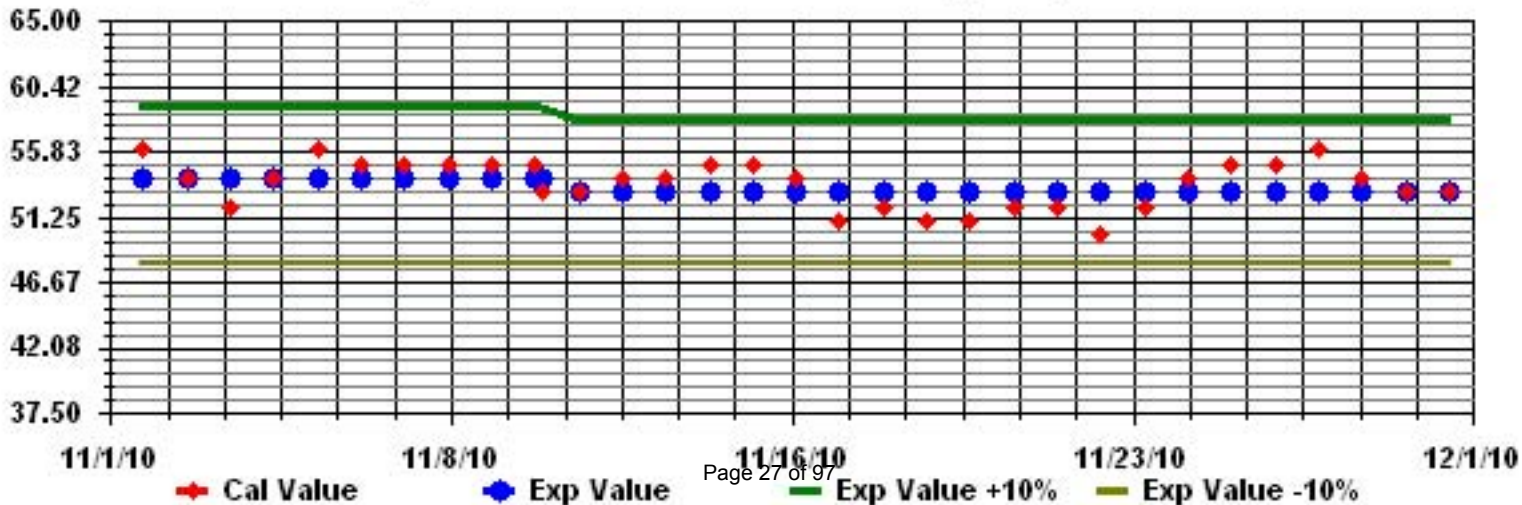
Calm : .00 %

Total # Operational Hours : 684

Class Limits (PPB)



Calibration Graph for Site: LICA30 Parameter: H2S_ Sequence: H2S Phase: SPAll



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

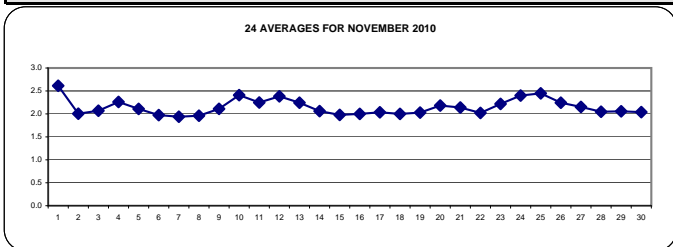
NOVEMBER 2010

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		3	3	3	3	2.9	2.9	2.9	2.4	2.4	2.5	2.4	2.5	2.5	2.6	2.6	2.5	IZS	IZS	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.0	2.6	24	
2		2.3	2.2	2.1	2	2	2	1.9	1.9	1.9	2	2	2	2	1.9	1.9	2	IZS	IZS	2	2	2	2	2	2	2	2.3	2.0	24	
3		2	2	2	2	2	2	2	2	2	2	2.1	2.1	2	2	2	IZS	IZS	2	2	2	2.1	2.3	2.2	2.4	2.4	2.1	24		
4		2.4	2.4	2.4	2.4	2.3	2.2	2.3	2.3	2.4	2.4	2.3	2.3	2.4	2.3	IZS	IZS	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.4	2.3	24	
5		2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.3	2.5	2.5	2.3	2	2	IZS	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	1.9	2.5	2.1	24		
6		1.9	1.9	1.9	1.9	1.9	2	2	2	2	2	1.9	1.9	IZS	2.1	2	2	2	2	2	2	2	2	2	2	2	2.1	2.0	24	
7		2	2	2	2	2	2	2	2	1.9	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	2.0	1.9	24		
8		1.9	1.9	1.9	1.9	1.9	1.9	2	2	1.9	1.9	IZS	1.9	2	2	1.9	2	2	2	2	2	2	2	2	2	2.1	2.1	2.0	24	
9		2.1	2.1	2.1	2.1	2	2	2	2	2	IZS	2	2	C	C	C	2.1	2	2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	24	
10		2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	IZS	2.7	2.7	2.6	2.5	2.2	2.1	C	C	3	3	2.5	2.3	2.2	2.2	2.2	2.2	2.3	3.0	2.4	24
11		2.6	2.7	2.7	2.8	2.5	2.4	2.3	IZS	2.2	2.2	2.1	2.1	2.1	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.8	2.2	24	
12		2.2	2.3	2.3	2.3	2.3	2.3	IZS	2.3	2.3	2.4	2.4	2.5	2.6	2.7	2.8	2.6	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.8	2.4	24	
13		2.4	2.5	2.3	2.3	2.3	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	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.5	2.2	24	
14		2.2	2	2	1.9	IZS	1.9	1.9	1.9	2	2	2	2.1	2	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.1	2.1	2	2	2	2.3	2.1	24	
15		2	2	2	IZS	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.9	1.9	1.9	1.9	1.9	2.0	2.0	24	
16		2	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	2.0	2.0	24
17		2.1	IZS	2.1	2.1	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	2	2.1	2.0	24
18		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	IZS	2.0	2.0	24
19		2	2	2	2	2	2.1	2.1	2	2	2	2	2	2	C	C	2.1	2	2	2	2	2.1	2.1	2	IZS	2.1	2.1	2.0	24	
20		2.1	2	2	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.3	IZS	2.5	2.5	2.5	2.2	2.4	24	
21		2.5	2.5	2.4	2.3	2.2	2.2	2.2	2.3	2.2	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	IZS	2	2	2	2.5	2.1	24	
22		2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2	2	2	2	2	2	2	IZS	2	2	2.1	2.2	2.2	2.0	24	
23		2.4	2.3	2.3	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	IZS	2.2	2.2	2.2	2.2	2.2	2.4	2.2	24	
24		2.3	2.3	2.3	2.4	2.4	2.3	2.4	2.4	2.6	2.8	2.4	2.4	2.4	2.3	2.3	2.3	2.3	IZS	2.3	2.3	2.4	2.4	2.6	2.6	2.8	2.4	2.4	24	
25		2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.7	2.7	2.7	2.7	2.7	2.8	2.7	2.1	IZS	2.1	1.9	1.8	1.9	1.9	1.9	1.9	1.9	2.8	2.4	24	
26		1.9	2	2.4	2.2	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.4	2.4	2.3	2.3	IZS	2.2	2.3	2.4	2.4	2.3	2.3	2.2	2.2	2.4	2.2	2.4	24	
27		2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.5	2.5	2.6	2.9	2.4	2	IZS	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.9	2.2	24	
28		2	2.2	2.1	2	2	2	2	2	2	2.1	2	2	2	IZS	2	2	2	2	2	2	2	2.1	2.2	2.2	2.2	2.2	2.0	24	
29		2	2	2	2	2	2	2	2	2	2	2	2	2	IZS	2	2	2	2	2.1	2.2	2.2	2.3	2.3	2.1	2.1	2.3	2.1	24	
30		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	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.0	24	
HOURLY MAX		3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.7	2.8	2.8	2.9	2.7	2.7	2.8	2.8	2.6	3.0	3.0	2.5	2.4	2.4	2.4	2.6	2.6					
HOURLY AVG		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	2.1	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

STATUS FLAG CODES

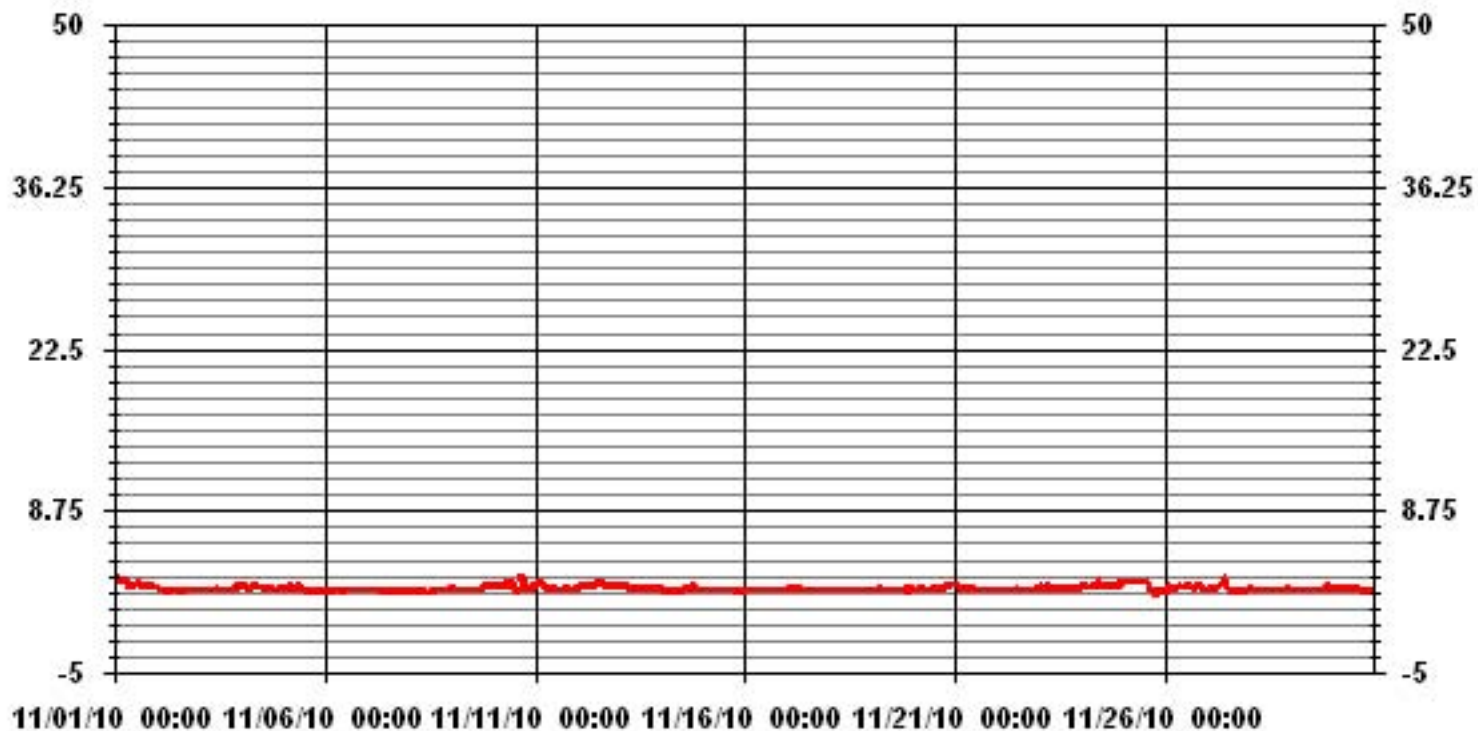
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	683
MAXIMUM 1-HR AVERAGE:	3.0 PPM @ HOUR(S) VAR ON DAY(S) 1
MAXIMUM 24-HR AVERAGE:	2.6 PPM VAR- VARIOUS ON DAY(S) 1
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	6 HRS
STANDARD DEVIATION:	0.22
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	2.15 PPM

01 Hour Averages



— LICA30 THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

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

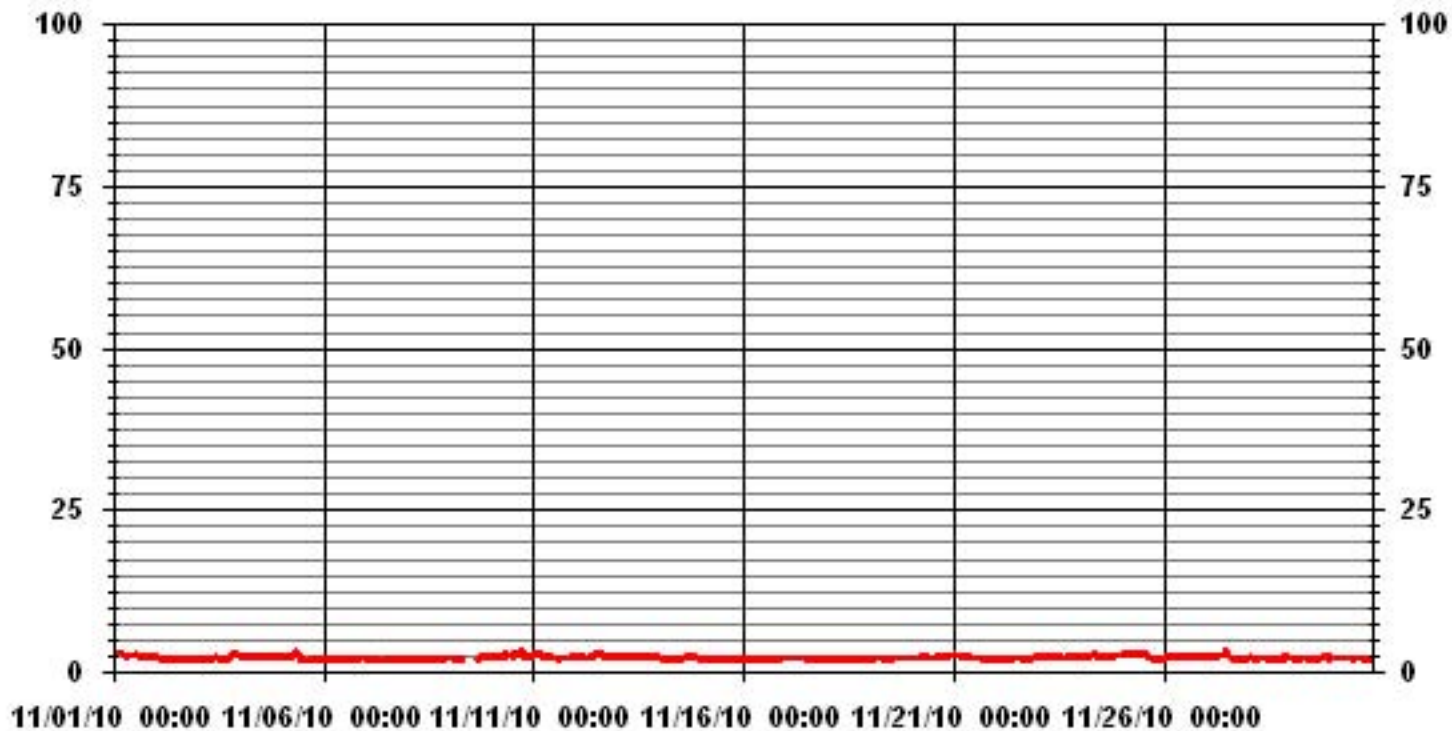
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680					
MAXIMUM INSTANTANEOUS VALUE:	3.3	PPM	@ HOUR(S)	17	ON DAY(S)	10
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720 HRS		
MONTHLY CALIBRATION TIME:	9 HRS					
STANDARD DEVIATION:	0.25					

01 Hour Averages



— LICA30 THCMAX PPM

LICA30
 THC / WDR Joint Frequency Distribution (Percent)

November 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	5.41	7.02	4.68	5.85	1.61	2.78	4.39	2.92	2.78	18.15	13.61	5.56	10.54	6.73	3.66	3.36	99.12	
< 10.0	.00	.00	.14	.14	.00	.00	.00	.14	.00	.00	.14	.14	.00	.14	.00	.00	.87	
< 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	5.41	7.02	4.83	6.00	1.61	2.78	4.39	3.07	2.78	18.15	13.76	5.71	10.54	6.88	3.66	3.36		

Calm : .00 %

Total # Operational Hours : 683

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	48	32	40	11	19	30	20	19	124	93	38	72	46	25	23	677	
< 10.0			1	1				1			1	1		1			6	
< 50.0																		
>= 50.0																		
Totals	37	48	33	41	11	19	30	21	19	124	94	39	72	47	25	23		

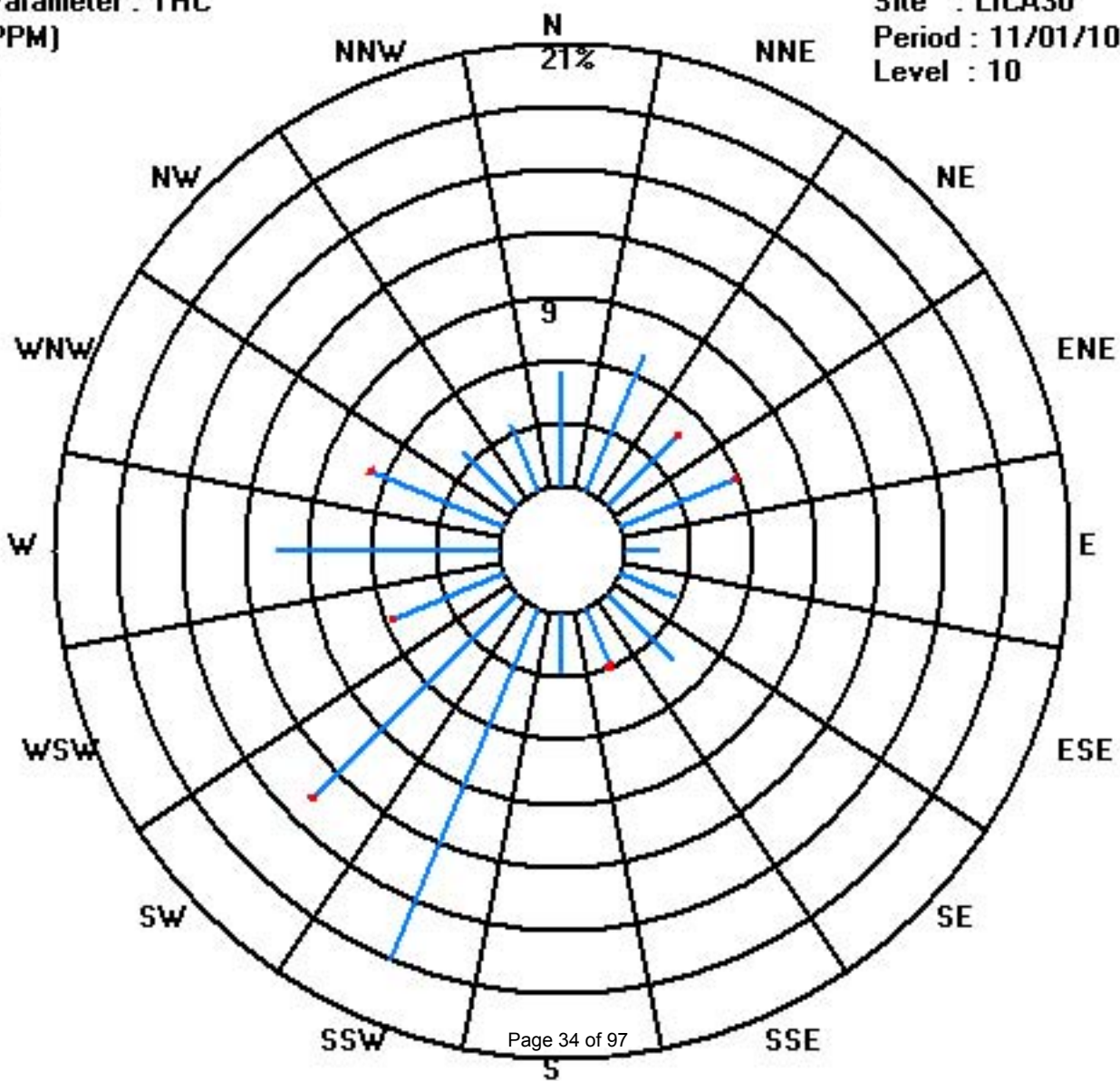
Calm : .00 %

Total # Operational Hours : 683

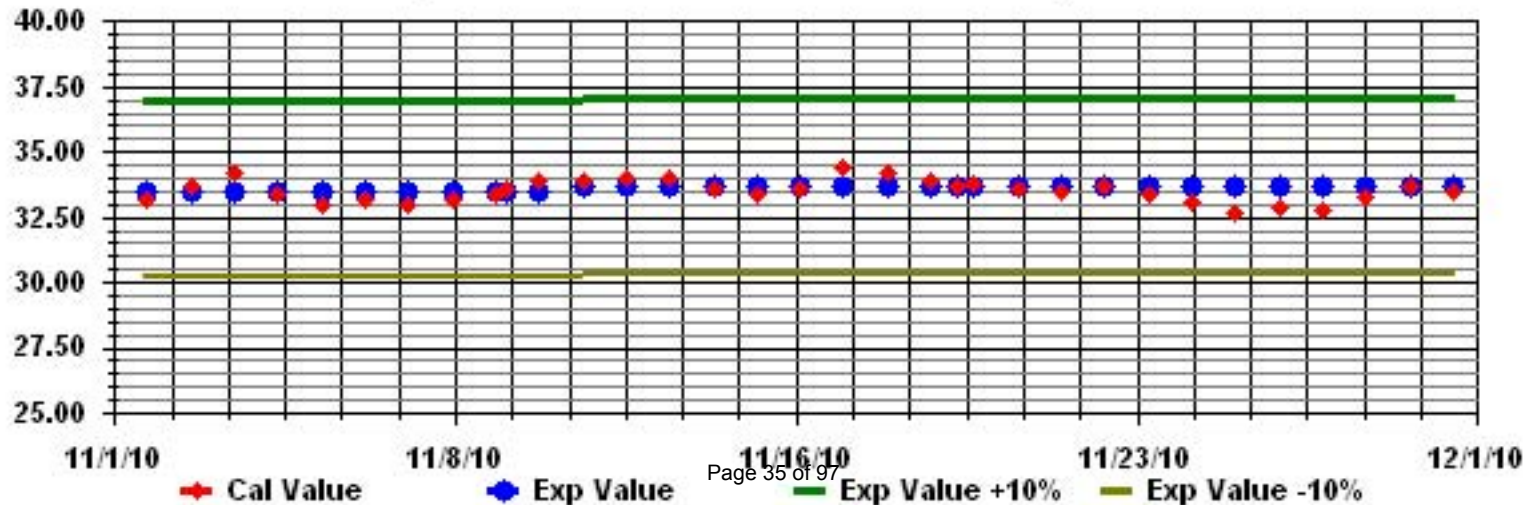
Class Limits (PPM)

Period : 11/01/10-11/30/10

Level : 10



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



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 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	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	5	3	3	4	5	6	5	6	5	5	4	4	5	6	4	4	5	IZS	5	5	4	4	7	6	7	4.8	24	
2	7	5	3	2	1	4	5	4	1	1	0	0	0	0	1	1	IZS	1	1	1	2	1	1	1	7	1.9	24	
3	1	1	1	2	1	1	6	6	4	5	7	8	4	1	2	IZS	3	6	5	8	7	7	4	3	8	4.0	24	
4	3	2	3	4	6	5	5	6	6	4	3	3	4	4	IZS	1	3	4	2	2	2	2	2	3	6	3.4	24	
5	3	2	2	2	2	2	3	6	8	13	13	6	10	IZS	5	5	2	0	1	0	4	10	11	17	17	5.5	24	
6	0	1	1	1	2	5	9	13	11	6	2	2	IZS	2	2	2	2	7	4	1	1	1	1	1	13	3.3	24	
7	1	1	1	2	1	0	0	2	3	2	0	IZS	1	1	1	1	1	1	1	1	1	1	1	1	3	1.1	24	
8	1	1	1	1	2	1	3	3	4	4	IZS	3	5	4	2	3	2	8	3	1	1	1	4	6	8	2.8	24	
9	4	4	3	3	2	1	2	3	3	IZS	4	3	8	5	7	11	13	11	11	11	8	6	5	13	6.0	24		
10	7	9	8	10	9	7	8	9	IZS	C	C	C	C	C	C	C	13	14	8	6	6	3	3	4	14	7.8	24	
11	7	8	8	10	11	6	7	IZS	12	9	8	4	6	1	1	3	4	4	4	5	4	4	4	4	12	5.8	24	
12	3	2	3	2	2	2	IZS	4	5	5	3	4	4	5	6	6	6	6	6	7	7	9	10	10	5.0	24		
13	8	7	6	5	6	IZS	4	4	4	4	5	4	3	4	4	5	5	5	5	5	6	8	7	7	8	5.3	24	
14	10	4	2	1	IZS	2	2	2	2	1	1	2	2	3	4	3	5	8	7	8	9	16	11	8	16	4.9	24	
15	8	9	13	IZS	14	9	4	2	2	3	3	3	7	7	7	8	9	4	3	1	1	0	0	0	14	5.1	24	
16	0	0	IZS	0	0	0	1	1	1	2	2	2	2	2	2	2	3	1	1	1	1	0	0	0	3	1.1	24	
17	0	IZS	0	1	1	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.3	24
18	IZS	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	0	1	1	0	IZS	1	0.3	24	
19	0	0	1	1	2	4	5	4	3	2	2	1	1	4	2	3	5	3	2	2	2	2	2	IZS	2	5	2.3	24
20	3	2	2	1	1	2	6	8	7	5	3	2	4	5	6	7	10	12	12	12	12	IZS	14	13	14	6.5	24	
21	14	14	16	14	13	6	6	8	5	4	3	3	2	2	2	2	3	2	2	2	IZS	3	2	1	16	5.6	24	
22	1	1	1	0	2	1	1	1	1	2	2	5	6	5	8	10	8	7	5	IZS	4	4	4	6	10	3.7	24	
23	10	8	6	5	7	6	5	10	5	5	6	5	5	4	4	5	11	12	IZS	11	10	9	9	9	12	7.3	24	
24	10	10	10	10	10	9	11	12	13	10	7	7	7	8	10	15	24	IZS	17	17	17	17	21	20	24	12.7	24	
25	19	20	18	17	17	17	17	18	17	14	12	11	14	17	16	7	IZS	11	4	1	3	4	2	3	20	12.1	24	
26	3	3	6	3	3	5	6	7	10	6	4	5	5	6	8	IZS	7	4	4	4	4	4	3	10	5.0	24		
27	4	4	4	3	3	3	4	10	13	9	8	7	2	1	IZS	6	7	4	4	2	2	4	2	2	13	4.7	24	
28	3	4	4	6	1	1	5	5	4	2	1	1	2	IZS	2	2	2	2	2	2	4	4	4	4	6	2.9	24	
29	2	7	3	1	1	1	1	4	5	2	7	3	IZS	5	2	5	10	9	5	4	5	4	4	10	4.1	24		
30	5	5	4	2	2	2	1	2	2	4	2	IZS	2	2	2	3	3	5	2	1	1	4	1	5	2.5	24		
HOURLY MAX	NA	20	18	17	17	17	17	18	17	14	13	11	14	17	16	15	24	14	17	17	17	17	21	20				
HOURLY AVG	NA	4.7	4.6	3.9	4.4	3.7	4.6	5.6	5.4	4.7	4.0	3.6	4.1	3.9	4.1	4.5	5.9	5.4	4.3	4.1	4.6	4.5	4.9	5.0				

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

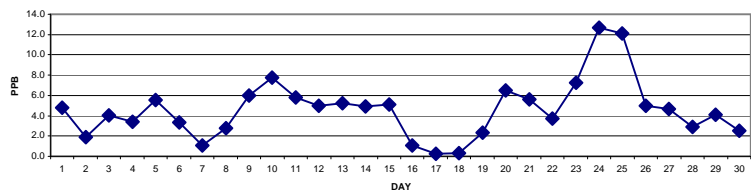
OBJECTIVE LIMIT:

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

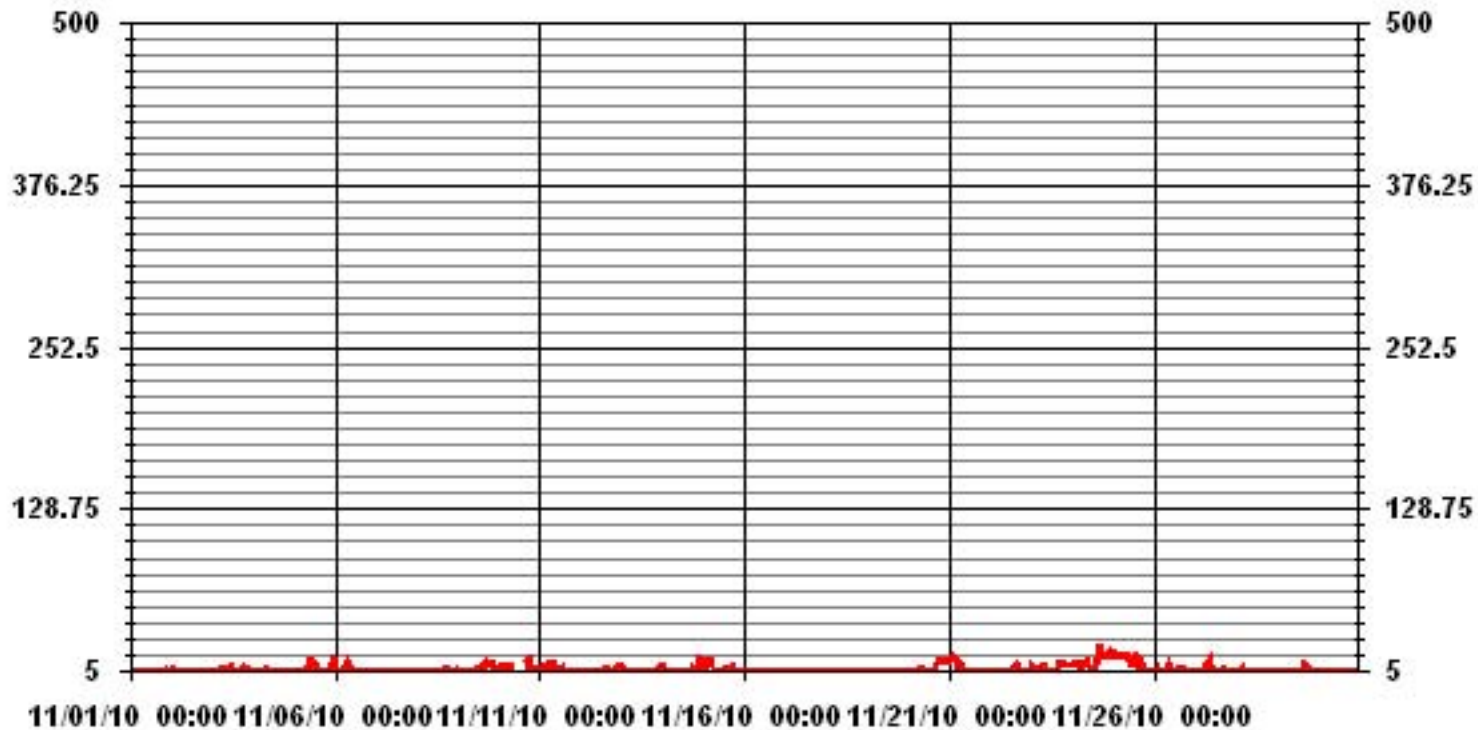
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	627
MAXIMUM 1-HR AVERAGE:	24 PPB @ HOUR(S) 16 ON DAY(S) 24
MAXIMUM 24-HR AVERAGE:	12.7 PPB ON DAY(S) 24
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	4.07
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	4.56 PPB

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA30 NO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 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	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	6	5	6	6	13	6	8	6	6	5	5	7	7	5	5	6	IZS	7	6	5	7	12	8	13	6.7	24	
2	8	8	4	3	2	14	11	11	1	8	3	1	1	4	1	2	IZS	2	2	2	4	2	2	2	14	4.3	24	
3	2	1	2	6	2	3	14	12	7	15	14	18	7	2	4	IZS	6	10	7	16	11	12	5	4	18	7.8	24	
4	3	3	5	8	7	6	6	8	8	5	4	4	5	5	IZS	2	6	7	2	2	2	3	3	4	8	4.7	24	
5	4	3	3	3	3	3	5	24	13	16	20	17	20	IZS	17	14	7	1	2	1	20	23	22	23	24	11.5	24	
6	2	2	1	1	3	28	13	31	16	10	6	3	IZS	3	3	4	3	15	9	2	2	2	3	3	31	7.2	24	
7	1	2	3	3	3	2	1	4	5	5	1	IZS	1	2	2	2	1	1	1	1	1	1	2	1	5	2.0	24	
8	1	1	2	1	3	2	4	5	8	11	IZS	7	11	8	7	7	6	12	12	1	2	3	7	8	12	5.6	24	
9	6	6	3	5	5	2	3	4	5	IZS	9	6	11	9	12	15	16	16	14	13	14	10	8	6	16	8.6	24	
10	10	11	10	11	11	9	10	11	IZS	C	C	C	C	C	C	C	15	16	12	8	8	5	4	5	16	9.8	24	
11	10	9	10	12	12	11	11	IZS	15	11	12	13	19	2	3	5	8	8	6	7	5	5	6	5	19	8.9	24	
12	4	3	3	3	3	3	IZS	5	7	7	4	6	5	6	7	10	8	8	7	8	8	8	9	12	12	6.3	24	
13	11	8	8	6	6	IZS	5	5	5	5	5	6	4	4	5	7	6	6	6	5	7	9	9	9	11	6.4	24	
14	15	11	11	6	IZS	5	10	9	3	2	2	3	4	4	5	4	7	9	8	10	13	21	15	14	21	8.3	24	
15	13	19	17	IZS	20	15	14	2	4	4	4	17	12	12	11	14	58	6	4	2	3	0	0	0	58	10.9	24	
16	1	1	IZS	1	0	1	2	1	2	2	3	3	3	11	4	4	4	3	2	1	1	1	1	1	11	2.3	24	
17	1	IZS	1	1	2	1	1	1	2	4	1	1	1	1	2	2	1	1	1	0	1	0	1	1	4	1.2	24	
18	IZS	0	1	1	1	1	1	1	2	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	IZS	2	1.1	24
19	1	1	1	2	5	6	6	5	5	3	3	2	2	56	5	7	12	4	3	3	2	2	IZS	4	56	6.1	24	
20	5	3	3	2	2	4	9	11	11	8	4	4	6	6	7	9	14	14	13	13	13	IZS	16	14	16	8.3	24	
21	15	16	18	21	21	10	10	11	6	5	4	4	3	3	3	3	3	9	3	3	IZS	4	4	2	21	7.9	24	
22	2	3	2	1	3	2	2	1	3	3	4	13	8	9	30	25	12	10	7	IZS	5	7	5	9	30	7.2	24	
23	11	9	7	6	8	7	9	17	7	8	8	6	6	6	5	8	14	14	IZS	12	11	10	10	11	17	9.1	24	
24	11	13	12	12	11	10	15	16	17	13	10	27	8	14	11	21	42	IZS	18	18	18	19	22	20	42	16.4	24	
25	20	21	19	19	17	18	22	19	19	15	13	14	17	19	18	15	IZS	14	8	2	6	6	5	4	22	14.3	24	
26	7	7	9	4	8	6	12	8	12	9	6	8	8	7	36	IZS	13	4	5	5	5	5	6	4	36	8.4	24	
27	5	5	5	4	4	4	8	12	17	15	9	10	5	5	IZS	39	10	9	6	4	3	5	4	3	39	8.3	24	
28	4	6	7	7	2	3	8	12	8	5	6	5	5	IZS	5	5	3	3	3	3	5	5	6	5	12	5.3	24	
29	4	13	12	1	2	2	1	13	9	9	12	7	IZS	9	10	15	39	12	6	6	7	5	5	5	39	8.9	24	
30	6	6	6	3	2	2	2	3	3	9	3	IZS	2	2	4	5	6	7	4	2	2	2	8	4	9	4.0	24	
HOURLY MAX	20	21	19	21	21	28	22	31	19	16	20	27	20	56	36	39	58	16	18	18	20	23	22	23				
HOURLY AVG	6.6	6.8	6.6	5.5	6.0	6.7	7.6	9.3	7.8	7.6	6.3	7.8	6.7	8.1	8.3	9.3	11.7	7.9	6.2	5.4	6.4	6.3	6.9	6.6				

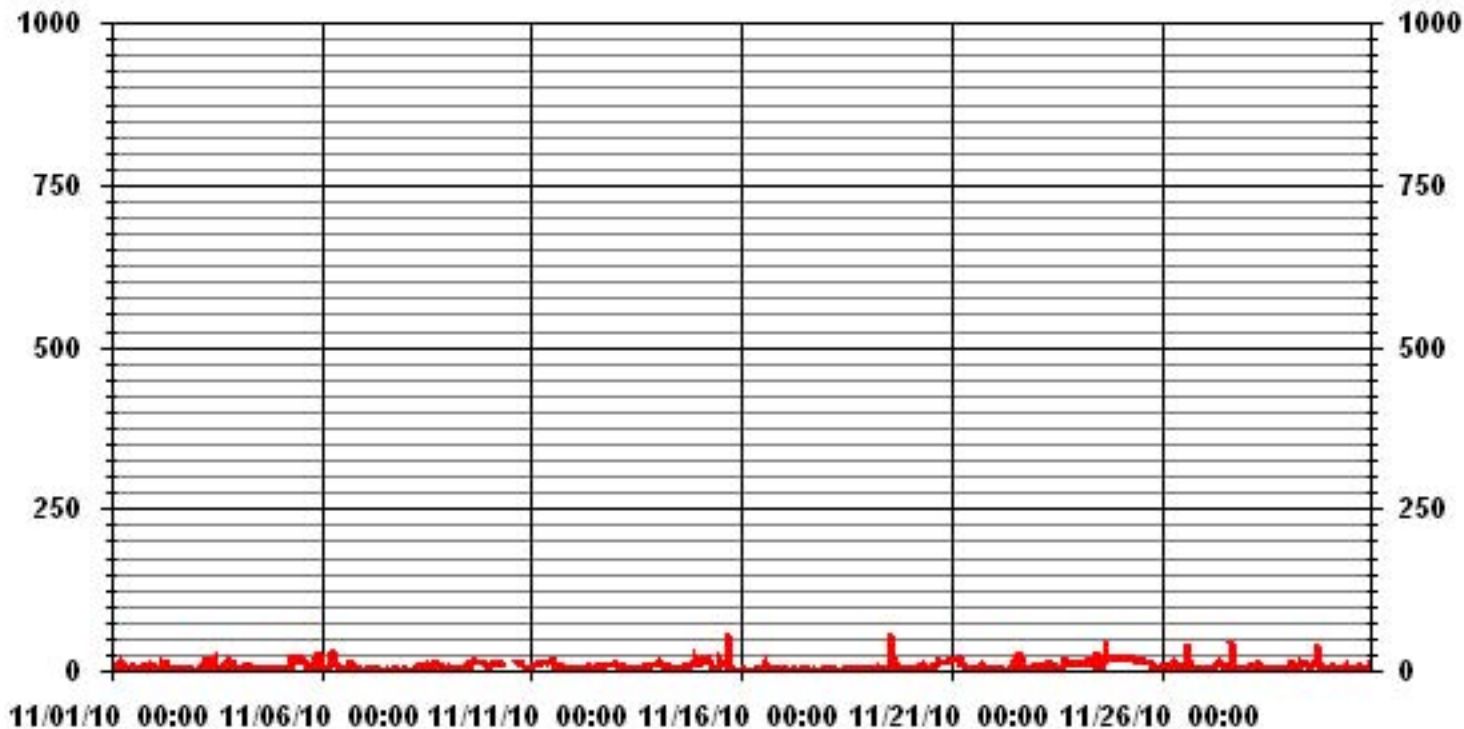
STATUS FLAG CODES

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:	675					
MAXIMUM INSTANTANEOUS VALUE:	58	PPB	@ HOUR(S)	16	ON DAY(S)	15
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	6.51					

01 Hour Averages



— LICA30 NO2MAX PPB

LICA30
 NO2_ / WDR Joint Frequency Distribution (Percent)

November 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	5.42	7.03	4.83	6.01	1.61	2.78	4.39	3.07	2.78	18.32	14.07	5.57	10.26	6.74	3.66	3.37	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	5.42	7.03	4.83	6.01	1.61	2.78	4.39	3.07	2.78	18.32	14.07	5.57	10.26	6.74	3.66	3.37	

Calm : .00 %

Total # Operational Hours : 682

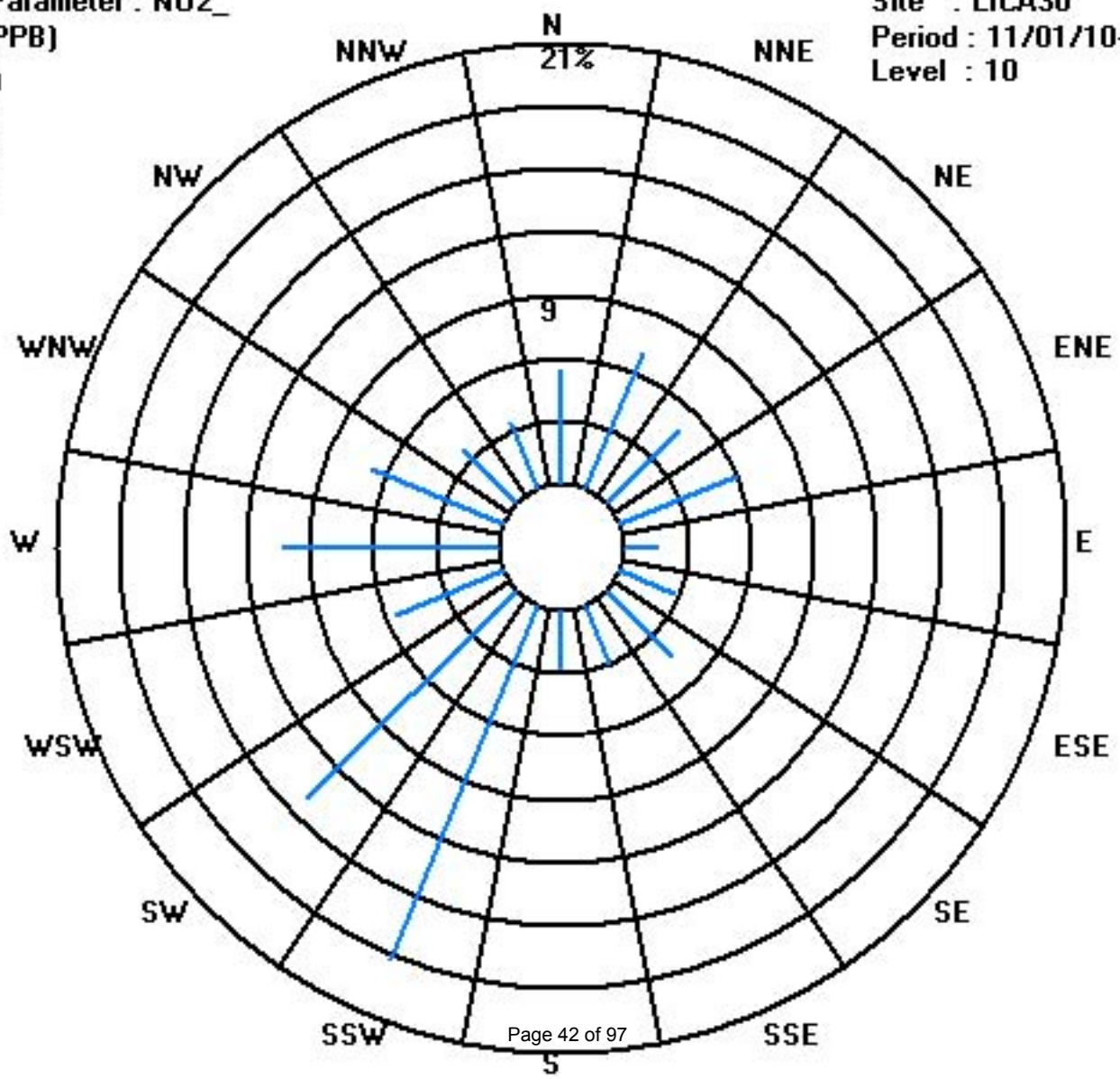
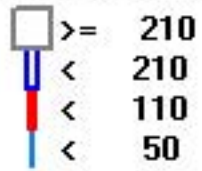
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	37	48	33	41	11	19	30	21	19	125	96	38	70	46	25	23	682
< 110																	
< 210																	
>= 210																	
Totals	37	48	33	41	11	19	30	21	19	125	96	38	70	46	25	23	

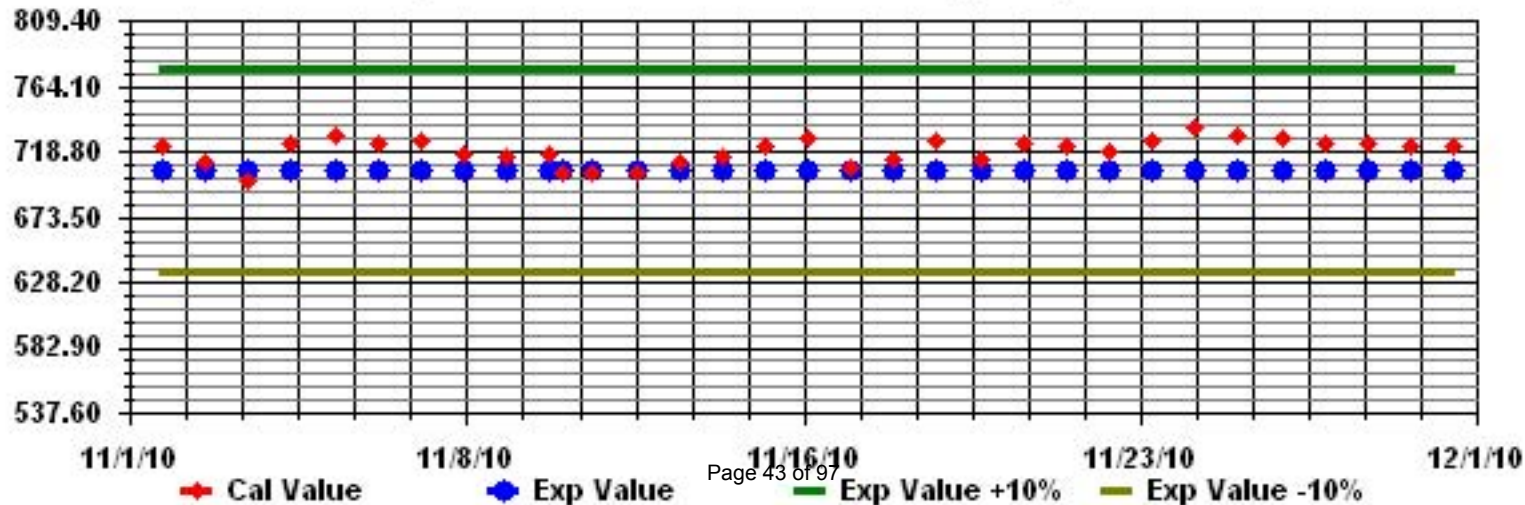
Calm : .00 %

Total # Operational Hours : 682

Class Limits (PPB)



Calibration Graph for Site: LICA30 Parameter: NO2_ Sequence: NO2 Phase: SPAN



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOICATION - MASKWA

NOVEMBER 2010

NITRIC OXIDE hourly averages in ppb

MST

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	DAILY 24-HOUR			
DAY																									MAX.	AVG.	RDGS.	
1	0	0	0	0	1	4	3	0	0	0	1	1	1	1	1	0	IZS	0	0	0	0	0	0	0	4	0.6	24	
2	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
3	0	0	0	0	0	0	0	0	0	2	3	4	1	0	0	IZS	0	0	0	0	0	0	0	0	4	0.4	24	
4	0	0	0	0	0	0	0	0	0	0	0	0	1	1	IZS	0	0	0	0	0	0	0	0	0	1	0.1	24	
5	0	0	0	0	0	0	0	1	2	9	13	3	4	IZS	2	1	0	0	0	0	0	2	1	0	13	1.7	24	
6	0	0	0	0	0	0	0	3	1	1	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	3	0.3	24	
7	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	
8	0	0	0	0	0	0	0	0	0	0	IZS	1	1	1	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	1	6	3	4	3	1	1	0	0	0	0	0	0	0	6	0.9	24	
10	3	4	0	2	1	0	0	1	IZS	C	C	C	C	C	C	C	7	7	0	0	0	0	0	0	7	1.6	24	
11	0	0	0	0	0	1	1	IZS	4	5	6	3	5	1	1	1	1	1	1	1	1	1	1	1	6	1.6	24	
12	1	1	1	1	1	1	IZS	0	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.6	24	
13	0	0	0	0	0	IZS	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
14	4	0	0	0	IZS	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	4	4	3	4	0.8	24	
15	3	5	6	IZS	8	4	0	0	0	0	0	1	1	2	2	3	5	0	0	0	0	0	0	0	8	1.7	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	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	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	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	24	
20	0	0	0	0	0	0	0	0	1	1	1	1	1	2	2	1	0	0	0	0	0	0	IZS	0	0	2	0.4	24
21	0	0	1	1	1	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0.3	24
22	0	0	0	0	0	0	0	0	0	0	0	3	3	2	3	3	1	0	0	IZS	0	0	0	0	3	0.7	24	
23	0	0	0	0	0	0	0	1	1	2	3	3	3	2	1	1	0	0	IZS	0	0	0	0	0	3	0.7	24	
24	0	0	0	0	0	0	1	1	3	5	4	6	5	5	6	22	IZS	0	1	0	0	0	0	0	22	2.8	24	
25	0	0	0	0	0	0	2	1	1	2	3	6	5	7	7	1	IZS	0	0	0	0	0	0	0	7	1.5	24	
26	0	0	0	0	0	0	0	0	1	3	3	3	2	1	2	IZS	0	0	0	0	0	0	0	0	3	0.7	24	
27	0	0	0	0	0	0	0	0	2	3	3	3	0	0	IZS	3	1	1	0	1	1	0	1	1	3	0.9	24	
28	1	1	1	1	1	1	3	2	2	1	2	1	1	IZS	0	0	0	0	0	0	0	0	0	0	3	0.8	24	
29	0	0	0	0	0	0	0	1	0	0	1	0	IZS	2	1	2	4	0	0	0	0	0	0	0	4	0.5	24	
30	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	
HOURLY MAX	4	5	6	2	8	4	3	3	4	9	13	6	6	7	7	6	22	7	1	1	1	4	4	3				
HOURLY AVG	0.4	0.4	0.3	0.2	0.4	0.4	0.3	0.4	0.7	1.3	1.7	1.7	1.6	1.2	1.2	1.0	1.5	0.4	0.0	0.1	0.1	0.2	0.2	0.2				

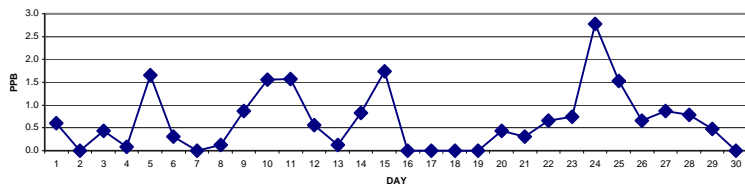
STATUS FLAG CODES

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

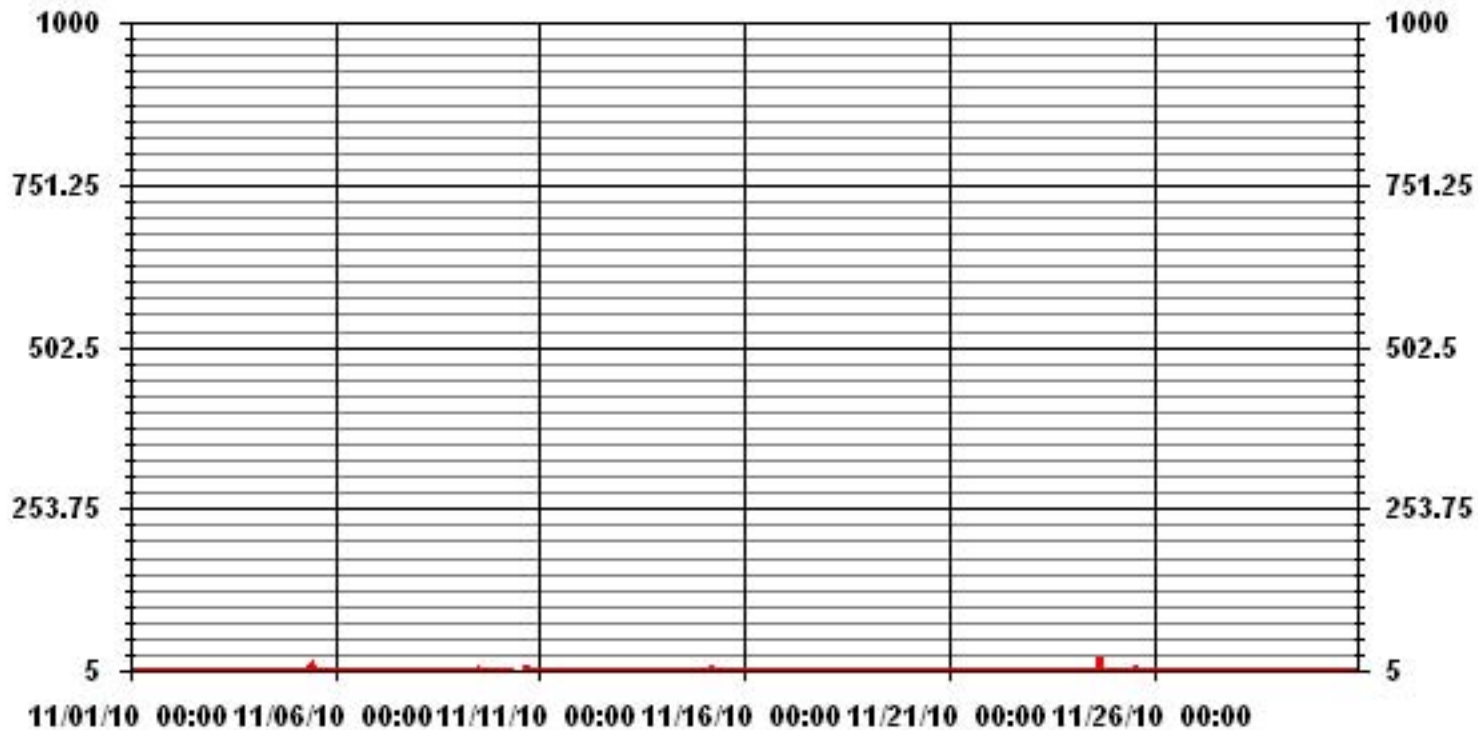
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	190					
MAXIMUM 1-HR AVERAGE:	22	PPB	@ HOUR(S)	16	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	2.8	PPB			ON DAY(S)	24
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	1.62		MONTHLY AVERAGE:	0.65	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 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	0	0	1	2	40	5	2	1	1	2	1	2	2	1	1	1	IZS	1	0	0	1	2	0	40	2.9	24	
2	1	1	0	1	0	1	2	2	0	12	10	0	0	0	1	0	IZS	0	0	0	0	0	0	0	12	1.3	24	
3	1	0	1	0	0	1	1	1	1	8	9	12	3	1	1	IZS	1	0	0	0	1	4	0	0	12	2.0	24	
4	0	0	0	2	2	0	1	0	1	1	1	1	2	1	IZS	0	0	0	0	0	1	0	0	0	2	0.6	24	
5	0	0	0	0	0	0	2	40	7	17	25	12	8	IZS	9	3	3	0	0	0	4	8	4	1	40	6.2	24	
6	0	0	0	0	1	23	2	26	3	2	2	1	IZS	1	1	2	0	0	0	0	0	0	0	0	26	2.8	24	
7	0	0	0	0	0	0	0	1	1	1	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
8	0	0	0	0	0	0	0	0	3	4	IZS	9	5	3	2	1	1	2	2	0	0	0	0	1	9	1.4	24	
9	1	1	1	0	0	0	0	0	0	IZS	3	2	10	7	16	7	3	5	0	2	3	1	0	0	16	2.7	24	
10	8	8	5	5	4	0	0	2	IZS	C	C	C	C	C	C	C	9	9	3	1	0	0	0	0	9	3.4	24	
11	0	0	0	0	5	4	10	IZS	6	7	10	19	20	2	2	2	2	2	1	1	2	1	2	1	20	4.3	24	
12	1	1	1	1	5	1	IZS	1	2	2	1	2	2	2	2	4	1	1	0	0	0	0	0	0	5	1.3	24	
13	0	0	0	0	0	IZS	0	2	1	1	1	2	1	1	1	1	2	0	0	0	0	0	0	1	2	0.6	24	
14	10	4	3	1	IZS	0	5	5	0	1	2	3	2	2	2	0	3	0	0	0	1	9	8	11	11	3.1	24	
15	8	15	12	IZS	14	8	5	0	0	1	1	37	6	6	5	29	63	1	0	0	0	0	0	0	63	9.2	24	
16	0	0	IZS	0	0	0	0	0	0	0	1	1	1	11	1	1	1	0	0	0	0	0	0	0	11	0.7	24	
17	0	IZS	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
18	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	IZS	1	0.1	24
19	0	0	0	0	0	0	1	0	0	0	1	0	1	17	2	4	3	0	0	0	0	0	0	IZS	1	17	1.3	24
20	1	0	0	0	0	0	1	1	5	5	1	2	3	3	3	2	1	4	0	1	0	IZS	1	1	5	1.5	24	
21	1	1	2	3	4	1	4	1	2	2	4	3	2	1	1	1	1	1	0	0	IZS	1	1	0	4	1.6	24	
22	0	0	0	0	0	0	1	0	0	1	2	38	6	5	31	21	4	2	1	IZS	1	4	0	0	38	5.1	24	
23	1	1	0	1	1	0	1	3	2	4	4	4	4	3	2	3	1	0	IZS	1	1	1	1	1	4	1.7	24	
24	1	1	1	1	1	1	2	8	18	8	12	30	8	12	7	11	104	IZS	1	3	1	1	1	1	104	10.2	24	
25	1	1	1	1	0	1	21	2	2	4	7	9	10	13	12	3	IZS	1	1	0	0	0	0	0	21	3.9	24	
26	0	0	0	1	4	0	1	1	3	7	6	6	6	1	33	IZS	1	1	1	0	1	0	0	0	33	3.2	24	
27	0	0	0	0	0	0	1	1	7	6	7	5	1	2	IZS	32	4	4	1	1	1	1	1	1	32	3.3	24	
28	1	1	1	1	2	2	8	5	3	4	6	3	2	IZS	2	3	1	0	0	0	0	0	0	0	8	2.0	24	
29	0	2	0	0	0	0	0	16	1	2	2	2	IZS	4	19	20	109	1	0	0	0	0	0	0	109	7.7	24	
30	0	0	0	0	0	1	0	0	1	1	0	IZS	1	1	1	1	0	1	1	0	1	0	0	0	1	0.4	24	
HOURLY MAX	10	15	12	5	14	40	21	40	18	17	25	38	20	17	33	32	109	9	3	3	4	9	8	11				
HOURLY AVG	1.3	1.3	1.0	0.7	1.6	2.9	2.6	4.1	2.4	3.7	4.3	7.6	3.9	3.7	5.8	5.6	11.4	1.3	0.4	0.3	0.6	1.1	0.8	0.7				

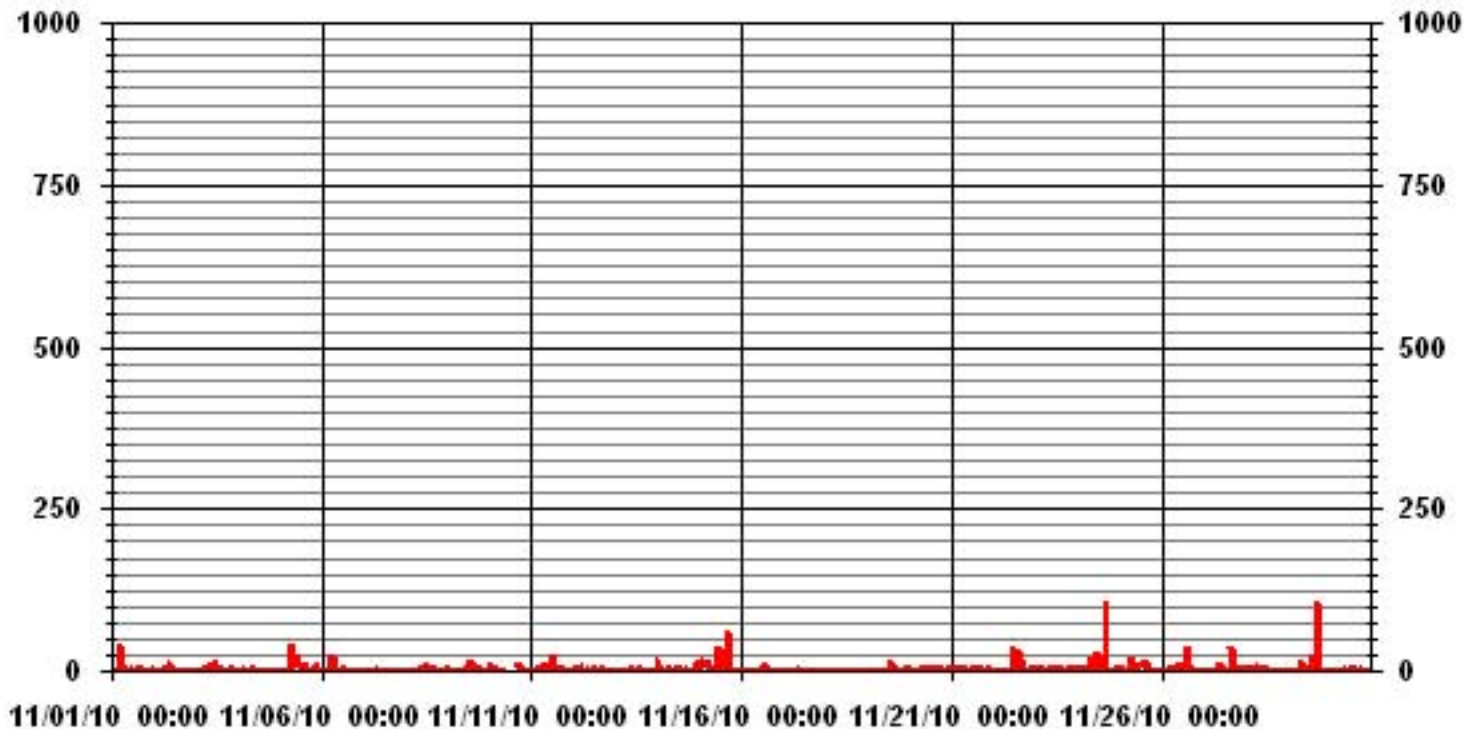
STATUS FLAG CODES

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:	391				
MAXIMUM INSTANTANEOUS VALUE:	109	PPB	@ HOUR(S)	16	ON DAY(S) 29
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS
MONTHLY CALIBRATION TIME:	7	HRS			
STANDARD DEVIATION:	8.02				

01 Hour Averages



LICA30
 NO_ / WDR Joint Frequency Distribution (Percent)

November 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	5.42	7.03	4.83	6.01	1.61	2.78	4.39	3.07	2.78	18.32	14.07	5.57	10.26	6.74	3.66	3.37	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	5.42	7.03	4.83	6.01	1.61	2.78	4.39	3.07	2.78	18.32	14.07	5.57	10.26	6.74	3.66	3.37	

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	37	48	33	41	11	19	30	21	19	125	96	38	70	46	25	23	682
< 110																	
< 210																	
>= 210																	
Totals	37	48	33	41	11	19	30	21	19	125	96	38	70	46	25	23	

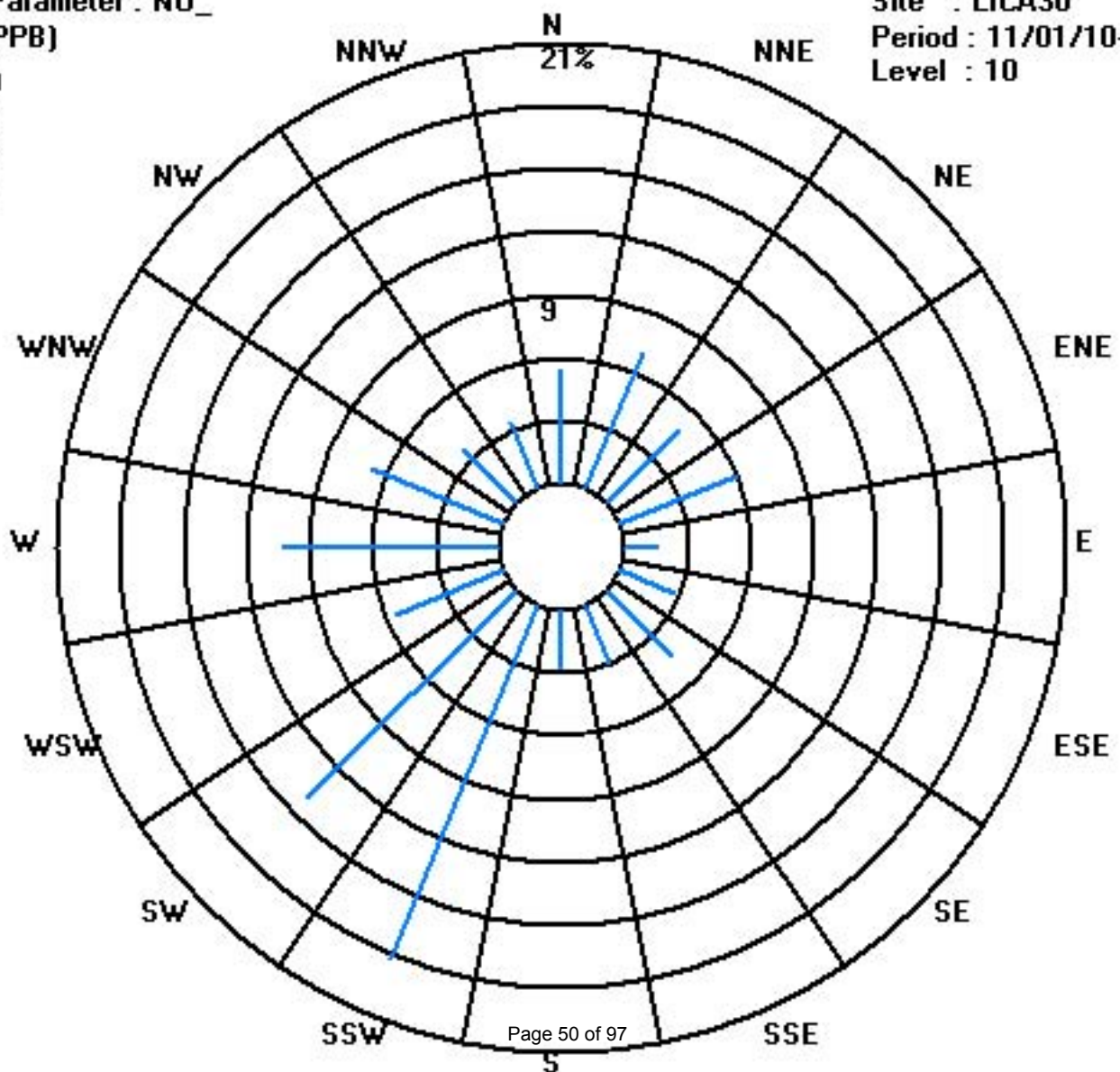
Calm : .00 %

Total # Operational Hours : 682

Class Limits (PPB)

Period : 11/01/10-11/30/10

Level : 10



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2010

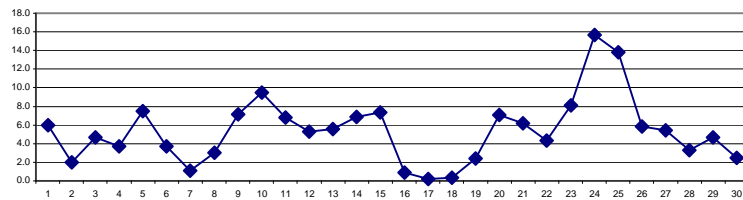
OXIDES OF NITROGEN hourly averages in ppb

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	5	4	3	4	6	10	9	7	6	6	6	6	7	8	5	5	6	IZS	6	5	5	4	8	6	10	6.0	24	
2	7	5	3	2	1	5	5	4	1	1	1	0	0	1	1	1	IZS	1	1	1	2	1	1	1	7	2.0	24	
3	1	1	1	2	1	2	6	6	4	8	10	13	5	1	2	IZS	3	6	5	9	7	7	4	3	13	4.7	24	
4	3	2	3	4	7	5	5	6	6	5	4	4	5	5	IZS	2	3	4	1	2	2	2	2	3	7	3.7	24	
5	3	2	2	2	2	2	4	7	10	22	27	10	15	IZS	8	6	2	0	1	0	5	13	12	17	27	7.5	24	
6	0	1	0	1	2	5	9	16	13	8	3	2	IZS	3	2	2	2	7	4	2	1	1	1	1	16	3.7	24	
7	1	1	1	2	0	1	0	2	4	3	0	IZS	1	1	1	1	1	1	0	1	1	1	1	1	4	1.1	24	
8	0	1	1	0	2	1	3	3	4	5	IZS	4	6	6	3	4	2	8	3	1	1	1	4	6	8	3.0	24	
9	4	4	3	3	2	2	2	3	4	IZS	6	4	14	9	12	15	15	12	11	10	11	8	6	5	15	7.2	24	
10	10	13	9	13	10	7	8	10	IZS	C	C	C	C	C	C	C	C	20	21	9	6	6	3	3	4	21	9.5	24
11	7	8	8	11	11	7	8	IZS	15	13	13	6	10	2	2	3	4	4	4	5	4	4	4	4	4	15	6.8	24
12	3	2	2	2	3	2	IZS	5	6	5	4	5	6	6	7	7	6	6	6	7	7	7	8	10	10	5.3	24	
13	8	7	6	5	5	IZS	4	4	5	5	6	5	4	4	4	6	5	5	5	5	6	8	8	8	8	8	5.6	24
14	15	5	2	1	IZS	3	3	3	3	3	3	4	4	6	6	4	6	9	8	9	11	21	17	12	21	6.9	24	
15	13	16	21	IZS	23	13	5	2	3	3	3	5	8	10	10	11	15	4	2	1	1	0	0	0	23	7.3	24	
16	0	0	IZS	0	0	0	0	0	1	2	2	2	2	2	2	2	3	1	1	0	1	0	0	0	3	0.9	24	
17	0	IZS	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.2	24
18	IZS	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	1	1	1	IZS	1	0.3	24	
19	1	0	0	1	2	4	5	4	3	2	2	1	1	4	3	4	5	3	2	2	2	1	IZS	3	5	2.4	24	
20	3	2	2	1	1	2	7	8	8	7	4	3	5	7	8	9	10	13	12	12	12	IZS	14	13	14	7.1	24	
21	14	15	17	15	14	6	7	8	6	4	4	4	4	3	2	3	2	3	2	2	IZS	3	3	1	17	6.2	24	
22	1	1	0	0	1	1	1	1	1	2	2	9	9	8	11	13	8	7	5	IZS	4	5	4	6	13	4.3	24	
23	10	8	6	5	7	6	5	11	6	7	9	8	8	7	5	6	11	12	IZS	12	10	9	9	9	12	8.1	24	
24	10	10	10	11	10	9	12	14	16	15	11	14	12	13	15	21	46	IZS	17	18	17	18	21	20	46	15.7	24	
25	20	20	19	18	17	17	19	18	18	16	16	17	19	23	23	9	IZS	11	4	1	3	4	2	3	23	13.8	24	
26	3	3	6	4	4	4	7	7	11	9	7	8	8	7	11	IZS	8	4	4	4	4	4	4	3	11	5.8	24	
27	4	4	4	3	3	3	4	10	16	12	12	10	3	2	IZS	8	8	4	4	2	2	3	2	2	16	5.4	24	
28	3	4	4	6	1	1	7	6	5	3	2	2	2	IZS	3	3	2	2	2	2	4	4	4	4	7	3.3	24	
29	2	7	3	1	1	1	1	5	5	3	8	3	IZS	8	4	7	14	9	5	4	5	4	3	4	14	4.7	24	
30	5	5	3	2	1	2	1	2	2	5	2	IZS	2	2	2	3	3	5	2	1	1	4	1	5	2.5	24		
HOURLY MAX	20	20	21	18	23	17	19	18	18	22	27	17	19	23	23	21	46	21	17	18	17	21	21	20				
HOURLY AVG	5.4	5.2	4.8	4.1	4.8	4.2	5.1	5.9	6.3	6.3	6.0	5.5	5.9	5.5	5.7	5.8	7.5	5.8	4.3	4.3	4.7	4.8	5.2	5.2				

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

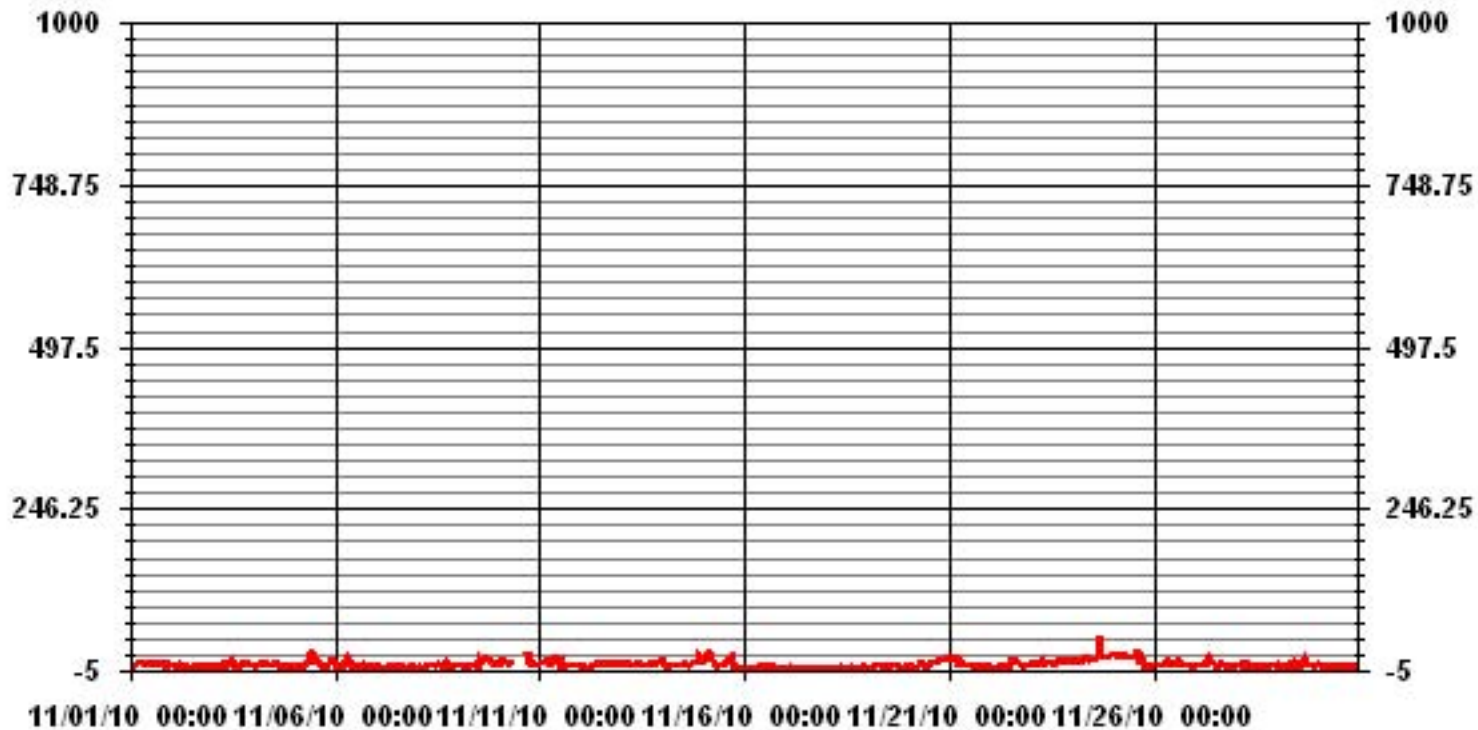
24 HOUR AVERAGES FOR NOVEMBER 2010



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	618			
MAXIMUM 1-HR AVERAGE:	46	PPB	@ HOUR(S)	16
MAXIMUM 24-HR AVERAGE:	15.7	PPB	ON DAY(S)	24
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME	100.0
STANDARD DEVIATION	5.12		MONTHLY AVERAGE	5.33
				PPB

01 Hour Averages



— LICA30 NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 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	5	7	8	51	12	9	7	7	7	7	9	9	7	6	7	IZS	8	6	6	8	14	8	51	9.7	24	
2	9	8	4	3	1	15	11	12	1	20	13	1	1	4	2	2	IZS	2	3	2	4	1	2	2	20	5.3	24	
3	2	2	2	6	2	4	14	13	8	22	23	30	10	2	5	IZS	7	10	8	17	11	15	5	4	30	9.7	24	
4	3	3	4	10	9	6	7	8	9	6	5	5	6	6	IZS	3	6	7	2	2	3	3	3	4	10	5.2	24	
5	4	3	3	3	3	3	7	63	20	34	45	28	29	IZS	26	17	10	1	2	1	24	31	25	23	63	17.6	24	
6	3	2	1	1	4	48	13	57	19	12	8	4	IZS	4	4	5	3	15	9	3	2	2	3	4	57	9.8	24	
7	2	2	3	3	2	2	1	5	6	7	1	IZS	2	2	2	1	2	1	1	1	1	1	2	1	7	2.2	24	
8	1	2	1	1	3	2	4	5	9	15	IZS	8	16	10	10	8	6	14	14	2	2	3	7	8	16	6.6	24	
9	6	6	4	5	5	2	3	5	5	IZS	12	8	21	16	24	22	20	20	14	15	16	10	7	6	24	11.0	24	
10	18	18	15	15	14	10	10	13	IZS	C	C	C	C	C	C	C	24	25	15	9	9	6	4	5	25	13.1	24	
11	10	9	10	12	17	15	22	IZS	19	16	20	27	36	3	4	5	8	9	6	7	5	5	8	5	36	12.1	24	
12	4	3	3	3	7	3	IZS	6	9	9	5	7	7	7	9	14	9	9	7	8	8	8	9	12	14	7.2	24	
13	12	8	8	6	6	IZS	5	6	7	6	6	7	5	5	6	7	7	6	5	5	7	9	9	10	12	6.9	24	
14	25	14	14	7	IZS	6	16	15	4	4	5	7	7	7	8	6	11	10	9	12	16	32	24	26	32	12.4	24	
15	22	35	30	IZS	34	23	19	3	4	5	5	55	18	17	16	41	117	7	4	2	2	0	0	0	117	20.0	24	
16	0	1	IZS	1	0	1	2	1	2	3	3	4	4	16	6	5	5	3	2	1	1	1	1	1	16	2.8	24	
17	1	IZS	1	1	2	1	1	1	2	5	1	1	1	1	1	2	1	1	0	0	0	0	0	1	5	1.1	24	
18	IZS	1	0	0	1	1	0	1	2	1	1	1	1	2	2	2	0	1	1	1	2	1	1	IZS	2	1.0	24	
19	1	1	1	2	5	6	7	6	6	3	4	2	2	71	7	10	15	4	3	3	2	2	IZS	4	71	7.3	24	
20	5	3	2	2	2	4	10	12	16	13	6	5	9	9	10	10	15	17	13	13	IZS	16	14	17	9.5	24		
21	16	16	20	24	23	10	14	11	9	6	8	7	4	4	4	3	10	4	3	IZS	4	4	1	24	9.1	24		
22	2	2	2	1	3	2	3	1	3	4	6	49	14	13	60	43	16	12	7	IZS	5	12	5	9	60	11.9	24	
23	11	10	7	6	8	8	10	20	8	12	11	10	11	8	6	11	15	14	IZS	13	11	10	10	11	20	10.5	24	
24	11	13	13	12	11	10	16	24	34	19	22	56	14	23	17	30	134	IZS	19	21	18	19	23	21	134	25.2	24	
25	21	21	20	19	18	19	41	21	21	18	18	23	27	31	30	19	IZS	14	9	2	7	6	4	4	41	18.0	24	
26	6	7	9	4	12	6	13	9	14	14	12	15	14	8	67	IZS	14	5	5	5	5	6	6	4	67	11.3	24	
27	5	5	5	4	4	4	8	12	24	19	16	15	6	7	IZS	68	14	12	6	4	3	5	4	3	68	11.0	24	
28	4	6	8	7	3	4	15	16	10	8	10	7	6	IZS	7	7	4	4	3	3	5	5	6	6	16	6.7	24	
29	3	15	12	1	2	2	1	29	10	11	14	9	IZS	12	25	30	143	13	7	6	7	5	5	6	143	16.0	24	
30	6	6	5	3	2	2	2	3	3	10	3	IZS	3	3	4	6	5	7	5	1	2	2	8	3	10	4.1	24	
HOURLY MAX	25	35	30	24	34	51	41	63	34	34	45	56	36	71	67	68	143	25	19	21	24	32	25	26				
HOURLY AVG	7.6	7.9	7.3	5.8	7.3	9.3	9.9	13.3	10.0	11.0	10.4	14.7	10.5	11.1	13.7	14.2	22.2	9.0	6.6	5.8	6.8	7.3	7.4	7.1				

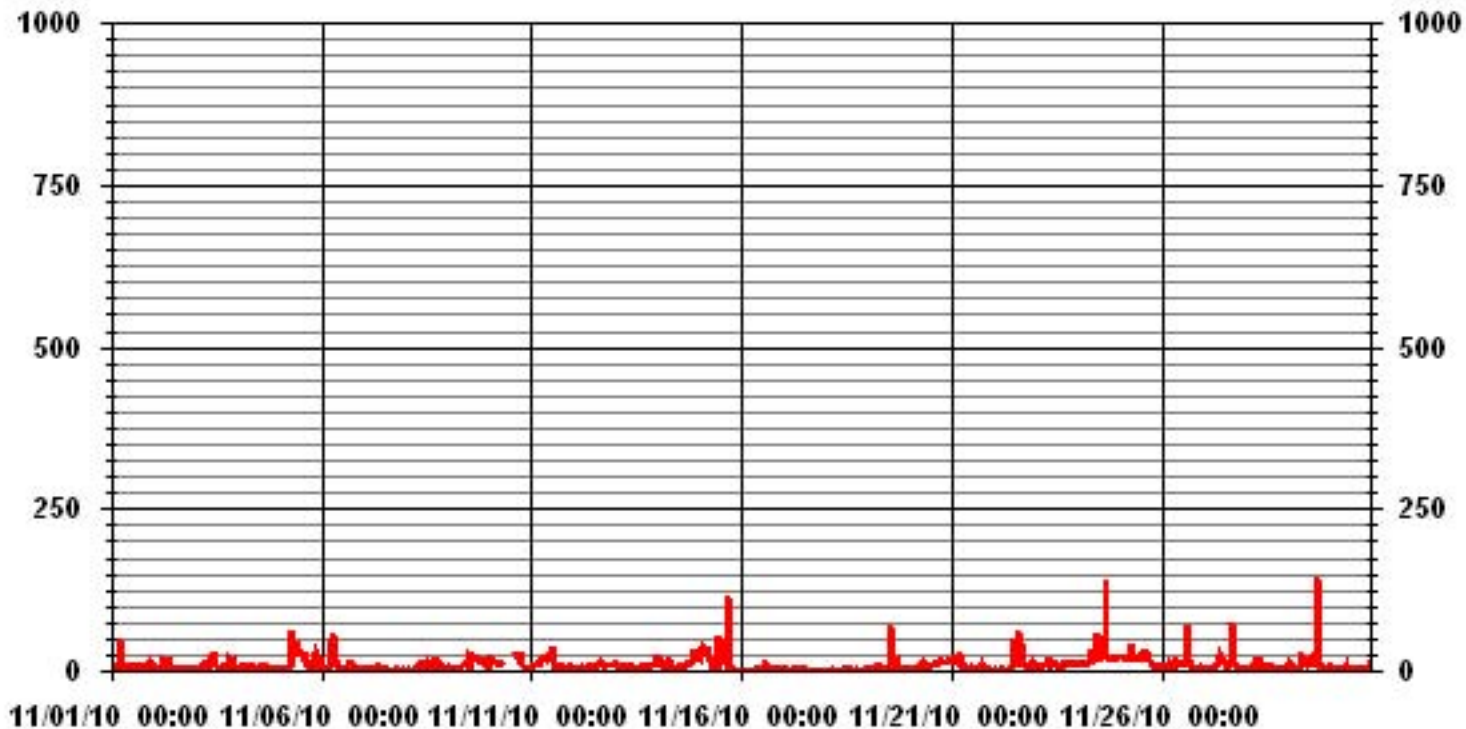
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	668
MAXIMUM INSTANTANEOUS VALUE:	143 PPB @ HOUR(S) 16 ON DAY(S) 29
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	12.74
OPERATIONAL TIME:	720 HRS

01 Hour Averages



— LICA30 NOxMAX PPB

LICA30
 NOX_ / WDR Joint Frequency Distribution (Percent)

November 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	5.42	7.03	4.83	6.01	1.61	2.78	4.39	3.07	2.78	18.32	14.07	5.57	10.26	6.74	3.66	3.37	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	5.42	7.03	4.83	6.01	1.61	2.78	4.39	3.07	2.78	18.32	14.07	5.57	10.26	6.74	3.66	3.37	

Calm : .00 %

Total # Operational Hours : 682

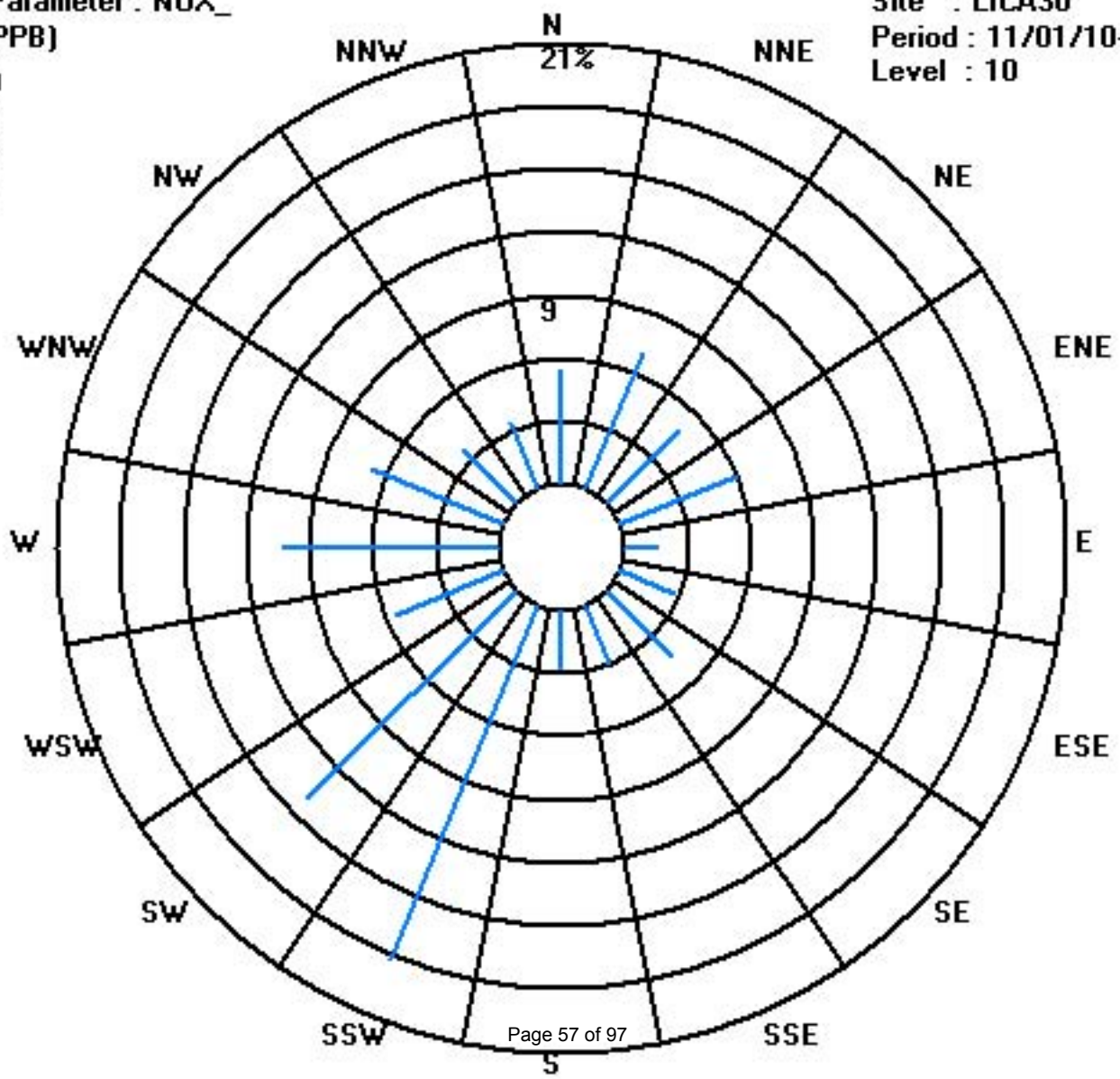
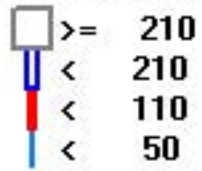
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	37	48	33	41	11	19	30	21	19	125	96	38	70	46	25	23	682
< 110																	
< 210																	
>= 210																	
Totals	37	48	33	41	11	19	30	21	19	125	96	38	70	46	25	23	

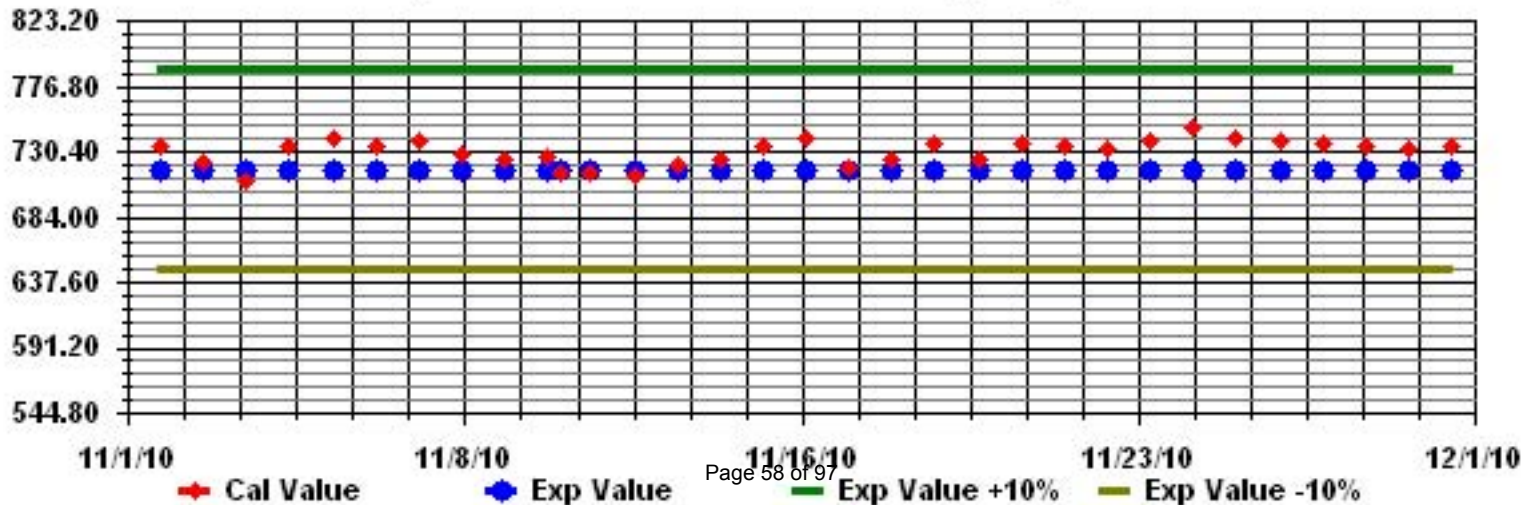
Calm : .00 %

Total # Operational Hours : 682

Class Limits (PPB)

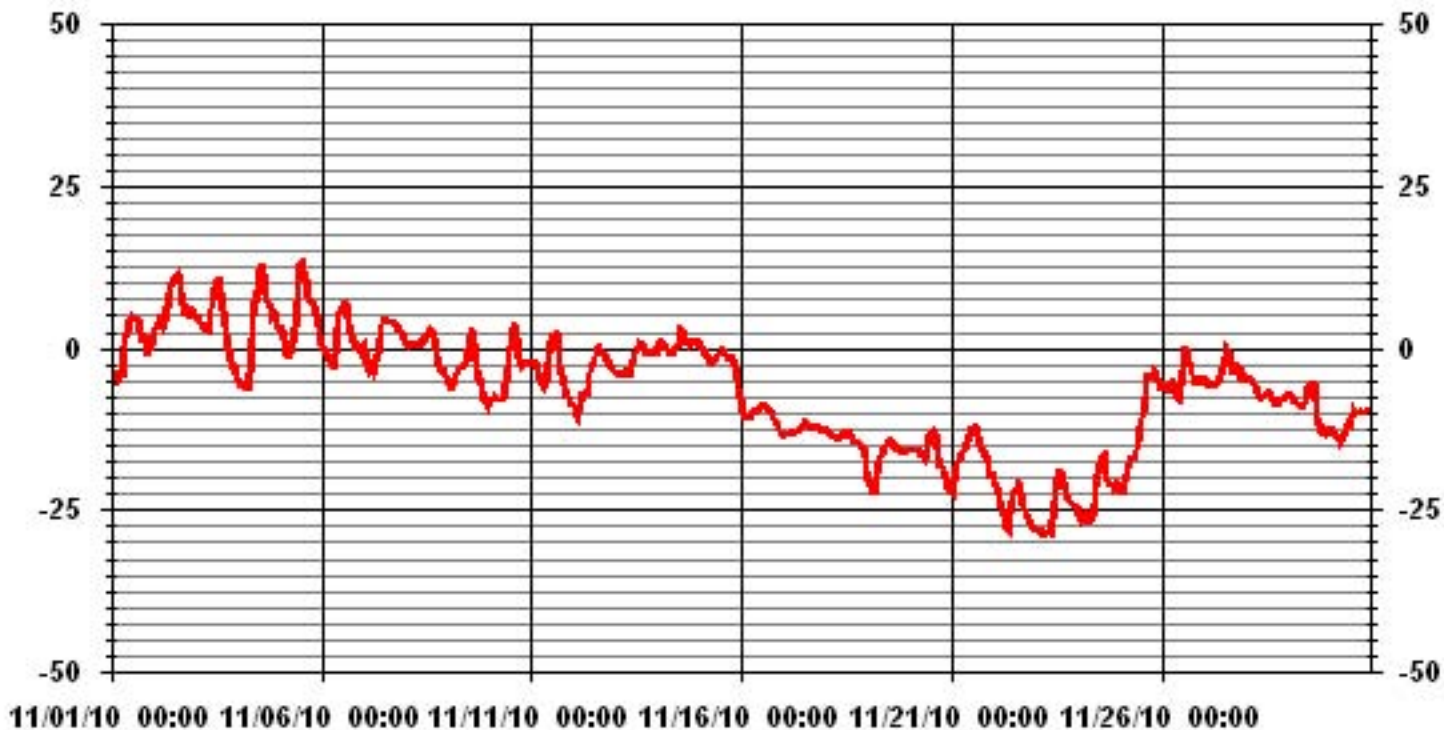


Calibration Graph for Site: LICA30 Parameter: NOX_ Sequence: NO2 Phase: SPAN



Temperature

01 Hour Averages



Precipitation

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2010

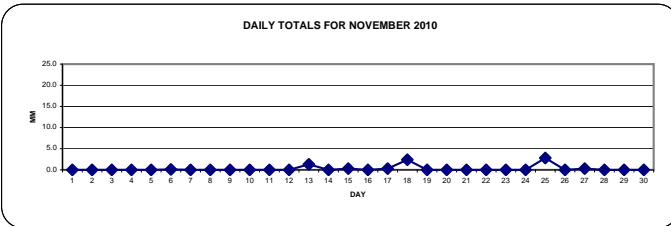
PRECIPITATION hourly averages (mm)

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	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	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	24
6		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	0.1	0.1	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	0.5	0.6	0.2	0	0	0	0	0	0	0.6	1.3	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	0.1	0.2	0	0	0	0	0	0	0	0.2	0.3	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	0.1	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0.1	0.1	0.3	24
18		0.3	0.3	0.5	0.1	0.1	0.3	0.1	0	0	0	0	0	0.1	0	0.1	0.1	0	0	0.3	0.1	0	0	0	0	0.5	2.4	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	0.2	0.5	0.4	0.2	0.3	0.6	0.6	0	0	0	0	0	0	0	0	0	0	0.6	2.8	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	0.2	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
HOURLY MAX		0.3	0.3	0.5	0.1	0.1	0.3	0.1	0.2	0.5	0.4	0.2	0.3	0.6	0.6	0.0	0.1	0.5	0.6	0.2	0.3	0.1	0.0	0.0	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	MD	-MISSING DATA

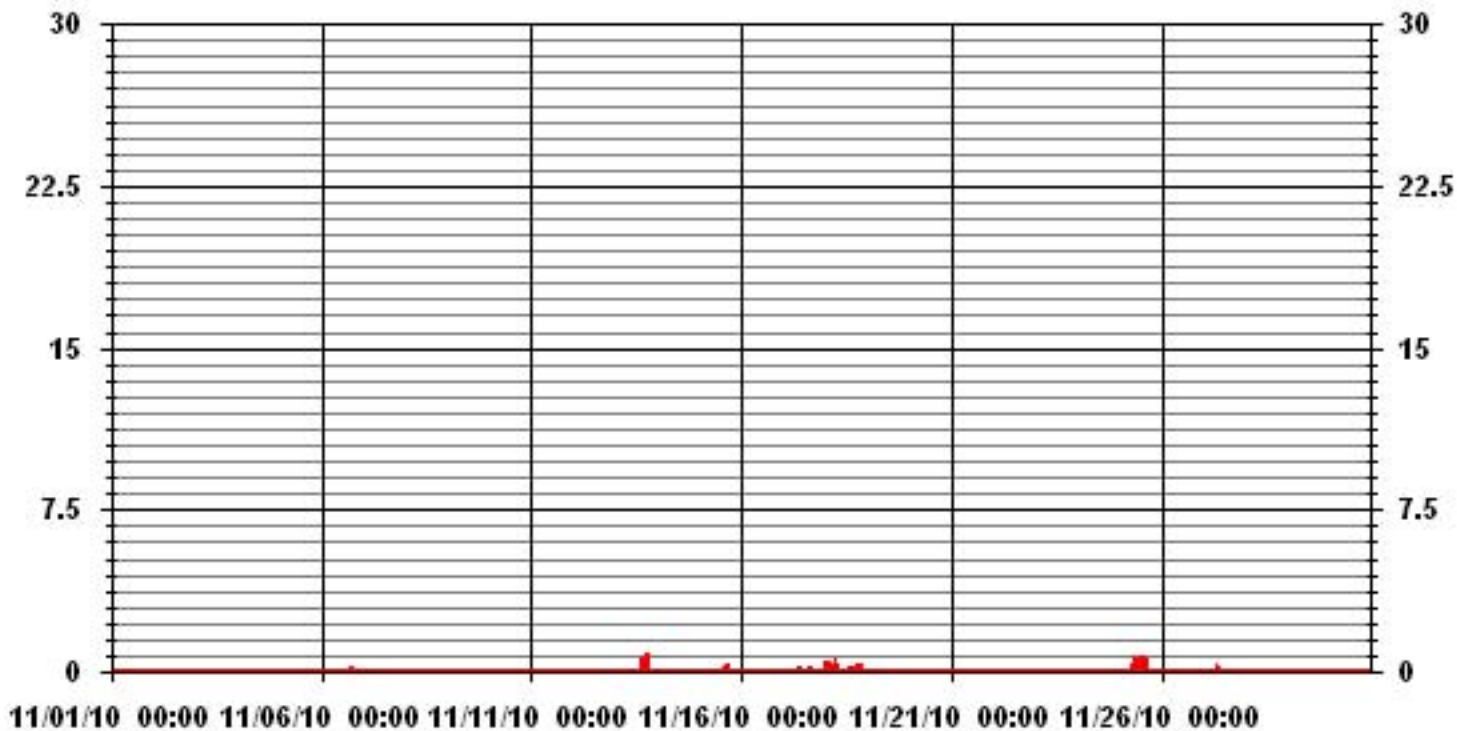
DAILY TOTALS FOR NOVEMBER 2010



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	0.6	MM	HOUR(S)	12, 13	ON DAY(S)	25
MAXIMUM DAILY TOTAL	2.8	MM			ON DAY(S)	25
MONTHLY TOTAL	7.5	MM				
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
STANDARD DEVIATION:	0.06		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	0.01	MM	

01 Hour Averages



— LICA30 PRECIP MM

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

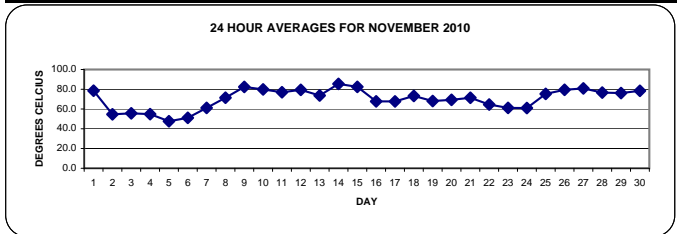
NOVEMBER 2010

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	1	88	87	87	87	87	88	88	85	76	72	66	65	64	66	67	66	72	78	79	77	80	87	87	85	88	78.5	24	
2	1	80	75	71	69	66	70	74	69	59	51	45	43	40	39	39	38	41	46	51	51	48	48	49	49	80	54.6	24	
3	1	51	53	55	59	63	65	66	66	61	54	48	42	37	35	33	36	43	50	57	64	70	75	73	79	79	55.6	24	
4	1	81	82	83	83	84	84	83	75	58	47	40	37	35	30	24	25	34	39	43	44	48	49	51	56	84	54.8	24	
5	1	58	58	59	65	73	76	75	73	72	66	54	38	28	23	26	27	33	28	29	30	31	35	41	45	76	47.6	24	
6	1	49	52	54	55	56	57	60	62	54	44	39	36	32	32	31	36	41	48	59	60	63	65	70	71	71	51.1	24	
7	1	70	68	74	78	78	82	82	79	76	64	54	47	47	47	46	47	49	49	48	50	52	55	59	66	82	61.1	24	
8	1	68	69	70	70	70	69	69	70	69	68	66	64	63	62	61	62	66	73	77	83	86	86	86	87	87	87	71.4	24
9	1	88	87	86	87	87	87	87	87	86	86	84	81	75	66	61	67	78	84	87	87	86	85	84	84	88	82.4	24	
10	1	84	84	85	85	85	84	84	84	83	81	80	75	77	66	58	67	82	87	84	81	79	80	81	80	87	79.8	24	
11	1	83	84	83	84	85	86	87	87	85	77	71	60	55	51	51	61	73	77	82	84	86	86	85	84	87	77.0	24	
12	1	83	83	82	82	83	83	84	84	85	82	76	74	71	66	68	69	72	77	80	83	86	86	84	82	86	79.4	24	
13	1	81	80	77	74	70	71	70	69	67	67	65	64	61	58	60	63	72	82	86	86	86	86	86	87	87	73.7	24	
14	1	87	86	85	85	86	87	88	89	90	90	89	88	85	75	76	80	83	83	86	85	87	87	87	86	90	85.4	24	
15	1	84	83	83	83	84	84	85	86	85	85	84	82	81	81	82	83	86	87	86	83	81	75	72	73	87	82.4	24	
16	1	73	73	72	71	71	72	72	69	67	67	65	64	64	62	64	64	63	64	65	69	69	69	68	69	73	67.8	24	
17	1	70	70	70	69	69	69	70	70	69	69	68	67	65	64	68	67	65	66	65	66	66	68	66	66	68	70	67.7	24
18	1	75	77	77	76	75	73	75	75	75	75	73	70	66	66	65	72	73	74	73	74	75	74	75	75	77	73.3	24	
19	1	74	73	71	71	71	73	74	74	74	71	66	63	63	62	64	66	67	65	64	66	67	66	67	66	67	74	68.1	24
20	1	68	66	67	68	69	72	72	73	73	69	66	62	61	60	61	67	72	75	75	75	74	73	74	71	75	69.3	24	
21	1	71	72	73	74	74	75	75	75	74	72	69	68	65	65	65	70	72	71	71	71	71	72	73	71	75	71.4	24	
22	1	69	69	69	68	68	67	66	66	65	62	59	57	56	54	56	62	67	68	68	68	67	66	66	66	69	64.5	24	
23	1	66	65	65	65	64	64	64	64	63	60	57	55	53	51	51	55	59	62	62	63	64	65	65	65	66	61.1	24	
24	1	67	67	66	65	66	63	64	64	63	56	51	49	47	46	49	55	62	63	65	66	68	69	66	67	69	61.0	24	
25	1	67	68	67	66	65	65	64	67	72	72	72	71	73	77	77	82	86	85	86	85	84	85	85	86	86	75.3	24	
26	1	86	85	85	84	83	81	81	83	83	81	78	75	73	65	69	77	81	85	84	78	77	77	77	79	86	79.5	24	
27	1	77	76	77	78	79	80	81	83	83	82	79	80	75	75	77	83	87	86	82	82	81	85	87	85	87	80.8	24	
28	1	85	84	84	83	80	79	79	75	75	76	76	75	70	67	69	72	74	76	77	76	77	77	76	77	85	76.6	24	
29	1	77	76	76	76	76	77	78	78	77	74	68	68	67	66	74	81	82	82	82	81	80	79	79	79	82	76.1	24	
30	1	79	79	79	78	78	78	78	78	79																79	78.4	24	
HOURLY MAX		88	87	87	87	87	88	88	89	90	90	89	88	85	81	82	83	87	87	87	87	87	87	87	87				
HOURLY AVG		74.6	74.4	74.4	74.6	74.8	75.3	75.8	75.3	73.3	69.8	66.1	62.8	60.4	57.9	58.0	61.6	66.6	69.4	70.8	71.2	72.1	72.7	73.0	73.8				

STATUS FLAG CODES

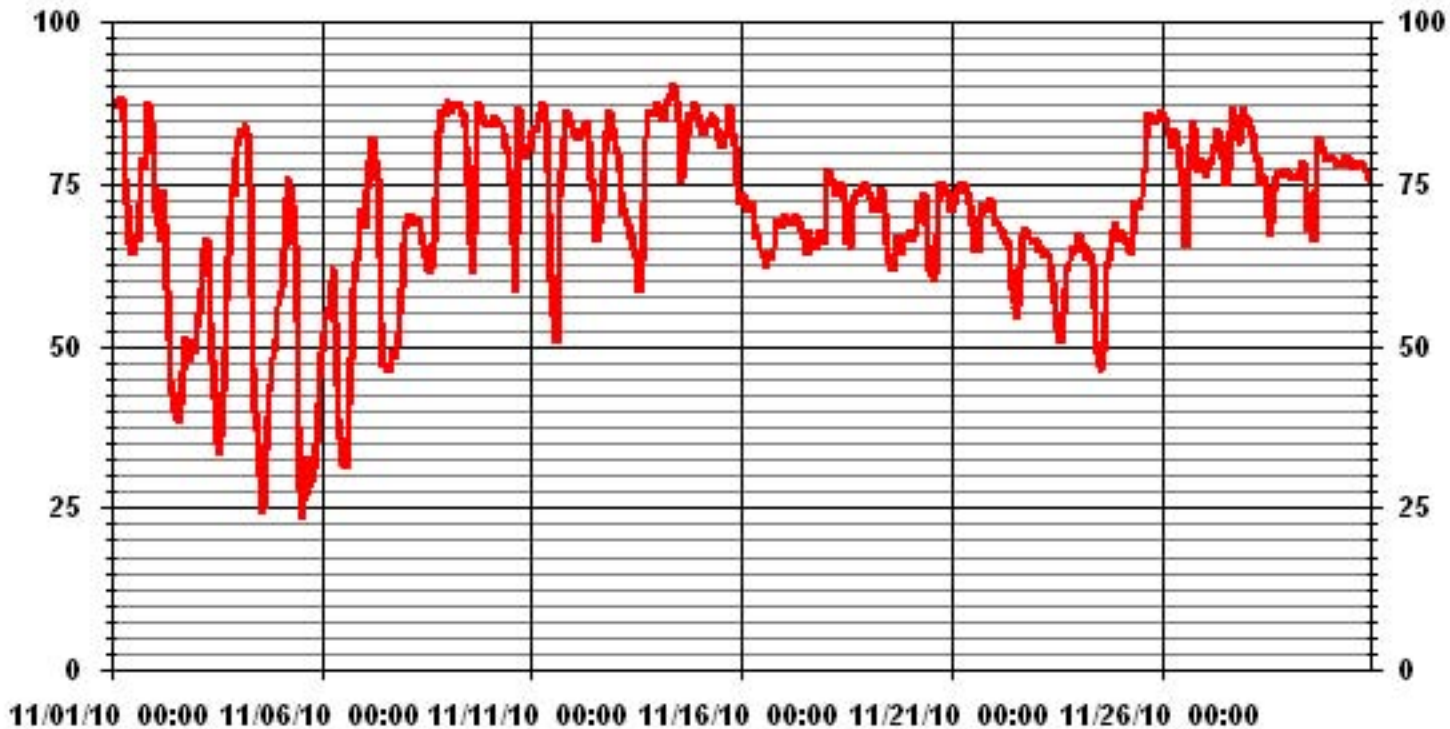
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	90	%	@ HOUR(S)	8, 9	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	85.4	%			ON DAY(S)	14
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
STANDARD DEVIATION:	13.46		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	70.01	%	

01 Hour Averages



Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

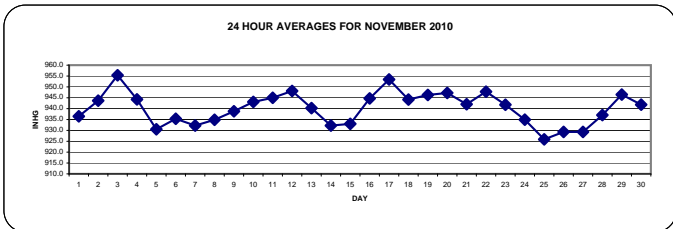
NOVEMBER 2010

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	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	MAX.	AVG.	RDGS	
1	1	940	939	939	939	939	939	938	938	938	937	937	936	936	935	935	935	935	934	934	934	934	934	935	935	940	936.5	24	
2	2	936	937	938	938	939	940	940	941	943	944	944	945	945	945	946	946	947	947	947	948	948	948	949	950	950	943.7	24	
3	3	950	951	952	952	953	953	954	955	955	957	958	958	958	958	958	958	957	957	956	956	956	955	955	955	958	955.3	24	
4	4	954	953	953	952	951	950	949	948	948	948	947	946	945	943	942	941	940	939	938	937	936	935	934	933	954	944.3	24	
5	5	932	932	931	930	929	928	928	928	929	929	930	930	931	931	931	930	930	931	931	931	932	932	933	933	933	933	930.5	24
6	6	934	934	935	935	935	936	936	936	936	937	938	938	937	937	936	936	935	935	934	934	934	934	933	933	938	935.3	24	
7	7	933	933	933	933	933	933	933	932	933	933	933	933	932	932	931	931	931	932	932	932	931	931	931	931	933	932.2	24	
8	8	932	932	932	932	932	933	933	934	934	934	935	935	936	936	936	936	936	937	937	937	937	937	937	937	937	934.9	24	
9	9	937	937	937	938	938	938	939	939	939	939	939	939	939	940	940	939	939	939	939	939	939	939	940	940	940	938.8	24	
10	10	940	941	941	941	941	941	941	942	942	943	944	944	944	944	945	944	944	944	944	945	945	945	945	944	945	943.1	24	
11	11	945	944	944	944	944	944	944	944	944	945	945	946	946	946	946	946	945	945	945	945	945	946	946	946	946	945.0	24	
12	12	945	946	946	946	947	947	948	948	949	949	949	949	949	949	949	949	950	949	949	949	949	948	948	948	950	948.1	24	
13	13	948	947	946	946	945	944	943	943	942	942	941	940	939	938	938	937	937	937	936	936	936	935	935	935	948	940.3	24	
14	14	935	935	935	935	935	935	934	934	933	933	932	932	931	931	930	930	930	930	930	930	930	930	931	931	935	932.2	24	
15	15	931	932	932	932	933	933	933	934	934	934	934	934	934	933	933	932	932	932	932	932	933	933	934	934	934	933.0	24	
16	16	935	936	937	937	938	939	940	941	942	943	944	945	946	946	947	948	949	949	950	951	952	952	953	953	953	944.7	24	
17	17	953	954	954	955	955	955	955	955	955	955	955	955	954	954	954	953	953	952	952	952	951	951	950	950	955	953.4	24	
18	18	949	948	948	947	946	946	945	944	944	944	943	943	943	943	942	942	942	942	943	943	943	943	943	943	949	944.2	24	
19	19	944	944	944	944	944	945	945	945	946	946	946	946	947	947	947	947	948	948	948	948	949	949	949	949	949	946.3	24	
20	20	949	949	949	949	949	949	949	949	949	949	949	948	947	947	946	946	946	945	945	945	945	945	944	949	947.2	24		
21	21	944	943	943	942	942	941	941	941	941	941	941	941	941	941	941	941	942	942	943	943	944	944	945	945	942.0	24		
22	22	945	946	947	947	948	948	949	949	949	949	949	949	949	948	948	948	948	948	948	947	947	947	947	947	947	947.8	24	
23	23	946	946	945	945	944	944	944	943	943	943	942	941	940	940	940	940	940	940	940	940	940	939	939	939	946	941.8	24	
24	24	939	938	938	938	938	938	937	937	937	937	937	936	935	934	934	933	933	933	932	932	931	931	930	930	939	934.9	24	
25	25	929	928	928	927	926	926	925	924	924	923	923	922	922	923	924	925	926	926	927	927	928	929	929	930	930	925.9	24	
26	26	930	931	931	930	930	930	930	930	930	929	930	929	930	929	929	929	929	928	928	928	928	928	928	928	931	929.3	24	
27	27	928	928	928	928	928	928	928	928	928	929	929	929	930	930	930	930	930	930	930	931	931	931	931	932	932	929.3	24	
28	28	932	932	933	933	933	934	934	935	936	936	936	937	937	937	938	938	939	939	940	940	941	941	941	942	942	942	937.0	24
29	29	943	943	943	944	944	945	945	946	946	947	947	947	948	947	948	948	948	948	948	948	948	948	948	948	948	946.5	24	
30	30	948	947	947	946	945	945	945	944	944	943	943	942	941	941	940	940	940	939	938	938	937	937	937	937	948	941.8	24	
HOURLY MAX		954	954	954	955	955	955	955	955	955	957	958	958	958	958	958	957	957	956	956	956	956	956	955	955				
HOURLY AVG		940	940	940	940	940	940	940	940	941	941	941	940	940	940	940	940	940	940	940	940	940	940	940	940	940			

STATUS FLAG CODES

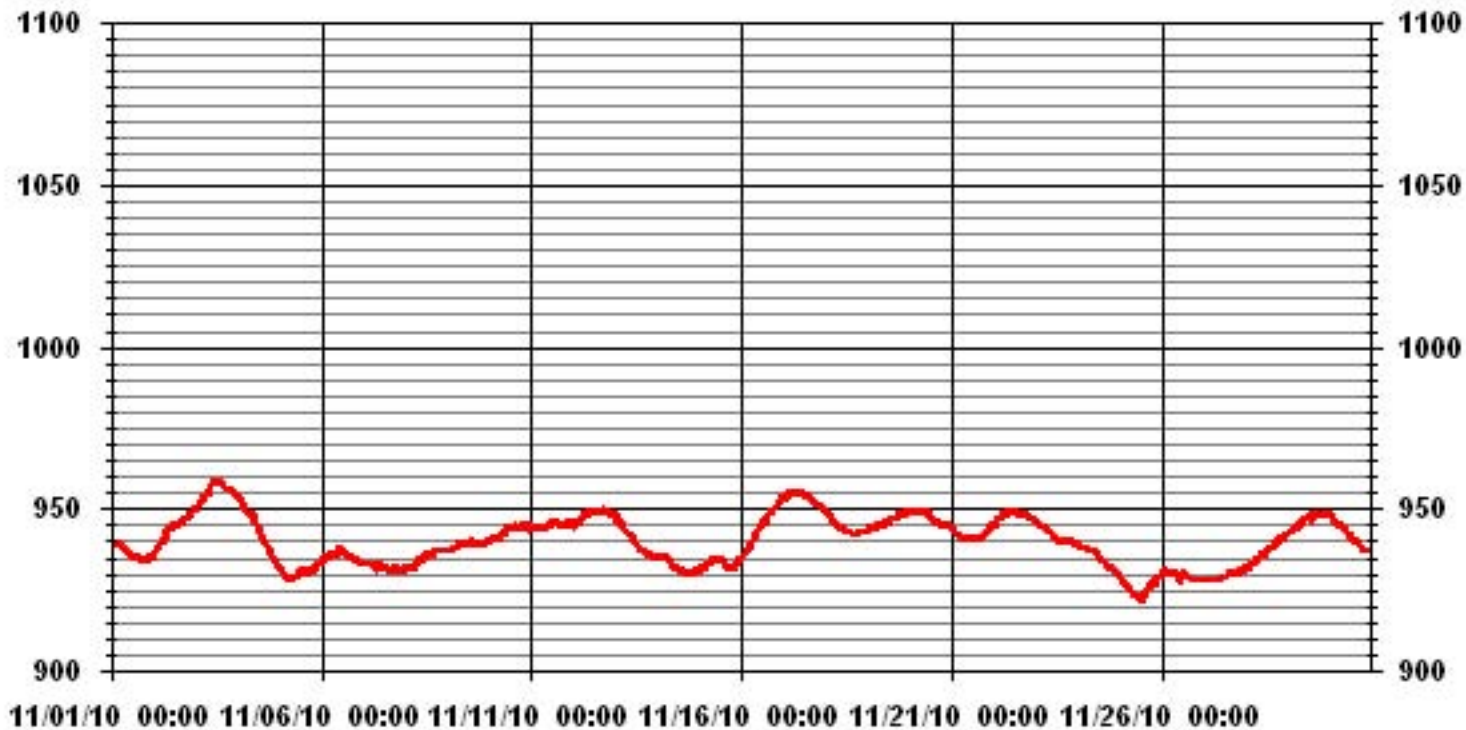
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	958	MB	@ HOUR(S)	VAR	ON DAY(S)	3
MAXIMUM 24-HR AVERAGE:	955.3	MB			ON DAY(S)	3
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
STANDARD DEVIATION:	7.69		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	940	MB	

01 Hour Averages



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 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	1.8	0.2	0.6	2.8	3.2	2.2	2.9	8.1	5.9	5.6	7.1	4.1	6.3	5.9	5.6	5.5	5.1	1.6	2.3	5	2	1.7	2.6	4.4	8.1	2.7	24
2	5.2	4.9	4.8	5.2	7.6	4.8	4.4	6.2	8.4	10.4	14.5	18.5	17.8	16.6	12.4	13.5	10.6	6.6	5.1	5.7	7.8	8.3	10.6	8.9	18.5	8.9	24
3	10.1	10.9	11.2	10.5	9.4	11.2	11.5	11.5	10.4	10.3	11.2	8.1	7.9	7.4	8.1	7.9	4.1	2.6	3.3	1.2	1.7	2.8	3	0.6	11.5	7	24
4	0.6	1.2	1.7	1.8	2.2	2.5	1.2	4.1	5.9	7.6	9.1	9.4	9.7	8	10.6	7.8	4.3	7.7	9.1	7.4	4.2	5.9	4.4	3.1	10.6	4.9	24
5	3	3.6	4	1.9	0.9	1.4	1.1	0.3	1.7	3.9	5.6	5.6	7.6	8.3	9.7	7.4	4.8	6.5	5.3	9	9.9	9.1	8.9	6.7	9.9	4.1	24
6	4.6	2.9	3	3.9	3.1	4.4	3.9	2.2	2.6	2.8	3.7	4.3	7	9.2	4.7	3.1	0.8	1.3	2.6	1.7	3.5	3.1	3.3	2.2	9.2	1.9	24
7	2.6	2.9	2.2	2.8	3.5	2.9	3.4	3.7	4.1	4.7	7.3	7.4	7.6	7.5	7.6	7.7	9.2	7.2	8.2	7	6.1	6	4.8	3.9	9.2	5.3	24
8	3.1	2.9	1.5	1.8	2.3	2.8	2.6	4.2	4.8	4	5.6	5	6.1	4.8	3.8	3.7	3.2	2.6	2.3	2.2	0.3	0.9	0.9	1.5	6.1	2.6	24
9	1.3	0.6	1.5	4.9	3.5	1.3	2.1	3.4	2.1	1.9	2.1	1.6	2.5	1.4	1.1	2.9	3	3.9	1.5	1.9	0.9	1.8	1	0.4	4.9	0.1	24
10	1.9	1.9	0.8	1.6	2.9	2.6	2.8	2.8	2.6	2.5	3	2.6	2.5	3.7	5	4.2	4.5	3	2.2	1.7	1.9	1.2	3.1	2.9	5	2.3	24
11	3.8	4.1	4.7	2.6	3.6	3.2	1.8	2.6	2.4	2.2	2.9	5.6	6.4	8	5.1	5.2	3.8	3.1	1.4	1.8	1.3	2	0.6	1.5	8	2.7	24
12	1.7	0.2	0.5	0.3	0.8	0.5	1.3	0.7	1.3	3.1	4.9	5.1	5.7	6.9	5.2	4.5	5.8	7.5	7.8	7	6.5	6.1	5.7	6	7.8	3.6	24
13	6.2	6.5	7.7	8.7	9.3	8.6	9.8	7.7	7.9	6.4	7.6	5.2	5.8	4.6	4.9	5	5.8	5	4.5	3.8	2.8	2.4	1.7	3.4	9.8	5.7	24
14	6	3.8	5	4.3	4.1	3.9	2.5	3.6	3.2	5	3.7	4.2	4.5	4.1	4.6	5.7	4.4	3.6	3	3.6	5	5.7	4.9	6	6	3.2	24
15	6.2	7.4	6.3	6.6	6.6	6.2	3.3	4.5	5.9	6	4.2	1.4	1.2	4.1	2.9	2.9	3.1	2.7	4.3	6.7	8.6	12.8	10.6	13.4	13.4	4.1	24
16	10.6	11.5	12.9	14.5	13.4	8.5	6.9	8.6	7.7	7.4	7.8	7.7	8.1	8.3	8.1	6.9	6.6	9.3	9.7	9.3	7.8	8.1	9.9	7.3	14.5	8.7	24
17	5	4.3	3.6	3.4	3.2	4.1	4.1	4.7	8.3	10.6	10.6	9.1	8.8	6.3	6.9	7.9	8.6	8.9	9.2	8.3	8.2	9.2	8.8	8.8	10.6	6.1	24
18	8.3	8.5	8.6	10.7	11.6	11.6	9.3	9.9	11.6	10.1	10.6	8.5	10.7	9.5	11.1	8.9	8.8	7.9	7.4	6.1	5.1	4.4	3.6	2.6	11.6	8	24
19	1.3	1.1	0.7	1.1	1.2	1.5	0.9	0.4	0.6	0.8	2.9	3.5	3.8	4.1	4.6	2.7	2.8	2.9	2.8	2.8	2.7	2.2	3	2.1	4.6	1.6	24
20	2.3	4	4	3.9	4.9	5.1	5.2	4.9	3.4	3.7	5.9	6.2	6.7	6.7	6.8	6.1	3.9	4.1	4.2	4	2.9	2.7	3.8	1.5	6.8	4.4	24
21	1.4	1.1	1	0.9	1.2	1.4	1.4	1.3	1.9	2.5	2.9	3.7	5.8	6.3	8.7	7.1	2.6	4.9	7.4	7.9	6.8	4.3	4.9	10.4	10.4	3.3	24
22	8.9	7.8	9.4	9	5.6	5.7	6.2	6	5.3	5.3	4	4.2	3.6	5	5.2	3.9	3.4	2	3.8	2.4	1.5	4	7.1	6.8	9.4	2.8	24
23	5.1	5.3	6.2	6	7	5.4	7	2.4	5.9	6	5	7.1	6.5	6.9	7.2	5.8	4.9	5.1	7.2	6.9	5.5	3.8	5.9	2.8	7.2	5.4	24
24	3.4	1.2	6.4	4.3	4	5.3	4.4	5	6.3	4.6	6.9	6	6.3	5.8	6.5	3.3	2.8	4.6	5.8	4.2	3.1	4.5	5.5	5	6.9	4.7	24
25	3.8	3.8	5.3	2.9	1.9	1.8	3	4.1	4.6	4.5	5	4.3	2.2	3	4.1	7.7	4.5	3.3	4.7	5.4	4	4.2	4.3	2.9	7.7	3.4	24
26	3.9	6.3	5.3	4.3	5.3	6.9	1.4	1.6	1	0.6	1.5	1.2	0.9	2.7	2.3	2.6	3.4	1.8	3.1	4.2	4	4.1	1.2	0.2	6.9	1.4	24
27	2.3	3.2	2.3	1.5	0.9	3.6	3.7	1.5	0.9	3.3	4.1	5.4	7.1	8.3	4.9	5	0.9	4.2	3.6	3.5	3.4	2.8	2.4	2.5	8.3	2.7	24
28	2.7	2.4	3.9	3.3	4	4.7	8.3	6.1	4.5	6	4.7	4.8	6.3	6.2	4.9	6.1	5.7	2.4	3.3	3.3	4	3.3	3.7	4.1	8.3	3.6	24
29	2.6	5.9	3.8	3.3	3.4	4.1	4.4	4.2	3	2.6	3.5	4.5	4.2	3.3	4.2	2.5	2.6	3.1	2.9	3.8	5.9	4.1	3	2.8	5.9	2.1	24
30	2.4	3.3	3.3	3.8	3.1	2.9	4.2	5.4	8	5.9	6.5	9.7	9.2	9.2	8.4	7.8	10	10.6	10.5	8.4	7.4	7	6.2	6.9	10.6	6.6	24
HOURLY MAX	10.6	11.5	12.9	14.5	13.4	11.6	11.5	11.5	11.6	10.6	14.5	18.5	17.8	16.6	12.4	13.5	10.6	10.6	10.5	9.3	9.9	12.8	10.6	13.4			
HOURLY AVG	4.1	4.1	4.4	4.4	4.5	4.4	4.2	4.4	4.7	5.0	5.8	5.8	6.3	6.4	6.2	5.7	4.8	4.7	5.0	4.9	4.5	4.6	4.6	4.4			

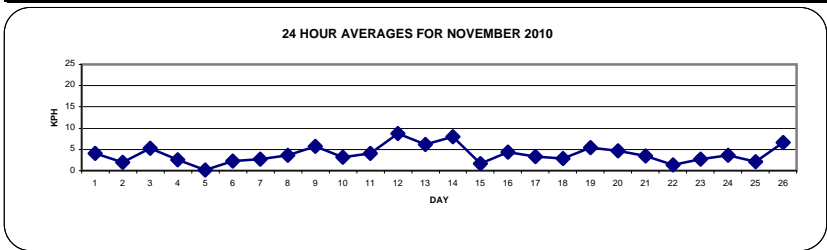
STATUS FLAG CODES

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

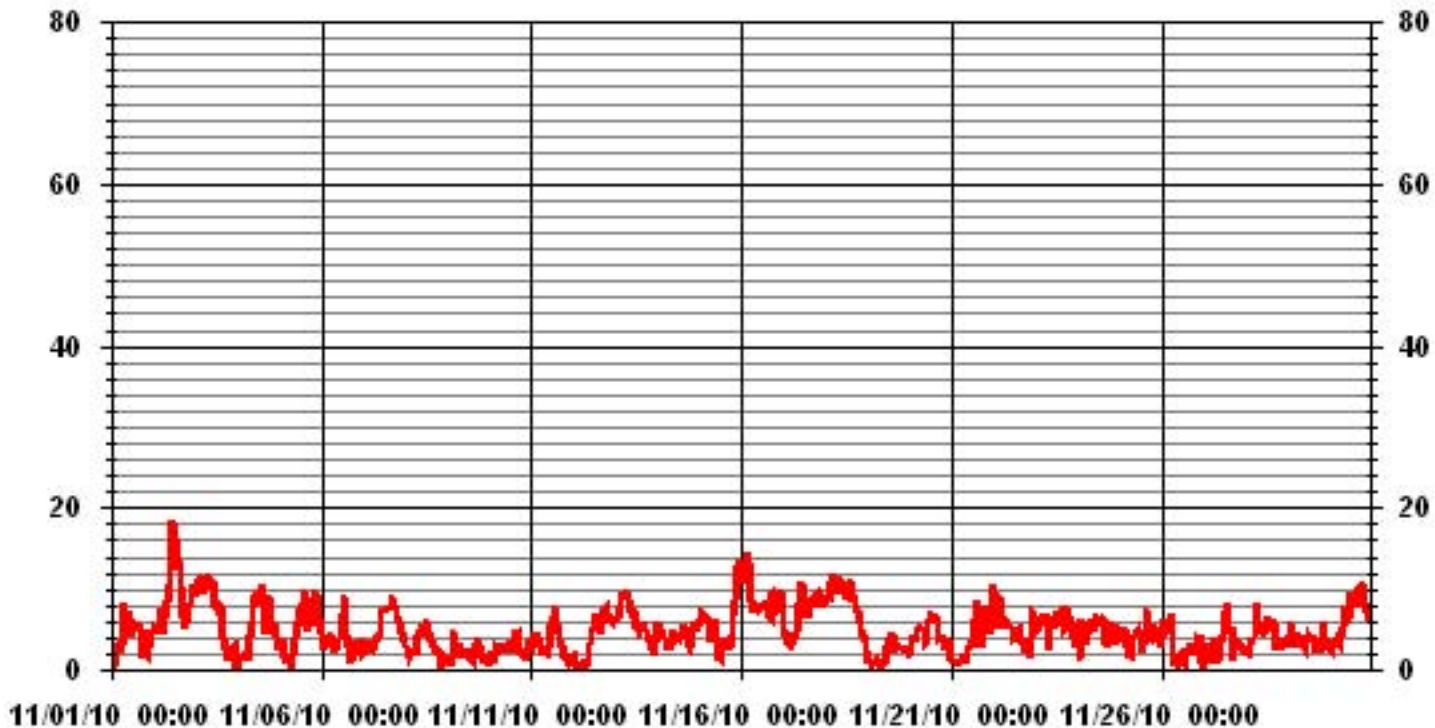
LAST CALIBRATION: February 4, 2009

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	18.5 KPH	@ HOUR(S)	11	ON DAY(S)	2
MAXIMUM 24-HR AVERAGE:	8.9 KPH			ON DAY(S)	2
CALMS (≤ 1 KPH)	3.09 %	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	0 HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	2.90	MONTHLY AVERAGE	4.91	KPH	



01 Hour Averages



— LICA30 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 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	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.
1	11	9.3	9.3	14	20.9	15.3	18.1	22.4	19.2	20	22.8	14.7	19.4	15.5	15.1	14.9	14	15.1	12.3	14.1	14.6	12.1	12.1	15.1	22.8	22.8
2	17.4	23.9	23.9	25.8	37.2	22	24.3	32.7	35.1	37.7	56.3	57	51.8	54.4	43	45.4	43.7	31.9	18.1	26.3	32.9	29.7	37.4	45.2	57	57
3	32.7	44.8	36.2	32.1	30.8	35.3	37.9	33.4	33	32.7	36.8	28.6	28.4	27.3	37.4	29	19.2	8.2	15.1	10.8	10.3	8.4	9.5	9.7	44.8	44.8
4	11	15.1	21.5	19.2	11.6	11.2	17.2	17.2	16.2	19.8	27.1	23	22.8	22.6	32.7	20.4	12.7	24.5	24.5	23.2	14.8	20.2	15.1	11	32.7	32.7
5	12.3	10.3	11.2	9.5	9.5	10.4	10.8	17.9	15.1	14.4	20.8	19.8	27.7	30.6	32.9	29.3	25.6	32.1	28.8	34	34.6	42.2	30.8	24.1	42.2	42.2
6	21.3	14.7	17	17	14	15.1	15.3	14.9	11.2	17.9	20.2	17.4	18.3	23.4	18.9	9.7	3.6	11.2	15.3	13.1	13.8	14.7	14.2	16.2	23.4	23.4
7	13.1	14.2	18.1	22.5	15.5	13.4	15.7	15.3	13.6	17.5	29.7	26.3	26.5	27.3	27.5	27.7	30.4	25.4	28.9	23.9	21.7	25.8	16.6	12.9	30.4	30.4
8	9.1	10.6	11	10.1	12.3	14.4	13.6	16.8	18.5	17.9	22.8	18.5	25.8	20.9	15.3	23.4	16.8	17.7	10.3	11	10.1	19	16.2	11.9	25.8	25.8
9	10.4	46.9	10.4	13.6	14.2	11.6	12.5	13.4	15.7	14	11.8	13.1	18.5	12.7	13.1	11.2	6.5	12.5	20.7	17.7	15.3	9.3	17	32.5	46.9	46.9
10	71.1	10.6	9	17.2	25.6	11.2	12.3	20.3	18.3	19.8	17.2	13.4	13.4	16.4	20.5	18.9	10.3	16.6	16.8	12.7	11	10.3	10.8	12.1	71.1	71.1
11	13.1	12.9	12.5	13.8	16.2	22.2	20.6	30.6	21.3	16.6	15.5	20.2	23.7	23.7	20.5	22.2	17.4	19.2	23	12.5	9.7	10.4	9.3	40	40	40
12	18.5	20.3	18.8	9.3	31.7	10.4	17.6	17.2	18.5	10.8	13.1	20.3	15.3	16.4	14.2	11.4	13.6	14.9	19.4	15.3	15.1	12.7	14.7	14.7	31.7	31.7
13	14	16.6	16.2	18.8	19.8	18.3	21.5	19.2	19.4	15.7	17	16.4	15.9	14.7	12.9	13.6	15.9	15.5	15.7	13.8	13.5	12.5	13.6	16.8	21.5	21.5
14	23	21.5	16.4	19.2	23.7	19.4	13.6	18.9	16.8	12.3	14.7	14	18.1	15.3	12.9	11	12.1	11.4	10	13.6	23.7	22.4	20.2	23.5	23.7	23.7
15	21.1	23.7	20.9	24.3	21.8	23	16.8	17	21.1	22.6	21.1	12.9	17.5	17.9	11.4	13.1	11.8	17.5	16.4	16.8	31	39.6	29.1	42.9	42.9	42.9
16	30.8	34	39	36.4	40.9	25.6	22.6	31.5	31.7	32.8	27.1	29.7	30.8	27.1	30.6	28.2	25.2	28	29.5	23.4	22	21.3	19.9	20.3	40.9	40.9
17	16.4	17	43.5	15.8	34.5	18.1	15.1	17	20.7	23.3	22.4	24.8	30.8	22.2	28.2	24.6	28.9	30.8	34.1	33.2	29.5	30.8	34.9	29.5	43.5	43.5
18	29.5	34.3	34.1	34.1	34.7	44.4	38.2	37.7	30.4	37.5	40.3	25.6	29.1	28.5	28.7	25.7	19.6	19.4	16	27.3	58.6	29.5	102.6	87.3	102.6	102.6
19	38.4	31.9	49.8	30.2	20.9	53	80	85.4	25	53.2	32.8	28.3	45.9	17.5	12.5	26.1	26.5	41.6	40.3	81.2	15.1	27	25	60.8	85.4	85.4
20	69.8	19.4	16.2	18.7	16.2	15.8	19.2	43.1	39.6	26.7	18.8	17.5	17.4	20.6	16	15.1	11.2	13.3	12.3	17.3	16.6	20.7	34.1	48.3	69.8	69.8
21	33.9	94.4	87.1	81.3	92.7	91.2	71.9	62.1	41	28.9	17.2	32.9	19.2	21.8	21.8	21.8	51.3	88.4	20.5	20.1	17.7	29.1	19.2	27.4	94.4	94.4
22	27.4	22.2	25.7	20.7	103.5	118.6	113.9	119.7	57.6	22	30	27.4	55.2	30.2	35.2	44.9	35.4	55.2	31.5	53.3	55.2	33	17.5	20.3	119.7	119.7
23	34.7	21.1	16	16.4	17.1	15.3	24.2	50.3	23.1	19.9	29.6	17.7	18.8	17.9	16.8	16.4	14.2	15.1	19.2	17.5	14.5	29.1	15.1	55.9	55.9	55.9
24	20.3	52.6	17.1	40.3	83	17.1	27.4	16.6	19.4	47.9	19.2	16.4	28.5	32.3	17.5	19.6	46.2	15.3	19.6	50.2	31.5	13	19.2	17.2	83	83
25	18.1	22.4	20.9	23.3	61.5	81.3	65.3	14.5	18.8	16.4	15.3	14.9	20.3	16.2	20.5	30.4	22.8	18.1	18.3	21.3	18.1	14.7	14	11.2	81.3	81.3
26	11.6	12.9	12.6	11.4	12.7	16.6	10.8	10.6	10.1	10.6	18.5	10.4	11.2	13.1	14.4	15.3	16	13.6	15.9	15.3	17	15.7	14.4	20.3	20.3	20.3
27	21.8	12.9	11	11.4	16.8	10.6	12.7	19.6	10.8	19.4	15.9	27.6	23.4	27.5	22.2	21.3	17.7	19	14.4	12.9	19.4	26.3	23	17.7	27.6	27.6
28	12.9	10.1	15.5	14	16.8	18.7	28.2	25.4	20.7	21.8	19.6	20.5	24.6	29.3	21.1	22.8	22	18.1	14.9	19.6	14.6	17.7	17.9	20.7	29.3	29.3
29	30	28.7	22	20.8	16.2	17.9	16.6	20.1	13.4	19	17.7	19	19.2	18.3	16.8	71.7	31	12.9	9.7	14.2	15.1	11.2	9.3	11.2	71.7	71.7
30	7.8	8.6	11.9	13.2	12.9	14.9	16	18.3	25	23	24.4	33	30.8	28.5	24.8	26.7	31.5	38.8	33.2	30	26.1	24.6	24.8	20.7	38.8	38.8
PEAK	71.1	94.4	87.1	81.3	103.5	118.6	113.9	119.7	57.6	53.2	56.3	57.0	55.2	54.4	43.0	71.7	51.3	88.4	40.3	81.2	58.6	42.2	102.6	87.3		

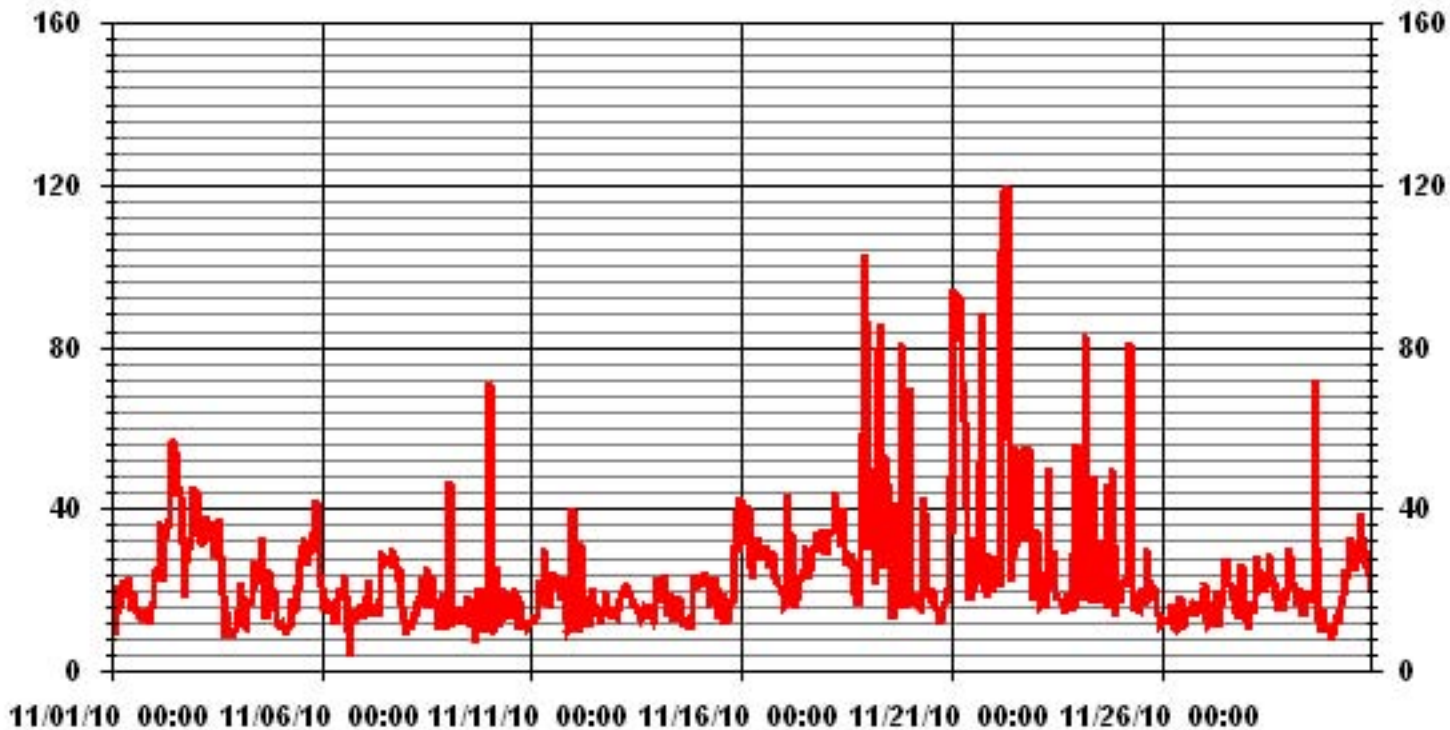
STATUS FLAG CODES

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	119.7	KPH	@ HOUR(S)	7
			ON DAY(S)	22

01 Hour Averages



— LICA30 WSMAX KPH

LICA30
WSP / WDR Joint Frequency Distribution (Percent)

November 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	3.19	3.33	2.08	3.19	1.11	1.52	2.77	1.94	2.63	12.36	13.33	5.97	6.11	3.47	3.05	2.36	68.47	
< 12.0	2.08	3.19	2.50	2.91	.41	1.11	1.66	1.11	.00	5.55	.83	.00	3.75	3.33	.69	.83	30.00	
< 20.0	.27	.41	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.55	.27	.00	.00	1.52	
< 29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	5.55	6.94	4.58	6.11	1.52	2.63	4.44	3.05	2.63	17.91	14.16	5.97	10.41	7.08	3.75	3.19		

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	23	24	15	23	8	11	20	14	19	89	96	43	44	25	22	17	493	
< 12.0	15	23	18	21	3	8	12	8		40	6		27	24	5	6	216	
< 20.0	2	3											4	2			11	
< 29.0																		
< 39.0																		
>= 39.0																		
Totals	40	50	33	44	11	19	32	22	19	129	102	43	75	51	27	23		

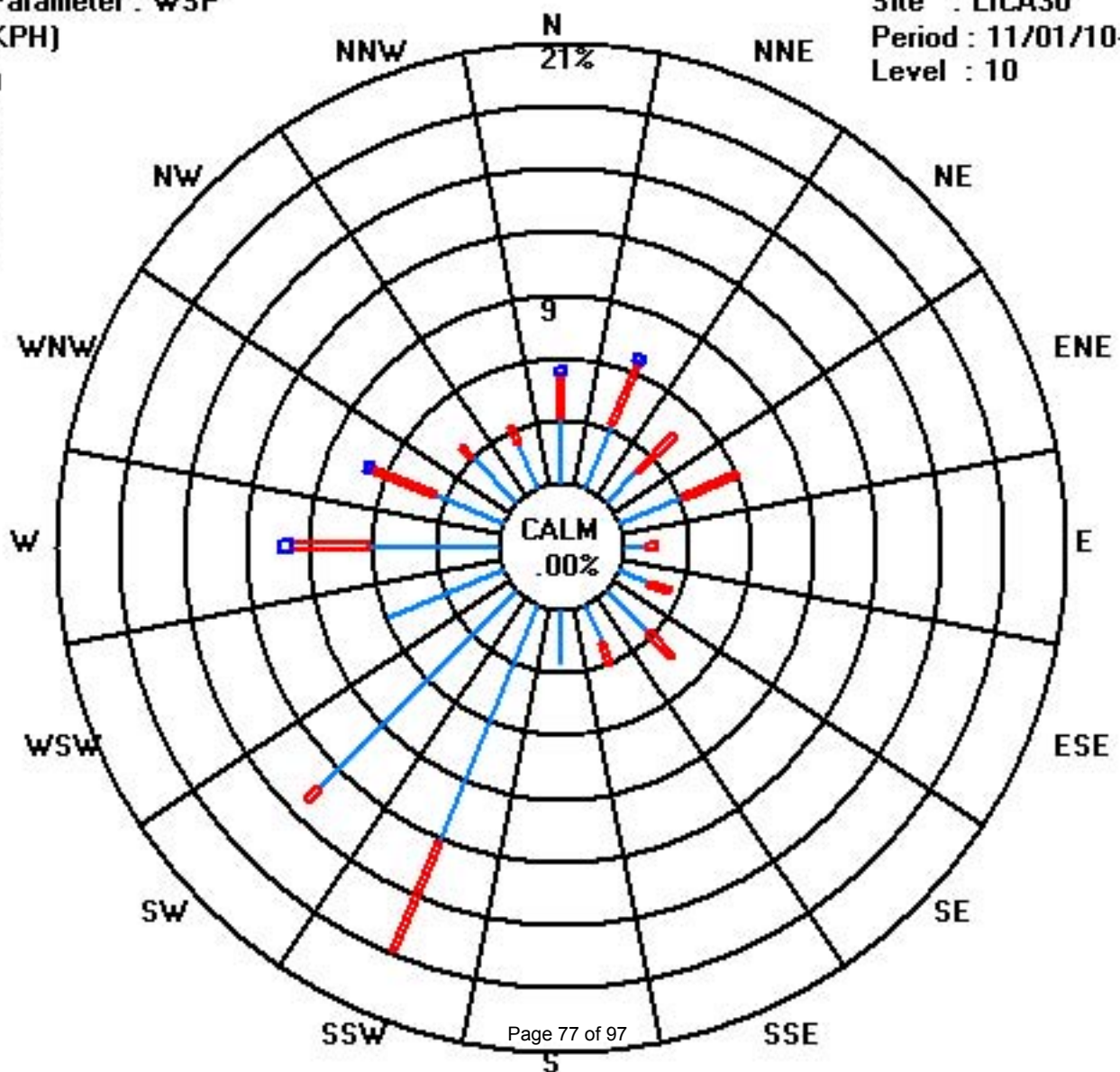
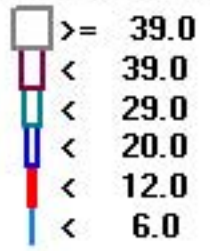
Calm : .00 %

Total # Operational Hours : 720

Class Limits (KPH)

Period : 11/01/10-11/30/10

Level : 10



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 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		
DAY	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	AVG.	QUADRANT	RDGS.		
1		160	284	54	78	77	62	68	128	124	113	144	150	147	156	167	168	193	124	220	207	216	244	231	215	151	SSE	24	
2		231	269	274	269	270	257	252	265	271	272	275	281	283	284	280	280	277	273	274	266	269	276	274	276	274	274	W	24
3		280	280	278	282	278	282	281	283	282	288	288	287	279	272	279	278	269	243	261	236	190	197	205	132	276	W	24	
4		115	99	77	76	1	24	120	133	140	159	157	151	143	146	154	159	142	146	151	149	136	157	154	142	145	SE	24	
5		153	170	180	174	37	19	59	7	262	294	306	310	295	311	310	299	259	268	266	279	288	291	289	276	285	WNW	24	
6		263	229	237	262	240	219	230	230	208	256	262	227	209	208	225	190	158	122	63	78	82	88	60	78	217	SW	24	
7		34	77	72	58	60	42	67	56	50	48	62	74	63	58	58	52	64	58	67	51	54	53	42	22	56	NE	24	
8		4	9	26	14	323	322	327	311	300	296	319	308	290	300	327	315	317	299	351	4	156	195	235	241	316	NW	24	
9		243	78	23	30	25	45	26	20	37	5	25	52	226	232	257	189	192	198	224	236	203	140	127	230	49	NE	24	
10		248	199	212	230	269	194	193	212	217	225	256	260	239	281	284	229	214	237	259	251	219	189	196	210	232	SW	24	
11		214	218	216	234	274	270	256	252	247	272	261	312	282	277	272	279	270	261	243	223	189	173	198	96	257	WSW	24	
12		91	357	70	117	59	198	210	80	235	172	187	202	204	204	195	205	203	197	198	206	208	210	219	212	200	SSW	24	
13		205	208	201	199	202	204	199	201	204	203	201	208	207	211	203	195	202	207	213	215	227	233	239	276	206	SSW	24	
14		296	304	314	318	294	263	234	220	223	204	216	213	221	219	206	201	210	225	215	228	272	290	287	301	250	WSW	24	
15		309	306	293	303	299	309	321	321	335	353	347	293	255	221	193	214	215	263	355	3	1	12	17	11	332	NNW	24	
16		7	6	11	15	12	1	1	352	350	346	345	351	344	344	345	350	339	5	13	19	20	34	32	22	4	N	24	
17		4	0	355	338	336	346	6	21	26	20	26	36	55	75	59	48	53	68	74	77	78	74	80	82	46	NE	24	
18		73	73	81	71	62	70	66	56	44	49	50	56	35	40	41	39	27	28	25	15	11	9	14	12	48	NE	24	
19		1	330	342	161	199	234	237	242	81	88	279	219	286	229	206	229	197	222	258	242	215	225	216	243	232	SW	24	
20		236	226	220	209	207	213	226	223	227	222	212	215	210	207	205	208	212	209	221	221	216	214	206	238	214	SSW	24	
21		188	190	209	219	257	256	289	298	333	324	326	351	15	2	14	16	21	21	16	17	22	20	23	23	8	N	24	
22		13	10	19	19	14	8	5	13	3	0	343	290	305	296	282	267	251	13	247	253	38	222	210	212	338	NNW	24	
23		222	211	212	211	206	212	215	204	220	221	227	213	208	207	210	211	202	210	207	213	211	220	202	65	211	SW	24	
24		216	213	201	212	203	212	216	212	201	208	218	217	220	222	212	219	223	216	215	224	218	204	203	203	212	SSW	24	
25		205	207	203	201	198	197	198	188	182	187	193	218	228	228	240	273	258	246	264	266	250	229	225	217	223	SW	24	
26		219	210	209	213	205	199	183	32	39	31	54	13	55	138	119	77	59	78	108	132	114	103	141	291	152	SSE	24	
27		116	196	195	215	159	207	210	246	298	234	229	265	276	280	274	274	206	269	287	213	244	236	250	225	246	WSW	24	
28		213	209	359	349	327	331	294	296	302	292	312	314	294	289	286	268	272	247	210	231	231	237	238	259	284	WNW	24	
29		265	290	318	329	341	344	351	316	337	297	265	263	289	262	280	255	228	221	210	206	196	189	181	147	269	W	24	
30		158	137	141	128	129	140	127	139	128	114	127	128	128	128	117	122	117	115	118	124	122	123	118	124	124	ESE	24	
HOURLY AVG		309	357	359	349	341	346	351	352	350	353	347	351	344	344	345	350	339	299	355	279	288	291	289	301				

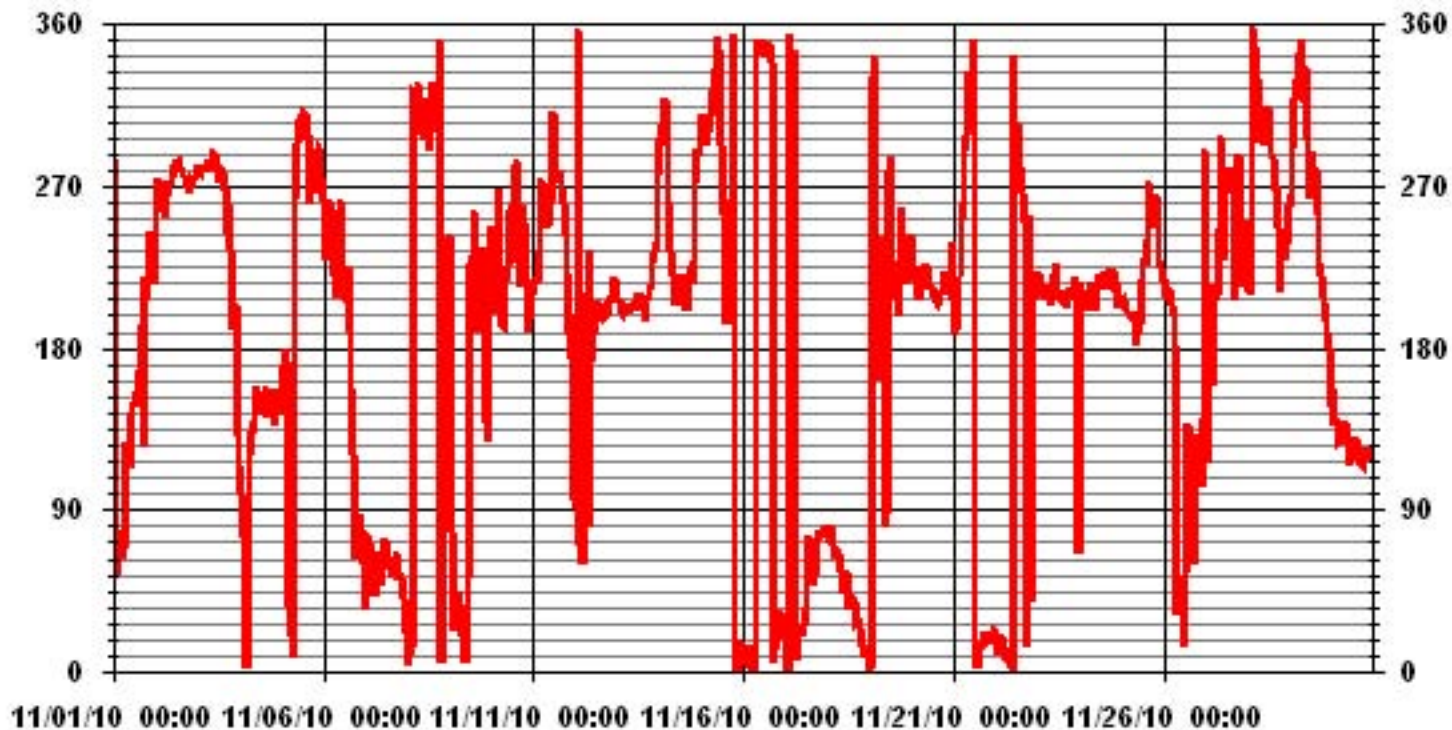
STATUS FLAG CODES

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	95.98		AMD OPERATION UPTIME	100.0	%
			MONTHLY AVERAGE	260	DEG

01 Hour Averages



Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 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	22	60	56	23	28	32	23	19	21	23	25	29	24	23	23	24	21	59	33	18	53	29	25	14
2	21	28	23	26	26	32	30	31	29	27	27	25	25	24	26	23	25	24	20	26	28	25	26	28
3	22	21	22	22	20	20	20	22	22	24	22	25	29	31	25	24	24	23	32	50	19	21	23	55
4	52	47	29	41	20	13	52	35	20	23	22	22	20	21	20	21	17	17	19	21	22	23	24	29
5	46	22	20	40	56	32	34	71	46	23	26	30	26	33	34	32	29	28	29	24	22	25	20	25
6	24	19	24	23	19	15	19	35	21	37	34	31	24	21	32	20	44	46	30	38	25	25	18	40
7	28	19	29	26	12	30	22	20	20	20	24	23	24	24	23	23	23	23	22	21	21	20	18	16
8	17	16	28	37	35	39	34	30	28	36	31	32	25	32	37	48	43	29	27	19	36	30	33	31
9	31	42	41	15	18	33	24	23	35	50	56	58	36	42	70	31	19	14	29	20	29	13	36	51
10	21	18	45	26	32	24	25	28	33	32	33	33	29	29	26	23	12	23	33	47	41	46	20	27
11	22	17	14	30	26	25	31	31	28	30	33	37	30	27	32	26	24	28	46	23	19	13	70	47
12	21	69	44	29	48	32	38	48	27	21	19	20	19	19	21	16	16	13	13	14	14	15	14	13
13	14	16	12	12	14	13	12	14	17	17	16	24	20	25	17	30	19	19	19	25	23	23	39	27
14	26	37	32	36	34	33	30	27	29	22	29	26	25	23	17	12	14	14	14	16	28	22	28	27
15	32	28	25	29	30	30	37	33	33	30	36	57	57	30	34	27	22	46	29	24	25	22	20	23
16	26	22	22	20	22	25	27	28	31	30	29	31	32	33	31	29	33	24	21	21	19	18	14	20
17	26	30	33	40	40	34	27	22	17	18	16	18	24	32	24	22	23	24	26	26	28	26	29	25
18	27	25	26	22	23	25	25	24	20	23	23	23	19	20	18	20	13	15	16	20	21	21	16	21
19	27	31	35	41	50	37	61	63	66	53	41	50	40	34	21	38	21	33	34	35	29	34	26	37
20	36	29	22	20	15	19	24	23	26	25	22	26	20	20	17	16	14	12	14	14	16	20	18	37
21	53	50	58	41	37	39	43	39	36	35	28	32	28	28	20	18	29	17	18	18	16	18	14	15
22	19	20	13	14	20	21	21	18	23	25	33	33	36	34	31	32	34	59	30	46	57	25	13	14
23	17	13	12	16	15	15	20	53	22	23	31	20	21	20	19	18	15	16	16	19	18	23	15	39
24	29	48	18	31	23	19	22	20	18	36	23	27	23	24	21	27	23	23	19	27	31	18	20	19
25	20	24	20	32	38	33	27	26	22	21	21	29	34	27	22	24	23	21	23	24	23	17	15	14
26	13	12	15	19	16	15	45	32	40	51	47	50	48	25	32	37	20	52	33	19	21	18	32	69
27	40	20	22	45	73	17	17	43	63	27	25	28	29	23	30	26	53	24	28	17	26	21	26	21
28	22	48	31	34	36	31	28	31	38	27	37	35	29	29	28	30	29	30	17	26	24	31	28	26
29	40	34	31	37	36	31	30	35	39	37	36	32	37	32	26	34	20	16	14	18	16	19	24	29
30	30	24	26	24	26	21	27	29	23															

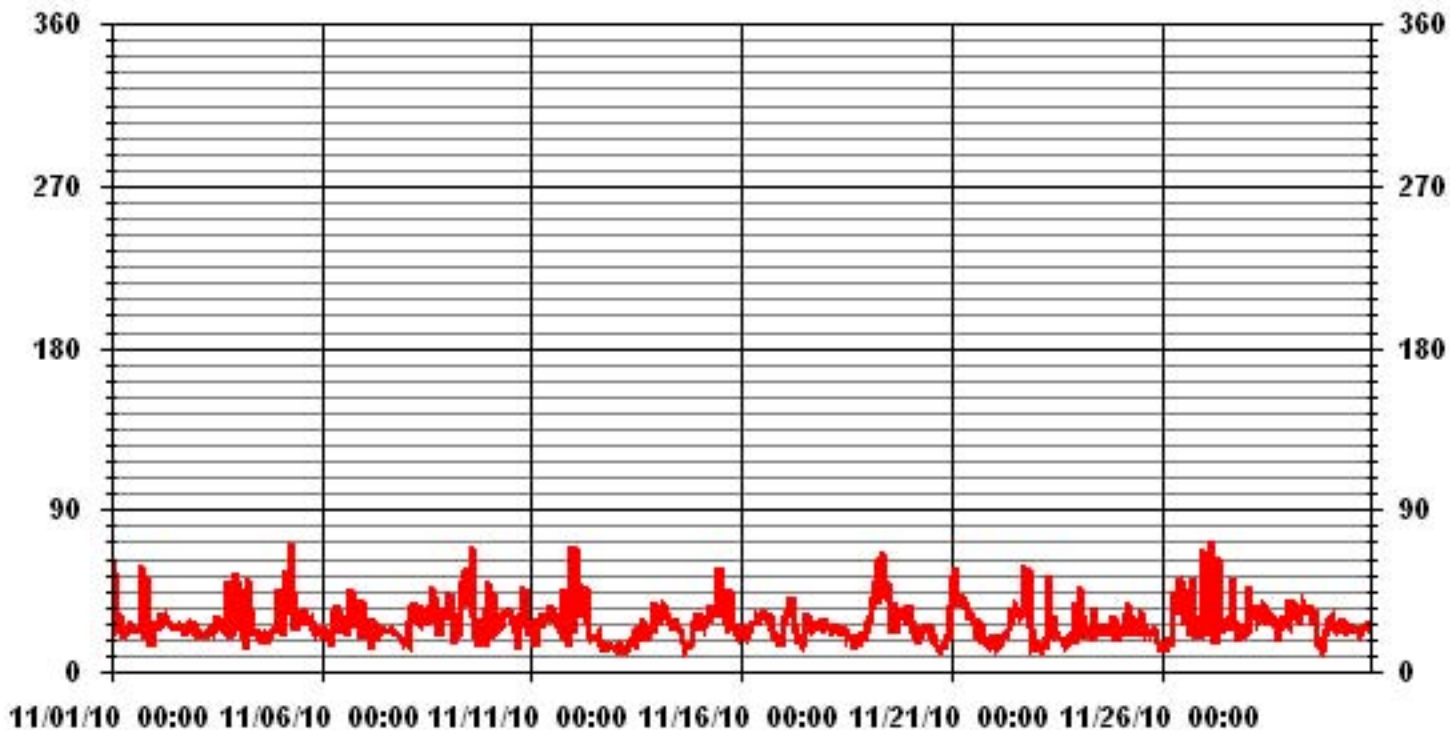
STATUS FLAG CODES

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



Calibration Reports

Sulphur Dioxide

SO₂ Calibration Report

Station Information

Calibration Date	November 9, 2010	Previous Calibration	October 12, 2010
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	11:15	End Time (MST)	14:42
Reason:	Monthly Calibration		
Barometric Pressure	940 mBar	Station Temperature	22 Deg C
Cal Gas	51.4 ppm	Cal Gas Expiry date	August 5, 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:	Enviroics 6000		4760	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Flow Meter:	Enviroics 6000	S/N :	4760		

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 1000	ppb	
Sample Flow / Box Temp	602 ccm 30.4 Deg C	596 ccm 31.3 Deg C	
HVPS / Lamp Setting	494 3203	494 3199	
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	36.8 0.98	36.8 0.98	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	N/A
4923	72.8	749	753	0.9947
4956	38.8	399	401	0.9957
4979	16.5	170	171	0.9928
4996	0	0	0	N/A
Sum of Least Squares				0.9948
New Correction Factor				0.9947

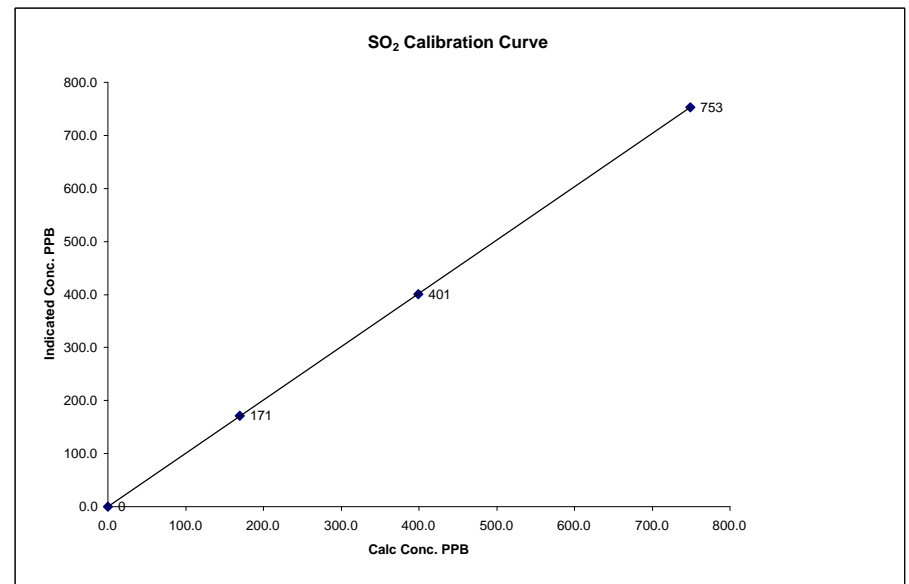
	Before Calibration	After Calibration
Auto Zero	0.7	0.9
Auto Span	592	594
Sample Lines Connected		YES
Percent Change from Previous Calibration		0.0%

Calibration Performed by: Ting Xu

SO₂ Calibration Curve

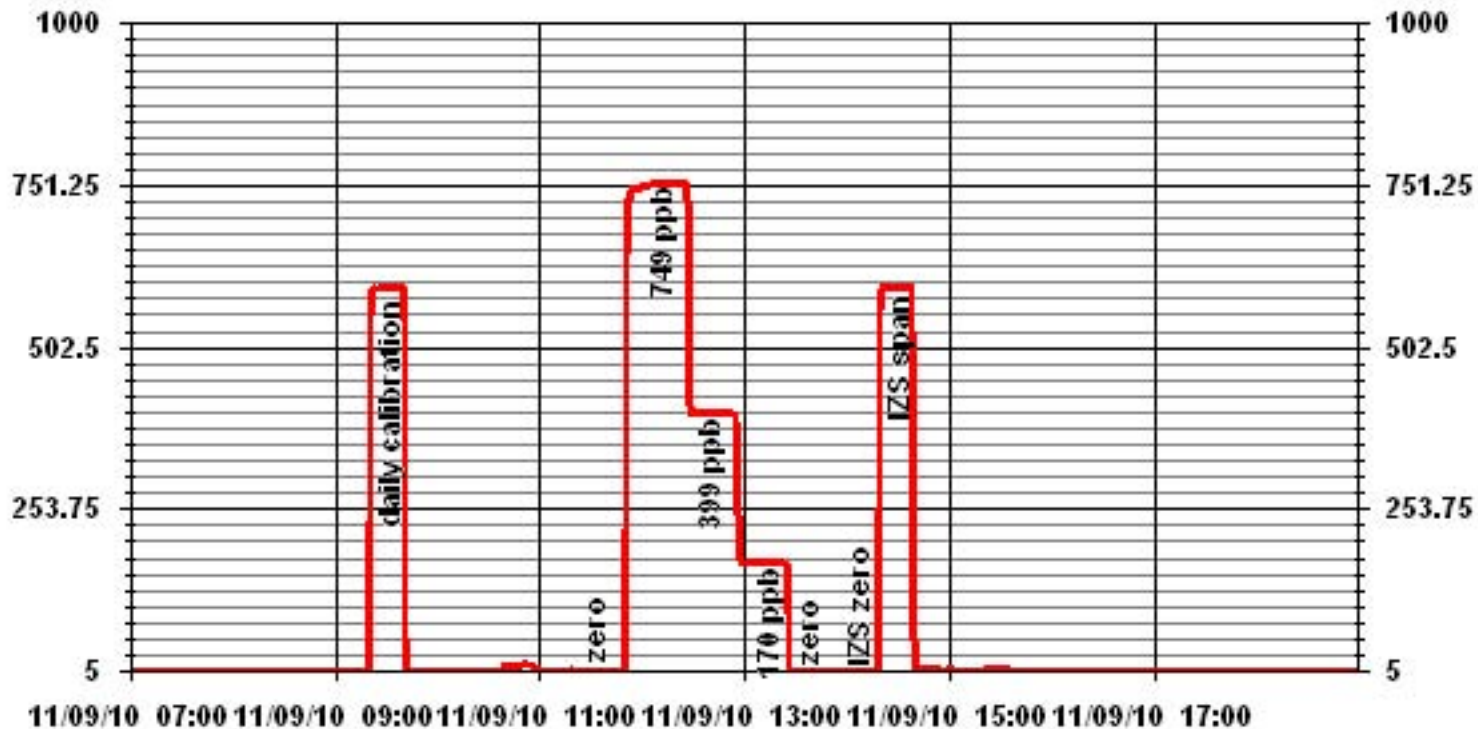
Calibration Date	November 9, 2010		
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	11:15	End Time (MST)	14:42

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.)	0.999999
170	171	0.9928			1.005069
399	401	0.9957			
749	753	0.9947			0.063356



Notes:

01 Minute Averages



Hydrogen Sulphide

H₂S Calibration Report

Station Information

Calibration Date	November 10, 2010	Previous Calibration	October 12, 2010
Company	Lakelnad Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:06	End Time (MST)	12:44
Reason:	Monthly Calibration		
Barometric Pressure	943 mBar	Station Temperature	23 Deg C
Cal Gas	10.6 ppm	Cal Gas Install date	05/12/2011
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	536 ccm	30.8 Deg C	537 ccm	30.6 Deg C	
HVPS / Lamp Setting	552	2183	552	2185	
PMT / RxCell Temp	7.9 Deg C	50 Deg C	7.9 Deg C	50 Deg C	
Converter / IZS Temp	315.7 Deg C	45 Deg C	314.5 Deg C	45 Deg C	
Offset / Slope	30	0.964	30	0.959	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	0	N/A
4962	37.7	80	81	0.9868
4962	37.7	80	80	0.9991
4982	18.8	40	40	0.9962
4987	10.9	23	23	1.0051
4998	0	0	0	N/A
Sum of Least Squares				0.9989
New Correction Factor				0.9991

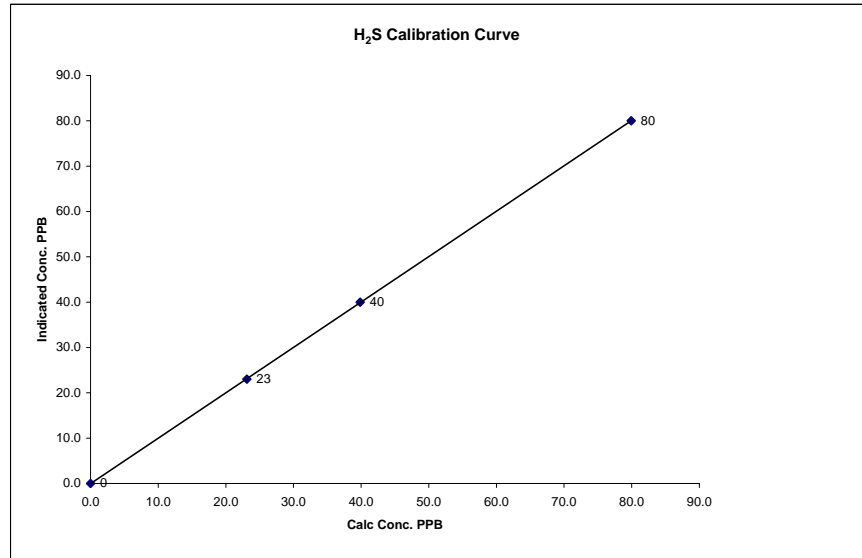
		Before Calibration	After Calibration
Auto Zero		0.3	-0.2
Auto Span		55	53
Sample Lines Connected			YES
Percent Change from Previous Calibration			1.3%

Calibration Performed by: Ting Xu

H₂S Calibration Curve

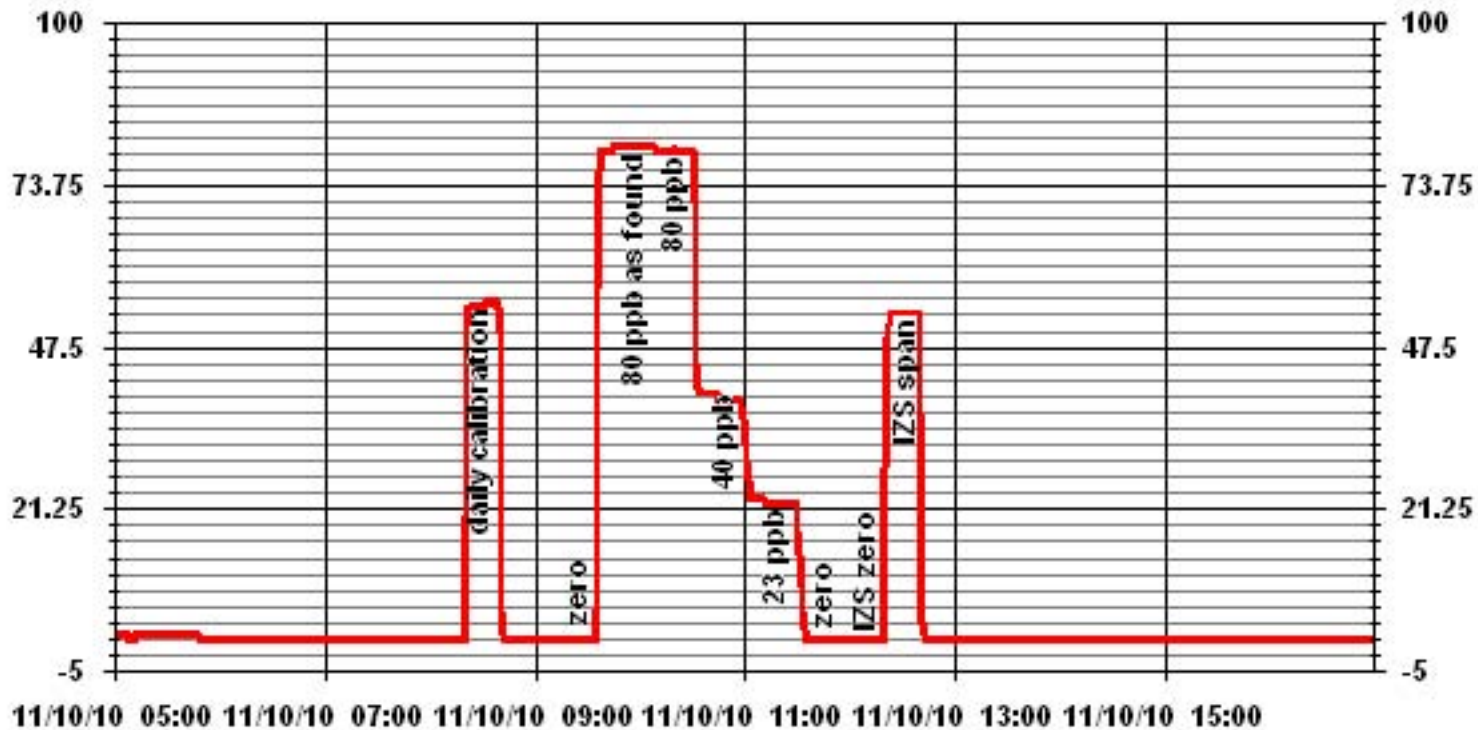
Calibration Date	November 10, 2010
Company	Lakelnad Industry & Community Association
Plant / Location	Cold Lake - Maskwa
Start Time (MST)	9:06
End Time (MST)	12:44

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999991
0	0	n/a	Intercept	(± 3% F.S.)	-0.029113
23	23	1.0051			
40	40	0.9962			
80	80	0.9991			



Notes:

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information			
Calibration Date:	November 9, 2010	Previous Calibration	October 11, 2010
Company:	Lakeland Industry & Community Association		
Plant / Location:	Cold Lake - Maskwa		
:	(MST) 11:47	End Time	(MST) 15:10
Reason:	Monthly Calibration		
Barometric Pressure:	940 mBar	Station Temperature:	22 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
--------------	-------------	-------	-----------	--------	------------------

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
1999	0.0	0.0	0.0	N/A
1999	70.0	39.6	39.6	1.0007
1999	70.0	39.6	40.0	0.9907
1998	35.0	20.2	20.3	0.9933
1998	20.0	11.6	11.6	1.0007
1998	0	0.0	0.0	N/A
Correction Factor:				0.9907

Previous Calibration Correction Factor:	0.9931
Current Correction Factor Before Span Adjust:	0.9907
Percent Change:	0.25%

IZS Calibration Data

	Before Calibration		After Calibration	
Auto Zero	0.0		0.0	
Auto Span	33.4		33.7	
Sample Lines Connected			YES	

Cylinder Pressures

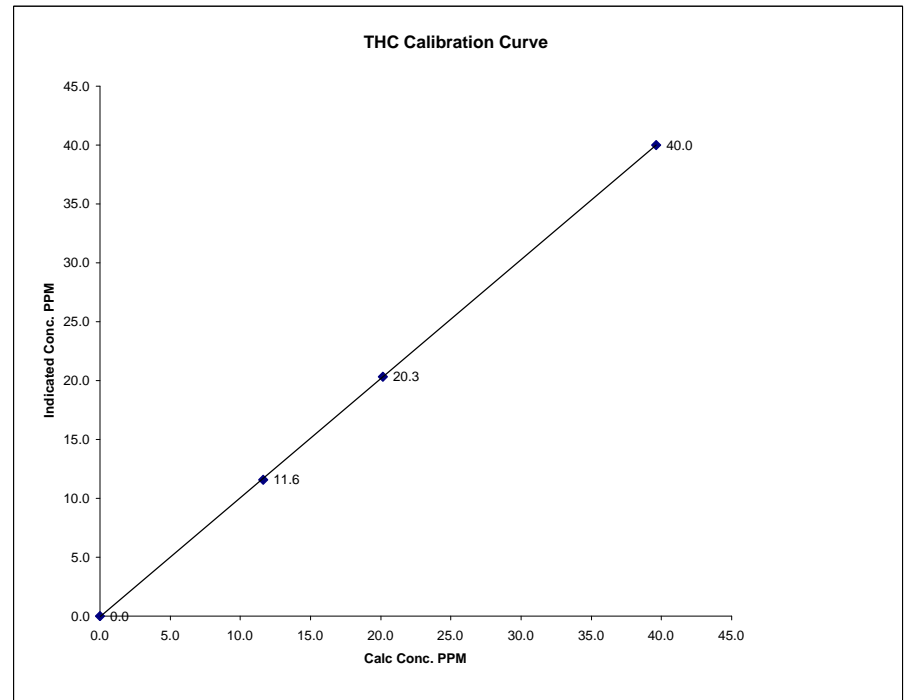
Span	700	psi
Hydrogen	400	psi
Zero Air	32	psi

Calibration Performed by: Ting Xu

THC Calibration Curve

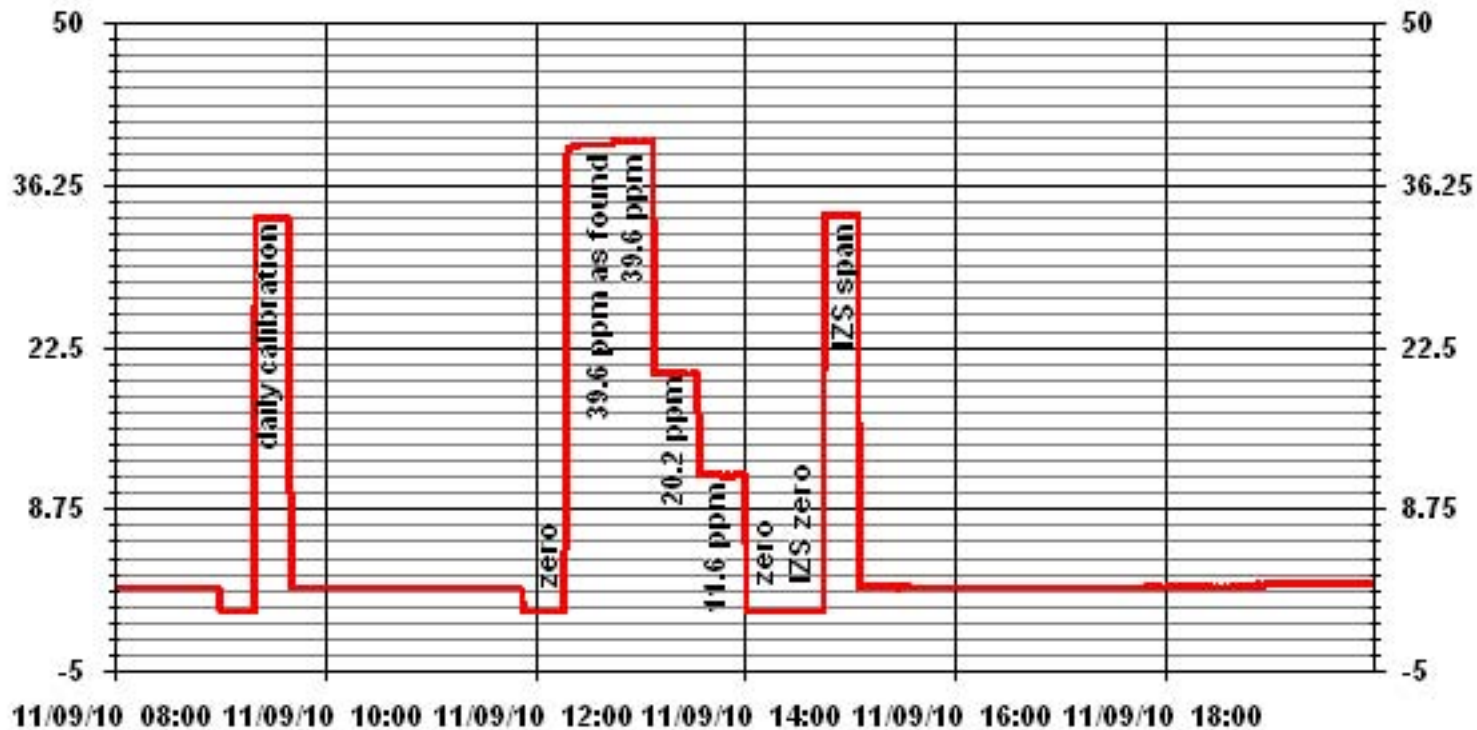
Calibration Date	November 9, 2010		
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	11:47	End Time (MST)	15:10

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999990
0.0	0.0		Intercept	(± 3% F.S.)	-0.055841
11.6	11.6	1.0007			
20.2	20.3	0.9933			
39.6	40.0	0.9907			



Notes:

01 Minute Averages



Nitrogen Dioxide

NOx - NO- NO2 Calibration Report

Station Information

Calibration Date	November 10, 2010		Previous Calibration	October 13, 2010	
Company	LICA		Plant/Location	Maskwa	
Start Time (MST)	9:06		End Time (MST)	15:27	
Reason:	Monthly Calibration		Other		
Barometric Pressure	943 mmHg	Station Temperature	23 Deg C	MFCF	1
Cal Gas Concentration	NOx 50.8 ppm	NO	50.4 ppm	Cal Gas Expiry date	05-Aug-12
DAS Output Voltage	0 - 1 Volts		Chart Rec. Output	NA Volts	

Equipment Information

Analyzer Make / Model:	API 200E	S/N :	594	Method:	Chemiluminescent
Calibrator Make / Model:	Envionics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	Envionics 6100	S/N :	4760		

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0-1000			ppb			
Sample Flow/Conv. Temp	461 ccm	316.4 Deg C		459 ccm	316.5 Deg C		
Ozone Flow / Vacuum	79 ccm	5.8 "Hg-A		79 ccm	5.8 "Hg-A		
HVPS / A ZERO	767 Volts	16.9 MV		767 Volts	16.8 MV		
Rx/ Temp / PMT Temp	50.0 Deg C	6.5 Deg C		50.0 Deg C	6.6 Deg C		
Box Temp / IZS Temp	30.4 Deg C	45.1 Deg C		30.3 Deg C	45.2 Deg C		
Offset	0.4 NOx	0.3 NO		1.5 NOx	0.5 NO		
Slope	1.089 NOx	1.079 NO		1.083 NOx	1.074 NO		
NO2 COEF / Conv Efficiency	NA NO2	0.994		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
4994	0.0		0	0	0	1	1	1	-----	-----
4994	0.0	-----	0	0	0	0	1	0	-----	-----
4919	74.2	-----	755	749	-----	761	753	8	0.9920	0.9960
4919	74.2	-----	755	749	-----	756	750	6	0.9985	0.9999
4960	34.6	-----	352	349	-----	354	352	2	0.9941	0.9947
4974	19.8	-----	201	200	-----	203	202	2	0.9922	0.9942
4996	0.0	-----	0	0	0	1	1	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		
4919	74.2	-----	755	749	-----	753	749	4	-----	-----
4919	74.2	600	755	-----	572	752	181	571	1.0018	99.82%
4919	74.2	300	755	-----	291	754	462	292	0.9966	100.35%
4919	74.2	150	755	-----	148	755	605	150	0.9867	101.39%

Linearity	Sum of Least Squares	NOx= 0.997	NO= 0.997	NO2= 1.000	
OK?	Yes No	Correction Factors:	NOx= 0.9985	NO= 0.9999	NO2= 1.0018
Average Converter Efficiency= 100.52%					

Before Calibration				After Calibration			
Auto Zero	1.1 NOx	1.2 NO2		0.7 NOx	0.3 NO2		
Auto Span	728 NOx	717 NO2		717 NOx	706 NO2		
Sample Lines Connected				YES			

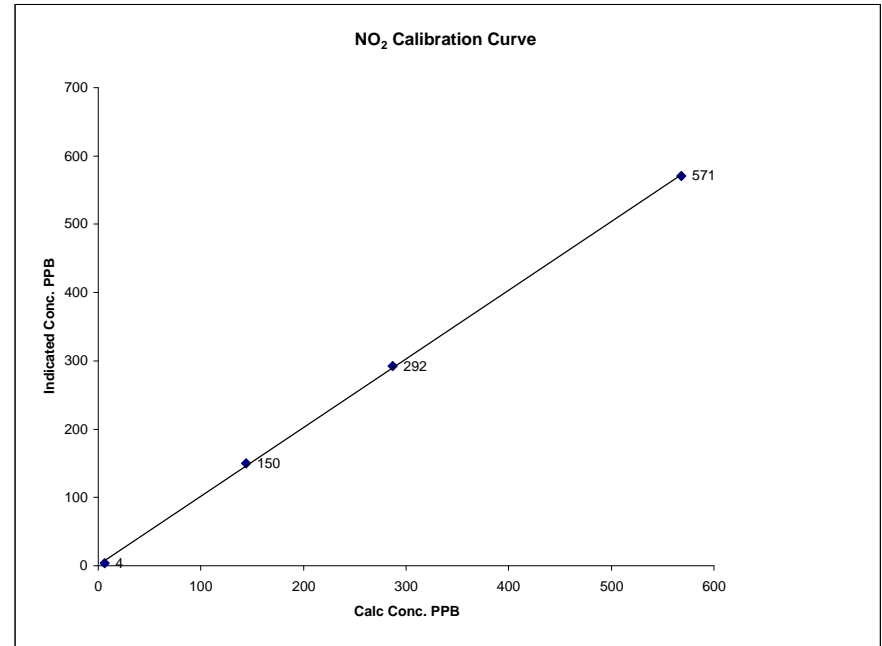
Notes

Calibration Performed by: Ting Xu

NO2 Calibration Curve

Calibration Date	November 10, 2010		LICA	
Company				
Plant / Location	Maskwa			
Start Time (MST)	9:06	End Time (MST)	15:27	

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999815
ppb	ppb		Slope	(0.85 to 1.15)	1.005633
6	4	N/A	Intercept	(± 3% F.S.)	1.58466
144	150	0.9600			
287	292	0.9829			
568	571	0.9947			

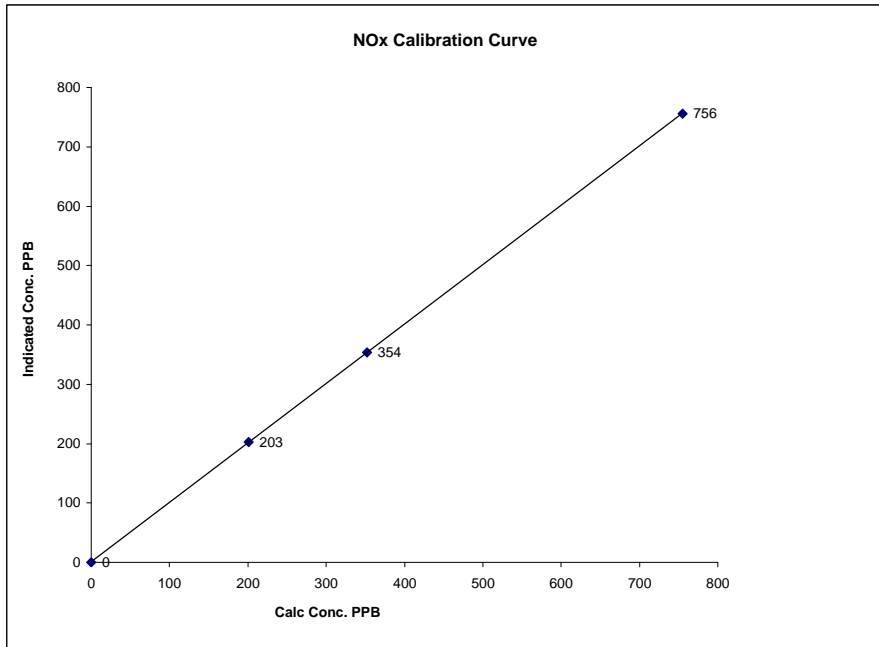


Notes: No CE gain adjustment.

NOx Calibration Curve

Calibration Date November 10, 2010
 Company LICA
 Plant / Location Maskwa
 Start Time (MST) 9:06 End Time (MST) 15:27

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999993
0	0	N/A	Slope (0.85 to 1.15)	1.001058
201	203	0.9922	Intercept (± 3% F.S.)	0.84583
352	354	0.9941		
755	756	0.9985		

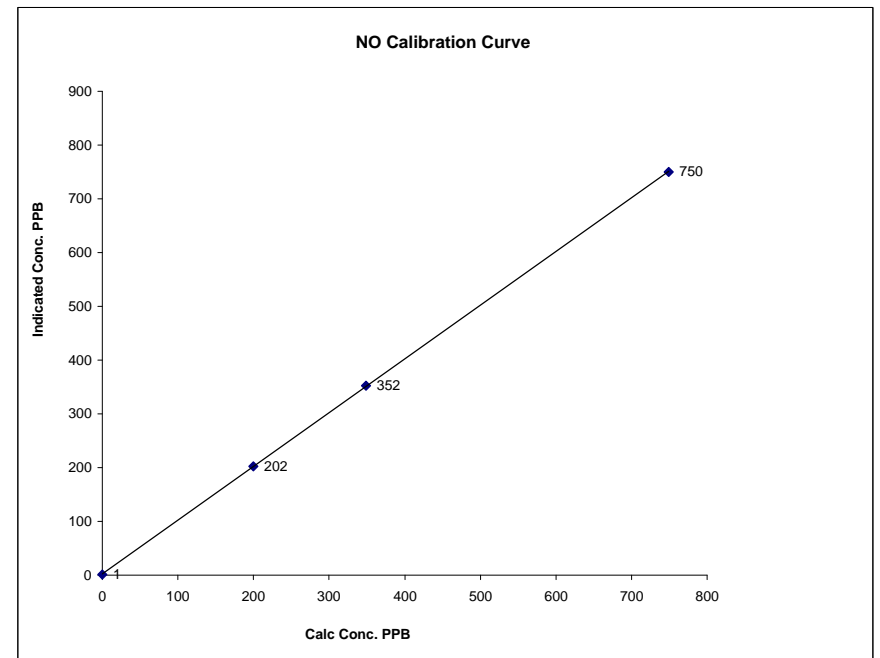


Notes:

NO Calibration Curve

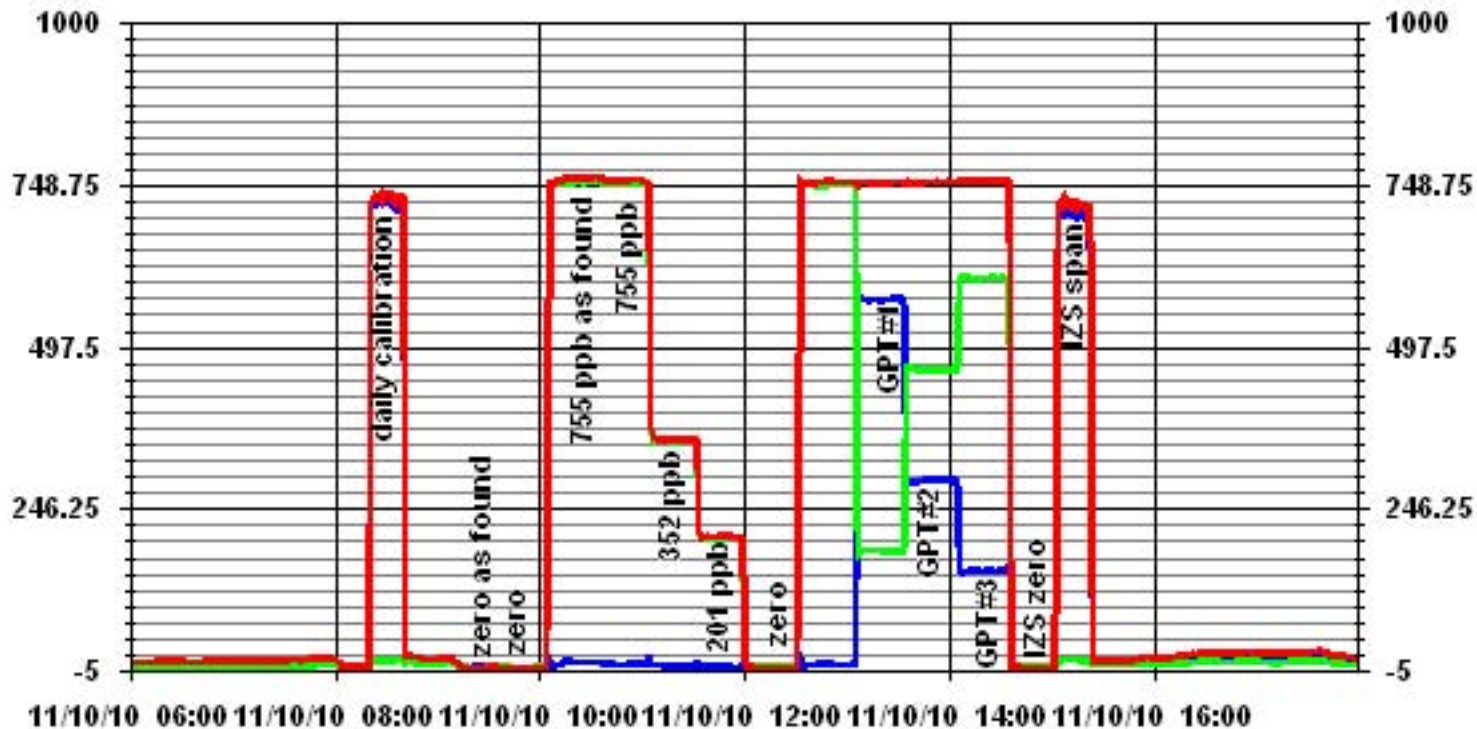
Calibration Date November 10, 2010
 Company LICA
 Plant / Location Maskwa
 Start Time (MST) 9:06 End Time (MST) 15:27

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999992
0	1	N/A	Slope (0.85 to 1.15)	0.997442
200	202	0.9893	Intercept (± 3% F.S.)	4.4351
349	352	0.9919		
749	750	0.9986		



Notes:

01 Minute Averages



Lakeland Industry & Community Association

St. Lina Monitoring Site
Ambient Air Monitoring
Data Report
For
November 2010

Prepared By:



December 17, 2010

Lakeland Industry & Community Association

St. Lina

Ambient Air Monitoring

Table of Contents

	Page		Page
Introduction	3	Calibration Reports	99
Calibration Procedure	4	<ul style="list-style-type: none"> • Sulphur Dioxide • Hydrogen Sulphide • Total Hydrocarbons • Nitrogen Dioxide • Ozone • Particulate Matter 2.5 	100 103 106 109 113 116
Monthly Continuous Summary	5		
General Monthly Summary	6		
Continuous Monitoring	10		
<ul style="list-style-type: none"> • Monthly Summaries, Graphs & Wind Roses 	11		
<ul style="list-style-type: none"> <ul style="list-style-type: none"> • Air Quality Index • Sulphur Dioxide • Hydrogen Sulphide • Total Hydrocarbons • Ozone • Nitrogen Dioxide • Nitric Oxide • Oxides of Nitrogen • Particulate Matter 2.5 • Temperature • Barometric Pressure • Relative Humidity • Precipitation • Vector Wind Speed • Vector Wind Direction • Standard Deviation Wind Direction 	12 14 22 30 38 46 54 61 69 74 77 80 83 86 93 96		

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: November 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 Standard Operation Procedures:

- CAL SOP-00211
- CAL SOP-00209
- CAL SOP-00213
- CAL SOP-00214
- CAL SOP-00208
- CAL SOP-00215

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 – November 2010

LICA ST. LINA SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)			
						OBJECTIVES					EXCEEDENCES					1-HOUR
PARAMETER	1-HR	24-HR	1-HR	24-HR	MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY				
SO2 (PPB)	172	57	0	0	0.19	4	20	14	10.8	332(NNW)	1.6	20	100.0			
H2S (PPB)	10	3	0	0	0.02	1	VAR	VAR	VAR	VAR	1.0	18	94.0			
THC (PPM)	-	-	-	-	2.12	3.3	26, 27	VAR	VAR	VAR	2.5	30	99.9			
OZONE (PPB)	82	-	0	-	24.42	40	5	17, 18	12.2, 14.7	256(WSW), 299(WNW)	34.7	18	100.0			
NOx (PPB)	-	-	-	-	3.80	31	20	18	11.5	335(NNW)	17.3	24	100.0			
NO (PPB)	-	-	-	-	0.31	9	24	VAR	VAR	VAR	2.5	24	100.0			
NO2 (PPB)	212	106	0	0	3.49	26	20	17, 18	13, 11.5	334(NNW), 335(NNW)	14.5	24	100.0			
PM2.5 (ug/m3)	-	30	-	0	8.30	74.5	28	5	9	209(SSW)	21.9	20	96.7			
TEMPERATURE (DEGREE C)	-	-	-	-	-6.28	12.2	4	14	4	89(E)	7.1	5	100.0			
BP (MILLIBAR)	-	-	-	-	927	948	3	12	4.8	80(E)	944.5	3	100.0			
RH (%)	-	-	-	-	68.03	90	14	19, 20	1.6, 0.9	266(W), 296(WNW)	85.0	14	100.0			
PRECIPITATION (MM)	-	-	-	-	0.00	0.4	25	7	8.4	302(WNW)	1.0	25	100.0			
VECTOR WS (KPH)	-	-	-	-	9.46	20.8	7	15	-	74(ENE)	12.8	7	100.0			
VECTOR WD (DEGREES)	-	-	-	-	291(WNW)	-	-	-	-	-	-	-	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. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

- Analyzer make / model - API 101E, S/N: 510

The analyzer's reading stuck at 43 ppb after the daily calibration on November 17th. It was found that the 12V DC power supply was dead. The 12V power supply was replaced on November 18th. After the replacement, a factory calibration was performed, A multi-point calibration was performed on November 19th. 29 hours of data between November 17th and November 18th were invalidated. 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, S/N: 77021-384

No operational issue was observed during this month. The hydrogen cylinder was replaced on November 18th. The monthly calibration was performed on November 23rd. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – St. Lina

Ozone (PPB)

- Analyzer make / model –Thermo 49i, S/N: 1002240371 replaced to Thermo 49C, S/N: 49C-54926-302

No operational issue was observed during this month. The inlet filter was changed before the monthly calibration was started. One hour of ozone maximum reading on November 3rd was invalidated, as the reading was too high to be real. It is likely due to the concentration carry over from the daily span cal. Data was corrected using daily zero information.

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. Data was corrected using daily zero information.

Particulate Matter 2.5 (UG/M3)

- Analyzer make / model – Thermo Scientific Series 1405F, S/N: 1405A208301003

A routine Teom audit was performed on November 18th. During the audit, it was snowing. Some Snow may have gotten into the Teom inlet and onto the Teom filter. It may cause the Teom to have negative readings. As a result, the unit was put into the “ Maintenance” mode from 16:00 to 21:00 for stabilizing. The Teom filter and the FDMS filter were replaced and the inlet was cleaned on November 18th. As many high and low readings were recorded after the filter was replaced on November 18th, we assumed the condition of the filters might not be good. As a result, the Teom filter and the FDMS filter were replaced again on November 29th. Data was corrected using Alberta air quality guideline. If the data was between 0 to –3, the data was corrected to 0. If the data was below –3, the data was invalidated. Eighteen hours of data were invalidated as the data were below –3 ug/m3.

Temperature (Degree C)

- Analyzer make / model – Met One 060

No operational issue was observed during the month.

General Monthly Summary

AQM STATION – LICA – St. Lina

Barometric Pressure (Millibar)

- Analyzer make / model - Met One 092

No operational issue was observed during this month.

Relative Humidity (%)

- Analyzer make / model - Met One 083

No operational issue was observed during this month.

Precipitation (MM)

- Analyzer make / model - Met One 387

No operational issue was observed during this month.

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.

No operational issue was observed during 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.

General Monthly Summary

AQM STATION – LICA – St. Lina

Trailer

No issue was observed this month. The manifold was cleaned on November 24th.

Air Quality Index (AQI)

The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. Thirteen hours of AQI values recorded in November 2010 were in the Fair range, and they were all due to PM2.5. Others were within the Good range. The highest hourly concentration of PM2.5 was 74.5ug/m³ and an AQI value of 47, hour 5 on November 28th. The highest hourly concentration of Ozone was 40 ppb and an AQI value of 20, hour of 17 and 18, on November 5th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Air Quality Index

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2010

AIR QUALITY INDEX (AQI)

MST		DAILY																										
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	MAX		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
DAY	15	15	13	12	11	9	10	11	9	8	8	8	8	9	8	8	8	8	8	-	8	8	7	7	15			
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_			
1	9	15	16	17	19	18	17	17	15	16	18	19	19	19	18	17	-	17	16	17	17	17	17	19				
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_			
2	18	18	17	17	17	17	17	17	16	16	17	18	18	18	18	18	-	17	16	16	16	16	16	17	18			
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_			
3	17	16	14	14	14	14	15	15	15	16	16	17	18	18	18	-	16	16	15	14	14	14	13	12	18			
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_			
4	11	10	8	8	7	6	6	6	9	13	13	16	18	19	19	-	20	20	20	19	19	19	19	18	20			
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_			
5	18	17	17	17	16	16	15	14	13	13	13	15	17	17	-	15	16	15	14	15	14	13	13	13	18			
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_			
6	13	13	12	12	12	13	12	12	12	12	12	12	13	14	-	14	15	15	15	15	15	14	15	14	13	15		
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_		
7	14	15	15	14	13	13	12	12	12	12	12	12	12	12	-	11	13	14	15	16	16	17	17	17	17			
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_		
8	17	17	17	18	18	17	16	13	10	8	8	-	6	6	6	6	5	6	7	7	7	7	7	6	18			
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_			
9	8	8	8	8	9	7	6	6	6	7	-	10	9	11	12	13	14	15	14	10	8	10	11	10	15			
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_			
10	11	11	13	15	15	16	17	16	15	-	12	12	15	16	16	15	15	15	14	14	15	14	13	17				
	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	PM2	NA	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	PM2	O3_		
11	13	12	11	11	11	11	11	11	-	14	12	10	11	12	11	11	10	10	10	11	12	12	13	14				
	O3_	O3_	O3_	O3_	O3_	O3_	NA	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	O3_	O3_	O3_	O3_	O3_	PM2			
12	12	10	9	9	8	8	9	-	9	10	10	10	9	9	8	7	7	9	7	6	7	10	11	13	13			
	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_			
13	13	13	13	13	13	12	-	11	10	8	9	8	9	10	11	11	9	9	10	10	11	10	10	10	13			
	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_			
14	11	12	13	12	13	-	13	13	13	13	13	13	14	13	12	12	12	11	12	11	11	13	13	14	14			
	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_			
15	14	14	14	15	-	15	16	17	18	18	17	17	17	17	17	17	16	16	16	16	16	16	16	17	18			
	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_			
16	16	14	14	-	14	15	14	15	15	16	16	16	17	17	17	18	18	18	19	19	19	19	19	19	19			
	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_			
17	19	19	-	18	18	18	18	18	18	18	18	18	19	18	-	-	-	-	-	-	-	-	-	-	19			
	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	O3_			
18	-	-	-	16	15	24	24	-	17	17	-	17	17	17	17	17	17	17	17	16	15	15	14	13	24			
	NA	NA	NA	O3_	O3_	PM2	PM2	NA	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_			
19	-	12	12	11	11	12	13	9	9	17	15	14	17	18	27	34	33	35	33	28	22	16	-	35				
	NA	O3_	O3_	O3_	O3_	PM2	PM2	O3_	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2			
20	15	24	16	16	11	10	23	23	12	22	18	16	14	11	12	12	15	14	14	14	13	12	-	24				
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	PM2			
21	13	14	15	15	15	-	14	14	14	14	15	15	15	15	15	16	15	15	15	15	15	15	-	16	16			
	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	O3_			
22	-	13	13	12	11	11	11	11	12	-	-	-	-	-	-	-	9	9	18	11	-	11	14	12	18			
	NA	O3_	O3_	O3_	O3_	O3_	O3_	PM2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	PM2	NA	PM2	PM2				
23	15	13	9	18	13	7	9	8	11	10	16	-	-	-	-	19	14	13	14	-	13	13	16	17	19			
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	NA	NA	NA	PM2	PM2	PM2	PM2	PM2	NA	PM2	PM2	PM2	PM2			
24	16	12	15	14	20	16	19	18	34	18	20	14	16	16	19	18	18	17	-	17	17	16	16	34				
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	NA	PM2	O3_	O3_	O3_	PM2			
25	15	-	13	16	20	15	14	13	14	-	15	15	16	16	15	15	-	13	12	16	12	15	14	20				
	O3_	NA	O3_	PM2	PM2	PM2	PM2	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	PM2	NA	O3_	O3_	PM2	PM2	PM2	PM2				
26	19	13	18	13	14	13	14	13	12	13	14	-	14	33	13	-	12	-	16	10	12	19	27	33				
	PM2	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	NA	O3_	PM2	O3_	NA	O3_	NA	PM2	O3_	O3_	O3_	PM2	PM2				
27	16	10	39	10	9	47	11	12	29	-	11	12	25	17	-	-	13	13	14	13	14	15	15	47				
	PM2	O3_	PM2	O3_	O3_	PM2	O3_	O3_	PM2	NA	O3_	O3_	PM2	PM2	NA	NA	O3_	O3_	PM2	O3_	O3_	O3_	O3_	PM2				
28	14	13	19	13	13	13	20	22	18	20	26	9	21	-	-	14	15	20	19	11	12	13	13	26				
	O3_	O3_	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	PM2	NA	NA	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2				
29	11	11	11	11	11	11	10	11	10	11	12	13	-	14	15	15	15	15	15	15	15	15	15	15				
	PM2	O3_	O3_	O3_	O3_	O3_	PM2	PM2	PM2	O3_	O3_	O3_	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_				
30	19	24	39	18	20	47	24	23																				

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA
NOVEMBER 2010
SULPHUR DIOXIDE (SO₂) 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	0	0	0	1	1	1	1	1	1	2	1	1	1	1	1	1	IZS	0	0	0	0	2	0.6	24	
2	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	
3	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	
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	1	1	1	0.1	24	
5	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0.5	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24	
7	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	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	IZS	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	IZS	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
11	0	0	1	1	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
12	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	
13	0	1	0	1	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0.2	24	
14	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.0	24	
15	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	
16	0	0	0	0	IZS	1	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	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	
18	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	
19	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	
20	IZS	0	0	0	0	0	0	0	0	0	0	0	2	3	4	3	2	2	1	0	0	0	0	IZS	4	0.8	24	
21	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	IZS	0	1	0.2	24	
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	IZS	0	0	1	0.2	24	
23	0	0	0	0	0	0	0	1	1	1	1	1	1	2	2	3	3	3	1	1	IZS	1	1	1	3	1.0	24	
24	1	1	1	2	3	3	2	2	2	2	2	C	C	C	C	2	1	1	1	IZS	1	1	1	1	3	1.6	24	
25	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	IZS	0	0	0	0	0	1	0.1	24	
26	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	IZS	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	IZS	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	IZS	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	24	
30	0	0	0	0	0	0	0	0	0	0	1	1	1	IZS	0	1	0	0	0	0	0	1	1	1	1	1	0.3	24
HOURLY MAX	1	1	1	2	3	3	2	2	2	2	2	1	2	3	4	3	3	3	1	1	1	1	1	1	1			
HOURLY AVG	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.4	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1			

STATUS FLAG CODES

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

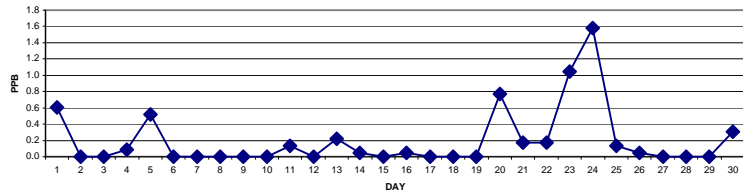
OBJECTIVE LIMIT:

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

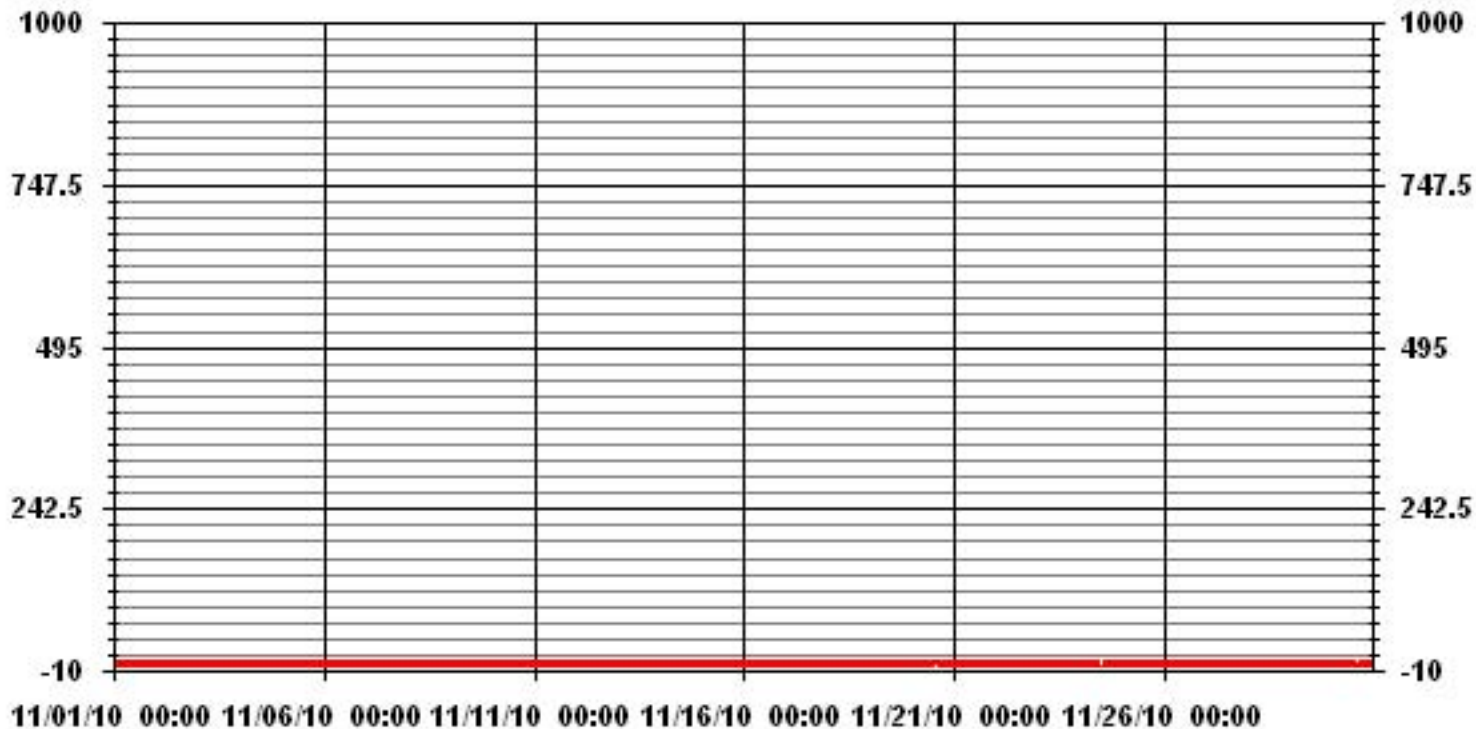
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	98					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	14	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	1.6	PPB			ON DAY(S)	20
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.52		MONTHLY AVERAGE:	0.19	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA31 SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST. LINA

NOVEMBER 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	1	1	1	1	1	2	2	2	2	2	2	3	2	1	1	2	2	1	IZS	0	0	1	0	3	1.3	24	
2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	0	0	0	1	0.1	24	
3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	1	0.0	24		
4		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	2	2	2	1.1	24	
5		2	2	2	2	2	1	2	2	2	2	2	2	1	1	1	IZS	0	0	0	0	0	0	0	0	2	1.1	24	
6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24	
7		0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	1	0.0	24	
8		1	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	24
9		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	1	1.0	24
10		1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0.8	24	
11		1	2	2	2	2	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	24
12		1	1	1	1	0	0	1	0	IZS	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24
13		1	2	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
14		1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1.0	24
15		1	1	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
16		0	0	0	0	IZS	1	1	1	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	1	0.3	24
17		0	1	0	IZS	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
18		0	0	IZS	0	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	0.8	24
19		1	IZS	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	1	1	1	1	1	0.7	24
20		IZS	1	0	0	0	1	0	1	1	1	1	1	4	5	6	5	3	3	2	1	1	1	1	1	IZS	6	1.8	24
21		1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	2	IZS	1	2	1.1	24	
22		1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	2	2	2	2	2	1	1	IZS	1	1	2	1.0	24
23		1	1	1	1	1	1	1	2	1	2	2	2	2	2	4	5	4	5	2	2	2	IZS	2	2	2	5	2.1	24
24		2	2	3	3	4	4	3	3	3	3	3	C	C	C	C	2	2	2	2	2	IZS	1	1	2	2	4	2.5	24
25		2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	IZS	0	1	0	0	0	2	1.0	24	
26		0	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	2	1.0	24	
27		1	1	1	1	1	1	0	0	0	0	0	1	0	0	0	1	IZS	0	1	0	0	0	0	0	1	0.4	24	
28		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	1	1	1	1	1	1	1	0.3	24	
29		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	0	1	1	1	0	1	0.9	24	
30		1	1	1	1	1	1	1	1	1	1	2	2	1	1	IZS	1	1	1	1	1	2	2	2	2	2	2	1.3	24
HOURLY MAX		2	2	3	3	4	4	3	3	3	3	3	2	4	5	6	5	4	5	2	2	2	2	2	2	2			
HOURLY AVG		0.8	0.9	0.8	0.8	0.9	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.1	1.0	1.0	0.8	0.7	0.7	0.7	0.7	0.8				

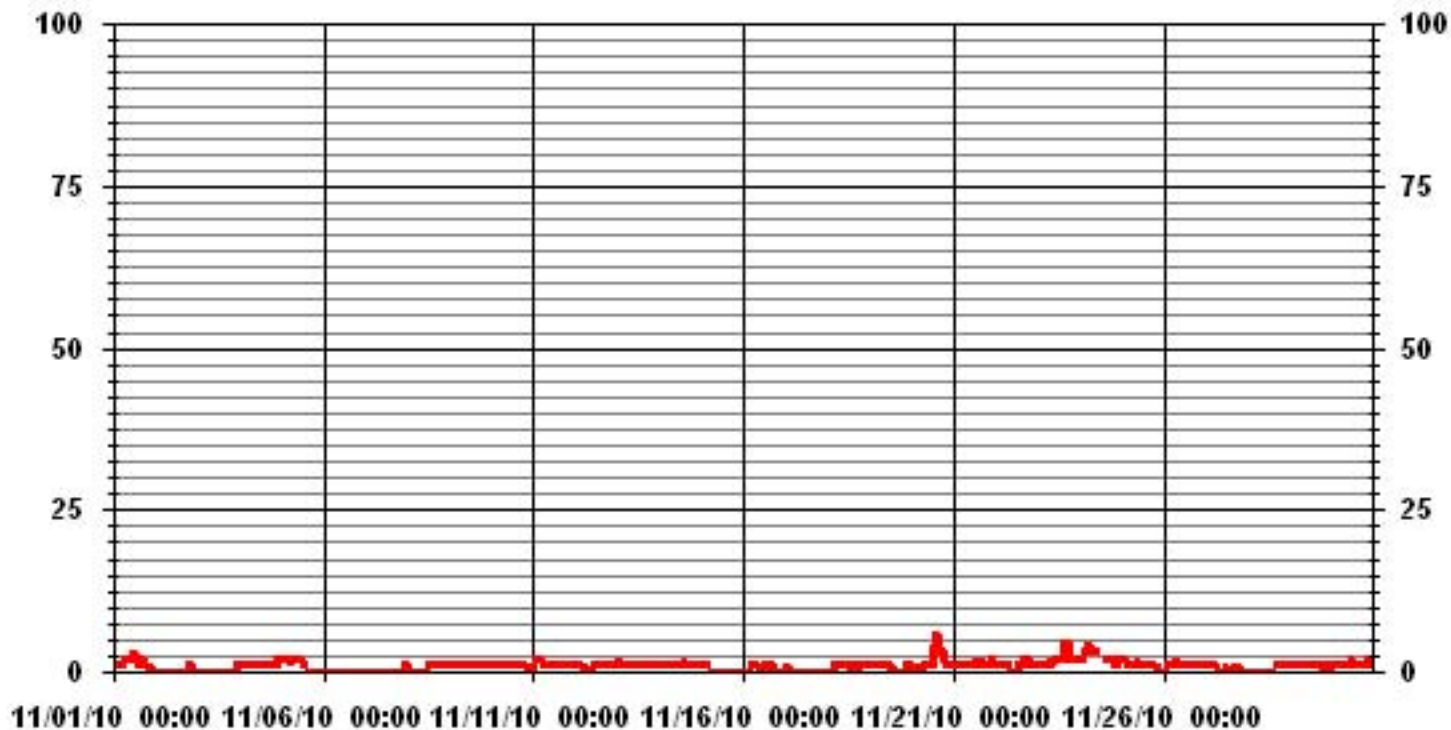
STATUS FLAG CODES

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:	6 PPB @ HOUR(S) 14 ON DAY(S) 20
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	4 HRS
OPERATIONAL TIME:	720 HRS
STANDARD DEVIATION:	0.81

01 Hour Averages



— LICA31 SO2MAX PPB

LICA31
 SO2_ / WDR Joint Frequency Distribution (Percent)

November 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	4.08	2.48	3.35	7.00	3.79	3.79	5.10	3.64	4.08	4.96	8.32	8.61	8.32	6.42	12.40	13.57	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	4.08	2.48	3.35	7.00	3.79	3.79	5.10	3.64	4.08	4.96	8.32	8.61	8.32	6.42	12.40	13.57	

Calm : .00 %

Total # Operational Hours : 685

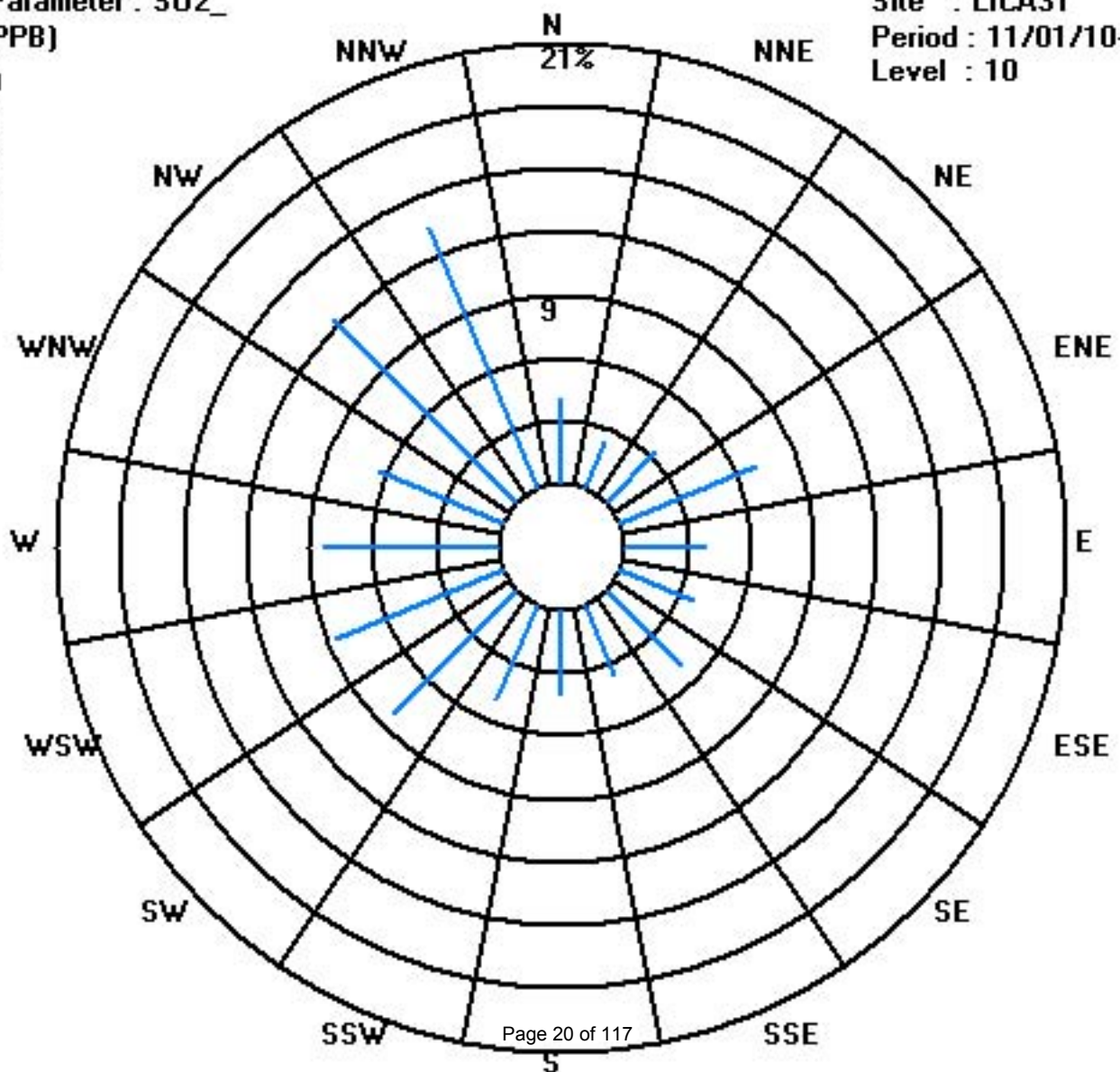
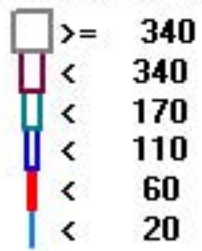
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	28	17	23	48	26	26	35	25	28	34	57	59	57	44	85	93	685
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	28	17	23	48	26	26	35	25	28	34	57	59	57	44	85	93	

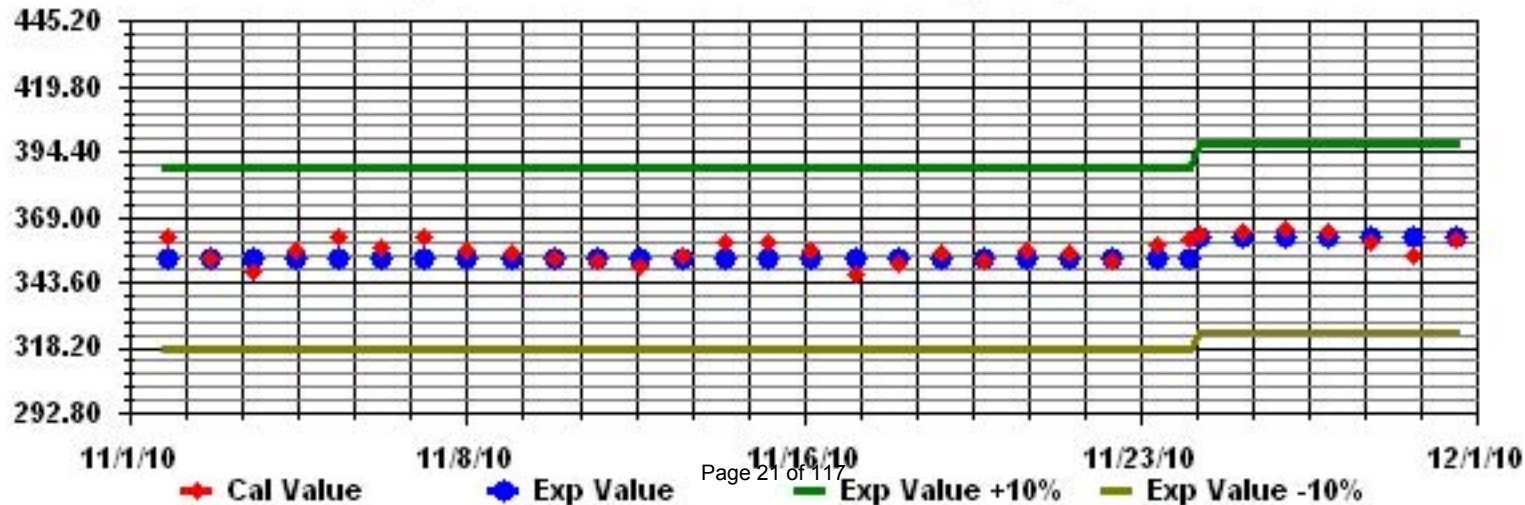
Calm : .00 %

Total # Operational Hours : 685

Class Limits (PPB)



Calibration Graph for Site: LICA31 Parameter: S02_ Sequence: S02 Phase: SPAll



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2010

HYDROGEN SULPHIDE (H₂S) 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	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.																						
DAY																																																			
1		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																					
2		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																					
3		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																					
4		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																					
5		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																					
6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
7		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																					
8		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																					
9		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																					
10		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																					
11		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																					
12		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																					
13		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																					
14		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																					
15		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																					
16		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																					
17		0	0	0	IZS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	0.0	4																					
18		N	N	N	N	N	N	N	N	N	M	M	M	M	M	M	M	M	M	M	1	1	1	1	1	1	1	1	1.0	6																					
19		1	IZS	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.1	19																						
20		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																						
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	IZS	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	IZS	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	IZS	0	0	0.0	24																						
24		0	0	0	0	0	0	0	0	0	0	1	0	0	0	C	0	1	1	1	1	IZS	0	0	0	0	0	1	0.2	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	IZS	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	IZS	0	0	0	0	0	0	0	0	0	0.0	24																					
28		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0.0	24																					
29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
HOURLY MAX		1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1																							
HOURLY AVG		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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																							

STATUS FLAG CODES

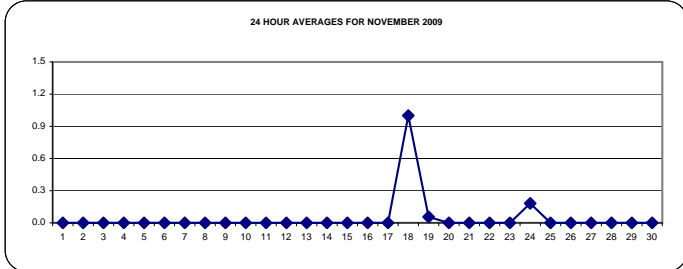
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

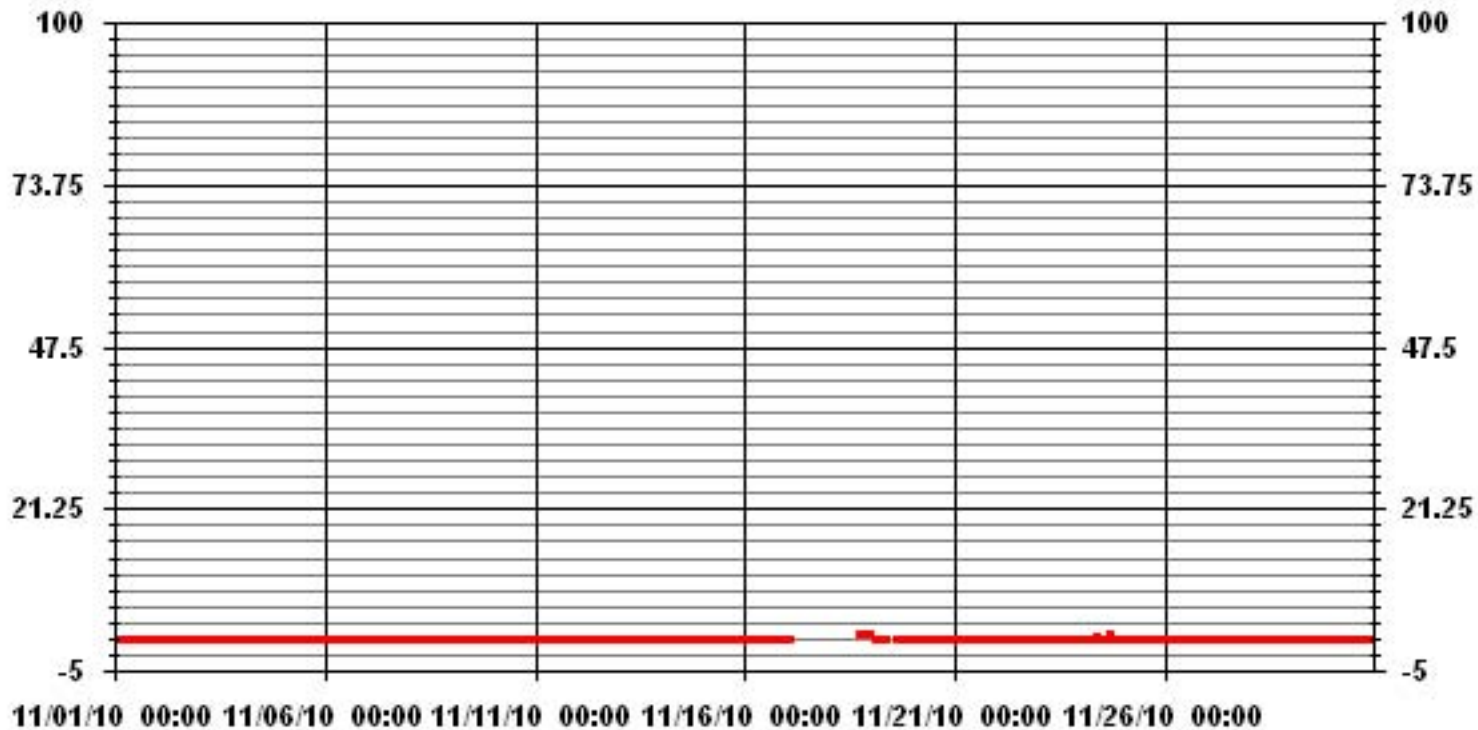
ALBERTA ENVIRONMENT: 1-HR 10 PPB 24-HR 3 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0				
NUMBER OF 24-HR EXCEEDENCES:	0				
NUMBER OF NON-ZERO READINGS:	11				
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	1.0	PPB			ON DAY(S)
					VAR-VARIOUS
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	677	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	94.0	%
STANDARD DEVIATION:	0.13		MONTHLY AVERAGE:	0.02	PPB



01 Hour Averages



— LICA31 H2S_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST. LINA

NOVEMBER 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	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
2		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
3		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	
4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	0	1	1	0.1	24	
5		0	0	0	0	1	1	1	1	1	1	0	0	0	1	0	IZS	0	0	0	0	0	0	0	0	0	1	0.3	24
6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0	1	1	0	0	1	0.1	24	
7		0	0	0	0	0	0	0	1	1	1	0	0	1	IZS	1	0	1	0	0	0	0	0	1	0	1	0.3	24	
8		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	
9		0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	1	1	0.0	24	
10		0	0	0	0	0	0	0	1	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
11		2	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24	
12		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	
13		0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	1	0.1	24
14		0	0	0	0	0	0	0	IZS	0	0	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	0.5	24
15		1	1	0	0	0	0	IZS	0	0	0	0	0	0	0	1	1	0	1	1	0	1	0	0	0	1	0.3	24	
16		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	
17		0	0	0	0	IZS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	0	0.0	4
18		N	N	N	N	N	N	N	N	N	N	M	M	M	M	M	M	M	M	M	1	2	2	2	2	2	2	1.8	6
19		2	IZS	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	2	0.1	24	
20		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	
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	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	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	24	
24		0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	C	1	1	1	1	1	IZS	1	0	0	1	0.4	24
25		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
26		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	
27		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	
28		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	
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	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	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2			
HOURLY AVG		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2				

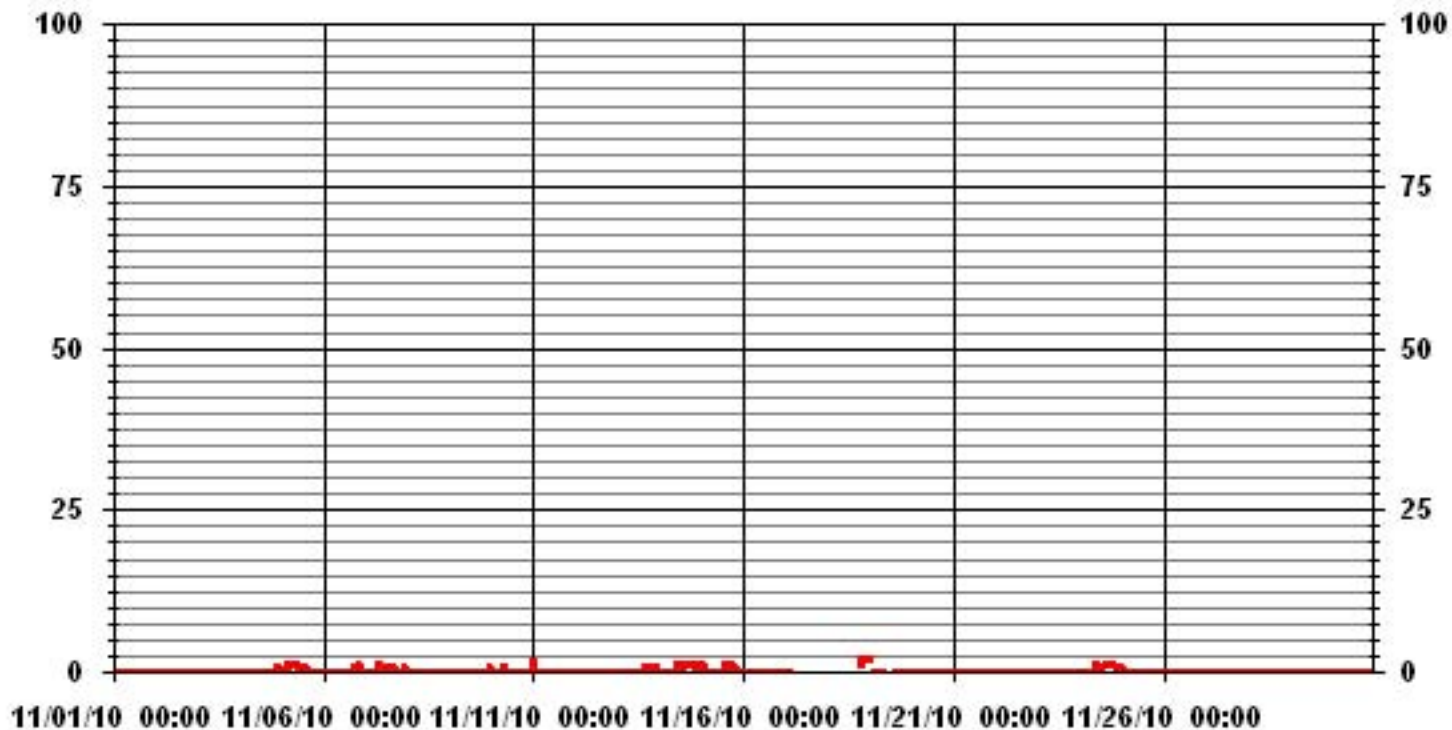
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	60					
MAXIMUM INSTANTANEOUS VALUE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	682	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	0.34					

01 Hour Averages



— LICA31 H2SMAX PPB

LICA31
H2S_ / WDR Joint Frequency Distribution (Percent)

November 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	3.86	2.16	2.63	5.72	3.56	4.02	5.41	3.86	4.17	5.26	8.82	8.97	8.82	6.81	12.38	13.46	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	3.86	2.16	2.63	5.72	3.56	4.02	5.41	3.86	4.17	5.26	8.82	8.97	8.82	6.81	12.38	13.46	

Calm : .00 %

Total # Operational Hours : 646

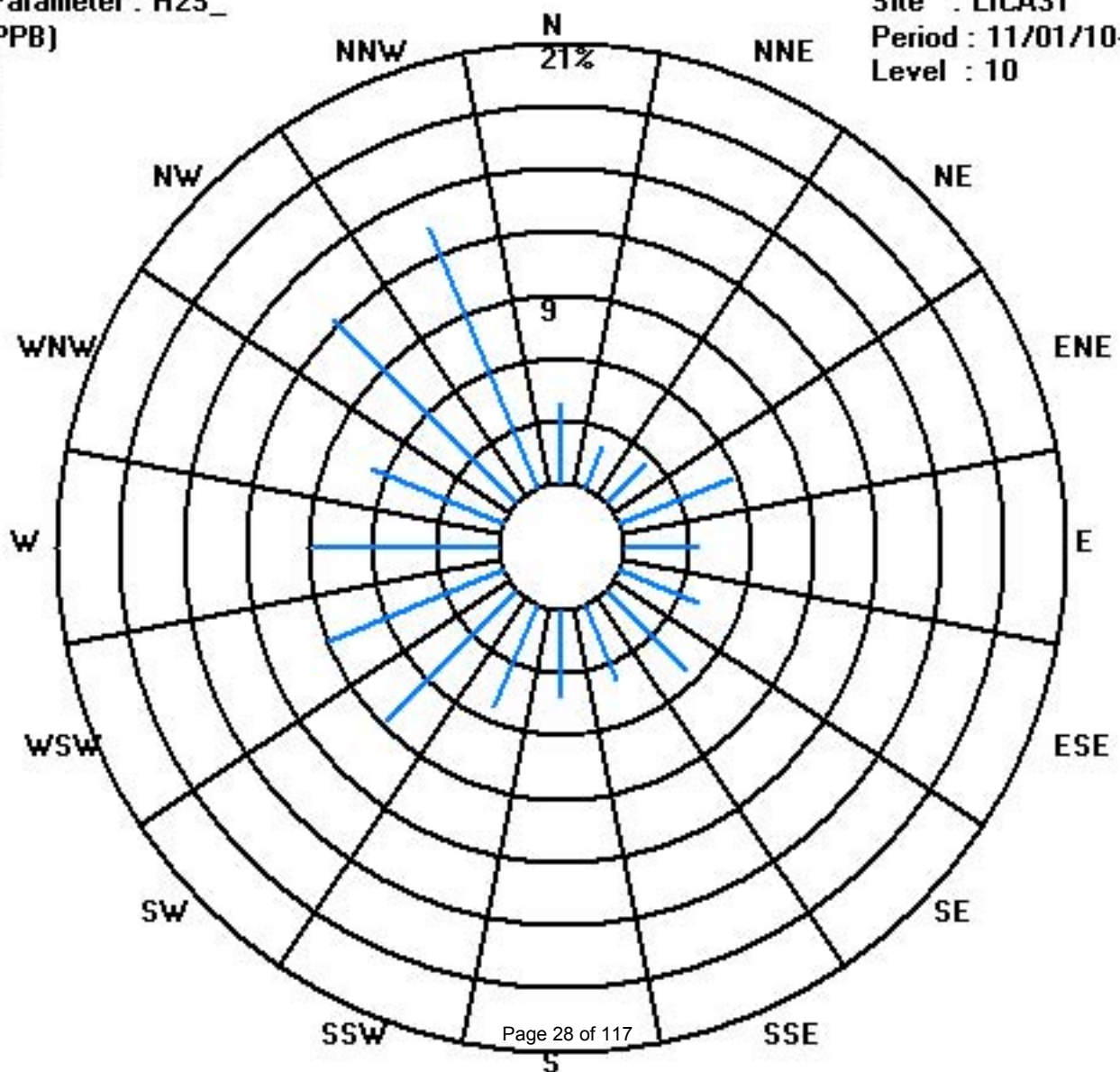
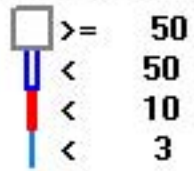
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	25	14	17	37	23	26	35	25	27	34	57	58	57	44	80	87	646
< 10																	
< 50																	
>= 50																	
Totals	25	14	17	37	23	26	35	25	27	34	57	58	57	44	80	87	

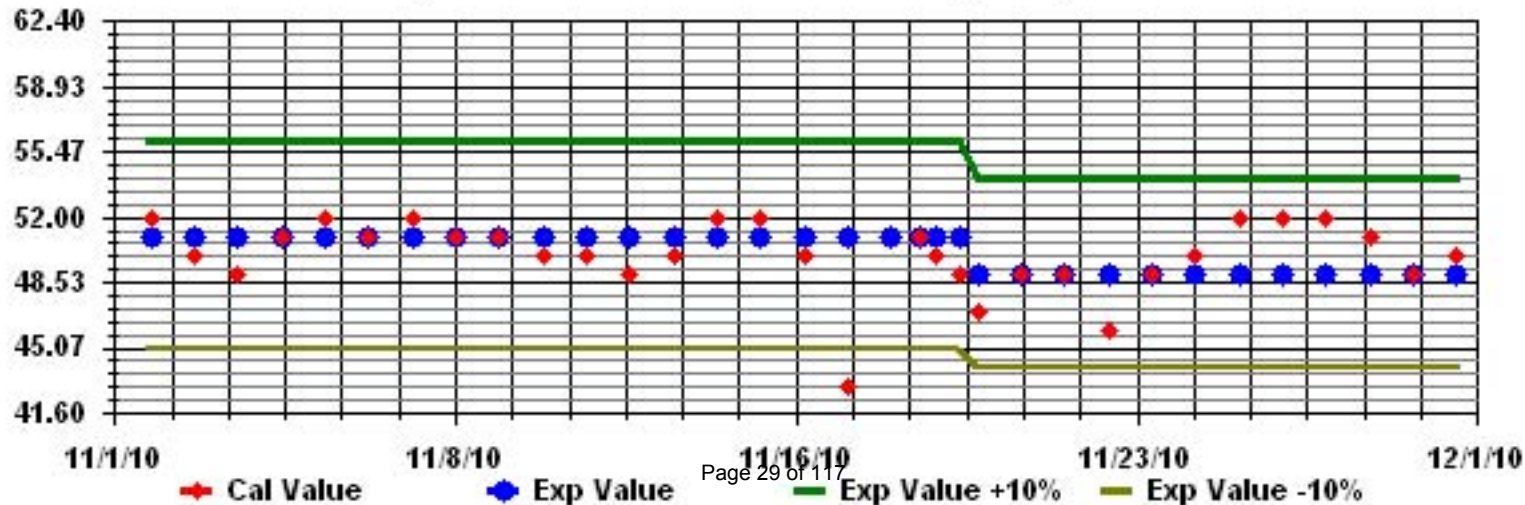
Calm : .00 %

Total # Operational Hours : 646

Class Limits (PPB)



Calibration Graph for Site: LICA31 Parameter: H2S_ Sequence: H2S Phase: SPAll



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

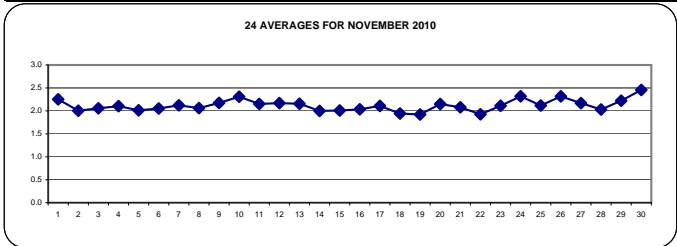
NOVEMBER 2010

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

STATUS FLAG CODES

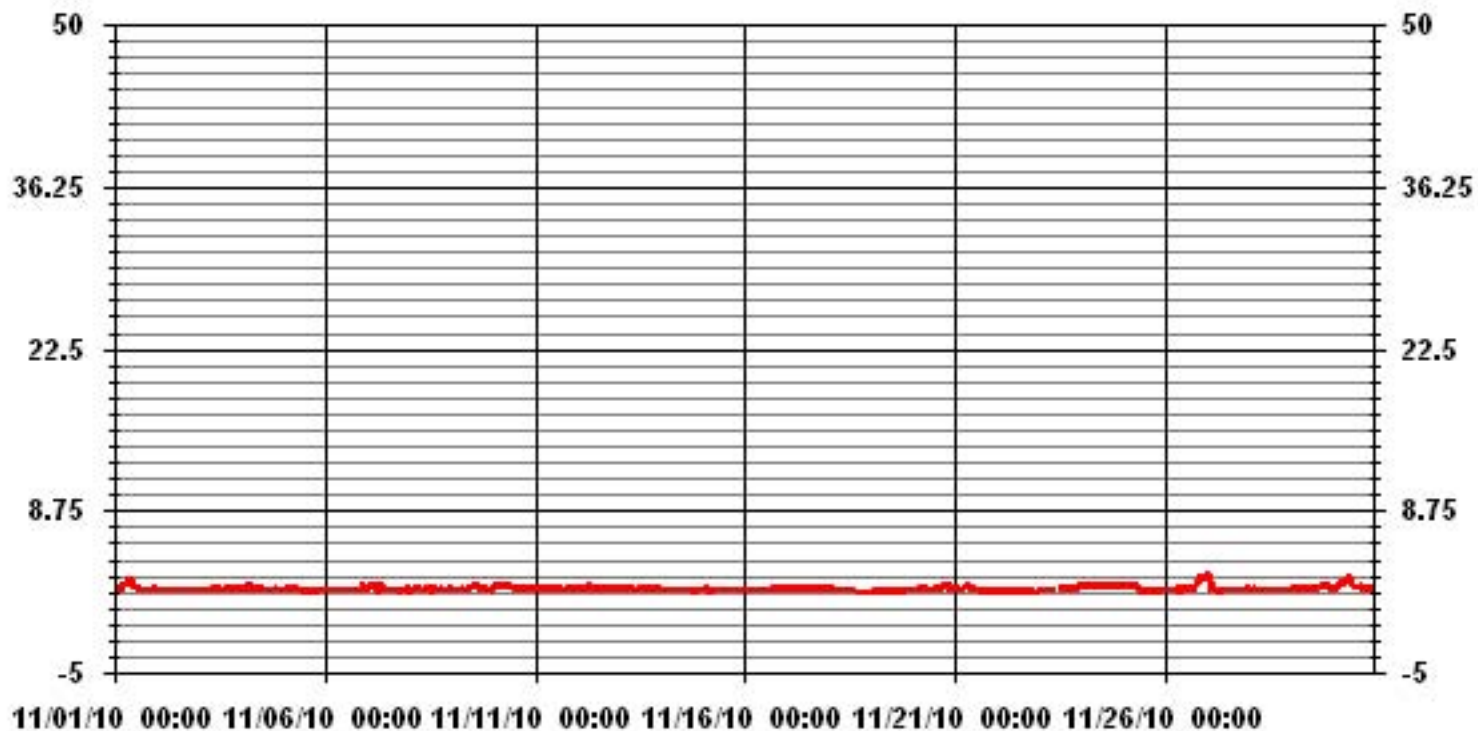
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	681				
MAXIMUM 1-HR AVERAGE:	3.3	PPM	@ HOUR(S)	VAR	ON DAY(S) 26, 27
MAXIMUM 24-HR AVERAGE:	2.5	PPM			ON DAY(S) 30
					VAR- VARIOUS
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.20		MONTHLY AVERAGE:	2.12	PPM

01 Hour Averages



— LICA31 THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 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	2.2	2.1	2.1	2.3	2.4	2.5	2.6	2.6	3	3	2.8	2.6	2.4	2.2	2.1	2.1	2	2.1	3.5	IZS	2	2.1	2.1	2.1	3.5	2.4	24	
2	2.2	2.1	2.1	2	2	2	2	2	2	2	2	2.4	2	2.1	2.1	2	2	IZS	2	2	2	2	2	2	2	2.4	2.0	24
3	2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	3.3	2.6	2.2	2.3	2.2	2.1	2.1	2.1	IZS	4	2.2	2.1	2.1	2.1	2.1	4	2.3	24	
4	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2	2	IZS	2	2	2	2.1	2.1	2.1	2	2	2.3	2.1	24	
5	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.6	2.3	2	2.3	2.4	2.1	2.2	IZS	2.6	2	2	1.9	2.4	2.6	2.3	2.6	2.6	2.2	2.4	24	
6	2.3	2	2.1	2	2	2.1	2	2.2	2.3	2.1	2.1	2	2	IZS	4	2.3	3.1	2.6	2.3	2.1	2.4	2.3	2.8	4	2.3	2.4	24	
7	2.3	2.3	2.4	2.4	2.4	2.4	2.2	2.4	2.5	2.4	2.8	2.2	2.3	IZS	2.2	2.1	2.2	2.3	2	2.1	2	2	2.6	2.1	2.8	2.3	24	
8	3.4	2	2.3	3.5	2.7	2.8	2.4	2.3	2.2	2.8	2.6	3.1	IZS	2.7	2.8	2.6	3	4.2	2.9	2.6	2	2.5	2.8	2.1	4.2	2.7	24	
9	4.3	3.1	2.5	2	2	2	2	3.6	2.2	2.5	2.5	IZS	2.8	2.7	2.9	2.9	2.6	2.2	2.2	2.1	2.1	2.2	5	2.2	5	2.6	24	
10	4.6	2.5	2.6	2.4	5.5	2.6	2.5	2.5	2.6	2.6	IZS	3.2	2.9	2.9	3.5	4.2	2.3	3.6	2.9	2.2	2.2	2.2	2.3	5	5.5	3.0	24	
11	2.8	4	2.2	2.8	2.8	3.3	2.7	2.5	2.3	IZS	2.6	2.4	2.6	2.9	2.4	3.1	3.6	3.5	2.1	2.6	2.3	2.5	2.2	2.6	4	2.7	24	
12	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	IZS	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.3	2.2	24
13	2.2	2.2	2.2	2.2	2.2	2.2	2.2	IZS	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.8	3.6	2.8	3.6	2.3	24
14	3.4	2.9	2.1	2.3	2.2	2	IZS	2	2	2	2	2.1	2	2	2	2	2.1	2.3	2	2	2.8	2.5	2.6	2.8	3.4	2.3	24	
15	2.3	2.6	3.5	2.3	3.4	IZS	2.4	2.3	2.6	2.4	2.3	2.1	2	2	2	2.4	2.7	2.1	2.3	2.1	2	2	2	2	3.5	2.3	24	
16	2	2	2	2	IZS	2	2	2	2	2	2.1	2.1	2	2.2	2.1	2.1	2.2	2.1	2.1	2.7	2.7	2.3	2.2	2.1	2.7	2.1	24	
17	2.2	2.3	2.3	IZS	2.3	2.1	2.1	2.2	2.6	2.5	2.4	2.5	2.5	2.4	2.4	2.3	2.2	2.3	2.3	2.3	2.3	2.2	2.5	2.3	2.6	2.3	24	
18	2.2	2.3	IZS	2.4	2.3	2.2	2.2	2.1	2.2	2.2	2.1	2.3	2.1	2.1	2.1	M	C	1.9	1.8	1.8	1.8	1.9	2.7	1.8	2.7	2.1	2.3	24
19	1.8	IZS	1.9	1.9	1.9	2	2.4	2.6	2.2	2.1	3.3	1.9	2	1.9	2	2.1	2	1.9	1.9	2	2	2	2.1	2.1	3.3	2.1	24	
20	IZS	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.3	2.3	2.5	2.4	2.3	2.3	2.3	2.3	2.3	IZS	2.5	2.2	24	
21	2.3	2.5	2.4	3.2	2.5	3	2.4	2.4	4.3	2.4	3.6	2.6	2.2	2	2	2	1.9	1.9	1.9	2	2	2	IZS	2	4.3	2.4	24	
22	1.9	1.9	1.9	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	2.3	2.3	2.3	2.2	2.1	2	2	2	1.9	IZS	2	2	2.3	2.0	24	
23	2	2	2	2	2	2	2	2	2	2.1	C	C	C	C	C	2.2	2.3	2.2	2.2	2.3	2.3	IZS	2.3	2.3	2.3	2.3	2.1	24
24	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.3	C	2.3	2.4	2.4	2.4	IZS	2.4	2.4	2.4	2.4	2.4	2.4	2.3	24
25	2.4	2.4	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.2	2.1	2	2.1	2.1	1.9	1.9	1.9	IZS	1.9	2	2	2	2	2.5	2.2	24	
26	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	2.9	2.9	2.5	IZS	2.7	5.5	3.9	4.1	3.3	3.2	5.5	2.6	24	
27	3.3	3.3	3.2	2.3	2.2	2.1	2	2	2	2	2	2	2	2	2	2.1	2.1	IZS	2.1	2.1	2.1	2.1	2.1	2.1	3.3	2.2	24	
28	2.1	2.2	2.2	2.2	2.3	2.1	2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	IZS	2	2.1	2.2	2.1	2.1	2.1	2	2.1	2.3	2.1	24	
29	2.1	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.6	2.3	IZS	2.2	2.3	2.5	2.4	2.5	2.4	2.3	2.3	2.3	2.6	2.3	24	
30	2.3	2.5	2.5	2.6	2.9	2.9	2.7	3	3.4	3.4	3	2.7	2.5	IZS	2.4	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	3.4	2.6	24	
HOURLY MAX	5	4	4	4	6	3	3	4	4	3	4	3	3	3	4	4	4	4	4	4	6	4	4	5	5			
HOURLY AVG	2.5	2.4	2.3	2.3	2.4	2.3	2.2	2.3	2.4	2.3	2.4	2.3	2.3	2.2	2.3	2.4	2.3	2.4	2.3	2.4	2.3	2.3	2.4	2.4				

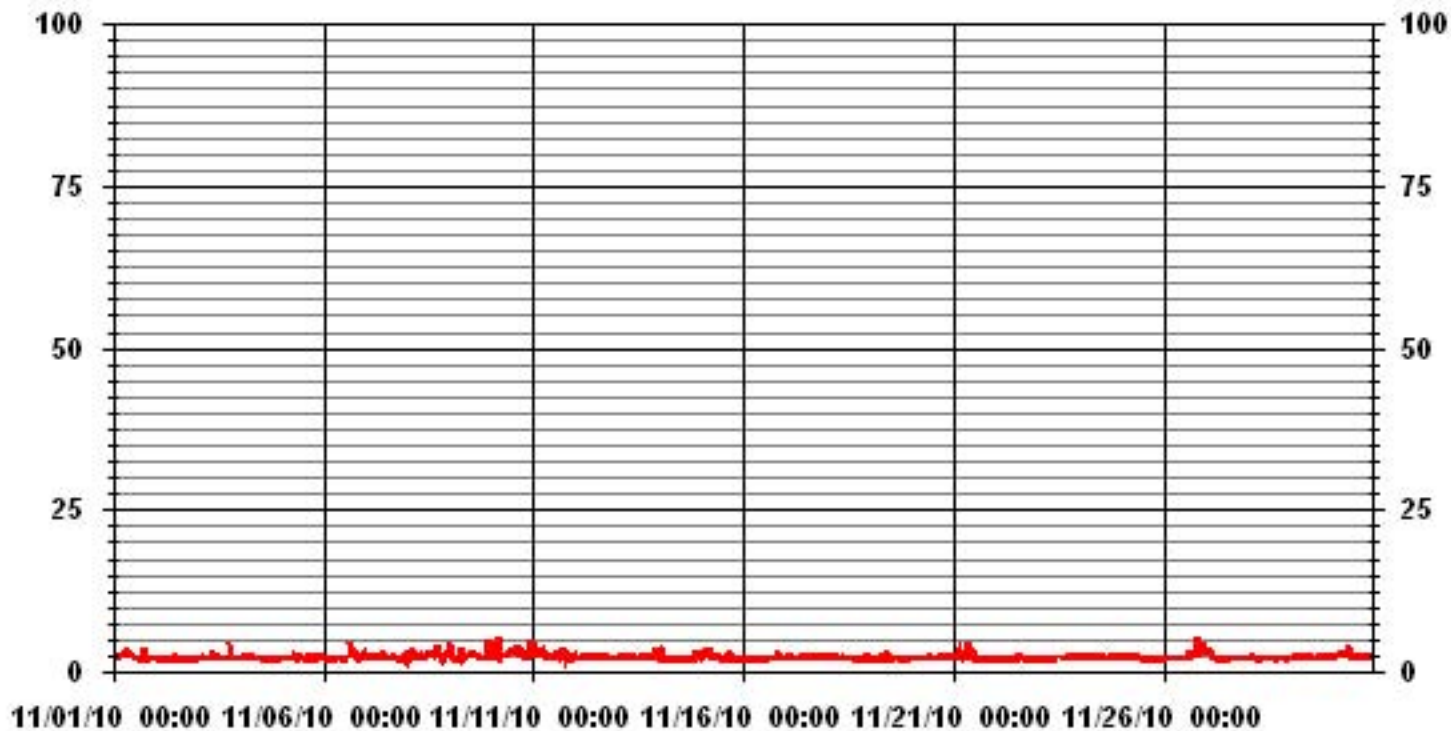
STATUS FLAG CODES

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:	681					
MAXIMUM INSTANTANEOUS VALUE:	5.5	PPM	@ HOUR(S)	4, 19	ON DAY(S)	10, 26
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719 HRS		
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	0.46					

01 Hour Averages



— LICA31 THCMAX PPM

LICA31
 THC / WDR Joint Frequency Distribution (Percent)

November 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	3.96	2.34	3.37	6.90	3.81	3.37	5.13	3.67	4.11	4.99	7.63	8.66	8.37	6.75	12.18	13.50	98.82
< 10.0	.14	.14	.00	.14	.00	.44	.00	.00	.00	.00	.00	.00	.00	.00	.14	.14	1.17
< 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	4.11	2.49	3.37	7.04	3.81	3.81	5.13	3.67	4.11	4.99	7.63	8.66	8.37	6.75	12.33	13.65	

Calm : .00 %

Total # Operational Hours : 681

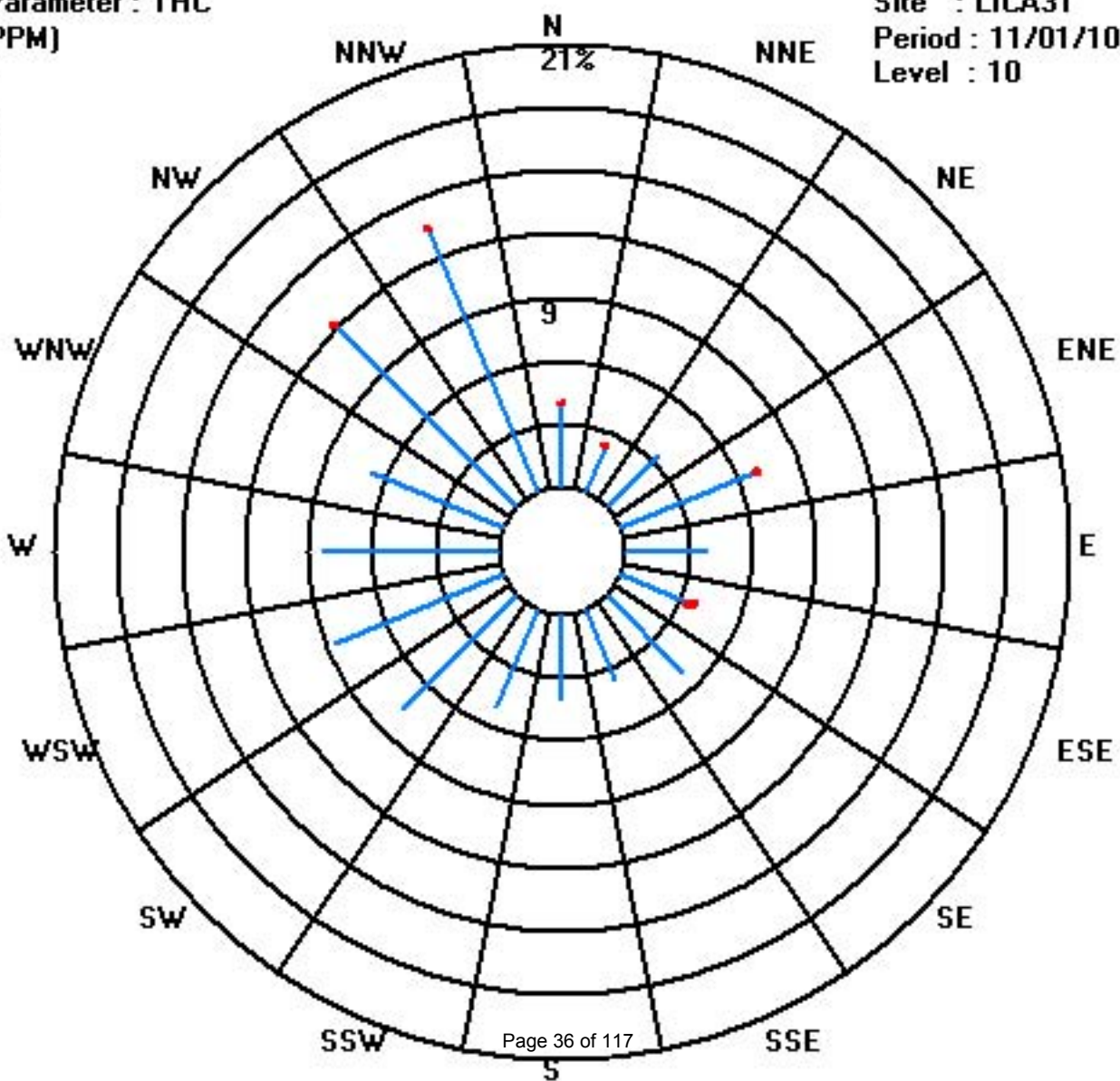
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	27	16	23	47	26	23	35	25	28	34	52	59	57	46	83	92	673
< 10.0	1	1		1		3									1	1	8
< 50.0																	
>= 50.0																	
Totals	28	17	23	48	26	26	35	25	28	34	52	59	57	46	84	93	

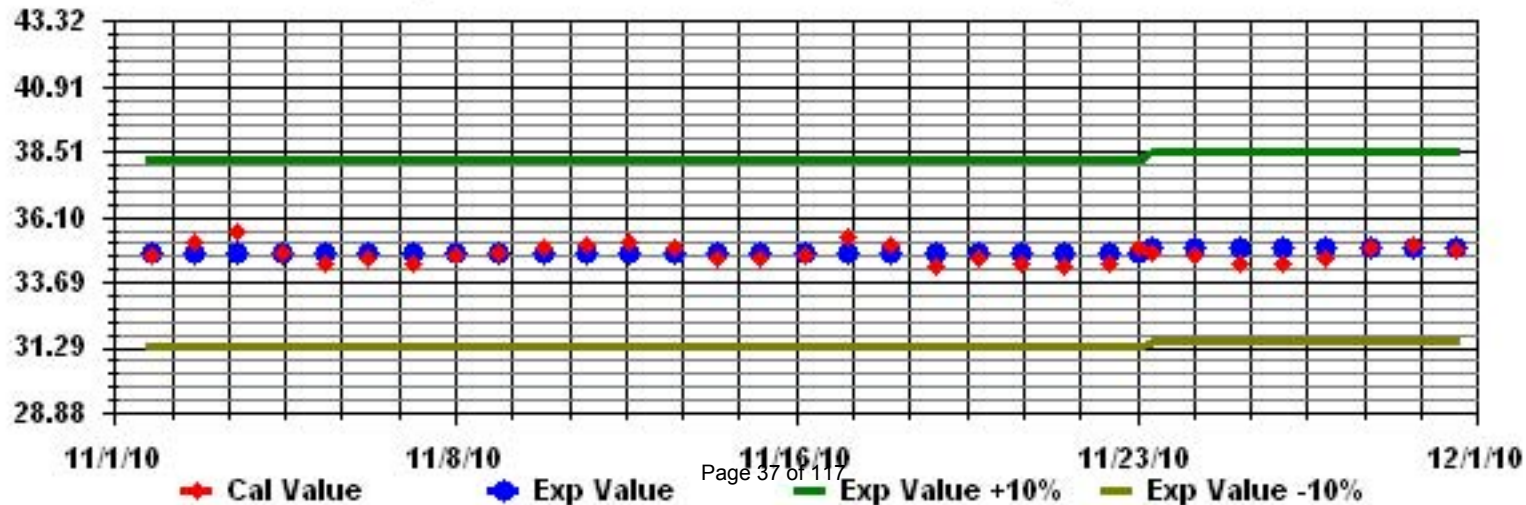
Calm : .00 %

Total # Operational Hours : 681

Class Limits (PPM)



Calibration Graph for Site: LICA31 Parameter: THC Sequence: THC Phase: SPAll



Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2010

OZONE (O₃) hourly averages in ppb

MST

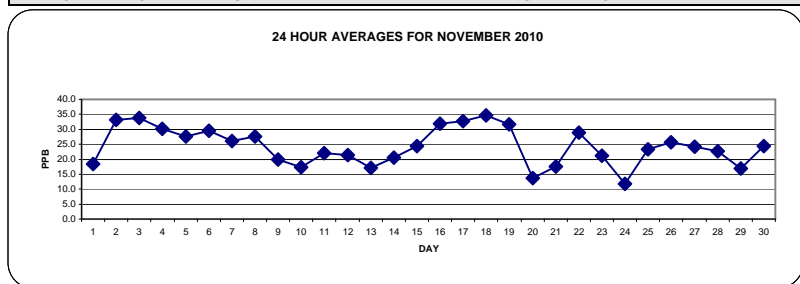
DAY	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
1	29	29	26	23	21	18	19	21	17	15	15	16	16	16	17	16	16	16	16	16	IZS	16	16	14	14	29	18.3	24	
2	18	29	31	34	37	35	33	33	30	30	32	35	38	37	37	37	36	34	IZS	IZS	33	32	33	33	34	38	33.1	24	
3	35	35	34	34	34	34	33	33	31	32	34	35	36	36	36	36	35	IZS	IZS	34	32	31	32	31	33	36	33.7	24	
4	33	32	28	27	28	28	29	30	29	29	31	32	33	35	35	35	IZS	IZS	32	32	30	28	27	26	24	35	30.1	24	
5	21	19	16	15	13	12	12	12	18	26	25	32	35	37	38	IZS	IZS	40	40	37	37	38	36	35	40	27.5	24		
6	35	34	34	33	31	31	30	28	26	25	25	29	33	34	IZS	IZS	30	32	29	28	30	28	25	25	25	35	29.6	24	
7	25	25	24	24	24	26	24	23	23	24	24	26	27	IZS	IZS	28	29	29	29	29	29	27	29	28	26	29	26.2	24	
8	27	29	29	27	26	25	23	23	23	23	24	24	IZS	IZS	22	25	28	30	31	31	32	33	33	33	34	34	27.6	24	
9	33	34	34	35	35	34	32	26	19	15	15	IZS	IZS	12	11	12	11	10	11	12	13	13	14	14	12	35	19.9	24	
10	15	16	15	16	18	14	12	10	9	11	IZS	IZS	16	17	22	24	25	27	30	27	19	16	15	11	14	30	17.3	24	
11	17	18	13	13	13	11	9	13	12	IZS	IZS	19	24	29	31	31	31	30	30	29	28	27	29	27	25	31	22.1	24	
12	25	24	22	22	21	22	21	21	IZS	IZS	21	21	20	21	23	22	21	19	16	15	19	22	24	24	25	25	21.3	24	
13	23	19	18	17	16	16	18	IZS	IZS	17	19	20	19	18	18	16	14	12	11	11	11	14	19	21	25	25	17.0	24	
14	25	26	26	25	25	23	IZS	21	20	16	17	16	17	20	21	21	17	18	19	19	21	20	19	19	19	26	20.5	24	
15	21	24	25	24	25	IZS	26	26	26	25	25	26	27	25	23	24	23	22	23	22	21	25	26	27	27	27	24.4	24	
16	28	28	28	29	IZS	29	31	33	35	35	34	34	34	34	34	33	32	31	32	32	32	32	32	31	33	35	31.9	24	
17	32	28	27	IZS	38	29	28	29	30	31	32	32	32	33	33	34	35	35	36	37	37	37	37	37	37	37	37	32.8	24
18	37	37	IZS	36	36	36	36	36	36	36	36	36	37	36	35	34	33	33	33	32	32	32	32	32	32	32	37	34.7	24
19	33	IZS	32	31	29	29	29	31	33	33	34	34	34	34	34	34	34	34	34	34	32	30	29	27	25	34	31.7	24	
20	IZS	24	23	22	21	20	19	17	17	17	18	19	20	18	17	12	7	1	0	0	1	3	6	IZS	24	13.7	24		
21	8	8	7	8	13	11	8	6	11	14	16	18	20	21	23	24	29	28	28	28	25	24	IZS	23	29	17.4	24		
22	25	27	30	30	29	29	28	28	27	28	29	30	30	29	30	31	30	30	29	30	29	IZS	28	27	31	28.8	24		
23	26	25	26	23	22	22	22	21	22	23	22	25	26	24	19	16	17	17	18	19	IZS	17	17	16	26	21.1	24		
24	16	16	15	14	14	14	14	12	12	15	17	C	C	C	C	17	9	6	7	IZS	7	7	7	6	17	11.8	24		
25	8	9	9	10	12	13	14	15	16	17	21	26	31	32	37	36	35	34	IZS	IZS	33	33	32	32	31	37	23.3	24	
26	30	29	25	22	23	22	23	25	27	29	30	30	30	31	31	29	28	IZS	IZS	25	24	20	19	20	19	31	25.7	24	
27	18	17	18	21	23	25	28	27	25	24	25	27	28	28	27	25	IZS	IZS	24	29	29	20	24	23	21	29	24.2	24	
28	19	19	17	20	17	19	22	24	23	21	21	24	23	22	22	IZS	IZS	25	25	24	25	26	27	29	29	29	22.7	24	
29	27	25	24	21	17	16	15	14	15	16	17	17	18	18	IZS	IZS	17	14	13	13	13	13	13	13	15	19	27	17.0	24
30	19	21	21	21	21	21	20	17	17	20	22	24	26	IZS	IZS	28	29	29	29	29	29	29	29	30	30	30	24.4	24	
HOURLY MAX	37	37	34	36	37	36	36	36	36	36	36	36	38	37	38	37	39	40	40	40	37	37	38	37	37				
HOURLY AVG	24.4	24.3	23.3	23.3	23.2	22.9	22.7	22.6	22.3	23.1	24.2	25.9	26.8	26.9	27.3	26.1	25.4	24.6	24.4	25.6	24.1	24.3	24.2	24.8					

STATUS FLAG CODES

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

OBJECTIVE LIMIT:

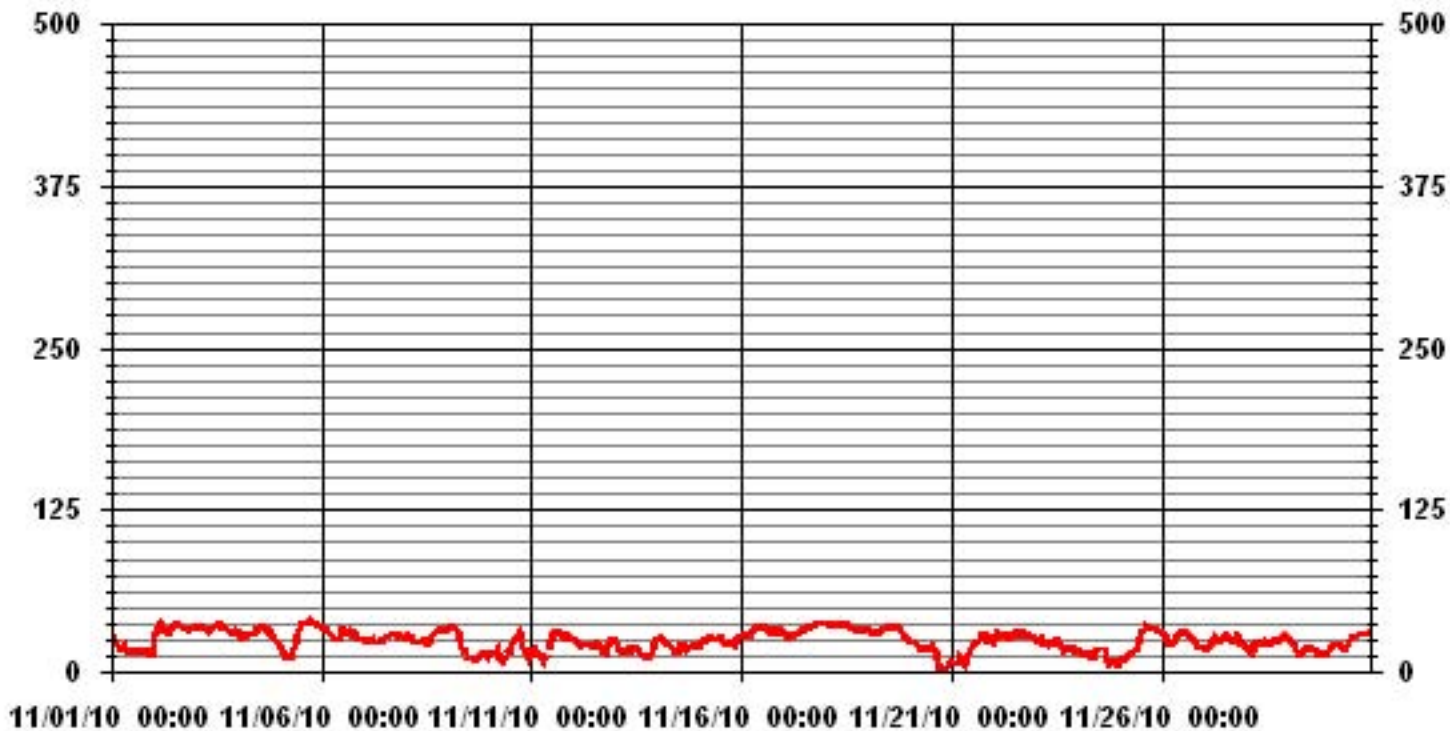
ALBERTA ENVIRONMENT: 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	683					
MAXIMUM 1-HR AVERAGE:	40	PPB	@ HOUR(S)	17, 18	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	34.7	PPB			ON DAY(S)	18
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	7.92		MONTHLY AVERAGE	24.42	PPB	

01 Hour Averages



— LICA31 03_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 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	30	30	29	24	24	19	21	22	20	16	17	18	17	17	17	17	17	17	17	17	IZS	17	17	15	16	30	19.7	24
2	22	32	31	37	38	37	34	34	32	31	34	38	38	38	38	38	35	IZS	33	33	34	34	35	35	38	34.5	24	
3	36	36	35	34	35	35	34	33	33	33	35	36	37	37	38	37	37	IZS	N	34	32	33	33	35	38	34.9	23	
4	35	33	30	28	29	29	30	30	30	30	33	33	34	36	36	36	IZS	33	32	31	29	28	27	25	36	31.2	24	
5	23	20	18	15	14	13	12	13	26	27	28	37	37	39	39	IZS	40	40	40	39	38	38	37	36	40	29.1	24	
6	36	35	34	34	32	32	31	30	27	27	28	32	34	35	IZS	35	33	32	31	31	30	27	26	27	36	31.3	24	
7	27	26	25	25	25	27	26	24	24	26	26	28	28	IZS	30	30	30	30	29	30	29	29	29	28	30	27.4	24	
8	28	30	30	29	27	27	25	24	24	24	25	24	IZS	24	27	30	31	32	32	33	33	34	35	35	35	28.7	24	
9	34	34	35	36	35	35	34	29	21	18	18	IZS	13	12	13	13	11	11	14	14	14	18	18	13	36	21.4	24	
10	17	17	16	17	21	19	15	13	10	12	IZS	17	19	26	26	28	28	32	31	21	18	16	15	16	32	19.6	24	
11	18	20	15	13	15	15	13	14	13	IZS	21	27	30	32	32	32	30	30	32	46	28	29	29	27	46	24.4	24	
12	26	25	23	22	23	23	22	22	IZS	22	22	21	23	25	24	22	20	17	15	22	23	25	25	25	26	22.5	24	
13	25	21	18	18	16	17	19	IZS	18	20	21	21	19	19	17	15	14	12	11	13	18	20	23	26	26	18.3	24	
14	26	26	27	26	25	25	IZS	21	21	19	18	17	19	22	22	23	19	19	20	21	21	21	20	21	27	21.7	24	
15	23	26	25	25	26	IZS	26	27	27	26	26	27	28	27	25	25	24	24	25	23	23	27	27	28	28	25.7	24	
16	29	29	29	30	IZS	30	32	35	36	36	35	34	35	34	34	34	33	32	32	33	32	32	32	34	36	32.7	24	
17	33	29	29	IZS	29	29	29	30	32	32	33	33	34	35	35	36	36	37	38	38	38	38	38	38	38	38	33.9	24
18	38	37	IZS	37	36	36	36	37	36	37	37	38	38	38	36	35	34	34	33	32	33	32	32	33	38	35.4	24	
19	33	IZS	33	31	31	30	30	35	35	34	34	34	35	35	34	34	35	34	34	33	32	30	28	27	35	32.7	24	
20	IZS	25	24	23	21	21	20	18	18	18	18	21	22	19	19	15	9	4	1	1	1	4	8	IZS	25	15.0	24	
21	14	16	13	13	14	13	12	10	13	16	16	21	22	23	24	27	31	29	29	29	27	25	IZS	23	31	20.0	24	
22	26	29	30	30	30	29	29	28	28	29	30	32	32	30	31	32	31	30	30	30	30	IZS	29	28	32	29.7	24	
23	26	26	26	26	23	23	22	22	23	23	24	26	27	26	21	17	17	19	20	19	IZS	18	17	17	27	22.1	24	
24	17	17	16	15	15	14	15	13	13	16	18	C	C	C	C	20	13	7	8	IZS	8	7	7	7	20	12.9	24	
25	9	10	10	11	13	14	15	16	17	19	23	31	32	36	37	37	36	35	IZS	34	33	33	33	32	37	24.6	24	
26	31	30	27	23	23	23	24	27	28	30	31	31	30	31	33	32	29	IZS	26	24	23	21	21	20	33	26.9	24	
27	19	19	21	23	24	27	29	28	26	25	27	28	29	29	29	27	IZS	27	30	31	24	26	27	25	31	26.1	24	
28	21	20	19	21	20	21	24	25	25	22	24	25	33	23	24	IZS	27	26	25	26	27	27	30	29	33	24.5	24	
29	28	26	25	24	18	18	16	15	15	20	18	18	18	19	IZS	19	17	15	14	14	14	15	19	20	28	18.5	24	
30	20	22	22	21	22	21	21	19	19	21	23	25	28	IZS	29	30	30	29	30	30	30	30	30	30	30	30	25.3	24
HOURLY MAX	38	37	35	37	38	37	36	37	36	37	37	38	38	39	39	38	40	40	40	46	38	38	38	38				
HOURLY AVG	25.9	25.7	24.7	24.5	24.3	24.2	24.0	23.9	23.8	24.4	25.6	27.6	28.3	28.4	28.5	27.7	26.8	25.8	25.1	27.3	25.4	25.3	25.6	26.1				

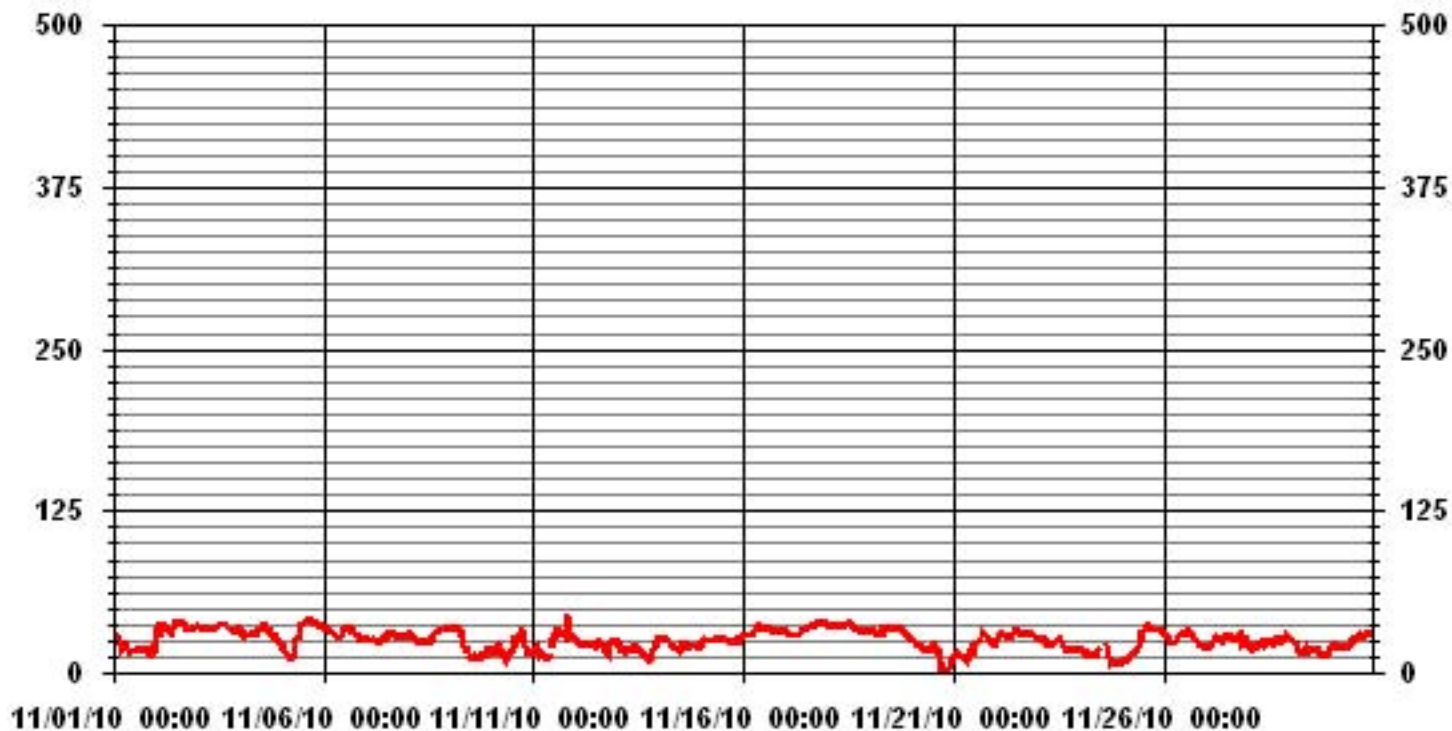
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	684					
MAXIMUM INSTANTANEOUS VALUE:	46	PPB	@ HOUR(S)	19	ON DAY(S)	11
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	7.75					

01 Hour Averages



— LICA31 O3MAX PPB

LICA31
 O3_ / WDR Joint Frequency Distribution (Percent)

November 2010

Distribution By % Of Samples

Logger Id : 31
 Site Name : LICA31
 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	4.08	2.48	3.35	7.00	3.79	3.79	5.10	3.64	4.08	4.96	8.32	8.61	8.32	6.42	12.40	13.57	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	4.08	2.48	3.35	7.00	3.79	3.79	5.10	3.64	4.08	4.96	8.32	8.61	8.32	6.42	12.40	13.57	

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	28	17	23	48	26	26	35	25	28	34	57	59	57	44	85	93	685
< 110																	
< 210																	
>= 210																	
Totals	28	17	23	48	26	26	35	25	28	34	57	59	57	44	85	93	

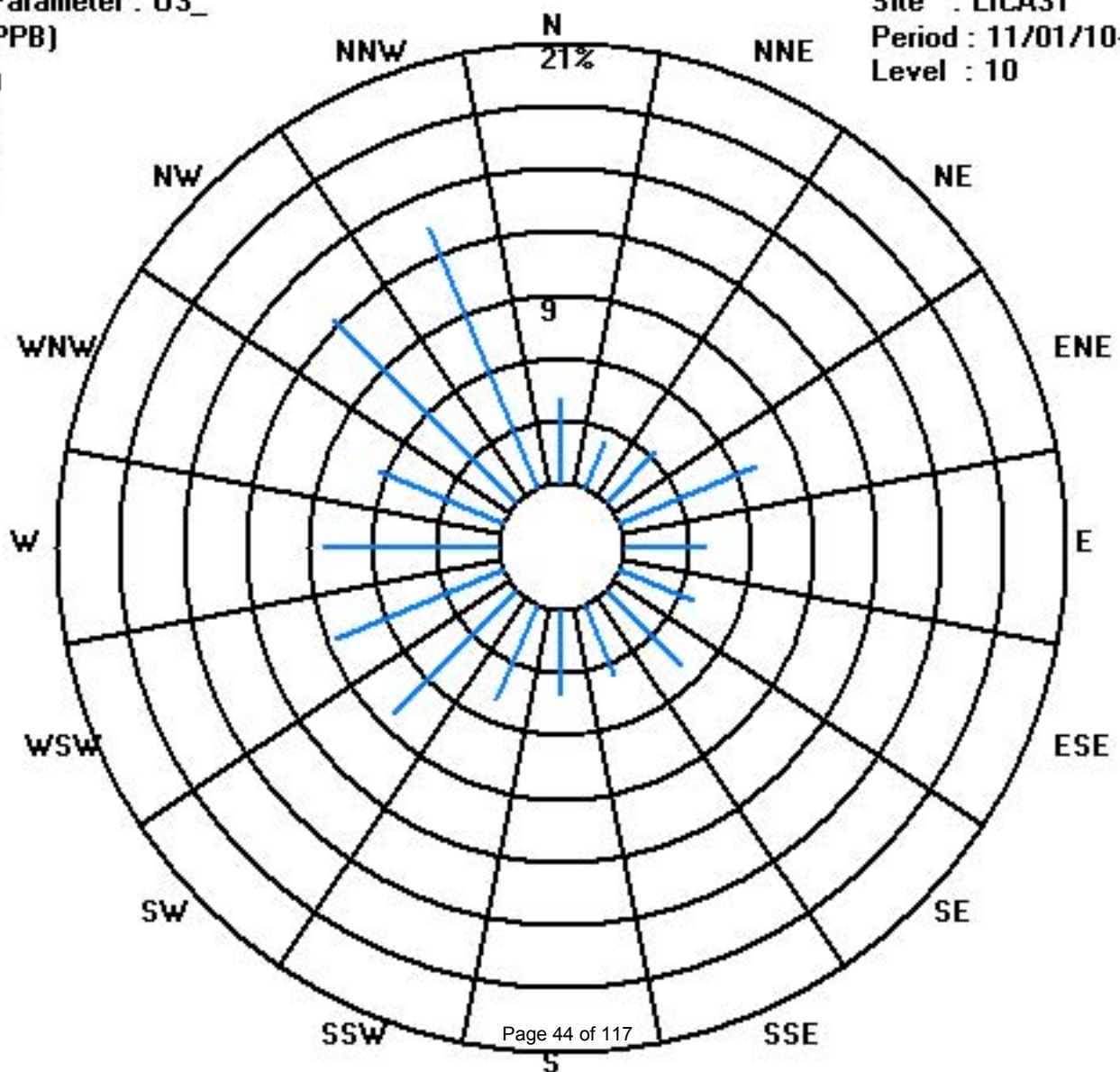
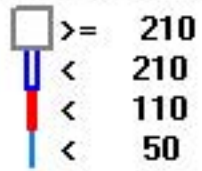
Calm : .00 %

Total # Operational Hours : 685

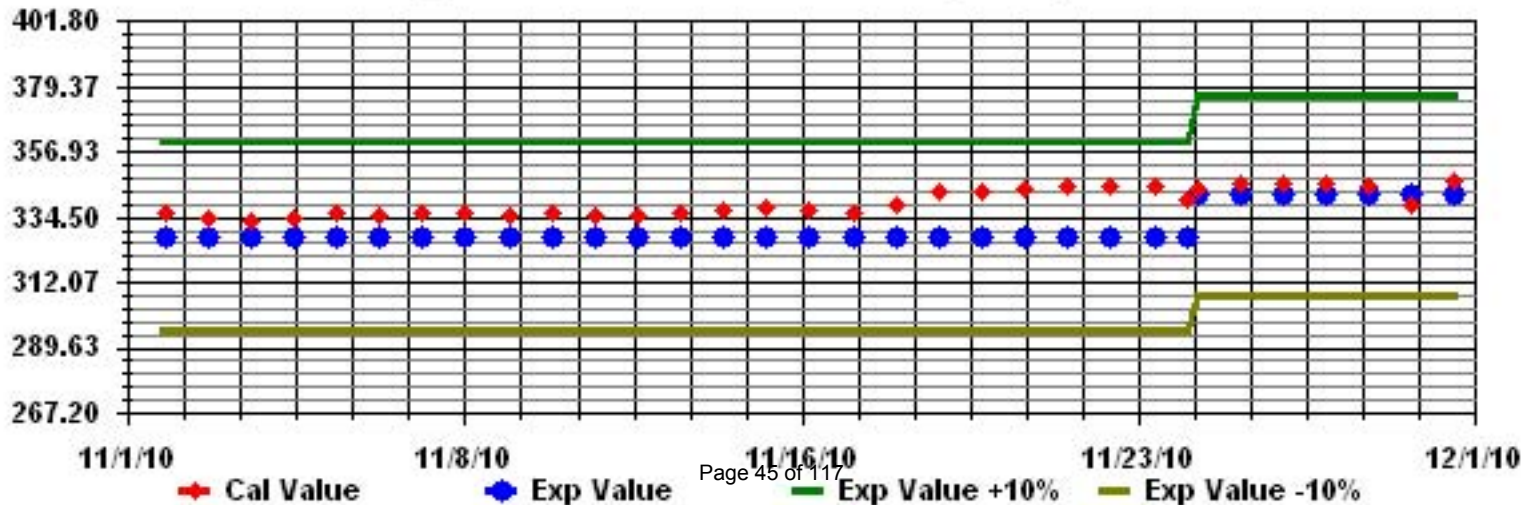
Class Limits (PPB)

Period : 11/01/10-11/30/10

Level : 10



Calibration Graph for Site: LICA31 Parameter: 03_ Sequence: 03 Phase: SPAN



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION. - ST. LINA

NOVEMBER 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			
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.		
DAY																													
1	2	2	2	3	3	4	4	4	5	5	4	3	4	3	3	3	4	4	4	4	4	6	6	6	6	6	3.7	24	
2	5	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	5	0.9	24	
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	1	2	2	2	2	0.5	24	
4	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1.5	24	
5	3	3	4	4	4	5	6	5	5	3	3	1	1	0	0	1	0	0	0	0	0	0	0	0	0	6	2.0	24	
6	0	0	0	0	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	2	3	4	4	4	4	2.0	24	
7	4	4	4	4	4	3	3	4	4	3	3	2	3	1	1	1	1	1	1	1	1	2	1	1	2	4	2.5	24	
8	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24	
9	1	1	1	1	1	1	1	1	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	5	2.7	24
10	3	3	3	3	3	3	4	4	3	3	1	1	2	2	2	2	2	2	2	3	4	4	5	8	5	8	3.3	24	
11	4	6	9	10	9	10	11	8	8	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	11	4.0	24	
12	1	1	1	2	2	1	1	1	1	3	3	4	4	4	4	5	6	6	8	9	7	5	4	3	3	9	3.6	24	
13	4	6	6	7	6	5	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8	5.4	24	
14	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	4	3	2	2	2	1	1	1	4	1.8	24	
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	0	2	1.0	24	
16	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	1	0.6	24	
18	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	0.1	24	
19	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	2	3	0.4	24		
20	4	4	4	5	5	5	6	7	7	6	5	5	6	8	10	15	19	26	26	25	23	21	18	18	18	26	11.6	24	
21	12	13	14	13	8	9	10	11	8	6	4	3	3	3	2	2	1	1	1	1	1	2	2	2	2	14	5.7	24	
22	2	1	0	0	1	1	0	0	0	0	0	0	1	1	2	1	1	2	2	1	2	2	2	2	2	2	1.0	24	
23	3	3	3	3	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	9	9	10	11	11	11	11	6.7	24	
24	10	10	10	11	11	11	11	12	13	13	12	11	10	10	10	13	20	23	22	22	22	22	22	22	23	23	14.5	24	
25	21	20	19	18	16	15	13	12	12	10	9	6	3	2	1	1	1	1	1	1	2	2	2	2	3	21	8.3	24	
26	3	4	6	8	7	7	6	6	5	5	5	5	5	5	5	5	5	5	5	7	9	10	10	9	9	10	6.4	24	
27	9	9	8	6	5	4	2	2	2	2	2	2	2	2	3	4	4	4	4	2	2	6	4	4	5	9	4.0	24	
28	5	5	4	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1.7	24	
29	1	2	2	4	6	6	7	7	7	5	5	4	4	4	4	5	7	8	8	9	9	8	7	5	9	5.7	24		
30	5	4	3	4	4	4	4	4	7	5	4	4	3	3	3	3	3	3	3	2	2	2	2	2	7	3.6	24		
HOURLY MAX	21	20	19	18	16	15	13	12	13	13	12	11	10	10	10	15	20	26	26	25	23	22	22	22	22				
HOURLY AVG	3.6	3.8	3.8	4.0	3.8	3.7	3.7	3.7	3.7	3.1	2.8	2.4	2.4	2.3	2.2	3.1	3.9	4.3	4.3	3.5	4.1	4.1	4.0	3.3					

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

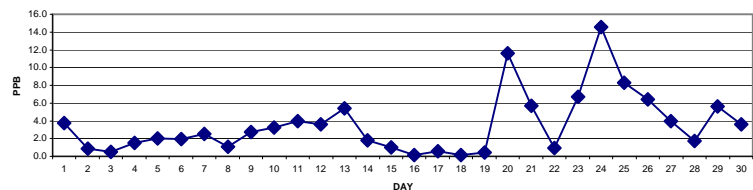
OBJECTIVE LIMIT:

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

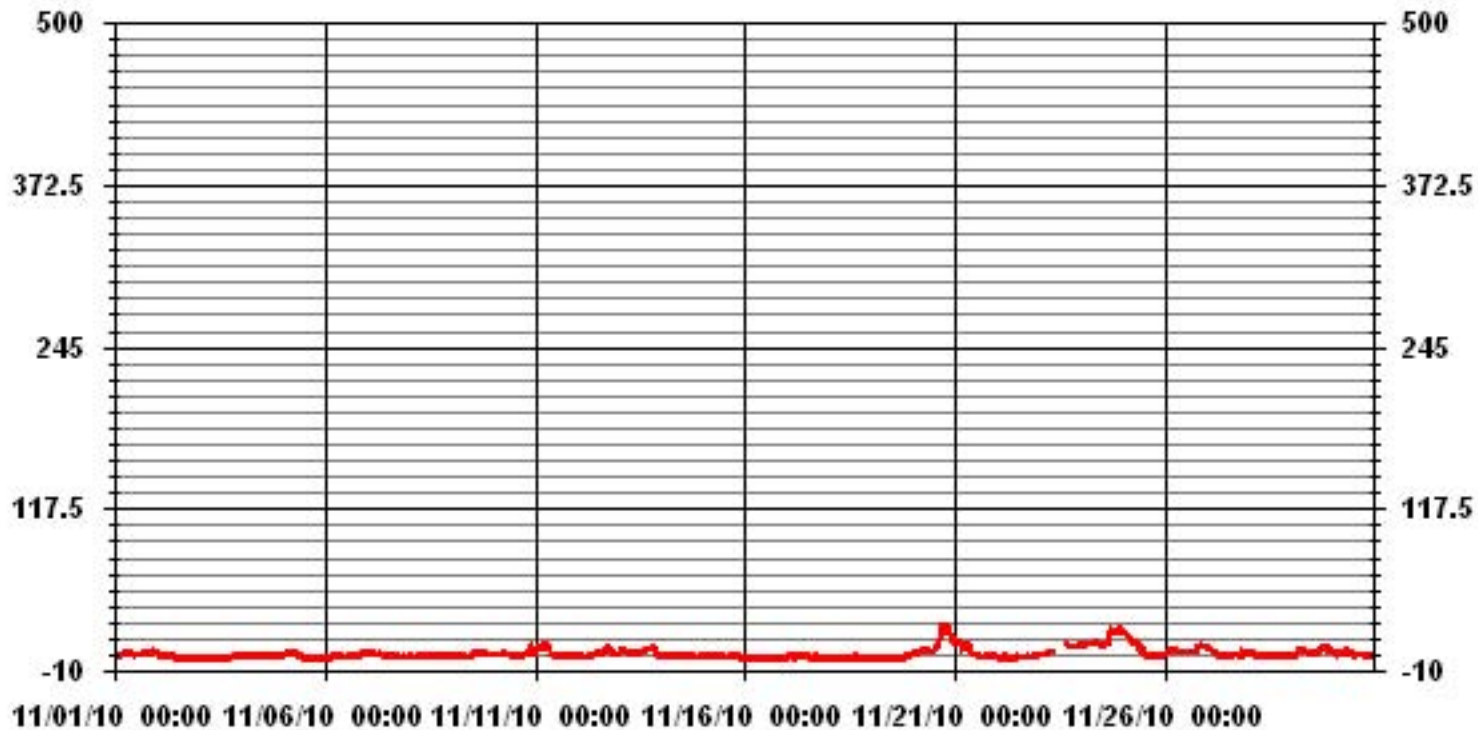
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	568					
MAXIMUM 1-HR AVERAGE:	26	PPB	@ HOUR(S)	17, 18	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	14.5	PPB			ON DAY(S)	24
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	4.27		MONTHLY AVERAGE:	3.49	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA31 NO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 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	3	3	3	4	4	5	5	5	6	6	5	4	4	7	4	5	5	5	5	IZS	5	5	7	7	7	7	7	4.9	24
2	6	4	2	2	2	1	1	1	1	1	1	1	1	1	9	2	2	1	IZS	1	1	1	1	1	1	9	1.9	24	
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	2	4	3	3	3	3	4	4	1.5	24	
4	2	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	IZS	2	2	4	3	3	4	3	4	4	2.4	24	
5	4	4	5	5	5	6	7	6	6	4	4	2	2	1	1	IZS	1	1	1	2	1	1	1	1	1	7	3.1	24	
6	1	1	1	1	2	1	2	3	3	3	5	3	2	1	IZS	10	11	14	21	3	4	6	6	6	21	4.8	24		
7	5	6	5	5	4	4	7	5	5	4	4	4	2	IZS	2	1	2	2	2	2	4	2	3	4	7	3.7	24		
8	2	2	2	3	2	1	2	2	2	3	2	2	2	IZS	2	2	2	2	2	2	2	2	2	1	3	2.0	24		
9	1	2	1	1	1	1	2	2	3	3	3	IZS	4	5	5	5	6	5	5	5	4	4	4	4	6	3.3	24		
10	4	4	4	5	4	4	5	8	4	4	IZS	3	3	3	3	3	3	3	4	5	5	6	10	7	10	4.5	24		
11	5	9	10	10	10	13	3	9	9	IZS	4	3	2	2	2	2	2	2	2	2	2	2	1	1	13	4.7	24		
12	2	1	3	3	2	2	2	2	IZS	3	4	13	5	5	7	8	9	10	10	7	5	4	4	13	5.0	24			
13	6	8	7	8	7	6	5	IZS	5	4	5	5	5	6	6	7	8	8	8	9	15	7	6	3	15	6.7	24		
14	2	2	2	2	2	2	IZS	3	2	3	3	3	2	12	4	4	6	5	3	2	2	2	2	2	12	3.1	24		
15	2	2	2	1	1	IZS	1	1	1	2	2	1	1	2	2	3	2	2	2	2	2	2	1	1	3	1.7	24		
16	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2	1.0	24		
17	2	2	2	IZS	1	1	1	2	2	1	2	2	2	1	1	1	1	2	1	1	1	1	1	1	2	1.4	24		
18	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	2	1	1	1	1	2	1.2	24		
19	1	IZS	0	1	1	1	1	2	2	1	1	1	1	1	2	2	1	1	2	2	3	3	3	4	4	1.6	24		
20	IZS	4	5	6	6	6	8	14	7	7	13	6	13	10	12	17	24	27	28	26	24	23	20	IZS	28	13.9	24		
21	16	20	21	18	10	10	14	14	9	7	5	4	4	4	3	3	2	2	2	2	3	2	IZS	3	21	7.7	24		
22	3	2	1	1	2	1	1	1	1	1	1	1	2	3	3	3	2	2	2	2	2	IZS	2	3	3	1.8	24		
23	3	3	4	4	5	5	5	6	6	C	C	C	C	C	C	C	12	12	10	10	IZS	11	11	11	12	7.4	24		
24	11	11	10	11	12	12	12	13	14	14	13	12	12	11	C	21	28	24	23	IZS	27	23	23	23	28	16.4	24		
25	22	21	19	19	17	15	23	13	13	11	10	8	4	3	1	1	16	2	IZS	3	3	3	3	5	23	10.2	24		
26	4	6	7	9	8	8	7	7	6	7	7	6	6	6	5	6	7	IZS	8	9	11	11	10	9	11	7.4	24		
27	10	11	9	7	6	4	4	3	3	3	9	3	3	3	20	5	IZS	6	4	3	8	6	6	6	20	6.2	24		
28	6	6	5	5	4	2	1	2	2	1	1	1	1	1	2	IZS	1	2	9	2	2	1	1	1	9	2.6	24		
29	2	3	3	7	7	7	8	8	7	7	6	5	5	5	IZS	7	10	9	9	9	10	10	9	6	10	6.9	24		
30	5	5	4	4	4	5	5	8	8	6	5	4	4	IZS	4	4	4	3	3	3	3	3	3	3	8	4.3	24		
HOURLY MAX	22	21	21	19	17	15	23	14	14	14	13	13	13	12	20	21	28	27	28	26	27	23	23	23					
HOURLY AVG	4.6	5.1	4.9	5.1	4.6	4.4	4.7	5.0	4.6	4.0	4.3	3.6	3.4	3.7	3.9	4.7	6.1	5.6	6.2	4.6	5.5	5.2	5.1	4.3					

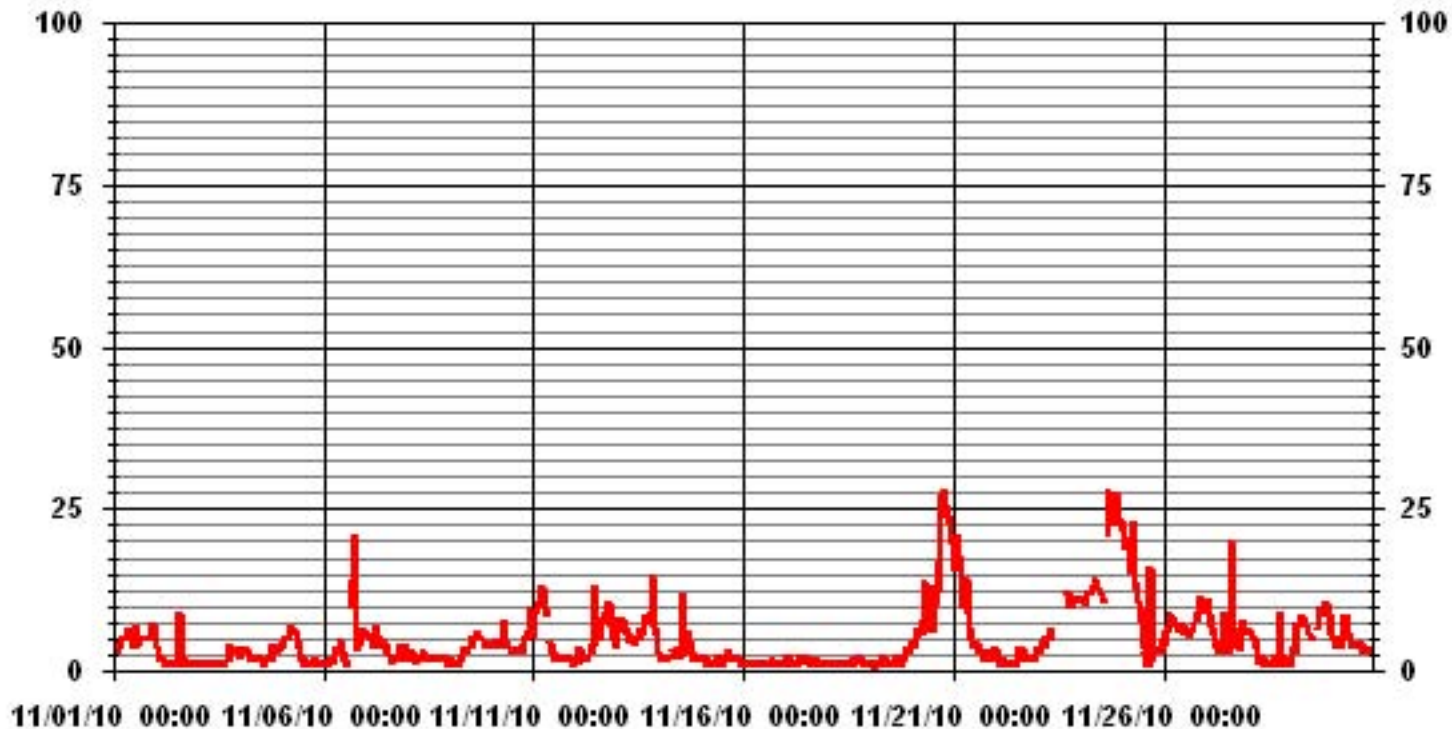
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680
MAXIMUM INSTANTANEOUS VALUE:	28 PPB @ HOUR(S) 18 ON DAY(S) 20
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	4.81
OPERATIONAL TIME:	720 HRS

01 Hour Averages



— LICA31 H02MAX PPB

LICA31
 NO2_ / WDR Joint Frequency Distribution (Percent)

November 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	4.11	2.49	3.37	7.04	3.81	3.81	5.13	3.67	4.11	4.99	7.34	8.66	8.37	6.90	12.48	13.65	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	4.11	2.49	3.37	7.04	3.81	3.81	5.13	3.67	4.11	4.99	7.34	8.66	8.37	6.90	12.48	13.65	

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	28	17	23	48	26	26	35	25	28	34	50	59	57	47	85	93	681
< 110																	
< 210																	
>= 210																	
Totals	28	17	23	48	26	26	35	25	28	34	50	59	57	47	85	93	

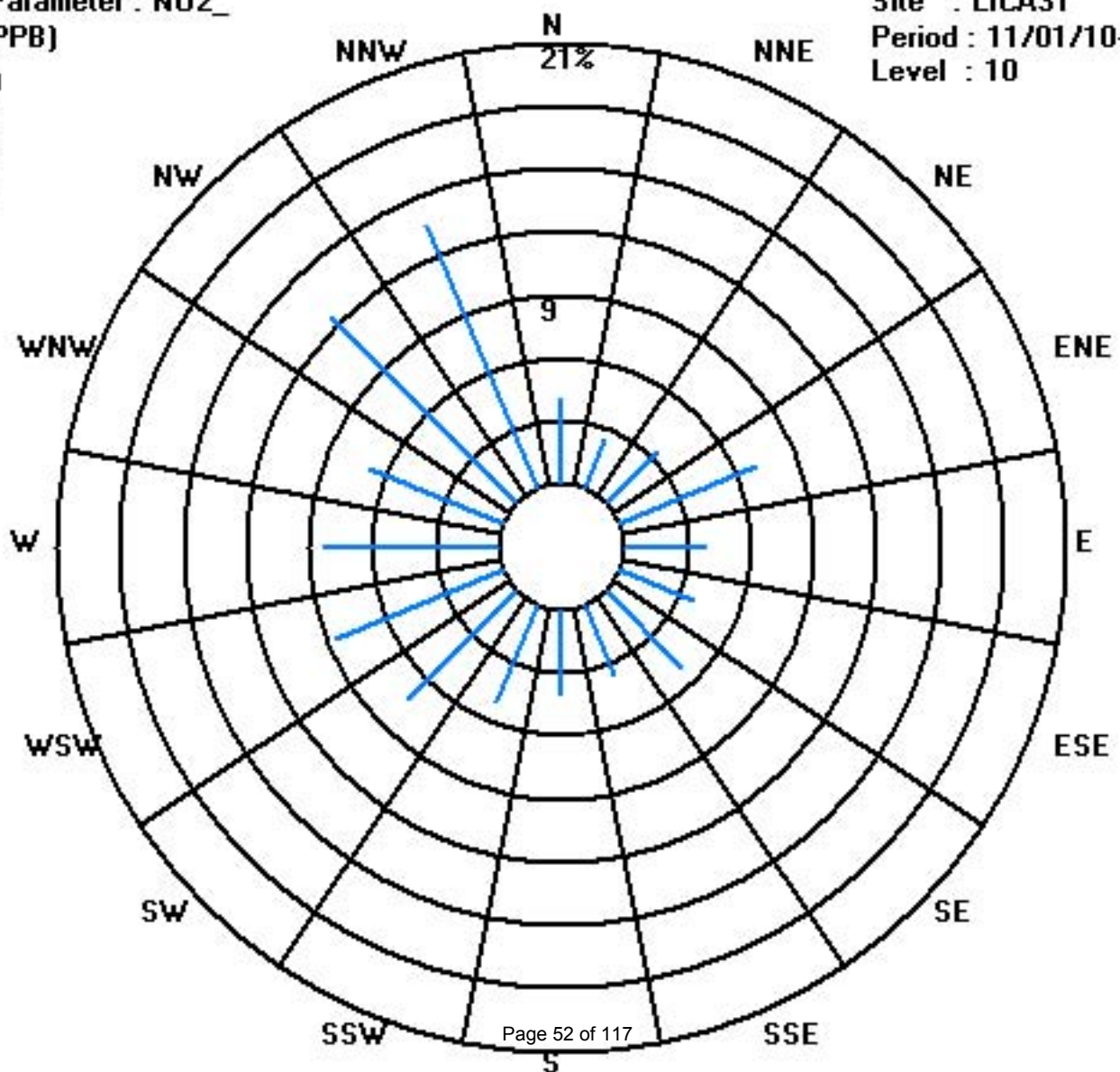
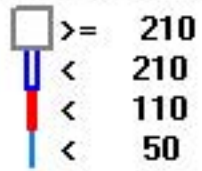
Calm : .00 %

Total # Operational Hours : 681

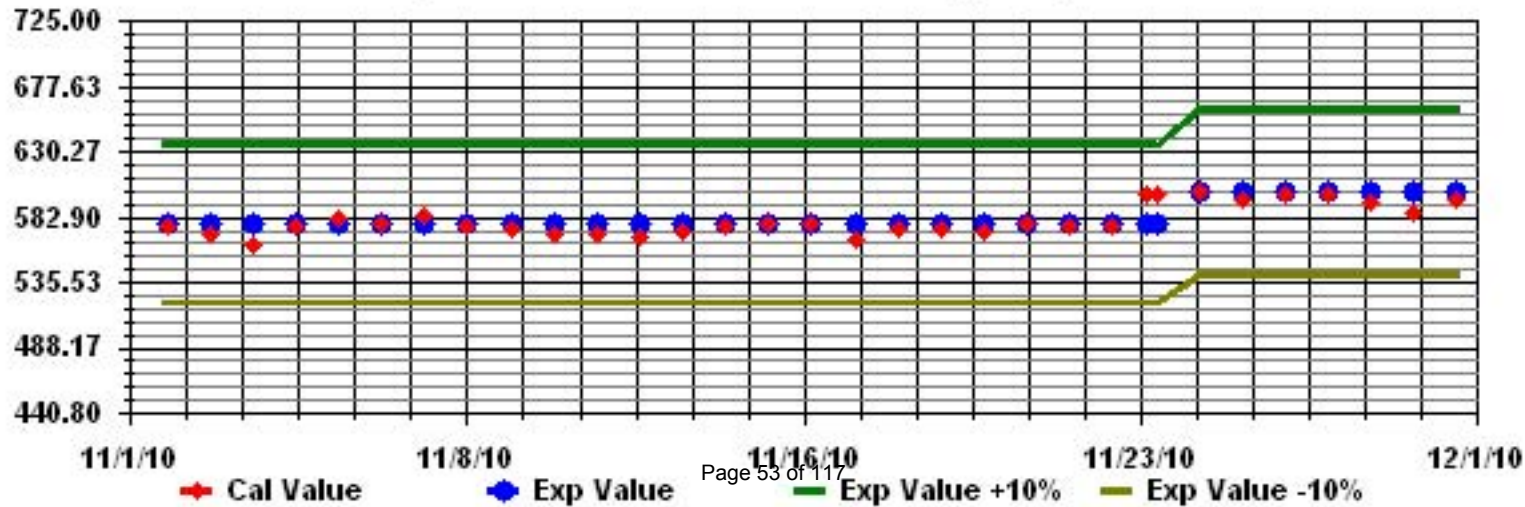
Class Limits (PPB)

Period : 11/01/10-11/30/10

Level : 10



Calibration Graph for Site: LICA31 Parameter: NO2_ Sequence: NO2 Phase: SPAN



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 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	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2	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	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	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	1	0.0	24	
6	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24	
7	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	0.1	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	1	0.0	24	
9	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.7	24	
10	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4	24	
11	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	2	0.2	24	
12	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.3	24	
13	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0.3	24	
14	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.1	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	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	1	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	1	1	1	1	0	0	1	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.5	24	
26	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.2	24	
27	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	1	0.0	24	
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
29	0	0	0	0	0	0	0	0	0	0	1	2	2	2	2	1	1	0	0	0	0	1	0	0	0	2	0.5	24	
30	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24	
HOURLY MAX	1	1	1	1	1	1	1	1	2	7	9	9	9	8	4	4	2	3	4	4	4	2	1	1	1				
HOURLY AVG	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.3	0.8	1.0	0.9	1.1	1.0	0.5	0.5	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0					

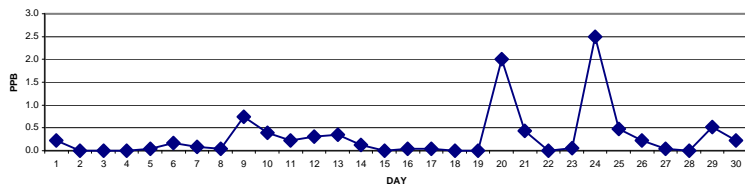
STATUS FLAG CODES

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

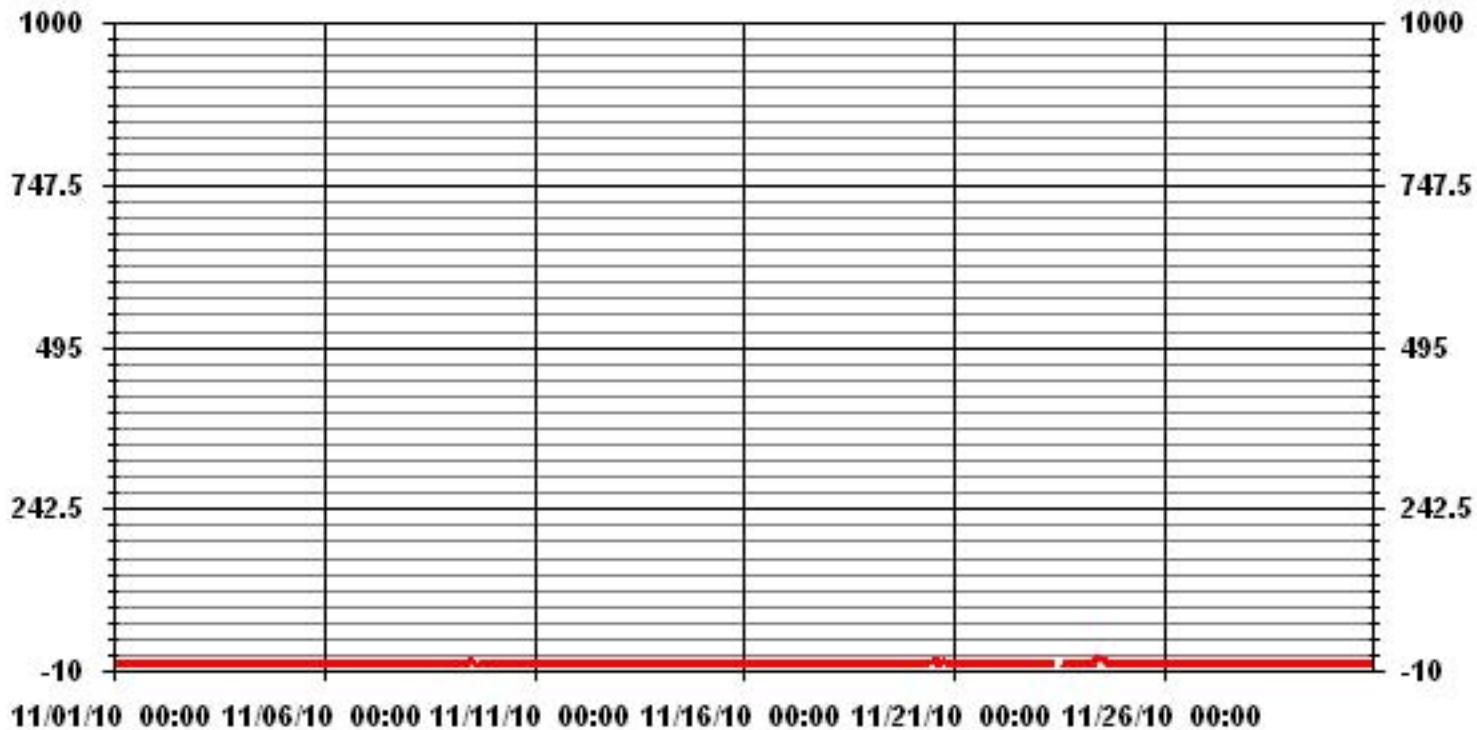
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	118
MAXIMUM 1-HR AVERAGE:	9 PPB @ HOUR(S) VAR ON DAY(S) 24
MAXIMUM 24-HR AVERAGE:	2.5 PPB ON DAY(S) 24
IZS CALIBRATION TIME:	31 HRS OPERATIONAL TIME: 720 HRS
MONTHLY CALIBRATION TIME:	8 HRS AMD OPERATION UPTIME: 100.0 %
STANDARD DEVIATION:	0.97 MONTHLY AVERAGE: 0.31 PPB

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA31 NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 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	0	0	0	0	0	1	2	1	2	2	12	1	2	1	2	0	IZS	1	1	0	0	12	1.2	24	
2	0	0	0	0	0	0	0	0	1	0	1	0	0	8	1	1	0	IZS	1	0	0	0	0	8	0.6	24		
3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	IZS	1	1	1	0	0	1	0.2	24		
4	0	0	0	0	0	0	1	0	0	1	1	0	1	0	1	0	IZS	1	0	1	0	0	0	1	0.3	24		
5	0	0	1	1	0	0	1	1	1	1	1	1	1	0	1	IZS	1	1	0	1	1	0	0	1	0.6	24		
6	0	0	0	1	1	0	0	1	1	3	5	1	1	1	IZS	2	1	4	6	0	0	0	0	6	1.2	24		
7	0	0	0	0	0	0	0	0	1	1	1	1	1	IZS	2	1	1	0	1	0	0	0	1	2	0.5	24		
8	0	0	0	0	0	0	1	0	1	2	1	1	IZS	2	1	1	1	1	0	1	0	0	0	2	0.6	24		
9	1	0	0	0	0	0	0	0	1	2	2	IZS	5	6	5	3	1	0	1	1	1	0	1	0	6	1.3	24	
10	1	1	1	0	0	0	0	26	2	3	IZS	3	3	2	1	1	0	1	0	1	0	1	1	1	26	2.1	24	
11	1	1	1	1	1	1	1	2	3	IZS	3	2	2	1	2	1	1	0	0	0	0	0	0	3	1.0	24		
12	0	0	0	0	0	0	0	IZS	1	2	12	2	2	2	1	2	1	1	1	1	1	1	0	1	12	1.3	24	
13	1	0	1	1	1	1	1	IZS	2	2	1	2	2	3	2	4	2	2	1	2	5	2	1	0	5	1.7	24	
14	0	0	0	0	0	0	IZS	1	1	1	2	2	2	5	2	2	2	1	1	0	0	0	0	5	1.0	24		
15	0	0	0	0	0	IZS	1	1	1	1	3	1	0	1	2	2	0	0	2	0	0	0	0	3	0.7	24		
16	0	0	1	0	IZS	2	1	1	0	1	1	1	0	0	0	0	1	0	0	1	0	0	1	2	0.5	24		
17	0	0	0	IZS	2	0	0	1	1	1	1	1	1	0	1	0	0	1	0	0	1	0	0	0	2	0.5	24	
18	0	0	IZS	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0.1	24	
19	0	IZS	1	1	0	0	1	1	1	1	0	0	1	0	0	1	0	1	1	0	1	1	1	0	1	0.6	24	
20	IZS	1	0	0	1	0	1	16	2	4	17	5	9	7	5	6	20	5	5	5	3	2	2	IZS	20	5.3	24	
21	2	4	2	2	1	1	1	1	2	2	2	2	2	2	1	2	0	0	1	0	1	0	1	IZS	1	4	1.4	24
22	1	0	0	0	0	0	0	0	0	0	1	1	1	2	1	2	0	1	1	1	0	IZS	1	1	2	0.6	24	
23	1	0	1	0	1	0	0	1	1	C	C	C	C	C	C	C	C	2	2	2	2	IZS	1	1	1	2	1.0	24
24	1	1	1	1	1	1	1	2	5	9	11	10	15	9	C	17	11	2	2	IZS	16	3	2	1	17	5.5	24	
25	1	1	1	1	1	1	35	1	2	5	3	3	1	1	0	1	12	1	IZS	1	0	0	0	1	35	3.2	24	
26	0	1	1	1	1	0	0	0	0	3	3	2	3	1	2	1	0	IZS	1	0	0	0	1	0	3	0.9	24	
27	1	1	0	0	0	0	0	1	0	1	11	1	1	1	21	1	IZS	2	0	0	0	1	0	1	21	1.9	24	
28	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	IZS	1	0	12	0	0	0	0	0	12	0.7	24	
29	0	0	0	0	1	0	0	1	1	2	4	3	3	3	IZS	3	5	1	1	1	2	1	1	0	5	1.4	24	
30	0	0	0	0	0	0	0	0	1	1	1	1	1	IZS	2	1	1	0	0	0	0	0	0	2	0.4	24		
HOURLY MAX	2	4	2	2	2	2	35	26	5	9	17	12	15	12	21	17	20	5	12	5	16	3	2	1				
HOURLY AVG	0.4	0.4	0.4	0.4	0.4	0.2	1.6	2.0	1.1	1.8	2.9	2.1	2.1	2.3	2.5	2.1	2.4	1.0	1.5	0.7	1.2	0.5	0.4	0.4				

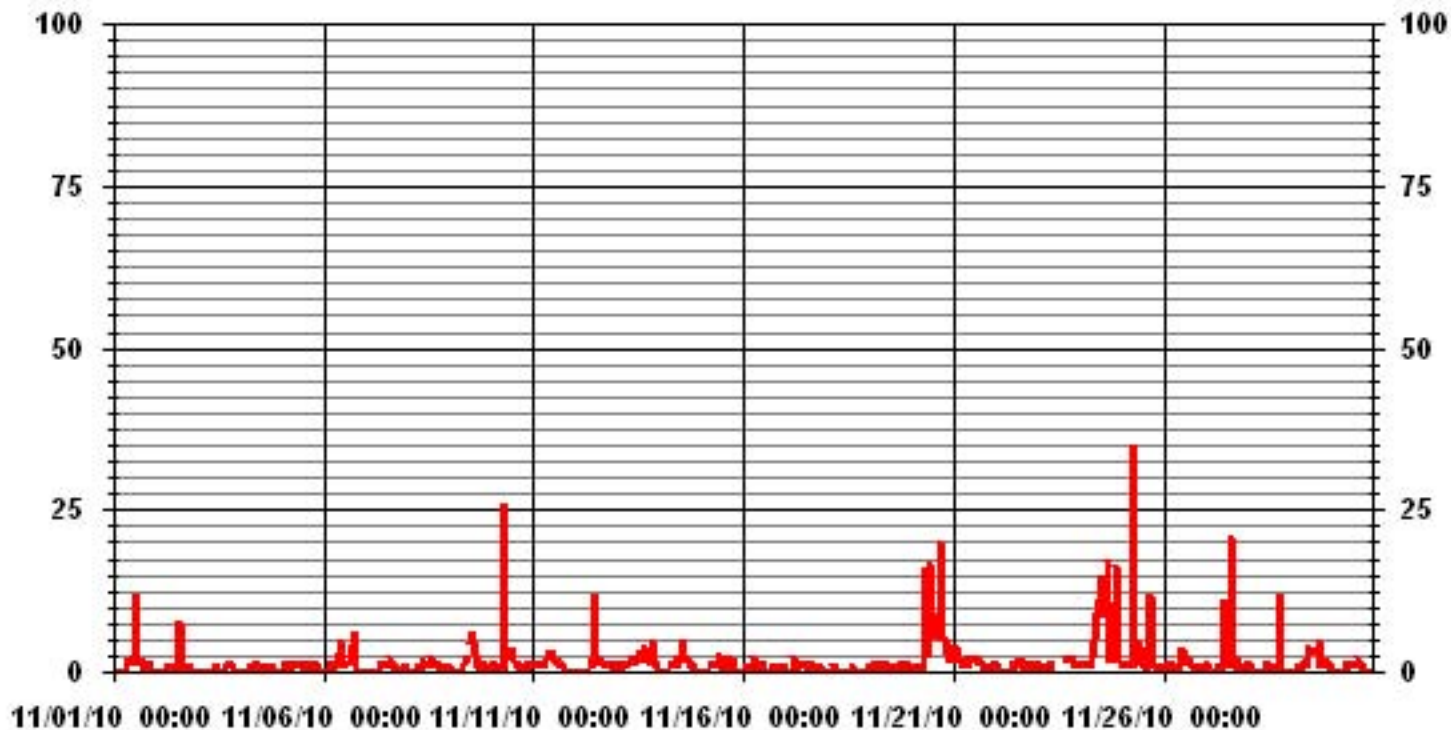
STATUS FLAG CODES

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:	377				
MAXIMUM INSTANTANEOUS VALUE:	35	PPB	@ HOUR(S)	6	ON DAY(S) 25
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS
MONTHLY CALIBRATION TIME:	8	HRS			
STANDARD DEVIATION:	2.86				

01 Hour Averages



LICA31
 NO_ / WDR Joint Frequency Distribution (Percent)

November 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	4.11	2.49	3.37	7.04	3.81	3.81	5.13	3.67	4.11	4.99	7.34	8.66	8.37	6.90	12.48	13.65	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	4.11	2.49	3.37	7.04	3.81	3.81	5.13	3.67	4.11	4.99	7.34	8.66	8.37	6.90	12.48	13.65	

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	28	17	23	48	26	26	35	25	28	34	50	59	57	47	85	93	681
< 110																	
< 210																	
>= 210																	
Totals	28	17	23	48	26	26	35	25	28	34	50	59	57	47	85	93	

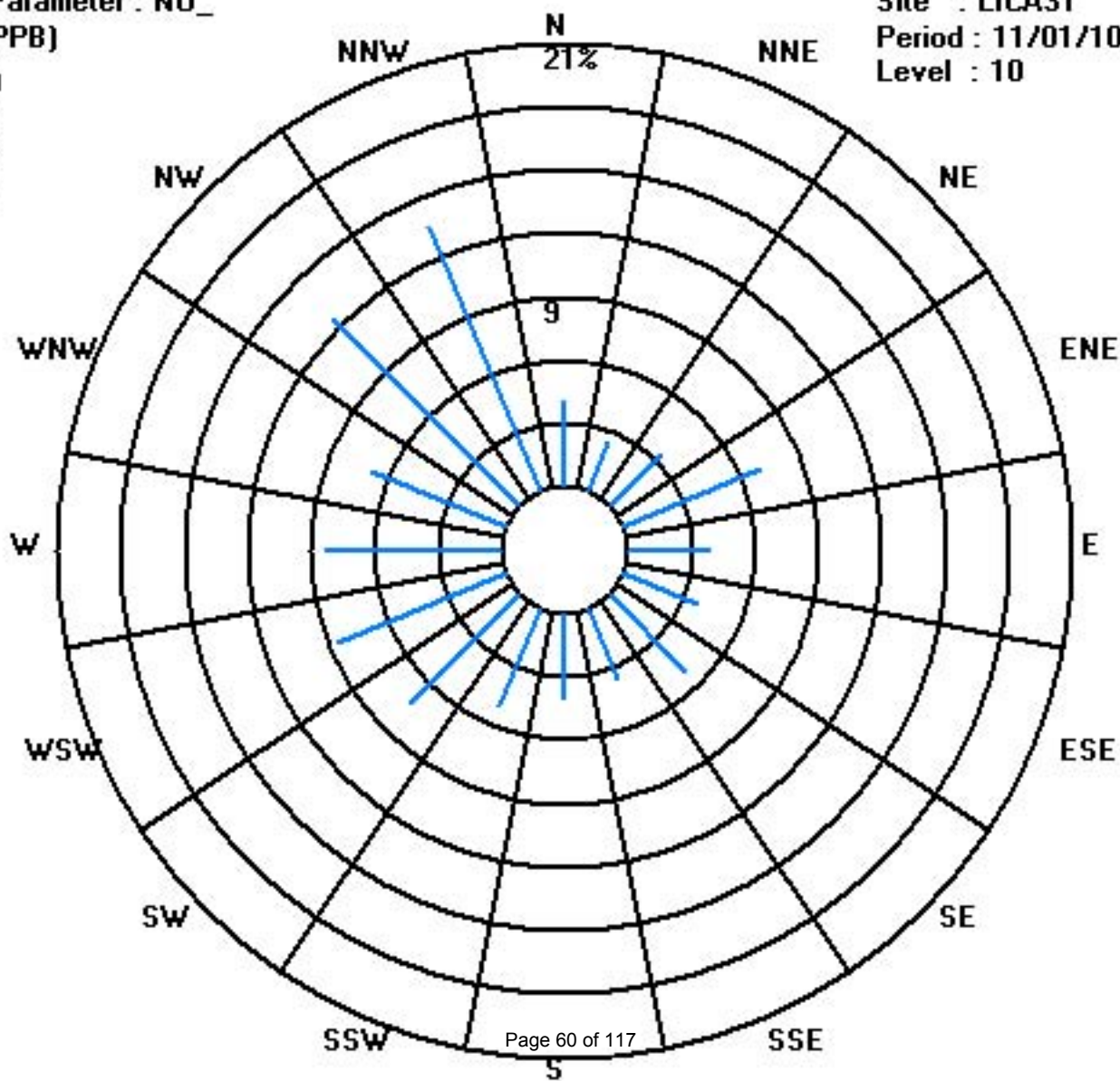
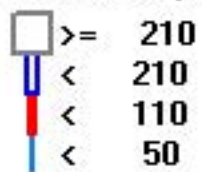
Calm : .00 %

Total # Operational Hours : 681

Class Limits (PPB)

Period : 11/01/10-11/30/10

Level : 10



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 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	2	2	2	3	3	4	4	4	5	6	5	4	4	4	4	4	4	4	4	IZS	5	5	6	6	6	4.1	24	
2	5	2	2	1	1	0	1	0	1	1	1	1	0	0	0	0	1	1	IZS	1	1	0	0	0	5	0.9	24	
3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	IZS	1	2	2	1	2	2	2	0.5	24	
4	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	IZS	1	1	2	2	2	2	2	2	1.5	24	
5	3	3	4	4	4	5	6	5	5	3	3	2	1	0	0	IZS	0	0	0	0	0	0	0	0	6	2.1	24	
6	0	0	0	1	1	1	1	2	2	2	3	2	1	1	IZS	5	3	3	5	2	3	4	4	4	5	2.2	24	
7	4	4	4	4	4	3	3	4	5	4	4	2	3	IZS	2	1	1	1	2	1	2	1	1	2	5	2.7	24	
8	1	1	1	1	1	0	1	1	1	2	2	1	IZS	2	2	1	1	1	1	1	1	1	1	1	2	1.1	24	
9	1	1	1	0	0	1	1	2	3	4	4	IZS	8	9	7	6	5	5	4	4	4	4	3	3	9	3.5	24	
10	3	3	3	3	3	3	4	5	4	5	IZS	4	4	3	3	3	2	2	2	2	4	4	5	8	5	8	3.7	24
11	4	6	9	10	9	11	11	8	9	IZS	4	2	1	0	0	0	0	0	0	0	0	0	0	0	11	3.7	24	
12	0	0	0	1	1	0	0	1	IZS	3	4	5	5	5	6	6	8	9	7	5	4	3	3	3	9	3.5	24	
13	4	6	6	7	6	5	4	IZS	5	5	5	5	6	6	6	7	7	7	7	8	8	6	4	2	8	5.7	24	
14	1	1	1	1	1	1	IZS	2	2	3	3	3	2	3	3	3	4	3	2	2	2	1	1	1	4	2.0	24	
15	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0	2	1.0	24	
16	0	0	0	0	IZS	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1	24	
17	1	1	1	IZS	1	1	1	1	1	1	1	2	2	1	0	0	1	1	0	0	0	0	0	0	2	0.7	24	
18	0	0	IZS	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	
19	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	3	3	0.3	24	
20	IZS	4	4	5	5	5	7	8	8	9	9	8	10	14	14	19	21	28	31	29	26	22	19	IZS	31	13.9	24	
21	12	14	14	13	8	8	10	11	8	6	5	4	3	3	1	1	0	0	0	0	1	1	IZS	3	14	5.5	24	
22	2	1	1	0	1	1	0	0	0	0	1	1	1	2	2	2	2	2	2	2	2	2	IZS	2	2	1.2	24	
23	3	3	3	4	4	4	5	6	6	C	C	C	C	C	C	12	11	9	9	IZS	10	11	11	11	12	6.9	24	
24	11	10	10	11	12	12	12	13	15	20	21	20	19	18	C	16	22	24	23	IZS	23	23	23	23	24	17.3	24	
25	22	20	19	18	16	15	14	13	12	12	11	7	3	2	1	1	1	1	IZS	2	2	2	2	3	22	8.7	24	
26	3	4	6	8	8	7	6	6	5	6	6	7	7	6	6	6	6	IZS	8	9	10	10	9	9	10	6.9	24	
27	9	10	8	6	5	4	2	2	2	3	3	2	2	2	4	4	IZS	5	2	2	6	4	4	5	10	4.2	24	
28	5	5	4	4	3	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	5	1.7	24	
29	1	2	2	4	6	6	7	8	7	6	7	7	7	6	IZS	6	8	8	8	9	9	9	7	5	9	6.3	24	
30	5	4	4	4	4	4	4	7	7	7	6	5	4	IZS	4	4	3	3	2	2	2	2	2	7	3.9	24		
HOURLY MAX	22	20	19	18	16	15	14	13	15	20	21	20	19	18	14	19	22	28	31	29	26	23	23	23				
HOURLY AVG	3.6	3.8	3.9	4.0	3.8	3.6	3.7	3.9	4.0	4.0	4.0	3.5	3.4	3.3	2.7	3.6	4.1	4.4	4.5	3.6	4.2	4.1	4.1	3.4				

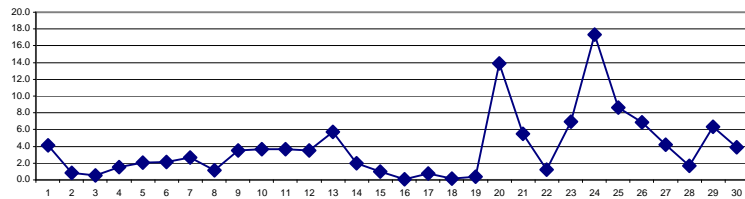
STATUS FLAG CODES

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

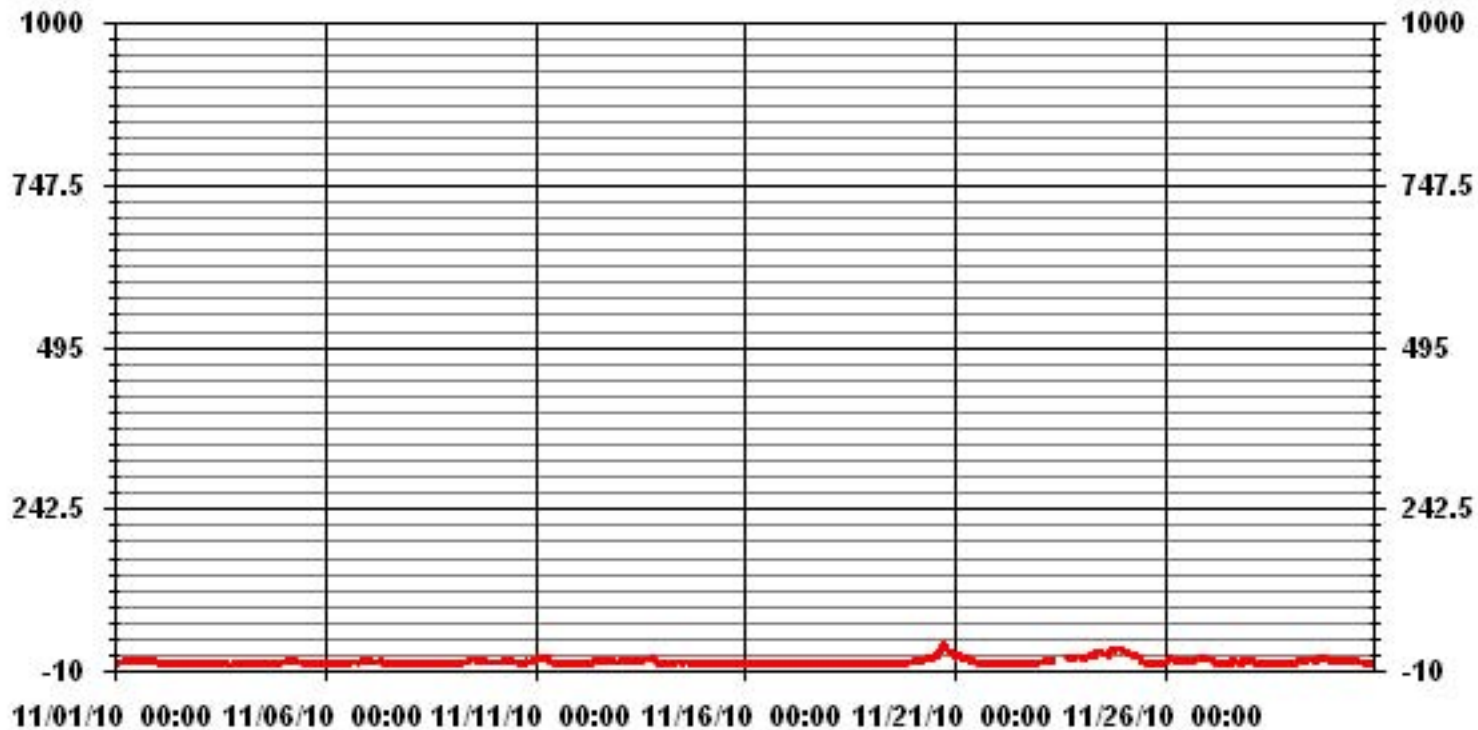
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	549					
MAXIMUM 1-HR AVERAGE:	31	PPB	@ HOUR(S)	18	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	17.3	PPB			ON DAY(S)	24
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	4.79		MONTHLY AVERAGE	3.80	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA31 NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 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	3	2	3	5	4	5	5	5	6	6	6	5	6	13	5	6	6	6	5	IZS	6	5	7	7	13	5.5	24	
2	6	4	2	2	1	1	2	1	2	2	1	1	1	1	14	2	2	1	IZS	1	1	1	1	1	14	2.2	24	
3	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	2	IZS	IZS	2	4	4	3	3	3	4	1.6	24	
4	2	3	3	3	2	2	2	2	2	2	2	2	2	1	2	1	IZS	2	2	5	2	3	4	3	5	2.3	24	
5	3	4	5	5	5	6	7	7	6	5	5	3	2	1	1	IZS	1	1	1	2	2	1	1	1	7	3.3	24	
6	1	1	1	1	2	1	2	3	4	6	10	3	2	1	IZS	11	11	18	27	3	3	6	6	6	27	5.6	24	
7	5	6	5	5	4	4	6	5	5	5	4	4	4	IZS	4	1	2	2	2	1	4	1	3	5	6	3.8	24	
8	2	2	1	3	2	1	2	2	2	4	2	3	IZS	4	2	3	2	2	2	2	3	1	1	1	4	2.1	24	
9	3	1	1	1	1	1	2	2	4	5	5	IZS	9	10	9	7	7	5	5	5	5	5	4	4	10	4.4	24	
10	4	4	4	5	3	4	5	31	5	6	IZS	5	5	4	4	4	3	3	4	5	6	6	10	7	31	6.0	24	
11	5	10	10	11	11	13	13	10	9	IZS	5	4	2	1	3	2	1	1	1	1	1	1	0	0	13	5.0	24	
12	0	1	2	2	1	1	1	1	IZS	4	5	22	6	6	6	8	8	10	10	10	7	5	4	4	22	5.4	24	
13	6	8	7	8	7	7	5	IZS	6	6	5	6	6	8	8	11	10	10	8	11	19	8	6	3	19	7.8	24	
14	2	2	2	2	2	2	IZS	3	3	4	4	5	4	17	5	5	8	5	3	2	2	2	2	2	17	3.8	24	
15	2	2	1	1	1	IZS	2	2	2	3	4	1	1	3	4	4	2	2	3	2	2	2	1	1	4	2.1	24	
16	1	1	1	1	IZS	2	1	1	0	0	1	0	1	1	1	2	1	1	1	1	1	1	1	1	2	1.0	24	
17	1	2	1	IZS	2	1	1	2	2	1	2	2	2	1	1	1	1	1	0	0	0	0	0	0	2	1.0	24	
18	0	0	IZS	1	1	1	1	0	0	1	0	1	1	1	1	1	1	2	1	1	1	1	0	2	2	0.8	24	
19	1	IZS	1	1	1	1	1	2	2	2	1	1	2	1	2	2	1	2	3	2	4	4	3	4	4	1.9	24	
20	IZS	5	5	6	7	6	9	27	9	10	29	10	21	16	17	23	41	32	32	30	27	25	21	IZS	41	18.5	24	
21	16	22	22	19	9	10	14	14	9	7	6	6	5	4	3	4	1	1	0	1	2	1	IZS	3	22	7.8	24	
22	3	2	1	1	2	1	1	1	1	1	2	2	3	4	4	4	2	3	2	3	2	IZS	3	3	4	2.2	24	
23	3	3	4	5	5	5	6	7	7	C	C	C	C	C	C	C	14	13	11	12	IZS	11	12	12	14	8.1	24	
24	11	11	11	12	13	12	13	14	18	22	22	22	21	20	C	34	36	25	25	IZS	42	25	24	24	42	20.8	24	
25	23	22	20	19	18	53	13	14	15	13	10	5	4	1	2	26	3	IZS	3	3	3	3	3	5	53	12.8	24	
26	4	6	7	9	9	7	7	7	6	10	10	7	8	7	7	7	IZS	9	9	11	11	11	10	11	11	8.1	24	
27	10	11	9	8	6	5	4	4	3	4	21	3	3	3	41	6	IZS	8	4	3	8	6	6	7	41	8.0	24	
28	7	6	5	5	4	2	1	1	1	1	1	2	1	1	3	IZS	2	2	21	2	2	2	1	1	21	3.2	24	
29	2	3	3	7	7	7	8	9	8	8	9	8	8	8	IZS	10	16	9	9	9	12	10	9	6	16	8.0	24	
30	5	4	4	4	5	5	5	8	8	7	6	5	5	IZS	5	5	4	4	3	3	3	3	2	8	4.6	24		
HOURLY MAX	23	22	22	19	18	16	53	31	18	22	29	22	21	20	41	34	41	32	32	30	42	25	24	24				
HOURLY AVG	4.6	5.1	4.9	5.3	4.7	4.5	6.2	6.4	5.0	5.3	6.5	5.1	4.9	5.3	5.9	6.1	7.8	6.2	7.0	4.8	6.4	5.3	5.2	4.4				

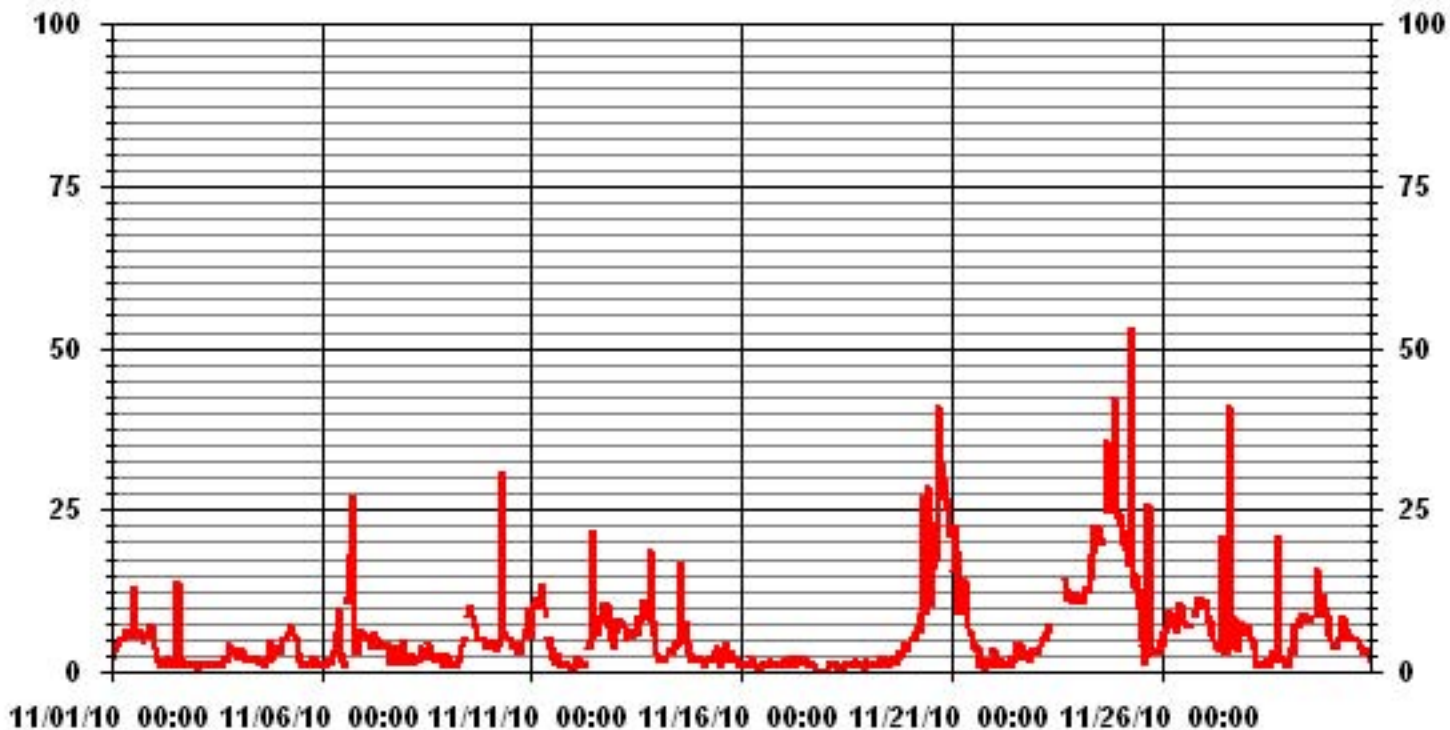
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	661
MAXIMUM INSTANTANEOUS VALUE:	53 PPB @ HOUR(S) 6 ON DAY(S) 25
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	6.52
OPERATIONAL TIME:	720 HRS

01 Hour Averages



— LICA31 NOxMAX PPB

LICA31
 NOX_ / WDR Joint Frequency Distribution (Percent)

November 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	4.11	2.49	3.37	7.04	3.81	3.81	5.13	3.67	4.11	4.99	7.34	8.66	8.37	6.90	12.48	13.65	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	4.11	2.49	3.37	7.04	3.81	3.81	5.13	3.67	4.11	4.99	7.34	8.66	8.37	6.90	12.48	13.65	

Calm : .00 %

Total # Operational Hours : 681

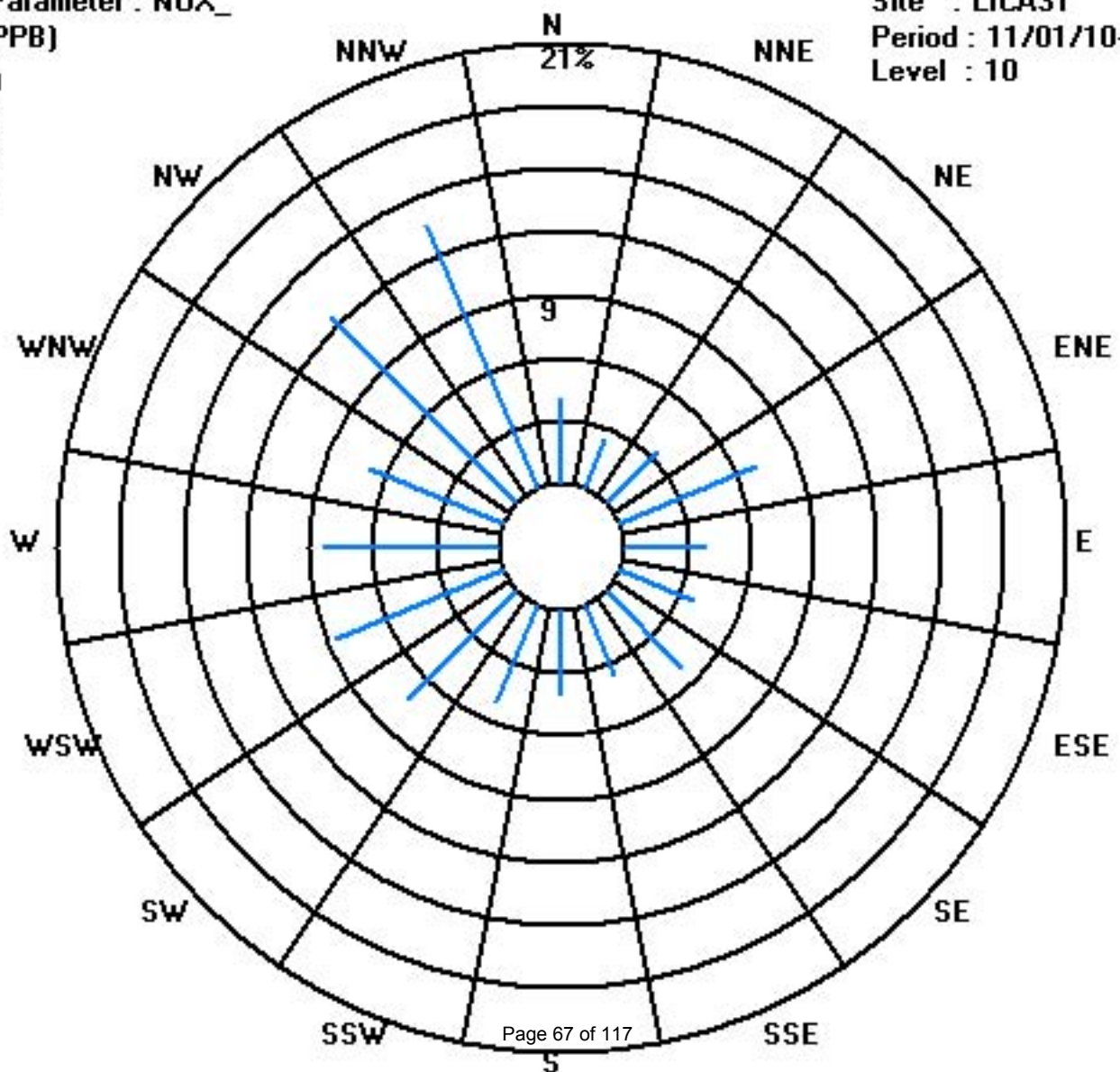
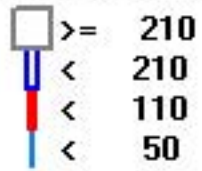
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	28	17	23	48	26	26	35	25	28	34	50	59	57	47	85	93	681
< 110																	
< 210																	
>= 210																	
Totals	28	17	23	48	26	26	35	25	28	34	50	59	57	47	85	93	

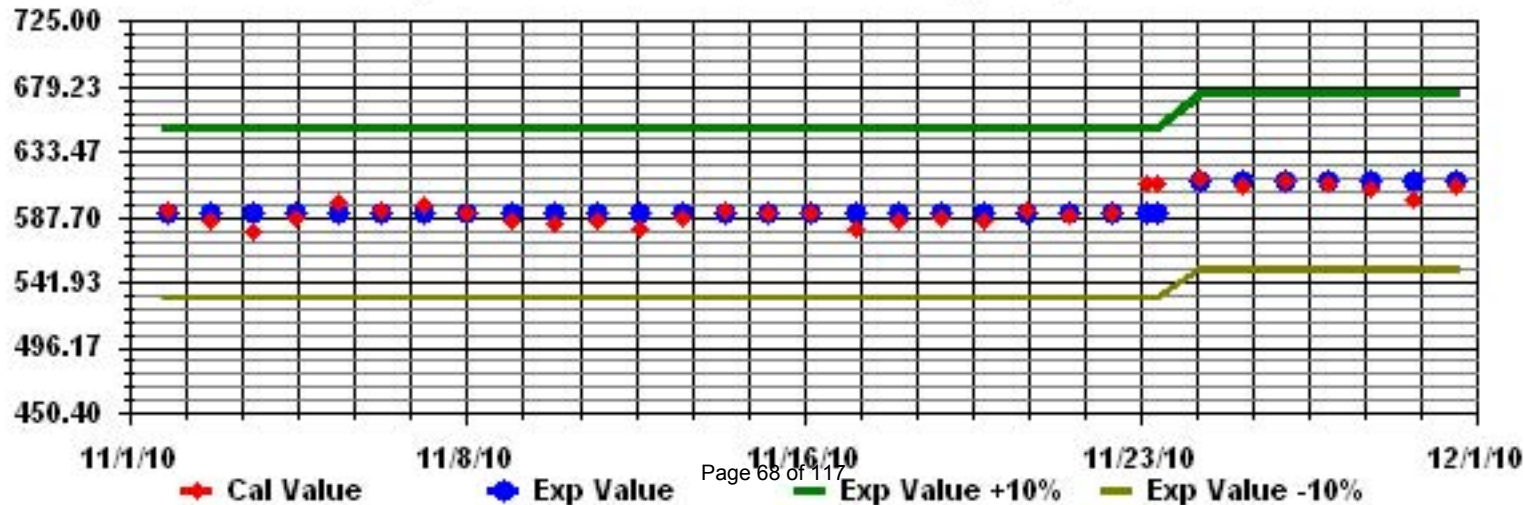
Calm : .00 %

Total # Operational Hours : 681

Class Limits (PPB)



Calibration Graph for Site: LICA31 Parameter: NOX_ Sequence: NO2 Phase: SPAN



Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA
NOVEMBER 2010

PARTICULATE MATTER 2.5 (PM2.5) hourly averages in ug/m³

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	5	3.6	4.8	6.6	6.9	8.6	8.3	7	8.1	9.8	6.6	6.2	4.3	6.7	9	5.8	1	5.1	6.5	7.7	5.7	5.1	6.1	4.7	9.8	6.2	24	
2	2.6	2	0	2.8	1.7	0.6	0	0	2.7	3.1	2.7	0.5	0	1.9	1	0.9	2.1	3.1	0.7	0.3	0.6	2.3	1.7	1.4	3.1	1.4	24	
3	1.4	1.8	0	1.2	0.4	3.5	3.4	2.8	2.9	4	3.3	0.6	1.8	1.9	1	1.8	2	1.5	0	2.7	2.1	2.7	2.7	6.2	6.2	2.2	24	
4	9	3.9	6.5	7.3	4.2	4.5	4	1.9	3.1	3.8	2.1	1.6	3.7	2.7	3.2	2.2	2.7	1.8	4	1.8	2.4	4.9	4.4	3.3	9.0	3.7	24	
5	4.9	3.7	4.9	7	6.2	5	5.4	1.2	4.4	5.2	5.3	6.7	5.5	1.5	0	0.5	2.1	1.5	1.7	2.3	0.4	0	0.4	1.1	7.0	3.2	24	
6	3.6	5.1	4.6	0.7	0	3.5	1.4	4.1	2.3	1	3.7	2.4	2.5	1.5	5.2	5.1	4.8	2.7	4.4	8.5	12.2	10.5	9.8	6.7	12.2	0.0	24	
7	5.1	5.5	5.5	5.3	5.6	4.9	2.8	10.2	11.5	6.5	5.3	4.5	3.8	4.2	3.8	0.9	3.7	6.8	6.7	6.4	0.5	1.8	4	1.4	11.5	4.9	24	
8	4.1	2.6	2.9	2.3	0	3.4	3.1	4.9	5.8	5.2	4.4	5.5	1.5	8	7.5	7.5	2.9	4.8	5	5	4.3	7.1	4.8	3.5	8.0	4.4	24	
9	3.2	4	1	3.2	2.7	3.9	5.2	4.3	5.1	6.3	6.7	6.4	5.5	6.6	7.6	7.5	6.5	6	5.2	5.7	5.3	7.7	5.6	6	7.7	5.3	24	
10	6.2	6.9	7.3	8.1	9	6.7	6.9	7.3	6.7	8.6	9.6	12.2	10.7	12.7	8.5	8.4	9.4	7.9	7.4	7.4	9.2	11.9	12.6	12.2	12.7	8.9	24	
11	13.1	13.7	15.9	18.1	18.2	18.6	20.1	18.8	18.2	16.7	14.4	12.4	9.5	8.2	7.4	5.4	4.5	5.1	4.2	6.7	6.8	5.5	5	6.2	20.1	11.4	24	
12	7.2	6.6	8.3	7.8	7.6	7.5	8.7	7.7	14.2	16.8	14.7	10.6	12.1	10.6	11.3	10.6	11.3	11.8	12.3	7.4	7.3	6.7	4.5	4.2	16.8	9.5	24	
13	5.4	3.7	3.7	3.5	4.6	5	4.1	3.3	6.8	5.9	7.6	6.5	8.7	7.6	5.7	6.1	8.3	10.2	8.3	6.9	5.8	6.5	6.9	3.8	10.2	6.0	24	
14	3.2	1.5	3.2	2.1	5.2	2.7	4.1	2.4	4.1	2.7	5.2	3.2	5.1	4.7	1	2.4	3	3.5	3.5	3.6	3.1	4.7	5.8	5.9	5.9	3.6	24	
15	4.8	4	2.7	1.6	0.3	0.8	2.4	2.3	3	2.2	2.3	1.4	3	8.4	10.6	5.7	2.7	2.3	3	5.4	4.9	3.5	1.2	1.3	10.6	3.3	24	
16	0	1.2	1	1.6	0.8	2.5	1.7	1	1.6	0.9	1.2	1.1	1.9	0.7	1.9	2.8	4.9	2	1.6	3.6	1.9	2.9	2.3	2.2	4.9	1.8	24	
17	2.3	4.3	4.5	3.1	3.3	1.8	1.1	2.1	2.2	1.3	0.9	0.7	4.9	3.9	0.3	1.4	0.8	0.1	0.4	2.7	0.4	0.6	2.2	2.1	4.9	2.0	24	
18	3.5	2	0.9	0	0.4	4.7	2	2.3	0.3	0.8	0.7	0.1	0	0.9	C	M	M	M	M	M	M	1.1	N	N	4.7	1.3	16	
19	N	20.7	N	17.3	15.8	28.5	28.5	N	9.7	0	N	N	10.5	15.4	4.2	4.2	5.4	15.4	0.1	3.5	2.4	1.3	2.5	5.4	28.5	10.0	19	
20	8	9.2	12.2	9	10.2	14.1	16.1	7.6	11.3	10.2	20.8	18.5	17.1	20.6	21.7	33.1	46.5	44.5	48.3	45.2	34.9	26.6	19.3	20	48.3	21.9	24	
21	18.2	29	19.6	19.2	13.1	11.6	27.7	27.8	14.9	26.4	21	19.4	16.3	12.8	11.8	9.7	5.8	11.3	1.3	12.1	6.2	14.4	0	7.9	29.0	14.9	24	
22	7.4	13.7	6.6	14.5	8.2	N	0	1.9	3.8	7.7	4.1	9.4	5.9	9.3	0	4.2	3.7	8.2	5.3	5.2	1.3	2.3	0.1	0.2	14.5	5.3	23	
23	N	5	4.7	4.7	6.7	12.5	8	9	14.6	20.9	21	17.1	14	9.7	12.6	13.9	6.1	8.1	21.6	12.6	13	13.2	17.2	14.1	21.6	12.2	23	
24	18.2	15.5	10.7	21.2	15.7	8.7	10.7	9	12.8	11.5	19.1	22.1	13.7	16.2	20.8	22.3	16.9	15.9	17.2	11.8	15.6	15.1	18.9	20.8	22.3	15.9	24	
25	18.8	14.6	17.9	16.5	23.9	19.3	23.3	21.3	47.3	21.4	24.2	16.7	15.6	1.5	4.7	0	6	6.1	8.2	20	13.1	10.9	6.6	3.1	47.3	15.0	24	
26	0	N	0	19.7	24.1	17.6	17.1	7.6	5.5	N	15.6	4.2	7.5	13.8	15.4	12.2	18.3	10	9.3	5.4	19.6	14	18.1	16.6	24.1	12.3	22	
27	22.4	15.7	22	15.7	16.9	12.8	15.6	14.9	4.9	5.8	8.4	10.8	N	3.4	45.5	9.6	4.6	7.9	N	19.4	6.3	6.5	23.2	31.9	45.5	14.7	22	
28	19.5	1.4	58.1	2.9	9.9	74.5	0	10.9	36.3	N	9.4	11.1	30	20.9	N	N	6.1	5.2	16.6	8.1	8	14.1	2.8	2.3	74.5	16.6	21	
29	0	13.9	22.5	15.4	15.9	15.3	24.5	26.8	22	24.2	30.2	10	24.9	N	N	16.2	17.8	24.5	23.3	13.4	14.3	15.6	15.6	14	30.2	18.2	22	
30	13.6	11.1	9.5	11.8	9.9	9.1	10.2	13.3	12.4	11.5	8.6	7.8	7.4	7.1	6.3	3.8	4.4	5.9	12.3	16.6	4.6	5.4	5.4	6.7	16.6	8.9	24	
HOURLY MAX	22	29	58	21	24	75	29	28	47	26	30	22	30	21	46	33	47	45	48	45	35	27	23	32				
HOURLY AVG	7.5	7.8	9.0	8.3	8.2	10.8	8.9	8.1	10.0	8.6	9.6	7.9	8.5	7.7	8.4	7.3	7.4	8.2	8.5	8.9	7.3	7.5	7.2	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

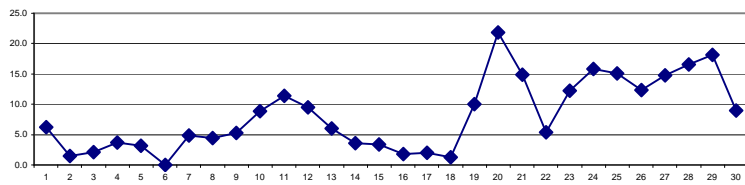
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	-	ug/m ³	24-HR	30	ug/m ³
-----------------------------	------	---	-------------------	-------	----	-------------------

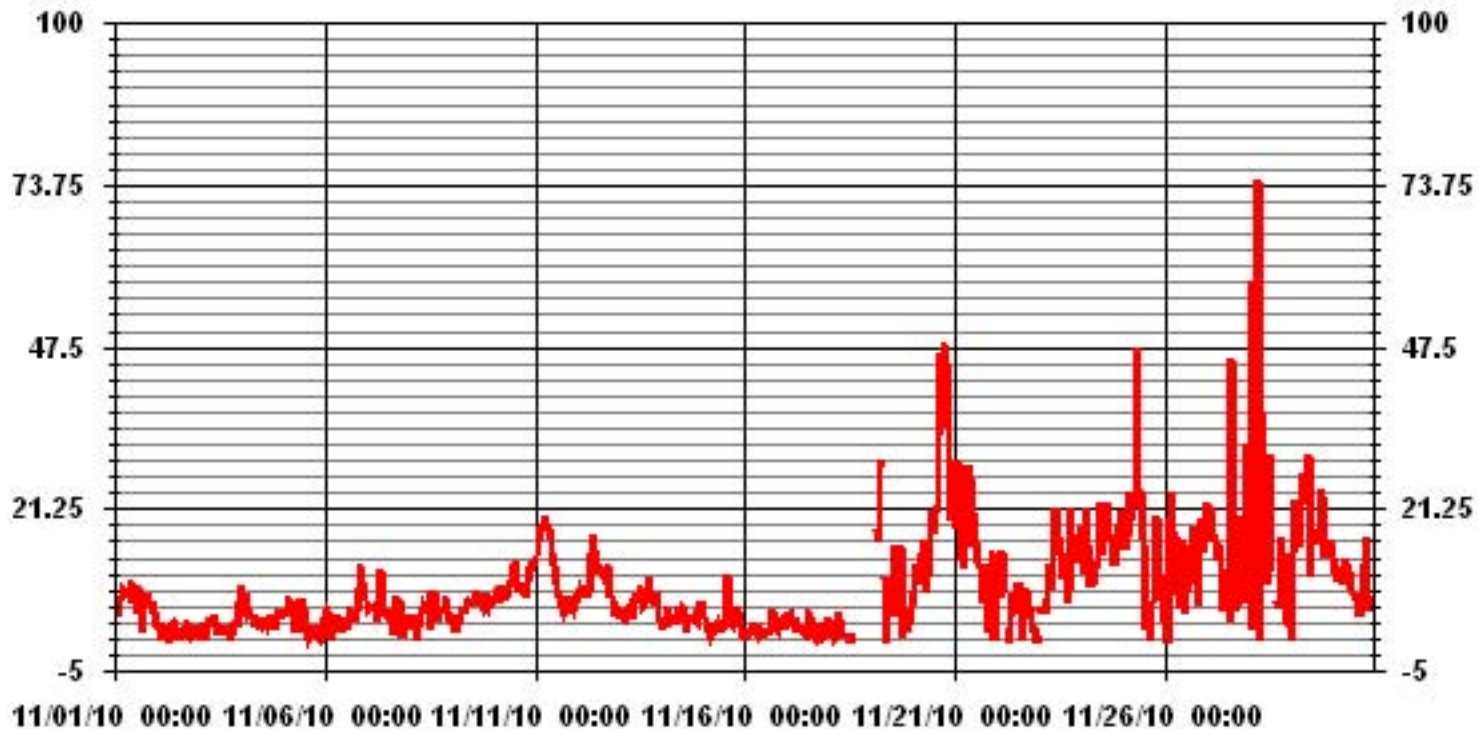
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-	PROPOSED CANADA WIDE GUIDELINE
NUMBER OF 24-HR EXCEEDENCES:	0	
NUMBER OF NON-ZERO READINGS:	673	
MAXIMUM 1-HR AVERAGE:	74.5	UG/M ³ @ HOUR(S) 5 ON DAY(S) 28
MAXIMUM 24-HR AVERAGE:	21.9	UG/M ³ ON DAY(S) 20
IZS CALIBRATION TIME:	0	HRS OPERATIONAL TIME: 696 HRS
MONTHLY CALIBRATION TIME:	1	HRS AMD OPERATION UPTIME: 96.7 %
STANDARD DEVIATION:	8.20	MONTHLY AVERAGE: 8.30 UG/M ³

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA31 PM2 UG/M3

LICA31
 PM2 / WDR Joint Frequency Distribution (Percent)

November 2010

Distribution By % Of Samples

Logger Id : 31
 Site Name : LICA31
 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	4.17	2.44	3.59	7.19	3.88	4.17	5.17	3.59	3.88	4.74	7.91	8.48	7.91	6.90	11.79	12.08	97.98
< 60.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.28	.14	.14	.00	.14	1.00	1.87
< 80.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.14
< 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	4.17	2.44	3.59	7.19	3.88	4.17	5.17	3.59	3.88	5.03	8.20	8.63	8.05	6.90	11.94	13.09	

Calm : .00 %

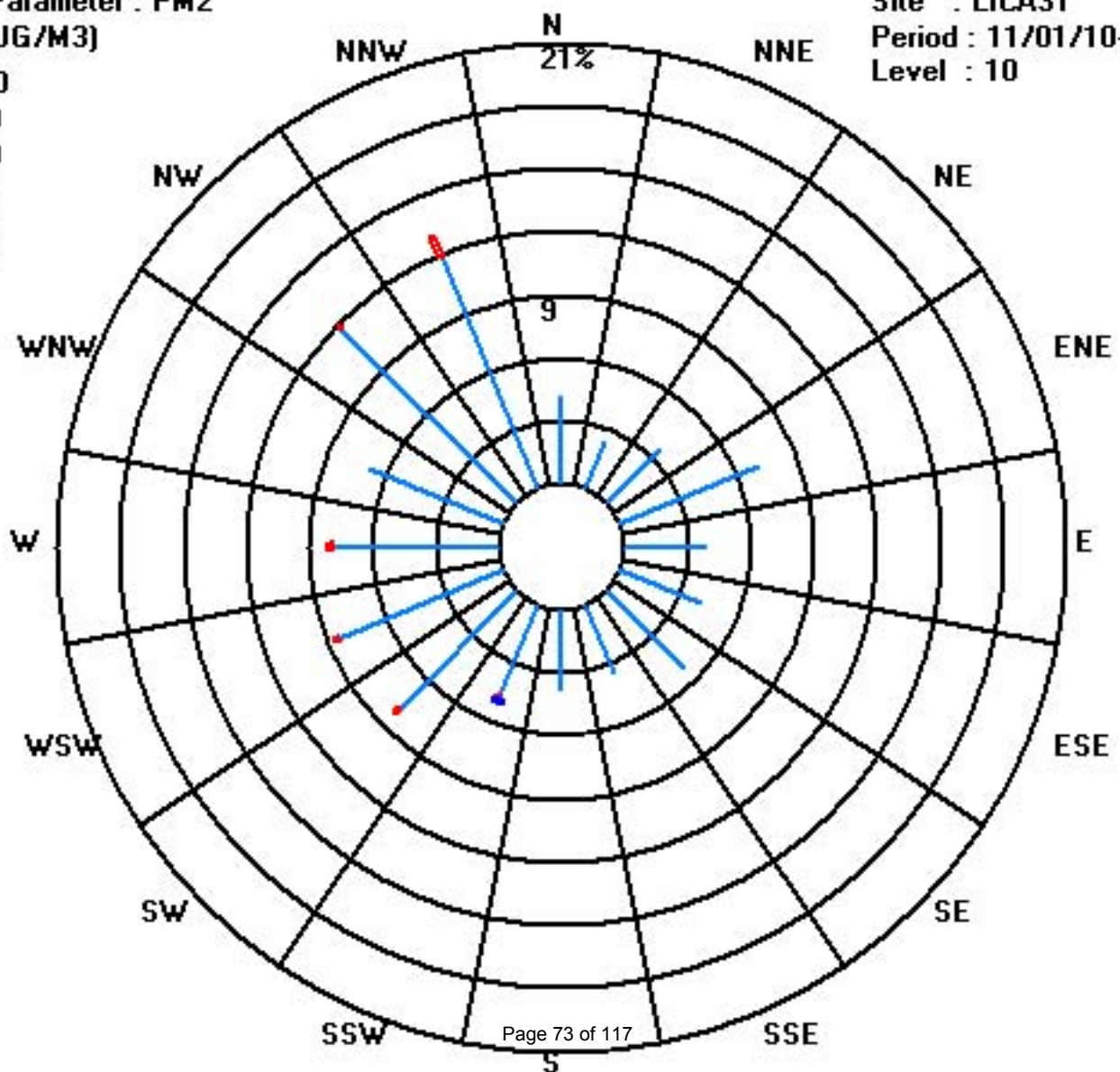
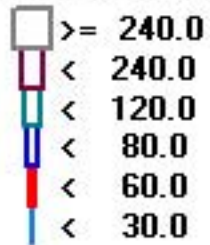
Total # Operational Hours : 695

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	29	17	25	50	27	29	36	25	27	33	55	59	55	48	82	84	681
< 60.0										1	2	1	1		1	7	13
< 80.0										1							1
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	29	17	25	50	27	29	36	25	27	35	57	60	56	48	83	91	

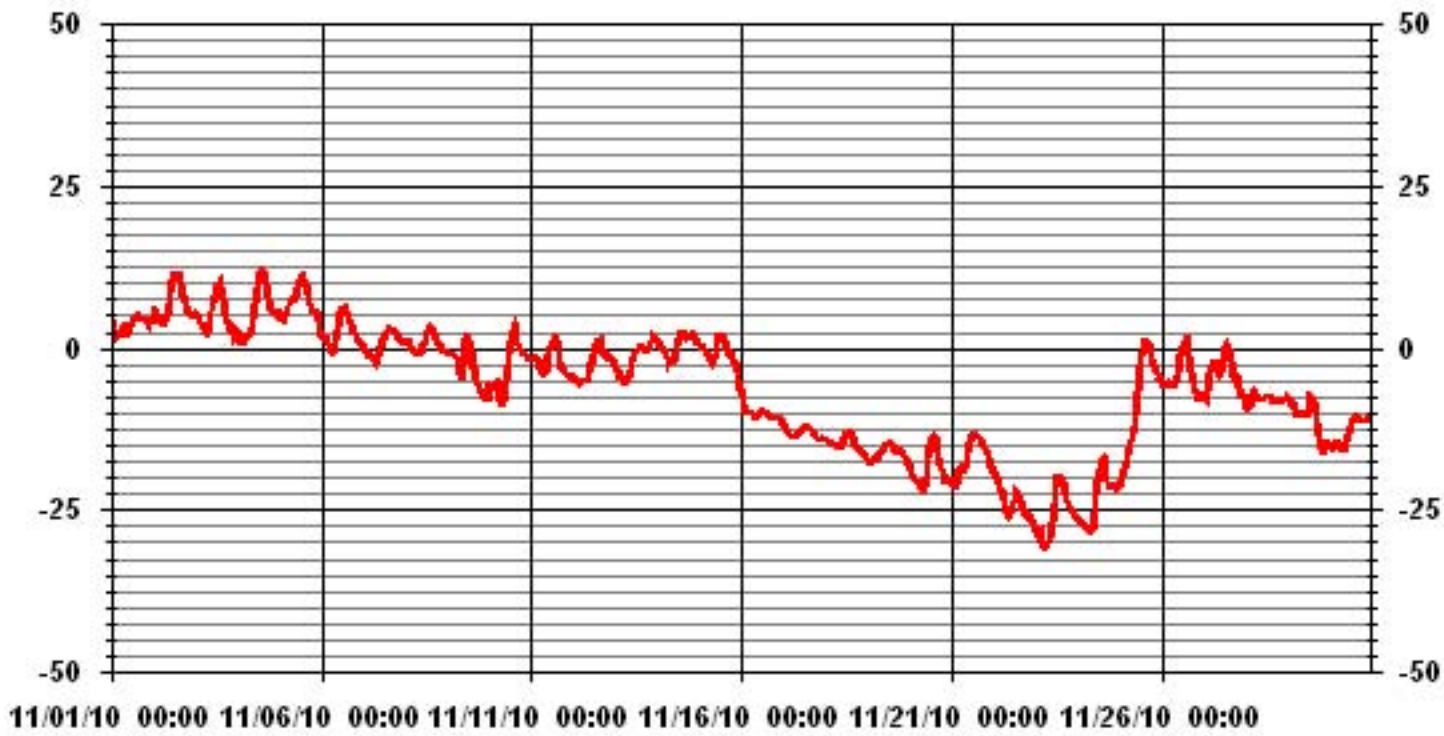
Calm : .00 %

Total # Operational Hours : 695



Temperature

01 Hour Averages



— LICA31 TPX DGC

Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

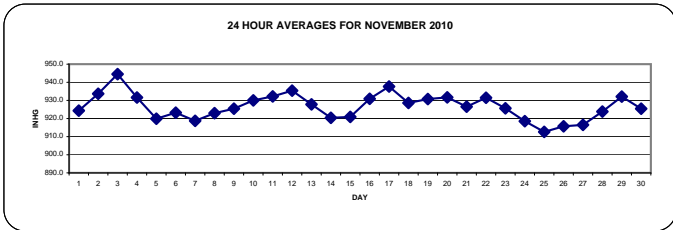
NOVEMBER 2010

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	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	MAX.	AVG.	RDGS	
1	1	928	928	927	927	926	926	925	925	924	924	924	923	923	923	923	922	922	923	923	923	923	923	924	925	928	924.3	24	
2	2	926	927	928	928	928	929	930	931	933	934	934	935	935	936	936	937	937	937	937	938	938	938	939	940	940	940	933.7	24
3	3	940	941	942	942	943	943	944	944	945	946	947	947	948	947	947	947	947	947	945	945	945	944	944	943	942	948	944.5	24
4	4	942	941	940	939	938	937	936	935	934	934	933	933	931	931	930	929	928	927	925	925	924	923	922	921	942	931.6	24	
5	5	921	920	919	919	918	918	917	918	919	919	920	920	921	921	920	920	920	920	920	920	920	921	922	922	922	922	919.9	24
6	6	923	923	924	924	924	924	924	924	924	925	925	925	925	924	924	923	923	923	922	922	921	921	920	920	925	923.2	24	
7	7	920	920	920	919	919	919	919	919	919	919	919	918	918	918	918	918	918	918	919	918	918	918	919	919	920	918.7	24	
8	8	920	919	920	920	920	921	921	922	922	922	923	924	924	924	924	925	925	925	925	925	925	925	925	925	925	925	923.0	24
9	9	925	925	925	925	925	925	925	925	925	925	926	927	927	926	926	926	926	925	925	925	925	925	925	926	926	927	925.4	24
10	10	927	927	927	927	927	928	928	928	928	929	930	931	931	932	932	932	932	932	932	932	932	932	932	932	932	932	930.0	24
11	11	932	932	932	932	932	932	931	931	932	932	933	933	933	933	933	933	933	933	932	932	932	932	932	932	932	932	932.2	24
12	12	932	932	932	933	933	933	934	935	935	935	936	936	937	937	937	938	938	937	937	937	937	936	936	936	938	935.4	24	
13	13	935	935	934	933	932	931	930	929	929	929	928	928	926	926	925	925	925	924	924	924	923	924	924	924	924	935	927.8	24
14	14	924	924	923	923	923	922	922	921	921	920	920	920	919	919	919	919	918	918	918	918	919	919	920	920	924	920.4	24	
15	15	920	921	921	921	921	921	922	922	922	922	922	922	922	921	921	920	920	920	920	920	920	920	920	920	922	920.9	24	
16	16	921	922	923	924	925	926	927	927	929	930	931	931	932	933	934	935	935	936	937	937	937	937	938	938	938	930.9	24	
17	17	938	939	939	939	939	939	939	939	940	940	940	940	939	939	938	937	937	936	936	935	935	934	934	933	940	937.7	24	
18	18	933	932	931	930	930	929	929	929	928	928	928	928	928	928	927	927	927	927	927	928	928	928	928	928	928	933	928.6	24
19	19	928	928	928	929	929	929	929	929	930	930	931	931	931	931	931	931	932	932	932	933	933	933	934	934	934	930.8	24	
20	20	934	934	934	934	933	933	933	933	933	933	933	933	933	932	932	931	930	930	929	929	929	929	929	928	928	934	931.7	24
21	21	927	927	927	926	926	926	926	926	926	926	926	926	926	926	926	926	926	927	927	927	927	928	928	928	928	926.5	24	
22	22	929	930	930	930	931	931	931	931	932	932	933	933	933	932	932	932	932	932	932	932	931	931	931	931	933	931.5	24	
23	23	930	929	929	929	928	928	927	927	927	926	926	926	925	925	925	924	924	924	923	923	923	923	922	922	930	925.6	24	
24	24	922	921	921	921	921	921	920	920	920	920	920	920	919	919	918	918	918	917	916	916	915	915	914	913	922	918.5	24	
25	25	913	912	912	911	910	910	909	909	909	909	909	910	911	912	913	914	915	915	916	916	916	917	917	918	918	912.6	24	
26	26	918	918	918	917	917	917	916	916	916	916	916	916	916	916	916	915	914	914	914	914	913	914	914	914	918	915.7	24	
27	27	914	914	914	915	915	916	916	916	916	916	917	917	917	918	918	918	918	917	917	917	917	917	918	918	918	916.5	24	
28	28	919	919	919	920	920	921	921	922	922	923	923	924	924	924	925	925	926	926	927	928	928	928	928	929	929	929	923.8	24
29	29	929	929	930	930	931	931	931	932	932	933	933	933	934	934	934	934	934	933	933	932	932	932	932	932	934	932.1	24	
30	30	932	931	930	930	929	929	928	927	927	926	926	925	924	924	924	923	923	922	922	922	921	921	922	922	932	925.4	24	
HOURLY MAX		942	941	942	942	943	943	944	944	945	946	947	947	948	947	947	947	947	945	945	945	944	944	943	942				
HOURLY AVG		927	927	927	927	926	927	926	926	927	927	927	927	927	927	927	927	927	926	926	926	926	926	926	926				

STATUS FLAG CODES

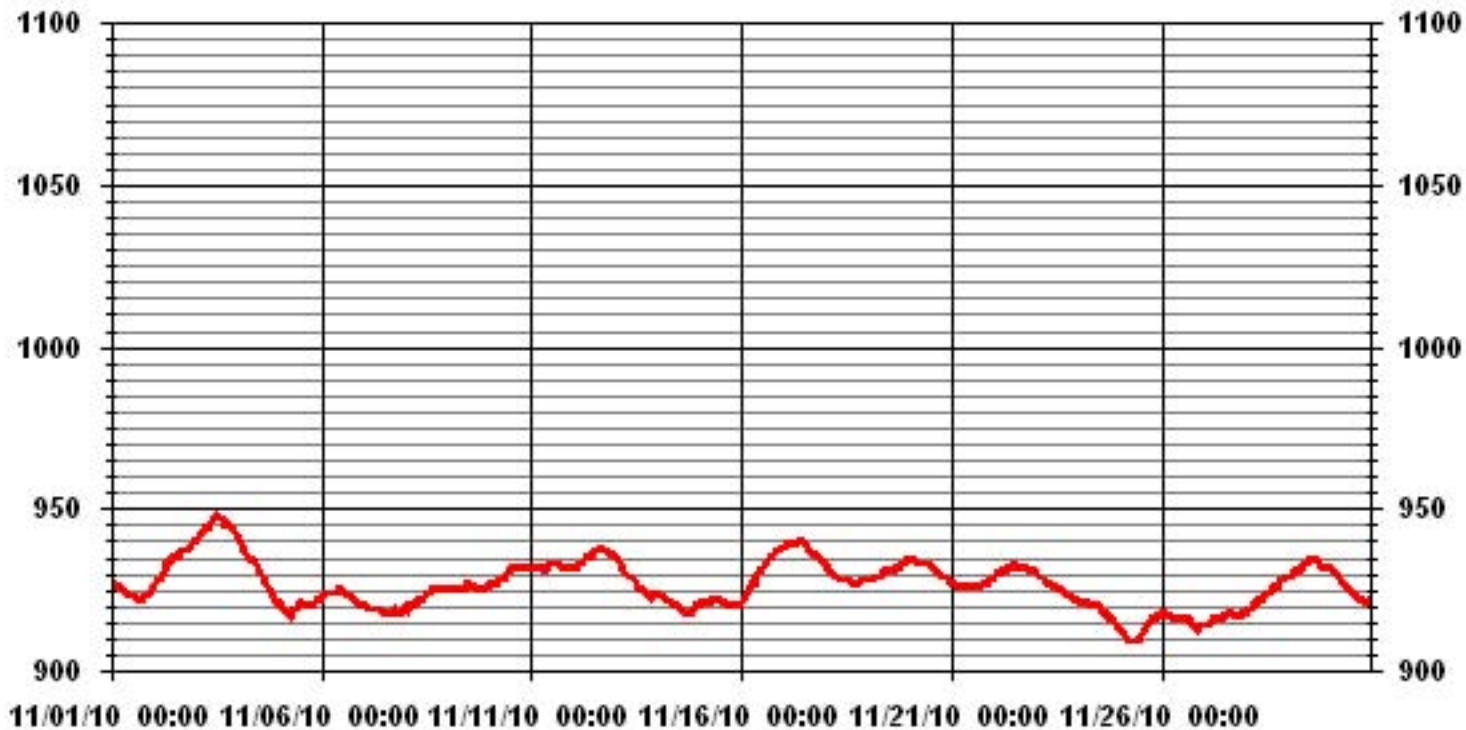
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	948	MB	@ HOUR(S)	12	ON DAY(S)	3
MAXIMUM 24-HR AVERAGE:	944.5	MB			ON DAY(S)	3
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
			AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	7.42		MONTHLY AVERAGE:	927	MB	

01 Hour Averages



— LICA31 BP MB

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

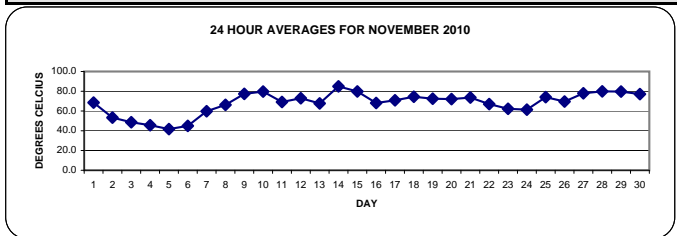
NOVEMBER 2010

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		61	63	68	71	72	71	69	70	73	72	69	67	66	67	66	68	68	68	69	70	72	69	68	73	68.5	24		
2		66	62	63	68	71	72	70	67	67	62	54	44	37	36	36	35	38	47	48	46	47	46	48	49	72	53.3	24	
3		50	52	54	56	56	56	59	59	57	50	45	42	37	34	33	34	38	45	47	49	52	51	55	56	59	48.6	24	
4		52	53	59	58	54	54	54	53	51	48	43	37	35	30	29	30	35	39	41	45	47	49	49	50	59	45.6	24	
5		53	56	57	57	58	56	54	54	53	49	47	41	37	29	27	25	28	27	31	35	32	32	36	58	41.7	24		
6		39	42	40	41	45	46	49	52	51	51	50	40	39	36	37	39	42	43	46	45	50	50	53	53	53	45.0	24	
7		56	60	63	64	62	60	63	68	69	64	63	59	52	54	54	55	57	59	59	59	60	58	58	58	69	59.8	24	
8		58	57	57	59	66	69	72	74	74	73	72	71	69	67	64	62	61	63	63	64	69	70	68	68	74	66.3	24	
9		68	69	69	67	68	70	75	82	86	81	72	69	70	72	75	85	86	86	85	85	84	85	84	83	86	77.3	24	
10		85	85	86	86	86	84	84	82	82	84	85	85	84	79	71	67	70	70	70	74	77	78	79	79	86	79.7	24	
11		79	77	77	77	77	81	84	84	82	73	70	65	57	49	49	51	58	61	63	67	69	67	70	73	84	69.2	24	
12		71	74	77	75	75	74	75	75	74	73	71	68	74	78	77	75	80	82	81	70	65	62	62	63	82	73.0	24	
13		64	64	66	65	68	68	67	67	65	63	63	62	62	60	64	72	77	75	73	71	70	69	72	78	78	67.7	24	
14		81	84	87	86	85	86	88	85	83	84	82	82	81	78	77	82	87	89	89	90	90	89	88	86	90	85.0	24	
15		83	81	81	81	81	80	81	82	80	80	73	70	73	74	78	85	88	86	83	82	82	79	77	75	88	79.8	24	
16		76	73	73	73	72	71	69	70	68	67	68	66	61	62	65	67	67	66	66	66	67	66	68	68	76	68.1	24	
17		68	71	71	72	72	71	72	72	71	71	72	72	73	71	64	70	71	70	68	69	71	72	73	73	73	70.8	24	
18		74	73	74	73	74	74	74	75	74	74	74	74	74	74	74	75	75	75	76	76	76	75	75	75	76	74.5	24	
19		75	75	74	74	74	74	74	75	75	74	74	72	71	70	70	70	70	70	70	71	71	73	73	74	75	72.5	24	
20		74	73	73	72	72	72	71	71	71	71	71	70	70	68	68	72	74	75	75	74	73	73	73	73	75	72.0	24	
21		72	73	72	72	73	73	73	73	74	75	76	75	75	74	74	75	74	73	73	73	73	74	74	74	76	73.6	24	
22		73	72	72	71	70	70	69	68	67	66	65	65	62	62	63	66	67	67	67	67	66	66	66	66	73	67.0	24	
23		66	65	65	65	65	64	65	64	64	62	61	58	54	53	54	56	60	63	65	65	65	65	65	65	66	62.3	24	
24		64	63	64	63	62	62	61	61	59	55	53	53	55	54	56	58	62	64	65	67	68	68	68	68	68	61.4	24	
25		67	67	68	68	68	69	74	77	79	81	82	77	75	79	73	70	73	76	76	76	76	76	77	79	82	74.0	24	
26		81	81	79	77	74	74	73	69	71	68	60	56	56	53	51	62	66	69	71	74	77	76	76	76	81	69.6	24	
27		77	78	82	85	85	86	85	87	85	80	72	66	63	62	63	68	74	78	78	79	85	84	85	84	87	78.0	24	
28		84	82	82	83	84	84	83	82	81	80	77	74	75	75	76	78	79	80	80	80	80	80	79	79	84	79.9	24	
29		81	83	84	84	83	82	81	81	81	80	80	79	78	77	77	79	80	79	78	77	77	78	77	77	84	79.7	24	
30		77	77	77	77	77	77	77	76	76	77	77	78	78	78	77	77	77	77	77	76	77	78	78	78	78	78	77.1	24
HOURLY MAX		85	85	87	86	86	86	88	87	86	84	85	85	84	79	78	85	88	89	89	90	90	89	88	86				
HOURLY AVG		69.2	69.5	70.5	70.7	71.0	71.0	71.5	71.8	71.4	69.6	67.3	64.5	63.1	61.8	61.4	63.4	65.9	67.3	67.6	67.9	69.0	68.7	69.0	69.5				

STATUS FLAG CODES

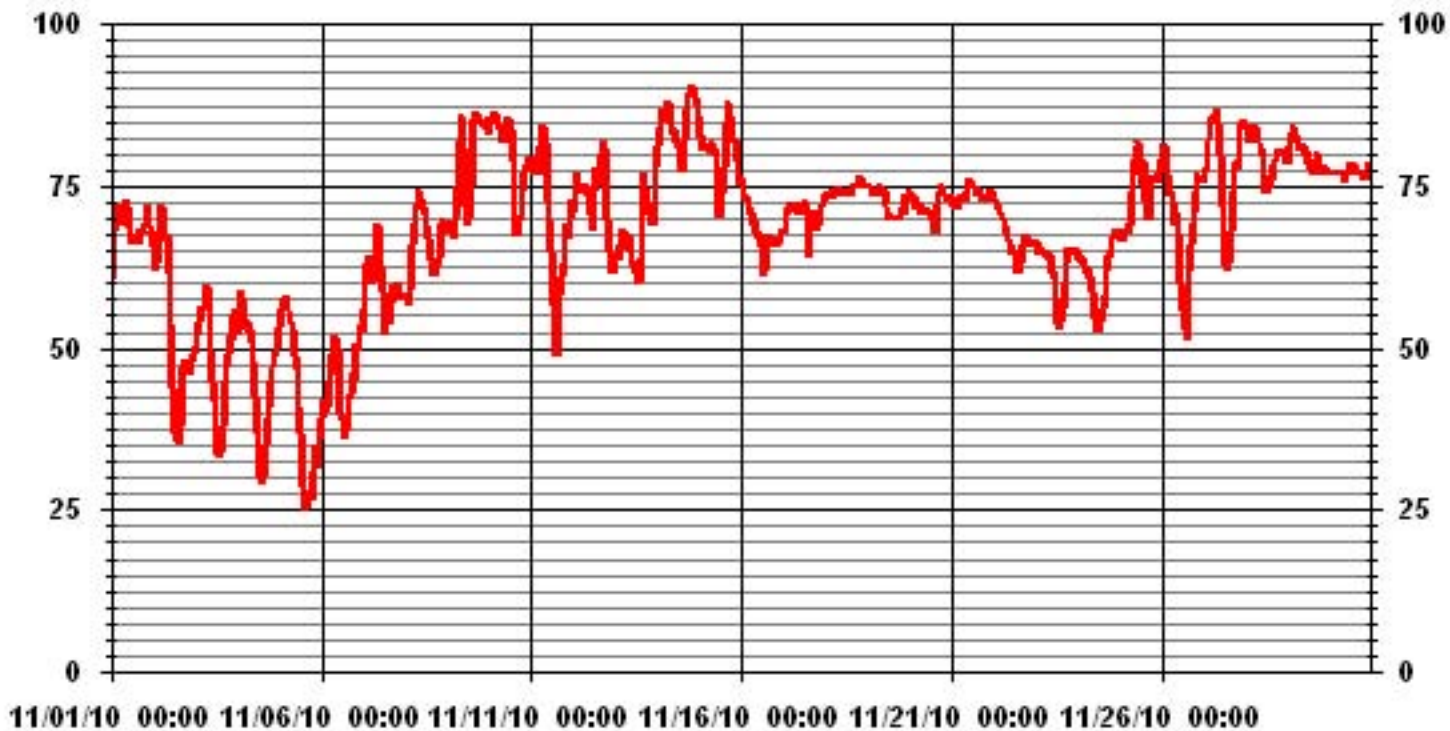
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	90 %	@ HOUR(S)	19, 20	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	85.0 %			ON DAY(S)	14
				VAR-VARIOUS	
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS		
STANDARD DEVIATION:	12.67	AMD OPERATION UPTIME:	100.0 %		
		MONTHLY AVERAGE:	68.03 %		

01 Hour Averages



— LICA31 RH %FS

Precipitation

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 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	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	MAX.	TOTAL	RDGS.	
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	0	0	0	0	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	0	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	0.0	24	
7	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	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	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	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	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	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	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0.2	0.2	24	
14	14	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	0.1	0.1	24	
15	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	16	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	0.1	0.1	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	0.1	0.1	0.1	0.2	24	
18	18	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7	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	0.0	24	
20	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	21	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	0.1	0.1	24	
22	22	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	0.1	0.1	24	
23	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	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	25	0	0	0	0	0	0	0.3	0.4	0.2	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	24	
HOURLY MAX		0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.4	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1			

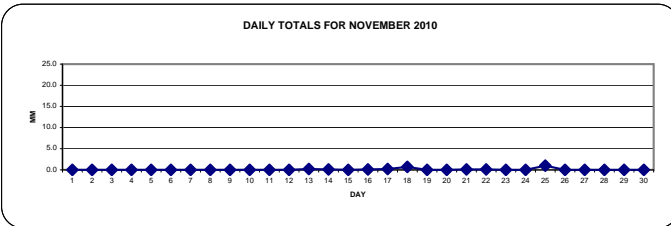
STATUS FLAG CODES

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

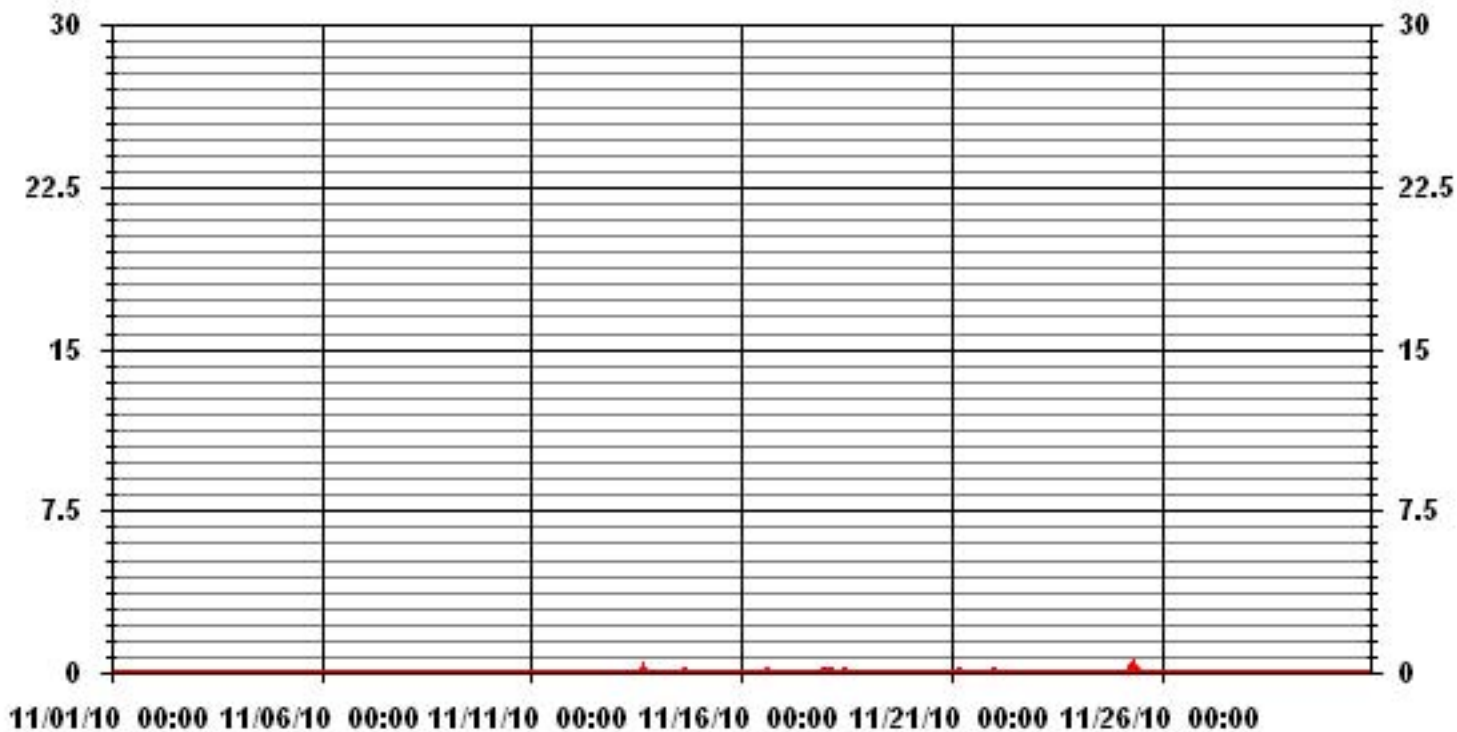
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	0.4	MM	HOUR(S)	7	ON DAY(S)	25
MAXIMUM DAILY TOTAL	1.0	MM			ON DAY(S)	25
MONTHLY TOTAL	2.5	MM				
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
STANDARD DEVIATION:	0.03		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	0.00	MM	

DAILY TOTALS FOR NOVEMBER 2010



01 Hour Averages



— LICA31 PRECIP MM

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 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	6.6	9	11.1	12.8	12.6	12.8	14	13.4	15.1	15.3	14.5	10.8	2.8	4.5	4.8	6	6.5	7.2	4.9	10	6.8	9	11.7	12.6	15.3	3	24
2	10.9	16.1	14.7	11.8	12.9	11.5	13.7	12.3	16.5	18.7	19.8	11.7	6.2	8.1	6.2	4.6	7.5	7	7	5.3	6	3.3	3	2.1	19.8	8.6	24
3	1.7	1.3	3.3	3.6	5.7	5.4	6.1	6.2	4.6	6.4	10	5.4	4.8	4.6	4.4	5.2	8.2	9.6	4.1	5.5	7.8	7.3	10.1	11.8	11.8	3.6	24
4	13.2	13.5	14.3	16.6	17.5	16.2	18.4	20.5	17.6	16.2	20.5	17.6	14.3	7.3	4	4.2	6.4	8.5	3.8	1.6	0.9	1.7	2.9	5.4	20.5	8.7	24
5	5	5.2	5	6.4	5.6	7.8	7.5	11.4	11	6.9	10.5	13.2	13.4	12.3	11.6	10.9	14.6	12.2	14.7	17.3	14.4	14.6	15.5	10.2	17.3	8.6	24
6	8.3	7.7	7.5	6.8	8.4	8.5	8.9	6.9	5.4	5	5.5	6.3	8.6	6.1	4.1	6	7.1	9.1	11	7.3	8.8	10.7	12.3	12.7	12.7	0.9	24
7	9.5	10	10.3	11.3	12.4	11.9	12.4	12.9	14	15.3	15.5	17.1	17	19.5	20.3	20.8	17.2	14	13.7	14.5	11.4	10.3	8.1	8.5	20.8	12.8	24
8	8.7	8.3	6.7	7.8	10.8	9.6	9.5	11.5	10.8	12	10.7	9.3	9.5	11.1	11.3	9.9	8	8.6	9.8	8.9	6.2	7.8	7.8	9.4	12	8.9	24
9	9	11.8	10.6	11.9	13.6	13.4	12.8	8.2	5.8	2.6	2.1	3.7	6.1	6.2	7.2	7.6	8.5	8.3	8.9	9.3	15	5.4	4	7.8	15	4.6	24
10	9.9	4.2	11.3	15	14.7	6.1	7.7	9.5	12.9	15.2	9	4.2	11.1	13.8	7.9	5.5	6	7	7.7	7.2	6.9	6.9	7	5.9	15.2	4.8	24
11	5.8	8.1	9.7	7.1	5.3	4.1	5.8	6.4	5.9	6.4	9	10.7	9.9	9.6	9.8	8.1	6.1	5.7	12.3	12.8	8.3	11.5	12.3	7.5	12.8	4.5	24
12	6.8	8.3	8.1	10.2	10	10.2	11.3	10.3	11.8	11.2	10.1	11.2	12.3	10.8	11.8	11.2	10.8	10	11.2	14.8	16.2	16	16	11.8	16.2	9.2	24
13	9.1	8.3	8.3	8.7	7.6	6.9	8.2	7.9	9	8	6.5	11.3	9.5	10.4	10.3	11.4	10.3	10.9	10.7	11.3	9.5	13.9	13.2	12.6	13.9	7.3	24
14	12.8	9.5	8.3	8.2	9.1	6.8	10.5	10	8.9	8.3	8.8	7.8	8.3	10.1	8.8	6.6	5.8	6.8	7.5	7.5	8.7	11.5	13.4	13.1	13.4	7.6	24
15	11.6	10.3	9.2	10.7	10	9.9	9.5	9.9	10.1	8.1	5.2	6.5	10.4	7.9	12.7	6.3	8.2	11.3	14.2	12.3	2	6.4	8.9	6.6	14.2	6.2	24
16	9.4	8.3	6.7	5.2	4	4.4	1.9	4.1	3.4	4.3	5.7	6.1	3.9	5	5.1	7.4	7.4	7.3	7.9	9.8	11.4	11.4	10.1	10.7	11.4	4.5	24
17	13	9.5	8.8	14.3	13.7	12.2	11.7	9.7	8.8	8.6	9.8	9.8	11.8	13.3	12.4	4.7	5.5	5.2	5.4	5.9	5.5	6.6	6.5	7.3	14.3	8	24
18	5.6	6.6	5.9	6	6.5	7	6.2	9.3	7.9	7.8	8.1	8.2	10.7	11.3	10.4	12.8	14.7	14.7	8.3	9.6	13.3	11.6	8.1	11.7	14.7	6.2	24
19	9.9	9.8	10.9	11.8	3.4	0.5	3	2.8	6.4	1.9	5.2	6.8	5.9	6.7	5.1	7.2	7.4	12	12	5.6	7.4	6.1	4.9	11.5	12	2.5	24
20	11.9	12.7	12.1	12.7	12.3	12.4	13.2	12.1	11.5	12.1	12.1	12.2	7.9	8.9	10.8	12.6	13.3	13	11.5	11.7	12.1	8.2	7.3	7.3	13.3	10.5	24
21	4.4	5	3.1	4	8.7	7.4	7.4	2.5	7.5	2.9	11.1	13.9	13.5	11.9	11.6	13.6	8.9	10.2	9.1	9	9.1	9	8.4	9.2	13.9	5.4	24
22	9.3	7.9	8.9	9.6	10.7	8.5	7	6	6.4	7	9.3	10.6	11.1	11.1	11.8	9.6	6.8	8.5	10.1	12.6	12.8	10.8	10.7	12	12.8	5.2	24
23	11.4	10.9	12.7	11.2	12.7	13.2	15	15.7	15.6	15.6	15.9	16.3	16.6	17.6	14.4	12.3	11.5	5.6	7.4	7.7	9.4	9.2	9.3	10	17.6	9.8	24
24	9	12.7	6.8	8.5	8.7	7.6	8.3	8.1	6.9	8.8	9.4	10.1	13.7	12.2	11.7	10.1	9.5	9	8.2	8.8	9.6	8.8	9	8.9	13.7	9	24
25	9.8	9.3	9.5	8.6	7.7	9.1	8.2	8.4	8.8	8.9	11.5	15.4	15.7	3.3	8.6	4.6	5.7	7.2	5.7	4.3	7.1	7.3	7.5	11.3	15.7	3.4	24
26	4.8	9.5	10	11.5	9.5	10.2	8.2	8.7	5.7	7.4	6.6	7.7	6.9	6.5	8.3	8.3	6.1	7.1	10.4	3.8	8.7	8.2	5.7	11.3	11.5	4	24
27	12.6	13	10.4	12.4	11.7	9.2	10.3	11.6	9.5	11.4	10.9	11.4	10.8	8.9	8.7	8.9	7.6	6.2	6.9	6.8	9.3	7.3	7.1	4.9	13	8.4	24
28	11.8	6.7	7.2	7.5	5	9	10.1	8.2	6.4	10.8	12.1	11.6	12	11.4	7.3	7.5	6.2	5.9	7.6	8.6	7.5	9.1	12	10	12.1	7.6	24
29	7.3	6.6	4.3	6	5.1	6.7	4.9	5.1	5.1	4.3	12.1	14.4	2.4	10.7	13.5	13.9	14.2	12.7	14.1	10.3	10.4	11.5	12.2	12.1	14.4	6.7	24
30	12.4	12.3	11.8	12.1	13.1	6.8	9	9	10.6	13.7	15.4	15.6	17.1	16	16.6	19	19.6	18.1	17.2	15.7	16.6	17.1	10.5	10.6	19.6	11.5	24
HOURLY MAX	13.2	16.1	14.7	16.6	17.5	16.2	18.4	20.5	17.6	18.7	20.5	17.6	17.1	19.5	20.3	20.8	19.6	18.1	17.2	17.3	16.6	17.1	16.0	13.1			
HOURLY AVG	9.1	9.1	8.9	9.7	9.6	8.8	9.4	9.3	9.3	9.4	10.4	10.6	10.1	9.9	9.7	9.2	9.2	9.3	9.4	9.2	9.3	9.3	9.2	9.6			

STATUS FLAG CODES

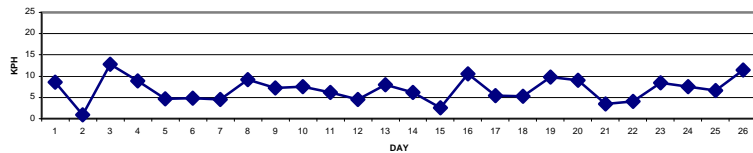
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION: June 17, 2010

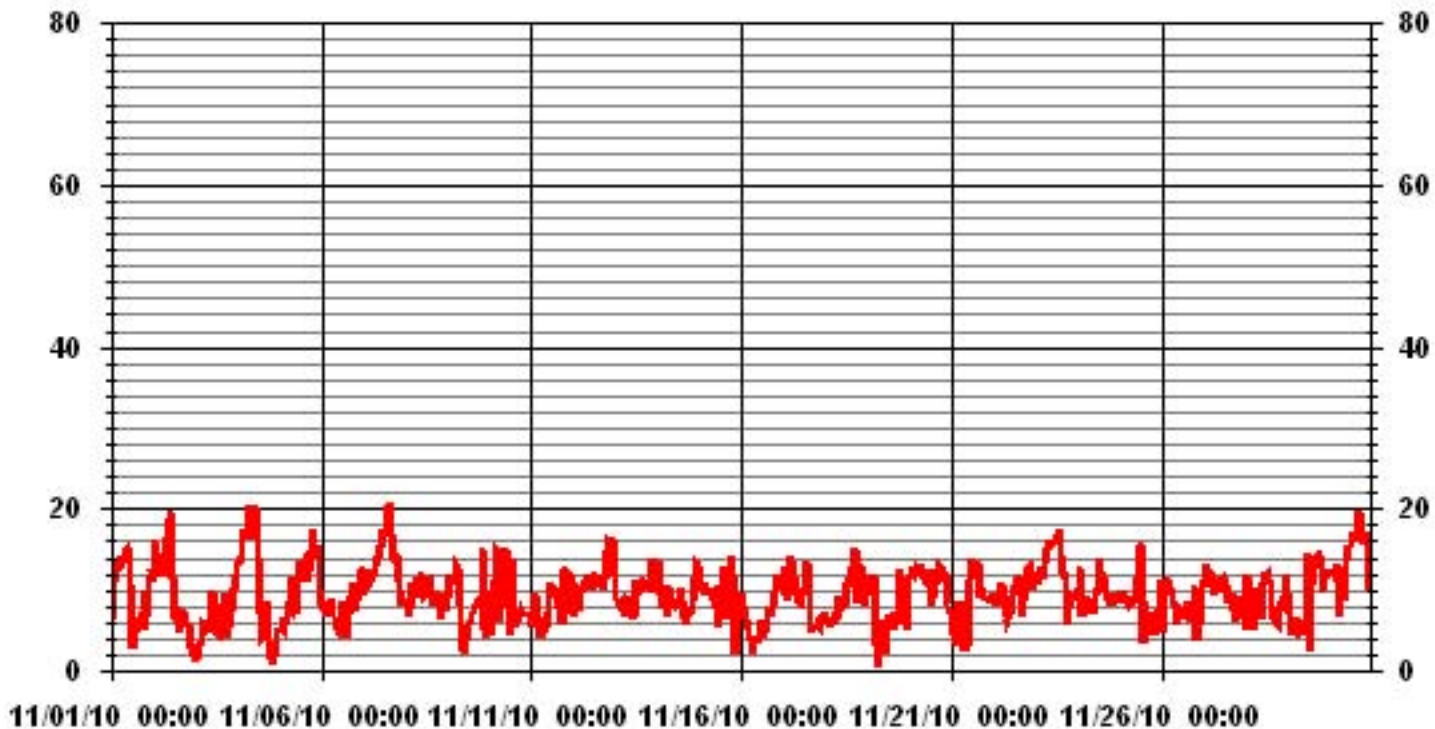
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	20.8	KPH	@ HOUR(S)	15	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	12.8	KPH			ON DAY(S)	7
CALMS (≤ 0 KPH)	0.13	%	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	3.56		MONTHLY AVERAGE	9.46	KPH	

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA31 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 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	12	11.8	17.7	21	22.5	25.1	31.3	33.7	29.7	30.6	32.6	33.3	31.3	33.7	28	31.7	27.8	28.4	18.6	21.4	9.8	12.9	17.5	19.4	33.7	33.7
2	19.2	30.4	24.9	19.4	32.6	24.7	27.1	22.5	27.3	34.8	45.9	44.8	37.8	44.6	48.5	39.6	40.9	40.2	37.7	33	32.8	12.7	30.2	32.6	48.5	48.5
3	30	37.6	20.1	33.5	17	14.4	14.7	14.7	14.4	17.5	32.1	23.8	16.8	20.5	16.8	17.7	16.1	14.2	33.9	10.3	11.6	11.6	14.6	21.9	37.6	37.6
4	21	25.4	28	32.4	33.5	29.1	35.2	39.6	33.7	30.8	41.2	42.6	40	48.3	37.4	37.4	28.2	21.4	31.7	34.3	33.9	33	33.2	30.7	48.3	48.3
5	28.9	26.4	28.4	22.5	25.3	22.5	28.6	32.8	40.2	32.8	23.8	27.1	29.8	38.5	37.4	39.8	31.9	28.4	28	30.6	29.1	38.3	41.1	21.2	41.1	41.1
6	17.5	13.7	14.6	10.2	11.8	12	12.9	10.7	12	10.3	10.3	19.1	21.6	19.9	9.2	12.5	11.1	16	18.6	11.8	13.5	19.5	21.4	19.5	21.6	21.6
7	15.9	14	16.2	16.8	19.3	17.9	21.6	23.6	26.7	28.9	28.6	40	41.8	35	46.4	47.5	34.1	29.3	25.1	23.4	19.5	17	13.3	17.9	47.5	47.5
8	21.4	22.1	20.3	21	20.8	19.5	22.3	22.3	21.2	24.9	23.2	19.9	22.5	24.2	22.5	22.3	14.4	16.7	18.2	15.9	13.1	13.3	11.3	14.9	24.9	24.9
9	19.2	18.8	18.3	18.4	20.3	21.2	17.3	17.3	7.4	22.9	14	13.7	14.9	11.8	13.4	13.1	13.8	12.5	13.1	20.6	17.1	19.7	18.1	21	22.9	22.9
10	18.1	17	17.7	17.1	21	8.9	11.1	18.4	19	20.3	17.7	17.7	21.6	20.3	21	12.4	11.8	13.1	14.2	13.7	11.1	8.9	12.7	16.6	21.6	21.6
11	9.2	14.6	13.7	12.4	12.7	17.3	12.9	14	12.7	13.8	19.2	19.9	20.8	22.7	21	17.1	10.5	10.9	22.1	25.2	22.9	23.8	17.7	9.4	25.2	25.2
12	11.6	15.7	17	17.5	20.1	18.4	18.6	18.1	20.1	16.4	19.5	19	19.9	18.1	17.7	16.8	17	18.1	20.3	19.9	19.9	19.9	17.5	17.5	20.3	20.3
13	14.7	19	14.6	16.8	16.2	16.2	16.2	17.3	16.4	15.8	20.6	19.2	17.3	17.5	15.7	18.2	17.7	15.7	19.2	17.3	19.5	19	20.5	23.2	23.2	23.2
14	18.1	17.9	16.2	14.6	17.9	11.1	16.8	16.2	12.2	12	14.6	10.7	12.9	17	13.5	12.2	8.9	10.3	12.4	13.5	22.1	22.7	24.5	24.3	24.5	24.5
15	21.8	21.2	18.6	21.6	22.5	19.7	18.1	20.1	19.5	16.4	21.4	22.5	22.5	17	23.4	12.9	22.5	29.1	33.9	39.8	22.5	26.9	58.4	26	58.4	58.4
16	51	25.6	24.3	21.4	18.6	45.3	36.8	23.4	42.2	24.9	41.1	37.6	45.3	21.8	38.7	22.7	21	20.3	21	21.9	21	21	23.4	18.6	51	51
17	22.1	23.2	18.1	27.3	26.7	24.5	20.6	19.5	22.1	19.5	23.9	24.5	27.6	26.7	26.5	16	18.8	22.8	21	26.9	30	31.8	30.9	41.4	41.4	41.4
18	38.5	33.9	32.4	21.4	21.2	31.5	21.4	25.2	20.3	27.1	23	17.9	21	23.8	25.2	22.3	23.4	24.1	26	23.8	31.3	24.3	25.8	23.2	38.5	38.5
19	24.1	20.6	23.2	44.5	73.1	67.4	46.8	32.4	47.3	37.7	28	26	22.7	25.8	20.4	18.6	29.6	29.3	24.9	22.3	17.9	12.7	22.5	22.6	73.1	73.1
20	19.7	20.4	21.3	18.6	18.4	18.4	22.8	18.4	20.4	16.9	19.3	21.9	18	20.1	25.8	15.5	16	17.1	19.7	14.9	15.1	16	15.3	16.2	25.8	25.8
21	26	23.2	17.3	8.1	22.8	23.6	25	20.4	25.8	26.5	29.4	26.3	26.7	24.7	23.2	28.5	21.4	20.4	21	19.7	21.2	18.8	20.1	16.9	29.4	29.4
22	16.2	19.3	21.4	19.5	25.8	18.6	19.1	18.6	20.2	22.3	23	28.7	28.5	24.3	19.7	19.1	22.1	18.4	22.3	26	26.5	22.1	16.2	21	28.7	28.7
23	21.2	22.3	17.3	14.7	16.4	17.1	23.8	23	22.1	21	27.1	24.3	28.7	25.8	23.2	17.9	19.3	20.1	18.6	18.6	19.3	17.9	18.6	14.7	28.7	28.7
24	18	19.5	17.5	19.3	17.5	19.5	21	17.8	18.4	15.8	18.2	19.9	21.9	24.7	16.6	15.5	13.8	16.4	14	13.1	13.3	15.1	13.8	18.2	24.7	24.7
25	17.7	19.3	20.4	21	19.2	19.9	18.4	15.3	15.5	14.7	16.9	31.5	36.1	25.1	40.2	28.9	17	12.9	10.5	11.4	12.9	10.9	20.3	40.2	40.2	
26	24.7	16	14.9	17.3	15.1	18.6	16.6	16.8	17.9	16.2	15.7	19.2	17.7	22.3	17.5	17.1	12.7	13.5	18.2	25	16.2	16.8	21.6	25.4	25.4	25.4
27	15.6	17.5	20.3	21.6	23.8	16.4	19.5	21	16.4	17.5	19.2	20.5	20.1	15.9	13.4	14.6	13.5	12.9	14.6	15.6	16.4	16.2	13.8	18.4	23.8	23.8
28	19.7	14.6	14	14.9	21.4	19.2	21.2	20.1	19.5	19.9	19.9	24.7	21.5	21.6	23	16.8	16.7	10.9	16.4	15.7	12.5	15.7	20.8	20.8	24.7	24.7
29	14.5	14.6	16.8	12.9	12.9	13.3	8.1	8.7	10.5	23.4	21.4	23.2	22.5	20.3	22.1	24.3	22.7	21	19.9	16.6	21.2	20.3	21.7	19.5	24.3	24.3
30	21.4	20.8	17.9	18.4	18.8	17.5	17.5	18.2	21.2	29.1	30.2	34.8	31.5	30.4	35	38.3	39.8	35.3	34.1	32.2	35.3	35	21.9	18.4	39.8	39.8
PEAK	51.0	37.6	32.4	44.5	73.1	67.4	46.8	39.6	47.3	37.7	45.9	44.8	45.3	48.3	48.5	47.5	40.9	40.2	37.7	39.8	35.3	38.3	58.4	41.4		

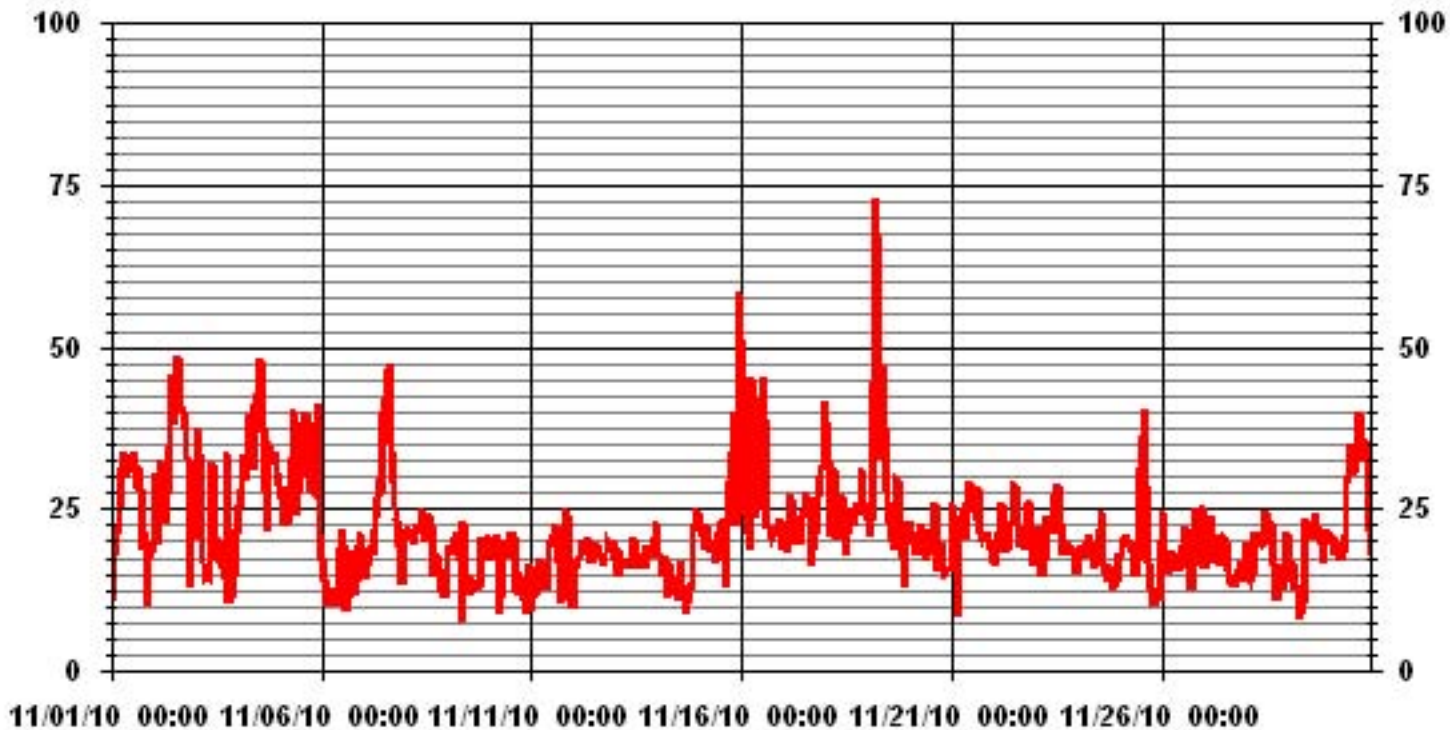
STATUS FLAG CODES

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

MAXIMUM INSTANTANEOUS READING	73.1	KPH	@ HOUR(S)	4
			ON DAY(S)	19

01 Hour Averages



— LICA31 WSMAX KPH

LICA31
WSP / WDR Joint Frequency Distribution (Percent)

November 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	.13	.41	1.38	1.11	1.38	.41	1.11	.41	.41	.55	1.11	2.63	1.66	.41	1.52	.83	15.55
< 12.0	2.63	1.38	1.94	3.19	1.80	2.22	2.91	.83	2.91	3.47	4.58	4.86	4.72	5.55	8.75	9.44	61.25
< 20.0	1.25	.55	.13	2.36	.55	1.38	1.11	1.94	1.11	.83	2.36	1.25	1.38	1.11	1.94	3.19	22.50
< 29.0	.00	.00	.00	.27	.00	.00	.00	.27	.00	.00	.00	.00	.00	.00	.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	4.02	2.36	3.47	6.94	3.75	4.02	5.13	3.47	4.44	4.86	8.05	8.75	7.77	7.08	12.22	13.47	

Calm : .13 %

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	1	3	10	8	10	3	8	3	3	4	8	19	12	3	11	6	112
< 12.0	19	10	14	23	13	16	21	6	21	25	33	35	34	40	63	68	441
< 20.0	9	4	1	17	4	10	8	14	8	6	17	9	10	8	14	23	162
< 29.0				2				2									4
< 39.0																	
>= 39.0																	
Totals	29	17	25	50	27	29	37	25	32	35	58	63	56	51	88	97	

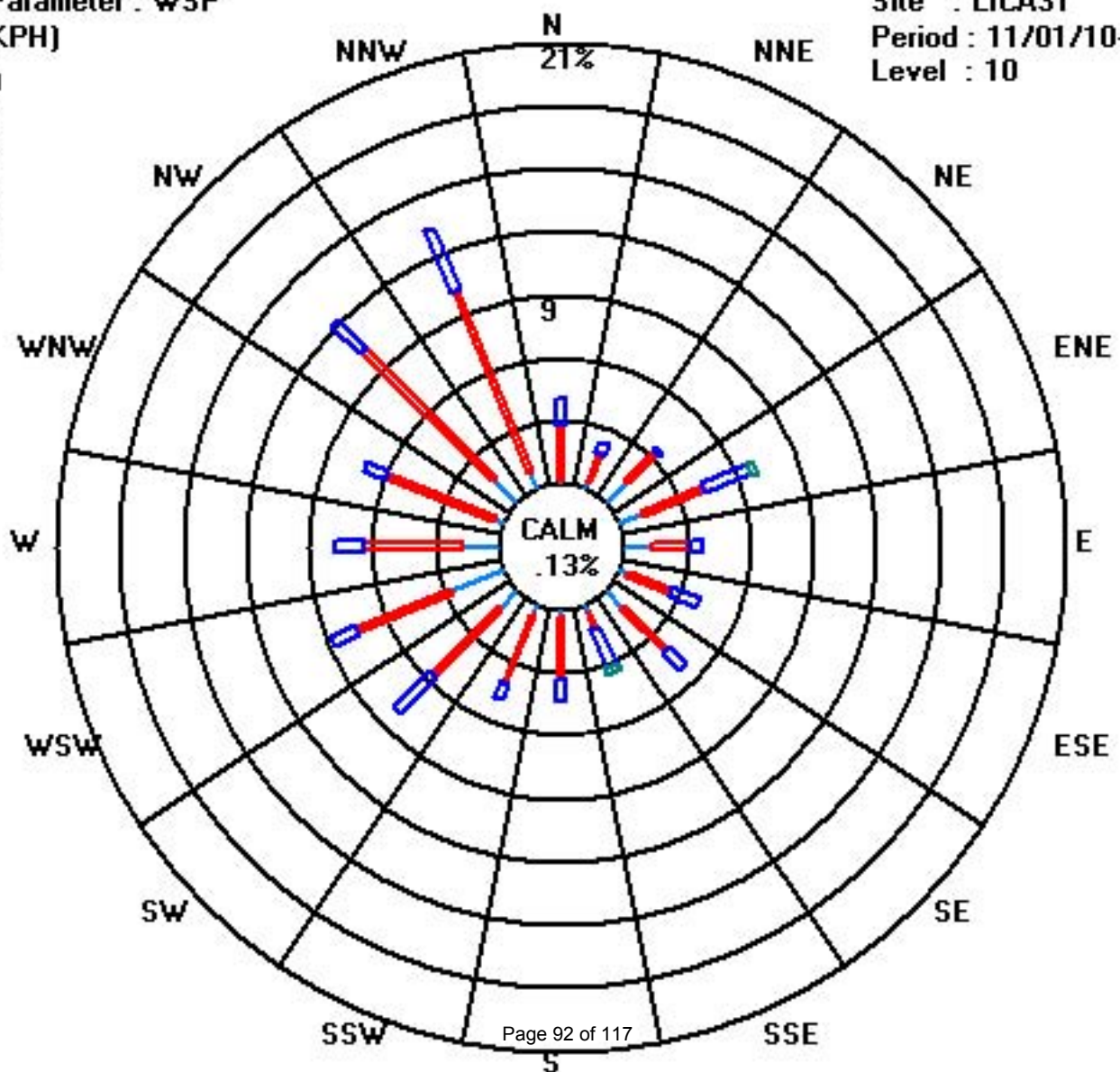
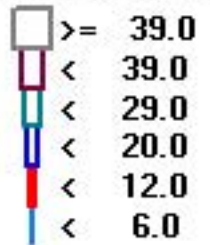
Calm : .13 %

Total # Operational Hours : 720

Class Limits (KPH)

Period : 11/01/10-11/30/10

Level : 10



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATE - ST.LINA

NOVEMBER 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		352	33	63	89	130	128	123	153	166	171	172	173	25	321	342	312	343	327	253	188	209	228	263	267	164	SSE	24	
2		268	254	258	255	258	269	264	265	256	258	260	275	308	275	274	250	223	201	200	203	200	144	143	114	253	WSW	24	
3		36	79	54	69	63	75	87	86	88	63	27	39	80	151	141	142	100	107	127	205	192	194	174	162	112	ESE	24	
4		141	148	168	165	163	160	163	168	162	156	164	158	147	145	89	66	45	53	89	20	121	357	311	313	152	SSE	24	
5		317	315	326	319	341	338	329	248	256	228	232	234	229	266	263	229	230	256	299	295	283	307	315	307	276	W	24	
6		290	267	268	235	233	249	258	228	262	237	218	215	203	178	182	99	65	81	92	66	42	61	67	79	179	S	24	
7		52	40	51	67	74	73	58	61	68	68	71	69	71	64	73	74	73	69	70	69	51	41	338	334	62	ENE	24	
8		326	2	336	302	307	300	290	288	280	306	306	293	302	307	306	303	308	301	310	297	293	289	291	294	303	WNW	24	
9		280	223	210	182	178	173	158	128	68	79	103	84	94	92	87	80	66	60	69	131	152	69	128	55	131	SE	24	
10		31	45	341	333	336	240	258	306	335	342	322	275	198	196	211	281	256	267	272	266	257	227	206	214	286	WNW	24	
11		244	267	260	276	287	253	273	282	267	283	294	287	298	284	307	314	319	322	182	172	183	4	22	95	282	W	24	
12		125	150	19	16	11	9	7	347	356	354	315	307	320	320	311	336	355	348	317	314	316	315	317	326	336	NNW	24	
13		331	342	329	338	340	340	336	338	335	327	308	315	329	322	321	324	337	337	339	346	314	207	213	218	319	NW	24	
14		210	228	289	287	291	256	244	257	246	221	227	223	226	231	229	224	213	249	259	266	296	308	307	300	255	WSW	24	
15		301	306	307	302	304	321	316	318	325	303	239	235	256	228	251	281	329	331	332	337	193	83	72	77	306	NW	24	
16		56	87	119	151	170	157	238	242	264	241	215	228	254	247	222	208	211	207	185	206	209	204	182	137	192	S	24	
17		141	121	67	76	66	60	58	52	61	67	69	75	71	89	85	316	347	51	79	52	55	72	59	56	70	ENE	24	
18		65	53	38	26	13	22	9	356	346	355	344	316	321	303	320	309	302	299	330	317	304	284	186	191	326	NW	24	
19		184	171	169	175	234	276	273	268	185	253	190	328	327	340	247	300	337	349	344	303	237	232	313	339	273	W	24	
20		337	347	344	342	342	344	351	337	340	336	339	336	300	318	332	332	332	334	335	332	329	259	281	249	331	NNW	24	
21		226	327	241	264	191	196	343	278	346	280	189	192	186	175	188	184	158	160	160	132	123	137	121	134	175	S	24	
22		134	139	114	120	115	128	132	132	138	165	178	183	199	207	212	218	290	275	262	273	273	253	240	248	199	SSW	24	
23		255	255	248	221	221	222	220	228	222	226	234	230	230	226	233	222	212	312	326	331	333	323	328	316	243	WSW	24	
24		327	311	335	333	335	339	334	332	325	308	309	298	289	303	299	311	319	323	319	314	311	313	310	333	316	NW	24	
25		335	345	346	350	344	337	326	302	311	322	314	305	270	42	359	39	81	111	132	128	127	128	129	125	342	NNW	24	
26		78	332	327	313	328	327	335	350	346	332	326	319	333	14	56	110	130	111	136	95	76	115	20	350	4	N	24	
27		331	323	277	277	271	260	272	265	264	252	260	257	247	244	234	240	250	284	313	297	329	290	258	270	273	W	24	
28		333	250	258	282	246	209	209	228	236	214	216	225	208	202	237	284	256	230	239	236	234	249	259	266	239	WSW	24	
29		265	272	287	239	257	233	251	239	235	322	343	349	244	341	343	350	355	355	1	9	351	356	10	8	335	NNW	24	
30		21	23	31	37	27	70	112	112	105	111	120	128	124	128	114	115	114	119	114	119	121	126	132	110	104	ESE	24	
HOURLY AVG		352	347	346	350	344	344	351	356	356	355	344	349	333	341	359	350	355	355	344	346	351	357	338	350				

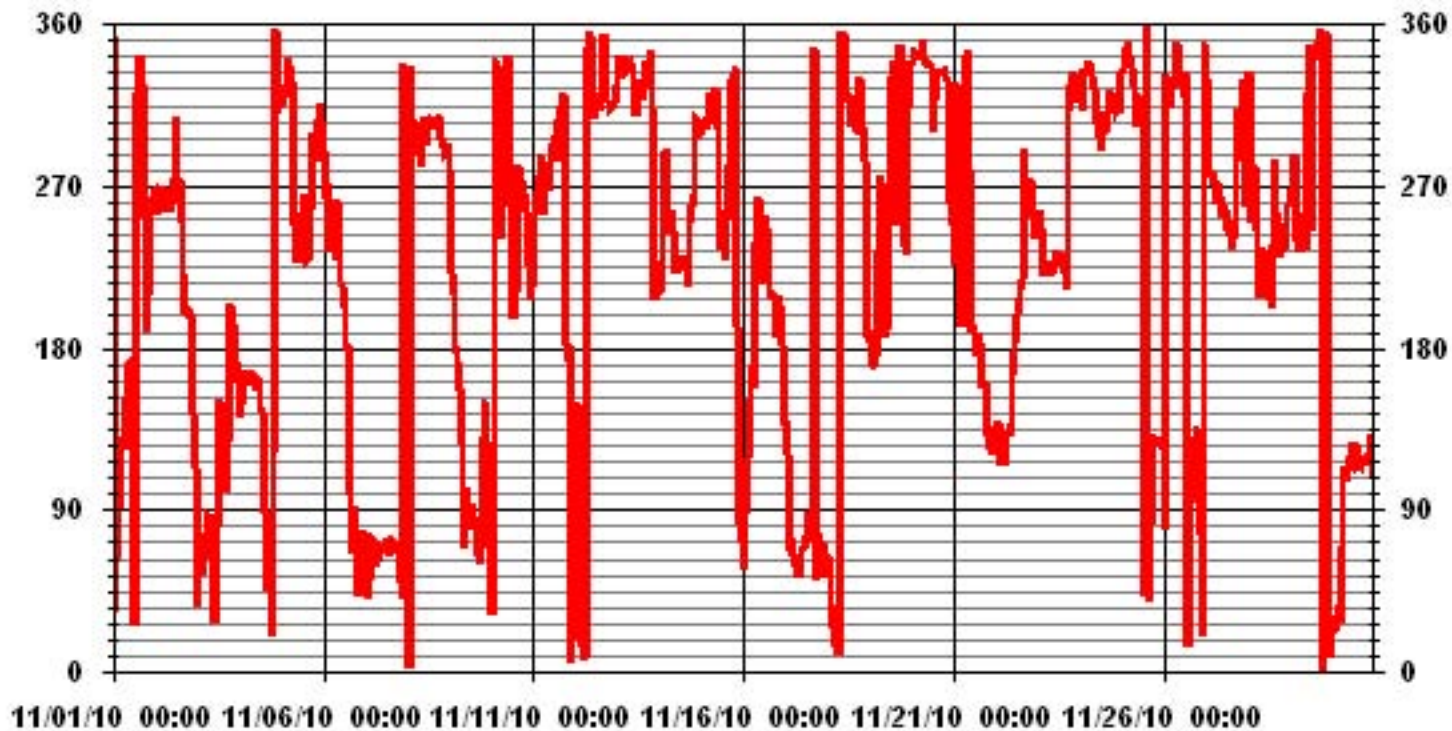
STATUS FLAG CODES

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:	June 17, 2010
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
STANDARD DEVIATION	99.93		AMD OPERATION UPTIME	100.0	%
			MONTHLY AVERAGE	291	DEG

01 Hour Averages



— LICA31 WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 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	15	4	4	6	9	10	12	11	10	9	9	40	57	52	42	32	27	23	53	7	6	5	5	7
2	11	10	8	7	7	10	9	11	8	8	10	54	65	57	69	70	35	27	29	39	33	52	49	72
3	82	86	67	61	41	39	28	23	32	34	29	49	50	47	45	28	16	8	31	13	4	6	8	7
4	7	9	9	8	10	9	10	9	9	12	10	13	33	56	63	52	28	19	55	56	71	66	53	35
5	33	32	31	19	20	14	20	43	29	34	21	21	22	30	29	25	30	45	39	33	18	14	12	12
6	11	10	10	8	5	7	5	9	14	12	13	20	18	22	23	13	8	7	7	9	5	9	7	8
7	8	5	5	6	7	7	7	7	9	9	10	10	11	9	10	10	11	11	8	8	8	7	11	9
8	13	19	16	13	12	13	14	13	13	13	14	16	16	14	14	13	11	10	9	9	9	7	7	8
9	12	11	10	14	7	3	3	18	5	36	40	39	13	13	11	8	6	5	8	26	5	32	15	32
10	25	38	7	4	18	19	4	20	5	10	24	26	45	10	36	17	12	11	15	9	10	6	7	17
11	12	15	5	11	16	13	10	10	8	14	14	17	18	23	17	13	9	11	27	21	23	19	16	3
12	8	9	46	12	16	16	9	10	16	19	15	12	9	13	10	9	9	9	6	6	4	3	3	4
13	11	15	9	8	18	29	19	17	11	15	41	13	18	11	13	10	15	7	5	6	26	10	12	12
14	9	24	11	11	12	8	7	3	4	6	6	7	7	6	6	6	7	14	6	9	14	13	12	12
15	12	12	11	12	12	11	12	12	11	15	38	37	11	15	10	16	13	14	14	33	70	48	40	47
16	40	33	41	56	68	66	83	63	72	61	55	49	67	62	55	42	37	42	39	24	13	13	20	15
17	16	27	13	10	11	11	11	11	12	13	14	13	12	20	48	40	51	54	54	54	47	50	43	43
18	52	45	47	47	40	42	48	29	31	34	31	25	19	27	38	14	18	34	50	53	45	40	47	16
19	19	19	22	47	40	57	36	35	57	53	59	24	52	42	32	20	55	39	36	33	10	9	41	19
20	8	5	6	4	4	5	5	4	5	6	6	10	25	19	33	4	3	5	7	5	4	14	10	19
21	42	56	26	11	43	51	44	27	61	67	43	9	13	16	17	12	24	14	19	19	22	20	21	16
22	17	22	25	20	18	22	31	36	32	44	30	23	19	16	11	16	19	16	7	11	12	8	5	5
23	6	4	5	7	5	4	5	4	5	6	8	9	9	8	9	8	6	38	25	23	12	9	12	9
24	12	7	36	21	20	33	23	23	34	17	17	16	10	13	10	11	9	11	14	9	7	11	9	11
25	9	18	17	33	35	19	20	16	14	12	10	24	33	62	41	54	41	10	15	23	10	11	7	6
26	39	10	8	6	8	8	12	22	39	21	28	21	30	34	17	10	12	13	11	33	9	12	53	37
27	4	5	17	11	11	10	11	8	8	6	8	10	10	9	8	9	8	14	12	20	35	17	11	16
28	20	14	9	10	26	29	19	22	31	17	16	27	13	23	29	16	15	9	9	7	8	7	9	10
29	10	10	21	10	16	9	11	8	22	44	33	20	61	34	5	10	12	9	5	7	11	10	8	11
30	10	13	11	11	14	20	11	13	13	13	12	13	13	13	12	11	12	12	12	11	13	11	13	11

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:	June 17, 2010
-------------------	---------------

CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS
-------------------	-------	-------------------	---------

Calibration Reports

Sulphur Dioxide

SO₂ Calibration Report

Station Information

Calibration Date	November 24, 2010	Previous Calibration	October 20, 2010
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	11:07	End Time (MST)	14:34
Reason:	Monthly Calibration		
Barometric Pressure	930 mmHg	Station Temperature	22 Deg C
Cal Gas	51.4 ppm	Cal Gas Expiry date	August 5, 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:	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 - 1000	ppb	
Sample Flow / Box Temp	541 ccm 30.6 Deg C	540 ccm 30.7 Deg C	
HVPS / Lamp Setting	529 2484.9	529 2483.8	
PMT / RxCell Temp	7.8 Deg C 50 Deg C	7.8 Deg C 50 Deg C	
Converter / IZS Temp	NA Deg C 40 Deg C	NA Deg C 40 Deg C	
Offset / Slope	62.7 1.127	62.7 1.127	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	0	N/A
4925	72.9	750	751	0.9983
4961	38.9	400	400	0.9997
4982	16.5	170	172	0.9865
4999	0	0	0	N/A
Sum of Least Squares				0.9982
New Correction Factor				0.9983

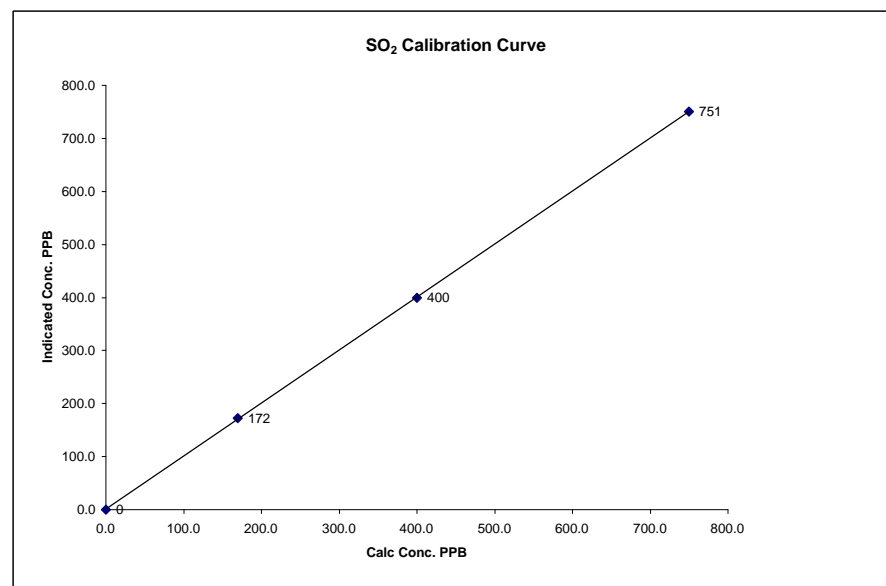
	Before Calibration	After Calibration
Auto Zero	0.8	0.9
Auto Span	358	361
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.1%

Calibration Performed by: Ting Xu

SO₂ Calibration Curve

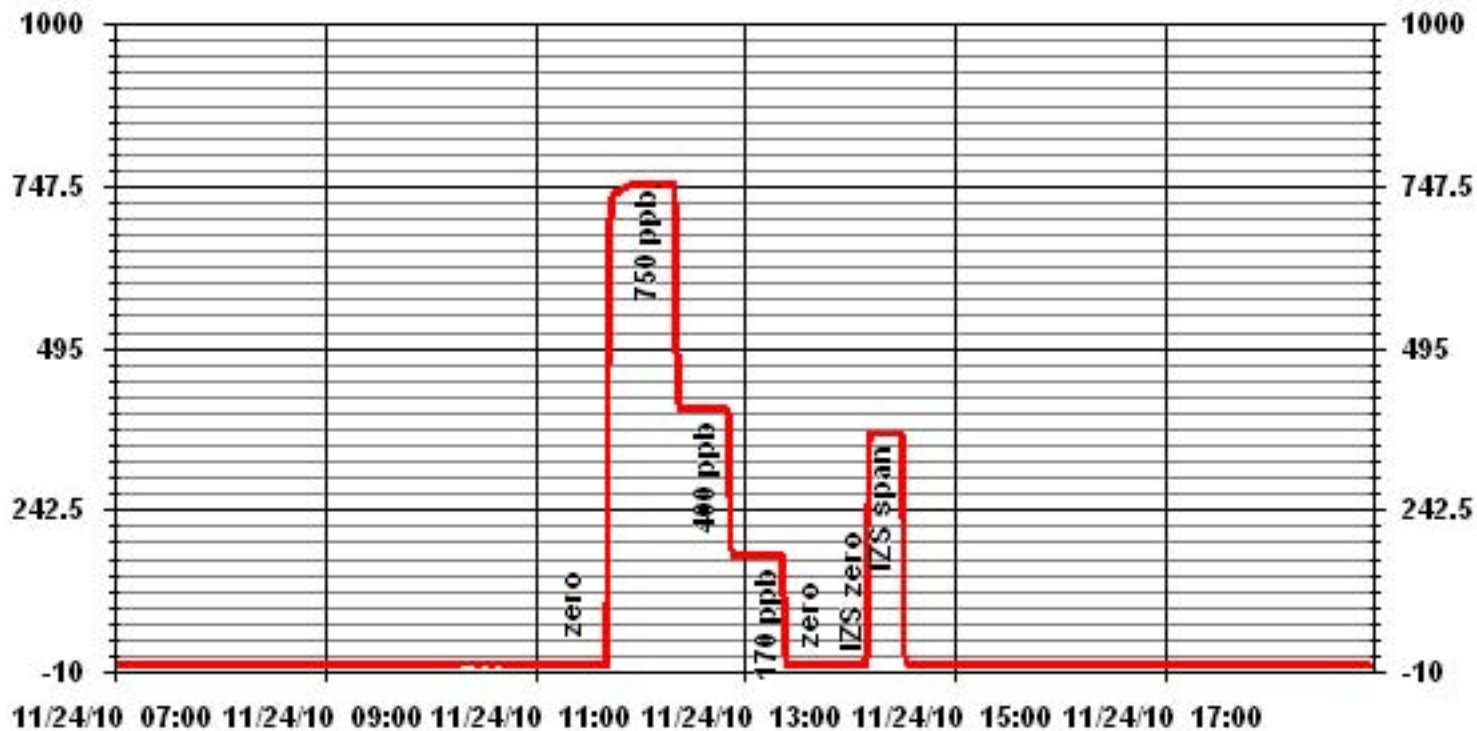
Calibration Date	November 24, 2010
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Plant / Location	ST. LINA
Start Time (MST)	11:07
End Time (MST)	14:34

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope (≥ 0.995) (0.85 to 1.15)	0.999989
0	0	n/a	Intercept (± 3% F.S.)	1.000534
170	172	0.9865		
400	400	0.9997		
750	751	0.9983		



Notes:

01 Minute Averages



Hydrogen Sulphide

H₂S Calibration Report

Station Information

Calibration Date	November 19, 2010		Previous Calibration	October 19, 2010	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST.LINA				
Start Time (MST)	9:55	End Time (MST)	14:44		
Reason:	Monthly Calibration				
Barometric Pressure	931	mmHg	Station Temperature	21	Deg C
Cal Gas	10.6	ppm	Cal Gas Expiry date	05/12/2011	
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	545	ccm	31.6	Deg C	546
HVPS / Lamp Setting	518		2641		518
PMT / RxCell Temp	8.4	Deg C	50	Deg C	8.4
Converter / IZS Temp	315	Deg C	45	Deg C	314.6
Offset / Slope	49.1		1.104		55.4
					1.024

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	3	N/A
4962	37.7	80	82	0.9747
4998	0	0	0	NA
4962	37.7	80	80	0.9991
4981	18.9	40	40	1.0017
4987	10.8	23	23	0.9959
4998	0	0	0	N/A
Sum of Least Squares				0.9994
New Correction Factor				0.9991

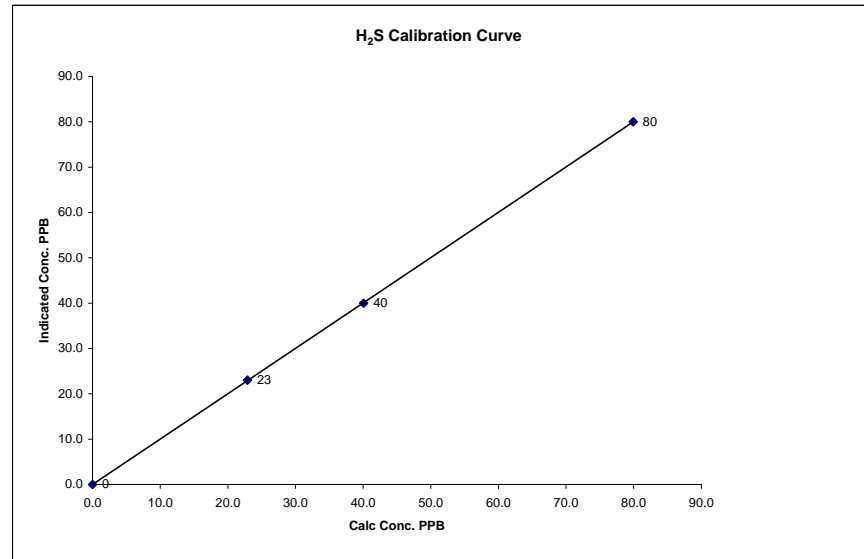
		Before Calibration	After Calibration
Auto Zero		3.3	0.2
Auto Span		51	49
Sample Lines Connected			YES
Percent Change from Previous Calibration			2.8%

Calibration Performed by: Ting Xu

H₂S Calibration Curve

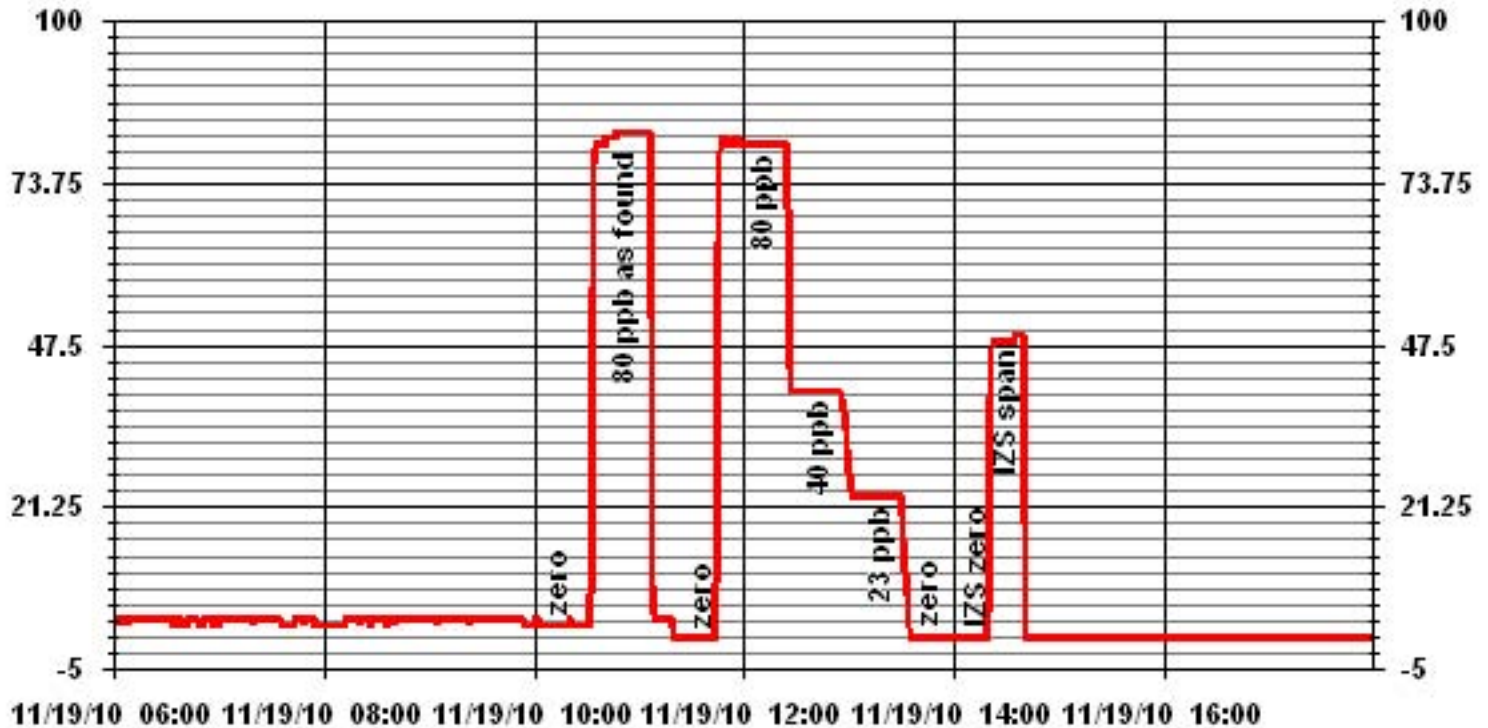
Calibration Date	November 19, 2010	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION	
Plant / Location	ST.LINA	
Start Time (MST)	9:55	End Time (MST)
		14:44

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999995
0	0	n/a	Intercept	(± 3% F.S.)	0.006868
23	23	0.9959			
40	40	1.0017			
80	80	0.9991			



Notes:

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information			
Calibration Date:	November 23, 2010	Previous Calibration	October 19, 2010
Company:	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location:	ST. LINA		
:	(MST) 10:16	End Time	(MST) 13:42
Reason:	Monthly Calibration		
Barometric Pressure:	927 mmHg	Station Temperature:	21 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	psi	8	psi
Air Pressure	21	psi	21	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
1999	0	0.0	-0.2	NA
1999	0.0	0.0	0.0	NA
1999	70.0	39.6	39.3	1.0083
1999	70.0	39.6	40.0	0.9907
1999	40.0	23.0	23.0	0.9990
1999	20.0	11.6	11.5	1.0089
1999	0	0.0	0.0	N/A
Correction Factor:				0.9907

Previous Calibration Correction Factor:	0.9931
Current Correction Factor Before Span Adjust:	0.9907
Percent Change:	0.25%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	-0.2	0.0
Auto Span	34.5	35.0
Sample Lines Connected		YES

Cylinder Pressures

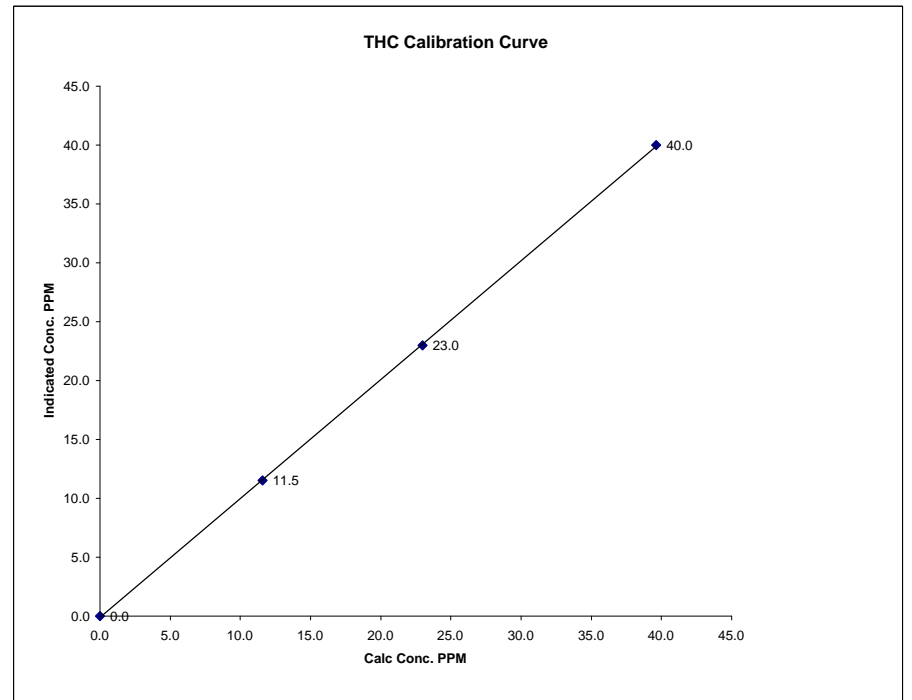
Span	900	psi	
Hydrogen	1900	psi	
Zero Air	31	psi	Unlimited API 701

Calibration Performed by: Ting Xu

THC Calibration Curve

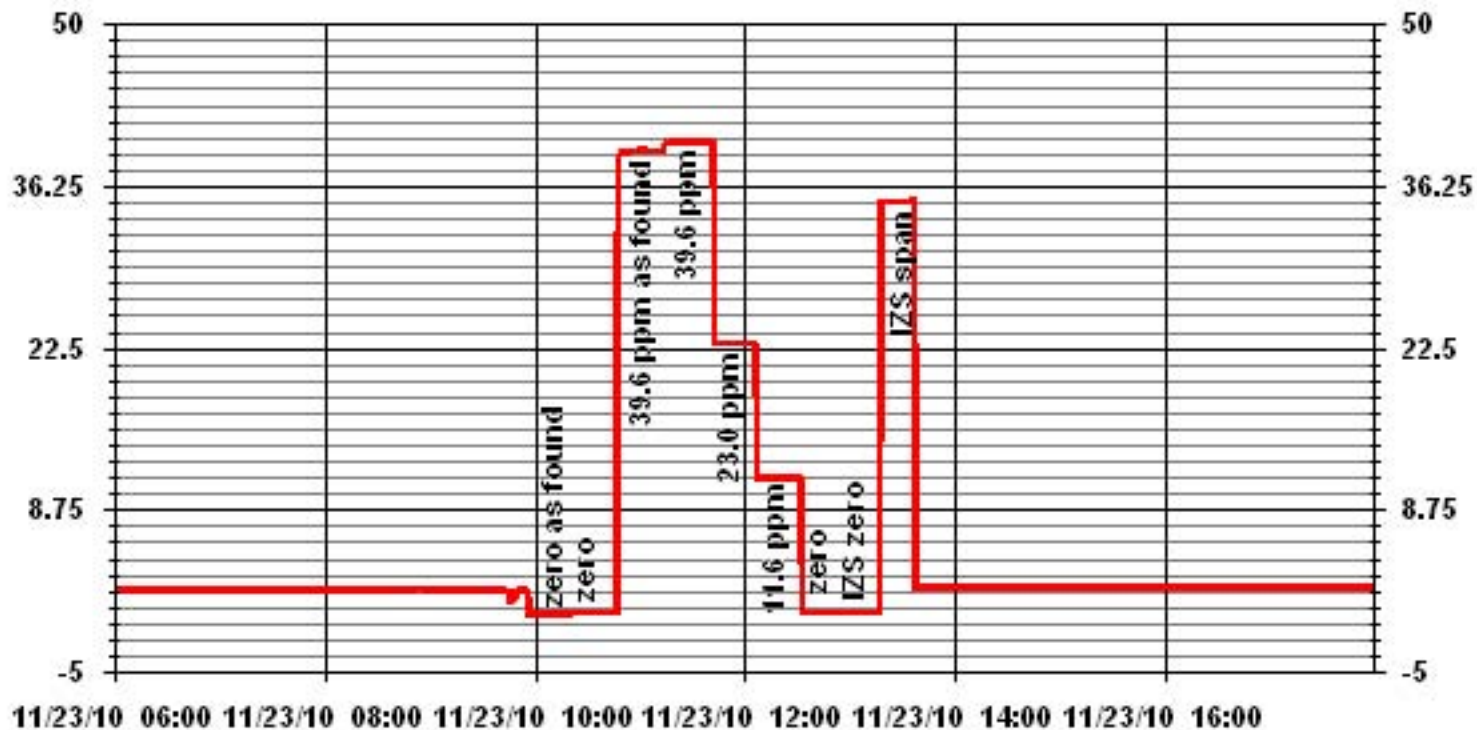
Calibration Date	November 23, 2010		
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	10:16	End Time (MST)	13:42

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		0.999953	1.010140	-0.114571
11.6	11.5	1.0089			
23.0	23.0	0.9990			
39.6	40.0	0.9907			



Notes: Flame temp 175.

01 Minute Averages



Nitrogen Dioxide

NOx - NO- NO2 Calibration Report

Station Information

Calibration Date	November 23, 2010	Previous Calibration	October 19, 2010
Company	LICA	Plant/Location	St. Lina
Start Time (MST)	9:25	End Time (MST)	15:56
Reason:	Monthly Calibration	Other	
Barometric Pressure	927 mmHg	Station Temperature	21 Deg C
Cal Gas Concentration	NOx 50.8 ppm	NO 50.4 ppm	Cal Gas Expiry date 05-Aug-12
DAS Output Voltage	0 - 1	Chart Rec. Output	NA Volts

Equipment Information

Analyzer Make / Model:	API 100E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO 717		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	EnviroNics 6100	S/N :	4760		

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0-1000			ppb			
Sample Flow/Conv. Temp	473 ccm	314 Deg C		469 ccm	316.2 Deg C		
Ozone Flow / Vacuum	73 ccm	3.8 "Hg-A		73 ccm	3.8 "Hg-A		
HVPS / A ZERO	646 Volts	17.3 MV		646 Volts	17.6 MV		
Rx/ Temp / PMT Temp	50.0 Deg C	6.8 Deg C		50.0 Deg C	6.9 Deg C		
Box Temp / IZS Temp	29.1 Deg C	45.0 Deg C		30.8 Deg C	45.3 Deg C		
Offset	1.1 NOx	0.6 NO		1.1 NOx	0.6 NO		
Slope	1.244 NOx	1.228 NO		1.275 NOx	1.255 NO		
NO2 COEF / Conv Efficiency	NA NO2	0.993		NA NO2	0.993		

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
4994	0.0	----	0	0	0	0	0	0	----	----
4919	74.2	----	755	749	----	734	732	2	1.0285	1.0232
4919	74.2	----	755	749	----	755	749	6	0.9999	0.9999
4962	34.6	----	352	349	----	353	350	3	0.9965	0.9972
4978	16.8	----	171	170	----	173	171	2	0.9877	0.9913
4995	0.0	----	0	0	0	0	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		
4919	74.2	----	755	749	----	758	750	8	----	----
4919	74.2	550	755	----	500	759	258	501	0.9980	100.20%
4919	74.2	300	755	----	282	759	476	283	0.9965	100.36%
4919	74.2	100	755	----	99	759	659	100	0.9900	101.10%

Linearity	Sum of Least Squares	NOx= 0.999	NO= 0.999	NO2= 0.997
OK? Yes	Correction Factors:	NOx= 0.9999	NO= 0.9999	NO2= 0.9980
	Average Converter Efficiency=	100.56%		

	Before Calibration				After Calibration			
Auto Zero	0.5 NOx	0.6 NO2			0.0 NOx	0.1 NO2		
Auto Span	591 NOx	577 NO2			613 NOx	601 NO2		
	Sample Lines Connected				YES			

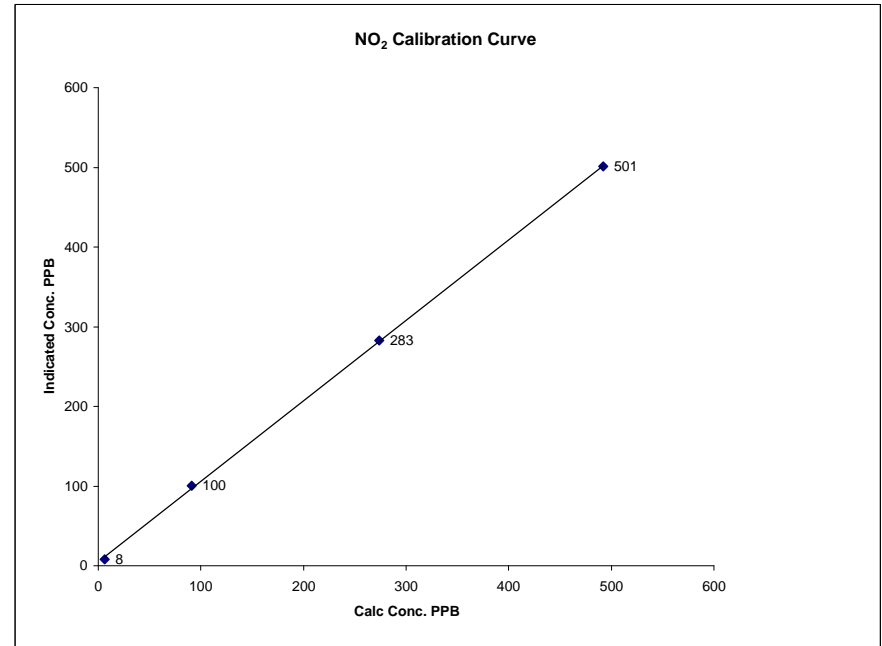
Notes Additional GPT point done for ozone calibration. O3 set point 450, NO=339, NO2=419

Calibration Performed by: Ting Xu

NO2 Calibration Curve

Calibration Date	November 23, 2010	LICA	
Company		St. Lina	
Plant / Location			
Start Time (MST)	9:25	End Time (MST)	15:56

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
6	8	N/A	Slope (0.85 to 1.15)	0.999850
91	100	0.9100	Intercept (± 3% F.S.)	1.010543
274	283	0.9682		4.97538
492	501	0.9820		

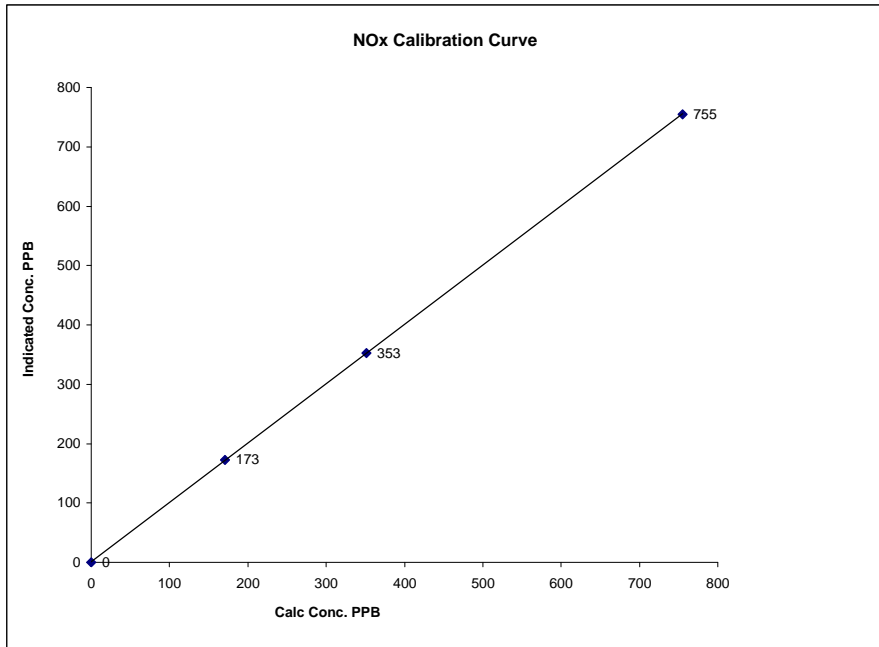


Notes:

NOx Calibration Curve

Calibration Date November 23, 2010
 Company LICA
 Plant / Location St. Lina
 Start Time (MST) 9:25 End Time (MST) 15:56

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999991
0	0	N/A	Slope (0.85 to 1.15)	0.999259
171	173	0.9877	Intercept (± 3% F.S.)	1.10169
352	353	0.9965		
755	755	0.9999		

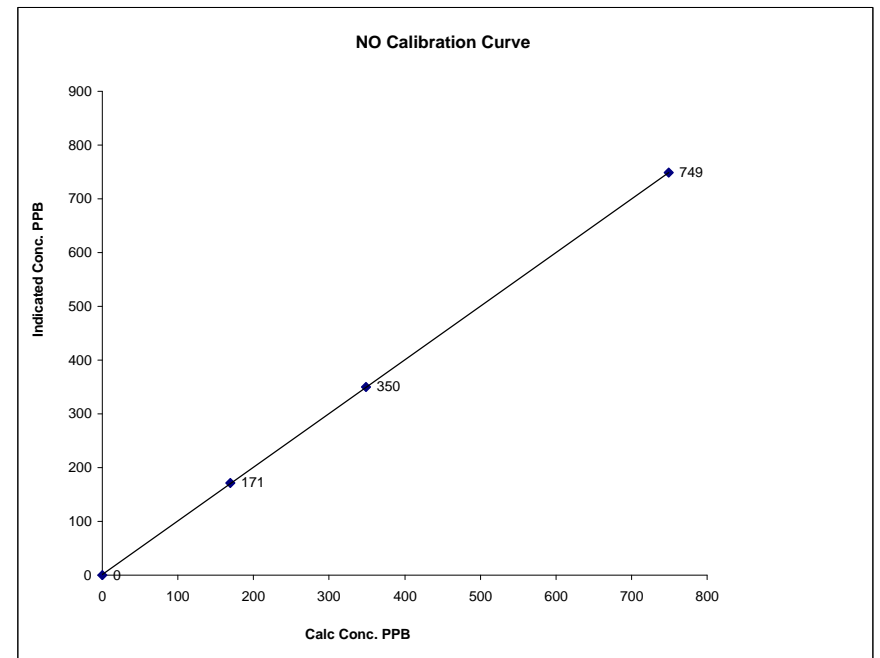


Notes:

NO Calibration Curve

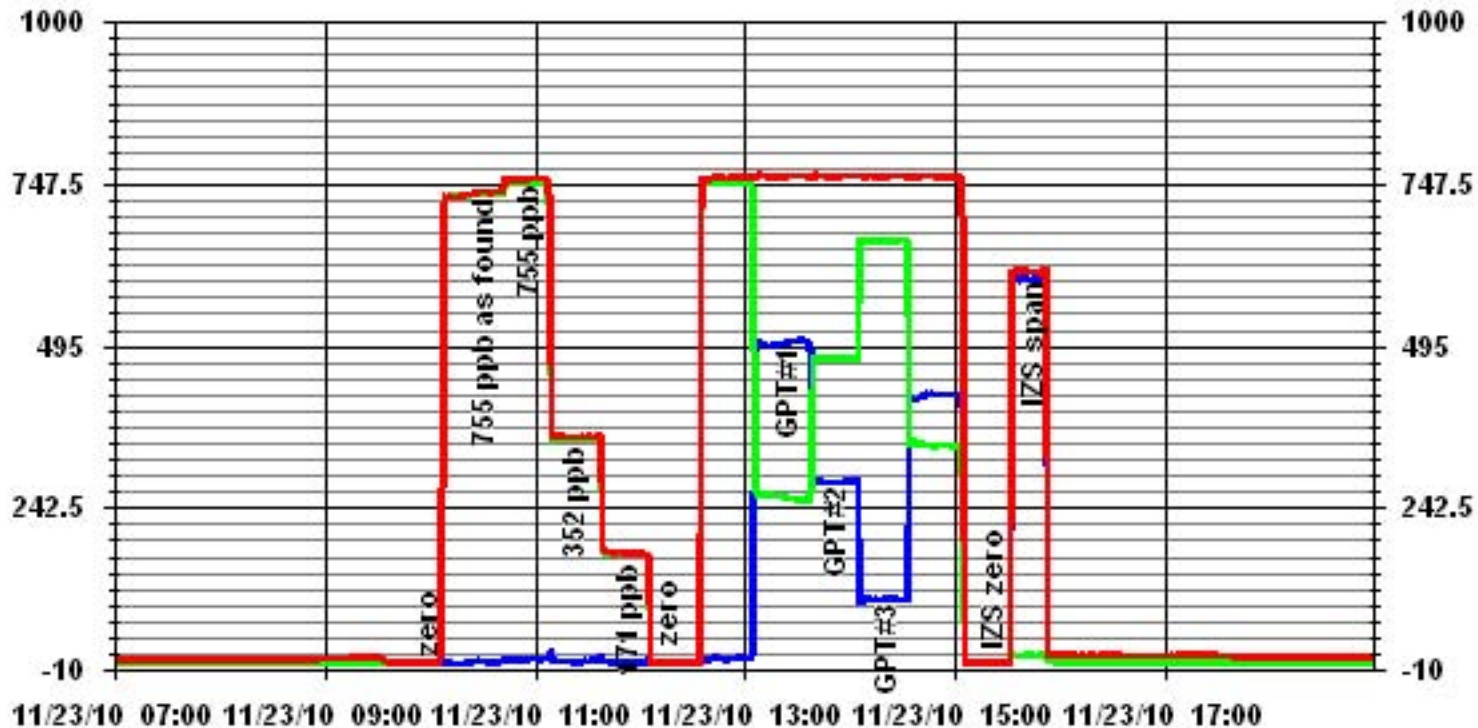
Calibration Date November 23, 2010
 Company LICA
 Plant / Location St. Lina
 Start Time (MST) 9:25 End Time (MST) 15:56

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999995
0	0	N/A	Slope (0.85 to 1.15)	0.997542
170	171	0.9913	Intercept (± 3% F.S.)	1.8230
349	350	0.9972		
749	749	0.9999		



Notes:

01 Minute Averages



Ozone

O₃ Calibration Report

Station Information

Calibration Date	November 24, 2010	Previous Calibration	October 21, 2010
Company	Lakeland Industry & Community Association		
Plant / Location	St. Lina		
Start Time (MST)	11:07	End Time (MST)	14:34
Reason:	Monthly Calibration		
Barometric Pressure	920 mm Hg	Station Temperature	22 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	1002240371	Method:	Fluorescent
Calibrator Make / Model:	EnviroNics 6100	S/N :	4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	AO 717		

Analyzer Settings

	Before Calibration		After Calibration	
	0 - 500			
Concentration Range	ppb			
Cell A Flow / Cell B Flow	720 ccm	734 ccm	722 ccm	736 ccm
Pressure	691 mmHg		696 mmHg	
Bench Temp	55.7 Deg C		55.6 Deg C	
O3 Lamp / Box Temp	80 Deg C	2*9.2 Deg C	80 Deg C	27.7 Deg C
Offset / Slope	0.2	1.014	0.2	1.014

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	N/A
4994	450	411	410	1.0024
4994	300	274	276	0.9928
4994	100	91	92	0.9891
4994	0	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				1.0024

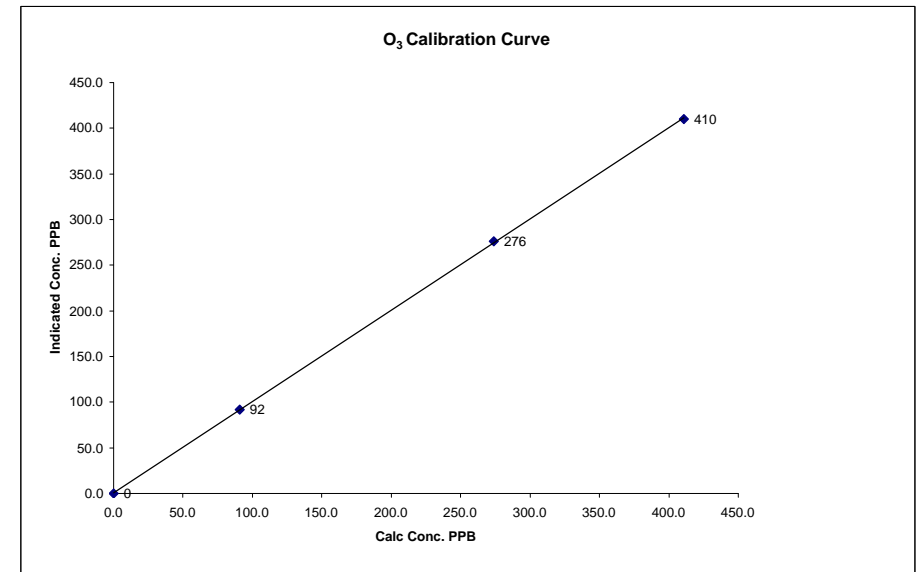
	Before Calibration	After Calibration
Auto Zero	0.6	0.5
Auto Span	345	342
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.7%

Calibration Performed by: Ting Xu

O₃ Calibration Curve

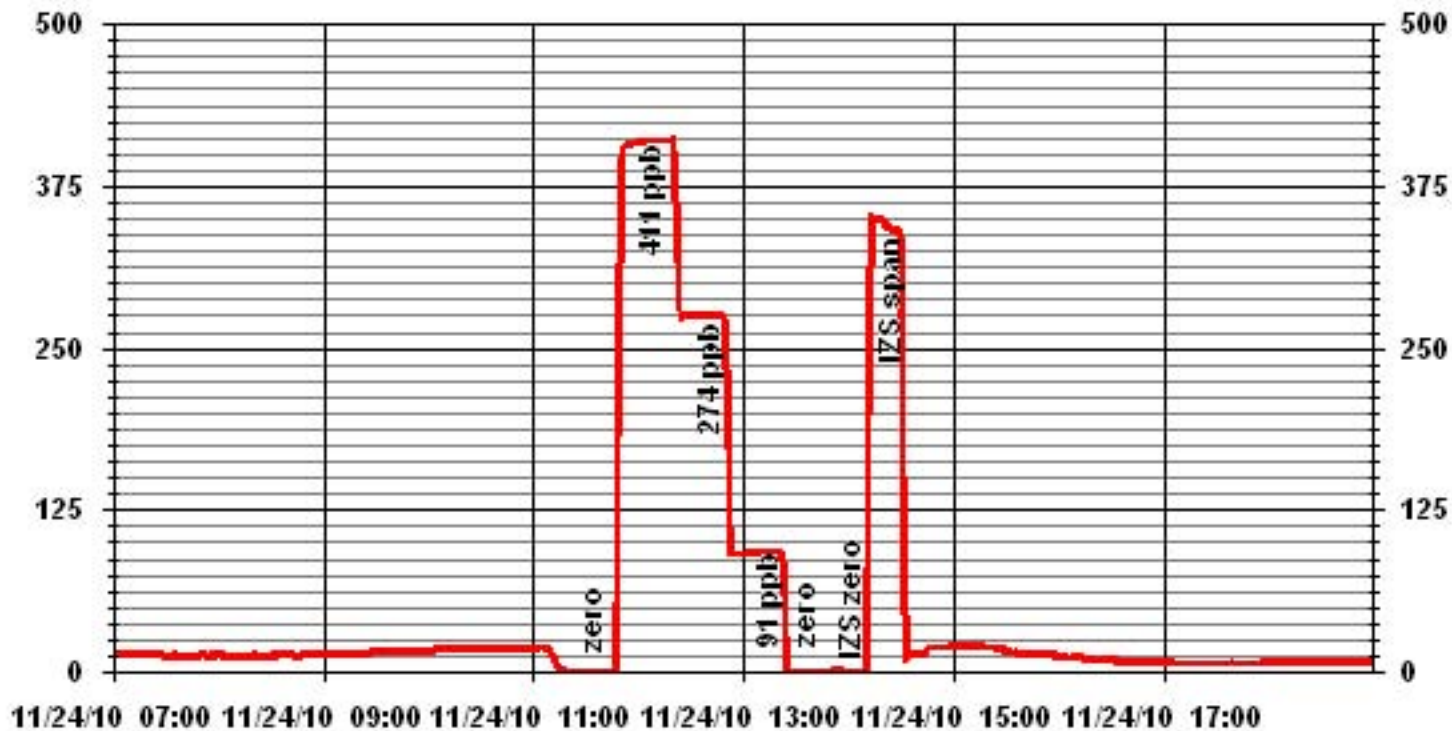
Calibration Date	November 24, 2010		
Company	Lakeland Industry & Community Association		
Plant / Location	St. Lina		
Start Time (MST)	11:07	End Time (MST)	14:34

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope (≥ 0.995)	0.999953
0	0	n/a	Intercept (± 3% F.S.)	0.805109
91	92	0.9891		0.998427
274	276	0.9928		
411	410	1.0024		



Notes:

01 Minute Averages



Particulate Matter 2.5

TEOM® 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	November 18, 2010	Make/Model:	Streamline FTS
Station Name:	Lica St. Lina (CASA # 31)	Serial Number:	LO 091099, Hi 091001
Location:	St. Lina Station	Cell s/n:	NA
Operator:	LICA	Thermometer s/n:	VWR 90758398

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
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	1405A208301003	Filter Load (%)	30.8%
Firmware Ver.	1.52	K _o Factor	13125.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	-13.2
		Press (ATM)	0.928

Conversion from mmHg or "Hg to ATM (Atmospheres)

ATM = (mmHg) X (1.316 X 10⁻³) or ATM = ("Hg) X (3.34207 X 10⁻²)

Note: Tolerances are noted as BOLD in Brackets

Audit

Status			
Noise <0.10ug	0.005	Warnings	None
Pump Vacuum <0.40atm	0.29	Pump Gauge (inHg)	-20
Temperature/Pressure			
Measured Temp (± 2 °C)	-13.3	Δ °C	0.1
Measured Press (± 0.01atm)	0.926	Δ ATM	0.002
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	1.32%
Measured Main Flow (l/min)	3.00	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.66	Bypass Flow Drift (±10.0%)	3.26%
Measured Bypass Flow (l/min)	13.82	Flow Adjusted to Measured?	Yes
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	NA	Flow Control = Active	
Aux (< 0.6 l/min)	NA	Report Conditions = Standard (25.0 C and 1atm)	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 14:35 **Finish Time:** 15:53

Sample Inlet Cleaned: Yes **New Filters Installed:** Yes
New Filter Loading %: 20.0%

Comments: _____

Auditor/s: Shea Beaton / Ting Xu

Lakeland Industry & Community Association

Portable / Devon Wellsite 13-16-62-5 W4M Monitoring Site

Ambient Air Monitoring Data Report

For

November 2010

Prepared By:



December 16, 2010

Lakeland Industry & Community Association Portable / Devon Wellsite 13-16-62-5 W4M Ambient Air Monitoring

Table of Contents

	Page		Page
Introduction	3	Volatile Organics	89
Calibration Procedure	4	Polycyclic Aromatic Hydrocarbons	92
Monthly Continuous Summary	5	Calibration Reports	96
Volatile Organics Data Summary	6	• Sulphur Dioxide	97
Polycyclic Aromatic Hydrocarbons Data Summary	7	• Hydrogen Sulphide	100
General Monthly Summary	8	• Particulate Matter 2.5	103
Continuous Monitoring	12	• Nitrogen Dioxide	105
• Monthly Summaries, Graphs & Wind Roses	13	• Ozone	109
○ Air Quality Index	14	• Total Hydrocarbons	114
○ Sulphur Dioxide	16	Volatile Organics Laboratory Analysis	115
○ Hydrogen Sulphide	24	Polycyclic Aromatic Hydrocarbons Laboratory	
○ Particulate Matter 2.5	32	Analysis	187
○ Nitrogen Dioxide	37		
○ Nitric Oxide	45		
○ Oxides of Nitrogen	52		
○ Ozone	60		
○ Total Hydrocarbons	68		
○ Vector Wind Speed	76		
○ Vector Wind Direction	83		
○ Standard Deviation Wind Direction	86		

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: November 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 – November 2010

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PORTABEL / DEVON WELLSITE 13-16-62-5 W4M SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						OBJECTIVES				EXCEEDENCES		MONTHLY AVERAGE	
PARAMETER	1-HR	24-HR	1-HR	24-HR	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY		
SO ₂ (PPB)	172	57	0	0	0.10	4	23	19	5.1	211(SSW)	1.0	23	100.0
H ₂ S (PPB)	10	3	-	-	0.02	1	24, 25	VAR	VAR	VAR	0.4	25	100.0
THC (PPM)	-	-	-	-	2.47	9.3	12	8	1.1	29(NNE)	3.6	30	100.0
NO ₂ (PPB)	212	106	0	0	4.52	24	24	18	4.1	202(SSW)	13.2	24	100.0
NO (PPB)	-	-	-	-	0.41	10	5	9	5.9	239(WSW)	1.5	24	100.0
NO _x (PPB)	-	-	-	-	5.07	27	24	18	4.1	202(SSW)	15.0	24	100.0
O ₃ (PPB)	82	-	0	-	20.23	37	2, 17	VAR	VAR	VAR	33.4	18	100.0
PM 2.5 (UG/M ³)	-	30	-	0	6.33	38.8	30	5	8.7	99(E)	14.1	30	88.6
VECTOR WS (KPH)	-	-	-	-	8.17	30.5	2	13	-	276(W)	14.9	2	100.0
VECTOR WD (DEGREES)	-	-	-	-	274(W)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

Volatile Organics Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE

Xontech Model 910A – November 4, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Xontech Model 910A – November 10, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Xontech Model 910A – November 16, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Xontech Model 910A – November 22, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Xontech Model 910A – November 28, 2010

Maximum reading (ug/m3)	Volatile Organic
<32.0	Hexachlorobutadiene

Polycyclic Aromatic Hydrocarbons (PAHs) Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

PUF cartridge – November 4, 2010

Maximum reading (ng/m3)	Semi-Volatile Organic
<6.055	3-Methylcholanthrene

PUF cartridge – November 10, 2010

Maximum reading (ng/m3)	Semi-Volatile Organic
<6.055	3-Methylcholanthrene

PUF cartridge – November 16, 2010

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

PUF cartridge – November 22, 2010

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

PUF cartridge – November 28, 2010

Maximum reading (ng/m3)	Semi-Volatile Organic
<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 issue observed during this month. The inlet filter was replaced before the monthly calibration was started. 2 hour of the maximum concentration 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. 1 hour of the maximum concentration data was invalidated due to a power failure this month. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

- Analyzer make / model – API 200E, S/N: 593

No operational issue observed during the month. The inlet filter was replaced before the monthly calibration was started. 1 hour of the maximum concentration data was invalidated due to a power failure this month. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Ozone (PPB)

- Analyzer make / model –Thermo 49i, S/N: 1002240372

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started. 2 hour of the maximum concentration 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 hour of the maximum concentration data were invalidated due to power failures this month. Data was corrected using daily zero information.

Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)

- Analyzer make / model –TEOM 1405F, S/N: 1405A207691003

A routine Teom audit attempted to be performed on November 8th. During the audit, a leak check was performed, and leak was found. The V-ring seal was replaced and the end of the plastic tubing connecting to the bottom of the transducer was re-cut to solve the leak issue on November 9th. After the troubleshooting, the Teom was re-installed completely, and an audit including a final leak check was performed. The results of the audit and leak check were all good. The Teom was put into the “Maintenance” mode between November 8th and 9th for 21 hours. 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. 60 hours of data were invalidated as they were below $-3.0 \mu\text{g}/\text{m}^3$. The operation uptime for this month was 88.6%. The Teom 1405F unit output provides hourly average, but no instantaneous output. As a result, no hourly maximum value is recorded.

General Monthly Summary

AQM STATION – LICA – PORTABLE

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 hour of the maximum concentration 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.

Trailer

No issue was observed this month. The manifold was cleaned on November 5th.

Air Quality Index (AQI)

The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. Four hours of AQI values recorded in November 2010 were in the Fair range, and they were all due to PM2.5. Others were within the Good range. The highest hourly concentration of PM2.5 was 38.8ug/m³ and an AQI value of 30, hour 5 on November 30th. The highest hourly concentration of Ozone was 37 ppb and an AQI value of 16 on November 2nd and 17th, in various hours.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Volatile Organics (VOCs)

The volatile organics were sampled from November 5th to November 29th. 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.

A flow verification on the Xontech was performed using Bios DC-2, S/N 1193, on November 8th.

Polycyclic Aromatic Hydrocarbons (PAHs)

The PAHs were sampled from November 5th to November 29th. 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

NOVEMBER 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	6	9	9	6	8	10	9	6	10	7	-	8	7	8	7	6	5	6	3	5	6	5	11	8	11		
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	NA	O3	O3	O3	O3	O3	O3	PM2	O3	O3	O3	PM2	PM2	PM2	PM2	PM2	
2	7	7	8	12	14	15	14	16	-	18	18	18	19	-	19	18	16	15	15	14	11	13	15	19			
	PM2	PM2	PM2	PM2	O3	O3	O3	O3	O3	NA	O3	O3	O3	O3	NA	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	
3	15	16	16	16	16	15	15	-	15	16	16	17	17	17	17	17	15	11	7	6	5	13	-	12	17		
	O3	O3	O3	O3	O3	O3	O3	NA	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	PM2	PM2	O3	PM2	NA	PM2	O3		
4	4	13	5	5	8	5	5	-	8	9	-	-	-	-	-	-	11	11	13	12	12	10	8	18			
	O3	PM2	O3	O3	PM2	O3	PM2	NA	O3	O3	NA	NA	NA	NA	NA	NA	NA	O3	O3	O3	O3	O3	O3	O3	O3		
5	8	7	6	6	5	4	-	3	2	-	-	-	-	-	-	17	19	17	16	17	18	17	-	19			
	O3	O3	O3	O3	O3	PM2	NA	O3	PM2	NA	NA	NA	NA	NA	NA	NA	O3	O3	O3	O3	O3	O3	O3	NA	NA		
6	14	14	13	13	13	-	8	10	9	12	-	14	16	-	17	13	12	12	9	10	8	10	12	12	17		
	O3	O3	O3	O3	O3	NA	O3	O3	O3	O3	NA	O3	O3	NA	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	
7	11	11	10	5	-	9	9	8	10	12	13	-	15	15	16	16	16	15	-	-	13	12	-	16			
	O3	O3	PM2	O3	NA	O3	O3	O3	O3	O3	NA	O3	O3	O3	O3	O3	O3	O3	O3	NA	NA	O3	O3	NA	O3		
8	12	12	13	-	10	11	-	-	10	11	12	12	12	11	-	-	-	-	-	-	-	-	-	-	13		
	O3	O3	O3	NA	O3	O3	NA	NA	O3	O3	O3	O3	O3	O3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	O3		
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	9	9	11	9	9	8	13	7	-		
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	O3	O3	PM2	O3	PM2	O3	PM2	O3	NA	PM2		
10	9	-	14	6	-	12	7	6	6	6	6	6	5	11	6	9	8	9	7	6	8	6	7	14			
	PM2	NA	PM2	O3	NA	PM2	O3	O3	PM2	O3	O3	PM2	O3	PM2	O3	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3	PM2		
11	-	8	10	8	7	9	6	9	10	7	8	9	10	10	12	12	9	8	10	11	11	8	2	-	12		
	NA	PM2	PM2	PM2	PM2	PM2	O3	PM2	PM2	O3	O3	O3	O3	O3	O3	PM2	O3	O3	PM2	PM2	PM2	PM2	PM2	NA	O3		
12	12	11	9	10	9	10	14	6	10	13	8	12	11	11	11	13	8	8	10	7	12	-	9	14			
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3	O3	O3	O3	PM2	PM2	PM2	PM2	PM2	PM2	O3	PM2	NA	O3		
13	10	10	7	7	9	8	8	9	8	9	9	12	11	9	9	8	8	7	6	6	-	3	6	12			
	O3	O3	O3	O3	O3	O3	O3	O3	PM2	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	PM2	NA	PM2	O3		
14	7	9	11	12	11	10	10	8	6	8	8	9	10	10	9	7	7	7	7	-	8	8	8	12			
	PM2	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	NA	O3	O3	O3	O3		
15	8	9	10	10	10	9	9	8	9	10	11	11	11	10	10	9	8	7	6	-	10	11	14	14	14		
	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	NA	O3	O3	O3	O3	O3		
16	14	15	15	16	16	17	-	17	16	16	16	-	16	16	16	15	-	-	15	15	14	-	17				
	O3	O3	O3	O3	O3	NA	O3	O3	O3	O3	NA	NA	O3	O3	O3	NA	NA	O3	NA	O3	O3	O3	NA	O3	O3		
17	-	14	14	-	15	16	16	16	17	-	18	18	19	-	18	-	-	18	-	18	-	18	18	-	19		
	NA	O3	O3	NA	O3	O3	O3	O3	O3	NA	O3	O3	NA	O3	NA	O3	NA	NA	NA	O3	NA	O3	NA	O3	NA		
18	18	-	18	18	18	-	18	-	18	18	-	17	17	18	-	17	-	-	16	15	-	13	18				
	O3	NA	O3	O3	O3	NA	O3	NA	O3	O3	NA	O3	NA	O3	O3	NA	O3	NA	NA	O3	NA	O3	NA	O3	O3		
19	12	11	-	-	-	10	-	7	7	10	16	16	16	-	-	-	16	16	16	16	16	16	17	17	17		
	O3	O3	NA	NA	NA	NA	PM2	O3	O3	O3	O3	O3	NA	NA	NA	NA	O3	O3	O3	O3	O3	O3	O3	O3	O3		
20	17	-	15	13	13	13	13	11	12	12	12	12	-	-	9	7	14	11	9	22	16	28	26	28			
	O3	NA	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	NA	NA	O3	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2		
21	18	15	22	10	18	27	16	22	17	21	13	19	14	-	9	11	10	11	13	13	-	11	12	27			
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	NA	O3	O3	O3	O3	O3	O3	NA	O3	O3	O3	PM2		
22	14	15	14	14	14	14	13	12	11	11	13	14	-	15	-	14	13	12	13	12	11	13	14	15			
	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	NA	O3	NA	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3		
23	15	14	13	13	14	13	11	11	12	13	16	-	20	21	13	12	9	10	10	6	7	13	12	21			
	O3	O3	O3	O3	O3	O3	O3	PM2	PM2	PM2	NA	PM2	O3	O3	O3	PM2	PM2	O3	O3	O3	O3	PM2	PM2	PM2	PM2		
24	6	12	10	14	13	6	7	7	10	8	-	11	12	12	11	10	14	6	8	7	7	5	8	10	14		
	O3	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	NA	O3	O3	O3	O3	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2		
25	6	8	16	7	11	9	10	8	11	-	8	15	9	9	8	12	15	17	16	16	16	16	16	14	17		
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	NA	O3	PM2	PM2	O3	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	O3	O3		
26	-	15	13	10	11	8	11	-	10	11	11	12	15	15	12	11	9	10	10	10	10	10	13	12	15		
	NA	O3	O3	O3	O3	PM2	O3	PM2	NA	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	PM2	O3	O3		
27	12	9	11	11	12	21	15	-	16	22	12	14	14	15	14	13	11	11	12	9	12	10	10	22			
	PM2	O3	PM2	PM2	PM2	PM2	PM2	NA	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	PM2	O3	O3	PM2		
28	12	14	10	9	8	10	-	13	-	10	12	12	13	13	11	12	12	-	11	12	12	13	13	14			
	PM2	PM2	O3	O3	PM2	PM2	NA	O3	NA	O3	O3	O3	O3	O3	O3	O3	O3	O3	NA	O3	O3	O3	O3	O3	PM2		
29	14	14	13	13	13	-	14	-	12	15	14	-	-	13	13	-	12	11	11	13	12	12	12	15			
	O3	O3	O3	O3	O3	NA	O3	NA	O3	O3	NA	NA	O3	NA	O3	NA	O3	O3	O3	O3	O3	PM2	O3	PM2	O3		
30	16	10	15	20	-	30	18	10	10	11	11	12	13	13	14	14	13	14	14	15	14	-	-	30			
	PM2	O3	PM2	PM2	NA	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	NA	NA	NA	PM2		
PEAK	18	16	22	20	18	30	18	22	17	22	18	19	20	21	17	19	19	17	16	18	22	18	28	26			
	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3		

STATUS FLAG CODES NA - NOT APPLICABLE

AQI CLASS	OZONE (O ₃)				PARTICULATE MATTER 2.5 (PM _{2.5})				NITROGEN DIOXIDE (NO ₂)				SULPHUR DIOXIDE (SO ₂)				FREQUENCY					
	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%
VERY POOR (101-255)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
POOR (51-100)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
FAIR (26-50)	0	0.0%	-	-	-	4	0.6%	30	5	30	0	0.0%	-	-	-	0	0.0%	-	-	-	4	0.6%
GOOD (1-25)	435	60.4%	16	VAR	2, 17	160	22.2%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	595	82.6%
OVERALL	435	60.4%	-	-	-	164	22.8%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	599	83.2%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-											

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2010

SULPHUR DIOXIDE (SO₂) 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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	0	0	IZS	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	IZS	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0.1	24
5	1	1	1	0	0	1	IZS	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
6	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	
7	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	
8	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
9	0	0	IZS	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
10	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	
11	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
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	IZS	0	0.0	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	IZS	0	1	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	2	IZS	2	1	0	1	0	0	0	0	0	0	2	0.3	24
21	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
22	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	1	0	0	0	0	0	1	0.0	24	
23	0	0	0	0	0	0	0	0	0	0	1	IZS	1	1	1	2	2	2	3	4	2	2	1	1	4	1.0	24	
24	1	0	1	1	0	0	0	0	1	1	IZS	1	1	1	3	2	1	0	0	0	0	0	0	0	3	0.6	24	
25	0	0	1	1	1	1	1	1	0	IZS	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.4	24	
26	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
27	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	
28	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	
29	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	
30	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	
HOURLY MAX	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	2	2	2	3	4	2	2	1	1				
HOURLY AVG	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.3	0.1	0.2	0.1	0.1	0.2	0.1	0.1	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

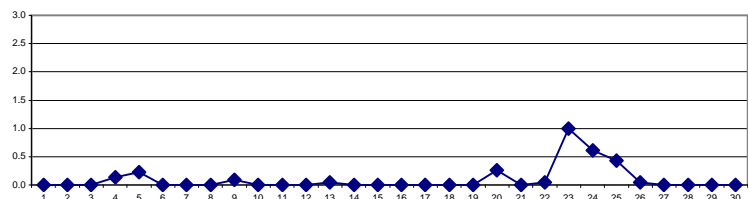
OBJECTIVE LIMIT:

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

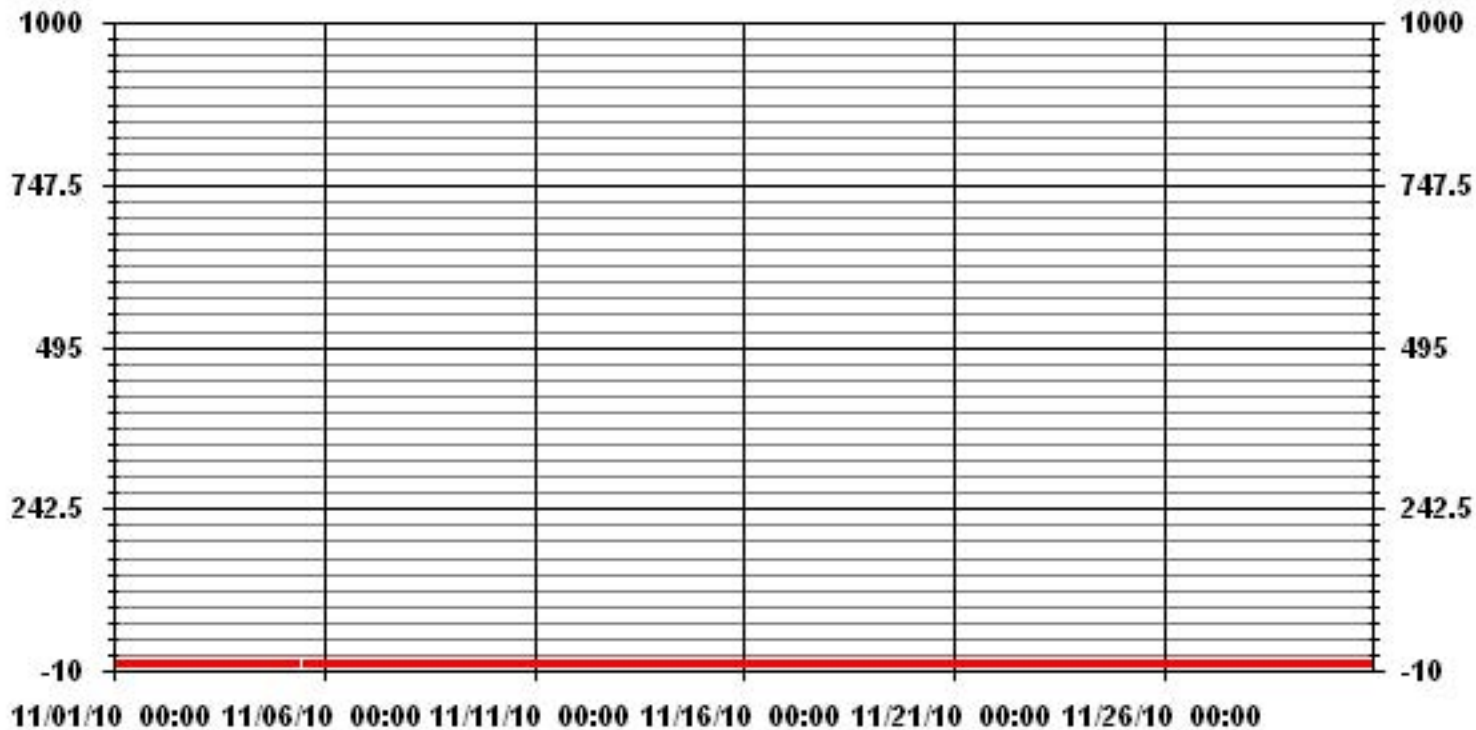
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	50		
MAXIMUM 1-HR AVERAGE:	4 PPB @ HOUR(S) 19 ON DAY(S) 23		
MAXIMUM 24-HR AVERAGE:	1.0 PPB ON DAY(S) 23		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	5 HRS	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.38	MONTHLY AVERAGE:	0.10 PPB

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA33 SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -PORTABLE SITE

NOVEMBER 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	0	0	0	0	0	0	1	IZS	1	1	1	1	0	1	1	1	1	0	0	0	1	1	1	0.4	24
2		0	0	0	0	0	0	0	0	0	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	24
3		1	1	1	1	1	0	0	0	IZS	0	0	1	1	0	0	0	1	0	1	1	1	1	0	0	1	0.5	24	
4		0	0	1	1	1	1	1	1	IZS	1	1	P	1	1	1	1	2	1	1	1	1	2	2	2	2	2	1.1	23
5		2	2	2	1	2	2	IZS	1	1	C	C	C	C	C	3	3	0	0	0	0	0	0	0	0	3	1.1	24	
6		0	0	0	0	0	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24	
7		1	1	1	1	IZS	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.1	24	
8		2	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24	
9		1	1	IZS	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	24	
10		1	IZS	1	0	1	0	0	1	1	1	1	P	1	1	1	1	0	1	1	0	1	1	1	1	0.8	23		
11		IZS	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	IZS	1	0.8	24		
12		0	0	1	1	1	1	0	0	0	1	2	1	1	1	1	1	1	0	0	1	1	IZS	0	2	0.7	24		
13		0	1	1	1	1	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1	IZS	1	2	1.0	24		
14		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	0	0	1	0.9	24		
15		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	
16		0	0	0	0	1	2	0	0	0	1	0	1	0	0	0	0	0	0	IZS	1	3	1	1	1	3	0.5	24	
17		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0	1	1	0.1	24	
18		0	0	0	1	1	1	0	1	1	1	1	1	1	1	1	IZS	2	1	1	1	1	1	1	1	2	0.9	24	
19		0	1	1	1	1	1	1	1	1	1	0	1	0	0	IZS	0	1	0	0	0	1	0	0	1	0.6	24		
20		0	0	0	1	1	1	1	0	1	1	1	2	3	IZS	3	2	2	2	2	1	1	1	1	1	3	1.2	24	
21		1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	0	1	1	0	1	0.9	24	
22		0	0	0	0	0	0	0	0	0	0	1	IZS	1	1	1	1	1	2	1	1	1	1	1	1	2	0.6	24	
23		1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	5	5	4	3	2	2	5	2.1	24		
24		2	1	2	2	1	1	1	2	3	IZS	2	2	3	4	4	2	2	1	1	1	1	1	1	1	4	1.8	24	
25		2	2	2	2	2	2	2	2	2	IZS	2	2	2	2	1	1	1	1	1	1	1	1	1	0	2	1.5	24	
26		1	1	1	1	1	1	1	1	IZS	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1.0	24	
27		1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1.0	24	
28		1	1	1	1	1	1	IZS	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.5	24	
29		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	
30		0	0	0	0	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	0.9	24	
HOURLY MAX		2	2	2	2	2	2	3	2	3	2	2	2	3	4	4	3	3	5	5	4	3	2	2					
HOURLY AVG		0.6	0.6	0.7	0.7	0.8	0.9	0.7	0.8	0.9	0.9	0.9	0.9	1.0	1.1	1.0	1.1	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8				

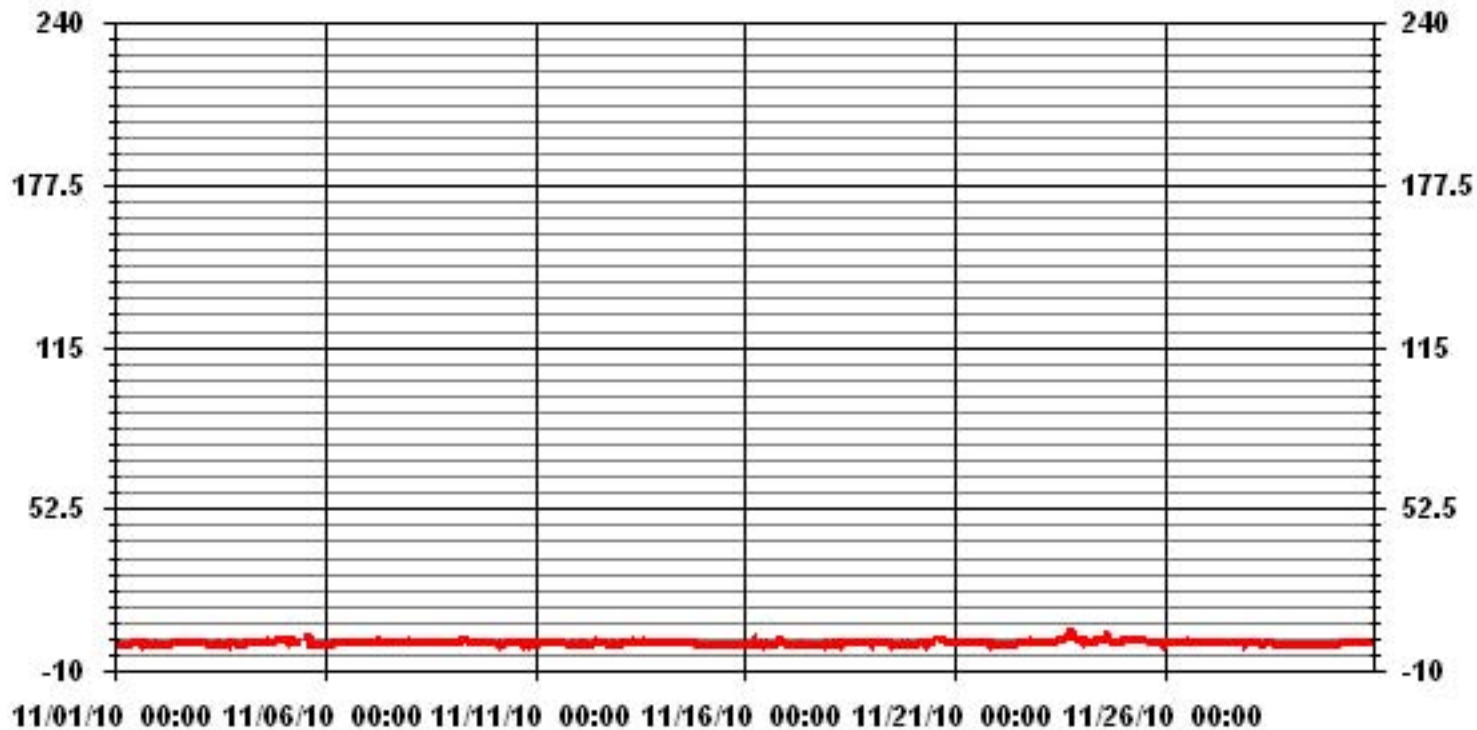
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	484
MAXIMUM INSTANTANEOUS VALUE:	5 PPB @ HOUR(S) 18, 19 ON DAY(S) 23
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	5 HRS
OPERATIONAL TIME:	718 HRS
STANDARD DEVIATION:	0.71

01 Hour Averages



— LICA33 SO2MAX PPB

LICA33
 SO2_ / WDR Joint Frequency Distribution (Percent)

November 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	5.84	2.92	2.63	2.48	9.50	6.14	2.33	4.38	3.21	3.21	14.47	13.01	12.71	11.25	2.19	3.65	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	5.84	2.92	2.63	2.48	9.50	6.14	2.33	4.38	3.21	3.21	14.47	13.01	12.71	11.25	2.19	3.65	

Calm : .00 %

Total # Operational Hours : 684

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	40	20	18	17	65	42	16	30	22	22	99	89	87	77	15	25	684
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	40	20	18	17	65	42	16	30	22	22	99	89	87	77	15	25	

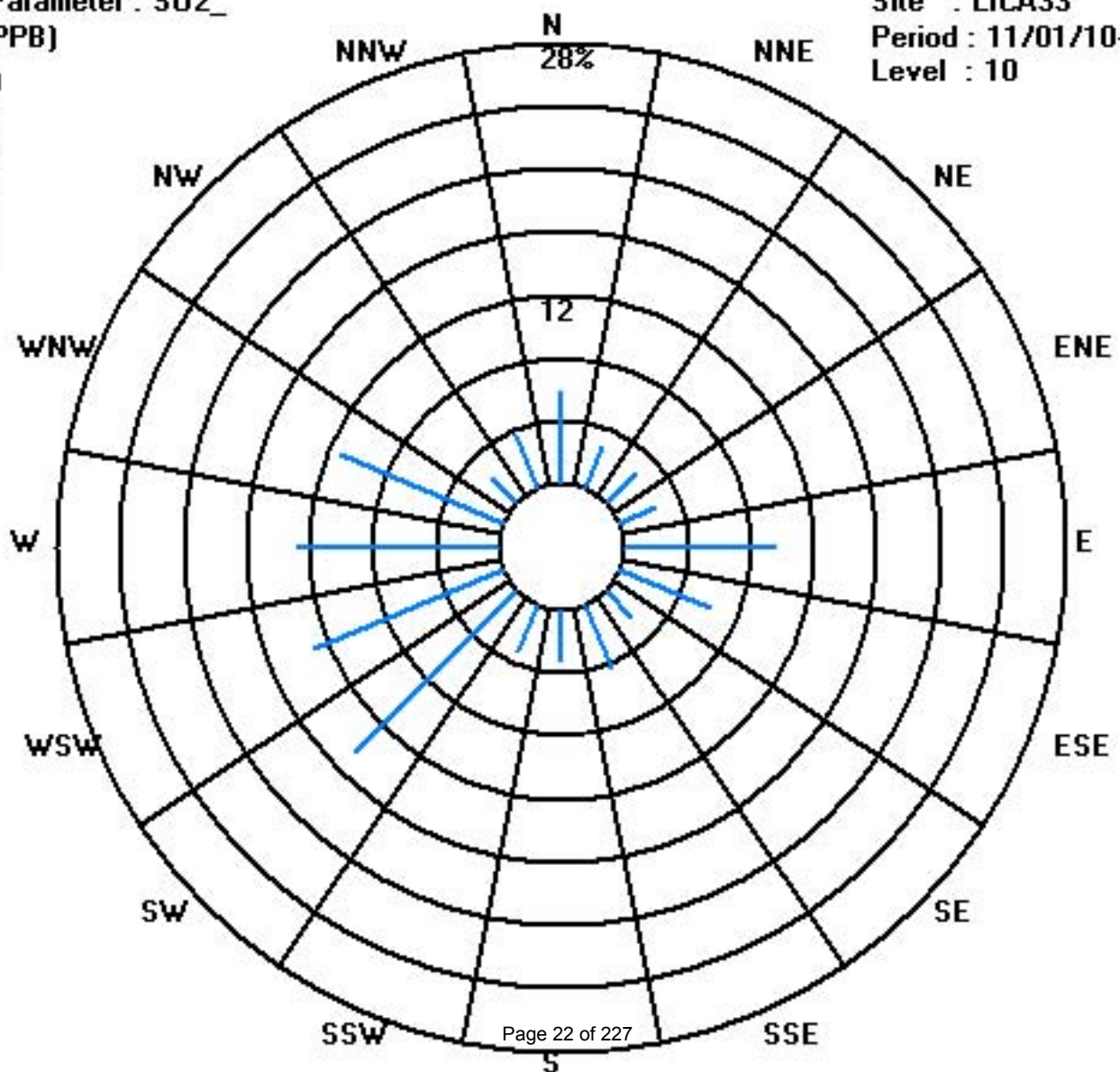
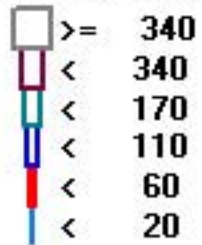
Calm : .00 %

Total # Operational Hours : 684

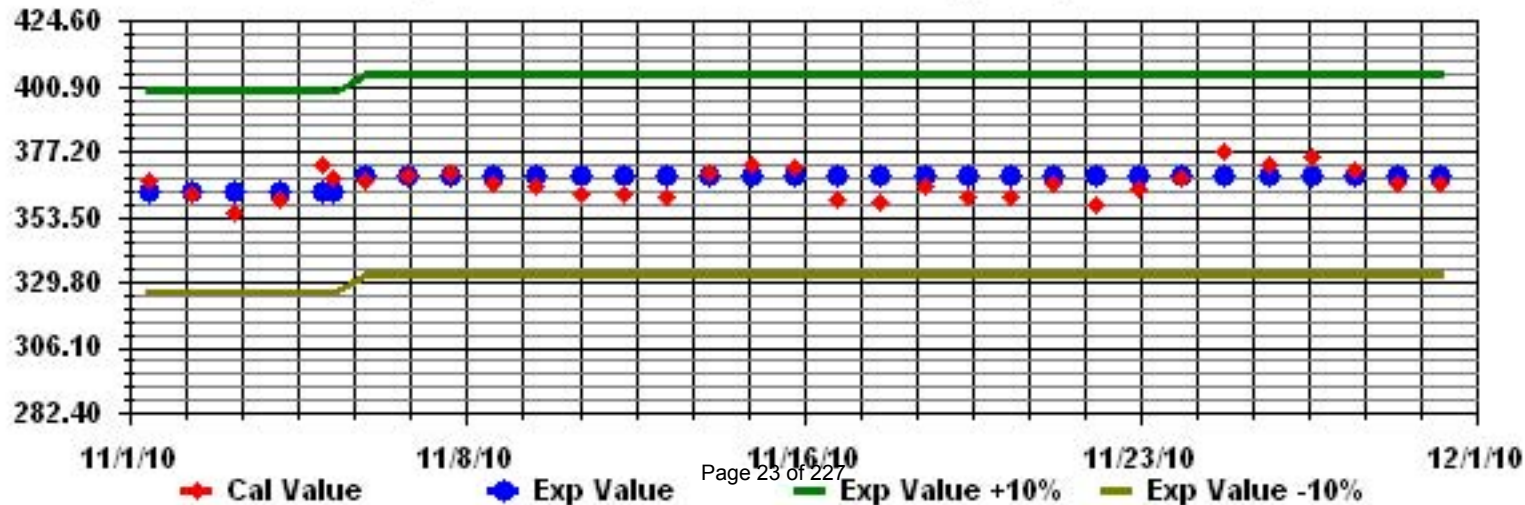
Class Limits (PPB)

Period : 11/01/10-11/30/10

Level : 10



Calibration Graph for Site: LICA33 Parameter: S02_ Sequence: S02 Phase: SPAll



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2010

HYDROGEN SULPHIDE (H2S) 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	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
2	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
3	0	0	0	0	0	0	0	0	IZS	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	IZS	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
5	0	0	0	0	0	0	IZS	0	0	0	0	0	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
6	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	
7	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	
8	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	
9	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	
10	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	
11	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	
12	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	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0.0	24	
14	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	
15	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	
16	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	
17	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	
18	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	
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24	
20	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	
21	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	
22	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	
23	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	
24	0	0	0	0	0	0	0	0	0	0	IZS	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	0.3	24	
25	1	1	1	1	1	1	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	24
26	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	
27	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	
28	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	
29	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	
30	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	
HOURLY MAX	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1			
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

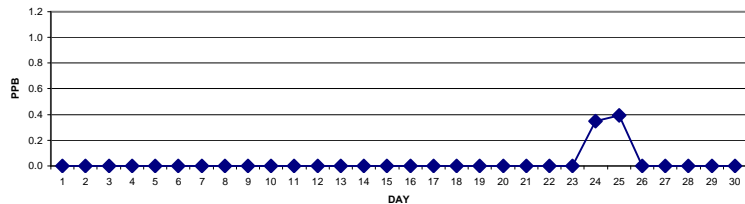
OBJECTIVE LIMIT:

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

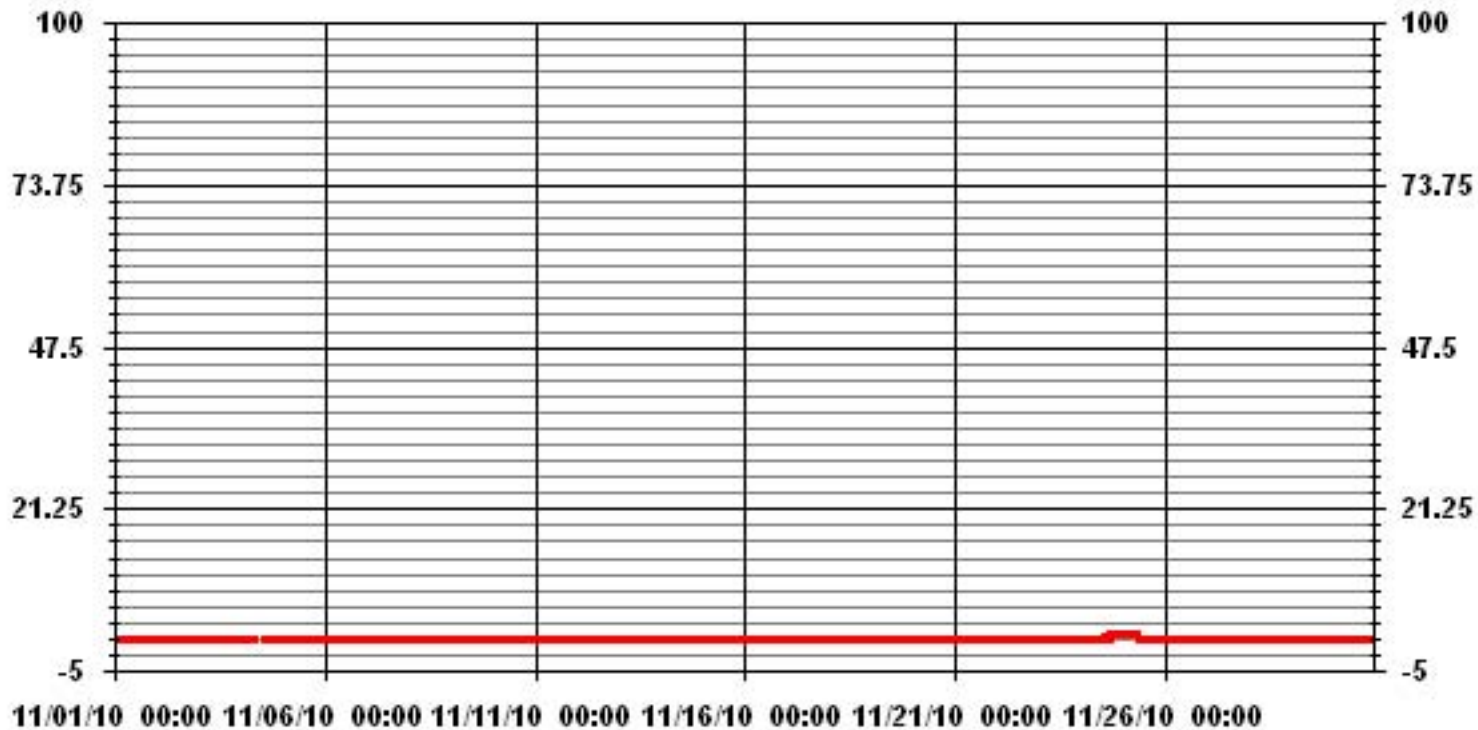
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	17					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)	24, 25
MAXIMUM 24-HR AVERAGE:	0.4	PPB			ON DAY(S)	25
				VAR-VARIOUS		
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	0.16		MONTHLY AVERAGE	0.02	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA33 H2S_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2010

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

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

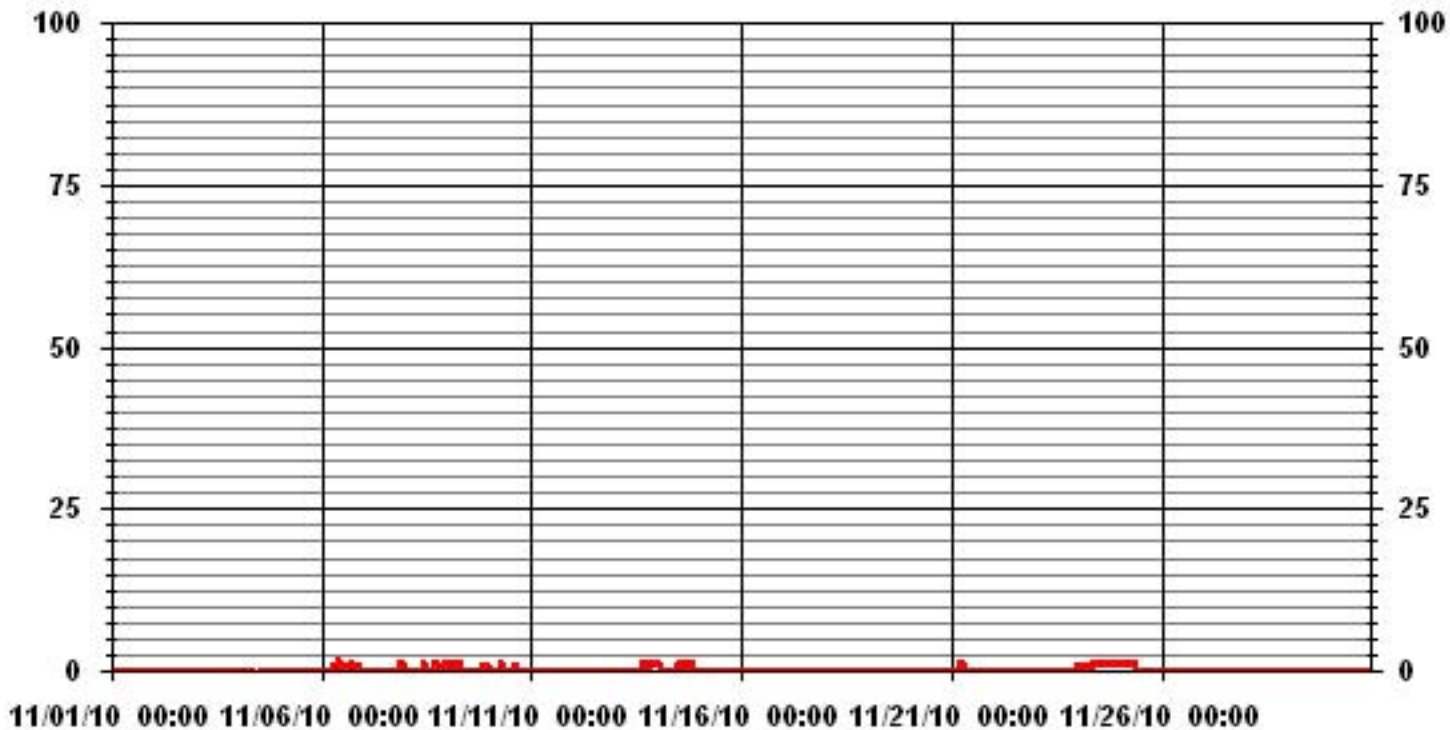
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	69					
MAXIMUM INSTANTANEOUS VALUE:	2	PPB	@ HOUR(S)	10	ON DAY(S)	6
	VAR - VARIOUS					
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	705 HRS		
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	0.31					

01 Hour Averages



LICA33
H2S_ / WDR Joint Frequency Distribution (Percent)

November 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	5.84	2.92	2.63	2.48	9.50	5.99	2.33	3.94	3.21	3.21	14.47	13.30	13.01	11.25	2.19	3.65	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	5.84	2.92	2.63	2.48	9.50	5.99	2.33	3.94	3.21	3.21	14.47	13.30	13.01	11.25	2.19	3.65	

Calm : .00 %

Total # Operational Hours : 684

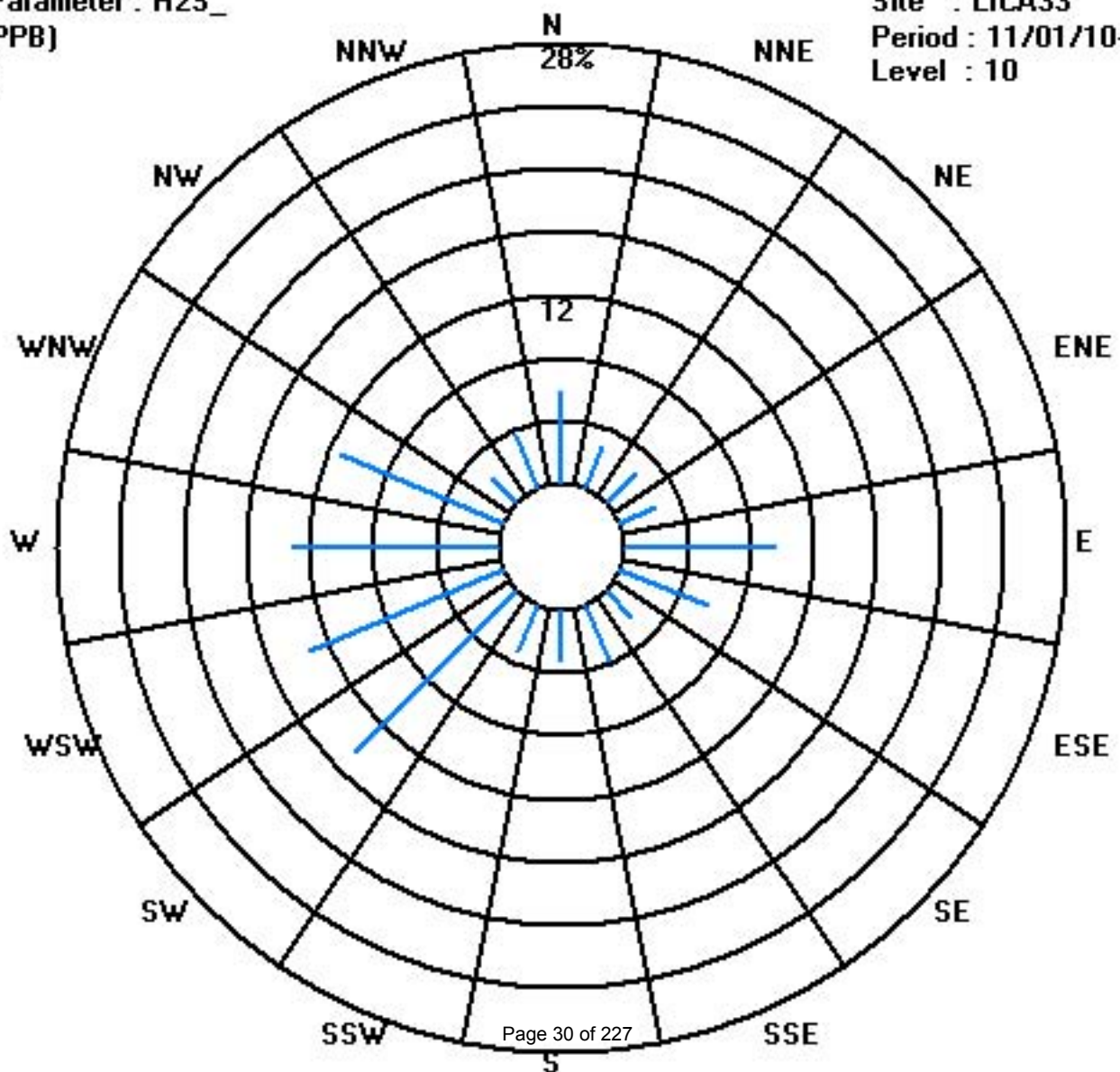
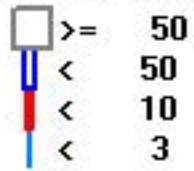
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	40	20	18	17	65	41	16	27	22	22	99	91	89	77	15	25	684
< 10																	
< 50																	
>= 50																	
Totals	40	20	18	17	65	41	16	27	22	22	99	91	89	77	15	25	

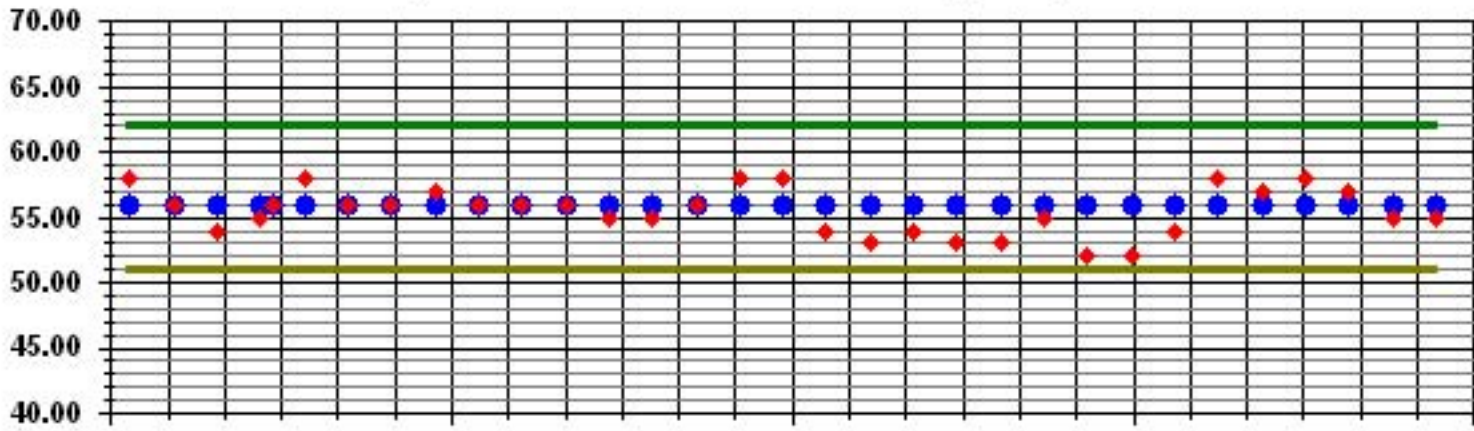
Calm : .00 %

Total # Operational Hours : 684

Class Limits (PPB)



Calibration Graph for Site: LICA33 Parameter: H2S_ Sequence: H2S Phase: SPAll



11/1/10 11/8/10 11/16/10 11/23/10 12/1/10

Cal Value Exp Value Exp Value +10% Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2010

PARTICULATE MATTER 2.5 (PM2.5) hourly averages in ug/m³

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	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	MAX.	AVG.	RDGS.	
1	1	7.7	10.2	11.2	7.7	9.2	11.7	10.2	7.3	11.7	8.3	11.2	5.2	1.7	7.2	0	1.8	2.3	6.7	0	5.2	2.7	6.2	12.7	9.7	12.7	7.0	24	
2	2	8.7	8.2	8.3	9.2	1.7	3.7	0.2	2.2	0.2	1.2	1.7	0	0	0	N	1.2	1.8	1.7	2.7	8.3	5.2	1.7	2.3	0	9.2	3.1	23	
3	3	4.2	0	2.3	3.7	5.2	1.8	0	3.7	5.7	3.2	5.2	1.2	0	7.3	0	2.3	3.2	1.7	8.3	7.3	0.2	15.7	N	14.7	15.7	4.2	23	
4	4	0	15.2	0.8	3.2	9.7	0	6.3	3.7	6.7	0	4.7	1.7	4.2	3.2	0	1.8	1.2	0	0	0.8	0	6.3	3.7	15.2	3.1	24		
5	5	2.7	0	3.2	0	3.2	4.7	2.7	3.2	2.7	2.2	4.7	2.7	5.7	4.7	N	0	0.7	10.2	1.7	0	3.2	0	N	N	10.2	2.8	21	
6	6	0	1.2	8.3	3.7	3.2	N	6.7	8.3	3.2	2.7	N	0	0.7	N	0	3.7	7.7	2.7	2.7	1.7	4.7	4.7	6.8	4.7	8.3	0.0	21	
7	7	2.2	0.2	11.7	0	9.7	0.2	5.2	5.7	0	2.2	0.8	N	8.7	5.7	2.7	7.3	5.7	0	1.2	N	N	9.7	0	N	11.7	3.9	20	
8	8	0.8	0.2	N	4.2	0	6.2	N	N	3.2	3.2	11.2	5.7	4.7	0.8	M	M	M	M	M	M	M	M	M	M	M	11.2	3.7	11
9	9	M	M	M	M	M	M	M	M	M	M	M	M	C	C	8	7.2	6.8	13.7	0	10.2	0	15.2	0	N	15.2	6.8	11	
10	10	10.7	0	16.3	4.1	N	13.8	2.1	1.8	2.3	7.3	1.2	0.4	6.6	5	12.7	6.3	11.2	9.2	10.3	8.6	7.3	9.1	6.3	8.7	16.3	7.0	23	
11	11	7.7	9.8	11.8	9.7	8.6	10.7	0	10.7	12.2	4.7	2.7	7.7	10.2	8.3	12.2	13.8	8.7	4.8	11.7	12.7	13.3	9.7	2.7	6.8	13.8	8.8	24	
12	12	13.8	12.7	11.2	12.2	10.2	12.3	17.2	6.8	11.7	15.7	9.2	8.3	7.3	6.8	11.7	12.7	15.2	9.7	9.7	12.3	6.8	14.2	2.3	7.7	17.2	10.7	24	
13	13	1.2	0	4.3	0	0	3.7	4.8	4.3	10.7	5.8	5.7	4.3	2.7	0.8	0.2	2.7	2.3	5.2	5.7	4.3	6.8	8.3	3.2	7.7	10.7	3.9	24	
14	14	8.3	3.2	4.8	0.8	4.2	2.3	3.2	4.3	6.8	2.3	4.3	0.2	2.3	3.7	9.2	0	1.8	1.2	5.2	0	3.7	4.8	5.2	2.7	9.2	3.5	24	
15	15	0.8	3.7	0.8	0.8	2.7	2.3	0	5.2	0	2.7	3.7	1.8	4.8	4.3	2.7	4.3	6.8	5.2	0	0.2	5.2	0.2	0	2.7	6.8	2.5	24	
16	16	5.2	1.8	0	4.3	2.7	0	N	0.8	6.3	12.8	0	N	N	6.8	5.7	1.8	0	N	N	0.8	0	0	0	0	N	12.8	2.7	18
17	17	N	1.2	0.8	N	1.8	0	0	0	0.8	3.7	N	0	2.3	3.7	N	N	0.2	1.2	N	2.3	N	1.8	0	N	3.7	1.2	16	
18	18	8.7	N	0	10.2	0	2.7	N	1.2	N	7.7	0	5.2	N	0	0	0.2	N	3.7	N	N	0	3.7	N	8.3	10.2	3.2	16	
19	19	3.2	6.8	N	N	N	3.7	N	8.3	0	6.8	6.3	2.3	0	3.7	N	6.3	N	4.8	0	6.3	0.8	6.8	6.8	0	8.3	4.1	18	
20	20	5.2	N	4.3	2.7	9.2	4.3	5.7	1.2	14.7	4.8	11.7	8.7	8.3	N	N	2.3	5.2	16.8	13.3	10.2	26.7	18.7	34.8	30.8	34.8	11.4	21	
21	21	21.2	17.7	26.7	11.7	21.7	31.3	18.8	26.2	20.7	25.2	15.7	23.3	16.8	10.7	6.8	5.2	4.8	5.2	4.3	0.8	7.3	N	0	1.8	31.3	14.1	23	
22	22	1.8	0	3.7	1.2	0	0.2	1.2	3.2	11.2	3.2	0	0.8	10.7	7.7	N	5.2	6.3	0.2	4.3	3.2	2.7	5.7	5.2	6.8	11.2	3.7	23	
23	23	6.8	4.8	4.3	4.8	5.2	5.2	8.3	6.8	13.8	15.7	19.3	19.3	24.3	25.2	7.3	9.2	9.7	12.3	11.7	0	8.3	15.2	14.2	15.2	25.2	11.1	24	
24	24	4.8	14.2	11.7	16.8	15.2	7.7	8.7	8.3	12.3	9.7	2.3	8.7	10.8	12.2	0.2	1.8	16.8	7.7	9.8	8.3	8.7	6.3	9.3	11.8	16.8	9.3	24	
25	25	6.8	9.7	19.7	8.7	13.3	10.8	11.8	9.3	13.3	5.2	7.7	18.2	11.2	9.7	9.2	13.8	6.2	0	0	1.8	0	5.7	2.3	19.7	8.1	24		
26	26	N	3.7	10.8	10.2	0	12.8	3.7	13.3	3.3	0	6.3	7.3	4.8	5.2	4.8	8.7	4.3	4.8	10.2	1.2	0	2.7	15.2	5.8	15.2	6.0	23	
27	27	14.2	6.3	13.3	12.8	14.2	25.2	18.2	21.7	19.3	26.2	7.7	5.8	2.7	8.3	4.3	5.7	6.3	7.3	4.8	4.8	1.2	13.8	7.8	9.8	26.2	10.9	24	
28	28	13.8	16.8	9.7	9.2	9.7	11.7	0	6.3	N	2.3	5.2	0	7.8	0.8	9.2	0.2	9.7	5.2	N	0	9.7	3.3	0	10.7	16.8	6.4	22	
29	29	0	5.2	11.2	0	1.2	12.2	1.2	N	0	9.7	5.7	N	N	10.2	4.3	N	1.2	2.3	12.2	8.3	3.7	15.7	4.3	14.7	15.7	6.2	20	
30	30	19.7	11.8	17.8	23.8	22.8	38.8	21.8	10.2	9.8	3.3	3.3	0	1.8	4.8	0	12.2	8.7	5.8	10.2	10.8	0	N	N	N	38.8	11.3	21	
HOURLY MAX		21	18	27	24	23	39	22	26	21	26	19	23	24	25	13	14	17	17	13	13	27	19	35	31				
HOURLY AVG		6.7	6.1	8.5	6.5	6.8	8.6	6.3	6.8	7.5	6.8	5.8	5.3	6.2	6.2	4.8	5.1	5.7	5.3	5.6	4.7	4.8	7.2	6.0	8.1				

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

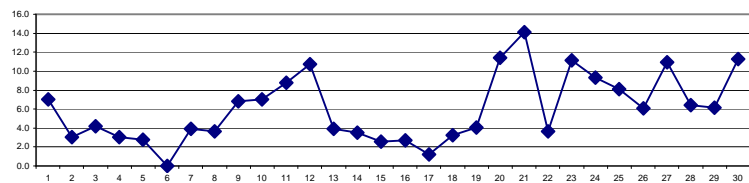
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	-	PPB	24-HR	30	PPB
----------------------	------	---	-----	-------	----	-----

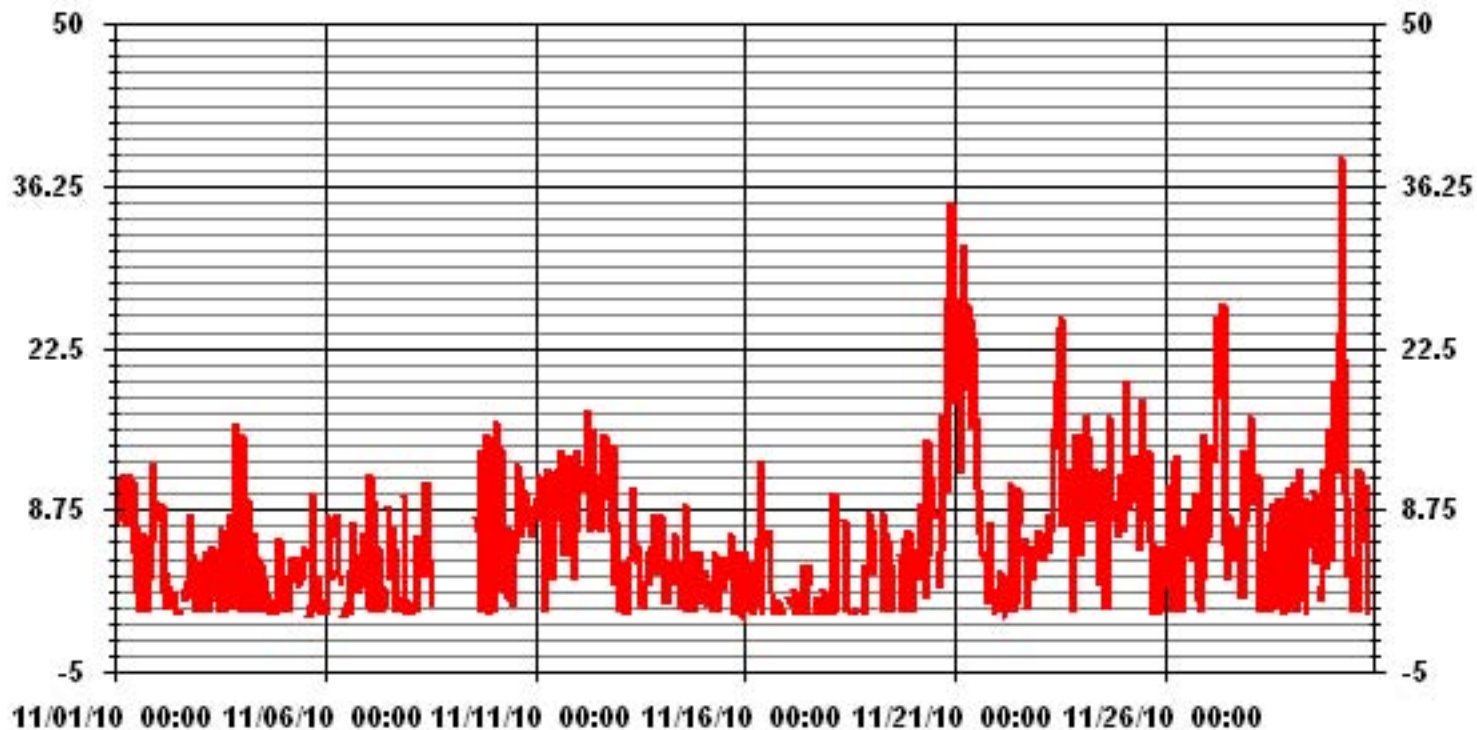
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-
NUMBER OF 24-HR EXCEEDENCES:	0 PROPOSED CANADA WIDE GUIDELINE
NUMBER OF NON-ZERO READINGS:	547
MAXIMUM 1-HR AVERAGE:	38.8 UG/M ³ @ HOUR(S) 5 ON DAY(S) 30
MAXIMUM 24-HR AVERAGE:	14.1 UG/M ³ ON DAY(S) 30
IZS CALIBRATION TIME:	0 HRS
MONTHLY CALIBRATION TIME:	2 HRS
STANDARD DEVIATION:	5.92
OPERATIONAL TIME:	638 HRS
AMD OPERATION UPTIME:	88.6 %
MONTHLY AVERAGE:	6.33 UG/M ³

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA33 PM2 UG/M3

LICA33
 PM2 / WDR Joint Frequency Distribution (Percent)

November 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	5.34	2.98	2.04	2.35	8.64	6.60	2.98	4.87	3.45	3.14	15.25	13.52	13.67	9.27	2.20	2.98	99.37	
< 60.0	.00	.00	.00	.00	.15	.00	.00	.00	.00	.00	.00	.00	.31	.15	.00	.00	.62	
< 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	5.34	2.98	2.04	2.35	8.80	6.60	2.98	4.87	3.45	3.14	15.25	13.52	13.99	9.43	2.20	2.98		

Calm : .00 %

Total # Operational Hours : 636

Distribution By Samples

	Direction																	
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 30.0	34	19	13	15	55	42	19	31	22	20	97	86	87	59	14	19	632	
< 60.0					1								2	1			4	
< 80.0																		
< 120.0																		
< 240.0																		
>= 240.0																		
Totals	34	19	13	15	56	42	19	31	22	20	97	86	89	60	14	19		

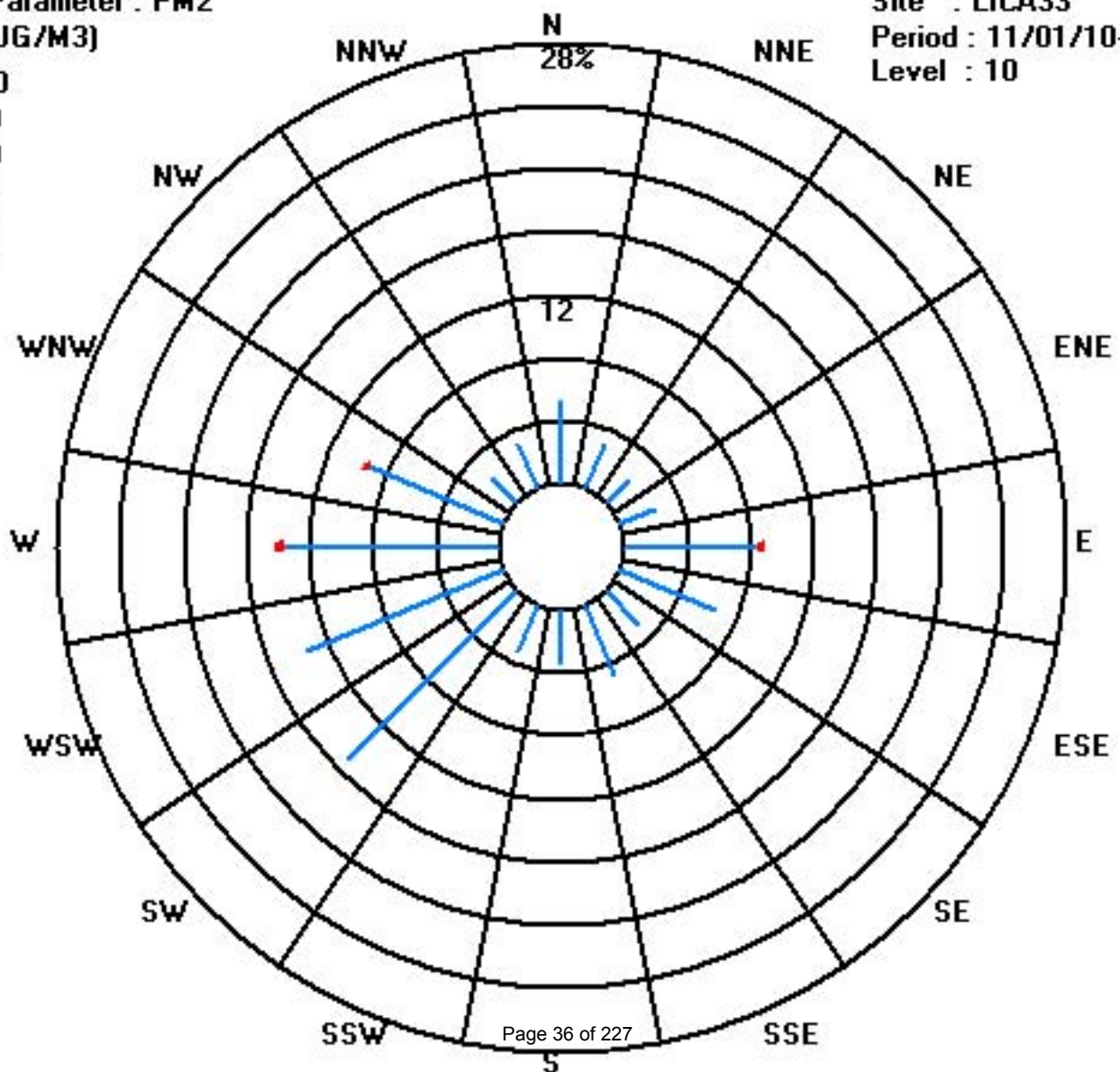
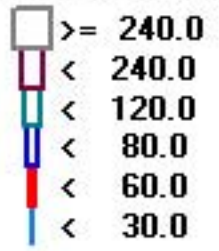
Calm : .00 %

Total # Operational Hours : 636

Class Limits (UG/M3)

Period : 11/01/10-11/30/10

Level : 10



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 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	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	8	8	9	10	10	8	7	6	IZS	5	5	5	4	5	7	6	7	5	4	4	6	7	10	6.4	24	
2	6	5	7	6	2	3	3	3	1	IZS	1	0	0	0	0	0	0	2	3	1	1	1	2	0	7	2.0	24	
3	0	0	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	2	9	15	15	6	7	4	5	15	3.3	24	
4	7	5	6	7	7	6	7	IZS	5	3	C	C	C	C	C	C	C	3	3	2	2	2	2	2	7	4.3	24	
5	2	2	2	4	4	4	IZS	6	9	10	8	5	5	C	1	1	1	3	3	1	1	1	0	1	10	3.4	24	
6	2	2	2	2	2	IZS	11	6	7	5	3	2	1	0	0	1	2	2	3	8	12	6	2	2	12	3.6	24	
7	5	3	12	6	IZS	1	2	4	2	2	2	1	0	1	0	0	0	0	0	0	0	1	4	4	12	2.2	24	
8	5	4	2	IZS	4	3	5	3	5	2	2	2	2	2	3	3	3	5	5	5	9	8	7	6	9	4.1	24	
9	8	8	IZS	7	9	8	7	6	5	4	4	4	6	7	6	5	5	4	4	3	3	4	4	3	9	5.4	24	
10	5	IZS	4	3	5	5	3	4	3	3	3	1	4	4	5	4	7	9	8	7	7	11	5	5	11	5.0	24	
11	IZS	5	8	5	4	6	7	9	8	6	4	4	4	3	3	3	4	5	12	15	11	9	9	IZS	15	6.5	24	
12	7	6	5	6	11	11	9	9	8	8	6	6	5	3	4	5	7	7	8	7	6	6	IZS	3	11	6.7	24	
13	2	2	2	3	4	4	5	6	7	6	6	6	3	4	5	5	6	6	6	6	6	IZS	8	11	11	5.2	24	
14	7	4	2	1	1	1	2	3	4	2	2	2	1	2	2	5	4	4	3	3	IZS	3	3	3	7	2.8	24	
15	2	2	2	2	2	2	3	4	3	3	2	1	1	2	2	3	4	4	5	IZS	3	1	0	1	5	2.3	24	
16	1	1	1	0	0	1	0	1	1	1	1	1	1	0	0	1	1	2	IZS	1	1	1	1	1	2	0.8	24	
17	1	1	1	1	1	0	0	1	2	1	1	0	0	0	0	0	0	IZS	0	0	0	0	0	0	2	0.4	24	
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	2	2	2	4	4	0.7	24	
19	5	5	3	3	5	6	11	12	12	8	2	1	1	0	1	IZS	0	1	1	1	1	1	1	1	0	12	3.5	24
20	0	0	1	2	3	3	3	4	6	4	3	3	4	4	IZS	9	10	12	11	12	11	13	16	18	18	6.6	24	
21	19	17	17	18	17	19	18	18	14	10	8	7	9	IZS	3	3	4	3	2	2	2	3	3	3	19	9.5	24	
22	2	1	2	2	1	1	0	2	3	5	2	2	IZS	1	1	3	3	4	4	3	3	6	4	2	6	2.5	24	
23	1	2	3	3	2	2	4	5	5	4	4	IZS	5	6	6	7	11	10	12	13	11	11	11	10	13	6.4	24	
24	11	10	12	11	11	9	10	11	12	9	IZS	7	7	8	10	11	15	20	24	20	21	19	17	19	24	13.2	24	
25	18	18	20	18	18	16	17	17	16	IZS	11	10	9	10	12	12	4	2	2	1	1	1	1	2	20	10.3	24	
26	2	1	1	1	3	5	7	7	IZS	5	6	6	7	5	5	8	8	7	8	7	7	7	7	8	4	8	5.4	24
27	4	6	7	9	8	8	9	IZS	12	10	5	2	2	1	1	2	5	5	5	4	7	5	4	3	12	5.4	24	
28	4	3	3	3	4	5	IZS	1	2	1	2	3	2	2	4	2	1	2	2	2	2	2	2	2	5	2.4	24	
29	1	1	2	2	2	IZS	2	3	6	2	2	2	3	3	2	1	3	4	3	3	4	3	3	3	6	2.6	24	
30	3	3	5	3	IZS	6	4	4	3	3	2	2	2	2	2	2	2	2	1	1	2	1	2	2	6	2.6	24	
HOURLY MAX	19	18	20	18	18	19	18	18	16	10	11	10	9	10	12	12	15	20	24	20	21	19	17	19				
HOURLY AVG	4.7	4.2	4.9	4.7	5.0	5.2	5.7	5.6	6.0	4.4	3.4	3.1	3.2	2.8	3.0	3.6	4.3	4.9	5.6	5.2	5.0	4.8	4.6	4.3				

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

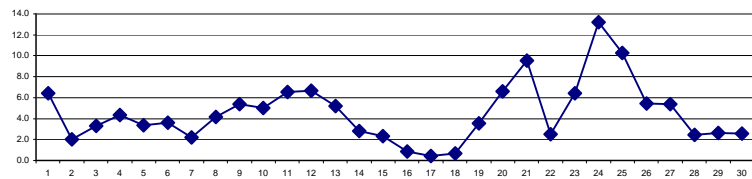
OBJECTIVE LIMIT:

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

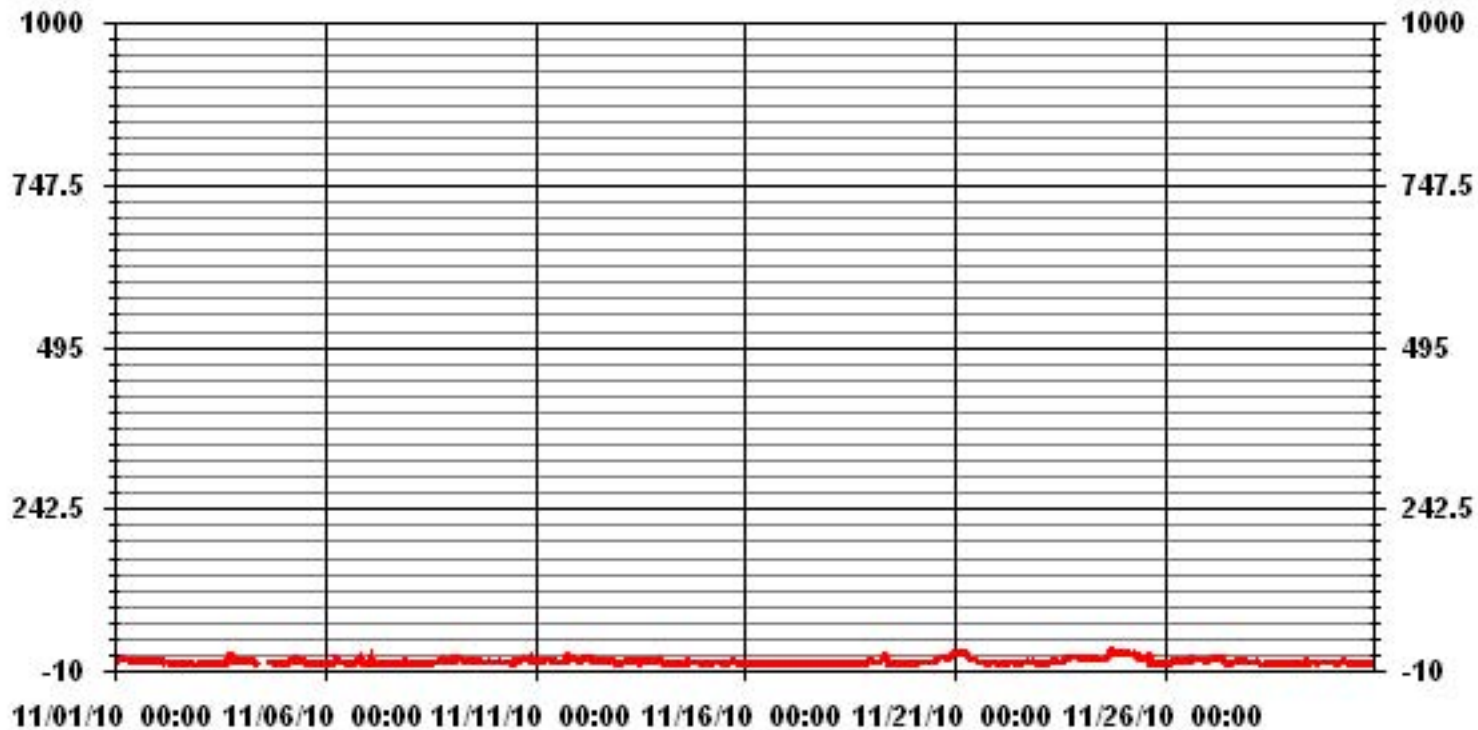
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	618		
MAXIMUM 1-HR AVERAGE:	24 PPB @ HOUR(S) 18 ON DAY(S) 24		
MAXIMUM 24-HR AVERAGE:	13.2 PPB ON DAY(S) 24		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	8 HRS	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION	4.20	MONTHLY AVERAGE	4.52 PPB

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA33 IIO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 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	9	9	11	9	11	12	11	10	8	7	IZS	7	5	5	5	6	11	10	11	7	6	6	8	11	12	8.5	24	
2	10	7	8	8	6	7	6	5	3	IZS	1	1	5	1	1	1	1	3	5	2	2	3	8	1	10	4.1	24	
3	1	1	1	2	2	2	2	2	IZS	2	1	1	1	1	1	2	6	19	30	30	9	10	5	7	30	6.0	24	
4	10	6	8	8	8	8	9	IZS	6	5	C	C	C	C	C	C	C	4	3	3	3	3	4	3	10	5.7	24	
5	3	3	3	6	5	5	IZS	9	11	12	12	7	C	C	2	2	2	11	11	2	2	2	1	2	12	5.4	24	
6	3	3	4	3	4	IZS	21	13	13	7	5	3	2	1	1	2	3	7	5	19	16	11	3	3	21	6.6	24	
7	11	12	17	9	IZS	2	3	10	4	5	2	3	1	1	1	1	1	1	1	1	1	5	6	8	17	4.6	24	
8	7	7	7	IZS	6	5	7	6	7	3	3	3	2	3	4	5	9	14	6	7	13	14	10	8	14	6.8	24	
9	11	14	IZS	9	14	11	10	7	7	6	5	5	7	7	7	6	5	5	4	4	4	5	5	4	14	7.0	24	
10	6	IZS	6	4	6	6	6	5	4	5	5	P	5	5	6	5	11	11	10	9	9	15	7	6	15	6.9	23	
11	IZS	10	11	9	5	9	3	12	9	7	6	5	4	4	4	4	6	6	21	19	14	14	13	IZS	21	8.9	24	
12	10	8	8	8	16	15	11	10	10	10	8	7	7	4	13	7	9	9	9	8	7	7	IZS	4	16	8.9	24	
13	3	3	3	4	5	5	6	7	9	8	7	8	5	7	6	7	7	8	7	7	10	IZS	12	12	12	6.8	24	
14	8	6	3	3	2	2	3	6	6	3	3	3	2	3	3	11	9	7	4	4	IZS	4	3	4	11	4.4	24	
15	3	2	2	2	3	3	4	6	4	3	2	2	2	2	4	4	6	5	7	IZS	6	2	1	2	7	3.3	24	
16	2	1	2	1	2	2	1	2	3	2	2	2	2	2	1	2	2	3	IZS	2	2	2	2	2	3	1.9	24	
17	2	2	3	2	2	1	1	3	3	2	2	1	1	1	0	1	1	IZS	0	0	1	1	0	1	3	1.3	24	
18	1	0	0	1	0	0	0	0	0	1	1	0	0	1	1	0	IZS	3	2	2	3	4	6	6	6	1.4	24	
19	8	8	4	5	7	7	13	14	14	11	5	2	1	1	17	IZS	1	2	2	2	2	2	2	1	17	5.7	24	
20	1	1	1	3	5	4	3	6	12	8	4	4	4	5	IZS	15	12	15	12	13	13	17	19	20	20	8.6	24	
21	22	19	18	19	19	20	19	19	18	11	9	8	10	IZS	4	4	5	4	3	3	3	5	4	5	22	10.9	24	
22	3	4	4	3	2	2	1	6	6	8	3	3	IZS	2	3	5	6	6	7	4	4	10	6	5	10	4.5	24	
23	2	2	5	6	5	4	6	6	7	6	6	IZS	7	7	7	10	20	11	14	15	12	12	13	12	20	8.5	24	
24	14	12	14	13	18	12	11	13	15	10	IZS	7	8	9	11	12	17	23	28	22	25	22	20	21	28	15.5	24	
25	19	20	22	20	19	17	19	18	17	IZS	12	12	11	12	14	14	13	3	3	2	2	1	1	6	22	12.0	24	
26	4	1	2	2	4	8	9	8	IZS	9	10	9	12	6	7	11	10	8	11	8	8	10	9	6	12	7.5	24	
27	5	8	9	11	10	9	10	IZS	18	11	9	3	3	3	2	4	7	6	8	6	12	8	5	6	18	7.5	24	
28	7	4	6	3	6	7	IZS	2	2	2	5	7	6	6	8	6	2	3	3	4	4	3	4	4	8	4.5	24	
29	2	2	2	3	2	IZS	3	7	9	4	4	3	6	6	2	2	5	5	4	4	5	4	4	4	9	4.0	24	
30	3	3	7	6	IZS	10	5	4	4	3	3	3	3	15	3	3	3	3	1	2	3	1	3	3	15	4.1	24	
HOURLY MAX	22	20	22	20	19	20	21	19	18	12	12	12	12	15	17	15	20	23	30	30	25	22	20	21				
HOURLY AVG	6.6	6.1	6.6	6.3	6.9	7.0	7.3	7.7	8.2	6.1	5.0	4.4	4.5	4.4	4.9	5.4	6.8	7.4	8.0	7.3	6.9	7.0	6.3	6.1				

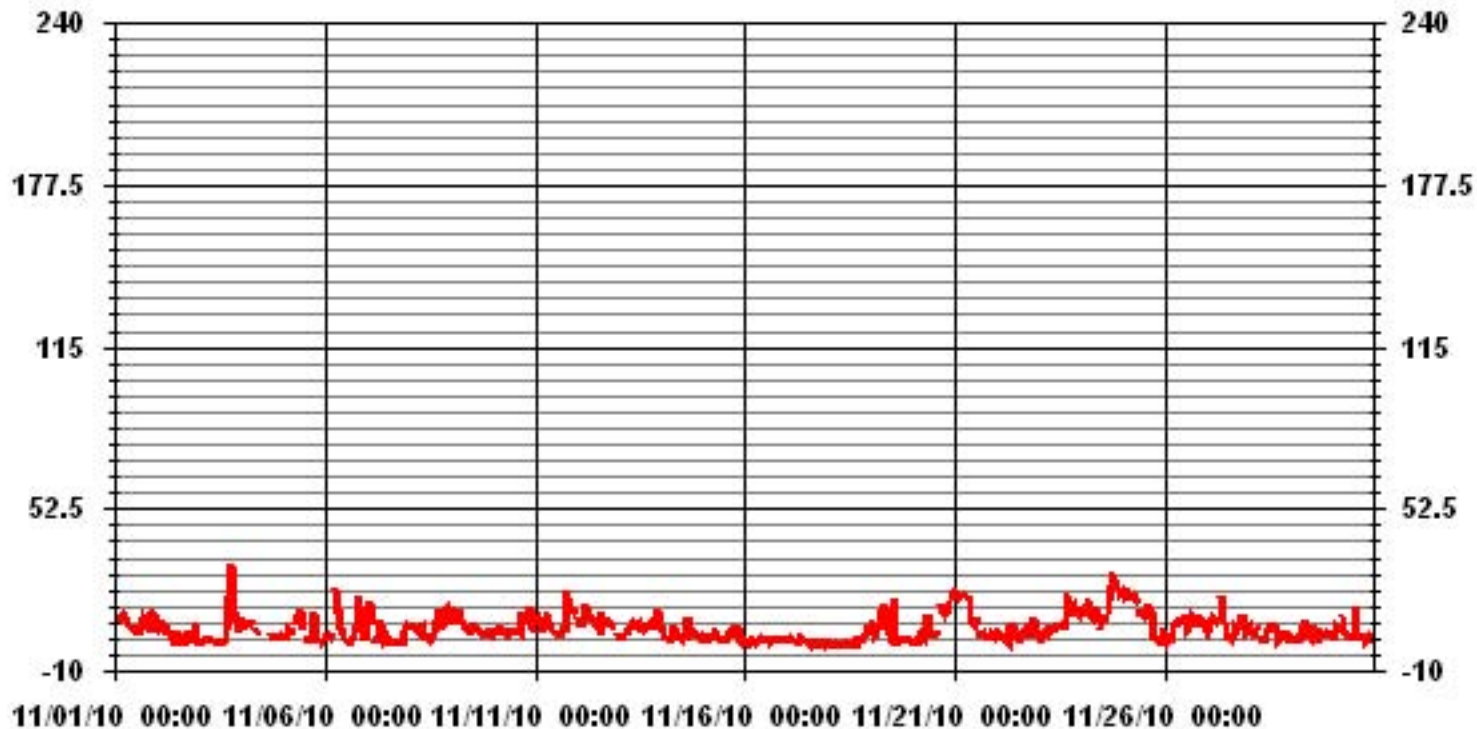
STATUS FLAG CODES

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:	665				
MAXIMUM INSTANTANEOUS VALUE:	30	PPB	@ HOUR(S)	18, 19	ON DAY(S) 3
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS
MONTHLY CALIBRATION TIME:	9	HRS			
STANDARD DEVIATION:	5.07				

01 Hour Averages



— LICA33 NO2MAX PPB

LICA33
 NO2_ / WDR Joint Frequency Distribution (Percent)

November 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	5.87	2.93	2.64	2.49	9.54	6.02	2.20	3.67	3.23	3.23	14.53	13.36	13.06	11.30	2.20	3.67	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	5.87	2.93	2.64	2.49	9.54	6.02	2.20	3.67	3.23	3.23	14.53	13.36	13.06	11.30	2.20	3.67	

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	40	20	18	17	65	41	15	25	22	22	99	91	89	77	15	25	681
< 110																	
< 210																	
>= 210																	
Totals	40	20	18	17	65	41	15	25	22	22	99	91	89	77	15	25	

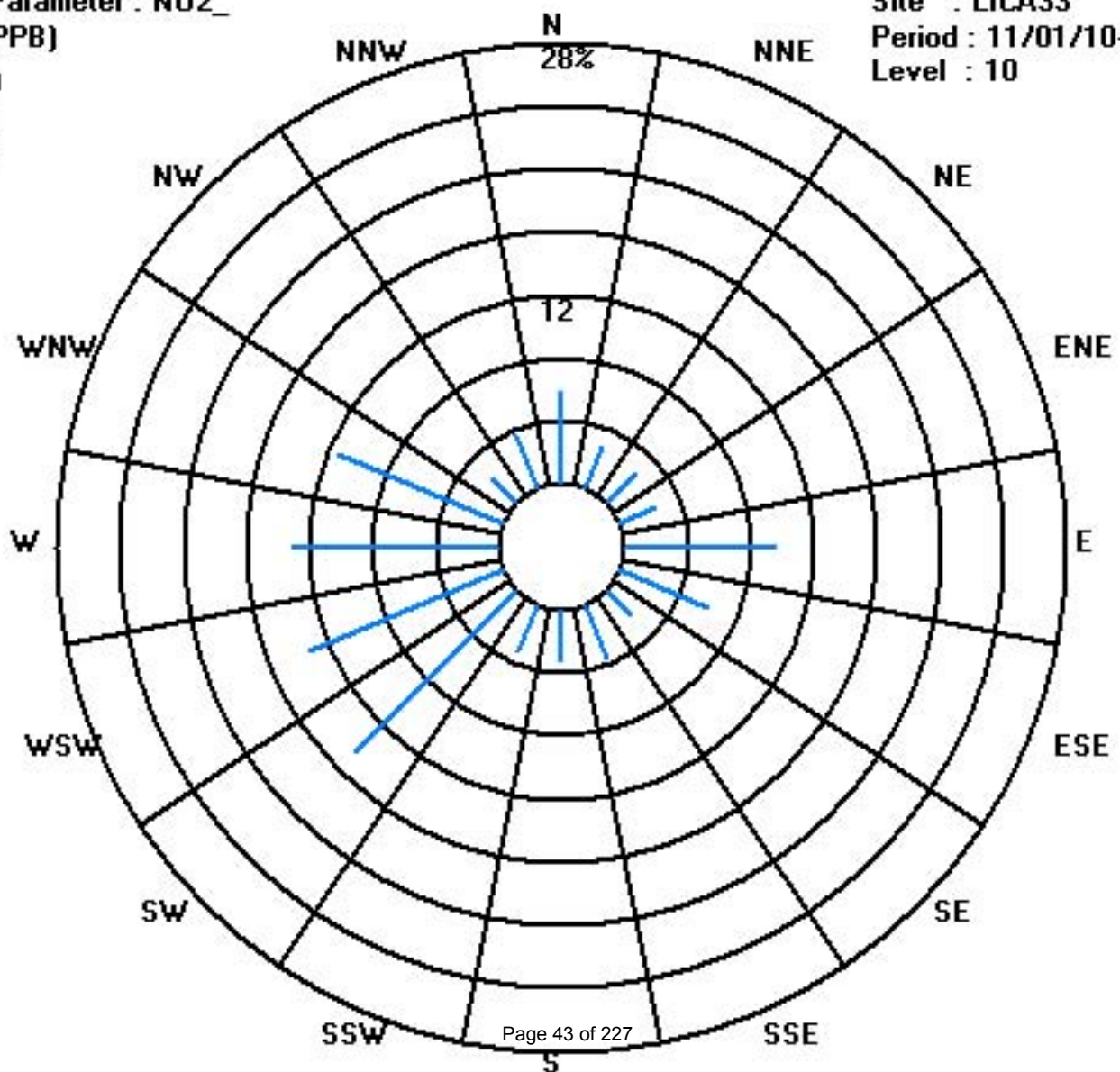
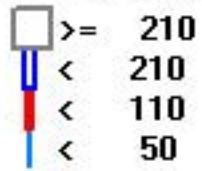
Calm : .00 %

Total # Operational Hours : 681

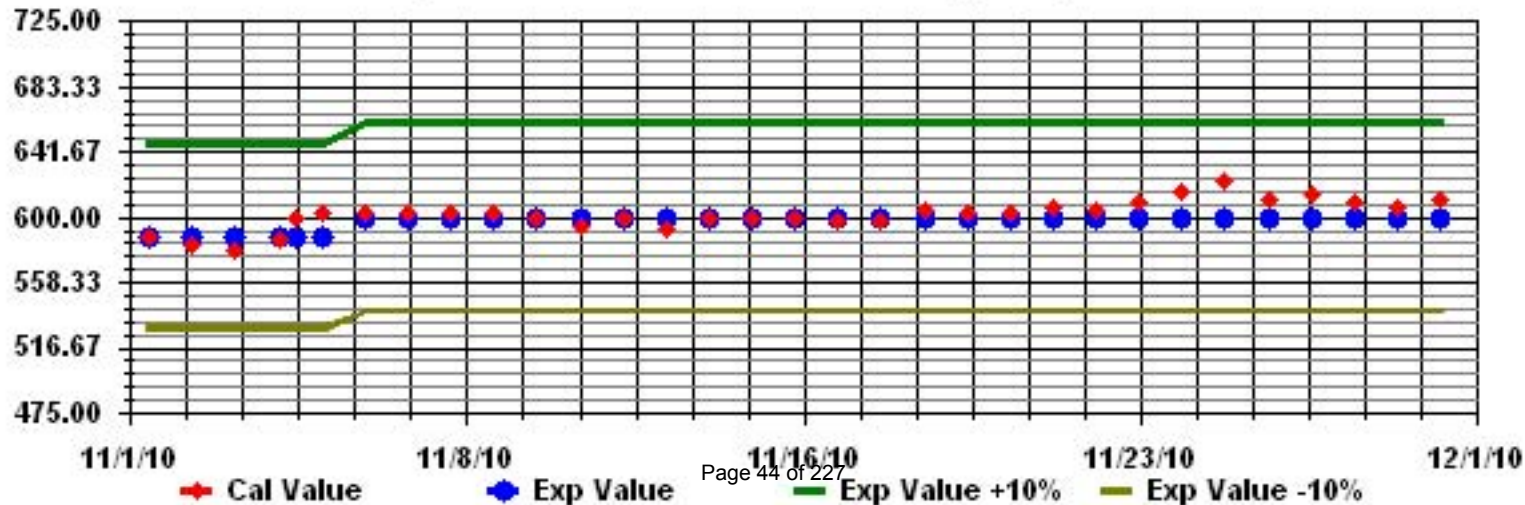
Class Limits (PPB)

Period : 11/01/10-11/30/10

Level : 10



Calibration Graph for Site: LICA33 Parameter: NO2_ Sequence: NO2 Phase: SPAN



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

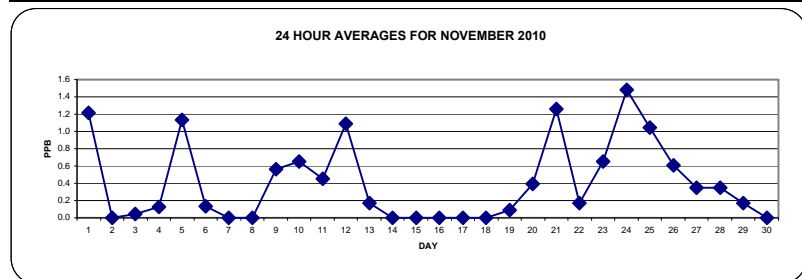
NOVEMBER 2010

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

STATUS FLAG CODES

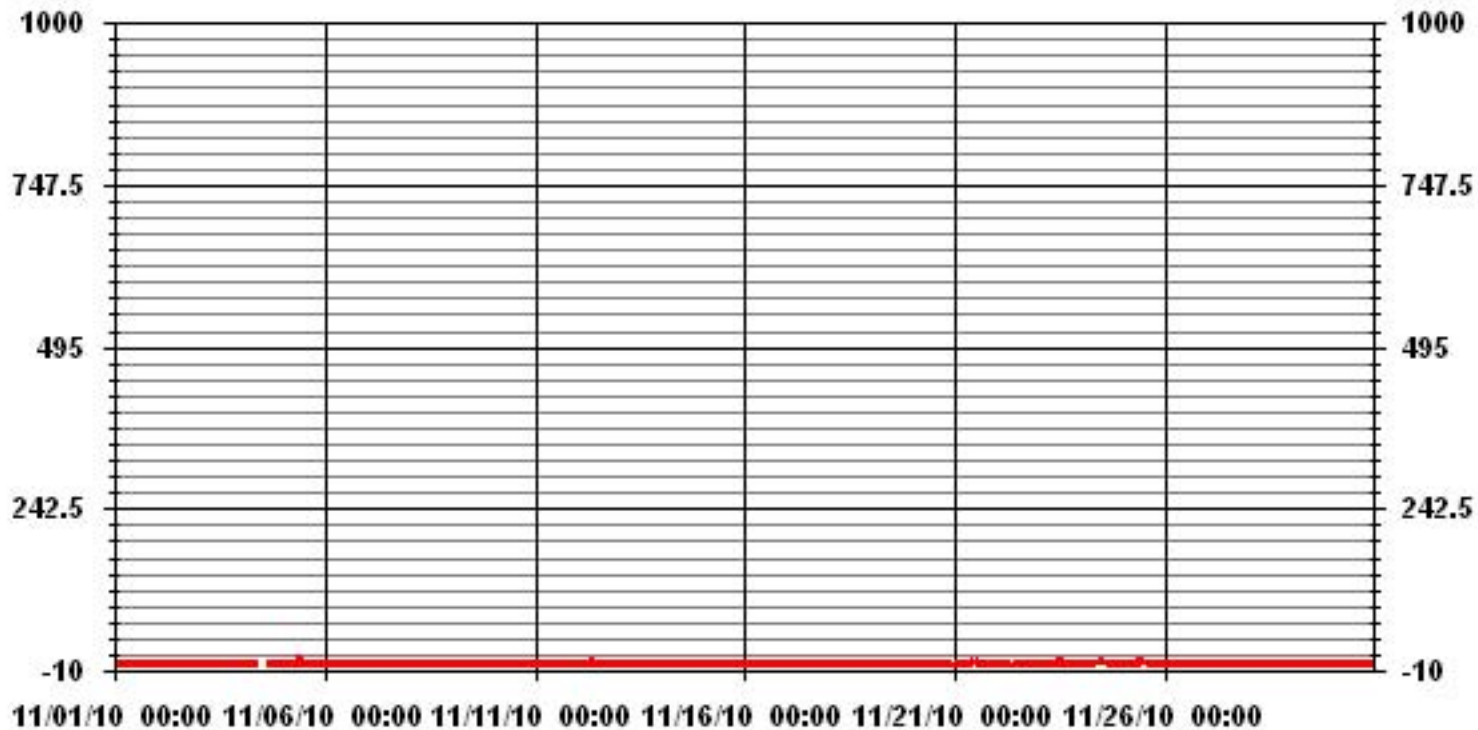
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	130
MAXIMUM 1-HR AVERAGE:	10 PPB @ HOUR(S) 9 ON DAY(S) 5
MAXIMUM 24-HR AVERAGE:	1.5 PPB ON DAY(S) 24
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION	1.09
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME	100.0 %
MONTHLY AVERAGE	0.41 PPB

01 Hour Averages



— LICA33 NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2010

NITRIC OXIDE MAX instantaneous maximum 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	23:00	0:00	DAILY MAX.	24-HOUR AVG.	RDGS.
1	0	10	12	9	10	4	2	1	2	3	IZS	3	3	2	1	1	7	1	2	0	0	0	0	1	12	3.2	24		
2	1	0	0	2	0	0	1	0	0	IZS	1	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0.3	24		
3	0	0	0	0	0	0	0	0	IZS	1	0	0	0	1	0	0	1	1	4	4	0	0	0	0	4	0.5	24		
4	0	0	0	0	0	0	0	IZS	2	2	C	C	C	C	C	C	C	1	0	0	0	0	0	0	2	0.3	24		
5	0	0	0	0	0	0	IZS	3	7	14	14	5	C	C	1	0	0	0	0	0	0	0	0	0	14	2.1	24		
6	0	0	0	0	0	IZS	2	1	2	2	2	2	1	0	0	0	0	0	0	0	2	1	0	0	2	0.6	24		
7	0	0	0	0	IZS	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	24		
8	0	0	0	IZS	0	1	0	0	5	1	0	0	0	1	0	1	3	7	0	0	0	1	0	0	7	0.9	24		
9	0	2	IZS	1	27	11	1	0	1	1	1	1	2	2	2	1	0	0	0	0	0	0	0	0	27	2.3	24		
10	0	IZS	0	0	0	0	0	0	1	3	3	P	3	4	4	2	3	4	0	0	0	1	0	0	4	1.3	23		
11	IZS	1	1	0	0	0	0	3	4	3	3	3	2	1	1	2	1	0	1	3	1	1	1	IZS	4	1.5	24		
12	1	1	1	1	14	10	2	6	13	14	4	4	4	2	21	1	0	0	0	0	0	0	0	IZS	1	21	4.3	24	
13	0	0	0	0	0	0	0	1	3	2	2	2	1	3	1	1	1	0	0	0	0	0	IZS	1	1	3	0.8	24	
14	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	1	0	0	0	IZS	1	0	0	2	0.4	24		
15	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	IZS	1	0	0	0	1	0.2	24		
16	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		
17	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	4	0.2	24	
18	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		
19	0	0	0	0	0	0	1	0	2	2	2	0	0	0	4	IZS	1	0	0	0	0	0	0	0	4	0.5	24		
20	0	0	0	0	0	0	0	0	2	2	2	2	3	3	IZS	4	2	1	0	0	0	1	1	1	4	1.0	24		
21	2	2	3	3	1	4	2	2	2	4	5	6	7	IZS	2	1	1	0	0	0	0	0	0	0	7	2.0	24		
22	0	0	0	0	0	0	0	0	2	3	2	2	IZS	1	1	1	3	0	0	0	0	0	0	0	3	0.7	24		
23	0	0	0	0	0	0	0	1	1	2	3	IZS	6	5	4	4	19	1	0	0	0	0	0	0	19	2.0	24		
24	0	0	0	0	2	1	1	2	4	7	IZS	7	6	6	6	3	3	2	5	1	1	1	1	0	1	7	2.6	24	
25	1	1	0	0	0	1	1	0	2	IZS	6	6	6	6	7	4	2	0	0	0	0	0	0	0	7	1.9	24		
26	0	0	0	0	0	0	0	0	IZS	3	6	7	8	2	1	1	1	0	0	0	0	0	0	0	8	1.3	24		
27	0	0	0	0	0	0	0	IZS	3	6	5	1	3	3	1	1	3	1	1	0	0	0	0	0	6	1.2	24		
28	0	0	0	0	1	0	IZS	0	0	1	4	6	4	4	7	5	0	0	0	0	0	0	0	0	7	1.4	24		
29	0	0	0	0	0	IZS	0	1	2	1	2	1	4	2	1	0	2	2	1	0	0	0	0	0	4	0.8	24		
30	0	0	0	0	IZS	0	0	0	1	0	1	0	1	1	3	1	0	0	0	0	0	0	0	0	3	0.3	24		
HOURLY MAX	2	10	12	9	27	11	2	6	13	14	14	7	8	6	21	5	19	7	5	4	1	1	1	1	3	0.3	24		
HOURLY AVG	0.2	0.6	0.6	0.6	2.0	1.1	0.5	0.9	2.2	2.9	2.5	2.2	2.4	2.0	2.4	1.3	1.9	0.8	0.5	0.3	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	

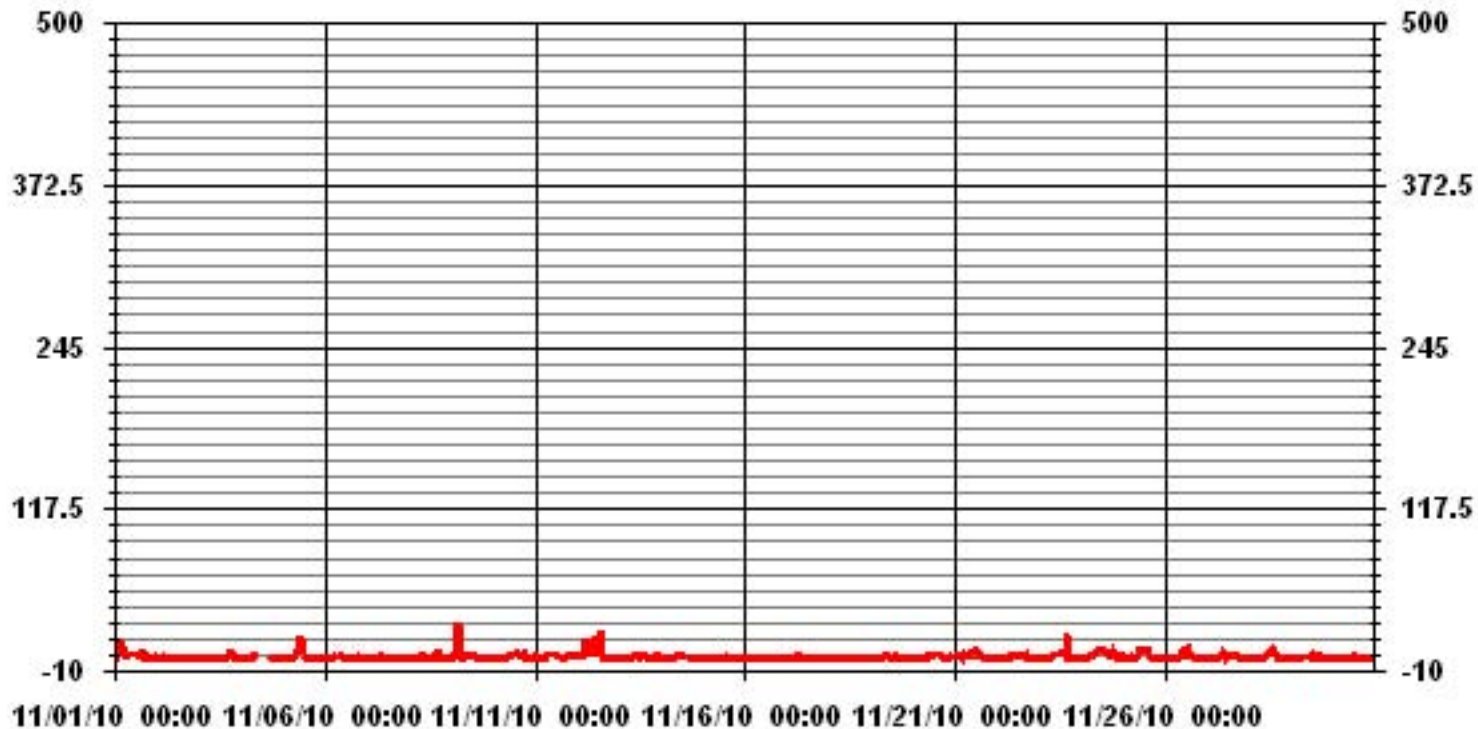
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	267					
MAXIMUM INSTANTANEOUS VALUE:	27	PPB	@ HOUR(S)	4	ON DAY(S)	9
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	9	HRS				
STANDARD DEVIATION:	2.53					

01 Hour Averages



LICA33
 NO_ / WDR Joint Frequency Distribution (Percent)

November 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	5.87	2.93	2.64	2.49	9.54	6.02	2.20	3.67	3.23	3.23	14.53	13.36	13.06	11.30	2.20	3.67	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	5.87	2.93	2.64	2.49	9.54	6.02	2.20	3.67	3.23	3.23	14.53	13.36	13.06	11.30	2.20	3.67	

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	40	20	18	17	65	41	15	25	22	22	99	91	89	77	15	25	681
< 110																	
< 210																	
>= 210																	
Totals	40	20	18	17	65	41	15	25	22	22	99	91	89	77	15	25	

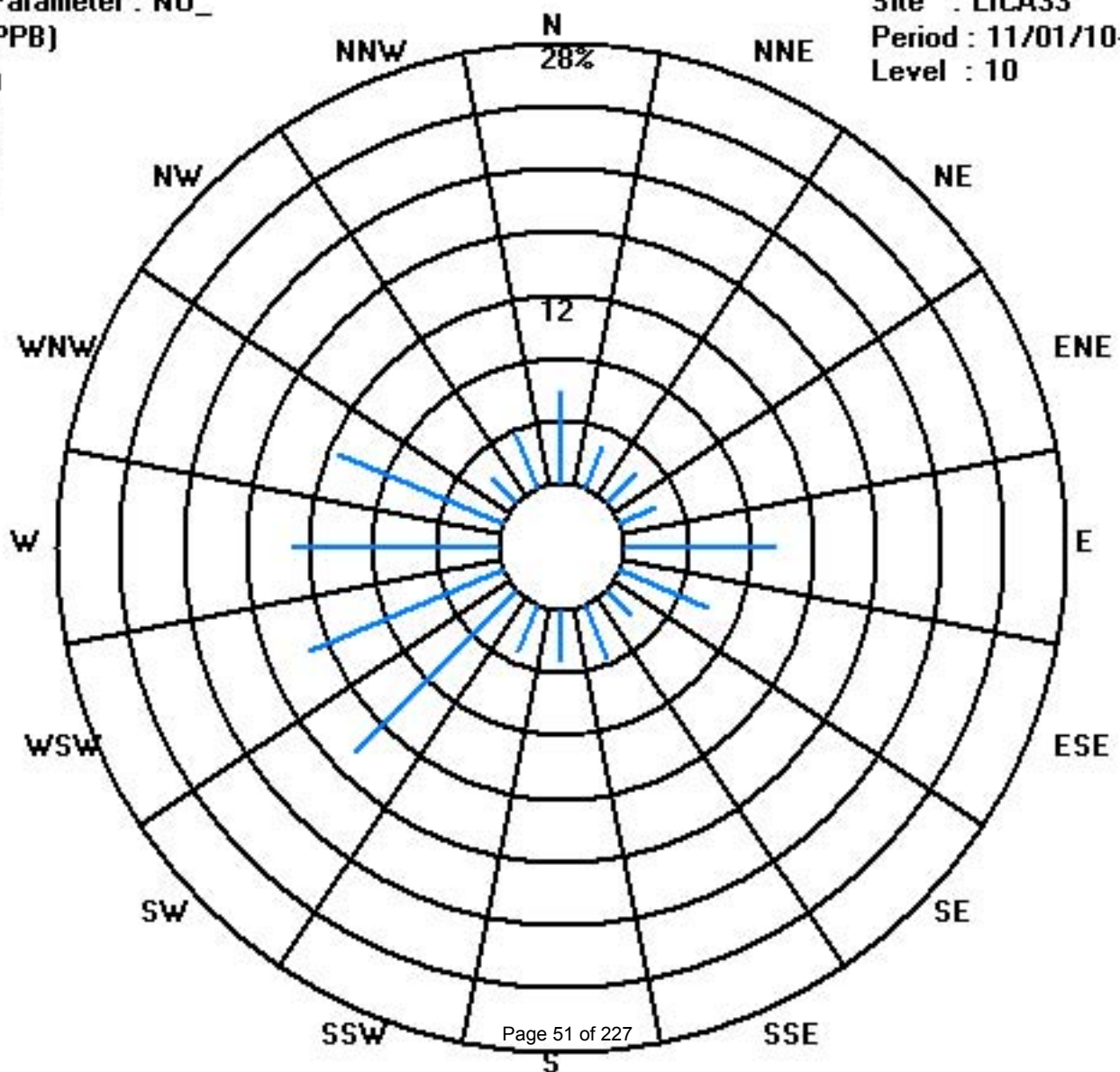
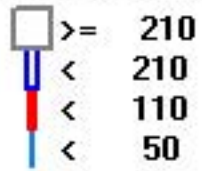
Calm : .00 %

Total # Operational Hours : 681

Class Limits (PPB)

Period : 11/01/10-11/30/10

Level : 10



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2010

OXIDES OF NITROGEN 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	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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		6	9	12	12	14	13	11	8	8	7	IZS	7	7	6	6	6	8	6	8	5	4	4	6	7	14	7.8	24	
2		7	5	7	6	2	3	3	2	1	IZS	1	0	0	0	0	0	1	2	1	1	1	2	0	7	2.0	24		
3		0	0	1	0	1	1	1	1	IZS	1	1	1	1	1	1	2	9	16	16	6	7	4	5	16	3.3	24		
4		7	5	6	7	7	6	7	IZS	6	4	C	C	C	C	C	3	3	2	2	2	2	2	2	7	4.4	24		
5		2	2	2	4	3	4	IZS	7	12	21	15	8	6	C	1	1	0	3	3	1	0	1	0	1	21	4.4	24	
6		2	2	1	2	2	IZS	12	6	9	6	5	2	1	0	0	1	2	2	3	9	12	6	2	1	12	3.8	24	
7		5	3	12	6	IZS	1	1	5	2	2	2	1	0	0	0	0	0	0	0	0	0	1	4	4	12	2.1	24	
8		5	4	1	IZS	4	3	5	3	5	3	2	2	2	3	3	3	4	5	4	5	9	9	7	6	9	4.2	24	
9		8	9	IZS	7	15	12	7	6	6	5	5	6	7	8	7	5	5	4	4	3	3	4	4	3	15	6.2	24	
10		5	IZS	4	3	5	5	3	4	3	5	4	2	6	8	9	5	8	10	8	7	6	11	5	5	11	5.7	24	
11	IZS	5	8	5	4	6	7	9	9	8	6	6	5	4	4	4	4	4	13	16	12	10	9	IZS	16	7.2	24		
12		8	6	6	6	15	14	10	11	14	13	9	9	6	4	5	6	7	7	8	7	6	5	IZS	3	15	8.0	24	
13		2	2	2	3	4	4	5	6	8	7	7	7	3	5	6	6	6	6	6	6	6	IZS	8	12	12	5.5	24	
14		7	4	2	1	1	1	2	3	4	3	3	2	2	2	2	5	4	4	3	3	IZS	3	2	2	7	2.8	24	
15		2	2	1	2	2	2	3	4	3	3	2	1	1	2	3	3	4	4	5	IZS	3	1	0	1	5	2.3	24	
16		1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	1	1	1	IZS	1	1	1	1	1	1	0.6	24
17		1	1	1	1	1	0	0	1	2	1	1	0	0	0	0	0	0	IZS	0	0	0	0	0	0	2	0.4	24	
18		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	1	2	2	4	3	4	0.6	24	
19		5	5	3	3	5	6	11	12	13	9	2	1	1	0	1	IZS	1	1	1	1	1	1	0	0	13	3.6	24	
20		0	0	0	2	3	3	2	4	6	5	4	5	6	7	IZS	11	10	12	11	12	11	13	17	19	19	7.1	24	
21		21	19	19	19	18	22	20	19	16	13	13	12	15	IZS	5	4	4	3	2	2	2	3	3	3	22	11.2	24	
22		1	1	2	1	1	1	0	2	4	7	4	3	IZS	2	2	3	4	4	4	3	3	6	4	2	7	2.8	24	
23		1	2	3	3	2	2	4	5	6	6	6	IZS	10	10	9	9	12	11	12	13	11	11	10	13	7.3	24		
24		11	10	12	11	12	9	10	11	15	15	IZS	13	13	14	15	13	16	21	27	21	22	19	17	19	27	15.0	24	
25		18	19	20	19	18	17	17	17	17	IZS	17	16	15	15	18	16	5	2	3	2	2	2	1	3	20	12.1	24	
26		3	1	2	2	4	6	8	8	IZS	8	10	12	11	8	7	10	9	8	9	8	8	8	9	5	12	7.1	24	
27		5	7	8	10	9	9	10	IZS	14	13	6	3	3	2	2	2	6	5	5	4	7	5	4	3	14	6.2	24	
28		4	3	3	3	4	5	IZS	1	2	1	3	6	3	2	7	3	1	2	2	1	2	1	2	1	7	2.7	24	
29		1	1	1	2	1	IZS	2	3	7	2	3	2	4	3	2	1	3	4	2	3	3	3	3	3	7	2.6	24	
30		3	3	5	3	IZS	6	4	4	3	3	3	3	3	2	2	2	2	2	1	1	2	0	1	2	6	2.6	24	
HOURLY MAX		21	19	20	19	18	22	20	19	17	21	17	16	15	15	18	16	16	21	27	21	22	19	17	19				
HOURLY AVG		4.9	4.5	5.0	4.9	5.6	5.8	5.9	5.8	7.0	6.1	5.0	4.7	4.7	4.0	4.2	4.3	4.6	5.0	5.7	5.3	5.1	4.8	4.6	4.3				

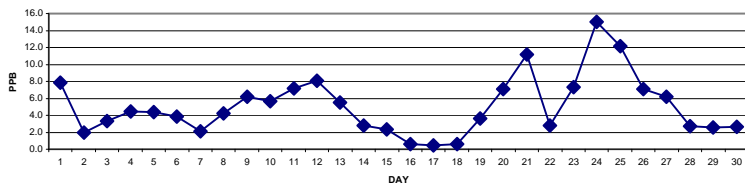
STATUS FLAG CODES

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

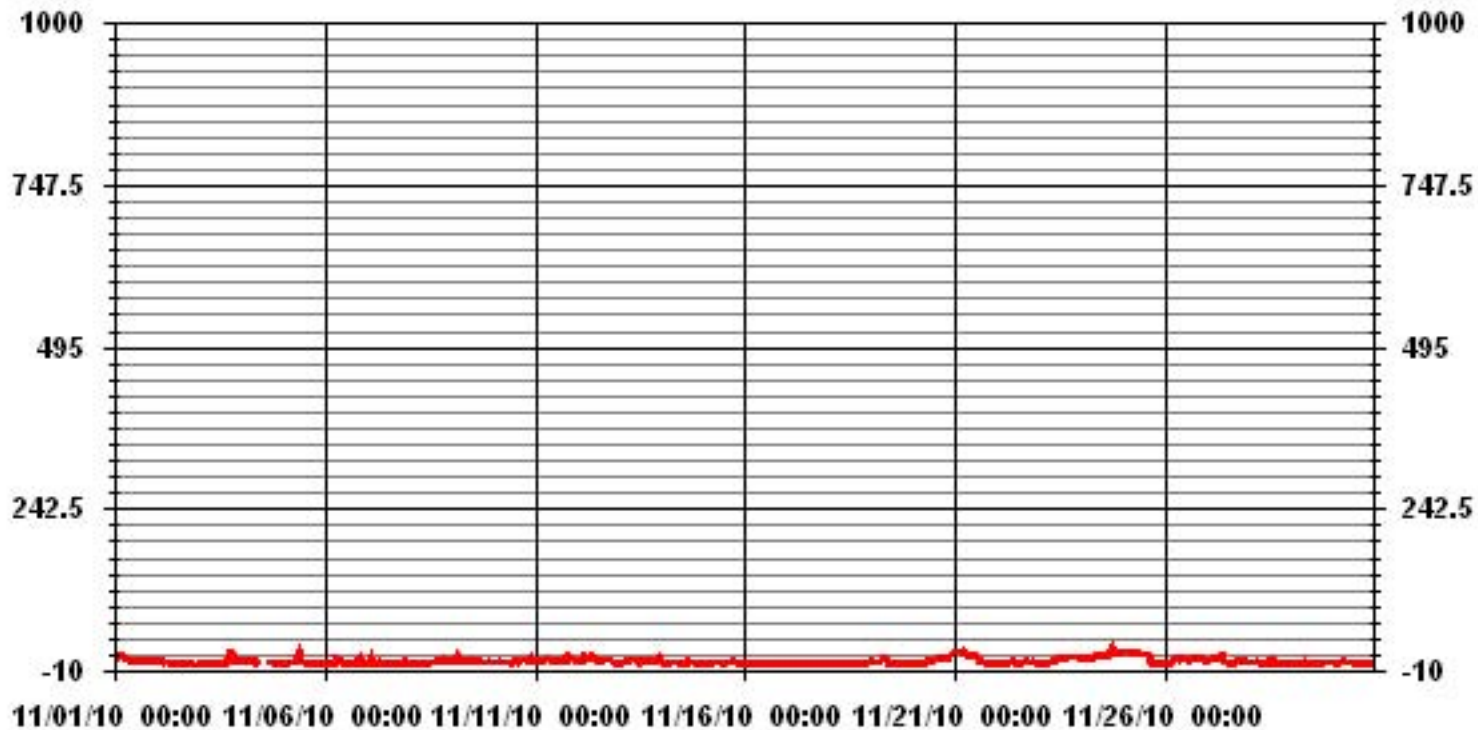
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	609					
MAXIMUM 1-HR AVERAGE:	27	PPB	@ HOUR(S)	18	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	15.0	PPB			ON DAY(S)	24
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	4.84		MONTHLY AVERAGE	5.07	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2010



01 Hour Averages



— LICA33 NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 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	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	9	20	23	17	19	15	13	10	10	9	IZS	9	8	7	6	8	19	11	13	7	6	5	8	12	23	11.5	24	
2	11	7	8	10	6	7	5	5	3	IZS	1	1	7	1	1	1	4	5	2	2	2	8	1	11	4.3	24		
3	1	1	1	1	2	2	2	2	IZS	2	2	1	1	1	1	2	7	19	34	34	9	10	5	7	34	6.4	24	
4	10	6	8	8	8	8	9	IZS	8	6	C	C	C	C	C	C	4	3	3	2	3	3	3	10	5.8	24		
5	3	2	3	6	5	4	IZS	12	19	26	26	12	C	C	3	2	1	11	11	2	1	1	1	2	26	7.3	24	
6	2	3	3	3	3	IZS	23	13	14	9	7	4	2	1	1	2	3	7	5	20	16	11	3	3	23	6.9	24	
7	11	12	17	9	IZS	3	3	11	5	5	2	3	1	1	1	0	1	1	1	1	1	5	6	9	17	4.7	24	
8	7	7	7	IZS	6	5	7	6	9	4	4	3	2	4	5	5	13	22	5	7	13	15	10	7	22	7.5	24	
9	11	16	IZS	10	41	22	11	7	7	7	6	7	9	9	9	6	5	5	4	4	4	5	5	4	41	9.3	24	
10	5	IZS	6	4	6	6	6	5	4	8	8	P	8	9	10	7	14	15	10	9	9	16	7	5	16	8.0	23	
11	IZS	11	11	9	5	9	9	14	13	9	9	7	6	5	5	6	6	6	22	19	14	14	13	IZS	22	10.1	24	
12	11	8	9	9	30	25	11	16	23	24	12	11	9	6	32	7	10	9	10	8	7	7	IZS	4	32	13.0	24	
13	3	2	3	4	5	5	6	7	11	9	8	9	5	10	6	7	8	8	7	7	11	IZS	12	13	13	7.2	24	
14	8	6	3	2	2	2	2	6	5	4	4	4	3	4	4	13	10	7	4	3	IZS	4	3	4	13	4.7	24	
15	2	2	2	2	2	3	4	6	4	4	3	2	2	3	4	4	6	5	7	IZS	7	2	0	2	7	3.4	24	
16	2	1	1	0	2	1	1	1	3	2	2	2	3	1	1	2	2	4	IZS	2	2	1	2	2	4	1.7	24	
17	2	2	3	2	2	1	1	3	3	2	2	0	1	0	0	0	1	IZS	0	0	1	0	1	0	3	1.2	24	
18	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	IZS	2	2	2	3	4	6	6	6	1.2	24	
19	8	8	4	4	7	7	13	14	15	13	7	2	1	1	19	IZS	1	2	2	2	2	1	1	1	19	5.9	24	
20	1	1	1	3	4	4	3	6	14	9	6	5	7	8	IZS	19	14	16	12	13	13	17	20	20	20	9.4	24	
21	24	21	21	22	20	24	22	21	19	14	14	14	17	IZS	6	5	5	4	2	2	3	5	4	5	24	12.8	24	
22	3	3	4	2	2	2	1	6	8	11	5	5	IZS	3	4	5	9	6	7	4	4	10	6	5	11	5.0	24	
23	2	2	5	6	5	4	6	6	7	8	9	IZS	13	11	10	14	37	12	14	15	12	12	13	12	37	10.2	24	
24	14	12	14	13	21	12	12	14	16	16	IZS	14	14	15	16	14	20	25	33	23	26	22	21	21	33	17.7	24	
25	20	20	22	21	19	18	19	18	19	IZS	19	19	17	18	22	17	15	4	4	3	2	2	2	6	22	14.2	24	
26	5	2	2	3	5	9	10	9	IZS	13	17	16	21	8	8	14	11	9	12	8	9	11	10	7	21	9.5	24	
27	6	9	10	12	11	10	10	IZS	21	16	14	4	6	6	3	5	10	7	9	5	12	8	5	6	21	8.9	24	
28	7	4	6	3	6	7	IZS	2	3	3	9	14	10	10	15	11	2	3	3	4	4	2	4	3	15	5.9	24	
29	2	2	2	2	2	IZS	3	7	11	5	6	4	10	8	3	3	6	6	4	4	4	4	4	3	11	4.6	24	
30	3	3	7	6	IZS	10	5	4	4	4	4	4	3	16	4	3	3	3	3	1	1	3	1	2	2	16	4.2	24
HOURLY MAX	24	21	23	22	41	25	23	21	23	26	26	19	21	18	32	19	37	25	34	34	26	22	21	21				
HOURLY AVG	6.7	6.7	7.1	6.7	8.8	8.0	7.8	8.3	9.9	8.6	7.6	6.5	6.9	6.2	7.1	6.5	8.6	8.2	8.5	7.4	7.0	6.9	6.4	6.0				

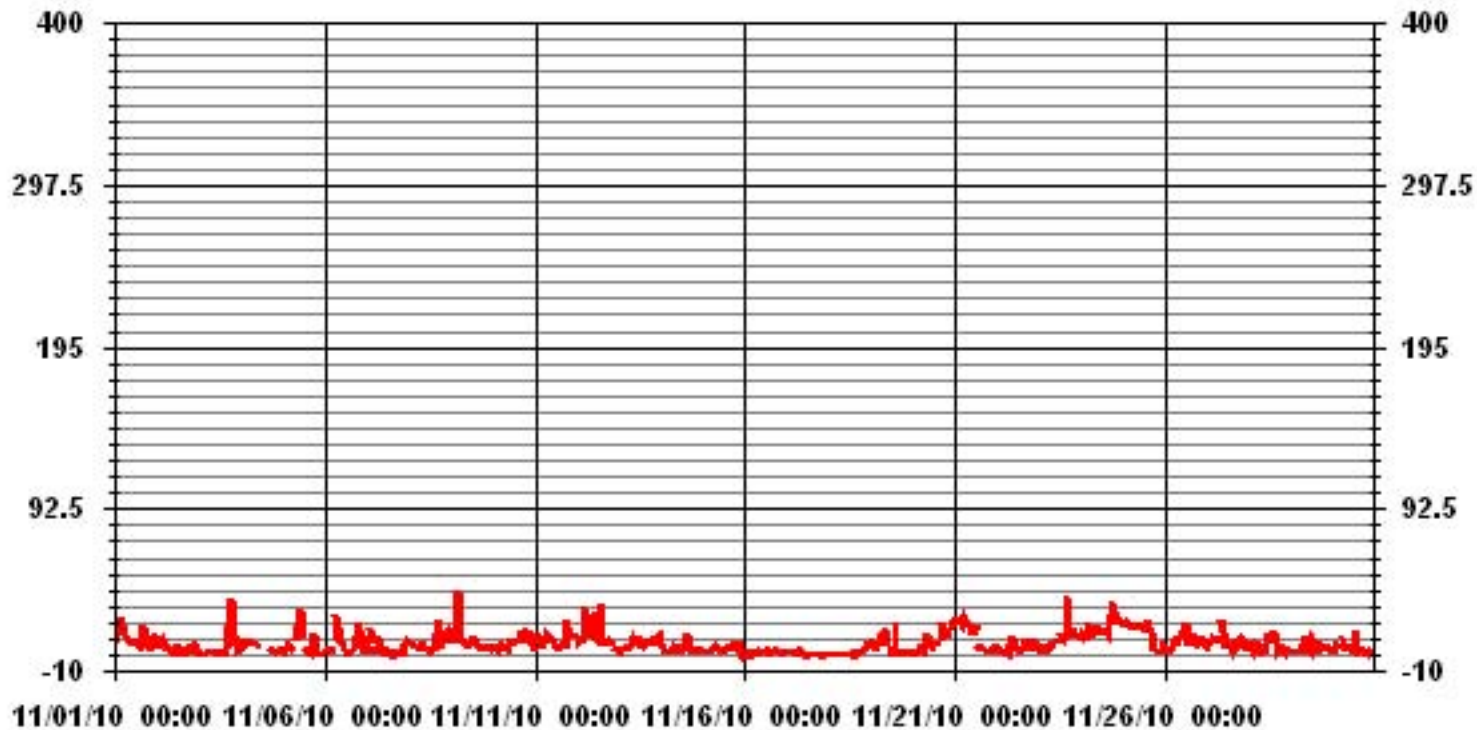
STATUS FLAG CODES

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:	654				
MAXIMUM INSTANTANEOUS VALUE:	41	PPB	@ HOUR(S)	4	ON DAY(S) 9
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS
MONTHLY CALIBRATION TIME:	9	HRS			
STANDARD DEVIATION:	6.43				

01 Hour Averages



— LICA33 NOxMAX PPB

LICA33
 NOX_ / WDR Joint Frequency Distribution (Percent)

November 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	5.87	2.93	2.64	2.49	9.54	6.02	2.20	3.67	3.23	3.23	14.53	13.36	13.06	11.30	2.20	3.67	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	5.87	2.93	2.64	2.49	9.54	6.02	2.20	3.67	3.23	3.23	14.53	13.36	13.06	11.30	2.20	3.67	

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	40	20	18	17	65	41	15	25	22	22	99	91	89	77	15	25	681
< 110																	
< 210																	
>= 210																	
Totals	40	20	18	17	65	41	15	25	22	22	99	91	89	77	15	25	

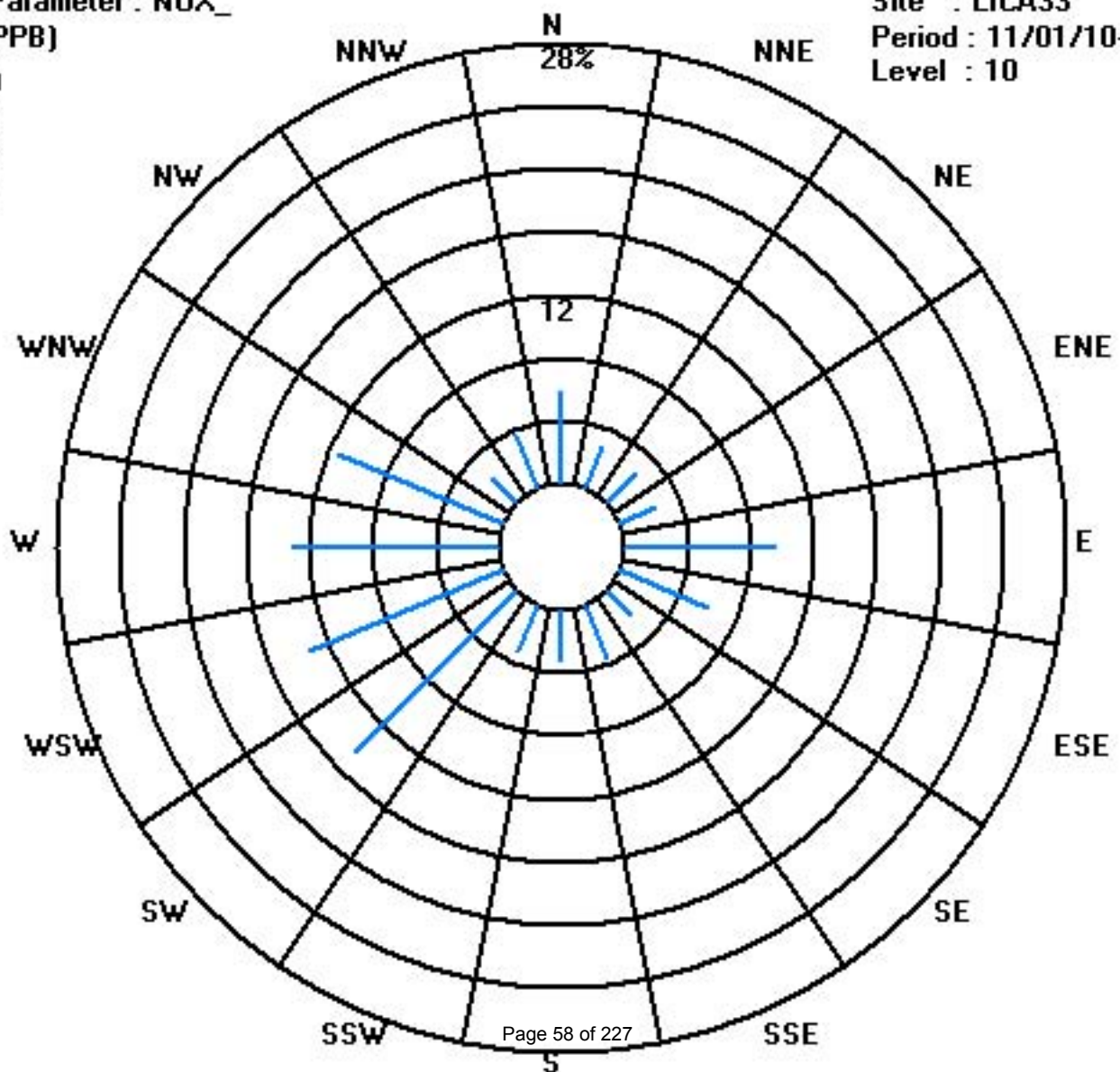
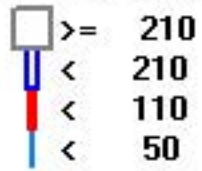
Calm : .00 %

Total # Operational Hours : 681

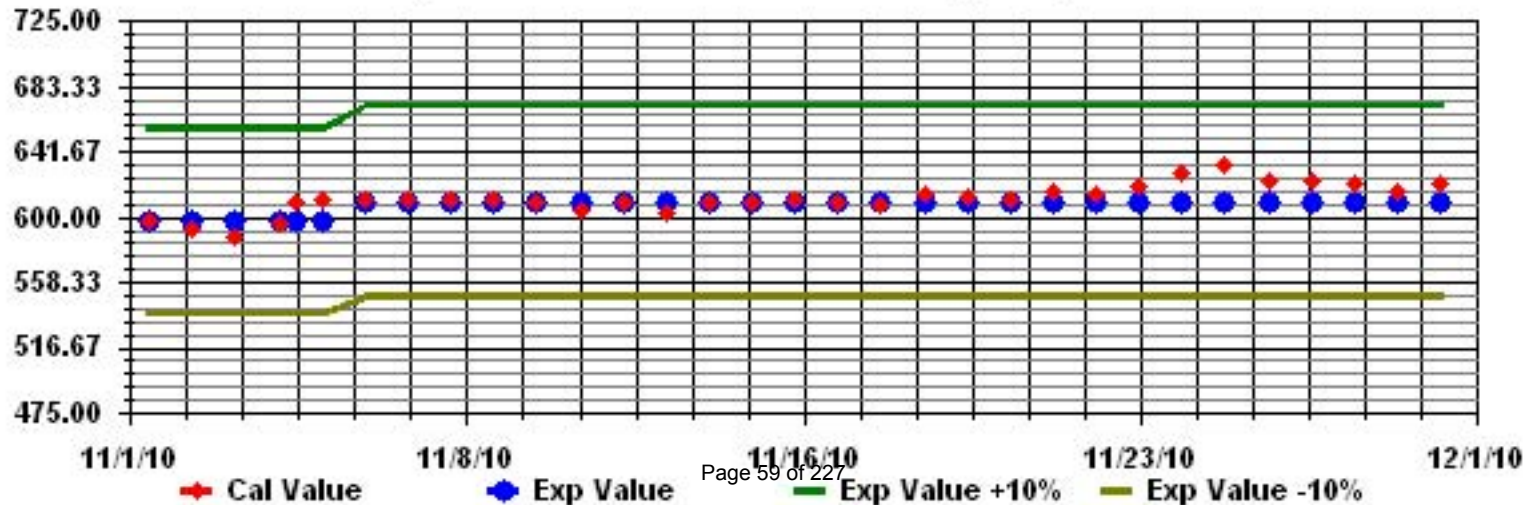
Class Limits (PPB)

Period : 11/01/10-11/30/10

Level : 10



Calibration Graph for Site: LICA33 Parameter: NOX_ Sequence: NO2 Phase: SPAN



Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2010

OZONE (O₃) hourly averages in ppb

MST

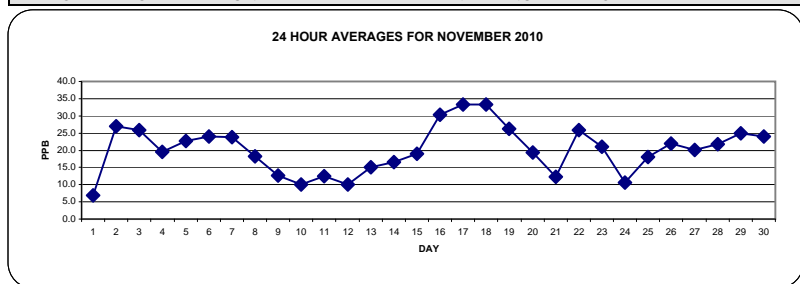
DAY	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
	HOUR START	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00			
1	1	0	0	0	0	0	2	6	7	8	IZS	15	14	15	14	12	9	8	6	10	11	7	7	6	15	6.9	24	
2	7	8	8	12	24	27	29	28	32	IZS	33	35	36	37	36	37	36	32	29	29	27	22	26	29	37	26.9	24	
3	30	32	32	32	31	31	30	29	IZS	30	31	32	33	34	34	33	30	21	12	9	10	18	12	7	34	25.8	24	
4	8	6	9	9	7	10	9	IZS	15	18	23	32	34	35	33	31	23	21	21	26	24	23	19	15	35	19.6	24	
5	15	14	11	11	9	7	IZS	6	3	C	C	C	34	33	37	33	31	34	35	34	33	29	37	29	37	22.7	24	
6	27	27	26	26	25	IZS	15	19	18	23	27	28	32	34	34	25	24	23	18	19	15	20	23	24	34	24.0	24	
7	21	22	10	9	IZS	18	18	16	20	24	25	26	29	29	30	31	31	31	30	28	28	26	24	23	31	23.9	24	
8	23	23	25	IZS	20	21	19	21	19	22	23	24	24	22	21	19	18	17	17	16	10	4	6	6	25	18.3	24	
9	5	1	IZS	2	0	2	10	12	14	16	17	17	16	16	17	18	17	17	18	17	16	14	13	14	18	12.6	24	
10	12	IZS	13	12	10	10	13	11	11	11	11	11	9	10	11	12	7	5	8	7	10	6	11	10	13	10.0	24	
11	IZS	12	9	13	14	12	11	9	10	14	16	18	20	20	23	21	17	15	8	4	4	3	2	IZS	23	12.5	24	
12	4	2	2	1	1	2	1	1	2	4	11	16	23	22	21	19	15	14	12	12	13	13	IZS	18	23	10.0	24	
13	19	19	14	13	18	16	16	15	13	16	17	18	24	22	18	17	15	15	13	11	10	IZS	4	3	24	15.0	24	
14	11	18	22	23	22	20	19	15	12	15	15	18	19	19	18	13	13	14	14	14	IZS	16	16	16	23	16.6	24	
15	16	17	19	20	20	18	17	16	17	19	21	21	21	20	19	17	16	14	11	IZS	19	22	28	27	28	18.9	24	
16	27	29	29	31	32	33	33	33	32	31	32	30	31	31	32	31	30	29	IZS	29	29	29	29	28	27	33	30.3	24
17	28	28	28	29	29	31	31	31	31	34	34	35	36	37	36	36	36	IZS	37	36	35	36	36	36	36	37	33.3	24
18	35	35	35	35	35	35	36	35	35	35	35	36	35	34	34	35	IZS	33	32	31	31	29	27	25	36	33.4	24	
19	24	22	21	21	21	19	15	13	13	19	31	32	32	32	32	IZS	33	32	31	32	32	32	33	33	33	26.3	24	
20	33	32	30	26	26	26	26	22	21	23	23	24	23	22	IZS	17	14	10	12	11	10	8	4	2	33	19.3	24	
21	0	0	0	1	2	1	1	2	6	9	12	14	13	IZS	18	21	19	22	25	25	22	22	24	25	25	12.3	24	
22	27	29	27	28	27	27	26	24	22	21	25	27	IZS	29	29	27	25	24	25	26	24	22	25	27	29	25.8	24	
23	29	28	26	26	27	25	22	22	22	23	25	IZS	25	25	25	23	17	16	14	12	14	14	13	12	29	21.1	24	
24	12	10	12	12	9	7	5	4	8	14	IZS	22	23	23	21	19	13	7	3	7	3	3	4	3	23	10.6	24	
25	5	5	5	8	9	10	9	9	10	IZS	15	18	18	18	15	15	30	33	32	32	31	31	31	28	33	18.1	24	
26	28	30	29	25	20	17	15	14	IZS	19	21	21	24	29	29	23	22	21	18	20	20	19	19	23	30	22.0	24	
27	21	17	16	14	14	14	14	IZS	9	12	23	27	27	28	30	28	25	22	21	23	17	19	20	20	30	20.0	24	
28	19	20	19	18	15	10	IZS	25	24	20	23	24	25	25	22	23	23	23	22	22	24	24	25	26	26	21.8	24	
29	27	27	26	26	26	IZS	27	25	23	29	27	28	26	26	26	26	23	22	24	22	22	22	23	22	29	25.0	24	
30	22	20	18	20	IZS	15	18	19	20	22	22	24	25	26	27	26	27	28	29	28	29	28	30	29	29	30	24.0	24
HOURLY MAX	35	35	35	35	35	35	36	35	35	35	35	36	36	37	36	37	37	33	37	36	35	36	36	36	36			
HOURLY AVG	18.5	18.4	18.0	17.3	17.6	16.6	17.4	17.2	16.8	19.7	22.9	24.0	24.9	25.7	25.5	23.8	22.2	20.7	19.7	20.4	19.9	19.6	19.4	19.4				

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

OBJECTIVE LIMIT:

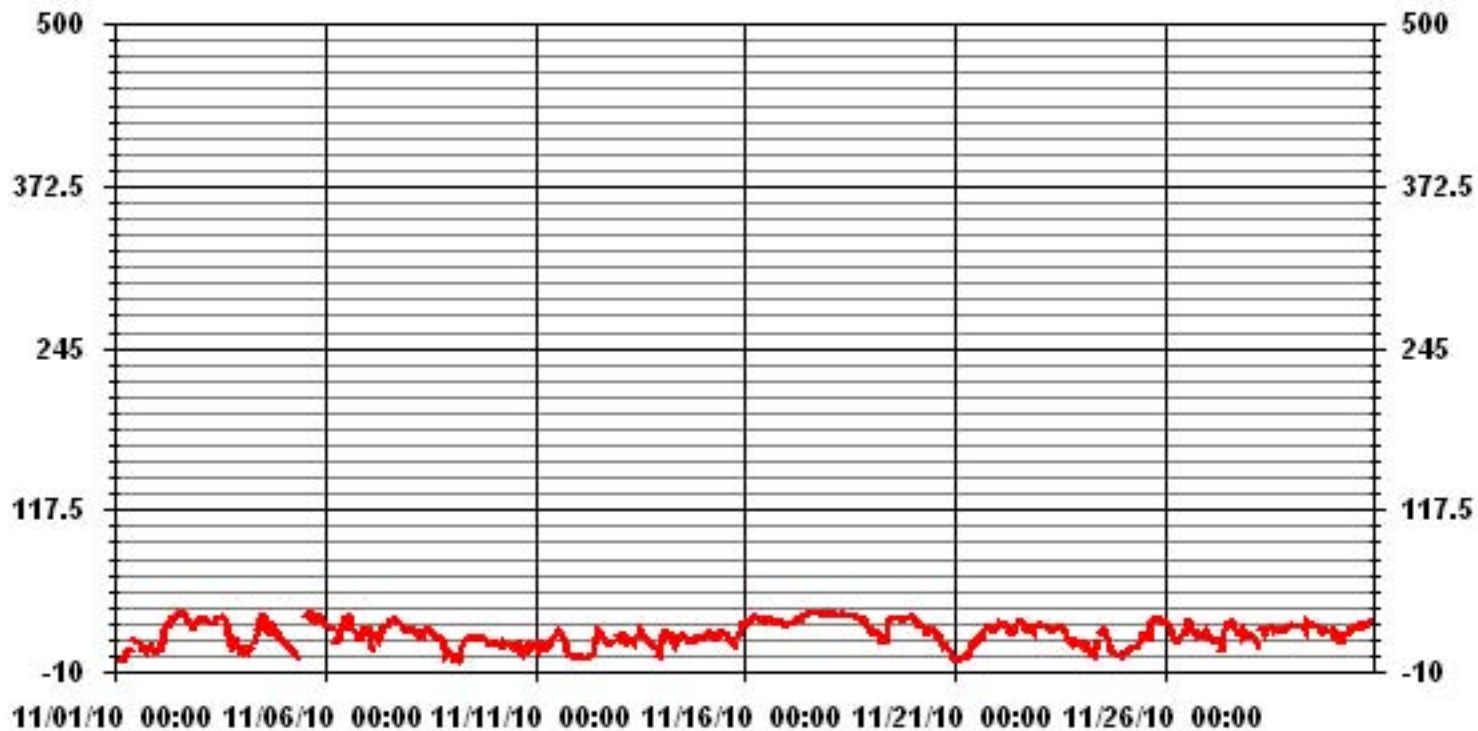
ALBERTA ENVIRONMENT: 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0				
NUMBER OF NON-ZERO READINGS:	675				
MAXIMUM 1-HR AVERAGE:	37	PPB	@ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	33.4	PPB			ON DAY(S)
					VAR-VARIOUS
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME	100.0	%
STANDARD DEVIATION	9.28		MONTHLY AVERAGE	20.23	PPB

01 Hour Averages



— LICA33_03_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 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	2	0	0	0	1	2	3	8	8	9	IZS	16	16	15	15	13	10	12	10	14	14	12	13	10	16	8.8	24	
2	10	10	10	18	27	29	32	31	34	IZS	34	36	37	37	38	38	36	32	31	29	28	30	31	38	29.3	24		
3	33	33	32	32	32	32	30	30	IZS	31	32	34	34	35	36	35	32	32	24	18	21	21	12	36	29.3	24		
4	11	10	12	12	9	12	13	IZS	17	21	P	35	36	36	34	32	27	24	23	28	27	24	22	17	36	21.9	23	
5	16	16	13	14	14	9	IZS	9	5	C	C	C	C	C	35	34	40	36	33	36	36	35	34	31	40	24.8	24	
6	28	32	28	28	27	IZS	23	24	21	26	28	30	34	36	36	32	28	29	24	27	21	24	25	26	36	27.7	24	
7	26	26	13	14	IZS	21	20	21	22	27	26	29	30	30	32	32	32	32	30	29	29	28	25	32	26.3	24		
8	24	26	27	IZS	22	22	22	23	22	23	25	25	26	23	22	22	21	19	18	18	15	11	11	11	27	20.8	24	
9	8	4	IZS	6	1	7	15	15	16	17	18	18	18	18	18	19	18	18	19	18	17	15	14	15	19	14.4	24	
10	13	IZS	14	13	11	11	14	12	12	12	12	P	11	12	12	13	11	9	10	12	13	9	13	12	14	11.9	23	
11	IZS	14	11	14	16	14	13	11	13	16	18	19	21	22	24	22	20	20	16	12	9	7	5	IZS	24	15.3	24	
12	6	5	4	2	2	4	4	3	2	7	13	18	26	24	23	21	17	16	13	13	14	14	IZS	19	26	11.7	24	
13	21	20	19	17	20	18	18	17	15	18	18	22	26	26	19	18	17	16	15	12	11	IZS	6	11	26	17.4	24	
14	13	24	25	25	25	22	21	20	15	16	18	20	20	21	20	18	15	16	15	16	IZS	18	18	17	25	19.0	24	
15	17	18	20	21	20	20	18	17	18	20	22	21	21	21	20	18	18	16	14	IZS	21	28	29	29	29	20.3	24	
16	28	30	31	32	33	34	34	34	33	33	32	31	32	33	33	33	32	31	IZS	30	29	30	29	28	34	31.5	24	
17	28	29	30	30	30	32	32	32	32	35	35	36	37	38	37	37	37	IZS	37	37	36	36	37	36	38	34.2	24	
18	36	36	36	36	36	36	37	36	36	35	35	37	36	35	35	35	IZS	35	33	32	32	31	30	27	37	34.5	24	
19	26	23	22	22	22	21	18	14	16	25	34	33	33	33	33	IZS	34	33	32	33	33	33	33	34	34	27.8	24	
20	33	32	31	29	27	27	27	26	24	24	24	25	23	24	IZS	22	15	13	13	12	12	10	5	4	33	21.0	24	
21	1	1	2	4	4	2	3	4	8	11	13	14	14	IZS	21	21	20	25	26	26	25	24	23	28	28	13.9	24	
22	30	30	27	28	28	28	27	26	23	25	27	29	IZS	30	30	29	26	25	26	27	25	26	27	29	30	27.3	24	
23	30	28	27	27	27	26	24	23	22	25	26	IZS	26	26	26	25	21	17	16	14	16	15	14	13	30	22.3	24	
24	13	15	15	13	12	8	6	6	12	19	IZS	22	24	23	22	21	16	12	7	9	5	4	5	5	24	12.8	24	
25	6	7	6	8	10	11	10	10	11	IZS	16	19	19	19	17	16	33	33	33	33	32	32	31	31	33	19.3	24	
26	30	30	30	29	22	21	17	16	IZS	21	22	24	29	30	30	27	24	24	23	23	23	22	23	24	30	24.5	24	
27	23	21	17	16	16	16	14	IZS	12	17	26	29	29	29	30	29	28	23	24	25	20	21	22	22	30	22.1	24	
28	21	21	20	19	17	12	IZS	27	26	21	25	27	30	26	25	24	24	24	23	24	25	25	26	28	30	23.5	24	
29	27	27	27	26	28	IZS	28	28	29	30	29	29	28	27	27	26	25	24	24	24	23	23	24	23	30	26.3	24	
30	22	22	20	21	IZS	17	19	19	21	22	23	24	26	27	28	28	27	28	29	29	30	31	31	30	31	25.0	24	
HOURLY MAX	36	36	36	36	36	36	37	36	36	35	35	37	37	38	37	38	40	36	37	37	36	36	37	36				
HOURLY AVG	20.1	20.3	19.6	19.2	19.3	18.4	19.4	19.4	18.8	21.7	24.3	26.0	26.5	27.0	26.8	25.5	24.3	23.4	22.2	23.1	22.1	22.0	21.7	21.7				

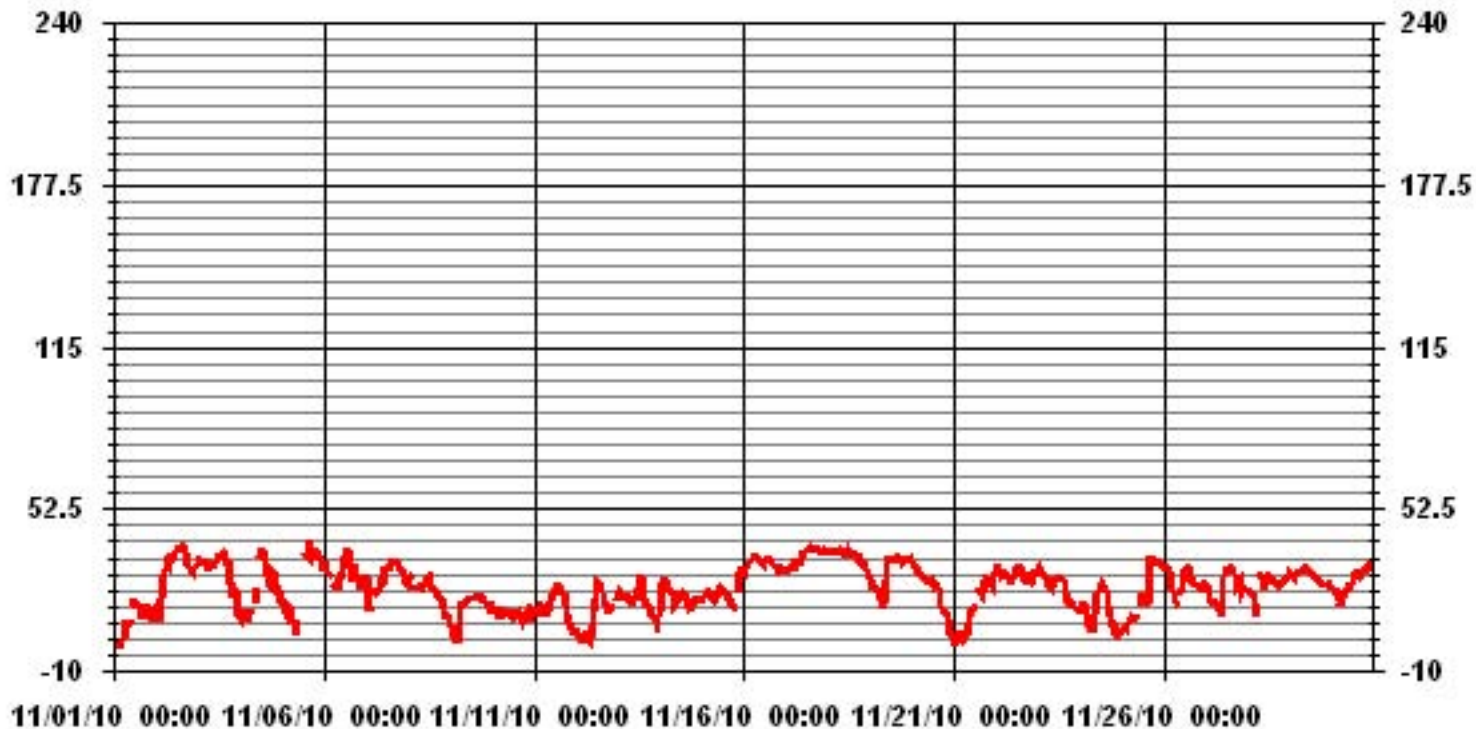
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	679				
MAXIMUM INSTANTANEOUS VALUE:	40	PPB	@ HOUR(S)	16	ON DAY(S) 5
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	718	HRS
MONTHLY CALIBRATION TIME:	5	HRS			
STANDARD DEVIATION:	8.93				

01 Hour Averages



— LICA33 O3MAX PPB

LICA33
 O3_ / WDR Joint Frequency Distribution (Percent)

November 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	5.84	2.92	2.63	2.48	9.50	6.14	2.33	4.38	3.21	3.21	14.47	13.01	12.71	11.25	2.19	3.65	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	5.84	2.92	2.63	2.48	9.50	6.14	2.33	4.38	3.21	3.21	14.47	13.01	12.71	11.25	2.19	3.65	

Calm : .00 %

Total # Operational Hours : 684

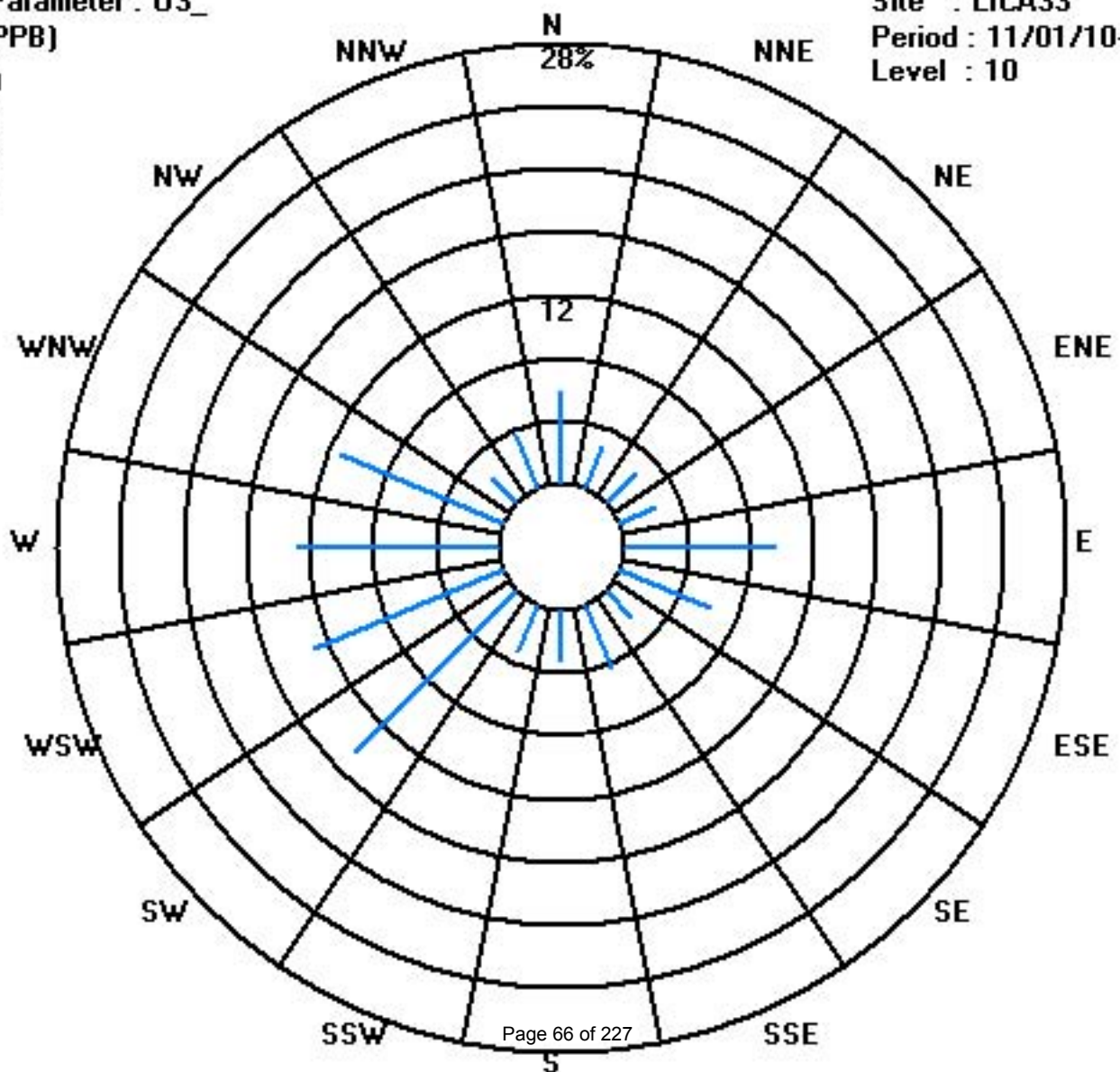
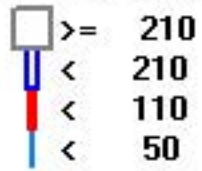
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	40	20	18	17	65	42	16	30	22	22	99	89	87	77	15	25	684
< 110																	
< 210																	
>= 210																	
Totals	40	20	18	17	65	42	16	30	22	22	99	89	87	77	15	25	

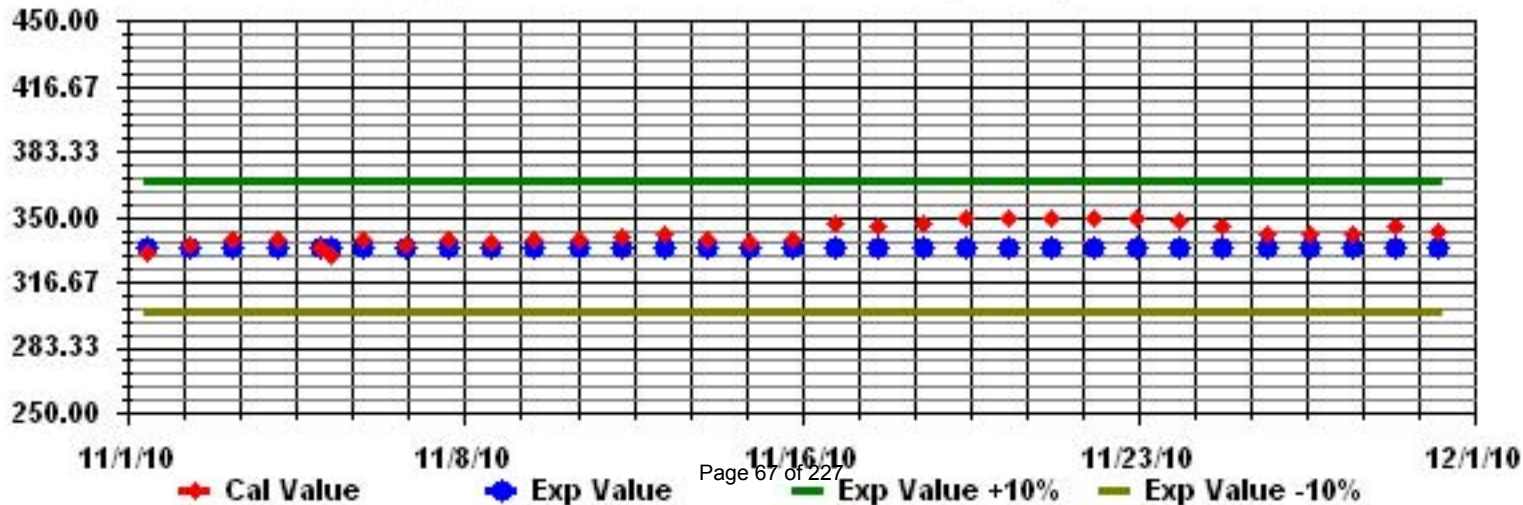
Calm : .00 %

Total # Operational Hours : 684

Class Limits (PPB)



Calibration Graph for Site: LICA33 Parameter: 03_ Sequence: 03 Phase: SPAN



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

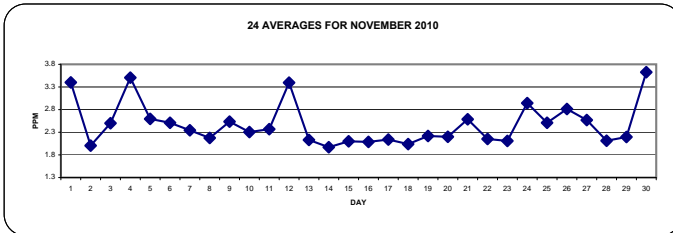
NOVEMBER 2010

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			
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.	RDGS.	
DAY																													
1		3.2	6.6	5.6	4.7	4.9	4.8	4.2	3.2	3.3	3.1	IZS	3.1	3.1	2.7	2.6	2.5	2.7	2.4	2.7	2.5	2.7	2.8	2.4	2.4	6.6	3.4	24	
2		2.2	2.2	2.3	2.3	2	1.9	1.9	1.9	1.9	IZS	1.9	1.9	1.9	1.8	1.9	1.9	1.9	2	2	2	2.1	2.1	2.1	2	2.3	2.0	24	
3		2	2	2	2	2	2	2.1	2.1	IZS	2	2	2	2	1.9	2	2	2.1	2.3	2.5	8.6	2.1	2.8	5	8.6	2.5	24		
4		4.9	4.1	6.4	5.2	5.4	5.4	5.4	IZS	3.4	3	2.9	2.3	2.2	C	C	C	C	2.2	2.2	2.2	2.2	2.2	2.5	2.5	6.4	3.5	24	
5		2.8	2.5	3.1	4	4.1	3.7	IZS	3.6	3.4	3.7	3.1	2.5	2.2	C	1.8	1.8	1.8	1.9	1.8	1.8	1.9	1.9	1.8	1.9	4.1	2.6	24	
6		2	2	1.9	2	1.9	IZS	2	1.9	2	2	2	1.9	1.9	1.9	1.8	2.8	2.7	2.6	2.7	3.3	8.5	2.8	2.7	2.4	8.5	2.5	24	
7		2.5	2.6	3.4	3.8	IZS	2.5	2.7	3	2.4	2.3	2.2	2	1.9	2.2	2.2	1.9	1.9	2	1.9	1.8	2.1	2.1	2.2	2.3	3.8	2.3	24	
8		2.2	2.3	2.1	IZS	2.3	2.1	2.2	2.1	2.3	2.1	2	1.9	2	2	2	2	2.1	2.1	2.1	2.2	2.4	2.5	2.4	2.6	2.6	2.2	24	
9		3.1	3.9	IZS	2.6	3.9	4.3	2.5	2.3	2.1	2.3	2.2	2.2	2.4	2.6	2.3	2.3	2.1	2.1	2.1	2.1	2	2.3	2.4	2.2	4.3	2.5	24	
10		2.1	IZS	2.1	2.1	2.2	2.3	2.2	2.2	2.3	2.4	2.4	2.4	2.4	2.5	2.4	2.3	2.3	2.4	2.6	2.3	2.4	2.2	2.1	2.6	2.3	2.4	24	
11		IZS	2.1	2.2	2.1	2.2	2.3	2.4	2.4	2.3	2.4	2.3	2.5	2.5	2.2	2.1	2.1	2.1	2.2	2.5	2.5	2.6	3.2	2.9	IZS	3.2	2.4	24	
12		2.8	4.1	3.9	3.5	5.5	4.1	5.4	4.1	9.3	5.3	3.5	2.9	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	IZS	2.1	9.3	3.4	24	
13		2	2.1	2.2	2.4	2.1	2.3	2.1	2.1	2.1	2.2	2.2	2.1	2	2	2.1	2.1	2.1	2.1	2	2	2	IZS	2.2	2.5	2.5	2.1	24	
14		2.6	2.2	2	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	1.9	1.9	1.9	1.9	IZS	2.1	2	2	2.6	2.0	24
15		2	2	1.9	1.9	2	2.1	2.2	2	2.1	2	2	2.2	2	2	2.5	2.4	2.8	2.3	2.2	IZS	2.1	1.9	1.9	1.9	2.8	2.1	24	
16		2	2	2	2	2.1	2	2.1	2.1	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.2	IZS	2	2	2.1	2	2	2.2	2.1	24	
17		2.1	2.1	2.3	2.2	2.2	2.2	2.2	2.3	2.1	2.3	2.1	2.1	2.1	2.2	2.1	2.1	IZS	1.9	2.1	2.1	2.1	2.1	2.1	2	2.3	2.1	24	
18		2	2	1.9	2	1.9	2	2	2	1.9	2	1.9	1.9	2	1.9	1.9	IZS	2	2.2	2.2	2.3	2.4	2.4	2.2	2.4	2.0	2.4	24	
19		2.2	2.2	2.3	2.3	2.4	2.4	2.7	2.6	2.6	2.6	2.2	2.1	2	2	2	IZS	2	2	2	2	2	2.1	2.1	2.1	2.7	2.2	24	
20		2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.2	2.2	IZS	2.2	2.2	2.3	2.2	2.2	2.3	2.3	2.4	2.4	2.2	2.4	24	
21		2.6	2.5	2.6	2.6	2.6	3.2	3.1	3.2	2.8	2.5	2.5	2.6	3.1	IZS	2.4	2.6	2.6	2.5	2.2	2.1	2.3	2.3	2.3	2.3	3.2	2.6	24	
22		2.2	2.2	2.3	2.2	2.2	2.3	2.3	2.4	2.5	2.2	2.2	2.2	IZS	2	2	2	2	2.1	2.1	2	2	2.1	2	2	2.5	2.2	24	
23		2	2	2	2	2	2	2	2	2.1	2.1	2	2	IZS	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.2	2.5	2.5	2.5	2.1	24	
24		2.6	2.4	2.4	3.1	3.5	4.6	4.8	4.7	3.4	3.4	IZS	2.4	2.2	2.2	2.1	2.1	2.2	2.3	2.4	2.4	2.7	3.4	3.4	3	4.8	2.9	24	
25		3.3	3.1	2.8	3	2.9	2.9	2.9	2.9	2.9	IZS	2.7	2.5	2.7	2.4	2.6	2.7	2	1.9	2	1.9	1.9	1.9	1.9	1.9	3.3	2.5	24	
26		2	2	1.9	2.3	3.1	2.4	2.9	2.9	IZS	2.8	3.6	3.5	3.3	2.6	2.6	3	2.8	2.9	3.2	2.9	3.2	3.4	2.9	2.5	3.6	2.8	24	
27		2.5	2.8	2.9	3.2	3	3	3	IZS	6.4	3	2.3	2	2	2	1.9	2	2	2	2.2	2.2	2.2	2.3	2.1	2.1	6.4	2.6	24	
28		2.1	2.1	2.1	2.1	2.3	2.5	IZS	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	2.1	2.5	2.1	24	
29		2.1	2.1	2.1	2.1	2.2	IZS	2.1	2.1	2.1	2	2	2.1	2.1	2.1	2.1	2	2	2.1	2	2.1	2.1	2.1	2.1	3.7	3.1	3.7	2.2	24
30		3.2	5	3.8	4.6	IZS	5.8	5.4	5.2	4.9	3.8	3.9	3.8	4.2	3.6	3.2	2.4	2.5	2.9	3.5	2.5	2.3	2.5	2.3	2.1	5.8	3.6	24	
HOURLY MAX		4.9	6.6	6.4	5.2	5.5	5.8	5.4	5.2	9.3	5.3	3.9	3.8	4.2	3.6	3.2	3.0	2.8	2.9	3.5	3.3	8.6	3.4	3.7	5.0				
HOURLY AVG		2.5	2.7	2.6	2.7	2.7	2.9	2.8	2.6	2.9	2.6	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.7	2.3	2.4	2.4			

STATUS FLAG CODES

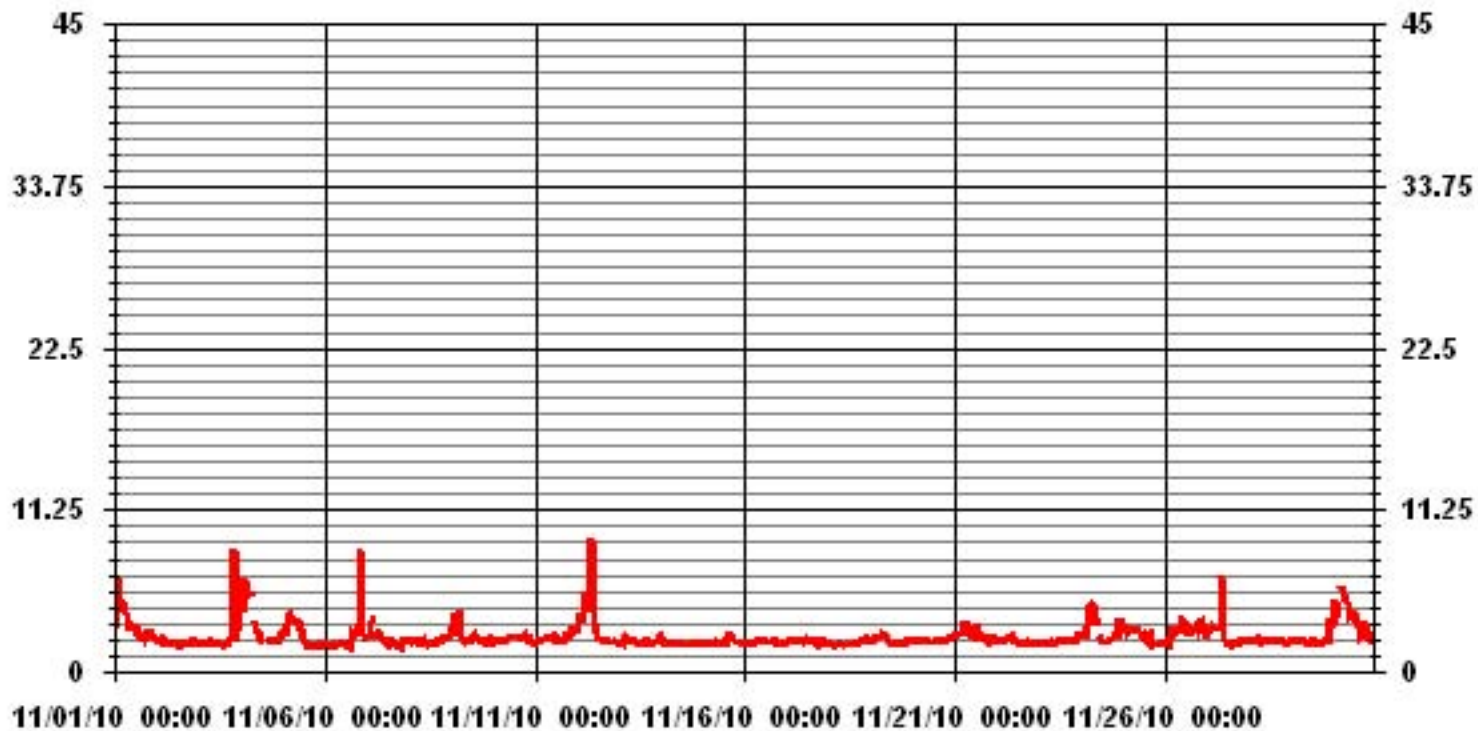
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE
BB	- BELOW BACKGROUND OF 1.5 PPM		



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	684
MAXIMUM 1-HR AVERAGE:	9.3 PPM @ HOUR(S) 8 ON DAY(S) 12
MAXIMUM 24-HR AVERAGE:	3.6 PPM ON DAY(S) 30
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	5 HRS
STANDARD DEVIATION:	0.84
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	2.47 PPM

01 Hour Averages



— LICA33 THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 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	6.6	54.1	12.4	9.4	9.1	10.4	6.6	7.3	8.2	6.1	IZS	3.2	3.2	2.9	2.6	2.9	9.5	4.5	8.4	3.8	6	13.3	2.6	2.5	54.1	8.5	24	
2	2.4	2.3	2.4	2.4	2.1	2.1	2	2	1.9	IZS	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.1	2	2.7	3.4	2.2	2	3.4	2.1	24	
3	2	2	2.1	2.1	2.1	2.1	2.1	2.1	IZS	2	2	2	2	2.1	2	2	2.1	4.2	8.1	7.8	54	2.3	14.7	13.2	54	6.0	24	
4	15.9	11	12.6	10.3	13	14.2	19.5	IZS	5.8	4.4	P	2.4	2.2	C	C	C	C	2.3	2.3	2.6	2.2	2.3	7.9	4.6	19.5	7.5	23	
5	7.3	9.4	8.7	11.5	7.7	10.3	IZS	10.1	4.4	3.8	3.7	2.7	C	C	1.8	1.8	1.9	2	1.9	1.9	2	2	1.9	2	11.5	4.7	24	
6	2.1	2.1	2	2	2	IZS	2.2	2	2.1	2	2	4.9	4.5	1.9	1.9	24.5	30.1	10.4	9.1	10	54.1	7.1	7.4	13.7	54.1	8.7	24	
7	6.8	4.7	5.3	13.4	IZS	3.5	3.2	7.2	5.6	4.3	3.5	3.1	2.8	3.4	3.6	2.9	2.4	4.2	2.5	2.5	3.8	4.3	3.5	5.7	13.4	4.4	24	
8	2.3	3.6	3.5	IZS	2.4	2.2	2.3	2.3	2.3	2.2	2.1	2	2	2	2.1	2.1	2.2	2.2	2.2	2.3	6.8	4.6	4.1	9.2	9.2	3.0	24	
9	14.4	16.6	IZS	2.9	7.5	10.7	6.1	2.4	3.2	3.9	2.8	3.5	5.4	4.8	4.3	4.3	3.8	3.4	3.4	3.8	2.2	5.5	3.6	3.5	16.6	5.3	24	
10	2.1	IZS	2.1	2.2	2.3	3.7	2.3	2.3	2.3	2.5	2.5	P	2.5	2.5	2.5	2.4	2.4	2.4	4	9.6	3.3	3	2.5	2.2	9.6	2.9	23	
11	IZS	2.3	2.3	2.2	2.3	2.4	2.4	2.5	2.4	2.4	2.4	2.6	2.6	2.4	2.1	2.1	2.3	2.3	4.3	4	7.1	15.7	9.5	IZS	15.7	3.7	24	
12	8	17.3	10.6	6.5	12.9	9.7	10.6	6.7	16.1	11.3	5.2	3.2	2.7	2.4	2.2	2.2	2.8	2.8	2.2	2.2	2.2	2.2	3.7	IZS	2.1	17.3	6.3	24
13	2.6	2.6	5.7	7.8	2.1	5.1	3.1	2.5	2.9	2.3	2.3	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	IZS	2.4	2.6	7.8	2.9	24
14	2.7	2.5	2.1	2	1.9	3.1	2	2	2.2	2	1.9	2	1.9	1.9	1.9	2.2	2	2	1.9	1.9	IZS	2.2	2.2	2.1	3.1	2.1	24	
15	2.1	2	2	2	2	2.1	2.1	2.3	2.1	2.6	2.5	4.7	2	4.2	7.4	6.1	10.8	3.5	2.4	IZS	2.5	2.2	2	2.2	10.8	3.2	24	
16	2.1	2.1	2.4	2.3	2.5	2.2	2.4	2.3	2.5	2.5	2.4	2.5	2.6	2.3	2.5	2.5	2.5	2.6	IZS	2.5	2.1	2.4	2.2	2.8	2.8	2.4	24	
17	3.4	2.5	2.6	3.2	3.1	3.8	4.4	3.2	3.6	2.9	3.2	3.2	2.7	3.7	3.7	2.8	2.5	IZS	2.1	2.5	2.6	2.5	2.5	2.3	9.2	3.3	24	
18	2.3	2.4	2.4	2.6	2.3	2.4	2.8	2.8	2.7	2.5	3.1	2.7	3.4	2.4	2.1	2.8	IZS	2.3	3.4	3.6	3.2	3.2	2.9	2.3	3.6	2.7	24	
19	2.4	2.3	2.4	2.4	2.5	2.5	2.8	2.8	2.6	2.7	3	2.1	2.1	2.1	2.1	IZS	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3	2.3	24	
20	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.8	2.2	2.2	2.2	2.2	2.2	IZS	2.3	2.2	2.7	2.4	2.3	2.4	2.4	2.5	2.6	2.8	2.3	24	
21	6.8	3.3	3	2.8	2.8	3.5	3.3	3.6	3	2.6	2.6	2.9	3.2	IZS	4.6	3.6	3.6	3.8	2.6	3	2.9	2.9	3.2	3.1	6.8	3.3	24	
22	2.7	2.6	3.1	2.7	2.8	2.6	2.8	3.1	3.2	2.9	2.4	2.3	IZS	2	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.1	2.1	3.2	2.5	24	
23	2.1	2	2.2	2.2	2	2.1	2.1	2.2	2.1	2.1	2.1	IZS	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	13.2	2.9	5.2	6.1	13.2	3.0	24
24	7.9	2.9	3.7	8	9.8	11.6	8	13.6	5.6	7.1	IZS	2.5	2.4	2.3	2.2	2.2	2.3	2.5	2.6	3.3	5.2	14.3	16.8	4.5	16.8	6.1	24	
25	12.2	5.9	3.3	4.5	3.9	4.1	2.9	3	3	IZS	2.8	2.7	11.5	2.5	2.8	2.8	2.6	1.9	2.2	2.2	2	1.9	2	2	12.2	3.7	24	
26	2	2	2	6.3	11.4	6	9.8	5.5	IZS	11	20.8	9.3	9.4	4.2	8.6	5.7	3.9	4	4.2	3.2	6.7	6.2	5.9	4.8	20.8	6.6	24	
27	4.9	3	3.2	7.6	3	3	3	IZS	54.1	5.1	3.1	2.1	2.3	2.2	2.1	2.5	2.1	2.4	2.9	2.3	2.5	3.7	2.1	2.2	54.1	5.3	24	
28	2.4	2.1	2.6	2.4	2.6	2.7	IZS	2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.4	2.1	2.1	2.1	2.1	2.3	2.7	2.2	24	
29	2.4	2.2	2.2	2.2	2.3	IZS	2.2	2.3	2.3	2.1	2.2	2.3	2.3	2.2	2.2	2.2	2.7	9.8	2.1	2.1	2.1	2.1	13.7	15	15	3.6	24	
30	14.2	13.1	11.3	14.5	IZS	13.3	9	9.5	8.8	7.6	7.3	7.4	8.4	8.5	7.8	4.5	5	5.6	6.9	6	5.5	6	8.1	3.8	14.5	8.4	24	
HOURLY MAX	16	54	13	15	13	14	20	14	54	11	21	9	12	9	9	25	30	10	9	10	54	16	17	15				
HOURLY AVG	5.1	6.3	4.2	4.9	4.4	5.1	4.4	4.0	5.7	3.8	3.7	3.1	3.4	2.8	3.1	3.6	4.1	3.3	3.3	3.4	7.2	4.4	4.8	4.3				

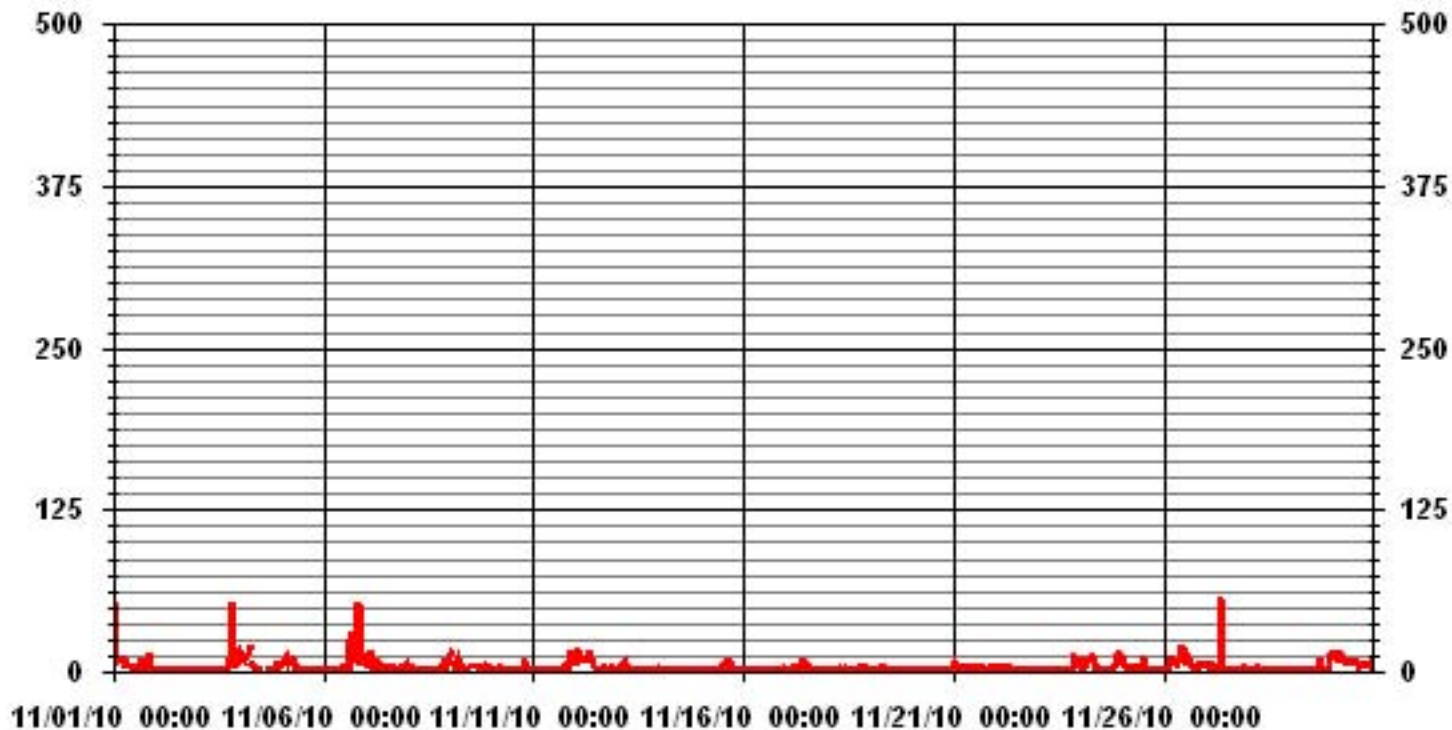
STATUS FLAG CODES

S - OUT OF SERVICE	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:	54.1	PPM	@ HOUR(S)	20	ON DAY(S)	6
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	5.11					

01 Hour Averages



— LICA33 THCMAX PPM

LICA33
 THC / WDR Joint Frequency Distribution (Percent)

November 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	2.48	2.33	1.90	5.55	2.33	1.31	2.92	2.77	3.21	13.59	12.71	12.71	10.96	1.90	3.36	85.52
< 10.0	.43	.43	.29	.58	3.94	3.80	.87	1.02	.43	.00	.87	.58	.29	.29	.29	.29	14.47
< 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	5.84	2.92	2.63	2.48	9.50	6.14	2.19	3.94	3.21	3.21	14.47	13.30	13.01	11.25	2.19	3.65	

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	37	17	16	13	38	16	9	20	19	22	93	87	87	75	13	23	585
< 10.0	3	3	2	4	27	26	6	7	3		6	4	2	2	2	2	99
< 50.0																	
>= 50.0																	
Totals	40	20	18	17	65	42	15	27	22	22	99	91	89	77	15	25	

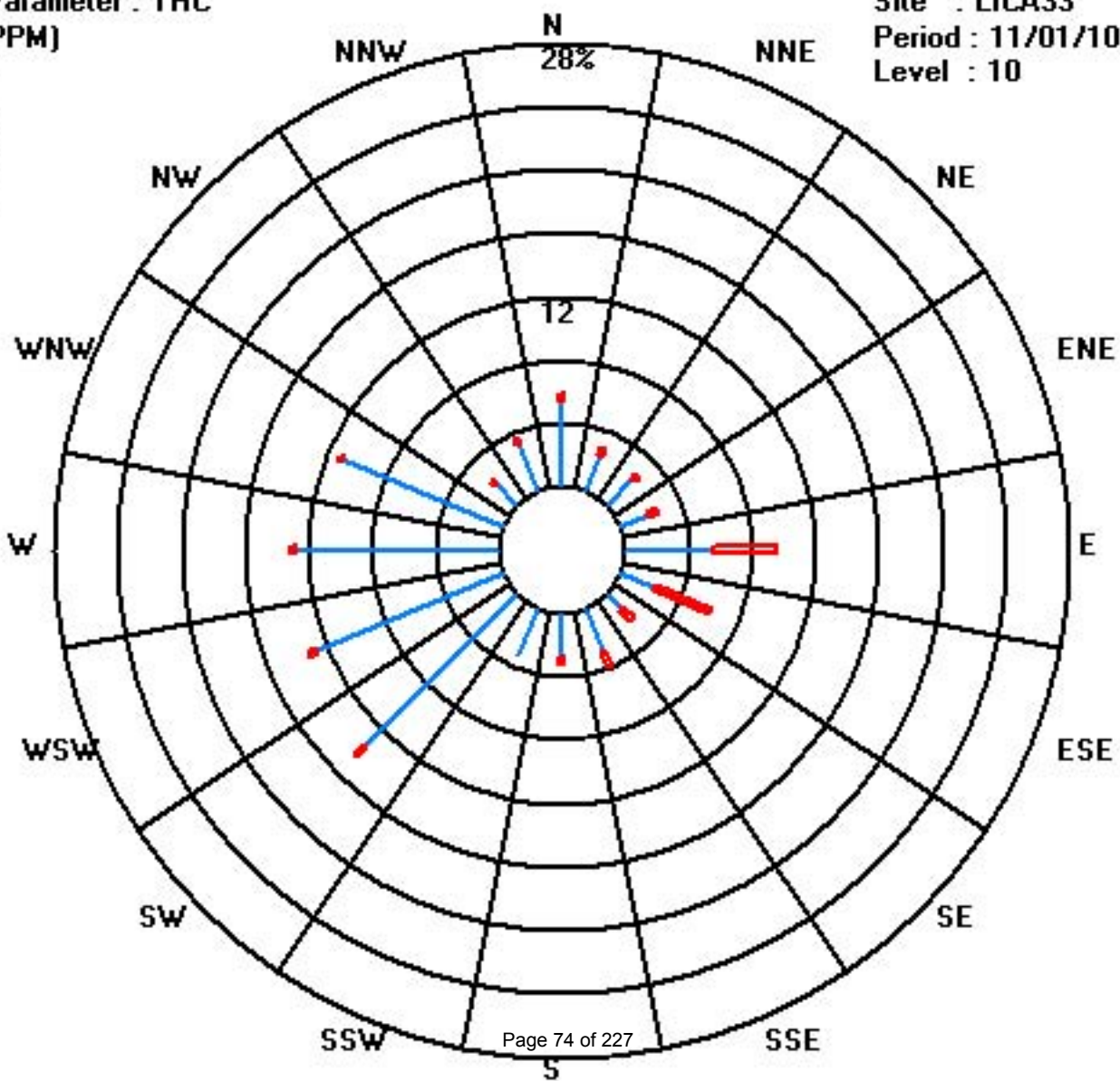
Calm : .00 %

Total # Operational Hours : 684

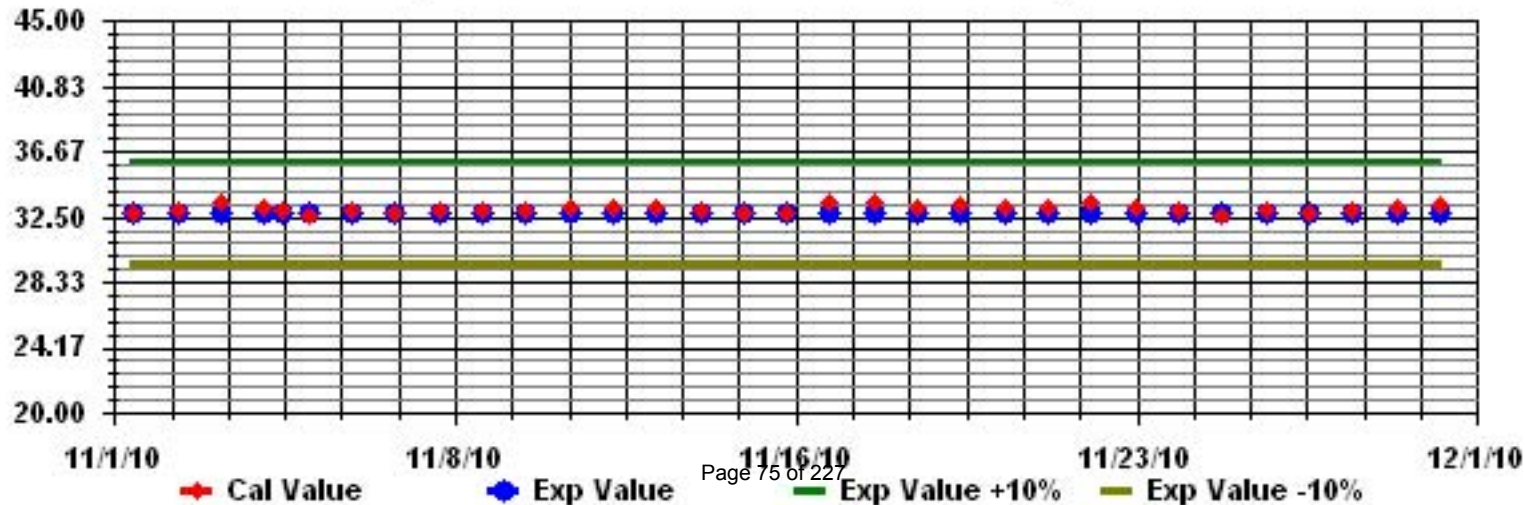
Class Limits (PPM)

Period : 11/01/10-11/30/10

Level : 10



Calibration Graph for Site: LICA33 Parameter: THC Sequence: THC Phase: SPAll



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 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.	
DAY	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	MAX.	AVG.	
1		3.1	2.6	3.3	3	5.6	5.8	7.8	9.2	6.2	7.4	8.6	9.4	13.2	10.5	7	6.8	4	4.5	1	5	1.9	1.4	4.1	6.7	13.2	4	24	
2		7.9	3.5	4.7	7.7	11.5	13.5	16.4	15.6	18	20.7	21.3	25.3	29.1	30.5	27.6	26.9	22.5	12.4	8.6	9.3	3.2	10.4	10.7	11.8	30.5	14.9	24	
3		12.6	16.9	17.3	19.7	21.6	19.2	17.3	18	17.8	19.6	18.5	17.6	13.4	13	12.5	7.7	6.7	3.9	3.3	3.2	3.4	8.3	1.8	2.6	21.6	11.5	24	
4		4.1	5.2	5.6	5.1	4.2	4.8	5.8	7.6	10.7	11	11.6	14.7	16.8	15.1	13.8	8.5	6.9	10.8	8.7	11.2	10.6	9.3	7.3	7.9	16.8	7.7	24	
5		6	6	6.4	5.2	5.2	5.8	3.8	2.3	4.8	5.9	9.5	10.7	11	18.4	17.8	12.7	15.2	9.2	12.1	16	11	14.9	15.6	9.1	18.4	9.8	24	
6		9.6	9.6	9.6	9.3	5.5	6.6	7.2	5.5	3.4	4.2	2.9	2.7	5.8	6.5	3.7	2	4	4.9	7.6	5.5	5	4.7	6.6	5.2	9.6	5.7	24	
7		5.7	4.5	2	1.6	2.7	5.2	6.5	7.9	8.1	12	12	13.6	18.4	16.2	16.3	14.7	16.2	14.2	17.6	14	10.6	7.8	6.7	7.1	18.4	10.1	24	
8		8.5	7.5	6.9	7.1	7.4	7.3	9.2	8.4	11.1	9.8	12.1	12.2	11.5	12.4	12.7	10.8	9.3	8.6	6	3.6	3.7	3.7	1.6	4	12.7	8.1	24	
9		3.3	3.1	2.1	2.7	2.9	5.2	4.2	1.2	0.8	1.2	1.9	0.6	1.2	1.5	1.8	2.4	3	2.6	0.4	0.8	2	0.9	2.3	1.4	5.2	2.1	24	
10		2.4	3.4	2.1	2.6	3	1.6	2.3	1.8	2.6	2.8	3.1	2.6	2.7	5.1	6.3	6	3.5	5.3	4.7	3.1	3.6	3.6	5.6	3.5	6.3	3.5	24	
11		7.6	9.7	8.2	8.7	8.8	6.5	4	4.9	3.5	6.5	6.6	7.8	8.2	7.9	9.6	8.7	5.2	3.7	3.4	3.6	2.7	2.4	0.6	1.7	9.7	5.9	24	
12		3.5	0.6	1.6	0.2	3.2	1.3	1	1.1	1.1	4.3	4.2	3.9	7	9.8	6.7	4.6	6.2	8.8	9	10.2	7.9	3.8	7.8	10.8	10.8	4.9	24	
13		6.1	5.2	1.8	3	3.8	3.4	3.9	3.4	3.9	4.2	5.5	4	6.9	3.4	4.3	7	7.4	3.3	4	4.4	6.8	3	4.9	7.5	7.5	4.6	24	
14		12.4	10.6	7.9	7.7	8.3	4.1	5.5	6.5	3.3	5.9	7	8.9	8.2	5.3	7.2	7.1	5.8	4.7	7.3	6.3	7.7	10.3	12.5	14.5	14.5	7.7	24	
15		12.8	12.9	13.5	12.6	11.1	10	7.5	9.5	9	9.7	7.5	4.1	4.1	1.4	4.9	4	2.7	1.7	4	8.2	14.2	20.3	20.8	17.2	20.8	9.3	24	
16		18.1	18.2	14.5	13.6	13.5	19.9	15.4	14.8	13.5	12.6	12.3	13	13.3	14.1	13.6	14.2	13	10.6	11	12.3	12.9	10.1	11.3	14	19.9	13.7	24	
17		14	8.7	4.4	5.6	7	5.7	5.6	7.3	10.3	10.8	8.6	12.4	16	12.9	15.2	18.4	20.3	20.6	20.1	16.4	15.6	20.4	22.5	23	23.0	13.4	24	
18		22	19.9	19.4	17.2	22.4	23.9	21.8	19.4	17.8	16.6	17.6	15.1	12	15.1	14.8	13	13.1	10.5	9.3	8.6	8.5	5.5	5	5.4	23.9	14.7	24	
19		6.8	5.6	7.1	6.9	4	2.9	3.1	2.3	1.2	0.8	1.5	3.4	4.5	4.4	4	5.4	5	1.5	2.9	5	5.2	4.4	5.1	3.7	7.1	4.0	24	
20		4.4	5.8	7.3	9.1	10.5	10.4	9.1	4.6	4.6	4.3	4.8	5.5	6.8	7.6	7.6	6.2	5.5	5.5	5.4	4	5.2	4.5	4.2	2.9	10.5	6.1	24	
21		3.7	3.2	2.4	3.4	3.9	5.6	4.7	3.6	3.7	4.2	3.8	4.5	4.3	6.1	6.7	6.9	9.2	8.3	12.5	12.8	13.1	10.5	10.4	10.2	13.1	6.6	24	
22		14.9	15.9	12.5	12.9	12.2	11.1	9	8.7	9.5	8.2	8.1	9.3	8.9	11	8	5.4	7.1	10.3	11.7	9.8	7.1	7.8	11.8	14	15.9	10.2	24	
23		11.9	11	9.8	12.2	12.7	10.6	12.1	11.7	11	11.2	11.7	12.4	11.7	11	10	9.7	7.9	8.5	5.9	5.1	2	2.6	3.6	3	12.7	9.1	24	
24		2	2.7	5.3	2.2	0.5	1	1.5	3.1	3.4	1	7.1	4.4	6.3	7.3	7.4	8.4	6.2	3.6	4.1	2.3	3.4	1.2	2.6	5.6	8.4	3.9	24	
25		4	2	3.7	5.6	6	6.4	4.9	6	7.7	7.5	4.9	3.2	3.2	6.2	7.4	6.5	14.7	15.3	12.3	13.9	15.4	13.3	11.9	4.3	15.4	7.8	24	
26		9.5	7.8	8.8	2	2.1	2.4	4.2	4.4	6	8.2	4.8	4	3.9	5.8	6.7	8.7	10.4	9.6	7.6	10.1	4.9	6.8	4.9	4.3	10.4	6.2	24	
27		1.6	2.8	4.6	1.8	6.3	5.5	6.5	3.2	0.7	4.3	10.6	11.7	10.2	9.5	9.7	8.6	8.7	7.1	7.8	4.7	7	8.6	7.6	6.5	11.7	6.5	24	
28		7.8	7.6	6.8	6.9	6.7	8	14.1	11.5	10.1	12.1	14	14	13.4	14.2	12.7	11.1	9.3	6.1	6.1	8.9	10.6	9.2	9.9	10.3	14.2	10.1	24	
29		9.5	9.2	11.6	7.9	7.2	5.7	5.8	3.7	5.8	8.1	7.3	6.8	7.8	6	6.2	6	5.4	6.4	5	3.9	4.4	2.5	4	4.1	11.6	6.3	24	
30		3.3	2.3	4.6	7.3	6.4	8.7	10.2	11	12	12.3	13.7	14.4	14.8	13.8	14.1	16	22	24	17.9	13.2	16.1	15.1	11.2	12.6	24.0	12.4	24	
HOURLY MAX		22.0	19.9	19.4	19.7	22.4	23.9	21.8	19.4	18.0	20.7	21.3	25.3	29.1	30.5	27.6	26.9	22.5	24.0	20.1	16.4	16.1	20.4	22.5	23.0				
HOURLY AVG		8.0	7.5	7.2	7.0	7.5	7.6	7.7	7.3	7.4	8.2	8.8	9.1	9.8	10.1	9.9	9.1	9.2	8.2	7.9	7.8	7.5	7.6	7.8	7.8				

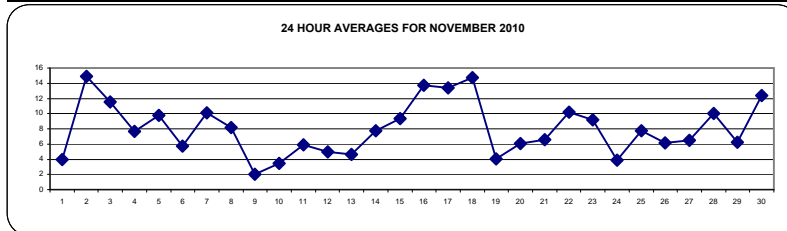
STATUS FLAG CODES

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

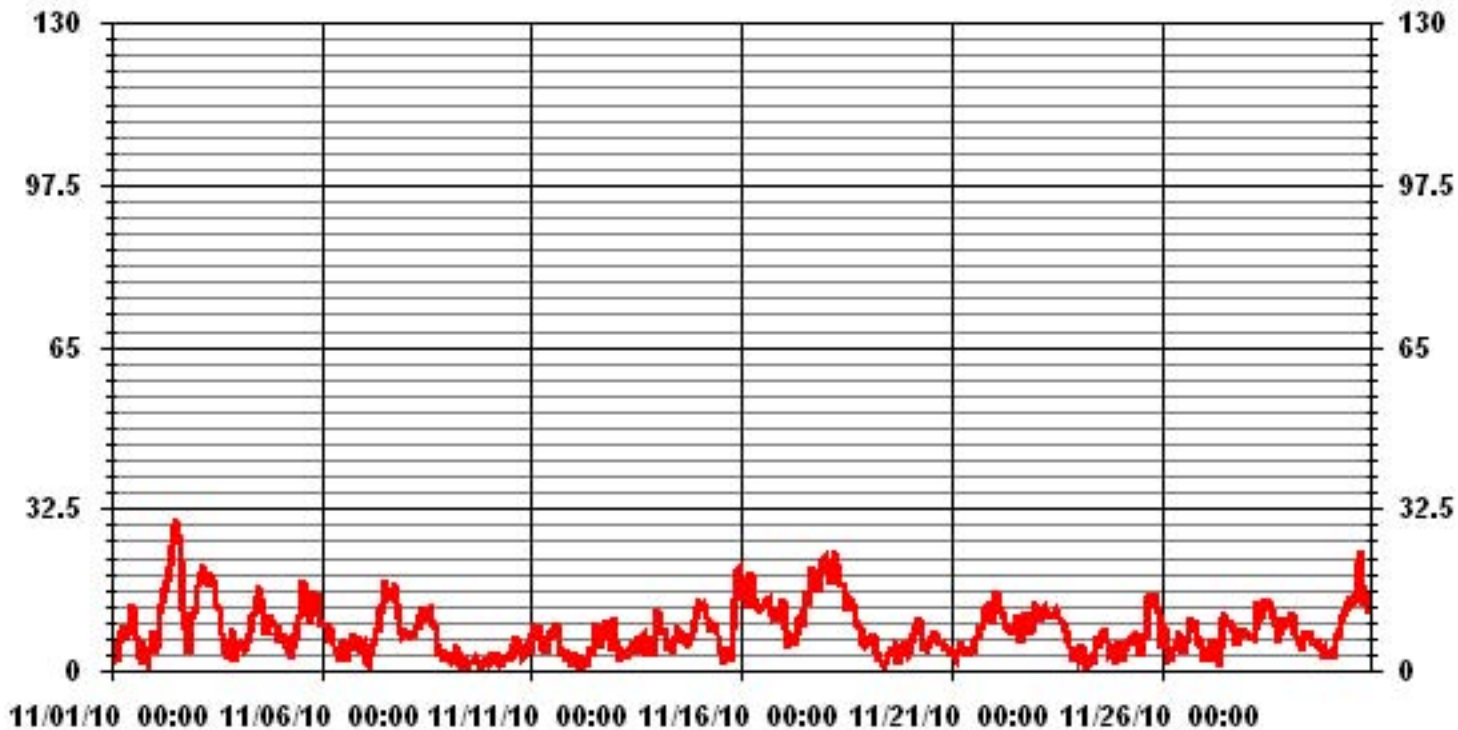
LAST CALIBRATION: September 24, 2009

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	30.5	KPH	@ HOUR(S)	13	ON DAY(S)	2
MAXIMUM 24-HR AVERAGE:	14.9	KPH			ON DAY(S)	2
CALMS (≤ 1 KPH)	0.13	%	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	5.15		MONTHLY AVERAGE:	8.17	KPH	



01 Hour Averages



— LICA33 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 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	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.
1		5.2	4.7	6.4	5.2	9.4	8.7	11.6	13.6	11.9	13	18.3	23.1	23.2	20.7	11.9	11.7	8.1	11.7	5.1	16.2	9.7	7	6.9	11.3	23.2
2		13.3	15.3	10.6	15.2	18.5	22.8	26.7	23.2	39.8	36.7	40.6	48.2	54.9	56	50.6	54.1	45.3	26.4	13.5	18.4	9.9	15.8	20.9	19.1	56
3		27.7	28.4	31.1	32	32.7	33.2	27.2	28.1	28.4	32.5	28.4	25.9	22.4	22.4	21	13.5	9.2	7	8.8	10	8.4	13.4	7.8	4.3	33.2
4		7.7	7.9	8.2	7.9	7.3	7.7	10.1	11.7	14.6	15.3	P	26.7	35.9	29.5	28	19.7	11.7	13.7	12.5	22.4	19.9	17	12.4	10.4	35.9
5		9.7	9.1	10.1	9.7	7.7	8.5	7.7	27.4	11.2	10.3	16.8	17.1	19.9	34.5	32.4	27	30.2	14.2	20.4	31.4	22.3	32.1	30.9	16.1	34.5
6		13.6	15.8	14.6	16.4	13.2	9.1	9.9	9.7	6.8	6.9	7.9	9.7	18.1	17.4	9.8	4.8	7.3	8.3	11.5	9.2	9.8	9.9	12.8	13.7	18.1
7		9.8	10.5	4	4.6	7.8	9.7	11.2	10.4	14	18.2	17.1	26.5	28.9	25.9	23.5	22.8	25.6	23.9	28.5	21.5	16	15.3	9.9	11.3	28.9
8		13.5	12.7	11.5	11.3	10.4	11.2	15.4	13.3	18	18.4	19.6	19.4	19.4	20.4	21.2	16.8	15.1	13.7	11.3	5.2	7.3	6.9	3.7	6	21.2
9		5.2	6.5	5.2	5.3	5.7	9	8.6	5.2	5.2	5.6	5.6	5.4	6.3	6.4	9.4	8.3	7.8	8.3	5	4.8	5.7	4.9	5.7	4.2	9.4
10		6.6	6.7	4.4	6.9	7.6	4.3	5.2	4.5	5.5	5.2	7	P	8	9.5	10.5	10.4	7.8	8.8	8.7	7.6	8	8.1	11.1	9.6	11.1
11		10.6	13.6	12.9	12.5	14.1	9.8	9.7	10.2	6.3	12.5	11.4	13.3	13.4	15.8	15.8	13.9	8.9	5.5	5.7	5.9	5	6.8	4.1	7.7	15.8
12		7.2	3.5	5.3	2.7	6.2	5.4	3.3	4.1	3.7	7.1	7.9	10.8	16.7	18.9	13	10.2	10.1	16.7	16	15.4	13.7	7.7	13.6	15.7	18.9
13		13.5	11.6	8.9	7.5	13.2	10.4	10.3	10	11.4	10.8	17.7	11.7	16.8	11.8	11.6	16.1	16	10.6	9.1	11	12	6.5	8.5	14.9	17.7
14		19.5	20.1	13.9	16.5	14.2	15.2	11.1	12.1	7.3	11.5	14.8	15.2	14.9	9.6	12.1	11.4	10.3	8.1	11.5	11.3	13.1	18	18.2	23.9	23.9
15		21.2	19.2	21.2	20.7	15.9	15.9	13.3	15.4	14.4	18	17	9.7	16	12.1	10.8	6.5	5	4.4	6.5	20.2	28.5	41.4	37.6	32.6	41.4
16		33.6	33	28.9	26.6	25.1	36.8	29.6	30	30.4	25.7	24.8	25.5	29.3	29.2	26.9	27.3	24.2	20.1	23.3	22.5	21.1	18.8	19.3	23.4	36.8
17		21.5	20	8.4	9.7	12.1	11.3	9.3	12.1	17.4	17	14.4	18.3	24.8	25.6	22	27.2	31.3	30.1	29.1	23.8	23.1	31.9	34	34.1	34.1
18		39.1	29.2	30.4	27.6	33	37.4	38.4	34.2	31.4	26.6	26	23.6	21.6	24	26.4	22.9	24.2	19.9	16	15.3	13.8	10.9	8.6	9.9	39.1
19		10.7	9.5	9.9	8.6	8.2	5.4	6	4.8	5.6	4.3	8	13.9	13	12.2	11.5	14.7	13.7	5.2	7.3	12.6	13.8	11.6	13.9	6.8	14.7
20		8.8	12.1	12.7	14.7	15	17.3	15	10.6	8.3	10.1	10.1	10.9	11.6	14.1	13.2	9.7	9	12.7	10.1	6.6	11.7	8.1	7.8	7.1	17.3
21		9.6	5.9	9.3	7.6	8.3	9.8	6.9	6.3	6.7	7.1	6.8	8.6	8.8	12.7	14.8	12.3	15.9	13.9	23.8	20.9	20.9	19.8	16.6	20.2	23.8
22		29.9	25.1	21.4	23.3	22.3	19.4	17.1	14.2	16.8	14.5	14.9	16.4	15.9	17	16.5	11.5	10.6	17.6	19.5	17	10.8	13	20.4	24.1	29.9
23		20.8	16.9	12.7	17.9	19.7	17.5	18.1	20.6	19.8	20	18.9	19.9	18.7	16.9	16.1	15.9	13.5	14.7	14	12.9	9.3	7.9	7.6	8.8	20.8
24		5.6	11.6	11.5	9.6	5.2	4.4	6.5	10.4	6.3	9.3	11.6	10.3	12	14.2	14.2	13.2	11.1	8	11	6.7	8	3.9	5.6	8.6	14.2
25		7.8	3.9	7.4	11.3	11.8	10.1	9.8	10.1	12.5	13.4	10.4	9.4	8.6	9.7	13.7	11.6	25.7	26.1	23.4	25.6	22.2	19.5	21.5	11.4	26.1
26		15.4	13.2	19.1	7.2	5.6	5.2	6.5	7.1	9.7	14.4	8.2	8.6	10.6	11.1	14.2	12.5	12.9	13.7	11.7	13.9	11.4	11.9	9.8	7.2	19.1
27		5.4	6.8	9.8	4.3	9.7	9	12.8	6.9	3.9	12.2	18.8	20.3	16.5	16.8	16.5	14.8	10.8	11.6	13.6	12.5	11	14.2	11.6	9.4	20.3
28		13.2	12.1	12.3	10.8	11.6	18.3	26.2	23.4	19.9	19.8	24.7	21	20.5	24.5	22.2	21.2	17.3	12.9	9.7	16.8	16.4	14.1	16.6	19.4	26.2
29		17.9	19	18.8	13.4	12.5	12.9	10.9	7.7	12.8	16.4	13.9	14.2	15.2	13.7	13.1	10.1	11.2	11.9	9	7.9	9.6	8.8	8.8	9.3	19
30		5.7	3.7	9.9	11.3	9	14	13.8	15.4	16.6	17	19.8	20	21.7	22.1	22.3	23.7	33.6	34.2	26.9	18.9	22.5	23.4	16.5	17.4	34.2
PEAK		39.1	33.0	31.1	32.0	33.0	37.4	38.4	34.2	39.8	36.7	40.6	48.2	54.9	56.0	50.6	54.1	45.3	34.2	29.1	31.4	28.5	41.4	37.6	34.1	

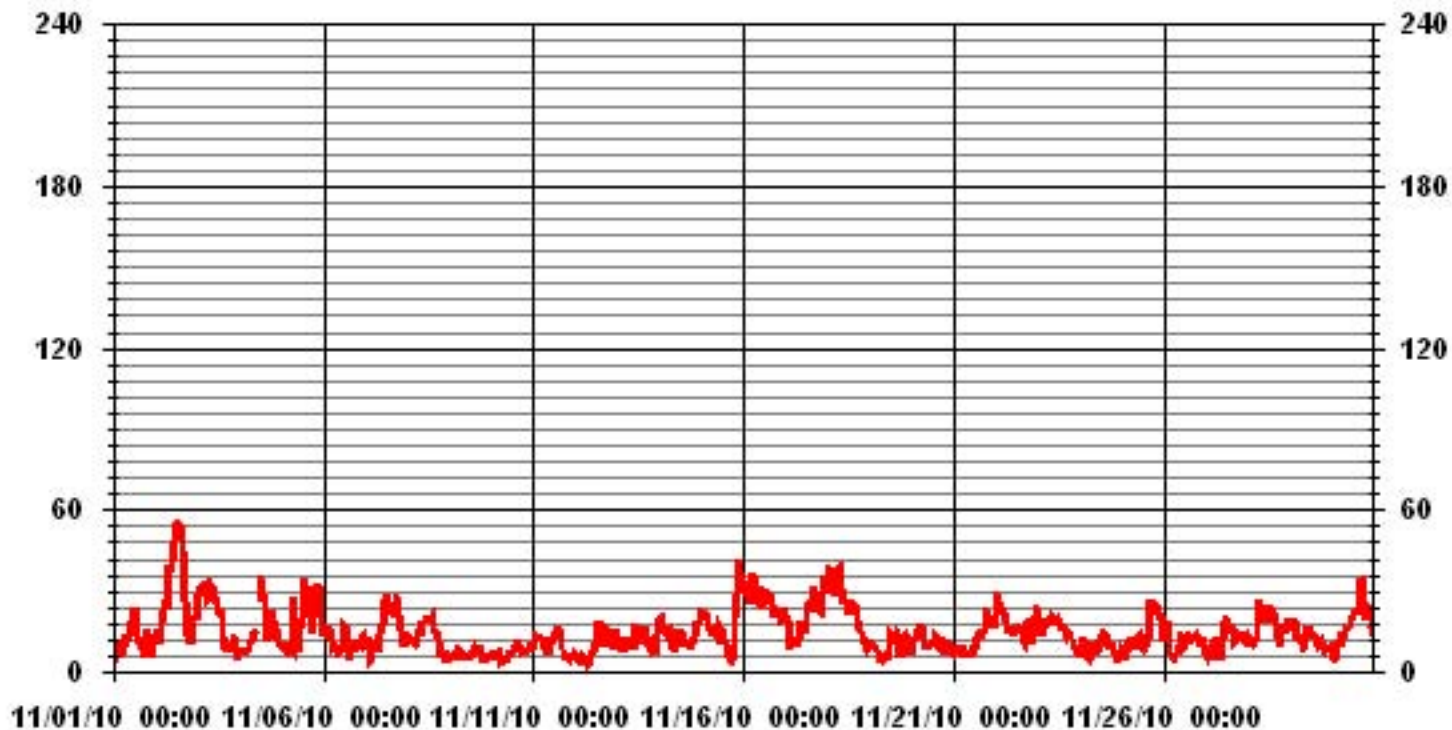
STATUS FLAG CODES

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	56	KPH	@ HOUR(S)	13
			ON DAY(S)	2

01 Hour Averages



— LICA33 WSMAX KPH

LICA33
WSP / WDR Joint Frequency Distribution (Percent)

November 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	.97	.97	1.66	.97	2.36	3.05	1.52	2.08	3.05	2.63	6.52	5.27	4.72	2.22	1.38	.97	40.41	
< 12.0	2.63	.69	.41	.41	2.22	1.66	1.11	1.52	.00	.41	7.36	6.66	4.72	5.27	1.11	1.25	37.50	
< 20.0	1.80	1.11	.69	.97	3.47	.97	.00	.69	.00	.00	.41	1.38	2.36	3.47	.13	1.38	18.88	
< 29.0	.27	.00	.00	.13	1.25	.27	.00	.00	.00	.00	.00	.00	.97	.00	.00	.00	2.91	
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.27	.00	.00	.00	.27	
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	5.69	2.77	2.77	2.50	9.30	5.97	2.63	4.30	3.05	3.05	14.30	13.33	13.05	10.97	2.63	3.61		

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	7	7	12	7	17	22	11	15	22	19	47	38	34	16	10	7	291	
< 12.0	19	5	3	3	16	12	8	11		3	53	48	34	38	8	9	270	
< 20.0	13	8	5	7	25	7		5			3	10	17	25	1	10	136	
< 29.0	2			1	9	2							7				21	
< 39.0													2				2	
>= 39.0																		
Totals	41	20	20	18	67	43	19	31	22	22	103	96	94	79	19	26		

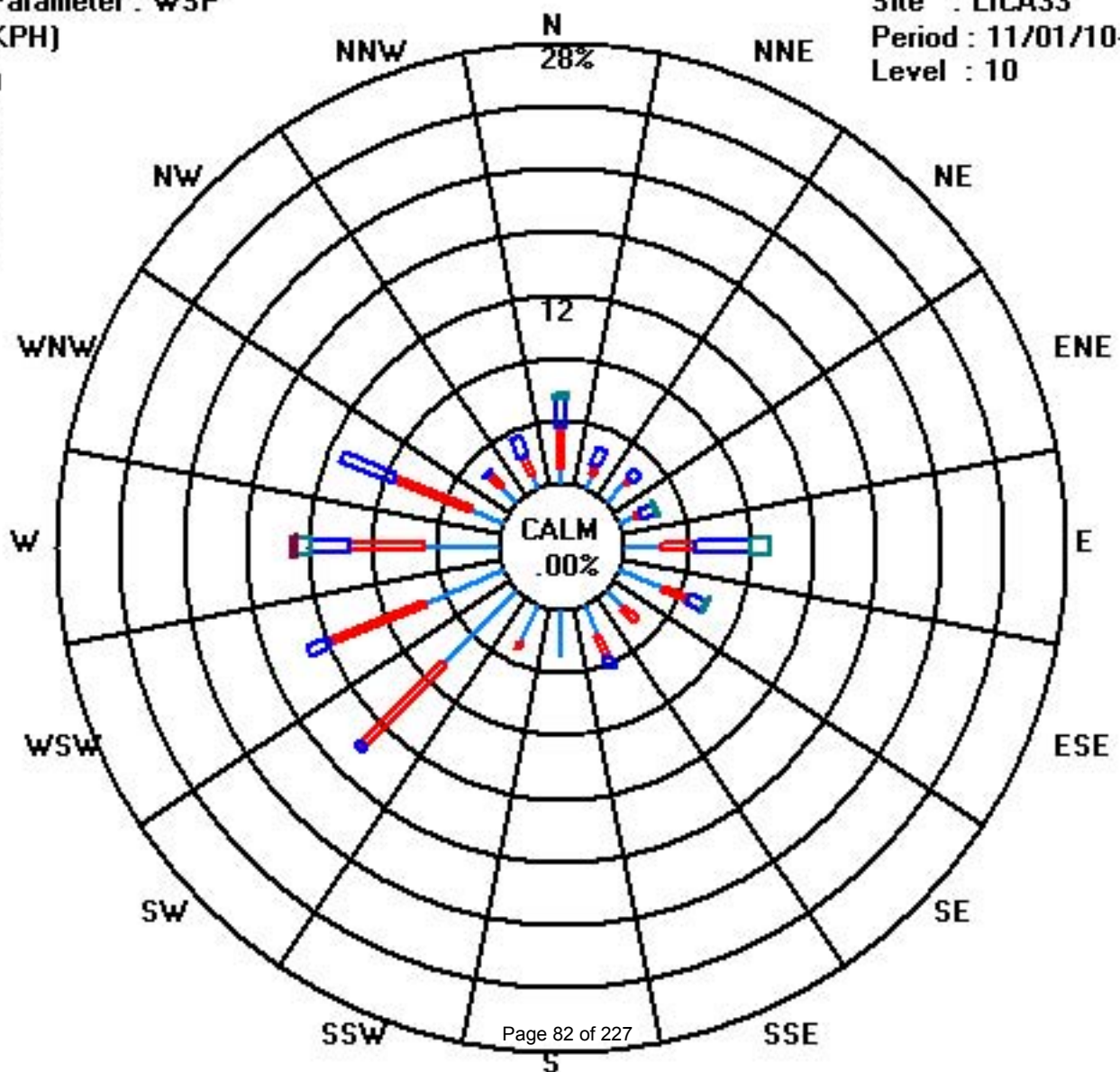
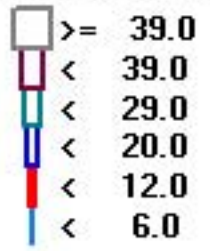
Calm : .00 %

Total # Operational Hours : 720

Class Limits (KPH)

Period : 11/01/10-11/30/10

Level : 10



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 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	110	80	84	40	104	84	95	83	79	82	134	148	148	160	147	148	106	138	50	176	176	288	256	237	126	SE	24
2	246	254	269	256	245	243	247	245	261	262	265	270	275	276	274	279	277	275	242	278	259	240	244	247	263	W	24
3	256	263	275	272	275	279	280	283	281	280	290	292	278	271	277	290	285	258	264	186	189	227	201	113	274	W	24
4	113	104	85	81	86	79	82	94	88	104	115	162	164	167	164	154	125	119	109	159	153	147	132	100	129	SE	24
5	99	104	113	93	112	110	56	11	284	239	270	276	252	291	302	296	290	248	246	268	280	296	299	291	281	W	24
6	275	259	262	266	242	241	232	232	252	236	242	180	223	217	224	108	40	51	100	16	18	64	71	79	248	WSW	24
7	51	30	354	93	60	32	32	57	86	75	85	79	74	66	67	79	85	75	85	80	66	46	5	320	67	ENE	24
8	323	339	351	318	296	289	286	285	278	293	294	288	289	286	288	283	278	283	289	286	252	276	287	287	292	WNW	24
9	250	228	228	250	346	50	51	333	6	318	318	271	26	96	65	113	161	156	48	352	254	191	158	196	179	S	24
10	277	276	241	278	284	179	219	252	220	234	285	285	279	271	265	255	215	273	272	259	238	235	224	213	252	WSW	24
11	227	239	242	249	259	273	266	258	255	271	279	278	302	301	295	296	274	285	241	269	269	239	258	143	267	S	24
12	215	227	84	85	76	3	60	341	29	111	130	174	212	225	219	218	218	216	216	220	223	222	230	230	213	SSW	24
13	221	221	154	176	205	201	193	197	175	197	192	226	213	199	169	204	214	193	211	231	254	271	277	278	215	SSW	24
14	282	298	287	293	274	289	243	244	176	218	228	238	242	225	234	234	228	251	246	251	264	280	283	282	260	WSW	24
15	288	284	283	280	286	284	277	279	295	337	347	37	267	18	62	35	46	295	275	325	348	3	10	4	321	NW	24
16	352	0	1	1	351	356	353	356	346	344	336	340	339	344	336	346	335	336	356	8	26	11	22	40	354	N	24
17	43	10	345	348	354	3	2	11	17	40	46	101	102	85	73	81	100	113	123	107	95	96	96	92	79	ENE	24
18	90	89	86	81	85	91	73	73	82	92	79	80	55	37	26	29	34	15	359	355	0	347	327	315	63	ENE	24
19	324	311	306	300	282	265	244	235	233	268	281	267	255	236	228	255	289	264	231	240	242	243	253	243	267	W	24
20	227	220	226	248	239	235	234	267	237	243	236	216	235	246	243	228	227	231	223	238	225	244	277	276	237	SW	24
21	218	232	288	207	289	295	279	253	236	225	240	267	309	332	352	356	359	349	7	18	14	3	8	13	339	NNW	24
22	11	14	7	12	13	8	8	348	349	334	332	329	297	298	292	252	251	262	263	258	251	229	241	248	317	NW	24
23	250	245	233	235	235	231	231	233	231	236	242	238	227	225	228	223	217	219	213	211	230	171	179	190	229	SW	24
24	268	182	179	158	182	109	122	146	149	170	234	222	229	226	228	237	246	206	202	190	153	168	122	141	202	SSW	24
25	130	137	159	122	138	127	163	147	150	151	168	199	276	289	295	282	274	268	259	255	248	246	248	229	231	SW	24
26	228	225	231	156	148	135	104	130	128	119	85	60	119	142	136	79	108	111	109	130	101	88	109	110	125	SE	24
27	191	224	271	159	221	222	223	243	322	234	272	274	264	246	269	256	236	250	270	251	231	228	233	236	247	WSW	24
28	227	228	245	245	276	293	304	292	290	292	298	299	297	288	300	293	286	272	241	225	242	244	242	255	274	W	24
29	266	251	268	285	300	313	325	324	314	304	306	272	294	301	256	240	228	229	224	198	154	180	114	128	271	W	24
30	122	107	92	97	97	99	102	105	106	110	111	111	102	97	94	89	94	97	100	90	92	94	89	88	98	E	24
HOURLY AVG	352	339	354	348	354	356	353	356	349	344	347	340	339	344	352	356	359	349	359	355	348	347	327	320			

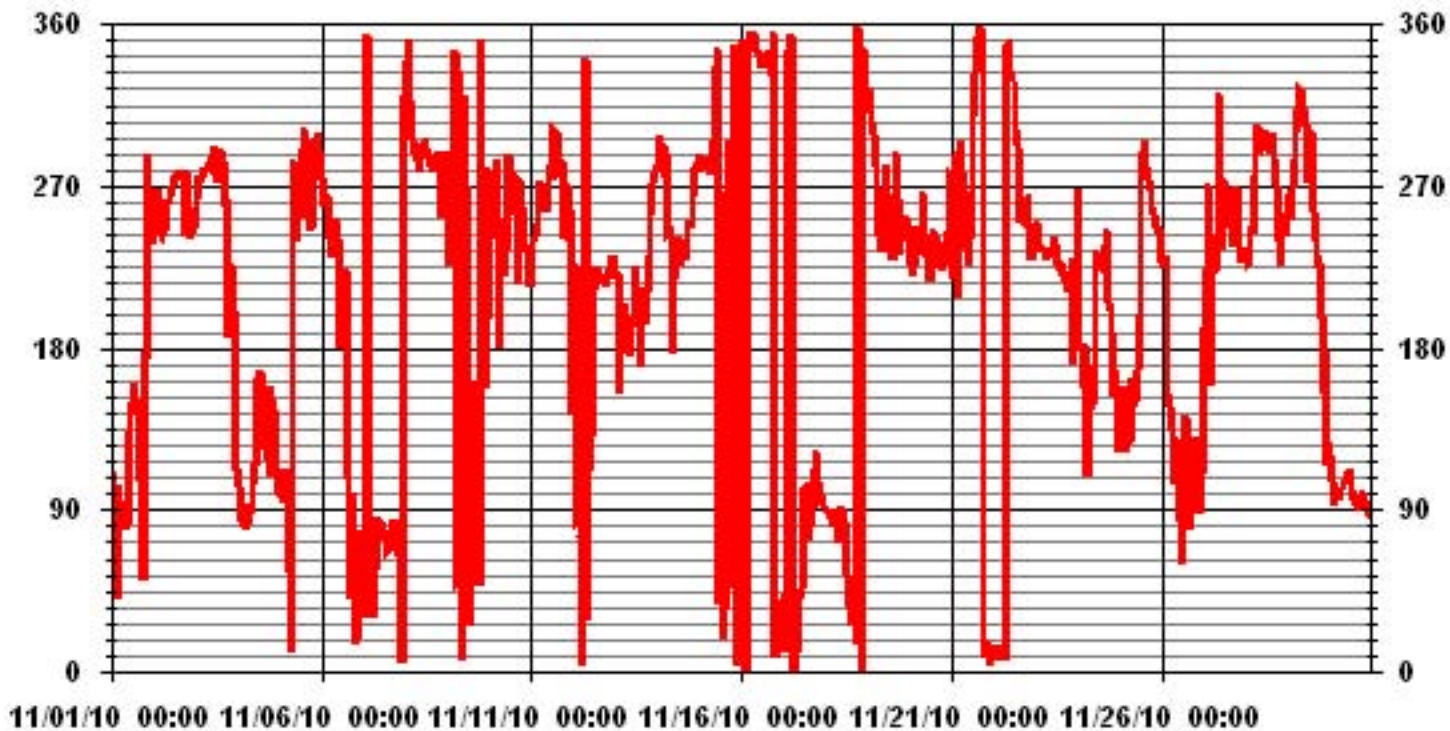
STATUS FLAG CODES

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	93.29	AMD OPERATION UPTIME	100.0 %
		MONTHLY AVERAGE	274 DEG

01 Hour Averages



— LICA33 WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 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	20	10	16	15	5	5	7	11	14	19	22	11	14	12	14	24	26	43	34	57	37	13	8
2	9	22	13	7	6	7	9	8	10	11	12	12	11	11	10	11	8	5	10	17	26	5	7	7
3	9	9	8	7	8	8	7	7	7	8	9	9	12	13	12	8	5	17	14	25	16	5	27	16
4	12	13	9	10	8	6	7	8	6	6	11	14	14	14	14	13	7	3	7	13	12	10	8	7
5	6	5	7	10	12	17	15	44	29	12	10	11	9	10	11	10	10	6	7	9	8	10	9	8
6	6	8	7	8	14	5	5	12	16	11	22	33	43	22	24	16	6	9	9	10	11	9	12	13
7	8	15	28	18	12	6	4	7	9	5	6	6	7	7	6	7	6	7	6	6	8	10	10	12
8	8	11	12	10	6	10	7	8	7	11	10	10	10	9	9	8	6	6	4	7	16	9	13	5
9	10	7	20	21	17	10	15	28	53	53	33	61	42	53	50	47	31	26	40	50	26	37	45	38
10	26	16	24	25	26	34	24	34	21	18	17	30	23	14	15	9	24	16	16	29	25	32	13	25
11	6	6	7	6	9	7	15	12	11	11	11	15	14	12	10	8	6	5	10	9	11	17	24	18
12	8	48	35	42	13	47	32	29	20	8	15	22	21	14	20	23	15	14	14	8	9	16	5	5
13	19	17	30	26	26	26	25	24	23	25	24	23	20	28	13	20	17	25	21	24	7	18	6	6
14	7	9	11	11	12	25	15	10	24	15	8	9	11	12	9	7	11	9	7	6	7	8	6	7
15	7	6	8	7	6	7	7	7	7	16	22	31	43	37	18	13	16	21	15	14	13	13	12	13
16	13	14	14	12	13	14	13	14	14	15	15	15	15	14	14	15	14	13	16	13	10	12	11	10
17	10	12	17	15	13	16	14	11	10	10	12	12	9	13	7	8	7	8	7	7	7	7	7	7
18	7	7	7	9	8	7	7	7	7	8	8	11	9	11	10	9	11	12	12	11	12	9	9	9
19	9	10	4	4	8	13	11	15	39	19	31	31	33	19	33	19	13	22	22	20	16	20	17	17
20	13	19	9	9	9	8	8	10	10	14	13	17	12	14	10	7	13	14	13	12	14	8	11	27
21	16	17	22	29	16	9	8	13	15	12	12	14	20	15	13	11	11	12	11	11	10	12	11	11
22	9	9	11	12	10	13	13	11	11	10	12	14	12	10	11	8	6	8	8	8	7	7	8	7
23	7	6	4	6	7	8	7	9	8	9	11	10	9	11	12	11	13	9	24	22	40	15	12	22
24	23	49	12	39	45	47	59	41	27	39	16	22	19	15	12	7	9	19	19	24	21	27	17	9
25	7	15	18	12	13	10	15	12	11	13	15	20	33	8	12	6	7	8	8	7	5	6	5	18
26	7	9	7	33	23	15	7	12	9	9	10	20	16	15	12	8	6	7	7	6	39	9	10	13
27	25	32	12	31	8	11	7	19	56	15	10	9	11	10	8	8	4	14	6	21	6	5	6	6
28	6	7	9	8	8	9	11	9	9	9	9	9	9	10	11	10	12	10	9	6	8	8	8	10
29	10	9	10	7	11	11	12	13	12	14	14	16	16	16	16	14	11	11	18	22	17	26	30	20
30	13	5	6	4	3	4	4	6	5	6	6	6	5	7	7	6	5	5	5	6	5	6	6	5

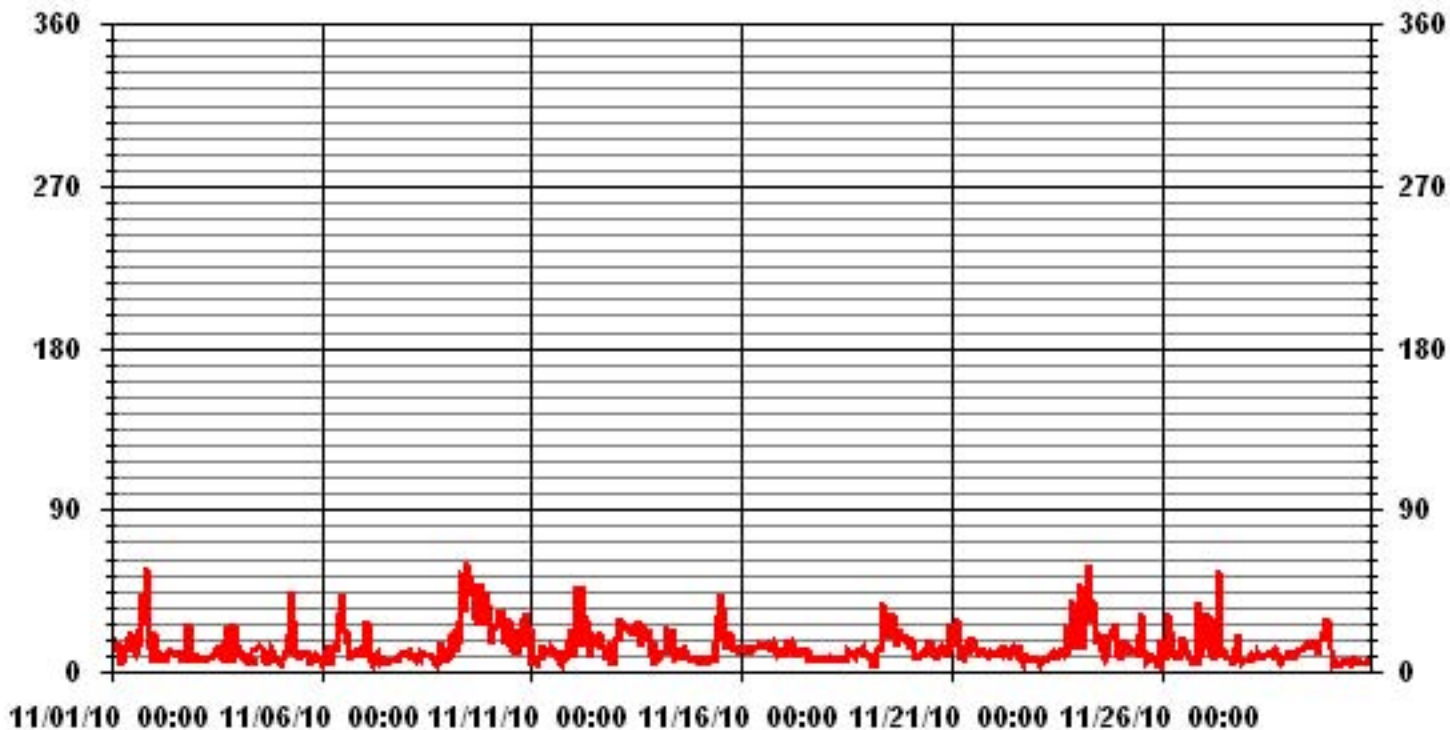
STATUS FLAG CODES

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

LAST CALIBRATION: September 24, 2009

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS

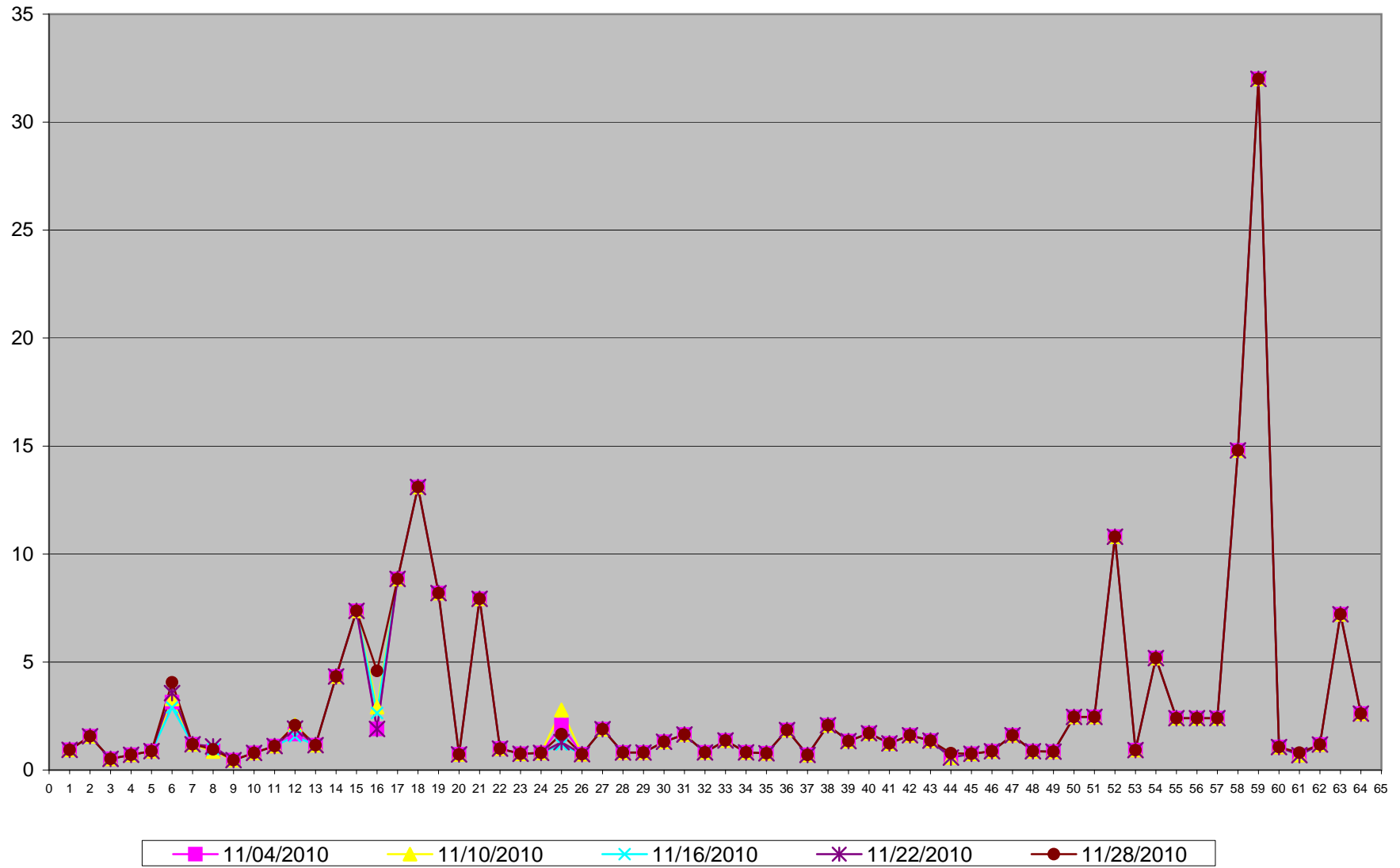
01 Hour Averages



— 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 November 2010

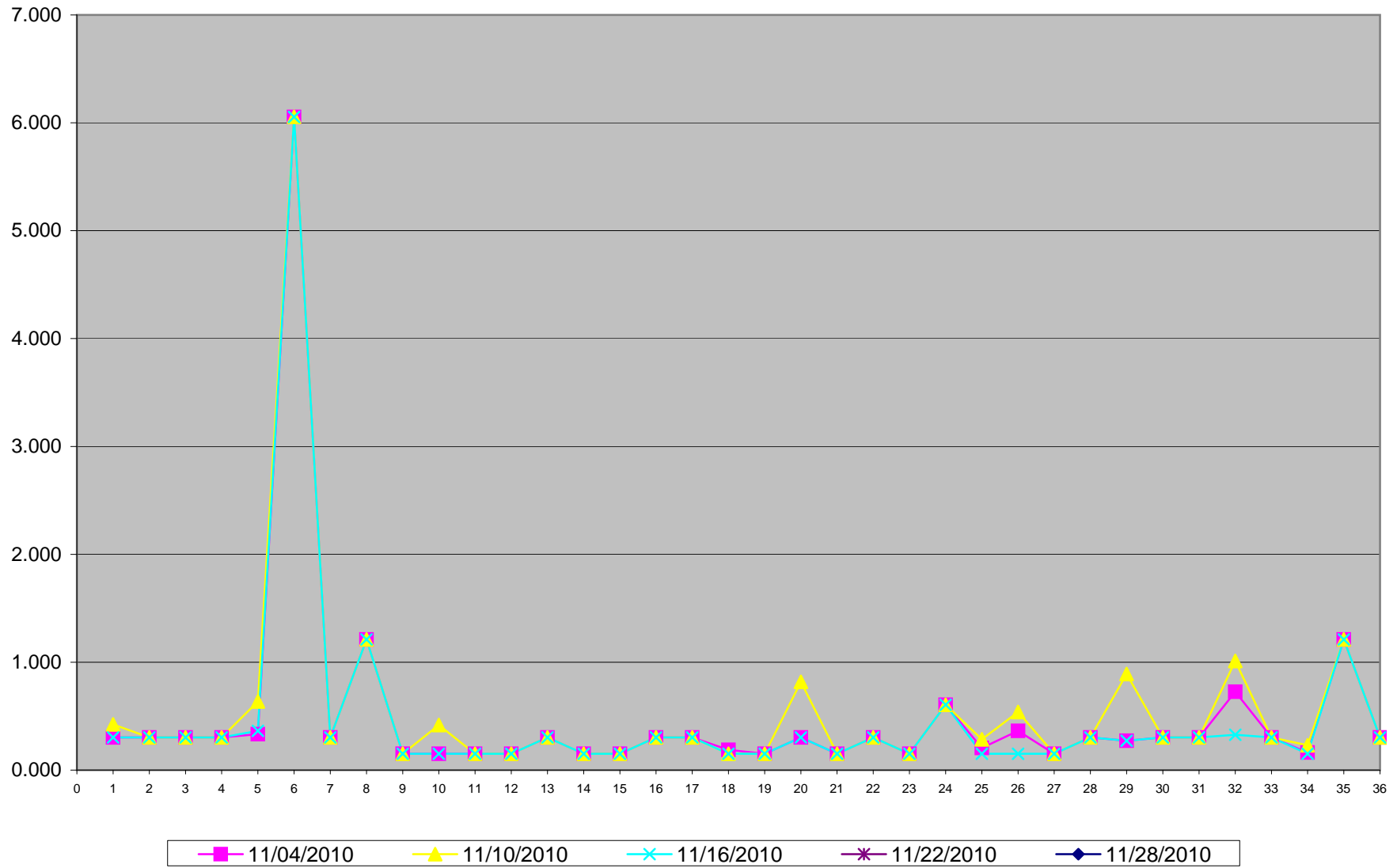
LICA- Portable Site

Unit: ng/m³

PAHs	11/04/2010	11/10/2010	11/16/2010	11/22/2010	11/28/2010
Sample Volume (unit: m3)	330.32	330.28	330.36	330.35	330.33
1 1-Methylnaphthalene	0.303	0.424	0.303	1.150	0.636
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	0.333	0.636	0.363	2.028	0.908
6 3-Methylcholanthrene	6.055	6.055	6.054	6.054	6.055
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	0.212
10 Acenaphthylene	0.151	0.418	0.151	0.151	0.321
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	0.188
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	0.188	0.151	0.151	0.151	0.236
19 Benzo(k)fluoranthene	0.151	0.151	0.151	0.151	0.151
20 Biphenyl	0.303	0.817	0.303	0.696	2.149
21 Chrysene	0.151	0.151	0.151	0.151	0.182
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	0.176
24 Dibenzo(a,e)pyrene	0.605	0.606	0.605	0.605	0.605
25 Fluoranthene	0.206	0.285	0.151	0.272	0.424
26 Fluorene	0.363	0.539	0.151	0.285	1.066
27 Indeno(1,2,3-cd)pyrene	0.151	0.151	0.151	0.151	0.212
28 m-Terphenyl	0.303	0.303	0.303	0.303	0.303
29 Naphthalene	0.272	0.890	0.272	2.900	1.271
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	0.727	1.011	0.327	0.624	2.010
33 p-Terphenyl	0.303	0.303	0.303	0.303	0.303
34 Pyrene	0.163	0.230	0.151	0.194	0.272
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

SO₂ Calibration Report

Station Information

Calibration Date	November 5, 2010	Previous Calibration	October 18, 2010
Company	Lakeland Community and Industry Association		
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M		
Start Time (MST)	9:28	End Time (MST)	13:22
Reason:	Monthly Calibration		
Barometric Pressure	NA mmHg	Station Temperature	24 Deg C
Cal Gas	51.4 ppm	Cal Gas Expiry date	5/8/2010
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:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 717		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 1000	ppb	
Sample Flow / Box Temp	586 ccm, 32.5 Deg C	589 ccm, 30.5 Deg C	
HVPS / Lamp Setting	604, 2387	604, 2383	
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	68.2, 0.954	69.5, 0.955	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	1	N/A
4998	0	0	0	N/A
4926	73	751	757	0.9915
4962	38.9	400	403	0.9921
4982	16.6	171	172	0.9924
4998	0	0	0	N/A
Sum of Least Squares				0.2491
New Correction Factor				0.9915

Before Calibration

After Calibration

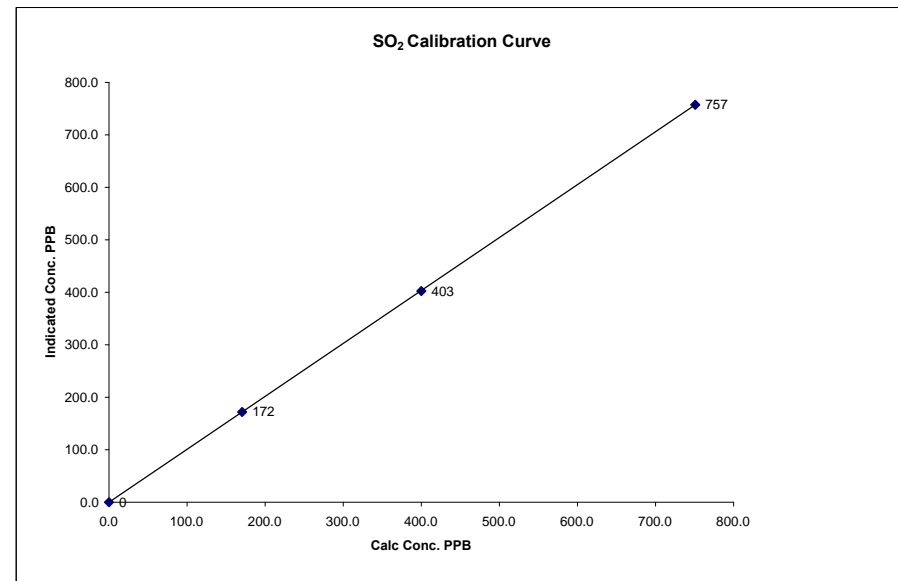
Auto Zero	1.1	1.0
Auto Span	374	369
Sample Lines Connected	YES	
Percent Change from Previous Calibration	0.7%	

Calibration Performed by: Ting Xu

SO₂ Calibration Curve

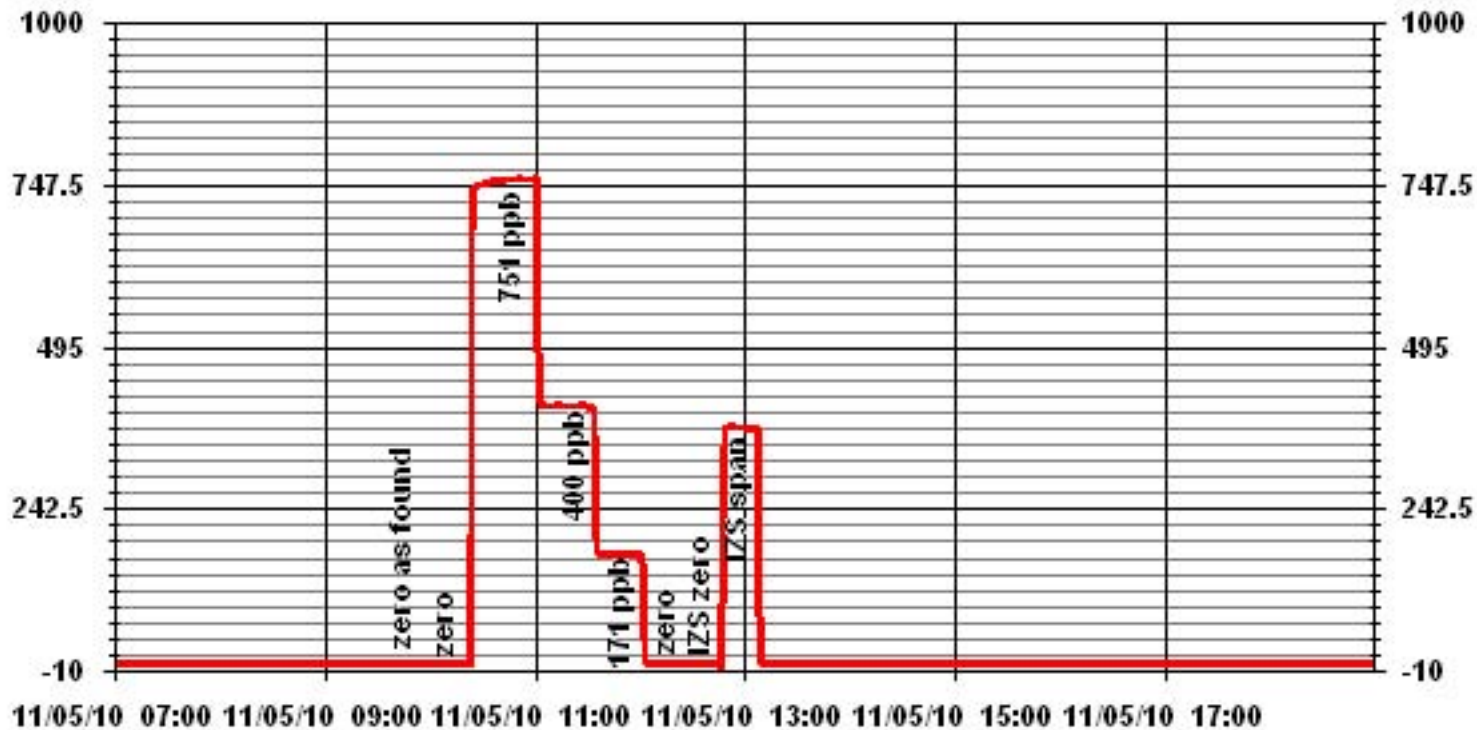
Calibration Date	November 5, 2010
Company	Lakeland Community and Industry Association
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M
Start Time (MST)	9:28
End Time (MST)	13:22

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	(0.85 to 1.15)
0	0	n/a	Intercept	1.000000	-0.105541
171	172	0.9924		1.008566	
400	403	0.9921			
751	757	0.9915			



Notes:

01 Minute Averages



Hydrogen Sulphide

H₂S Calibration Report

Station Information

Calibration Date	November 4, 2010		Previous Calibration	October 14, 2010	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	Portable/ Devon Wellsite 13-16-62-5-W4M				
Start Time (MST)	10:15	End Time (MST)	13:53		
Reason:	Monthly Calibration				
Barometric Pressure	NA	mmHg	Station Temperature	23	Deg C
Cal Gas	10.6	ppm	Cal Gas Expiry date	05/12/2011	
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	543	ccm	32	Deg C	538
HVPS / Lamp Setting	528		2331		528
PMT / RxCell Temp	7.9	Deg C	50	Deg C	7.9
Converter / IZS Temp	314.1	Deg C	45	Deg C	314.2
Offset / Slope	52		0.987		52
					0.974

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	0	N/A
4962	37.7	80	81	0.9868
4962	37.7	80	80	1.0000
4981	18.9	40	40	1.0017
4988	10.9	23	23	1.0049
4998	0	0	1	N/A
Sum of Least Squares				1.0000
New Correction Factor				1.0000

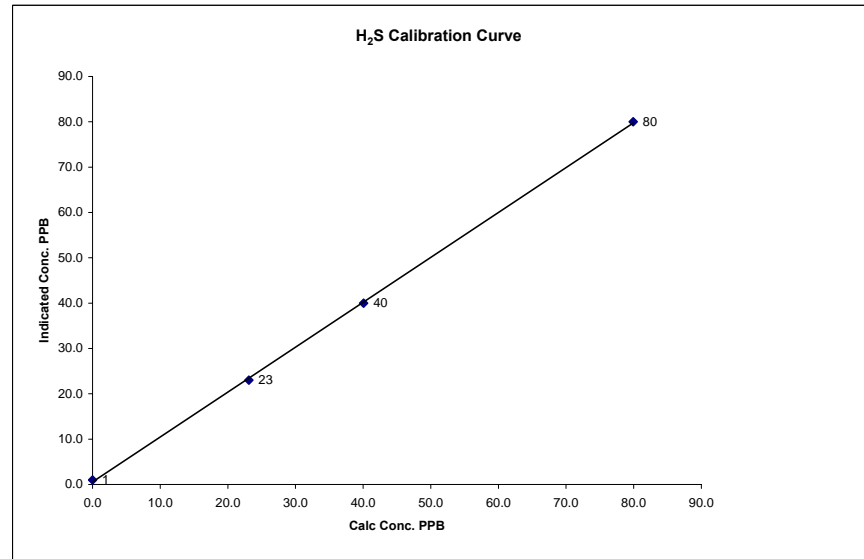
		Before Calibration	After Calibration
Auto Zero		0.2	1.1
Auto Span		56	57
Sample Lines Connected			YES
Percent Change from Previous Calibration			1.3%

Calibration Performed by: Ting Xu

H₂S Calibration Curve

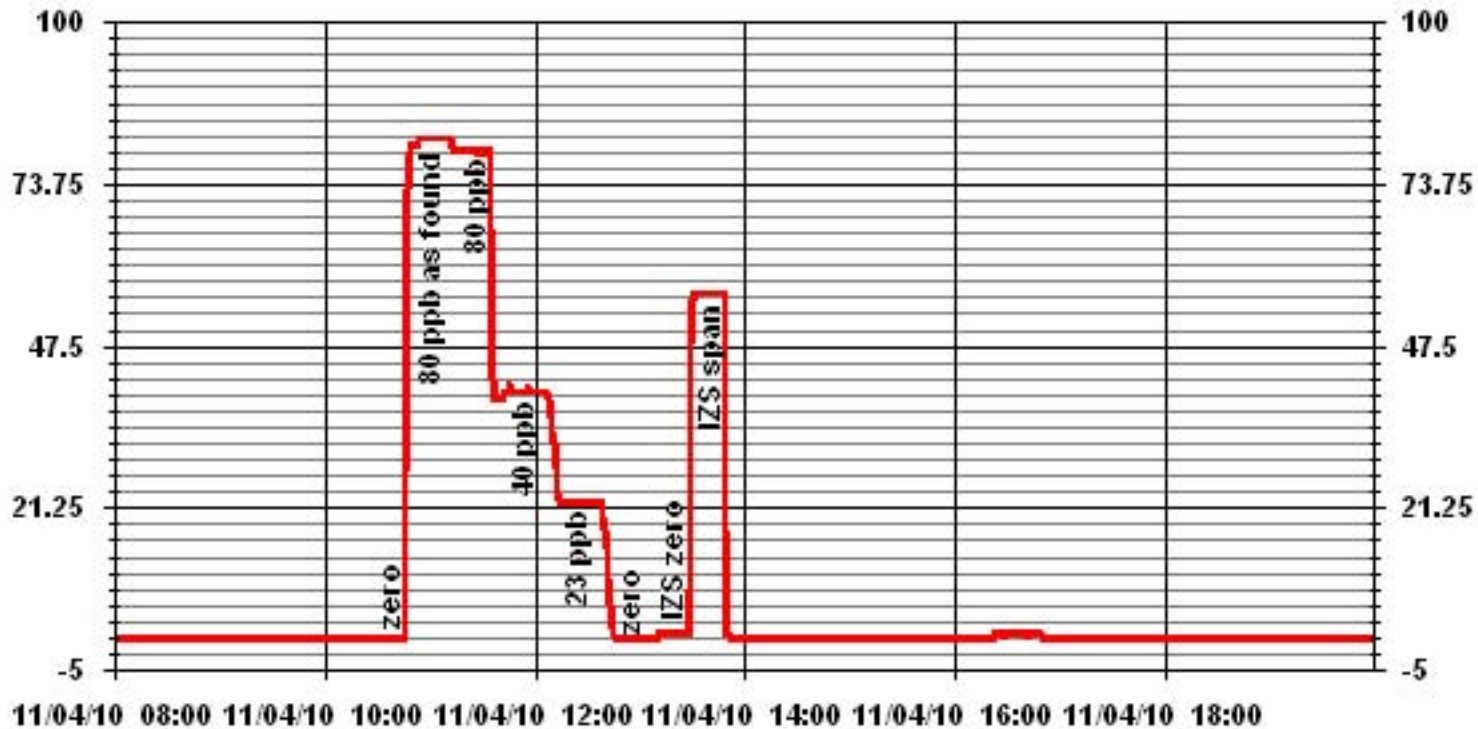
Calibration Date	November 4, 2010	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION	
Plant / Location	Portable/ Devon Wellsite 13-16-62-5-W4M	
Start Time (MST)	10:15	End Time (MST) 13:53

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999840
0	1	n/a	Intercept	(± 3% F.S.)	0.552973
23	23	1.0049			
40	40	1.0017			
80	80	0.9991			



Notes:

01 Minute Averages



Particulate Matter 2.5

TEOM 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	November 9, 2010	Make/Model:	Streamline 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 90758398

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
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 (%)	25.9%
Firmware Ver.	1.51	K _o Factor	15634.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	-2.8
		Press (ATM)	0.936

Conversion from mmHg or "Hg to ATM (Atmospheres)

ATM = (mmHg) X (1.316 X 10⁻³) or ATM = ("Hg) X (3.34207 X 10⁻²)

Note: Tolerances are noted as BOLD in Brackets

Audit

Status			
Noise <0.10ug	0.003	Warnings	None
Pump Vacuum <0.40atm	0.34	Pump Gauge (inHg)	-20
Temperature/Pressure			
Measured Temp (± 2 °C)	-2.4	D °C	-0.4
Measured Press (± 0.01atm)	0.936	DATM	0.000
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	1.21%
Measured Main Flow (l/min)	3.04	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (±10.0%)	1.17%
Measured Bypass Flow (l/min)	13.70	Flow Adjusted to Measured?	Yes
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	Base=0.00, Ref=0.00	Flow Control = Active	
Aux (< 0.6 l/min)	Base=0.00, Ref=0.00	Report Conditions = Standard (25.0 C and 1atm)	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 12:00 **Finish Time:** 14:30

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

Comments: An audit was attempted yesterday, main flow 30% low, bypass flow OK; performed a leak check, found major leak in main and bypass flow streams. Isolated leak to the main flow stream; repaired leak (see log book). Performed audit and leak check- teom fine now.

Auditor/s: Shea Beaton

Nitrogen Dioxide

NOx - NO- NO₂ Calibration Report

Station Information

Calibration Date	November 4, 2010	Previous Calibration	October 14, 2010
Company	LICA	Plant/Location	Portable/ 13-16-62-5W4M
Start Time (MST)	10:15	End Time (MST)	16:30
Reason:	Monthly Calibration		Other
Barometric Pressure	NA mmHg	Station Temperature	22 Deg C
Cal Gas Concentration	NOx 50.8 ppm	NO 50.4 ppm	Cal Gas Expiry date 05-Aug-12
DAS Output Voltage	0 - 1	Chart Rec. Output	NA Volts

Equipment Information

Analyzer Make / Model:	API 200E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	Envionics 5100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO 717		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	Envionics 5100	S/N :	4760		

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0-1000			ppb			
Sample Flow/Conv. Temp	480 ccm	314.5 Deg C		477 ccm	314.8 Deg C		
Ozone Flow / Vacuum	79 ccm	5.4 "Hg-A		78 ccm	5.3 "Hg-A		
HVPS / A ZERO	634 Volts	5.3 MV		634 Volts	5.6 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	31.9 Deg C	45.1 Deg C		33.2 Deg C	45.2 Deg C		
Offset	0.2 NOx	0.1 NO		0.2 NOx	0.1 NO		
Slope	1.119 NOx	1.105 NO		1.137 NOx	1.120 NO		
NO ₂ COEF / Conv Efficiency	NA NO ₂	0.996		NA NO ₂	0.996		

Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO ₂	NOx	NO	NO ₂	NOx	NO
4994	0.0	----	0	0	0	0	0	0	----	----
4919	74.2	----	755	749	----	742	740	2	1.0174	1.0121
4919	74.2	----	755	749	----	756	750	6	0.9985	0.9986
4960	34.6	----	352	349	----	354	351	3	0.9941	0.9947
4975	19.8	----	201	200	----	202	201	1	0.9969	0.9940
4995	0.0	----	0	0	0	0	0	0	----	----

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO ₂ Correction Factor	NO ₂ Conv Efficiency
			NOx	NO	NO ₂	NOx	NO	NO ₂		
4919	74.2	----	755	749	----	758	751	7	----	----
4919	74.2	600	755	----	567	757	191	566	1.0018	99.82%
4919	74.2	250	755	----	243	758	515	243	1.0000	100.00%
4919	74.2	140	755	----	140	758	618	140	1.0000	100.00%

Linearity	Sum of Least Squares	NOx= 0.998	NO= 0.998	NO ₂ = 1.001
OK?	Correction Factors:	NOx= 0.9985	NO= 0.9986	NO ₂ = 1.0018
		Average Converter Efficiency= 99.94%		

Before Calibration				After Calibration			
Auto Zero	0.2 NOx	0.5 NO ₂		0.2 NOx	-0.2 NO ₂		
Auto Span	596 NOx	587 NO ₂		610 NOx	600 NO ₂		
Sample Lines Connected				YES			

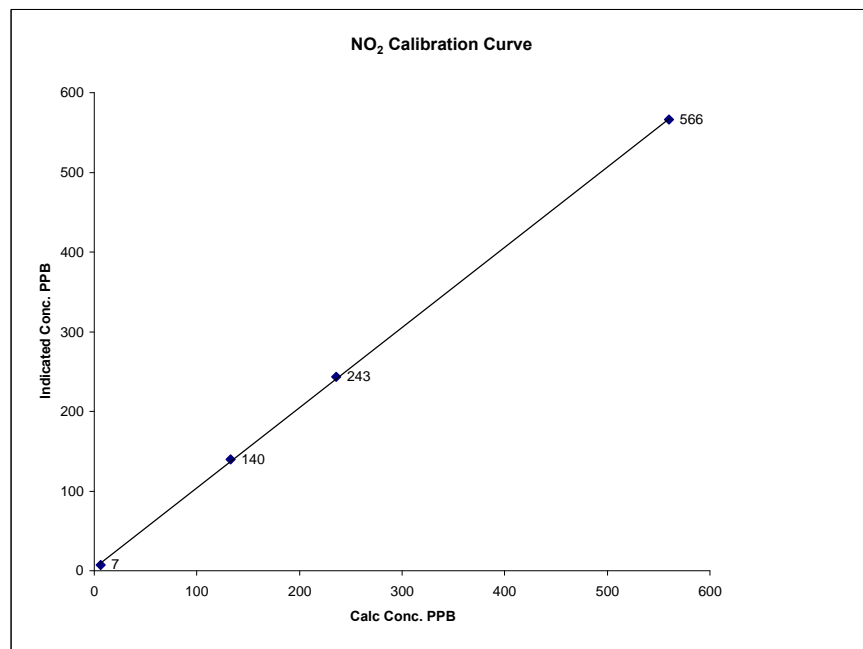
Notes Additional point done for ozone cal (O3 set point= 420), NOx=757, NO=353, NO₂=404.

Calibration Performed by: Ting Xu

NO₂ Calibration Curve

Calibration Date	November 4, 2010	Company	LICA
Plant / Location	Portable/ 13-16-62-5W4M	Start Time (MST)	10:15
End Time (MST)	16:30		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
6	7	N/A	Slope (0.85 to 1.15)	0.999893
133	140	0.9500	Intercept	1.006175
236	243	0.9712		3.80662
560	566	0.9894		

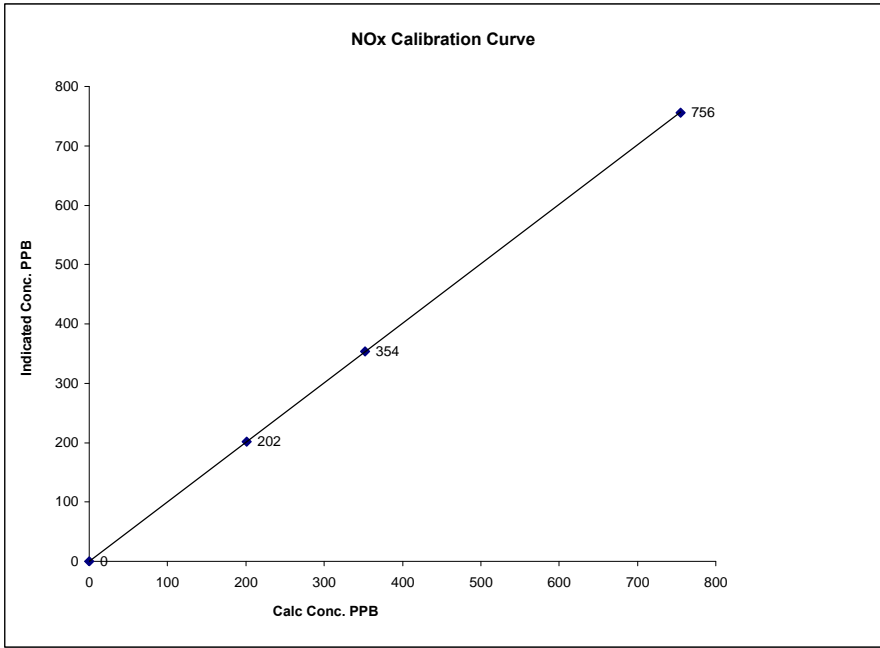


Notes:

NOx Calibration Curve

Calibration Date November 4, 2010
 Company LICA
 Plant / Location Portable/ 13-16-62-5W4M
 Start Time (MST) 10:15 End Time (MST) 16:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999995
0	0	N/A	Slope (0.85 to 1.15)	1.001452
201	202	0.9969	Intercept (± 3% F.S.)	0.47724
352	354	0.9941		
755	756	0.9985		

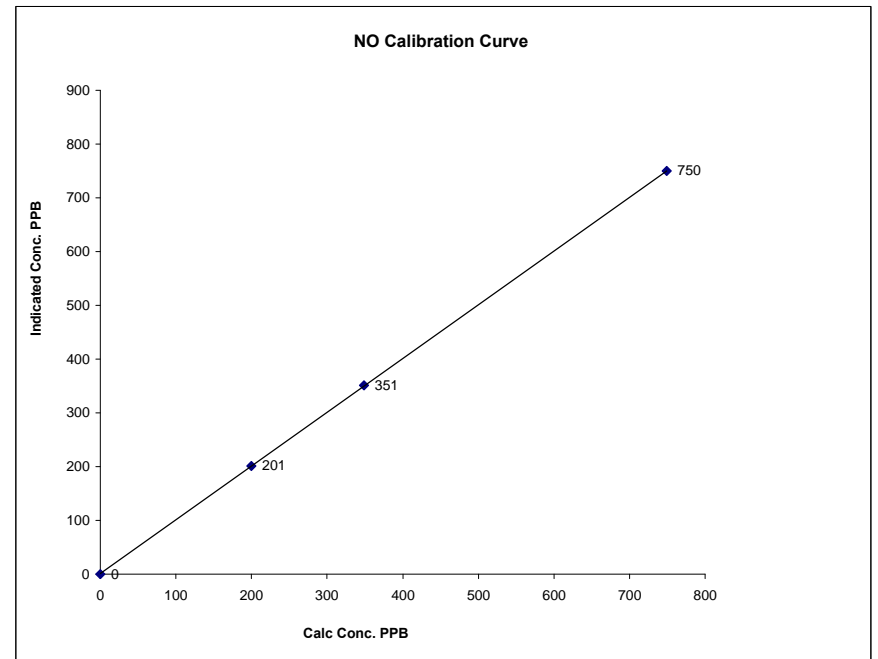


Notes:

NO Calibration Curve

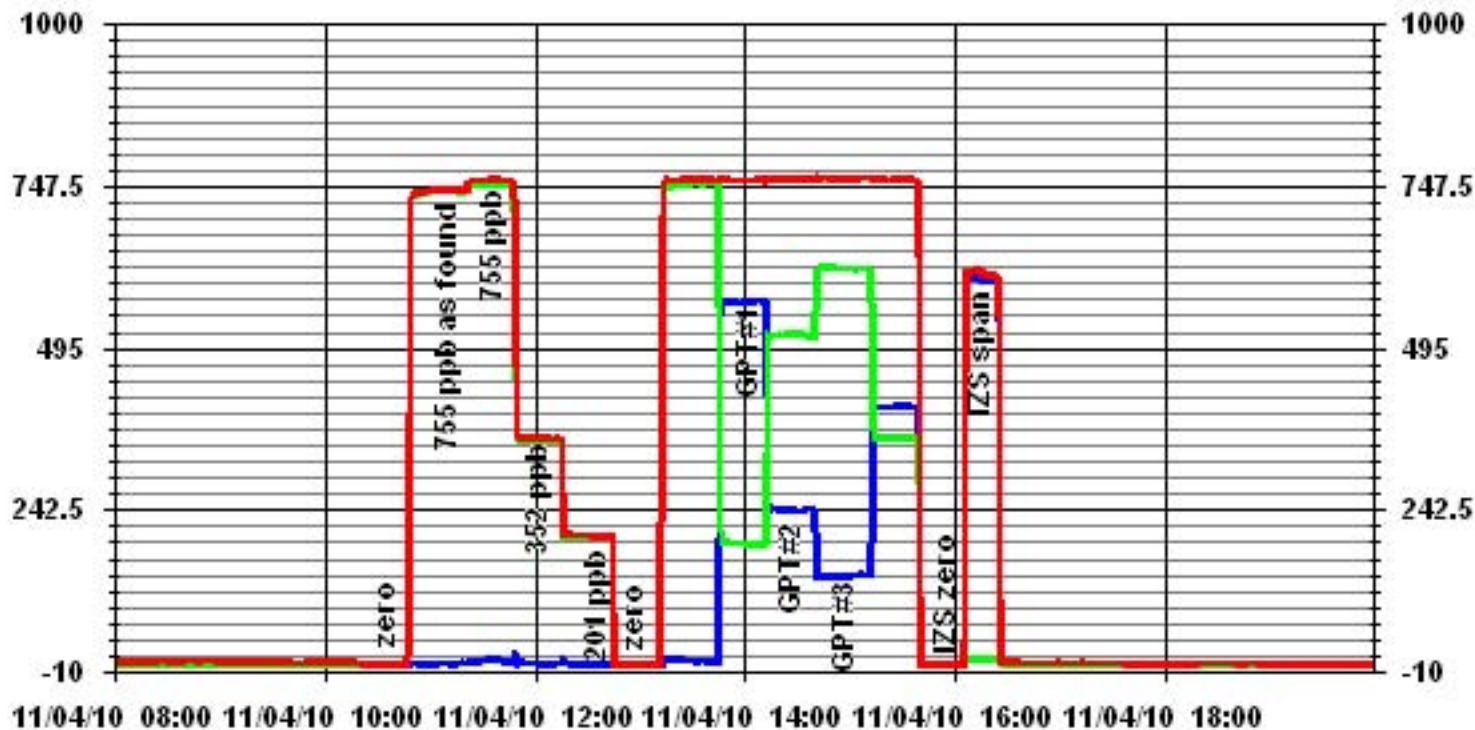
Calibration Date November 4, 2010
 Company LICA
 Plant / Location Portable/ 13-16-62-5W4M
 Start Time (MST) 10:15 End Time (MST) 16:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999995
0	0	N/A	Slope (0.85 to 1.15)	0.999346
200	201	0.9940	Intercept (± 3% F.S.)	2.5618
349	351	0.9947		
749	750	0.9986		



Notes:

01 Minute Averages



Ozone

O₃ Calibration Report

Station Information

Calibration Date	November 5, 2010	Previous Calibration	October 18, 2010
Company	Lakeland Industry & Community Association		
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M		
Start Time (MST)	9:29	End Time (MST)	12:48
Reason:	Monthly Calibration		
Barometric Pressure	NA mm Hg	Station Temperature	24 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	1002240372	Method:	Photometric
Calibrator Make / Model:	Enviroics 6100	S/N :	4760	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	750 ccm	751 ccm	754 ccm	760 Deg C
Pressure	687 mmHg		692 mmHg	
Bench Lamp Temp	54.1 Deg C		54.1 Deg C	
O3 Lamp / Box Temp	68.2 Deg C	31.9 Deg C	68.2 Deg C	30.1 Deg C
Offset/Slop	0	0.99	0	0.99

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	N/A
4995	420	398	396	1.0051
4995	250	236	237	0.9958
4995	140	133	133	1.0000
4995	0	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				1.0051

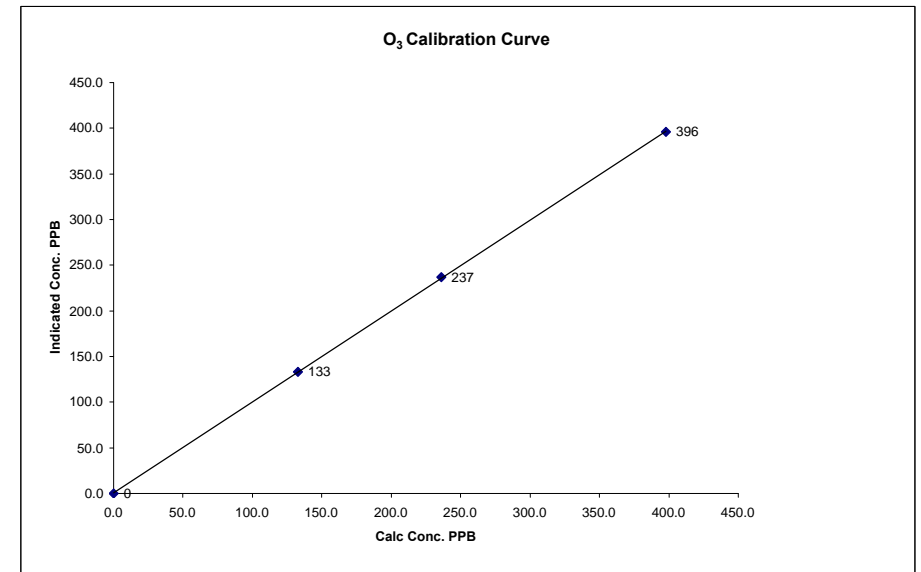
	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	335	332
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.2%

Calibration Performed by: Ting Xu

O₃ Calibration Curve

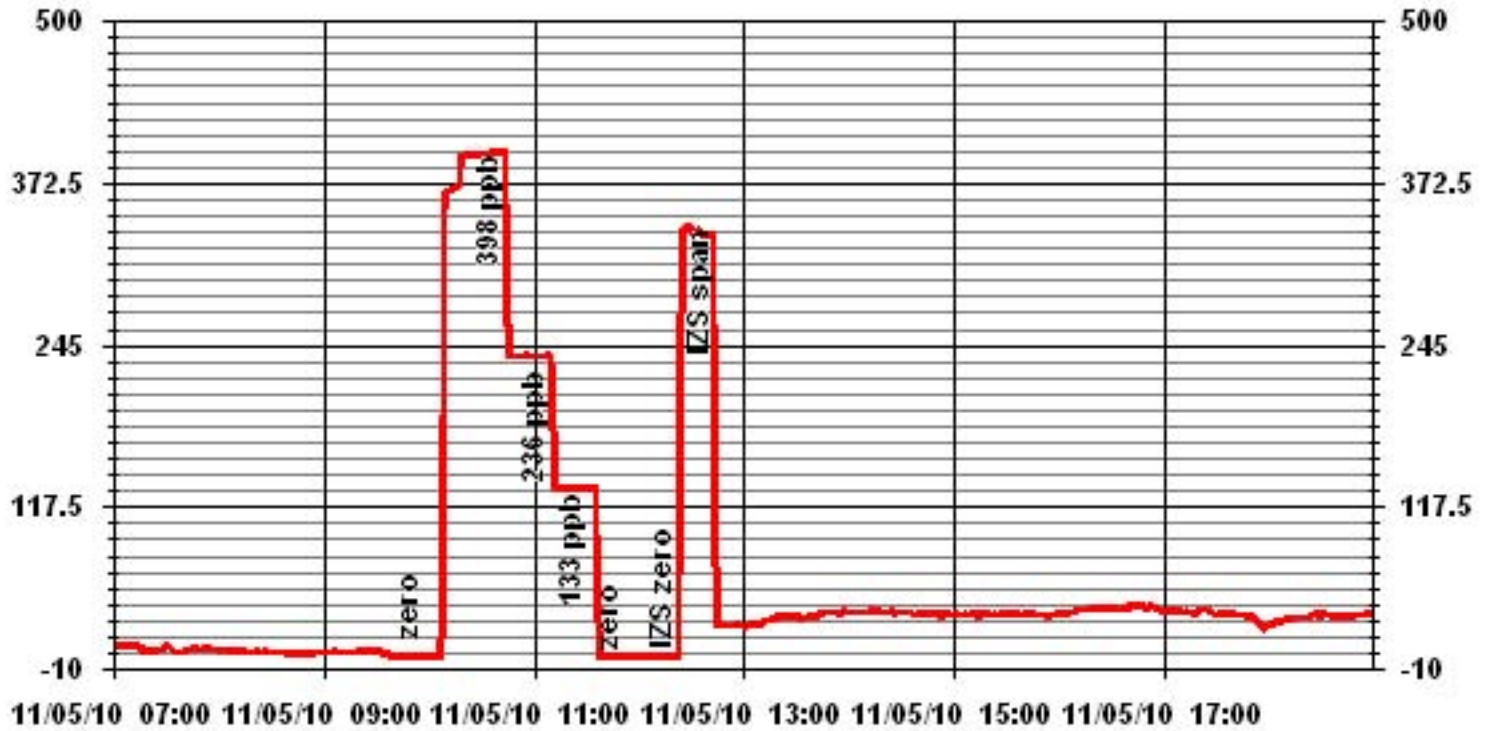
Calibration Date	November 5, 2010		
Company	Lakeland Industry & Community Association		
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M		
Start Time (MST)	9:29	End Time (MST)	12:48

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999963
0	0	n/a	Intercept	(± 3% F.S.)	0.583506
133	133	1.0000			
236	237	0.9958			
398	396	1.0051			



Notes:

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	November 4, 2010	Previous Calibration	October 14, 2010
Company:	Lakeland Industry and Community Association		
Plant / Location:	Portable Station Devon Wellsite 13-16-62-5W4M		
Start Time (MST)	13:22	End Time (MST)	16:28
Reason:	Monthly Calibration		
Barometric Pressure:	NA mmHg	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	831
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	8 psi	8 psi
Air Pressure	21 psi	21 psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
1999	0.0	0.0	0.0	N/A
1999	70.0	39.6	40.0	0.9907
1999	35.0	20.2	20.1	1.0027
1999	20.0	11.6	11.5	1.0089
2000	0	0.0	0.0	N/A
Correction Factor:				0.9907

Percent Change

Previous Calibration Correction Factor:	0.9931
Current Correction Factor Before Span Adjust:	0.9907
Percent Change:	0.3%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.1	0.0
Auto Span	33.3	33.0
Sample Lines Connected		YES

Cylinder Pressures

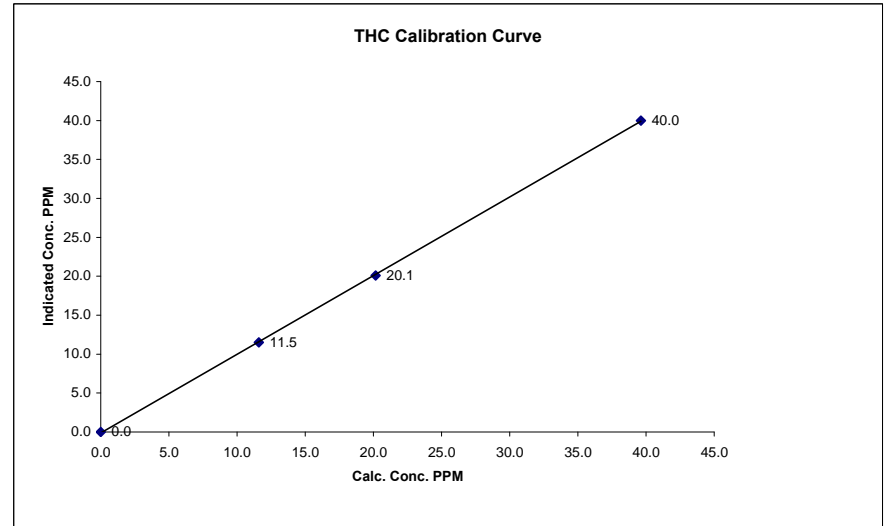
Span	1400 psi
Hydrogen	1500 psi
Zero Air	30 psi Using API 700

Calibration Performed by: Ting Xu

THC Calibration Curve

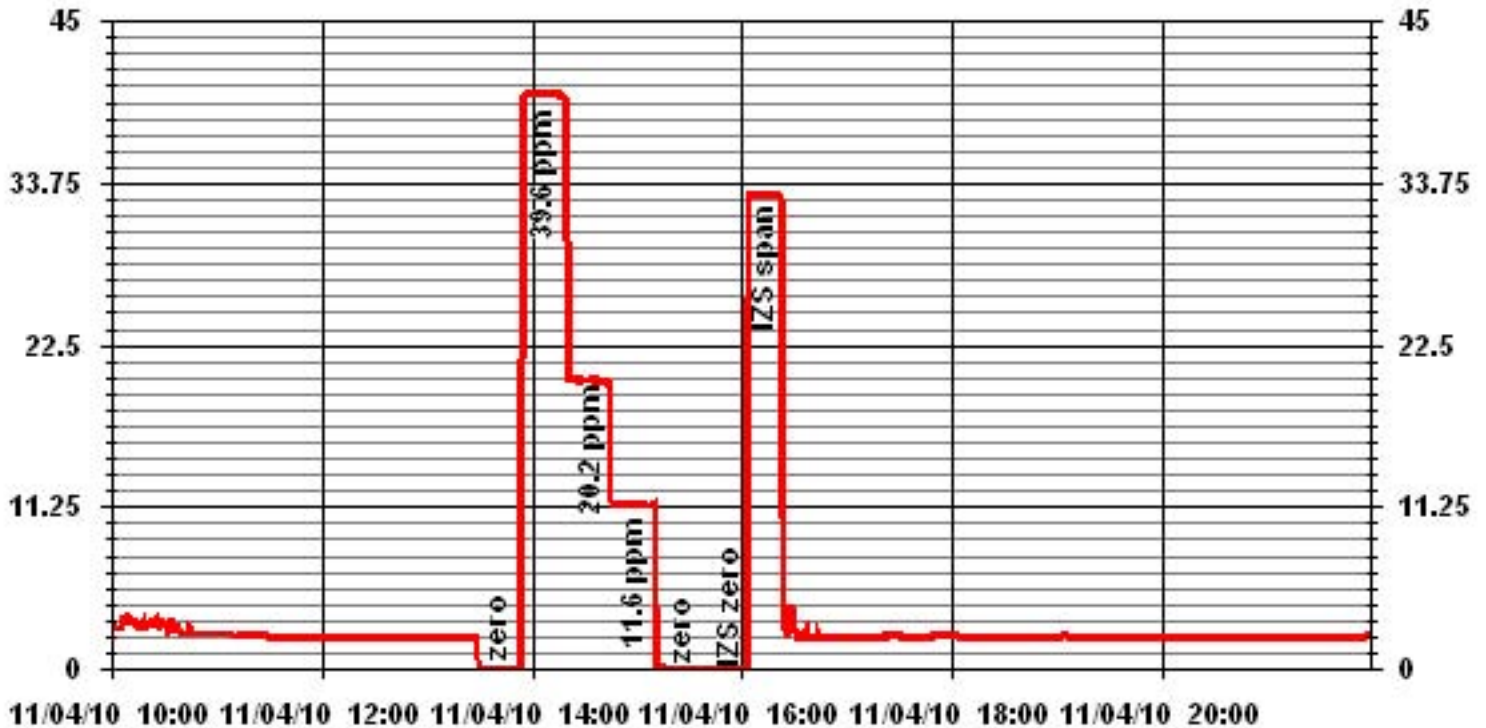
Calibration Date	November 4, 2010		
Company	Lakeland Industry and Community Association		
Plant / Location	Portable Station Devon Wellsite 13-16-62-5W4M		
Start Time (MST)	13:22	End Time (MST)	16:28

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999939
0.0	0.0		Intercept	(0.85 to 1.15)	1.010327
11.6	11.5	1.0089		(± 3% F.S.)	-0.130084
20.2	20.1	1.0027			
39.6	40.0	0.9907			



Notes:

01 Minute Averages



Volatile Organics Laboratory Analysis

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200
Location: 13-16-62-5 W4M Canister ID: 7794
Station ID: Lica 33 (Portable) Canister Installation Date/Time: Nov 03, 2010 @ 12:44 mst
Field Sample ID: LICA VOC/PORT/Nov 04 ,10 Canister Removal Date/Time: Nov 05, 2010 @ 8:35 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
04-Nov-10	04/11/2010 0:00	05/11/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1482	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-29	20

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 # 2329

Technician Signiture: Ting Xu_____



Your C.O.C. #: 2329

Attention: Michael Bisaga

Maxxam Analytics
 2608 6A Ave.
 Cold Lake, AB
 CANADA T9M 2C7

Report Date: 2010/11/17

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0G1104

Received: 2010/11/10, 09:13

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/11/11	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/11/11	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: TStephenson@maxxam.ca
 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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0G1104
 Report Date: 2010/11/17

RESULTS OF ANALYSES OF AIR

Maxxam ID		HU6099	HU6100	
Sampling Date		2010/11/04	2010/11/04	
COC Number		2329	2329	
	Units	LICA VOC\CLS\ NOV 4, 2010 - 7795	LICA VOC\PORT\ NOV 4, 2010 - 7794	QC Batch

Volatile Organics				
Pressure on Receipt	psig	20	21	2329893
QC Batch = Quality Control Batch				

Maxxam Job #: B0G1104
 Report Date: 2010/11/17

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HU6099			HU6100				
Sampling Date		2010/11/04			2010/11/04				
COC Number		2329			2329				
	Units	LICA VOC\CLS\ NOV 4, 2010 - 7795	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 4, 2010 - 7794	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics									
2,2,4-Trimethylpentane	ppbv	<0.20	<0.934	0.934	<0.20	0.20	<0.934	0.934	2329908
Carbon Disulfide	ppbv	<0.50	<1.56	1.56	<0.50	0.50	<1.56	1.56	2329908
Propene	ppbv	<0.30	<0.516	0.516	<0.30	0.30	<0.516	0.516	2329908
Vinyl Acetate	ppbv	<0.20	<0.704	0.704	<0.20	0.20	<0.704	0.704	2329908
Vinyl Bromide	ppbv	<0.20	<0.875	0.875	<0.20	0.20	<0.875	0.875	2329908
Dichlorodifluoromethane (FREON 12)	ppbv	0.66	3.26	0.989	0.63	0.20	3.14	0.989	2329908
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	<1.19	1.19	<0.17	0.17	<1.19	1.19	2329908
Chloromethane	ppbv	0.45	0.932	0.620	0.43	0.30	0.881	0.620	2329908
Vinyl Chloride	ppbv	<0.18	<0.460	0.460	<0.18	0.18	<0.460	0.460	2329908
Chloroethane	ppbv	<0.30	<0.792	0.792	<0.30	0.30	<0.792	0.792	2329908
1,3-Butadiene	ppbv	<0.50	<1.11	1.11	<0.50	0.50	<1.11	1.11	2329908
Trichlorofluoromethane (FREON 11)	ppbv	0.30	1.68	1.12	0.30	0.20	1.66	1.12	2329908
Trichlorotrifluoroethane	ppbv	<0.15	<1.15	1.15	<0.15	0.15	<1.15	1.15	2329908
Ethanol	ppbv	<2.3	<4.33	4.33	<2.3	2.3	<4.33	4.33	2329908
2-propanol	ppbv	<3.0	<7.37	7.37	<3.0	3.0	<7.37	7.37	2329908
2-Propanone	ppbv	<0.80	<1.90	1.90	<0.80	0.80	<1.90	1.90	2329908
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	<8.85	8.85	<3.0	3.0	<8.85	8.85	2329908
Methyl Isobutyl Ketone	ppbv	<3.2	<13.1	13.1	<3.2	3.2	<13.1	13.1	2329908
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	<8.19	8.19	<2.0	2.0	<8.19	8.19	2329908
Methyl t-butyl ether (MTBE)	ppbv	<0.20	<0.721	0.721	<0.20	0.20	<0.721	0.721	2329908
Ethyl Acetate	ppbv	<2.2	<7.93	7.93	<2.2	2.2	<7.93	7.93	2329908
1,1-Dichloroethylene	ppbv	<0.25	<0.991	0.991	<0.25	0.25	<0.991	0.991	2329908
cis-1,2-Dichloroethylene	ppbv	<0.19	<0.753	0.753	<0.19	0.19	<0.753	0.753	2329908
trans-1,2-Dichloroethylene	ppbv	<0.20	<0.793	0.793	<0.20	0.20	<0.793	0.793	2329908
Methylene Chloride(Dichloromethane)	ppbv	<0.60	<2.08	2.08	<0.60	0.60	<2.08	2.08	2329908
Chloroform	ppbv	<0.15	<0.732	0.732	<0.15	0.15	<0.732	0.732	2329908
Carbon Tetrachloride	ppbv	<0.30	<1.89	1.89	<0.30	0.30	<1.89	1.89	2329908
1,1-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2329908
1,2-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2329908
Ethylene Dibromide	ppbv	<0.17	<1.31	1.31	<0.17	0.17	<1.31	1.31	2329908

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G1104
 Report Date: 2010/11/17

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HU6099			HU6100				
Sampling Date		2010/11/04			2010/11/04				
COC Number		2329			2329				
	Units	LICA VOC\CLS\ NOV 4, 2010 - 7795	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 4, 2010 - 7794	RDL	ug/m3	DL (ug/m3)	QC Batch

1,1,1-Trichloroethane	ppbv	<0.30	<1.64	1.64	<0.30	0.30	<1.64	1.64	2329908
1,1,2-Trichloroethane	ppbv	<0.15	<0.818	0.818	<0.15	0.15	<0.818	0.818	2329908
1,1,2,2-Tetrachloroethane	ppbv	<0.20	<1.37	1.37	<0.20	0.20	<1.37	1.37	2329908
cis-1,3-Dichloropropene	ppbv	<0.18	<0.817	0.817	<0.18	0.18	<0.817	0.817	2329908
trans-1,3-Dichloropropene	ppbv	<0.17	<0.772	0.772	<0.17	0.17	<0.772	0.772	2329908
1,2-Dichloropropane	ppbv	<0.40	<1.85	1.85	<0.40	0.40	<1.85	1.85	2329908
Bromomethane	ppbv	<0.18	<0.699	0.699	<0.18	0.18	<0.699	0.699	2329908
Bromoform	ppbv	<0.20	<2.07	2.07	<0.20	0.20	<2.07	2.07	2329908
Bromodichloromethane	ppbv	<0.20	<1.34	1.34	<0.20	0.20	<1.34	1.34	2329908
Dibromochloromethane	ppbv	<0.20	<1.70	1.70	<0.20	0.20	<1.70	1.70	2329908
Heptane	ppbv	<0.30	<1.23	1.23	<0.30	0.30	<1.23	1.23	2329908
Trichloroethylene	ppbv	<0.30	<1.61	1.61	<0.30	0.30	<1.61	1.61	2329908
Tetrachloroethylene	ppbv	<0.20	<1.36	1.36	<0.20	0.20	<1.36	1.36	2329908
Benzene	ppbv	<0.18	<0.575	0.575	<0.18	0.18	<0.575	0.575	2329908
Toluene	ppbv	<0.20	<0.753	0.753	<0.20	0.20	<0.753	0.753	2329908
Ethylbenzene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2329908
p+m-Xylene	ppbv	<0.37	<1.61	1.61	<0.37	0.37	<1.61	1.61	2329908
o-Xylene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2329908
Styrene	ppbv	<0.20	<0.852	0.852	<0.20	0.20	<0.852	0.852	2329908
1,3,5-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2329908
1,2,4-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2329908
4-ethyltoluene	ppbv	<2.2	<10.8	10.8	<2.2	2.2	<10.8	10.8	2329908
Chlorobenzene	ppbv	<0.20	<0.921	0.921	<0.20	0.20	<0.921	0.921	2329908
Benzyl chloride	ppbv	<1.0	<5.18	5.18	<1.0	1.0	<5.18	5.18	2329908
1,3-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2329908
1,4-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2329908
1,2-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2329908
1,2,4-Trichlorobenzene	ppbv	<2.0	<14.8	14.8	<2.0	2.0	<14.8	14.8	2329908
Hexachlorobutadiene	ppbv	<3.0	<32.0	32.0	<3.0	3.0	<32.0	32.0	2329908
Hexane	ppbv	<0.30	<1.06	1.06	<0.30	0.30	<1.06	1.06	2329908
Cyclohexane	ppbv	<0.20	<0.688	0.688	<0.20	0.20	<0.688	0.688	2329908
Tetrahydrofuran	ppbv	<0.40	<1.18	1.18	<0.40	0.40	<1.18	1.18	2329908

QC Batch = Quality Control Batch

Maxxam Job #: B0G1104
 Report Date: 2010/11/17

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HU6099			HU6100				
Sampling Date		2010/11/04			2010/11/04				
COC Number		2329			2329				
	Units	LICA VOC\CLS\ NOV 4, 2010 - 7795	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 4, 2010 - 7794	RDL	ug/m3	DL (ug/m3)	QC Batch

1,4-Dioxane	ppbv	<2.0	<7.21	7.21	<2.0	2.0	<7.21	7.21	2329908
Xylene (Total)	ppbv	<0.60	<2.61	2.61	<0.60	0.60	<2.61	2.61	2329908
Surrogate Recovery (%)									
Bromochloromethane	%	96	N/A	N/A	98		N/A	N/A	2329908
D5-Chlorobenzene	%	86	N/A	N/A	88		N/A	N/A	2329908
Difluorobenzene	%	98	N/A	N/A	99		N/A	N/A	2329908

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

Maxxam Job #: B0G1104
 Report Date: 2010/11/17

Test Summary

Maxxam ID HU6099
Sample ID LICA VOC\CLS\ NOV 4, 2010 - 7795
Matrix AIR
Collected 2010/11/04
Shipped
Received 2010/11/10

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2329893	N/A	2010/11/11	S_S
Volatile Organics in Air (TO-15)	GC/MS	2329908	N/A	2010/11/11	S_S

Maxxam ID HU6099 Dup
Sample ID LICA VOC\CLS\ NOV 4, 2010 - 7795
Matrix AIR
Collected 2010/11/04
Shipped
Received 2010/11/10

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Volatile Organics in Air (TO-15)	GC/MS	2329908	N/A	2010/11/11	S_S

Maxxam ID HU6100
Sample ID LICA VOC\PORT\ NOV 4, 2010 - 7794
Matrix AIR
Collected 2010/11/04
Shipped
Received 2010/11/10

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2329893	N/A	2010/11/11	S_S
Volatile Organics in Air (TO-15)	GC/MS	2329908	N/A	2010/11/11	S_S

Maxxam Job #: B0G1104
Report Date: 2010/11/17

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0G1104

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2329908 S_S	Spiked Blank	Bromochloromethane	2010/11/11		117	%	60 - 140
		D5-Chlorobenzene	2010/11/11		114	%	60 - 140
		Difluorobenzene	2010/11/11		121	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/11		102	%	70 - 130
		Carbon Disulfide	2010/11/11		91	%	70 - 130
		Propene	2010/11/11		109	%	70 - 130
		Vinyl Acetate	2010/11/11		111	%	70 - 130
		Vinyl Bromide	2010/11/11		97	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/11/11		102	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/11/11		111	%	70 - 130
		Chloromethane	2010/11/11		102	%	70 - 130
		Vinyl Chloride	2010/11/11		98	%	70 - 130
		Chloroethane	2010/11/11		94	%	70 - 130
		1,3-Butadiene	2010/11/11		102	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/11/11		96	%	70 - 130
		Trichlorotrifluoroethane	2010/11/11		92	%	70 - 130
		Ethanol	2010/11/11		103	%	70 - 130
		2-propanol	2010/11/11		110	%	70 - 130
		2-Propanone	2010/11/11		85	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/11/11		111	%	70 - 130
		Methyl Isobutyl Ketone	2010/11/11		108	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/11/11		130	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/11/11		105	%	70 - 130
		Ethyl Acetate	2010/11/11		106	%	70 - 130
		1,1-Dichloroethylene	2010/11/11		100	%	70 - 130
		cis-1,2-Dichloroethylene	2010/11/11		102	%	70 - 130
		trans-1,2-Dichloroethylene	2010/11/11		102	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/11/11		91	%	70 - 130
		Chloroform	2010/11/11		97	%	70 - 130
		Carbon Tetrachloride	2010/11/11		98	%	70 - 130
		1,1-Dichloroethane	2010/11/11		98	%	70 - 130
		1,2-Dichloroethane	2010/11/11		101	%	70 - 130
		Ethylene Dibromide	2010/11/11		97	%	70 - 130
		1,1,1-Trichloroethane	2010/11/11		97	%	70 - 130
		1,1,2-Trichloroethane	2010/11/11		96	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/11/11		91	%	70 - 130
		cis-1,3-Dichloropropene	2010/11/11		104	%	70 - 130
		trans-1,3-Dichloropropene	2010/11/11		112	%	70 - 130
		1,2-Dichloropropane	2010/11/11		97	%	70 - 130
		Bromomethane	2010/11/11		92	%	70 - 130
		Bromoform	2010/11/11		98	%	70 - 130
		Bromodichloromethane	2010/11/11		99	%	70 - 130
		Dibromochloromethane	2010/11/11		104	%	70 - 130
		Heptane	2010/11/11		104	%	70 - 130
		Trichloroethylene	2010/11/11		92	%	70 - 130
		Tetrachloroethylene	2010/11/11		92	%	70 - 130
		Benzene	2010/11/11		97	%	70 - 130
		Toluene	2010/11/11		101	%	70 - 130
		Ethylbenzene	2010/11/11		101	%	70 - 130
		p+m-Xylene	2010/11/11		99	%	70 - 130
		o-Xylene	2010/11/11		98	%	70 - 130
		Styrene	2010/11/11		115	%	70 - 130
		1,3,5-Trimethylbenzene	2010/11/11		91	%	70 - 130
		1,2,4-Trimethylbenzene	2010/11/11		92	%	70 - 130
		4-ethyltoluene	2010/11/11		99	%	70 - 130

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G1104

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits	
2329908 S_S	Spiked Blank	Chlorobenzene	2010/11/11		88	%	70 - 130	
		Benzyl chloride	2010/11/11		101	%	70 - 130	
1,3-Dichlorobenzene		2010/11/11		84	%	70 - 130		
1,4-Dichlorobenzene		2010/11/11		83	%	70 - 130		
1,2-Dichlorobenzene		2010/11/11		82	%	70 - 130		
1,2,4-Trichlorobenzene		2010/11/11		80	%	70 - 130		
Hexachlorobutadiene		2010/11/11		80	%	70 - 130		
Hexane		2010/11/11		106	%	70 - 130		
Cyclohexane		2010/11/11		103	%	70 - 130		
Tetrahydrofuran		2010/11/11		109	%	70 - 130		
Method Blank		1,4-Dioxane	2010/11/11		112	%	70 - 130	
		Bromochloromethane	2010/11/11		97	%	60 - 140	
		D5-Chlorobenzene	2010/11/11		87	%	60 - 140	
		Difluorobenzene	2010/11/11		101	%	60 - 140	
		2,2,4-Trimethylpentane	2010/11/11	<0.20			ppbv	
		Carbon Disulfide	2010/11/11	<0.50			ppbv	
		Propene	2010/11/11	<0.30			ppbv	
		Vinyl Acetate	2010/11/11	<0.20			ppbv	
		Vinyl Bromide	2010/11/11	<0.20			ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/11/11	<0.20			ppbv	
		1,2-Dichlorotetrafluoroethane	2010/11/11	<0.17			ppbv	
		Chloromethane	2010/11/11	<0.30			ppbv	
		Vinyl Chloride	2010/11/11	<0.18			ppbv	
		Chloroethane	2010/11/11	<0.30			ppbv	
		1,3-Butadiene	2010/11/11	<0.50			ppbv	
		Trichlorofluoromethane (FREON 11)	2010/11/11	<0.20			ppbv	
		Trichlorotrifluoroethane	2010/11/11	<0.15			ppbv	
		Ethanol	2010/11/11	<2.3			ppbv	
		2-propanol	2010/11/11	<3.0			ppbv	
		2-Propanone	2010/11/11	<0.80			ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/11/11	<3.0			ppbv	
		Methyl Isobutyl Ketone	2010/11/11	<3.2			ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/11/11	<2.0			ppbv	
		Methyl t-butyl ether (MTBE)	2010/11/11	<0.20			ppbv	
		Ethyl Acetate	2010/11/11	<2.2			ppbv	
		1,1-Dichloroethylene	2010/11/11	<0.25			ppbv	
		cis-1,2-Dichloroethylene	2010/11/11	<0.19			ppbv	
		trans-1,2-Dichloroethylene	2010/11/11	<0.20			ppbv	
		Methylene Chloride(Dichloromethane)	2010/11/11	<0.60			ppbv	
		Chloroform	2010/11/11	<0.15			ppbv	
		Carbon Tetrachloride	2010/11/11	<0.30			ppbv	
		1,1-Dichloroethane	2010/11/11	<0.20			ppbv	
		1,2-Dichloroethane	2010/11/11	<0.20			ppbv	
		Ethylene Dibromide	2010/11/11	<0.17			ppbv	
		1,1,1-Trichloroethane	2010/11/11	<0.30			ppbv	
		1,1,2-Trichloroethane	2010/11/11	<0.15			ppbv	
		1,1,2,2-Tetrachloroethane	2010/11/11	<0.20			ppbv	
		cis-1,3-Dichloropropene	2010/11/11	<0.18			ppbv	
trans-1,3-Dichloropropene	2010/11/11	<0.17			ppbv			
1,2-Dichloropropane	2010/11/11	<0.40			ppbv			
Bromomethane	2010/11/11	<0.18			ppbv			
Bromoform	2010/11/11	<0.20			ppbv			
Bromodichloromethane	2010/11/11	<0.20			ppbv			
Dibromochloromethane	2010/11/11	<0.20			ppbv			
Heptane	2010/11/11	<0.30			ppbv			

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G1104

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2329908 S_S	Method Blank	Trichloroethylene	2010/11/11	<0.30		ppbv	
		Tetrachloroethylene	2010/11/11	<0.20		ppbv	
		Benzene	2010/11/11	<0.18		ppbv	
		Toluene	2010/11/11	<0.20		ppbv	
		Ethylbenzene	2010/11/11	<0.20		ppbv	
		p+m-Xylene	2010/11/11	<0.37		ppbv	
		o-Xylene	2010/11/11	<0.20		ppbv	
		Styrene	2010/11/11	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/11/11	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/11/11	<0.50		ppbv	
		4-ethyltoluene	2010/11/11	<2.2		ppbv	
		Chlorobenzene	2010/11/11	<0.20		ppbv	
		Benzyl chloride	2010/11/11	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/11/11	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/11/11	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/11/11	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/11/11	<2.0		ppbv	
		Hexachlorobutadiene	2010/11/11	<3.0		ppbv	
		Hexane	2010/11/11	<0.30		ppbv	
		Cyclohexane	2010/11/11	<0.20		ppbv	
		Tetrahydrofuran	2010/11/11	<0.40		ppbv	
		1,4-Dioxane	2010/11/11	<2.0		ppbv	
		Xylene (Total)	2010/11/11	<0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2010/11/11	NC		%	25
		Carbon Disulfide	2010/11/11	NC		%	25
		Propene	2010/11/11	NC		%	25
		Vinyl Acetate	2010/11/11	NC		%	25
		Vinyl Bromide	2010/11/11	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2010/11/11	NC		%	25
		1,2-Dichlorotetrafluoroethane	2010/11/11	NC		%	25
		Chloromethane	2010/11/11	NC		%	25
		Vinyl Chloride	2010/11/11	NC		%	25
		Chloroethane	2010/11/11	NC		%	25
		1,3-Butadiene	2010/11/11	NC		%	25
		Trichlorofluoromethane (FREON 11)	2010/11/11	NC		%	25
		Trichlorotrifluoroethane	2010/11/11	NC		%	25
		Ethanol	2010/11/11	NC		%	25
		2-propanol	2010/11/11	NC		%	25
		2-Propanone	2010/11/11	NC		%	25
		Methyl Ethyl Ketone (2-Butanone)	2010/11/11	NC		%	25
		Methyl Isobutyl Ketone	2010/11/11	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2010/11/11	NC		%	25
		Methyl t-butyl ether (MTBE)	2010/11/11	NC		%	25
		Ethyl Acetate	2010/11/11	NC		%	25
		1,1-Dichloroethylene	2010/11/11	NC		%	25
		cis-1,2-Dichloroethylene	2010/11/11	NC		%	25
		trans-1,2-Dichloroethylene	2010/11/11	NC		%	25
		Methylene Chloride(Dichloromethane)	2010/11/11	NC		%	25
		Chloroform	2010/11/11	NC		%	25
		Carbon Tetrachloride	2010/11/11	NC		%	25
		1,1-Dichloroethane	2010/11/11	NC		%	25
		1,2-Dichloroethane	2010/11/11	NC		%	25
		Ethylene Dibromide	2010/11/11	NC		%	25

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G1104

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2329908 S_S	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2010/11/11	NC		%	25
		1,1,2-Trichloroethane	2010/11/11	NC		%	25
		1,1,2,2-Tetrachloroethane	2010/11/11	NC		%	25
		cis-1,3-Dichloropropene	2010/11/11	NC		%	25
		trans-1,3-Dichloropropene	2010/11/11	NC		%	25
		1,2-Dichloropropane	2010/11/11	NC		%	25
		Bromomethane	2010/11/11	NC		%	25
		Bromoform	2010/11/11	NC		%	25
		Bromodichloromethane	2010/11/11	NC		%	25
		Dibromochloromethane	2010/11/11	NC		%	25
		Heptane	2010/11/11	NC		%	25
		Trichloroethylene	2010/11/11	NC		%	25
		Tetrachloroethylene	2010/11/11	NC		%	25
		Benzene	2010/11/11	NC		%	25
		Toluene	2010/11/11	NC		%	25
		Ethylbenzene	2010/11/11	NC		%	25
		p+m-Xylene	2010/11/11	NC		%	25
		o-Xylene	2010/11/11	NC		%	25
		Styrene	2010/11/11	NC		%	25
		1,3,5-Trimethylbenzene	2010/11/11	NC		%	25
		1,2,4-Trimethylbenzene	2010/11/11	NC		%	25
		4-ethyltoluene	2010/11/11	NC		%	25
		Chlorobenzene	2010/11/11	NC		%	25
		Benzyl chloride	2010/11/11	NC		%	25
		1,3-Dichlorobenzene	2010/11/11	NC		%	25
		1,4-Dichlorobenzene	2010/11/11	NC		%	25
		1,2-Dichlorobenzene	2010/11/11	NC		%	25
		1,2,4-Trichlorobenzene	2010/11/11	NC		%	25
		Hexachlorobutadiene	2010/11/11	NC		%	25
		Hexane	2010/11/11	NC		%	25
		Cyclohexane	2010/11/11	NC		%	25
		Tetrahydrofuran	2010/11/11	NC		%	25
		1,4-Dioxane	2010/11/11	NC		%	25
		Xylene (Total)	2010/11/11	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.

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200
Location: 13-16-62-5 W4M Canister ID: 7813
Station ID: Lica 33 (Portable) Canister Installation Date/Time: Nov 09, 2010 @ 14:46 mst
Field Sample ID: LICA VOC/PORT/Nov 10 ,10 Canister Removal Date/Time: Nov 11, 2010 @ 9:42 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
10-Nov-10	10/11/2010 0:00	11/11/2010 0:00	23.98

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1481	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-29	20

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 # 2331

Technician Signiture: Ting Xu_____



Your C.O.C. #: 2331

Attention: Michael Bisaga

Maxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/11/23

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0G4510

Received: 2010/11/16, 10:00

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/11/22	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/11/22	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

RESULTS OF ANALYSES OF AIR

Maxxam ID		HW3363	HW3364	
Sampling Date		2010/11/10	2010/11/10	
COC Number		2331	2331	
	Units	LICAVOC/CLS/NOV 10,10 - 7821	LICAVOC/PORT/NOV 10,10 - 7813	QC Batch

Volatile Organics				
Pressure on Receipt	psig	21	22	2337948

QC Batch = Quality Control Batch

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3363				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/CLS/NOV 10,10 - 7821	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2337348
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2337348
Propene	ppbv	<0.30	0.30	<0.516	0.516	2337348
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2337348
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2337348
Dichlorodifluoromethane (FREON 12)	ppbv	0.65	0.20	3.23	0.989	2337348
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2337348
Chloromethane	ppbv	0.43	0.30	0.886	0.620	2337348
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2337348
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2337348
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2337348
Trichlorofluoromethane (FREON 11)	ppbv	0.38	0.20	2.12	1.12	2337348
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2337348
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2337348
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2337348
2-Propanone	ppbv	1.42	0.80	3.38	1.90	2337348
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2337348
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2337348
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2337348
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2337348
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2337348
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2337348
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2337348
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2337348
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2337348
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2337348
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2337348
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337348
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337348
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2337348
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2337348
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2337348

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3363				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/CLS/NOV 10,10 - 7821	RDL	ug/m3	DL (ug/m3)	QC Batch

1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2337348
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2337348
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2337348
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2337348
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2337348
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2337348
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2337348
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2337348
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2337348
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2337348
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2337348
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2337348
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2337348
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2337348
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2337348
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2337348
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2337348
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337348
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337348
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2337348
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2337348
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2337348
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2337348
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2337348
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2337348
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2337348
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2337348
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2337348
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2337348
Surrogate Recovery (%)						
Bromochloromethane	%	99		N/A	N/A	2337348

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

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3363				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/CLS/NOV	RDL	ug/m3	DL (ug/m3)	QC Batch
		10,10 - 7821				

D5-Chlorobenzene	%	95		N/A	N/A	2337348
Difluorobenzene	%	99		N/A	N/A	2337348

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

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3364				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/PORT/NOV 10,10 - 7813	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatiles Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2337348
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2337348
Propene	ppbv	<0.30	0.30	<0.516	0.516	2337348
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2337348
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2337348
Dichlorodifluoromethane (FREON 12)	ppbv	0.67	0.20	3.29	0.989	2337348
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2337348
Chloromethane	ppbv	0.41	0.30	0.857	0.620	2337348
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2337348
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2337348
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2337348
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.09	1.12	2337348
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2337348
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2337348
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2337348
2-Propanone	ppbv	1.23	0.80	2.91	1.90	2337348
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2337348
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2337348
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2337348
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2337348
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2337348
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2337348
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2337348
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2337348
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2337348
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2337348
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2337348
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337348
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337348
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2337348
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2337348
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2337348

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3364				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/PORT/NOV 10,10 - 7813	RDL	ug/m3	DL (ug/m3)	QC Batch
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2337348
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2337348
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2337348
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2337348
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2337348
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2337348
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2337348
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2337348
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2337348
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2337348
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2337348
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2337348
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2337348
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2337348
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2337348
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2337348
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2337348
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337348
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337348
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2337348
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2337348
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2337348
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337348
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2337348
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2337348
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2337348
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2337348
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2337348
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2337348
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2337348
Surrogate Recovery (%)						
Bromochloromethane	%	97		N/A	N/A	2337348

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

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HW3364				
Sampling Date		2010/11/10				
COC Number		2331				
	Units	LICAVOC/PORT/NOV 10,10 - 7813	RDL	ug/m3	DL (ug/m3)	QC Batch

D5-Chlorobenzene	%	93		N/A	N/A	2337348
Difluorobenzene	%	96		N/A	N/A	2337348

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

Maxxam Job #: B0G4510
 Report Date: 2010/11/23

Test Summary

Maxxam ID HW3363 **Collected** 2010/11/10
Sample ID LICAVOC/CLS/NOV 10,10 - 7821 **Shipped**
Matrix AIR **Received** 2010/11/16

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2337948	N/A	2010/11/22	S_S
Volatile Organics in Air (TO-15)	GC/MS	2337348	N/A	2010/11/22	S_S

Maxxam ID HW3364 **Collected** 2010/11/10
Sample ID LICAVOC/PORT/NOV 10,10 - 7813 **Shipped**
Matrix AIR **Received** 2010/11/16

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2337948	N/A	2010/11/22	S_S
Volatile Organics in Air (TO-15)	GC/MS	2337348	N/A	2010/11/22	S_S

Maxxam Job #: B0G4510
Report Date: 2010/11/23

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0G4510

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337348 S_S	Spiked Blank	Bromochloromethane	2010/11/22		102	%	60 - 140
		D5-Chlorobenzene	2010/11/22		105	%	60 - 140
		Difluorobenzene	2010/11/22		104	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/22		99	%	70 - 130
		Carbon Disulfide	2010/11/22		90	%	70 - 130
		Propene	2010/11/22		91	%	70 - 130
		Vinyl Acetate	2010/11/22		104	%	70 - 130
		Vinyl Bromide	2010/11/22		115	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/11/22		120	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/11/22		129	%	70 - 130
		Chloromethane	2010/11/22		112	%	70 - 130
		Vinyl Chloride	2010/11/22		102	%	70 - 130
		Chloroethane	2010/11/22		98	%	70 - 130
		1,3-Butadiene	2010/11/22		107	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/11/22		132 (1)	%	70 - 130
		Trichlorotrifluoroethane	2010/11/22		104	%	70 - 130
		Ethanol	2010/11/22		109	%	70 - 130
		2-propanol	2010/11/22		104	%	70 - 130
		2-Propanone	2010/11/22		128	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/11/22		107	%	70 - 130
		Methyl Isobutyl Ketone	2010/11/22		105	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/11/22		111	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/11/22		109	%	70 - 130
		Ethyl Acetate	2010/11/22		101	%	70 - 130
		1,1-Dichloroethylene	2010/11/22		105	%	70 - 130
		cis-1,2-Dichloroethylene	2010/11/22		100	%	70 - 130
		trans-1,2-Dichloroethylene	2010/11/22		106	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/11/22		95	%	70 - 130
		Chloroform	2010/11/22		108	%	70 - 130
		Carbon Tetrachloride	2010/11/22		124	%	70 - 130
		1,1-Dichloroethane	2010/11/22		101	%	70 - 130
		1,2-Dichloroethane	2010/11/22		118	%	70 - 130
		Ethylene Dibromide	2010/11/22		102	%	70 - 130
		1,1,1-Trichloroethane	2010/11/22		115	%	70 - 130
		1,1,2-Trichloroethane	2010/11/22		98	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/11/22		94	%	70 - 130
		cis-1,3-Dichloropropene	2010/11/22		105	%	70 - 130
		trans-1,3-Dichloropropene	2010/11/22		108	%	70 - 130
		1,2-Dichloropropane	2010/11/22		92	%	70 - 130
		Bromomethane	2010/11/22		103	%	70 - 130
		Bromoform	2010/11/22		126	%	70 - 130
		Bromodichloromethane	2010/11/22		117	%	70 - 130
		Dibromochloromethane	2010/11/22		125	%	70 - 130
		Heptane	2010/11/22		97	%	70 - 130
		Trichloroethylene	2010/11/22		96	%	70 - 130
		Tetrachloroethylene	2010/11/22		102	%	70 - 130
		Benzene	2010/11/22		90	%	70 - 130
		Toluene	2010/11/22		97	%	70 - 130
		Ethylbenzene	2010/11/22		97	%	70 - 130
		p+m-Xylene	2010/11/22		99	%	70 - 130
		o-Xylene	2010/11/22		105	%	70 - 130
		Styrene	2010/11/22		97	%	70 - 130
		1,3,5-Trimethylbenzene	2010/11/22		97	%	70 - 130
		1,2,4-Trimethylbenzene	2010/11/22		94	%	70 - 130
		4-ethyltoluene	2010/11/22		103	%	70 - 130

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G4510

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits	
2337348 S_S	Spiked Blank	Chlorobenzene	2010/11/22		94	%	70 - 130	
		Benzyl chloride	2010/11/22		105	%	70 - 130	
1,3-Dichlorobenzene		2010/11/22		87	%	70 - 130		
1,4-Dichlorobenzene		2010/11/22		87	%	70 - 130		
1,2-Dichlorobenzene		2010/11/22		87	%	70 - 130		
1,2,4-Trichlorobenzene		2010/11/22		87	%	70 - 130		
Hexachlorobutadiene		2010/11/22		99	%	70 - 130		
Hexane		2010/11/22		97	%	70 - 130		
Cyclohexane		2010/11/22		95	%	70 - 130		
Tetrahydrofuran		2010/11/22		98	%	70 - 130		
Method Blank	Method Blank	1,4-Dioxane	2010/11/22		103	%	70 - 130	
		Bromochloromethane	2010/11/22		107	%	60 - 140	
		D5-Chlorobenzene	2010/11/22		101	%	60 - 140	
		Difluorobenzene	2010/11/22		110	%	60 - 140	
		2,2,4-Trimethylpentane	2010/11/22	<0.20			ppbv	
		Carbon Disulfide	2010/11/22	<0.50			ppbv	
		Propene	2010/11/22	<0.30			ppbv	
		Vinyl Acetate	2010/11/22	<0.20			ppbv	
		Vinyl Bromide	2010/11/22	<0.20			ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/11/22	<0.20			ppbv	
		1,2-Dichlorotetrafluoroethane	2010/11/22	<0.17			ppbv	
		Chloromethane	2010/11/22	<0.30			ppbv	
		Vinyl Chloride	2010/11/22	<0.18			ppbv	
		Chloroethane	2010/11/22	<0.30			ppbv	
		1,3-Butadiene	2010/11/22	<0.50			ppbv	
		Trichlorofluoromethane (FREON 11)	2010/11/22	<0.20			ppbv	
		Trichlorotrifluoroethane	2010/11/22	<0.15			ppbv	
		Ethanol	2010/11/22	<2.3			ppbv	
		2-propanol	2010/11/22	<3.0			ppbv	
		2-Propanone	2010/11/22	<0.80			ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/11/22	<3.0			ppbv	
		Methyl Isobutyl Ketone	2010/11/22	<3.2			ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/11/22	<2.0			ppbv	
		Methyl t-butyl ether (MTBE)	2010/11/22	<0.20			ppbv	
		Ethyl Acetate	2010/11/22	<2.2			ppbv	
		1,1-Dichloroethylene	2010/11/22	<0.25			ppbv	
		cis-1,2-Dichloroethylene	2010/11/22	<0.19			ppbv	
		trans-1,2-Dichloroethylene	2010/11/22	<0.20			ppbv	
		Methylene Chloride(Dichloromethane)	2010/11/22	<0.80			ppbv	
		Chloroform	2010/11/22	<0.15			ppbv	
		Carbon Tetrachloride	2010/11/22	<0.30			ppbv	
		1,1-Dichloroethane	2010/11/22	<0.20			ppbv	
		1,2-Dichloroethane	2010/11/22	<0.20			ppbv	
		Ethylene Dibromide	2010/11/22	<0.17			ppbv	
		1,1,1-Trichloroethane	2010/11/22	<0.30			ppbv	
		1,1,2-Trichloroethane	2010/11/22	<0.15			ppbv	
		1,1,2,2-Tetrachloroethane	2010/11/22	<0.20			ppbv	
		cis-1,3-Dichloropropene	2010/11/22	<0.18			ppbv	
trans-1,3-Dichloropropene	2010/11/22	<0.17			ppbv			
1,2-Dichloropropane	2010/11/22	<0.40			ppbv			
Bromomethane	2010/11/22	<0.18			ppbv			
Bromoform	2010/11/22	<0.20			ppbv			
Bromodichloromethane	2010/11/22	<0.20			ppbv			
Dibromochloromethane	2010/11/22	<0.20			ppbv			
Heptane	2010/11/22	<0.30			ppbv			

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G4510

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337348 S_S	Method Blank	Trichloroethylene	2010/11/22	<0.30		ppbv	
		Tetrachloroethylene	2010/11/22	<0.20		ppbv	
		Benzene	2010/11/22	<0.18		ppbv	
		Toluene	2010/11/22	<0.20		ppbv	
		Ethylbenzene	2010/11/22	<0.20		ppbv	
		p+m-Xylene	2010/11/22	<0.37		ppbv	
		o-Xylene	2010/11/22	<0.20		ppbv	
		Styrene	2010/11/22	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/11/22	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/11/22	<0.50		ppbv	
		4-ethyltoluene	2010/11/22	<2.2		ppbv	
		Chlorobenzene	2010/11/22	<0.20		ppbv	
		Benzyl chloride	2010/11/22	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/11/22	<2.0		ppbv	
		Hexachlorobutadiene	2010/11/22	<3.0		ppbv	
		Hexane	2010/11/22	<0.30		ppbv	
		Cyclohexane	2010/11/22	<0.20		ppbv	
		Tetrahydrofuran	2010/11/22	<0.40		ppbv	
		1,4-Dioxane	2010/11/22	<2.0		ppbv	
		Xylene (Total)	2010/11/22	<0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2010/11/22	NC		%	25
		Carbon Disulfide	2010/11/22	NC		%	25
		Propene	2010/11/22	NC		%	25
		Vinyl Acetate	2010/11/22	NC		%	25
		Vinyl Bromide	2010/11/22	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2010/11/22	NC		%	25
		1,2-Dichlorotetrafluoroethane	2010/11/22	NC		%	25
		Chloromethane	2010/11/22	NC		%	25
		Vinyl Chloride	2010/11/22	NC		%	25
		Chloroethane	2010/11/22	NC		%	25
		1,3-Butadiene	2010/11/22	NC		%	25
		Trichlorofluoromethane (FREON 11)	2010/11/22	NC		%	25
		Trichlorotrifluoroethane	2010/11/22	NC		%	25
		Ethanol	2010/11/22	NC		%	25
		2-propanol	2010/11/22	NC		%	25
		2-Propanone	2010/11/22	0.6		%	25
		Methyl Ethyl Ketone (2-Butanone)	2010/11/22	NC		%	25
		Methyl Isobutyl Ketone	2010/11/22	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2010/11/22	NC		%	25
		Methyl t-butyl ether (MTBE)	2010/11/22	NC		%	25
		Ethyl Acetate	2010/11/22	NC		%	25
		1,1-Dichloroethylene	2010/11/22	NC		%	25
		cis-1,2-Dichloroethylene	2010/11/22	NC		%	25
		trans-1,2-Dichloroethylene	2010/11/22	NC		%	25
		Methylene Chloride(Dichloromethane)	2010/11/22	NC		%	25
		Chloroform	2010/11/22	NC		%	25
		Carbon Tetrachloride	2010/11/22	NC		%	25
		1,1-Dichloroethane	2010/11/22	NC		%	25
		1,2-Dichloroethane	2010/11/22	NC		%	25
		Ethylene Dibromide	2010/11/22	NC		%	25

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G4510

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337348 S_S	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2010/11/22	NC		%	25
		1,1,2-Trichloroethane	2010/11/22	NC		%	25
		1,1,2,2-Tetrachloroethane	2010/11/22	NC		%	25
		cis-1,3-Dichloropropene	2010/11/22	NC		%	25
		trans-1,3-Dichloropropene	2010/11/22	NC		%	25
		1,2-Dichloropropane	2010/11/22	NC		%	25
		Bromomethane	2010/11/22	NC		%	25
		Bromoform	2010/11/22	NC		%	25
		Bromodichloromethane	2010/11/22	NC		%	25
		Dibromochloromethane	2010/11/22	NC		%	25
		Heptane	2010/11/22	NC		%	25
		Trichloroethylene	2010/11/22	NC		%	25
		Tetrachloroethylene	2010/11/22	NC		%	25
		Benzene	2010/11/22	NC		%	25
		Toluene	2010/11/22	1.9		%	25
		Ethylbenzene	2010/11/22	NC		%	25
		p+m-Xylene	2010/11/22	NC		%	25
		o-Xylene	2010/11/22	NC		%	25
		Styrene	2010/11/22	NC		%	25
		1,3,5-Trimethylbenzene	2010/11/22	NC		%	25
		1,2,4-Trimethylbenzene	2010/11/22	NC		%	25
		4-ethyltoluene	2010/11/22	NC		%	25
		Chlorobenzene	2010/11/22	NC		%	25
		Benzyl chloride	2010/11/22	NC		%	25
		1,3-Dichlorobenzene	2010/11/22	NC		%	25
		1,4-Dichlorobenzene	2010/11/22	NC		%	25
		1,2-Dichlorobenzene	2010/11/22	NC		%	25
		1,2,4-Trichlorobenzene	2010/11/22	NC		%	25
		Hexachlorobutadiene	2010/11/22	NC		%	25
		Hexane	2010/11/22	NC		%	25
		Cyclohexane	2010/11/22	NC		%	25
		Tetrahydrofuran	2010/11/22	NC		%	25
		1,4-Dioxane	2010/11/22	NC		%	25
		Xylene (Total)	2010/11/22	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.

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200
Location: 13-16-62-5 W4M Canister ID: 7818
Station ID: Lica 33 (Portable) Canister Installation Date/Time: Nov 15, 2010 @ 17:25 mst
Field Sample ID: LICA VOC/PORT/Nov 16 ,10 Canister Removal Date/Time: Nov 17, 2010 @ 13:26 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
16-Nov-10	16/11/2010 0:00	17/11/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1481	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	20

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 # 5077

Technician Signiture: Ting Xu_____

Your C.O.C. #: 5077

Attention: Michael Bisaga

Maxxam Analytics
 2608 6A Ave.
 Cold Lake, AB
 CANADA T9M 2C7

Report Date: 2010/11/29

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0G6636

Received: 2010/11/19, 09:27

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	1	N/A	2010/11/22	BRL SOP-00304	EPA TO-15
Canister Pressure (TO-15)	1	N/A	2010/11/23	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	1	N/A	2010/11/22	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	1	N/A	2010/11/23	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: TStephenson@maxxam.ca
 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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

RESULTS OF ANALYSES OF AIR

Maxxam ID		HX2504		HX2505	
Sampling Date		2010/11/16		2010/11/16	
COC Number		5077		5077	
	Units	LICA	QC Batch	LICA	QC Batch
		VOC\CLS\NOV16,10 - 7831		VOC\PORT\NOV16,10 - 7818	

Volatile Organics					
Pressure on Receipt	psig	21	2339479	21	2337881

QC Batch = Quality Control Batch

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2504				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA VOCCLSNOV16,10 - 7831	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2339348
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2339348
Propene	ppbv	<0.30	0.30	<0.516	0.516	2339348
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2339348
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2339348
Dichlorodifluoromethane (FREON 12)	ppbv	0.63	0.20	3.13	0.989	2339348
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2339348
Chloromethane	ppbv	0.56	0.30	1.16	0.620	2339348
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2339348
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2339348
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2339348
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.90	1.12	2339348
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2339348
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2339348
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2339348
2-Propanone	ppbv	0.87	0.80	2.06	1.90	2339348
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2339348
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2339348
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2339348
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2339348
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2339348
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2339348
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2339348
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2339348
Methylene Chloride(Dichloromethane)	ppbv	0.44	0.30	1.54	1.04	2339348
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2339348
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2339348
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2339348
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2339348
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2339348
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2339348

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2504				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA VOCICLSNOV16,10 - 7831	RDL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2339348
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2339348
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2339348
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2339348
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2339348
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2339348
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2339348
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2339348
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2339348
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2339348
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2339348
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2339348
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2339348
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2339348
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2339348
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2339348
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2339348
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2339348
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2339348
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2339348
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2339348
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2339348
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2339348
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2339348
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2339348
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2339348
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2339348
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2339348
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2339348
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2339348
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2339348
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2339348
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2339348
QC Batch = Quality Control Batch						

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2504				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOC\CLSNOV16,10				
		- 7831				

Surrogate Recovery (%)						
Bromochloromethane	%	78		N/A	N/A	2339348
D5-Chlorobenzene	%	69		N/A	N/A	2339348
Difluorobenzene	%	78		N/A	N/A	2339348

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

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2505				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA VOC\PORT\NOV16,10 - 7818	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2337773
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2337773
Propene	ppbv	<0.30	0.30	<0.516	0.516	2337773
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2337773
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2337773
Dichlorodifluoromethane (FREON 12)	ppbv	0.58	0.20	2.89	0.989	2337773
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2337773
Chloromethane	ppbv	0.47	0.30	0.964	0.620	2337773
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2337773
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2337773
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2337773
Trichlorofluoromethane (FREON 11)	ppbv	0.28	0.20	1.56	1.12	2337773
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2337773
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2337773
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2337773
2-Propanone	ppbv	1.11	0.80	2.64	1.90	2337773
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2337773
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2337773
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2337773
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2337773
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2337773
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2337773
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2337773
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2337773
Methylene Chloride(Dichloromethane)	ppbv	0.34	0.30	1.18	1.04	2337773
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2337773
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2337773
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337773
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2337773
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2337773
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2337773
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2505				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA VOC\PORT\NOV16,10 - 7818	RDL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2337773
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2337773
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2337773
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2337773
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2337773
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2337773
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2337773
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2337773
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2337773
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2337773
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2337773
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2337773
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2337773
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2337773
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2337773
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2337773
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2337773
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2337773
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337773
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2337773
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2337773
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2337773
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2337773
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337773
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337773
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2337773
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2337773
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2337773
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2337773
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2337773
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2337773
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2337773
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2337773
QC Batch = Quality Control Batch						

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HX2505				
Sampling Date		2010/11/16				
COC Number		5077				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOC\PORT\NOV16,10				
		- 7818				

Surrogate Recovery (%)						
Bromochloromethane	%	68		N/A	N/A	2337773
D5-Chlorobenzene	%	64		N/A	N/A	2337773
Difluorobenzene	%	71		N/A	N/A	2337773

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

Maxxam Job #: B0G6636
 Report Date: 2010/11/29

Test Summary

Maxxam ID HX2504 **Collected** 2010/11/16
Sample ID LICA VOC\CLS\NOV16,10 - 7831 **Shipped**
Matrix AIR **Received** 2010/11/19

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2339479	N/A	2010/11/23	DBJ
Volatile Organics in Air (TO-15)	GC/MS	2339348	N/A	2010/11/23	DBJ

Maxxam ID HX2504 Dup **Collected** 2010/11/16
Sample ID LICA VOC\CLS\NOV16,10 - 7831 **Shipped**
Matrix AIR **Received** 2010/11/19

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Volatile Organics in Air (TO-15)	GC/MS	2339348	N/A	2010/11/23	DBJ

Maxxam ID HX2505 **Collected** 2010/11/16
Sample ID LICA VOC\PORT\NOV16,10 - 7818 **Shipped**
Matrix AIR **Received** 2010/11/19

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2337881	N/A	2010/11/22	DVO
Volatile Organics in Air (TO-15)	GC/MS	2337773	N/A	2010/11/22	DVO

Maxxam Job #: B0G6636
Report Date: 2010/11/29

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report
 Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337773 DVO	Spiked Blank	Bromochloromethane	2010/11/22		102	%	60 - 140
		D5-Chlorobenzene	2010/11/22		100	%	60 - 140
		Difluorobenzene	2010/11/22		104	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/22		101	%	70 - 130
		Carbon Disulfide	2010/11/22		90	%	70 - 130
		Propene	2010/11/22		97	%	70 - 130
		Vinyl Acetate	2010/11/22		107	%	70 - 130
		Vinyl Bromide	2010/11/22		101	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/11/22		96	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/11/22		105	%	70 - 130
		Chloromethane	2010/11/22		91	%	70 - 130
		Vinyl Chloride	2010/11/22		91	%	70 - 130
		Chloroethane	2010/11/22		85	%	70 - 130
		1,3-Butadiene	2010/11/22		96	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/11/22		87	%	70 - 130
		Trichlorotrifluoroethane	2010/11/22		84	%	70 - 130
		Ethanol	2010/11/22		93	%	70 - 130
		2-propanol	2010/11/22		105	%	70 - 130
		2-Propanone	2010/11/22		103	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/11/22		108	%	70 - 130
		Methyl Isobutyl Ketone	2010/11/22		93	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/11/22		91	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/11/22		109	%	70 - 130
		Ethyl Acetate	2010/11/22		101	%	70 - 130
		1,1-Dichloroethylene	2010/11/22		90	%	70 - 130
		cis-1,2-Dichloroethylene	2010/11/22		93	%	70 - 130
		trans-1,2-Dichloroethylene	2010/11/22		96	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/11/22		81	%	70 - 130
		Chloroform	2010/11/22		89	%	70 - 130
		Carbon Tetrachloride	2010/11/22		94	%	70 - 130
		1,1-Dichloroethane	2010/11/22		90	%	70 - 130
		1,2-Dichloroethane	2010/11/22		92	%	70 - 130
		Ethylene Dibromide	2010/11/22		92	%	70 - 130
		1,1,1-Trichloroethane	2010/11/22		91	%	70 - 130
		1,1,2-Trichloroethane	2010/11/22		91	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/11/22		88	%	70 - 130
		cis-1,3-Dichloropropene	2010/11/22		99	%	70 - 130
		trans-1,3-Dichloropropene	2010/11/22		107	%	70 - 130
		1,2-Dichloropropane	2010/11/22		89	%	70 - 130
		Bromomethane	2010/11/22		83	%	70 - 130
		Bromoform	2010/11/22		115	%	70 - 130
		Bromodichloromethane	2010/11/22		99	%	70 - 130
		Dibromochloromethane	2010/11/22		109	%	70 - 130
		Heptane	2010/11/22		96	%	70 - 130
		Trichloroethylene	2010/11/22		88	%	70 - 130
		Tetrachloroethylene	2010/11/22		90	%	70 - 130
		Benzene	2010/11/22		88	%	70 - 130
		Toluene	2010/11/22		94	%	70 - 130
		Ethylbenzene	2010/11/22		96	%	70 - 130
		p+m-Xylene	2010/11/22		96	%	70 - 130
		o-Xylene	2010/11/22		95	%	70 - 130
		Styrene	2010/11/22		93	%	70 - 130
		1,3,5-Trimethylbenzene	2010/11/22		88	%	70 - 130
		1,2,4-Trimethylbenzene	2010/11/22		86	%	70 - 130
		4-ethyltoluene	2010/11/22		97	%	70 - 130

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337773 DVO	Spiked Blank	Chlorobenzene	2010/11/22		90	%	70 - 130
		Benzyl chloride	2010/11/22		110	%	70 - 130
		1,3-Dichlorobenzene	2010/11/22		86	%	70 - 130
		1,4-Dichlorobenzene	2010/11/22		87	%	70 - 130
		1,2-Dichlorobenzene	2010/11/22		83	%	70 - 130
		1,2,4-Trichlorobenzene	2010/11/22		72	%	70 - 130
		Hexachlorobutadiene	2010/11/22		75	%	70 - 130
		Hexane	2010/11/22		92	%	70 - 130
		Cyclohexane	2010/11/22		95	%	70 - 130
		Tetrahydrofuran	2010/11/22		102	%	70 - 130
		1,4-Dioxane	2010/11/22		92	%	70 - 130
	Method Blank	Bromochloromethane	2010/11/22		92	%	60 - 140
		D5-Chlorobenzene	2010/11/22		84	%	60 - 140
		Difluorobenzene	2010/11/22		95	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/22	<0.20		ppbv	
		Carbon Disulfide	2010/11/22	<0.50		ppbv	
		Propene	2010/11/22	<0.30		ppbv	
		Vinyl Acetate	2010/11/22	<0.20		ppbv	
		Vinyl Bromide	2010/11/22	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/11/22	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/11/22	<0.17		ppbv	
		Chloromethane	2010/11/22	<0.30		ppbv	
		Vinyl Chloride	2010/11/22	<0.18		ppbv	
		Chloroethane	2010/11/22	<0.30		ppbv	
		1,3-Butadiene	2010/11/22	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/11/22	<0.20		ppbv	
		Trichlorotrifluoroethane	2010/11/22	<0.15		ppbv	
		Ethanol	2010/11/22	<2.3		ppbv	
		2-propanol	2010/11/22	<3.0		ppbv	
		2-Propanone	2010/11/22	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/11/22	<3.0		ppbv	
		Methyl Isobutyl Ketone	2010/11/22	<3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/11/22	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/11/22	<0.20		ppbv	
		Ethyl Acetate	2010/11/22	<2.2		ppbv	
		1,1-Dichloroethylene	2010/11/22	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/11/22	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/11/22	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/11/22	<0.30		ppbv	
		Chloroform	2010/11/22	<0.15		ppbv	
		Carbon Tetrachloride	2010/11/22	<0.30		ppbv	
		1,1-Dichloroethane	2010/11/22	<0.20		ppbv	
		1,2-Dichloroethane	2010/11/22	<0.20		ppbv	
		Ethylene Dibromide	2010/11/22	<0.17		ppbv	
		1,1,1-Trichloroethane	2010/11/22	<0.30		ppbv	
		1,1,2-Trichloroethane	2010/11/22	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/11/22	<0.20		ppbv	
		cis-1,3-Dichloropropene	2010/11/22	<0.18		ppbv	
		trans-1,3-Dichloropropene	2010/11/22	<0.17		ppbv	
		1,2-Dichloropropane	2010/11/22	<0.40		ppbv	
		Bromomethane	2010/11/22	<0.18		ppbv	
		Bromoform	2010/11/22	<0.20		ppbv	
		Bromodichloromethane	2010/11/22	<0.20		ppbv	
		Dibromochloromethane	2010/11/22	<0.20		ppbv	
		Heptane	2010/11/22	<0.30		ppbv	

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337773 DVO	Method Blank	Trichloroethylene	2010/11/22	<0.30		ppbv	
		Tetrachloroethylene	2010/11/22	<0.20		ppbv	
		Benzene	2010/11/22	<0.18		ppbv	
		Toluene	2010/11/22	<0.20		ppbv	
		Ethylbenzene	2010/11/22	<0.20		ppbv	
		p+m-Xylene	2010/11/22	<0.37		ppbv	
		o-Xylene	2010/11/22	<0.20		ppbv	
		Styrene	2010/11/22	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/11/22	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/11/22	<0.50		ppbv	
		4-ethyltoluene	2010/11/22	<2.2		ppbv	
		Chlorobenzene	2010/11/22	<0.20		ppbv	
		Benzyl chloride	2010/11/22	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/11/22	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/11/22	<2.0		ppbv	
		Hexachlorobutadiene	2010/11/22	<3.0		ppbv	
		Hexane	2010/11/22	<0.30		ppbv	
		Cyclohexane	2010/11/22	<0.20		ppbv	
		Tetrahydrofuran	2010/11/22	<0.40		ppbv	
		1,4-Dioxane	2010/11/22	<2.0		ppbv	
		Xylene (Total)	2010/11/22	<0.60		ppbv	
2339348 DBJ	Spiked Blank	Bromochloromethane	2010/11/23		103	%	60 - 140
		D5-Chlorobenzene	2010/11/23		105	%	60 - 140
		Difluorobenzene	2010/11/23		106	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/23		113	%	70 - 130
		Carbon Disulfide	2010/11/23		92	%	70 - 130
		Propene	2010/11/23		104	%	70 - 130
		Vinyl Acetate	2010/11/23		117	%	70 - 130
		Vinyl Bromide	2010/11/23		107	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/11/23		92	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/11/23		108	%	70 - 130
		Chloromethane	2010/11/23		98	%	70 - 130
		Vinyl Chloride	2010/11/23		101	%	70 - 130
		Chloroethane	2010/11/23		93	%	70 - 130
		1,3-Butadiene	2010/11/23		111	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/11/23		95	%	70 - 130
		Trichlorotrifluoroethane	2010/11/23		95	%	70 - 130
		Ethanol	2010/11/23		115	%	70 - 130
		2-propanol	2010/11/23		109	%	70 - 130
		2-Propanone	2010/11/23		111	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/11/23		115	%	70 - 130
		Methyl Isobutyl Ketone	2010/11/23		117	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/11/23		119	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/11/23		107	%	70 - 130
		Ethyl Acetate	2010/11/23		115	%	70 - 130
		1,1-Dichloroethylene	2010/11/23		96	%	70 - 130
		cis-1,2-Dichloroethylene	2010/11/23		100	%	70 - 130
		trans-1,2-Dichloroethylene	2010/11/23		105	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/11/23		86	%	70 - 130
		Chloroform	2010/11/23		98	%	70 - 130
		Carbon Tetrachloride	2010/11/23		106	%	70 - 130
		1,1-Dichloroethane	2010/11/23		100	%	70 - 130
		1,2-Dichloroethane	2010/11/23		101	%	70 - 130

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2339348 DBJ	Spiked Blank	Ethylene Dibromide	2010/11/23		107	%	70 - 130
		1,1,1-Trichloroethane	2010/11/23		102	%	70 - 130
		1,1,2-Trichloroethane	2010/11/23		104	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/11/23		96	%	70 - 130
		cis-1,3-Dichloropropene	2010/11/23		110	%	70 - 130
		trans-1,3-Dichloropropene	2010/11/23		114	%	70 - 130
		1,2-Dichloropropane	2010/11/23		102	%	70 - 130
		Bromomethane	2010/11/23		83	%	70 - 130
		Bromoform	2010/11/23		121	%	70 - 130
		Bromodichloromethane	2010/11/23		111	%	70 - 130
		Dibromochloromethane	2010/11/23		122	%	70 - 130
		Heptane	2010/11/23		112	%	70 - 130
		Trichloroethylene	2010/11/23		99	%	70 - 130
		Tetrachloroethylene	2010/11/23		105	%	70 - 130
		Benzene	2010/11/23		100	%	70 - 130
		Toluene	2010/11/23		107	%	70 - 130
		Ethylbenzene	2010/11/23		101	%	70 - 130
		p+m-Xylene	2010/11/23		101	%	70 - 130
		o-Xylene	2010/11/23		103	%	70 - 130
		Styrene	2010/11/23		110	%	70 - 130
		1,3,5-Trimethylbenzene	2010/11/23		101	%	70 - 130
		1,2,4-Trimethylbenzene	2010/11/23		101	%	70 - 130
		4-ethyltoluene	2010/11/23		111	%	70 - 130
		Chlorobenzene	2010/11/23		96	%	70 - 130
		Benzyl chloride	2010/11/23		134 (1)	%	70 - 130
		1,3-Dichlorobenzene	2010/11/23		101	%	70 - 130
		1,4-Dichlorobenzene	2010/11/23		106	%	70 - 130
		1,2-Dichlorobenzene	2010/11/23		96	%	70 - 130
		1,2,4-Trichlorobenzene	2010/11/23		107	%	70 - 130
		Hexachlorobutadiene	2010/11/23		81	%	70 - 130
		Hexane	2010/11/23		106	%	70 - 130
		Cyclohexane	2010/11/23		112	%	70 - 130
		Tetrahydrofuran	2010/11/23		114	%	70 - 130
		1,4-Dioxane	2010/11/23		116	%	70 - 130
	Method Blank	Bromochloromethane	2010/11/23		83	%	60 - 140
		D5-Chlorobenzene	2010/11/23		77	%	60 - 140
		Difluorobenzene	2010/11/23		84	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/23	<0.20		ppbv	
		Carbon Disulfide	2010/11/23	0.53, RDL=0.50		ppbv	
		Propene	2010/11/23	<0.30		ppbv	
		Vinyl Acetate	2010/11/23	<0.20		ppbv	
		Vinyl Bromide	2010/11/23	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/11/23	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/11/23	<0.17		ppbv	
		Chloromethane	2010/11/23	<0.30		ppbv	
		Vinyl Chloride	2010/11/23	<0.18		ppbv	
		Chloroethane	2010/11/23	<0.30		ppbv	
		1,3-Butadiene	2010/11/23	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/11/23	<0.20		ppbv	
		Trichlorotrifluoroethane	2010/11/23	<0.15		ppbv	
		Ethanol	2010/11/23	<2.3		ppbv	
		2-propanol	2010/11/23	<3.0		ppbv	
		2-Propanone	2010/11/23	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/11/23	<3.0		ppbv	
		Methyl Isobutyl Ketone	2010/11/23	<3.2		ppbv	

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2339348 DBJ	Method Blank	Methyl Butyl Ketone (2-Hexanone)	2010/11/23	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/11/23	<0.20		ppbv	
		Ethyl Acetate	2010/11/23	<2.2		ppbv	
		1,1-Dichloroethylene	2010/11/23	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/11/23	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/11/23	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/11/23	0.34, RDL=0.30		ppbv	
		Chloroform	2010/11/23	<0.15		ppbv	
		Carbon Tetrachloride	2010/11/23	<0.30		ppbv	
		1,1-Dichloroethane	2010/11/23	<0.20		ppbv	
		1,2-Dichloroethane	2010/11/23	<0.20		ppbv	
		Ethylene Dibromide	2010/11/23	<0.17		ppbv	
		1,1,1-Trichloroethane	2010/11/23	<0.30		ppbv	
		1,1,2-Trichloroethane	2010/11/23	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/11/23	<0.20		ppbv	
		cis-1,3-Dichloropropene	2010/11/23	<0.18		ppbv	
		trans-1,3-Dichloropropene	2010/11/23	<0.17		ppbv	
		1,2-Dichloropropane	2010/11/23	<0.40		ppbv	
		Bromomethane	2010/11/23	<0.18		ppbv	
		Bromoform	2010/11/23	<0.20		ppbv	
		Bromodichloromethane	2010/11/23	<0.20		ppbv	
		Dibromochloromethane	2010/11/23	<0.20		ppbv	
		Heptane	2010/11/23	<0.30		ppbv	
		Trichloroethylene	2010/11/23	<0.30		ppbv	
		Tetrachloroethylene	2010/11/23	<0.20		ppbv	
		Benzene	2010/11/23	<0.18		ppbv	
		Toluene	2010/11/23	<0.20		ppbv	
		Ethylbenzene	2010/11/23	<0.20		ppbv	
		p+m-Xylene	2010/11/23	<0.37		ppbv	
		o-Xylene	2010/11/23	<0.20		ppbv	
		Styrene	2010/11/23	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/11/23	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/11/23	<0.50		ppbv	
		4-ethyltoluene	2010/11/23	<2.2		ppbv	
		Chlorobenzene	2010/11/23	<0.20		ppbv	
		Benzyl chloride	2010/11/23	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/11/23	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/11/23	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/11/23	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/11/23	<2.0		ppbv	
		Hexachlorobutadiene	2010/11/23	<3.0		ppbv	
		Hexane	2010/11/23	<0.30		ppbv	
		Cyclohexane	2010/11/23	<0.20		ppbv	
		Tetrahydrofuran	2010/11/23	<0.40		ppbv	
		1,4-Dioxane	2010/11/23	<2.0		ppbv	
		Xylene (Total)	2010/11/23	<0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2010/11/23	NC		%	25
		Carbon Disulfide	2010/11/23	NC		%	25
		Propene	2010/11/23	NC		%	25
		Vinyl Acetate	2010/11/23	NC		%	25
		Vinyl Bromide	2010/11/23	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2010/11/23	NC		%	25
		1,2-Dichlorotetrafluoroethane	2010/11/23	NC		%	25

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2339348 DBJ	RPD - Sample/Sample Dup	Chloromethane	2010/11/23	NC		%	25
		Vinyl Chloride	2010/11/23	NC		%	25
		Chloroethane	2010/11/23	NC		%	25
		1,3-Butadiene	2010/11/23	NC		%	25
		Trichlorofluoromethane (FREON 11)	2010/11/23	NC		%	25
		Trichlorotrifluoroethane	2010/11/23	NC		%	25
		Ethanol	2010/11/23	NC		%	25
		2-propanol	2010/11/23	NC		%	25
		2-Propanone	2010/11/23	NC		%	25
		Methyl Ethyl Ketone (2-Butanone)	2010/11/23	NC		%	25
		Methyl Isobutyl Ketone	2010/11/23	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2010/11/23	NC		%	25
		Methyl t-butyl ether (MTBE)	2010/11/23	NC		%	25
		Ethyl Acetate	2010/11/23	NC		%	25
		1,1-Dichloroethylene	2010/11/23	NC		%	25
		cis-1,2-Dichloroethylene	2010/11/23	NC		%	25
		trans-1,2-Dichloroethylene	2010/11/23	NC		%	25
		Methylene Chloride(Dichloromethane)	2010/11/23	NC		%	25
		Chloroform	2010/11/23	NC		%	25
		Carbon Tetrachloride	2010/11/23	NC		%	25
		1,1-Dichloroethane	2010/11/23	NC		%	25
		1,2-Dichloroethane	2010/11/23	NC		%	25
		Ethylene Dibromide	2010/11/23	NC		%	25
		1,1,1-Trichloroethane	2010/11/23	NC		%	25
		1,1,2-Trichloroethane	2010/11/23	NC		%	25
		1,1,2,2-Tetrachloroethane	2010/11/23	NC		%	25
		cis-1,3-Dichloropropene	2010/11/23	NC		%	25
		trans-1,3-Dichloropropene	2010/11/23	NC		%	25
		1,2-Dichloropropane	2010/11/23	NC		%	25
		Bromomethane	2010/11/23	NC		%	25
		Bromoform	2010/11/23	NC		%	25
		Bromodichloromethane	2010/11/23	NC		%	25
		Dibromochloromethane	2010/11/23	NC		%	25
		Heptane	2010/11/23	NC		%	25
		Trichloroethylene	2010/11/23	NC		%	25
		Tetrachloroethylene	2010/11/23	NC		%	25
		Benzene	2010/11/23	NC		%	25
		Toluene	2010/11/23	NC		%	25
		Ethylbenzene	2010/11/23	NC		%	25
		p+m-Xylene	2010/11/23	NC		%	25
		o-Xylene	2010/11/23	NC		%	25
		Styrene	2010/11/23	NC		%	25
		1,3,5-Trimethylbenzene	2010/11/23	NC		%	25
		1,2,4-Trimethylbenzene	2010/11/23	NC		%	25
		4-ethyltoluene	2010/11/23	NC		%	25
		Chlorobenzene	2010/11/23	NC		%	25
		Benzyl chloride	2010/11/23	NC		%	25
		1,3-Dichlorobenzene	2010/11/23	NC		%	25
		1,4-Dichlorobenzene	2010/11/23	NC		%	25
		1,2-Dichlorobenzene	2010/11/23	NC		%	25
		1,2,4-Trichlorobenzene	2010/11/23	NC		%	25
		Hexachlorobutadiene	2010/11/23	NC		%	25
		Hexane	2010/11/23	NC		%	25

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6636

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2339348 DBJ	RPD - Sample/Sample Dup	Cyclohexane	2010/11/23	NC		%	25
		Tetrahydrofuran	2010/11/23	NC		%	25
		1,4-Dioxane	2010/11/23	NC		%	25
		Xylene (Total)	2010/11/23	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.

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200
Location: 13-16-62-5 W4M Canister ID: S2235
Station ID: Lica 33 (Portable) Canister Installation Date/Time: Nov 19, 2010 @ 16:02 mst
Field Sample ID: LICA VOC/PORT/Nov 22 ,10 Canister Removal Date/Time: Nov 24, 2010 @ 8:28 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
22-Nov-10	22/11/2010 0:00	23/11/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1481	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-29	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 # 2333

Technician Signiture: Ting Xu_____



Your C.O.C. #: 2333

Attention: Michael Bisaga

Maxxam Analytics
 2608 6A Ave.
 Cold Lake, AB
 CANADA T9M 2C7

Report Date: 2010/12/02

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0H0675

Received: 2010/11/26, 09:03

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/11/26	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/11/26	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: TStephenson@maxxam.ca
 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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

RESULTS OF ANALYSES OF AIR

Maxxam ID		HZ2421	HZ2422	
Sampling Date		2010/11/22 00:00	2010/11/22 00:00	
COC Number		2333	2333	
	Units	LICA	LICA	QC Batch
		VOC\CLS\NOV22,10	VOC\PORT\NOV22,10	

Volatile Organics				
Pressure on Receipt	psig	22	22	2344371

QC Batch = Quality Control Batch

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2421				
Sampling Date		2010/11/22 00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOCICLSNOV22,10				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2343965
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2343965
Propene	ppbv	<0.30	0.30	<0.516	0.516	2343965
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2343965
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2343965
Dichlorodifluoromethane (FREON 12)	ppbv	0.71	0.20	3.51	0.989	2343965
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2343965
Chloromethane	ppbv	0.52	0.30	1.07	0.620	2343965
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2343965
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2343965
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2343965
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.93	1.12	2343965
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2343965
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2343965
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2343965
2-Propanone	ppbv	<0.80	0.80	<1.90	1.90	2343965
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2343965
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2343965
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2343965
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2343965
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2343965
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2343965
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2343965
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2343965
Methylene Chloride(Dichloromethane)	ppbv	0.40	0.30	1.39	1.04	2343965
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2343965
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2343965
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2343965
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2343965
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2343965
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2343965

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2421				
Sampling Date		2010/11/22 00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOCICLSNOV22,10				
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2343965
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2343965
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2343965
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2343965
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2343965
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2343965
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2343965
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2343965
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2343965
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2343965
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2343965
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2343965
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2343965
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2343965
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2343965
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2343965
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2343965
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2343965
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2343965
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2343965
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2343965
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2343965
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2343965
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2343965
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2343965
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2343965
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2343965
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2343965
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2343965
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2343965
QC Batch = Quality Control Batch						

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2421				
Sampling Date		2010/11/22 00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOCICLSNOV22,10				

Surrogate Recovery (%)						
Bromochloromethane	%	79		N/A	N/A	2343965
D5-Chlorobenzene	%	73		N/A	N/A	2343965
Difluorobenzene	%	79		N/A	N/A	2343965

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

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2422				
Sampling Date		2010/11/22				
		00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOC\PORTNOV22,10				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2343965
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2343965
Propene	ppbv	<0.30	0.30	<0.516	0.516	2343965
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2343965
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2343965
Dichlorodifluoromethane (FREON 12)	ppbv	0.72	0.20	3.56	0.989	2343965
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2343965
Chloromethane	ppbv	0.53	0.30	1.09	0.620	2343965
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2343965
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2343965
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2343965
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.92	1.12	2343965
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2343965
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2343965
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2343965
2-Propanone	ppbv	<0.80	0.80	<1.90	1.90	2343965
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2343965
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2343965
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2343965
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2343965
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2343965
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2343965
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2343965
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2343965
Methylene Chloride(Dichloromethane)	ppbv	0.37	0.30	1.29	1.04	2343965
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2343965
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2343965
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2343965
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2343965
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2343965
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2343965

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2422				
Sampling Date		2010/11/22 00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOC\PORTNOV22,10				
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2343965
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2343965
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2343965
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2343965
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2343965
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2343965
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2343965
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2343965
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2343965
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2343965
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2343965
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2343965
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2343965
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2343965
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2343965
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2343965
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2343965
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2343965
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2343965
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2343965
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2343965
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2343965
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2343965
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2343965
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2343965
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2343965
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2343965
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2343965
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2343965
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2343965
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2343965
QC Batch = Quality Control Batch						

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		HZ2422				
Sampling Date		2010/11/22 00:00				
COC Number		2333				
	Units	LICA	RDL	ug/m3	DL (ug/m3)	QC Batch
		VOC\PORT\NOV22,10				

Surrogate Recovery (%)						
Bromochloromethane	%	81		N/A	N/A	2343965
D5-Chlorobenzene	%	78		N/A	N/A	2343965
Difluorobenzene	%	81		N/A	N/A	2343965

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

Maxxam Job #: B0H0675
 Report Date: 2010/12/02

Test Summary

Maxxam ID HZ2421 **Collected** 2010/11/22
Sample ID LICA VOC\CLS\NOV22,10 **Shipped**
Matrix AIR **Received** 2010/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2344371	N/A	2010/11/26	DBJ
Volatile Organics in Air (TO-15)	GC/MS	2343965	N/A	2010/11/26	DBJ

Maxxam ID HZ2422 **Collected** 2010/11/22
Sample ID LICA VOC\PORT\NOV22,10 **Shipped**
Matrix AIR **Received** 2010/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2344371	N/A	2010/11/26	DBJ
Volatile Organics in Air (TO-15)	GC/MS	2343965	N/A	2010/11/26	DBJ

Maxxam Job #: B0H0675
Report Date: 2010/12/02

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report
 Maxxam Job Number: GB0H0675

QA/QC Batch			Date Analyzed					
Num Init	QC Type	Parameter	yyyy/mm/dd	Value	%Recovery	Units	QC Limits	
2343965 DBJ	Spiked Blank	Bromochloromethane	2010/11/26		103	%	60 - 140	
		D5-Chlorobenzene	2010/11/26		109	%	60 - 140	
		Difluorobenzene	2010/11/26		106	%	60 - 140	
		2,2,4-Trimethylpentane	2010/11/26		115	%	70 - 130	
		Carbon Disulfide	2010/11/26		91	%	70 - 130	
		Propene	2010/11/26		103	%	70 - 130	
		Vinyl Acetate	2010/11/26		119	%	70 - 130	
		Vinyl Bromide	2010/11/26		106	%	70 - 130	
		Dichlorodifluoromethane (FREON 12)	2010/11/26		95	%	70 - 130	
		1,2-Dichlorotetrafluoroethane	2010/11/26		111	%	70 - 130	
		Chloromethane	2010/11/26		102	%	70 - 130	
		Vinyl Chloride	2010/11/26		103	%	70 - 130	
		Chloroethane	2010/11/26		92	%	70 - 130	
		1,3-Butadiene	2010/11/26		112	%	70 - 130	
		Trichlorofluoromethane (FREON 11)	2010/11/26		97	%	70 - 130	
		Trichlorotrifluoroethane	2010/11/26		97	%	70 - 130	
		Ethanol	2010/11/26		115	%	70 - 130	
		2-propanol	2010/11/26		107	%	70 - 130	
		2-Propanone	2010/11/26		112	%	70 - 130	
		Methyl Ethyl Ketone (2-Butanone)	2010/11/26		120	%	70 - 130	
		Methyl Isobutyl Ketone	2010/11/26		118	%	70 - 130	
		Methyl Butyl Ketone (2-Hexanone)	2010/11/26		119	%	70 - 130	
		Methyl t-butyl ether (MTBE)	2010/11/26		109	%	70 - 130	
		Ethyl Acetate	2010/11/26		116	%	70 - 130	
		1,1-Dichloroethylene	2010/11/26		96	%	70 - 130	
		cis-1,2-Dichloroethylene	2010/11/26		101	%	70 - 130	
		trans-1,2-Dichloroethylene	2010/11/26		106	%	70 - 130	
		Methylene Chloride(Dichloromethane)	2010/11/26		85	%	70 - 130	
		Chloroform	2010/11/26		100	%	70 - 130	
		Carbon Tetrachloride	2010/11/26		111	%	70 - 130	
		1,1-Dichloroethane	2010/11/26		102	%	70 - 130	
		1,2-Dichloroethane	2010/11/26		102	%	70 - 130	
		Ethylene Dibromide	2010/11/26		109	%	70 - 130	
		1,1,1-Trichloroethane	2010/11/26		105	%	70 - 130	
		1,1,2-Trichloroethane	2010/11/26		107	%	70 - 130	
		1,1,2,2-Tetrachloroethane	2010/11/26		97	%	70 - 130	
		cis-1,3-Dichloropropene	2010/11/26		112	%	70 - 130	
		trans-1,3-Dichloropropene	2010/11/26		116	%	70 - 130	
		1,2-Dichloropropane	2010/11/26		105	%	70 - 130	
		Bromomethane	2010/11/26		80	%	70 - 130	
		Bromoform	2010/11/26		122	%	70 - 130	
		Bromodichloromethane	2010/11/26		115	%	70 - 130	
		Dibromochloromethane	2010/11/26		125	%	70 - 130	
		Heptane	2010/11/26		116	%	70 - 130	
		Trichloroethylene	2010/11/26		102	%	70 - 130	
		Tetrachloroethylene	2010/11/26		108	%	70 - 130	
		Benzene	2010/11/26		102	%	70 - 130	
		Toluene	2010/11/26		109	%	70 - 130	
		Ethylbenzene	2010/11/26		101	%	70 - 130	
		p+m-Xylene	2010/11/26		101	%	70 - 130	
		o-Xylene	2010/11/26		104	%	70 - 130	
		Styrene	2010/11/26		100	%	70 - 130	
		1,3,5-Trimethylbenzene	2010/11/26		98	%	70 - 130	
		1,2,4-Trimethylbenzene	2010/11/26		98	%	70 - 130	
		4-ethyltoluene	2010/11/26		110	%	70 - 130	

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H0675

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2343965 DBJ	Spiked Blank	Chlorobenzene	2010/11/26		96	%	70 - 130
		Benzyl chloride	2010/11/26		128	%	70 - 130
		1,3-Dichlorobenzene	2010/11/26		98	%	70 - 130
		1,4-Dichlorobenzene	2010/11/26		103	%	70 - 130
		1,2-Dichlorobenzene	2010/11/26		92	%	70 - 130
		1,2,4-Trichlorobenzene	2010/11/26		105	%	70 - 130
		Hexachlorobutadiene	2010/11/26		82	%	70 - 130
		Hexane	2010/11/26		116	%	70 - 130
		Cyclohexane	2010/11/26		114	%	70 - 130
		Tetrahydrofuran	2010/11/26		113	%	70 - 130
		1,4-Dioxane	2010/11/26		116	%	70 - 130
	Method Blank	Bromochloromethane	2010/11/26		83	%	60 - 140
		D5-Chlorobenzene	2010/11/26		75	%	60 - 140
		Difluorobenzene	2010/11/26		85	%	60 - 140
		2,2,4-Trimethylpentane	2010/11/26	<0.20		ppbv	
		Carbon Disulfide	2010/11/26	<0.50		ppbv	
		Propene	2010/11/26	<0.30		ppbv	
		Vinyl Acetate	2010/11/26	<0.20		ppbv	
		Vinyl Bromide	2010/11/26	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/11/26	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/11/26	<0.17		ppbv	
		Chloromethane	2010/11/26	<0.30		ppbv	
		Vinyl Chloride	2010/11/26	<0.18		ppbv	
		Chloroethane	2010/11/26	<0.30		ppbv	
		1,3-Butadiene	2010/11/26	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/11/26	<0.20		ppbv	
		Trichlorotrifluoroethane	2010/11/26	<0.15		ppbv	
		Ethanol	2010/11/26	<2.3		ppbv	
		2-propanol	2010/11/26	<3.0		ppbv	
		2-Propanone	2010/11/26	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/11/26	<3.0		ppbv	
		Methyl Isobutyl Ketone	2010/11/26	<3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/11/26	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/11/26	<0.20		ppbv	
		Ethyl Acetate	2010/11/26	<2.2		ppbv	
		1,1-Dichloroethylene	2010/11/26	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/11/26	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/11/26	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/11/26	0.36, RDL=0.30		ppbv	
		Chloroform	2010/11/26	<0.15		ppbv	
		Carbon Tetrachloride	2010/11/26	<0.30		ppbv	
		1,1-Dichloroethane	2010/11/26	<0.20		ppbv	
		1,2-Dichloroethane	2010/11/26	<0.20		ppbv	
		Ethylene Dibromide	2010/11/26	<0.17		ppbv	
		1,1,1-Trichloroethane	2010/11/26	<0.30		ppbv	
		1,1,2-Trichloroethane	2010/11/26	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/11/26	<0.20		ppbv	
		cis-1,3-Dichloropropene	2010/11/26	<0.18		ppbv	
		trans-1,3-Dichloropropene	2010/11/26	<0.17		ppbv	
		1,2-Dichloropropane	2010/11/26	<0.40		ppbv	
		Bromomethane	2010/11/26	<0.18		ppbv	
		Bromoform	2010/11/26	<0.20		ppbv	
		Bromodichloromethane	2010/11/26	<0.20		ppbv	
		Dibromochloromethane	2010/11/26	<0.20		ppbv	
		Heptane	2010/11/26	<0.30		ppbv	

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H0675

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2343965 DBJ	Method Blank	Trichloroethylene	2010/11/26	<0.30		ppbv	
		Tetrachloroethylene	2010/11/26	<0.20		ppbv	
		Benzene	2010/11/26	<0.18		ppbv	
		Toluene	2010/11/26	<0.20		ppbv	
		Ethylbenzene	2010/11/26	<0.20		ppbv	
		p+m-Xylene	2010/11/26	<0.37		ppbv	
		o-Xylene	2010/11/26	<0.20		ppbv	
		Styrene	2010/11/26	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/11/26	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/11/26	<0.50		ppbv	
		4-ethyltoluene	2010/11/26	<2.2		ppbv	
		Chlorobenzene	2010/11/26	<0.20		ppbv	
		Benzyl chloride	2010/11/26	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/11/26	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/11/26	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/11/26	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/11/26	<2.0		ppbv	
		Hexachlorobutadiene	2010/11/26	<3.0		ppbv	
		Hexane	2010/11/26	<0.30		ppbv	
		Cyclohexane	2010/11/26	<0.20		ppbv	
		Tetrahydrofuran	2010/11/26	<0.40		ppbv	
		1,4-Dioxane	2010/11/26	<2.0		ppbv	
		Xylene (Total)	2010/11/26	<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.

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200
Location: 13-16-62-5 W4M Canister ID: 7786
Station ID: Lica 33 (Portable) Canister Installation Date/Time: Nov 25, 2010 @ 10:48 mst
Field Sample ID: LICA VOC/PORT/Nov 28 ,10 Canister Removal Date/Time: Nov 29, 2010 @ 11:01 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
28-Nov-10	28/11/2010 0:00	29/11/2010 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1481	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 # 5160

Technician Signiture: Ting Xu_____



Your C.O.C. #: 5160

Attention: Michael Bisaga

Maxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/12/06

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0H3086

Received: 2010/12/01, 11:10

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/12/01	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/12/01	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0H3086
 Report Date: 2010/12/06

RESULTS OF ANALYSES OF AIR

Maxxam ID		IA3102	IA3103	
Sampling Date		2010/11/28	2010/11/28	
COC Number		5160	5160	
	Units	LICA VOC\CLS\ NOV 28,10	LICA VOC\PORT\ NOV 28,10	QC Batch

Volatile Organics				
Pressure on Receipt	psig	23	21	2348896

QC Batch = Quality Control Batch

Maxxam Job #: B0H3086
 Report Date: 2010/12/06

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		IA3102			IA3103				
Sampling Date		2010/11/28			2010/11/28				
COC Number		5160			5160				
	Units	LICA VOC\CLS\ NOV 28,10	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 28,10	RDL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics									
2,2,4-Trimethylpentane	ppbv	<0.20	<0.934	0.934	<0.20	0.20	<0.934	0.934	2348902
Carbon Disulfide	ppbv	<0.50	<1.56	1.56	<0.50	0.50	<1.56	1.56	2348902
Propene	ppbv	<0.30	<0.516	0.516	<0.30	0.30	<0.516	0.516	2348902
Vinyl Acetate	ppbv	<0.20	<0.704	0.704	<0.20	0.20	<0.704	0.704	2348902
Vinyl Bromide	ppbv	<0.20	<0.875	0.875	<0.20	0.20	<0.875	0.875	2348902
Dichlorodifluoromethane (FREON 12)	ppbv	0.81	4.00	0.989	0.82	0.20	4.06	0.989	2348902
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	<1.19	1.19	<0.17	0.17	<1.19	1.19	2348902
Chloromethane	ppbv	0.46	0.948	0.620	0.46	0.30	0.959	0.620	2348902
Vinyl Chloride	ppbv	<0.18	<0.460	0.460	<0.18	0.18	<0.460	0.460	2348902
Chloroethane	ppbv	<0.30	<0.792	0.792	<0.30	0.30	<0.792	0.792	2348902
1,3-Butadiene	ppbv	<0.50	<1.11	1.11	<0.50	0.50	<1.11	1.11	2348902
Trichlorofluoromethane (FREON 11)	ppbv	0.37	2.10	1.12	0.37	0.20	2.08	1.12	2348902
Trichlorotrifluoroethane	ppbv	<0.15	<1.15	1.15	<0.15	0.15	<1.15	1.15	2348902
Ethanol	ppbv	<2.3	<4.33	4.33	<2.3	2.3	<4.33	4.33	2348902
2-propanol	ppbv	<3.0	<7.37	7.37	<3.0	3.0	<7.37	7.37	2348902
2-Propanone	ppbv	1.79	4.24	1.90	1.93	0.80	4.59	1.90	2348902
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	<8.85	8.85	<3.0	3.0	<8.85	8.85	2348902
Methyl Isobutyl Ketone	ppbv	<3.2	<13.1	13.1	<3.2	3.2	<13.1	13.1	2348902
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	<8.19	8.19	<2.0	2.0	<8.19	8.19	2348902
Methyl t-butyl ether (MTBE)	ppbv	<0.20	<0.721	0.721	<0.20	0.20	<0.721	0.721	2348902
Ethyl Acetate	ppbv	<2.2	<7.93	7.93	<2.2	2.2	<7.93	7.93	2348902
1,1-Dichloroethylene	ppbv	<0.25	<0.991	0.991	<0.25	0.25	<0.991	0.991	2348902
cis-1,2-Dichloroethylene	ppbv	<0.19	<0.753	0.753	<0.19	0.19	<0.753	0.753	2348902
trans-1,2-Dichloroethylene	ppbv	<0.20	<0.793	0.793	<0.20	0.20	<0.793	0.793	2348902
Methylene Chloride(Dichloromethane)	ppbv	0.45	1.57	1.04	0.48	0.30	1.66	1.04	2348902
Chloroform	ppbv	<0.15	<0.732	0.732	<0.15	0.15	<0.732	0.732	2348902
Carbon Tetrachloride	ppbv	<0.30	<1.89	1.89	<0.30	0.30	<1.89	1.89	2348902
1,1-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2348902
1,2-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2348902
Ethylene Dibromide	ppbv	<0.17	<1.31	1.31	<0.17	0.17	<1.31	1.31	2348902
1,1,1-Trichloroethane	ppbv	<0.30	<1.64	1.64	<0.30	0.30	<1.64	1.64	2348902

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0H3086
 Report Date: 2010/12/06

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		IA3102			IA3103				
Sampling Date		2010/11/28			2010/11/28				
COC Number		5160			5160				
	Units	LICA VOC\CLS\ NOV 28,10	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 28,10	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	2348902
1,1,2,2-Tetrachloroethane	ppbv	<0.20	<1.37	1.37	<0.20	0.20	<1.37	1.37	2348902
cis-1,3-Dichloropropene	ppbv	<0.18	<0.817	0.817	<0.18	0.18	<0.817	0.817	2348902
trans-1,3-Dichloropropene	ppbv	<0.17	<0.772	0.772	<0.17	0.17	<0.772	0.772	2348902
1,2-Dichloropropane	ppbv	<0.40	<1.85	1.85	<0.40	0.40	<1.85	1.85	2348902
Bromomethane	ppbv	<0.18	<0.699	0.699	<0.18	0.18	<0.699	0.699	2348902
Bromoform	ppbv	<0.20	<2.07	2.07	<0.20	0.20	<2.07	2.07	2348902
Bromodichloromethane	ppbv	<0.20	<1.34	1.34	<0.20	0.20	<1.34	1.34	2348902
Dibromochloromethane	ppbv	<0.20	<1.70	1.70	<0.20	0.20	<1.70	1.70	2348902
Heptane	ppbv	<0.30	<1.23	1.23	<0.30	0.30	<1.23	1.23	2348902
Trichloroethylene	ppbv	<0.30	<1.61	1.61	<0.30	0.30	<1.61	1.61	2348902
Tetrachloroethylene	ppbv	<0.20	<1.36	1.36	<0.20	0.20	<1.36	1.36	2348902
Benzene	ppbv	0.22	0.698	0.575	0.24	0.18	0.778	0.575	2348902
Toluene	ppbv	<0.20	<0.753	0.753	<0.20	0.20	<0.753	0.753	2348902
Ethylbenzene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2348902
p+m-Xylene	ppbv	<0.37	<1.61	1.61	<0.37	0.37	<1.61	1.61	2348902
o-Xylene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2348902
Styrene	ppbv	<0.20	<0.852	0.852	<0.20	0.20	<0.852	0.852	2348902
1,3,5-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2348902
1,2,4-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2348902
4-ethyltoluene	ppbv	<2.2	<10.8	10.8	<2.2	2.2	<10.8	10.8	2348902
Chlorobenzene	ppbv	<0.20	<0.921	0.921	<0.20	0.20	<0.921	0.921	2348902
Benzyl chloride	ppbv	<1.0	<5.18	5.18	<1.0	1.0	<5.18	5.18	2348902
1,3-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2348902
1,4-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2348902
1,2-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2348902
1,2,4-Trichlorobenzene	ppbv	<2.0	<14.8	14.8	<2.0	2.0	<14.8	14.8	2348902
Hexachlorobutadiene	ppbv	<3.0	<32.0	32.0	<3.0	3.0	<32.0	32.0	2348902
Hexane	ppbv	<0.30	<1.06	1.06	<0.30	0.30	<1.06	1.06	2348902
Cyclohexane	ppbv	<0.20	<0.688	0.688	0.23	0.20	0.805	0.688	2348902
Tetrahydrofuran	ppbv	<0.40	<1.18	1.18	<0.40	0.40	<1.18	1.18	2348902
1,4-Dioxane	ppbv	<2.0	<7.21	7.21	<2.0	2.0	<7.21	7.21	2348902
Xylene (Total)	ppbv	<0.60	<2.61	2.61	<0.60	0.60	<2.61	2.61	2348902
QC Batch = Quality Control Batch									

Maxxam Job #: B0H3086
 Report Date: 2010/12/06

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		IA3102			IA3103				
Sampling Date		2010/11/28			2010/11/28				
COC Number		5160			5160				
	Units	LICA VOC\CLS\ NOV 28,10	ug/m3	DL (ug/m3)	LICA VOC\PORT\ NOV 28,10	RDL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)									
Bromochloromethane	%	90	N/A	N/A	87		N/A	N/A	2348902
D5-Chlorobenzene	%	75	N/A	N/A	72		N/A	N/A	2348902
Difluorobenzene	%	88	N/A	N/A	86		N/A	N/A	2348902

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

Maxxam Job #: B0H3086
 Report Date: 2010/12/06

Test Summary

Maxxam ID IA3102 **Collected** 2010/11/28
Sample ID LICA VOC\CLS\ NOV 28,10 **Shipped**
Matrix AIR **Received** 2010/12/01

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2348896	N/A	2010/12/01	LSY
Volatile Organics in Air (TO-15)	GC/MS	2348902	N/A	2010/12/01	LSY

Maxxam ID IA3103 **Collected** 2010/11/28
Sample ID LICA VOC\PORT\ NOV 28,10 **Shipped**
Matrix AIR **Received** 2010/12/01

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2348896	N/A	2010/12/01	LSY
Volatile Organics in Air (TO-15)	GC/MS	2348902	N/A	2010/12/01	LSY

Maxxam Job #: B0H3086
Report Date: 2010/12/06

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0H3086

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2348902 LSY	Spiked Blank	Bromochloromethane	2010/12/01		108	%	60 - 140
		D5-Chlorobenzene	2010/12/01		106	%	60 - 140
		Difluorobenzene	2010/12/01		110	%	60 - 140
		2,2,4-Trimethylpentane	2010/12/01		98	%	70 - 130
		Carbon Disulfide	2010/12/01		84	%	70 - 130
		Propene	2010/12/01		94	%	70 - 130
		Vinyl Acetate	2010/12/01		104	%	70 - 130
		Vinyl Bromide	2010/12/01		93	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/12/01		98	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/12/01		102	%	70 - 130
		Chloromethane	2010/12/01		93	%	70 - 130
		Vinyl Chloride	2010/12/01		86	%	70 - 130
		Chloroethane	2010/12/01		83	%	70 - 130
		1,3-Butadiene	2010/12/01		80	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/12/01		97	%	70 - 130
		Trichlorotrifluoroethane	2010/12/01		90	%	70 - 130
		Ethanol	2010/12/01		81	%	70 - 130
		2-propanol	2010/12/01		89	%	70 - 130
		2-Propanone	2010/12/01		98	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/12/01		101	%	70 - 130
		Methyl Isobutyl Ketone	2010/12/01		99	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/12/01		104	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/12/01		99	%	70 - 130
		Ethyl Acetate	2010/12/01		99	%	70 - 130
		1,1-Dichloroethylene	2010/12/01		95	%	70 - 130
		cis-1,2-Dichloroethylene	2010/12/01		96	%	70 - 130
		trans-1,2-Dichloroethylene	2010/12/01		99	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/12/01		84	%	70 - 130
		Chloroform	2010/12/01		96	%	70 - 130
		Carbon Tetrachloride	2010/12/01		104	%	70 - 130
		1,1-Dichloroethane	2010/12/01		90	%	70 - 130
		1,2-Dichloroethane	2010/12/01		103	%	70 - 130
		Ethylene Dibromide	2010/12/01		96	%	70 - 130
		1,1,1-Trichloroethane	2010/12/01		98	%	70 - 130
		1,1,2-Trichloroethane	2010/12/01		93	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/12/01		82	%	70 - 130
		cis-1,3-Dichloropropene	2010/12/01		100	%	70 - 130
		trans-1,3-Dichloropropene	2010/12/01		108	%	70 - 130
		1,2-Dichloropropane	2010/12/01		89	%	70 - 130
		Bromomethane	2010/12/01		81	%	70 - 130
		Bromoform	2010/12/01		106	%	70 - 130
		Bromodichloromethane	2010/12/01		104	%	70 - 130
		Dibromochloromethane	2010/12/01		111	%	70 - 130
		Heptane	2010/12/01		96	%	70 - 130
		Trichloroethylene	2010/12/01		90	%	70 - 130
		Tetrachloroethylene	2010/12/01		97	%	70 - 130
		Benzene	2010/12/01		87	%	70 - 130
		Toluene	2010/12/01		94	%	70 - 130
		Ethylbenzene	2010/12/01		92	%	70 - 130
		p+m-Xylene	2010/12/01		92	%	70 - 130
		o-Xylene	2010/12/01		92	%	70 - 130
		Styrene	2010/12/01		94	%	70 - 130
		1,3,5-Trimethylbenzene	2010/12/01		85	%	70 - 130
		1,2,4-Trimethylbenzene	2010/12/01		84	%	70 - 130
		4-ethyltoluene	2010/12/01		93	%	70 - 130

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H3086

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2348902 LSY	Spiked Blank	Chlorobenzene	2010/12/01		90	%	70 - 130
		Benzyl chloride	2010/12/01		104	%	70 - 130
		1,3-Dichlorobenzene	2010/12/01		83	%	70 - 130
		1,4-Dichlorobenzene	2010/12/01		83	%	70 - 130
		1,2-Dichlorobenzene	2010/12/01		76	%	70 - 130
		1,2,4-Trichlorobenzene	2010/12/01		109	%	70 - 130
		Hexachlorobutadiene	2010/12/01		112	%	70 - 130
		Hexane	2010/12/01		92	%	70 - 130
		Cyclohexane	2010/12/01		94	%	70 - 130
		Tetrahydrofuran	2010/12/01		95	%	70 - 130
		1,4-Dioxane	2010/12/01		85	%	70 - 130
	Method Blank	Bromochloromethane	2010/12/01		91	%	60 - 140
		D5-Chlorobenzene	2010/12/01		77	%	60 - 140
		Difluorobenzene	2010/12/01		90	%	60 - 140
		2,2,4-Trimethylpentane	2010/12/01	<0.20		ppbv	
		Carbon Disulfide	2010/12/01	<0.50		ppbv	
		Propene	2010/12/01	<0.30		ppbv	
		Vinyl Acetate	2010/12/01	<0.20		ppbv	
		Vinyl Bromide	2010/12/01	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/12/01	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/12/01	<0.17		ppbv	
		Chloromethane	2010/12/01	<0.30		ppbv	
		Vinyl Chloride	2010/12/01	<0.18		ppbv	
		Chloroethane	2010/12/01	<0.30		ppbv	
		1,3-Butadiene	2010/12/01	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/12/01	<0.20		ppbv	
		Trichlorotrifluoroethane	2010/12/01	<0.15		ppbv	
		Ethanol	2010/12/01	<2.3		ppbv	
		2-propanol	2010/12/01	<3.0		ppbv	
		2-Propanone	2010/12/01	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/12/01	<3.0		ppbv	
		Methyl Isobutyl Ketone	2010/12/01	<3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/12/01	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/12/01	<0.20		ppbv	
		Ethyl Acetate	2010/12/01	<2.2		ppbv	
		1,1-Dichloroethylene	2010/12/01	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/12/01	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/12/01	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/12/01	0.40, RDL=0.30		ppbv	
		Chloroform	2010/12/01	<0.15		ppbv	
		Carbon Tetrachloride	2010/12/01	<0.30		ppbv	
		1,1-Dichloroethane	2010/12/01	<0.20		ppbv	
		1,2-Dichloroethane	2010/12/01	<0.20		ppbv	
		Ethylene Dibromide	2010/12/01	<0.17		ppbv	
		1,1,1-Trichloroethane	2010/12/01	<0.30		ppbv	
		1,1,2-Trichloroethane	2010/12/01	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/12/01	<0.20		ppbv	
		cis-1,3-Dichloropropene	2010/12/01	<0.18		ppbv	
		trans-1,3-Dichloropropene	2010/12/01	<0.17		ppbv	
		1,2-Dichloropropane	2010/12/01	<0.40		ppbv	
		Bromomethane	2010/12/01	<0.18		ppbv	
		Bromoform	2010/12/01	<0.20		ppbv	
		Bromodichloromethane	2010/12/01	<0.20		ppbv	
		Dibromochloromethane	2010/12/01	<0.20		ppbv	
		Heptane	2010/12/01	<0.30		ppbv	

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H3086

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2348902 LSY	Method Blank	Trichloroethylene	2010/12/01	<0.30		ppbv	
		Tetrachloroethylene	2010/12/01	<0.20		ppbv	
		Benzene	2010/12/01	<0.18		ppbv	
		Toluene	2010/12/01	<0.20		ppbv	
		Ethylbenzene	2010/12/01	<0.20		ppbv	
		p+m-Xylene	2010/12/01	<0.37		ppbv	
		o-Xylene	2010/12/01	<0.20		ppbv	
		Styrene	2010/12/01	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/12/01	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/12/01	<0.50		ppbv	
		4-ethyltoluene	2010/12/01	<2.2		ppbv	
		Chlorobenzene	2010/12/01	<0.20		ppbv	
		Benzyl chloride	2010/12/01	<1.0		ppbv	
		1,3-Dichlorobenzene	2010/12/01	<0.40		ppbv	
		1,4-Dichlorobenzene	2010/12/01	<0.40		ppbv	
		1,2-Dichlorobenzene	2010/12/01	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/12/01	<2.0		ppbv	
		Hexachlorobutadiene	2010/12/01	<3.0		ppbv	
		Hexane	2010/12/01	<0.30		ppbv	
		Cyclohexane	2010/12/01	<0.20		ppbv	
		Tetrahydrofuran	2010/12/01	<0.40		ppbv	
		1,4-Dioxane	2010/12/01	<2.0		ppbv	
		Xylene (Total)	2010/12/01	<0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane		TBA		%	25
		Carbon Disulfide		TBA		%	25
		Propene		TBA		%	25
		Vinyl Acetate		TBA		%	25
		Vinyl Bromide		TBA		%	25
		Dichlorodifluoromethane (FREON 12)		TBA		%	25
		1,2-Dichlorotetrafluoroethane		TBA		%	25
		Chloromethane		TBA		%	25
		Vinyl Chloride		TBA		%	25
		Chloroethane		TBA		%	25
		1,3-Butadiene		TBA		%	25
		Trichlorofluoromethane (FREON 11)		TBA		%	25
		Trichlorotrifluoroethane		TBA		%	25
		Ethanol		TBA		%	25
		2-propanol		TBA		%	25
		2-Propanone		TBA		%	25
		Methyl Ethyl Ketone (2-Butanone)		TBA		%	25
		Methyl Isobutyl Ketone		TBA		%	25
		Methyl Butyl Ketone (2-Hexanone)		TBA		%	25
		Methyl t-butyl ether (MTBE)		TBA		%	25
		Ethyl Acetate		TBA		%	25
		1,1-Dichloroethylene		TBA		%	25
		cis-1,2-Dichloroethylene		TBA		%	25
		trans-1,2-Dichloroethylene		TBA		%	25
		Methylene Chloride(Dichloromethane)		TBA		%	25
		Chloroform		TBA		%	25
		Carbon Tetrachloride		TBA		%	25
		1,1-Dichloroethane		TBA		%	25
		1,2-Dichloroethane		TBA		%	25
		Ethylene Dibromide		TBA		%	25

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H3086

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2348902 LSY	RPD - Sample/Sample Dup	1,1,1-Trichloroethane		TBA		%	25
		1,1,2-Trichloroethane		TBA		%	25
		1,1,2,2-Tetrachloroethane		TBA		%	25
		cis-1,3-Dichloropropene		TBA		%	25
		trans-1,3-Dichloropropene		TBA		%	25
		1,2-Dichloropropane		TBA		%	25
		Bromomethane		TBA		%	25
		Bromoform		TBA		%	25
		Bromodichloromethane		TBA		%	25
		Dibromochloromethane		TBA		%	25
		Heptane		TBA		%	25
		Trichloroethylene		TBA		%	25
		Tetrachloroethylene		TBA		%	25
		Benzene		TBA		%	25
		Toluene		TBA		%	25
		Ethylbenzene		TBA		%	25
		p+m-Xylene		TBA		%	25
		o-Xylene		TBA		%	25
		Styrene		TBA		%	25
		1,3,5-Trimethylbenzene		TBA		%	25
		1,2,4-Trimethylbenzene		TBA		%	25
		4-ethyltoluene		TBA		%	25
		Chlorobenzene		TBA		%	25
		Benzyl chloride		TBA		%	25
		1,3-Dichlorobenzene		TBA		%	25
		1,4-Dichlorobenzene		TBA		%	25
		1,2-Dichlorobenzene		TBA		%	25
		1,2,4-Trichlorobenzene		TBA		%	25
		Hexachlorobutadiene		TBA		%	25
		Hexane		TBA		%	25
		Cyclohexane		TBA		%	25
		Tetrahydrofuran		TBA		%	25
		1,4-Dioxane		TBA		%	25
		Xylene (Total)		TBA		%	25

TBA = Result to follow

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.

Polycyclic Aromatic Hydrocarbons Laboratory Analysis

MAXXAM

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/Nov 04, 10

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Nov 03, 2010 @ 12:57 mst
Removal Date/Time: Nov 08, 2010 @ 8:45 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
04-Nov-10	04/11/2010 0:00	05/11/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
02-Nov-10	08-Nov-10	12-Nov-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 ³)
713	229	2.6	330.32

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 # 2330

GB0D7608 Puff #2

Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Nov 04, 10

- Noticed condensation on the PUFF glass holder

Technician Signiture: Ting Xu

Your C.O.C. #: 2330

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/12/16

CERTIFICATE OF ANALYSIS**MAXXAM JOB #: B0G1215****Received: 2010/11/10, 09:10**

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/11/11	2010/11/12	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Page 1 of 7

Page 189 of 227

Maxxam Job #: B0G1215
 Report Date: 2010/12/16

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

Maxxam ID		HU6546	HU6547		
Sampling Date		2010/11/04	2010/11/04		
COC Number		2330	2330		
	Units	LICA PUFF+QFF/CLS/NOV 4,10	LICA PUFF+QFF/PORT/NOV 4	RDL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2328565
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2328565
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2328565
2-Methylantracene	ug	<0.10	<0.10	0.10	2328565
2-Methylnaphthalene	ug	0.20	0.11	0.10	2328565
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2328565
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2328565
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2328565
Acenaphthene	ug	<0.050	<0.050	0.050	2328565
Acenaphthylene	ug	<0.050	<0.050	0.050	2328565
Anthracene	ug	<0.050	<0.050	0.050	2328565
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2328565
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2328565
Benzo(a)pyrene	ug	0.066	<0.050	0.050	2328565
Benzo(b)fluoranthene	ug	0.098	<0.050	0.050	2328565
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2328565
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2328565
Benzo(g,h,i)perylene	ug	0.116	0.062	0.050	2328565
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2328565
Biphenyl	ug	<0.10	<0.10	0.10	2328565
Chrysene	ug	0.052	<0.050	0.050	2328565
Coronene	ug	<0.10	<0.10	0.10	2328565
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2328565
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2328565
Fluoranthene	ug	0.118	0.068	0.050	2328565
Fluorene	ug	0.158	0.120	0.050	2328565
Indeno(1,2,3-cd)pyrene	ug	0.088	<0.050	0.050	2328565
m-Terphenyl	ug	<0.10	<0.10	0.10	2328565
Naphthalene	ug	0.154	0.090	0.072	2328565
o-Terphenyl	ug	<0.10	<0.10	0.10	2328565
Perylene	ug	<0.10	<0.10	0.10	2328565

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G1215
 Report Date: 2010/12/16

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

Maxxam ID		HU6546	HU6547		
Sampling Date		2010/11/04	2010/11/04		
COC Number		2330	2330		
	Units	LICA PUFF+QFF/CLS/NOV 4,10	LICA PUFF+QFF/PORT/NOV 4	RDL	QC Batch

Phenanthrene	ug	0.370	0.240	0.050	2328565
p-Terphenyl	ug	<0.10	<0.10	0.10	2328565
Pyrene	ug	0.112	0.054	0.050	2328565
Quinoline	ug	<0.40	<0.40	0.40	2328565
Tetralin	ug	<0.10	<0.10	0.10	2328565
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	72	74		2328565
D10-Fluoranthene	%	96	102		2328565
D10-Fluorene (FS)	%	23 (1)	11 (1)		2328565
D10-Phenanthrene	%	88	90		2328565
D12-Benzo(a)anthracene	%	96	104		2328565
D12-Benzo(a)pyrene	%	100	102		2328565
D12-Benzo(b)fluoranthene	%	92	94		2328565
D12-Benzo(ghi)perylene	%	98	100		2328565
D12-Benzo(k)fluoranthene	%	94	96		2328565
D12-Chrysene	%	86	88		2328565
D12-Indeno(1,2,3-cd)pyrene	%	100	102		2328565
D12-Perylene	%	98	100		2328565
D14-Dibenzo(a,h)anthracene	%	100	104		2328565
D14-Terphenyl (FS)	%	81	83		2328565
D8-Acenaphthylene	%	78	84		2328565
D8-Naphthalene	%	70	70		2328565

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 #: B0G1215
 Report Date: 2010/12/16

Test Summary

Maxxam ID	HU6546	Collected	2010/11/04
Sample ID	LICA PUFF+QFF/CLS/NOV 4,10	Shipped	
Matrix	PUF AND FILTER	Received	2010/11/10

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2328565	2010/11/11	2010/11/12	JIW

Maxxam ID	HU6547	Collected	2010/11/04
Sample ID	LICA PUFF+QFF/PORT/NOV 4	Shipped	
Matrix	PUF AND FILTER	Received	2010/11/10

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2328565	2010/11/11	2010/11/12	JIW

Maxxam Job #: B0G1215
Report Date: 2010/12/16

GENERAL COMMENTS

PAHMS-F(WS:2328965)

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in initial calibration. No positive found for this compound.

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in continuing calibration.

Sample HU6546-01: PAHMS-F(WS:2328565)

Low D10-Fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of D14-Terphenyl field spike.

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(a,h) anthracene it would have a value below estimated mdl.

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.052ug, which is the value reported for Chrysene.

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

Sample HU6547-01: PAHMS-F(WS:2328565)

Low D10-Fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of D14-Terphenyl field spike.

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(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 Dibenz(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.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0G1215

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2328565 JIW	Spiked Blank	D10-2-Methylnaphthalene	2010/11/12		78	%	50 - 150
		D10-Fluoranthene	2010/11/12		94	%	50 - 150
		D10-Phenanthrene	2010/11/12		88	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/12		98	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/12		98	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/12		90	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/12		94	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/12		92	%	50 - 150
		D12-Chrysene	2010/11/12		90	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/11/12		96	%	50 - 150
		D12-Perylene	2010/11/12		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/12		98	%	50 - 150
		D8-Acenaphthylene	2010/11/12		90	%	50 - 150
		D8-Naphthalene	2010/11/12		78	%	50 - 150
		Acenaphthene	2010/11/12		80	%	60 - 130
	RPD	Acenaphthene	2010/11/12	5.5		%	50
	Spiked Blank	Acenaphthylene	2010/11/12		84	%	60 - 130
	RPD	Acenaphthylene	2010/11/12	3.8		%	50
	Spiked Blank	Anthracene	2010/11/12		80	%	60 - 130
	RPD	Anthracene	2010/11/12	8.1		%	50
	Spiked Blank	Benzo(a)anthracene	2010/11/12		85	%	60 - 130
	RPD	Benzo(a)anthracene	2010/11/12	2.9		%	50
	Spiked Blank	Benzo(a)pyrene	2010/11/12		86	%	60 - 130
	RPD	Benzo(a)pyrene	2010/11/12	1.8		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/11/12		87	%	60 - 130
	RPD	Benzo(b)fluoranthene	2010/11/12	1.1		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/11/12		89	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2010/11/12	2.5		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/11/12		94	%	60 - 130
	RPD	Benzo(k)fluoranthene	2010/11/12	3.2		%	50
	Spiked Blank	Chrysene	2010/11/12		86	%	60 - 130
	RPD	Chrysene	2010/11/12	3.2		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/11/12		86	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2010/11/12	4.8		%	50
	Spiked Blank	Fluoranthene	2010/11/12		87	%	60 - 130
	RPD	Fluoranthene	2010/11/12	9.9		%	50
	Spiked Blank	Fluorene	2010/11/12		80	%	60 - 130
	RPD	Fluorene	2010/11/12	6.3		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/11/12		90	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2010/11/12	2.5		%	50
	Spiked Blank	Naphthalene	2010/11/12		71	%	60 - 130
	RPD	Naphthalene	2010/11/12	4.8		%	50
	Spiked Blank	Phenanthrene	2010/11/12		78	%	60 - 130
	RPD	Phenanthrene	2010/11/12	8.9		%	50
	Spiked Blank	Pyrene	2010/11/12		80	%	60 - 130
	RPD	Pyrene	2010/11/12	8.4		%	50
	Method Blank	D10-2-Methylnaphthalene	2010/11/15		74	%	50 - 150
		D10-Fluoranthene	2010/11/15		96	%	50 - 150
		D10-Phenanthrene	2010/11/15		86	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/15		106	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/15		104	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/15		94	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/15		96	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/15		98	%	50 - 150
		D12-Chrysene	2010/11/15		92	%	50 - 150

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G1215

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2328565 JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/11/15		100	%	50 - 150
		D12-Perylene	2010/11/15		102	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/15		100	%	50 - 150
		D8-Acenaphthylene	2010/11/15		86	%	50 - 150
		D8-Naphthalene	2010/11/15		72	%	50 - 150
		1-Methylnaphthalene	2010/11/15	<0.10		ug	
		1-Methylphenanthrene	2010/11/15	<0.10		ug	
		2-Chloronaphthalene	2010/11/15	<0.10		ug	
		2-Methylanthracene	2010/11/15	<0.10		ug	
		2-Methylnaphthalene	2010/11/15	<0.10		ug	
		3-Methylcholanthrene	2010/11/15	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/11/15	<0.10		ug	
		9,10-Dimethylanthracene	2010/11/15	<0.40		ug	
		Acenaphthene	2010/11/15	<0.050		ug	
		Acenaphthylene	2010/11/15	<0.050		ug	
		Anthracene	2010/11/15	<0.050		ug	
		Benzo(a)anthracene	2010/11/15	<0.050		ug	
		Benzo(a)fluorene	2010/11/15	<0.10		ug	
		Benzo(a)pyrene	2010/11/15	<0.050		ug	
		Benzo(b)fluoranthene	2010/11/15	<0.050		ug	
		Benzo(b)fluorene	2010/11/15	<0.10		ug	
		Benzo(e)pyrene	2010/11/15	<0.10		ug	
		Benzo(g,h,i)perylene	2010/11/15	<0.050		ug	
		Benzo(k)fluoranthene	2010/11/15	<0.050		ug	
		Biphenyl	2010/11/15	<0.10		ug	
		Chrysene	2010/11/15	<0.050		ug	
		Coronene	2010/11/15	<0.10		ug	
		Dibenz(a,h)anthracene	2010/11/15	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/11/15	<0.20		ug	
		Fluoranthene	2010/11/15	<0.050		ug	
		Fluorene	2010/11/15	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/11/15	<0.050		ug	
		m-Terphenyl	2010/11/15	<0.10		ug	
		Naphthalene	2010/11/15	<0.072		ug	
		o-Terphenyl	2010/11/15	<0.10		ug	
		Perylene	2010/11/15	<0.10		ug	
		Phenanthrene	2010/11/15	<0.050		ug	
		p-Terphenyl	2010/11/15	<0.10		ug	
		Pyrene	2010/11/15	<0.050		ug	
		Quinoline	2010/11/15	<0.40		ug	
		Tetralin	2010/11/15	<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

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/Nov 10, 10

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Nov 09, 2010 @ 10:05 mst
Removal Date/Time: Nov 11, 2010 @ 9:48 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
10-Nov-10	10/11/2010 0:00	11/11/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
08-Nov-10	11-Nov-10	15-Nov-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 ³)
714	229	-4.2	330.28

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 # 2332

GB0D9026 Puff #2

Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Nov 10, 10

- Noticed condensation on the PUFF glass holder

Technician Signiture: Ting Xu

Your C.O.C. #: 2332

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/11/19

CERTIFICATE OF ANALYSIS**MAXXAM JOB #: B0G4342****Received: 2010/11/16, 09:57**

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/11/17	2010/11/18	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Page 1 of 7

Page 197 of 227

Maxxam Job #: B0G4342
 Report Date: 2010/11/19

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

Maxxam ID		HW2736	HW2737		
Sampling Date		2010/11/10	2010/11/10		
COC Number		2332	2332		
	Units	LICAPUFF/QFF/CLS/NOV 10,10	LICAPUFF/QFF/PORT/NOV 10,10	RDL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	0.49	0.14	0.10	2332895
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2332895
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2332895
2-Methylantracene	ug	<0.10	<0.10	0.10	2332895
2-Methylnaphthalene	ug	0.86	0.21	0.10	2332895
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2332895
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2332895
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2332895
Acenaphthene	ug	0.090	<0.050	0.050	2332895
Acenaphthylene	ug	0.290	0.138	0.050	2332895
Anthracene	ug	<0.050	<0.050	0.050	2332895
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2332895
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2332895
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2332895
Benzo(b)fluoranthene	ug	0.064	<0.050	0.050	2332895
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2332895
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2332895
Benzo(g,h,i)perylene	ug	0.050	<0.050	0.050	2332895
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2332895
Biphenyl	ug	0.33	0.27	0.10	2332895
Chrysene	ug	0.050	<0.050	0.050	2332895
Coronene	ug	<0.10	<0.10	0.10	2332895
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2332895
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2332895
Fluoranthene	ug	0.112	0.094	0.050	2332895
Fluorene	ug	0.226	0.178	0.050	2332895
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2332895
m-Terphenyl	ug	<0.10	<0.10	0.10	2332895
Naphthalene	ug	0.728	0.294	0.072	2332895
o-Terphenyl	ug	<0.10	<0.10	0.10	2332895
Perylene	ug	<0.10	<0.10	0.10	2332895
Phenanthrene	ug	0.402	0.334	0.050	2332895

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G4342
 Report Date: 2010/11/19

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

Maxxam ID		HW2736	HW2737		
Sampling Date		2010/11/10	2010/11/10		
COC Number		2332	2332		
	Units	LICAPUFF/QFF/CLS/NOV 10,10	LICAPUFF/QFF/PORT/NOV 10,10	RDL	QC Batch

p-Terphenyl	ug	<0.10	<0.10	0.10	2332895
Pyrene	ug	0.100	0.076	0.050	2332895
Quinoline	ug	<0.40	<0.40	0.40	2332895
Tetralin	ug	<0.10	<0.10	0.10	2332895
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	66	78		2332895
D10-Fluoranthene	%	94	100		2332895
D10-Fluorene (FS)	%	37 (1)	33 (1)		2332895
D10-Phenanthrene	%	82	86		2332895
D12-Benzo(a)anthracene	%	90	88		2332895
D12-Benzo(a)pyrene	%	96	98		2332895
D12-Benzo(b)fluoranthene	%	88	88		2332895
D12-Benzo(ghi)perylene	%	92	96		2332895
D12-Benzo(k)fluoranthene	%	94	94		2332895
D12-Chrysene	%	92	88		2332895
D12-Indeno(1,2,3-cd)pyrene	%	94	96		2332895
D12-Perylene	%	98	100		2332895
D14-Dibenzo(a,h)anthracene	%	92	98		2332895
D14-Terphenyl (FS)	%	80	77		2332895
D8-Acenaphthylene	%	74	88		2332895
D8-Naphthalene	%	66	78		2332895

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 #: B0G4342
 Report Date: 2010/11/19

Test Summary

Maxxam ID HW2736 **Collected** 2010/11/10
Sample ID LICAPUFF/QFF/CLS/NOV 10,10 **Shipped**
Matrix PUF AND FILTER **Received** 2010/11/16

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2332895	2010/11/17	2010/11/18	JIW

Maxxam ID HW2737 **Collected** 2010/11/10
Sample ID LICAPUFF/QFF/PORT/NOV 10,10 **Shipped**
Matrix PUF AND FILTER **Received** 2010/11/16

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2332895	2010/11/17	2010/11/18	JIW

Maxxam Job #: B0G4342
Report Date: 2010/11/19

GENERAL COMMENTS

PAHMS-F(WS:2332895)

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in initial calibration.

2-Chloronaphthalene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in continuing calibration.

Sample HW2736-01: PAHMS-F(WS:2332895)

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

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.05ug, which is the value reported for Chrysene.

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(a,h) anthracene, it would have a value below estimated mdl.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenz(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.

Sample HW2737-01: PAHMS-F(WS:2332895)

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(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 Dibenz(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.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0G4342

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2332895 JIW	Spiked Blank	D10-2-Methylnaphthalene	2010/11/18		78	%	50 - 150
		D10-Fluoranthene	2010/11/18		92	%	50 - 150
		D10-Phenanthrene	2010/11/18		84	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/18		88	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/18		92	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/18		88	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/18		90	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/18		94	%	50 - 150
		D12-Chrysene	2010/11/18		86	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/11/18		90	%	50 - 150
		D12-Perylene	2010/11/18		92	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/18		90	%	50 - 150
		D8-Acenaphthylene	2010/11/18		86	%	50 - 150
		D8-Naphthalene	2010/11/18		80	%	50 - 150
		Acenaphthene	2010/11/18		80	%	60 - 130
	RPD	Acenaphthene	2010/11/18	1.2		%	50
	Spiked Blank	Acenaphthylene	2010/11/18		83	%	60 - 130
	RPD	Acenaphthylene	2010/11/18	0		%	50
	Spiked Blank	Anthracene	2010/11/18		76	%	60 - 130
	RPD	Anthracene	2010/11/18	0		%	50
	Spiked Blank	Benzo(a)anthracene	2010/11/18		79	%	60 - 130
	RPD	Benzo(a)anthracene	2010/11/18	0		%	50
	Spiked Blank	Benzo(a)pyrene	2010/11/18		77	%	60 - 130
	RPD	Benzo(a)pyrene	2010/11/18	1.6		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/11/18		80	%	60 - 130
	RPD	Benzo(b)fluoranthene	2010/11/18	0		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/11/18		80	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2010/11/18	1.2		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/11/18		90	%	60 - 130
	RPD	Benzo(k)fluoranthene	2010/11/18	7.3		%	50
	Spiked Blank	Chrysene	2010/11/18		87	%	60 - 130
	RPD	Chrysene	2010/11/18	0.3		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/11/18		81	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2010/11/18	2.4		%	50
	Spiked Blank	Fluoranthene	2010/11/18		89	%	60 - 130
	RPD	Fluoranthene	2010/11/18	0		%	50
	Spiked Blank	Fluorene	2010/11/18		78	%	60 - 130
	RPD	Fluorene	2010/11/18	0.3		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/11/18		81	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2010/11/18	0.3		%	50
	Spiked Blank	Naphthalene	2010/11/18		74	%	60 - 130
	RPD	Naphthalene	2010/11/18	1.0		%	50
	Spiked Blank	Phenanthrene	2010/11/18		75	%	60 - 130
	RPD	Phenanthrene	2010/11/18	0		%	50
	Spiked Blank	Pyrene	2010/11/18		80	%	60 - 130
	RPD	Pyrene	2010/11/18	1.2		%	50
	Method Blank	D10-2-Methylnaphthalene	2010/11/18		80	%	50 - 150
		D10-Fluoranthene	2010/11/18		100	%	50 - 150
		D10-Phenanthrene	2010/11/18		82	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/18		88	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/18		96	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/18		88	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/18		96	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/18		96	%	50 - 150
		D12-Chrysene	2010/11/18		90	%	50 - 150

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G4342

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2332895 JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/11/18		96	%	50 - 150
		D12-Perylene	2010/11/18		98	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/18		96	%	50 - 150
		D8-Acenaphthylene	2010/11/18		90	%	50 - 150
		D8-Naphthalene	2010/11/18		82	%	50 - 150
		1-Methylnaphthalene	2010/11/18	<0.10		ug	
		1-Methylphenanthrene	2010/11/18	<0.10		ug	
		2-Chloronaphthalene	2010/11/18	<0.10		ug	
		2-Methylanthracene	2010/11/18	<0.10		ug	
		2-Methylnaphthalene	2010/11/18	<0.10		ug	
		3-Methylcholanthrene	2010/11/18	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/11/18	<0.10		ug	
		9,10-Dimethylanthracene	2010/11/18	<0.40		ug	
		Acenaphthene	2010/11/18	<0.050		ug	
		Acenaphthylene	2010/11/18	<0.050		ug	
		Anthracene	2010/11/18	<0.050		ug	
		Benzo(a)anthracene	2010/11/18	<0.050		ug	
		Benzo(a)fluorene	2010/11/18	<0.10		ug	
		Benzo(a)pyrene	2010/11/18	<0.050		ug	
		Benzo(b)fluoranthene	2010/11/18	<0.050		ug	
		Benzo(b)fluorene	2010/11/18	<0.10		ug	
		Benzo(e)pyrene	2010/11/18	<0.10		ug	
		Benzo(g,h,i)perylene	2010/11/18	<0.050		ug	
		Benzo(k)fluoranthene	2010/11/18	<0.050		ug	
		Biphenyl	2010/11/18	<0.10		ug	
		Chrysene	2010/11/18	<0.050		ug	
		Coronene	2010/11/18	<0.10		ug	
		Dibenz(a,h)anthracene	2010/11/18	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/11/18	<0.20		ug	
		Fluoranthene	2010/11/18	<0.050		ug	
		Fluorene	2010/11/18	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/11/18	<0.050		ug	
		m-Terphenyl	2010/11/18	<0.10		ug	
		Naphthalene	2010/11/18	<0.072		ug	
		o-Terphenyl	2010/11/18	<0.10		ug	
		Perylene	2010/11/18	<0.10		ug	
		Phenanthrene	2010/11/18	<0.050		ug	
		p-Terphenyl	2010/11/18	<0.10		ug	
		Pyrene	2010/11/18	<0.050		ug	
		Quinoline	2010/11/18	<0.40		ug	
		Tetralin	2010/11/18	<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

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/Nov 16, 10

Puf+ s/n: 100-1015
 Motor s/n: 1139
 Installation Date/Time: Nov 15, 2010 @ 17:41 mst
 Removal Date/Time: Nov 17, 2010 @ 13:42 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
16-Nov-10	16/11/2010 0:00	17/11/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
15-Nov-10	17-Nov-10	24-Nov-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 ³)
716	229	-9.5	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 # 5078

GB0D9038 Puff #2

Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Nov 16, 10

- Noticed condensation on the PUFF glass holder

Technician Signiture: Ting Xu

Your C.O.C. #: 5078

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/11/25

CERTIFICATE OF ANALYSIS**MAXXAM JOB #: B0G6936****Received: 2010/11/19, 09:32**

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/11/22	2010/11/24	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Page 1 of 7

Page 205 of 227

Maxxam Job #: B0G6936
 Report Date: 2010/11/25

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

Maxxam ID		HX3969		HX3970		
Sampling Date		2010/11/16		2010/11/16		
COC Number		5078		5078		
	Units	LICA PUFF/QFF/CLS/NOV 16,10	RDL	LICA PUFF/QFF/PORT/NOV 16,10	RDL	QC Batch

Semivolatile Organics						
1-Methylnaphthalene	ug	0.35	0.10	<0.10	0.10	2337382
1-Methylphenanthrene	ug	0.18	0.10	<0.10	0.10	2337382
2-Chloronaphthalene	ug	<0.10	0.10	<0.10	0.10	2337382
2-Methylantracene	ug	<0.10	0.10	<0.10	0.10	2337382
2-Methylnaphthalene	ug	0.79	0.10	0.12	0.10	2337382
3-Methylcholanthrene	ug	<2.0	2.0	<2.0	2.0	2337382
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	0.10	<0.10	0.10	2337382
9,10-Dimethylantracene	ug	<0.40	0.40	<0.40	0.40	2337382
Acenaphthene	ug	<0.11	0.11	<0.050	0.050	2337382
Acenaphthylene	ug	0.086	0.050	<0.050	0.050	2337382
Anthracene	ug	<0.050	0.050	<0.050	0.050	2337382
Benzo(a)anthracene	ug	<0.050	0.050	<0.050	0.050	2337382
Benzo(a)fluorene	ug	<0.10	0.10	<0.10	0.10	2337382
Benzo(a)pyrene	ug	<0.050	0.050	<0.050	0.050	2337382
Benzo(b)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2337382
Benzo(b)fluorene	ug	<0.10	0.10	<0.10	0.10	2337382
Benzo(e)pyrene	ug	<0.10	0.10	<0.10	0.10	2337382
Benzo(g,h,i)perylene	ug	<0.050	0.050	<0.050	0.050	2337382
Benzo(k)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2337382
Biphenyl	ug	0.42	0.10	<0.10	0.10	2337382
Chrysene	ug	<0.050	0.050	<0.050	0.050	2337382
Coronene	ug	<0.10	0.10	<0.10	0.10	2337382
Dibenz(a,h)anthracene	ug	<0.050	0.050	<0.050	0.050	2337382
Dibenzo(a,e)pyrene	ug	<0.20	0.20	<0.20	0.20	2337382
Fluoranthene	ug	<0.050	0.050	<0.050	0.050	2337382
Fluorene	ug	0.246	0.050	<0.050	0.050	2337382
Indeno(1,2,3-cd)pyrene	ug	<0.050	0.050	<0.050	0.050	2337382
m-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2337382
Naphthalene	ug	0.176	0.072	0.090	0.072	2337382
o-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2337382
Perylene	ug	<0.10	0.10	<0.10	0.10	2337382

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0G6936
 Report Date: 2010/11/25

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

Maxxam ID		HX3969		HX3970		
Sampling Date		2010/11/16		2010/11/16		
COC Number		5078		5078		
	Units	LICA PUFF/QFF/CLS/NOV 16,10	RDL	LICA PUFF/QFF/PORT/NOV 16,10	RDL	QC Batch

Phenanthrene	ug	0.436	0.050	0.108	0.050	2337382
p-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2337382
Pyrene	ug	0.100	0.050	<0.050	0.050	2337382
Quinoline	ug	<0.40	0.40	<0.40	0.40	2337382
Tetralin	ug	<0.10	0.10	<0.10	0.10	2337382
Surrogate Recovery (%)						
D10-2-Methylnaphthalene	%	74		70		2337382
D10-Fluoranthene	%	100		98		2337382
D10-Fluorene (FS)	%	68		57		2337382
D10-Phenanthrene	%	90		88		2337382
D12-Benzo(a)anthracene	%	104		102		2337382
D12-Benzo(a)pyrene	%	100		98		2337382
D12-Benzo(b)fluoranthene	%	98		94		2337382
D12-Benzo(ghi)perylene	%	98		100		2337382
D12-Benzo(k)fluoranthene	%	92		92		2337382
D12-Chrysene	%	90		88		2337382
D12-Indeno(1,2,3-cd)pyrene	%	102		102		2337382
D12-Perylene	%	96		96		2337382
D14-Dibenzo(a,h)anthracene	%	104		102		2337382
D14-Terphenyl (FS)	%	86		84		2337382
D8-Acenaphthylene	%	84		78		2337382
D8-Naphthalene	%	72		66		2337382

QC Batch = Quality Control Batch

Maxxam Job #: B0G6936
 Report Date: 2010/11/25

Test Summary

Maxxam ID HX3969 **Collected** 2010/11/16
Sample ID LICA PUFF/QFF/CLS/NOV 16,10 **Shipped**
Matrix PUF AND FILTER **Received** 2010/11/19

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2337382	2010/11/22	2010/11/24	JIW

Maxxam ID HX3970 **Collected** 2010/11/16
Sample ID LICA PUFF/QFF/PORT/NOV 16,10 **Shipped**
Matrix PUF AND FILTER **Received** 2010/11/19

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2337382	2010/11/22	2010/11/24	JIW

Maxxam Job #: B0G6936
Report Date: 2010/11/25

GENERAL COMMENTS

PAHMS-F(WS:2337382)

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in initial calibration. No positive found for this compound.

9,10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in continuing calibration.

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(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 Dibenz(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

Sample HX3969-01: PAHMS-F(WS:2337382)

Mdl raised for Acenaphthene due to matrix interference on a possible positive.

Results relate only to the items tested.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0G6936

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337382 JIW	Spiked Blank	D10-2-Methylnaphthalene	2010/11/24		78	%	50 - 150
		D10-Fluoranthene	2010/11/24		92	%	50 - 150
		D10-Phenanthrene	2010/11/24		86	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/24		98	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/24		96	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/24		94	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/24		96	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/24		92	%	50 - 150
		D12-Chrysene	2010/11/24		90	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/11/24		98	%	50 - 150
		D12-Perylene	2010/11/24		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/24		100	%	50 - 150
		D8-Acenaphthylene	2010/11/24		82	%	50 - 150
		D8-Naphthalene	2010/11/24		76	%	50 - 150
		Acenaphthene	2010/11/24		77	%	60 - 130
	RPD	Acenaphthene	2010/11/24	5.4		%	50
	Spiked Blank	Acenaphthylene	2010/11/24		79	%	60 - 130
	RPD	Acenaphthylene	2010/11/24	6.4		%	50
	Spiked Blank	Anthracene	2010/11/24		79	%	60 - 130
	RPD	Anthracene	2010/11/24	5.8		%	50
	Spiked Blank	Benzo(a)anthracene	2010/11/24		88	%	60 - 130
	RPD	Benzo(a)anthracene	2010/11/24	1.4		%	50
	Spiked Blank	Benzo(a)pyrene	2010/11/24		76	%	60 - 130
	RPD	Benzo(a)pyrene	2010/11/24	5.1		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/11/24		85	%	60 - 130
	RPD	Benzo(b)fluoranthene	2010/11/24	1.7		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/11/24		86	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2010/11/24	2.0		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/11/24		90	%	60 - 130
	RPD	Benzo(k)fluoranthene	2010/11/24	1.9		%	50
	Spiked Blank	Chrysene	2010/11/24		87	%	60 - 130
	RPD	Chrysene	2010/11/24	1.7		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/11/24		91	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2010/11/24	1.1		%	50
	Spiked Blank	Fluoranthene	2010/11/24		90	%	60 - 130
	RPD	Fluoranthene	2010/11/24	3.3		%	50
	Spiked Blank	Fluorene	2010/11/24		79	%	60 - 130
	RPD	Fluorene	2010/11/24	5.5		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/11/24		89	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2010/11/24	1.7		%	50
	Spiked Blank	Naphthalene	2010/11/24		70	%	60 - 130
	RPD	Naphthalene	2010/11/24	3.8		%	50
	Spiked Blank	Phenanthrene	2010/11/24		80	%	60 - 130
	RPD	Phenanthrene	2010/11/24	5.8		%	50
	Spiked Blank	Pyrene	2010/11/24		82	%	60 - 130
	RPD	Pyrene	2010/11/24	4.5		%	50
	Method Blank	D10-2-Methylnaphthalene	2010/11/24		86	%	50 - 150
		D10-Fluoranthene	2010/11/24		96	%	50 - 150
		D10-Phenanthrene	2010/11/24		88	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/24		100	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/24		100	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/24		96	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/24		98	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/24		94	%	50 - 150
		D12-Chrysene	2010/11/24		90	%	50 - 150

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0G6936

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2337382 JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/11/24		102	%	50 - 150
		D12-Perylene	2010/11/24		96	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/24		102	%	50 - 150
		D8-Acenaphthylene	2010/11/24		88	%	50 - 150
		D8-Naphthalene	2010/11/24		84	%	50 - 150
		1-Methylnaphthalene	2010/11/24	<0.10		ug	
		1-Methylphenanthrene	2010/11/24	<0.10		ug	
		2-Chloronaphthalene	2010/11/24	<0.10		ug	
		2-Methylanthracene	2010/11/24	<0.10		ug	
		2-Methylnaphthalene	2010/11/24	<0.10		ug	
		3-Methylcholanthrene	2010/11/24	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/11/24	<0.10		ug	
		9,10-Dimethylanthracene	2010/11/24	<0.40		ug	
		Acenaphthene	2010/11/24	<0.050		ug	
		Acenaphthylene	2010/11/24	<0.050		ug	
		Anthracene	2010/11/24	<0.050		ug	
		Benzo(a)anthracene	2010/11/24	<0.050		ug	
		Benzo(a)fluorene	2010/11/24	<0.10		ug	
		Benzo(a)pyrene	2010/11/24	<0.050		ug	
		Benzo(b)fluoranthene	2010/11/24	<0.050		ug	
		Benzo(b)fluorene	2010/11/24	<0.10		ug	
		Benzo(e)pyrene	2010/11/24	<0.10		ug	
		Benzo(g,h,i)perylene	2010/11/24	<0.050		ug	
		Benzo(k)fluoranthene	2010/11/24	<0.050		ug	
		Biphenyl	2010/11/24	<0.10		ug	
		Chrysene	2010/11/24	<0.050		ug	
		Coronene	2010/11/24	<0.10		ug	
		Dibenz(a,h)anthracene	2010/11/24	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/11/24	<0.20		ug	
		Fluoranthene	2010/11/24	<0.050		ug	
		Fluorene	2010/11/24	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/11/24	<0.050		ug	
		m-Terphenyl	2010/11/24	<0.10		ug	
		Naphthalene	2010/11/24	<0.072		ug	
		o-Terphenyl	2010/11/24	<0.10		ug	
		Perylene	2010/11/24	<0.10		ug	
		Phenanthrene	2010/11/24	<0.050		ug	
		p-Terphenyl	2010/11/24	<0.10		ug	
		Pyrene	2010/11/24	<0.050		ug	
		Quinoline	2010/11/24	<0.40		ug	
		Tetralin	2010/11/24	<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

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/Nov 22, 10

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Nov 19, 2010 @ 16:20 mst
Removal Date/Time: Nov 24, 2010 @ 8:34 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
22-Nov-10	22/11/2010 0:00	23/11/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
18-Nov-10	24-Nov-10	30-Nov-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 ³)
721	229	-23.6	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 # 2334

GB0D9049 Puff #2

Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Nov 22, 10

- Noticed condensation on the PUFF glass holder

Technician Signiture: Ting Xu

Your C.O.C. #: 2334

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7

Report Date: 2010/12/01

CERTIFICATE OF ANALYSIS**MAXXAM JOB #: B0H0753****Received: 2010/11/26, 09:05**

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/11/26	2010/11/30	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0H0753
 Report Date: 2010/12/01

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

Maxxam ID		HZ2777	HZ2778		
Sampling Date		2010/11/22	2010/11/22		
		00:00	00:00		
COC Number		2334	2334		
	Units	LICA	LICA	RDL	QC Batch
		PUFF&QFF/CLS/NOV22,10	PUFF&QFF/PORT/NOV22,10		

Semivolatile Organics					
1-Methylnaphthalene	ug	0.27	0.38	0.10	2342741
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2342741
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2342741
2-Methylanthracene	ug	<0.10	<0.10	0.10	2342741
2-Methylnaphthalene	ug	0.42	0.67	0.10	2342741
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2342741
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2342741
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2342741
Acenaphthene	ug	<0.050	<0.050	0.050	2342741
Acenaphthylene	ug	<0.050	<0.050	0.050	2342741
Anthracene	ug	<0.050	<0.050	0.050	2342741
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2342741
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2342741
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2342741
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2342741
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2342741
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2342741
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2342741
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2342741
Biphenyl	ug	0.29	0.23	0.10	2342741
Chrysene	ug	<0.050	<0.050	0.050	2342741
Coronene	ug	<0.10	<0.10	0.10	2342741
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2342741
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2342741
Fluoranthene	ug	0.056	0.090	0.050	2342741
Fluorene	ug	0.074	0.094	0.050	2342741
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2342741
m-Terphenyl	ug	<0.10	<0.10	0.10	2342741
Naphthalene	ug	0.720	0.958	0.072	2342741
o-Terphenyl	ug	<0.10	<0.10	0.10	2342741
Perylene	ug	<0.10	<0.10	0.10	2342741

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0H0753
 Report Date: 2010/12/01

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

Maxxam ID		HZ2777	HZ2778		
Sampling Date		2010/11/22	2010/11/22		
		00:00	00:00		
COC Number		2334	2334		
	Units	LICA	LICA	RDL	QC Batch
		PUFF&QFF/CLS/NOV22,10	PUFF&QFF/PORT/NOV22,10		

Phenanthrene	ug	0.170	0.206	0.050	2342741
p-Terphenyl	ug	<0.10	<0.10	0.10	2342741
Pyrene	ug	<0.050	0.064	0.050	2342741
Quinoline	ug	<0.40	<0.40	0.40	2342741
Tetralin	ug	<0.10	<0.10	0.10	2342741
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	60	62		2342741
D10-Fluoranthene	%	82	86		2342741
D10-Fluorene (FS)	%	68	67		2342741
D10-Phenanthrene	%	74	74		2342741
D12-Benzo(a)anthracene	%	96	98		2342741
D12-Benzo(a)pyrene	%	90	90		2342741
D12-Benzo(b)fluoranthene	%	88	90		2342741
D12-Benzo(ghi)perylene	%	92	96		2342741
D12-Benzo(k)fluoranthene	%	88	88		2342741
D12-Chrysene	%	86	86		2342741
D12-Indeno(1,2,3-cd)pyrene	%	94	98		2342741
D12-Perylene	%	88	90		2342741
D14-Dibenzo(a,h)anthracene	%	92	98		2342741
D14-Terphenyl (FS)	%	81	85		2342741
D8-Acenaphthylene	%	66	68		2342741
D8-Naphthalene	%	58	60		2342741

QC Batch = Quality Control Batch

Maxxam Job #: B0H0753
 Report Date: 2010/12/01

Test Summary

Maxxam ID HZ2777 **Collected** 2010/11/22
Sample ID LICA PUFF&QFF/CLS/NOV22,10 **Shipped**
Matrix PUF AND FILTER **Received** 2010/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2342741	2010/11/26	2010/11/30	JIW

Maxxam ID HZ2778 **Collected** 2010/11/22
Sample ID LICA PUFF&QFF/PORT/NOV22,10 **Shipped**
Matrix PUF AND FILTER **Received** 2010/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2342741	2010/11/26	2010/11/30	JIW

Maxxam Job #: B0H0753
Report Date: 2010/12/01

GENERAL COMMENTS

PAHMS-F(WS:2342741)

7,12-Dimethylbenzo(a)anthracene is above 25% RSD in initial and continuing calibrations.

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(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 Dibenz(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.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report
 Maxxam Job Number: GB0H0753

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2342741 JIW	Spiked Blank	D10-2-Methylnaphthalene	2010/11/30		68	%	50 - 150
		D10-Fluoranthene	2010/11/30		88	%	50 - 150
		D10-Phenanthrene	2010/11/30		78	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/30		94	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/30		92	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/30		90	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/30		96	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/30		90	%	50 - 150
		D12-Chrysene	2010/11/30		88	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/11/30		96	%	50 - 150
		D12-Perylene	2010/11/30		90	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/30		98	%	50 - 150
		D8-Acenaphthylene	2010/11/30		72	%	50 - 150
		D8-Naphthalene	2010/11/30		66	%	50 - 150
		Acenaphthene	2010/11/30		70	%	60 - 130
	RPD	Acenaphthene	2010/11/30	10.2		%	50
	Spiked Blank	Acenaphthylene	2010/11/30		70	%	60 - 130
	RPD	Acenaphthylene	2010/11/30	12.1		%	50
	Spiked Blank	Anthracene	2010/11/30		69	%	60 - 130
	RPD	Anthracene	2010/11/30	3.2		%	50
	Spiked Blank	Benzo(a)anthracene	2010/11/30		85	%	60 - 130
	RPD	Benzo(a)anthracene	2010/11/30	2.9		%	50
	Spiked Blank	Benzo(a)pyrene	2010/11/30		76	%	60 - 130
	RPD	Benzo(a)pyrene	2010/11/30	3.6		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/11/30		84	%	60 - 130
	RPD	Benzo(b)fluoranthene	2010/11/30	2.9		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/11/30		85	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2010/11/30	2.3		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/11/30		89	%	60 - 130
	RPD	Benzo(k)fluoranthene	2010/11/30	4.7		%	50
	Spiked Blank	Chrysene	2010/11/30		89	%	60 - 130
	RPD	Chrysene	2010/11/30	0.6		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/11/30		88	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2010/11/30	2.5		%	50
	Spiked Blank	Fluoranthene	2010/11/30		85	%	60 - 130
	RPD	Fluoranthene	2010/11/30	2.0		%	50
	Spiked Blank	Fluorene	2010/11/30		71	%	60 - 130
	RPD	Fluorene	2010/11/30	8.1		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/11/30		87	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2010/11/30	2.3		%	50
	Spiked Blank	Naphthalene	2010/11/30		62	%	60 - 130
	RPD	Naphthalene	2010/11/30	15.7		%	50
	Spiked Blank	Phenanthrene	2010/11/30		72	%	60 - 130
	RPD	Phenanthrene	2010/11/30	4.1		%	50
	Spiked Blank	Pyrene	2010/11/30		79	%	60 - 130
	RPD	Pyrene	2010/11/30	1		%	50
	Method Blank	D10-2-Methylnaphthalene	2010/11/30		78	%	50 - 150
		D10-Fluoranthene	2010/11/30		92	%	50 - 150
		D10-Phenanthrene	2010/11/30		84	%	50 - 150
		D12-Benzo(a)anthracene	2010/11/30		92	%	50 - 150
		D12-Benzo(a)pyrene	2010/11/30		94	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/11/30		90	%	50 - 150
		D12-Benzo(ghi)perylene	2010/11/30		96	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/11/30		90	%	50 - 150
		D12-Chrysene	2010/11/30		88	%	50 - 150

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H0753

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2342741 JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/11/30		98	%	50 - 150
		D12-Perylene	2010/11/30		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/11/30		100	%	50 - 150
		D8-Acenaphthylene	2010/11/30		84	%	50 - 150
		D8-Naphthalene	2010/11/30		78	%	50 - 150
		1-Methylnaphthalene	2010/11/30	<0.10		ug	
		1-Methylphenanthrene	2010/11/30	<0.10		ug	
		2-Chloronaphthalene	2010/11/30	<0.10		ug	
		2-Methylanthracene	2010/11/30	<0.10		ug	
		2-Methylnaphthalene	2010/11/30	<0.10		ug	
		3-Methylcholanthrene	2010/11/30	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/11/30	<0.10		ug	
		9,10-Dimethylanthracene	2010/11/30	<0.40		ug	
		Acenaphthene	2010/11/30	<0.050		ug	
		Acenaphthylene	2010/11/30	<0.050		ug	
		Anthracene	2010/11/30	<0.050		ug	
		Benzo(a)anthracene	2010/11/30	<0.050		ug	
		Benzo(a)fluorene	2010/11/30	<0.10		ug	
		Benzo(a)pyrene	2010/11/30	<0.050		ug	
		Benzo(b)fluoranthene	2010/11/30	<0.050		ug	
		Benzo(b)fluorene	2010/11/30	<0.10		ug	
		Benzo(e)pyrene	2010/11/30	<0.10		ug	
		Benzo(g,h,i)perylene	2010/11/30	<0.050		ug	
		Benzo(k)fluoranthene	2010/11/30	<0.050		ug	
		Biphenyl	2010/11/30	<0.10		ug	
		Chrysene	2010/11/30	<0.050		ug	
		Coronene	2010/11/30	<0.10		ug	
		Dibenz(a,h)anthracene	2010/11/30	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/11/30	<0.20		ug	
		Fluoranthene	2010/11/30	<0.050		ug	
		Fluorene	2010/11/30	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/11/30	<0.050		ug	
		m-Terphenyl	2010/11/30	<0.10		ug	
		Naphthalene	2010/11/30	<0.072		ug	
		o-Terphenyl	2010/11/30	<0.10		ug	
		Perylene	2010/11/30	<0.10		ug	
		Phenanthrene	2010/11/30	<0.050		ug	
		p-Terphenyl	2010/11/30	<0.10		ug	
		Pyrene	2010/11/30	<0.050		ug	
		Quinoline	2010/11/30	<0.40		ug	
		Tetralin	2010/11/30	<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

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/Nov 28, 10

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Nov 25, 2010 @ 11:05 mst
Removal Date/Time: Nov 29, 2010 @ 11:08 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
28-Nov-10	28/11/2010 0:00	28/11/2010 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
24-Nov-10	29-Nov-10	29-Nov-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 ³)
710	229	-6.6	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 # 5161

GB0D9068 Puff #2

Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Nov 28, 10

- Noticed condensation on the PUFF glass holder

Technician Signiture: Ting Xu

Your C.O.C. #: 5161

Attention: Michael BisagaMaxxam Analytics
2608 6A Ave.
Cold Lake, AB
CANADA T9M 2C7**Report Date: 2010/12/07****CERTIFICATE OF ANALYSIS****MAXXAM JOB #: B0H3015****Received: 2010/12/01, 09:26**

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/12/01	2010/12/06	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: TStephenson@maxxam.ca
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.

Maxxam Analytics Inc. is a NELAC accredited laboratory. Certificate # CANA001. Use of the NELAC logo however does not insure that Maxxam is accredited for all of the methods indicated. This certificate shall not be reproduced except in full, without the written approval of Maxxam Analytics Inc. Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section.

Total cover pages: 1

Maxxam Job #: B0H3015
 Report Date: 2010/12/07

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

Maxxam ID		IA2764		IA2765		
Sampling Date		2010/11/28		2010/11/28		
COC Number		5161		5161		
	Units	LICA PUFF+QFF/CLS/NOV 28,10	RDL	LICA PUFF+QFF/PORT/NOV 28,10	RDL	QC Batch

Semivolatile Organics						
1-Methylnaphthalene	ug	0.20	0.10	0.21	0.10	2346879
1-Methylphenanthrene	ug	<0.10	0.10	<0.10	0.10	2346879
2-Chloronaphthalene	ug	<0.10	0.10	<0.10	0.10	2346879
2-Methylantracene	ug	<0.10	0.10	<0.10	0.10	2346879
2-Methylnaphthalene	ug	0.31	0.10	0.30	0.10	2346879
3-Methylcholanthrene	ug	<2.0	2.0	<2.0	2.0	2346879
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	0.10	<0.10	0.10	2346879
9,10-Dimethylantracene	ug	<0.40	0.40	<0.40	0.40	2346879
Acenaphthene	ug	<0.060	0.060	<0.070	0.070	2346879
Acenaphthylene	ug	<0.050	0.050	0.106	0.050	2346879
Anthracene	ug	<0.050	0.050	<0.050	0.050	2346879
Benzo(a)anthracene	ug	<0.050	0.050	<0.050	0.050	2346879
Benzo(a)fluorene	ug	<0.10	0.10	<0.10	0.10	2346879
Benzo(a)pyrene	ug	<0.050	0.050	<0.050	0.050	2346879
Benzo(b)fluoranthene	ug	0.052	0.050	0.062	0.050	2346879
Benzo(b)fluorene	ug	<0.10	0.10	<0.10	0.10	2346879
Benzo(e)pyrene	ug	<0.10	0.10	<0.10	0.10	2346879
Benzo(g,h,i)perylene	ug	0.074	0.050	0.078	0.050	2346879
Benzo(k)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2346879
Biphenyl	ug	0.51	0.10	0.71	0.10	2346879
Chrysene	ug	<0.050	0.050	0.060	0.050	2346879
Coronene	ug	<0.10	0.10	<0.10	0.10	2346879
Dibenz(a,h)anthracene	ug	<0.050	0.050	0.058	0.050	2346879
Dibenzo(a,e)pyrene	ug	<0.20	0.20	<0.20	0.20	2346879
Fluoranthene	ug	0.090	0.050	0.140	0.050	2346879
Fluorene	ug	0.234	0.050	0.352	0.050	2346879
Indeno(1,2,3-cd)pyrene	ug	0.064	0.050	0.070	0.050	2346879
m-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2346879
Naphthalene	ug	0.390	0.072	0.420	0.072	2346879
o-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2346879
Perylene	ug	<0.10	0.10	<0.10	0.10	2346879

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0H3015
 Report Date: 2010/12/07

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

Maxxam ID		IA2764		IA2765		
Sampling Date		2010/11/28		2010/11/28		
COC Number		5161		5161		
	Units	LICA PUFF+QFF/CLS/NOV 28,10	RDL	LICA PUFF+QFF/PORT/NOV 28,10	RDL	QC Batch

Phenanthrene	ug	0.416	0.050	0.664	0.050	2346879
p-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2346879
Pyrene	ug	0.050	0.050	0.090	0.050	2346879
Quinoline	ug	<0.40	0.40	<0.40	0.40	2346879
Tetralin	ug	<0.10	0.10	<0.10	0.10	2346879
Surrogate Recovery (%)						
D10-2-Methylnaphthalene	%	66		78		2346879
D10-Fluoranthene	%	90		88		2346879
D10-Fluorene (FS)	%	49 (1)		48 (1)		2346879
D10-Phenanthrene	%	82		84		2346879
D12-Benzo(a)anthracene	%	108		108		2346879
D12-Benzo(a)pyrene	%	98		98		2346879
D12-Benzo(b)fluoranthene	%	94		90		2346879
D12-Benzo(ghi)perylene	%	96		96		2346879
D12-Benzo(k)fluoranthene	%	88		94		2346879
D12-Chrysene	%	88		90		2346879
D12-Indeno(1,2,3-cd)pyrene	%	98		98		2346879
D12-Perylene	%	98		98		2346879
D14-Dibenzo(a,h)anthracene	%	100		100		2346879
D14-Terphenyl (FS)	%	87		90		2346879
D8-Acenaphthylene	%	72		82		2346879
D8-Naphthalene	%	62		74		2346879

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 #: B0H3015
 Report Date: 2010/12/07

Test Summary

Maxxam ID	IA2764	Collected	2010/11/28
Sample ID	LICA PUFF+QFF/CLS/NOV 28,10	Shipped	
Matrix	PUF AND FILTER	Received	2010/12/01

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2346879	2010/12/01	2010/12/06	JIW

Maxxam ID	IA2765	Collected	2010/11/28
Sample ID	LICA PUFF+QFF/PORT/NOV 28,10	Shipped	
Matrix	PUF AND FILTER	Received	2010/12/01

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2346879	2010/12/01	2010/12/06	JIW

Maxxam Job #: B0H3015
Report Date: 2010/12/07

GENERAL COMMENTS

Sample IA2764-01: PAHMS-F(WS:2346879)
Low D10-Fluorene field spike recovery.

Mdl raised further for Acenaphthene due to matrix interference on a possible positive.

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

Since Dibenzo(a,c) anthracene co-elutes with Dibenz(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 Dibenz(a,h) anthracene. Searched for ions specific to these 2 compounds in the appropriate retention time range with no possible positives detected.

Sample IA2765-01: PAHMS-F(WS:2346879)
Low D10-Fluorene field spike recovery.

Mdl raised further for Acenaphthene due to matrix interference on a possible positive.

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

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.06ug, which is the value reported for Chrysene.

Since Dibenzo(a,c)anthracene co-elutes with Dibenz(a,h)anthracene, the maximum possible value for this compound would be 0.058ug, which is the value reported for Dibenz(a,h)anthracene.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Picene elutes after Dibenz(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.

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: GB0H3015

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2346879 JIW	Spiked Blank	D10-2-Methylnaphthalene	2010/12/06		78	%	50 - 150
		D10-Fluoranthene	2010/12/06		90	%	50 - 150
		D10-Phenanthrene	2010/12/06		84	%	50 - 150
		D12-Benzo(a)anthracene	2010/12/06		100	%	50 - 150
		D12-Benzo(a)pyrene	2010/12/06		96	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/12/06		94	%	50 - 150
		D12-Benzo(ghi)perylene	2010/12/06		96	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/12/06		90	%	50 - 150
		D12-Chrysene	2010/12/06		90	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/12/06		96	%	50 - 150
		D12-Perylene	2010/12/06		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/12/06		98	%	50 - 150
		D8-Acenaphthylene	2010/12/06		80	%	50 - 150
		D8-Naphthalene	2010/12/06		76	%	50 - 150
		Acenaphthene	2010/12/06		76	%	60 - 130
	RPD	Acenaphthene	2010/12/06	7.9		%	50
	Spiked Blank	Acenaphthylene	2010/12/06		79	%	60 - 130
	RPD	Acenaphthylene	2010/12/06	10.0		%	50
	Spiked Blank	Anthracene	2010/12/06		77	%	60 - 130
	RPD	Anthracene	2010/12/06	6.0		%	50
	Spiked Blank	Benzo(a)anthracene	2010/12/06		89	%	60 - 130
	RPD	Benzo(a)anthracene	2010/12/06	1.1		%	50
	Spiked Blank	Benzo(a)pyrene	2010/12/06		76	%	60 - 130
	RPD	Benzo(a)pyrene	2010/12/06	0.3		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/12/06		86	%	60 - 130
	RPD	Benzo(b)fluoranthene	2010/12/06	0.3		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/12/06		92	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2010/12/06	1.1		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/12/06		86	%	60 - 130
	RPD	Benzo(k)fluoranthene	2010/12/06	1.8		%	50
	Spiked Blank	Chrysene	2010/12/06		86	%	60 - 130
	RPD	Chrysene	2010/12/06	1.8		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/12/06		95	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2010/12/06	1.8		%	50
	Spiked Blank	Fluoranthene	2010/12/06		86	%	60 - 130
	RPD	Fluoranthene	2010/12/06	3.6		%	50
	Spiked Blank	Fluorene	2010/12/06		78	%	60 - 130
	RPD	Fluorene	2010/12/06	9.0		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/12/06		95	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2010/12/06	0.3		%	50
	Spiked Blank	Naphthalene	2010/12/06		71	%	60 - 130
	RPD	Naphthalene	2010/12/06	8.4		%	50
	Spiked Blank	Phenanthrene	2010/12/06		79	%	60 - 130
	RPD	Phenanthrene	2010/12/06	7.9		%	50
	Spiked Blank	Pyrene	2010/12/06		80	%	60 - 130
	RPD	Pyrene	2010/12/06	3.2		%	50
	Method Blank	D10-2-Methylnaphthalene	2010/12/06		70	%	50 - 150
		D10-Fluoranthene	2010/12/06		92	%	50 - 150
		D10-Phenanthrene	2010/12/06		84	%	50 - 150
		D12-Benzo(a)anthracene	2010/12/06		102	%	50 - 150
		D12-Benzo(a)pyrene	2010/12/06		96	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/12/06		92	%	50 - 150
		D12-Benzo(ghi)perylene	2010/12/06		94	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/12/06		86	%	50 - 150
		D12-Chrysene	2010/12/06		86	%	50 - 150

Maxxam Analytics
 Attention: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: GB0H3015

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2346879 JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/12/06		96	%	50 - 150
		D12-Perylene	2010/12/06		94	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/12/06		98	%	50 - 150
		D8-Acenaphthylene	2010/12/06		74	%	50 - 150
		D8-Naphthalene	2010/12/06		68	%	50 - 150
		1-Methylnaphthalene	2010/12/06	<0.10		ug	
		1-Methylphenanthrene	2010/12/06	<0.10		ug	
		2-Chloronaphthalene	2010/12/06	<0.10		ug	
		2-Methylanthracene	2010/12/06	<0.10		ug	
		2-Methylnaphthalene	2010/12/06	<0.10		ug	
		3-Methylcholanthrene	2010/12/06	<2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/12/06	<0.10		ug	
		9,10-Dimethylanthracene	2010/12/06	<0.40		ug	
		Acenaphthene	2010/12/06	<0.050		ug	
		Acenaphthylene	2010/12/06	<0.050		ug	
		Anthracene	2010/12/06	<0.050		ug	
		Benzo(a)anthracene	2010/12/06	<0.050		ug	
		Benzo(a)fluorene	2010/12/06	<0.10		ug	
		Benzo(a)pyrene	2010/12/06	<0.050		ug	
		Benzo(b)fluoranthene	2010/12/06	<0.050		ug	
		Benzo(b)fluorene	2010/12/06	<0.10		ug	
		Benzo(e)pyrene	2010/12/06	<0.10		ug	
		Benzo(g,h,i)perylene	2010/12/06	<0.050		ug	
		Benzo(k)fluoranthene	2010/12/06	<0.050		ug	
		Biphenyl	2010/12/06	<0.10		ug	
		Chrysene	2010/12/06	<0.050		ug	
		Coronene	2010/12/06	<0.10		ug	
		Dibenz(a,h)anthracene	2010/12/06	<0.050		ug	
		Dibenzo(a,e)pyrene	2010/12/06	<0.20		ug	
		Fluoranthene	2010/12/06	<0.050		ug	
		Fluorene	2010/12/06	<0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/12/06	<0.050		ug	
		m-Terphenyl	2010/12/06	<0.10		ug	
		Naphthalene	2010/12/06	<0.072		ug	
		o-Terphenyl	2010/12/06	<0.10		ug	
		Perylene	2010/12/06	<0.10		ug	
		Phenanthrene	2010/12/06	<0.050		ug	
		p-Terphenyl	2010/12/06	<0.10		ug	
		Pyrene	2010/12/06	<0.050		ug	
		Quinoline	2010/12/06	<0.40		ug	
		Tetralin	2010/12/06	<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.