

Lakeland Industry & Community Association

Cold Lake Monitoring Site
Ambient Air Monitoring
Data Report
For
November 2009

Prepared By:



December 18, 2009

Lakeland Industry & Community Association Ambient Air Monitoring

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Introduction

The following Ambient Air Monitoring report was prepared for:

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Monitoring Location: Cold Lake
Data Period: November 2009

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-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 - COLD LAKE

Continuous Ambient Monitoring – November 2009

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION COLD LAKE SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO ₂ (PPB)	172	57	0	0	0.03	2	16	20	7.1	211(SSW)	0.2	16	100.0
TRS (PPB)	-	-	-	-	0.00	0	ALL	ALL	VAR	VAR	0.0	ALL	100.0
NO ₂ (PPB)	212	106	0	0	6.03	27	4	18	2.1	103(ESE)	10.6	18	100.0
NO (PPB)	-	-	-	-	2.56	60	25	9	0.7	72(ENE)	11.3	13	100.0
NO _x (PPB)	-	-	-	-	8.92	77	16	8	2.2	71(ENE)	21.3	13	100.0
O ₃ (PPB)	82	-	0	-	17.65	38	18	0	6.2	219(SW)	30.9	30	100.0
THC (PPM)	-	-	-	-	2.21	3.6	14	5	2.3	241(WSW)	2.5	23	100.0
PM 2.5 (UG/M ³)	-	30	-	0	4.37	21.5	15	19	1.6	75(ENE)	6.9	23	97.6
TEMPERATURE (DEG C)	-	-	-	-	-1.50	15.7	17	14	14.7	214(SSW)	6.3	17	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	70.46	97.0	1	0	6.5	230(SW)	83.9	3	100.0
VECTOR WS (KPH)	-	-	-	-	5.00	20.6	1	4	-	269(W)	12.0	1	100.0
VECTOR WD (DEGREES)	-	-	-	-	224(SW)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

Monthly Non-Continuous Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Passive Ambient Monitoring Network – November 2009

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO ₂	#27	1.5	0.4
H ₂ S	#27	0.16	0.09
NO ₂	#28	6.3	3.1
O ₃	#13	25.2	19.3

Volatile Volatile Organics Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Xontech Model 910A – November 03, 2009

Maximum reading (ppb)	Volatile Organic
<3.2	Methyl Isobutyl Ketone

Xontech Model 910A – November 09, 2009

Maximum reading (ppb)	Volatile Organic
<3.2	Methyl Isobutyl Ketone

Xontech Model 910A – November 15, 2009

Maximum reading (ppb)	Volatile Organic
<3.2	Methyl Isobutyl Ketone

Xontech Model 910A – November 21, 2009

Maximum reading (ppb)	Volatile Organic
<3.2	Methyl Isobutyl Ketone

Xontech Model 910A – November 27, 2009

Maximum reading (ppb)	Volatile Organic
<3.2	Methyl Isobutyl Ketone

Polycyclic Aromatic Hydrocarbons (PAHs) Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

PUF cartridge – November 03, 2009

Maximum reading (ug)	Volatile Organic
NA	NA

Note: No sample was collected during this time as the PUF sampler was received late.

PUF cartridge – November 09, 2009

Maximum reading (ug)	Volatile Organic
< 2.0	3-Methylcholanthrene

PUF cartridge – November 15, 2009

Maximum reading (ug)	Volatile Organic
< 2.0	3-Methylcholanthrene

PUF cartridge – November 21, 2009

Maximum reading (ug)	Volatile Organic
< 2.0	3-Methylcholanthrene

PUF cartridge – November 27, 2009

Maximum reading (ug)	Volatile Organic
< 2.0	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

A trailer audit was performed by Alberta Environment on November 3rd, 2009.

Sulphur Dioxide (PPB)

- Analyzer make / model – Thermo 43i

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started on November 17th. Data was corrected using daily zero information.

Total Reduced Sulphur (PPB)

- Analyzer make / model –TEI 450i
- Converter - CD NOVA CDN 101

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started on November 17th. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

- Analyzer make / model - TECO 42C

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started on November 17th. 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

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started on November 17th. During the monthly calibration, it was noticed that a slight leak occurred in the analyzer; will trouble shoot further when new parts are available. Data was corrected using daily zero information.

Ozone (PPB)

- Analyzer make / model - TECO 49i

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started on November 17th.

Particulate Matter 2.5 (ug/m³)

- Analyzer make / model –TEOM1405F

No operational issues observed during the month. A compact flash card supplied by CD Nova attempted to be replaced following the Teom audit on November 16th. The new compact flash card was to have the latest version of firmware pre-loaded (version 1.51). After the replacement, it was noticed that the firmware on the compact flash card was the same as the existing firmware (version 1.28). Contacted CD Nova and was told that a new compact flash card with the correct version will be shipped to AENV then passed onto Maxxam for installation in the Teom. As a result, the old flash card was reinstalled, and the Teom filter and the FDMS filter were replaced. The BP sensor was calibrated and the flows were checked on the same day as well. 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. 17 hours of data were invalidated as it was below -3.0 ug/m³.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

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

- System make / model – Met One 50.5

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

Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month. .

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month.

Trailer Temperature (DEGC)

- System make / model - R&R 61

No operational issues observed during the month.

Datalogger

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

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

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Trailer

No issue was observed during this month.

Air Quality Index (AQI)

The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. All data were within the Good range. The highest hourly concentration of PM2.5 was 21.5 UG/M3 and an AQI value of 18 on November 15th, hour 19. The highest hourly concentration of Ozone was 38 ppb and an AQI value of 19 on November 18th, hour 0.

Passive Network

No issue was observed during this month. Station # 34: Portable station was installed this month, and it started collecting H2S, SO2, NO2 and O3 samples.

Volatile Organics (VOCs)

The volatile organics were sampled on November 3rd, 09th, 15th, 21st and 27th. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle.

Polycyclic Aromatic Hydrocarbons (PAHs)

The PAHs were sampled on November 09th, 15th, 21st and 27th. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle.

No sample was collected on November 3rd as the PUF cartridge was received late.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Air Quality Index

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
2	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
3	0	0	IZS	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24		
4	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		
5	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	
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0.0	24		
7	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0	0	0	0	0	IZS	0	0	1	0.2	24	
8	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		
9	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	IZS	0	0	0	0	1	0.1	24	
10	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		
11	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		
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	IZS	0	0	0	0	0	0	0	0	0	1	0.0	24	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0.0	24		
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24		
15	0	0	0	0	0	0	0	0	0	0	0	0	1	IZS	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
16	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	2	1	1	0	2	0.2	24
17	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.0	24		
18	0	0	1	0	0	0	0	0	0	0	IZS	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
19	0	0	0	0	0	0	0	0	0	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
20	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
22	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
23	0	0	0	0	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	
24	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	
25	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.0	24	
26	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	
27	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	
28	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	
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	IZS	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	IZS	0	0	0	0.0	24	
HOURLY MAX	0	0	1	0	0	0	NA	0	1	0	1	1	1	1	1	1	0	0	0	0	0	2	1	0	0				
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0					

STATUS FLAG CODES

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

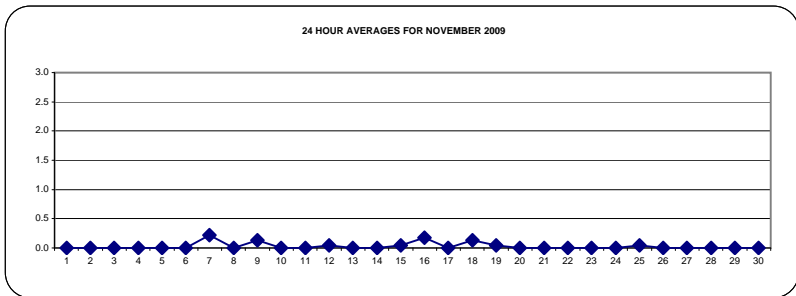
OBJECTIVE LIMIT:

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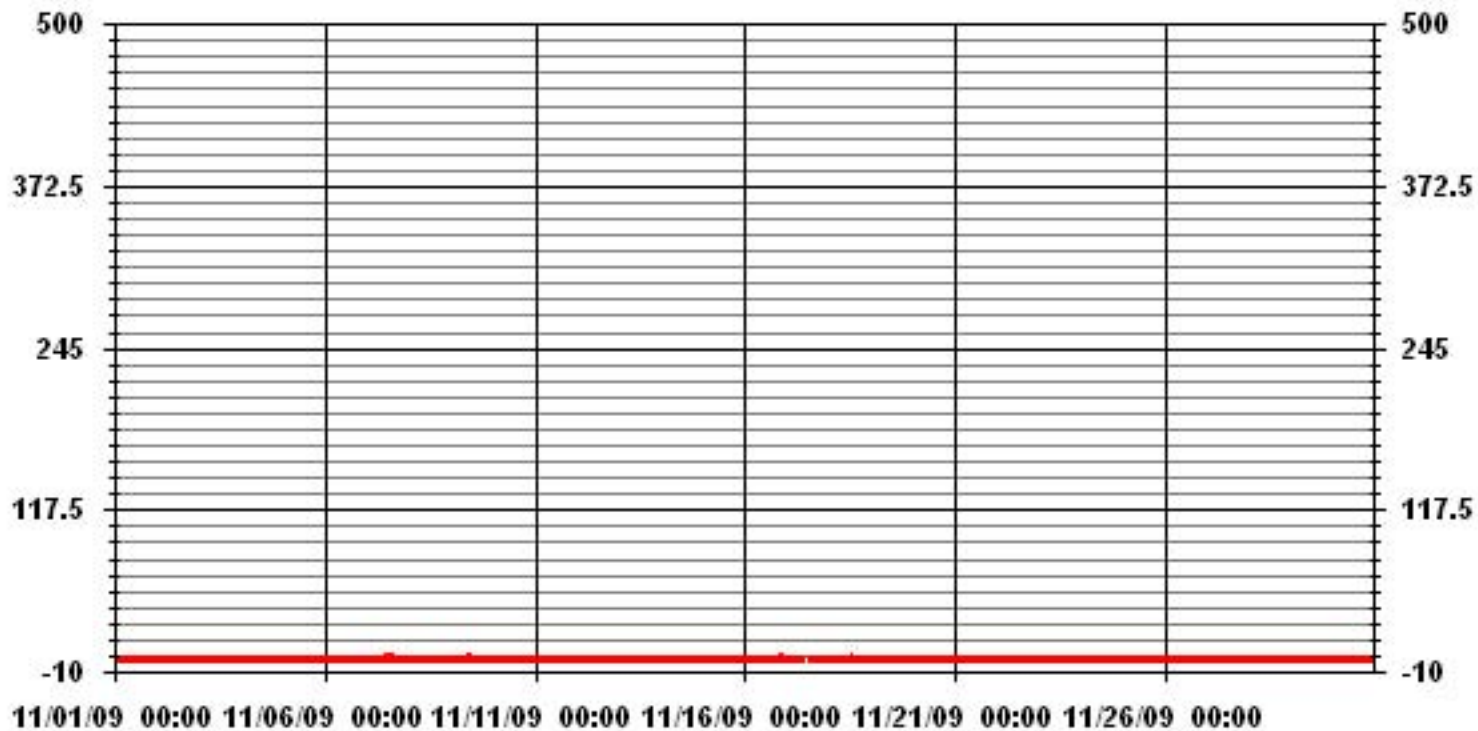
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	18					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	20	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	0.2	PPB			ON DAY(S)	16
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.17		MONTHLY AVERAGE:	0.03	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

SULPHUR DIOXIDE MAX instantaneous maximum in ppt

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	DAILY	24-HOUR	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
2		0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
3		0	0	IZS	0	0	0	0	0	0	0	C	C	C	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1	24	
4		0	IZS	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
5		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	
6		0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	0.0	24	
7		0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	IZS	0	0	1	0.5	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	1	1	1	1	1	1	1	1	1	0	IZS	0	0	0	0	1	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	24	
11		0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	IZS	0	0	0	0	1	0	1	0.1	24	
12		0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	IZS	0	0	0	0	1	1	0	0	1	0.3	24	
13		0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	IZS	0	1	0	0	0	0	0	0	0	1	0.3	24	
14		0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
15		0	0	0	0	0	0	0	0	0	0	1	1	1	IZS	1	1	0	0	0	0	0	0	0	0	0	0	1	0.2	24
16		0	0	0	0	0	0	0	0	1	0	1	0	IZS	1	1	1	0	0	0	0	1	2	1	1	1	2	0.5	24	
17		0	0	0	0	0	0	0	1	1	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
18		0	1	1	1	0	0	0	0	0	0	IZS	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0.4	24	
19		0	0	0	0	0	0	1	1	1	IZS	1	0	0	1	1	1	1	1	1	0	0	0	0	0	1	1	0.5	24	
20		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	
21		0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
22		0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
23		0	0	0	0	0	IZS	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0.2	24	
24		0	0	0	0	IZS	0	1	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	IZS	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0.1	24	
26		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	
27		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	
28		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	
29		0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.3	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	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1				
HOURLY AVG		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1						

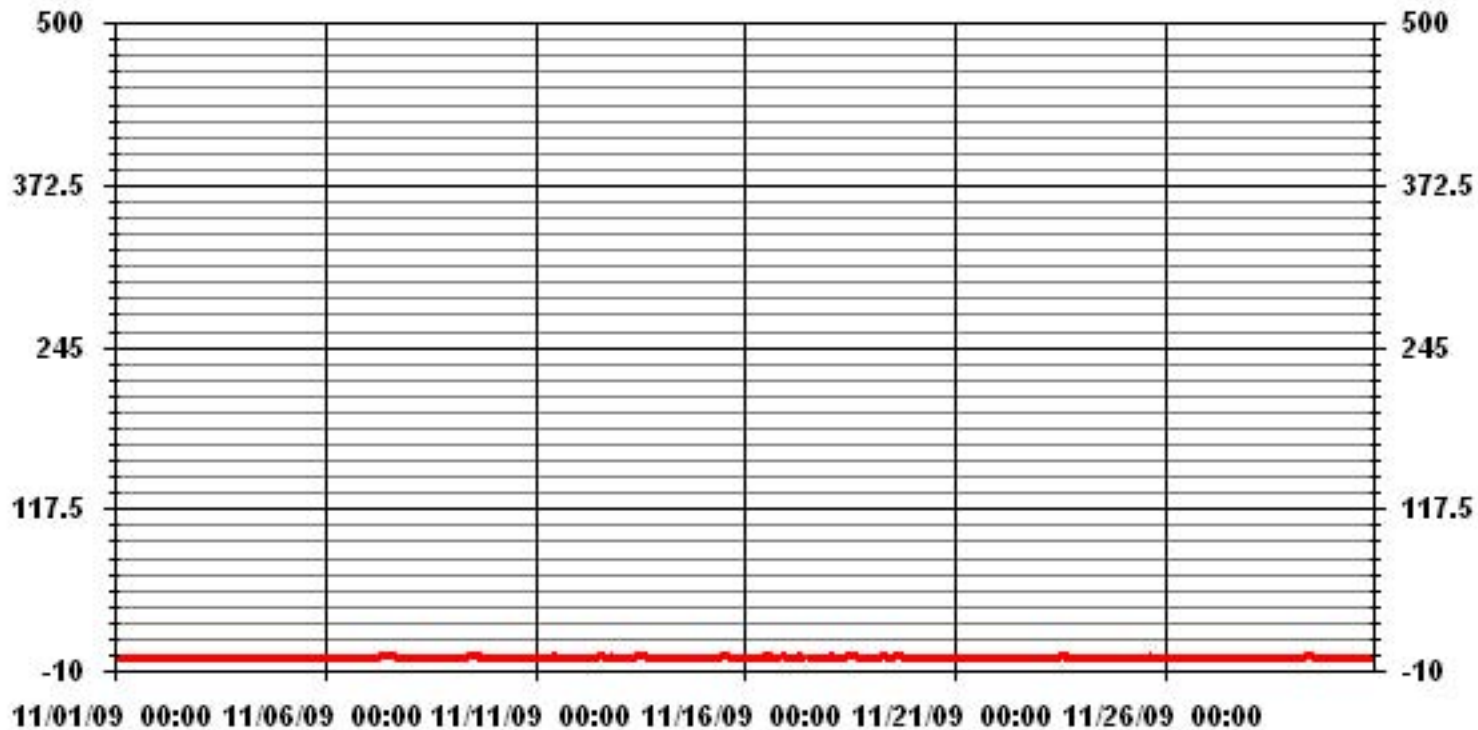
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	89
MAXIMUM INSTANTANEOUS VALUE:	2 PPB @ HOUR(S) 20 ON DAY(S) 16
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	0.34
OPERATIONAL TIME:	720 HRS

01 Hour Averages



— LICA SO2MAX PPB

LICA
 SO2_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	.14	.29	1.61	2.63	5.86	9.09	14.22	3.81	3.07	4.83	26.09	14.66	7.91	3.51	1.75	.43	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	.14	.29	1.61	2.63	5.86	9.09	14.22	3.81	3.07	4.83	26.09	14.66	7.91	3.51	1.75	.43	

Calm : .00 %

Total # Operational Hours : 682

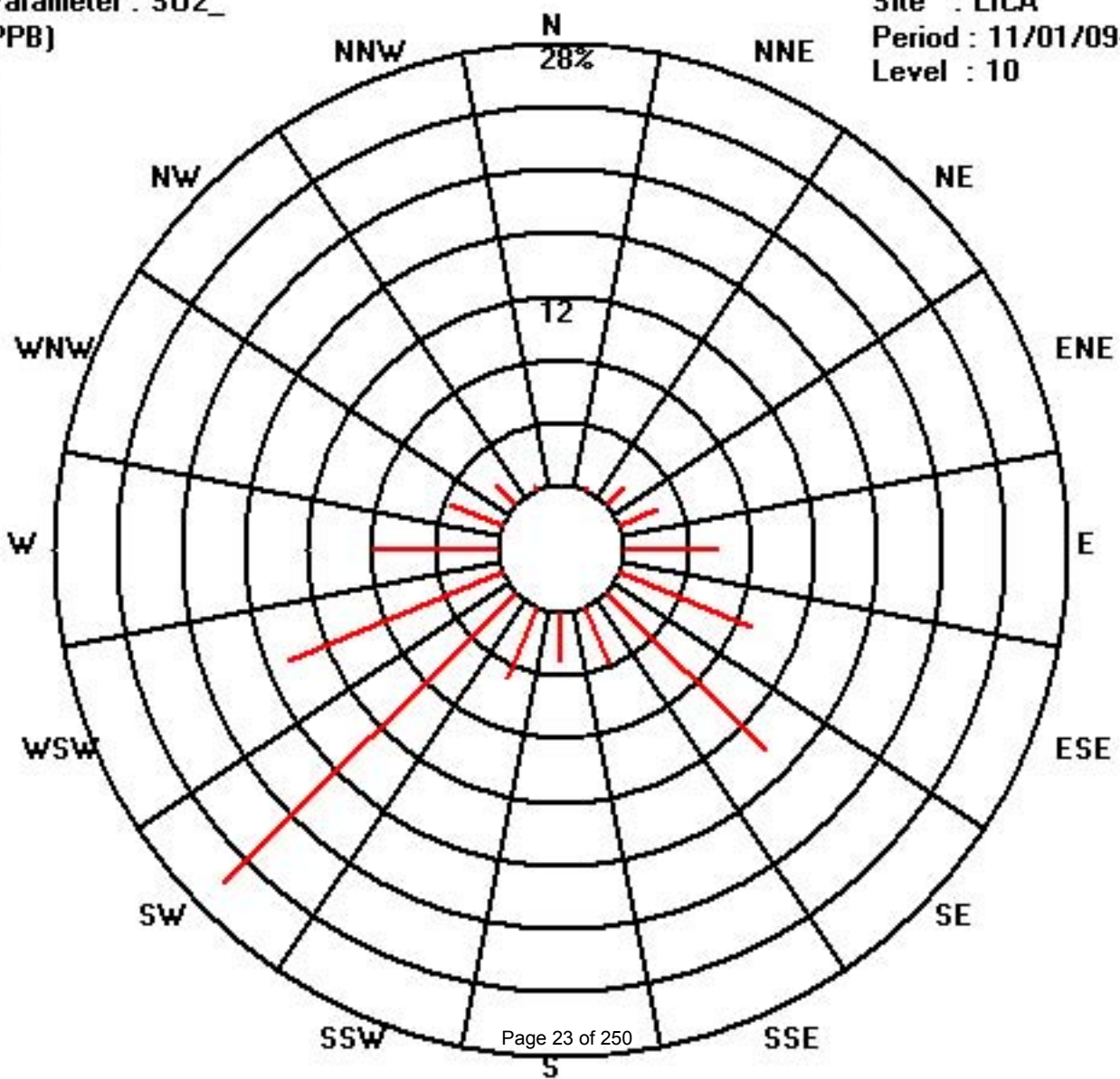
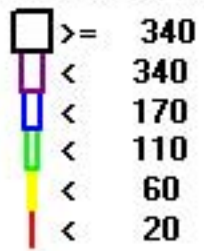
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	1	2	11	18	40	62	97	26	21	33	178	100	54	24	12	3	682
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	1	2	11	18	40	62	97	26	21	33	178	100	54	24	12	3	

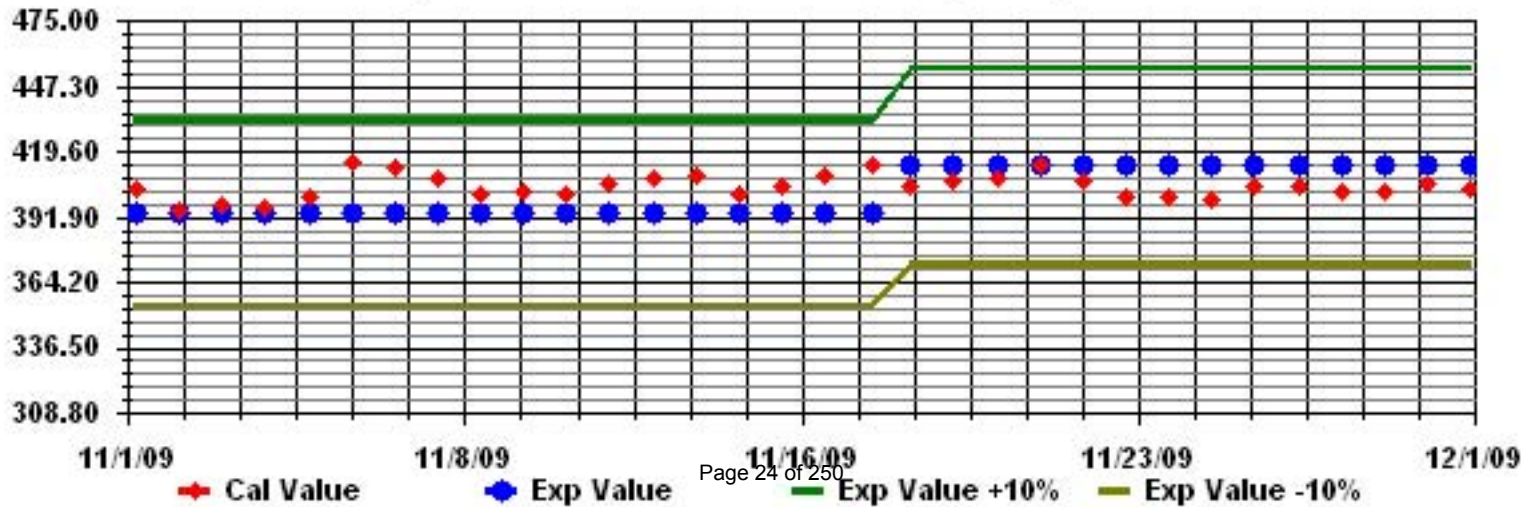
Calm : .00 %

Total # Operational Hours : 682

Class Limits (PPB)



Calibration Graph for Site: LICA Parameter: S02_ Sequence: S02 Phase: SPAN



Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

TOTAL REDUCED SULPHUR (TRS) 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	DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00			
1	1	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
2	2	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
3	3	0	0	IZS	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
4	4	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
5	5	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0.0	24
6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0.0	24
7	7	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
8	8	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
9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0.0	24
10	10	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
11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24
12	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0.0	24
13	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24
14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24
15	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	24
16	16	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
17	17	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
18	18	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
19	19	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
20	20	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
21	21	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
22	22	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
23	23	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
24	24	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
25	25	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
26	26	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
27	27	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
28	28	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
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	IZS	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	IZS	0	0	0.0	24
HOURLY MAX		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
HOURLY AVG		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

STATUS FLAG CODES

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

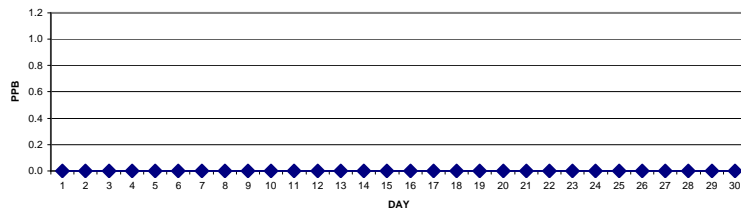
OBJECTIVE LIMIT:

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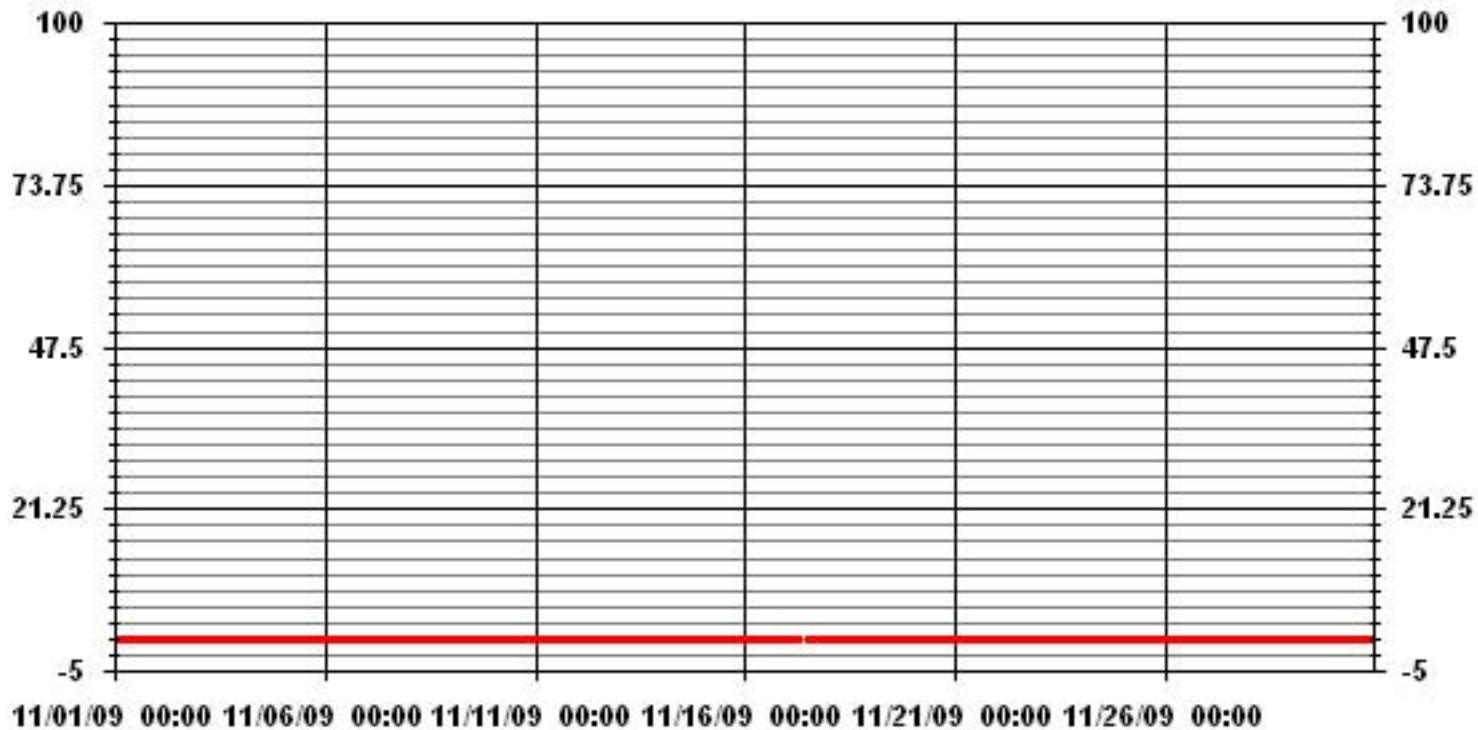
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	0
MAXIMUM 1-HR AVERAGE:	0 PPB @ HOUR(S) ALL ON DAY(S) ALL
MAXIMUM 24-HR AVERAGE:	0.0 PPB VAR-VARIOUS ON DAY(S) ALL
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION	0.00
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME	100.0 %
MONTHLY AVERAGE	0.00 PPB

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA TRS_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

TOTAL REDUCED SULPHUR MAX instantaneous maximum in ppb

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

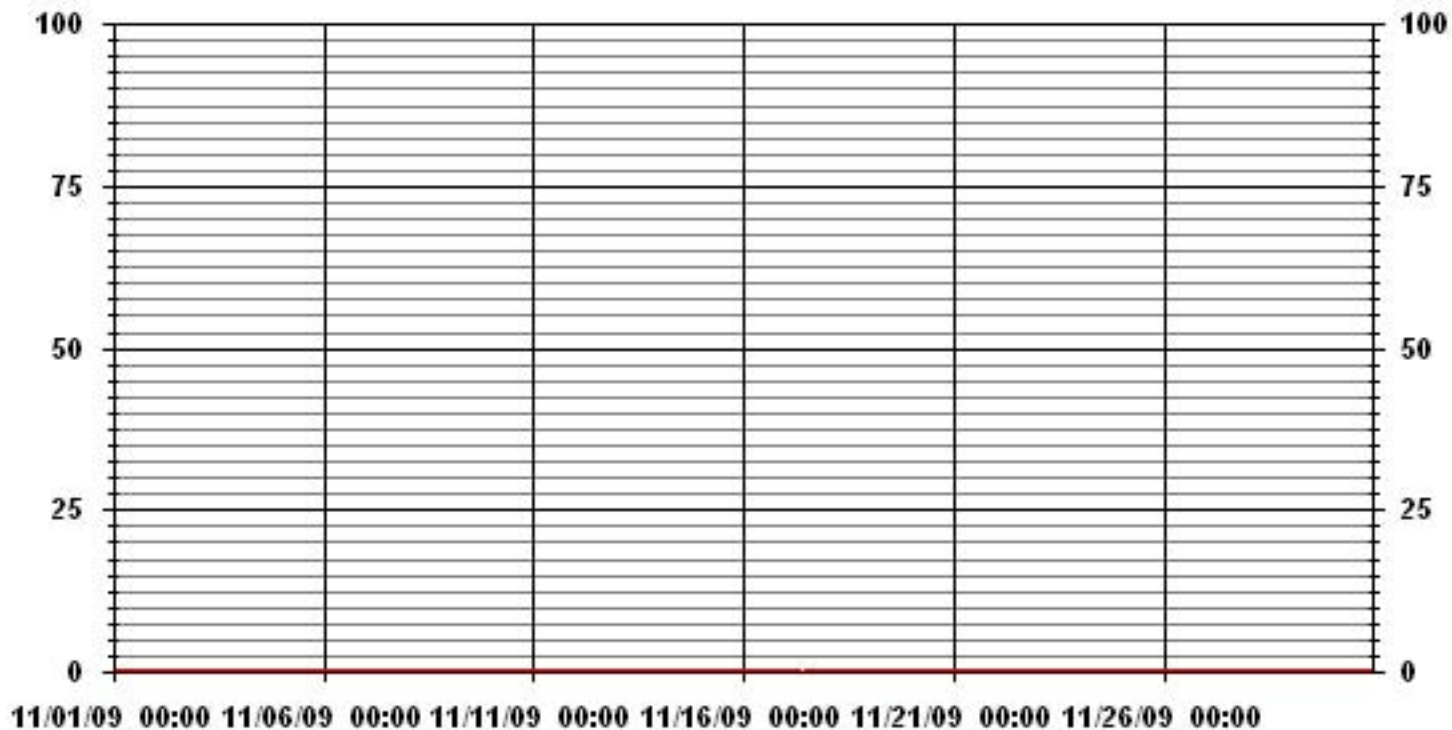
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	0
MAXIMUM INSTANTANEOUS VALUE:	0 PPB @ HOUR(S) ALL ON DAY(S) ALL
	VAR - VARIOUS
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	0.00
	OPERATIONAL TIME: 720 HRS

01 Hour Averages



— LICA TRSMAX PPB

LICA
 TRS_ / WD Joint Frequency Distribution (Percent)

November 2009

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	.14	.29	1.61	2.63	5.86	8.94	14.07	3.81	3.22	4.98	26.09	14.66	7.91	3.51	1.75	.43	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	.14	.29	1.61	2.63	5.86	8.94	14.07	3.81	3.22	4.98	26.09	14.66	7.91	3.51	1.75	.43		

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	
< 3	1	2	11	18	40	61	96	26	22	34	178	100	54	24	12	3	682	
< 10																		
< 50																		
>= 50																		
Totals	1	2	11	18	40	61	96	26	22	34	178	100	54	24	12	3		

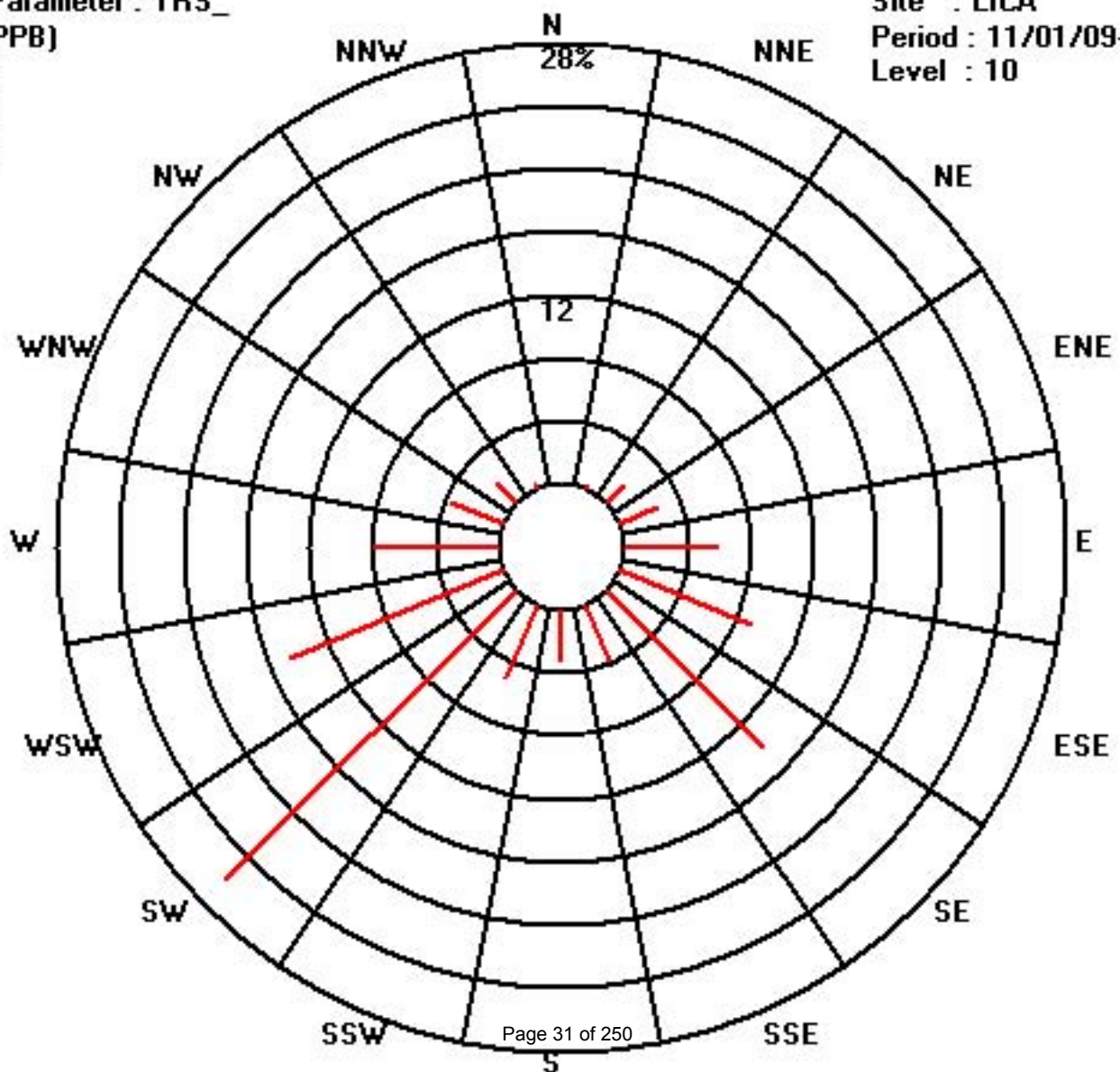
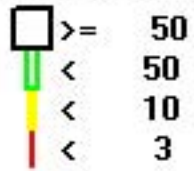
Calm : .00 %

Total # Operational Hours : 682

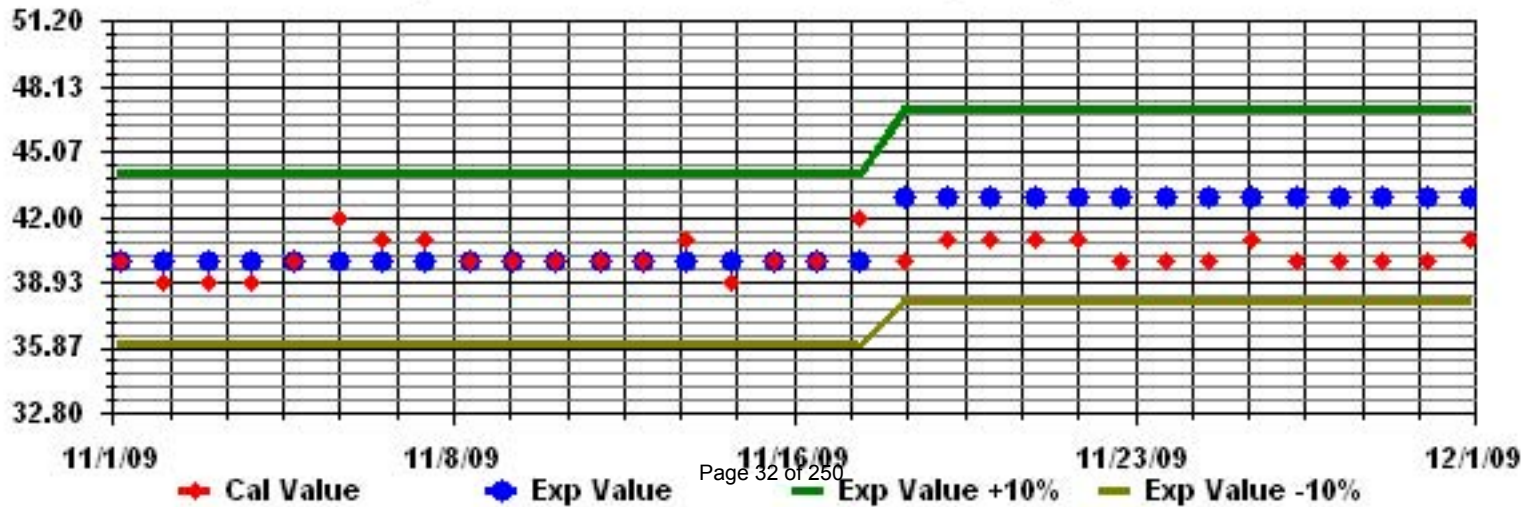
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



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



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

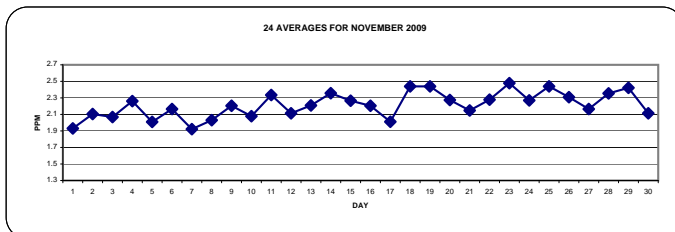
NOVEMBER 2009

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

STATUS FLAG CODES

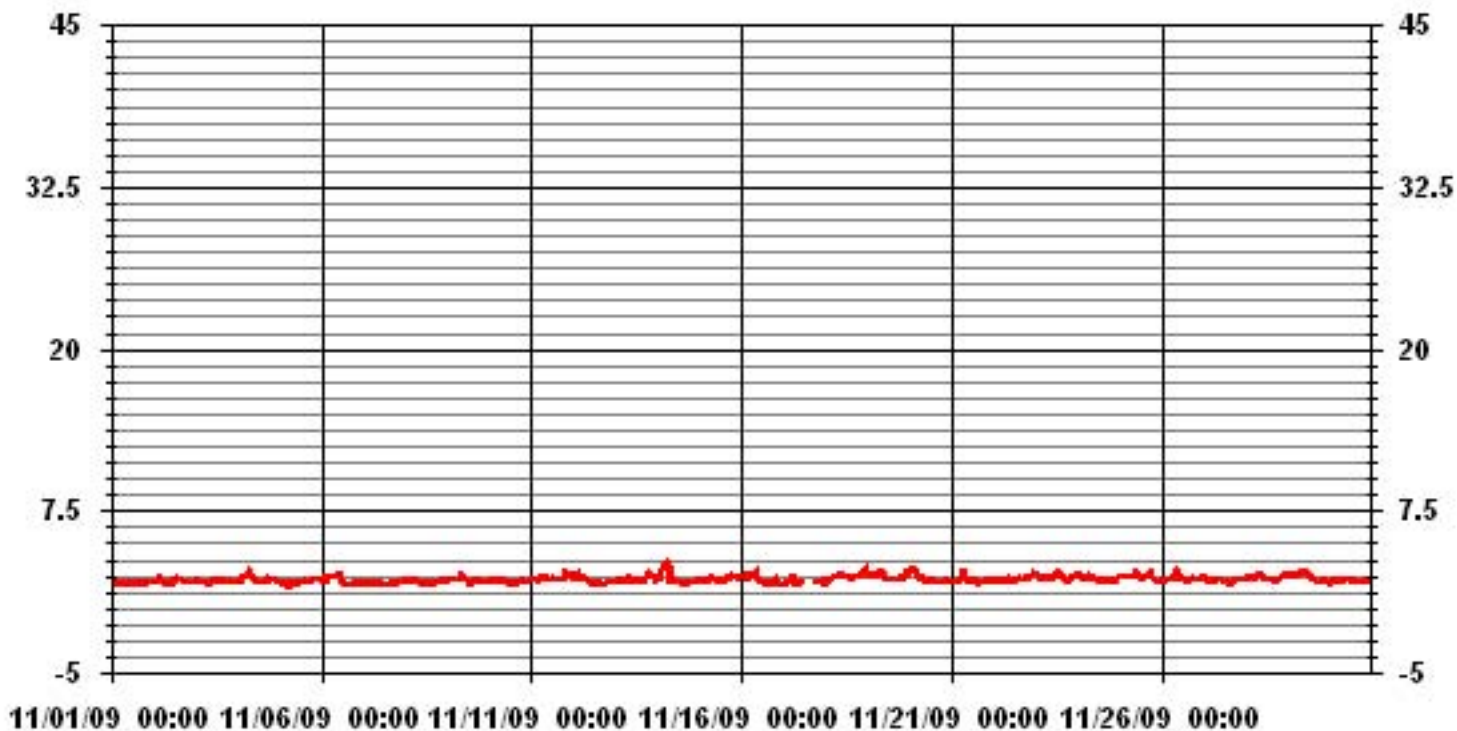
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE
BB	- BELOW BACKGROUND OF 1.5 PPM		



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	682					
MAXIMUM 1-HR AVERAGE:	3.6	PPM	@ HOUR(S)	5	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	2.5	PPM			ON DAY(S)	23
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.26		MONTHLY AVERAGE:	2.21	PPM	

01 Hour Averages



— LICA — THC — PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

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	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.		
DAY																												
1	2.2	1.9	1.9	1.9	IZS	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	1.9	2	2	2	2	2	2	2	2.1	2.2	2.1	2.2	2.0	24
2	2.2	2.2	2.1	IZS	2.5	2.5	2.2	2	2	2	2	2.2	2.5	2.5	2.4	2.6	2.4	5.2	2.1	2.1	2.1	2.1	2	2	2.1	5.2	2.3	24
3	2.2	2.1	IZS	2	2	2	2	2.1	2.1	2.2	2.1	2.2	C	C	C	2.3	2.1	2.1	2	2.1	2.1	2.4	2.1	2	2	2.4	2.1	24
4	2.2	IZS	2.3	2.6	3.2	2.7	2.7	3.6	2.9	2.5	2.5	2.2	2	2	2	2.3	5.4	2.4	2.8	2.7	2.2	2.2	2.2	2.1	5.4	2.6	24	
5	IZS	2	2	1.9	1.9	1.9	1.9	2	2.3	1.9	2	2	2	2.2	2	2.2	2.3	2.9	2.2	2.4	2.4	2.3	2.3	IZS	2.9	2.1	24	
6	2.3	2.6	2.5	2.5	3.2	2.6	2.4	3.2	2.8	2.8	3	2.5	2.4	1.9	1.9	1.9	1.9	1.9	2	2	1.9	2	IZS	2	3.2	2.4	24	
7	2	2	2	1.9	1.9	2.1	2	2	2	1.9	1.9	1.9	1.9	1.8	1.9	1.9	2	1.9	2	2.1	2.1	IZS	2.1	2.3	2.3	2.0	24	
8	2.5	2.4	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2	1.9	2	1.9	2	1.9	2.1	2.1	2.1	2.1	IZS	2.2	2.1	2.1	2.5	2.1	24	
9	2.4	2.4	2.6	2.5	2.4	2.3	2.3	3	2.8	2.6	2.5	2.4	2.2	2.1	2.2	3.1	2.3	2.7	2.3	IZS	2.1	2.1	2.1	2.2	3.1	2.4	24	
10	2.2	2.2	2.2	2.2	2.3	2.1	2.3	2.3	2.2	2.2	2.1	2	2.1	1.9	2	2	2.1	2.1	IZS	2.3	2.3	2.2	2.2	2.3	2.3	2.2	24	
11	2.3	2.3	2.3	2.3	2.3	2.4	2.5	2.4	2.7	2.5	2.4	2.4	2.7	2.3	2.3	2.3	2.4	IZS	2.7	2.8	2.8	2.6	2.6	2.7	2.8	2.5	24	
12	2.5	2.4	2.5	2.7	2.6	2.3	2.3	2.3	2.2	2.2	2.1	2	2	1.9	1.9	1.9	IZS	2	2.2	2	2.1	2.1	2.2	2.1	2.7	2.2	24	
13	2.1	2.1	2.2	2.3	2.2	2.3	2.5	2.6	2.9	2.3	2.2	2.2	2.1	2.1	2.1	IZS	2.3	2.6	2.8	2.8	2.6	2.7	2.3	2.3	2.9	2.4	24	
14	2.7	3.1	3.2	3.4	3.7	3.8	3.8	3.1	2.2	2.3	2.2	2.1	2.1	2	IZS	1.9	2.1	2	2	2.4	2.1	2.1	2.3	2.2	3.8	2.6	24	
15	2.2	2.2	2.2	2.1	2.2	2.4	2.5	2.5	2.3	2.3	2.2	2.2	2.2	IZS	2.3	2.4	2.4	2.8	3.2	3.1	2.8	2.4	2.5	2.5	3.2	2.4	24	
16	2.5	2.6	2.7	2.6	2.5	6.5	2.7	2.9	3.6	2.5	2.4	2.2	IZS	2.1	2	2.1	3.4	2.6	2.3	2.9	2	1.8	1.8	1.9	6.5	2.6	24	
17	2	2	2.1	2.2	2.6	2.9	2.4	2	2.2	2	2.1	IZS	1.9	C	C	C	C	C	2	2	2	2.1	2.3	2.2	2.9	2.2	24	
18	2.1	2.3	2.3	2.4	2.8	2.4	2.6	2.8	2.8	2.6	IZS	2.7	2.4	2.4	2.6	2.4	2.5	2.5	2.8	2.7	3.1	3	3.3	3.3	3.3	2.6	24	
19	2.9	2.5	2.5	2.5	2.7	2.7	2.7	3	2.9	IZS	2.5	2.4	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.6	2.5	2.8	2.9	3.1	3.1	2.6	24	
20	3.2	3.5	3.4	3.1	3	2.4	2.3	2.4	IZS	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.5	2.2	2.1	8.1	2.2	2.5	2.1	8.1	2.7	24	
21	2.1	2.2	2.1	2.1	2.3	2.7	2.8	IZS	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.8	2.2	24	
22	2.2	2.3	2.2	2.2	2.2	2.3	IZS	2.3	2.4	2.4	2.4	2.2	2.2	2.2	2.3	2.5	2.5	2.5	2.4	2.6	2.6	2.7	2.9	2.8	2.9	2.4	24	
23	2.9	2.8	2.7	2.3	2.4	IZS	2.8	2.5	2.4	2.4	2.6	2.9	3	2.9	2.7	2.7	2.6	2.4	2.3	2.4	2.5	2.7	2.8	2.8	3	2.6	24	
24	2.7	2.6	2.5	2.4	IZS	2.3	2.7	2.6	2.4	2.4	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2.1	2.2	2.5	2.6	2.7	2.3	24	
25	2.5	2.4	2.5	IZS	2.4	2.4	2.5	3.2	4.1	3	2.6	2.4	2.5	2.6	2.4	2.7	2.7	2.9	2.7	2.4	2.2	2.2	2.2	4.1	2.6	2.4	24	
26	2.2	2.2	IZS	2.3	2.4	2.3	2.5	2.9	3	2.9	2.7	2.4	2.3	2.3	2.3	2.5	2.5	2.3	2.3	2.3	2.3	2.3	2.3	3	2.4	2.4	24	
27	2.3	IZS	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.2	2.3	2.2	2.2	2.1	2.1	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.2	2.4	24	
28	IZS	2.3	2.4	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.5	2.4	2.3	2.3	2.2	2.3	2.4	2.3	2.4	2.4	2.6	2.6	2.6	IZS	2.6	2.5	24	
29	2.6	2.6	2.6	2.8	2.6	2.9	3.1	2.9	2.8	2.8	2.8	2.8	2.8	2.6	2.6	2.3	2.4	2.3	2.2	2.2	2.2	2.2	2.1	IZS	2.1	3.1	2.5	24
30	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.3	2.2	2.1	2.1	IZS	2.1	2.1	2.3	2.2	24
HOURLY MAX	3	4	3	3	4	7	4	4	4	4	3	3	3	3	3	3	5	5	3	3	8	3	3	3				
HOURLY AVG	2.4	2.4	2.4	2.4	2.5	2.6	2.5	2.5	2.5	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.4	2.4	2.3	2.3	2.5	2.3	2.4	2.3				

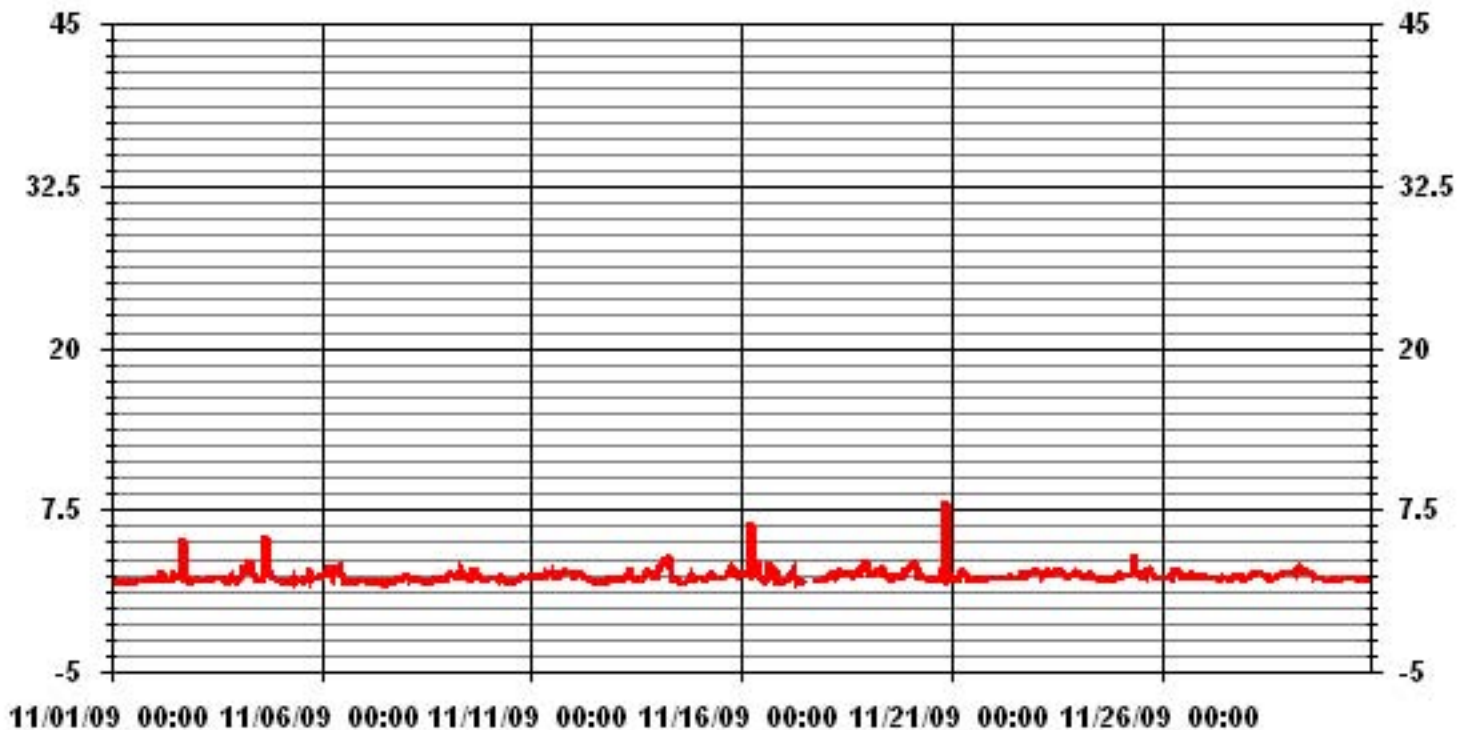
STATUS FLAG CODES

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
BB	- BELOW BACKGROUND OF 1.5 PPM		

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680					
MAXIMUM INSTANTANEOUS VALUE:	8.1	PPM	@ HOUR(S)	20	ON DAY(S)	20
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720 HRS		
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	0.46					

01 Hour Averages



— LICA THCMAX PPM

LICA
 THC / WD Joint Frequency Distribution (Percent)

November 2009

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	.14	.29	1.61	2.49	5.42	9.09	14.36	3.81	3.37	4.83	25.80	14.07	7.91	3.37	1.75	.43	98.82
< 10.0	.00	.00	.00	.14	.43	.00	.00	.00	.00	.00	.00	.58	.00	.00	.00	.00	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	.14	.29	1.61	2.63	5.86	9.09	14.36	3.81	3.37	4.83	25.80	14.66	7.91	3.37	1.75	.43	

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
< 3.0	1	2	11	17	37	62	98	26	23	33	176	96	54	23	12	3	674
< 10.0				1	3							4					8
< 50.0																	
>= 50.0																	
Totals	1	2	11	18	40	62	98	26	23	33	176	100	54	23	12	3	

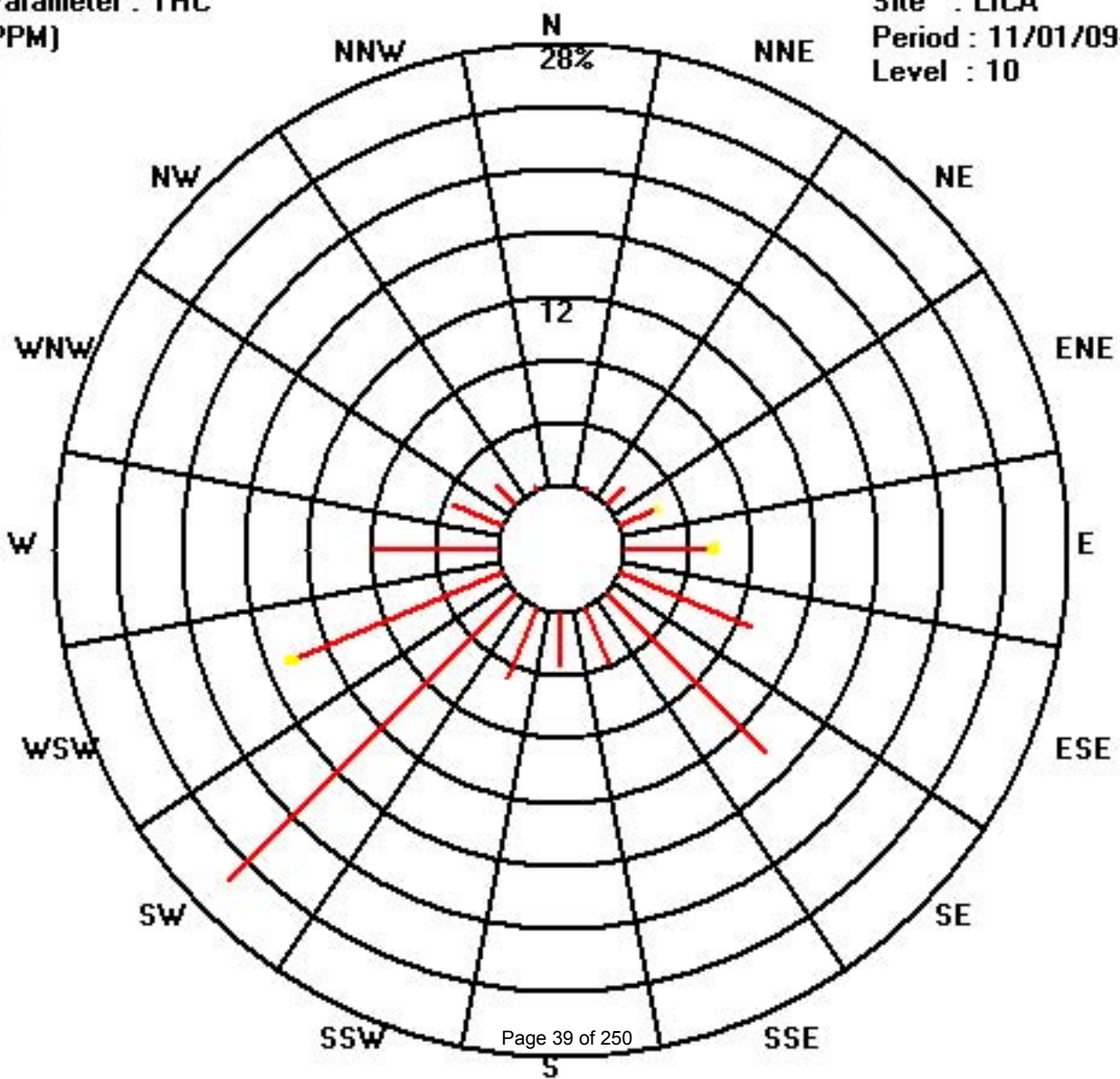
Calm : .00 %

Total # Operational Hours : 682

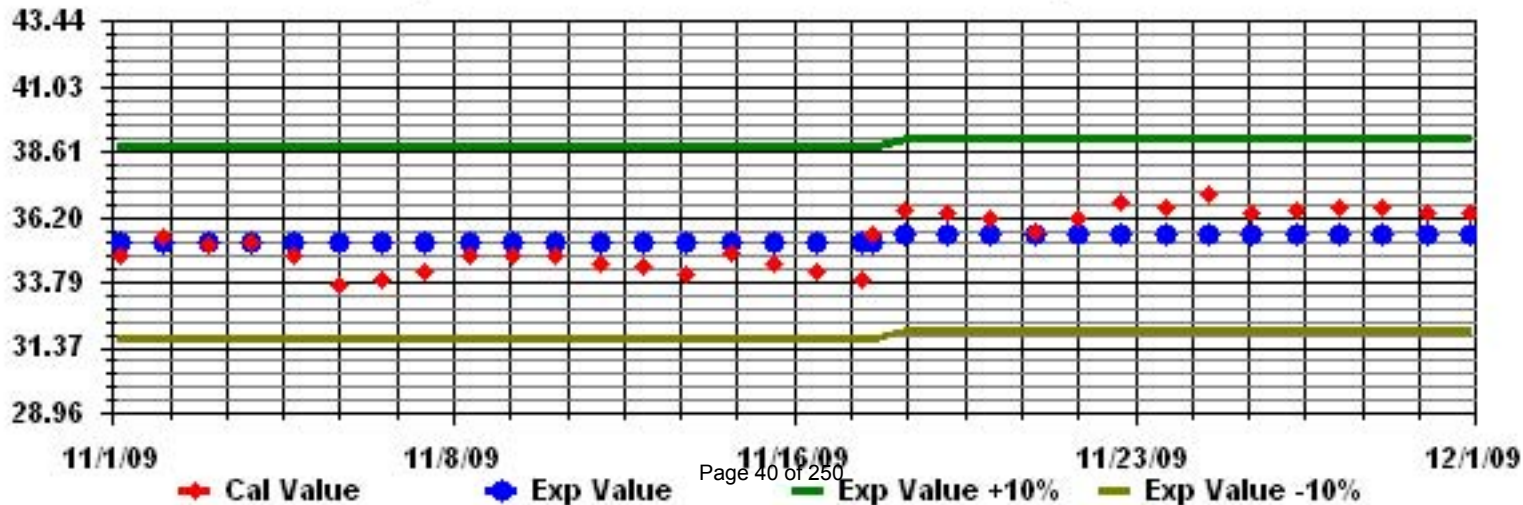
Class Limits (PPM)

Period : 11/01/09-11/30/09

Level : 10



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



Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

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

MST

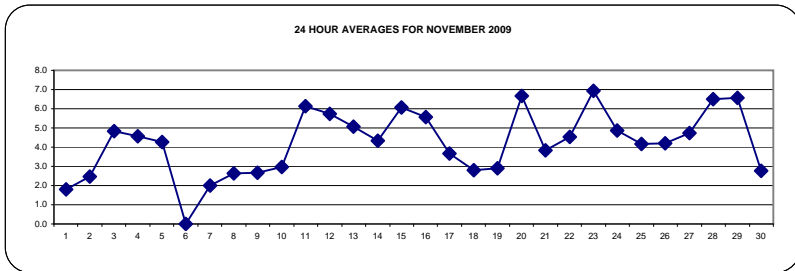
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	7.3	3.4	0.5	0.5	1.3	0	0	0	0.7	0	0	2.6	5	7.6	2.8	5.5	0.7	0.8	0	N	0	0	0	2.6	7.6	1.8	23
2	0.2	0.8	1.3	1.1	4.5	1.9	1.2	2.9	3.6	0	1.6	0.3	1.2	8.1	6.3	0	0	0	4.1	3.2	3.9	5.1	3.2	4.9	8.1	2.5	24
3	3	1.7	0.3	1.7	1.2	5.6	7.4	3.9	3.9	4.6	5.4	5.7	5.9	C	C	C	8	8.1	6.4	4.3	5.2	8.8	6.6	4.1	8.8	4.8	24
4	3.2	0	0	0	2.5	6.3	0.9	7.8	7	7.2	5.1	4.8	6.6	6	7.5	5.6	2.6	7.6	10.6	4.1	4.1	8.5	1.6	0	10.6	4.6	24
5	4.9	1.3	0.8	0	3.9	4.3	5.4	9.8	4.3	5.1	3.9	0.5	4.9	7.6	4.3	3.7	1	5.8	6.9	2.9	7.4	5.5	4.4	3.5	9.8	4.3	24
6	3.3	3.7	4.9	9.7	N	0	8.6	19.3	16.6	10.2	11.9	5.6	4.5	1.3	3.6	2.9	3.1	0	0	0	0	2.3	4.1	2.4	19.3	0.0	23
7	1.8	0	2.3	3.6	2.6	3	3.7	2.6	0.4	2.3	0	4.4	2.1	0.5	0.3	1	1.7	3.4	3.4	0.6	2.6	3.3	2.1	0	4.4	2.0	24
8	N	6.8	0.3	0	1.4	0.7	0	4.8	8.6	6.6	5.2	1	2	0	1.4	2.1	2	2.5	1.1	2	2.5	4.7	2.2	2.3	8.6	2.6	23
9	0.5	N	1.1	4.3	2.2	0	5.2	3.7	6.2	3.8	4.9	1.6	1.1	0.1	0.7	0.6	2.1	3.4	0	4.9	2.2	3.1	3.9	5.7	6.2	2.7	23
10	4.3	0	2.9	0	0	3.6	4.5	0.7	0	4.1	5	3.7	1.9	2.6	0.3	3.5	4.2	2.3	1.4	0	6.7	5.8	6.8	6.7	6.8	3.0	24
11	5	3.7	3.6	3.3	5.9	1.2	5.5	5.6	4.5	8.4	6.1	9.7	8.5	4.7	11.6	5.2	2.7	10.5	10.1	7.5	3.1	5.8	5.7	9	11.6	6.1	24
12	4.6	7.3	11.8	11.4	10.1	6.3	6.7	6.4	5.5	5.5	7	7.9	7.2	4.8	4.3	3.4	3.2	4.3	3.2	6.2	4.3	4.4	2.1	0	11.8	5.7	24
13	0.4	0	0	2.1	4.8	2.1	2.7	3.9	3.2	8	1	1.6	5.5	6.5	5.4	6.1	10.4	4.5	5.5	10.7	5.1	10.6	12.9	8.9	12.9	5.1	24
14	13.8	10.5	7.6	4.3	7.4	8.1	4.5	4.4	2.3	0.8	3.2	3.6	5.6	3	2.9	1.6	2.3	4	4.4	0	1.9	1.8	4.3	1.9	13.8	4.3	24
15	1.9	4.9	4.6	4.5	5.4	0	0.9	6.2	3.6	4.4	7	5.4	3.9	3.8	3.7	6.4	6.4	8.4	14.5	21.5	16.8	3.4	1	6.6	21.5	6.1	24
16	6.6	7.5	10.1	4.3	1.6	3.1	7.1	7.5	8.5	10.7	3.7	2.2	10.7	C	C	C	C	C	C	C	5.5	1.4	1.3	2.6	10.7	5.6	24
17	0.1	0.4	1.9	3.2	2.6	3	6.2	4.2	6.7	2.7	0.7	6.4	4.8	3.4	6.7	7.8	6.9	5.4	0.6	3.6	0.3	2.6	3.7	4.3	7.8	3.7	24
18	4.3	4.4	2	2.5	0	1.3	0	0	2.1	4.7	5.7	3.1	0.8	3	0	1.7	5.3	7.9	1.6	0	N	0	6.1	8.2	8.2	2.8	23
19	8.3	0.9	2.7	0.8	4.6	N	1.4	1.2	1.6	1.1	1.8	0	0	0	0	0	1.3	1.9	1.6	7.2	2.4	7.3	11.4	9.5	11.4	2.9	23
20	10.6	13.8	12.4	7.9	7.1	2.1	2	3.7	4.9	5.6	2.6	5.4	3.1	4.7	4.7	2.8	6.6	7.8	10.3	4.5	4.9	16.7	9	7.1	16.7	6.7	24
21	6.5	1.1	4.1	3.9	4.9	0.4	0.5	4.7	2.2	2.5	2.8	0.2	5.1	2.8	2.2	0.6	3.3	6.8	6.4	5.5	9.5	8.1	4.1	4	9.5	3.8	24
22	1.9	3.5	5.5	2.2	1	3.3	2.1	0	1.5	3.4	N	0	4.9	3.4	3.1	4.8	5.3	9.5	4	7.5	6.7	8.7	9.6	12.2	12.2	4.5	23
23	10	16.4	11	N	N	1.5	N	0	5.8	1.8	5.9	3.8	4.1	10.5	9.4	11.1	7.6	7	5.5	8.9	0	3	12.4	10.2	16.4	6.9	21
24	10.4	10.8	15.8	15.2	7.7	2	1.4	8.9	8.8	13.6	5.2	2.2	1.1	3.8	1.5	1.1	1.3	0	1.4	0	0	N	0	0	15.8	4.9	23
25	0	6	6.1	5.1	5	2.9	2	4.1	6.8	7.9	5.2	5	4.3	3.2	5.1	6.9	5.4	4.3	2.8	0	1	3.9	4.8	2.4	7.9	4.2	24
26	1.4	N	0	N	1.6	0	N	0.5	N	0	4.6	4	6.1	6.5	5.4	7.7	6.8	7.7	3.8	6.5	4.6	3.8	3.7	9.3	9.3	4.2	20
27	10.1	8.3	4.9	4.8	3.5	3.7	1.9	10.9	7.9	3.7	3.5	7.1	2.3	0	1.9	1.9	2.4	5.4	4.9	3.3	5.9	0	6.9	8.4	10.9	4.7	24
28	5.4	11.4	5.4	5.9	9.8	7.4	10.4	9.8	6.9	12.4	6.9	3.9	4.9	5.4	0.4	8.4	2.9	10.4	5.9	8.4	0	5.4	4.3	4.3	12.4	6.5	24
29	9.4	6.4	7.9	6.4	10.9	7.9	17.4	4.3	13.4	10.9	7.9	11.4	8.4	8.9	1.9	3.3	5.4	0	2.9	0	0	6.4	0	N	17.4	6.6	23
30	2.9	3.3	4.9	3.9	0	2.4	4.3	0	0.4	5.4	5.9	4.9	0	2.4	1.9	5.4	3.9	3.9	1.4	0.9	0.9	N	2.4	2.4	5.9	2.8	23
HOURLY MAX	14	16	16	15	11	8	17	19	17	14	12	11	11	11	12	11	10	11	15	22	17	17	13	12			
HOURLY AVG	4.9	4.9	4.6	4.0	4.1	2.9	4.1	4.7	5.1	5.2	4.5	3.9	4.2	4.1	3.5	4.0	4.0	5.0	4.3	4.4	3.7	5.0	4.7	4.9			

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

OBJECTIVE LIMIT:

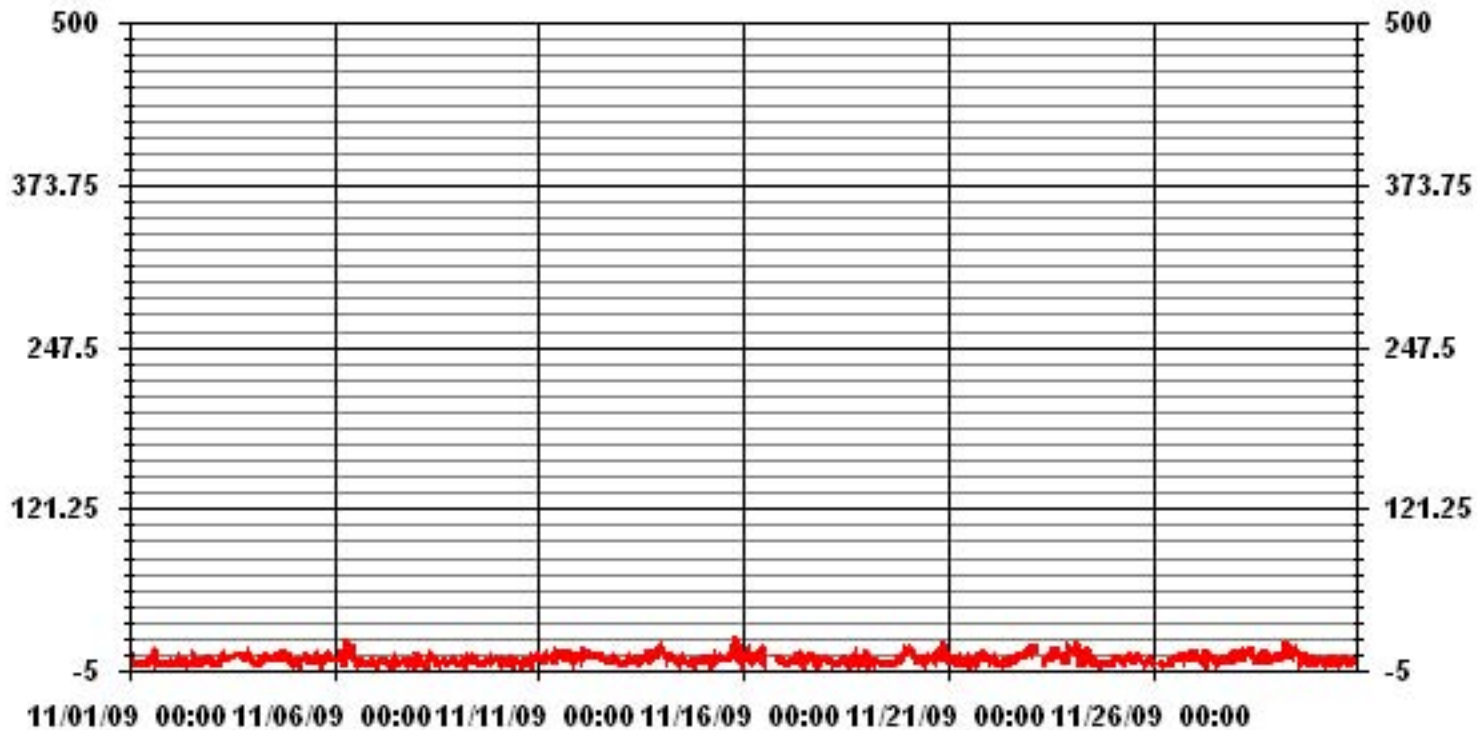
ALBERTA ENVIRONMENT:	1-HR	-	PPB	24-HR	30	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-	PROPOSED CANADA WIDE GUIDELINE				
NUMBER OF 24-HR EXCEEDENCES:	0	PROPOSED CANADA WIDE GUIDELINE				
NUMBER OF NON-ZERO READINGS:	617					
MAXIMUM 1-HR AVERAGE:	21.5	UG/M ³	@ HOUR(S)	19	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	6.9	UG/M ³			ON DAY(S)	23
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	703	HRS	
MONTHLY CALIBRATION TIME:	10	HRS	AMD OPERATION UPTIME:	97.6	%	
STANDARD DEVIATION:	3.46		MONTHLY AVERAGE:	4.37	UG/M ³	

01 Hour Averages



— LICA PM2 UG/M3

LICA
PM2 / WD Joint Frequency Distribution (Percent)

November 2009

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	.28	.28	1.58	2.59	5.62	8.80	13.70	3.46	3.46	4.90	26.40	14.86	7.93	3.75	1.73	.57	100.00
< 60.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 80.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 120.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	.28	.28	1.58	2.59	5.62	8.80	13.70	3.46	3.46	4.90	26.40	14.86	7.93	3.75	1.73	.57	

Calm : .00 %

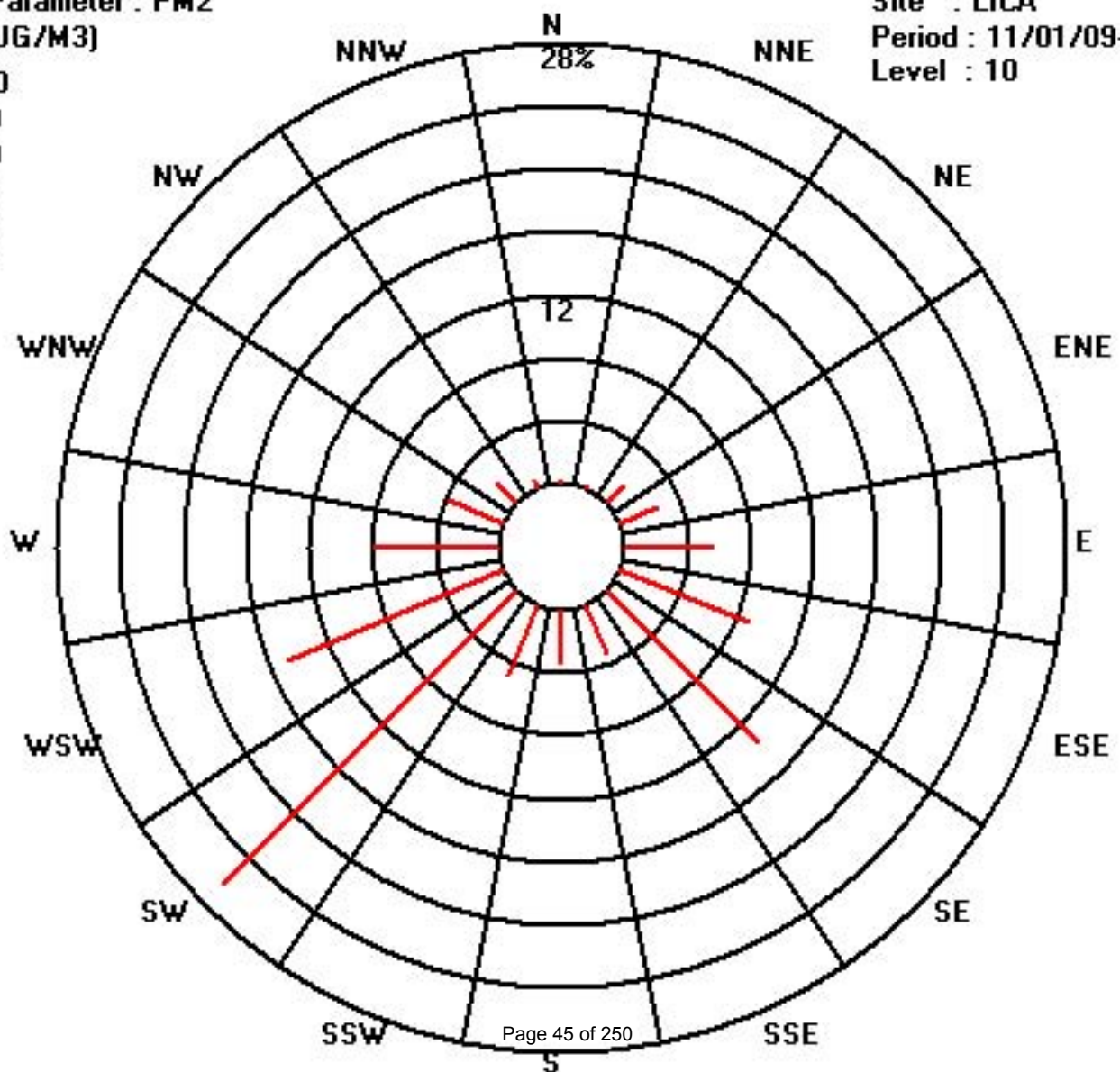
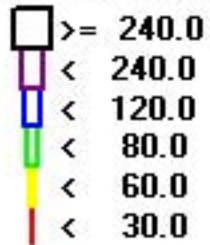
Total # Operational Hours : 693

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	2	2	11	18	39	61	95	24	24	34	183	103	55	26	12	4	693
< 60.0																	
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	2	2	11	18	39	61	95	24	24	34	183	103	55	26	12	4	

Calm : .00 %

Total # Operational Hours : 693



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

NITROGEN DIOXIDE hourly averages in ppb

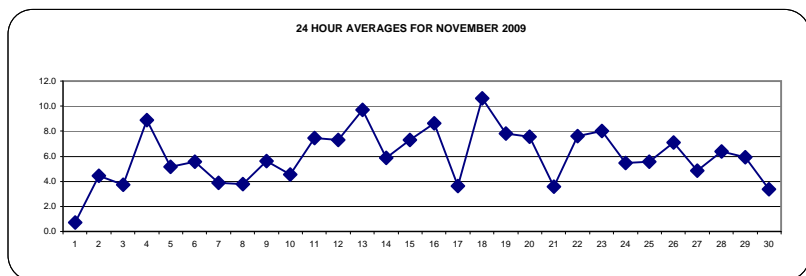
MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
DAY	HOURLY MAX	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
1	3	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	3	3	3	3	0.7	24
2	3	5	2	IZS	9	8	3	3	3	1	2	2	2	2	3	3	5	10	6	3	5	10	6	6	10	4.4	24	
3	3	2	IZS	1	1	1	1	3	3	3	C	C	C	C	2	4	7	9	8	5	5	5	4	4	9	3.7	24	
4	7	IZS	4	6	7	9	11	14	11	8	5	4	4	4	4	20	24	27	16	8	3	2	2	27	8.9	24		
5	IZS	1	1	1	2	2	1	2	3	3	2	1	2	2	3	4	15	18	9	12	12	10	7	IZS	18	5.1	24	
6	7	7	7	8	8	6	5	5	7	12	8	7	8	2	2	5	3	2	4	5	5	3	IZS	2	12	5.6	24	
7	1	2	2	2	3	3	4	5	6	5	3	3	2	2	3	4	7	6	3	6	7	IZS	5	5	7	3.9	24	
8	7	8	4	4	3	4	4	5	5	3	2	1	1	1	1	4	4	3	4	4	IZS	5	5	5	8	3.8	24	
9	6	5	8	8	8	8	7	11	17	8	4	4	4	2	3	4	5	5	4	IZS	2	2	2	2	17	5.6	24	
10	3	2	4	2	3	2	4	5	7	7	5	3	2	3	4	3	8	9	IZS	8	6	6	5	4	9	4.6	24	
11	4	3	3	3	3	4	6	5	9	8	6	8	7	6	6	7	7	IZS	12	13	15	12	12	12	15	7.4	24	
12	8	7	8	8	7	7	6	8	8	5	6	3	3	4	4	6	IZS	17	14	7	6	7	9	10	17	7.3	24	
13	5	4	3	3	2	4	10	13	13	8	4	4	5	6	7	IZS	22	25	20	16	14	13	11	11	25	9.7	24	
14	10	10	10	10	11	12	11	6	6	4	2	2	2	1	IZS	1	5	5	8	7	4	2	3	3	12	5.9	24	
15	5	3	2	2	2	2	3	8	4	3	3	3	3	IZS	5	6	11	18	22	19	15	7	11	11	22	7.3	24	
16	9	9	11	9	7	8	14	14	17	11	3	4	IZS	3	3	4	9	16	20	19	3	2	2	1	20	8.6	24	
17	2	2	3	3	6	16	6	4	C	C	C	C	C	C	C	1	1	2	3	3	3	3	2	2	16	3.6	24	
18	1	2	3	2	4	8	10	7	15	15	IZS	9	8	8	9	14	23	21	16	15	11	12	16	15	23	10.6	24	
19	14	5	5	3	3	4	5	5	5	IZS	3	3	2	3	3	7	9	7	9	14	16	17	19	19	19	7.8	24	
20	17	15	16	15	11	7	8	6	IZS	4	3	2	3	3	4	6	7	8	7	6	9	6	6	5	17	7.6	24	
21	4	9	6	3	9	5	9	IZS	5	2	2	2	2	1	1	1	2	1	1	3	4	3	3	4	9	3.6	24	
22	3	3	3	2	2	2	IZS	6	7	8	4	3	2	3	3	6	18	15	14	13	13	15	16	14	18	7.6	24	
23	16	14	5	3	5	IZS	16	11	9	4	3	4	5	5	5	7	7	7	8	10	10	11	10	9	16	8.0	24	
24	10	11	9	6	IZS	7	8	9	10	8	7	4	2	1	1	1	1	2	2	1	6	8	7	5	11	5.5	24	
25	4	3	3	IZS	1	3	9	11	14	16	5	4	4	4	7	6	7	6	5	3	3	5	3	2	16	5.6	24	
26	2	2	IZS	1	2	5	9	11	9	8	6	5	6	7	10	8	10	9	7	8	5	7	13	13	13	7.1	24	
27	10	IZS	4	4	5	4	5	6	6	5	6	3	2	2	2	4	8	6	6	5	7	4	4	3	10	4.8	24	
28	IZS	3	3	3	4	4	6	10	11	9	7	5	4	4	5	6	8	6	7	7	9	9	10	IZS	11	6.4	24	
29	10	8	7	10	7	12	8	7	6	6	6	8	6	6	5	5	5	4	2	2	3	2	IZS	1	12	5.9	24	
30	2	2	2	2	1	2	3	5	8	8	4	6	6	5	6	3	3	2	2	1	1	IZS	2	2	8	3.4	24	
HOURLY MAX	17	15	16	15	11	16	16	14	17	16	8	9	8	8	10	14	23	25	27	19	16	17	19	19				
HOURLY AVG	6.3	5.3	5.0	4.5	4.9	5.5	6.6	7.1	8.0	6.5	4.1	3.8	3.6	3.3	4.0	4.6	8.2	9.1	8.7	8.0	7.2	6.8	7.1	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

OBJECTIVE LIMIT:

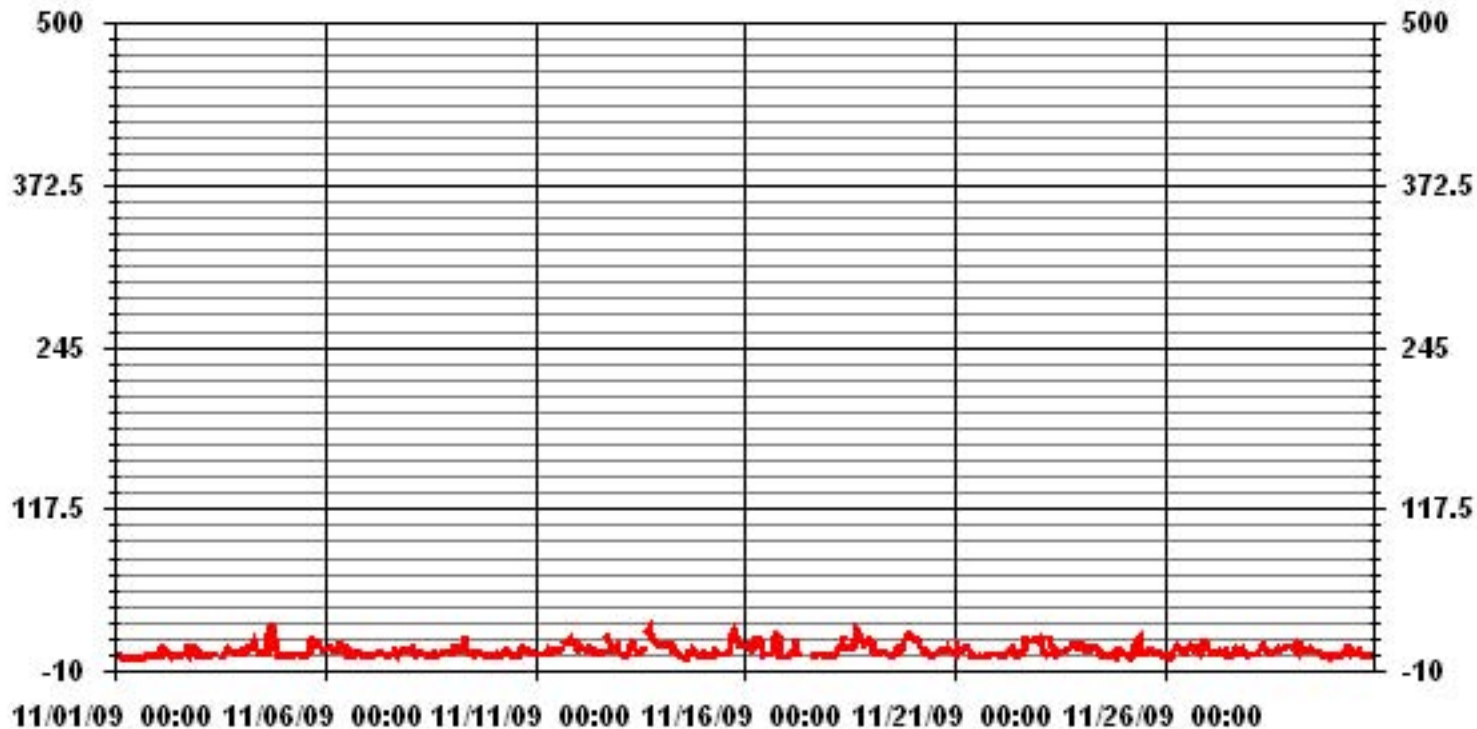
ALBERTA ENVIRONMENT:	1-HR	212	PPB	24-HR	106	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	666		
MAXIMUM 1-HR AVERAGE:	27 PPB @ HOUR(S) 18 ON DAY(S) 4		
MAXIMUM 24-HR AVERAGE:	10.6 PPB ON DAY(S) 18		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	11 HRS	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION	4.47	MONTHLY AVERAGE	6.03 PPB

01 Hour Averages



— LICA H02_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

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	4	2	2	3	IZS	1	1	1	1	0	0	0	0	4	1	0	1	1	2	2	1	2	5	7	7	1.8	24	
2	4	13	6	IZS	15	29	5	5	24	3	4	11	3	4	6	8	12	18	12	5	8	14	10	10	29	10.0	24	
3	6	2	IZS	1	1	1	3	6	4	5	C	C	C	C	C	5	9	12	10	9	7	10	7	6	12	5.8	24	
4	12	IZS	6	10	19	101	25	28	17	13	11	7	5	6	9	7	32	31	32	26	12	5	3	3	101	18.3	24	
5	IZS	2	1	1	3	4	3	5	5	6	2	5	2	3	4	14	22	33	23	15	15	12	11	IZS	33	8.7	24	
6	8	9	9	11	10	9	7	7	17	55	10	10	12	5	5	8	6	4	8	7	8	4	IZS	4	55	10.1	24	
7	2	3	3	4	4	5	5	6	11	14	5	4	5	3	3	5	11	10	5	11	9	IZS	11	11	14	6.5	24	
8	11	17	7	7	5	7	5	7	8	4	3	2	2	1	2	8	10	4	4	5	IZS	9	8	8	17	6.3	24	
9	10	11	13	13	11	10	10	49	29	15	5	9	6	8	4	6	7	12	4	IZS	3	3	2	3	49	10.6	24	
10	7	6	9	6	7	5	5	8	9	9	9	4	3	5	8	11	13	16	IZS	12	8	9	7	7	16	8.0	24	
11	5	4	7	7	5	7	4	12	15	17	10	15	13	10	9	9	11	IZS	17	15	17	17	15	14	17	11.1	24	
12	10	8	11	13	9	10	9	12	10	7	28	4	3	5	6	7	IZS	26	28	13	8	10	14	17	28	11.7	24	
13	7	5	5	5	5	7	23	16	26	17	5	4	9	8	11	IZS	28	60	33	23	16	17	14	14	60	15.6	24	
14	13	12	12	13	14	17	13	8	10	8	4	3	3	2	IZS	3	23	13	12	13	9	3	4	4	23	9.4	24	
15	7	5	3	3	4	4	11	15	10	6	4	4	5	IZS	9	16	21	22	29	23	25	11	15	15	29	11.6	24	
16	12	12	15	15	10	14	19	23	28	18	5	5	IZS	5	5	11	16	26	32	29	9	3	2	4	32	13.8	24	
17	7	6	8	8	13	46	10	8	C	C	C	C	C	C	C	2	2	4	4	8	6	7	3	4	46	8.6	24	
18	2	4	3	3	10	18	21	16	55	22	IZS	13	11	11	18	28	29	28	20	18	18	16	19	20	55	17.5	24	
19	20	10	13	5	4	5	11	9	9	IZS	6	3	3	4	5	12	12	10	14	19	22	24	28	23	28	11.8	24	
20	21	19	22	21	17	11	12	9	IZS	9	10	4	3	5	7	9	10	10	11	10	18	8	9	8	22	11.4	24	
21	9	13	9	5	14	7	12	IZS	8	4	2	3	2	3	2	3	2	2	4	9	6	5	4	14	5.7	24		
22	4	4	4	4	9	3	IZS	8	11	10	6	4	4	4	4	29	37	20	21	21	17	18	20	19	37	12.2	24	
23	20	20	13	4	7	IZS	24	20	14	7	4	6	6	6	6	11	9	9	10	11	12	16	13	12	24	11.3	24	
24	14	14	12	7	IZS	11	11	10	12	9	10	7	2	2	2	2	3	5	2	1	11	11	14	8	14	7.8	24	
25	6	5	4	IZS	3	11	14	15	18	27	10	5	4	9	10	8	12	12	12	11	6	13	6	2	27	9.7	24	
26	3	3	IZS	2	4	8	12	18	11	10	13	9	9	10	15	11	13	10	9	10	7	12	15	15	18	10.0	24	
27	13	IZS	5	7	9	6	7	9	7	7	49	5	3	3	3	11	11	11	9	8	10	6	5	4	49	9.0	24	
28	IZS	7	5	4	6	5	8	13	14	12	8	7	10	5	9	8	16	10	9	9	20	10	14	IZS	20	9.5	24	
29	15	10	9	15	9	69	11	10	7	8	10	9	8	8	6	7	7	6	4	4	7	3	IZS	3	69	10.7	24	
30	4	4	4	3	3	4	5	7	12	21	7	10	9	7	9	7	4	4	3	2	2	IZS	2	2	21	5.9	24	
HOURLY MAX	21	20	22	21	19	101	25	49	55	55	49	15	13	11	18	29	37	60	33	29	25	24	28	23				
HOURLY AVG	9.1	8.2	7.9	7.1	8.2	15.0	10.6	12.4	14.4	12.3	8.9	6.1	5.4	5.4	6.6	9.1	13.4	14.8	13.1	11.9	11.0	10.0	10.0	9.0				

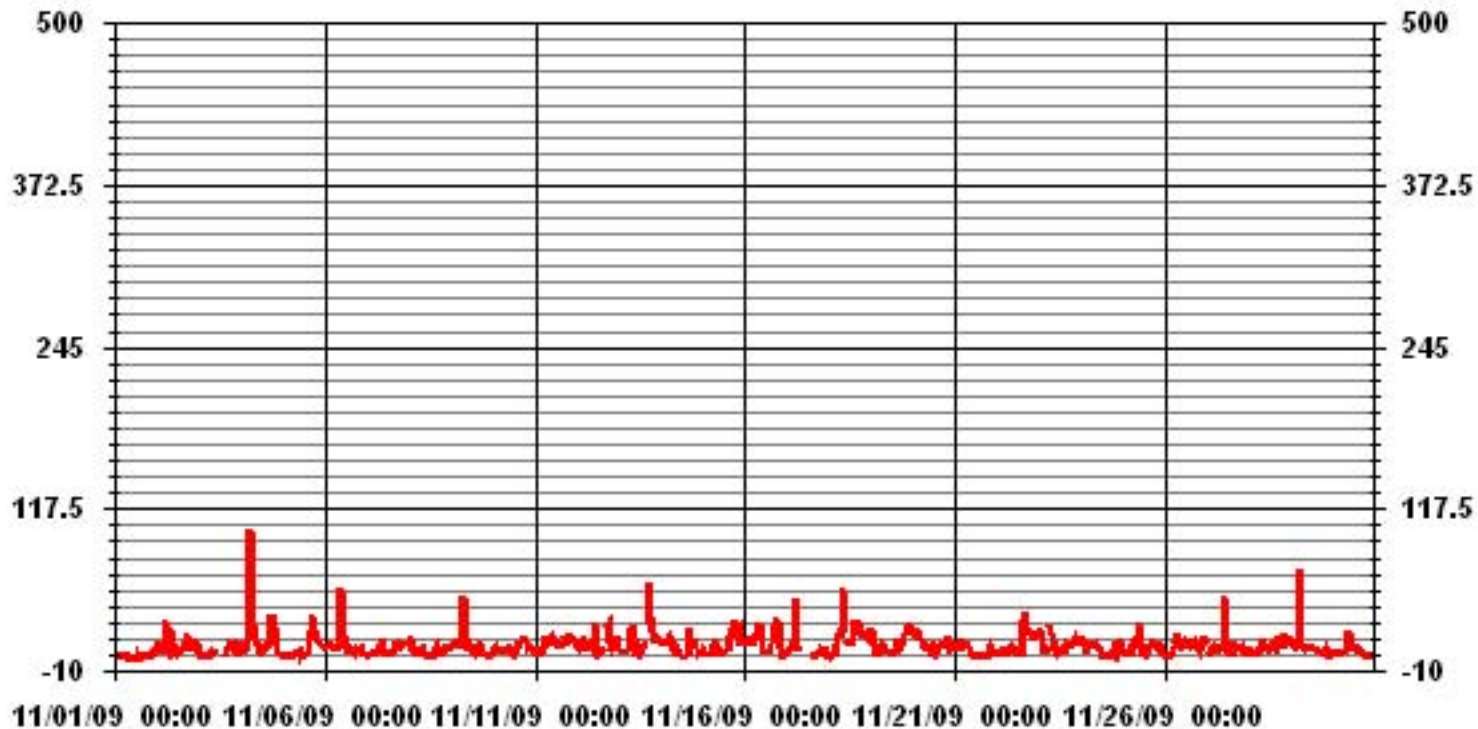
STATUS FLAG CODES

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:	672					
MAXIMUM INSTANTANEOUS VALUE:	101	PPB	@ HOUR(S)	5	ON DAY(S)	4
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	12	HRS				
STANDARD DEVIATION:	8.73					

01 Hour Averages



— LICA NO2MAX PPB

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

November 2009

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	.14	.29	1.62	2.65	5.89	8.99	14.15	3.83	3.09	4.71	26.10	14.74	7.96	3.53	1.76	.44	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	.14	.29	1.62	2.65	5.89	8.99	14.15	3.83	3.09	4.71	26.10	14.74	7.96	3.53	1.76	.44		

Calm : .00 %

Total # Operational Hours : 678

Distribution By Samples

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 50	1	2	11	18	40	61	96	26	21	32	177	100	54	24	12	3	678	
< 110																		
< 210																		
>= 210																		
Totals	1	2	11	18	40	61	96	26	21	32	177	100	54	24	12	3		

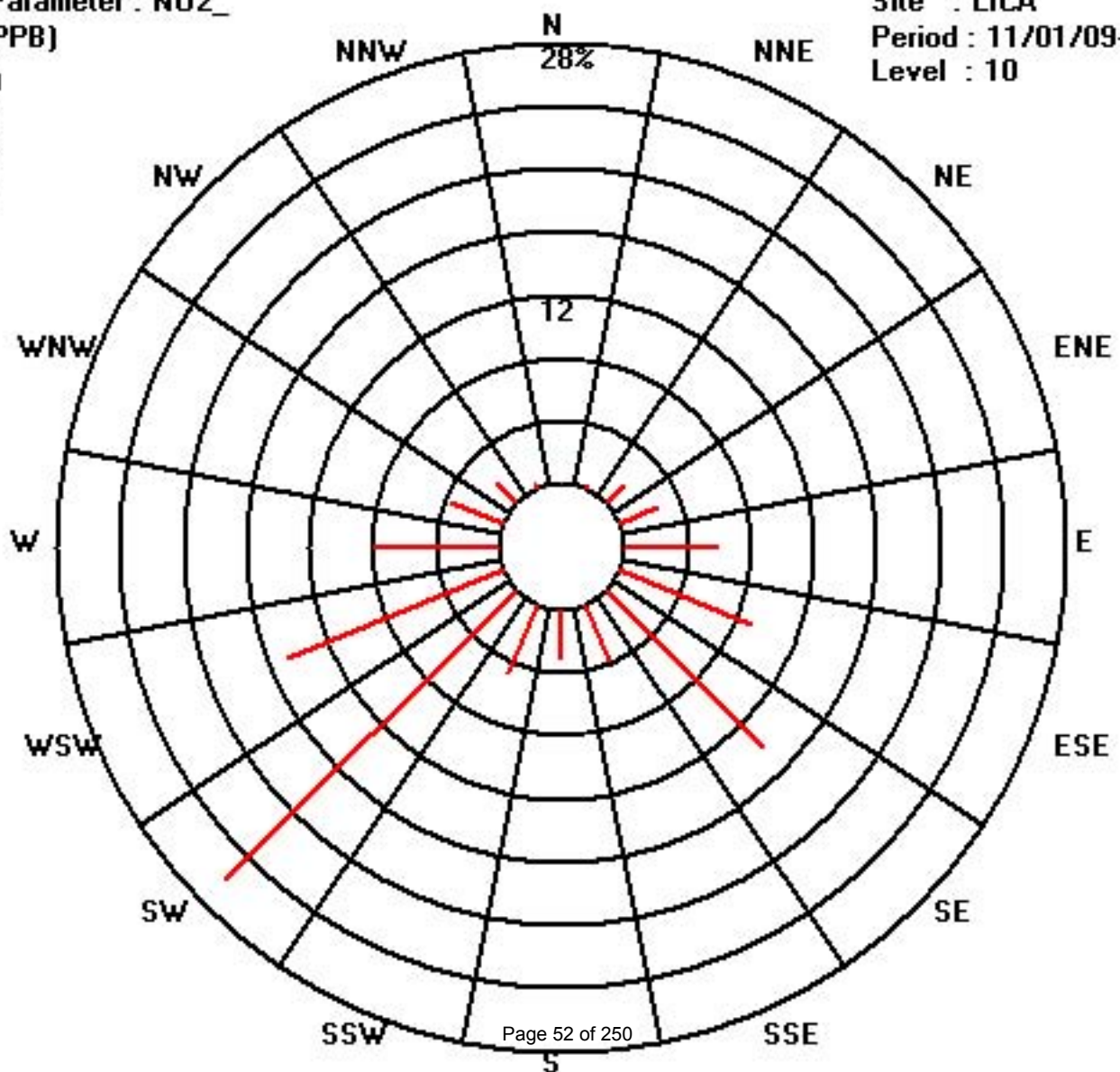
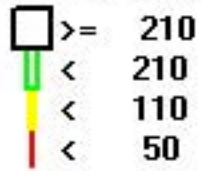
Calm : .00 %

Total # Operational Hours : 678

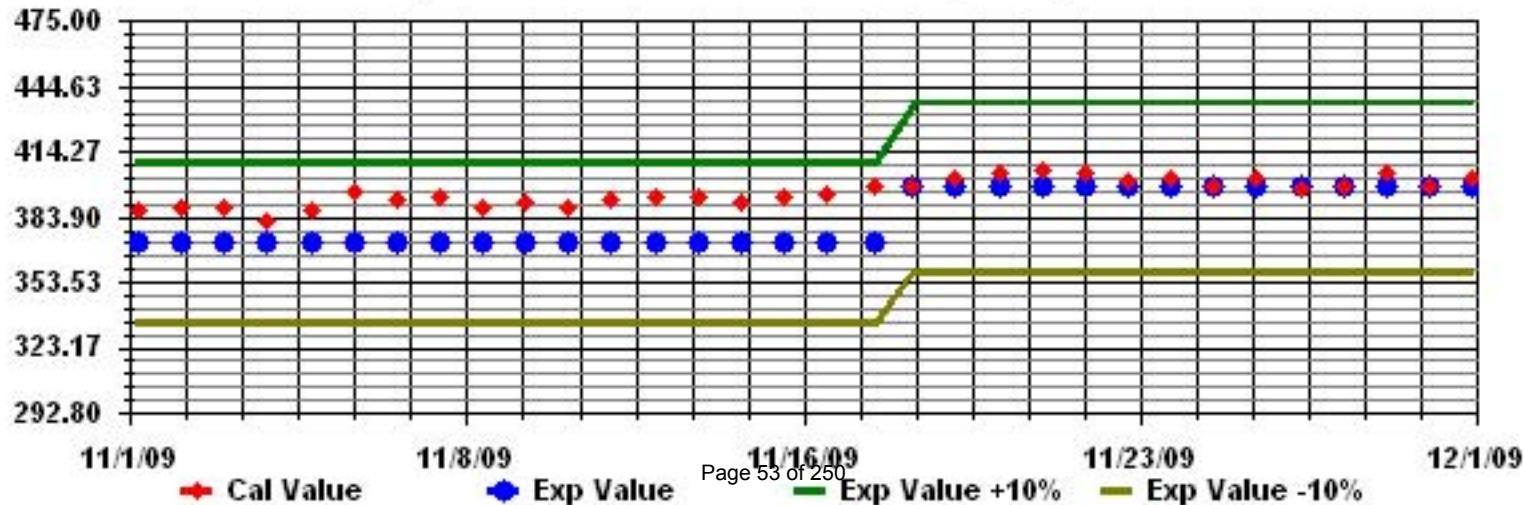
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



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



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

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	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	
2	0	0	0	IZS	0	1	0	0	0	0	0	0	0	1	1	1	1	2	1	0	0	0	0	0	0	2	0.3	24
3	0	0	IZS	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
4	0	IZS	0	0	2	3	7	45	26	9	4	3	2	1	1	0	7	9	37	12	1	0	0	0	45	7.3	24	
5	IZS	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	9	22	4	8	8	10	6	IZS	22	3.6	24	
6	7	12	14	14	18	18	15	16	40	40	7	3	1	0	0	0	0	0	0	0	0	0	0	IZS	40	8.9	24	
7	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	1	0.2	24
8	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	1	0.0	24
9	0	0	0	1	1	2	1	14	41	7	2	2	2	0	0	0	0	0	0	0	IZS	0	0	0	0	41	3.2	24
10	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	IZS	0	0	0	0	0	2	0.3	24
11	0	0	0	0	0	0	1	0	9	8	2	3	2	2	1	0	0	IZS	1	0	1	0	0	0	0	9	1.3	24
12	0	0	0	0	0	0	0	0	2	2	6	1	1	1	1	0	IZS	3	3	0	0	0	0	1	6	0.9	24	
13	0	0	0	0	0	6	7	16	5	2	2	3	2	2	IZS	9	42	44	27	33	32	15	12	44	11.3	24		
14	9	6	4	3	3	4	2	0	1	0	0	0	0	0	IZS	0	0	0	0	1	0	0	0	0	0	9	1.5	24
15	0	0	0	0	0	0	0	1	1	0	1	1	1	IZS	1	1	1	7	24	13	12	0	1	1	24	2.9	24	
16	0	1	3	1	1	11	18	25	60	11	1	2	IZS	1	0	0	0	2	2	8	0	0	0	0	60	6.4	24	
17	0	0	0	0	0	7	1	0	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	7	0.5	24	
18	0	0	0	0	0	0	1	0	3	4	IZS	1	1	2	3	2	3	8	2	4	4	2	11	4	11	2.4	24	
19	2	0	0	0	0	0	0	0	1	IZS	0	1	0	0	0	0	0	0	0	0	2	9	23	42	47	47	5.5	24
20	34	27	26	15	4	0	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	2	1	0	0	34	5.3	24	
21	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
22	0	0	0	0	0	0	IZS	0	1	1	1	1	0	0	0	1	2	1	5	4	6	11	25	21	25	3.5	24	
23	24	17	1	0	0	IZS	3	0	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	24	2.2	24	
24	0	0	0	0	IZS	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
25	0	0	0	IZS	0	0	4	16	47	60	2	1	1	1	1	0	0	0	0	0	0	1	0	0	60	5.8	24	
26	0	0	IZS	0	0	0	1	5	1	2	3	3	3	2	1	0	0	0	0	0	0	0	0	0	5	0.9	24	
27	0	IZS	0	0	0	0	0	0	0	1	5	1	1	0	0	0	0	1	0	0	0	0	0	0	5	0.4	24	
28	IZS	0	0	0	0	0	0	1	1	2	3	2	1	1	1	0	0	0	0	0	1	0	0	IZS	3	0.6	24	
29	0	0	0	0	0	3	0	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0	IZS	0	3	0.3	24
30	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	IZS	0	0	1	0.2	24
HOURLY MAX	34	27	26	15	18	18	18	45	60	60	7	5	3	2	3	2	9	42	44	27	33	32	42	47				
HOURLY AVG	2.7	2.3	1.7	1.2	1.0	1.7	2.1	4.5	9.1	5.7	1.7	1.4	1.0	0.7	0.6	0.3	1.1	3.4	4.3	2.8	2.7	2.9	3.6	3.1				

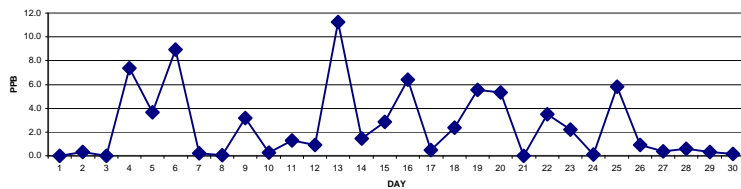
STATUS FLAG CODES

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

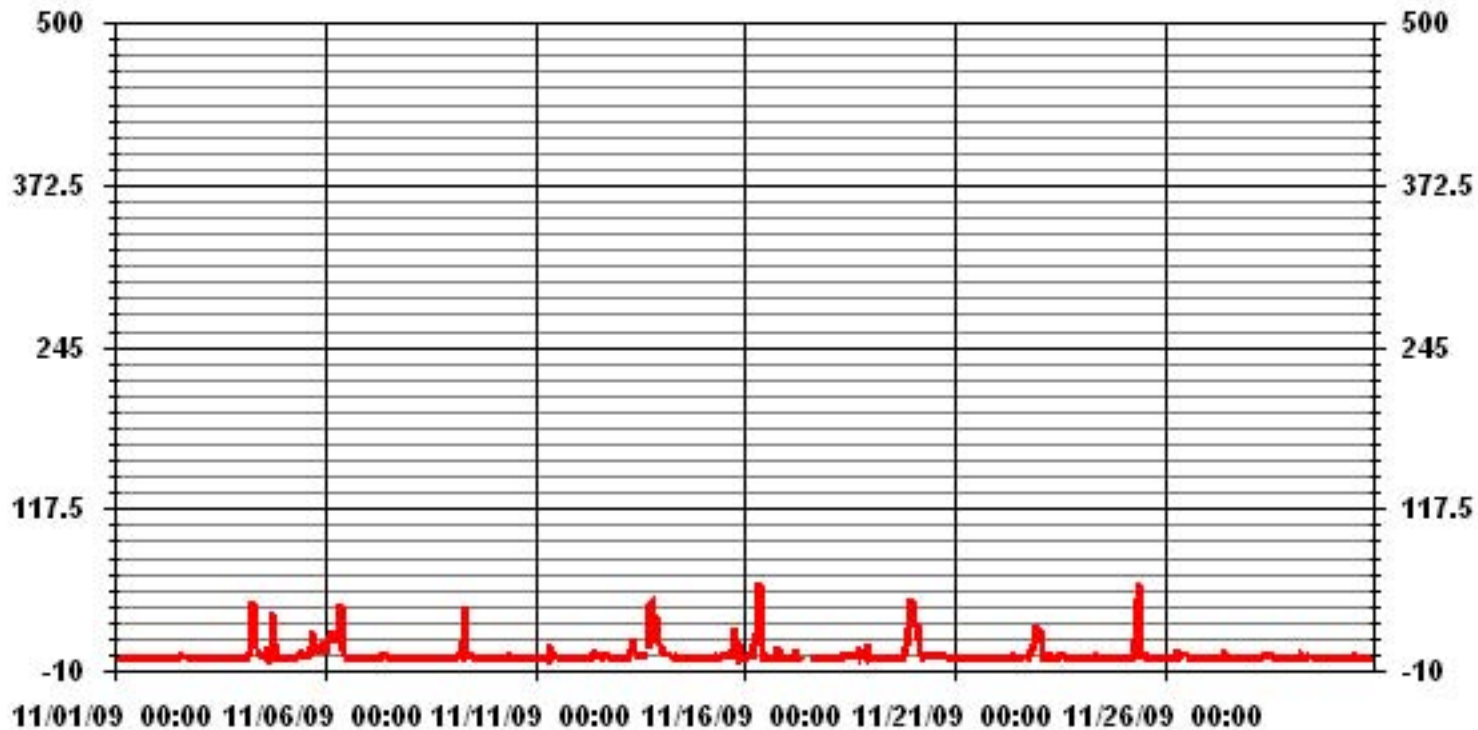
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	261
MAXIMUM 1-HR AVERAGE:	60 PPB @ HOUR(S) 9 ON DAY(S) 25
MAXIMUM 24-HR AVERAGE:	11.3 PPB ON DAY(S) 13
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	11 HRS
OPERATIONAL TIME:	720 HRS
AMT OPERATION UPTIME:	100.0 %
STANDARD DEVIATION	7.45
MONTHLY AVERAGE	2.56 PPB

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	1	1	1	0	IZS	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	3	3	0.4	24	
2	0	5	2	IZS	4	9	1	1	10	4	6	1	1	14	10	4	6	48	7	1	6	10	0	4	48	6.7	24	
3	1	0	IZS	0	0	0	1	2	1	5	C	C	C	C	C	2	1	1	1	2	2	8	1	3	8	1.7	24	
4	2	IZS	2	2	20	63	24	173	54	21	16	12	3	5	4	1	25	18	61	53	3	2	1	1	173	24.6	24	
5	IZS	0	0	0	1	1	1	6	8	3	2	107	1	2	1	26	34	79	45	38	22	38	22	IZS	107	19.9	24	
6	11	20	19	21	25	27	23	28	69	107	12	5	4	1	1	1	1	1	2	1	3	1	IZS	1	107	16.7	24	
7	1	1	1	2	1	2	1	1	2	6	2	1	3	2	1	1	0	2	0	0	1	IZS	4	5	6	1.7	24	
8	1	6	2	1	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	IZS	0	0	3	6	1.7	24	
9	1	1	3	4	2	5	5	40	76	29	4	5	5	5	9	5	14	6	1	IZS	2	1	0	1	76	9.7	24	
10	2	0	0	6	4	2	2	1	3	5	4	1	1	1	2	5	0	1	IZS	3	3	1	0	2	6	2.1	24	
11	1	1	1	1	1	2	20	4	30	29	5	8	8	24	2	3	12	IZS	8	1	2	3	2	2	30	7.4	24	
12	1	3	1	2	1	4	2	3	5	11	46	2	2	1	2	1	IZS	22	20	1	4	2	2	5	46	6.2	24	
13	1	2	2	3	2	3	29	13	62	16	2	5	6	4	3	IZS	44	110	69	50	41	47	19	16	110	23.9	24	
14	12	10	7	5	11	12	5	3	3	2	1	3	1	3	IZS	1	8	3	2	10	3	1	1	1	12	4.7	24	
15	1	1	1	0	0	1	5	15	9	3	6	5	3	IZS	3	16	10	18	43	28	37	2	4	5	43	9.4	24	
16	6	8	8	3	4	29	30	71	103	32	3	3	IZS	8	1	3	4	19	12	20	2	0	0	1	103	16.1	24	
17	0	0	0	0	5	52	7	4	C	C	C	C	C	C	C	1	0	0	1	4	8	10	0	0	52	5.4	24	
18	0	2	0	0	1	8	6	2	32	12	IZS	4	2	4	41	14	12	29	9	11	30	13	28	11	41	11.8	24	
19	6	1	3	1	0	0	6	3	11	IZS	3	1	2	1	1	2	3	1	2	17	27	44	61	59	61	11.1	24	
20	49	36	35	21	16	3	4	2	IZS	14	12	10	5	11	4	2	2	4	6	7	19	5	3	2	49	11.8	24	
21	2	3	0	6	4	3	3	IZS	3	2	1	1	1	0	1	0	1	1	0	2	2	3	2	2	6	1.9	24	
22	1	6	1	1	4	0	IZS	2	11	2	2	11	3	3	1	14	29	6	35	18	18	21	37	31	37	11.2	24	
23	33	25	8	1	2	IZS	13	6	3	1	1	5	2	2	5	1	2	2	1	3	6	1	1	33	5.5	24		
24	3	2	0	1	IZS	2	1	1	3	3	2	2	0	0	0	0	0	1	1	0	0	3	1	2	3	1.2	24	
25	1	1	2	IZS	1	3	15	48	57	91	13	5	2	5	2	4	5	4	4	4	1	9	1	0	91	12.1	24	
26	0	0	IZS	2	3	1	5	23	3	4	9	8	6	3	2	1	3	2	2	1	2	1	3	1	23	3.7	24	
27	1	IZS	2	1	4	1	2	1	2	2	97	2	2	1	1	4	2	14	3	3	4	1	1	3	97	6.7	24	
28	IZS	3	4	1	2	1	5	6	6	5	5	3	10	3	8	9	4	3	1	2	19	1	3	IZS	19	4.7	24	
29	6	0	1	3	4	38	2	3	1	1	9	2	2	3	1	1	2	2	1	1	1	1	1	1	38	3.7	24	
30	2	2	2	2	3	3	1	1	1	2	0	3	3	3	2	2	1	1	1	0	0	IZS	0	0	3	1.5	24	
HOURLY MAX	49	36	35	21	25	63	30	173	103	107	97	107	10	24	41	26	44	110	69	53	41	47	61	59				
HOURLY AVG	5.2	5.0	3.9	3.2	4.6	9.6	7.7	16.0	20.4	14.8	9.8	7.7	2.9	4.1	3.9	4.4	7.8	13.8	11.7	9.7	9.1	8.4	7.1	5.9				

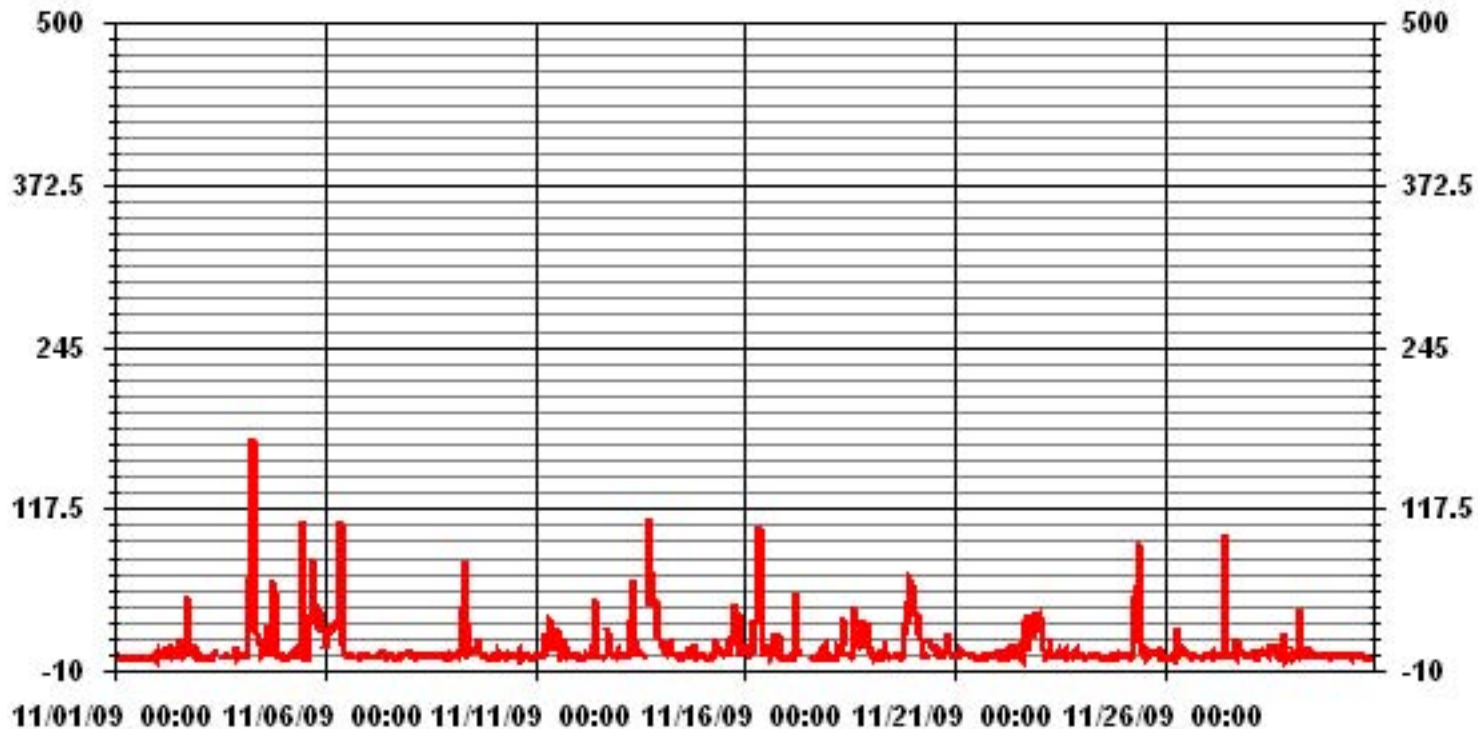
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	603				
MAXIMUM INSTANTANEOUS VALUE:	173	PPB	@ HOUR(S)	7	ON DAY(S) 4
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS
MONTHLY CALIBRATION TIME:	12	HRS			
STANDARD DEVIATION:	16.49				

01 Hour Averages



— LICA NOMAX PPB

LICA
NO_ / WD Joint Frequency Distribution (Percent)

November 2009

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	.14	.29	1.62	2.35	5.89	8.99	14.15	3.83	3.09	4.71	26.10	14.74	7.96	3.53	1.76	.44	99.70	
< 110	.00	.00	.00	.29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.29	
< 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	.14	.29	1.62	2.65	5.89	8.99	14.15	3.83	3.09	4.71	26.10	14.74	7.96	3.53	1.76	.44		

Calm : .00 %

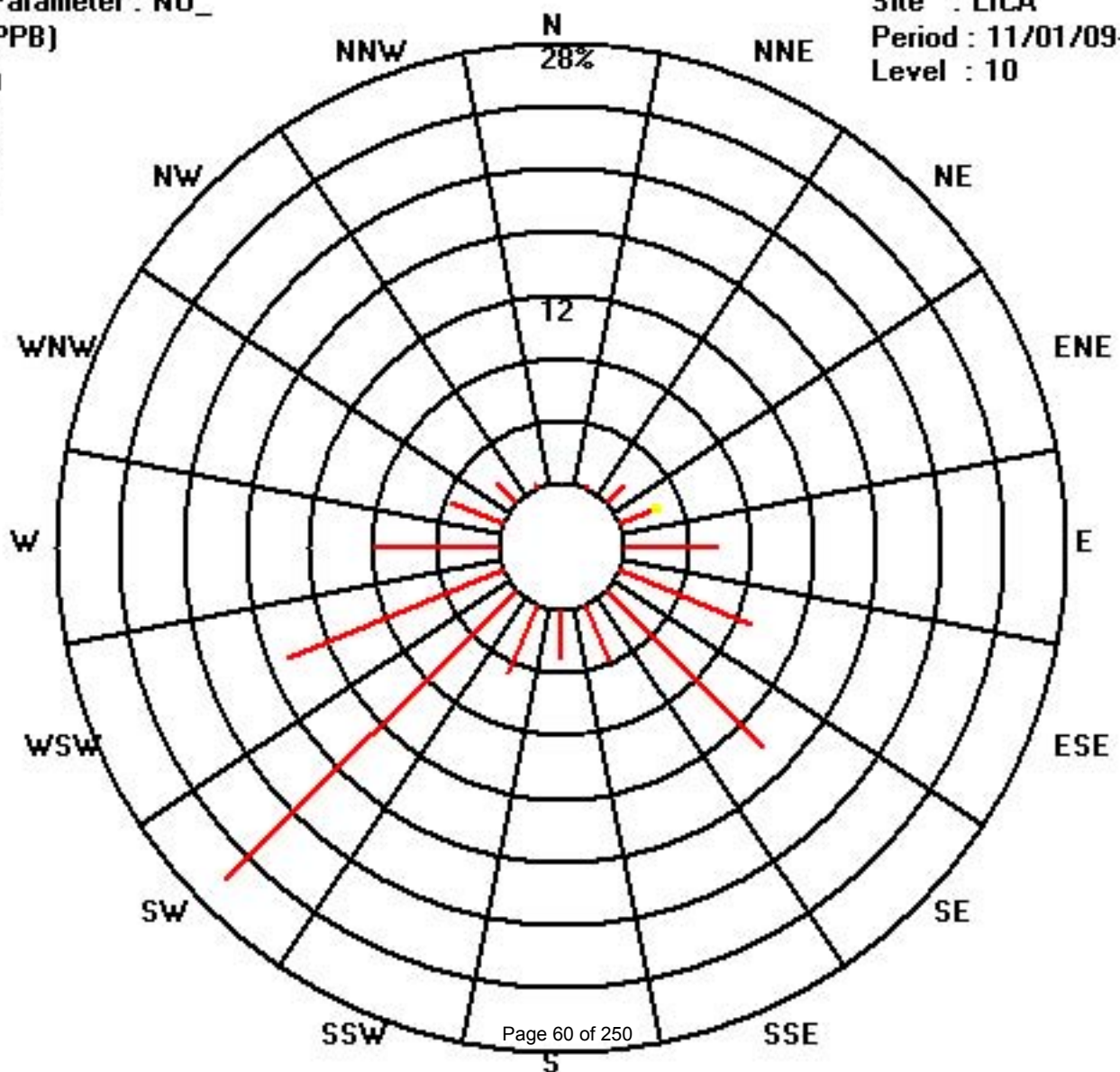
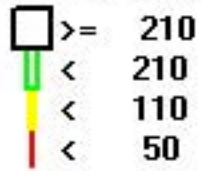
Total # Operational Hours : 678

Distribution By Samples

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 50	1	2	11	16	40	61	96	26	21	32	177	100	54	24	12	3	676	
< 110				2													2	
< 210																		
>= 210																		
Totals	1	2	11	18	40	61	96	26	21	32	177	100	54	24	12	3		

Calm : .00 %

Total # Operational Hours : 678



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

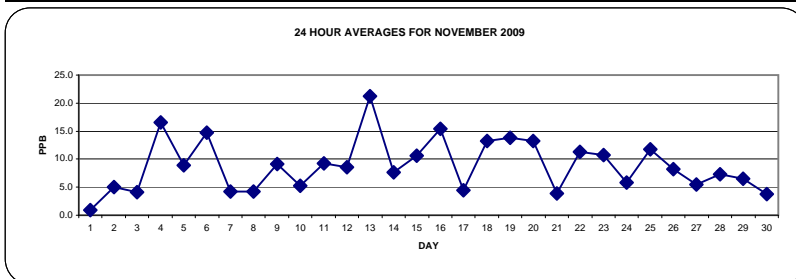
OXIDES OF NITROGEN hourly averages in ppb

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.
	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00				
1	3	1	1	1	IZS	1	1	1	0	0	0	0	0	1	0	0	0	1	1	1	1	1	3	3	3	0.9	24
2	3	6	2	IZS	10	9	4	3	4	1	2	2	2	3	4	5	6	13	7	3	5	10	6	6	13	5.0	24
3	3	2	IZS	1	1	1	1	3	4	4	C	C	C	C	3	4	8	10	8	6	5	6	4	4	10	4.1	24
4	7	IZS	4	7	9	12	18	60	38	18	9	8	6	6	5	4	28	33	65	28	9	3	2	2	65	16.6	24
5	IZS	1	1	1	2	2	2	3	4	4	3	3	3	3	4	6	24	40	13	21	20	21	14	IZS	40	8.9	24
6	14	19	22	22	26	25	20	21	48	52	15	11	9	2	2	6	3	3	4	5	6	3	IZS	2	52	14.8	24
7	1	2	2	3	3	4	4	5	7	6	4	4	3	2	3	4	7	6	3	7	7	IZS	5	6	7	4.3	24
8	8	9	4	4	3	5	5	6	6	4	3	2	1	1	1	5	4	3	4	4	IZS	5	5	6	9	4.3	24
9	6	5	9	9	10	10	8	26	58	16	6	6	6	3	4	5	6	5	4	IZS	3	2	2	2	58	9.2	24
10	4	3	4	2	4	3	4	5	8	10	7	4	2	3	4	4	8	9	IZS	9	7	6	5	5	10	5.2	24
11	4	3	3	3	3	4	8	6	19	16	9	12	10	9	8	8	7	IZS	13	14	15	13	12	13	19	9.2	24
12	9	7	8	8	7	7	6	8	10	8	12	5	4	5	5	6	IZS	21	17	8	7	7	10	11	21	8.5	24
13	5	4	3	3	3	5	16	20	29	13	6	6	8	9	9	IZS	32	68	65	43	47	45	27	23	68	21.3	24
14	19	16	15	14	14	17	13	6	7	5	3	2	2	2	IZS	1	5	5	8	8	4	3	3	3	19	7.6	24
15	5	4	2	2	2	2	4	9	6	4	4	4	5	IZS	6	7	13	25	47	33	27	8	12	13	47	10.6	24
16	10	11	15	11	9	20	32	40	77	22	5	6	IZS	4	3	4	9	18	22	27	3	2	2	2	77	15.4	24
17	2	2	3	3	7	23	8	5	C	C	C	C	C	C	C	1	1	2	3	3	4	4	2	2	23	4.4	24
18	1	2	3	2	4	9	11	7	18	20	IZS	11	9	10	12	17	26	29	19	19	16	14	27	19	29	13.3	24
19	17	5	5	3	3	4	6	6	6	IZS	4	4	3	3	4	8	9	7	9	17	26	41	62	66	66	13.8	24
20	52	43	42	30	15	8	9	7	IZS	6	4	4	4	4	6	7	8	9	8	8	12	8	6	5	52	13.3	24
21	4	9	6	4	10	5	9	IZS	6	3	2	3	2	1	1	1	2	2	1	3	5	3	4	4	10	3.9	24
22	3	3	3	2	2	2	IZS	6	8	10	6	4	3	3	4	6	21	16	19	18	20	26	41	35	41	11.3	24
23	40	32	7	3	5	IZS	20	11	11	4	4	5	6	7	6	9	8	8	9	10	11	12	10	9	40	10.7	24
24	11	12	9	6	IZS	7	8	9	11	10	8	4	2	2	1	1	1	2	2	1	6	8	7	6	12	5.8	24
25	4	4	3	IZS	2	3	13	27	62	77	8	5	5	5	9	6	8	7	5	3	4	6	3	2	77	11.8	24
26	2	2	IZS	1	2	5	10	17	11	10	9	9	10	9	11	8	11	9	8	8	5	7	13	13	17	8.3	24
27	11	IZS	4	4	5	4	5	6	7	6	12	5	3	3	2	4	8	8	7	5	7	4	4	3	12	5.5	24
28	IZS	3	3	4	4	4	7	11	12	11	10	8	6	5	6	7	8	6	7	8	11	9	10	IZS	12	7.3	24
29	10	8	7	10	7	15	9	7	6	7	7	9	8	7	5	5	5	5	3	2	4	2	IZS	2	15	6.5	24
30	2	2	2	2	2	2	3	5	9	8	4	7	7	7	8	3	3	2	3	1	1	IZS	2	2	9	3.8	24
HOURLY MAX	52	43	42	30	26	25	32	60	77	77	15	12	10	10	12	17	32	68	65	43	47	45	62	66			
HOURLY AVG	9.3	7.9	6.9	5.9	6.2	7.5	9.1	11.9	17.6	12.7	6.1	5.5	4.8	4.4	4.9	5.2	9.6	12.8	13.2	11.1	10.3	10.0	10.8	9.6			

STATUS FLAG CODES

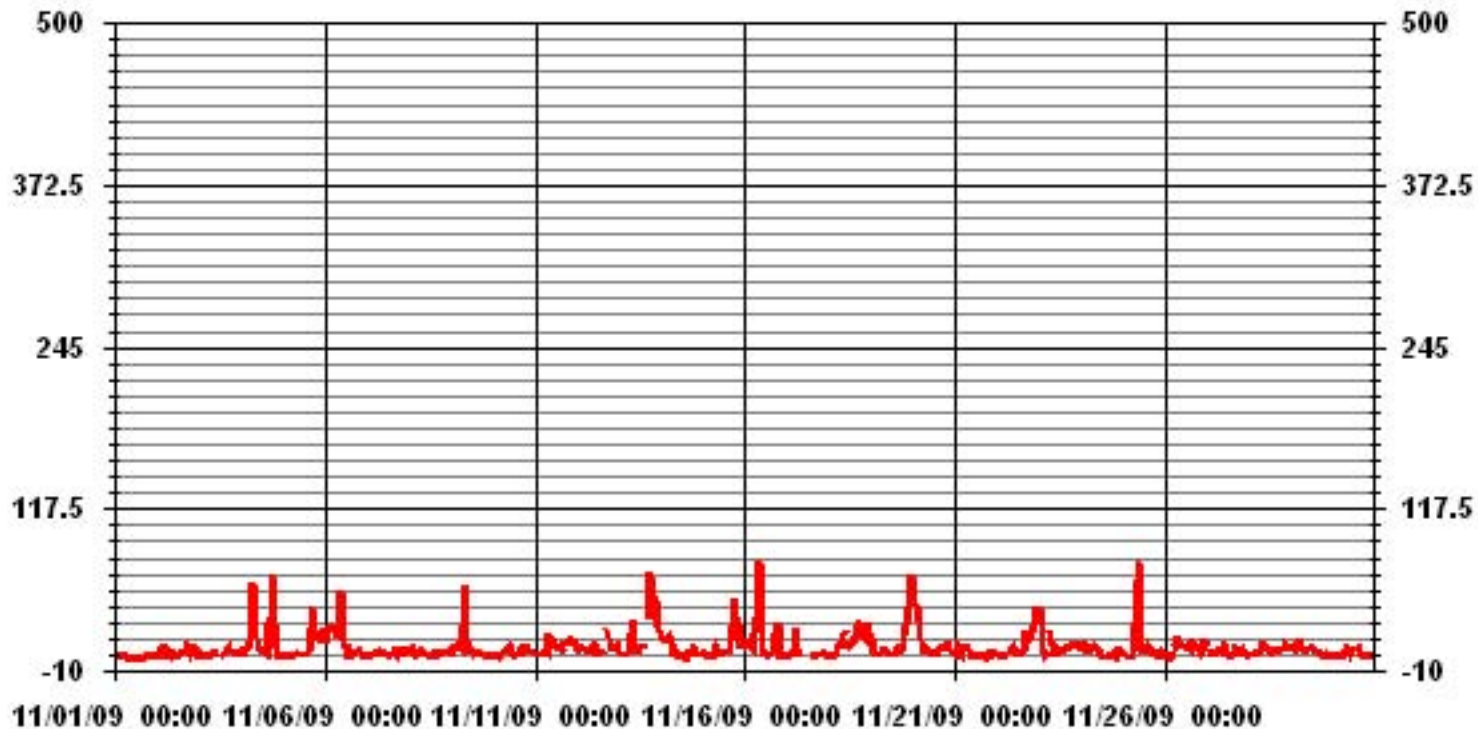
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	670					
MAXIMUM 1-HR AVERAGE:	77	PPB	@ HOUR(S)	8	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	21.3	PPB			ON DAY(S)	13
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	10.77		MONTHLY AVERAGE	8.92	PPB	

01 Hour Averages



— LICA NOx_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	5	3	2	3	IZS	1	1	1	1	1	0	0	0	6	1	1	1	1	2	2	1	2	5	8	8	2.1	24
2	4	15	8	IZS	19	37	5	5	34	6	8	13	5	14	9	10	17	46	16	6	13	20	10	14	46	14.5	24
3	6	2	IZS	1	1	1	4	7	5	7	C	C	C	C	7	10	14	10	11	8	17	8	8	8	17	7.1	24
4	14	IZS	8	13	36	164	49	162	71	35	25	16	8	11	13	8	56	45	90	76	15	7	4	4	164	40.4	24
5	IZS	2	2	1	3	4	4	11	7	8	4	17	3	5	5	38	55	99	44	51	33	47	32	IZS	99	21.6	24
6	19	27	27	32	35	36	25	35	83	153	21	13	15	5	5	9	7	4	9	7	11	5	IZS	5	153	25.6	24
7	3	4	3	5	5	7	6	8	13	21	7	5	8	5	5	6	11	11	5	11	9	IZS	15	12	21	8.0	24
8	12	23	8	8	8	8	7	8	10	6	4	3	3	2	3	10	12	5	4	6	IZS	10	8	10	23	7.7	24
9	10	12	15	17	13	15	15	89	101	43	9	13	11	13	12	9	8	18	4	IZS	4	5	2	4	101	19.2	24
10	8	6	10	12	11	7	7	9	11	14	13	6	4	6	11	15	13	17	IZS	15	9	10	7	8	17	10.0	24
11	5	5	9	8	6	8	37	16	42	47	15	23	20	32	11	12	23	IZS	25	16	19	19	17	15	47	18.7	24
12	11	9	11	14	10	12	10	16	14	16	70	6	5	6	8	8	IZS	43	46	13	11	11	16	22	70	16.9	24
13	8	7	6	8	7	10	52	27	79	31	7	8	15	11	15	IZS	65	167	95	72	56	61	32	27	167	37.7	24
14	22	22	18	18	23	27	18	11	13	10	5	6	4	4	IZS	4	25	14	12	17	12	4	5	5	27	13.0	24
15	8	7	4	4	4	5	15	29	17	10	8	8	8	IZS	12	30	29	37	70	49	61	12	19	18	70	20.2	24
16	18	20	22	18	13	42	47	84	111	48	7	8	IZS	11	6	13	20	45	44	45	10	3	2	4	111	27.9	24
17	7	6	8	8	18	97	18	12	C	C	C	C	C	C	2	3	4	4	11	8	18	3	4	97	13.6	24	
18	2	5	3	4	11	26	22	17	87	32	IZS	16	12	15	30	40	36	54	29	27	44	29	45	30	87	26.8	24
19	24	11	16	6	4	5	16	10	13	IZS	10	4	6	5	6	13	13	11	15	34	44	67	85	80	85	21.7	24
20	69	52	55	37	33	13	16	11	IZS	23	21	11	5	8	10	10	13	12	18	12	37	12	12	10	69	21.7	24
21	12	15	9	9	16	8	15	IZS	9	5	4	3	3	2	3	3	3	3	2	5	11	6	7	5	16	6.9	24
22	6	7	5	5	10	3	IZS	10	21	12	9	13	6	5	5	42	66	24	52	38	33	39	56	50	66	22.5	24
23	54	41	21	4	8	IZS	36	24	17	8	5	11	8	8	7	13	10	11	11	12	15	21	14	12	54	16.1	24
24	16	15	12	7	IZS	13	12	11	15	12	11	8	3	2	2	2	3	6	3	2	12	12	14	10	16	8.8	24
25	7	6	6	IZS	3	14	28	62	74	113	23	10	6	13	13	8	14	14	16	15	6	21	7	2	113	20.9	24
26	4	3	IZS	3	6	8	16	37	14	14	22	16	15	12	18	12	15	11	10	11	7	12	16	16	37	13.0	24
27	14	IZS	7	8	12	6	8	11	9	9	124	7	5	5	4	15	12	22	11	10	12	7	5	6	124	14.3	24
28	IZS	9	6	5	7	6	12	17	20	16	12	10	18	8	13	16	17	13	11	10	36	11	15	IZS	36	13.1	24
29	20	11	9	17	11	102	12	12	8	10	17	10	10	11	7	8	7	6	5	4	8	4	IZS	3	102	13.6	24
30	4	4	5	4	5	4	6	7	13	23	7	12	11	9	10	7	5	4	4	2	2	IZS	2	2	23	6.6	24
HOURLY MAX	69	52	55	37	36	164	52	162	111	153	124	23	20	32	30	42	66	167	95	76	61	67	85	80			
HOURLY AVG	14.0	12.5	11.3	10.0	12.1	23.8	17.9	26.2	32.6	26.2	17.3	9.9	8.0	8.7	9.0	12.8	19.6	26.2	23.0	20.3	18.9	17.6	16.5	14.1			

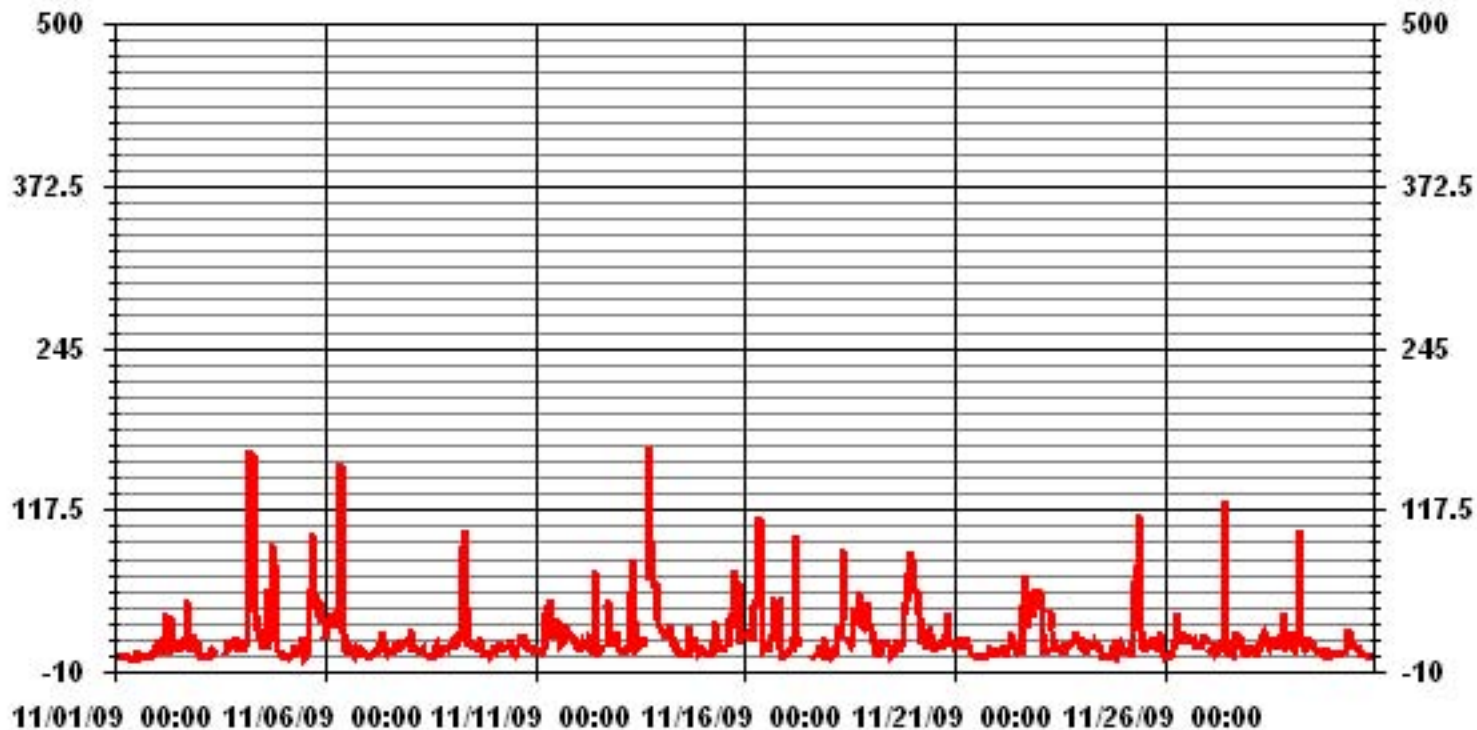
STATUS FLAG CODES

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:	674		
MAXIMUM INSTANTANEOUS VALUE:	167 PPB @ HOUR(S) 17 ON DAY(S) 13		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	12 HRS		
STANDARD DEVIATION:	21.40		

01 Hour Averages



— LICA NOXMAX PPB

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

November 2009

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	.14	.29	1.32	2.21	5.45	8.70	14.01	3.83	3.09	4.71	25.95	14.74	7.96	3.53	1.76	.44	98.23	
< 110	.00	.00	.29	.44	.44	.29	.14	.00	.00	.00	.14	.00	.00	.00	.00	.00	1.76	
< 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	.14	.29	1.62	2.65	5.89	8.99	14.15	3.83	3.09	4.71	26.10	14.74	7.96	3.53	1.76	.44		

Calm : .00 %

Total # Operational Hours : 678

Distribution By Samples

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 50	1	2	9	15	37	59	95	26	21	32	176	100	54	24	12	3	666	
< 110			2	3	3	2	1				1						12	
< 210																		
>= 210																		
Totals	1	2	11	18	40	61	96	26	21	32	177	100	54	24	12	3		

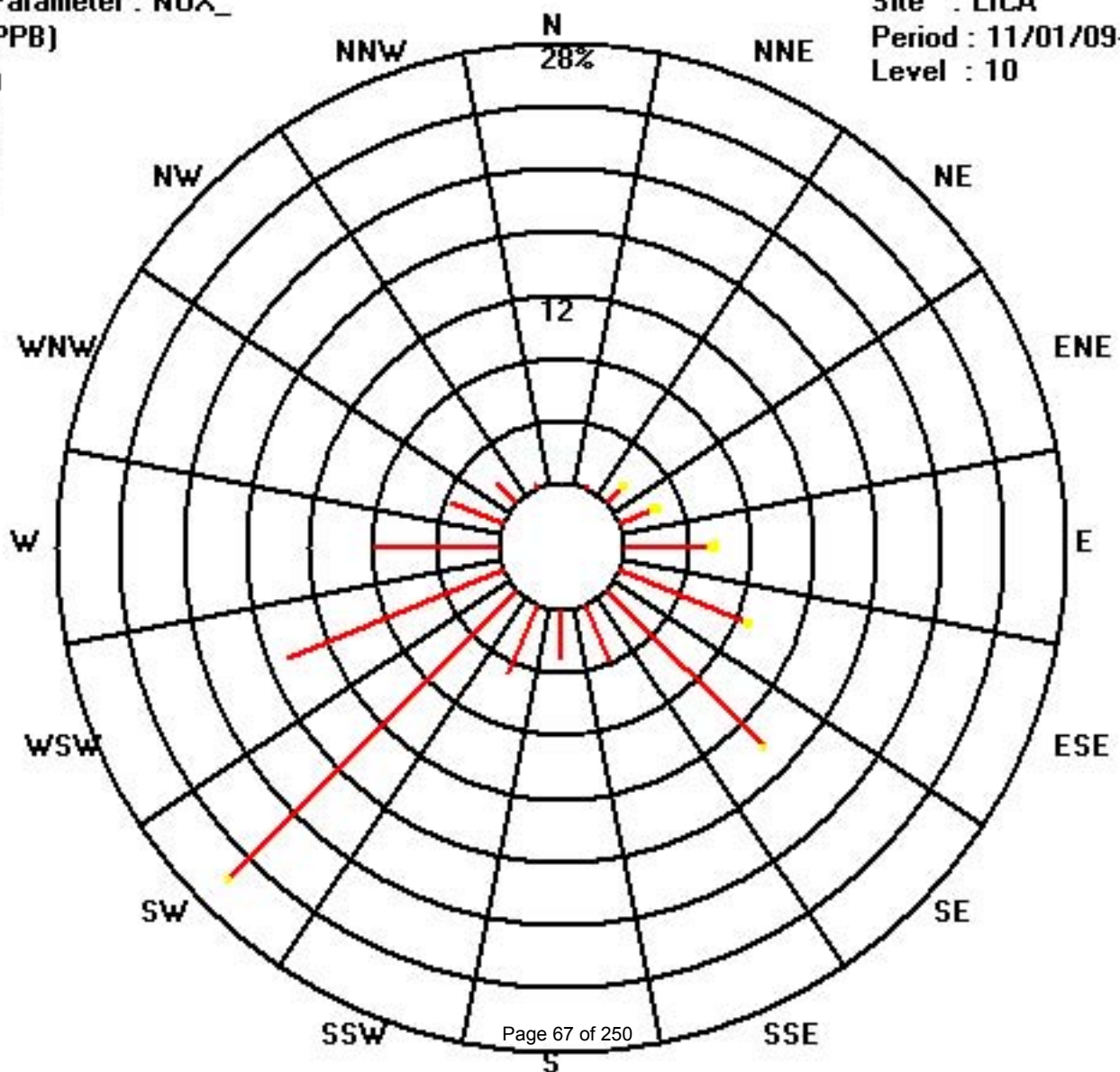
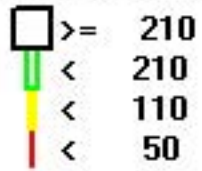
Calm : .00 %

Total # Operational Hours : 678

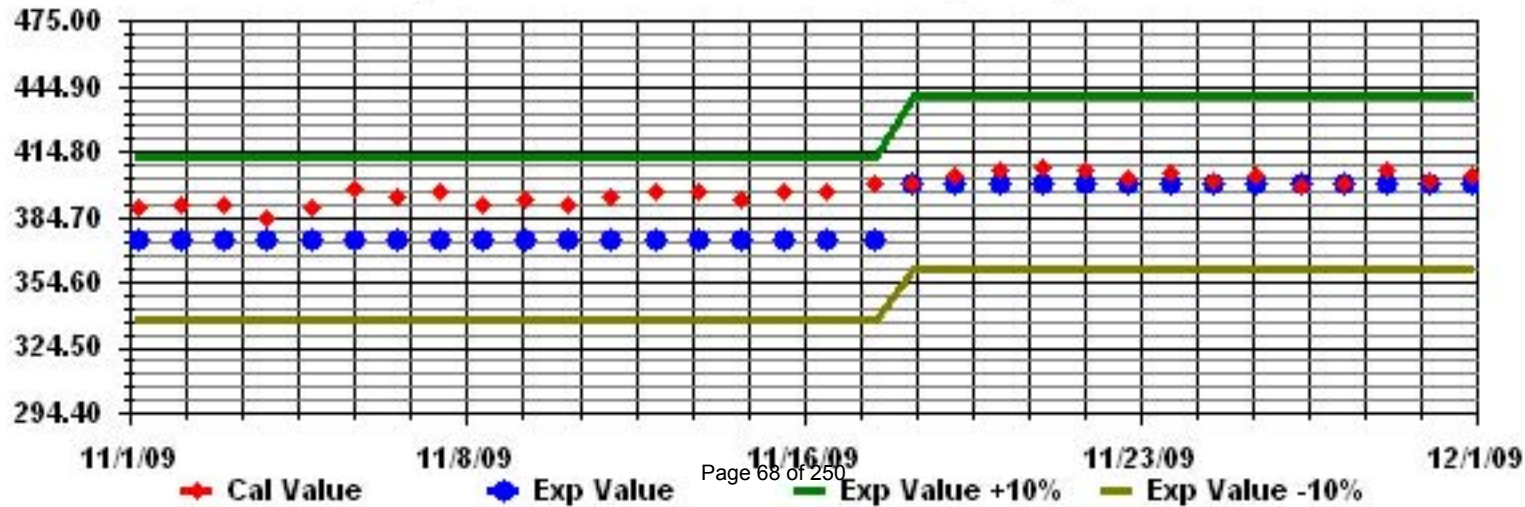
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



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



Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

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	13	24	26	22	IZS	17	18	19	20	21	24	25	26	27	28	29	32	32	32	32	33	32	26	18	33	25.0	24	
2	14	11	12	IZS	5	15	22	25	26	27	28	28	26	25	23	22	20	15	20	22	19	13	14	12	28	19.3	24	
3	16	21	IZS	22	22	23	22	20	18	18	21	20	20	21	C	C	13	12	15	20	21	19	19	17	23	19.0	24	
4	12	IZS	7	5	2	6	1	1	2	9	17	22	24	26	28	28	10	2	1	12	20	24	24	25	28	13.4	24	
5	IZS	26	26	27	25	24	24	22	19	19	19	18	17	16	15	14	4	1	7	1	1	0	0	IZS	27	14.8	24	
6	0	0	0	0	0	0	0	0	0	3	12	17	22	33	33	29	31	31	26	23	22	24	IZS	27	33	14.5	24	
7	27	25	25	24	22	22	22	22	21	23	26	29	31	33	31	28	24	23	26	18	13	IZS	11	15	33	23.5	24	
8	9	5	7	6	10	16	19	19	19	22	24	27	28	29	30	25	24	25	23	21	IZS	19	16	12	30	18.9	24	
9	11	7	6	5	2	1	3	0	1	12	18	20	22	29	28	25	21	22	21	IZS	24	24	24	24	29	15.2	24	
10	23	23	18	17	15	15	17	16	16	18	24	28	31	31	30	30	23	20	IZS	20	22	21	19	18	31	21.5	24	
11	17	15	11	7	8	15	7	7	3	4	12	13	17	19	19	17	13	IZS	7	6	3	6	6	5	19	10.3	24	
12	9	14	10	10	13	15	16	14	12	14	18	22	25	26	26	25	IZS	9	10	17	20	16	9	8	26	15.6	24	
13	11	9	9	7	7	5	2	1	4	14	19	20	20	21	21	IZS	4	1	1	0	0	0	0	0	21	7.7	24	
14	0	0	0	0	0	0	3	19	21	24	27	29	29	31	IZS	33	26	25	17	18	24	26	26	25	33	17.5	24	
15	19	17	23	23	22	20	19	10	14	18	19	19	20	IZS	18	16	10	2	1	1	6	10	6	5	23	13.8	24	
16	3	3	1	2	2	1	0	0	1	9	18	20	IZS	24	28	28	23	15	8	8	29	31	31	31	31	13.7	24	
17	27	21	15	13	10	3	18	22	24	25	27	IZS	36	C	C	C	C	C	34	33	33	34	35	34	36	24.7	24	
18	38	35	32	29	24	14	13	21	9	9	IZS	21	22	23	24	17	4	3	3	2	3	4	0	6	38	15.5	24	
19	6	21	20	24	24	23	21	21	20	IZS	23	24	27	27	27	23	20	20	16	6	1	1	1	1	1	27	17.3	24
20	1	0	1	1	6	18	18	20	IZS	23	25	25	25	25	23	21	19	19	18	17	15	18	17	15	25	16.1	24	
21	13	6	5	7	7	11	7	IZS	14	18	18	18	20	22	22	23	22	24	25	22	19	20	20	21	25	16.7	24	
22	22	22	23	24	21	15	IZS	22	21	21	27	30	31	31	31	28	9	6	6	2	1	0	1	0	31	17.1	24	
23	1	2	18	23	19	IZS	5	15	17	19	20	21	18	17	17	15	17	18	17	13	10	8	12	11	23	14.5	24	
24	9	10	12	15	IZS	17	12	11	11	16	21	27	31	32	34	34	34	32	33	33	26	19	19	20	34	22.1	24	
25	21	17	15	IZS	10	6	3	1	1	3	19	23	24	24	21	26	23	22	23	25	24	23	26	26	26	17.7	24	
26	25	24	IZS	23	20	15	9	5	9	12	14	15	16	18	16	17	14	16	17	17	22	18	11	10	25	15.8	24	
27	12	IZS	21	21	19	20	18	17	17	18	19	24	26	27	28	26	21	22	21	23	19	22	21	21	28	21.0	24	
28	IZS	22	22	20	19	15	16	13	12	15	18	22	25	26	25	24	22	23	20	20	16	16	15	IZS	26	19.4	24	
29	15	9	6	4	5	7	9	11	14	15	16	15	16	19	23	22	24	29	32	33	32	35	IZS	36	36	18.6	24	
30	34	36	34	34	33	32	30	28	23	24	26	24	26	29	28	33	34	33	32	33	35	IZS	35	35	36	30.9	24	
HOURLY MAX	38	36	34	34	33	32	30	28	26	27	28	30	36	33	34	34	34	33	34	33	35	35	35	36				
HOURLY AVG	14.6	15.2	14.5	14.8	13.3	13.5	12.9	13.9	13.4	16.3	20.7	22.3	24.2	25.4	25.1	24.4	19.3	17.9	17.7	17.2	17.7	17.3	15.9	17.1				

STATUS FLAG CODES

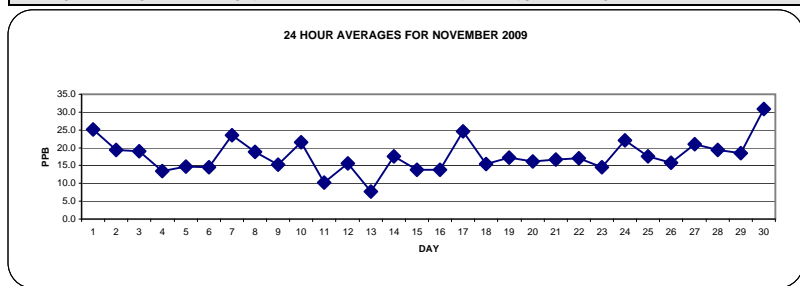
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

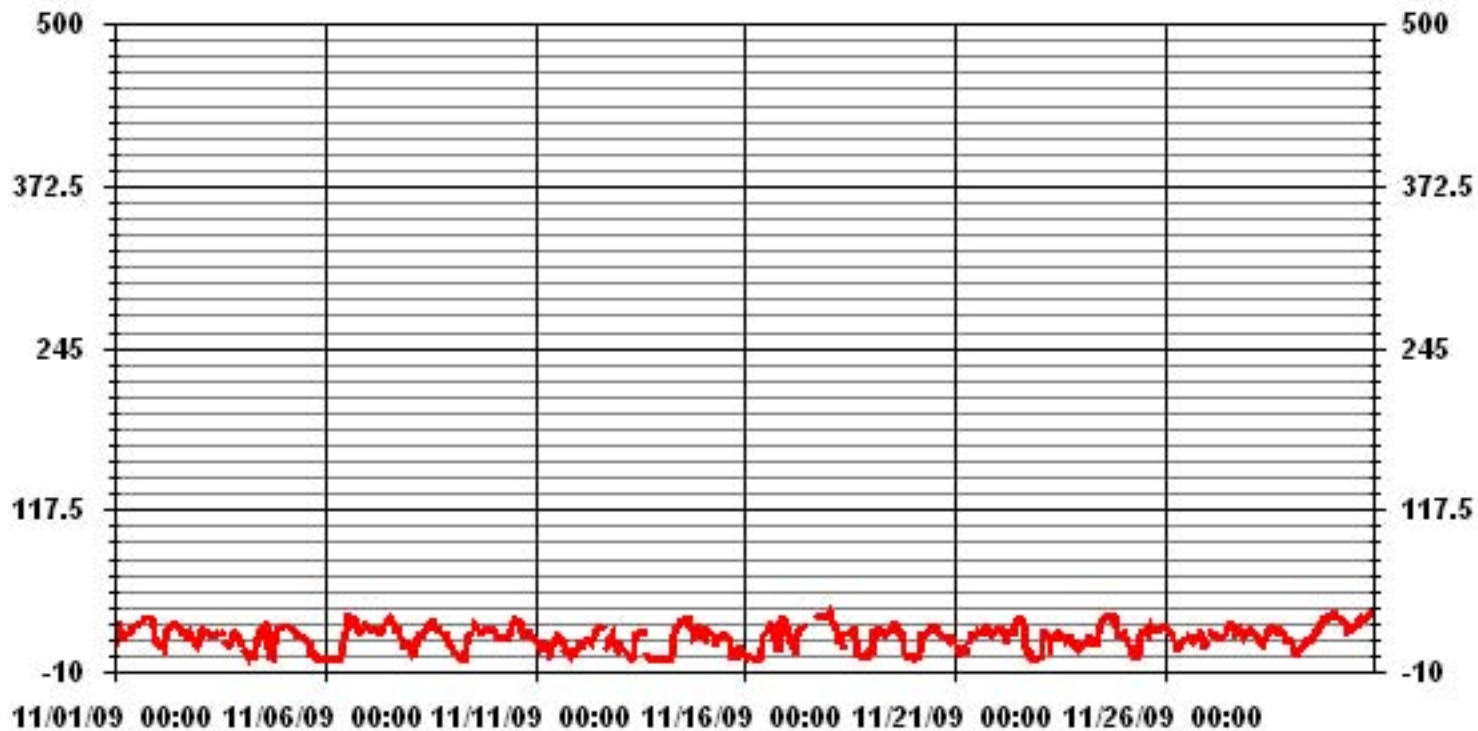
ALBERTA ENVIRONMENT: 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	652					
MAXIMUM 1-HR AVERAGE:	38	PPB	@ HOUR(S)	0	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	30.9	PPB			ON DAY(S)	30
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	9.34		MONTHLY AVERAGE	17.65	PPB	



01 Hour Averages



— LICA 03_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

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	21	26	27	26	IZS	17	19	20	20	24	25	26	27	28	29	30	33	33	33	33	34	34	31	22	34	26.9	24	
2	18	16	17	IZS	8	20	24	28	28	28	28	28	27	26	24	23	22	19	22	23	23	17	17	15	28	21.8	24	
3	20	22	IZS	23	23	23	23	22	19	21	23	23	22	C	C	C	15	13	17	24	23	22	20	20	24	20.9	24	
4	18	IZS	11	12	4	12	4	5	4	12	21	23	26	29	30	30	27	9	3	18	23	24	25	25	30	17.2	24	
5	IZS	26	26	27	27	25	25	23	20	20	20	19	18	18	16	16	9	2	11	6	2	2	2	IZS	27	16.4	24	
6	0	0	0	0	0	0	0	4	1	8	20	20	28	34	34	32	34	34	29	25	24	26	IZS	28	34	16.6	24	
7	28	27	26	26	23	23	23	23	23	25	28	31	32	34	32	29	27	28	28	24	17	IZS	16	21	34	25.8	24	
8	16	9	12	10	13	19	20	21	21	23	25	28	29	31	31	30	26	26	24	23	IZS	20	19	18	31	21.5	24	
9	17	11	13	10	4	4	5	2	4	18	20	22	24	31	30	28	22	23	22	IZS	25	25	25	25	31	17.8	24	
10	25	25	21	21	20	19	19	18	18	19	28	30	32	33	33	31	29	25	IZS	22	23	23	21	21	33	24.2	24	
11	22	21	15	10	12	18	13	11	6	9	17	17	20	22	21	18	17	IZS	11	7	6	9	8	8	22	13.8	24	
12	13	15	15	12	15	17	18	17	13	17	21	24	27	27	28	26	IZS	17	17	21	21	20	16	16	28	18.8	24	
13	15	13	13	10	10	8	4	4	8	19	21	21	23	22	23	IZS	14	1	1	1	1	1	0	0	23	10.1	24	
14	1	0	0	0	0	1	14	22	23	26	29	30	31	32	IZS	34	31	28	23	23	27	27	27	26	34	19.8	24	
15	24	22	24	24	23	21	21	15	17	19	19	20	21	IZS	19	18	17	9	3	7	12	12	10	8	24	16.7	24	
16	5	7	4	7	6	5	1	1	4	18	20	21	IZS	28	29	29	29	27	20	26	31	32	32	32	32	32	18.0	24
17	30	24	23	18	14	11	22	24	26	27	32	IZS	37	C	C	C	C	C	36	34	36	37	37	38	38	28.1	24	
18	39	38	33	32	31	19	26	26	16	19	IZS	25	24	26	26	24	10	10	5	4	12	9	1	16	39	20.5	24	
19	20	24	23	25	25	23	23	23	22	IZS	24	26	28	28	28	26	23	21	21	16	5	3	1	2	28	20.0	24	
20	1	1	2	6	14	20	21	21	IZS	25	26	26	26	24	23	21	22	20	19	23	24	33	17	33	19.2	24		
21	17	10	9	13	11	13	8	IZS	18	19	19	22	23	23	24	23	26	26	24	21	21	21	21	21	26	18.7	24	
22	22	22	24	26	25	20	IZS	25	22	23	30	32	33	32	32	31	20	12	16	6	1	1	1	2	33	19.9	24	
23	1	10	26	25	22	IZS	11	18	21	22	21	22	20	18	18	17	19	19	18	16	13	13	13	15	26	17.3	24	
24	12	12	15	17	IZS	21	15	11	13	20	24	31	32	35	34	35	36	32	33	34	33	24	23	23	36	24.6	24	
25	24	22	20	IZS	13	11	7	2	2	12	23	24	25	25	23	28	25	23	24	26	25	27	27	28	28	20.2	24	
26	26	25	IZS	24	23	18	13	10	11	14	15	15	19	23	23	19	17	18	18	19	24	22	13	10	26	18.2	24	
27	16	IZS	22	22	20	21	19	19	18	19	23	26	27	28	30	30	22	24	24	25	22	23	23	22	30	22.8	24	
28	IZS	23	23	21	20	17	17	16	13	18	19	24	23	26	26	25	25	25	22	20	19	17	17	IZS	26	20.7	24	
29	17	14	9	9	8	9	12	14	16	15	17	17	18	23	25	24	26	31	33	34	34	36	IZS	37	37	20.8	24	
30	35	37	36	35	34	33	31	29	26	28	29	25	30	31	30	35	35	34	33	35	36	IZS	36	35	37	32.5	24	
HOURLY MAX	39	38	36	35	34	33	31	29	28	28	32	32	37	35	34	35	36	34	36	35	36	37	37	38				
HOURLY AVG	18.0	17.9	17.5	17.5	16.0	16.1	15.8	16.3	15.6	19.6	23.0	24.0	25.9	27.4	26.7	26.5	23.4	21.1	20.4	20.5	20.6	19.6	18.4	19.6				

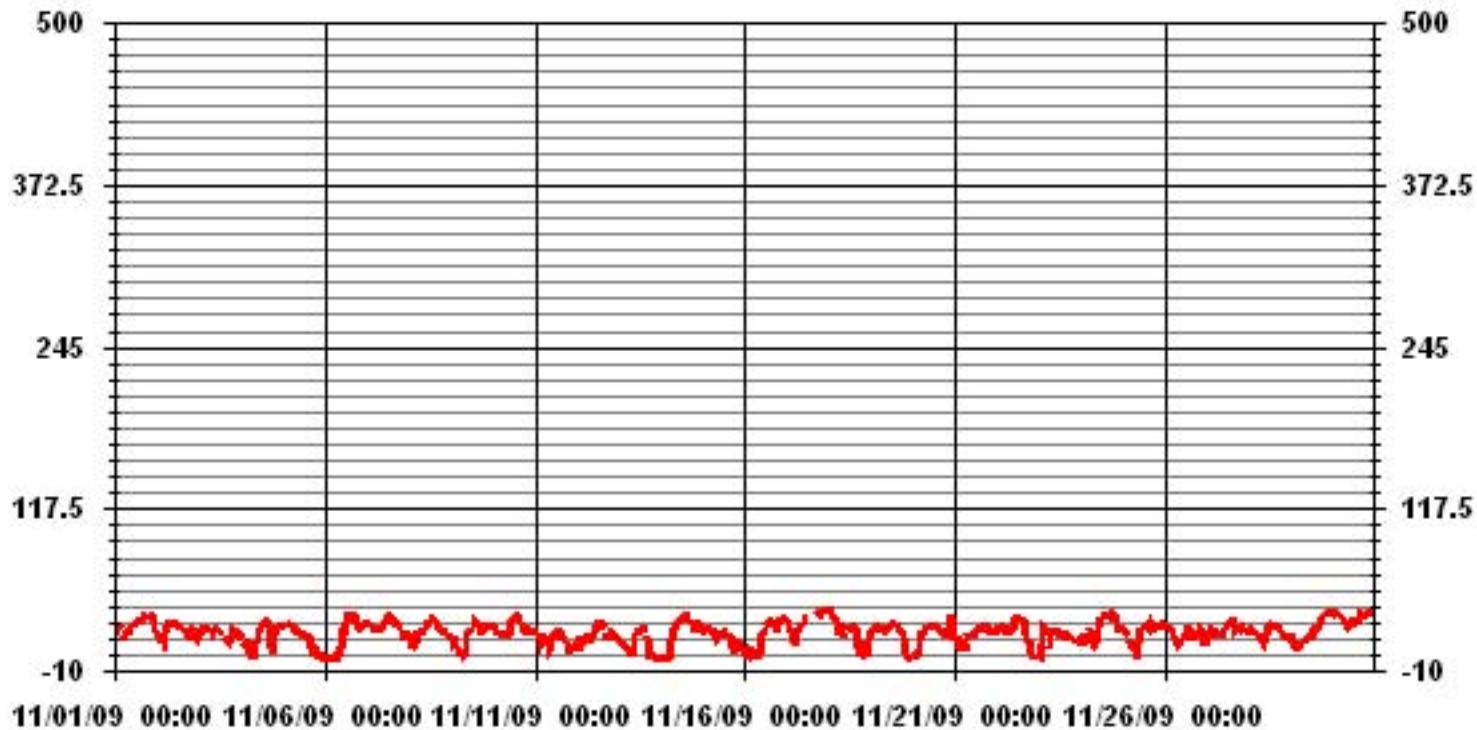
STATUS FLAG CODES

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:	667					
MAXIMUM INSTANTANEOUS VALUE:	39	PPB	@ HOUR(S)	0	ON DAY(S)	18
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	8.86					

01 Hour Averages



— LICA O3MAX PPB

LICA
O3_ / WD Joint Frequency Distribution (Percent)

November 2009

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	.14	.29	1.61	2.64	5.87	9.10	14.39	3.81	3.37	4.84	25.69	14.68	7.92	3.37	1.76	.44	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	.14	.29	1.61	2.64	5.87	9.10	14.39	3.81	3.37	4.84	25.69	14.68	7.92	3.37	1.76	.44		

Calm : .00 %

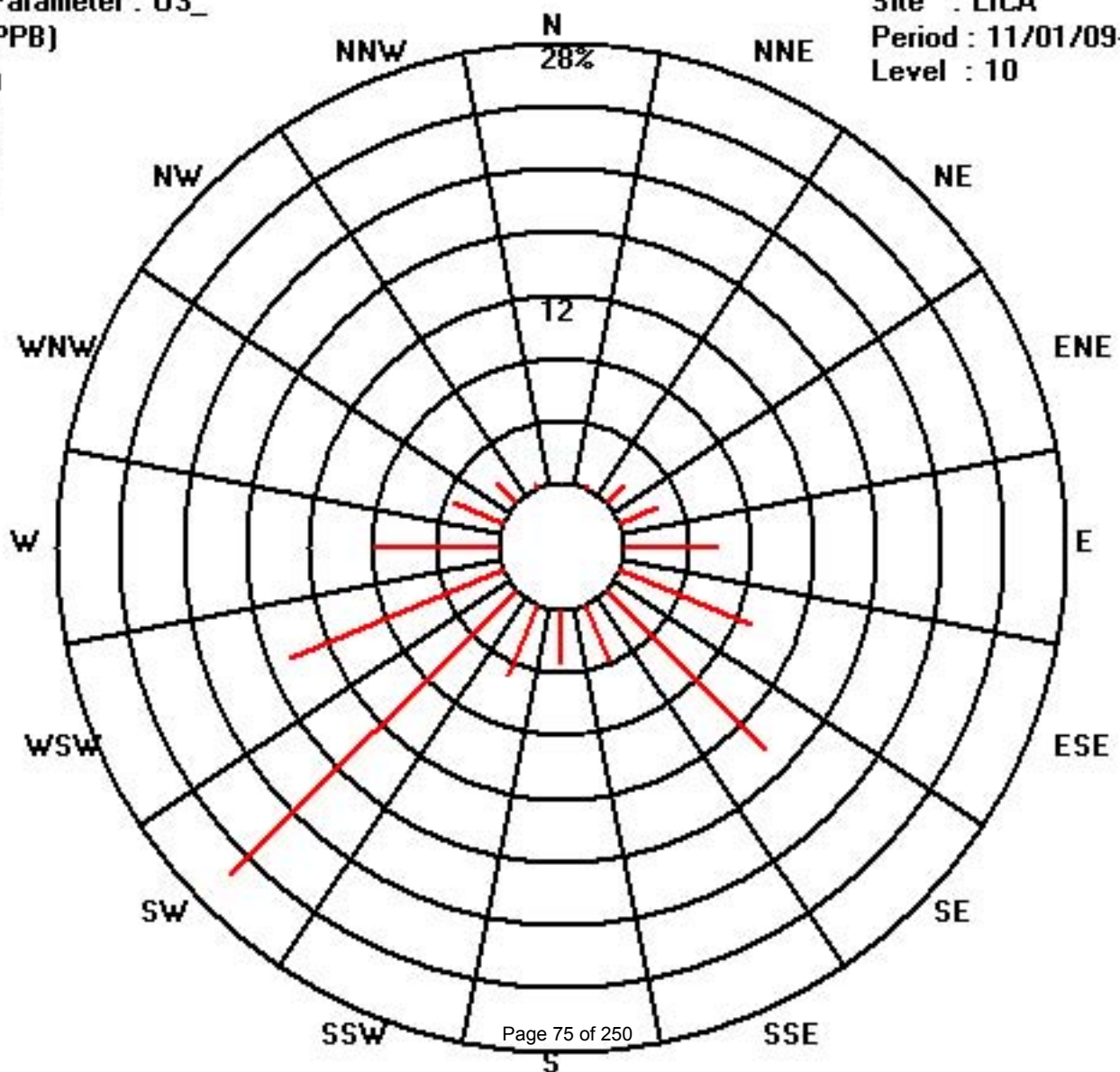
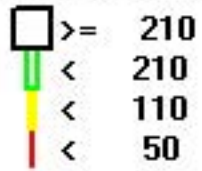
Total # Operational Hours : 681

Distribution By Samples

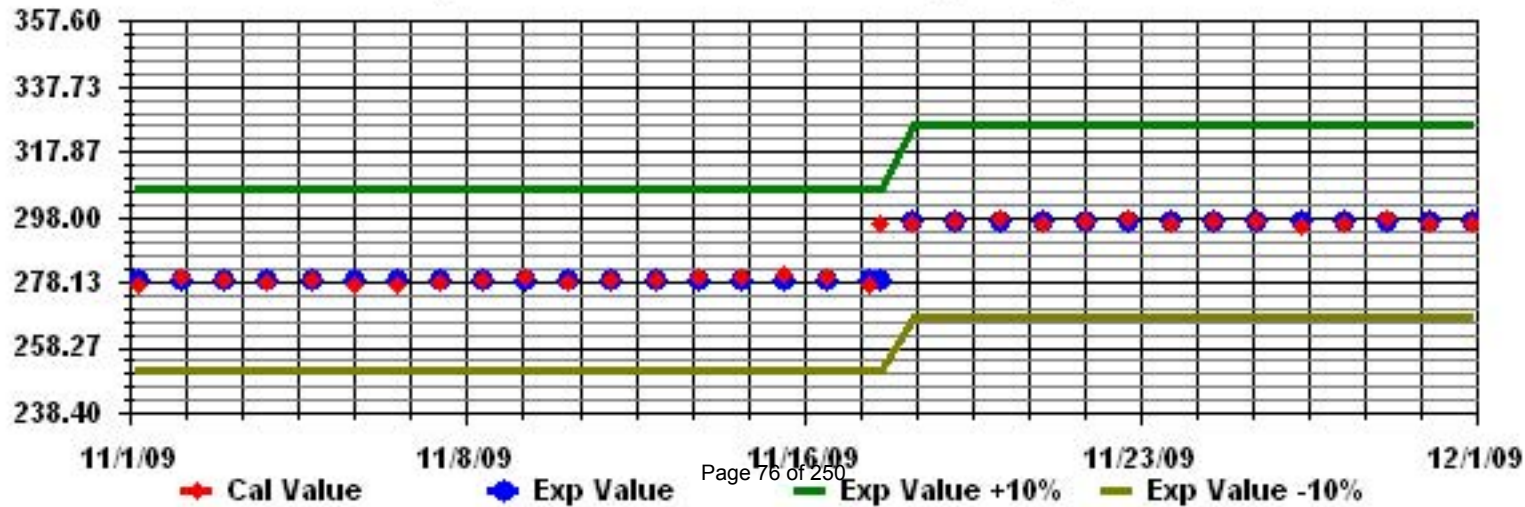
		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 50	1	2	11	18	40	62	98	26	23	33	175	100	54	23	12	3	681	
< 110																		
< 210																		
>= 210																		
Totals	1	2	11	18	40	62	98	26	23	33	175	100	54	23	12	3		

Calm : .00 %

Total # Operational Hours : 681



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



Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

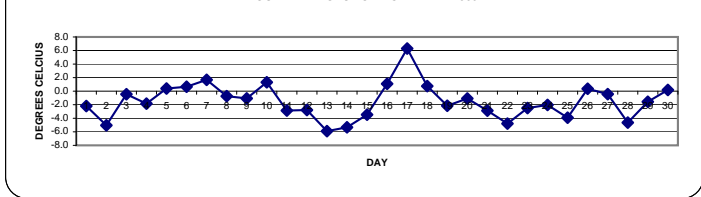
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	23:00	DAILY MAX.	24-HOUR AVG.	RDGS
DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00					
1	-0.5	0.6	1.2	1.2	0.4	-0.2	-0.9	-1.1	-1.1	-1.5	-1.4	-1.8	-1.7	-1.9	-2.1	-2.6	-2.9	-3.3	-3.9	-4.1	-4.5	-5.4	-6.7	-8.5	1.2	-2.2	24		
2	-9.7	-10.6	-11.1	-11.3	-11.4	-9.8	-8.4	-7.2	-6.5	-5.7	-4.5	-3.6	-2.8	-1.6	-0.8	-0.4	-0.7	-1.4	-1.5	-1.8	-2.2	-2.4	-2.6	-3	-0.4	-5.0	24		
3	-2.4	-1.8	-2	-2.2	-2.4	-2.5	-2.4	-2.3	-2.2	-2	-1.6	-1.2	-0.4	0.4	2	2.8	2.5	2	2.3	2.1	1.5	0.5	-0.3	-1.2	2.8	-0.5	24		
4	-2.3	-3.2	-5	-5.9	-7.2	-6.8	-7.6	-8.3	-6.5	-2.4	-0.2	1.8	3	4.3	4.8	5.3	1.4	-1.5	-2.5	-1.8	-1	-0.9	-0.9	-0.9	5.3	-1.8	24		
5	-1	-0.7	-0.8	-0.3	-0.6	-0.9	-0.9	-1	-1.1	0	1.4	2.7	4.2	4.4	4.4	4.9	2.9	1	1	-0.5	-1.5	-2.3	-2.8	-3.1	4.9	0.4	24		
6	-3.4	-3.9	-4.5	-4.9	-5	-5.5	-5.8	-6.1	-4.2	0	4.6	6.7	6.7	6.7	6.4	6	5.4	4.4	2.8	2	1.9	1.9	2	1.4	6.7	0.7	24		
7	1.3	0.7	0.1	-0.1	-0.3	-0.4	-0.5	-0.3	0.1	1.8	4.1	6.3	7.6	8.3	7.2	6	4.7	3.1	2.6	-0.4	-2.1	-2.8	-3.9	-2.9	8.3	1.7	24		
8	-4.3	-5.4	-5.9	-6.5	-5.6	-3.9	-2.8	-2.7	-1.8	-0.9	1.3	2.7	2.9	4.7	4.9	3.2	2.3	1.9	2	0.9	0.4	-0.3	-1.8	-3	4.9	-0.7	24		
9	-4.4	-5.7	-6.5	-7.3	-8.2	-8.7	-9	-8.7	-7.3	-2.6	0.2	2.5	5.2	7	6.4	5.4	3.3	2.2	2	1.3	1.6	1.6	1.8	2.3	7.0	-1.1	24		
10	2.4	1.8	-0.2	-1.1	-1.9	-2.1	-1.3	-0.8	-0.4	1.4	3.4	4.6	5.5	5.9	5.6	4.6	3	1.6	0.8	0.2	0.1	0.1	-0.4	-1.3	5.9	1.3	24		
11	-2	-3.1	-4.7	-6	-6.1	-5	-6.8	-7.8	-7.3	-4.7	-2.2	-1.6	-0.4	0.2	0.4	0.3	-0.4	-1	-1.1	-1.2	-1.9	-1.8	-2	-2.5	0.4	-2.9	24		
12	-3.4	-3.4	-4.8	-5.5	-5.6	-5.8	-5.9	-6.2	-5.6	-3.5	-1.6	0.3	1.9	3	3.6	3	0.5	-2	-2.7	-2.6	-2.9	-4.4	-6.1	-7.2	3.6	-2.8	24		
13	-7.4	-7.7	-9.1	-9.9	-10.5	-10.9	-11.3	-11.1	-8.5	-4.1	-1.8	-0.4	1.4	2.3	2.9	1.3	-1.3	-3.7	-5.3	-7	-8.3	-9.5	-10.6	-11.2	2.9	-5.9	24		
14	-11.7	-11.6	-11.1	-9.7	-8.7	-9	-9.2	-5.9	-4.7	-3.1	-1.7	-0.6	0.2	0.5	0.7	0.1	-2	-3.4	-5.6	-7.2	-6.4	-5.9	-5.9	-6.1	0.7	-5.3	24		
15	-6.9	-8.1	-5.7	-5	-5	-5.4	-5.7	-7.2	-6.7	-3.3	-1.4	0	1.2	1.4	1.5	0.9	-0.7	-2.4	-3.5	-4.4	-3.9	-3.4	-4.4	-5.2	1.5	-3.5	24		
16	-6.8	-7.3	-7.7	-8	-8.6	-8.3	-8	-8.4	-7	-1	1.9	3.7	5.8	9.7	11.5	10.3	7.8	5.1	2.9	2.3	9	9.6	9.4	8.1	11.5	1.1	24		
17	5.2	1.3	-0.6	-1.8	-2.2	-2.3	0.4	1.6	3.3	4.4	7.5	11.5	13	14.8	15.7	15.2	13.8	11.4	9.3	7.7	6.3	5.7	5.2	4.6	15.7	6.3	24		
18	5.8	5.6	5.2	3.4	2.4	0.6	0.3	1.6	0.2	1	2.3	2.8	3.2	4.1	5.4	3.7	0.7	-1.8	-3.1	-4	-4.5	-5	-6	-6.1	5.8	0.7	24		
19	-6.3	-4.4	-4.6	-3.6	-3.4	-3.4	-3.3	-3.4	-3.4	-3.1	-2.4	-0.4	2	2.8	4	3.2	1.5	0.1	-1.5	-3	-4.2	-4.6	-4.8	-5.5	4.0	-2.2	24		
20	-5.1	-5.4	-5.7	-5.8	-5	-1.6	-1.5	-1.7	-1.1	-0.4	1.3	1.9	2	2.8	2.3	1.8	1	0.2	-0.3	-0.5	-1.2	-1.3	-1.3	-1.5	2.8	-1.1	24		
21	-2.9	-3.8	-4.7	-5.2	-4.8	-5.1	-5.1	-4.3	-3.2	-2.2	-1.3	-0.8	-0.7	-1.5	-0.9	-0.4	-0.6	-0.6	-0.8	-2	-3.1	-4.1	-5.2	-5.8	-0.4	-2.9	24		
22	-6.2	-6.1	-5.1	-4.7	-5.6	-8	-6.5	-6.6	-6.7	-5.3	-3.4	-1.8	-1.1	-0.2	0.8	0.3	-2.9	-5.2	-6.6	-7.3	-7.2	-6.8	-6.5	-6.2	0.8	-4.8	24		
23	-5.8	-5.4	-4.5	-4.2	-4.1	-3.9	-3.6	-3	-3.1	-2.5	-2.1	0.2	0.5	1.1	2.1	1.1	-0.5	-1.7	-2.4	-3.4	-3.8	-4.2	-3.4	-3.2	2.1	-2.5	24		
24	-3.2	-3.6	-3.4	-3.3	-3	-3.4	-4.1	-4	-3.8	-2.6	-1.1	-0.1	0.6	0.5	0.4	0	-0.5	-0.6	-0.6	-1.2	-2.4	-3	-3.1	-3.3	0.6	-2.0	24		
25	-3.8	-6	-7.5	-8.9	-10.2	-11.1	-11.8	-12.1	-11.2	-7.2	-3	-1.7	-0.1	0.8	0.9	0.9	0.3	-0.2	-0.3	-0.1	-0.4	-0.6	-0.5	-0.3	0.9	-3.9	24		
26	-0.3	-0.4	-0.6	-0.9	-1.7	-3	-4.4	-5.2	-4.3	-2.9	-0.9	1.4	3.5	3.5	3	2.7	2.8	3	3.2	2.9	2.8	2.2	1.5	0.6	3.5	0.4	24		
27	-0.1	-0.6	-1	-1.3	-1.9	-2.1	-2.4	-2.8	-3	-2.4	-0.7	0.8	1.9	2.5	2.8	1.9	0	0	0.1	0.3	0.1	0	-0.7	-2	2.8	-0.4	24		
28	-3.1	-4.3	-5.1	-6	-6.8	-8.5	-7.9	-8.2	-8.4	-6.5	-5.1	-3	-1.1	0.1	1.1	0	-1.7	-2.5	-3.9	-4.6	-5.8	-6.3	-6.9	-6.9	1.1	-4.6	24		
29	-7.5	-9.8	-10.3	-9.3	-8.6	-7.5	-6.4	-5.4	-4.3	-3.4	-2.2	-0.8	0.7	3.2	4.2	3.4	2.8	3.4	3.5	3.4	3.3	3.7	3.4	3	4.2	-1.6	24		
30	2.2	2.4	1.8	1	0.3	0.1	0	-0.1	-0.3	-0.2	0.1	0.5	1.1	1.4	1.3	0.6	0	-0.7	-1.1	-1.1	-0.8	-1	-1.4	-1.8	2.4	0.2	24		
HOURLY MAX	5.8	5.6	5.2	3.4	2.4	0.6	0.4	1.6	3.3	4.4	7.5	11.5	13.0	14.8	15.7	15.2	13.8	11.4	9.3	7.7	9.0	9.6	9.4	8.1					
HOURLY AVG	-3.1	-3.7	-4.1	-4.4	-4.7	-4.8	-4.8	-4.6	-4.0	-2.2	-0.4	1.1	2.2	3.0	3.4	2.9	1.4	0.2	-0.5	-1.2	-1.4	-1.7	-2.2	-2.6					

STATUS FLAG CODES

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

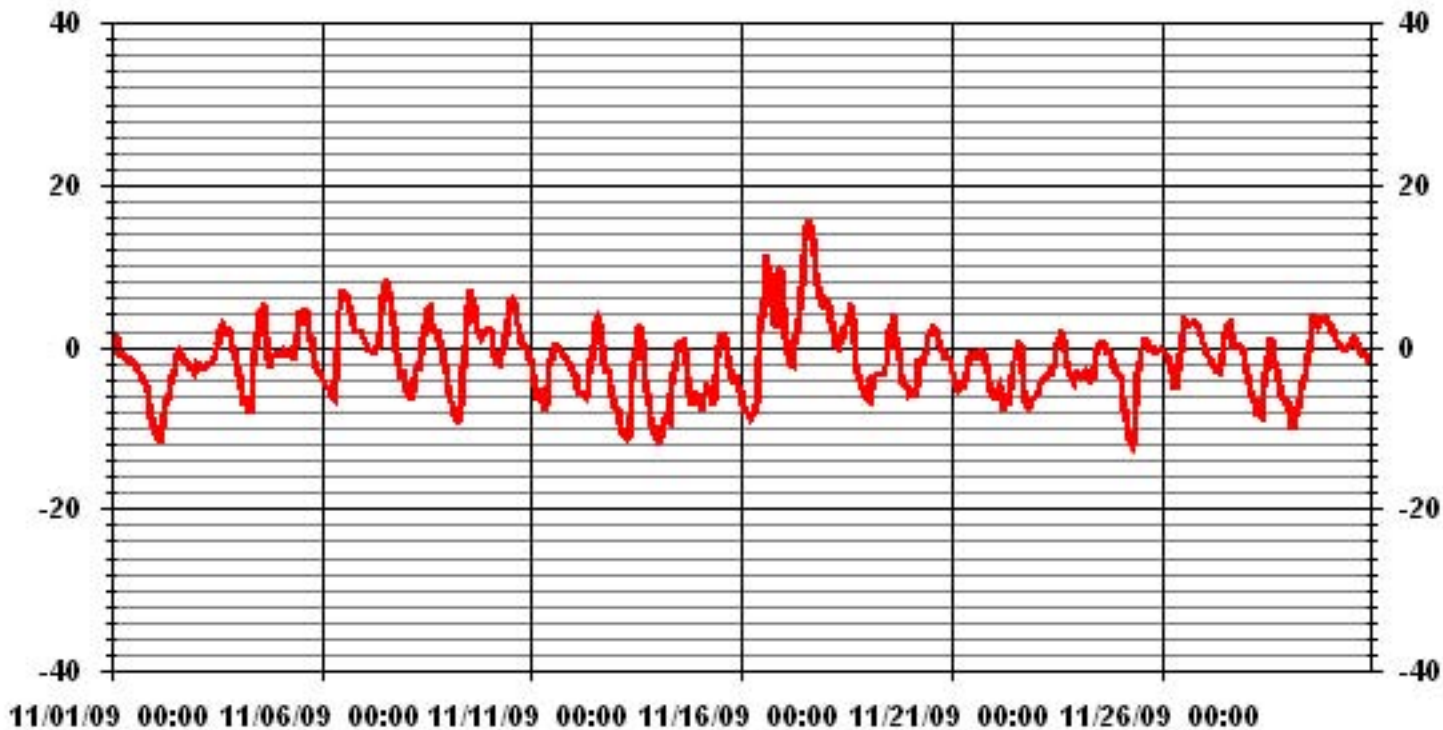
24 HOUR AVERAGES FOR NOVEMBER 2009



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-12.1 °C	@ HOUR(S)	7	ON DAY(S)	25
MAXIMUM 1-HR AVERAGE:	15.7 °C	@ HOUR(S)	14	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	6.3 °C			ON DAY(S)	17
				VAR-VARIOUS	
CALIBRATION TIME:	0	HRS		OPERATIONAL TIME:	720
				AMD OPERATION UPTIME:	100.0
					%
STANDARD DEVIATION:	4.39			MONTHLY AVERAGE:	-1.50 °C

01 Hour Averages



— LICA TPX DGC

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

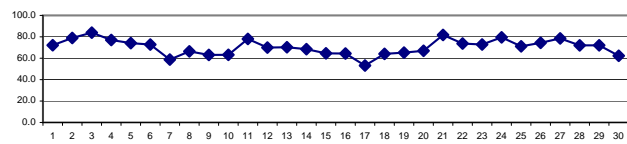
RELATIVE HUMIDITY hourly averages (%)

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	24:00	DAILY	24-HOUR	
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	97.0	86.0	80.0	76.0	69.0	68.0	69.0	70.0	69.0	73.0	63.0	64.0	66.0	67.0	66.0	67.0	67.0	71.0	71.0	71.0	69.0	70.0	78.0	85.0	97.0	72.2	24	
2	87.0	88.0	87.0	88.0	88.0	88.0	86.0	83.0	80.0	79.0	75.0	73.0	71.0	68.0	69.0	69.0	71.0	75.0	74.0	75.0	78.0	79.0	80.0	83.0	88.0	88.0	78.9	24
3	85.0	84.0	86.0	86.0	86.0	86.0	85.0	85.0	86.0	86.0	86.0	84.0	84.0	80.0	79.0	83.0	85.0	80.0	78.0	78.0	82.0	86.0	89.0	89.0	83.9	89.0	83.9	24
4	92.0	92.0	91.0	92.0	90.0	91.0	90.0	90.0	86.0	83.0	78.0	67.0	60.0	54.0	50.0	48.0	65.0	78.0	83.0	76.0	74.0	74.0	73.0	72.0	92.0	92.0	77.0	24
5	73.0	72.0	73.0	71.0	75.0	78.0	79.0	80.0	80.0	75.0	69.0	65.0	59.0	59.0	60.0	58.0	68.0	76.0	76.0	82.0	85.0	88.0	89.0	89.0	89.0	89.0	74.1	24
6	90.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	86.0	77.0	66.0	58.0	58.0	52.0	52.0	54.0	54.0	55.0	64.0	72.0	72.0	69.0	66.0	65.0	91.0	89.0	72.8	24
7	65.0	69.0	71.0	72.0	72.0	72.0	71.0	69.0	67.0	62.0	53.0	44.0	37.0	32.0	35.0	39.0	42.0	46.0	46.0	60.0	69.0	72.0	76.0	69.0	76.0	58.8	24	
8	76.0	81.0	82.0	84.0	79.0	72.0	68.0	69.0	67.0	66.0	61.0	56.0	55.0	50.0	50.0	59.0	61.0	60.0	58.0	63.0	65.0	66.0	71.0	75.0	84.0	66.4	24	
9	78.0	82.0	84.0	85.0	87.0	87.0	87.0	86.0	84.0	69.0	57.0	48.0	39.0	30.0	33.0	37.0	46.0	50.0	52.0	55.0	56.0	59.0	62.0	61.0	87.0	63.1	24	
10	61.0	62.0	70.0	73.0	75.0	74.0	72.0	71.0	72.0	68.0	64.0	60.0	53.0	49.0	47.0	49.0	54.0	58.0	60.0	61.0	62.0	63.0	67.0	71.0	75.0	63.2	24	
11	71.0	74.0	80.0	84.0	83.0	78.0	84.0	86.0	85.0	85.0	80.0	77.0	70.0	65.0	65.0	68.0	73.0	76.0	78.0	81.0	84.0	83.0	81.0	82.0	86.0	78.0	24	
12	82.0	79.0	83.0	85.0	84.0	84.0	84.0	85.0	83.0	77.0	70.0	60.0	51.0	47.0	45.0	47.0	55.0	65.0	67.0	63.0	62.0	68.0	75.0	78.0	85.0	70.0	24	
13	78.0	79.0	83.0	84.0	84.0	84.0	84.0	84.0	77.0	63.0	56.0	51.0	46.0	42.0	39.0	45.0	57.0	67.0	73.0	77.0	81.0	82.0	85.0	85.0	85.0	70.3	24	
14	85.0	85.0	84.0	85.0	85.0	84.0	85.0	83.0	81.0	76.0	71.0	65.0	59.0	55.0	47.0	42.0	47.0	52.0	62.0	67.0	63.0	59.0	60.0	61.0	85.0	68.5	24	
15	64.0	71.0	61.0	62.0	65.0	68.0	70.0	78.0	76.0	63.0	57.0	51.0	47.0	46.0	48.0	52.0	59.0	67.0	71.0	74.0	73.0	72.0	76.0	79.0	79.0	64.6	24	
16	83.0	85.0	86.0	86.0	87.0	87.0	87.0	89.0	87.0	74.0	63.0	57.0	52.0	42.0	42.0	41.0	46.0	54.0	62.0	65.0	45.0	42.0	42.0	46.0	89.0	64.4	24	
17	56.0	69.0	76.0	80.0	82.0	82.0	74.0	70.0	65.0	62.0	49.0	32.0	28.0	26.0	25.0	26.0	29.0	36.0	43.0	49.0	51.0	53.0	55.0	58.0	82.0	53.2	24	
18	50.0	50.0	49.0	56.0	62.0	70.0	72.0	63.0	72.0	69.0	57.0	55.0	53.0	49.0	43.0	49.0	61.0	72.0	78.0	80.0	81.0	80.0	83.0	84.0	84.0	64.1	24	
19	85.0	82.0	78.0	71.0	68.0	66.0	65.0	65.0	66.0	66.0	65.0	59.0	50.0	47.0	44.0	46.0	52.0	56.0	62.0	69.0	73.0	75.0	77.0	79.0	85.0	65.3	24	
20	78.0	80.0	81.0	81.0	79.0	66.0	64.0	63.0	62.0	59.0	54.0	53.0	54.0	54.0	56.0	60.0	63.0	65.0	67.0	69.0	73.0	74.0	75.0	77.0	81.0	67.0	24	
21	81.0	84.0	85.0	87.0	88.0	89.0	89.0	87.0	84.0	81.0	79.0	75.0	79.0	86.0	79.0	76.0	77.0	74.0	72.0	78.0	82.0	83.0	84.0	83.0	89.0	81.8	24	
22	84.0	84.0	80.0	77.0	81.0	87.0	79.0	77.0	74.0	69.0	64.0	59.0	59.0	56.0	52.0	54.0	68.0	75.0	78.0	81.0	82.0	82.0	83.0	84.0	87.0	73.7	24	
23	83.0	83.0	78.0	75.0	75.0	78.0	79.0	72.0	73.0	73.0	71.0	60.0	62.0	63.0	60.0	64.0	68.0	69.0	73.0	78.0	79.0	80.0	76.0	76.0	83.0	72.8	24	
24	81.0	90.0	91.0	91.0	89.0	87.0	86.0	86.0	84.0	80.0	75.0	74.0	73.0	67.0	67.0	70.0	74.0	73.0	72.0	76.0	80.0	83.0	85.0	91.0	79.5	24		
25	83.0	87.0	88.0	88.0	86.0	86.0	85.0	85.0	83.0	78.0	71.0	67.0	61.0	58.0	58.0	53.0	57.0	61.0	63.0	61.0	62.0	63.0	61.0	62.0	88.0	71.1	24	
26	63.0	65.0	67.0	69.0	73.0	78.0	82.0	85.0	82.0	75.0	70.0	64.0	62.0	66.0	70.0	73.0	73.0	73.0	74.0	79.0	81.0	85.0	87.0	89.0	89.0	74.4	24	
27	90.0	89.0	89.0	88.0	88.0	87.0	87.0	87.0	85.0	81.0	76.0	71.0	67.0	65.0	63.0	66.0	73.0	73.0	74.0	75.0	76.0	77.0	79.0	79.0	90.0	78.5	24	
28	77.0	77.0	78.0	80.0	81.0	85.0	82.0	82.0	82.0	74.0	68.0	61.0	54.0	52.0	50.0	56.0	63.0	67.0	72.0	74.0	77.0	78.0	79.0	79.0	85.0	72.0	24	
29	80.0	85.0	85.0	85.0	85.0	85.0	83.0	81.0	78.0	79.0	78.0	73.0	69.0	65.0	65.0	69.0	70.0	64.0	61.0	60.0	59.0	57.0	56.0	57.0	85.0	72.0	24	
30	60.0	58.0	59.0	60.0	63.0	63.0	63.0	64.0	66.0	66.0	67.0	68.0	63.0	62.0	64.0	64.0	63.0	65.0	67.0	64.0	57.0	55.0	56.0	58.0	68.0	62.3	24	
HOURLY MAX	97.0	92.0	91.0	92.0	91.0	91.0	91.0	91.0	87.0	86.0	86.0	84.0	86.0	80.0	79.0	83.0	85.0	83.0	82.0	85.0	88.0	89.0	89.0					
HOURLY AVG	77.3	78.8	79.2	79.7	80.0	80.0	79.4	78.9	77.4	72.9	67.1	61.8	58.1	55.5	54.0	55.9	61.2	65.3	67.8	70.3	70.8	71.7	73.4	74.7				

STATUS FLAG CODES

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

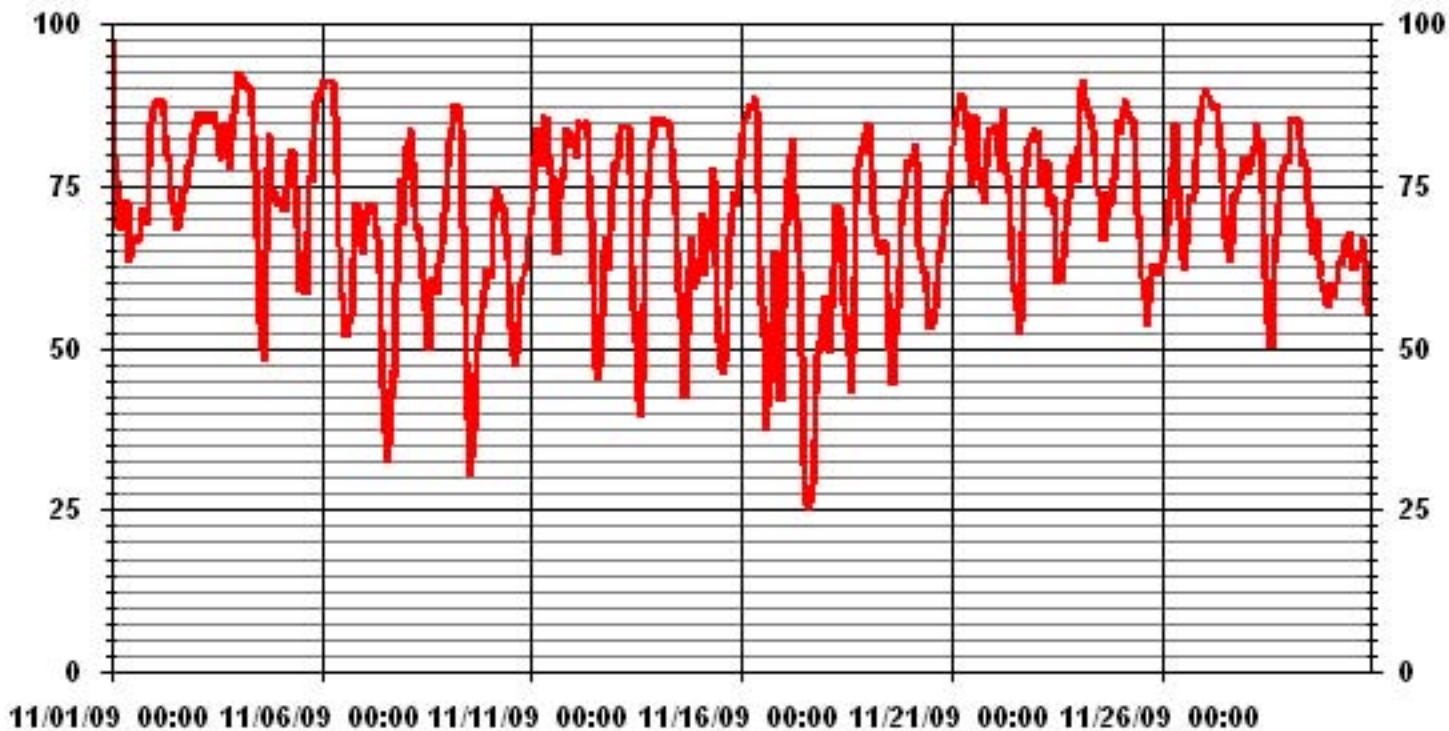
24 HOUR AVERAGES FOR NOVEMBER 2009



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	97.0	%	@ HOUR(S)	0	ON DAY(S)	1
MAXIMUM 24-HR AVERAGE:	83.9	%			ON DAY(S)	3
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
STANDARD DEVIATION:	13.39		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	70.46	%	

01 Hour Averages



— LICA RH %FS

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

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	
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		6.5	10.8	13.9	18.3	20.6	16.1	14.7	14.9	15.1	18.8	18.9	18.1	16.2	14.6	15.5	13.9	15.4	10.5	9.7	9.4	10.4	6.5	1.9	1.3	20.6	12	24
2		0.5	0.9	0.7	1	0.4	3.2	5.4	7.2	10.7	10.6	9.9	10.6	10.2	8.1	6.2	5.1	4.5	3.1	3.1	2.6	1	0.6	0.8	2.2	10.7	4.1	24
3		3.9	7.2	5.5	6.7	6.4	5.4	2.9	2.7	2.1	3.8	6	5.3	4.5	4.5	3.4	4.7	6.5	6.1	7.7	7.5	6.5	4.2	3.6	3.1	7.7	3.5	24
4		4.7	2.9	1.8	0.9	0.7	2.8	0.6	0.8	1	1.4	5	6	6.4	4.6	4.9	2.9	1	1.4	2.1	5	5.3	6.8	7.3	8.9	8.9	1.9	24
5		8.6	9.8	9.9	10.6	6.9	7.4	9.3	7.9	7	5	5.3	4.5	4.1	3.9	2.8	3.4	2	2.8	3.6	1.9	1.4	0.6	0.6	0.4	10.6	5.0	24
6		0.3	0.5	0.5	0	0.7	0.2	0.8	1.3	1	0.5	6.2	9.3	9.7	10.9	10.8	9.2	10	7.6	5.7	5.9	6.3	6	6.3	7	10.9	4.9	24
7		8.5	7.6	7.8	7.7	8.1	7.3	6.9	8.2	7.2	8.9	10.2	8.8	11.5	12.1	10.2	6.9	6	5	3.4	1.6	2.5	2.3	1.5	2.8	12.1	6.8	24
8		1.1	1	2.8	2.5	3.7	5.7	4.9	4.7	4.8	6	6.7	9	10.1	12.4	12.7	7.5	6.8	6.6	6.7	6.5	6	4	2.5	1.8	12.7	5.7	24
9		1.2	1	1.2	1.3	0.9	0.5	1	0.2	1	2	3.8	5.2	6.3	4.8	5	7.5	9.4	9.3	9.9	10	11.6	10.7	9.1	9	11.6	5.1	24
10		3.7	4.2	2.7	2.8	0	3	5.5	5.6	8.4	7.1	9	10.5	10.9	8.3	6	6.4	3.8	3.7	3.8	4.7	5.8	3.5	3.1	2.8	10.9	5.2	24
11		2.9	1.4	0.8	0.8	1	0.7	0.4	0.7	0.7	0.4	1	2.1	3.4	3.3	2.9	2.5	0.3	1.6	2.1	1.8	2.6	4	3.5	4.4	4.4	1.9	24
12		3.6	4.6	3.7	4.5	5.6	4.9	5.2	5.1	4.9	4.2	6.6	8	8.8	9.3	8.8	7.9	3.1	2.1	2.4	4	4.1	2.4	0.8	1.7	9.3	4.8	24
13		0.7	1	0.5	0.3	0.6	0.4	0.8	0.6	1	1.8	1.9	3.9	2.4	3.6	2.7	3	1	1.1	0.7	0.9	0.6	1	1.6	0.5	3.9	1.4	24
14		3	0.8	0.3	0.6	1.1	2.3	4	5.6	6.3	8.5	7.9	8.5	8.5	9.2	8.7	7.3	3.7	3.6	1	1.4	2.6	2.9	3.2	4.6	9.2	4.4	24
15		1.6	1.2	5.8	3.9	3	5.4	2.4	1.2	1.3	2.3	3	3	4.2	3.8	2.8	1.2	0.6	1.1	1.9	1.6	4.4	3	2.2	2.8	5.8	2.7	24
16		0.6	1.2	1.3	0.7	0.7	1.3	0.8	0.8	2.2	3.1	6.6	10.6	9.3	6.9	3.7	5.3	4	3.6	2.1	2.1	7.1	8	7	6.6	10.6	4.0	24
17		1.6	1.8	1.1	0.8	1.5	2.3	5.5	10.3	11.4	8.4	8.5	8.1	8.1	11.3	14.7	15.4	9.1	13	7.6	4.6	2.6	3.5	3.3	2.2	15.4	6.5	24
18		6.2	6.2	2.7	3	0.3	1.6	1.7	0.9	1.3	2.4	2	1.8	1.6	1.8	1.7	1.9	1.3	1.9	1.2	0.9	1.2	0.5	0.9	1.6	6.2	1.9	24
19		1.7	3.9	3.2	6.5	7.8	9.8	7.4	9.5	10.9	9.4	8.7	5.1	5.5	7.9	5.8	5.5	4	3.5	0.9	0.5	0.7	0.7	1.6	10.9	5.4	24	
20		1.9	1.1	1.2	1.6	2.6	5.1	6.3	7.8	9.3	8.3	9.2	8.9	8.9	7.6	8	6.9	7.1	8.5	5.2	4.8	3.3	4.5	3.5	2.2	9.3	5.6	24
21		1.3	1	0.8	3.9	5	5.9	6.6	6.7	6.8	8.5	10.7	11.1	12.8	12.4	11.6	12.5	12.2	12.7	10.4	7.6	6.6	5.7	5.5	6.4	12.8	7.7	24
22		5.9	6.6	6.9	4.5	0.5	2.1	5.9	5.4	4.9	4.6	4.8	6.2	6.3	5.7	3.7	2.2	1.1	0.5	0.9	0.1	0.2	1	0.6	0.1	6.9	3.4	24
23		0.1	1.2	3.5	3.6	1.2	0.1	1.6	2.4	2.1	1.3	2.8	5.6	8.2	7.4	7.3	4.9	5.5	6.5	4.9	3.8	2.8	2.4	3.3	0.8	8.2	3.5	24
24		0.1	2.2	2.2	2.3	1.5	2.6	4.6	6.8	6.7	8.1	11	11.1	10.1	10.7	13.5	11	8.3	5.9	9	7.4	3.2	2.9	4	3.8	13.5	6.2	24
25		2.9	1.7	2.2	0.7	0.4	0.5	0.2	0.7	0.5	0.7	2	5	4.7	6.4	4.5	7.4	4.8	7.2	7.5	7.4	5.2	3.3	4.4	6.5	7.5	3.6	24
26		3.5	3.3	5.3	3.4	2.2	1.8	1.6	2.5	4.5	5.1	7	7.1	6.5	4.6	4	5.3	4	4.7	6.6	5	6.7	6.1	6.5	5.5	7.1	4.7	24
27		5.1	4.2	6.4	5.8	5.9	7	7.3	6.2	6.6	5.9	6.7	9.4	7.4	7.4	6.5	4.5	4.1	4.7	6.4	6.5	4.3	4.1	4.8	5.6	9.4	6.0	24
28		5.5	6	6.4	5.6	4	3.1	5.4	5.2	4.6	5.1	7	6.3	6.5	6.5	5.1	4.8	5.2	6.2	4.5	4.5	4.5	4.8	4.8	5.6	7.0	5.3	24
29		4.8	0.5	0.3	0.9	0.2	0.6	2	1.3	1.4	1.8	2.9	3.1	3.7	6.8	7.2	6.4	7.7	8.5	9.4	9.3	9.4	10.4	9.2	7.7	10.4	4.8	24
30		7.5	7.9	8.8	7.6	5.7	4.3	4.4	3.5	3	2.5	5.9	5.1	6.6	8.7	9.2	8.5	8.3	7	7	9	12.4	14.2	13	11.9	14.2	7.6	24
HOURLY MAX		8.6	10.8	13.9	18.3	20.6	16.1	14.7	14.9	15.1	18.8	18.9	18.1	16.2	14.6	15.5	15.4	15.4	13.0	10.4	10.0	12.4	14.2	13.0	11.9			
HOURLY AVG		3.3	3.5	3.7	3.8	3.3	3.8	4.2	4.6	5.0	5.2	6.6	7.2	7.4	7.5	7.1	6.4	5.4	5.4	5.0	4.6	4.7	4.4	4.0	4.0			

STATUS FLAG CODES

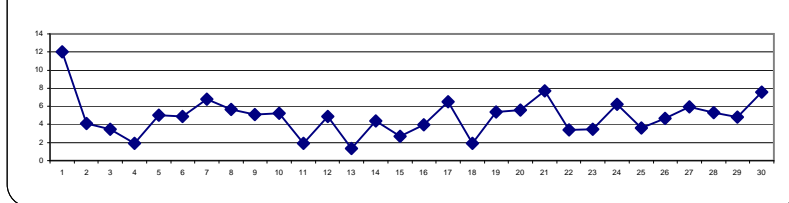
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION: November 05, 2008

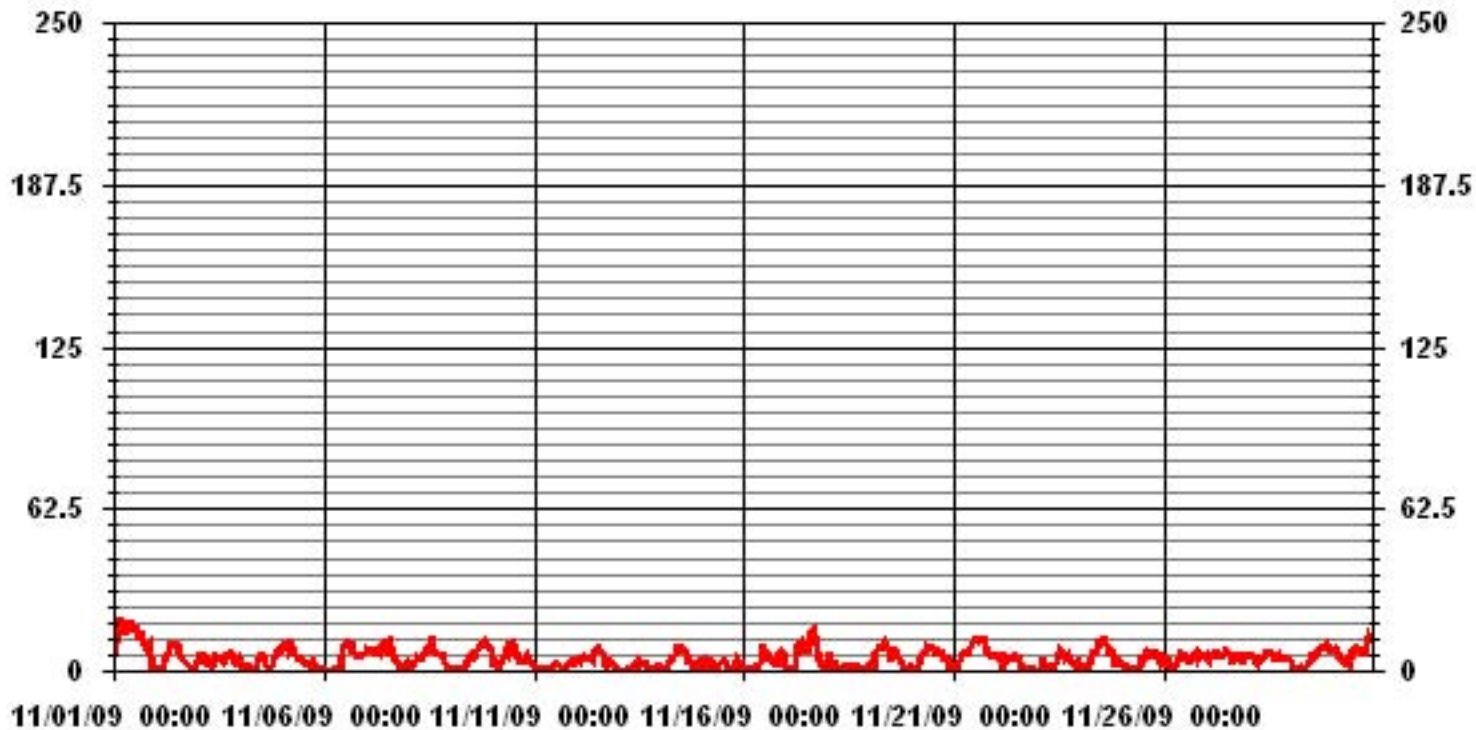
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	20.6	KPH	@ HOUR(S)	4	ON DAY(S)	1
MAXIMUM 24-HR AVERAGE:	12.0	KPH			ON DAY(S)	1
CALMS (≤ 0 KPH)	2.42	%	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION:	3.60		MONTHLY AVERAGE	5.00	KPH	

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR START		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
HOUR END		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	
DAY																										MAX.
1		10.3	16.8	21.8	24.4	30.2	24.4	21.9	23.1	23.8	28	28.2	27.6	28.3	23.1	25.8	23.4	23.2	18.6	15.8	15.3	17.8	14	5	3	30.2
2		3	2	3.5	2.9	1.3	6.1	8.7	12.2	15.4	16.1	17.3	16.1	14.7	14.1	11	8.7	9.1	5.5	5.4	6.8	4.8	1.7	3.8	6.5	17.3
3		7.8	10.3	8.7	9.7	9.5	7.9	5.8	4.8	5.9	7.6	12.2	9.1	10.2	9.1	7.3	8.5	11.8	8.9	11.4	11	10.7	5.4	5.3	5.5	12.2
4		6	6.5	4.1	5.3	2.4	6.3	2.1	2.7	3.1	4.5	8.9	10.4	10.6	7.5	8.1	6.8	2.5	4	3.2	6.2	7.7	8.4	10	12.1	12.1
5		12	15.4	15.2	16.2	11.2	14.5	13.5	11.6	10.5	10.7	8.8	9.1	9.7	9.2	7	5.5	3.8	5.2	9.2	4.3	3.5	2.6	3.8	3.7	16.2
6		4	2.8	4.5	4	4.7	3.3	4.3	5.9	3.7	5.1	14.3	16.1	14.4	19.1	15.8	12	14.5	12.8	8.1	8.4	10.9	9.9	10.4	11.2	19.1
7		12.5	11.6	11.8	12.8	15	12.1	9.6	11	9.8	12.7	14.9	15.9	18.2	16.8	15.6	10.6	9	7.4	8.7	8	4.6	4.5	4.2	7.8	18.2
8		3.2	3.4	5.2	4.4	5.5	8.5	7.8	7.5	7.3	10.2	10.5	14.9	15.9	20.3	19.8	10.9	10.4	9.9	12	9	10	7.1	3.8	4.2	20.3
9		3.1	2.9	4	4	3.5	4.8	2	2.7	3.2	4.6	8.8	8.1	10.2	10.1	10.3	11.5	13.6	12.5	12.8	13.1	15.5	13.4	12.3	13.5	15.5
10		9	9	6.7	4.4	4.7	7.1	9.3	8.6	11.8	11.1	15.5	15.2	15.8	12.9	11.1	9.9	6.4	6.6	7.1	8.4	8.3	5.7	5.2	4.1	15.8
11		4.7	4.1	2.4	3.3	2.7	3	1.8	2.5	2.4	1.7	3.8	6.1	6.1	6	5.4	5.9	3.5	4.1	6.3	4.8	5.2	9	5.4	5.2	9
12		6.2	6.8	5.4	7.2	8.6	6.9	7.5	8.2	7.6	10	12.6	15	14.4	13.2	13.7	15.7	7.5	4.2	4.6	5.7	5.6	5.5	4.3	3.6	15.7
13		2.4	2.3	2.4	2.2	2.8	2	2.2	2.3	2.4	5.6	5	8	5.8	6.3	5.9	4.8	3.1	3	2.2	4.3	3.3	6.2	4	3	8
14		7.6	7	1.7	2.7	4.7	5.8	6.5	8.8	9.5	11.7	12.8	13.3	14	13.4	13.4	11.7	6.9	8	2.9	3	4.9	5.5	7	6.2	14
15		3.3	6.1	10	6.9	7.9	8.8	8.8	3.7	4.9	5.6	7.1	6.8	8.3	8	6	4.1	1.9	4.3	4	6	7.7	7.5	4.6	5.5	10
16		3.2	4.9	3.2	2.8	2.6	4.1	5.4	4.9	4.3	6.5	12.7	14.7	13.5	11.7	7.4	10.2	9.7	6.4	4.8	5.9	10.2	13.5	10.4	11.3	14.7
17		5.7	5.3	3.5	3.3	3.4	4.8	8.2	14.3	15.1	12	13	16.1	15.1	22.4	25.9	23.3	19.5	26.1	12	11.1	13.7	6.7	5.3	6.1	26.1
18		10	9.1	6.5	5.4	3.6	4.3	5.2	4.7	6.8	5.4	7.8	6.5	5.4	5.4	5.3	3.8	3.5	3.8	3.2	5	2.7	3.3	2.8	3.7	10
19		7.1	6.6	7.1	9.2	10.9	12.4	12.7	13.7	16.8	17.1	13.2	9.9	11.6	16	12.2	9.3	10.1	5.5	4.7	3.6	2.5	4.2	2.7	4.3	17.1
20		4.5	3	2.5	3.4	4.9	8.6	12	11.4	12.8	15.4	15.7	16.3	15.5	12.9	12.4	11.3	11.2	11.5	7.2	6.4	5.2	6.7	6.1	4.8	16.3
21		3.6	3.2	3.8	6.9	8.9	8.9	9.2	10.4	10.5	12.5	15	18.3	21.6	17.9	18.5	20.3	19.2	19.4	17	11.5	8.7	9.4	8.5	10.1	21.6
22		9.7	11.5	10.2	8.1	4.2	5.4	8.2	8.3	7.3	7.2	8.6	11.4	10.7	8.5	7.9	4.1	3.4	2.4	2.2	3.2	2.2	2.6	2.1	2.1	11.5
23		1.7	3.5	6.5	7.3	5.7	2.5	4.1	5	4.8	3.6	5.8	12	13.3	12.7	11.6	8.6	9.3	9.6	6.8	5.6	5.2	6.7	5.5	5.5	13.3
24		2.5	4.1	6.2	6	7.3	11.3	7.6	9.8	10.1	12.9	15.7	16.8	15.8	18.2	24	16.3	17.3	11.7	16.4	12.9	5	5.5	6	7.2	24
25		6.5	4.9	4.4	2.1	1.9	1.4	2.7	2	2	2.9	5.5	7.5	8.4	8.8	8.4	10.9	8.1	10.6	12.4	12.6	9.7	5.1	9	10.8	12.6
26		5.7	6.6	8	8.9	6.4	5.8	6.3	6.2	7.7	8.8	10.3	10.7	9.9	9.7	7.6	8.7	7.3	7.5	9.6	8.3	11.4	9.2	9.8	8.5	11.4
27		8.3	8	10.8	8.9	10.3	9.7	10.1	9.6	9.7	9.1	12.4	13.3	13.3	10.9	11.5	7.2	5	7.3	9.8	11	6.6	5.6	8.4	9	13.3
28		8.2	8.4	9.8	8.7	6.6	5.8	7.8	7	5.8	8.4	11.6	10.8	10.1	11.3	10.5	7.6	8.1	10	6	7	6.1	6.4	7.4	8	11.6
29		6.8	2.4	2.2	3.3	1.2	2.5	3.7	3.5	3.7	3.9	7.5	6.4	7.6	10.9	12.3	9.1	10.2	11.5	13.3	13.3	16.1	15.3	13.3	12.3	16.1
30		12.2	13.1	12	10.5	8.3	7.3	6	6.2	5.3	4.5	9.8	10.1	10.7	12.4	13.6	12.6	11.4	10.4	11.9	15.5	20.1	20	18.6	20.3	20.3
PEAK		12.5	16.8	21.8	24.4	30.2	24.4	21.9	23.1	23.8	28.0	28.2	27.6	28.3	23.1	25.9	23.4	23.2	26.1	17.0	15.5	20.1	20.0	18.6	20.3	

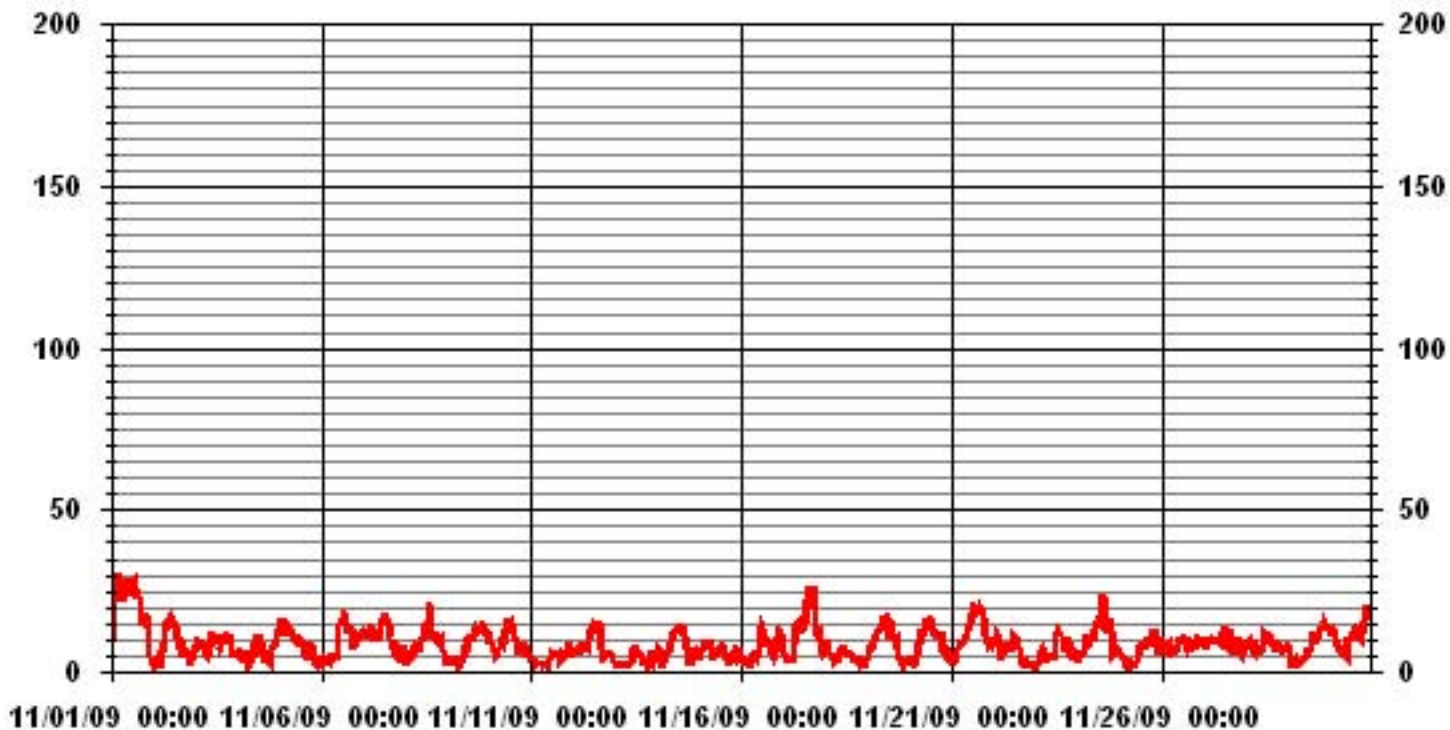
STATUS FLAG CODES

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	30.2	KPH	@ HOUR(S)	4
			ON DAY(S)	1

01 Hour Averages



— LICA WSMAX KPH

LICA
WSP / WD Joint Frequency Distribution (Percent)

November 2009

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	.13	.27	1.11	2.50	3.88	6.66	8.47	3.47	2.91	4.72	15.27	6.94	2.36	.97	.41	.55	60.69	
< 12.0	.00	.00	.00	.00	1.66	1.80	5.41	.00	.27	.27	10.00	7.08	3.88	1.11	1.11	.00	32.63	
< 20.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.41	.55	1.25	1.66	.13	.00	4.02	
< 29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00	.00	.13	
< 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	.13	.27	1.11	2.50	5.55	8.47	13.88	3.47	3.19	5.00	25.69	14.58	7.63	3.75	1.66	.55		

Calm : 2.50 %

Total # Operational Hours : 720

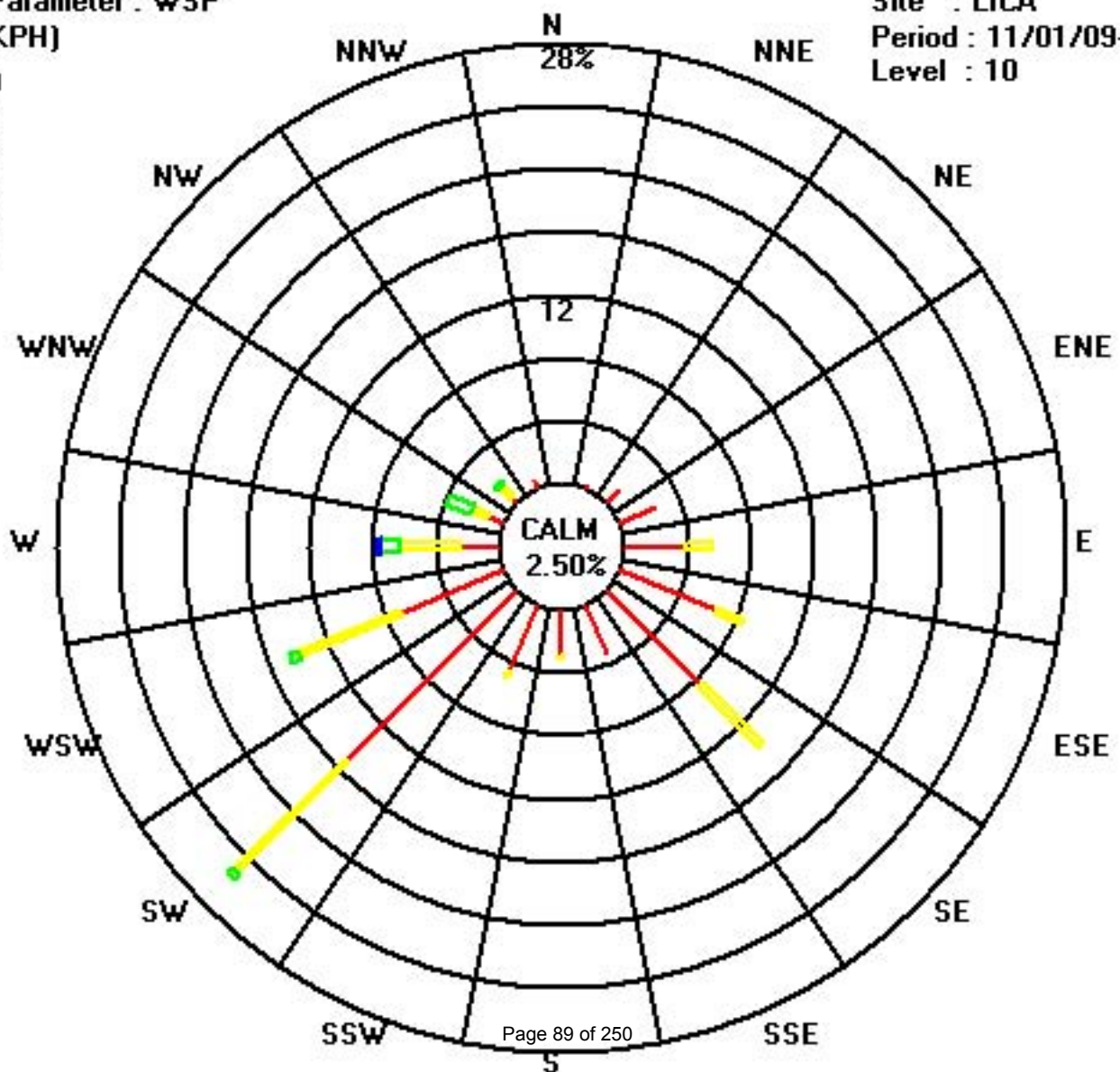
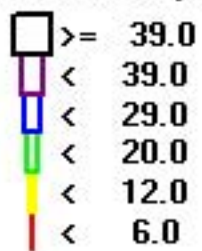
Distribution By Samples

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 6.0	1	2	8	18	28	48	61	25	21	34	110	50	17	7	3	4	437	
< 12.0					12	13	39		2	2	72	51	28	8	8		235	
< 20.0											3	4	9	12	1		29	
< 29.0													1				1	
< 39.0																		
>= 39.0																		
Totals	1	2	8	18	40	61	100	25	23	36	185	105	55	27	12	4		

Calm : 2.50 %

Total # Operational Hours : 720

Class Limits (KPH)



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUADRANT		
DAY																												
1	230	233	239	256	269	275	273	276	276	300	296	301	297	300	291	302	296	306	312	309	308	311	271	203	284	WNW	24	
2	215	139	176	197	112	125	120	123	127	126	119	127	133	128	115	111	112	75	94	127	32	95	331	253	123	ESE	24	
3	317	326	329	311	313	312	291	249	205	204	219	210	185	193	198	214	223	236	253	253	254	250	260	259	254	WSW	24	
4	234	243	221	184	212	240	161	107	241	264	234	235	240	240	236	232	131	111	103	122	125	127	124	126	187	S	24	
5	124	127	125	122	101	112	122	121	122	121	130	153	192	166	170	131	103	97	115	58	61	273	271	284	125	SE	24	
6	167	108	60	84	114	188	255	248	132	230	245	255	254	275	263	253	252	242	230	232	235	233	231	233	246	WSW	24	
7	224	231	235	235	231	229	230	233	231	234	238	233	231	230	229	228	216	212	230	263	217	224	270	253	231	SW	24	
8	165	173	215	220	223	231	231	231	238	238	238	243	243	247	242	221	224	221	221	239	234	213	205	210	231	SW	24	
9	151	128	111	116	234	177	213	203	124	141	136	134	136	168	192	132	129	127	130	126	125	123	127	129	133	SE	24	
10	101	120	120	133	48	227	227	221	252	258	255	261	261	257	230	214	223	219	241	239	240	217	212	230	234	SW	24	
11	222	192	144	125	140	186	152	245	79	311	344	35	107	65	44	122	281	350	255	281	240	263	236	234	219	SW	24	
12	236	250	234	232	231	237	231	227	233	238	229	227	230	233	231	229	203	181	189	215	236	236	228	124	228	SW	24	
13	139	146	216	127	139	138	123	164	137	155	159	134	98	79	115	121	117	88	54	242	85	237	240	156	131	SE	24	
14	253	253	108	239	242	241	245	249	244	262	261	260	252	251	248	241	207	210	153	124	136	143	140	128	238	SW	24	
15	114	125	133	130	140	136	140	128	174	171	195	177	207	144	152	172	100	95	50	75	125	124	92	85	136	SE	24	
16	59	110	94	119	149	77	100	78	71	110	125	125	130	138	149	138	127	130	119	181	211	216	221	232	151	SSE	24	
17	268	154	123	145	117	107	122	127	127	122	131	172	191	207	214	216	216	283	282	282	226	141	134	170	186	S	24	
18	219	234	213	145	109	139	154	221	262	290	296	166	220	292	93	254	247	136	177	205	150	105	88	115	201	SSW	24	
19	104	127	124	133	130	127	120	120	125	128	133	138	204	216	225	226	224	235	246	227	69	99	54	90	151	SSE	24	
20	67	88	98	89	105	87	84	92	93	90	96	107	97	100	96	92	84	89	69	63	53	65	50	52	87	E	24	
21	348	95	183	248	245	240	243	252	267	271	270	283	273	272	279	272	267	273	277	257	247	237	233	236	263	W	24	
22	233	233	237	235	234	226	233	232	227	235	258	252	245	256	271	291	249	164	145	164	125	97	102	47	239	WSW	24	
23	141	113	131	130	100	310	83	110	120	196	175	214	228	224	221	217	223	238	236	221	224	221	221	18	208	SSW	24	
24	6	59	157	211	187	220	232	233	231	241	250	266	273	295	304	302	295	265	276	293	245	240	232	224	265	W	24	
25	212	219	230	160	204	153	173	77	93	72	159	132	134	130	116	127	124	124	125	126	120	109	122	124	129	SE	24	
26	110	128	130	142	250	210	202	217	222	228	231	233	248	277	247	222	226	238	230	233	224	236	230	234	224	SW	24	
27	217	238	237	236	233	235	235	233	227	231	238	257	261	262	276	269	261	247	243	252	244	235	221	227	242	WSW	24	
28	225	234	234	232	231	231	234	239	235	230	231	230	229	229	231	223	214	215	226	228	230	230	229	226	228	SW	24	
29	232	143	41	121	135	111	120	156	186	177	207	214	210	230	245	229	244	250	260	261	253	267	271	263	244	WSW	24	
30	242	261	251	242	240	227	226	224	227	195	216	228	249	253	254	268	274	270	268	287	297	300	303	302	264	W	24	
HOURLY AVG	348	326	329	311	313	312	291	276	276	311	344	301	297	300	304	302	296	350	312	309	308	311	331	302				

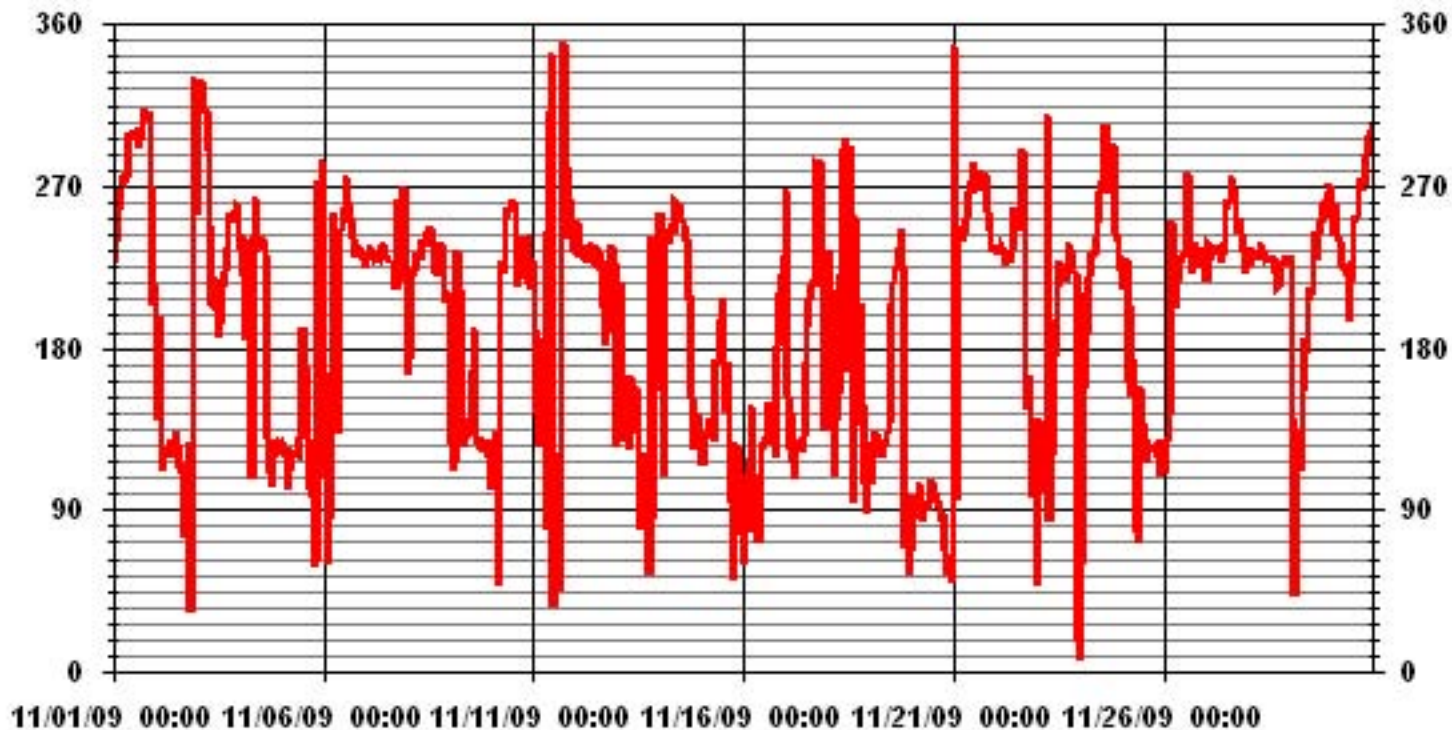
STATUS FLAG CODES

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 05, 2008
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS
STANDARD DEVIATION	67.42	AMD OPERATION UPTIME	100.0 %
		MONTHLY AVERAGE	224 DEG

01 Hour Averages



— LICA WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

NOVEMBER 2009

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	17	19	18	17	18	20	20	18	19	17	16	14	16	16	16	15	16	15	13	14	14	14	42	44
2	52	36	41	34	47	18	17	14	12	15	18	15	14	16	20	22	20	20	24	28	45	44	34	35
3	18	14	15	13	13	17	22	23	36	24	24	28	40	35	36	25	18	17	16	15	14	11	12	13
4	10	20	43	45	48	25	33	33	31	36	20	22	22	26	23	51	23	21	15	11	11	11	14	13
5	14	15	13	16	18	19	17	16	19	21	18	33	42	41	37	17	27	23	34	25	43	60	49	60
6	43	71	53	51	48	60	40	39	49	56	20	19	16	20	18	15	16	15	16	17	16	18	18	15
7	17	16	17	19	18	18	16	17	17	18	19	20	20	20	18	17	15	18	34	33	21	21	37	44
8	43	32	22	17	13	15	17	19	19	19	20	20	17	18	19	18	19	16	17	17	16	19	16	30
9	44	50	40	29	49	65	21	50	41	36	30	16	18	38	40	17	12	13	13	11	12	13	12	15
10	26	25	33	21	74	27	14	17	15	17	19	18	19	19	19	15	16	20	18	14	14	19	19	14
11	20	39	53	63	45	69	53	38	64	55	55	23	23	22	20	31	59	48	28	27	17	26	16	11
12	12	13	10	11	12	11	14	17	17	20	19	21	21	20	19	19	34	25	23	20	15	24	50	24
13	69	38	58	60	60	73	38	62	46	49	39	24	38	22	39	15	30	25	48	25	37	28	49	47
14	26	68	65	65	41	23	10	13	13	16	18	20	20	21	19	17	18	22	57	48	32	30	26	14
15	22	51	13	32	27	23	46	54	51	42	35	41	35	30	37	54	56	34	33	47	21	29	26	34
16	54	56	36	64	45	32	68	65	24	32	16	13	12	21	35	24	17	17	27	35	20	17	20	16
17	49	30	51	58	27	28	15	12	12	17	18	36	38	30	24	19	24	16	18	25	36	23	23	54
18	21	19	31	16	47	52	51	41	32	36	62	45	54	55	51	18	43	31	29	20	50	46	44	36
19	44	15	24	11	12	12	18	16	13	13	14	24	30	22	18	17	16	17	16	45	45	58	56	28
20	22	42	22	19	18	18	18	19	21	21	20	20	21	21	21	20	17	15	17	15	14	16	17	24
21	35	30	43	15	14	15	13	17	17	18	18	19	19	18	19	19	18	19	19	17	16	16	15	15
22	16	19	17	19	66	36	14	16	17	15	22	22	18	20	22	21	29	47	33	41	42	26	46	69
23	56	41	20	26	34	69	39	25	26	46	30	30	19	19	18	16	17	15	14	14	17	33	16	46
24	56	21	33	54	75	47	20	16	17	18	17	18	19	17	14	14	16	19	18	15	14	24	11	15
25	24	37	24	27	68	39	57	52	58	51	38	18	18	12	19	14	16	13	13	13	15	18	16	15
26	23	23	16	25	41	47	48	42	19	19	18	19	19	18	19	15	18	17	18	18	17	16	18	16
27	16	27	17	16	13	17	17	16	16	17	18	17	20	19	19	17	14	15	14	15	15	15	15	18
28	17	15	16	15	13	25	12	10	10	16	18	18	19	19	19	16	15	13	13	15	11	12	11	12
29	10	32	58	36	59	51	16	37	47	43	30	22	25	20	17	16	15	15	17	16	15	17	18	18
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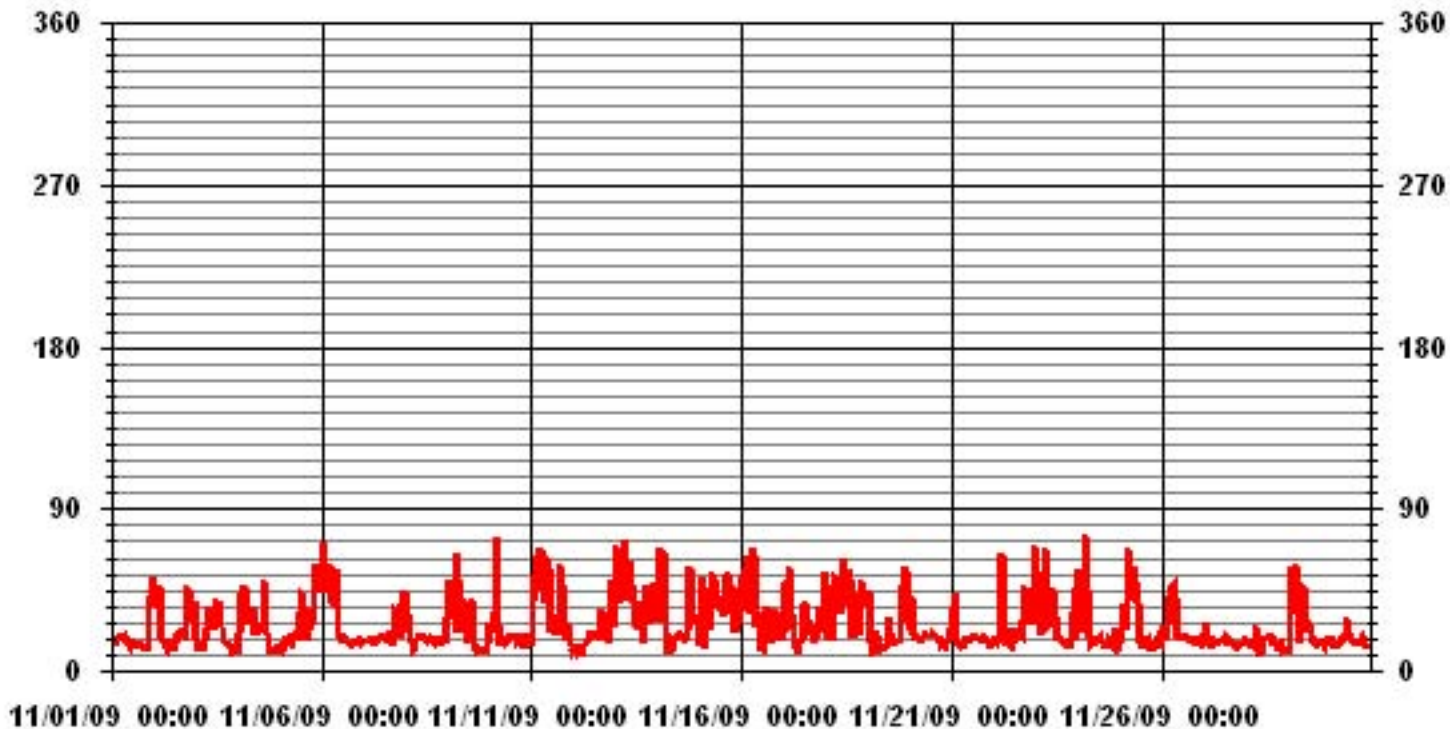
STATUS FLAG CODES

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

LAST CALIBRATION: November 05, 2008

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS

01 Hour Averages



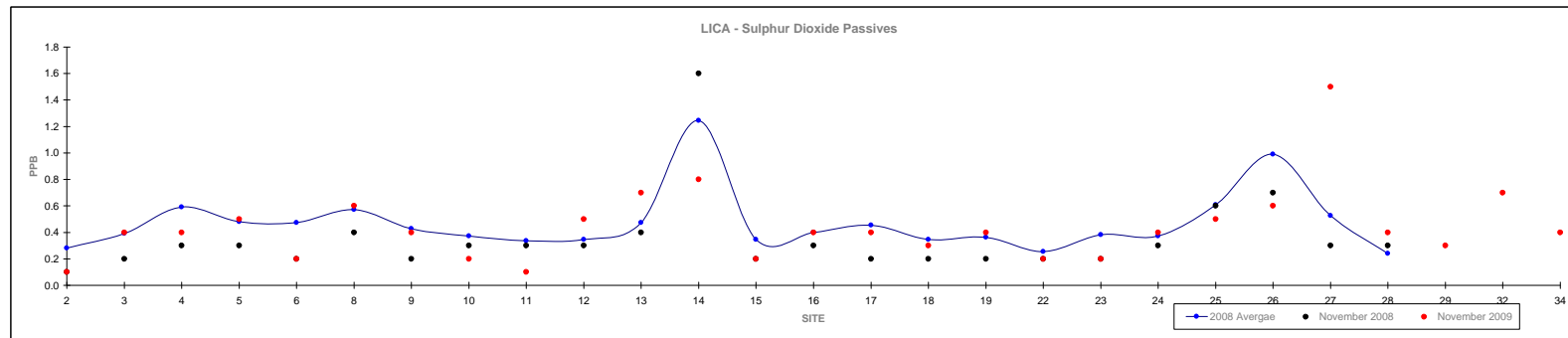
— LICA STDWDIR DEG

Non-Continuous Monitoring

Passive Summary Results for November 2009

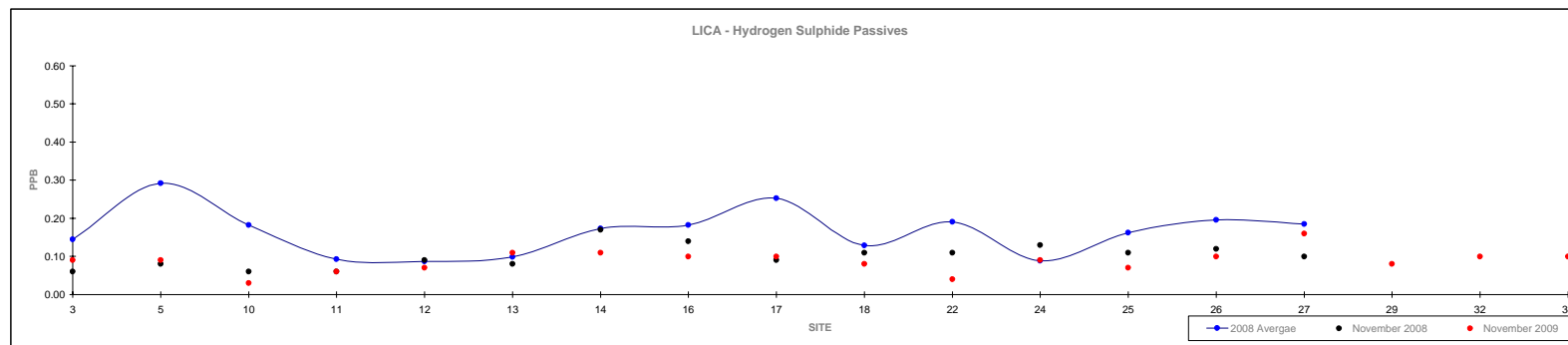
Lakeland Industry & Community Association

	Sulphur Dioxide ppb																												November 2009	
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	25	26	27	28	29	Reading	Site			
Mean	0.3	0.4	0.6	0.5	0.5	0.6	0.4	0.4	0.3	0.3	0.5	1.2	0.3	0.4	0.5	0.3	0.4	0.4	0.3	0.4	0.4	0.6	1.0	0.5	0.2	0.4	-			
Minimum	0.1	0.1	0.2	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.7	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.6	0.3	0.1	0.1	#2, #11			
Maximum	0.3	0.4	0.5	0.4	0.6	1.4	1.3	1.1	1.0	1.0	1.3	2.1	1.0	1.3	1.2	1.2	1.2	0.8	0.8	1.1	1.3	1.3	1.9	1.1	0.5	1.5	#27			



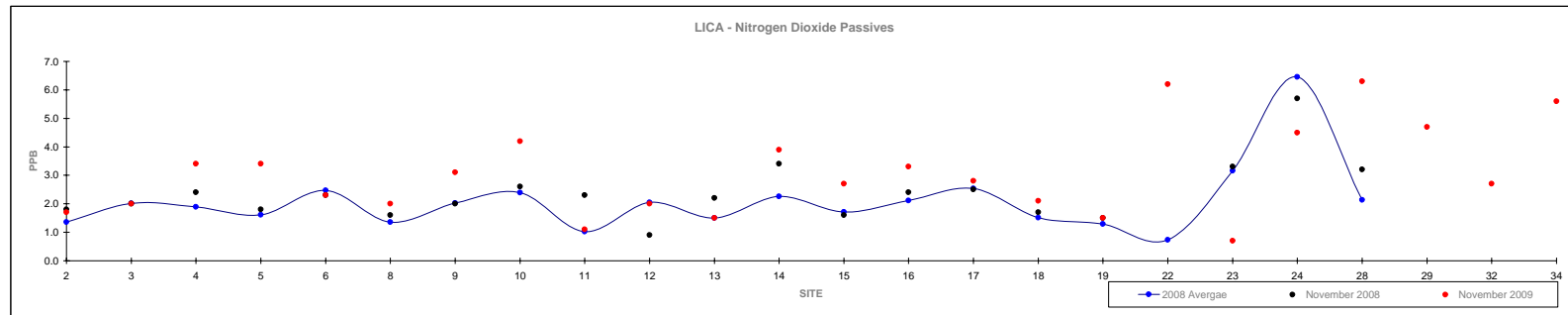
Passive Summary Results for November 2009 Lakeland Industry & Community Association

	Hydrogen Sulphide ppb															November 2009		
	3	5	10	11	12	13	14	16	17	18	22	24	25	26	27	29	Reading	Site
Mean	0.1	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.09	-
Minimum	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.03	#10
Maximum	0.3	1.0	0.5	0.2	0.2	0.2	0.3	0.4	0.5	0.2	0.3	0.4	0.2	0.3	0.3	0.3	0.16	#27



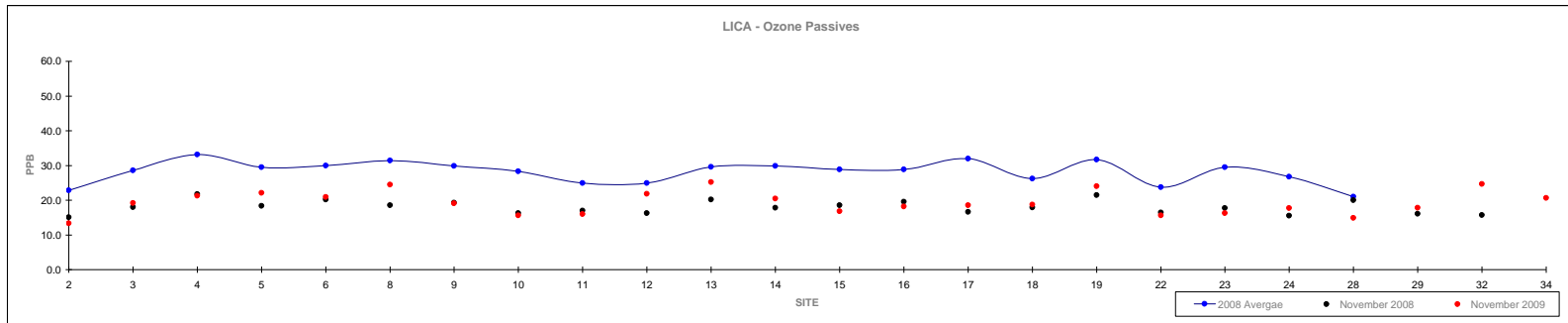
Passive Summary Results for November 2009 Lakeland Industry & Community Association

	Nitrogen Dioxide ppb																													November 2009	
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	28	29	Reading	Site							
Mean	1.4	2.0	1.9	1.6	2.5	1.4	2.0	2.4	1.0	2.0	1.5	2.3	1.7	2.1	2.5	1.5	1.3	2.8	0.7	3.2	6.5	2.1	3.1	-							
Minimum	0.5	0.9	0.4	0.6	1.2	0.6	1.0	1.1	0.3	0.9	0.5	1.1	0.8	1.1	0.9	0.8	0.4	0.9	0.2	1.7	3.1	1.2	0.7	#23							
Maximum	2.9	4.3	4.8	4.3	4.8	2.9	4.4	5.5	2.3	6.0	3.4	3.8	4.4	4.4	5.1	3.2	3.2	6.8	2.8	6.6	13.2	3.5	6.3	#28							



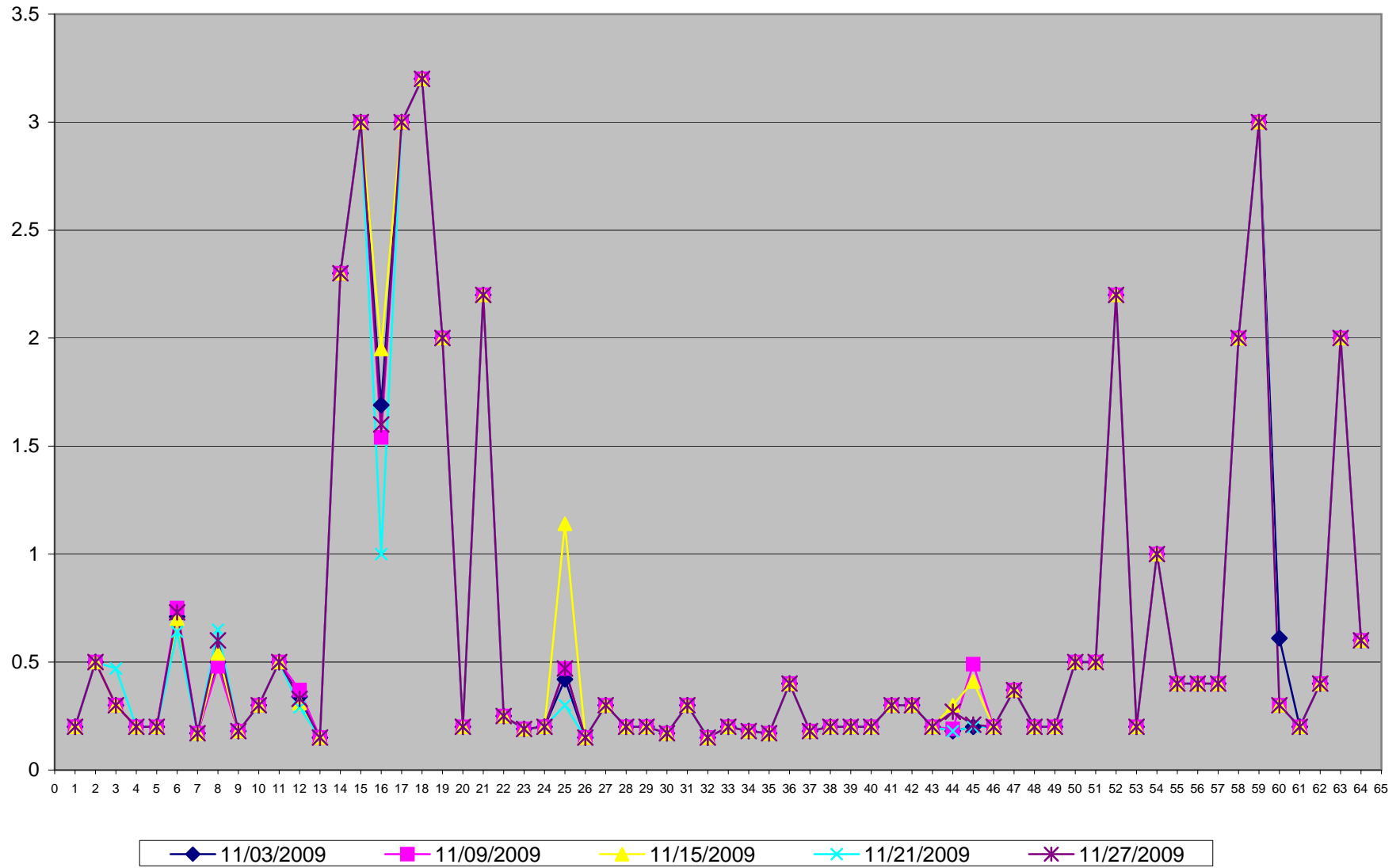
Passive Summary Results for November 2009 Lakeland Industry & Community Association

	1	2	3	4	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	25	26	November 2009 Reading	November 2009 Site
Mean	22.9	28.6	33.1	29.5	30.0	31.4	29.9	28.3	24.9	24.9	29.6	29.8	28.9	28.8	32.0	26.2	31.7	26.2	23.8	29.5	26.8	21.0	19.3	-
Minimum	12.8	17.8	20.8	17.8	18.2	18.5	19.3	16.3	12.6	14.1	17.2	17.8	16.9	18.8	16.6	13.7	20.9	15.7	13.4	17.7	15.5	17.7	13.3	#2
Maximum	39.1	47.6	54.5	46.9	47.6	47.2	45.4	44.3	40.1	41.9	48.2	43.9	50.3	47.7	52.9	45.4	46.8	40.4	36.9	51.1	45.9	26.8	25.2	#13



Volatile Organics

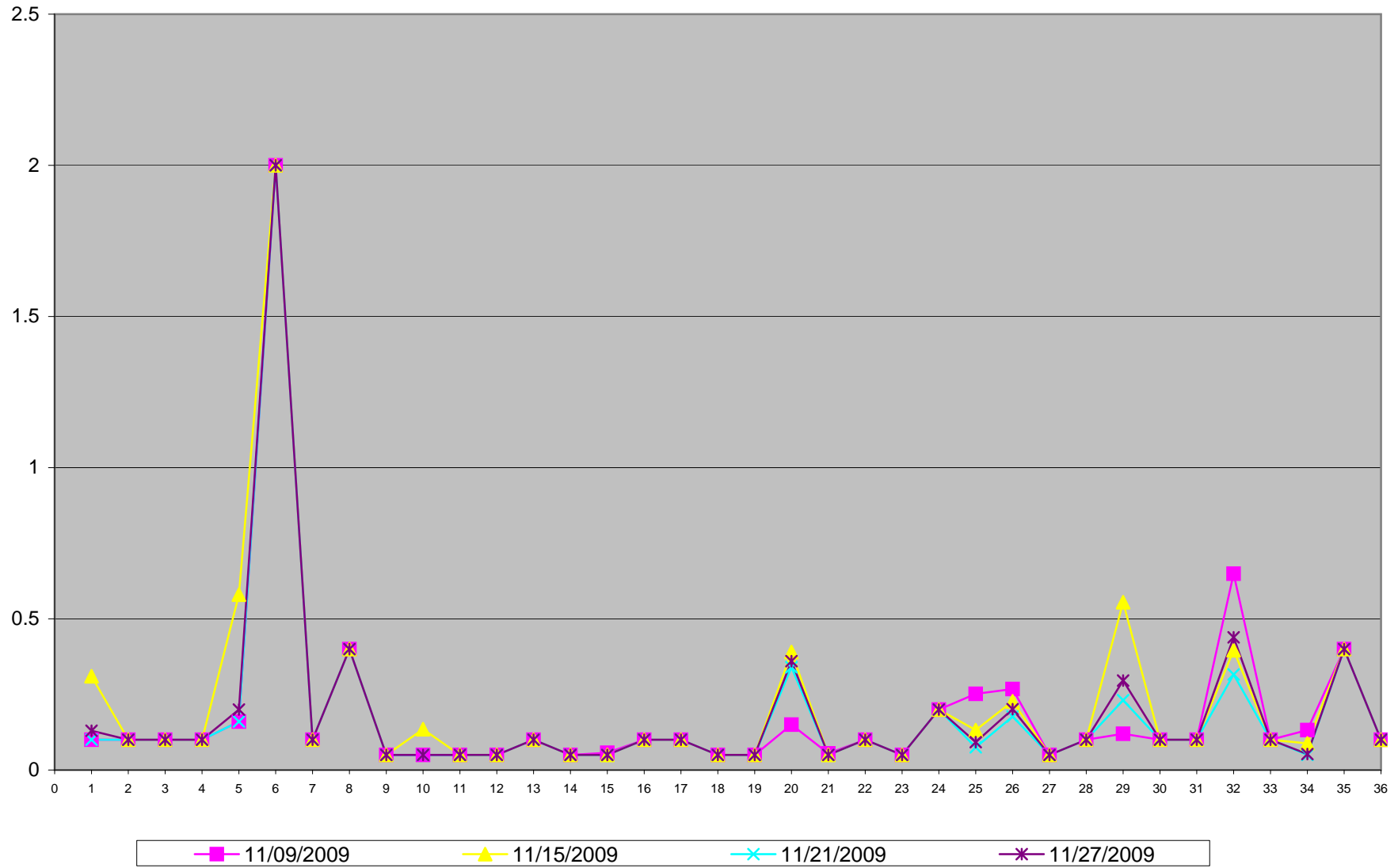
Volatile Organics in ppb Site: LICA - Cold Lake South



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

PAHs in ug 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 17, 2009	Previous Calibration	October 1, 2009
Company	Lakeland Community and Industry Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	10:45	End Time (MST)	13:39
Reason:	Monthly Calibration		
Barometric Pressure	699 mmHg	Station Temperature	23 Deg C
Cal Gas	52.2 ppm	Cal Gas Expiry date	12/19/2010
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	Thermon 43i	S/N :	806528242	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 :	263		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb		
Sample Flow / Box Temp	437 ccm, 27.6 Deg C	437 ccm, 28.2 Deg C	
HVPS / Lamp Setting	-631.2, 748	-631.6, 748	
PMT / RxCell Temp	OK Deg C, 45.1 Deg C	OK Deg C, 44.9 Deg C	
Converter / IZS Temp	NA Deg C, 45.0 Deg C	NA Deg C, 45.0 Deg C	
Offset / Slope	5, 1.041	5, 1.041	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	0	N/A
4961	38.3	400	400	0.9998
4975	24	251	251	0.9984
4987	14.4	150	150	1.0020
4999	0	0	0	N/A
Sum of Least Squares				0.3480
New Correction Factor				0.9998

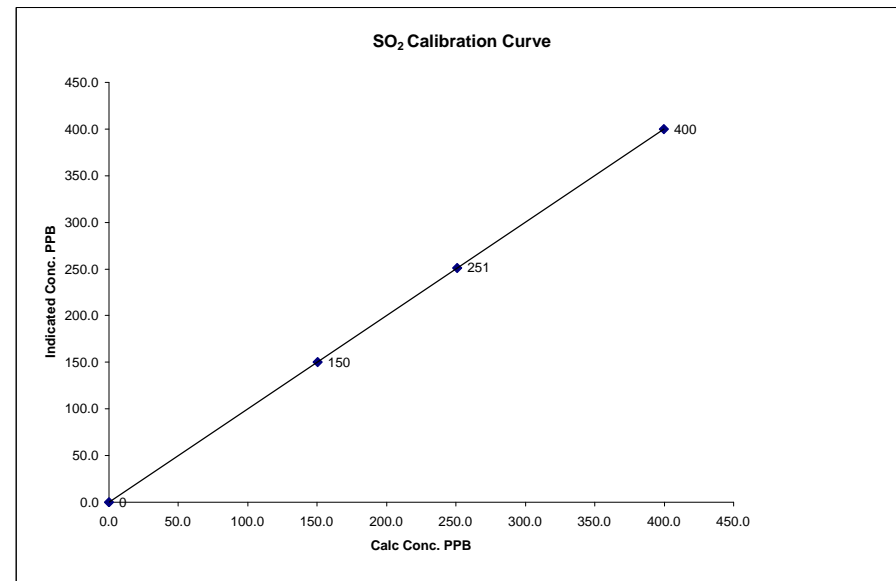
	Before Calibration	After Calibration
Auto Zero	0.1	0.2
Auto Span	411.0	414.0
Sample Lines Connected		YES
Percent Change from Previous Calibration		0.0%

Calibration Performed by: Shea Beaton

SO₂ Calibration Curve

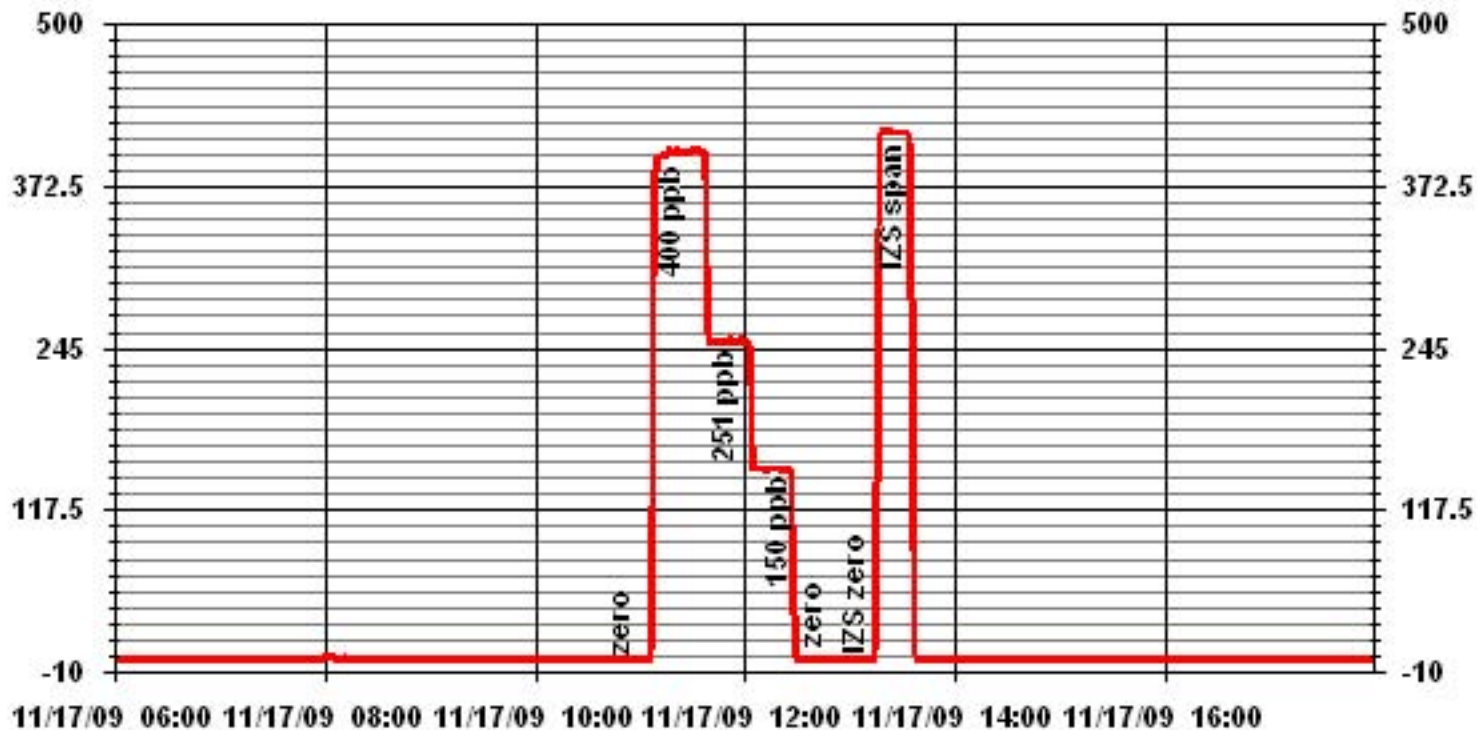
Calibration Date	November 17, 2009
Company	Lakeland Community and Industry Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	10:45
End Time (MST)	13:39

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999998
0	0	n/a	Intercept	(± 3% F.S.)	-0.077133
150	150	1.0020			
251	251	0.9984			
400	400	0.9998			



Notes: _____

01 Minute Averages



Total Reduced Sulphur

**TRS Calibration Report
Station Information**

Calibration Date	November 17, 2009	Previous Calibration	October 1, 2009
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	8:10	End Time (MST)	11:32
Reason:	Monthly Calibration		
Barometric Pressure	699 mm Hg	Station Temperature	22 Deg C
Cal Gas	10.8 ppm	Cal Gas Expiry date	June 22, 2010
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	TEI 4501	S/N :	812728560	Method:	Fluorescent
Converter Make / Model:	CD Nova CDN 101	S/N :	250		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

Before Calibration			After Calibration		
Concentration Range	0 - 100 ppb				
Sample Flow / Box Temp	355 ccm	30.8 Deg C	354 ccm	30.9 Deg C	
HVPS / Lamp Setting	-622.7	757	-622.3	762	
PMT / RxCell Temp	OK Deg C	45.0 Deg C	OK Deg C	45.1 Deg C	
Converter / IZS Temp	849 Deg C	45.0 Deg C	849 Deg C	45.0 Deg C	
Offset / Slope	11	1.151	11.1	1.182	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	0	N/A
4961	37	80	77	1.0383
4961	37	80	81	0.9871
4975	20.8	45	46	0.9775
4990	11.6	25	25	1.0019
4999	0	0	0	N/A
Sum of Least Squares				0.9859
New Correction Factor				0.9871

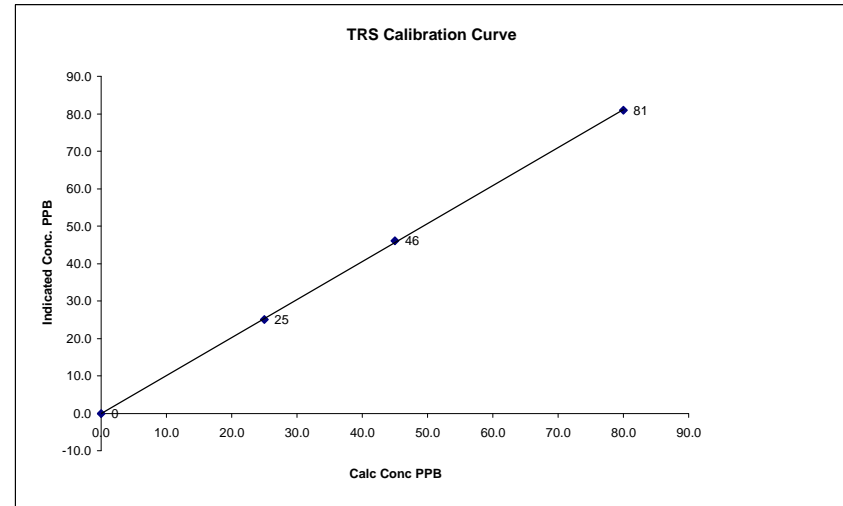
	Before Calibration	After Calibration
Auto Zero	0.0	-0.1
Auto Span	40.0	43.0
Sample Lines Connected		YES
Percent Change from Previous Calibration		-3.8%

Calibration Performed by: Shea Beaton

TRS Calibration Curve

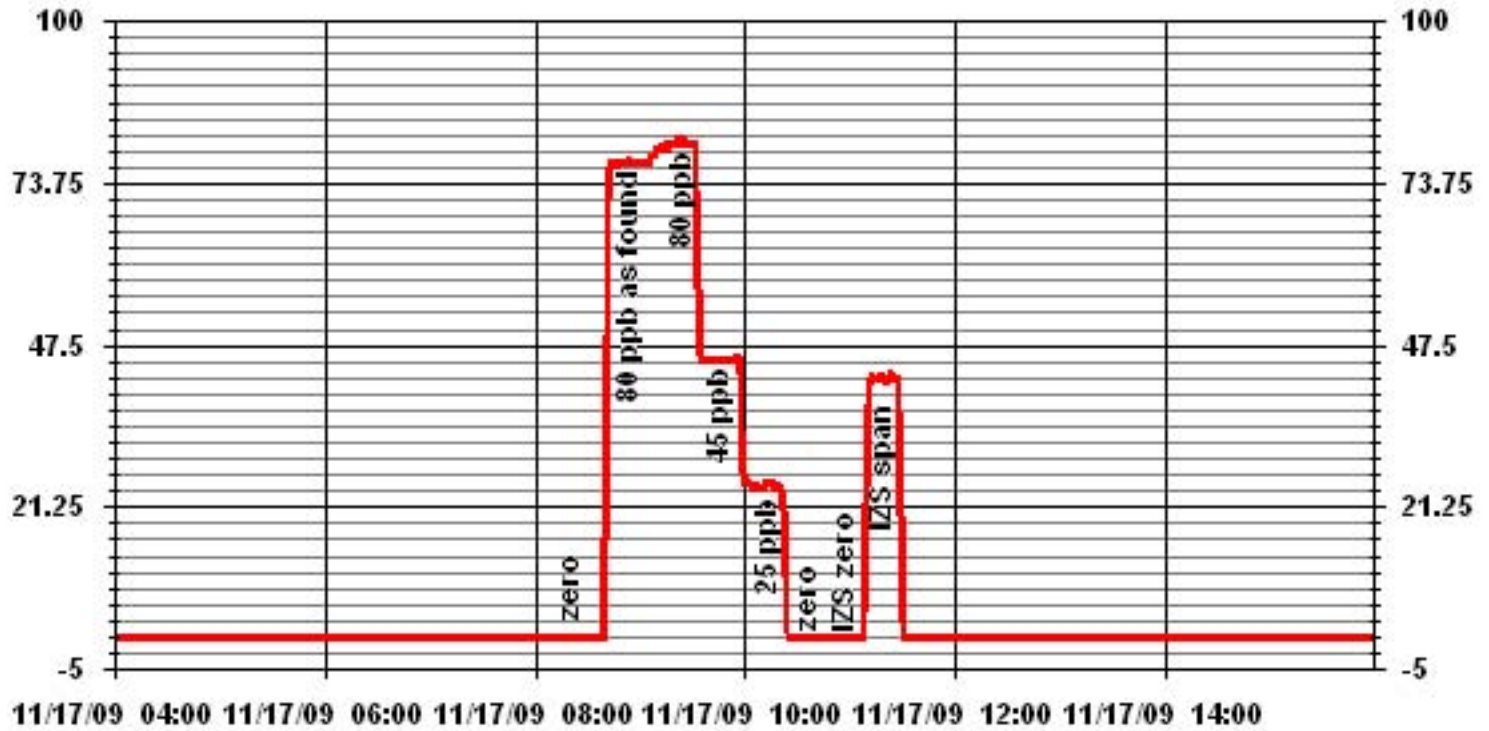
Calibration Date	November 17, 2009
Company	Lakeland Industry & Community Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	8:10
End Time (MST)	11:32

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999909
0	0	n/a	Intercept	(± 3% F.S.)	1.015450
25	25	1.0019			
45	46	0.9775			
80	81	0.9871			-0.070676



Notes: _____

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	November 17, 2009	Previous Calibration	October 1, 2009
Company:	Lakeland Industry and Community Association		
Plant / Location:	LICA1/Cold Lake		
Start Time (MST)	13:55	End Time (MST)	16:25
Reason:	Monthly Calibration		
Barometric Pressure:	699 mmHg	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	299Prop/1019Meth	ppm	Cal Gas Expiry Date: 8/11/2011
DAS make & Model:	ESC 8832	S/N :	263
Output Voltage Range:	0 - 10 VDC		

Analyzer Information

Make / Model	TECO 51C-LT	S/N :	51CLT-42740-8718	Method	Flame Ionization
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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	19.5 psi	19.5 psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2997	0	0.0	-0.1	N/A
2998	65	39.1	37.5	1.0427
2998	0.0	0.0	0.0	N/A
2998	65.0	39.1	39.3	0.9942
2998	35.0	21.2	21.0	1.0118
2998	20.0	12.2	11.9	1.0254
2998	0	0.0	0.0	N/A
Correction Factor:				0.9942

Percent Change

Previous Calibration Correction Factor:	0.9968
Current Correction Factor Before Span Adjust:	0.9942
Percent Change:	0.3%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	-0.1	0.0
Auto Span	34.0	35.6
Sample Lines Connected		YES

Cylinder Pressures

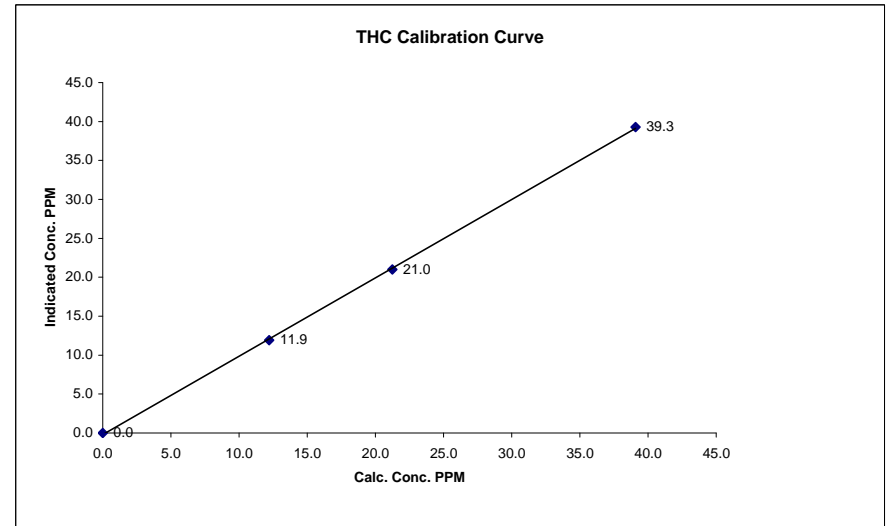
Span	2000 psi
Hydrogen	1050 psi
Zero Air	unlimited psi Maxxam-owned API 701 zero air supply with catalytic oxidizer

Calibration Performed by: Shea Beaton

THC Calibration Curve

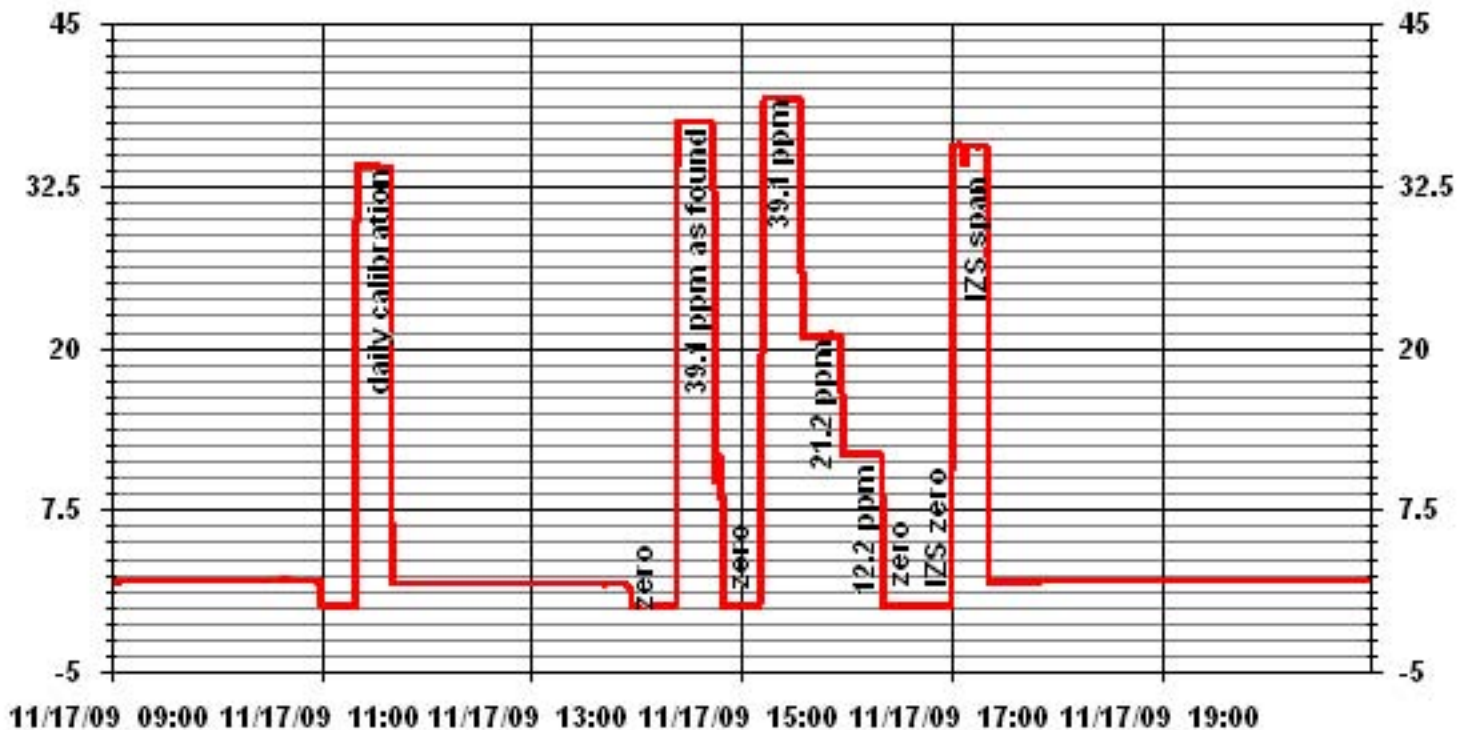
Calibration Date	November 17, 2009		
Company	Lakeland Industry and Community Association		
Plant / Location	LICA1/Cold Lake		
Start Time (MST)	13:55	End Time (MST)	16:25

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999834
0.0	0.0		Intercept	(0.85 to 1.15)	1.007101
12.2	11.9	1.0254		(± 3% F.S.)	-0.209378
21.2	21.0	1.0118			
39.1	39.3	0.9942			



Notes:

01 Minute Averages



Particulate Matter 2.5

TEOM® 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	November 16, 2009	Make/Model:	Bios DC2
Station Name:	LICA 1	Serial Number:	1193
Location:	Cold Lake South	Cell s/n:	2272
Operator:	LICA	Thermometer s/n:	14-990A

	<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 (%)	28%
Firmware Ver.	1.28	K _o Factor	14578.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	11.3
		Press (ATM)	0.927

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	0.006	Warnings	None
Pump Vacuum	0.31		
Temperature/Pressure			
Measured Temp (± 2 °C)	10.8	Δ °C	0.5
Measured Press (± 0.01atm)	0.922	ΔATM	0.005
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	3.53%
Measured Main Flow (l/min)	2.96	Flow Adjusted to Measured?	NO
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (±10.0%)	2.99%
Measured Bypass Flow (l/min)	13.96	Flow Adjusted to Measured?	NO
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	NA	Flow Control = Active	
Aux (< 0.15 l/min)	NA	Report Conditions = Standard (25.0 C and 1atm)	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 13:45 **Finish Time:** 16:00

Sample Inlet Cleaned: YES **New Filters Installed:** YES
New Filter Loading %: 16.3%

Comments: Performed audit, attempted to replace the compact flash card with a new one supplied by CD Nova. The new one was to have firmware ver 1.51 preloaded, but it appeared that it still have ver 1.28. Re audited the unit, performed a BP cal and rechecked the flows -bypass= 13.70 lpm and main =2.97 lpm.

Auditor/s: Shea Beaton

Nitrogen Dioxide

NOx - NO- NO₂ Calibration Report

Station Information

Calibration Date		November 17, 2009		Previous Calibration		October 1, 2009	
Company		Lakeland Ind & Comm. Assoc.		Plant/Location		LICA 1 - Cold Lake South	
Start Time (MST)	8:10	End Time (MST)	14:26				
Reason:				Monthly Calibration			
Barometric Pressure	699 mmHg	Station Temperature	22.0 Deg C				
Cal Gas Concentration	NOx 51.8 ppm	NO	51.6 ppm	Cal Gas Expiry date	12/19/2010		
DAS Output Voltage	0 - 1 Volts	Chart Rec. Output	NA	Volts			

Equipment Information

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

Analyzer Settings

		Before Calibration			After Calibration		
Concentration Range		0 - 1000			ppb		
Sample Flow/Conv. Temp	715 ccm	317	Deg C	709	317	Deg C	
Ozone Flow / Vacuum	OK	174.3	mmHg	OK	173.8	mmHg	
HVPS	-821	Volts		-820	Volts		
Rx/ Temp / PMT Temp	49.7 Deg C	-2.4	Deg C	49.8	-2.4	Deg C	
Box Temp / IZS Temp	27.1 Deg C	OK	Deg C	28.2	OK	Deg C	
Offset	3.7 NOx	3.5	NO	3.8	3.6	NO	
Slope	1.007 NOx	0.926	NO	1.005	0.946	NO	

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration		Indicated Concentration			Correction Factor	
			NOx	NO	NOx	NO	NO ₂	NOx	NO
5002.0	0.0	N/A	0	0	0	0	0	N/A	N/A
4965.0	38.8	N/A	402	400	393	391	3	1.0220	1.0233
4965.0	38.8	N/A	402	400	401	399	2	1.0017	1.0028
4984.0	19.4	N/A	201	200	200	199	1	1.0042	1.0054
4992.0	9.7	N/A	100	100	100	99	1	1.0046	1.0108
5003.0	0.0	N/A	0	0	1	1	0	N/A	N/A
Converter Efficiency									
4968.0	38.8	N/A	401	400	400	398	2	N/A	
4968.0	38.8	300	401	400	397	140	257	99%	
4968.0	38.8	200	401	400	398	216	182	99%	
4968.0	38.8	100	401	400	399	308	91	99%	
4968.0	38.8	N/A	401	400	399	397	2	N/A	
5005.0	0	N/A	0	0	1	1	0	N/A	N/A

Linearity OK?	Yes	No	Sum of Least Squares	1.0023	1.0037
Flows Checked on-site?	Yes	No	New Correction Factor	1.0017	1.0028
			Average Converter Efficiency	99%	

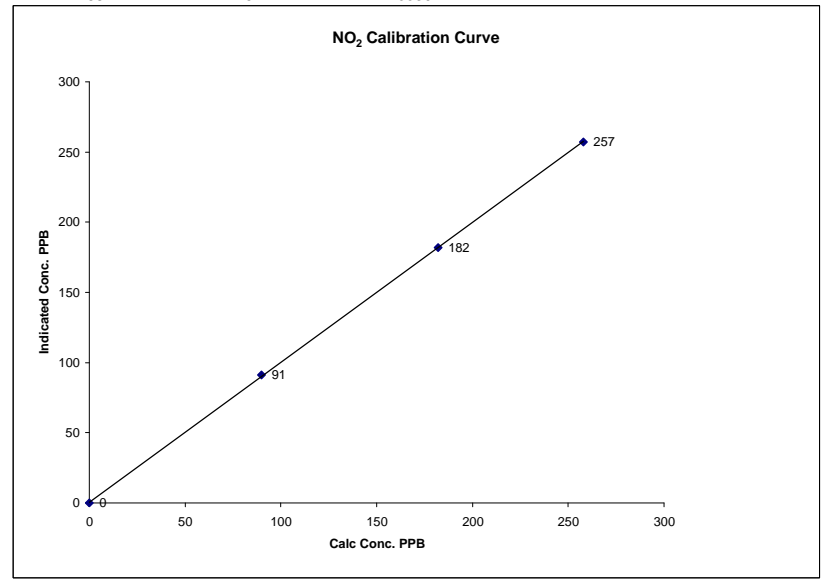
		Before Calibration		After Calibration	
Auto Zero	0.3 NOx	0.3	NO ₂	0.3	NO ₂
Auto Span	398.0 NOx	395.0	NO ₂	400.0	398.0 NO ₂
Sample Lines Connected		YES			
Percent Change from Previous Calibration		NOx	-2.5%	NO	-2.2%

Calibration Performed by: Shea Beaton

NO₂ Calibration Curve

Calibration Date	November 17, 2009	
Company	Lakeland Ind & Comm. Assoc.	
Plant / Location	LICA 1 - Cold Lake South	
Start Time (MST)	8:10	End Time (MST) 14:26

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999966
0	0	N/A	Slope (0.85 to 1.15)	0.995528
90	91	0.9890	Intercept (+/- 3% F.S.)	0.59260
182	182	1.0000		
258	257	1.0039		

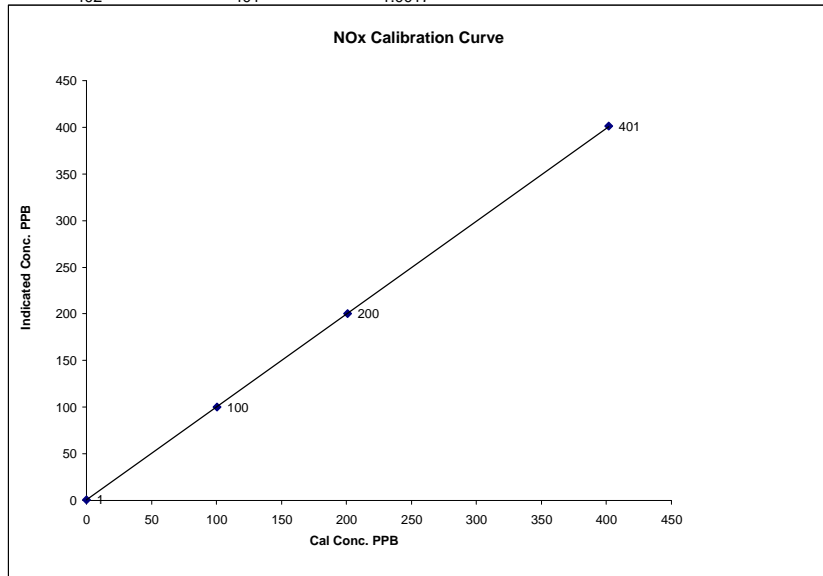


Notes: _____

NOx Calibration Curve

Calibration Date November 17, 2009
 Company Lakeland Ind & Comm. Assoc.
 Plant / Location LICA 1 - Cold Lake South
 Start Time (MST) 8:10 End Time (MST) 14:26

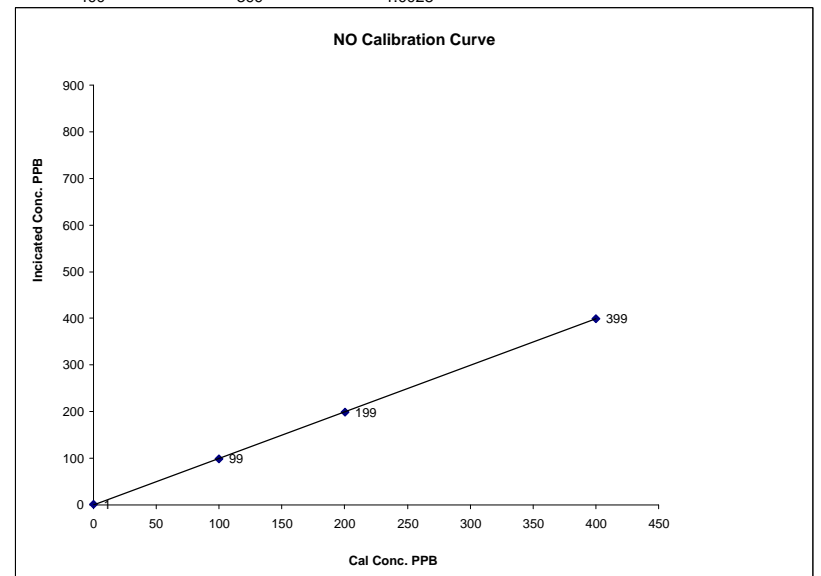
Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999988
ppb	ppb		Slope	(0.85 to 1.15)	0.996460
0	1	N/A	Intercept	(± 3% F.S.)	0.38005
100	100	1.0046			
201	200	1.0042			
402	401	1.0017			



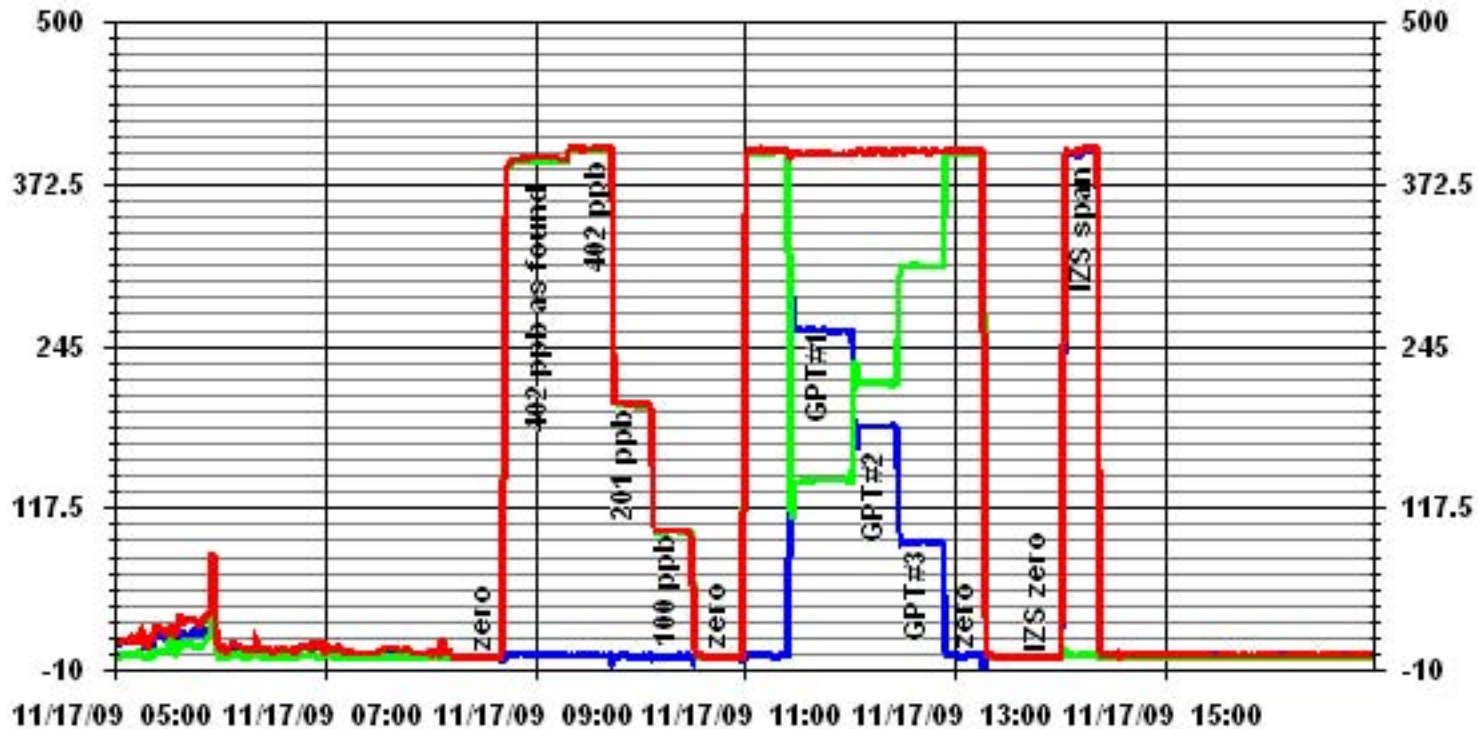
NO Calibration Curve

Calibration Date November 17, 2009
 Company Lakeland Ind & Comm. Assoc.
 Plant / Location LICA 1 - Cold Lake South
 Start Time (MST) 8:10 End Time (MST) 14:26

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999981
ppb	ppb		Slope	(0.85 to 1.15)	0.999852
0	1	N/A	Intercept	(± 3% F.S.)	-1.0320
100	99	1.0108			
200	199	1.0054			
400	399	1.0028			



01 Minute Averages



Ozone

O₃ Calibration Report

Station Information

Calibration Date	November 17, 2009	Previous Calibration	October 2, 2009
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	13:50	End Time (MST)	17:06
Reason:	Monthly Calibration		
Barometric Pressure	699 mm Hg	Station Temperature	23 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb			
Bench Temp/ Pressure	28 Deg C		27.9 Deg C	
O ₃ Set Level	29%		29%	
Bench Lamp/O ₃ Lamp				
Sample Flow A/B	0.726 LPM	0.742 LPM	0.727 LPM	0.742 LPM
Offset / Slope	0.7	0.991	0.8	1.053

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
500	0	0	0	N/A
4998	400	380	357	1.0644
4998	400	380	381	0.9974
4998	200	185	191	0.9686
4998	100	91	93	0.9785
4998	0	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				0.9974

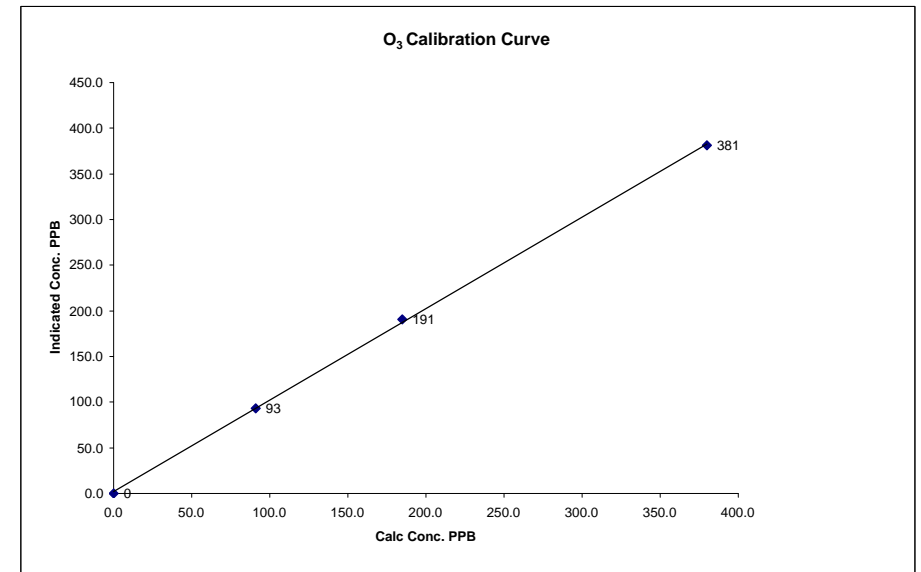
	Before Calibration	After Calibration
Auto Zero	0.0	0.1
Auto Span	278.0	297.0
Sample Lines Connected		YES
Percent Change from Previous Calibration		-6.1%

Calibration Performed by: Shea Beaton

O₃ Calibration Curve

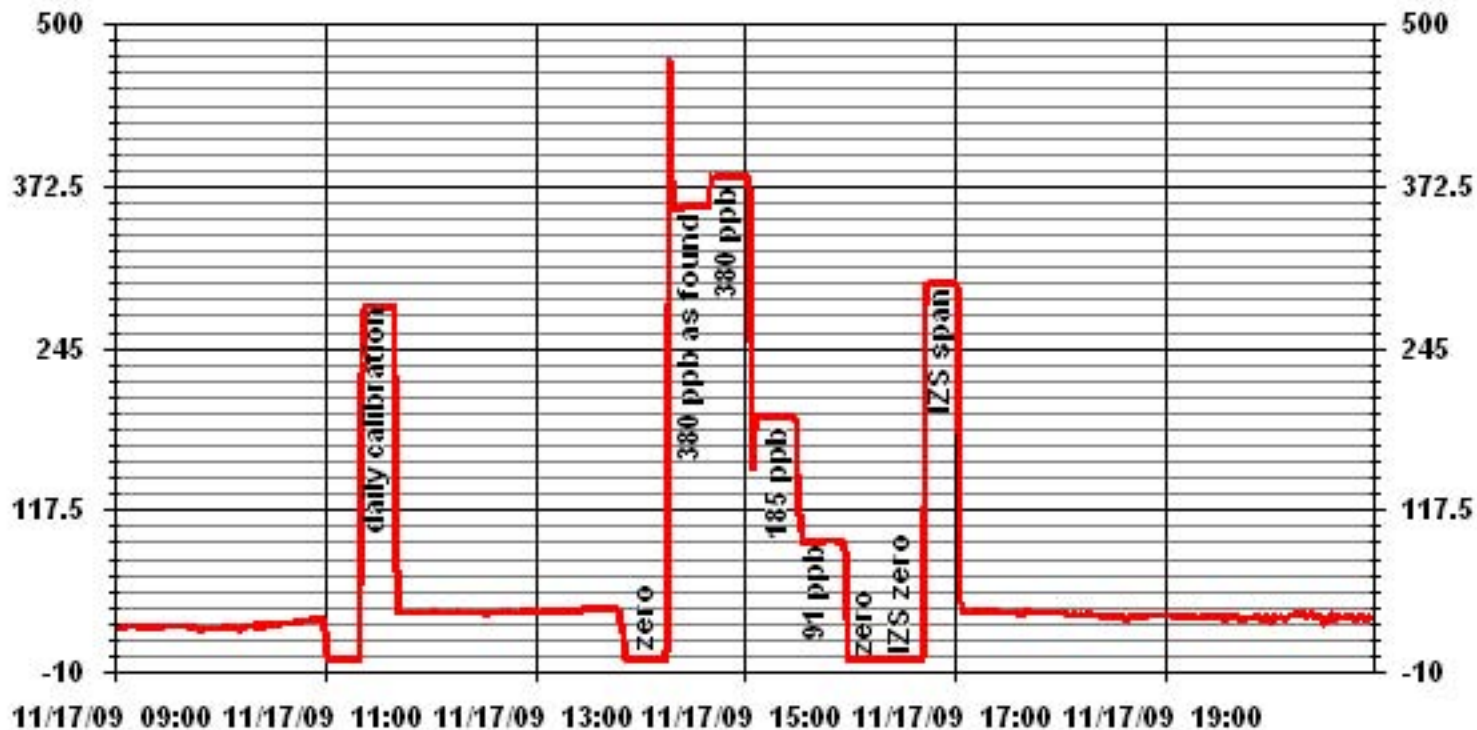
Calibration Date	November 17, 2009		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	13:50	End Time (MST)	17:06

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope (≥ 0.995) (0.85 to 1.15)	0.999746
0	0	n/a	Intercept (± 3% F.S.)	1.002471
91	93	0.9785		
185	191	0.9686		
380	381	0.9974		1.844766



Notes: Bench Temp=53.5C, O₃ lamp temp=67.6C.

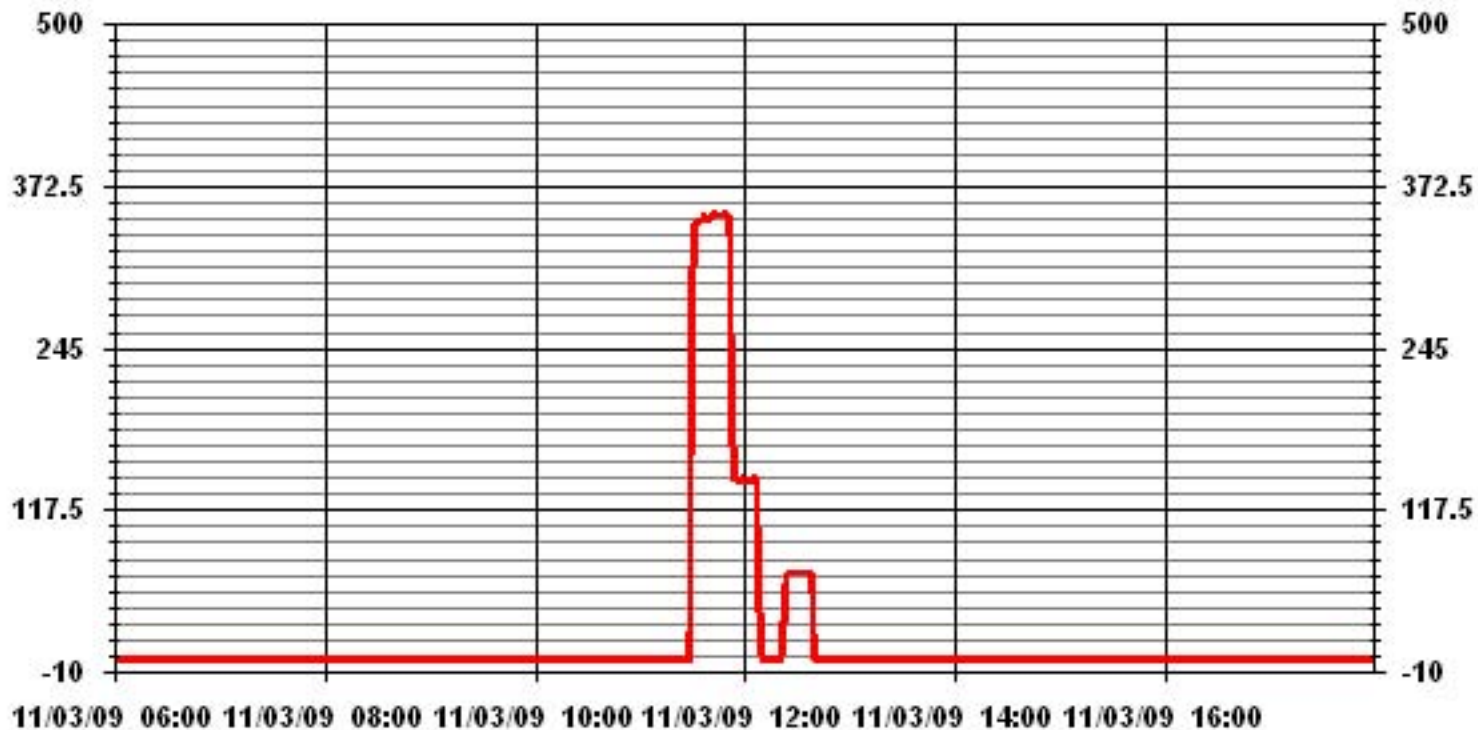
01 Minute Averages



Calibration Graphs

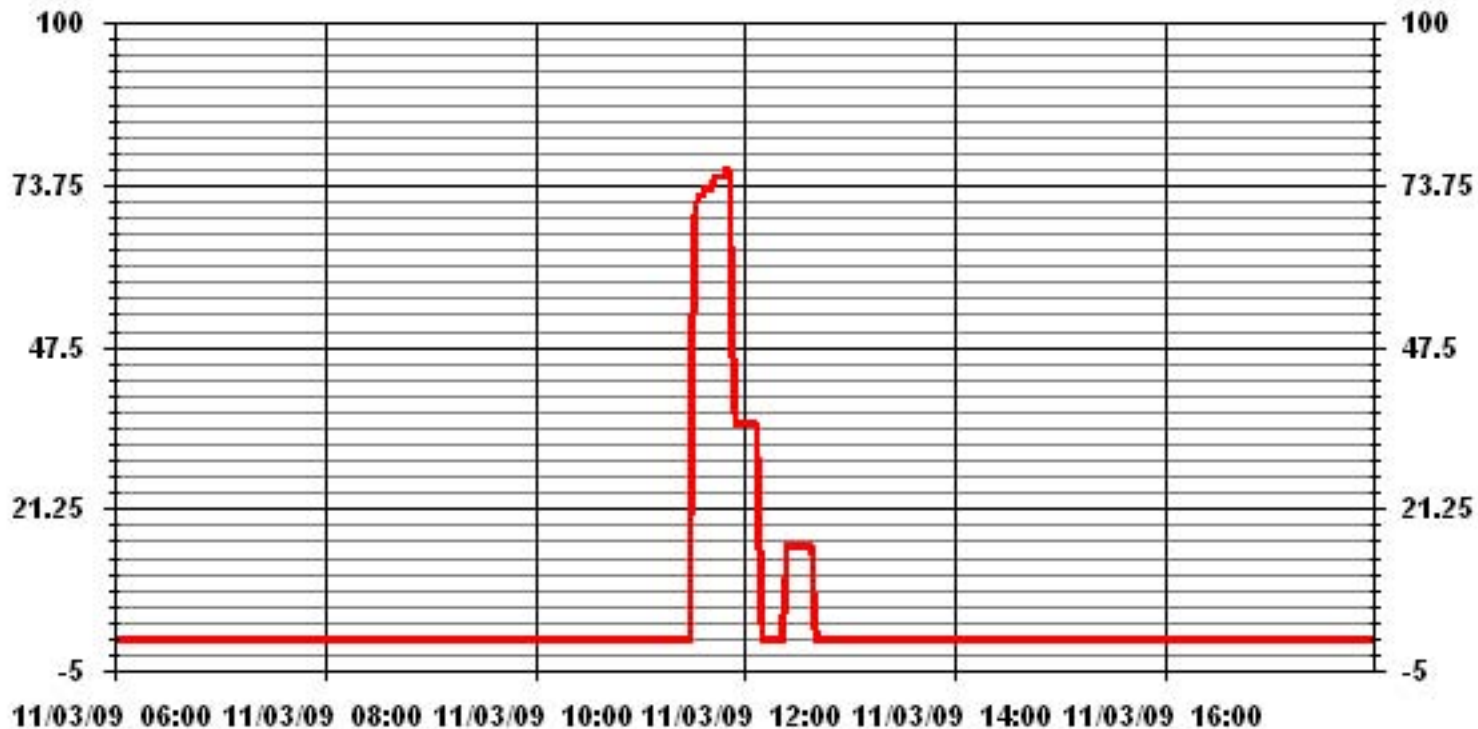
- Alberta Environment Audit -

01 Minute Averages

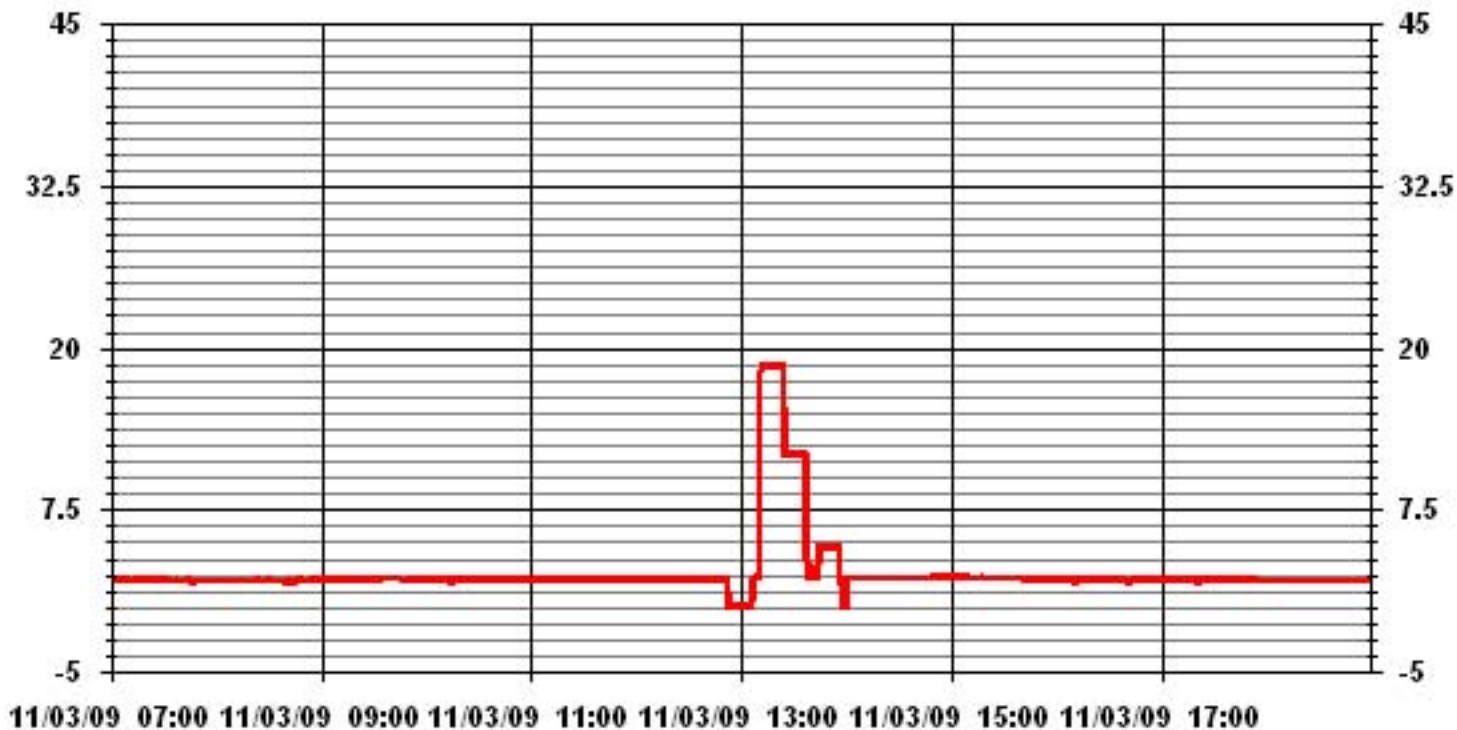


— LICA SO2_ PPB

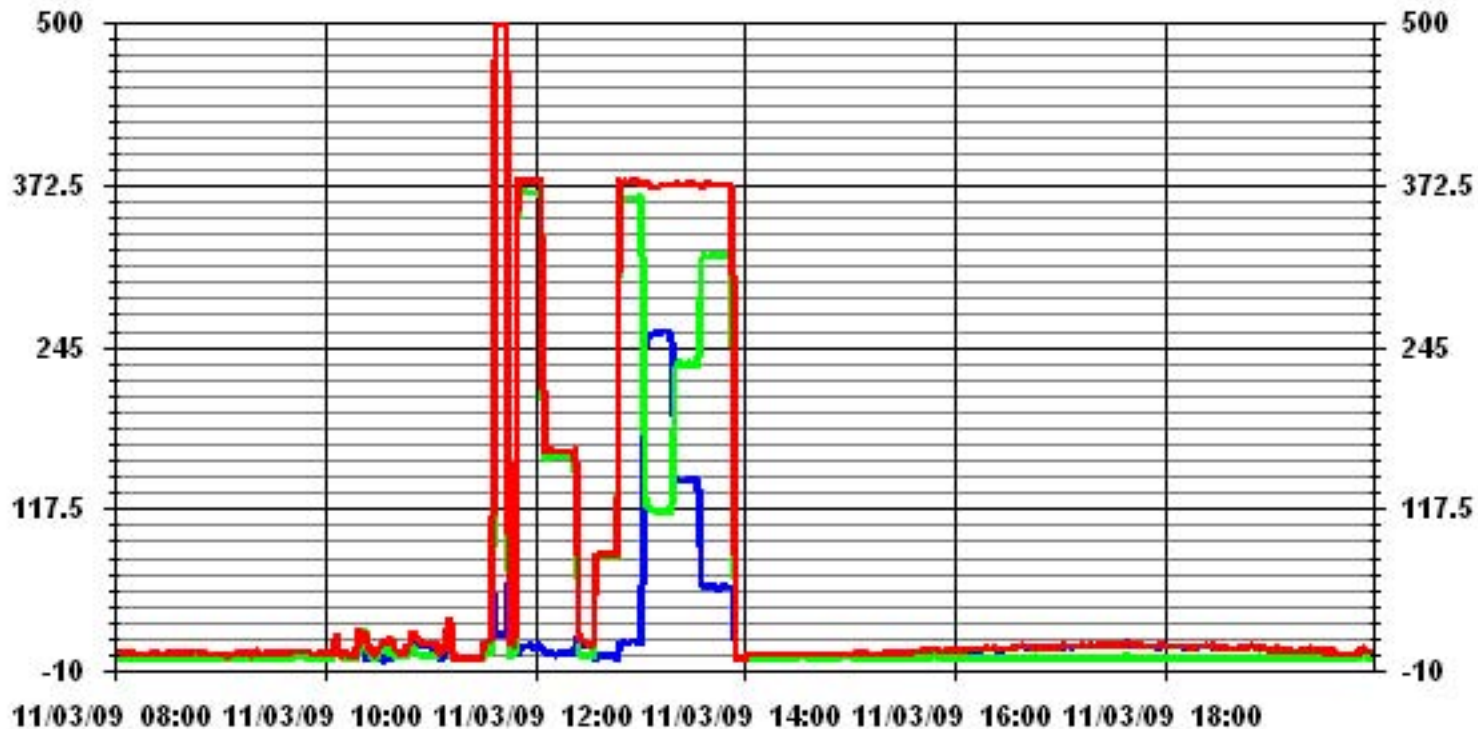
01 Minute Averages



01 Minute Averages

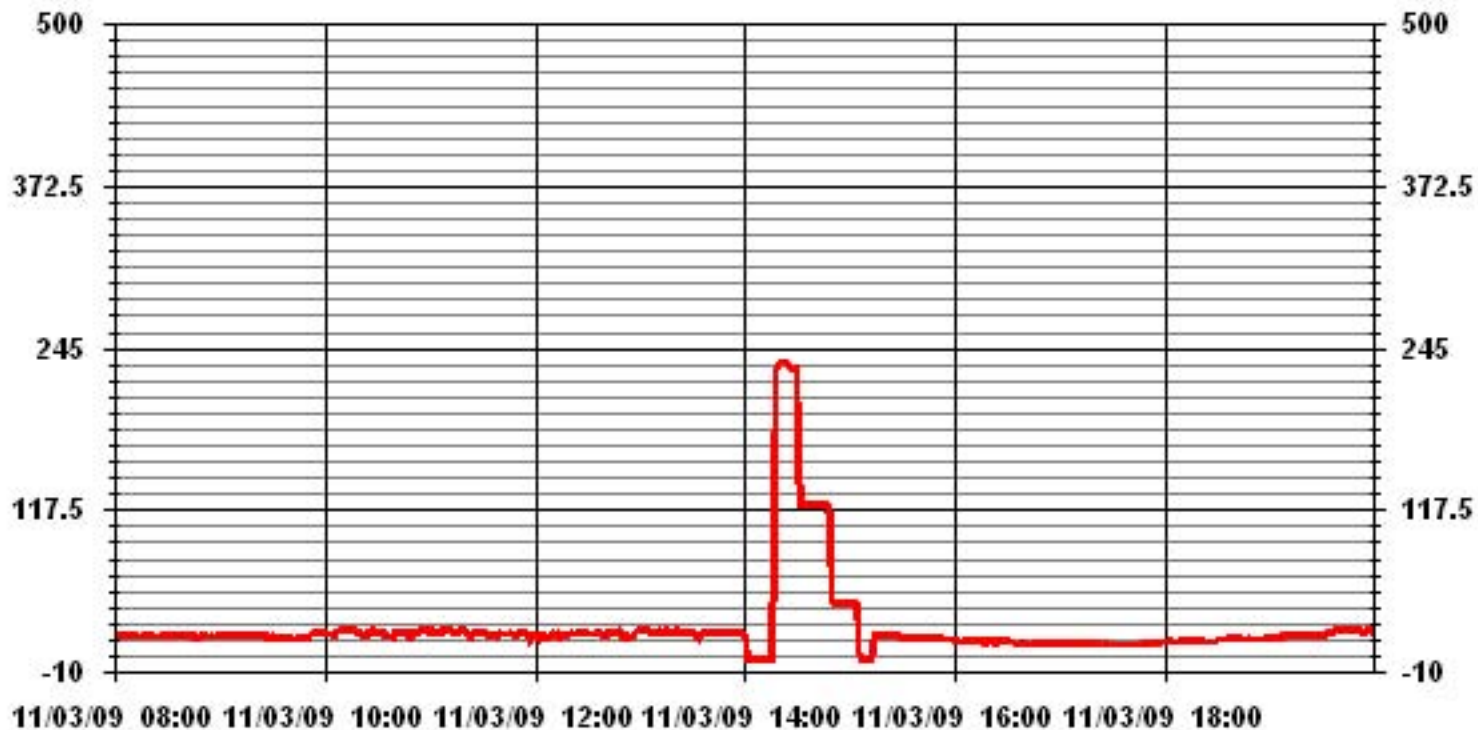


01 Minute Averages



— LICA NOX_ PPB — LICA NO_ PPB — LICA NO2_ PPB

01 Minute Averages



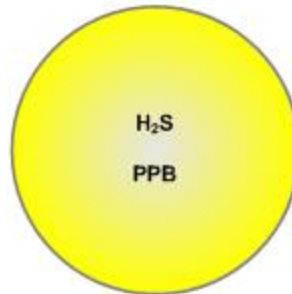
Passive Bubble Maps

Lakeland Industry & Community Association H₂S Passive Bubble Map

NOVEMBER 2009

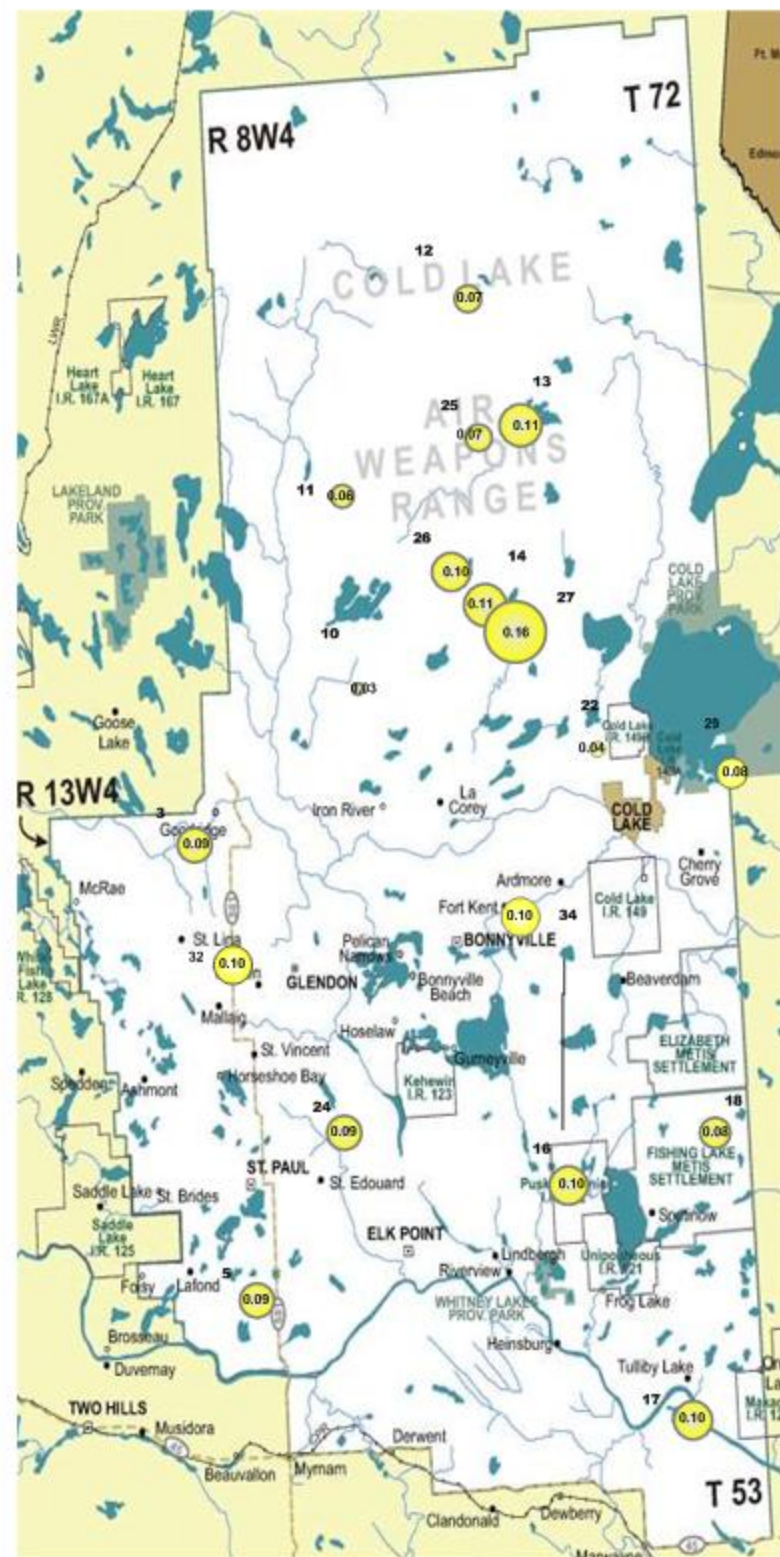
PASSIVE STATIONS

		DUPLICATE
3 – Therien	0.09 PPB	NA
5 – Lake Eliza	0.09 PPB	0.08 PPB
10 – La Corey	0.03 PPB	<0.02 PPB
11 – Wolf Lake	0.06 PPB	NA
12 – Foster Creek	0.05 PPB	0.08 PPB
13 – Primrose	0.11 PPB	NA
14 – Maskwa	0.11 PPB	0.11 PPB
16 – Frog Lake	0.10 PPB	NA
17 – Clear Range	0.09 PPB	0.10 PPB
18 – Fishing Lake	0.08 PPB	NA
22 – Cold Lake South	0.04 PPB	NA
24 – Fort George	0.06 PPB	0.11 PPB
25 – Burnt Lake	0.07 PPB	NA
26 – Mahihkan	0.10 PPB	NA
27 – Mahkeses	0.16 PPB	NA
29 – Cold Lake South 2	0.08 PPB	0.09 PPB
32 – St. Lina	0.10 PPB	NA
34 – Portable	0.10 PPB	NA



Summary

Minimum : 0.03 PPB – La Corey
Maximum: 0.16 PPB – Mahkeses
Average: 0.09 PPB *Includes Duplicates

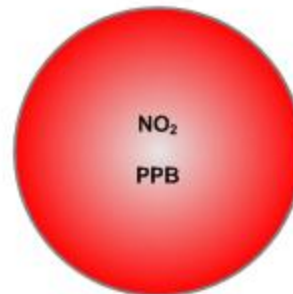


Lakeland Industry & Community Association NO₂ Passive Bubble Map

NOVEMBER 2009

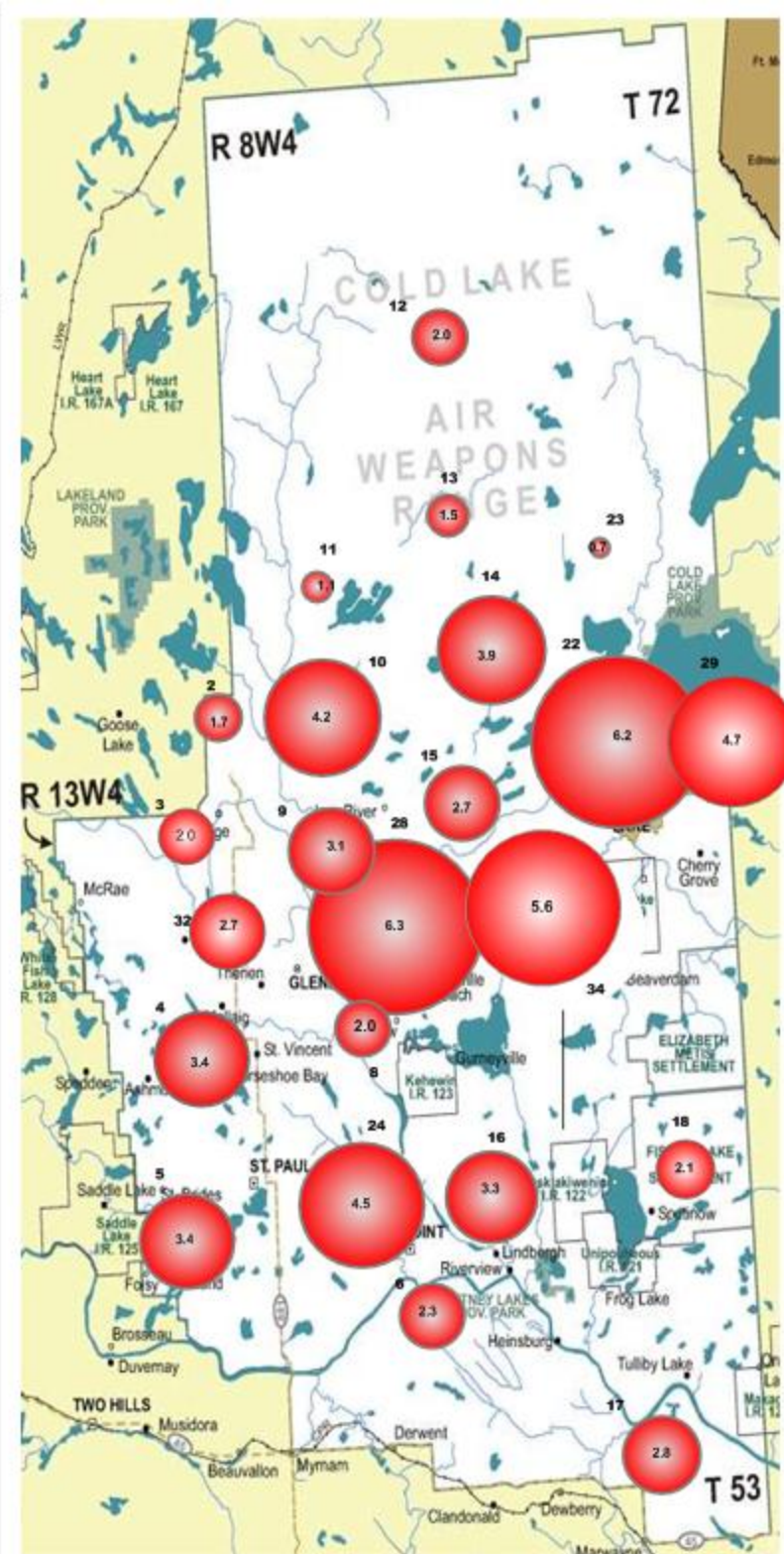
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	1.7 PPB	NA
3 – Therien	2.1 PPB	1.8 PPB
4 – Flat Lake	3.4 PPB	NA
5 – Lake Eliza	3.9 PPB	2.9 PPB
6 – Telegraph Creek	2.3 PPB	NA
8 – Muriel-Kehewin	2.0 PPB	1.8 PPB
9 – Dupre	3.1 PPB	NA
10 – La Corey	4.7 PPB	3.6 PPB
11 – Wolf Lake	1.1 PPB	NA
12 – Foster Creek	1.9 PPB	2.0 PPB
13 – Primrose	1.5 PPB	NA
14 – Maskwa	3.6 PPB	4.2 PPB
15 – Ardmore	2.7 PPB	NA
16 – Frog Lake	2.6 PPB	3.9 PPB
17 – Clear Range	2.8 PPB	NA
18 – Fishing Lake	2.1 PPB	2.0 PPB
19 – Beaverdam	1.5 PPB	NA
22 – Cold Lake South	6.2 PPB	NA
23 – Medley-Martineau	0.7 PPB	0.7 PPB
24 – Fort George	4.5 PPB	NA
28 – Town of Bonnyville	6.7 PPB	5.8PPB
29 – Cold Lake South 2	4.7 PPB	NA
32 – St. Lina	2.7 PPB	NA
34 – Portable	5.6 PPB	NA



Summary

Minimum : 0.7 PPB – Medley-Martineau
 Maximum: 6.3 PPB – Town of Bonnyville
 Average: 3.1 PPB *Includes Duplicates

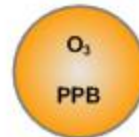


Lakeland Industry & Community Association O₃ Passive Bubble Map

NOVEMBER 2009

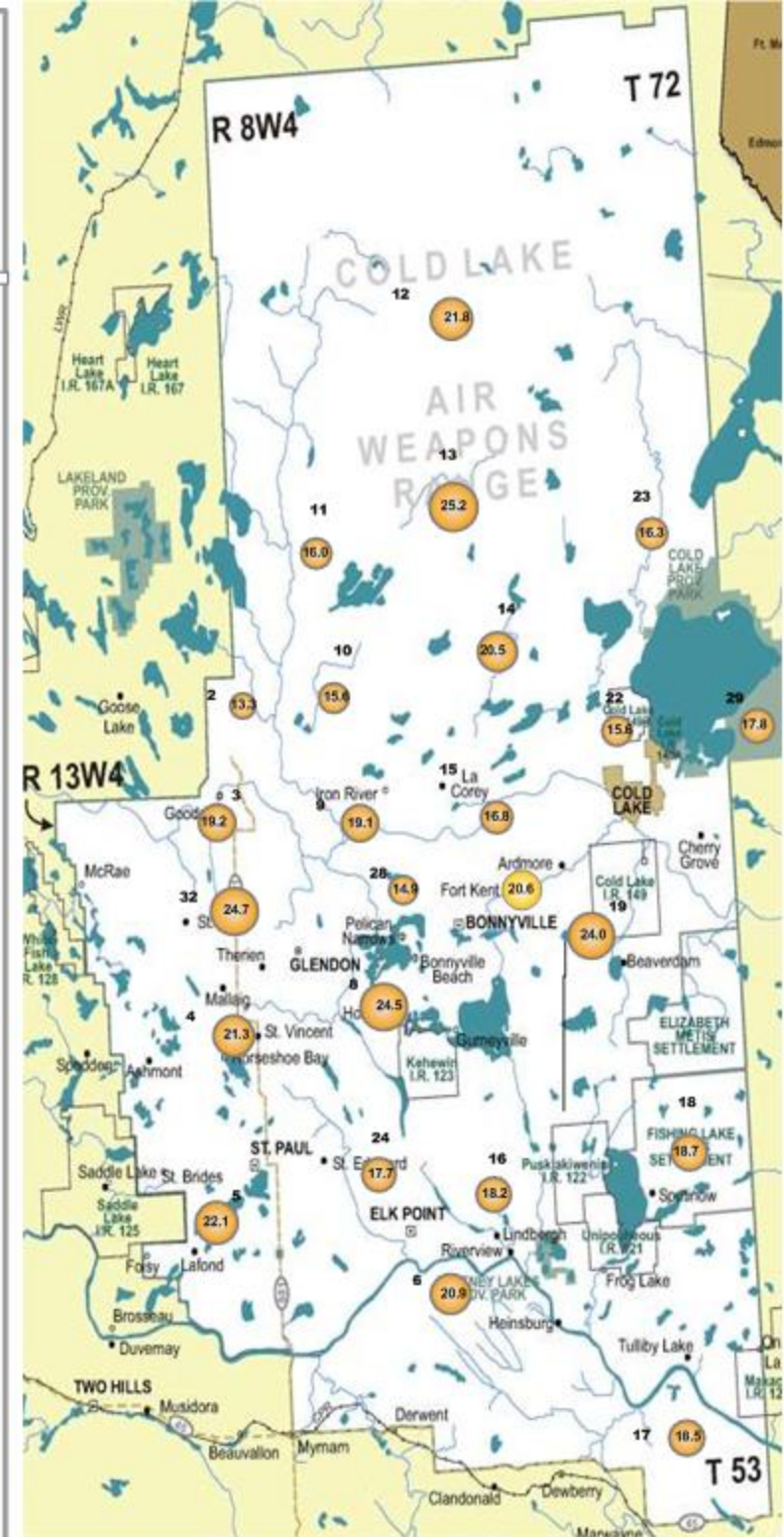
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	13.3 PPB	NA
3 – Therien	20.0 PPB	18.4 PPB
4 – Flat Lake	21.3 PPB	NA
5 – Lake Eliza	22.6 PPB	21.5 PPB
6 – Telegraph Creek	20.9 PPB	NA
8 – Muriel-Kehewin	23.4 PPB	25.6 PPB
9 – Dupre	19.1 PPB	NA
10 – La Corey	15.4 PPB	15.7 PPB
11 – Wolf Lake	16.0 PPB	NA
12 – Foster Creek	22.5 PPB	21.0 PPB
13 – Primrose	25.2 PPB	NA
14 – Maskwa	21.2 PPB	19.7 PPB
15 – Ardmore	16.8 PPB	NA
16 – Frog Lake	18.3 PPB	18.1 PPB
17 – Clear Range	18.5 PPB	NA
18 – Fishing Lake	19.2 PPB	18.2 PPB
19 – Beaverdam	24.0 PPB	NA
22 – Cold Lake South	15.6 PPB	NA
23 – Medley-Martineau	16.4 PPB	16.1 PPB
24 – Fort George	17.7 PPB	NA
28 – Town of Bonnyville	14.4 PPB	15.4 PPB
29 – Cold Lake South 2	17.8 PPB	NA
32 – St. Lina	24.7 PPB	NA
34 – Portable	20.6 PPB	NA



Summary

Minimum : 13.3 PPB – Sand River
 Maximum : 25.2 PPB – Primrose
 Average : 19.3 PPB *Includes Duplicates



Lakeland Industry & Community Association SO₂ Passive Bubble Map

NOVEMBER 2009

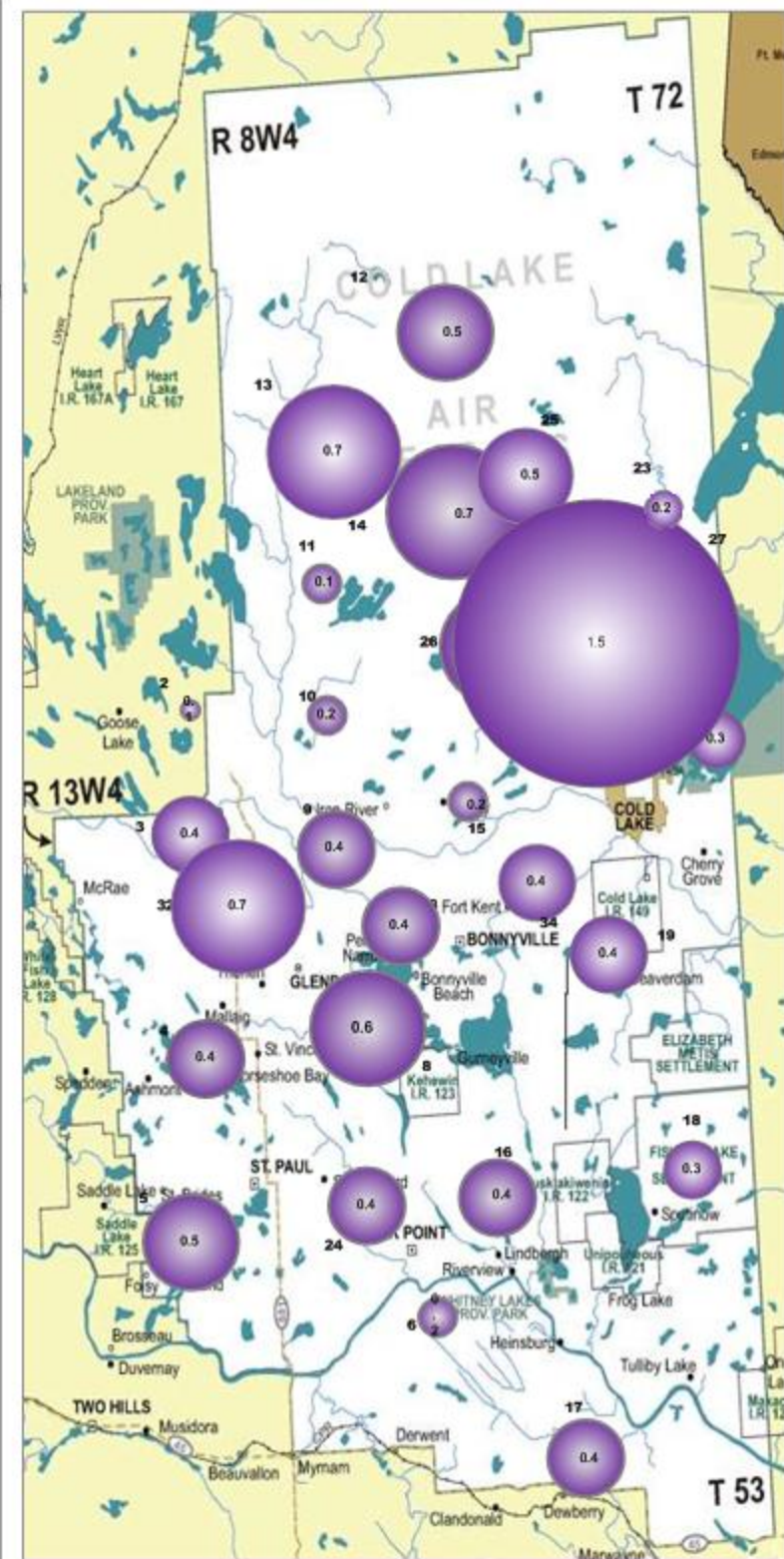
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	0.1 PPB	NA
3 – Therien	0.4 PPB	0.4 PPB
4 – Flat Lake	0.4 PPB	NA
5 – Lake Eliza	0.4 PPB	0.5 PPB
6 – Telegraph Creek	0.2 PPB	NA
8 – Muriel-Kehewin	0.6 PPB	0.6 PPB
9 – Dupre	0.4 PPB	NA
10 – La Corey	0.1 PPB	0.3 PPB
11 – Wolf Lake	0.1 PPB	NA
12 – Foster Creek	0.5 PPB	0.5 PPB
13 – Primrose	0.7 PPB	NA
14 – Maskwa	0.8 PPB	0.8 PPB
15 – Ardmore	0.2 PPB	NA
16 – Frog Lake	0.4 PPB	0.3 PPB
17 – Clear Range	0.4 PPB	NA
18 – Fishing Lake	0.3 PPB	0.3 PPB
19 – Beaverdam	0.4 PPB	NA
22 – Cold Lake South	0.2 PPB	NA
23 – Medley-Martineau	0.2 PPB	0.2 PPB
24 – Fort George	0.4 PPB	NA
25 – Burnt Lake	0.5 PPB	0.5 PPB
26 – Mahikan	0.6 PPB	NA
27 – Mahkeses	1.5 PPB	1.5 PPB
28 – Town of Bonnyville	0.4 PPB	NA
29 – Cold Lake South 2	0.3 PPB	0.3 PPB
32 – St. Lina	0.7 PPB	NA
34 – Portable	0.4 PPB	NA



Summary

Minimum : 0.1 PPB – Sand River and Wolf Lake
 Maximum: 0.8 PPB –Mahkeses
 Average: 0.4 PPB *Includes Duplicates



Passive Field Data

Field Notes

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

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
17	H ₂ S/SO ₂ /NO ₂ /O ₃	11/02/09	10:40	12/01/09	09:35	
17A (Dup)	H ₂ S	11/02/09	10:40	12/01/09	09:35	
18	H ₂ S/SO ₂ /NO ₂ /O ₃	11/02/09	09:05	12/01/09	08:05	
18A (Dup)	SO ₂ /NO ₂ /O ₃	11/02/09	09:05	12/01/09	08:05	
19	SO ₂ /NO ₂ /O ₃	11/02/09	08:00	12/01/09	07:05	
19A (Dup)	NA	NA	NA	NA	NA	
22	H ₂ S/SO ₂ /NO ₂ /O ₃	11/02/09	17:15	11/30/09	15:25	
22A (Dup)	NA	NA	NA	NA	NA	
23	SO ₂ /NO ₂ /O ₃	11/01/09	17:55	11/30/09	14:40	
23A (Dup)	SO ₂ /NO ₂ /O ₃	11/01/09	17:55	11/30/09	14:40	
24	H ₂ S/SO ₂ /NO ₂ /O ₃	11/02/09	12:20	12/01/09	10:55	
24A (Dup)	H ₂ S	11/02/09	12:20	12/01/09	10:55	
25	H ₂ S/SO ₂	11/01/09	15:05	11/30/09	11:55	
25A (Dup)	SO ₂	11/01/09	15:05	11/30/09	11:55	
26	H ₂ S/SO ₂	11/01/09	16:10	11/30/09	12:55	
26A (Dup)	H ₂ S	11/01/09	16:10	11/30/09	12:55	
27	H ₂ S/SO ₂	11/01/09	16:55	11/30/09	13:45	
27A (Dup)	SO ₂	11/01/09	16:55	11/30/09	13:45	
28	SO ₂ /NO ₂ /O ₃	11/01/09	07:55	12/01/09	14:10	
28A (Dup)	NO ₂ /O ₃	11/01/09	07:55	12/01/09	14:10	
29	H ₂ S/SO ₂ /NO ₂ /O ₃	11/02/09	17:05	11/30/09	15:35	
29A (Dup)	H ₂ S/SO ₂	11/02/09	17:05	11/30/09	15:35	
32	H ₂ S/SO ₂ /NO ₂ /O ₃	11/01/09	09:30	11/30/09	06:35	
32A (Dup)	NA	NA	NA	NA	NA	
34	H ₂ S/SO ₂ /NO ₂ /O ₃	11/02/09	15:50	12/04/09	12:00	
34A (Dup)	NA	NA	NA	NA	NA	

Passive Network Laboratory Analysis



Your Project #: 2009/11/01 - 2009/11/30
Site:LICA

Attention: MICHAEL BISAGA

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

Report Date: 2009/12/18

This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A969886

Received: 2009/12/07, 10:20

Sample Matrix: Air
Samples Received: 43

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	26	2009/12/16	2009/12/17		EDM SOP-0320
NO2 Passive Analysis (1)	34	2009/12/17	2009/12/17		EDM SOP-0318
O3 Passive Analysis (1)	34	2009/12/17	2009/12/17		EDM SOP-0317
SO2 Passive Analysis (1)	39	2009/12/15	2009/12/17		EDM SOP-0319

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

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

Encryption Key

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

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

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

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		S07476	S07478	S07479	S07480		
Sampling Date		2009/11/01 10:55	2009/11/01 10:10	2009/11/01 10:10	2009/11/02 13:45		
	Units	2	3	3A (DUP)	4	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb		0.09			0.02	3629220
Calculated NO2	ppb	1.7	2.1	1.8	3.4	0.1	3633030
Calculated O3	ppb	13.3	20.0	18.4	21.3	0.1	3632771
Calculated SO2	ppb	0.1	0.4	0.4	0.4	0.1	3628907
RDL = Reportable Detection Limit							

Maxxam ID		S07482	S07483	S07484	S07485		
Sampling Date		2009/11/02 13:05	2009/11/02 13:05	2009/11/02 11:30	2009/11/02 14:35		
	Units	5	5A	6	8	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb	0.09	0.08			0.02	3629220
Calculated NO2	ppb	3.9	2.9	2.3	2.2	0.1	3633030
Calculated O3	ppb	22.6	21.5	20.9	23.4	0.1	3632771
Calculated SO2	ppb	0.4	0.5	0.2	0.6	0.1	3628907
RDL = Reportable Detection Limit							

Maxxam ID		S07486	S07487	S07488	S07489		
Sampling Date		2009/11/02 14:35	2009/11/01 08:30	2009/11/01 11:55	2009/11/01 11:55		
	Units	8A (DUP)	9	10	10A (DUP)	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb			0.03	<0.02	0.02	3629220
Calculated NO2	ppb	1.8	3.1	4.7	3.6	0.1	3633030
Calculated O3	ppb	25.6	19.1	15.4	15.7	0.1	3632771
Calculated SO2	ppb	0.6	0.4	0.1	0.3	0.1	3628907
RDL = Reportable Detection Limit							

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		S07490	S07491	S07492	S07494		
Sampling Date		2009/11/01 12:35	2009/11/01 13:50	2009/11/01 13:50	2009/11/01 16:35		
	Units	11	12	12A (DUP)	14	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb	0.06	0.05	0.08	0.11	0.02	3629220
Calculated NO2	ppb	1.1	1.9	2.0	3.6	0.1	3633030
Calculated O3	ppb	16.0	22.5	21.0	21.2	0.1	3632771
Calculated SO2	ppb	0.1	0.5	0.5	0.8	0.1	3628907

RDL = Reportable Detection Limit

Maxxam ID		S07495		S07496	S07497		
Sampling Date		2009/11/01 16:35		2009/11/01 07:20	2009/11/02 09:50		
	Units	14A (DUP)	QC Batch	15	16	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb	0.11	3629220		0.10	0.02	3629220
Calculated NO2	ppb	4.2	3633030	2.7	2.6	0.1	3633031
Calculated O3	ppb	19.7	3632771	16.8	18.3	0.1	3632773
Calculated SO2	ppb	0.8	3628907	0.2	0.4	0.1	3628909

RDL = Reportable Detection Limit

Maxxam ID		S07498	S07499	S07500	S07501		
Sampling Date		2009/11/02 09:50	2009/11/02 10:40	2009/11/02 10:40	2009/11/02 09:05		
	Units	16A (DUP)	17	17A (DUP)	18	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb		0.09	0.10	0.08	0.02	3629220
Calculated NO2	ppb	3.9	2.8		2.2	0.1	3633031
Calculated O3	ppb	18.1	18.5		19.2	0.1	3632773
Calculated SO2	ppb	0.3	0.4		0.3	0.1	3628909

RDL = Reportable Detection Limit

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		S07502	S07503	S07505	S07506		
Sampling Date		2009/11/02 09:05	2009/11/02 08:00	2009/11/02 17:15	2009/11/01 17:55		
	Units	18A (DUP)	19	22	23	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb			0.04		0.02	3629220
Calculated NO2	ppb	2.0	1.5	6.2	0.7	0.1	3633031
Calculated O3	ppb	18.2	24.0	15.6	16.4	0.1	3632773
Calculated SO2	ppb	0.3	0.4	0.2	0.2	0.1	3628909
RDL = Reportable Detection Limit							

Maxxam ID		S07507	S07508	S07509	S07510		
Sampling Date		2009/11/01 17:55	2009/11/02 12:20	2009/11/02 12:20	2009/11/01 15:05		
	Units	23A	24	24A	25	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb		0.06	0.11	0.07	0.02	3629220
Calculated NO2	ppb	0.7	4.5			0.1	3633031
Calculated O3	ppb	16.1	17.7			0.1	3632773
Calculated SO2	ppb	0.2	0.4		0.5	0.1	3628909
RDL = Reportable Detection Limit							

Maxxam ID		S07511	S07512	S07513	S07514		
Sampling Date		2009/11/01 15:05	2009/11/01 16:10	2009/11/01 16:55	2009/11/01 16:55		
	Units	25A	26	27	27A (DUP)	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb		0.09	0.16		0.02	3629220
Calculated SO2	ppb	0.5	0.6	1.5	1.5	0.1	3628909
RDL = Reportable Detection Limit							

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		S07515	S07516	S07517	S07518		
Sampling Date		2009/11/01 07:55	2009/11/01 07:55	2009/11/02 17:05	2009/11/02 17:05		
	Units	28	28A (DUP)	29	29A (DUP)	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb			0.07	0.09	0.02	3629220
Calculated NO2	ppb	6.7	5.8	4.7		0.1	3633031
Calculated O3	ppb	14.4	15.4	17.8		0.1	3632773
Calculated SO2	ppb	0.4		0.3	0.3	0.1	3628909
RDL = Reportable Detection Limit							

Maxxam ID		S07519	S07544	S07575	S07576		
Sampling Date		2009/11/01 09:30	2009/11/02 15:50	2009/11/01 15:30	2009/11/01 16:10		
	Units	32	34	13	26A (DUP)	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb	0.10	0.10	0.11	0.11	0.02	3629220
Calculated NO2	ppb	2.7	5.6	1.5		0.1	3633031
Calculated O3	ppb	24.7	20.6	25.2		0.1	3632773
Calculated SO2	ppb	0.7	0.4	0.7		0.1	3628909
RDL = Reportable Detection Limit							



Maxxam Job #: A969886
Report Date: 2009/12/18

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2009/11/01 - 2009/11/30
Site Reference: LICA
Sampler Initials: SB

General Comments

Results relate only to the items tested.

Quality Assurance Report
 Maxxam Job Number: PA969886

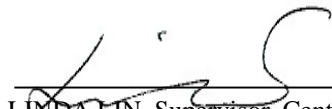
QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3628907 DF4	Calibration Check	Calculated SO2	2009/12/17		101	%	95 - 105
	Spiked Blank	Calculated SO2	2009/12/17		103	%	N/A
	Method Blank	Calculated SO2	2009/12/17	<0.1		ppb	
3628909 DF4	Calibration Check	Calculated SO2	2009/12/17		103	%	95 - 105
	Spiked Blank	Calculated SO2	2009/12/17		105	%	N/A
	Method Blank	Calculated SO2	2009/12/17	<0.1		ppb	
3629220 TM5	Calibration Check	Calculated H2S	2009/12/16		102	%	80 - 120
	Spiked Blank	Calculated H2S	2009/12/16		100	%	N/A
3632771 OZ	Calibration Check	Calculated O3	2009/12/17		104	%	91 - 107
	Spiked Blank	Calculated O3	2009/12/17		99	%	N/A
	Method Blank	Calculated O3	2009/12/17	<0.1		ppb	
3632773 OZ	Calibration Check	Calculated O3	2009/12/17		104	%	91 - 107
	Spiked Blank	Calculated O3	2009/12/17		100	%	N/A
	Method Blank	Calculated O3	2009/12/17	<0.1		ppb	
3633030 DF4	Calibration Check	Calculated NO2	2009/12/17		99	%	76 - 118
	Spiked Blank	Calculated NO2	2009/12/17		101	%	N/A
	Method Blank	Calculated NO2	2009/12/17	<0.1		ppb	
3633031 DF4	Calibration Check	Calculated NO2	2009/12/17		100	%	76 - 118
	Spiked Blank	Calculated NO2	2009/12/17		102	%	N/A
	Method Blank	Calculated NO2	2009/12/17	<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 #: A969886

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



LINDA LIN, Supervisor, Centre for Passive Sampling Technology

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Volatile Organics Laboratory Analysis

Maxxam Analytics Inc.

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167
Location: Cold Lake South Canister ID: 7789 (Maxxam Supplied)
Station ID: Lica 1 Canister Installation Date/Time: Nov 2, 09 @ 17:00 mst
Field Sample ID: LICA VOC/ CLS / Nov 3, 09 Canister Removal Date/Time: Nov 4, 09 @ 07:05 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
03-Nov-09	11/03/2009 0:00	11/04/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	598	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.

Technician Signature: Shea Beaton

Maxxam Analytics Inc.

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167
 Location: Cold Lake South Canister ID: 7614 (Maxxam Supplied)
 Station ID: Lica 1 Canister Installation Date/Time: Nov 6, 09 @ 12:05 mst
 Field Sample ID: LICA VOC/ CLS / Nov 9, 09 Canister Removal Date/Time: Nov 10, 09 @ 06:45 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
09-Nov-09	11/09/2009 0:00	11/10/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	598	25

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

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

Comments: System leak check prior to sampling.

Technician Signature: Shea Beaton



Site: 13-16-62-5 W4M
Your C.O.C. #: 0597

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

Report Date: 2009/11/20

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9F5284
Received: 2009/11/17, 15:41

Sample Matrix: AIR
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	4	N/A	2009/11/18	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	4	N/A	2009/11/18	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

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

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Total cover pages: 1

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

RESULTS OF ANALYSES OF AIR

Maxxam ID		EJ4782	EJ4783	EJ4784		
Sampling Date		2009/11/03	2009/11/09	2009/11/03		
COC Number		0597	0597	0597		
	Units	LICA VOC/CLS/NOV3,09 (7789)	LICA VOC/CLS/NOV9,09 (7614)	LICA VOC/PORT/NOV3,09 (7834)	DL	QC Batch

Volatile Organics						
Pressure on Receipt	psig	19	19	19	N/A	2013423

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam ID		EJ4785		
Sampling Date		2009/11/09		
COC Number		0597		
	Units	LICA VOC/PORT/NOV9,09 (7782)	DL	QC Batch

Volatile Organics				
Pressure on Receipt	psig	19	N/A	2013423

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4782				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/CLS/NOV3,09 (7789)	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2013417
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2013417
Propene	ppbv	<0.30	0.30	<0.516	0.516	2013417
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2013417
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2013417
Dichlorodifluoromethane (FREON 12)	ppbv	0.71	0.20	3.50	0.989	2013417
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2013417
Chloromethane	ppbv	0.50	0.30	1.04	0.620	2013417
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2013417
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2013417
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2013417
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.93	1.12	2013417
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2013417
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2013417
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2013417
2-Propanone	ppbv	1.69	0.80	4.03	1.90	2013417
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2013417
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2013417
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2013417
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2013417
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2013417
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2013417
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2013417
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2013417
Methylene Chloride(Dichloromethane)	ppbv	0.42	0.30	1.47	1.04	2013417
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2013417
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2013417
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2013417
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2013417

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4782				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/CLS/NOV3,09 (7789)	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2013417
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2013417
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2013417
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2013417
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2013417
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2013417
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2013417
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2013417
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2013417
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2013417
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2013417
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2013417
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2013417
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2013417
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2013417
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2013417
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2013417
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2013417
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2013417
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2013417
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2013417
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2013417
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2013417
Hexane	ppbv	0.61	0.30	2.14	1.06	2013417
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2013417
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2013417
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2013417
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2013417
QC Batch = Quality Control Batch						

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4782				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/CLS/NOV3,09 (7789)	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	95		N/A	N/A	2013417
D5-Chlorobenzene	%	96		N/A	N/A	2013417
Difluorobenzene	%	99		N/A	N/A	2013417

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

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4783				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/CLS/NOV9,09 (7614)	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2013417
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2013417
Propene	ppbv	<0.30	0.30	<0.516	0.516	2013417
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2013417
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2013417
Dichlorodifluoromethane (FREON 12)	ppbv	0.75	0.20	3.72	0.989	2013417
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2013417
Chloromethane	ppbv	0.48	0.30	0.990	0.620	2013417
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2013417
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2013417
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2013417
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.05	1.12	2013417
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2013417
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2013417
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2013417
2-Propanone	ppbv	1.54	0.80	3.66	1.90	2013417
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2013417
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2013417
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2013417
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2013417
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2013417
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2013417
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2013417
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2013417
Methylene Chloride(Dichloromethane)	ppbv	0.47	0.30	1.64	1.04	2013417
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2013417
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2013417
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2013417
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2013417

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4783				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/CLS/NOV9,09 (7614)	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2013417
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2013417
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2013417
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2013417
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2013417
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2013417
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2013417
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2013417
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2013417
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2013417
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2013417
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2013417
Benzene	ppbv	0.19	0.18	0.611	0.575	2013417
Toluene	ppbv	0.49	0.20	1.83	0.753	2013417
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2013417
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2013417
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2013417
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2013417
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2013417
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2013417
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2013417
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2013417
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2013417
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2013417
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2013417
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2013417
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2013417
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2013417
QC Batch = Quality Control Batch						

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4783				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/CLS/NOV9,09 (7614)	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	85		N/A	N/A	2013417
D5-Chlorobenzene	%	89		N/A	N/A	2013417
Difluorobenzene	%	90		N/A	N/A	2013417

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

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4784				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/PORT/NOV3,09 (7834)	DL	ug/m3	DL (ug/m3)	QC Batch
Volatiles Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2013417
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2013417
Propene	ppbv	<0.30	0.30	<0.516	0.516	2013417
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2013417
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2013417
Dichlorodifluoromethane (FREON 12)	ppbv	0.75	0.20	3.68	0.989	2013417
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2013417
Chloromethane	ppbv	0.47	0.30	0.980	0.620	2013417
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2013417
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2013417
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2013417
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.07	1.12	2013417
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2013417
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2013417
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2013417
2-Propanone	ppbv	2.04	0.80	4.84	1.90	2013417
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2013417
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2013417
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2013417
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2013417
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2013417
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2013417
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2013417
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2013417
Methylene Chloride(Dichloromethane)	ppbv	0.47	0.30	1.64	1.04	2013417
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2013417
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2013417
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2013417
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2013417
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4784				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/PORT/NOV3,09 (7834)	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2013417
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2013417
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2013417
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2013417
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2013417
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2013417
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2013417
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2013417
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2013417
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2013417
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2013417
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2013417
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2013417
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2013417
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2013417
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2013417
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2013417
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2013417
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2013417
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2013417
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2013417
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2013417
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2013417
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2013417
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2013417
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2013417
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2013417
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2013417
QC Batch = Quality Control Batch						

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4784				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/PORT/NOV3,09 (7834)	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	85		N/A	N/A	2013417
D5-Chlorobenzene	%	88		N/A	N/A	2013417
Difluorobenzene	%	88		N/A	N/A	2013417

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

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4785				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/PORT/NOV9,09 (7782)	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2013417
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2013417
Propene	ppbv	<0.30	0.30	<0.516	0.516	2013417
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2013417
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2013417
Dichlorodifluoromethane (FREON 12)	ppbv	0.75	0.20	3.69	0.989	2013417
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2013417
Chloromethane	ppbv	0.45	0.30	0.940	0.620	2013417
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2013417
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2013417
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2013417
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.07	1.12	2013417
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2013417
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2013417
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2013417
2-Propanone	ppbv	1.88	0.80	4.47	1.90	2013417
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2013417
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2013417
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2013417
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2013417
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2013417
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2013417
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2013417
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2013417
Methylene Chloride(Dichloromethane)	ppbv	0.45	0.30	1.55	1.04	2013417
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2013417
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2013417
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2013417
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2013417

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4785				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/PORT/NOV9,09 (7782)	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2013417
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2013417
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2013417
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2013417
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2013417
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2013417
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2013417
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2013417
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2013417
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2013417
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2013417
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2013417
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2013417
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2013417
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2013417
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2013417
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2013417
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2013417
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2013417
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2013417
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2013417
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2013417
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2013417
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2013417
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2013417
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2013417
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2013417
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2013417
QC Batch = Quality Control Batch						

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4785				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/PORT/NOV9,09 (7782)	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	82		N/A	N/A	2013417
D5-Chlorobenzene	%	84		N/A	N/A	2013417
Difluorobenzene	%	86		N/A	N/A	2013417

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

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

Test Summary

Maxxam ID EJ4782 **Collected** 2009/11/03
Sample ID LICA VOC/CLS/NOV3,09 (7789) **Shipped**
Matrix AIR **Received** 2009/11/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2013423	N/A	2009/11/18	MM2
Volatile Organics in Air (TO-15)	GC/MS	2013417	N/A	2009/11/18	MM2

Maxxam ID EJ4783 **Collected** 2009/11/09
Sample ID LICA VOC/CLS/NOV9,09 (7614) **Shipped**
Matrix AIR **Received** 2009/11/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2013423	N/A	2009/11/18	MM2
Volatile Organics in Air (TO-15)	GC/MS	2013417	N/A	2009/11/18	MM2

Maxxam ID EJ4784 **Collected** 2009/11/03
Sample ID LICA VOC/PORT/NOV3,09 (7834) **Shipped**
Matrix AIR **Received** 2009/11/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2013423	N/A	2009/11/18	MM2
Volatile Organics in Air (TO-15)	GC/MS	2013417	N/A	2009/11/18	MM2

Maxxam ID EJ4785 **Collected** 2009/11/09
Sample ID LICA VOC/PORT/NOV9,09 (7782) **Shipped**
Matrix AIR **Received** 2009/11/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2013423	N/A	2009/11/18	MM2
Volatile Organics in Air (TO-15)	GC/MS	2013417	N/A	2009/11/18	MM2

Maxxam Job #: A9F5284
Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

GENERAL COMMENTS

Results relate only to the items tested.

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report
 Maxxam Job Number: GA9F5284

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2013417 MM2	Spiked Blank	Bromochloromethane	2009/11/18		103	%	60 - 140
		D5-Chlorobenzene	2009/11/18		107	%	60 - 140
		Difluorobenzene	2009/11/18		108	%	60 - 140
		2,2,4-Trimethylpentane	2009/11/18		83	%	70 - 130
		Carbon Disulfide	2009/11/18		102	%	70 - 130
		Propene	2009/11/18		97	%	70 - 130
		Vinyl Acetate	2009/11/18		112	%	70 - 130
		Vinyl Bromide	2009/11/18		102	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/11/18		109	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/11/18		107	%	70 - 130
		Chloromethane	2009/11/18		108	%	70 - 130
		Vinyl Chloride	2009/11/18		107	%	70 - 130
		Chloroethane	2009/11/18		106	%	70 - 130
		1,3-Butadiene	2009/11/18		106	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/11/18		113	%	70 - 130
		Trichlorotrifluoroethane	2009/11/18		104	%	70 - 130
		Ethanol	2009/11/18		77	%	70 - 130
		2-propanol	2009/11/18		102	%	70 - 130
		2-Propanone	2009/11/18		116	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/11/18		103	%	70 - 130
		Methyl Isobutyl Ketone	2009/11/18		96	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/11/18		100	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/11/18		119	%	70 - 130
		Ethyl Acetate	2009/11/18		100	%	70 - 130
		1,1-Dichloroethylene	2009/11/18		101	%	70 - 130
		cis-1,2-Dichloroethylene	2009/11/18		102	%	70 - 130
		trans-1,2-Dichloroethylene	2009/11/18		115	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/11/18		92	%	70 - 130
		Chloroform	2009/11/18		100	%	70 - 130
		Carbon Tetrachloride	2009/11/18		106	%	70 - 130
		1,1-Dichloroethane	2009/11/18		116	%	70 - 130
		1,2-Dichloroethane	2009/11/18		109	%	70 - 130
		Ethylene Dibromide	2009/11/18		95	%	70 - 130
		1,1,1-Trichloroethane	2009/11/18		102	%	70 - 130
		1,1,2-Trichloroethane	2009/11/18		90	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/11/18		91	%	70 - 130
		cis-1,3-Dichloropropene	2009/11/18		97	%	70 - 130
		trans-1,3-Dichloropropene	2009/11/18		101	%	70 - 130
		1,2-Dichloropropane	2009/11/18		91	%	70 - 130
		Bromomethane	2009/11/18		117	%	70 - 130
		Bromoform	2009/11/18		97	%	70 - 130
		Bromodichloromethane	2009/11/18		103	%	70 - 130
		Dibromochloromethane	2009/11/18		97	%	70 - 130
		Heptane	2009/11/18		89	%	70 - 130
		Trichloroethylene	2009/11/18		86	%	70 - 130
		Tetrachloroethylene	2009/11/18		86	%	70 - 130
		Benzene	2009/11/18		86	%	70 - 130
		Toluene	2009/11/18		87	%	70 - 130
		Ethylbenzene	2009/11/18		91	%	70 - 130
		p+m-Xylene	2009/11/18		92	%	70 - 130
		o-Xylene	2009/11/18		92	%	70 - 130
		Styrene	2009/11/18		92	%	70 - 130
		1,3,5-Trimethylbenzene	2009/11/18		90	%	70 - 130
		1,2,4-Trimethylbenzene	2009/11/18		87	%	70 - 130
		4-ethyltoluene	2009/11/18		86	%	70 - 130

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9F5284

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2013417 MM2	Spiked Blank	Chlorobenzene	2009/11/18		87	%	70 - 130
		Benzyl chloride	2009/11/18		85	%	70 - 130
		1,3-Dichlorobenzene	2009/11/18		82	%	70 - 130
		1,4-Dichlorobenzene	2009/11/18		83	%	70 - 130
		1,2-Dichlorobenzene	2009/11/18		75	%	70 - 130
		1,2,4-Trichlorobenzene	2009/11/18		70	%	70 - 130
		Hexachlorobutadiene	2009/11/18		80	%	70 - 130
		Hexane	2009/11/18		99	%	70 - 130
		Cyclohexane	2009/11/18		84	%	70 - 130
		Tetrahydrofuran	2009/11/18		90	%	70 - 130
		1,4-Dioxane	2009/11/18		79	%	70 - 130
	Method Blank	Bromochloromethane	2009/11/18		102	%	60 - 140
		D5-Chlorobenzene	2009/11/18		106	%	60 - 140
		Difluorobenzene	2009/11/18		108	%	60 - 140
		2,2,4-Trimethylpentane	2009/11/18	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/11/18	ND, RDL=0.50		ppbv	
		Propene	2009/11/18	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/11/18	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/11/18	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/11/18	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/11/18	ND, RDL=0.17		ppbv	
		Chloromethane	2009/11/18	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/11/18	ND, RDL=0.18		ppbv	
		Chloroethane	2009/11/18	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/11/18	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/11/18	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/11/18	ND, RDL=0.15		ppbv	
		Ethanol	2009/11/18	ND, RDL=2.3		ppbv	
		2-propanol	2009/11/18	ND, RDL=3.0		ppbv	
		2-Propanone	2009/11/18	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/11/18	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/11/18	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/11/18	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/11/18	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/11/18	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/11/18	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/11/18	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/11/18	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/11/18	0.51, RDL=0.30		ppbv	
		Chloroform	2009/11/18	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/11/18	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/11/18	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/11/18	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/11/18	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/11/18	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/11/18	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/11/18	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/11/18	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/11/18	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/11/18	ND, RDL=0.40		ppbv	
		Bromomethane	2009/11/18	ND, RDL=0.18		ppbv	
		Bromoform	2009/11/18	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/11/18	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/11/18	ND, RDL=0.20		ppbv	
		Heptane	2009/11/18	ND, RDL=0.30		ppbv	

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9F5284

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2013417	MM2	Method Blank					
		Trichloroethylene	2009/11/18	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/11/18	ND, RDL=0.20		ppbv	
		Benzene	2009/11/18	ND, RDL=0.18		ppbv	
		Toluene	2009/11/18	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/11/18	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/11/18	ND, RDL=0.37		ppbv	
		o-Xylene	2009/11/18	ND, RDL=0.20		ppbv	
		Styrene	2009/11/18	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/11/18	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/11/18	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/11/18	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/11/18	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/11/18	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/11/18	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/11/18	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/11/18	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/11/18	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/11/18	ND, RDL=3.0		ppbv	
		Hexane	2009/11/18	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/11/18	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/11/18	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/11/18	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/11/18	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2009/11/18	NC		%	25
		Carbon Disulfide	2009/11/18	2.8		%	25
		Propene	2009/11/18	NC		%	25
		Vinyl Acetate	2009/11/18	NC		%	25
		Vinyl Bromide	2009/11/18	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2009/11/18	NC		%	25
		1,2-Dichlorotetrafluoroethane	2009/11/18	NC		%	25
		Chloromethane	2009/11/18	NC		%	25
		Vinyl Chloride	2009/11/18	NC		%	25
		Chloroethane	2009/11/18	NC		%	25
		1,3-Butadiene	2009/11/18	NC		%	25
		Trichlorofluoromethane (FREON 11)	2009/11/18	NC		%	25
		Trichlorotrifluoroethane	2009/11/18	NC		%	25
		Ethanol	2009/11/18	NC		%	25
		2-propanol	2009/11/18	NC		%	25
		2-Propanone	2009/11/18	5.4		%	25
		Methyl Ethyl Ketone (2-Butanone)	2009/11/18	NC		%	25
		Methyl Isobutyl Ketone	2009/11/18	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2009/11/18	NC		%	25
		Methyl t-butyl ether (MTBE)	2009/11/18	NC		%	25
		Ethyl Acetate	2009/11/18	NC		%	25
		1,1-Dichloroethylene	2009/11/18	NC		%	25
		cis-1,2-Dichloroethylene	2009/11/18	NC		%	25
		trans-1,2-Dichloroethylene	2009/11/18	NC		%	25
		Methylene Chloride(Dichloromethane)	2009/11/18	NC		%	25
		Chloroform	2009/11/18	NC		%	25
		Carbon Tetrachloride	2009/11/18	NC		%	25
		1,1-Dichloroethane	2009/11/18	NC		%	25
		1,2-Dichloroethane	2009/11/18	NC		%	25
		Ethylene Dibromide	2009/11/18	NC		%	25

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9F5284

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2013417 MM2	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2009/11/18	NC		%	25
		1,1,2-Trichloroethane	2009/11/18	NC		%	25
		1,1,2,2-Tetrachloroethane	2009/11/18	NC		%	25
		cis-1,3-Dichloropropene	2009/11/18	NC		%	25
		trans-1,3-Dichloropropene	2009/11/18	NC		%	25
		1,2-Dichloropropane	2009/11/18	NC		%	25
		Bromomethane	2009/11/18	NC		%	25
		Bromoform	2009/11/18	NC		%	25
		Bromodichloromethane	2009/11/18	NC		%	25
		Dibromochloromethane	2009/11/18	NC		%	25
		Heptane	2009/11/18	NC		%	25
		Trichloroethylene	2009/11/18	NC		%	25
		Tetrachloroethylene	2009/11/18	NC		%	25
		Benzene	2009/11/18	NC		%	25
		Toluene	2009/11/18	NC		%	25
		Ethylbenzene	2009/11/18	NC		%	25
		p+m-Xylene	2009/11/18	NC		%	25
		o-Xylene	2009/11/18	NC		%	25
		Styrene	2009/11/18	NC		%	25
		1,3,5-Trimethylbenzene	2009/11/18	NC		%	25
		1,2,4-Trimethylbenzene	2009/11/18	NC		%	25
		4-ethyltoluene	2009/11/18	NC		%	25
		Chlorobenzene	2009/11/18	NC		%	25
		Benzyl chloride	2009/11/18	NC		%	25
		1,3-Dichlorobenzene	2009/11/18	NC		%	25
		1,4-Dichlorobenzene	2009/11/18	NC		%	25
		1,2-Dichlorobenzene	2009/11/18	NC		%	25
		1,2,4-Trichlorobenzene	2009/11/18	NC		%	25
		Hexachlorobutadiene	2009/11/18	NC		%	25
		Hexane	2009/11/18	NC		%	25
		Cyclohexane	2009/11/18	NC		%	25
		Tetrahydrofuran	2009/11/18	NC		%	25
		1,4-Dioxane	2009/11/18	NC		%	25
		Xylene (Total)	2009/11/18	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 Analytics Inc.

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167
 Location: Cold Lake South Canister ID: 7859 (Maxxam Supplied)
 Station ID: Lica 1 Canister Installation Date/Time: Nov 13, 09 @ 07:50 mst
 Field Sample ID: LICA VOC/CLS / Nov 15, 09 Canister Removal Date/Time: Nov 16, 09@ 10:30 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
15-Nov-09	11/15/2009 0:00	11/16/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	598	25

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

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

Comments: System leak check prior to sampling.

Technician Signiture: Shea Beaton



Site Location: COLD LAKE SOUTH 13-16-62-5 W4M
Your C.O.C. #: 5356

Attention: Shea Beaton

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

Report Date: 2009/11/24

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9F5814

Received: 2009/11/18, 13:43

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/11/19	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/11/19	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

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

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

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

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5814

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

Report Date: 2009/11/24

RESULTS OF ANALYSES OF AIR

Maxxam ID		EJ7262	EJ7263		
Sampling Date		2009/11/15	2009/11/15		
COC Number		5356	5356		
	Units	LICA	LICA	DL	QC Batch
		VOC/CLS/NOV15,09-7859	VOC/PORT/NOV15,09-7798		

Volatile Organics					
Pressure on Receipt	psig	19	19	N/A	2014826

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5814
 Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7262				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV15,09-7859				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2014838
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2014838
Propene	ppbv	<0.30	0.30	<0.516	0.516	2014838
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2014838
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2014838
Dichlorodifluoromethane (FREON 12)	ppbv	0.70	0.20	3.47	0.989	2014838
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2014838
Chloromethane	ppbv	0.54	0.30	1.11	0.620	2014838
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2014838
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2014838
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2014838
Trichlorofluoromethane (FREON 11)	ppbv	0.31	0.20	1.77	1.12	2014838
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2014838
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2014838
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2014838
2-Propanone	ppbv	1.95	0.80	4.63	1.90	2014838
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2014838
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2014838
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2014838
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2014838
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2014838
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2014838
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2014838
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2014838
Methylene Chloride(Dichloromethane)	ppbv	1.14	0.30	3.95	1.04	2014838
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2014838
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2014838
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2014838
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2014838
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2014838
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2014838
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2014838

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Lakeland Industry & Community Assoc.

 Maxxam Job #: A9F5814
 Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7262				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV15,09-7859				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2014838
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2014838
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2014838
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2014838
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2014838
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2014838
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2014838
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2014838
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2014838
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2014838
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2014838
Benzene	ppbv	0.30	0.18	0.955	0.575	2014838
Toluene	ppbv	0.41	0.20	1.53	0.753	2014838
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2014838
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2014838
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2014838
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2014838
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2014838
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2014838
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2014838
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2014838
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2014838
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2014838
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2014838
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2014838
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2014838
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2014838
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2014838
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2014838
Surrogate Recovery (%)						
Bromochloromethane	%	90		N/A	N/A	2014838
N/A = Not Applicable QC Batch = Quality Control Batch						

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5814
 Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7262				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV15,09-7859				

D5-Chlorobenzene	%	90		N/A	N/A	2014838
Difluorobenzene	%	91		N/A	N/A	2014838

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

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5814
Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7263				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV15,09-7798				

Volatiles Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2014838
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2014838
Propene	ppbv	<0.30	0.30	<0.516	0.516	2014838
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2014838
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2014838
Dichlorodifluoromethane (FREON 12)	ppbv	0.70	0.20	3.45	0.989	2014838
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2014838
Chloromethane	ppbv	0.52	0.30	1.08	0.620	2014838
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2014838
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2014838
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2014838
Trichlorofluoromethane (FREON 11)	ppbv	0.32	0.20	1.81	1.12	2014838
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2014838
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2014838
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2014838
2-Propanone	ppbv	2.13	0.80	5.05	1.90	2014838
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2014838
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2014838
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2014838
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2014838
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2014838
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2014838
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2014838
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2014838
Methylene Chloride(Dichloromethane)	ppbv	0.47	0.30	1.63	1.04	2014838
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2014838
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2014838
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2014838
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2014838
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2014838
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2014838
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2014838

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Lakeland Industry & Community Assoc.

 Maxxam Job #: A9F5814
 Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7263				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV15,09-7798				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2014838
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2014838
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2014838
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2014838
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2014838
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2014838
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2014838
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2014838
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2014838
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2014838
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2014838
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2014838
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2014838
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2014838
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2014838
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2014838
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2014838
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2014838
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2014838
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2014838
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2014838
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2014838
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2014838
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2014838
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2014838
Cyclohexane	ppbv	0.31	0.20	1.08	0.688	2014838
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2014838
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2014838
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2014838
Surrogate Recovery (%)						
Bromochloromethane	%	88		N/A	N/A	2014838
N/A = Not Applicable QC Batch = Quality Control Batch						

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5814

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

Report Date: 2009/11/24

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7263				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV15,09-7798				

D5-Chlorobenzene	%	88		N/A	N/A	2014838
Difluorobenzene	%	90		N/A	N/A	2014838

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

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5814
 Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

Test Summary

Maxxam ID EJ7262 **Collected** 2009/11/15
Sample ID LICA VOC/CLS/NOV15,09-7859 **Shipped**
Matrix AIR **Received** 2009/11/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2014826	N/A	2009/11/19	LSY
Volatile Organics in Air (TO-15)	GC/MS	2014838	N/A	2009/11/19	LSY

Maxxam ID EJ7263 **Collected** 2009/11/15
Sample ID LICA VOC/PORT/NOV15,09-7798 **Shipped**
Matrix AIR **Received** 2009/11/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2014826	N/A	2009/11/19	LSY
Volatile Organics in Air (TO-15)	GC/MS	2014838	N/A	2009/11/19	LSY

Maxxam Job #: A9F5814
Report Date: 2009/11/24

Lakeland Industry & Community Assoc.

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

GENERAL COMMENTS

Results relate only to the items tested.

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Site Location: COLD LAKE SOUTH 13-16-62-5 W4M

Quality Assurance Report
 Maxxam Job Number: GA9F5814

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2014838 LSY	Spiked Blank	Bromochloromethane	2009/11/19		102	%	60 - 140
		D5-Chlorobenzene	2009/11/19		103	%	60 - 140
		Difluorobenzene	2009/11/19		103	%	60 - 140
		2,2,4-Trimethylpentane	2009/11/19		96	%	70 - 130
		Carbon Disulfide	2009/11/19		96	%	70 - 130
		Propene	2009/11/19		98	%	70 - 130
		Vinyl Acetate	2009/11/19		89	%	70 - 130
		Vinyl Bromide	2009/11/19		98	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/11/19		101	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/11/19		98	%	70 - 130
		Chloromethane	2009/11/19		98	%	70 - 130
		Vinyl Chloride	2009/11/19		97	%	70 - 130
		Chloroethane	2009/11/19		94	%	70 - 130
		1,3-Butadiene	2009/11/19		87	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/11/19		104	%	70 - 130
		Trichlorotrifluoroethane	2009/11/19		96	%	70 - 130
		Ethanol	2009/11/19		90	%	70 - 130
		2-propanol	2009/11/19		96	%	70 - 130
		2-Propanone	2009/11/19		96	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/11/19		107	%	70 - 130
		Methyl Isobutyl Ketone	2009/11/19		106	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/11/19		113	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/11/19		93	%	70 - 130
		Ethyl Acetate	2009/11/19		99	%	70 - 130
		1,1-Dichloroethylene	2009/11/19		96	%	70 - 130
		cis-1,2-Dichloroethylene	2009/11/19		94	%	70 - 130
		trans-1,2-Dichloroethylene	2009/11/19		98	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/11/19		87	%	70 - 130
		Chloroform	2009/11/19		97	%	70 - 130
		Carbon Tetrachloride	2009/11/19		100	%	70 - 130
		1,1-Dichloroethane	2009/11/19		96	%	70 - 130
		1,2-Dichloroethane	2009/11/19		100	%	70 - 130
		Ethylene Dibromide	2009/11/19		98	%	70 - 130
		1,1,1-Trichloroethane	2009/11/19		96	%	70 - 130
		1,1,2-Trichloroethane	2009/11/19		94	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/11/19		91	%	70 - 130
		cis-1,3-Dichloropropene	2009/11/19		94	%	70 - 130
		trans-1,3-Dichloropropene	2009/11/19		95	%	70 - 130
		1,2-Dichloropropane	2009/11/19		92	%	70 - 130
		Bromomethane	2009/11/19		97	%	70 - 130
		Bromoform	2009/11/19		114	%	70 - 130
		Bromodichloromethane	2009/11/19		104	%	70 - 130
		Dibromochloromethane	2009/11/19		111	%	70 - 130
		Heptane	2009/11/19		96	%	70 - 130
		Trichloroethylene	2009/11/19		94	%	70 - 130
		Tetrachloroethylene	2009/11/19		97	%	70 - 130
		Benzene	2009/11/19		92	%	70 - 130
		Toluene	2009/11/19		92	%	70 - 130
		Ethylbenzene	2009/11/19		93	%	70 - 130
		p+m-Xylene	2009/11/19		93	%	70 - 130
		o-Xylene	2009/11/19		93	%	70 - 130
		Styrene	2009/11/19		104	%	70 - 130
		1,3,5-Trimethylbenzene	2009/11/19		93	%	70 - 130
		1,2,4-Trimethylbenzene	2009/11/19		88	%	70 - 130
		4-ethyltoluene	2009/11/19		96	%	70 - 130

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Site Location: COLD LAKE SOUTH 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9F5814

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2014838 LSY	Spiked Blank	Chlorobenzene	2009/11/19		87	%	70 - 130
		Benzyl chloride	2009/11/19		80	%	70 - 130
		1,3-Dichlorobenzene	2009/11/19		88	%	70 - 130
		1,4-Dichlorobenzene	2009/11/19		90	%	70 - 130
		1,2-Dichlorobenzene	2009/11/19		84	%	70 - 130
		1,2,4-Trichlorobenzene	2009/11/19		124	%	70 - 130
		Hexachlorobutadiene	2009/11/19		124	%	70 - 130
		Hexane	2009/11/19		91	%	70 - 130
		Cyclohexane	2009/11/19		94	%	70 - 130
		Tetrahydrofuran	2009/11/19		99	%	70 - 130
		1,4-Dioxane	2009/11/19		101	%	70 - 130
	Method Blank	Bromochloromethane	2009/11/19		95	%	60 - 140
		D5-Chlorobenzene	2009/11/19		95	%	60 - 140
		Difluorobenzene	2009/11/19		97	%	60 - 140
		2,2,4-Trimethylpentane	2009/11/19	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/11/19	ND, RDL=0.50		ppbv	
		Propene	2009/11/19	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/11/19	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/11/19	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/11/19	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/11/19	ND, RDL=0.17		ppbv	
		Chloromethane	2009/11/19	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/11/19	ND, RDL=0.18		ppbv	
		Chloroethane	2009/11/19	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/11/19	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/11/19	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/11/19	ND, RDL=0.15		ppbv	
		Ethanol	2009/11/19	ND, RDL=2.3		ppbv	
		2-propanol	2009/11/19	ND, RDL=3.0		ppbv	
		2-Propanone	2009/11/19	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/11/19	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/11/19	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/11/19	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/11/19	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/11/19	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/11/19	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/11/19	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/11/19	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/11/19	0.42, RDL=0.30		ppbv	
		Chloroform	2009/11/19	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/11/19	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/11/19	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/11/19	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/11/19	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/11/19	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/11/19	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/11/19	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/11/19	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/11/19	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/11/19	ND, RDL=0.40		ppbv	
		Bromomethane	2009/11/19	ND, RDL=0.18		ppbv	
		Bromoform	2009/11/19	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/11/19	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/11/19	ND, RDL=0.20		ppbv	
		Heptane	2009/11/19	ND, RDL=0.30		ppbv	

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Site Location: COLD LAKE SOUTH 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9F5814

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2014838 LSY	Method Blank	Trichloroethylene	2009/11/19	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/11/19	ND, RDL=0.20		ppbv	
		Benzene	2009/11/19	ND, RDL=0.18		ppbv	
		Toluene	2009/11/19	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/11/19	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/11/19	ND, RDL=0.37		ppbv	
		o-Xylene	2009/11/19	ND, RDL=0.20		ppbv	
		Styrene	2009/11/19	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/11/19	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/11/19	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/11/19	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/11/19	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/11/19	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/11/19	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/11/19	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/11/19	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/11/19	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/11/19	ND, RDL=3.0		ppbv	
		Hexane	2009/11/19	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/11/19	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/11/19	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/11/19	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/11/19	ND, RDL=0.60		ppbv	

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

Maxxam Analytics Inc.

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167
 Location: Cold Lake South Canister ID: 7893 (Maxxam Supplied)
 Station ID: Lica 1 Canister Installation Date/Time: Nov 20, 09 @ 08:10 mst
 Field Sample ID: LICA VOC/CLS / Nov 21, 09 Canister Removal Date/Time: Nov 24, 09 @ 10:10 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
21-Nov-09	11/21/2009 0:00	11/22/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	596	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.

Technician Signature: Shea Beaton



Your C.O.C. #: 0726

Attention: Shea Beaton

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

Report Date: 2009/12/04

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G0864

Received: 2009/11/27, 14:05

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	1	N/A	2009/11/30	BRL SOP-00304	EPA TO-15
Canister Pressure (TO-15)	1	N/A	2009/12/01	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	1	N/A	2009/11/30	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	1	N/A	2009/12/01	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: Theresa.Stephenson@MaxxamAnalytics.com
Phone# (905) 817-5763

=====

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

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Your C.O.C. #: 0726

Attention: Shea Beaton

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

Report Date: 2009/12/04

CERTIFICATE OF ANALYSIS

-2-

"signatories", as per section.

Total cover pages: 2

Page 2 of 16

Page 188 of 250

Maxxam Job #: A9G0864
 Report Date: 2009/12/04

RESULTS OF ANALYSES OF AIR

Maxxam ID		EM2941		EM2942		
Sampling Date		2009/11/21		2009/11/21		
COC Number		0726		0726		
	Units	LICA	QC Batch	LICA	DL	QC Batch
		VOC/CLS/NOV21,09-7893		VOC/PORT/NOV21,09-7830		

Volatile Organics						
Pressure on Receipt	psig	19	2025234	19	N/A	2024444

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G0864
 Report Date: 2009/12/04

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EM2941				
Sampling Date		2009/11/21				
COC Number		0726				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV21,09-7893				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2025418
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2025418
Propene	ppbv	0.47	0.30	0.801	0.516	2025418
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2025418
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2025418
Dichlorodifluoromethane (FREON 12)	ppbv	0.64	0.20	3.17	0.989	2025418
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2025418
Chloromethane	ppbv	0.65	0.30	1.35	0.620	2025418
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2025418
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2025418
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2025418
Trichlorofluoromethane (FREON 11)	ppbv	0.29	0.20	1.61	1.12	2025418
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2025418
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2025418
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2025418
2-Propanone	ppbv	1.00	0.80	2.37	1.90	2025418
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2025418
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2025418
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2025418
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2025418
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2025418
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2025418
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2025418
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2025418
Methylene Chloride(Dichloromethane)	ppbv	<0.30	0.30	<1.04	1.04	2025418
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2025418
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2025418
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2025418
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2025418
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2025418
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2025418
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2025418

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G0864
 Report Date: 2009/12/04

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EM2941				
Sampling Date		2009/11/21				
COC Number		0726				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV21,09-7893				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2025418
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2025418
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2025418
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2025418
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2025418
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2025418
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2025418
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2025418
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2025418
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2025418
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2025418
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2025418
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2025418
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2025418
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2025418
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2025418
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2025418
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2025418
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2025418
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2025418
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2025418
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2025418
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2025418
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2025418
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2025418
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2025418
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2025418
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2025418
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2025418
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2025418
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2025418
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2025418
Surrogate Recovery (%)						
Bromochloromethane	%	121		N/A	N/A	2025418
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: A9G0864
 Report Date: 2009/12/04

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EM2941				
Sampling Date		2009/11/21				
COC Number		0726				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV21,09-7893				

D5-Chlorobenzene	%	109		N/A	N/A	2025418
Difluorobenzene	%	116		N/A	N/A	2025418

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

Maxxam Job #: A9G0864
 Report Date: 2009/12/04

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EM2942				
Sampling Date		2009/11/21				
COC Number		0726				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV21,09-7830				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2024557
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2024557
Propene	ppbv	0.40	0.30	0.680	0.516	2024557
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2024557
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2024557
Dichlorodifluoromethane (FREON 12)	ppbv	0.54	0.20	2.68	0.989	2024557
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2024557
Chloromethane	ppbv	0.56	0.30	1.15	0.620	2024557
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2024557
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2024557
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2024557
Trichlorofluoromethane (FREON 11)	ppbv	0.24	0.20	1.37	1.12	2024557
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2024557
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2024557
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2024557
2-Propanone	ppbv	1.06	0.80	2.52	1.90	2024557
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2024557
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2024557
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2024557
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2024557
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2024557
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2024557
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2024557
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2024557
Methylene Chloride(Dichloromethane)	ppbv	0.30	0.30	1.05	1.04	2024557
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2024557
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2024557
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2024557
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2024557
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2024557
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2024557
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2024557

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EM2942				
Sampling Date		2009/11/21				
COC Number		0726				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV21,09-7830				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2024557
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2024557
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2024557
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2024557
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2024557
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2024557
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2024557
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2024557
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2024557
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2024557
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2024557
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2024557
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2024557
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2024557
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2024557
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2024557
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2024557
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2024557
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2024557
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2024557
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2024557
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2024557
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2024557
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2024557
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2024557
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2024557
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2024557
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2024557
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2024557
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2024557
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2024557
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2024557
Surrogate Recovery (%)						
Bromochloromethane	%	132		N/A	N/A	2024557
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: A9G0864
 Report Date: 2009/12/04

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EM2942				
Sampling Date		2009/11/21				
COC Number		0726				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV21,09-7830				

D5-Chlorobenzene	%	118		N/A	N/A	2024557
Difluorobenzene	%	128		N/A	N/A	2024557

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

Maxxam Job #: A9G0864
 Report Date: 2009/12/04

Test Summary

Maxxam ID EM2941 **Collected** 2009/11/21
Sample ID LICA VOC/CLS/NOV21,09-7893 **Shipped**
Matrix AIR **Received** 2009/11/27

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2025234	N/A	2009/12/01	S_S
Volatile Organics in Air (TO-15)	GC/MS	2025418	N/A	2009/12/01	S_S

Maxxam ID EM2942 **Collected** 2009/11/21
Sample ID LICA VOC/PORT/NOV21,09-7830 **Shipped**
Matrix AIR **Received** 2009/11/27

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2024444	N/A	2009/11/30	S_S
Volatile Organics in Air (TO-15)	GC/MS	2024557	N/A	2009/11/30	S_S

Maxxam Job #: A9G0864
Report Date: 2009/12/04

GENERAL COMMENTS

Results relate only to the items tested.

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
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Quality Assurance Report
 Maxxam Job Number: GA9G0864

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2024557 S_S	Spiked Blank	Bromochloromethane	2009/11/30		97	%	60 - 140
		D5-Chlorobenzene	2009/11/30		98	%	60 - 140
		Difluorobenzene	2009/11/30		99	%	60 - 140
		2,2,4-Trimethylpentane	2009/11/30		91	%	70 - 130
		Carbon Disulfide	2009/11/30		89	%	70 - 130
		Propene	2009/11/30		104	%	70 - 130
		Vinyl Acetate	2009/11/30		94	%	70 - 130
		Vinyl Bromide	2009/11/30		93	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/11/30		110	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/11/30		103	%	70 - 130
		Chloromethane	2009/11/30		94	%	70 - 130
		Vinyl Chloride	2009/11/30		97	%	70 - 130
		Chloroethane	2009/11/30		91	%	70 - 130
		1,3-Butadiene	2009/11/30		92	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/11/30		110	%	70 - 130
		Trichlorotrifluoroethane	2009/11/30		88	%	70 - 130
		Ethanol	2009/11/30		100	%	70 - 130
		2-propanol	2009/11/30		90	%	70 - 130
		2-Propanone	2009/11/30		120	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/11/30		98	%	70 - 130
		Methyl Isobutyl Ketone	2009/11/30		93	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/11/30		95	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/11/30		105	%	70 - 130
		Ethyl Acetate	2009/11/30		94	%	70 - 130
		1,1-Dichloroethylene	2009/11/30		88	%	70 - 130
		cis-1,2-Dichloroethylene	2009/11/30		91	%	70 - 130
		trans-1,2-Dichloroethylene	2009/11/30		97	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/11/30		82	%	70 - 130
		Chloroform	2009/11/30		92	%	70 - 130
		Carbon Tetrachloride	2009/11/30		116	%	70 - 130
		1,1-Dichloroethane	2009/11/30		89	%	70 - 130
		1,2-Dichloroethane	2009/11/30		103	%	70 - 130
		Ethylene Dibromide	2009/11/30		95	%	70 - 130
		1,1,1-Trichloroethane	2009/11/30		109	%	70 - 130
		1,1,2-Trichloroethane	2009/11/30		88	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/11/30		84	%	70 - 130
		cis-1,3-Dichloropropene	2009/11/30		100	%	70 - 130
		trans-1,3-Dichloropropene	2009/11/30		110	%	70 - 130
		1,2-Dichloropropane	2009/11/30		83	%	70 - 130
		Bromomethane	2009/11/30		91	%	70 - 130
		Bromoform	2009/11/30		108	%	70 - 130
		Bromodichloromethane	2009/11/30		106	%	70 - 130
		Dibromochloromethane	2009/11/30		110	%	70 - 130
		Heptane	2009/11/30		99	%	70 - 130
		Trichloroethylene	2009/11/30		92	%	70 - 130
		Tetrachloroethylene	2009/11/30		95	%	70 - 130
		Benzene	2009/11/30		92	%	70 - 130
		Toluene	2009/11/30		100	%	70 - 130
		Ethylbenzene	2009/11/30		98	%	70 - 130
		p+m-Xylene	2009/11/30		101	%	70 - 130
		o-Xylene	2009/11/30		103	%	70 - 130
		Styrene	2009/11/30		87	%	70 - 130
		1,3,5-Trimethylbenzene	2009/11/30		100	%	70 - 130
		1,2,4-Trimethylbenzene	2009/11/30		101	%	70 - 130
		4-ethyltoluene	2009/11/30		106	%	70 - 130

Lakeland Industry & Community Assoc.
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Quality Assurance Report (Continued)

Maxxam Job Number: GA9G0864

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits	
2024557 S_S	Spiked Blank	Chlorobenzene	2009/11/30		87	%	70 - 130	
		Benzyl chloride	2009/11/30		105	%	70 - 130	
1,3-Dichlorobenzene		2009/11/30		93	%	70 - 130		
1,4-Dichlorobenzene		2009/11/30		96	%	70 - 130		
1,2-Dichlorobenzene		2009/11/30		91	%	70 - 130		
1,2,4-Trichlorobenzene		2009/11/30		86	%	70 - 130		
Hexachlorobutadiene		2009/11/30		85	%	70 - 130		
Hexane		2009/11/30		91	%	70 - 130		
Cyclohexane		2009/11/30		100	%	70 - 130		
Tetrahydrofuran		2009/11/30		91	%	70 - 130		
Method Blank	Method Blank	1,4-Dioxane	2009/11/30		97	%	70 - 130	
		Bromochloromethane	2009/11/30		77	%	60 - 140	
		D5-Chlorobenzene	2009/11/30		67	%	60 - 140	
		Difluorobenzene	2009/11/30		73	%	60 - 140	
		2,2,4-Trimethylpentane	2009/11/30	ND, RDL=0.20			ppbv	
		Carbon Disulfide	2009/11/30	ND, RDL=0.50			ppbv	
		Propene	2009/11/30	ND, RDL=0.30			ppbv	
		Vinyl Acetate	2009/11/30	ND, RDL=0.20			ppbv	
		Vinyl Bromide	2009/11/30	ND, RDL=0.20			ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/11/30	ND, RDL=0.20			ppbv	
		1,2-Dichlorotetrafluoroethane	2009/11/30	ND, RDL=0.17			ppbv	
		Chloromethane	2009/11/30	ND, RDL=0.30			ppbv	
		Vinyl Chloride	2009/11/30	ND, RDL=0.18			ppbv	
		Chloroethane	2009/11/30	ND, RDL=0.30			ppbv	
		1,3-Butadiene	2009/11/30	ND, RDL=0.50			ppbv	
		Trichlorofluoromethane (FREON 11)	2009/11/30	ND, RDL=0.20			ppbv	
		Trichlorotrifluoroethane	2009/11/30	ND, RDL=0.15			ppbv	
		Ethanol	2009/11/30	ND, RDL=2.3			ppbv	
		2-propanol	2009/11/30	ND, RDL=3.0			ppbv	
		2-Propanone	2009/11/30	ND, RDL=0.80			ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/11/30	ND, RDL=3.0			ppbv	
		Methyl Isobutyl Ketone	2009/11/30	ND, RDL=3.2			ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/11/30	ND, RDL=2.0			ppbv	
		Methyl t-butyl ether (MTBE)	2009/11/30	ND, RDL=0.20			ppbv	
		Ethyl Acetate	2009/11/30	ND, RDL=2.2			ppbv	
		1,1-Dichloroethylene	2009/11/30	ND, RDL=0.25			ppbv	
		cis-1,2-Dichloroethylene	2009/11/30	ND, RDL=0.19			ppbv	
		trans-1,2-Dichloroethylene	2009/11/30	ND, RDL=0.20			ppbv	
		Methylene Chloride(Dichloromethane)	2009/11/30	ND, RDL=0.30			ppbv	
		Chloroform	2009/11/30	ND, RDL=0.15			ppbv	
		Carbon Tetrachloride	2009/11/30	ND, RDL=0.30			ppbv	
		1,1-Dichloroethane	2009/11/30	ND, RDL=0.20			ppbv	
		1,2-Dichloroethane	2009/11/30	ND, RDL=0.20			ppbv	
		Ethylene Dibromide	2009/11/30	ND, RDL=0.17			ppbv	
		1,1,1-Trichloroethane	2009/11/30	ND, RDL=0.30			ppbv	
		1,1,2-Trichloroethane	2009/11/30	ND, RDL=0.15			ppbv	
		1,1,2,2-Tetrachloroethane	2009/11/30	ND, RDL=0.20			ppbv	
		cis-1,3-Dichloropropene	2009/11/30	ND, RDL=0.18			ppbv	
trans-1,3-Dichloropropene	2009/11/30	ND, RDL=0.17			ppbv			
1,2-Dichloropropane	2009/11/30	ND, RDL=0.40			ppbv			
Bromomethane	2009/11/30	ND, RDL=0.18			ppbv			
Bromoform	2009/11/30	ND, RDL=0.20			ppbv			
Bromodichloromethane	2009/11/30	ND, RDL=0.20			ppbv			
Dibromochloromethane	2009/11/30	ND, RDL=0.20			ppbv			
Heptane	2009/11/30	ND, RDL=0.30			ppbv			

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Quality Assurance Report (Continued)

Maxxam Job Number: GA9G0864

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2024557 S_S	Method Blank	Trichloroethylene	2009/11/30	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/11/30	ND, RDL=0.20		ppbv	
		Benzene	2009/11/30	ND, RDL=0.18		ppbv	
		Toluene	2009/11/30	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/11/30	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/11/30	ND, RDL=0.37		ppbv	
		o-Xylene	2009/11/30	ND, RDL=0.20		ppbv	
		Styrene	2009/11/30	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/11/30	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/11/30	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/11/30	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/11/30	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/11/30	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/11/30	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/11/30	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/11/30	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/11/30	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/11/30	ND, RDL=3.0		ppbv	
		Hexane	2009/11/30	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/11/30	ND, RDL=0.20		ppbv	
Tetrahydrofuran	2009/11/30	ND, RDL=0.40		ppbv			
1,4-Dioxane	2009/11/30	ND, RDL=2.0		ppbv			
Xylene (Total)	2009/11/30	ND, RDL=0.60		ppbv			
2025418 S_S	Spiked Blank	Bromochloromethane	2009/12/01		103	%	60 - 140
		D5-Chlorobenzene	2009/12/01		104	%	60 - 140
		Difluorobenzene	2009/12/01		104	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/01		86	%	70 - 130
		Carbon Disulfide	2009/12/01		85	%	70 - 130
		Propene	2009/12/01		100	%	70 - 130
		Vinyl Acetate	2009/12/01		90	%	70 - 130
		Vinyl Bromide	2009/12/01		91	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/12/01		107	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/12/01		100	%	70 - 130
		Chloromethane	2009/12/01		93	%	70 - 130
		Vinyl Chloride	2009/12/01		94	%	70 - 130
		Chloroethane	2009/12/01		85	%	70 - 130
		1,3-Butadiene	2009/12/01		89	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/12/01		108	%	70 - 130
		Trichlorotrifluoroethane	2009/12/01		86	%	70 - 130
		Ethanol	2009/12/01		100	%	70 - 130
		2-propanol	2009/12/01		87	%	70 - 130
		2-Propanone	2009/12/01		117	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/12/01		93	%	70 - 130
		Methyl Isobutyl Ketone	2009/12/01		90	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/12/01		91	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/12/01		102	%	70 - 130
		Ethyl Acetate	2009/12/01		90	%	70 - 130
		1,1-Dichloroethylene	2009/12/01		87	%	70 - 130
		cis-1,2-Dichloroethylene	2009/12/01		88	%	70 - 130
		trans-1,2-Dichloroethylene	2009/12/01		93	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/12/01		79	%	70 - 130
		Chloroform	2009/12/01		89	%	70 - 130
		Carbon Tetrachloride	2009/12/01		115	%	70 - 130
1,1-Dichloroethane	2009/12/01		86	%	70 - 130		
1,2-Dichloroethane	2009/12/01		100	%	70 - 130		

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
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Quality Assurance Report (Continued)
 Maxxam Job Number: GA9G0864

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2025418 S_S	Spiked Blank	Ethylene Dibromide	2009/12/01		91	%	70 - 130
		1,1,1-Trichloroethane	2009/12/01		109	%	70 - 130
		1,1,2-Trichloroethane	2009/12/01		85	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/12/01		81	%	70 - 130
		cis-1,3-Dichloropropene	2009/12/01		96	%	70 - 130
		trans-1,3-Dichloropropene	2009/12/01		107	%	70 - 130
		1,2-Dichloropropane	2009/12/01		79	%	70 - 130
		Bromomethane	2009/12/01		87	%	70 - 130
		Bromoform	2009/12/01		107	%	70 - 130
		Bromodichloromethane	2009/12/01		103	%	70 - 130
		Dibromochloromethane	2009/12/01		107	%	70 - 130
		Heptane	2009/12/01		94	%	70 - 130
		Trichloroethylene	2009/12/01		89	%	70 - 130
		Tetrachloroethylene	2009/12/01		91	%	70 - 130
		Benzene	2009/12/01		88	%	70 - 130
		Toluene	2009/12/01		95	%	70 - 130
		Ethylbenzene	2009/12/01		96	%	70 - 130
		p+m-Xylene	2009/12/01		99	%	70 - 130
		o-Xylene	2009/12/01		100	%	70 - 130
		Styrene	2009/12/01		83	%	70 - 130
		1,3,5-Trimethylbenzene	2009/12/01		99	%	70 - 130
		1,2,4-Trimethylbenzene	2009/12/01		98	%	70 - 130
		4-ethyltoluene	2009/12/01		103	%	70 - 130
		Chlorobenzene	2009/12/01		84	%	70 - 130
		Benzyl chloride	2009/12/01		103	%	70 - 130
		1,3-Dichlorobenzene	2009/12/01		91	%	70 - 130
		1,4-Dichlorobenzene	2009/12/01		94	%	70 - 130
		1,2-Dichlorobenzene	2009/12/01		89	%	70 - 130
		1,2,4-Trichlorobenzene	2009/12/01		85	%	70 - 130
		Hexachlorobutadiene	2009/12/01		85	%	70 - 130
		Hexane	2009/12/01		87	%	70 - 130
		Cyclohexane	2009/12/01		95	%	70 - 130
		Tetrahydrofuran	2009/12/01		87	%	70 - 130
		1,4-Dioxane	2009/12/01		93	%	70 - 130
	Method Blank	Bromochloromethane	2009/12/01		101	%	60 - 140
		D5-Chlorobenzene	2009/12/01		90	%	60 - 140
		Difluorobenzene	2009/12/01		99	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/01	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/12/01	ND, RDL=0.50		ppbv	
		Propene	2009/12/01	0.35, RDL=0.30		ppbv	
		Vinyl Acetate	2009/12/01	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/12/01	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/12/01	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/12/01	ND, RDL=0.17		ppbv	
		Chloromethane	2009/12/01	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/12/01	ND, RDL=0.18		ppbv	
		Chloroethane	2009/12/01	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/12/01	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/12/01	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/12/01	ND, RDL=0.15		ppbv	
		Ethanol	2009/12/01	ND, RDL=2.3		ppbv	
		2-propanol	2009/12/01	ND, RDL=3.0		ppbv	
		2-Propanone	2009/12/01	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/12/01	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/12/01	ND, RDL=3.2		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G0864

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2025418 S_S	Method Blank	Methyl Butyl Ketone (2-Hexanone)	2009/12/01	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/12/01	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/12/01	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/12/01	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/12/01	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/12/01	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/12/01	ND, RDL=0.30		ppbv	
		Chloroform	2009/12/01	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/12/01	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/12/01	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/12/01	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/12/01	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/12/01	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/12/01	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/12/01	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/12/01	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/12/01	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/12/01	ND, RDL=0.40		ppbv	
		Bromomethane	2009/12/01	ND, RDL=0.18		ppbv	
		Bromoform	2009/12/01	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/12/01	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/12/01	ND, RDL=0.20		ppbv	
		Heptane	2009/12/01	ND, RDL=0.30		ppbv	
		Trichloroethylene	2009/12/01	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/12/01	ND, RDL=0.20		ppbv	
		Benzene	2009/12/01	ND, RDL=0.18		ppbv	
		Toluene	2009/12/01	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/12/01	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/12/01	ND, RDL=0.37		ppbv	
		o-Xylene	2009/12/01	ND, RDL=0.20		ppbv	
		Styrene	2009/12/01	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/12/01	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/12/01	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/12/01	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/12/01	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/12/01	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/12/01	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/12/01	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/12/01	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/12/01	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/12/01	ND, RDL=3.0		ppbv	
		Hexane	2009/12/01	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/12/01	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/12/01	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/12/01	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/12/01	ND, RDL=0.60		ppbv	

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

Maxxam Analytics Inc.

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167
 Location: Cold Lake South Canister ID: 7800 (Maxxam Supplied)
 Station ID: Lica 1 Canister Installation Date/Time: Nov 26, 09 @ 08:00 mst
 Field Sample ID: LICA VOC/ CLS / Nov 27, 09 Canister Removal Date/Time: Nov 30, 09 @ 06:10 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
27-Nov-09	11/27/2009 0:00	11/28/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	596	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.

Technician Signature: Shea Beaton



Site: 13-16-62-5 W4M
Your C.O.C. #: 5468

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

Report Date: 2009/12/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G4910
Received: 2009/12/05, 12:09

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/12/07	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/12/07	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

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

=====

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

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

Lakeland Industry & Community Assoc.

Maxxam Job #: A9G4910
 Report Date: 2009/12/11

Project name: 13-16-62-5 W4M

RESULTS OF ANALYSES OF AIR

Maxxam ID		EO3508	EO3509		
Sampling Date		2009/11/27	2009/11/27		
COC Number		5468	5468		
	Units	LICA	LICA	DL	QC Batch
		VOC/CLS/NOV27,09	VOC/PORT/NOV27,09		

Volatile Organics					
Pressure on Receipt	psig	19	19	N/A	2031019

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3508				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV27,09				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2031051
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2031051
Propene	ppbv	<0.30	0.30	<0.516	0.516	2031051
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2031051
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2031051
Dichlorodifluoromethane (FREON 12)	ppbv	0.73	0.20	3.59	0.989	2031051
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2031051
Chloromethane	ppbv	0.60	0.30	1.25	0.620	2031051
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2031051
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2031051
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2031051
Trichlorofluoromethane (FREON 11)	ppbv	0.33	0.20	1.88	1.12	2031051
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2031051
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2031051
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2031051
2-Propanone	ppbv	1.60	0.80	3.81	1.90	2031051
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2031051
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2031051
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2031051
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2031051
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2031051
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2031051
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2031051
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2031051
Methylene Chloride(Dichloromethane)	ppbv	0.47	0.30	1.65	1.04	2031051
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2031051
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2031051
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2031051
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2031051
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2031051
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2031051
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2031051
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3508				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV27,09				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2031051
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2031051
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2031051
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2031051
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2031051
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2031051
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2031051
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2031051
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2031051
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2031051
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2031051
Benzene	ppbv	0.27	0.18	0.851	0.575	2031051
Toluene	ppbv	0.21	0.20	0.809	0.753	2031051
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2031051
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2031051
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2031051
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2031051
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2031051
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2031051
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2031051
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2031051
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2031051
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2031051
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2031051
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2031051
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2031051
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2031051
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2031051
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2031051
Surrogate Recovery (%)						
Bromochloromethane	%	86		N/A	N/A	2031051
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: A9G4910
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3508				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV27,09				

D5-Chlorobenzene	%	86		N/A	N/A	2031051
Difluorobenzene	%	87		N/A	N/A	2031051

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

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3509				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV27,09				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2031051
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2031051
Propene	ppbv	<0.30	0.30	<0.516	0.516	2031051
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2031051
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2031051
Dichlorodifluoromethane (FREON 12)	ppbv	0.74	0.20	3.65	0.989	2031051
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2031051
Chloromethane	ppbv	0.59	0.30	1.23	0.620	2031051
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2031051
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2031051
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2031051
Trichlorofluoromethane (FREON 11)	ppbv	0.33	0.20	1.86	1.12	2031051
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2031051
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2031051
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2031051
2-Propanone	ppbv	1.46	0.80	3.48	1.90	2031051
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2031051
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2031051
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2031051
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2031051
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2031051
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2031051
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2031051
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2031051
Methylene Chloride(Dichloromethane)	ppbv	0.60	0.30	2.09	1.04	2031051
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2031051
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2031051
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2031051
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2031051
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2031051
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2031051
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2031051
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3509				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV27,09				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2031051
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2031051
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2031051
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2031051
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2031051
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2031051
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2031051
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2031051
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2031051
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2031051
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2031051
Benzene	ppbv	0.21	0.18	0.678	0.575	2031051
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2031051
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2031051
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2031051
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2031051
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2031051
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2031051
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2031051
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2031051
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2031051
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2031051
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2031051
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2031051
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2031051
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2031051
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2031051
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2031051
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2031051
Surrogate Recovery (%)						
Bromochloromethane	%	84		N/A	N/A	2031051
N/A = Not Applicable QC Batch = Quality Control Batch						

Lakeland Industry & Community Assoc.

Maxxam Job #: A9G4910
 Report Date: 2009/12/11

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3509				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV27,09				

D5-Chlorobenzene	%	84		N/A	N/A	2031051
Difluorobenzene	%	86		N/A	N/A	2031051

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

Maxxam Job #: A9G4910
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

Test Summary

Maxxam ID EO3508 **Collected** 2009/11/27
Sample ID LICA VOC/CLS/NOV27,09 **Shipped**
Matrix AIR **Received** 2009/12/05

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2031019	N/A	2009/12/07	LSY
Volatile Organics in Air (TO-15)	GC/MS	2031051	N/A	2009/12/07	LSY

Maxxam ID EO3509 **Collected** 2009/11/27
Sample ID LICA VOC/PORT/NOV27,09 **Shipped**
Matrix AIR **Received** 2009/12/05

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2031019	N/A	2009/12/07	LSY
Volatile Organics in Air (TO-15)	GC/MS	2031051	N/A	2009/12/07	LSY

Maxxam Job #: A9G4910
Report Date: 2009/12/11

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

GENERAL COMMENTS

Results relate only to the items tested.

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report

Maxxam Job Number: GA9G4910

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2031051 LSY	Spiked Blank	Bromochloromethane	2009/12/07		106	%	60 - 140
		D5-Chlorobenzene	2009/12/07		105	%	60 - 140
		Difluorobenzene	2009/12/07		107	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/07		90	%	70 - 130
		Carbon Disulfide	2009/12/07		91	%	70 - 130
		Propene	2009/12/07		91	%	70 - 130
		Vinyl Acetate	2009/12/07		100	%	70 - 130
		Vinyl Bromide	2009/12/07		92	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/12/07		93	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/12/07		81	%	70 - 130
		Chloromethane	2009/12/07		88	%	70 - 130
		Vinyl Chloride	2009/12/07		93	%	70 - 130
		Chloroethane	2009/12/07		91	%	70 - 130
		1,3-Butadiene	2009/12/07		80	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/12/07		93	%	70 - 130
		Trichlorotrifluoroethane	2009/12/07		92	%	70 - 130
		Ethanol	2009/12/07		76	%	70 - 130
		2-propanol	2009/12/07		88	%	70 - 130
		2-Propanone	2009/12/07		89	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/12/07		96	%	70 - 130
		Methyl Isobutyl Ketone	2009/12/07		88	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/12/07		87	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/12/07		96	%	70 - 130
		Ethyl Acetate	2009/12/07		89	%	70 - 130
		1,1-Dichloroethylene	2009/12/07		92	%	70 - 130
		cis-1,2-Dichloroethylene	2009/12/07		90	%	70 - 130
		trans-1,2-Dichloroethylene	2009/12/07		92	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/12/07		81	%	70 - 130
		Chloroform	2009/12/07		91	%	70 - 130
		Carbon Tetrachloride	2009/12/07		97	%	70 - 130
		1,1-Dichloroethane	2009/12/07		90	%	70 - 130
		1,2-Dichloroethane	2009/12/07		89	%	70 - 130
		Ethylene Dibromide	2009/12/07		87	%	70 - 130
		1,1,1-Trichloroethane	2009/12/07		94	%	70 - 130
		1,1,2-Trichloroethane	2009/12/07		91	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/12/07		85	%	70 - 130
		cis-1,3-Dichloropropene	2009/12/07		97	%	70 - 130
		trans-1,3-Dichloropropene	2009/12/07		95	%	70 - 130
		1,2-Dichloropropane	2009/12/07		90	%	70 - 130
		Bromomethane	2009/12/07		88	%	70 - 130
		Bromoform	2009/12/07		98	%	70 - 130
		Bromodichloromethane	2009/12/07		95	%	70 - 130
		Dibromochloromethane	2009/12/07		94	%	70 - 130
		Heptane	2009/12/07		90	%	70 - 130
		Trichloroethylene	2009/12/07		91	%	70 - 130
		Tetrachloroethylene	2009/12/07		91	%	70 - 130
		Benzene	2009/12/07		89	%	70 - 130
		Toluene	2009/12/07		90	%	70 - 130
		Ethylbenzene	2009/12/07		88	%	70 - 130
		p+m-Xylene	2009/12/07		89	%	70 - 130
		o-Xylene	2009/12/07		88	%	70 - 130
		Styrene	2009/12/07		90	%	70 - 130
		1,3,5-Trimethylbenzene	2009/12/07		80	%	70 - 130
		1,2,4-Trimethylbenzene	2009/12/07		77	%	70 - 130
		4-ethyltoluene	2009/12/07		82	%	70 - 130

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G4910

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2031051 LSY	Spiked Blank	Chlorobenzene	2009/12/07		88	%	70 - 130
		Benzyl chloride	2009/12/07		89	%	70 - 130
		1,3-Dichlorobenzene	2009/12/07		78	%	70 - 130
		1,4-Dichlorobenzene	2009/12/07		75	%	70 - 130
		1,2-Dichlorobenzene	2009/12/07		74	%	70 - 130
		1,2,4-Trichlorobenzene	2009/12/07		106	%	70 - 130
		Hexachlorobutadiene	2009/12/07		111	%	70 - 130
		Hexane	2009/12/07		87	%	70 - 130
		Cyclohexane	2009/12/07		91	%	70 - 130
		Tetrahydrofuran	2009/12/07		89	%	70 - 130
		1,4-Dioxane	2009/12/07		81	%	70 - 130
	Method Blank	Bromochloromethane	2009/12/07		94	%	60 - 140
		D5-Chlorobenzene	2009/12/07		93	%	60 - 140
		Difluorobenzene	2009/12/07		96	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/07	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/12/07	ND, RDL=0.50		ppbv	
		Propene	2009/12/07	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/12/07	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/12/07	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/12/07	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/12/07	ND, RDL=0.17		ppbv	
		Chloromethane	2009/12/07	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/12/07	ND, RDL=0.18		ppbv	
		Chloroethane	2009/12/07	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/12/07	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/12/07	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/12/07	ND, RDL=0.15		ppbv	
		Ethanol	2009/12/07	ND, RDL=2.3		ppbv	
		2-propanol	2009/12/07	ND, RDL=3.0		ppbv	
		2-Propanone	2009/12/07	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/12/07	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/12/07	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/12/07	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/12/07	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/12/07	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/12/07	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/12/07	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/12/07	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/12/07	0.40, RDL=0.30		ppbv	
		Chloroform	2009/12/07	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/12/07	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/12/07	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/12/07	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/12/07	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/12/07	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/12/07	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/12/07	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/12/07	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/12/07	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/12/07	ND, RDL=0.40		ppbv	
		Bromomethane	2009/12/07	ND, RDL=0.18		ppbv	
		Bromoform	2009/12/07	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/12/07	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/12/07	ND, RDL=0.20		ppbv	
		Heptane	2009/12/07	ND, RDL=0.30		ppbv	

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G4910

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2031051 LSY	Method Blank	Trichloroethylene	2009/12/07	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/12/07	ND, RDL=0.20		ppbv	
		Benzene	2009/12/07	ND, RDL=0.18		ppbv	
		Toluene	2009/12/07	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/12/07	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/12/07	ND, RDL=0.37		ppbv	
		o-Xylene	2009/12/07	ND, RDL=0.20		ppbv	
		Styrene	2009/12/07	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/12/07	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/12/07	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/12/07	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/12/07	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/12/07	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/12/07	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/12/07	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/12/07	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/12/07	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/12/07	ND, RDL=3.0		ppbv	
		Hexane	2009/12/07	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/12/07	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/12/07	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/12/07	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/12/07	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	Chloromethane	2009/12/07	NC		%	25
		Vinyl Chloride	2009/12/07	NC		%	25
		Chloroethane	2009/12/07	NC		%	25
		1,1-Dichloroethylene	2009/12/07	NC		%	25
		cis-1,2-Dichloroethylene	2009/12/07	NC		%	25
		Chloroform	2009/12/07	NC		%	25
		Carbon Tetrachloride	2009/12/07	NC		%	25
		1,1-Dichloroethane	2009/12/07	NC		%	25
		1,2-Dichloroethane	2009/12/07	NC		%	25
		Ethylene Dibromide	2009/12/07	NC		%	25
		cis-1,3-Dichloropropene	2009/12/07	NC		%	25
		1,2-Dichloropropane	2009/12/07	NC		%	25
		Bromomethane	2009/12/07	NC		%	25
		Trichloroethylene	2009/12/07	NC		%	25
		Tetrachloroethylene	2009/12/07	NC		%	25
		Benzene	2009/12/07	NC		%	25
		Toluene	2009/12/07	NC		%	25
		Ethylbenzene	2009/12/07	NC		%	25
		p+m-Xylene	2009/12/07	NC		%	25
		o-Xylene	2009/12/07	NC		%	25
		Styrene	2009/12/07	NC		%	25
		1,3,5-Trimethylbenzene	2009/12/07	NC		%	25
		1,2,4-Trimethylbenzene	2009/12/07	NC		%	25
		Chlorobenzene	2009/12/07	NC		%	25
		1,3-Dichlorobenzene	2009/12/07	NC		%	25
		1,4-Dichlorobenzene	2009/12/07	NC		%	25
		1,2-Dichlorobenzene	2009/12/07	NC		%	25
		1,2,4-Trichlorobenzene	2009/12/07	NC		%	25
		Hexachlorobutadiene	2009/12/07	NC		%	25
		Xylene (Total)	2009/12/07	NC		%	25

Lakeland Industry & Community Assoc.
Attention: Shea Beaton
Client Project #:
P.O. #:
Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G4910

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.

Polycyclic Aromatic Hydrocarbons Laboratory Analysis

Maxxam Analytics Inc.

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
 Location: Cold Lake South
 Station ID: Lica1
 Field Sample ID: LICA PUF/CLS/Nov 9, 09

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Nov 6, 09 @ 12:25 mst
 Removal Date/Time: Nov 10, 09 @ 19:00 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
09-Nov-09	11/09/2009 0:00	11/10/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
06-Nov-09	12-Nov-09	18-Nov-09	04-Nov-09

Set Flow Rate (slpm): 230

Date of Last Calibration: 10-Aug-09

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
710	229	-1.1	330.30

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

Comments:

GA9E6376 PUFF#1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Nov 9, 09

Technician Signature: _____



Your C.O.C. #: 1032

Attention: Shea Beaton

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

Report Date: 2009/11/25

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9F4131

Received: 2009/11/14, 14:15

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/11/18	2009/11/23	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

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

=====

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Total cover pages: 1

Maxxam Job #: A9F4131
 Report Date: 2009/11/25

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

Maxxam ID		EI9124	EI9125		
Sampling Date		2009/11/11	2009/11/11		
COC Number		1032	1032		
	Units	LICA PUF/CLS/NOV 9, 09	LICA PUF/PORT/NOV 9, 09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2012639
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2012639
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2012639
2-Methylantracene	ug	<0.10	<0.10	0.10	2012639
2-Methylnaphthalene	ug	0.26	0.16	0.10	2012639
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2012639
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2012639
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2012639
Acenaphthene	ug	<0.050	<0.050	0.050	2012639
Acenaphthylene	ug	<0.050	<0.050	0.050	2012639
Anthracene	ug	<0.050	<0.050	0.050	2012639
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2012639
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2012639
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2012639
Benzo(b)fluoranthene	ug	<0.050	0.057	0.050	2012639
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2012639
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2012639
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2012639
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2012639
Biphenyl	ug	0.13	0.15	0.10	2012639
Chrysene	ug	<0.050	0.055	0.050	2012639
Coronene	ug	<0.10	<0.10	0.10	2012639
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2012639
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2012639
Fluoranthene	ug	0.074	0.252	0.050	2012639
Fluorene	ug	0.158	0.268	0.050	2012639
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2012639
m-Terphenyl	ug	<0.10	<0.10	0.10	2012639
Naphthalene	ug	0.206	0.120	0.072	2012639
o-Terphenyl	ug	<0.10	<0.10	0.10	2012639
Perylene	ug	<0.10	<0.10	0.10	2012639

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9F4131
 Report Date: 2009/11/25

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

Maxxam ID		EI9124	EI9125		
Sampling Date		2009/11/11	2009/11/11		
COC Number		1032	1032		
	Units	LICA PUF/CLS/NOV 9, 09	LICA PUF/PORT/NOV 9, 09	DL	QC Batch

Phenanthrene	ug	0.241	0.649	0.050	2012639
p-Terphenyl	ug	<0.10	<0.10	0.10	2012639
Pyrene	ug	0.056	0.132	0.050	2012639
Quinoline	ug	<0.40	<0.40	0.40	2012639
Tetralin	ug	<0.10	<0.10	0.10	2012639
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	79	96		2012639
D10-Fluoranthene	%	106	111		2012639
D10-Fluorene (FS)	%	45 (1)	45 (1)		2012639
D10-Phenanthrene	%	100	110		2012639
D12-Benzo(a)anthracene	%	110	119		2012639
D12-Benzo(a)pyrene	%	97	104		2012639
D12-Benzo(b)fluoranthene	%	107	109		2012639
D12-Benzo(ghi)perylene	%	103	107		2012639
D12-Benzo(k)fluoranthene	%	99	102		2012639
D12-Chrysene	%	101	101		2012639
D12-Indeno(1,2,3-cd)pyrene	%	103	108		2012639
D12-Perylene	%	100	103		2012639
D14-Dibenzo(a,h)anthracene	%	103	108		2012639
D14-Terphenyl (FS)	%	91	94		2012639
D8-Acenaphthylene	%	87	106		2012639
D8-Naphthalene	%	76	94		2012639

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 #: A9F4131
 Report Date: 2009/11/25

Test Summary

Maxxam ID EI9124 **Collected** 2009/11/11
Sample ID LICA PUF/CLS/NOV 9, 09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/11/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2012639	2009/11/18	2009/11/23	WZ

Maxxam ID EI9125 **Collected** 2009/11/11
Sample ID LICA PUF/PORT/NOV 9, 09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/11/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2012639	2009/11/18	2009/11/23	WZ

Maxxam Job #: A9F4131
Report Date: 2009/11/25

GENERAL COMMENTS

PAHMS-F

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

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

Sample EI9124-01: PAHMS-F

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

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

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

Sample EI9125-01: PAHMS-F

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

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

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.055ug, which is the value reported for Chrysene.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Searched for ions specific to this compound in the appropriate retention time range with no possible positive detected.

Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to this compounds in the appropriate retention time range, possible positive detected, but would fall below the mdl using Dibenzo(a,h) anthracene calibration.

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GA9F4131

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2012639 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/11/23		91	%	50 - 150
		D10-Fluoranthene	2009/11/23		108	%	50 - 150
		D10-Phenanthrene	2009/11/23		100	%	50 - 150
		D12-Benzo(a)anthracene	2009/11/23		113	%	50 - 150
		D12-Benzo(a)pyrene	2009/11/23		108	%	50 - 150
		D12-Benzo(b)fluoranthene	2009/11/23		112	%	50 - 150
		D12-Benzo(ghi)perylene	2009/11/23		108	%	50 - 150
		D12-Benzo(k)fluoranthene	2009/11/23		105	%	50 - 150
		D12-Chrysene	2009/11/23		106	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2009/11/23		107	%	50 - 150
		D12-Perylene	2009/11/23		106	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/11/23		107	%	50 - 150
		D8-Acenaphthylene	2009/11/23		92	%	50 - 150
		D8-Naphthalene	2009/11/23		92	%	50 - 150
		RPD	Acenaphthene	2009/11/23		84	%
	RPD	Acenaphthene	2009/11/23	1.7		%	50
	Spiked Blank	Acenaphthylene	2009/11/23		85	%	60 - 130
	RPD	Acenaphthylene	2009/11/23	0.4		%	50
	Spiked Blank	Anthracene	2009/11/23		85	%	60 - 130
	RPD	Anthracene	2009/11/23	6.6		%	50
	Spiked Blank	Benzo(a)anthracene	2009/11/23		97	%	60 - 130
	RPD	Benzo(a)anthracene	2009/11/23	3.4		%	50
	Spiked Blank	Benzo(a)pyrene	2009/11/23		91	%	60 - 130
	RPD	Benzo(a)pyrene	2009/11/23	4.8		%	50
	Spiked Blank	Benzo(b)fluoranthene	2009/11/23		85	%	60 - 130
	RPD	Benzo(b)fluoranthene	2009/11/23	2.2		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2009/11/23		93	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2009/11/23	4.7		%	50
	Spiked Blank	Benzo(k)fluoranthene	2009/11/23		113	%	60 - 130
	RPD	Benzo(k)fluoranthene	2009/11/23	3.9		%	50
	Spiked Blank	Chrysene	2009/11/23		98	%	60 - 130
	RPD	Chrysene	2009/11/23	2.9		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2009/11/23		95	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2009/11/23	4.9		%	50
	Spiked Blank	Fluoranthene	2009/11/23		100	%	60 - 130
	RPD	Fluoranthene	2009/11/23	5.8		%	50
	Spiked Blank	Fluorene	2009/11/23		86	%	60 - 130
	RPD	Fluorene	2009/11/23	2.3		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/11/23		94	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2009/11/23	4.6		%	50
	Spiked Blank	Naphthalene	2009/11/23		86	%	60 - 130
	RPD	Naphthalene	2009/11/23	1.8		%	50
	Spiked Blank	Phenanthrene	2009/11/23		86	%	60 - 130
	RPD	Phenanthrene	2009/11/23	2.4		%	50
	Spiked Blank	Pyrene	2009/11/23		88	%	60 - 130
RPD	Pyrene	2009/11/23	3.6		%	50	
Method Blank	D10-2-Methylnaphthalene	2009/11/23		87	%	50 - 150	
	D10-Fluoranthene	2009/11/23		103	%	50 - 150	
	D10-Phenanthrene	2009/11/23		99	%	50 - 150	
	D12-Benzo(a)anthracene	2009/11/23		110	%	50 - 150	
	D12-Benzo(a)pyrene	2009/11/23		102	%	50 - 150	
	D12-Benzo(b)fluoranthene	2009/11/23		105	%	50 - 150	
	D12-Benzo(ghi)perylene	2009/11/23		102	%	50 - 150	
	D12-Benzo(k)fluoranthene	2009/11/23		97	%	50 - 150	
	D12-Chrysene	2009/11/23		99	%	50 - 150	

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

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9F4131

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2012639 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/11/23		104	%	50 - 150
		D12-Perylene	2009/11/23		103	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/11/23		104	%	50 - 150
		D8-Acenaphthylene	2009/11/23		97	%	50 - 150
		D8-Naphthalene	2009/11/23		89	%	50 - 150
		1-Methylnaphthalene	2009/11/23	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/11/23	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/11/23	ND, RDL=0.10		ug	
		2-Methylantracene	2009/11/23	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/11/23	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/11/23	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/11/23	ND, RDL=0.10		ug	
		9,10-Dimethylantracene	2009/11/23	ND, RDL=0.40		ug	
		Acenaphthene	2009/11/23	ND, RDL=0.050		ug	
		Acenaphthylene	2009/11/23	ND, RDL=0.050		ug	
		Anthracene	2009/11/23	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/11/23	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/11/23	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/11/23	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/11/23	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/11/23	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/11/23	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/11/23	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/11/23	ND, RDL=0.050		ug	
		Biphenyl	2009/11/23	ND, RDL=0.10		ug	
		Chrysene	2009/11/23	ND, RDL=0.050		ug	
		Coronene	2009/11/23	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/11/23	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/11/23	ND, RDL=0.20		ug	
		Fluoranthene	2009/11/23	ND, RDL=0.050		ug	
		Fluorene	2009/11/23	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/11/23	ND, RDL=0.050		ug	
		m-Terphenyl	2009/11/23	ND, RDL=0.10		ug	
		Naphthalene	2009/11/23	ND, RDL=0.072		ug	
		o-Terphenyl	2009/11/23	ND, RDL=0.10		ug	
		Perylene	2009/11/23	ND, RDL=0.10		ug	
		Phenanthrene	2009/11/23	ND, RDL=0.050		ug	
		p-Terphenyl	2009/11/23	ND, RDL=0.10		ug	
		Pyrene	2009/11/23	ND, RDL=0.050		ug	
		Quinoline	2009/11/23	ND, RDL=0.40		ug	
		Tetralin	2009/11/23	ND, RDL=0.10		ug	

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

Maxxam Analytics Inc.

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
 Location: Cold Lake South
 Station ID: Lica1
 Field Sample ID: LICA PUF/CLS/Nov 15, 09

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Nov 13, 09 @ 08:05 mst
 Removal Date/Time: Nov 16, 09 @ 10:40 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
15-Nov-09	11/15/2009 0:00	11/16/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
12-Nov-09	16-Nov-09	23-Nov-09	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 10-Aug-09

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
707	229	-3.7	330.30

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

Comments:

GA9F0651 PUFF#1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Nov 15, 09

Technician Signiture: _____



Site Location: COLD LAKE SOUTH/13-16-62-5 W4M
Your C.O.C. #: 1043

Attention: Shea Beaton

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

Report Date: 2009/11/30

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9F5561

Received: 2009/11/18, 08:56

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/11/19	2009/11/25	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

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

=====

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Total cover pages: 1

Lakeland Industry & Community Assoc.

 Maxxam Job #: A9F5561
 Report Date: 2009/11/30

Project name: COLD LAKE SOUTH/13-16-62-5 W4M

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

Maxxam ID		EJ6005	EJ6006		
Sampling Date		2009/11/15	2009/11/15		
COC Number		1043	1043		
	Units	LICA PUF QFF/CLS/NOV15,09	LICA PUF QFF/PORT/NOV15,09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	0.75	0.31	0.10	2013717
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2013717
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2013717
2-Methylantracene	ug	<0.10	<0.10	0.10	2013717
2-Methylnaphthalene	ug	1.66	0.58	0.10	2013717
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2013717
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2013717
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2013717
Acenaphthene	ug	0.200	<0.050	0.050	2013717
Acenaphthylene	ug	1.07	0.135	0.050	2013717
Anthracene	ug	0.182	<0.050	0.050	2013717
Benzo(a)anthracene	ug	0.148	<0.050	0.050	2013717
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2013717
Benzo(a)pyrene	ug	0.102	<0.050	0.050	2013717
Benzo(b)fluoranthene	ug	0.174	<0.050	0.050	2013717
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2013717
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2013717
Benzo(g,h,i)perylene	ug	0.108	<0.050	0.050	2013717
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2013717
Biphenyl	ug	0.76	0.39	0.10	2013717
Chrysene	ug	0.146	<0.050	0.050	2013717
Coronene	ug	<0.10	<0.10	0.10	2013717
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2013717
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2013717
Fluoranthene	ug	0.466	0.132	0.050	2013717
Fluorene	ug	0.530	0.227	0.050	2013717
Indeno(1,2,3-cd)pyrene	ug	0.088	<0.050	0.050	2013717
m-Terphenyl	ug	<0.10	<0.10	0.10	2013717
Naphthalene	ug	1.44	0.555	0.072	2013717
o-Terphenyl	ug	<0.10	<0.10	0.10	2013717
Perylene	ug	<0.10	<0.10	0.10	2013717
Phenanthrene	ug	1.25	0.396	0.050	2013717
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Lakeland Industry & Community Assoc.

 Maxxam Job #: A9F5561
 Report Date: 2009/11/30

Project name: COLD LAKE SOUTH/13-16-62-5 W4M

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

Maxxam ID		EJ6005	EJ6006		
Sampling Date		2009/11/15	2009/11/15		
COC Number		1043	1043		
	Units	LICA PUF QFF/CLS/NOV15,09	LICA PUF QFF/PORT/NOV15,09	DL	QC Batch

p-Terphenyl	ug	<0.10	<0.10	0.10	2013717
Pyrene	ug	0.379	0.088	0.050	2013717
Quinoline	ug	<0.40	<0.40	0.40	2013717
Tetralin	ug	<0.10	<0.10	0.10	2013717
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	86	90		2013717
D10-Fluoranthene	%	108	108		2013717
D10-Fluorene (FS)	%	53	46 (1)		2013717
D10-Phenanthrene	%	101	100		2013717
D12-Benzo(a)anthracene	%	113	107		2013717
D12-Benzo(a)pyrene	%	102	99		2013717
D12-Benzo(b)fluoranthene	%	108	106		2013717
D12-Benzo(ghi)perylene	%	102	100		2013717
D12-Benzo(k)fluoranthene	%	94	91		2013717
D12-Chrysene	%	98	95		2013717
D12-Indeno(1,2,3-cd)pyrene	%	104	100		2013717
D12-Perylene	%	100	97		2013717
D14-Dibenzo(a,h)anthracene	%	103	100		2013717
D14-Terphenyl (FS)	%	90	89		2013717
D8-Acenaphthylene	%	91	97		2013717
D8-Naphthalene	%	85	89		2013717

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.

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5561
 Report Date: 2009/11/30

Project name: COLD LAKE SOUTH/13-16-62-5 W4M

Test Summary

Maxxam ID EJ6005 **Collected** 2009/11/15
Sample ID LICA PUF QFF/CLS/NOV15,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/11/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2013717	2009/11/19	2009/11/25	WZ

Maxxam ID EJ6006 **Collected** 2009/11/15
Sample ID LICA PUF QFF/PORT/NOV15,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/11/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2013717	2009/11/19	2009/11/25	WZ

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5561
Report Date: 2009/11/30

Project name: COLD LAKE SOUTH/13-16-62-5 W4M

GENERAL COMMENTS

PAHMS-F

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

Sample EJ6005-01: PAHMS-F

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

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.146ug, which is the value reported for Chrysene.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Searched for ions specific to this compound in the appropriate retention time range with no possible positive detected.

Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to this compounds in the appropriate retention time range, possible positive detected, but would fall below the mdl using Dibenzo(a,h) anthracene calibration.

Sample EJ6006-01: PAHMS-F

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 or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

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

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

Results relate only to the items tested.

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Site Location: COLD LAKE SOUTH/13-16-62-5 W4M

Quality Assurance Report
 Maxxam Job Number: GA9F5561

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits	
2013717 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/11/25		84	%	50 - 150	
		D10-Fluoranthene	2009/11/25		100	%	50 - 150	
		D10-Phenanthrene	2009/11/25		91	%	50 - 150	
		D12-Benzo(a)anthracene	2009/11/25		106	%	50 - 150	
		D12-Benzo(a)pyrene	2009/11/25		99	%	50 - 150	
		D12-Benzo(b)fluoranthene	2009/11/25		106	%	50 - 150	
		D12-Benzo(ghi)perylene	2009/11/25		99	%	50 - 150	
		D12-Benzo(k)fluoranthene	2009/11/25		94	%	50 - 150	
		D12-Chrysene	2009/11/25		96	%	50 - 150	
		D12-Indeno(1,2,3-cd)pyrene	2009/11/25		99	%	50 - 150	
		D12-Perylene	2009/11/25		98	%	50 - 150	
		D14-Dibenzo(a,h)anthracene	2009/11/25		99	%	50 - 150	
		D8-Acenaphthylene	2009/11/25		87	%	50 - 150	
		D8-Naphthalene	2009/11/25		85	%	50 - 150	
		Acenaphthene	2009/11/25		82	%	60 - 130	
		RPD	Acenaphthene	2009/11/25	4.2		%	50
		Spiked Blank	Acenaphthylene	2009/11/25		83	%	60 - 130
		RPD	Acenaphthylene	2009/11/25	5.6		%	50
		Spiked Blank	Anthracene	2009/11/25		81	%	60 - 130
		RPD	Anthracene	2009/11/25	2.0		%	50
Spiked Blank	Benzo(a)anthracene	2009/11/25		93	%	60 - 130		
RPD	Benzo(a)anthracene	2009/11/25	4.2		%	50		
Spiked Blank	Benzo(a)pyrene	2009/11/25		88	%	60 - 130		
RPD	Benzo(a)pyrene	2009/11/25	3.4		%	50		
Spiked Blank	Benzo(b)fluoranthene	2009/11/25		88	%	60 - 130		
RPD	Benzo(b)fluoranthene	2009/11/25	0.1		%	50		
Spiked Blank	Benzo(g,h,i)perylene	2009/11/25		91	%	60 - 130		
RPD	Benzo(g,h,i)perylene	2009/11/25	1.1		%	50		
Spiked Blank	Benzo(k)fluoranthene	2009/11/25		96	%	60 - 130		
RPD	Benzo(k)fluoranthene	2009/11/25	3.7		%	50		
Spiked Blank	Chrysene	2009/11/25		94	%	60 - 130		
RPD	Chrysene	2009/11/25	2.3		%	50		
Spiked Blank	Dibenz(a,h)anthracene	2009/11/25		93	%	60 - 130		
RPD	Dibenz(a,h)anthracene	2009/11/25	0.3		%	50		
Spiked Blank	Fluoranthene	2009/11/25		93	%	60 - 130		
RPD	Fluoranthene	2009/11/25	5.4		%	50		
Spiked Blank	Fluorene	2009/11/25		81	%	60 - 130		
RPD	Fluorene	2009/11/25	3.2		%	50		
Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/11/25		92	%	60 - 130		
RPD	Indeno(1,2,3-cd)pyrene	2009/11/25	0.03		%	50		
Spiked Blank	Naphthalene	2009/11/25		83	%	60 - 130		
RPD	Naphthalene	2009/11/25	5.2		%	50		
Spiked Blank	Phenanthrene	2009/11/25		83	%	60 - 130		
RPD	Phenanthrene	2009/11/25	0.5		%	50		
Spiked Blank	Pyrene	2009/11/25		84	%	60 - 130		
RPD	Pyrene	2009/11/25	3.6		%	50		
Method Blank	D10-2-Methylnaphthalene	2009/11/25		81	%	50 - 150		
	D10-Fluoranthene	2009/11/25		102	%	50 - 150		
	D10-Phenanthrene	2009/11/25		90	%	50 - 150		
	D12-Benzo(a)anthracene	2009/11/25		105	%	50 - 150		
	D12-Benzo(a)pyrene	2009/11/25		99	%	50 - 150		
	D12-Benzo(b)fluoranthene	2009/11/25		104	%	50 - 150		
	D12-Benzo(ghi)perylene	2009/11/25		102	%	50 - 150		
	D12-Benzo(k)fluoranthene	2009/11/25		93	%	50 - 150		
	D12-Chrysene	2009/11/25		97	%	50 - 150		

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Site Location: COLD LAKE SOUTH/13-16-62-5 W4M

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9F5561

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2013717 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/11/25		102	%	50 - 150
		D12-Perylene	2009/11/25		101	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/11/25		103	%	50 - 150
		D8-Acenaphthylene	2009/11/25		88	%	50 - 150
		D8-Naphthalene	2009/11/25		81	%	50 - 150
		1-Methylnaphthalene	2009/11/25	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/11/25	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/11/25	ND, RDL=0.10		ug	
		2-Methylanthracene	2009/11/25	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/11/25	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/11/25	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/11/25	ND, RDL=0.10		ug	
		9,10-Dimethylanthracene	2009/11/25	ND, RDL=0.40		ug	
		Acenaphthene	2009/11/25	ND, RDL=0.050		ug	
		Acenaphthylene	2009/11/25	ND, RDL=0.050		ug	
		Anthracene	2009/11/25	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/11/25	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/11/25	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/11/25	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/11/25	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/11/25	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/11/25	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/11/25	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/11/25	ND, RDL=0.050		ug	
		Biphenyl	2009/11/25	ND, RDL=0.10		ug	
		Chrysene	2009/11/25	ND, RDL=0.050		ug	
		Coronene	2009/11/25	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/11/25	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/11/25	ND, RDL=0.20		ug	
		Fluoranthene	2009/11/25	ND, RDL=0.050		ug	
		Fluorene	2009/11/25	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/11/25	ND, RDL=0.050		ug	
		m-Terphenyl	2009/11/25	ND, RDL=0.10		ug	
		Naphthalene	2009/11/25	ND, RDL=0.072		ug	
		o-Terphenyl	2009/11/25	ND, RDL=0.10		ug	
		Perylene	2009/11/25	ND, RDL=0.10		ug	
		Phenanthrene	2009/11/25	ND, RDL=0.050		ug	
		p-Terphenyl	2009/11/25	ND, RDL=0.10		ug	
		Pyrene	2009/11/25	ND, RDL=0.050		ug	
		Quinoline	2009/11/25	ND, RDL=0.40		ug	
		Tetralin	2009/11/25	ND, RDL=0.10		ug	

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

Maxxam Analytics Inc.

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
 Location: Cold Lake South
 Station ID: Lica1
 Field Sample ID: LICA PUF/CLS/Nov 21, 09

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Nov 20, 09 @ 08:25 mst
 Removal Date/Time: Nov 24, 09 @ 10:25 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
21-Nov-09	11/21/2009 0:00	11/22/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
18-Nov-09	24-Nov-09	04-Dec-09	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 10-Aug-09

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
698	229	-3.3	330.30

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

Comments:

GA9F3686 PUFF#1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Nov 21, 09

Technician Signature: _____



Your C.O.C. #: 1049

Attention: Shea Beaton

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

Report Date: 2009/12/14

This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G0124

Received: 2009/11/26, 08:45

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/11/27	2009/12/01	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

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

=====

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

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Total cover pages: 1

Page 1 of 7

Maxxam Job #: A9G0124
 Report Date: 2009/12/14

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

Maxxam ID		EL9302	EL9303		
Sampling Date		2009/11/21	2009/11/21		
COC Number		1049	1049		
	Units	LICA PUFF/CLS/NOV21, 04	LICAPUFF/PORT/NOV21, 04	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	0.12	0.10	0.10	2023673
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2023673
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2023673
2-Methylantracene	ug	<0.10	<0.10	0.10	2023673
2-Methylnaphthalene	ug	0.23	0.16	0.10	2023673
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2023673
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2023673
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2023673
Acenaphthene	ug	<0.050	<0.050	0.050	2023673
Acenaphthylene	ug	0.062	<0.050	0.050	2023673
Anthracene	ug	<0.050	<0.050	0.050	2023673
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2023673
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2023673
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2023673
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2023673
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2023673
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2023673
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2023673
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2023673
Biphenyl	ug	0.29	0.34	0.10	2023673
Chrysene	ug	<0.050	<0.050	0.050	2023673
Coronene	ug	<0.10	<0.10	0.10	2023673
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2023673
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2023673
Fluoranthene	ug	0.132	0.075	0.050	2023673
Fluorene	ug	0.225	0.177	0.050	2023673
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2023673
m-Terphenyl	ug	<0.10	<0.10	0.10	2023673
Naphthalene	ug	0.258	0.231	0.072	2023673
o-Terphenyl	ug	<0.10	<0.10	0.10	2023673
Perylene	ug	<0.10	<0.10	0.10	2023673
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Maxxam Job #: A9G0124
 Report Date: 2009/12/14

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

Maxxam ID		EL9302	EL9303		
Sampling Date		2009/11/21	2009/11/21		
COC Number		1049	1049		
	Units	LICA PUFF/CLS/NOV21, 04	LICAPUFF/PORT/NOV21, 04	DL	QC Batch

Phenanthrene	ug	0.479	0.316	0.050	2023673
p-Terphenyl	ug	<0.10	<0.10	0.10	2023673
Pyrene	ug	0.100	<0.050	0.050	2023673
Quinoline	ug	<0.40	<0.40	0.40	2023673
Tetralin	ug	<0.10	<0.10	0.10	2023673
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	63	59		2023673
D10-Fluoranthene	%	110	85		2023673
D10-Fluorene (FS)	%	34 (1)	29 (1)		2023673
D10-Phenanthrene	%	92	74		2023673
D12-Benzo(a)anthracene	%	119	91		2023673
D12-Benzo(a)pyrene	%	102	81		2023673
D12-Benzo(b)fluoranthene	%	104	85		2023673
D12-Benzo(ghi)perylene	%	100	81		2023673
D12-Benzo(k)fluoranthene	%	89	71		2023673
D12-Chrysene	%	91	75		2023673
D12-Indeno(1,2,3-cd)pyrene	%	104	82		2023673
D12-Perylene	%	99	82		2023673
D14-Dibenzo(a,h)anthracene	%	103	82		2023673
D14-Terphenyl (FS)	%	86	72		2023673
D8-Acenaphthylene	%	74	67		2023673
D8-Naphthalene	%	62	59		2023673

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 #: A9G0124
 Report Date: 2009/12/14

Test Summary

Maxxam ID EL9302 **Collected** 2009/11/21
Sample ID LICA PUFF/CLS/NOV21, 04 **Shipped**
Matrix PUF AND FILTER **Received** 2009/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2023673	2009/11/27	2009/12/01	WZ

Maxxam ID EL9303 **Collected** 2009/11/21
Sample ID LICAPUFF/PORT/NOV21, 0 4 **Shipped**
Matrix PUF AND FILTER **Received** 2009/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2023673	2009/11/27	2009/12/01	WZ

Maxxam Job #: A9G0124
Report Date: 2009/12/14

GENERAL COMMENTS

PAHMS-F

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

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 or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

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

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

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GA9G0124

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2023673 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/12/01		74	%	50 - 150
		D10-Fluoranthene	2009/12/01		98	%	50 - 150
		D10-Phenanthrene	2009/12/01		85	%	50 - 150
		D12-Benzo(a)anthracene	2009/12/01		113	%	50 - 150
		D12-Benzo(a)pyrene	2009/12/01		99	%	50 - 150
		D12-Benzo(b)fluoranthene	2009/12/01		108	%	50 - 150
		D12-Benzo(ghi)perylene	2009/12/01		104	%	50 - 150
		D12-Benzo(k)fluoranthene	2009/12/01		88	%	50 - 150
		D12-Chrysene	2009/12/01		99	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2009/12/01		104	%	50 - 150
		D12-Perylene	2009/12/01		100	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/01		103	%	50 - 150
		D8-Acenaphthylene	2009/12/01		78	%	50 - 150
		D8-Naphthalene	2009/12/01		76	%	50 - 150
		RPD	Acenaphthene	2009/12/01		73	%
	RPD	Acenaphthene	2009/12/01	9.2		%	50
	Spiked Blank	Acenaphthylene	2009/12/01		75	%	60 - 130
	RPD	Acenaphthylene	2009/12/01	8.0		%	50
	Spiked Blank	Anthracene	2009/12/01		77	%	60 - 130
	RPD	Anthracene	2009/12/01	9.2		%	50
	Spiked Blank	Benzo(a)anthracene	2009/12/01		95	%	60 - 130
	RPD	Benzo(a)anthracene	2009/12/01	4.6		%	50
	Spiked Blank	Benzo(a)pyrene	2009/12/01		86	%	60 - 130
	RPD	Benzo(a)pyrene	2009/12/01	2.2		%	50
	Spiked Blank	Benzo(b)fluoranthene	2009/12/01		92	%	60 - 130
	RPD	Benzo(b)fluoranthene	2009/12/01	6.6		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2009/12/01		89	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2009/12/01	5.3		%	50
	Spiked Blank	Benzo(k)fluoranthene	2009/12/01		89	%	60 - 130
	RPD	Benzo(k)fluoranthene	2009/12/01	1.1		%	50
	Spiked Blank	Chrysene	2009/12/01		92	%	60 - 130
	RPD	Chrysene	2009/12/01	3.0		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2009/12/01		88	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2009/12/01	4.7		%	50
	Spiked Blank	Fluoranthene	2009/12/01		91	%	60 - 130
	RPD	Fluoranthene	2009/12/01	7.5		%	50
	Spiked Blank	Fluorene	2009/12/01		75	%	60 - 130
	RPD	Fluorene	2009/12/01	10.9		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/12/01		88	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2009/12/01	5.3		%	50
Spiked Blank	Naphthalene	2009/12/01		74	%	60 - 130	
RPD	Naphthalene	2009/12/01	7.4		%	50	
Spiked Blank	Phenanthrene	2009/12/01		77	%	60 - 130	
RPD	Phenanthrene	2009/12/01	5.8		%	50	
Spiked Blank	Pyrene	2009/12/01		81	%	60 - 130	
RPD	Pyrene	2009/12/01	5.1		%	50	
Method Blank	D10-2-Methylnaphthalene	2009/12/01		82	%	50 - 150	
	D10-Fluoranthene	2009/12/01		103	%	50 - 150	
	D10-Phenanthrene	2009/12/01		88	%	50 - 150	
	D12-Benzo(a)anthracene	2009/12/01		112	%	50 - 150	
	D12-Benzo(a)pyrene	2009/12/01		101	%	50 - 150	
	D12-Benzo(b)fluoranthene	2009/12/01		109	%	50 - 150	
	D12-Benzo(ghi)perylene	2009/12/01		102	%	50 - 150	
	D12-Benzo(k)fluoranthene	2009/12/01		95	%	50 - 150	
	D12-Chrysene	2009/12/01		106	%	50 - 150	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G0124

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2023673 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/12/01		101	%	50 - 150
		D12-Perylene	2009/12/01		103	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/01		100	%	50 - 150
		D8-Acenaphthylene	2009/12/01		85	%	50 - 150
		D8-Naphthalene	2009/12/01		83	%	50 - 150
		1-Methylnaphthalene	2009/12/01	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/12/01	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/12/01	ND, RDL=0.10		ug	
		2-Methylanthracene	2009/12/01	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/12/01	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/12/01	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/12/01	ND, RDL=0.10		ug	
		9,10-Dimethylanthracene	2009/12/01	ND, RDL=0.40		ug	
		Acenaphthene	2009/12/01	ND, RDL=0.050		ug	
		Acenaphthylene	2009/12/01	ND, RDL=0.050		ug	
		Anthracene	2009/12/01	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/12/01	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/12/01	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/12/01	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/12/01	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/12/01	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/12/01	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/12/01	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/12/01	ND, RDL=0.050		ug	
		Biphenyl	2009/12/01	ND, RDL=0.10		ug	
		Chrysene	2009/12/01	ND, RDL=0.050		ug	
		Coronene	2009/12/01	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/12/01	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/12/01	ND, RDL=0.20		ug	
		Fluoranthene	2009/12/01	ND, RDL=0.050		ug	
		Fluorene	2009/12/01	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/12/01	ND, RDL=0.050		ug	
		m-Terphenyl	2009/12/01	ND, RDL=0.10		ug	
		Naphthalene	2009/12/01	ND, RDL=0.072		ug	
		o-Terphenyl	2009/12/01	ND, RDL=0.10		ug	
		Perylene	2009/12/01	ND, RDL=0.10		ug	
		Phenanthrene	2009/12/01	ND, RDL=0.050		ug	
		p-Terphenyl	2009/12/01	ND, RDL=0.10		ug	
		Pyrene	2009/12/01	ND, RDL=0.050		ug	
		Quinoline	2009/12/01	ND, RDL=0.40		ug	
		Tetralin	2009/12/01	ND, RDL=0.10		ug	

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

Maxxam Analytics Inc.

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
 Location: Cold Lake South
 Station ID: Lica1
 Field Sample ID: LICA PUF/CLS/Nov 27, 09

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Nov 26, 09 @ 08:10 mst
 Removal Date/Time: Nov 30, 09 @ 06:15 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
27-Nov-09	11/27/2009 0:00	11/28/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
25-Nov-09	01-Dec-09	04-Dec-09	23-Nov-09

Set Flow Rate (slpm): 230

Date of Last Calibration: 10-Aug-09

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
708	229	-0.9	330.30

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

Comments:

GA9F3695 PUFF#1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Nov 27, 09

Technician Signature: _____



Your C.O.C. #: 1050

Attention: Shea Beaton

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

Report Date: 2009/12/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G3499

Received: 2009/12/03, 09:24

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/12/04	2009/12/08	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

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

=====

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Total cover pages: 1

Maxxam Job #: A9G3499
 Report Date: 2009/12/09

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

Maxxam ID		EN6465	EN6466		
Sampling Date		2009/11/27	2009/11/27		
COC Number		1050	1050		
	Units	LICAPUF/QFF/CLS/NOV.27,0	LICAPUF/QFF/PORT/NOV.27,0	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	0.22	0.13	0.10	2029194
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2029194
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2029194
2-Methylantracene	ug	<0.10	<0.10	0.10	2029194
2-Methylnaphthalene	ug	0.40	0.20	0.10	2029194
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2029194
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2029194
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2029194
Acenaphthene	ug	0.059	<0.050	0.050	2029194
Acenaphthylene	ug	0.090	<0.050	0.050	2029194
Anthracene	ug	<0.050	<0.050	0.050	2029194
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2029194
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2029194
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2029194
Benzo(b)fluoranthene	ug	0.076	<0.050	0.050	2029194
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2029194
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2029194
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2029194
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2029194
Biphenyl	ug	0.51	0.36	0.10	2029194
Chrysene	ug	0.072	<0.050	0.050	2029194
Coronene	ug	<0.10	<0.10	0.10	2029194
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2029194
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2029194
Fluoranthene	ug	0.224	0.092	0.050	2029194
Fluorene	ug	0.407	0.201	0.050	2029194
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2029194
m-Terphenyl	ug	<0.10	<0.10	0.10	2029194
Naphthalene	ug	0.421	0.296	0.072	2029194
o-Terphenyl	ug	<0.10	<0.10	0.10	2029194
Perylene	ug	<0.10	<0.10	0.10	2029194
Phenanthrene	ug	0.805	0.439	0.050	2029194

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G3499
 Report Date: 2009/12/09

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

Maxxam ID		EN6465	EN6466		
Sampling Date		2009/11/27	2009/11/27		
COC Number		1050	1050		
	Units	LICAPUF/QFF/CLS/NOV.27,0	LICAPUF/QFF/PORT/NOV.27,0	DL	QC Batch

p-Terphenyl	ug	<0.10	<0.10	0.10	2029194
Pyrene	ug	0.171	0.053	0.050	2029194
Quinoline	ug	<0.40	<0.40	0.40	2029194
Tetralin	ug	<0.10	<0.10	0.10	2029194
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	77	72		2029194
D10-Fluoranthene	%	109	107		2029194
D10-Fluorene (FS)	%	34 (1)	40 (1)		2029194
D10-Phenanthrene	%	96	92		2029194
D12-Benzo(a)anthracene	%	91	90		2029194
D12-Benzo(a)pyrene	%	87	92		2029194
D12-Benzo(b)fluoranthene	%	88	88		2029194
D12-Benzo(ghi)perylene	%	96	98		2029194
D12-Benzo(k)fluoranthene	%	99	101		2029194
D12-Chrysene	%	99	101		2029194
D12-Indeno(1,2,3-cd)pyrene	%	95	96		2029194
D12-Perylene	%	94	97		2029194
D14-Dibenzo(a,h)anthracene	%	94	96		2029194
D14-Terphenyl (FS)	%	85	89		2029194
D8-Acenaphthylene	%	89	82		2029194
D8-Naphthalene	%	75	71		2029194

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 #: A9G3499
 Report Date: 2009/12/09

Test Summary

Maxxam ID	EN6465	Collected	2009/11/27
Sample ID	LICAPUF/QFF/CLS/NOV.27,0	Shipped	
Matrix	PUF AND FILTER	Received	2009/12/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2029194	2009/12/04	2009/12/08	WZ

Maxxam ID	EN6466	Collected	2009/11/27
Sample ID	LICAPUF/QFF/PORT/NOV.27,0	Shipped	
Matrix	PUF AND FILTER	Received	2009/12/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2029194	2009/12/04	2009/12/08	WZ

Maxxam Job #: A9G3499
Report Date: 2009/12/09

GENERAL COMMENTS

PAHMS-F

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

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

Sample EN6465-01: PAHMS-F

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

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.072ug, which is the value reported for Chrysene.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Searched for ions specific to this compound in the appropriate retention time range with no possible positive detected.

Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to this compounds in the appropriate retention time range, possible positive detected, but would fall below the mdl using Dibenzo(a,h) anthracene calibration.

Sample EN6466-01: PAHMS-F

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

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

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

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GA9G3499

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2029194 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/12/08		83	%	50 - 150
		D10-Fluoranthene	2009/12/08		105	%	50 - 150
		D10-Phenanthrene	2009/12/08		89	%	50 - 150
		D12-Benzo(a)anthracene	2009/12/08		84	%	50 - 150
		D12-Benzo(a)pyrene	2009/12/08		92	%	50 - 150
		D12-Benzo(b)fluoranthene	2009/12/08		84	%	50 - 150
		D12-Benzo(ghi)perylene	2009/12/08		93	%	50 - 150
		D12-Benzo(k)fluoranthene	2009/12/08		105	%	50 - 150
		D12-Chrysene	2009/12/08		106	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2009/12/08		91	%	50 - 150
		D12-Perylene	2009/12/08		99	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/08		91	%	50 - 150
		RPD	D8-Acenaphthylene	2009/12/08		94	%
	D8-Naphthalene		2009/12/08		85	%	50 - 150
	Spiked Blank	Acenaphthene	2009/12/08		81	%	60 - 130
		Acenaphthene	2009/12/08	0.8		%	50
	RPD	Acenaphthylene	2009/12/08		90	%	60 - 130
		Acenaphthylene	2009/12/08	1.2		%	50
	Spiked Blank	Anthracene	2009/12/08		82	%	60 - 130
		Anthracene	2009/12/08	4.5		%	50
	Spiked Blank	Benzo(a)anthracene	2009/12/08		75	%	60 - 130
		Benzo(a)anthracene	2009/12/08	14.6		%	50
	Spiked Blank	Benzo(a)pyrene	2009/12/08		82	%	60 - 130
		Benzo(a)pyrene	2009/12/08	4.3		%	50
	Spiked Blank	Benzo(b)fluoranthene	2009/12/08		90	%	60 - 130
		Benzo(b)fluoranthene	2009/12/08	9.5		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2009/12/08		80	%	60 - 130
		Benzo(g,h,i)perylene	2009/12/08	9.3		%	50
	Spiked Blank	Benzo(k)fluoranthene	2009/12/08		82	%	60 - 130
		Benzo(k)fluoranthene	2009/12/08	19.8		%	50
	Spiked Blank	Chrysene	2009/12/08		98	%	60 - 130
		Chrysene	2009/12/08	3.3		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2009/12/08		78	%	60 - 130
		Dibenz(a,h)anthracene	2009/12/08	6.5		%	50
	Spiked Blank	Fluoranthene	2009/12/08		91	%	60 - 130
		Fluoranthene	2009/12/08	2.7		%	50
	Spiked Blank	Fluorene	2009/12/08		83	%	60 - 130
		Fluorene	2009/12/08	1.3		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/12/08		79	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2009/12/08	6.9		%	50
Spiked Blank	Naphthalene	2009/12/08		82	%	60 - 130	
	Naphthalene	2009/12/08	3.2		%	50	
Spiked Blank	Phenanthrene	2009/12/08		78	%	60 - 130	
	Phenanthrene	2009/12/08	6.3		%	50	
Spiked Blank	Pyrene	2009/12/08		84	%	60 - 130	
	Pyrene	2009/12/08	2.3		%	50	
Method Blank	D10-2-Methylnaphthalene	2009/12/08		85	%	50 - 150	
	D10-Fluoranthene	2009/12/08		106	%	50 - 150	
	D10-Phenanthrene	2009/12/08		96	%	50 - 150	
	D12-Benzo(a)anthracene	2009/12/08		83	%	50 - 150	
	D12-Benzo(a)pyrene	2009/12/08		94	%	50 - 150	
	D12-Benzo(b)fluoranthene	2009/12/08		102	%	50 - 150	
	D12-Benzo(ghi)perylene	2009/12/08		97	%	50 - 150	
	D12-Benzo(k)fluoranthene	2009/12/08		90	%	50 - 150	
	D12-Chrysene	2009/12/08		111	%	50 - 150	

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

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9G3499

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2029194 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/12/08		93	%	50 - 150
		D12-Perylene	2009/12/08		104	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/08		92	%	50 - 150
		D8-Acenaphthylene	2009/12/08		96	%	50 - 150
		D8-Naphthalene	2009/12/08		85	%	50 - 150
		1-Methylnaphthalene	2009/12/08	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/12/08	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/12/08	ND, RDL=0.10		ug	
		2-Methylanthracene	2009/12/08	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/12/08	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/12/08	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/12/08	ND, RDL=0.10		ug	
		9,10-Dimethylanthracene	2009/12/08	ND, RDL=0.40		ug	
		Acenaphthene	2009/12/08	ND, RDL=0.050		ug	
		Acenaphthylene	2009/12/08	ND, RDL=0.050		ug	
		Anthracene	2009/12/08	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/12/08	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/12/08	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/12/08	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/12/08	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/12/08	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/12/08	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/12/08	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/12/08	ND, RDL=0.050		ug	
		Biphenyl	2009/12/08	ND, RDL=0.10		ug	
		Chrysene	2009/12/08	ND, RDL=0.050		ug	
		Coronene	2009/12/08	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/12/08	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/12/08	ND, RDL=0.20		ug	
		Fluoranthene	2009/12/08	ND, RDL=0.050		ug	
		Fluorene	2009/12/08	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/12/08	ND, RDL=0.050		ug	
		m-Terphenyl	2009/12/08	ND, RDL=0.10		ug	
		Naphthalene	2009/12/08	ND, RDL=0.072		ug	
		o-Terphenyl	2009/12/08	ND, RDL=0.10		ug	
		Perylene	2009/12/08	ND, RDL=0.10		ug	
		Phenanthrene	2009/12/08	ND, RDL=0.050		ug	
		p-Terphenyl	2009/12/08	ND, RDL=0.10		ug	
		Pyrene	2009/12/08	ND, RDL=0.050		ug	
		Quinoline	2009/12/08	ND, RDL=0.40		ug	
		Tetralin	2009/12/08	ND, RDL=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 2009

Prepared By:



December 9, 2009

Lakeland Industry & Community Association

Ambient Air Monitoring

Maskwa

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Introduction

The following Ambient Air Monitoring report was prepared for:

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Bonnyville, Alberta
T9N 2J5

Monitoring Location: Maskwa
Data Period: November 2009

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Craig Snider

Calibration Procedure

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

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

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

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

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

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

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

MONTHLY CONTINUOUS DATA SUMMARY

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – MASKWA

Continuous Ambient Monitoring – November 2009

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	0.50	9	24	13	10.2	309(NW)	1.9	24	99.2
H2S (PPB)	10	3	0	0	0.03	1	VAR	VAR	VAR	VAR	0.2	6, 21	99.3
THC (PPM)	-	-	-	-	2.23	3.3	26	11	5.4	219(SW)	2.4	VAR	99.3
NOx (PPB)	-	-	-	-	5.64	33	14	4	7.3	288(WNW)	11.1	11	99.3
NO (PPB)	-	-	-	-	0.82	12	11	9	3.1	215(SSW)	1.9	11	99.3
NO ₂ (PPB)	212	106	0	0	4.90	24	14	4	7.3	288(WNW)	9.0	11	99.3
VECTOR WS (KPH)	-	-	-	-	5.44	17.6	22	14	-	212(SSW)	10.4	29	99.1
VECTOR WD (DEGREES)	-	-	-	-	227(SW)	-	-	-	-	-	-	-	99.1
RELATIVE HUMIDITY (%)	-	-	-	-	69.37	91	1	0	7.4	233(SW)	83.0	3	99.7
TEMPERATURE (DEG C)	-	-	-	-	-1.81	13.5	17	14	13	205(SSW)	5.2	17	99.7
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	933	949	1, 2	VAR	VAR	VAR	945.2	3	99.7
PRECIPITATION (MM)	-	-	-	-	0.00	1.0	4	15	5.9	198(SSW)	1.0	4	99.9

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

A trailer audit was performed by Alberta Environment on November 4th, 2009.

Sulphur Dioxide (PPB)

- Analyzer make / model - API 100E

Three hours of data were invalidated due to a power failure on November 5th. The analyzer spanned high on November 16th. The field technician performed a lamp adjustment as per TAPI service note 04-012B, and allowed the analyzer some time to stabilize then performed a factory calibration on November 18th. After that, a post repair calibration was performed. The analyzer was put into the “Maintenance” mode for two hours on November 20th for the wind system replacement. The analyzer was removed to the new trailer following a removal calibration on November 30th. The total sample collection time is 709 hours this month, and the operational uptime is 99.2%. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

- Analyzer make / model - API 101E

No operational issue was observed during the month. Three hours of data were invalidated due to a power failure on November 5th. The analyzer was put into the “Maintenance” mode for two hours on November 20th for the wind system replacement. The analyzer was removed to the new trailer following a removal calibration on November 30th. The total sample collection time is 709 hours this month, and the operational uptime is 99.3%. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – Maskwa

Total HydroCarbon (PPM)

- Analyzer make / model –TECO 51C-LT

No operational issue was observed during the month. Three hours of data were invalidated due to a power failure on November 5th. The analyzer was put into the “Maintenance” mode for two hours on November 20th for the wind system replacement. The analyzer was removed to the new trailer following a removal calibration on November 30th. The total sample collection time is 711 hours this month, and the operational uptime is 99.3%. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

- Analyzer make / model - API 200E

No operational issue was observed during the month. Three hours of data were invalidated due to a power failure on November 5th. The analyzer was put into the “Maintenance” mode for two hours on November 20th for the wind system replacement. The analyzer was removed to the new trailer following a removal calibration on November 30th. The total sample collection time is 709 hours this month, and the operational uptime is 99.3%. Data was corrected using daily zero information.

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

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

The wind system is reported as vector wind speed and vector wind direction. The wind system is reported as vector wind speed and vector wind direction.

Three hours of data for both wind speed and wind direction were invalidated due to a power failure on November 5th. It was noticed the wind speed sensor was stuck at around zero on November 19th. The wind system was replaced with the new LICA-supplied Met One 50.5 on November 20th. The new wind system was calibration by the manufacturer on February 4th, 2009. A total of 35 hours of data for wind speed was invalidated. The wind system was disconnected and moved to the new trailer on November 30th. The total operational time for both wind speed and wind direction is 705 hours, and the operational uptime for wind speed is 95.7%, and for wind direction is 99.1%.

General Monthly Summary

AQM STATION – LICA – Maskwa

Relative Humidity (PERCENT)

- System make / model - Met One 083

No operational issues observed during the month. Two hours of data were invalidated due to a power failure on November 5th. The RH sensor was disconnected and moved to the new trailer on November 30th. The total operational time is 705 hours, and the operational is 99.7%.

Precipitation (MM)

- System make / model - Met One 387

No operational issue was observed during the month. One hour of was invalidated due to a power failure on November 5th. The Precipitation equipment was disconnected and moved to the new trailer on November 30th. The total operational time is 705 hours, and the operational is 99.9%.

Barometric Pressure (MILLIBAR)

- System make / model - Met One 092

No operation issue was observed during the month. Two hours of data were invalidated due to a power failure on November 5th. The BP sensor was disconnected and moved to the new trailer on November 30th. The total operational time is 705 hours, and the operational is 99.7%.

Ambient Temperature (DEGC)

- System make / model - Met One 060

No operational issue was observed during the month. Two hours of data were invalidated due to a power failure on November 5th. The Temperature sensor was disconnected and moved to the new trailer on November 30th. The total operational time is 705 hours, and the operational is 99.7%.

General Monthly Summary

AQM STATION – LICA – Maskwa

Trailer Temperature (DEG C)

- System make / model – R&R 61

No operational issue was observed during the month. Two hours of data were invalidated due to a power failure on November 5th. The Temperature sensor was disconnected and moved to the new trailer on November 30th.

Standard Deviation Wind Direction (DEG)

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

Three hours of data for both wind speed and wind direction were invalidated due to a power failure on November 5th. The wind system was put into the “Maintenance” mode for three hours for the wind system replacement on November 20th. The wind system was disconnected and moved to the new trailer on November 30th.

Datalogger

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

No operational issue was observed during the month. The Datalogger was disconnected and moved to the new trailer on November 30th.

Trailer

No issues with the station. All analyzers, equipments, sensors and the Datalogger were moved to the new trailer on November 30th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA
NOVEMBER 2009
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	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	1	2	2	3	4	IZS	2	0	0	0	0	0	0	1	0	4	0.7	24	
2	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	2	2	1	1	2	0.3	24	
4	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	C	C	0	0	0	0	0	0	0	0	0	0.0	24	
5	0	0	0	0	0	0	0	0	0	0	IZS	0	0	P	P	P	0	C	0	0	0	0	0	0	0	0.0	21	
6	0	0	0	0	0	0	0	0	0	IZS	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	0.2	24	
7	0	0	0	0	0	0	0	0	IZS	1	1	1	1	1	1	2	1	1	1	1	1	2	1	1	2	0.7	24	
8	1	1	1	1	1	2	1	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0.5	24
9	1	1	1	1	1	1	IZS	0	1	1	2	3	1	1	0	0	0	0	0	0	0	0	0	1	3	0.7	24	
10	1	0	1	1	0	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.3	24	
11	0	0	0	0	IZS	0	0	0	0	0	0	1	1	3	2	3	2	1	1	1	1	8	3	3	8	1.3	24	
12	3	2	2	IZS	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	3	1.0	24	
13	1	1	IZS	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	
14	0	IZS	1	4	4	4	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0.9	24	
15	IZS	0	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	IZS	1	0.5	24	
16	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	IZS	0	1	0.3	24	
17	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	9	4	0	IZS	0	0	9	0.8	24		
18	0	0	0	0	0	0	0	0	0	C	M	C	C	C	C	1	1	0	0	0	IZS	0	0	0	1	0.1	23	
19	0	0	0	0	0	0	1	1	1	2	1	1	1	1	1	1	1	1	1	1	IZS	0	1	1	0	2	0.7	24
20	0	0	0	1	1	1	0	1	1	1	3	6	M	M	9	5	1	1	IZS	0	0	0	0	0	9	1.5	22	
21	0	0	0	0	0	0	1	5	3	3	3	1	0	0	0	1	0	IZS	0	1	1	0	0	0	5	0.8	24	
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24	
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	1	0	1	1	0.1	24	
24	1	1	0	1	0	0	1	1	1	1	0	2	5	9	IZS	7	6	2	1	3	1	1	0	0	9	1.9	24	
25	0	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	1	1	1	0	0	0	0	0	0	1	0.3	24	
26	0	0	1	1	1	0	0	1	1	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24	
27	0	0	0	0	0	0	0	0	0	0	0	0	IZS	2	2	1	1	4	0	0	0	0	0	0	4	0.4	24	
28	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
29	0	0	0	0	0	0	0	0	0	0	IZS	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
30	0	0	0	0	0	0	0	0	0	IZS	C	C	C	C	C	C	C	C	C	C	C	C	C	C	0	0.0	13	
HOURLY MAX	3	2	2	4	4	4	3	5	3	3	3	6	5	9	9	7	6	4	9	4	2	8	3	3				
HOURLY AVG	0.3	0.2	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.9	0.8	1.1	0.8	1.0	0.7	0.5	0.5	0.4	0.3	0.6	0.4	0.4				

STATUS FLAG CODES

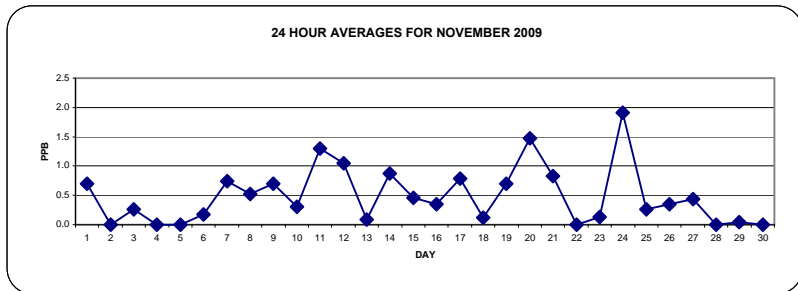
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

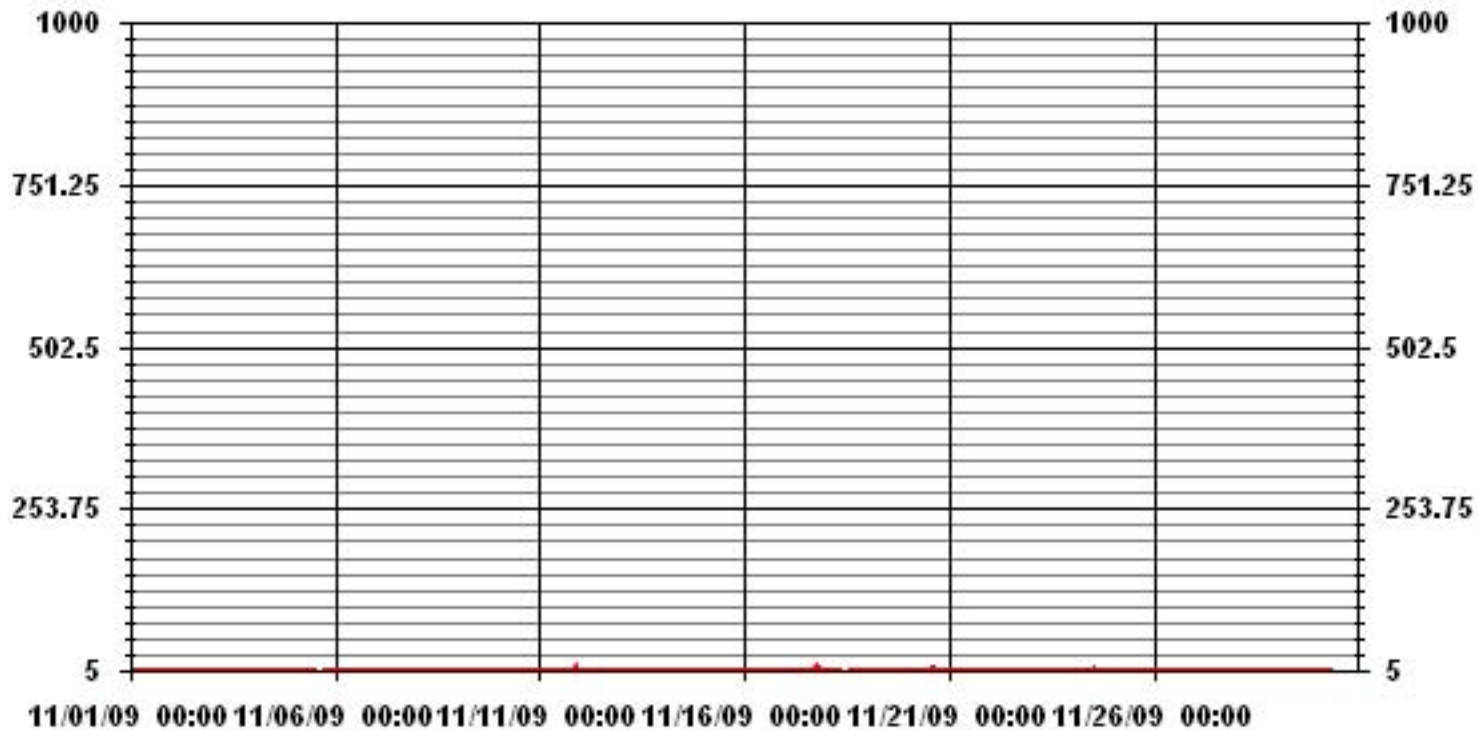
ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	204					
MAXIMUM 1-HR AVERAGE:	9	PPB	@ HOUR(S)	13	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	1.9	PPB			ON DAY(S)	24
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	703	HRS	
MONTHLY CALIBRATION TIME:	12	HRS	AMD OPERATION UPTIME:	99.2	%	
STANDARD DEVIATION:	1.10		MONTHLY AVERAGE:	0.50	PPB	



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

NOVEMBER 2009

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	1	0	0	0	0	0	0	6	5	5	4	6	7	IZS	4	1	0	0	2	2	2	3	0	7	2.1	24	
2		0	0	0	0	0	0	2	0	0	0	1	1	0	IZS	6	1	1	0	0	0	0	0	0	0	6	0.5	24	
3		0	0	0	0	0	0	0	1	1	1	0	0	IZS	0	0	0	1	1	0	0	5	4	4	3	5	0.9	24	
4		0	0	0	0	0	0	0	1	0	0	1	IZS	0	C	C	C	0	0	0	0	0	0	0	0	1	0.1	24	
5		0	0	0	0	0	0	0	1	0	1	IZS	1	1	P	P	P	1	C	0	0	0	0	0	0	1	0.3	21	
6		0	0	0	0	0	0	0	0	0	IZS	2	5	0	7	1	0	0	0	1	1	0	0	0	1	7	0.8	24	
7		0	0	0	1	1	1	0	1	IZS	2	2	1	2	2	2	2	2	1	2	2	1	4	2	2	4	1.4	24	
8		2	1	1	2	2	3	2	IZS	1	1	1	1	1	1	1	0	1	0	1	1	2	2	1	1	3	1.3	24	
9		1	1	2	2	1	1	IZS	1	1	1	3	4	2	2	1	1	1	1	1	1	1	1	1	1	4	1.4	24	
10		1	1	1	1	1	IZS	1	1	1	1	1	1	2	2	0	1	1	1	0	1	1	0	2	1	2	1.0	24	
11		1	1	1	1	IZS	1	1	1	1	2	1	1	2	8	4	4	3	2	2	2	2	13	5	5	13	2.8	24	
12		4	3	3	IZS	0	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	4	1.3	24	
13		1	1	IZS	1	1	1	1	1	2	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	2	1.3	24	
14		1	IZS	3	10	6	6	5	2	1	2	1	1	0	0	0	0	0	0	1	0	1	1	1	1	10	1.9	24	
15		IZS	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	IZS	2	1.1	24
16		1	1	1	1	1	0	1	1	1	1	2	1	1	1	3	2	1	1	1	1	1	1	1	1	3	1.1	24	
17		1	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	16	26	18	0	IZS	0	0	26	2.8	24	
18		0	0	0	0	0	0	0	0	0	C	M	C	C	C	C	2	2	0	0	0	IZS	1	1	1	2	0.4	23	
19		1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	2	2	IZS	1	1	1	1	2	1.2	24	
20		1	1	1	1	1	1	1	1	1	2	7	14	M	M	16	13	1	1	IZS	0	0	0	0	0	16	3.0	22	
21		0	0	0	1	1	1	1	18	11	8	13	3	0	0	0	2	0	IZS	1	2	2	0	0	0	18	2.8	24	
22		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	1	0.0	24	
23		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	IZS	1	1	1	1	1	1	1	2	2	0.4	24	
24		3	1	1	3	1	1	1	1	1	1	1	6	11	14	IZS	16	17	4	2	14	2	2	1	1	17	4.6	24	
25		1	0	1	0	0	0	0	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	0.8	24	
26		1	1	1	2	1	1	1	1	1	1	1	2	IZS	0	0	0	0	1	1	0	0	0	0	0	2	0.7	24	
27		1	1	0	0	0	0	0	0	0	0	0	IZS	10	10	3	4	14	1	1	0	0	0	0	0	14	2.0	24	
28		0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.0	24	
29		1	0	0	0	0	0	0	1	1	IZS	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.3	24	
30		0	0	0	0	0	0	0	0	IZS	C	C	C	C	C	C									0	0.0	13		
HOURLY MAX		4	3	3	10	6	6	5	18	11	8	13	14	11	14	16	16	17	16	26	18	5	13	5	5				
HOURLY AVG		0.8	0.6	0.6	1.0	0.7	0.7	0.7	1.3	1.3	1.4	1.9	2.1	1.8	2.6	1.8	2.3	2.0	1.4	1.7	1.8	1.0	1.3	1.0	0.8				

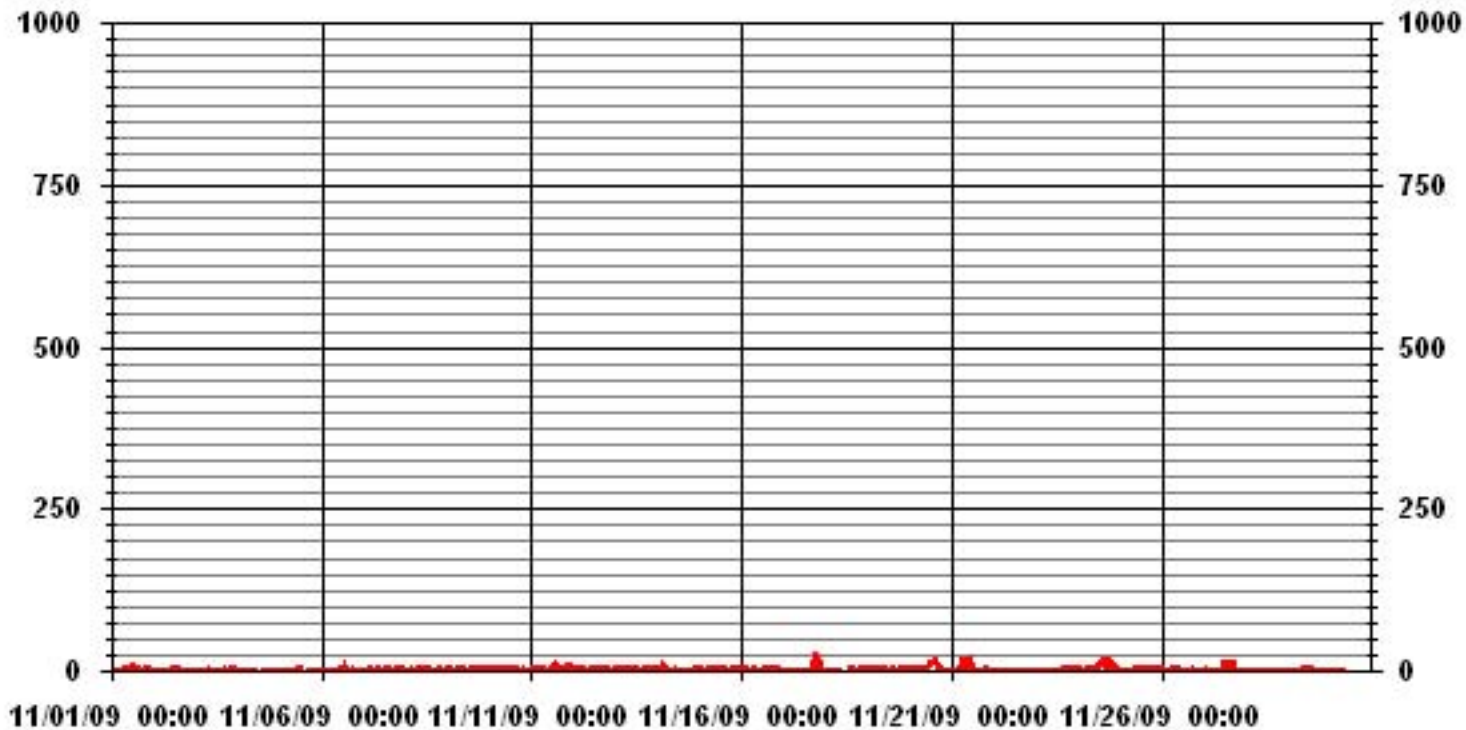
STATUS FLAG CODES

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:	398					
MAXIMUM INSTANTANEOUS VALUE:	26	PPB	@ HOUR(S)	18	ON DAY(S)	17
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	703	HRS	
MONTHLY CALIBRATION TIME:	13	HRS				
STANDARD DEVIATION:	2.63					

01 Hour Averages



LICA30
SO2_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	.91	1.82	2.27	4.55	1.97	2.27	8.34	3.18	4.85	16.38	27.46	5.76	8.95	7.89	2.42	.91	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	.91	1.82	2.27	4.55	1.97	2.27	8.34	3.18	4.85	16.38	27.46	5.76	8.95	7.89	2.42	.91	

Calm : .00 %

Total # Operational Hours : 659

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	6	12	15	30	13	15	55	21	32	108	181	38	59	52	16	6	659
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	6	12	15	30	13	15	55	21	32	108	181	38	59	52	16	6	

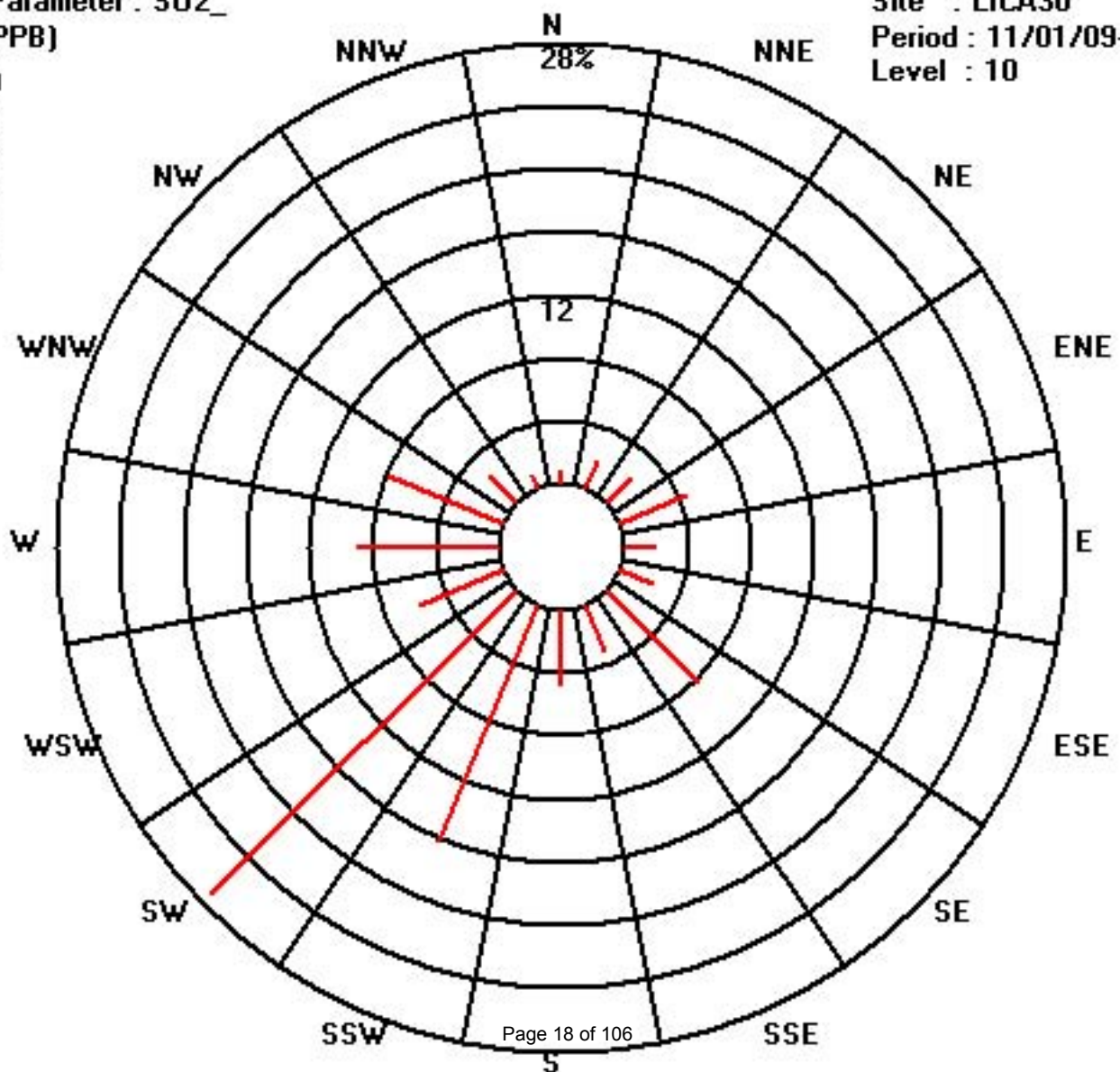
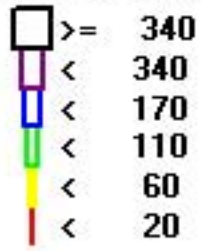
Calm : .00 %

Total # Operational Hours : 659

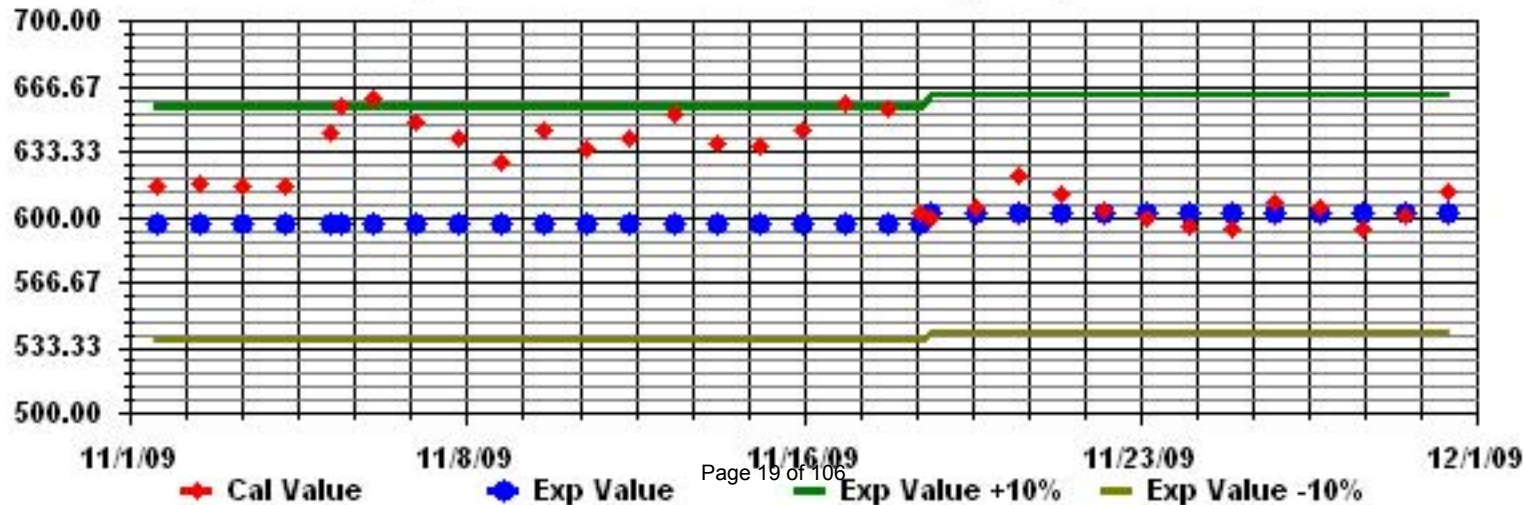
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



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



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

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	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	21
6	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.2	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	1	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	0	0	0	0	0	0	0.0	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	22
21	0	1	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	13
HOURLY MAX		0	1	1	0	1	1	0	1	0	1	1	1	0	1	0	1	0	1	0	1	0	0	1	1			
HOURLY AVG		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	NA	- NOT APPLICABLE

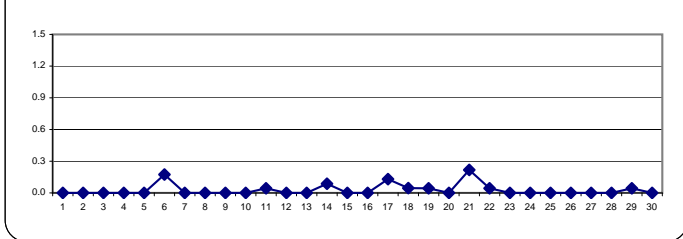
OBJECTIVE LIMIT:

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

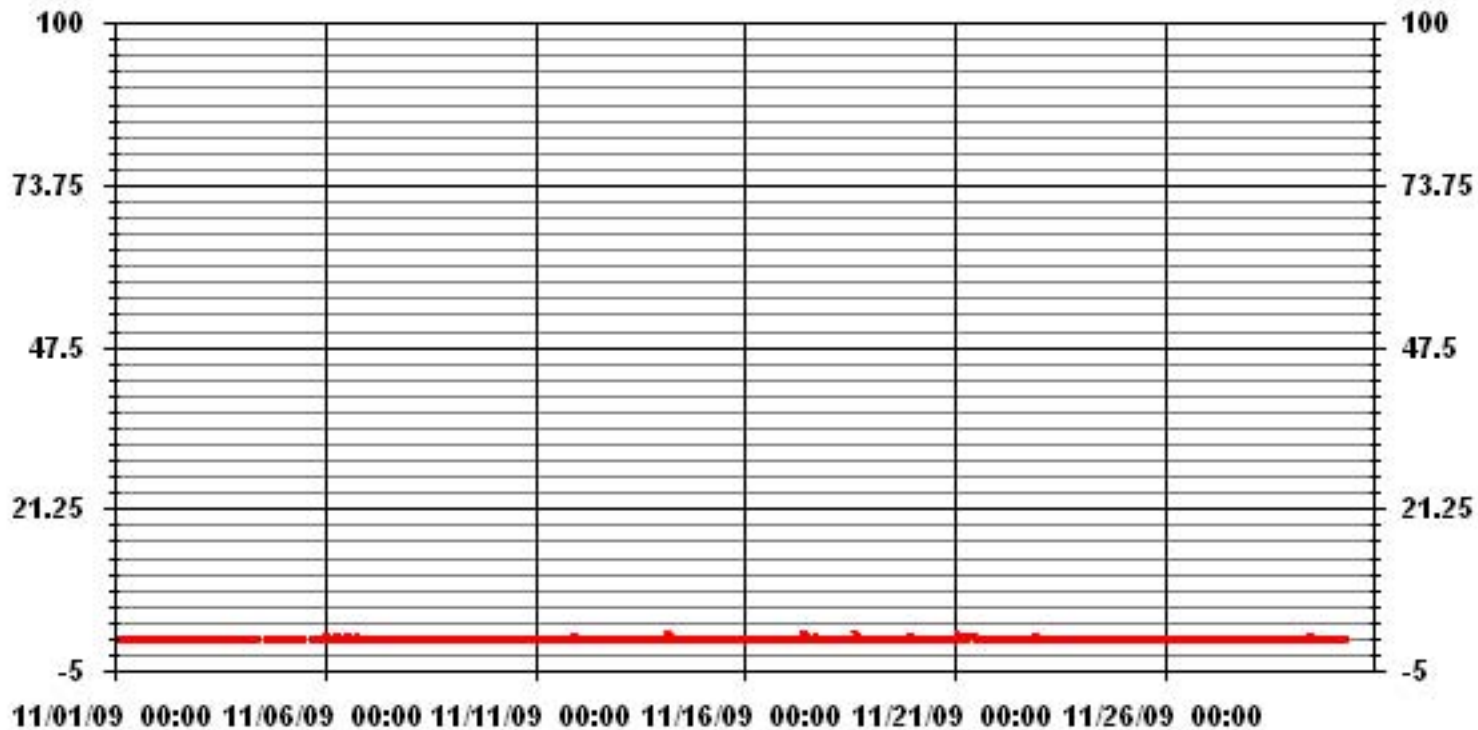
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	19
MAXIMUM 1-HR AVERAGE:	1 PPB @ HOUR(S) VAR ON DAY(S) VAR
MAXIMUM 24-HR AVERAGE:	0.2 PPB ON DAY(S) VAR-VARIOUS 6, 21
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	8 HRS
OPERATIONAL TIME:	704 HRS
AMD OPERATION UPTIME:	99.3 %
STANDARD DEVIATION:	0.17
MONTHLY AVERAGE:	0.03 PPB

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA30 H2S_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

NOVEMBER 2009

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	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
2		0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
3		0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0	1	0.1	24		
4		0	0	0	0	0	0	0	1	0	0	0	IZS	0	C	C	C	0	0	0	0	0	0	0	0	0	1	0.1	24	
5		0	1	1	0	0	0	0	0	0	1	IZS	1	1	P	P	P	2	C	1	1	1	0	0	0	2	0.5	21		
6		1	1	0	0	1	1	0	1	1	IZS	1	0	1	1	1	0	1	1	1	1	1	1	1	0	1	0.7	24		
7		0	0	0	1	1	0	0	0	IZS	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0.3	24		
8		0	0	0	1	0	0	1	IZS	1	1	0	0	1	1	0	0	0	0	0	0	1	0	0	1	1	0.3	24		
9		1	0	0	1	0	0	IZS	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24		
10		0	0	0	1	0	IZS	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24		
11		0	0	0	0	IZS	0	0	0	0	2	0	0	0	1	1	0	0	1	1	1	1	1	1	1	2	0.5	24		
12		1	1	1	IZS	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	1	0.4	24		
13		0	0	IZS	1	1	1	1	0	1	1	1	1	1	1	0	0	1	1	1	0	0	1	1	1	1	0.7	24		
14		1	IZS	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24	
15		IZS	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	IZS	1	0.1	24	
16		1	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	IZS	0	1	0.3	24
17		0	0	1	1	1	0	0	0	1	1	1	1	1	1	0	0	1	1	2	1	1	1	IZS	1	0	2	0.7	24	
18		0	0	1	1	1	0	0	0	1	1	0	0	0	1	C	2	1	0	0	1	IZS	0	0	1	2	0.5	24		
19		0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	0	1	IZS	0	0	0	1	1	0.3	24		
20		1	1	1	1	0	0	0	0	0	0	1	1	M	M	1	1	0	0	IZS	0	1	1	1	1	1	0.6	22		
21		1	2	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	IZS	0	1	1	1	0	0	2	0.8	24		
22		0	0	1	1	1	1	0	1	0	1	0	1	1	0	0	1	IZS	0	0	0	1	0	2	1	2	0.6	24		
23		2	0	0	1	1	1	0	0	0	0	0	0	0	1	IZS	1	0	0	0	0	0	0	0	0	2	0.3	24		
24		1	0	0	1	0	1	0	0	0	1	0	0	1	1	IZS	0	0	0	0	0	0	0	0	0	1	0.3	24		
25		0	0	0	0	0	0	0	0	0	2	1	1	0	IZS	0	0	0	0	0	0	0	1	0	0	2	0.2	24		
26		0	0	0	0	0	0	0	1	1	1	0	1	IZS	0	1	1	1	0	1	0	0	0	0	1	1	0.4	24		
27		1	1	0	0	0	0	0	1	1	1	1	1	IZS	1	1	0	1	1	0	0	0	0	0	0	1	0.4	24		
28		0	0	0	0	0	1	1	0	0	0	IZS	0	1	1	1	0	0	0	0	0	0	1	0	0	1	0.3	24		
29		1	1	0	0	0	1	1	0	0	IZS	1	1	1	1	0	0	1	1	1	0	0	1	0	0	1	0.5	24		
30		0	1	0	0	0	0	0	1	IZS	C	C	C	C	C											1	0.3	13		
HOURLY MAX		2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	2	2	1	2	1	1	1	2	1					
HOURLY AVG		0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.7	0.4	0.4	0.6	0.5	0.3	0.3	0.4	0.2	0.3	0.3	0.4	0.3	0.3	0.4					

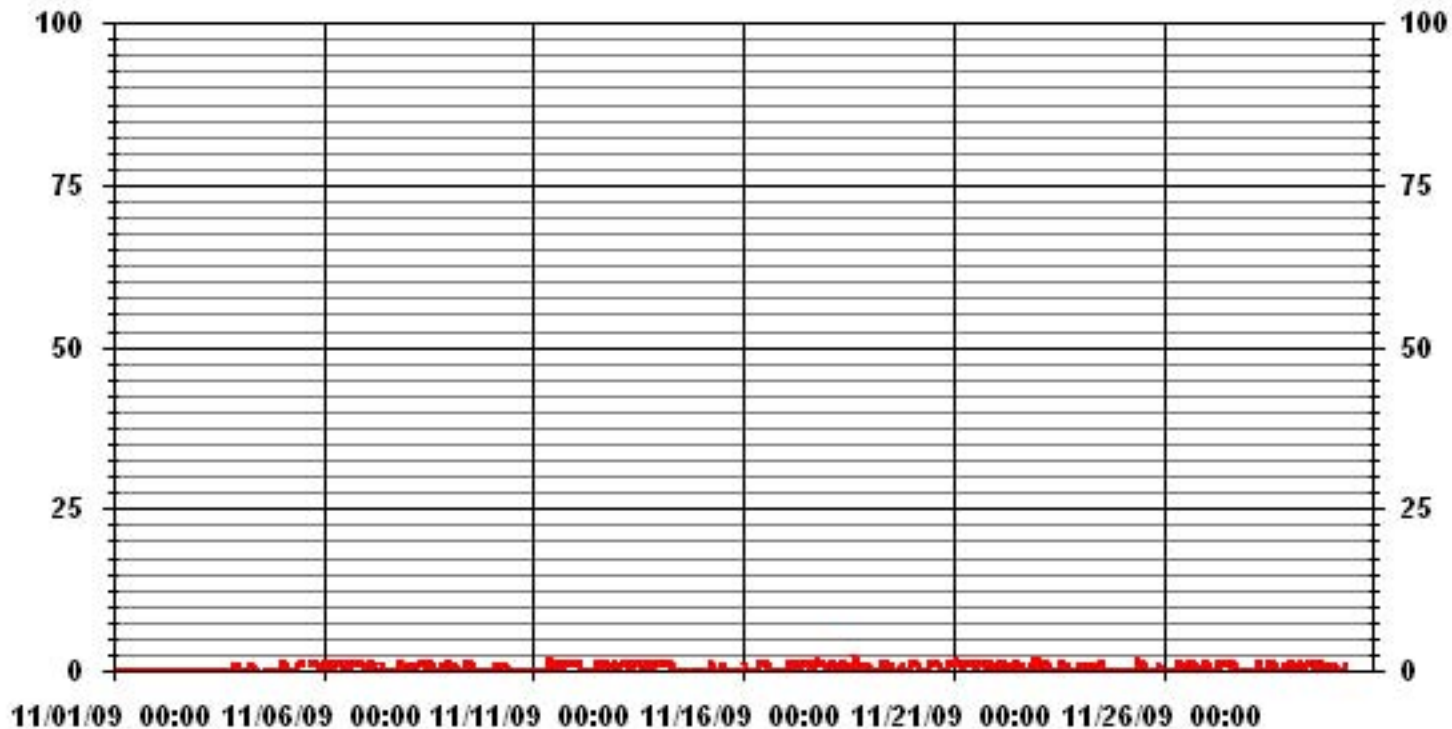
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	234					
MAXIMUM INSTANTANEOUS VALUE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	704	HRS	
MONTHLY CALIBRATION TIME:	9	HRS				
STANDARD DEVIATION:	0.51					

01 Hour Averages



LICA30
H2S_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	.90	1.80	2.25	4.51	1.95	2.25	8.28	3.16	4.81	16.26	27.40	5.72	8.88	7.98	2.56	1.20	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	.90	1.80	2.25	4.51	1.95	2.25	8.28	3.16	4.81	16.26	27.40	5.72	8.88	7.98	2.56	1.20	

Calm : .00 %

Total # Operational Hours : 664

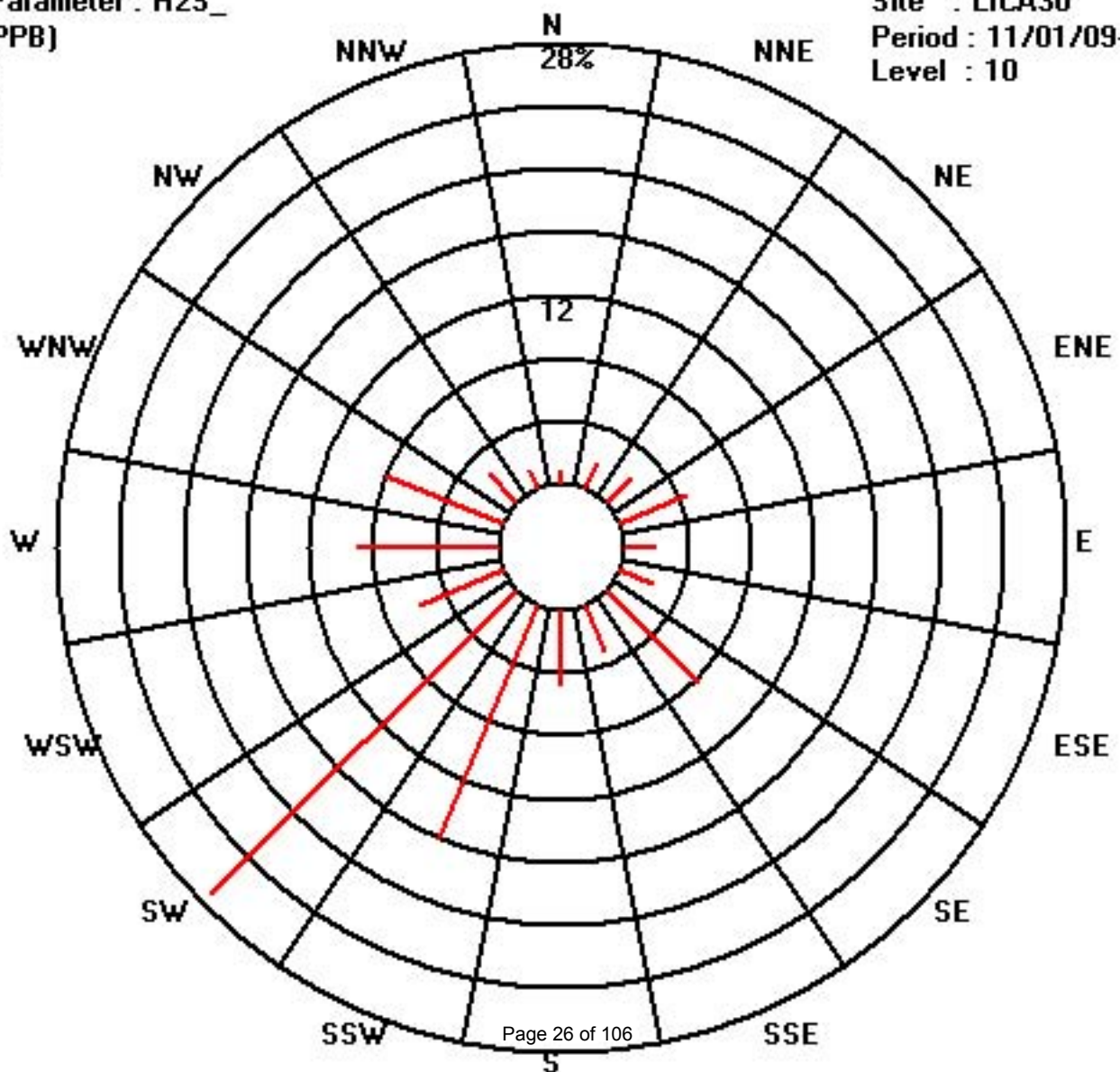
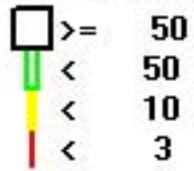
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	6	12	15	30	13	15	55	21	32	108	182	38	59	53	17	8	664
< 10																	
< 50																	
>= 50																	
Totals	6	12	15	30	13	15	55	21	32	108	182	38	59	53	17	8	

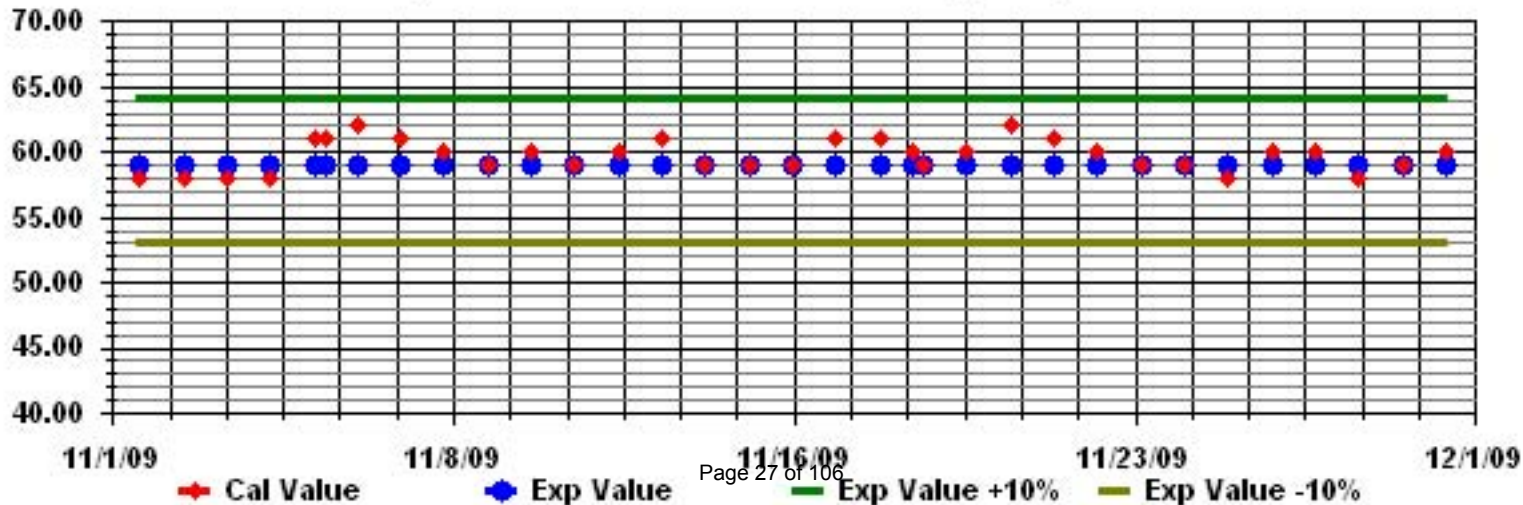
Calm : .00 %

Total # Operational Hours : 664

Class Limits (PPB)



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



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

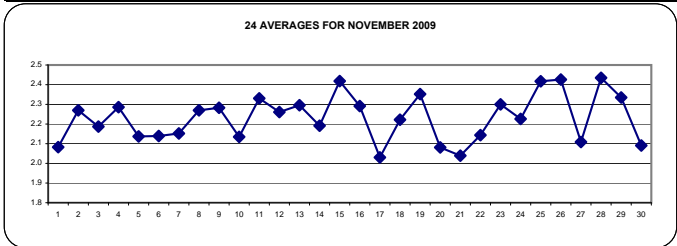
NOVEMBER 2009

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

STATUS FLAG CODES

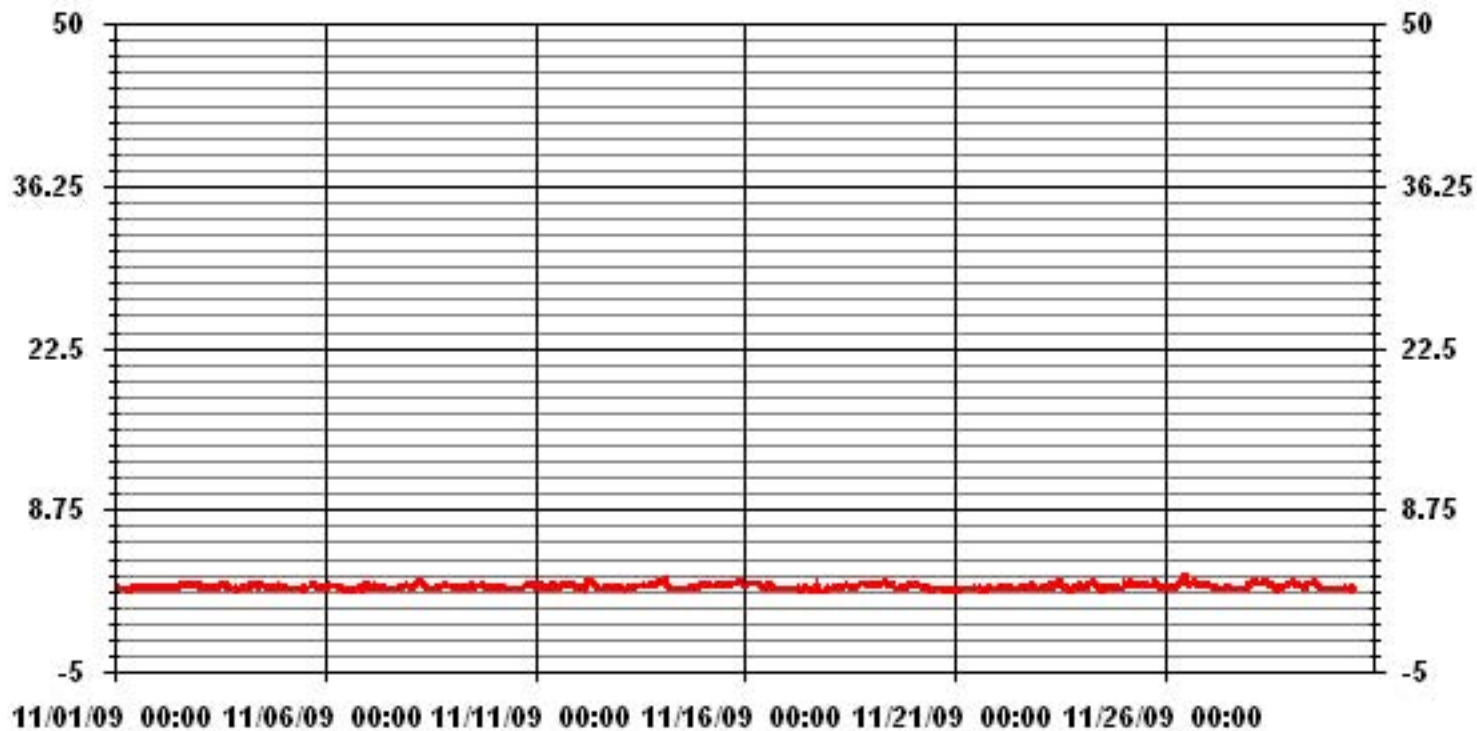
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	669
MAXIMUM 1-HR AVERAGE:	3.3 PPM @ HOUR(S) 11 ON DAY(S) 26
MAXIMUM 24-HR AVERAGE:	2.4 PPM ON DAY(S) VAR VAR
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	6 HRS
STANDARD DEVIATION:	0.20
OPERATIONAL TIME:	706 HRS
AMD OPERATION UPTIME:	99.3 %
MONTHLY AVERAGE:	2.23 PPM

01 Hour Averages



— LICA30 THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

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	2.6	2.4	2.1	2	2.3	2	2	2.1	2.2	2.2	2.2	2.7	2.4	2.3	IZS	2.2	2.1	2.1	2.1	2.1	2.1	2.4	2.2	2.4	2.7	2.2	24	
2	2.1	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.4	2.1	2.6	2.6	2.5	IZS	2.9	2.5	2.5	2.8	2.5	2.4	2.5	2.5	2.4	2.3	2.9	2.4	24	
3	2.5	2.7	2.6	2.5	2.2	2.2	2.3	2.6	2.5	2.6	2.5	2.4	IZS	2.3	2.3	2.4	2.6	2.3	2	2	2.3	3.8	2.3	2.4	3.8	2.4	24	
4	2.1	2.4	2.2	2.4	2.2	2.6	2.6	2.6	2.7	2.6	2.4	IZS	2.9	2.5	2.4	C	C	2.2	2.5	2.4	2.4	2.3	2.3	2.4	2.9	2.4	24	
5	2.2	2.4	2.2	2.1	2.1	2	2	2	2	IZS	2.2	2.3	P	P	P	2.4	C	2.7	2.4	2.4	2.4	2.4	2.2	2.7	2.2	21		
6	2.4	2.7	2.3	2.4	2.5	2.5	2.4	2.6	2.7	IZS	2.3	2.5	2	2.1	2	2.1	1.9	1.9	2.1	2.1	2.2	2.1	2.4	2.9	2.9	2.3	24	
7	2.5	2.7	2.4	2.7	2.4	2.3	2.2	2.5	IZS	2.2	2.2	2.3	2.4	2	2	2	2.1	2.3	2.1	2.5	2.2	2.6	2.6	2.4	2.7	2.3	24	
8	2.5	2.3	2.4	2.4	2.5	3	3	IZS	2.7	2.4	2.3	2.3	2.2	2	2	2	2.4	2.5	2.3	2.2	2.4	2.4	2.3	2.5	3	2.4	24	
9	2.5	2.5	2.3	2.3	2.4	2.3	IZS	2.3	2.3	2.7	2.5	2.4	2.6	2.6	2.4	2.4	2.4	2.8	2.3	2.3	2.3	2.7	2.2	2.4	2.8	2.4	24	
10	2.2	2.1	2.5	2.2	2.2	IZS	2.2	2.3	2.2	2.3	2	2	2.2	2.1	2	2.1	2.2	2.3	2.2	2.3	2.3	2.5	2.5	2.6	2.6	2.2	24	
11	2.6	2.7	2.5	2.4	IZS	2.3	2.4	2.4	2.3	2.8	2.6	2.5	2.5	2.8	2.3	2.5	2.5	2.4	2.6	2.9	2.7	2.8	2.7	2.9	2.9	2.6	24	
12	2.3	2.2	2.4	IZS	2.1	2.4	3.3	3.1	3.3	3.3	2.6	2.5	2.3	2.7	2.2	2	2.1	2.1	2.1	2.3	2.3	2.2	2.3	2.2	3.3	2.4	24	
13	2.2	2.1	IZS	2.2	2.2	2.2	2.1	2.3	2.3	2.4	2.4	2.4	2.4	2.7	2.4	2.5	2.4	2.3	2.4	2.3	2.5	2.9	2.9	2.7	2.9	2.4	24	
14	2.9	IZS	3.3	2.8	2.5	2.5	2.1	2.1	2.1	2.1	2	2.6	2	2.3	2.2	2	2.1	2.2	2.3	2.2	2.3	2.6	2.5	2.5	3.3	2.4	24	
15	IZS	2.3	2.8	2.3	2.3	2.4	2.4	2.4	2.7	2.8	2.8	2.5	2.5	2.4	2.4	2.5	2.5	2.6	2.7	2.7	2.6	2.6	IZS	2.8	2.5	2.4	24	
16	2.8	2.7	2.5	2.9	2.6	2.5	2.9	2.6	3.1	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.1	2	2	2.1	2	IZS	2	3.1	2.4	24		
17	2	2.1	2.3	2.1	2	2.2	2.5	2.2	2.1	2.1	2.2	2.1	2.1	2.5	2	2	2.5	3.4	2.9	2.2	2.1	IZS	2.1	2.2	3.4	2.3	24	
18	2.2	2.4	2.3	2.4	2.2	2.2	2.4	2.2	2.4	2.5	2.4	2.3	2.3	2.2	2.3	2.2	2.6	2.4	2.5	2.7	IZS	2.5	2.6	2.7	2.7	2.4	24	
19	2.7	2.5	2.5	2.4	2.4	2.7	2.6	2.6	2.7	2.7	2.5	2.4	2.6	2.6	2.2	2.2	2.3	2.2	2.2	IZS	2.6	2.3	2.3	2.5	2.7	2.5	24	
20	2.9	2.5	2.3	2.3	2.3	2.7	2.2	2.1	2.1	2.3	2.5	2.2	M	M	2.1	2.1	2.2	2	IZS	2	2.2	2	2.2	2.4	2.9	2.3	22	
21	2	2	2	2.2	2	2.3	2.2	2.5	2.2	2.6	2.2	2.4	2.1	2	2.1	2.2	2	IZS	2	2.4	2.6	2	2.4	2	2.6	2.2	24	
22	2.1	2.4	2.5	2.4	2.4	2.3	2.2	2.2	2.1	2.4	2.1	2.1	2.3	2.1	2.1	2.1	IZS	2.1	2.1	2.2	2.5	2.4	2.3	2.3	2.5	2.2	24	
23	2.2	2.2	2.4	2.3	2.3	2.4	2.5	2.4	2.3	2.5	2.7	2.8	2.8	2.7	2.4	IZS	2.5	2.5	2.7	2.5	2.4	2.8	2.7	2.6	2.8	2.5	24	
24	2.5	2.2	2.2	2.4	2.4	2.9	3	2.7	2.7	3	2.3	2.3	2.8	2.4	IZS	2.4	2.4	2.5	2.2	2.3	2.2	2.3	2.1	2.3	3	2.5	24	
25	2.4	2.7	2.6	2.7	3.2	2.7	2.6	2.5	2.5	2.6	2.6	2.5	2.8	IZS	2.4	2.3	2.6	2.6	3.3	2.6	2.6	2.2	2.4	2.1	3.3	2.6	24	
26	2.2	2.3	2.1	2.2	2.2	2.6	2.6	2.6	2.6	2.7	3.3	3.7	IZS	2.6	2.5	2.6	2.7	2.9	2.9	2.5	2.5	2.4	2.6	2.5	3.7	2.6	24	
27	2.6	2.6	2.4	2.4	2.3	2.3	2.3	2.1	2.1	2.5	2.1	IZS	2.3	2.2	2.3	2.2	2.2	2	2	2.3	2	2	2.3	2.4	2.6	2.3	24	
28	2.6	2.6	2.6	2.7	2.8	2.7	2.6	2.7	3.1	3	IZS	2.4	2.6	2.7	2.7	2.4	2.2	2.5	2.3	2.4	2.3	2.7	2.7	2.7	3.1	2.6	24	
29	2.7	2.8	2.8	2.7	2.6	2.5	2.5	2.4	2.4	IZS	2.9	2.5	2.9	2.7	2.7	2.5	2.3	2.1	2	2	2.2	2	2	2	2.9	2.4	24	
30	2.1	2	2	2.2	2	2.1	2.2	2.3	IZS	2.3	2.8	2.4	C	C	C										2.8	2.2	15	
HOURLY MAX	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	4	3	3			
HOURLY AVG	2.4	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.5	2.5	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.4	2.4	2.3	2.4	2.4	2.4	2.4				

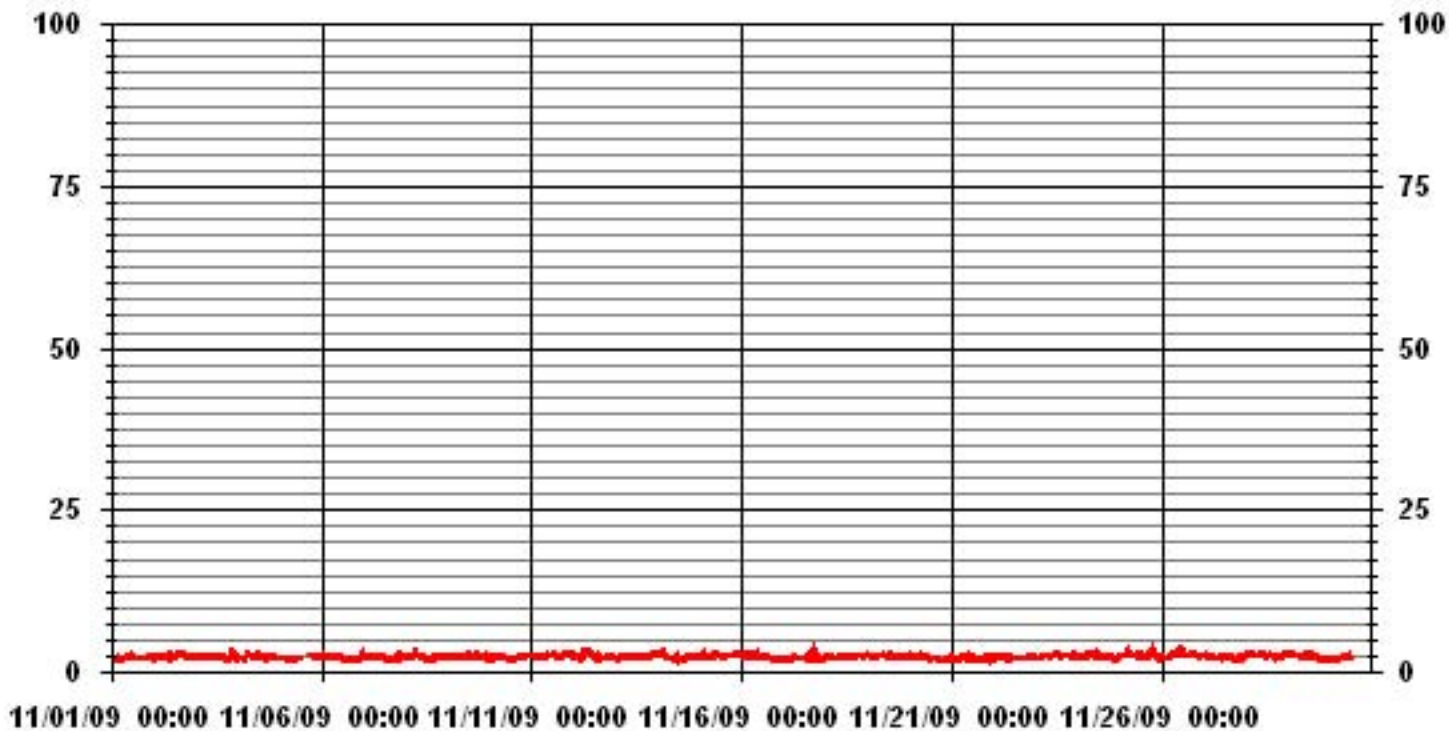
STATUS FLAG CODES

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:	669					
MAXIMUM INSTANTANEOUS VALUE:	3.8	PPM	@ HOUR(S)	21	ON DAY(S)	3
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	706 HRS		
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	0.27					

01 Hour Averages



— LICA30 THCMAX PPM

LICA30
 THC / WDR Joint Frequency Distribution (Percent)

November 2009

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	.90	1.80	2.25	4.51	1.95	2.25	8.27	3.15	4.66	16.39	27.21	5.71	8.87	7.96	2.70	1.20	99.84
< 10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15	.00	.00	.00	.00	.00	.15
< 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	.90	1.80	2.25	4.51	1.95	2.25	8.27	3.15	4.66	16.39	27.36	5.71	8.87	7.96	2.70	1.20	

Calm : .00 %

Total # Operational Hours : 665

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	6	12	15	30	13	15	55	21	31	109	181	38	59	53	18	8	664
< 10.0											1						1
< 50.0																	
>= 50.0																	
Totals	6	12	15	30	13	15	55	21	31	109	182	38	59	53	18	8	

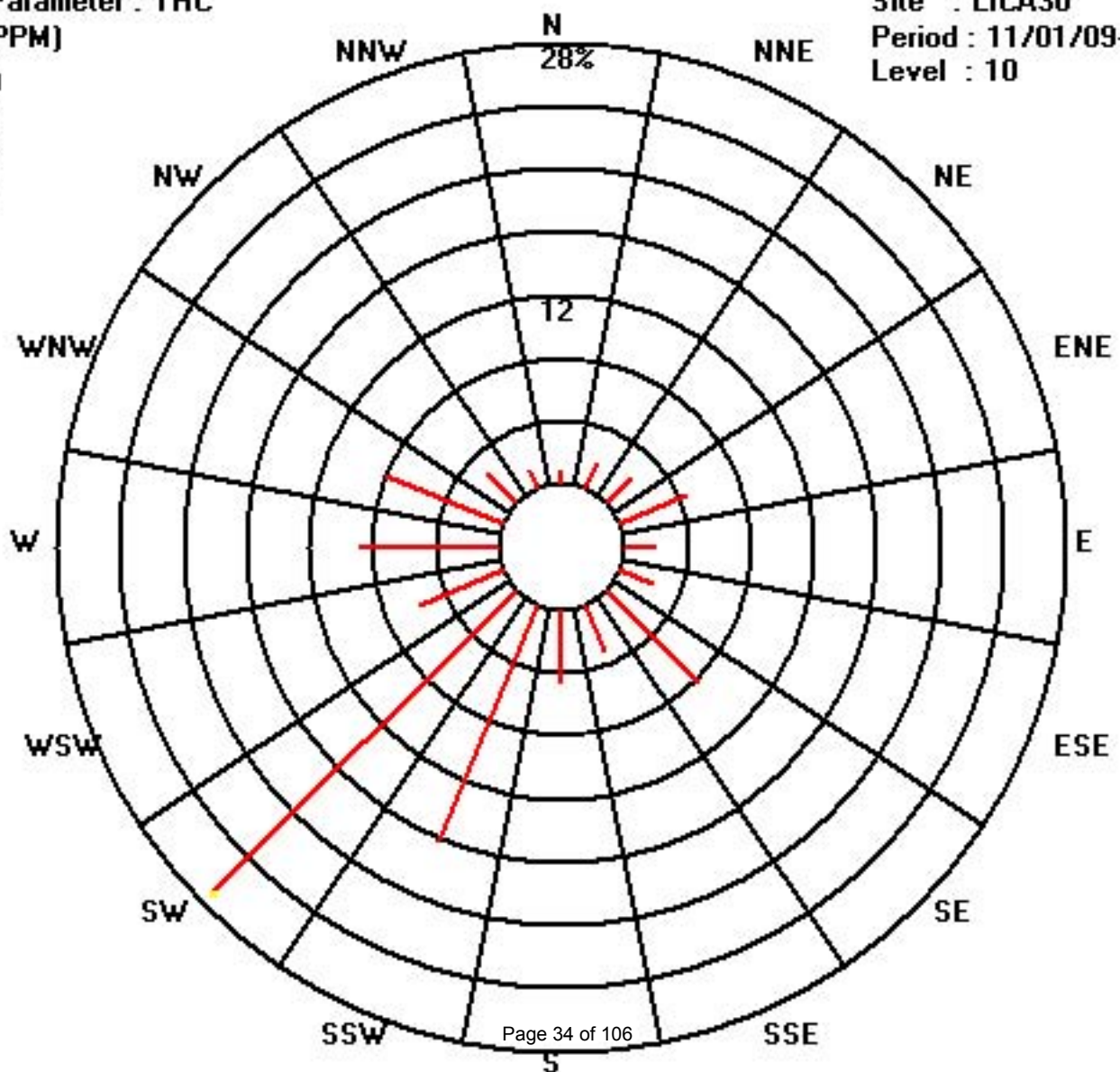
Calm : .00 %

Total # Operational Hours : 665

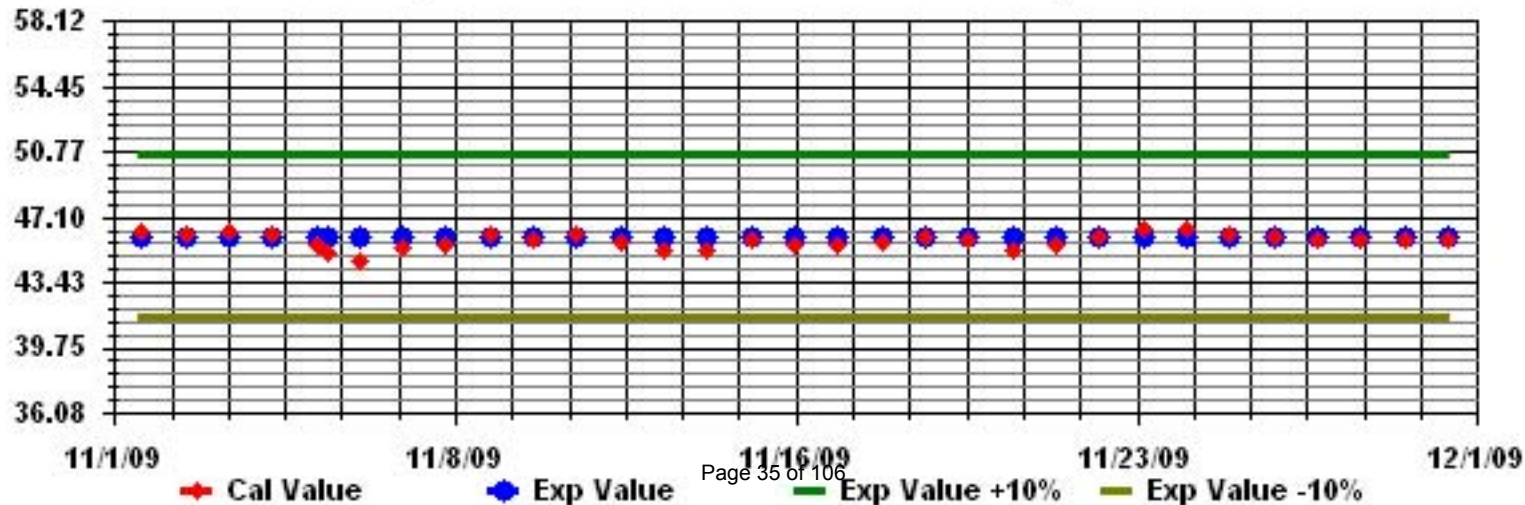
Class Limits (PPM)

Period : 11/01/09-11/30/09

Level : 10



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



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

NITROGEN DIOXIDE hourly averages in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
DAY																													
1		4	5	1	0	0	0	0	1	3	4	6	5	8	9	IZS	7	1	0	0	1	1	2	5	2	9	2.8	24	
2		2	2	2	2	2	3	4	3	2	3	2	2	2	IZS	3	3	3	2	2	2	2	1	2	4	2.3	24		
3		2	4	2	1	1	1	1	4	5	4	2	3	IZS	3	4	5	9	4	0	0	12	13	6	8	13	4.1	24	
4		1	1	1	1	1	5	7	9	11	7	5	IZS	4	C	C	C	C	9	6	4	3	2	2	1	11	4.2	24	
5		1	1	1	1	1	1	1	1	1	1	IZS	2	2	P	P	P	8	C	7	4	3	3	2	2	8	2.3	21	
6		1	2	1	1	1	3	7	11	8	IZS	4	8	2	7	1	1	0	0	4	3	4	1	2	7	11	3.4	24	
7		6	5	4	3	6	6	2	7	IZS	5	3	3	2	3	2	5	5	4	4	4	4	8	7	6	8	4.5	24	
8		7	5	4	7	9	14	14	IZS	9	7	4	2	1	0	0	1	3	1	2	3	3	6	4	5	14	4.8	24	
9		7	7	6	6	6	6	IZS	10	9	9	8	8	6	5	3	4	6	4	3	3	2	2	2	3	10	5.4	24	
10		2	2	2	2	2	IZS	5	8	4	2	1	1	2	2	2	5	6	6	4	5	4	3	4	7	8	3.5	24	
11		6	4	4	5	IZS	5	4	7	11	11	6	6	6	10	9	12	13	14	11	10	9	15	13	17	17	9.0	24	
12		18	12	12	IZS	3	4	10	13	14	9	6	5	4	3	3	4	5	9	6	7	6	6	7	7	18	7.5	24	
13		5	4	IZS	5	5	5	5	5	6	5	6	5	5	4	7	8	7	9	6	5	5	7	7	7	9	5.7	24	
14		7	IZS	12	15	24	20	18	5	4	5	1	1	1	0	1	1	2	5	5	3	2	3	3	3	24	6.1	24	
15		IZS	2	4	4	3	3	4	10	6	4	5	4	5	5	6	9	5	6	7	8	7	6	IZS	10	5.4	24		
16		5	5	5	4	4	4	7	8	8	5	3	3	3	2	5	5	6	4	3	2	2	1	IZS	1	8	4.1	24	
17		3	4	1	1	1	1	4	4	3	2	2	3	1	2	2	2	3	10	11	8	1	IZS	1	1	11	3.1	24	
18		3	2	2	1	2	3	4	6	10	13	11	8	5	5	6	17	19	12	8	7	IZS	7	9	8	19	7.3	24	
19		8	7	7	6	5	5	4	4	4	5	4	4	3	4	4	7	9	10	IZS	7	9	7	6	10	5.8	24		
20		6	5	5	6	5	4	3	2	2	2	4	5	M	M	7	4	1	1	IZS	1	1	1	1	1	7	3.2	22	
21		1	1	1	1	2	6	9	11	7	7	7	7	1	2	2	6	1	IZS	2	7	7	1	1	1	11	4.0	24	
22		2	4	5	6	6	5	3	3	5	3	3	2	1	2	2	4	IZS	5	4	3	2	2	2	2	6	3.3	24	
23		2	2	2	2	3	4	3	4	3	5	6	5	5	4	5	IZS	9	4	1	2	6	6	5	8	9	4.2	24	
24		7	4	4	9	6	7	9	12	13	9	3	7	8	12	IZS	10	11	7	2	5	3	5	3	2	13	6.9	24	
25		6	8	7	7	8	7	7	10	11	7	8	8	5	IZS	5	5	4	4	3	3	2	1	1	1	11	5.6	24	
26		1	1	1	2	3	2	6	9	13	11	9	8	IZS	7	9	10	12	12	9	7	7	6	6	6	13	6.8	24	
27		10	9	5	6	3	2	3	5	5	4	2	IZS	6	4	2	3	6	2	2	1	1	1	2	5	10	3.9	24	
28		6	7	7	8	9	7	7	8	8	9	IZS	5	6	7	6	6	4	3	5	5	7	8	9	10	10	6.8	24	
29		12	12	10	9	9	9	12	13	14	IZS	7	7	6	7	8	6	5	0	0	0	0	0	0	0	14	6.3	24	
30		0	0	0	0	0	1	4	7	IZS	C	C	C	C	C	C									7	1.5	15		
HOURLY MAX		NA	12	12	15	24	20	18	13	14	13	11	8	8	12	9	17	19	14	11	10	12	15	13	17				
HOURLY AVG		NA	4.4	4.1	4.2	4.5	4.9	5.8	6.9	7.1	5.9	4.7	4.7	3.8	4.6	4.0	5.5	6.1	5.3	4.6	4.0	4.1	4.5	4.2	4.6				

STATUS FLAG CODES

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

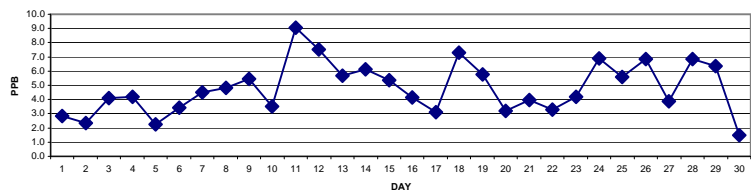
OBJECTIVE LIMIT:

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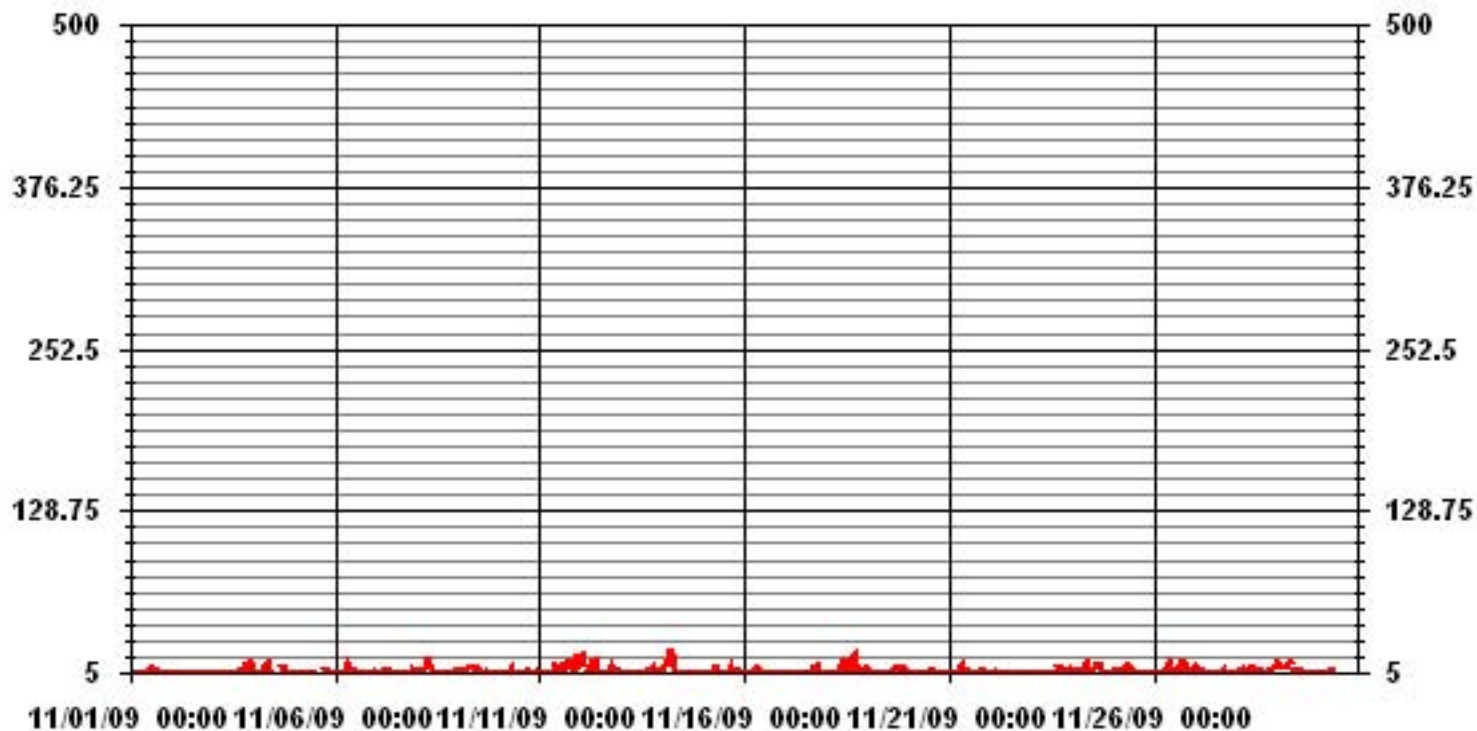
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	639					
MAXIMUM 1-HR AVERAGE:	24	PPB	@ HOUR(S)	4	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	9.0	PPB			ON DAY(S)	11
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	706	HRS	
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME:	99.3	%	
STANDARD DEVIATION:	3.49		MONTHLY AVERAGE:	4.90	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA30 IIO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	6	7	3	1	1	1	2	3	12	10	10	9	12	14	IZS	12	3	2	2	7	6	7	10	5	14	6.3	24	
2	3	3	2	2	4	4	7	5	3	5	5	3	2	IZS	5	4	4	4	3	3	3	2	4	7	3.6	24		
3	4	5	3	2	2	2	2	23	9	6	3	5	IZS	4	6	7	12	10	1	1	19	17	12	16	23	7.4	24	
4	2	2	2	2	2	6	12	16	13	9	16	IZS	6	C	C	C	C	13	10	5	4	3	2	2	16	6.7	24	
5	2	2	1	1	1	1	1	2	2	2	IZS	3	3	P	P	P	16	C	9	6	4	3	3	3	16	3.4	21	
6	2	2	2	2	2	5	9	16	12	IZS	8	17	3	13	5	2	1	1	6	5	5	3	5	9	17	5.9	24	
7	8	6	6	6	7	9	5	10	IZS	8	4	4	3	4	3	6	8	5	6	5	5	13	8	7	13	6.3	24	
8	9	7	6	8	12	17	17	IZS	11	8	7	3	2	1	1	3	4	2	3	4	8	10	6	6	17	6.7	24	
9	9	9	7	7	9	7	IZS	16	20	12	11	37	8	6	5	6	7	6	4	4	3	2	2	3	37	8.7	24	
10	3	3	3	3	4	IZS	9	21	9	3	2	3	11	4	3	30	23	8	5	11	7	4	7	9	30	8.0	24	
11	9	6	5	6	IZS	6	8	17	17	70	11	7	7	15	13	13	15	16	13	11	11	18	20	21	70	14.6	24	
12	20	18	20	IZS	4	8	12	16	15	13	8	6	5	4	4	6	7	12	6	9	8	7	8	7	20	9.7	24	
13	6	5	IZS	6	6	6	7	7	8	7	9	6	7	6	5	10	9	8	23	8	6	6	8	8	23	7.7	24	
14	9	IZS	19	24	27	26	28	14	7	7	4	3	2	1	1	3	6	11	8	4	2	3	5	5	28	9.5	24	
15	IZS	3	4	4	4	3	10	14	10	6	6	5	8	6	8	9	15	7	8	9	10	9	7	IZS	15	7.5	24	
16	7	6	5	5	6	6	9	10	10	8	4	4	3	3	8	10	10	5	5	3	3	2	IZS	3	10	5.9	24	
17	4	7	3	2	2	3	7	4	4	3	2	4	3	2	3	3	7	15	27	20	4	IZS	2	2	27	5.8	24	
18	4	3	4	2	3	4	8	16	13	17	14	14	12	8	8	36	31	16	9	9	IZS	8	10	9	36	11.2	24	
19	8	9	9	7	5	6	5	5	5	5	6	5	4	6	6	7	9	11	12	IZS	9	10	9	8	12	7.2	24	
20	8	7	6	6	6	6	4	3	3	3	8	10	M	M	10	9	2	1	IZS	1	2	1	1	2	10	4.7	22	
21	2	2	2	3	4	8	17	17	14	13	12	9	3	3	3	11	2	IZS	6	12	13	2	2	3	17	7.1	24	
22	5	6	6	8	8	6	6	6	10	6	5	4	2	4	4	7	IZS	6	5	4	3	3	3	3	10	5.2	24	
23	4	2	2	3	4	4	4	5	4	9	8	19	8	5	6	IZS	25	10	2	4	8	7	9	10	25	7.0	24	
24	11	5	5	17	7	9	14	14	15	12	5	17	14	17	IZS	21	29	12	6	19	6	7	5	4	29	11.8	24	
25	7	11	7	8	13	8	13	14	14	9	10	11	6	IZS	6	6	7	5	4	3	3	2	2	2	14	7.4	24	
26	2	1	2	4	4	3	10	12	18	14	10	9	IZS	8	14	12	14	15	11	8	8	8	8	10	18	8.9	24	
27	12	11	6	6	5	3	8	7	8	6	4	IZS	13	11	4	7	15	6	5	2	1	1	3	6	15	6.5	24	
28	6	8	9	9	10	9	8	9	9	10	IZS	6	7	9	9	8	5	5	6	7	9	9	11	11	11	8.2	24	
29	15	13	12	13	10	11	15	15	16	IZS	8	8	7	8	9	9	22	2	0	0	0	0	0	0	22	8.4	24	
30	0	0	0	0	2	2	7	10	IZS	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	10	2.6	15	
HOURLY MAX	20	18	20	24	27	26	28	23	20	70	16	37	14	17	14	36	31	16	27	20	19	18	20	21				
HOURLY AVG	6.4	5.8	5.6	5.8	6.0	6.5	9.1	11.3	10.4	10.4	7.4	8.6	6.2	6.8	6.0	9.9	11.4	7.9	7.3	6.6	6.1	6.0	6.1	6.4				

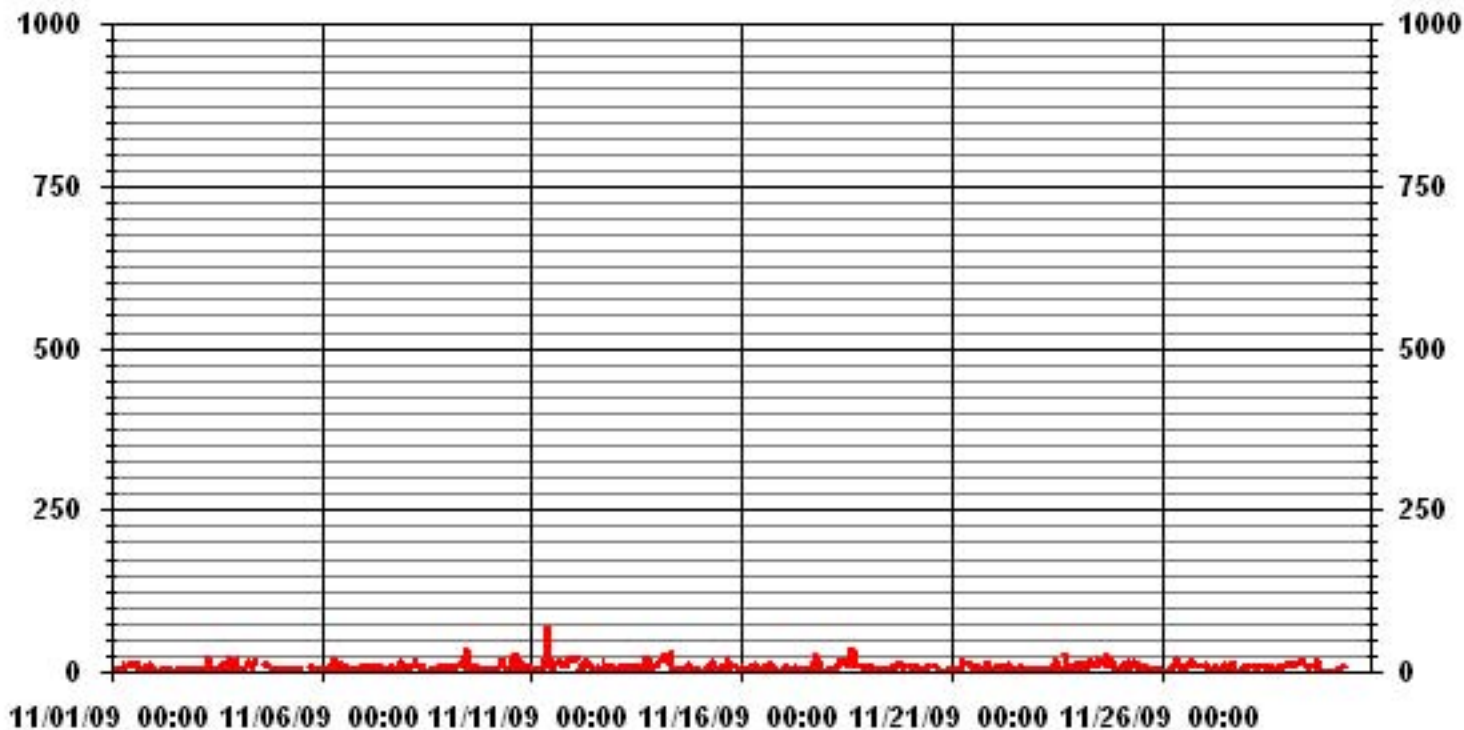
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	654					
MAXIMUM INSTANTANEOUS VALUE:	70	PPB	@ HOUR(S)	9	ON DAY(S)	11
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	706	HRS	
MONTHLY CALIBRATION TIME:	11	HRS				
STANDARD DEVIATION:	5.89					

01 Hour Averages



— LICA30 H02MAX PPB

LICA30
 NO2_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	.90	1.80	2.26	4.52	1.96	2.26	8.29	3.16	4.67	16.13	27.45	5.73	8.89	7.99	2.71	1.20	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	.90	1.80	2.26	4.52	1.96	2.26	8.29	3.16	4.67	16.13	27.45	5.73	8.89	7.99	2.71	1.20	

Calm : .00 %

Total # Operational Hours : 663

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	6	12	15	30	13	15	55	21	31	107	182	38	59	53	18	8	663
< 110																	
< 210																	
>= 210																	
Totals	6	12	15	30	13	15	55	21	31	107	182	38	59	53	18	8	

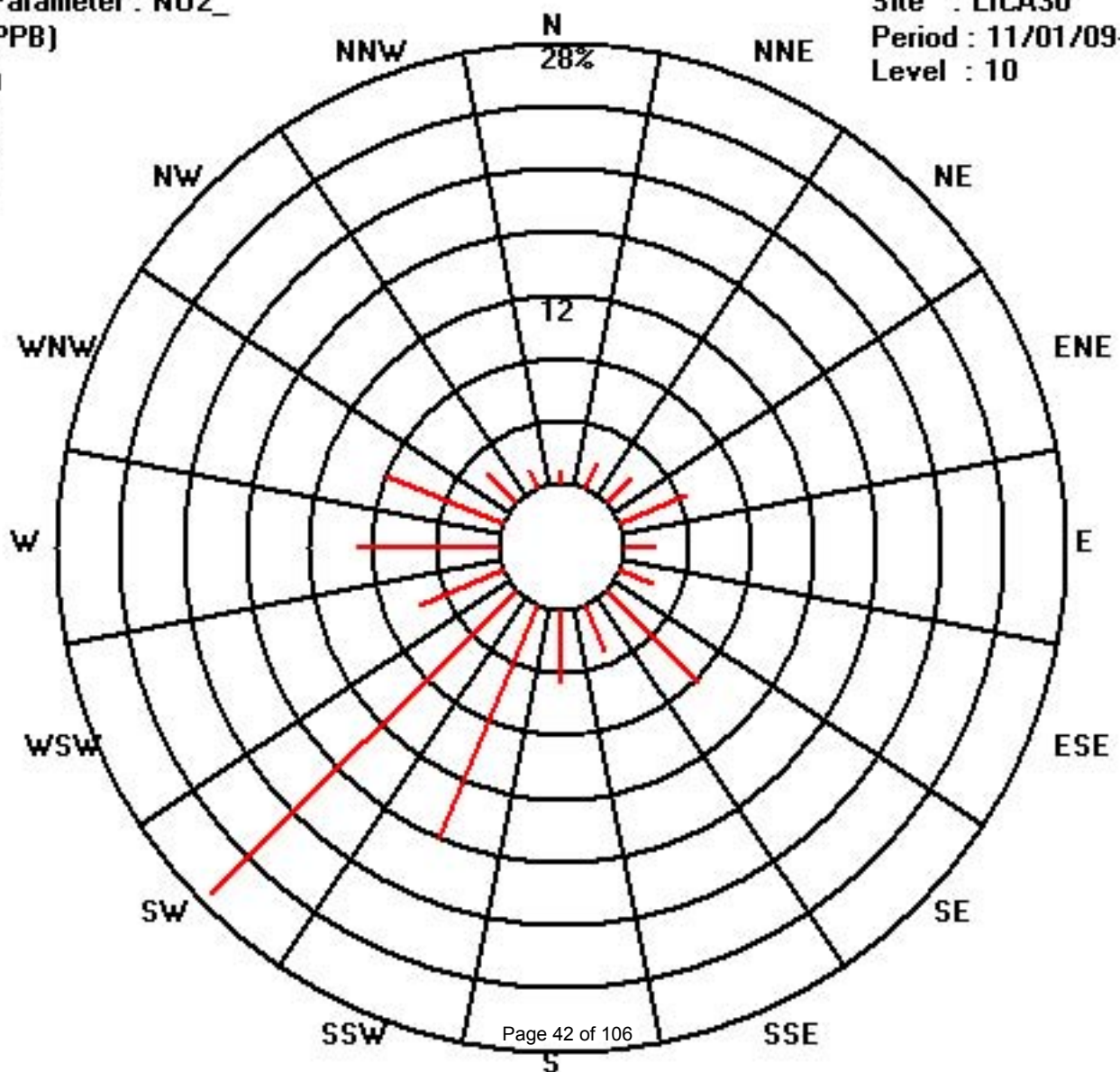
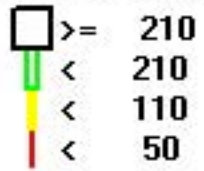
Calm : .00 %

Total # Operational Hours : 663

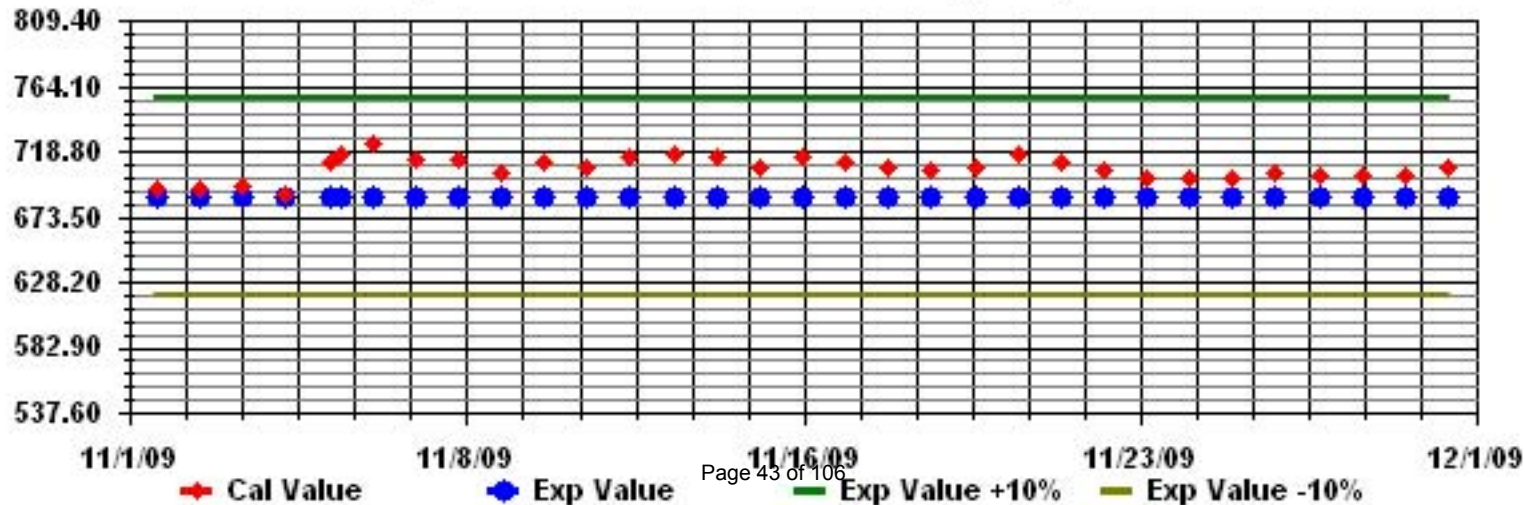
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



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



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOICATION - MASKWA

NOVEMBER 2009

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	2	3	4	4	6	6	IZS	2	0	0	0	1	0	0	1	0	0	6	1.3	24
2	1	1	1	1	1	1	1	2	1	1	2	1	1	1	IZS	1	1	0	0	0	0	0	0	0	0	2	0.7	24
3	0	0	0	0	0	0	0	2	1	1	1	1	1	IZS	1	2	2	1	0	0	0	1	2	1	0	2	0.7	24
4	0	0	0	0	0	0	1	9	7	6	5	IZS	4	C	C	C	C	1	1	1	1	1	0	0	9	1.9	24	
5	0	0	0	0	0	0	0	0	0	0	0	IZS	2	1	P	P	P	1	C	0	0	0	0	0	2	0.2	21	
6	0	0	0	0	0	0	1	4	3	IZS	4	4	0	1	0	0	0	0	0	0	0	0	0	0	4	0.7	24	
7	0	0	0	0	0	0	0	0	IZS	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	2	0.3	24	
8	0	0	0	0	0	0	0	IZS	2	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0.4	24	
9	0	0	0	0	0	0	IZS	1	2	3	5	6	3	2	1	0	0	0	0	0	0	0	0	0	6	1.0	24	
10	0	0	0	0	0	IZS	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1	24	
11	0	0	0	0	IZS	0	0	2	3	12	4	3	3	4	2	1	0	0	0	0	0	0	4	1	5	12	1.9	24
12	2	1	2	IZS	0	1	1	1	4	5	4	3	2	1	0	0	0	0	0	0	0	0	0	0	5	1.2	24	
13	0	0	IZS	1	0	1	0	1	1	2	3	3	3	2	1	0	0	0	2	0	0	0	0	1	3	0.9	24	
14	1	IZS	1	3	9	2	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0.8	24	
15	IZS	0	0	0	0	0	0	0	1	1	2	1	2	1	0	0	0	0	0	0	0	0	0	0	2	0.4	24	
16	1	1	1	1	1	1	2	3	5	4	2	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	5	1.1	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	IZS	0	2	0.1	24	
18	0	0	0	0	0	0	0	0	0	5	2	1	1	1	2	8	5	0	0	0	IZS	0	0	1	8	1.1	24	
19	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	0	0	0	0	0	IZS	0	0	0	2	0.7	24	
20	0	0	0	0	0	1	0	0	0	1	2	3	M	M	2	0	0	0	IZS	0	0	0	0	0	3	0.4	22	
21	0	0	0	0	0	0	2	5	3	4	4	3	0	0	0	1	0	IZS	0	0	0	0	0	0	5	1.0	24	
22	0	0	1	1	1	1	1	1	1	2	2	1	1	1	1	0	IZS	0	1	0	1	1	1	1	2	0.9	24	
23	1	1	1	1	0	1	1	1	0	1	2	3	4	2	1	0	IZS	2	0	0	0	0	0	0	4	1.0	24	
24	0	0	0	0	0	0	1	1	2	3	1	2	4	5	IZS	3	3	0	0	1	0	0	0	0	5	1.1	24	
25	0	0	0	0	1	1	1	2	5	6	5	4	2	IZS	1	0	0	0	0	0	0	0	0	0	6	1.2	24	
26	0	0	0	0	0	0	0	0	4	5	7	8	IZS	2	2	1	1	0	0	0	0	0	0	8	1.3	24		
27	0	0	0	0	0	0	0	0	1	1	1	IZS	4	2	0	0	0	0	0	0	0	0	0	4	0.4	24		
28	0	0	0	0	0	1	1	1	1	3	IZS	3	4	3	1	0	0	0	0	0	0	0	0	4	0.8	24		
29	0	0	0	0	0	0	0	0	0	1	IZS	1	1	3	3	2	0	1	0	0	0	0	0	3	0.5	24		
30	0	0	0	0	0	0	0	0	IZS	C	C	C	C	C	C									0	0.0	15		
HOURLY MAX	2	1	2	3	9	2	2	9	7	12	7	8	6	6	2	8	5	1	2	1	1	4	1	5				
HOURLY AVG	0.2	0.2	0.3	0.3	0.5	0.4	0.6	1.3	1.9	2.9	2.4	2.3	2.0	1.7	0.8	0.7	0.6	0.0	0.2	0.1	0.1	0.3	0.1	0.3				

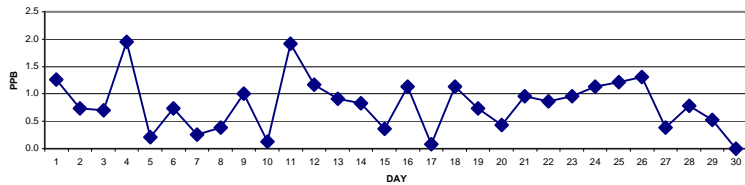
STATUS FLAG CODES

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

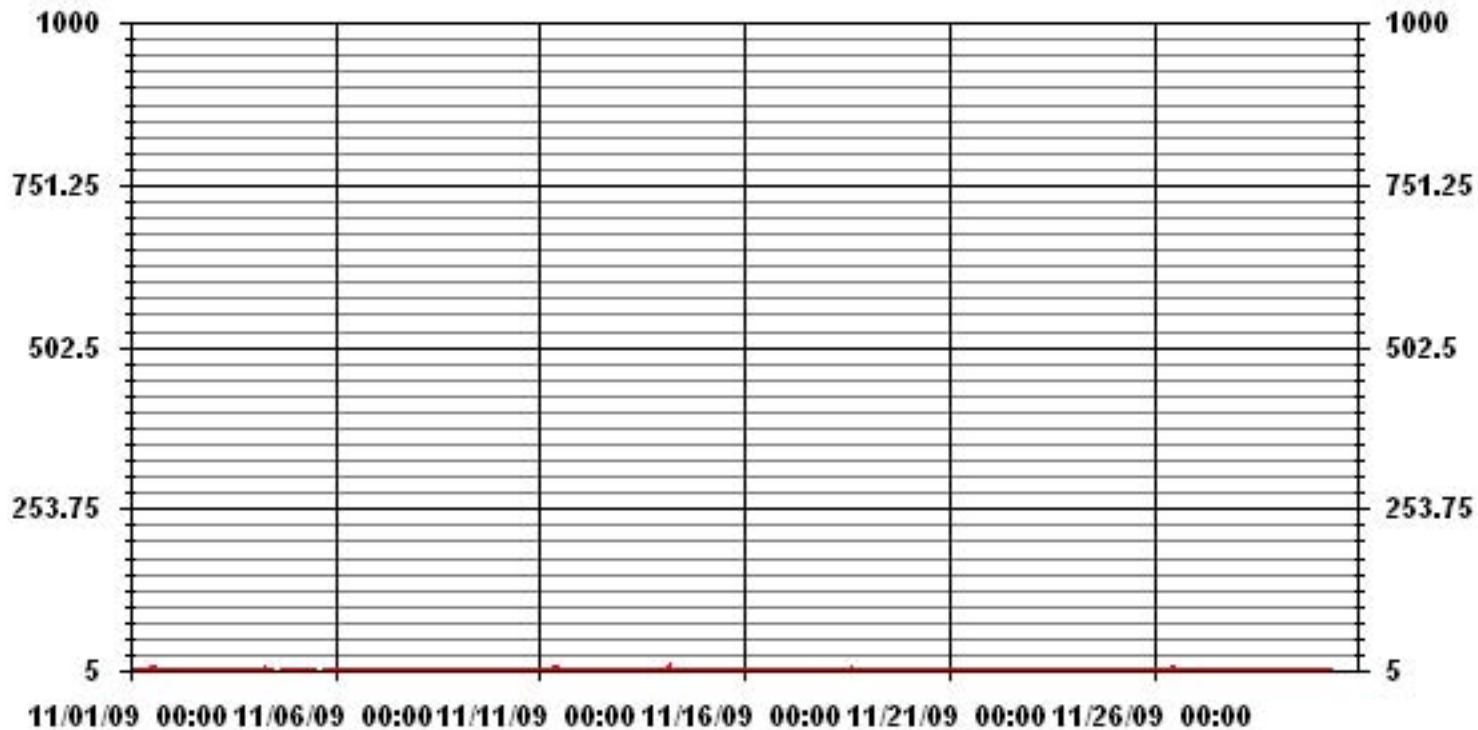
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	260					
MAXIMUM 1-HR AVERAGE:	12	PPB	@ HOUR(S)	9	ON DAY(S)	11
MAXIMUM 24-HR AVERAGE:	1.9	PPB			ON DAY(S)	11
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	706	HRS	
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME:	99.3	%	
STANDARD DEVIATION:	1.48		MONTHLY AVERAGE:	0.82	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA30 NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	1	1	0	1	1	1	0	1	11	9	8	7	11	11	IZS	4	1	1	1	2	2	1	1	1	11	3.3	24	
2	1	1	2	2	2	2	2	2	2	3	3	2	1	IZS	2	1	1	1	1	1	1	1	1	3	1.6	24		
3	1	1	1	1	1	1	1	41	6	2	2	2	IZS	2	3	4	4	4	0	0	3	5	4	2	41	4.0	24	
4	0	0	0	0	1	1	5	57	13	11	33	IZS	6	C	C	C	C	2	1	1	1	1	1	57	7.1	24		
5	1	1	1	1	1	1	0	0	1	1	IZS	3	3	P	P	P	2	C	1	1	1	1	1	3	1.2	21		
6	0	0	1	1	1	1	3	24	6	IZS	7	14	1	3	0	1	0	0	1	0	0	0	0	24	2.8	24		
7	0	0	0	0	0	2	0	2	IZS	6	3	2	2	2	1	1	3	0	0	0	0	0	0	6	1.0	24		
8	0	0	1	1	1	4	6	IZS	3	4	3	2	1	0	0	0	0	0	0	0	0	3	0	6	1.3	24		
9	0	1	1	0	3	0	IZS	2	9	5	9	37	5	4	2	1	0	0	0	0	0	0	0	37	3.4	24		
10	0	0	0	0	0	IZS	1	20	6	2	1	1	13	1	1	8	24	0	0	3	1	0	0	24	3.6	24		
11	0	0	0	0	IZS	1	1	56	5	165	5	4	4	9	4	2	1	3	1	1	1	8	6	12	165	12.6	24	
12	4	2	9	IZS	1	1	3	3	7	6	6	4	3	2	1	2	2	0	0	3	1	0	0	1	9	2.7	24	
13	0	1	IZS	4	1	1	3	3	4	4	7	3	4	3	2	1	0	0	28	1	1	1	1	1	28	3.2	24	
14	1	IZS	7	7	23	7	6	20	1	2	2	2	0	0	0	0	3	2	0	0	0	0	0	23	3.6	24		
15	IZS	0	0	0	0	0	2	3	2	2	2	2	5	2	3	0	3	0	0	0	0	0	0	IZS	5	1.2	24	
16	1	1	1	1	2	4	6	8	10	5	3	2	2	1	2	2	2	0	0	0	0	0	IZS	0	10	2.3	24	
17	0	0	0	0	0	0	2	1	1	1	1	1	1	0	1	1	0	4	11	3	0	IZS	0	0	11	1.2	24	
18	0	0	0	0	0	0	2	8	2	11	5	3	3	3	3	65	34	1	1	1	IZS	1	1	1	65	6.3	24	
19	1	2	1	2	2	2	2	2	1	2	3	3	2	6	3	2	1	3	1	IZS	1	1	1	1	6	2.0	24	
20	1	1	1	1	1	1	1	1	1	1	4	6	M	M	3	2	0	0	IZS	1	1	1	1	0	6	1.4	22	
21	0	1	1	1	1	1	28	19	11	10	12	6	1	1	1	17	1	IZS	1	1	1	1	1	2	28	5.2	24	
22	1	1	1	1	2	2	3	1	3	3	3	3	1	2	1	2	IZS	1	1	1	1	2	1	1	3	1.7	24	
23	1	1	1	1	1	1	1	1	1	3	3	30	6	3	2	IZS	73	1	1	1	1	1	1	1	73	5.9	24	
24	1	1	1	1	1	2	7	4	3	6	2	9	8	10	IZS	9	22	1	0	6	1	1	1	1	22	4.3	24	
25	1	1	1	1	6	1	3	3	17	8	8	6	3	IZS	2	1	2	1	0	1	1	1	1	0	17	3.0	24	
26	1	0	0	0	0	0	3	3	26	7	10	9	IZS	4	10	2	6	3	1	0	1	1	0	0	26	3.8	24	
27	1	0	1	1	1	1	5	3	4	2	1	IZS	9	8	1	1	5	0	0	0	0	0	0	9	1.9	24		
28	1	1	1	1	1	1	2	2	3	4	IZS	5	5	5	5	1	0	0	0	0	0	0	1	1	5	1.7	24	
29	1	1	1	1	1	1	3	3	4	IZS	2	3	5	4	3	1	30	0	0	0	0	0	0	30	2.8	24		
30	0	0	0	0	0	0	1	3	IZS	C	C	C	C	C	C									3	0.5	15		
HOURLY MAX	4	2	9	7	23	7	28	57	26	165	33	37	13	11	10	65	73	4	28	6	3	8	6	12				
HOURLY AVG	0.7	0.7	1.2	1.0	1.9	1.4	3.5	10.2	5.8	10.6	5.5	6.3	4.0	3.6	2.2	5.0	8.1	1.0	1.8	1.0	0.7	1.1	0.9	1.0				

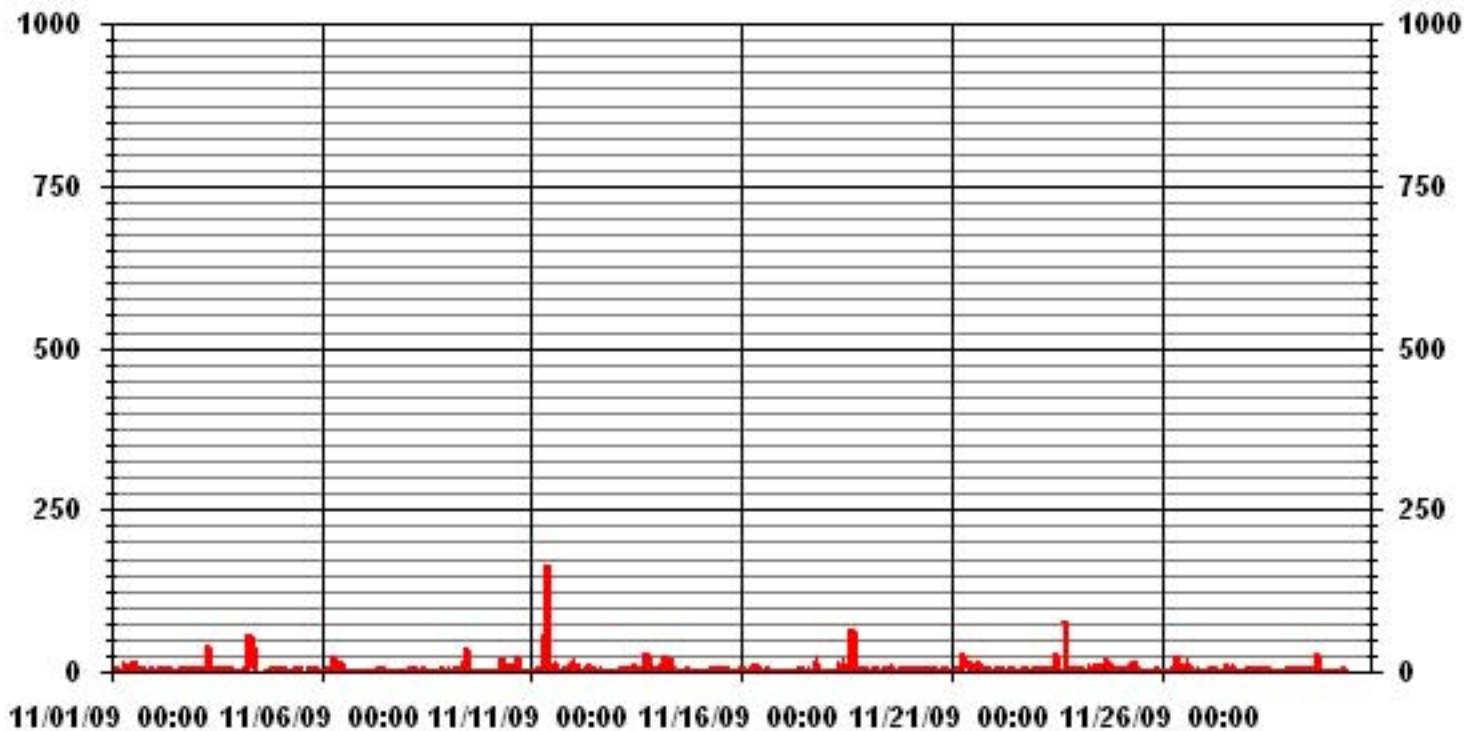
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	500					
MAXIMUM INSTANTANEOUS VALUE:	165	PPB	@ HOUR(S)	9	ON DAY(S)	11
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	706	HRS	
MONTHLY CALIBRATION TIME:	11	HRS				
STANDARD DEVIATION:	9.17					

01 Hour Averages



LICA30
 NO_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	.90	1.80	2.26	4.52	1.96	2.26	8.29	3.16	4.67	16.13	27.45	5.73	8.89	7.99	2.71	1.20	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	.90	1.80	2.26	4.52	1.96	2.26	8.29	3.16	4.67	16.13	27.45	5.73	8.89	7.99	2.71	1.20	

Calm : .00 %

Total # Operational Hours : 663

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	6	12	15	30	13	15	55	21	31	107	182	38	59	53	18	8	663
< 110																	
< 210																	
>= 210																	
Totals	6	12	15	30	13	15	55	21	31	107	182	38	59	53	18	8	

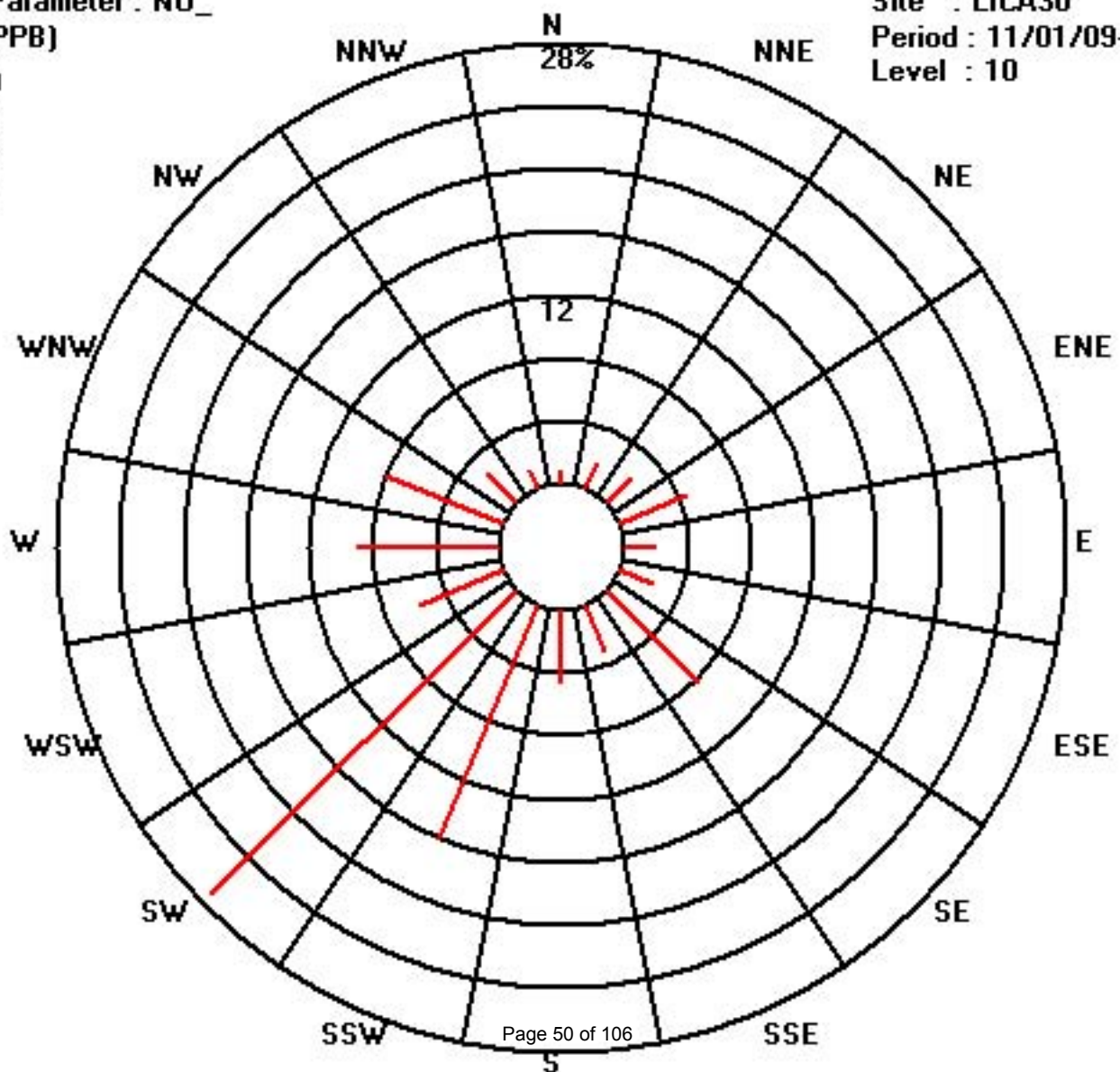
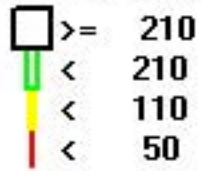
Calm : .00 %

Total # Operational Hours : 663

Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

OXIDES OF NITROGEN hourly averages in ppb

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	4	5	1	0	0	0	0	1	6	6	9	9	14	15	IZS	9	1	0	0	1	1	2	5	2	15	4.0	24
2	2	2	2	2	2	3	4	3	2	3	3	2	2	IZS	4	3	3	3	2	2	2	2	1	1	4	2.4	24
3	2	4	2	1	1	1	1	5	6	5	3	3	IZS	4	6	7	10	5	0	0	13	15	7	9	15	4.8	24
4	1	1	1	1	1	5	8	18	17	13	9	IZS	8	C	C	C	C	9	6	4	3	2	2	2	18	5.8	24
5	1	1	1	1	1	1	1	1	2	2	IZS	4	4	P	P	P	8	C	8	4	3	3	2	2	8	2.6	21
6	1	1	2	2	1	3	8	15	11	IZS	8	12	2	8	2	1	0	0	4	3	4	1	2	7	15	4.3	24
7	6	4	4	3	6	6	2	7	IZS	7	5	4	4	4	3	5	5	3	4	4	4	8	7	6	8	4.8	24
8	8	5	4	7	10	14	15	IZS	10	10	6	3	2	0	0	1	2	1	2	3	3	6	4	5	15	5.3	24
9	7	7	6	6	6	5	IZS	10	10	12	13	14	9	8	4	5	6	4	3	3	2	1	1	3	14	6.3	24
10	2	1	2	2	2	IZS	5	9	5	3	1	1	3	2	2	6	7	6	4	6	5	3	4	7	9	3.8	24
11	6	3	3	5	IZS	5	4	9	14	24	10	8	9	15	11	14	14	15	11	10	10	19	14	23	24	11.1	24
12	20	12	14	IZS	3	4	10	13	17	13	10	8	5	4	3	4	5	9	5	7	6	6	7	7	20	8.3	24
13	5	4	IZS	5	5	5	5	5	7	7	9	8	8	7	6	8	8	7	11	6	5	5	7	7	11	6.5	24
14	8	IZS	13	18	33	23	21	6	5	6	2	2	1	0	1	1	2	5	5	3	1	2	3	3	33	7.1	24
15	IZS	2	4	4	3	3	4	11	7	5	7	6	7	7	6	7	9	6	6	6	7	8	7	IZS	11	6.1	24
16	5	5	5	4	4	4	7	9	12	8	4	4	4	4	7	5	6	4	3	2	2	1	IZS	1	12	4.8	24
17	3	5	1	1	1	1	4	4	3	3	2	3	2	2	2	2	3	11	13	9	1	IZS	1	1	13	3.4	24
18	2	2	2	1	2	3	5	7	10	18	14	9	7	6	7	25	24	12	8	8	IZS	7	9	8	25	8.5	24
19	8	8	7	6	5	5	4	4	4	5	5	5	4	5	5	7	9	10	IZS	7	9	8	7	10	6.2	24	
20	7	6	5	6	5	4	3	2	2	2	6	8	M	M	9	5	1	1	IZS	1	1	1	1	1	9	3.7	22
21	1	1	1	1	2	6	11	16	9	11	11	10	2	2	2	7	1	IZS	3	8	7	1	1	1	16	5.0	24
22	2	4	5	6	6	5	3	3	6	4	3	2	1	3	3	4	IZS	5	4	3	2	2	2	2	6	3.5	24
23	2	2	2	2	2	3	3	4	3	5	7	7	9	6	6	IZS	11	4	1	2	6	6	5	8	11	4.6	24
24	7	4	4	9	6	7	10	13	14	11	3	9	12	16	IZS	14	14	8	2	6	3	4	3	2	16	7.9	24
25	6	8	7	7	9	7	8	10	15	13	12	11	7	IZS	6	5	5	4	3	2	2	1	1	1	15	6.5	24
26	1	1	1	2	2	2	6	9	17	15	15	15	IZS	9	12	11	13	13	9	7	7	6	5	6	17	8.0	24
27	10	8	5	5	2	2	3	6	6	5	2	IZS	10	6	2	3	7	2	1	0	0	0	2	5	10	4.0	24
28	5	7	7	8	8	7	7	8	8	11	IZS	9	10	10	9	7	5	4	6	6	8	9	10	11	11	7.8	24
29	13	13	11	10	10	10	13	14	17	IZS	8	8	10	11	10	6	6	0	0	0	0	0	0	0	17	7.4	24
30	0	0	0	0	0	0	4	7	IZS	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	7	1.4	15
HOURLY MAX	20	13	14	18	33	23	21	18	17	24	15	15	14	16	12	25	24	15	13	10	13	19	14	23			
HOURLY AVG	5.0	4.3	4.2	4.3	4.8	5.0	6.2	7.9	8.8	8.4	6.9	6.8	6.0	6.4	5.1	6.5	6.8	5.6	4.8	4.2	4.1	4.6	4.3	4.9			

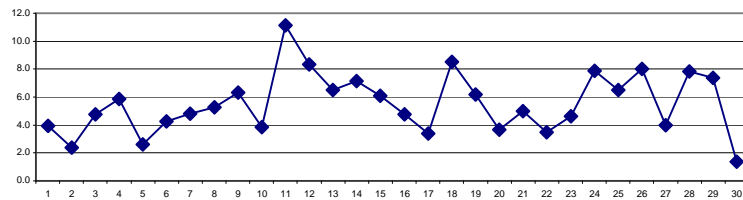
STATUS FLAG CODES

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

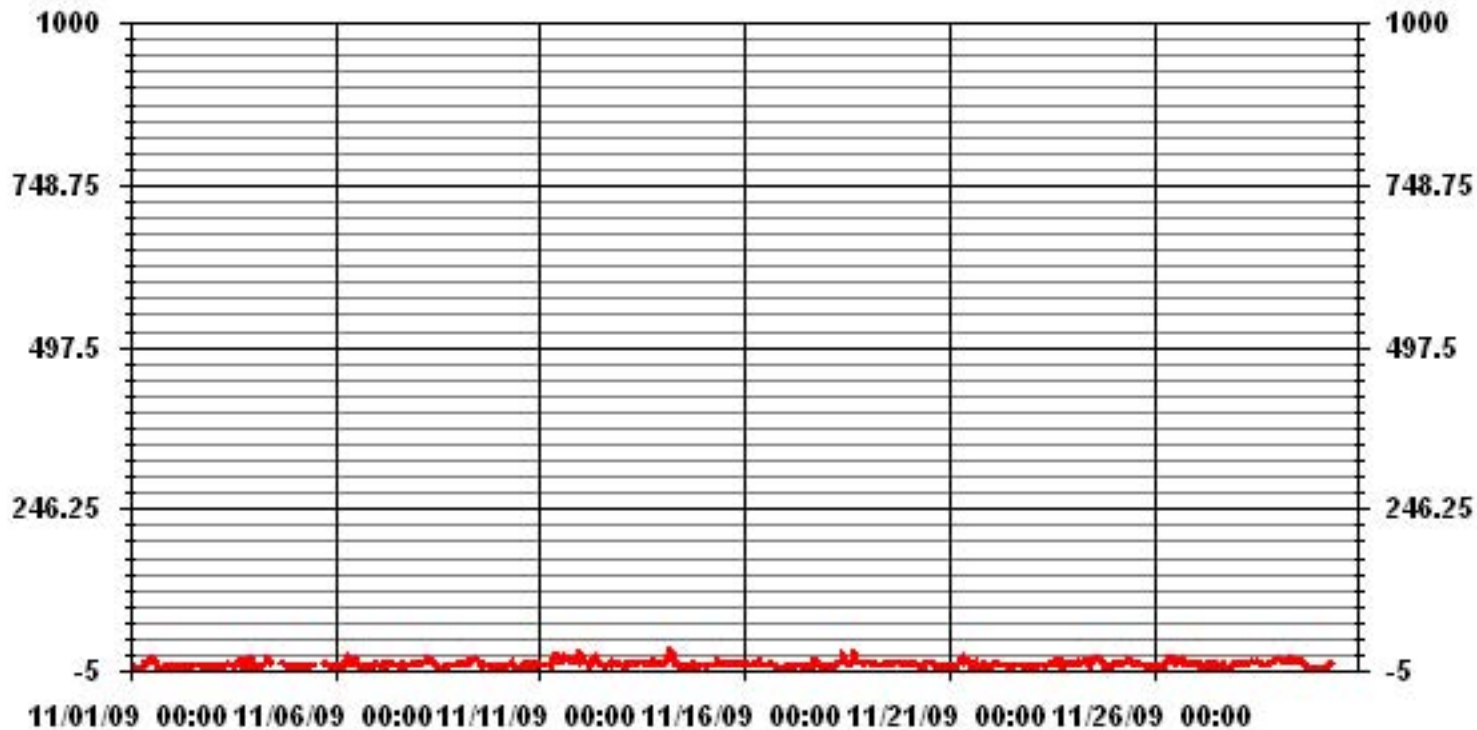
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	635					
MAXIMUM 1-HR AVERAGE:	33	PPB	@ HOUR(S)	4	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	11.1	PPB			ON DAY(S)	11
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	706	HRS	
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME	99.3	%	
STANDARD DEVIATION	4.43		MONTHLY AVERAGE	5.64	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

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	6	7	3	1	1	1	1	3	23	18	15	15	22	25	IZS	16	3	1	2	8	6	7	11	5	25	8.7	24	
2	3	3	2	2	3	4	7	4	3	7	6	3	2	IZS	6	5	4	5	3	3	2	2	4	7	3.7	24		
3	4	5	3	1	2	2	2	61	14	7	4	6	IZS	6	8	11	13	14	1	1	21	19	16	18	61	10.4	24	
4	2	2	2	2	2	6	16	68	25	19	47	IZS	11	C	C	C	C	14	11	5	4	3	2	2	68	12.8	24	
5	2	2	2	2	1	1	1	2	3	3	IZS	6	6	P	P	P	18	C	10	6	4	3	3	3	18	4.1	21	
6	2	2	2	3	3	5	12	36	17	IZS	12	30	4	17	6	4	1	1	6	5	5	3	5	9	36	8.3	24	
7	7	5	5	5	7	11	5	13	IZS	14	7	6	5	6	4	7	11	4	6	6	4	13	8	7	14	7.2	24	
8	9	6	6	8	12	20	22	IZS	12	12	9	4	3	1	1	4	4	2	3	4	8	10	6	6	22	7.5	24	
9	9	10	7	7	12	6	IZS	17	28	16	19	71	13	10	6	7	7	6	4	5	3	2	2	3	71	11.7	24	
10	3	3	3	3	4	IZS	9	39	15	5	3	4	23	5	4	37	41	8	4	14	8	4	7	8	41	11.0	24	
11	9	6	5	6	IZS	6	5	62	21	229	16	10	10	24	15	15	16	19	14	11	11	25	25	33	229	25.8	24	
12	24	19	25	IZS	4	8	13	18	21	18	14	9	7	5	4	7	9	12	6	13	8	7	8	8	25	11.6	24	
13	6	4	IZS	10	6	7	9	9	12	11	15	9	10	9	7	11	9	8	45	8	7	6	9	8	45	10.2	24	
14	10	IZS	26	31	49	33	34	31	8	9	5	5	3	2	1	4	9	14	9	4	2	4	5	5	49	13.2	24	
15	IZS	3	4	4	4	3	13	17	13	8	8	7	14	8	11	10	19	7	8	9	10	9	8	IZS	19	9.0	24	
16	7	6	6	5	7	8	14	17	16	12	5	5	5	4	11	12	12	5	5	3	3	2	IZS	3	17	7.5	24	
17	5	7	2	2	2	3	10	5	4	4	3	5	4	3	3	4	7	19	38	22	4	IZS	2	2	38	7.0	24	
18	4	3	4	2	3	5	10	23	15	27	17	17	15	12	9	95	64	17	9	10	IZS	9	10	9	95	16.9	24	
19	9	9	9	7	5	6	5	5	5	6	7	7	6	10	8	9	10	13	14	IZS	9	11	9	8	14	8.1	24	
20	8	7	6	7	6	6	4	3	3	3	11	15	M	M	14	11	2	1	IZS	2	1	2	2	2	15	5.5	22	
21	1	2	2	3	4	9	38	35	24	20	24	14	3	4	3	22	2	IZS	6	13	14	2	1	4	38	10.9	24	
22	5	6	7	8	8	7	9	6	12	7	7	7	3	5	5	8	IZS	6	5	4	3	3	3	3	12	6.0	24	
23	4	2	2	3	4	4	5	5	4	11	9	46	13	7	8	IZS	97	10	2	4	7	7	9	9	97	11.8	24	
24	11	5	5	17	7	10	20	17	17	16	6	23	21	25	IZS	30	49	12	6	25	5	6	5	4	49	14.9	24	
25	8	11	8	9	18	8	15	16	30	15	14	15	8	IZS	7	7	9	5	4	3	2	2	2	1	30	9.4	24	
26	1	1	2	4	4	2	12	13	43	20	18	17	IZS	10	23	13	19	18	11	8	8	8	8	9	43	11.8	24	
27	12	10	6	6	5	3	12	9	10	7	4	IZS	21	17	5	8	20	6	5	1	1	1	3	6	21	7.7	24	
28	6	8	8	8	10	8	9	10	10	13	IZS	12	12	14	14	9	6	6	7	7	10	9	11	12	14	9.5	24	
29	15	14	13	14	11	12	18	18	21	IZS	10	10	11	12	12	9	47	1	0	0	0	0	0	0	47	10.8	24	
30	0	0	0	0	2	2	9	12	IZS	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	12	3.1	15	
HOURLY MAX	24	19	26	31	49	33	38	68	43	229	47	71	23	25	23	95	97	19	45	25	21	25	25	33				
HOURLY AVG	6.6	5.8	6.0	6.2	7.1	7.1	11.7	19.8	15.3	19.9	11.7	14.0	9.8	10.0	7.8	14.4	18.8	8.7	8.7	7.3	6.1	6.4	6.5	6.8				

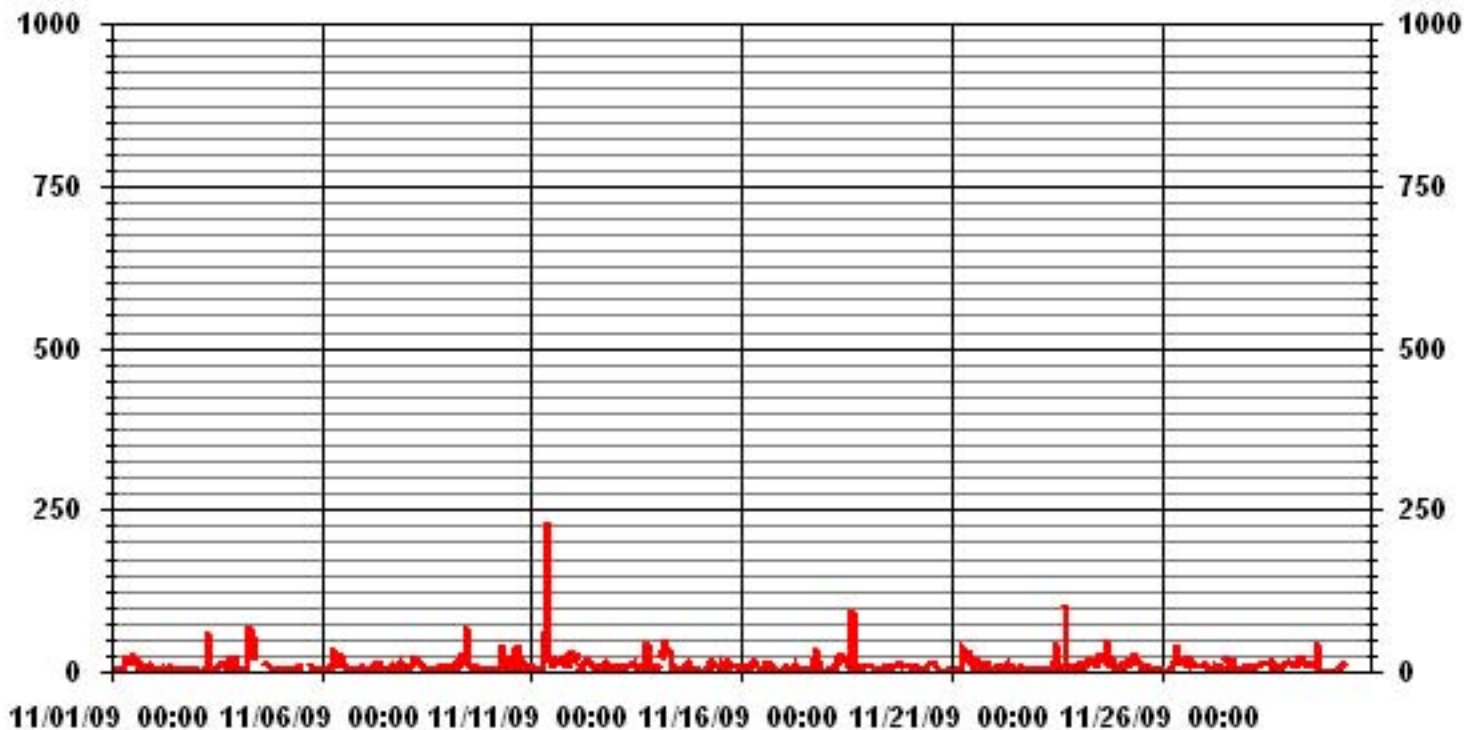
STATUS FLAG CODES

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:	654		
MAXIMUM INSTANTANEOUS VALUE:	229 PPB @ HOUR(S) 9 ON DAY(S) 11		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	706 HRS
MONTHLY CALIBRATION TIME:	11 HRS		
STANDARD DEVIATION:	13.43		

01 Hour Averages



— LICA30 NOxMAX PPB

LICA30
NOX_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	.90	1.80	2.26	4.52	1.96	2.26	8.29	3.16	4.67	16.13	27.45	5.73	8.89	7.99	2.71	1.20	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	.90	1.80	2.26	4.52	1.96	2.26	8.29	3.16	4.67	16.13	27.45	5.73	8.89	7.99	2.71	1.20	

Calm : .00 %

Total # Operational Hours : 663

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	6	12	15	30	13	15	55	21	31	107	182	38	59	53	18	8	663
< 110																	
< 210																	
>= 210																	
Totals	6	12	15	30	13	15	55	21	31	107	182	38	59	53	18	8	

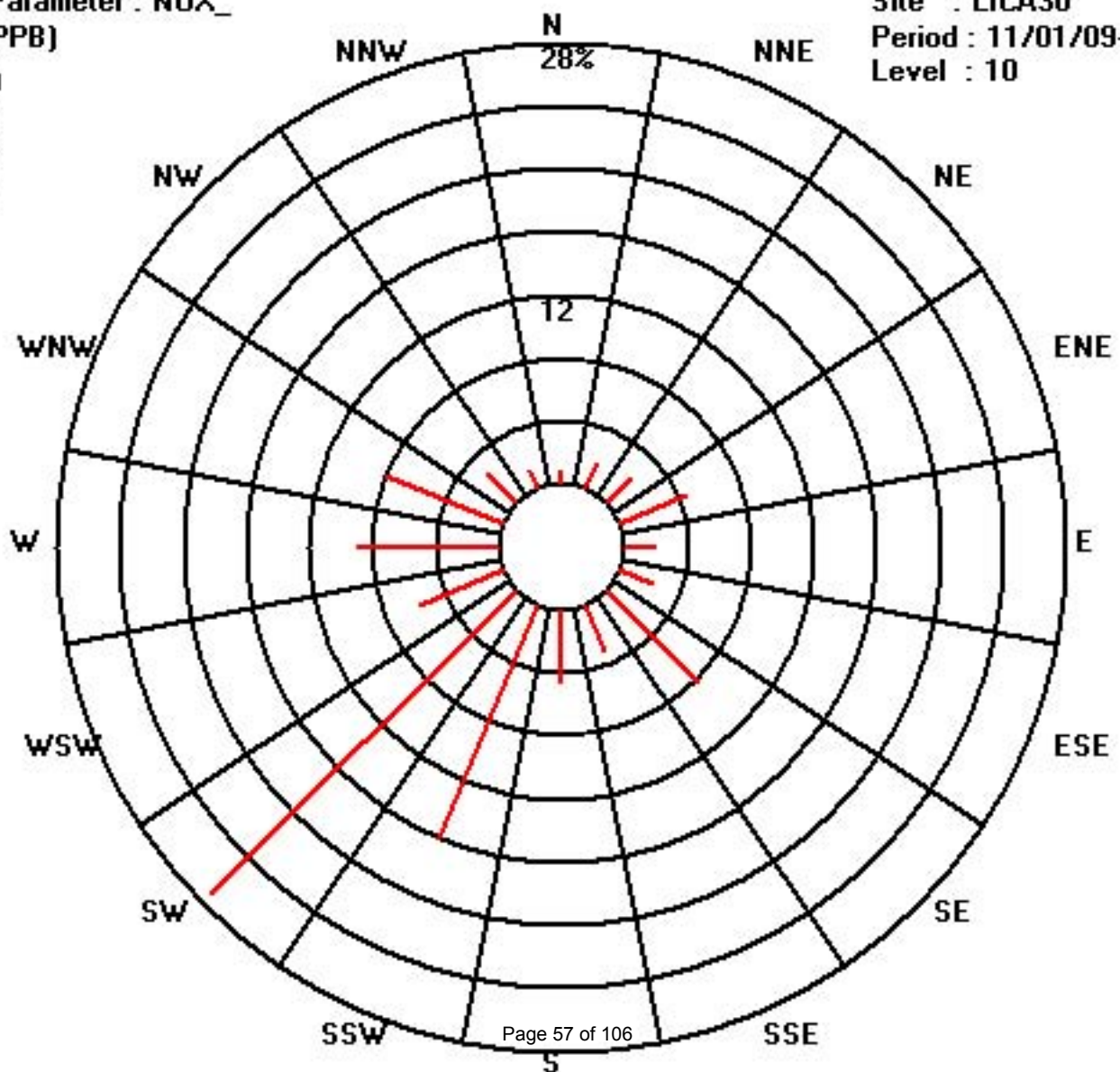
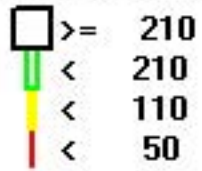
Calm : .00 %

Total # Operational Hours : 663

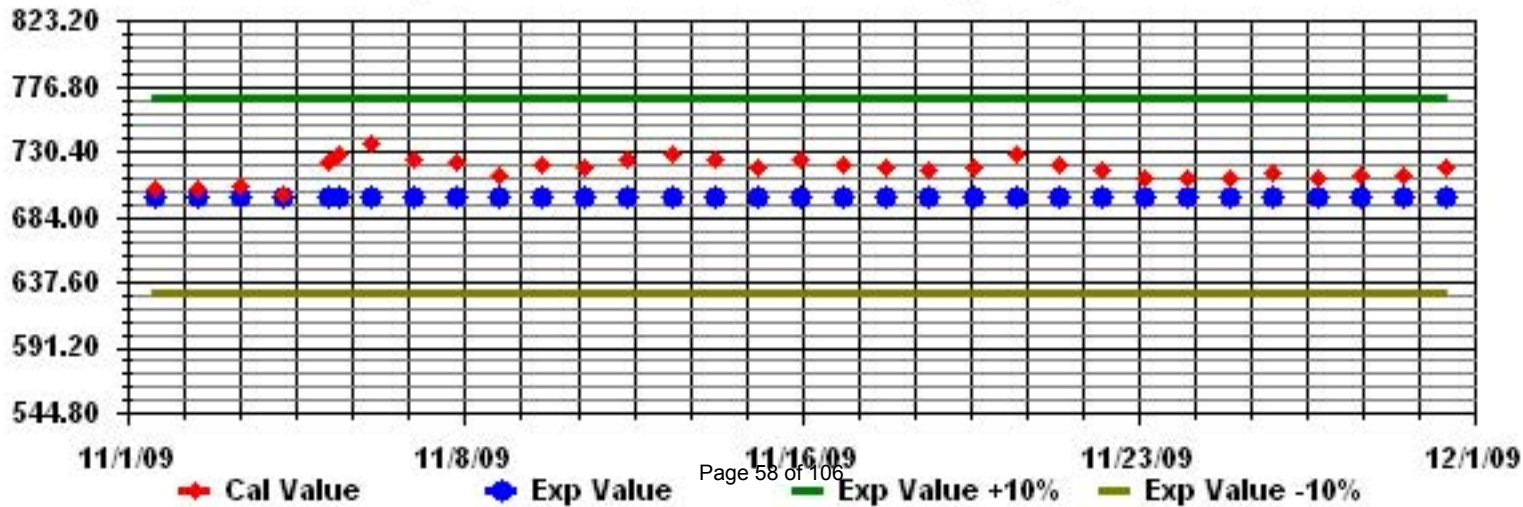
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



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



Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

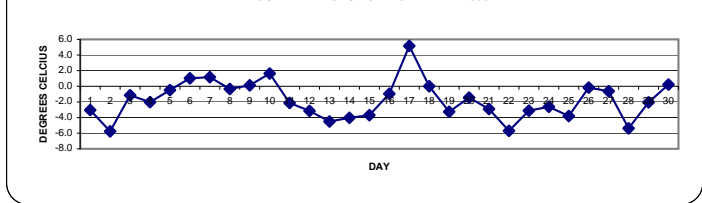
AMBIENT TEMPERATURE hourly averages (Degrees C)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00					
1	-0.9	-0.6	0.1	0.3	-0.6	-1.7	-2.1	-2.1	-2.4	-2.5	-1.9	-1.8	-2.4	-2.8	-3.3	-3.9	-4.5	-4.7	-5	-5.3	-6.2	-6.8	-9.8	0.3	-3.0	24			
2	-11.1	-12.1	-12.9	-13.5	-13.7	-11.6	-8.9	-7.2	-6.2	-4.9	-4.1	-3.7	-2.3	-1.1	-1.1	-1.2	-1.6	-1.7	-1.9	-3.5	-3.7	-3.7	-2.9	-1.1	-5.8	24			
3	-2.6	-2.8	-3	-3.3	-3.4	-3.6	-3.5	-3.2	-2.8	-2.5	-1.9	-1.5	-1	-0.4	1	1.9	1.3	1.9	2.3	1.5	1.1	0.1	-0.8	-2.3	2.3	-1.1	24		
4	-3.1	-4	-4.5	-5.7	-6.7	-4.2	-5.5	-7.9	-5.1	-1.8	2.1	3.5	3.7	4.1	4.2	2.6	-1.2	-3.6	-4.9	-6	-3	-1.1	-0.3	-0.2	4.2	-2.0	24		
5	-0.7	-0.2	-0.2	-0.4	-0.7	-0.5	-0.6	-1.4	-0.8	1.5	3.7	3.3	4.7	P	P	2.1	-0.6	-2.3	-2.9	-3.1	-2.4	-2.8	-3.3	-3.1	4.7	-0.5	22		
6	-3.8	-4.4	-4.8	-5.4	-5.8	-5.3	-1.2	-2.6	0.1	4.6	7.2	7.3	6.4	5.9	5.7	5.6	4.9	3.4	2.3	1.2	0.8	1.5	1.1	-0.1	7.3	1.0	24		
7	-1	-0.7	-1.3	-1.3	-1.2	-1.6	-1.8	-1.6	0	2.5	4.5	5.6	6.7	6.5	5.5	4.5	3.4	2.6	0.7	0.4	0.6	0	-1.9	-3.1	6.7	1.2	24		
8	-2.6	-3.9	-3.9	-3.2	-3.2	-3.5	-3.7	-3.7	-3.1	-0.2	1.5	5	5.7	6.2	4.8	3.1	1.2	0.1	0.4	0.4	0	-1.3	-2	-2.4	6.2	-0.3	24		
9	-3	-3.2	-3	-3.6	-4.4	-4.7	-4.6	-4.2	-3.4	-1.8	1.4	4.4	4.9	5.5	5.7	4	2.1	2	1.7	0.9	0.8	1.4	1.7	2.3	5.7	0.1	24		
10	2.1	2.5	2.1	0	-0.8	-0.3	-0.9	-1.4	-0.3	2.8	4.8	5.8	6.4	6.4	5.6	3.6	1.7	0.6	0.2	0	0	0	-0.4	-1.3	6.4	1.6	24		
11	-1.7	-2.7	-2.9	-2.7	-2.7	-2.8	-3.6	-5.4	-5.1	-4	-2.6	-1.6	-0.8	0.7	0.1	-0.4	-0.8	-1.2	-1.2	-1.7	-1.5	-1.1	-1.9	-3.5	0.7	-2.1	24		
12	-4.3	-4.9	-5.8	-7	-7.2	-7.5	-7.2	-7.5	-6.5	-3.9	-1.9	0	1.1	2.1	3	1.6	-0.1	-1.7	-2.1	-2.4	-2.7	-3.1	-3.5	-4.1	3.0	-3.2	24		
13	-4	-4.4	-4.8	-5.4	-6	-6.5	-6.6	-6	-5.1	-3.3	-0.6	2.2	2.9	2.3	2.6	0.2	-3.2	-5.4	-6.5	-8.3	-9.7	-10.5	-10.6	-11.3	2.9	-4.5	24		
14	-11.2	-10.7	-8.9	-6.2	-4.7	-4.1	-4.2	-4.5	-4	-2	0.1	0.9	1.3	1.4	1.1	-1.2	-3.1	-4.5	-4.9	-5.6	-5.3	-5.4	-5.8	-5.3	1.4	-4.0	24		
15	-4.8	-4.6	-3.9	-3.8	-4.1	-4.1	-4.5	-6	-4.9	-3.1	-1.5	-0.3	1.7	0.9	0.9	0.2	-1.8	-2.2	-4.8	-6	-7.1	-7.4	-8.7	-8.8	1.7	-3.7	24		
16	-8.3	-9.1	-9.5	-10	-10.1	-10.1	-9.8	-9.5	-7.8	-2.6	4.7	7.2	7.9	8.4	7.8	4.6	2.5	6.5	2	0	0	4	3.6	4.6	8.4	-1.0	24		
17	5.6	3.9	1.3	0	-2.3	-3.3	-3.7	-3.5	1.2	4.3	7.5	10	11.8	12.6	13.5	12.5	10.6	9.1	7.4	6.2	5.7	4.6	4.6	4.3	13.5	5.2	24		
18	4	3.1	3.2	2	2.2	2.4	1.5	0.7	0.3	0.7	1.9	2.6	3.8	4.8	5.9	2.3	-1	-3.3	-4.3	-4.9	-5.4	-6.5	-7.5	-8.3	5.9	0.0	24		
19	-9	-9.4	-9.2	-9.5	-9.5	-7.3	-3.2	-3.4	-3.2	-3	-2.1	-0.1	0.9	1.5	2.9	1.2	-0.1	-0.7	-1.4	-1.6	-2.6	-1.6	-2.8	-5.1	2.9	-3.3	24		
20	-4.8	-6.4	-6.6	-6.1	-6.1	-5.4	-5	-2.9	-1.8	0.3	3.2	4.4	4.4	4.3	2.8	1.5	0.4	-0.3	-0.7	-1.2	-1.9	-2.2	-2.4	-2.2	4.4	-1.4	24		
21	-2.9	-3.8	-4.4	-4.1	-4.4	-4.7	-4.3	-3.6	-2.6	-1.8	-1.4	-1.1	-1.4	-2	-1.8	-1.3	-1.3	-1.8	-2.2	-3.2	-4.1	-4.8	-5.6	-1.1	-2.9	24			
22	-6.5	-6.9	-6.6	-6.5	-7.6	-7.5	-7.8	-8.7	-8.9	-4.7	-0.5	0.3	0.3	-0.8	-0.2	-2.4	-4.6	-6.9	-8.1	-9	-8.9	-8.9	-7.9	-7.4	0.3	-5.7	24		
23	-7.1	-7	-6.5	-5.6	-5.3	-4.8	-3.3	-3.4	-2.3	-1.8	-1.6	0	0.3	1	1.3	-0.7	-2.6	-3.1	-3.9	-4.4	-3.9	-3.9	-3.3	-2.9	1.3	-3.1	24		
24	-2.9	-3.3	-3.6	-3	-3.9	-5.1	-5.4	-5.7	-5.1	-3.1	-1	-0.1	0.2	0	-0.4	-0.8	-1.2	-1.1	-1.5	-2.4	-2.6	-3.3	-3.7	-3.9	0.2	-2.6	24		
25	-4.4	-5.6	-6.5	-7.2	-8	-9.1	-10.6	-12	-12.3	-9.3	-1.7	0	0.7	0	0.2	-0.1	0	-0.1	-0.5	-0.6	-1.5	-1.4	-0.9	-0.4	0.7	-3.8	24		
26	-0.4	-0.6	-0.6	-0.8	-1.4	-3.4	-3.9	-4	-3.7	-2	0.8	2.4	2.6	1.8	1.8	1	1.1	1.4	1.7	1.4	1.2	0.4	0	-0.7	2.6	-0.2	24		
27	-1.2	-1.3	-1.8	-2.4	-2.5	-2.4	-2.9	-3.3	-3.9	-1.3	1.3	2.2	2.5	3	3.1	0.7	0.5	0.3	0	0	0	-0.7	-1.9	-3.1	3.1	-0.6	24		
28	-4	-4.5	-5.4	-6.4	-7.2	-8.1	-8.7	-9.3	-9.4	-7.6	-3.8	-1.8	-1.5	-0.9	-0.1	-1.8	-2.9	-3.4	-4.8	-6.7	-6.9	-7.2	-8	-8.7	-0.1	-5.4	24		
29	-8.3	-9.2	-8.6	-7.3	-6.8	-6.5	-6	-5.1	-4	-3.1	-2.9	-2.1	0.1	1.8	1.3	1	0.1	1.8	2	2.2	2.8	2.9	2.4	2.2	2.9	-2.1	24		
30	2.1	1.8	1.4	0.7	-0.1	-0.5	-0.9	-1.2	-1.3																	2.1	0.2	9	
HOURLY MAX	5.6	3.9	3.2	2.0	2.2	2.4	1.5	0.7	1.2	4.6	7.5	10.0	11.8	12.6	13.5	12.5	10.6	9.1	7.4	6.2	5.7	4.6	4.6	4.6					
HOURLY AVG	-3.4	-3.8	-4.0	-4.2	-4.6	-4.6	-4.4	-4.7	-3.8	-1.8	0.5	1.8	2.5	2.6	2.7	1.4	0.0	-0.6	-1.4	-2.1	-2.2	-2.3	-2.7	-3.2					

STATUS FLAG CODES

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

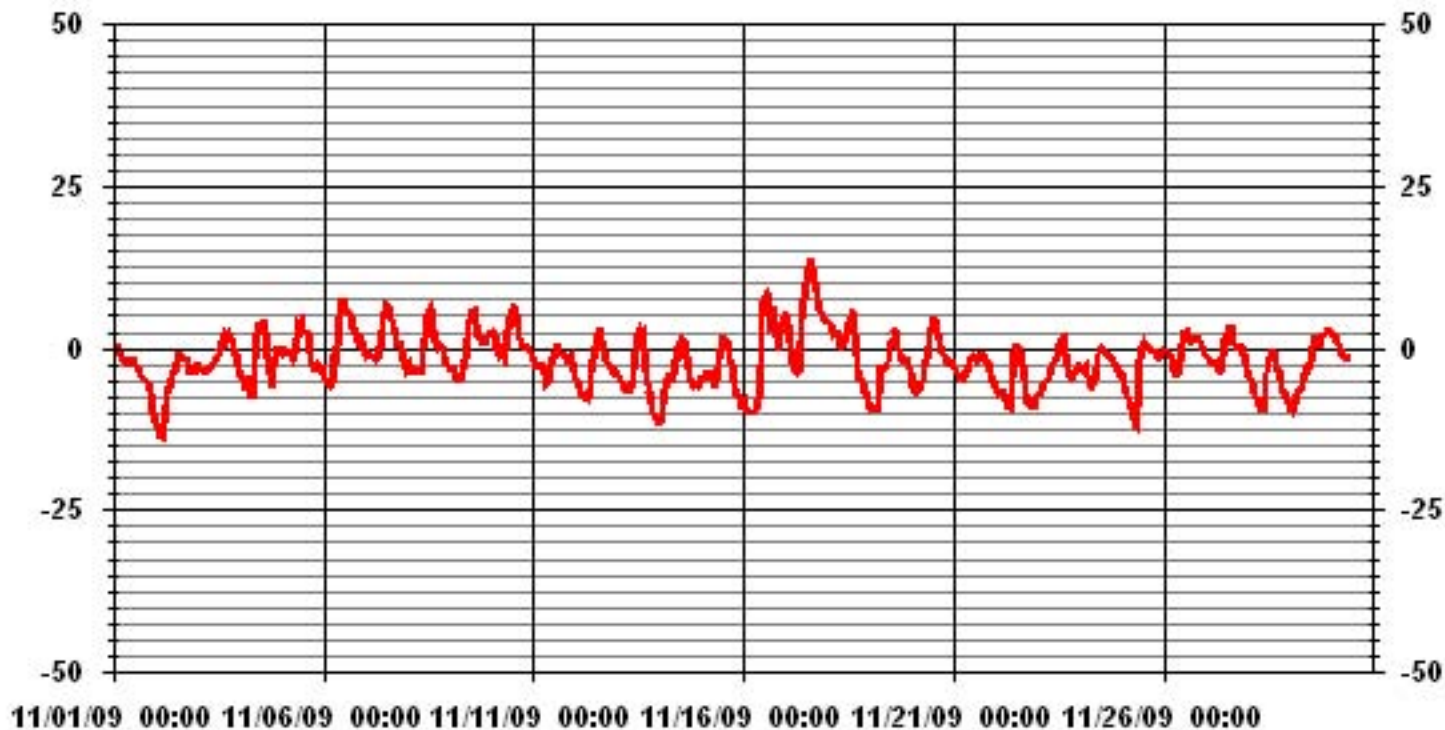
24 HOUR AVERAGES FOR NOVEMBER 2009



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-13.7 °C	@ HOUR(S)	4	ON DAY(S)	2
MAXIMUM 1-HR AVERAGE:	13.5 °C	@ HOUR(S)	14	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	5.2 °C			ON DAY(S)	17
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	703	HRS
STANDARD DEVIATION:	4.17		AMD OPERATION UPTIME:	99.7	%
			MONTHLY AVERAGE:	-1.81	°C

01 Hour Averages



— LICA30 TPX DGC

Precipitation

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

PRECIPITATION hourly averages (mm)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY		
DAY	HOURLY MAX	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	TOTAL	RDGS.	
1		0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	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	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	1	0	0	0	0	0	0	0	0	1.0	1.0	24	
5		0	0	0	0	0	0	0	0	0	0	0	0	0	0	P	0	0	0	0	0	0	0	0	0	0.0	0.0	23	
6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
7		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
9		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
10		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
11		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
12		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
13		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
14		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
15		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
16		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
17		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
18		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
19		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
20		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
21		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
22		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
23		0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24	
24		0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3	24	
25		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
26		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
27		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
28		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	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	9

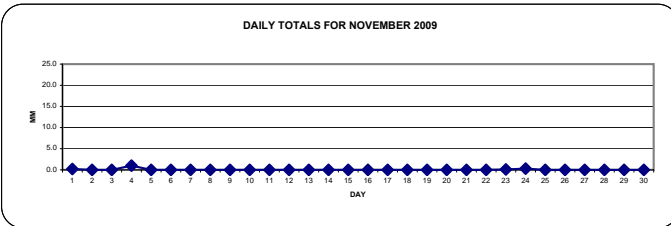
STATUS FLAG CODES

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

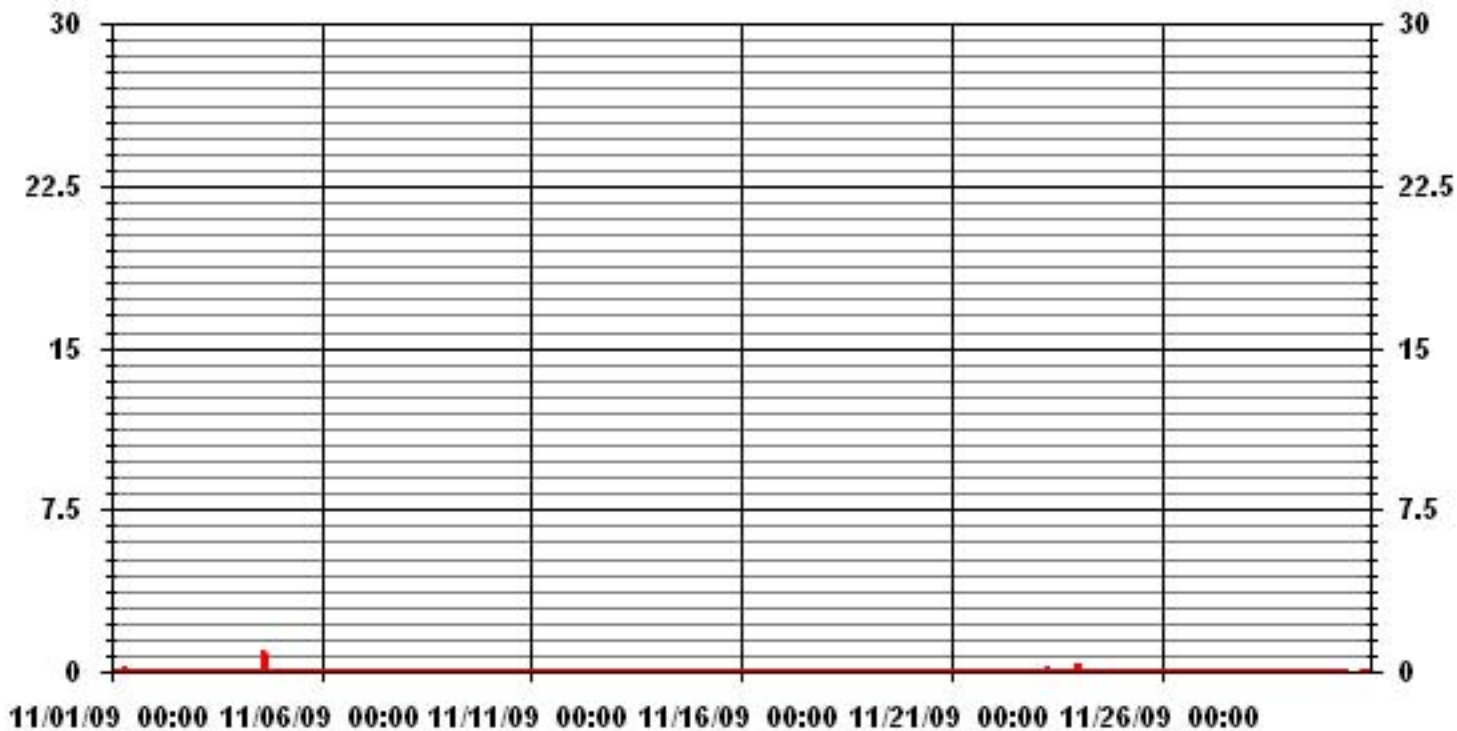
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	1.0	MM	HOUR(S)	15	ON DAY(S)	4
MAXIMUM DAILY TOTAL	1.0	MM			ON DAY(S)	4
MONTHLY TOTAL	1.6	MM				
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	704	HRS	
STANDARD DEVIATION:	0.04		AMD OPERATION UPTIME:	99.9	%	
			MONTHLY AVERAGE:	0.00	MM	

DAILY TOTALS FOR NOVEMBER 2009



01 Hour Averages



Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

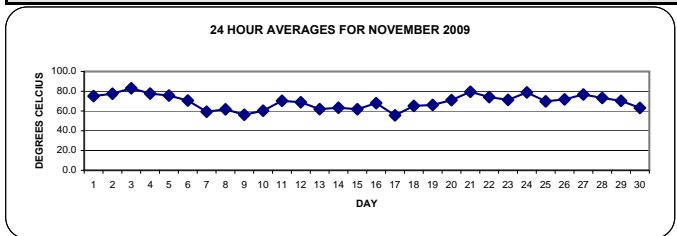
NOVEMBER 2009

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	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	91	86	83	80	77	77	78	77	80	79	73	67	66	69	69	70	72	71	71	68	69	72	75	83	91	75.1	24	
2	2	85	84	83	82	81	81	83	80	76	72	70	70	68	66	67	69	72	76	77	82	84	84	85	83	85	85	77.5	24
3	3	83	85	85	86	85	85	84	84	84	84	84	85	84	86	82	81	84	79	75	76	79	83	83	83	87	87	83.0	24
4	4	89	90	90	89	88	90	88	86	87	82	67	63	61	58	56	60	74	83	86	87	79	73	69	68	90	77.6	24	
5	5	69	68	69	71	73	74	75	78	77	68	60	62	58	P	P	68	79	85	87	87	88	89	90	89	90	75.6	22	
6	6	89	89	89	88	87	88	83	84	77	62	55	57	58	56	57	56	56	60	63	67	69	66	66	72	89	70.6	24	
7	7	73	70	72	72	72	73	73	72	66	58	51	49	45	44	45	48	48	49	55	54	52	54	62	66	73	59.3	24	
8	8	63	68	66	64	65	67	68	68	66	58	55	47	47	45	48	54	64	68	64	63	64	68	70	71	71	61.7	24	
9	9	71	70	65	66	67	68	67	66	64	58	47	39	39	39	37	42	48	50	52	56	58	59	61	60	71	56.2	24	
10	10	61	60	60	67	69	68	71	73	72	65	60	54	47	42	43	50	55	59	61	60	60	61	63	66	73	60.3	24	
11	11	67	70	70	68	66	67	68	75	74	72	69	66	65	61	65	69	72	75	74	76	76	73	73	77	77	70.3	24	
12	12	79	81	83	85	86	86	85	85	82	73	67	60	56	52	48	50	57	63	63	63	62	62	62	63	86	68.9	24	
13	13	62	63	64	65	66	66	64	61	54	47	40	39	39	38	45	62	70	72	78	79	81	82	83	83	86	61.9	24	
14	14	82	81	80	73	70	70	74	77	77	69	62	58	53	48	46	46	52	56	61	63	58	56	55	52	82	63.3	24	
15	15	51	50	51	55	58	60	62	68	66	61	56	53	48	51	51	53	60	63	70	75	78	79	81	83	83	61.8	24	
16	16	85	85	83	83	83	81	84	83	82	76	55	47	46	46	48	59	66	50	64	72	74	61	61	58	85	68.0	24	
17	17	55	60	68	72	79	81	82	81	72	62	51	41	34	32	31	33	39	44	49	51	49	54	56	59	82	55.6	24	
18	18	59	62	60	62	61	60	62	65	68	68	61	56	49	45	41	51	64	75	79	81	82	84	84	85	85	65.2	24	
19	19	84	84	84	84	82	77	62	63	63	63	61	57	54	55	50	55	60	60	61	61	65	62	66	74	84	66.1	24	
20	20	73	79	80	81	81	80	82	77	73	66	55	50	52	54	59	64	69	72	73	75	76	77	78	79	82	71.0	24	
21	21	80	81	83	81	83	83	82	80	78	75	76	77	81	83	80	77	79	75	75	75	78	82	82	81	83	79.5	24	
22	22	83	84	81	79	81	80	78	79	79	67	56	54	54	60	58	64	72	78	82	84	83	82	81	80	84	74.1	24	
23	23	80	80	79	78	81	79	79	84	75	66	67	65	65	64	63	70	75	67	62	64	65	68	66	69	84	71.3	24	
24	24	79	85	86	84	85	86	85	86	84	80	77	76	73	70	68	70	73	74	75	75	77	79	82	83	86	78.8	24	
25	25	84	86	85	85	85	84	83	82	81	76	63	57	55	58	56	59	57	59	62	62	65	65	64	62	86	69.8	24	
26	26	63	64	66	67	69	75	77	77	76	69	61	58	60	66	68	72	74	75	76	77	79	82	84	87	87	71.8	24	
27	27	88	88	88	88	87	84	84	84	85	77	68	66	65	63	61	66	67	70	73	75	76	76	79	83	88	76.7	24	
28	28	84	85	84	83	83	83	83	82	80	74	62	58	57	55	53	58	63	66	71	77	77	78	80	82	85	73.3	24	
29	29	80	82	82	77	76	75	74	73	72	70	70	70	65	63	67	72	76	69	67	66	62	60	60	60	82	70.3	24	
30	30	60	60	61	61	64	64	65	66	67																67	63.1	9	
	HOURLY MAX	91	90	90	89	88	90	88	86	87	84	84	85	84	86	82	81	84	85	87	87	88	89	90	89				
	HOURLY AVG	75.1	76.0	76.0	75.9	76.3	76.4	76.2	76.6	74.8	69.1	62.3	58.7	56.7	56.1	55.5	59.7	65.1	66.9	69.0	70.7	71.1	71.4	72.4	74.0				

STATUS FLAG CODES

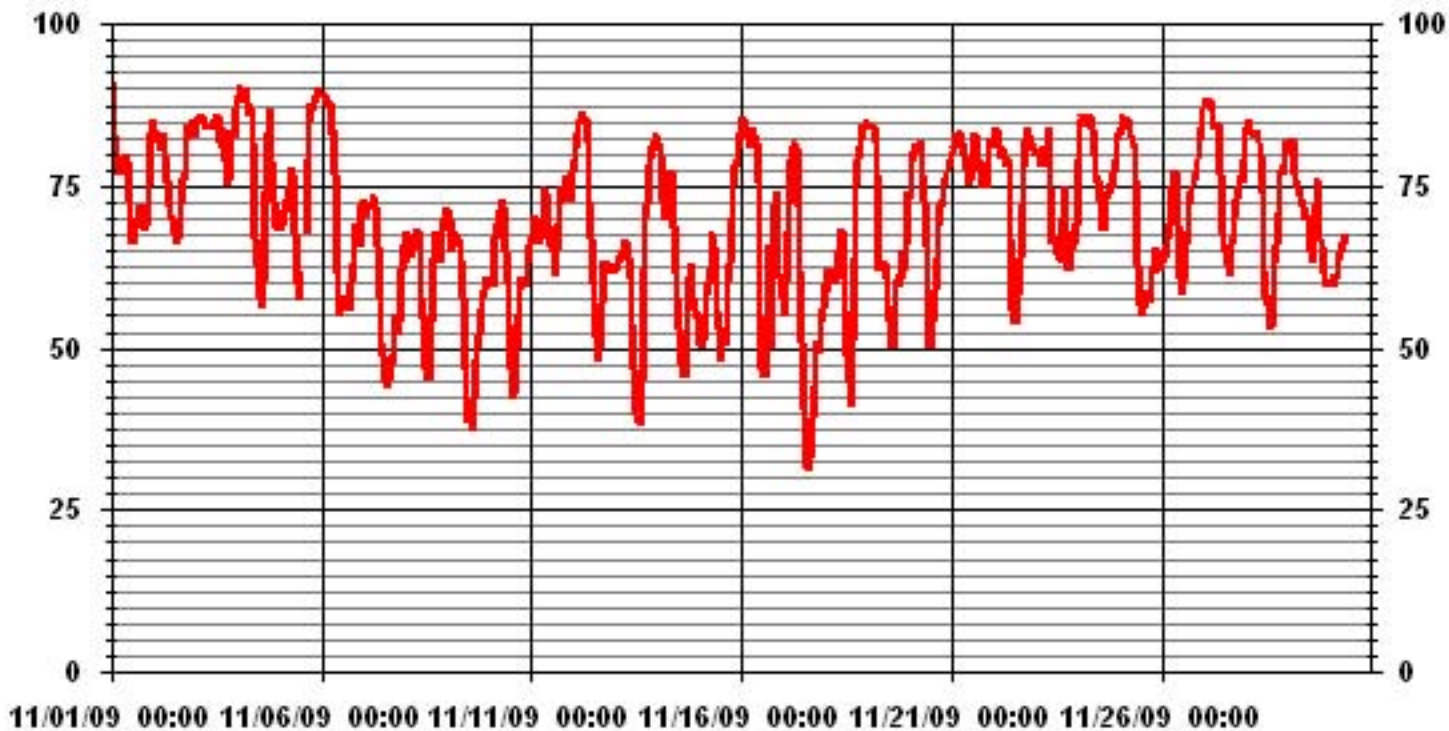
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	91	%	@ HOUR(S)	0	ON DAY(S)	1
MAXIMUM 24-HR AVERAGE:	83.0	%			ON DAY(S)	3
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	703	HRS	
STANDARD DEVIATION:	12.24		AMD OPERATION UPTIME:	99.7	%	
			MONTHLY AVERAGE:	69.37	%	

01 Hour Averages



— LICA30 RH %FS

Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

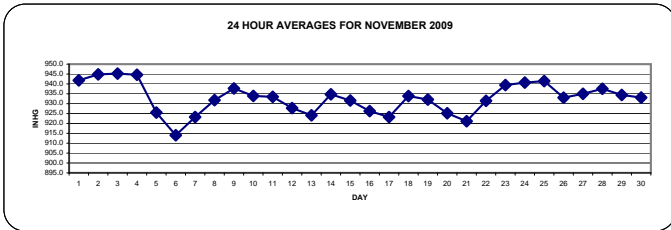
NOVEMBER 2009

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			
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		933	933	933	934	935	936	936	937	938	940	941	942	943	944	945	946	947	948	948	948	949	949	949	949	949	949	949	941.8	24
2		949	949	948	948	948	947	947	947	946	945	945	944	944	944	943	943	942	942	942	942	942	942	942	943	943	949	944.8	24	
3		944	944	945	945	945	946	946	946	946	946	946	946	945	944	944	944	944	944	945	945	946	946	946	946	946	946	945.2	24	
4		946	946	946	946	946	946	946	946	946	947	947	947	946	946	945	945	944	943	943	942	942	941	940	939	947	944.6	24		
5		938	937	936	934	933	931	930	928	927	927	927	926	925	P	P	922	921	920	919	918	917	916	915	914	938	925.5	22		
6		913	912	912	911	911	910	910	910	910	911	912	912	913	914	915	916	917	917	917	918	918	919	919	920	920	920	914.0	24	
7		920	921	921	921	922	922	923	923	923	924	924	924	924	924	924	924	924	924	924	924	924	924	924	925	925	925	923.3	24	
8		926	926	926	927	927	928	928	929	930	931	932	932	933	933	934	934	934	935	935	936	936	937	937	937	937	937	931.8	24	
9		938	938	938	938	939	939	939	940	940	940	940	941	940	940	939	939	938	937	937	937	935	934	933	932	931	941	937.7	24	
10		931	930	930	929	929	930	931	931	933	934	935	935	935	936	936	936	936	936	936	937	937	937	937	937	937	937	933.9	24	
11		937	937	937	937	936	936	936	935	935	935	935	934	933	932	932	931	931	931	931	931	930	931	930	930	930	937	933.5	24	
12		930	930	929	929	929	929	929	929	929	929	929	929	928	928	927	927	927	926	926	926	926	926	926	925	925	930	927.8	24	
13		924	924	924	924	924	923	924	923	923	924	924	924	924	924	924	924	923	924	924	924	925	925	926	927	927	927	924.1	24	
14		927	928	929	931	932	933	934	935	936	937	938	938	938	938	938	937	937	936	936	935	935	934	934	938	938	934.8	24		
15		933	933	932	932	931	931	931	931	931	931	932	932	932	932	932	932	932	932	932	932	931	931	930	930	933	931.6	24		
16		930	929	929	929	928	928	927	927	927	927	927	926	926	925	925	924	924	924	924	924	924	925	925	925	930	926.3	24		
17		926	926	926	925	924	923	922	922	921	921	921	920	919	919	919	920	921	923	924	926	926	927	928	929	929	929	923.3	24	
18		929	930	930	930	931	932	932	932	933	934	934	934	935	935	935	936	936	936	936	937	937	937	936	936	937	933.9	24		
19		936	935	935	934	933	932	932	931	931	930	930	930	929	930	931	931	931	932	932	932	933	934	934	933	936	932.1	24		
20		933	933	932	931	931	930	930	929	928	928	926	925	924	923	923	921	921	920	919	918	917	916	916	933	925.2	24			
21		915	915	915	915	915	916	916	917	919	920	921	921	922	922	923	923	925	926	926	927	927	927	928	928	928	921.1	24		
22		928	928	928	928	928	928	928	929	930	931	931	932	932	932	933	934	934	934	935	935	935	936	936	937	937	937	931.5	24	
23		937	937	938	938	939	939	940	940	940	941	941	941	940	940	940	940	940	940	940	939	939	939	939	939	941	939.4	24		
24		939	938	938	938	938	937	937	937	937	938	938	939	940	941	942	942	943	944	944	945	945	945	946	945	946	940.7	24		
25		945	945	945	945	945	944	944	944	944	944	943	943	943	942	941	940	940	939	938	937	937	936	935	935	945	941.4	24		
26		934	934	933	933	934	933	933	933	933	933	934	934	933	933	932	932	933	933	933	933	933	932	932	933	934	933.0	24		
27		932	933	933	933	933	933	933	933	933	934	935	935	935	935	936	936	937	937	937	938	938	938	938	938	938	938	935.0	24	
28		937	937	938	938	937	937	937	937	937	938	938	938	938	938	938	938	938	938	938	937	937	937	937	937	937	938	937.5	24	
29		936	936	936	936	936	936	935	935	934	934	934	934	934	933	933	933	933	933	934	934	934	934	934	934	936	934.4	24		
30		934	934	934	934	933	933	932	932	932																934	933.1	9		
HOURLY MAX		949	949	948	948	948	947	947	947	946	947	947	947	946	946	945	946	947	948	948	948	949	949	949	949					
HOURLY AVG		933	933	933	932	932	932	932	932	932	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933		

STATUS FLAG CODES

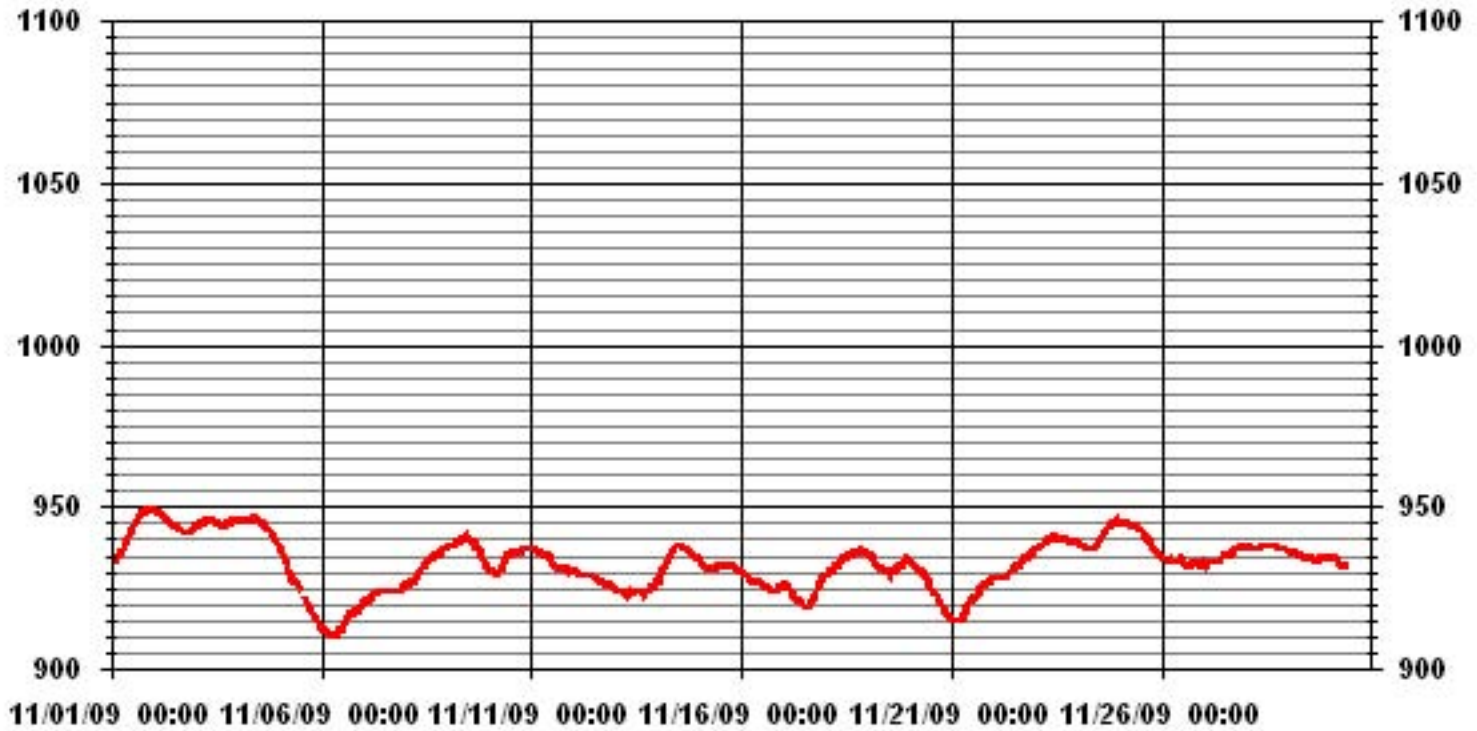
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	949	INHG	@ HOUR(S)	VAR	ON DAY(S)	1,2
MAXIMUM 24-HR AVERAGE:	945.2	INHG			ON DAY(S)	3
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	703	HRS	
			AMD OPERATION UPTIME:	99.7	%	
STANDARD DEVIATION:	8.17		MONTHLY AVERAGE:	933	MB	

01 Hour Averages



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

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	7.4	8.5	9	14.2	16.7	17.6	15.8	15	14.9	10.7	14.7	15	17.2	14.2	15.5	10.2	9.5	10.4	9.4	10.7	8.8	4.1	2.7	1.7	17.6	10.4	24	
2	1.3	1.7	1.6	0.8	1	2.5	3.7	6.4	8.7	6.9	7.1	6.8	7.2	5.7	5.4	4.2	2.2	1.5	1.6	0.9	0.3	0.7	3.4	2.3	8.7	2.8	24	
3	4.7	5.7	5.4	4.4	3.2	2.7	0.6	3.1	3.3	5.3	7.8	9.4	9.2	8	7.7	6.6	6.3	7	9.7	11.3	7.8	6.8	5.9	5.5	11.3	3.2	24	
4	3.9	3.7	3.1	1.2	4.4	5.1	1.5	0.5	3.9	4.1	3.8	4.6	6	6.2	5.7	5.9	1.1	1.4	3.2	4.5	6.5	8.2	9.9	10.7	10.7	3.4	24	
5	10.4	13	12.9	9.4	9.9	10.6	9.8	7.6	7	8.3	7.8	7.9	8.3	P	P	P	2.7	2.6	2.1	3.2	3.9	3.5	3.3	0.7	13	5.8	21	
6	0.5	0.2	0.4	0.7	1.6	4.1	5.9	3.9	4.9	7.2	7.9	9	12.8	14.5	13.2	11.6	12.1	5.7	5.6	6.5	6.1	5.8	6.2	7.2	14.5	5.4	24	
7	6.3	7.5	6.5	7.3	7.1	7.5	5.8	5.6	7.8	7.2	8.3	9.4	10.2	10.5	8.8	9.8	8.4	7.2	4.7	5.2	5.4	5.3	4	4.2	10.5	7	24	
8	3.5	2.5	4.8	5.4	7.1	6.1	5.7	7.8	6.1	6.2	6.3	8.2	8	10.7	8	5.3	6.1	6.1	6.9	6	5.8	5.2	6.1	5.8	10.7	5.7	24	
9	5.5	5.5	7.6	5.2	4.3	6	5.3	6.9	7.9	7.9	7.6	5.1	5.8	7	8	7	8.4	12.7	11.1	8.3	8.8	9.2	8.2	6.7	12.7	6.3	24	
10	7.6	9.2	7.2	2.6	5.1	6.3	6.3	5.6	7	8.8	10.3	11.2	11.3	8.3	4.4	3.7	4	5.1	4.8	5.3	4.4	4.8	4.8	5.7	11.3	4.9	24	
11	7	4.9	7.2	7.4	8	9.3	5.3	3.9	3.9	3.1	0.6	3.5	3.3	2.7	3.5	2.8	1.4	1.9	2.2	1.4	2.9	3.4	3.7	3.3	9.3	2.2	24	
12	3.5	4.1	3.1	2.5	3.1	5.3	5.9	6.6	6.5	6.8	8.2	7.1	7.7	7	6.8	7.1	5.8	4.8	5.1	6.4	6.6	6.7	6.8	6.7	8.2	5.6	24	
13	8.3	7	9.6	9.5	9.1	7.3	6	7.3	8.1	9.7	6.2	2.9	4	5.5	4.6	4.1	2.8	1.1	1	1.8	0.4	1.5	1.4	1.7	9.7	4.6	24	
14	2.1	2.1	2.2	5.6	7.3	9.1	8.4	9	8.4	6.7	7.6	8	7.9	5.9	6.2	4.7	4.7	6.1	7.1	7	7.8	7.9	7	8.4	9.1	5	24	
15	8.1	7.4	8.5	7.4	5.7	6.3	5.3	2.7	7.6	7.9	6.2	7.9	4.5	5.6	3	3	3.3	4	1.8	3.1	2.2	0.8	3.2	4.5	8.5	3.9	24	
16	2.4	1.6	1.9	0.6	1.8	1	2.4	1.8	2.9	2.8	5.9	6.5	6.1	5.1	3	3.7	4.8	5.3	2.2	2.8	3.6	4.7	4.8	6.6	6.6	1.9	24	
17	6.6	2.9	3.8	3.7	0.6	0.8	3.2	4.2	8.9	11.6	11.7	9.1	14.3	15.1	13	10.4	7.8	12.7	10.9	4.9	4.4	5.7	7.6	7.2	15.1	4.8	24	
18	8.6	4	5.1	2.7	6.4	5.2	5.7	4.3	2.8	2.4	1.7	2.4	1.8	0.4	1	2.4	3.6	3.3	2.7	1.6	3	3.4	0.4	0.2	8.6	2.4	24	
19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	0	
20	N	N	N	N	N	N	N	N	N	N	N	N	M	M	M	8.5	6.7	5.8	5.4	5.5	4.9	5.1	5.9	4.9	4.2	8.5	5.4	21
21	3.8	3.6	2.3	2.2	2.2	5.2	6.6	10	11	11	11	9.6	10.3	11.3	11.9	11.9	11.2	13.5	13.4	12.7	8.6	7.4	7	4.6	13.5	7.7	24	
22	4.8	5.1	5.1	6.2	4.9	4.8	3.6	3.5	3.8	3.7	4.2	4.9	3.9	5.3	4.2	1.2	3.7	1.8	1.1	2.6	0.8	1.4	2.3	1.5	6.2	2.8	24	
23	1.3	1.2	0.4	1.3	2.1	3.4	4	1.9	4.1	5.6	6.1	6.4	6.4	7.4	5.5	4.2	4	3.8	2.9	4.5	3.8	2.7	4.1	2.1	7.4	2.8	24	
24	1.7	0.3	2.6	4.8	5	5.8	6.3	6.6	5.7	9.5	11.7	12	10.2	9.3	8.4	7.4	7	8.1	4.6	2.2	2.1	4.2	3.9	12	4.6	24		
25	5.4	5.8	4.9	5	3.7	3.7	2.4	1	0.1	1.2	4	5.4	5.9	4.8	6	4.3	5.1	5.8	6.7	5.5	4.6	4.2	4.3	5	6.7	3.4	24	
26	3.6	5	3.7	3.9	3.4	3.2	2.9	3.6	4.1	4.5	5.4	5.4	6.1	5.2	3.7	8.4	7	5.2	6.3	5.4	3	5	4.3	4.9	8.4	4.1	24	
27	6.2	7.6	6.6	5.2	4.6	5.5	4.2	3.7	3.8	3.9	7.5	8.6	6.4	5.3	4.5	4.3	5.3	7	7.1	5.4	6	3.8	4.4	5.1	8.6	4.7	24	
28	4.6	6.2	5.8	5.4	5.5	5.6	5.4	5.5	5.3	6.6	4.6	5.6	7.2	7.1	5.7	5.5	5.5	5.7	4.4	4	4.7	5.3	5.3	4.6	7.2	5.4	24	
29	5.1	4	4	6	5.2	3.8	3.1	3	5.3	7.2	5.2	5.2	5.6	5.3	5.2	4.1	4.8	7.4	7.4	7.3	8.9	10.6	9.3	8.8	10.6	5	24	
30	8.6	9.3	7.8	4.7	5.2	4.5	5.4	4.9	6.1																9.3	5.5	9	
HOURLY MAX	10.4	13.0	12.9	14.2	16.7	17.6	15.8	15.0	14.9	11.6	14.7	15.0	17.2	15.1	15.5	11.9	12.1	13.5	13.4	12.7	8.9	10.6	9.9	10.7				
HOURLY AVG	5.1	5.0	5.1	4.8	5.2	5.6	5.2	5.2	6.1	6.4	6.9	7.3	7.8	7.5	6.8	6.0	5.5	5.8	5.5	5.3	4.9	4.9	5.0	4.8				

STATUS FLAG CODES

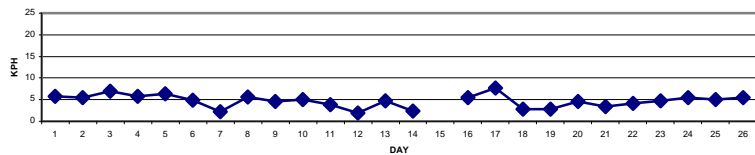
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION: February 4, 2009

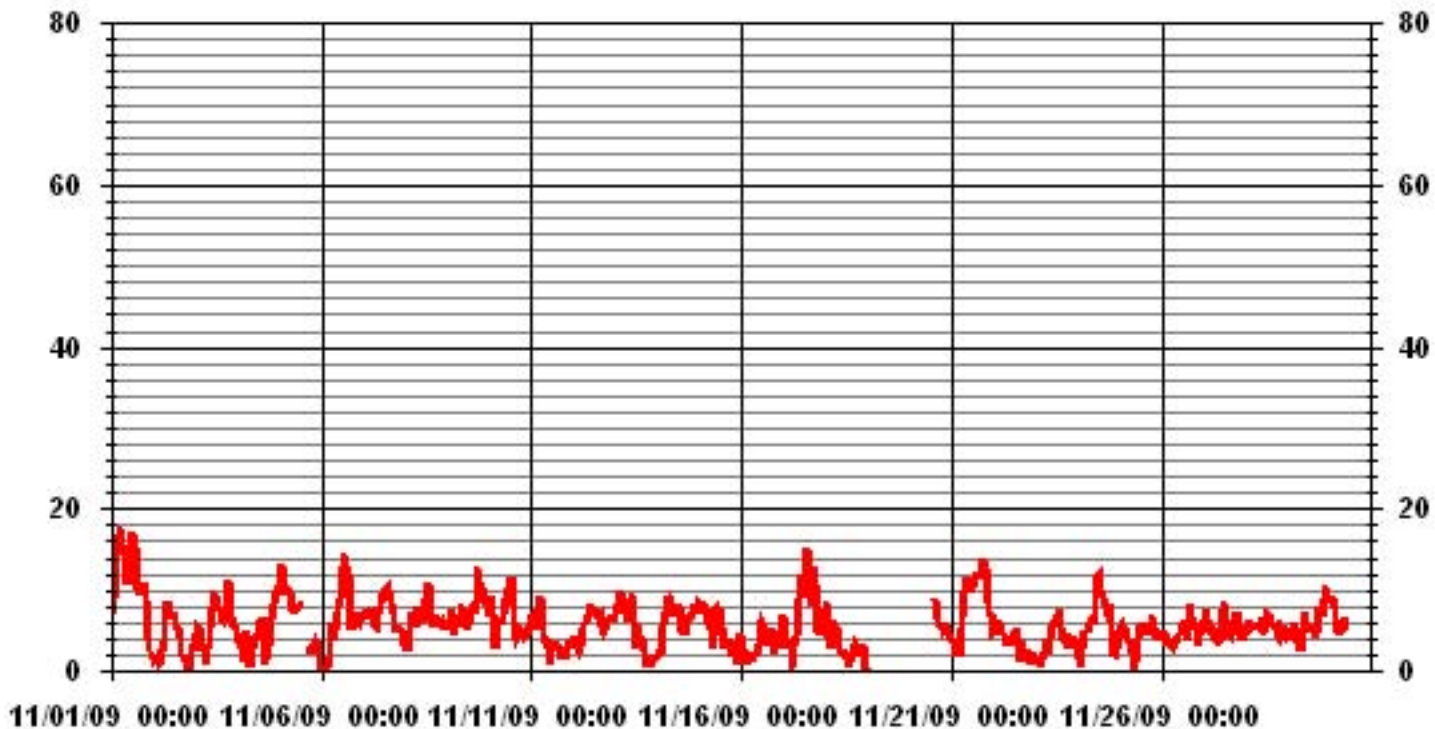
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	17.6	KPH	@ HOUR(S)	14	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	10.4	KPH			ON DAY(S)	29
CALMS (≤ 1 KPH)	3.09	%	OPERATIONAL TIME:	675	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	95.7	%	
STANDARD DEVIATION	3.05		MONTHLY AVERAGE	5.71	KPH	

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA30 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	
HOUR START		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	MAX.	
DAY																											
1		16.5	19.7	22.4	35.5	37.7	38.4	35.4	33.3	34.9	31.2	44.9	42.8	34.2	33.1	32.4	26.1	31.8	31	22.5	27.3	27.1	15.4	14.5	4.9	44.9	
2		4.1	4.7	3.5	2.9	5.6	7.5	12.7	14.2	21.9	15.4	16.3	15.7	15.8	13.1	10.8	8.9	5.8	5	6.5	4.2	3	5	6.7	4.6	21.9	
3		14.9	14	11.1	13	10.2	7.1	4.5	6.5	9.6	14.6	17.6	18.1	18.6	15.5	16	16.7	12.8	21.1	22.9	25	20.2	14.7	15.9	12	25	
4		9.6	9.4	6.3	4.7	13.8	12.8	4.3	3.4	7.8	7.6	7.8	8.5	11.2	11.3	10	9.9	5.6	4.8	6.1	10.2	11.3	16.9	18.8	20.8	20.8	
5		20.8	27.2	25.9	22	23.8	21.9	22.8	17.9	18.4	17.7	16.8	15.3	16.2	P	P	P	5.2	6.1	5.7	6.6	6.8	7.3	6.8	3.5	27.2	
6		5.5	2.9	3.2	4.2	6.2	12.4	12.7	9.6	10.7	19.1	32.1	24.4	40.7	32.2	29.5	26.4	28.8	18.4	13.5	12.1	12.5	14.9	11.9	13	40.7	
7		10.4	13.6	11.4	13.4	15.6	13.8	13.9	15.6	16.7	17.7	18	18.7	23.4	22.1	20.7	18.8	17	18.3	12.3	13	11.9	10.2	8.3	8.9	23.4	
8		9.8	5.4	8.6	9.6	11.6	10.7	9.4	14	12.1	10.9	18.2	23	26	29.6	22.3	14.8	12.7	11.8	15	14.8	15.6	9.9	10.6	11.1	29.6	
9		10.3	9.7	11.8	10.3	9.8	10.7	11.1	12.9	13.8	13.9	14	10.3	13.6	15.2	16.9	15.1	17.7	24.9	25.4	17.7	17.1	21	18.6	16.6	25.4	
10		18.6	19.7	15.1	8.7	11	13.6	12.3	15.3	15.2	24.2	25.2	26.3	22.4	18.8	13.9	8.8	9.1	9.3	11.3	11.4	9.4	13.4	9.6	11.4	26.3	
11		12.5	10.5	13.4	12	14.6	18.4	12.4	10.2	9.9	8.9	3.2	7.9	8	6.3	8.8	8.5	7.7	7.5	6.8	6	12.6	9.6	8.6	9.5	18.4	
12		9.9	11.3	9.2	6	5.3	10.1	9.5	11.3	10.3	12.8	15.3	14.4	16.1	18.7	17.5	18	11.2	11.6	9.6	11.5	13	14	12.2	11	18.7	
13		14.9	12.9	15.4	16.5	16.4	14.4	11.6	13.9	16.2	16.4	14.9	9.7	9	11.9	9.7	8.4	7.1	5.7	3.8	4.8	3.5	4.9	3.5	3.7	16.5	
14		7.3	6.7	7.3	15.1	16.1	17.8	16.9	18.8	18.7	15.4	16.6	17.6	17.8	16.2	16.4	12.6	8.6	10.8	11.4	11.9	14.7	16.4	14.1	17.7	18.8	
15		17	15.1	19.4	15.3	13.1	16.1	13.6	8	15.4	14.4	13.9	17.6	13.9	11.6	6.4	7.2	11.3	9.4	5.7	7.3	9.2	5.6	7.7	9.4	19.4	
16		7.9	6.5	6.3	3.5	4.8	6	7.3	5.8	7	11.4	13.5	13.9	12.7	14.2	8.3	8.1	13.5	11.9	6.4	5.8	7.3	10	10.2	15	15	
17		19.2	9.4	7.7	10.4	3.9	5.8	7.9	12.8	19.6	25	26.8	23.3	35.4	30	25.7	28.4	26.3	30.5	30.1	16.4	15.5	10.6	14	15	35.4	
18		18.4	8.9	13.5	8.6	11.8	11.5	8.6	9.7	8.1	5.9	7.2	8.1	5.9	5.5	6.5	4.3	6.8	7.5	6.4	6.3	5.7	7	4.7	2.9	18.4	
19		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
20		N	N	N	N	N	N	N	N	N	N	N	M	M	M	28	22.1	24.3	19.8	19.8	18.5	20	19.4	18.7	17.2	28	
21		14.2	11.8	15.1	13.1	13.3	20	24.3	33.4	29.9	37.9	36.3	35.1	38.1	34.2	35.1	37.2	39.4	54.9	40.5	46.3	27.7	26.3	25	22.6	54.9	
22		20.9	16.6	14.4	16.1	14.2	19.6	20.4	15.7	16.3	14.4	18.5	21.9	16.6	14.8	9	22.6	8	11.2	9.9	10.3	17.9	77.9	28.2	19.1	77.9	
23		18.7	15.1	9.2	14.6	21.2	16.1	11.2	12.1	11.2	14.8	16.4	20.2	17.6	18.5	20.7	13.1	12.5	18.3	16.4	13.6	12	12.7	13.3	14.1	21.2	
24		13.8	11.2	12.3	16.6	20.5	14.4	14.9	16.1	21.3	25.6	40.2	37.7	33.8	34	34.9	29.3	26.3	25.8	28.2	28.2	14	13.1	13.3	12	40.2	
25		11.4	13.6	12.5	14.2	21.1	10.7	11.8	47.2	33.2	9.2	13.7	16.4	17.2	14.6	18.3	13.3	15.3	17.4	17.9	18.7	18	15.1	13.8	13.5	47.2	
26		13.3	14	11.4	11.4	15.3	13.5	11.9	17.4	12.9	13.1	15.9	15.9	15.5	12	12.9	16.1	16.6	13.2	16.3	15.7	16.6	17.4	21.5	17.7	21.5	
27		15.5	18.1	15.5	20.4	21.7	15.3	18.7	15.3	15.7	23	27.3	31	24.1	21.5	18.3	16.6	23.4	25.2	25.4	24.1	24.3	17.2	11.4	13.5	31	
28		12.5	12.1	13.1	14.4	13.5	17	13.8	14.6	13.3	15.5	13.5	11.4	14.8	14	12.9	13.1	13.3	13.1	13.9	13.1	12.9	12.3	12	13.3	17	
29		15	11.2	13.8	14.2	12.3	13.8	11.4	12.9	15	20.2	15.7	16.4	19.6	17	11.2	20	21.5	26.9	28.6	26.4	36.1	35.1	29.5	30.3	36.1	
30		30.3	36.1	32.9	20	19.4	15.3	14.4	15.1	12.5																36.1	
PEAK		30.3	36.1	32.9	35.5	37.7	38.4	35.4	47.2	34.9	37.9	44.9	42.8	40.7	34.2	35.1	37.2	39.4	54.9	40.5	46.3	36.1	77.9	29.5	30.3		

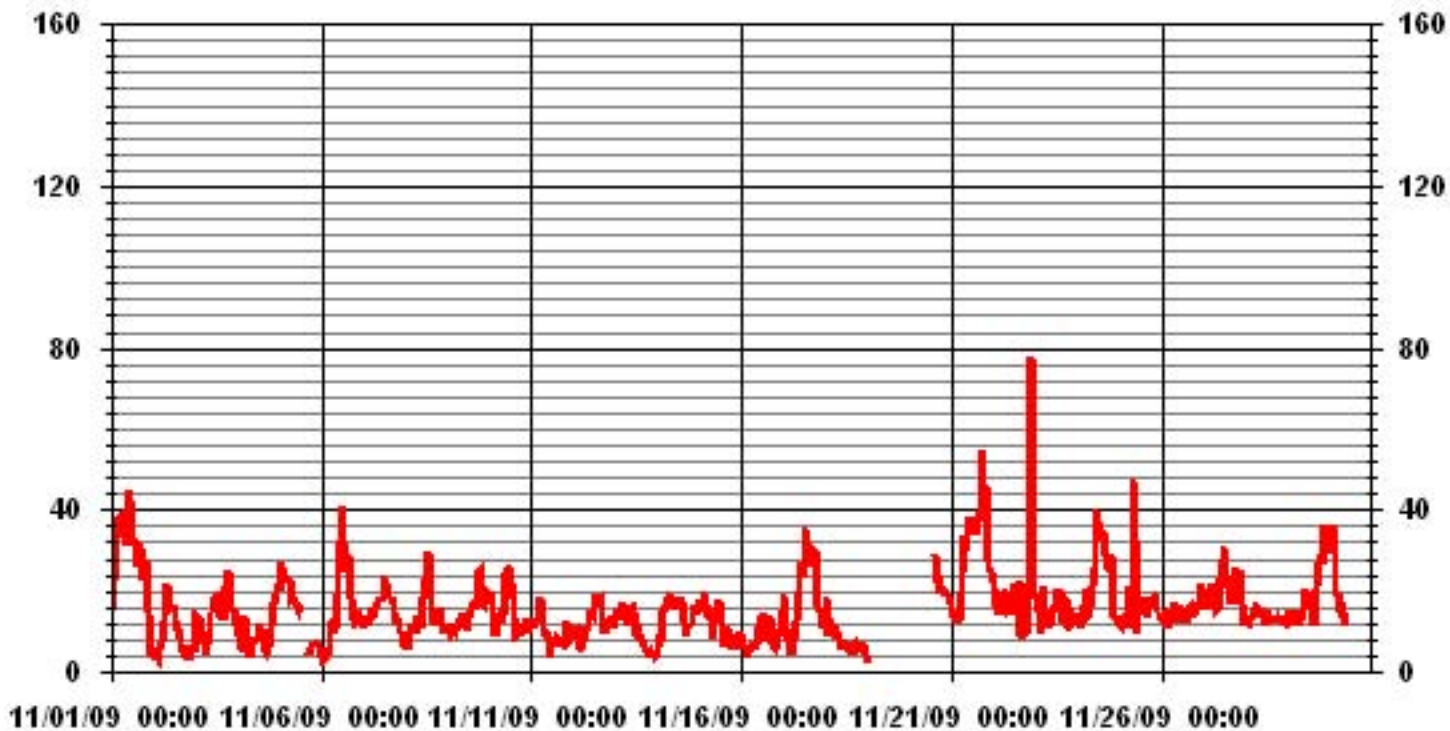
STATUS FLAG CODES

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	77.9	KPH	@ HOUR(S)	21
			ON DAY(S)	22

01 Hour Averages



— LICA30 WSMAX KPH

LICA30
WSP / WDR Joint Frequency Distribution (Percent)

November 2009

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	.75	1.50	1.50	3.76	1.80	1.80	3.91	1.20	3.01	8.73	18.82	4.66	4.06	1.80	1.35	.45	59.18	
< 12.0	.00	.00	.00	.00	.15	.15	3.76	1.65	1.80	8.73	8.73	1.20	4.66	4.36	.90	.75	36.89	
< 20.0	.00	.00	.00	.00	.00	.00	.30	.15	.15	.30	.00	.00	.15	2.10	.75	.00	3.91	
< 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	.75	1.50	1.50	3.76	1.95	1.95	7.98	3.01	4.96	17.77	27.56	5.87	8.88	8.28	3.01	1.20		

Calm : .00 %

Total # Operational Hours : 664

Distribution By Samples

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 6.0	5	10	10	25	12	12	26	8	20	58	125	31	27	12	9	3	393	
< 12.0					1	1	25	11	12	58	58	8	31	29	6	5	245	
< 20.0							2	1	1	2			1	14	5		26	
< 29.0																		
< 39.0																		
>= 39.0																		
Totals	5	10	10	25	13	13	53	20	33	118	183	39	59	55	20	8		

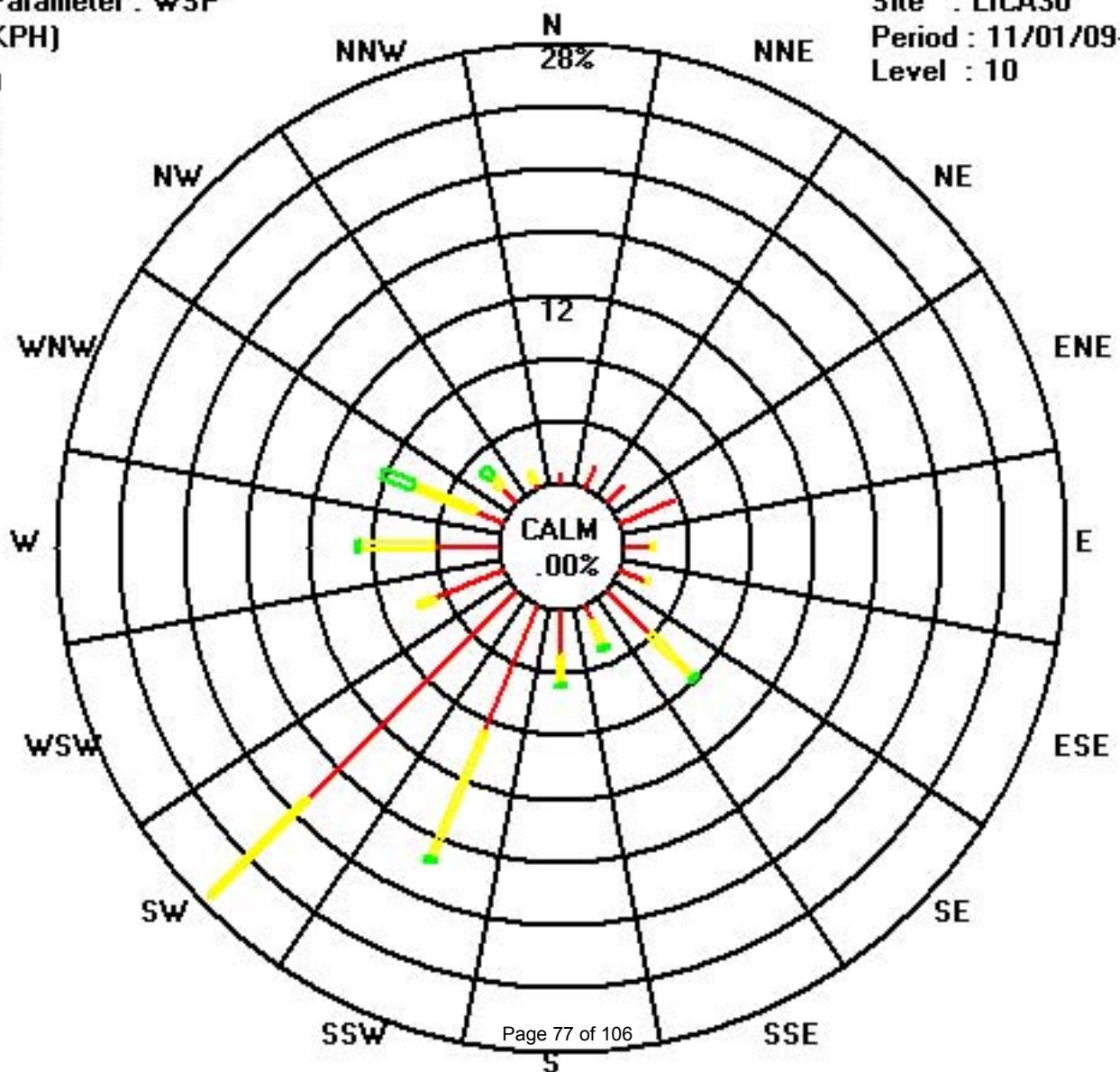
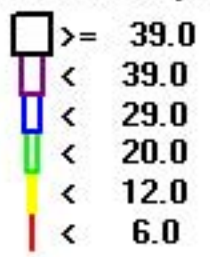
Calm : .00 %

Total # Operational Hours : 664

Class Limits (KPH)

Period : 11/01/09-11/30/09

Level : 10



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

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		233	238	253	281	285	288	288	290	298	322	310	305	309	308	305	322	330	327	327	328	329	330	313	231	300	WNW	24	
2		206	152	180	164	144	168	137	137	143	124	127	133	146	130	125	133	91	58	218	0	115	15	33	13	132	SE	24	
3		8	8	23	21	4	40	12	212	197	227	203	205	200	202	201	214	228	272	276	284	292	299	297	277	256	WSW	24	
4		269	259	276	239	199	219	223	174	223	215	213	217	202	198	204	198	185	111	132	143	141	144	143	146	185	S	24	
5		145	150	146	133	125	128	130	129	133	154	175	189	192	P	P	P	118	91	71	60	66	76	68	3	137	137	SE	21
6		95	275	279	139	270	209	222	228	222	221	258	287	285	295	288	282	285	254	232	223	229	253	225	215	258	WSW	24	
7		221	216	220	225	231	221	226	244	234	234	226	217	220	216	219	212	215	225	229	243	234	221	210	222	223	SW	24	
8		246	229	214	226	213	222	224	211	207	213	241	260	258	278	276	249	226	218	222	239	233	226	217	216	233	SW	24	
9		215	216	208	214	224	214	211	203	206	206	200	200	184	157	158	152	140	144	152	145	139	148	152	148	175	S	24	
10		171	175	170	178	199	228	233	257	278	279	283	288	290	283	268	243	240	217	230	226	235	246	224	216	242	WSW	24	
11		211	207	201	205	209	206	213	205	204	215	236	35	58	65	15	40	186	279	293	233	311	289	283	268	222	SW	24	
12		283	269	251	233	221	210	212	214	217	215	214	220	216	218	225	226	219	218	218	214	216	217	214	205	220	SW	24	
13		204	210	207	207	209	208	209	208	204	201	214	237	205	206	172	143	118	126	310	140	254	218	219	222	202	SSW	24	
14		219	246	263	292	288	292	287	283	281	272	276	288	287	263	243	244	214	200	203	204	205	201	195	187	250	WSW	24	
15		196	185	184	184	180	182	205	190	201	204	209	199	220	204	178	166	177	175	50	104	97	287	52	68	186	S	24	
16		64	64	47	38	109	37	85	75	84	120	136	150	144	134	90	36	188	204	204	201	206	219	212	217	153	SSE	24	
17		234	232	208	210	112	93	134	125	130	143	149	155	191	194	205	206	254	302	310	281	221	191	190	194	197	SSW	24	
18		205	231	267	237	186	205	201	187	224	290	307	334	333	229	315	226	207	186	191	215	202	191	202	59	216	SW	24	
19		39	27	11	28	50	146	144	118	134	138	156	182	200	219	225	219	213	220	212	211	225	213	216	76	0	N	24	
20		70	74	63	62	54	47	56	75	76	89	106	M	M	M	110	97	81	79	77	69	69	76	67	68	82	E	21	
21		55	33	26	311	284	273	272	294	291	293	291	289	281	284	285	287	279	285	285	290	280	272	271	254	286	WNW	24	
22		233	223	219	209	216	234	247	238	245	230	270	278	273	210	212	220	208	204	213	193	201	65	78	73	227	SW	24	
23		72	67	59	252	90	101	168	138	153	195	216	224	217	212	225	220	226	255	235	225	223	230	214	249	210	SSW	24	
24		261	127	141	209	212	215	222	222	230	242	281	290	300	309	315	314	290	282	282	317	291	236	226	226	270	W	24	
25		209	216	215	217	218	214	213	189	114	33	187	197	193	142	145	133	140	144	140	137	114	120	127	133	166	SSE	24	
26		121	135	153	159	265	223	225	234	228	224	219	219	216	216	215	206	217	224	222	221	243	223	242	228	213	SSW	24	
27		225	217	218	228	270	233	240	239	249	257	279	283	292	296	317	305	298	281	278	275	272	265	205	214	260	WSW	24	
28		225	212	214	223	215	216	214	215	217	209	212	207	205	208	218	212	217	216	217	214	223	216	214	227	214	SSW	24	
29		220	218	216	211	213	205	212	207	202	205	216	222	221	221	207	262	272	271	271	271	275	281	280	272	242	WSW	24	
30		277	280	276	259	222	228	222	221	209																	249	WSW	9
HOURLY AVG		283	280	279	311	288	292	288	294	298	322	310	334	333	309	317	322	330	327	327	328	329	330	313	277				

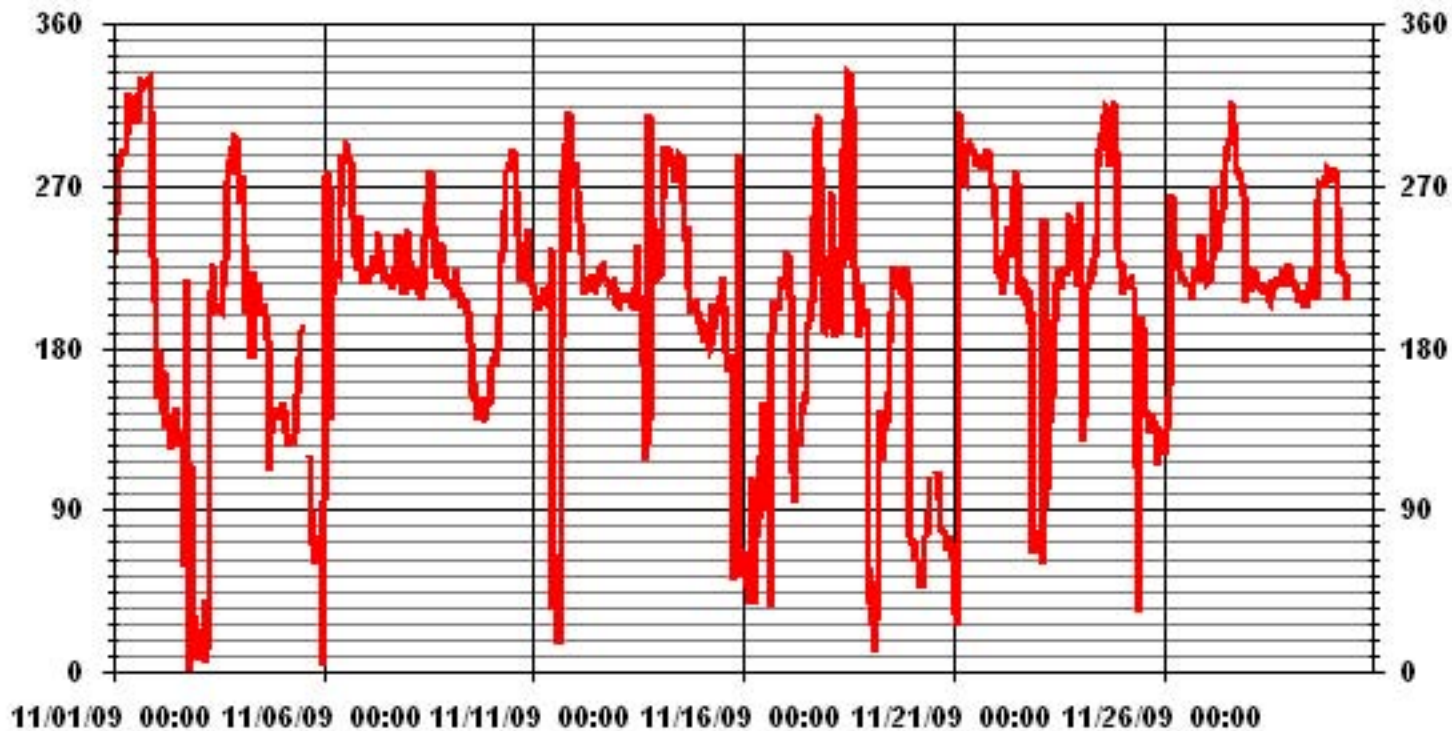
STATUS FLAG CODES

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:	699 HRS
STANDARD DEVIATION	69.85	AMD OPERATION UPTIME	99.1 %
		MONTHLY AVERAGE	227 DEG

01 Hour Averages



— LICA30 WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

NOVEMBER 2009

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	16	18	22	19	15	14	15	14	16	25	20	18	17	19	18	24	25	24	26	26	26	30	35	22
2	36	32	24	38	46	17	19	15	17	24	25	20	21	26	26	26	31	47	14	26	62	35	23	17
3	16	17	17	23	33	37	34	16	24	22	19	15	15	18	15	22	14	22	18	17	18	21	20	13
4	17	17	16	42	12	13	30	32	16	13	14	15	13	16	16	9	21	10	15	10	9	10	11	12
5	13	14	13	18	15	18	19	19	21	18	18	19	17	P	P	21	23	33	40	20	13	17	25	62
6	44	55	49	29	28	34	11	13	13	15	19	19	17	14	15	15	14	18	14	10	12	20	14	9
7	8	9	10	11	13	10	19	23	19	20	18	14	15	14	14	11	12	16	17	20	16	12	22	10
8	17	13	9	9	7	10	10	9	11	11	18	25	23	21	21	21	13	12	13	20	19	10	9	10
9	9	11	9	12	13	9	14	9	9	10	12	16	22	19	14	15	11	11	13	12	17	17	15	17
10	14	14	15	34	12	16	12	14	13	17	19	19	16	19	23	17	15	13	11	10	22	22	14	10
11	9	13	7	9	10	7	14	10	12	16	27	27	25	25	19	31	40	38	36	39	37	22	22	23
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13	9	12	7	8	9	10	12	11	9	10	16	28	15	18	18	12	14	36	46	36	44	34	18	17
14	40	26	24	32	13	15	14	17	16	19	21	19	22	29	24	23	9	8	7	9	10	11	11	13
15	12	12	14	17	19	16	20	25	13	14	15	17	25	14	20	17	17	14	58	14	32	58	24	14
16	59	41	43	54	50	46	34	50	27	36	17	20	24	29	28	25	36	15	38	15	15	14	13	12
17	20	21	11	13	59	64	37	28	12	11	14	17	14	12	10	11	19	16	21	28	31	19	10	11
18	12	17	19	19	15	12	10	22	20	18	37	41	42	67	43	12	15	23	24	14	11	12	40	50
19	48	39	24	60	37	30	15	24	23	20	22	18	16	16	15	13	10	9	8	9	15	9	28	45
20	28	14	13	12	10	11	11	14	17	21	18	33	49	28	23	26	22	20	22	19	21	20	18	19
21	16	17	30	31	39	22	21	22	21	23	23	25	24	23	23	24	23	24	21	23	22	23	23	29
22	20	22	17	14	17	23	23	20	17	19	27	29	25	16	16	41	11	17	49	10	36	26	22	27
23	22	29	69	41	16	19	19	29	23	19	22	25	23	19	23	17	14	26	23	13	15	17	17	43
24	34	62	17	27	38	19	15	14	19	26	23	24	26	31	33	33	26	23	21	36	36	50	14	13
25	10	13	14	14	22	18	27	26	42	39	25	22	25	23	20	24	20	20	20	21	16	16	20	19
26	22	18	27	22	25	18	30	24	21	16	19	21	17	17	11	15	15	18	18	25	16	23	17	
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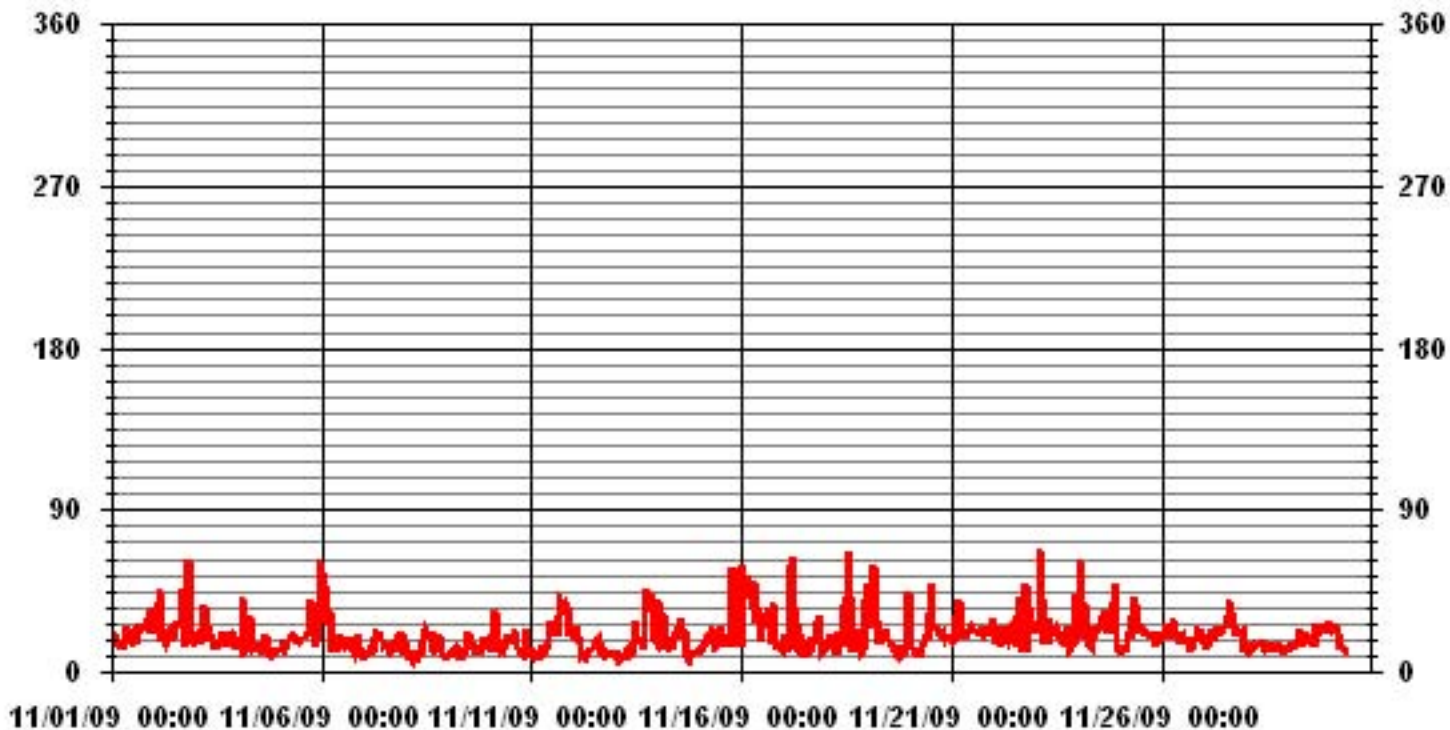
STATUS FLAG CODES

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

LAST CALIBRATION: February 4, 2009

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 703 HRS

01 Hour Averages



— LICA30 STDWDIR DEG

Calibration Reports

Sulphur Dioxide

SO₂ Calibration Report

Station Information

Calibration Date	November 18, 2009	Previous Calibration	October 7, 2009
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:23	End Time (MST)	14:55
Reason:	Repair / Adjustment Calibration		
Barometric Pressure	934 mBar	Station Temperature	26 Deg C
Cal Gas	52.2 ppm	Cal Gas Expiry date	12/19/2010
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:	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 - 1000	ppb	
Sample Flow / Box Temp	604 ccm 35.6 Deg C	605 ccm 33.9 Deg C	
HVPS / Lamp Setting	522 4513	494 3500	
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	35 0.926	29.5 1.001	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998.0	0	0	1	N/A
4923.0	76.7	801	854	0.9377
4998.0	0	0	0	N/A
4923.0	76.7	801	802	0.9985
4961.0	38.3	400	398	1.0048
4983.0	19.2	200	199	1.0068
4999.0	0	0	0	N/A
Sum of Least Squares				1.0001
New Correction Factor				0.9985

Before Calibration

After Calibration

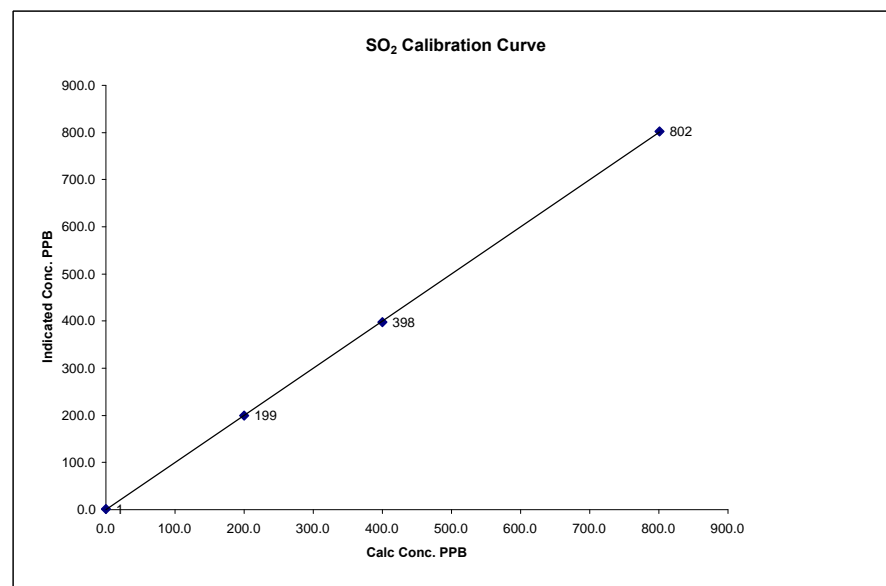
Auto Zero	1.1	0.3
Auto Span	657.0	602.0
Sample Lines Connected		YES
Percent Change from Previous Calibration		6.4%

Calibration Performed by: Shea Beaton

SO₂ Calibration Curve

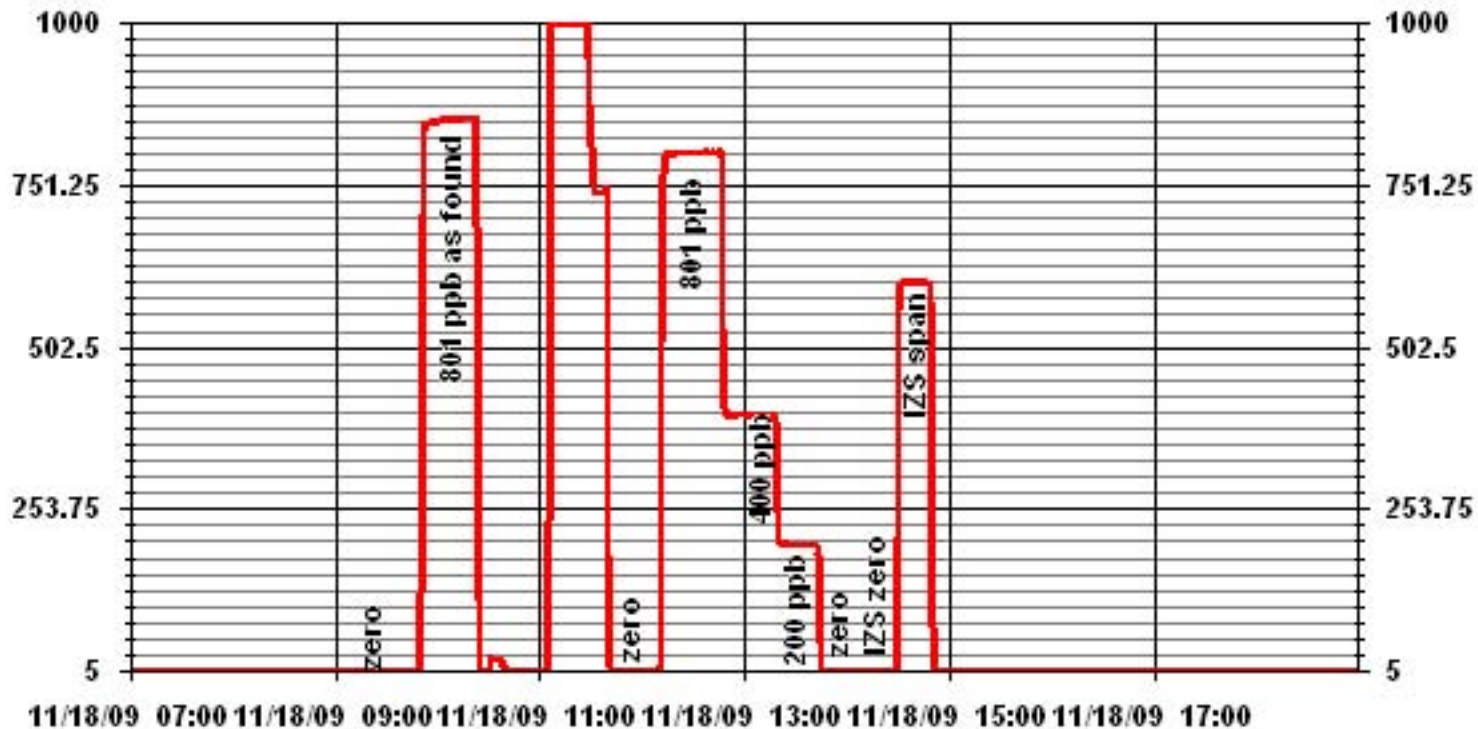
Calibration Date	November 18, 2009		
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:23	End Time (MST)	14:55

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	
0	1	n/a	Intercept	(± 3% F.S.)	0.999979
200	199	1.0068			1.000859
400	398	1.0048			
801	802	0.9985			-0.566965



Notes: Analyzer is spanning close to +10%, UV lamp voltage has been creeping up. Peaked lamp, adjusted ref det voltage, did a lamp and factory cal. Multi-point cal began at 11:49.

01 Minute Averages



SO₂ Calibration Report

Station Information

Calibration Date	November 30, 2009	Previous Calibration	November 18, 2009
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:32	End Time (MST)	11:58
Reason:	Removal Calibration		
Barometric Pressure	932 mBar	Station Temperature	24 Deg C
Cal Gas	52.2 ppm	Cal Gas Expiry date	12/19/2010
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 2000		1991	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Flow Meter:	Enviroics 2000	S/N :	1991		

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 1000	ppb	
Sample Flow / Box Temp	601 ccm 34.3 Deg C	601 ccm 36.5 Deg C	
HVPS / Lamp Setting	494 3546	494 3543	
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	29.5 1.001	29.5 1.001	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
3011.0	0	0	2	N/A
2963.0	43.7	759	762	0.9957
2987.0	20.4	354	354	1.0002
3001.0	8.7	151	149	1.0127
3011.0	0	0	1	N/A
Sum of Least Squares				0.9970
New Correction Factor				0.9957

Before Calibration

After Calibration

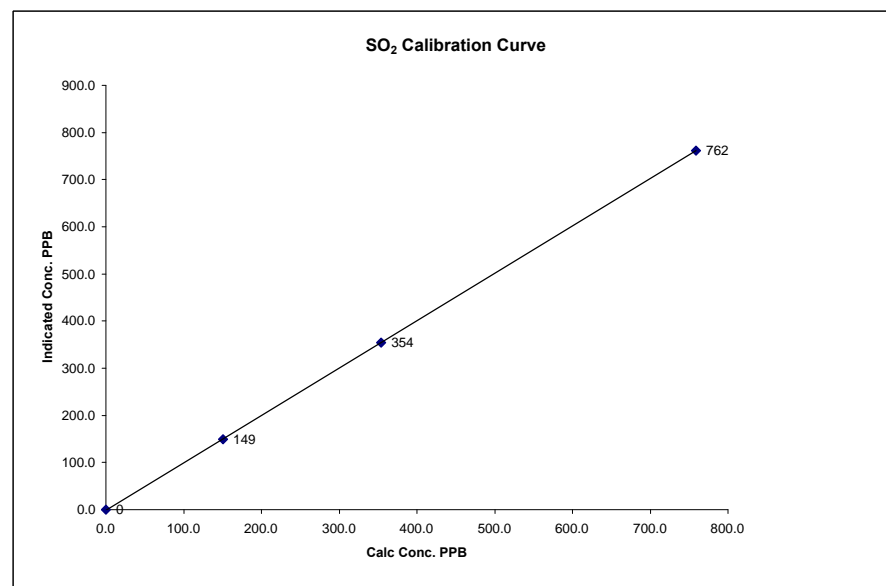
Auto Zero	-	-
Auto Span	-	-
Sample Lines Connected		YES
Percent Change from Previous Calibration		0.3%

Calibration Performed by: Shea Beaton

SO₂ Calibration Curve

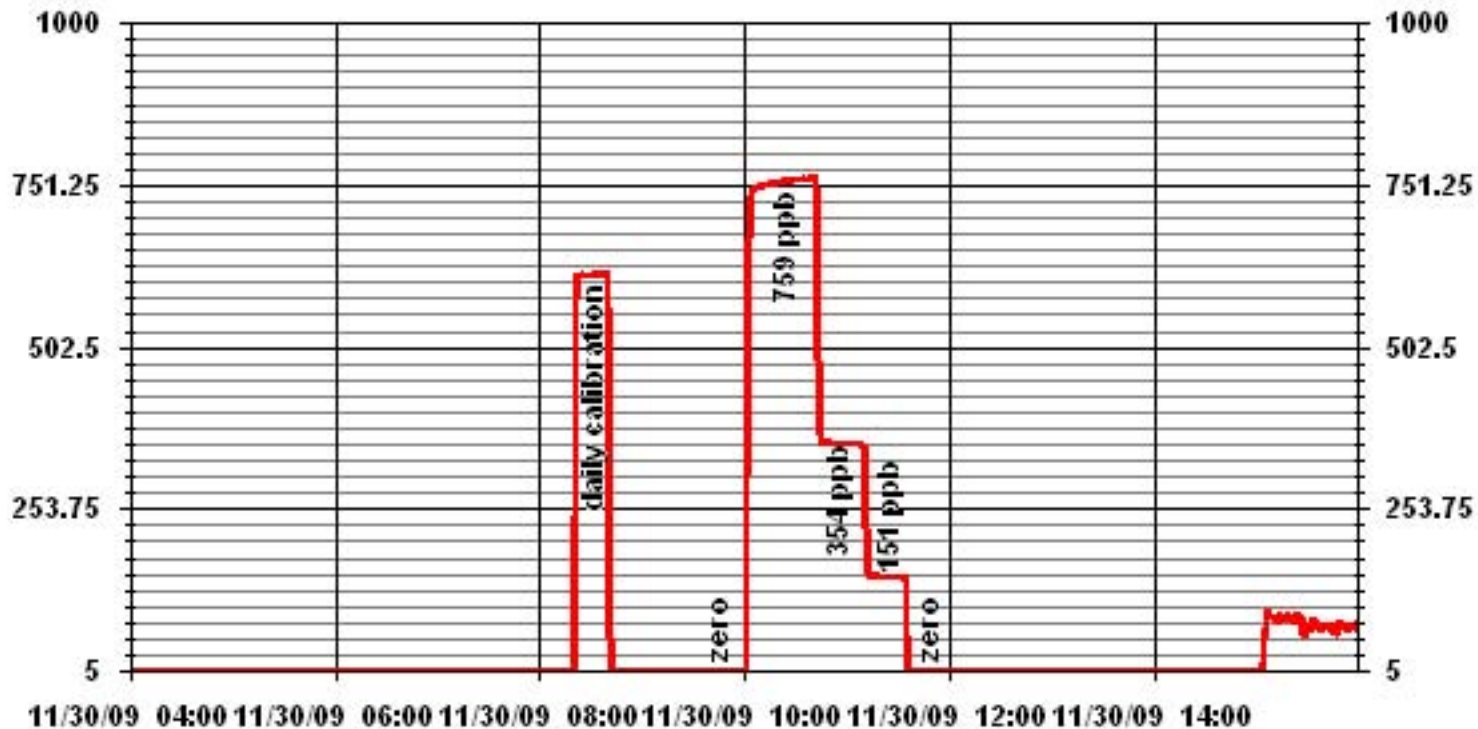
Calibration Date	November 30, 2009
Company	Lakeland Industry & Community Association
Plant / Location	Cold Lake - Maskwa
Start Time (MST)	9:32
End Time (MST)	11:58

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999987
0	0	n/a	Intercept	(0.85 to 1.15)	1.005474
151	149	1.0127		(± 3% F.S.)	-1.395337
354	354	1.0002			
759	762	0.9957			



Notes:

01 Minute Averages



Hydrogen Sulphide

H₂S Calibration Report

Station Information

Calibration Date	November 30, 2009	Previous Calibration	October 7, 2009
Company	Lakelnad Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:32	End Time (MST)	11:58
Reason:	Removal Calibration		
Barometric Pressure	932 mBar	Station Temperature	24 Deg C
Cal Gas	10.8 ppm	Cal Gas Install date	06/22/2009
DAS Output Voltage	0 - 1 Volts		

Equipment Information

Analyzer Make / Model:	API 101E	S/N :	511	Method:	Fluorescent
Converter Make / Model:	Internal	S/N :	N/A		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

		Before Calibration		After Calibration	
Concentration Range		0 - 100		ppb	
Sample Flow / Box Temp	523 ccm	35.2 Deg C	520	37.7	Deg C
HVPS / Lamp Setting	536	2431	536	2431	
PMT / RxCell Temp	7.9 Deg C	50 Deg C	7.9 Deg C	50 Deg C	
Converter / IZS Temp	314.6 Deg C	45 Deg C	315.1 Deg C	45 Deg C	
Offset / Slope	23.7	1.095	23.7	1.095	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	1	N/A
4962	37	80	79	1.0118
4977	20.9	45	45	1.0036
4986	11.6	25	25	1.0027
4998	0	0	1	N/A
Sum of Least Squares				1.0093
New Correction Factor				1.0118

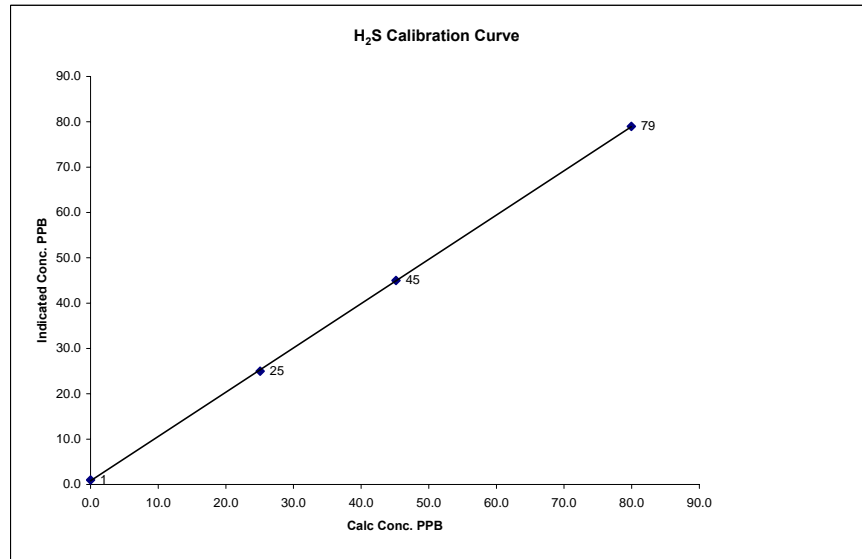
		Before Calibration	After Calibration
Auto Zero		-	-
Auto Span		-	-
Sample Lines Connected			YES
Percent Change from Previous Calibration			-1.3%

Calibration Performed by: Shea Beaton

H₂S Calibration Curve

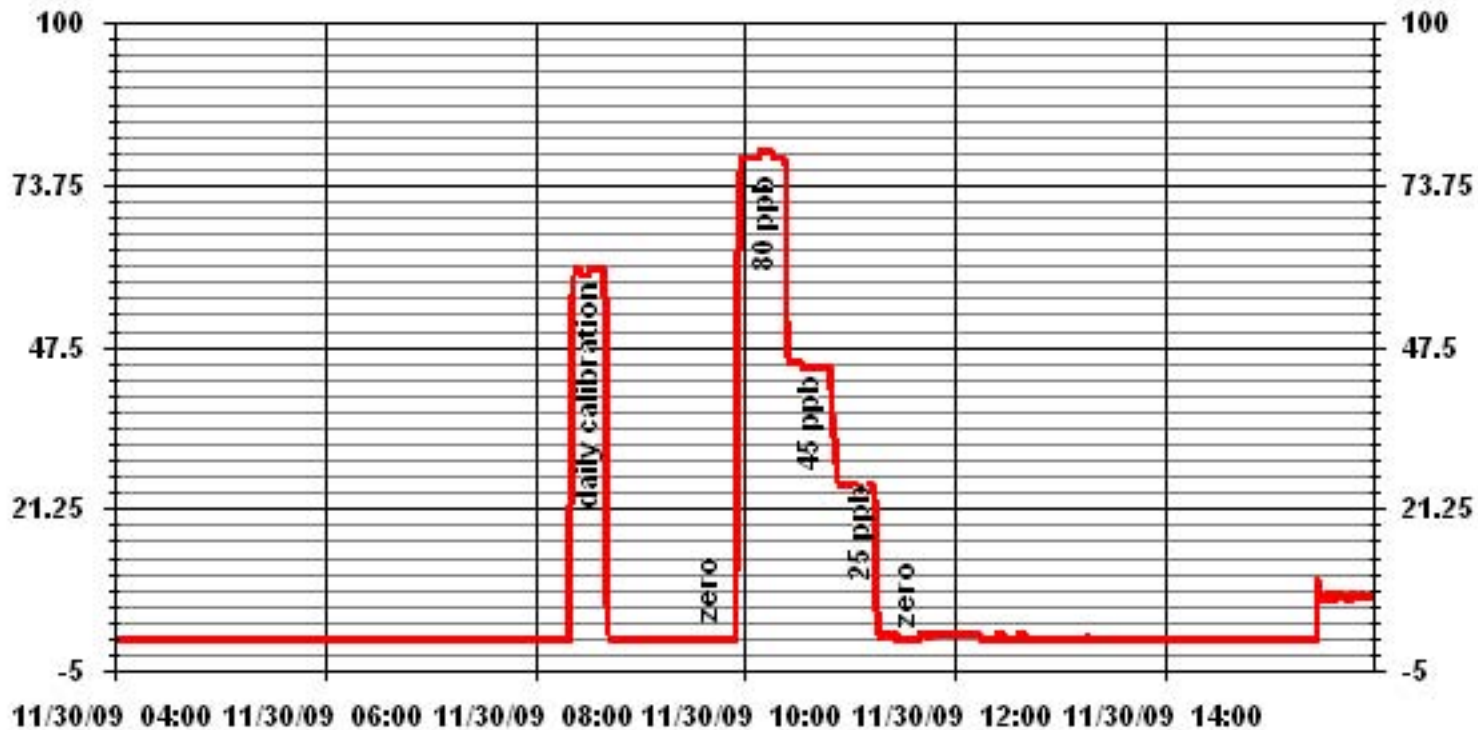
Calibration Date	November 30, 2009		
Company	Lakelnad Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:32	End Time (MST)	11:58

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999957
0	1	n/a	Intercept	(± 3% F.S.)	0.810166
25	25	1.0027			
45	45	1.0036			
80	79	1.0118			



Notes:

01 Minute Averages



— LICA30 H2S_ PPB

Total Hydrocarbons

THC Calibration Report

Station Information			
Calibration Date:	November 30, 2009	Previous Calibration	October 6, 2009
Company:	Lakeland Industry & Community Association		
Plant / Location:	Cold Lake - Maskwa		
:	(MST) 12:41	End Time	(MST) 14:51
Reason:	Removal calibration		
Barometric Pressure:	932 mBar	Station Temperature:	25 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	299 Prop/ 1019 Meth	ppm	Cal Gas Expiry Date: August 21, 2011
DAS make & Model:	ESC 8832	S/N :	AO 791
Output Voltage Range:	0 - 10	VDC	

Analyzer Information

Make / Model	TECO 51C-LT	S/N :	436609738	Method	Flame Ionization
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Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 -50	ppm	0 - 50	ppm
Sample Pressure	7.5	psi	7.5	psi
Hydrogen Pressure	8	psi	8	psi
Air Pressure	20	psi	20	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2997	0.0	0.0	-0.1	N/A
2997	65.0	39.1	39.6	0.9870
2997	35.0	21.3	21.2	1.0026
2997	20.0	12.2	12.1	1.0087
2997	0	0.0	-0.1	N/A
Correction Factor:				0.9870

Previous Calibration Correction Factor: 0.9933
 Current Correction Factor Before Span Adjust: 0.9870
 Percent Change: 0.64%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	-
Auto Span	46.0	-
Sample Lines Connected		YES

Cylinder Pressures Changed H2 following a/f points.

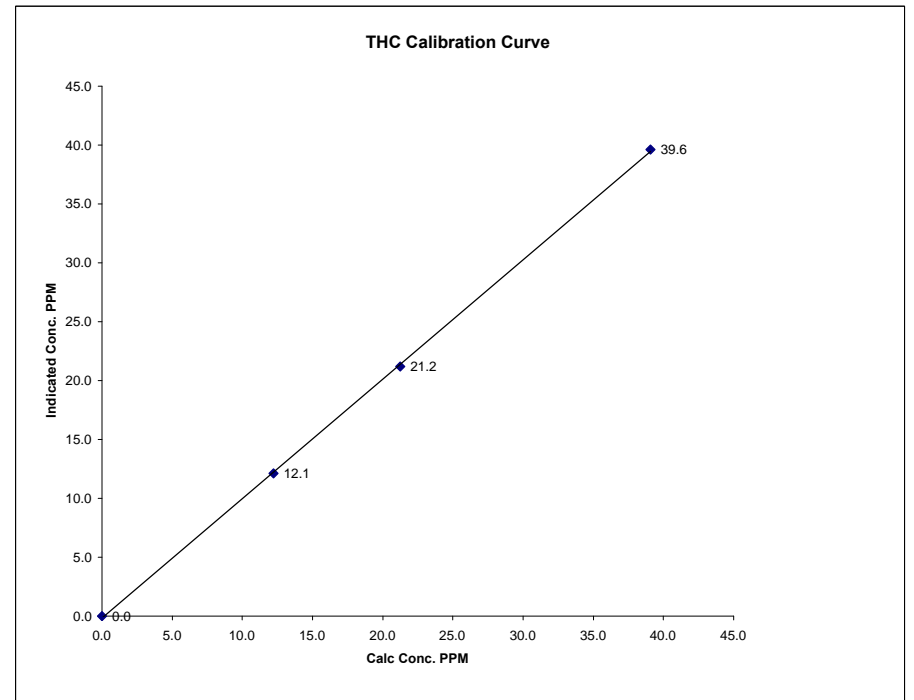
Span	1500	psi
Hydrogen	2000	psi
Zero Air	-	psi

Calibration Performed by: Shea Beaton

THC Calibration Curve

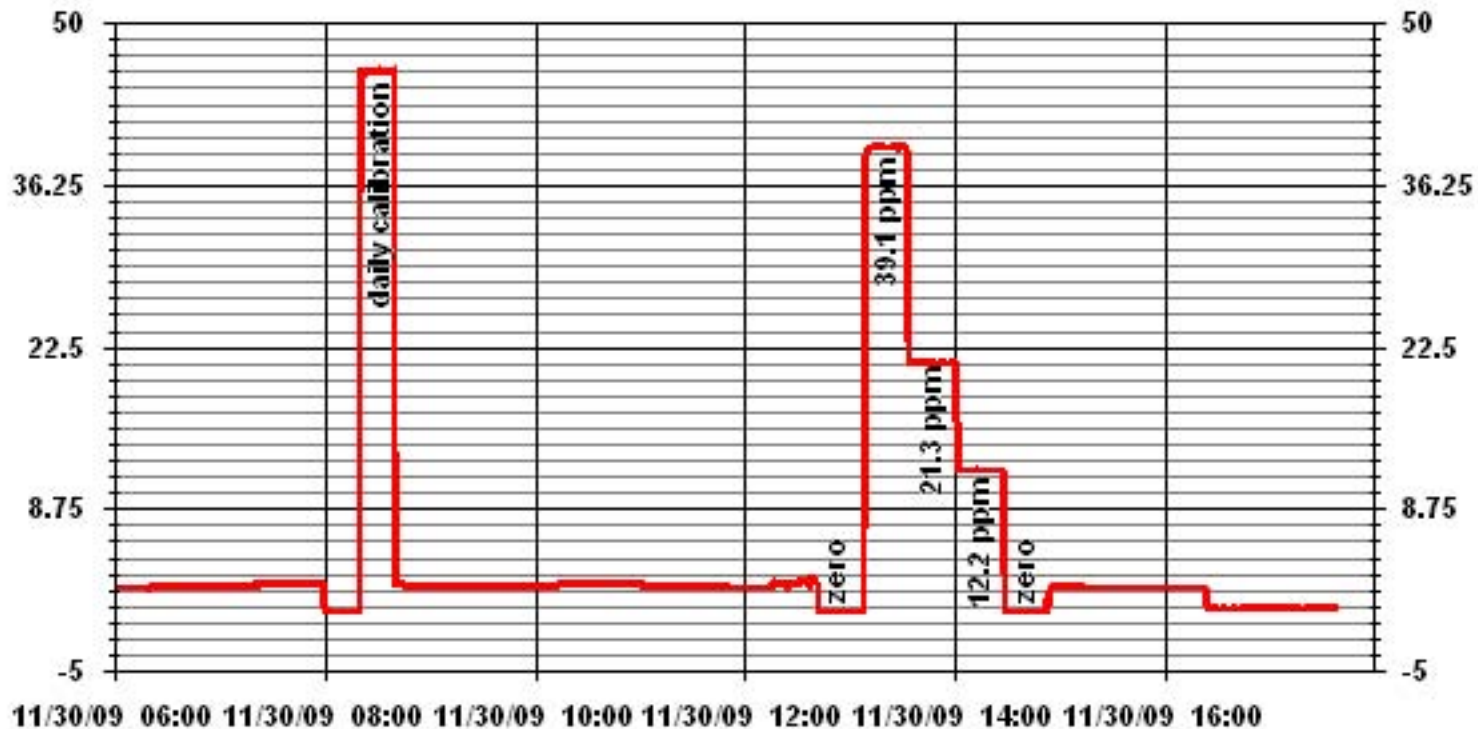
Calibration Date	November 30, 2009		
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	12:41	End Time (MST)	14:51

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999890
0.0	0.0		Intercept	(± 3% F.S.)	-0.162112
12.2	12.1	1.0087			
21.3	21.2	1.0026			
39.1	39.6	0.9870			



Notes:

01 Minute Averages



— LICA30 THC PPM

Nitrogen Dioxide

NOx - NO- NO₂ Calibration Report
Station Information

Calibration Date	November 30, 2009	Previous Calibration	October 7, 2009
Company	LICA	Plant/Location	Cold Lake - Maskwa
Start Time (MST)	9:32	End Time (MST)	14:51
Reason:	Removal Calibration		
Barometric Pressure	932 mBar	Station Temperature	24.0 Deg C
Cal Gas Concentration	NOx 51.8 ppm	NO	51.6 ppm
DAS Output Voltage	0 - 1 Volts	Chart Rec. Output	0 - 1 Volts

Equipment Information

Analyzer Make / Model:	API 200E	S/N :	594	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 2000	S/N:	1991		
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Flow Meter:	EnviroNics 2000	S/N :	1991		

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0 - 1000 ppb						
Sample Flow/Conv. Temp	454 ccm	315.6 Deg C		454 ccm	315.7 Deg C		
Ozone Flow / Vacuum HVPS	76 ccm	4.1 *Hg-A		76 ccm	4.1 *Hg-A		
	767 Volts			767 Volts			
Rx/ Temp / PMT Temp	50 Deg C	6.6 Deg C		50 Deg C	6.6 Deg C		
Box Temp / IZS Temp	34 Deg C	45.1 Deg C		37.2 Deg C	45.1 Deg C		
Offset	0.9 NOx	0.6 NO		0.9 NOx	0.6 NO		
Slope	1.149 NOx	1.145 NO		1.149 NOx	1.145 NO		

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration		Indicated Concentration			Correction Factor	
			NOx	NO	NOx	NO	NO ₂	NOx	NO
3011.0	0	N/A	0	0	0	1	0	N/A	N/A
2963.0	43.7	N/A	753	750	736	735	2	1.0229	1.0204
2987.0	20.4	N/A	351	350	341	340	1	1.0304	1.0295
3001.0	8.7	N/A	150	149	142	143	0	1.0545	1.0431
3011.0	0	N/A	0	0	0	0	0	N/A	N/A
Converter Efficiency									
2963.0	43.7	N/A	753	800	736	737	0	N/A	
2963.0	43.7	400	753	N/A	735	371	364	99%	
2963.0	43.7	200	753	N/A	735	552	183	99%	
2963.0	43.7	100	753	N/A	735	650	86	99%	
2963.0	43.7	N/A	753	750	737	736	1	N/A	
Correction Factor									
3011.0	0	N/A	0	0	0	0	0	N/A	N/A
Linearity OK? Yes No									
Flows Checked on-site? Yes No									
Sum of Least Squares								1.0252	1.0226
New Correction Factor								1.0229	1.0204
Average Converter Efficiency								99%	

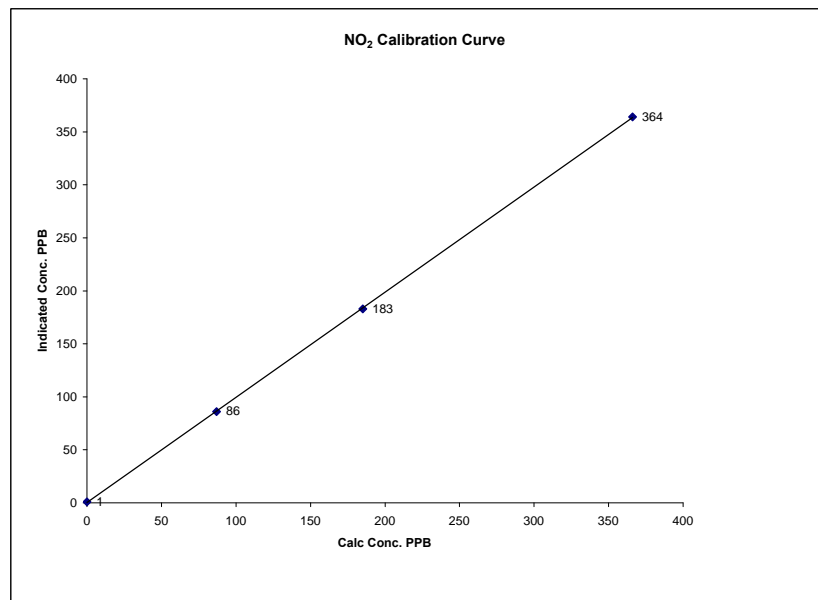
Before Calibration				After Calibration							
Auto Zero	-	NOx	-	NO ₂	-	NOx	-	NO ₂			
Auto Span	-	NOx	-	NO ₂	-	NOx	-	NO ₂			
Sample Lines Connected								YES			
Percent Change from Previous Calibration								NOx	-2.2%	NO	-2.2%

Calibration Performed by: Shea Beaton

NO₂ Calibration Curve

Calibration Date	November 30, 2009
Company	LICA
Plant / Location	Cold Lake - Maskwa
Start Time (MST)	9:32
End Time (MST)	14:51

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	1	N/A		0.999974
87	86	1.0116		0.992553
185	183	1.0109		
366	364	1.0055		0.187805

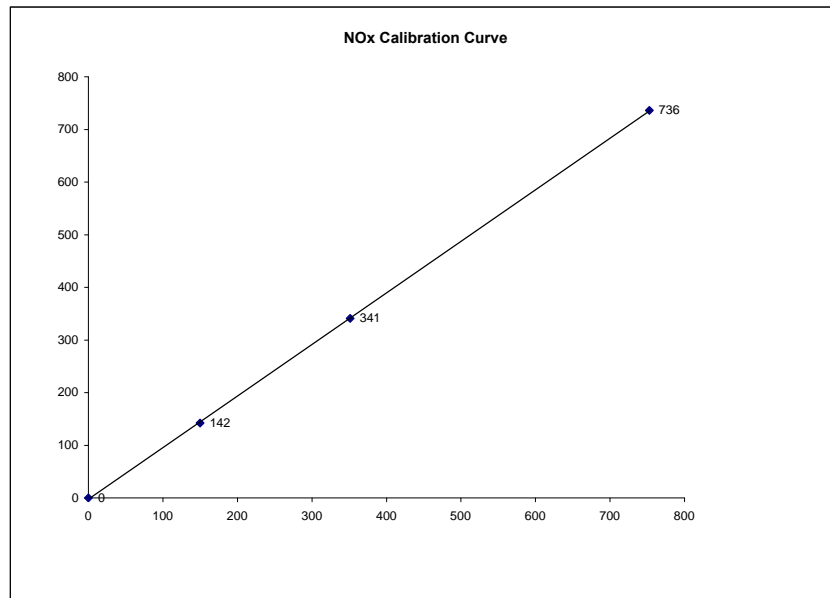


Notes:

NOx Calibration Curve

Calibration Date	November 30, 2009	
Company	LICA	
Plant / Location	Cold Lake - Maskwa	
Start Time (MST)	9:32	End Time (MST) 14:51

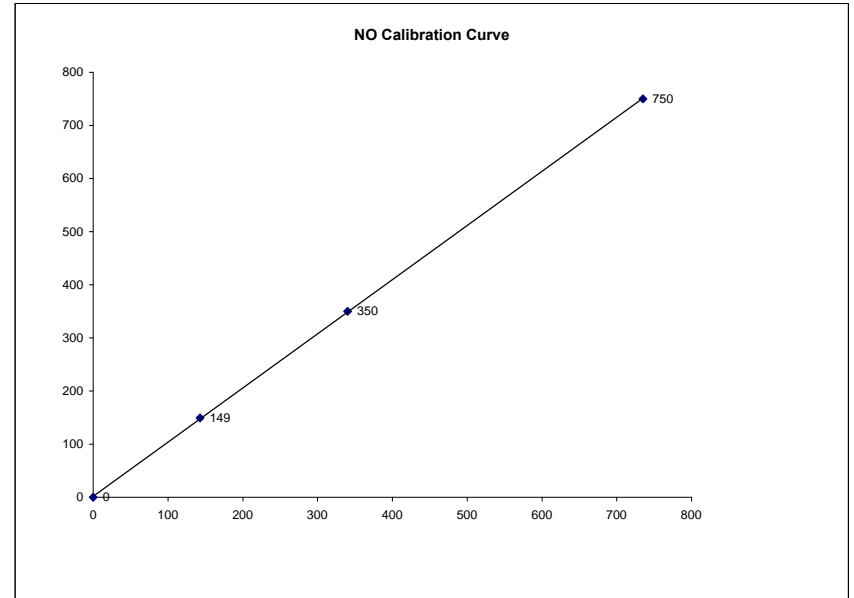
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999960
0	0	N/A	Slope	(0.85 to 1.15)	0.979538
150	142	1.0545	Intercept	($\pm 3\%$ F.S.)	-2.330601
351	341	1.0304			
753	736	1.0229			



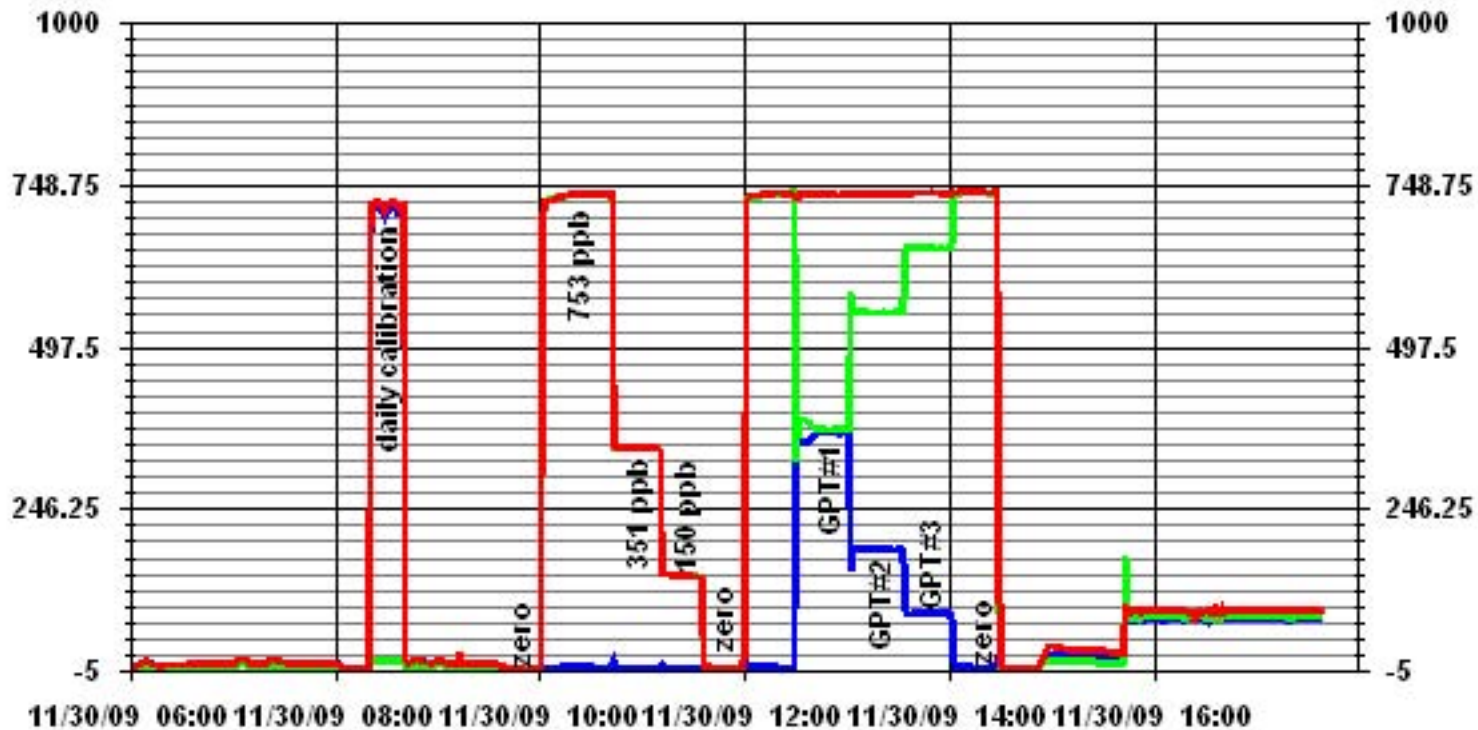
NO Calibration Curve

Calibration Date	November 30, 2009	
Company	LICA	
Plant / Location	Cold Lake - Maskwa	
Start Time (MST)	9:32	End Time (MST) 14:51

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999970
0	0	N/A	Slope	(0.85 to 1.15)	0.981321
149	143	1.0431	Intercept	($\pm 3\%$ F.S.)	-1.951798
350	340	1.0295			
750	735	1.0204			

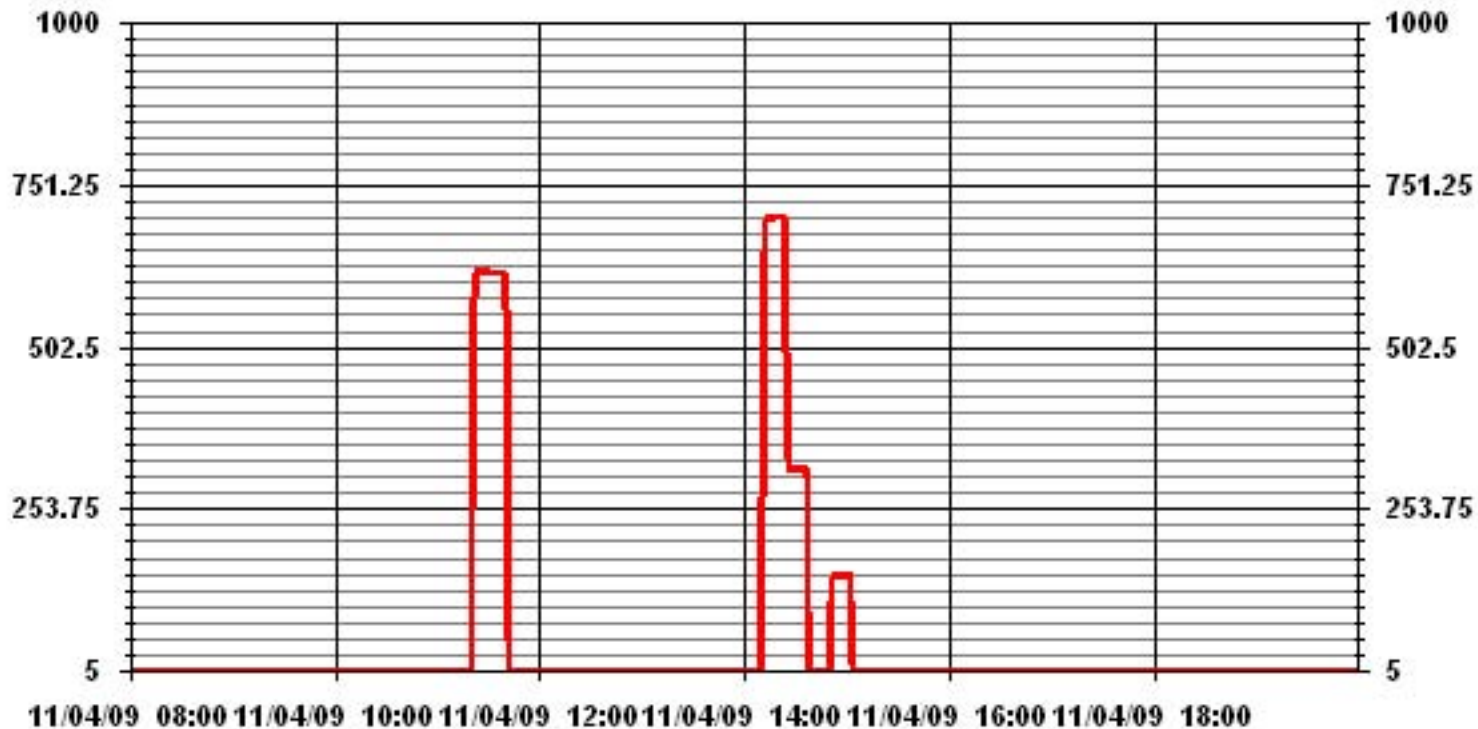


01 Minute Averages

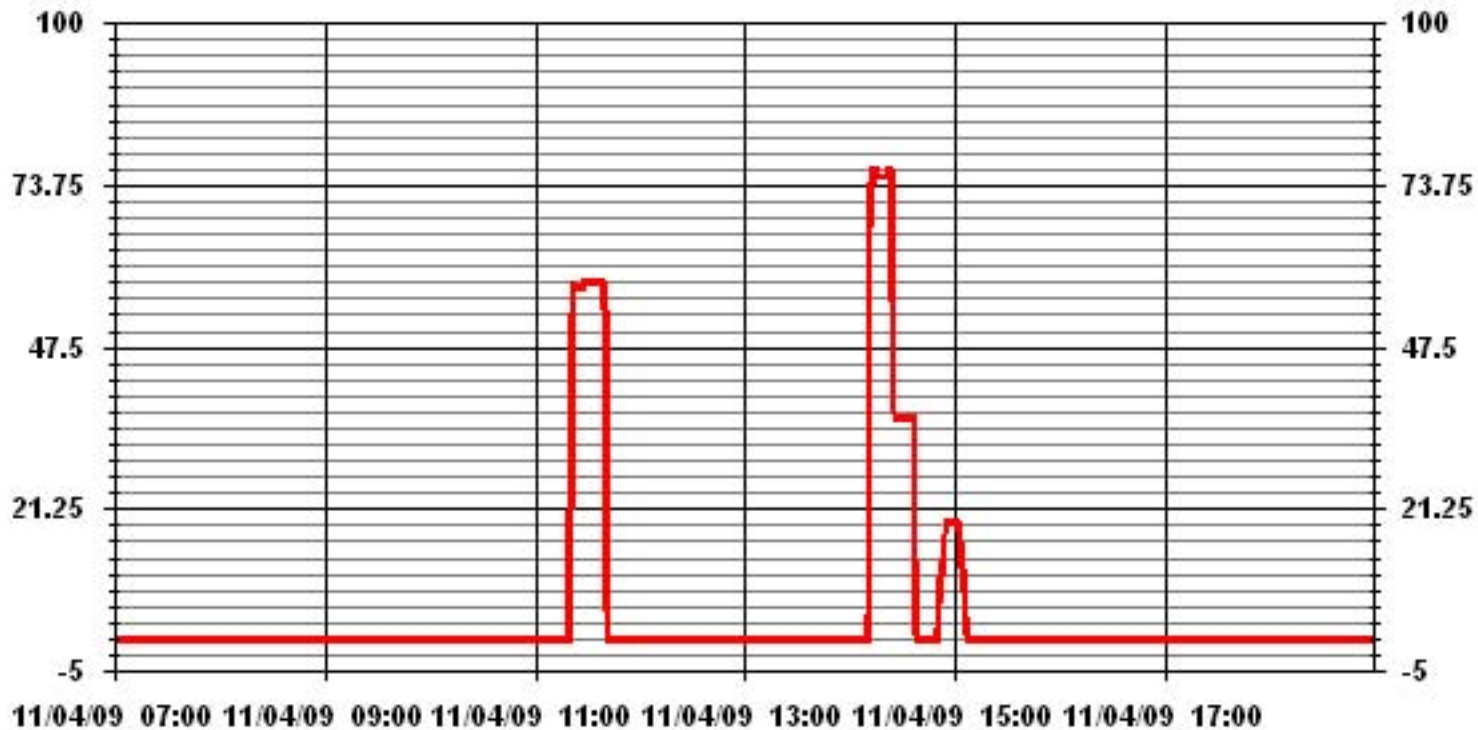


Calibration Graphs - Alberta Environment –

01 Minute Averages

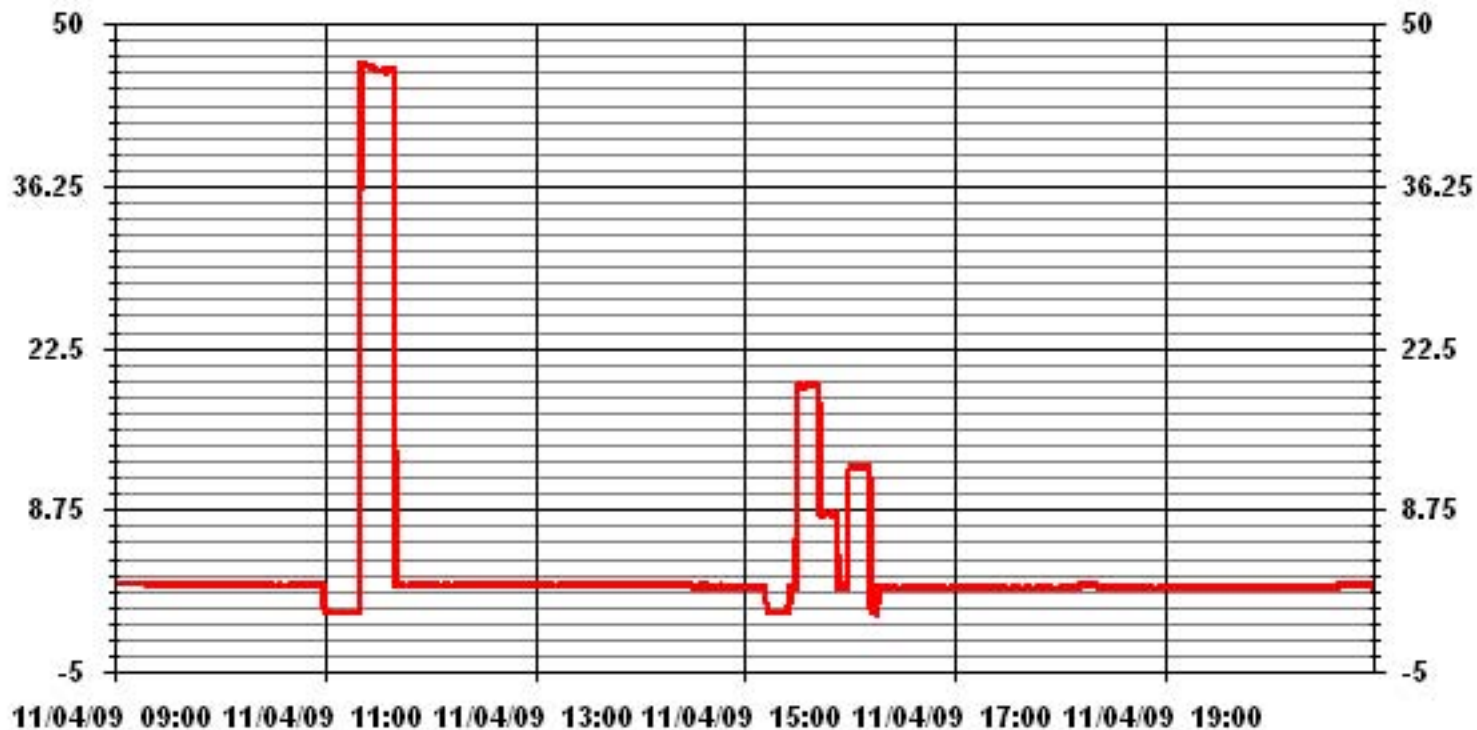


01 Minute Averages



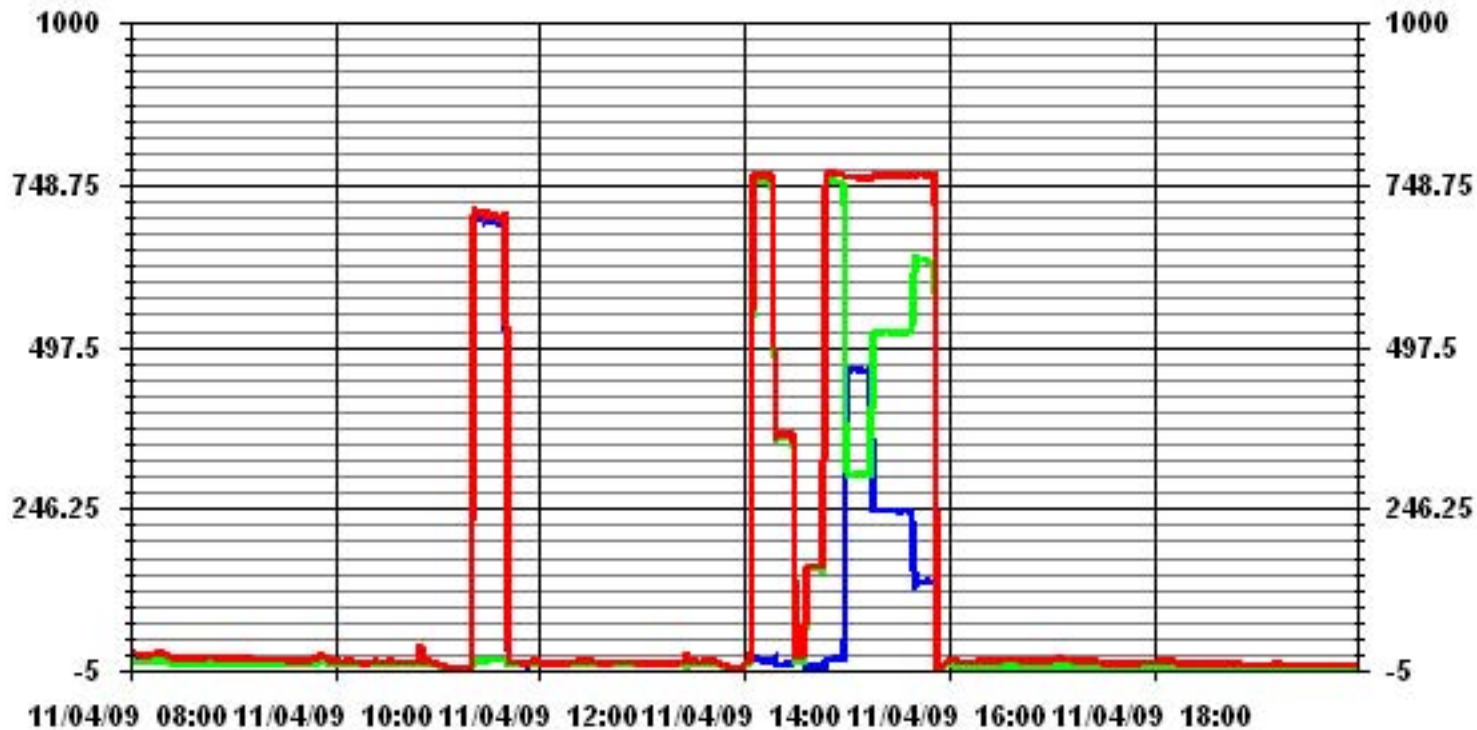
Page 102 of 106
— LICA30 H2S_ PPB

01 Minute Averages



— LICA30 THC PPM

01 Minute Averages



— LICA30 NOX_ PPB — LICA30 HO_ PPB — LICA30 NO2_ PPB

Sonic Wind Sensor Certificate of Calibration



Met One Instruments
 1600 NW Washington Blvd.
 Grants Pass, Oregon 97526
 Telephone 541-471-7111
 Facsimile 541-541-7116

Regional Service
 3206 Main St. Suite 106
 Rowlett, Texas 75088
 Telephone 972-412-4715
 Facsimile 972-412-4716

Sonic Wind Sensor Certificate of Calibration

Sensor Model No: 50.5H Sonic Sensor Serial No: H10703
 Customer: Maxxam Analytics P.O. No: _____ Sales Order: SO 74699
 Final Calibration By: Kevin Ricks Calibration Date: 02-04-09
 Quality Control Inspected By: *Kevin Ricks* Inspection Date: 2-4-09

New Unit Repair/Adjust Re-Calibration As Found
 Unit Within Tolerance as Found Unit Within Tolerance as Left

Calibration Equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal. Due
Digital Multimeter 1	Agilent	34401A	MY41040097	11/07/2009
Digital Multimeter 2	Agilent	34401A	US36094688	6/10/2009
Frequency Counter	Agilent	53131A	MY40009285	4/30/2009
Standard Sensor	Climet	011-1	2551	7/11/2011
Standard Cup Set	Climet	014	0008	7/11/2011
Temperature Probe	Vaisala	HMI 31	530227	7/23/2009

Test 1: Average Wind Tunnel Speed: 3.07 Meters per Second Firmware Version: 3194-01 R2.62

WD Setting (Deg)	WD Output (Volts)	WD Indication (Deg)	WD Error (+/- 3 Deg)	WS Standard (m/s)	WS Output (Volts)	WS Indication (m/s)	WS Error (+/- .20 m/s)	Output Type:
30	.084	30.2	.2	3.07	.059	2.94	-.12	0 to 1 volt <input checked="" type="checkbox"/>
60	.165	59.2	-.8	3.06	.059	2.97	-.09	0 to 2.5 volt <input type="checkbox"/>
120	.335	120.7	.7	3.09	.06	3.01	-.08	0 to 5 volt <input type="checkbox"/>
150	.417	150	0	3.06	.059	2.95	-.12	RS-232 <input checked="" type="checkbox"/>
210	.585	210.7	.7	3.05	.059	2.97	-.08	SDI-12 <input type="checkbox"/>
240	.666	239.7	-.3	3.07	.059	2.96	-.11	RS-422 <input type="checkbox"/>
300	.836	301.1	1.1	3.07	.06	3	-.07	RS-485 <input type="checkbox"/>
330	.916	329.9	-.1	3.07	.06	2.99	-.08	<input type="checkbox"/>

Test 2: Average Wind Tunnel Speed: 11.71 Meters per Second Output Range: 0-50 m/s

WD Setting (Deg)	WD Output (Volts)	WD Indication (Deg)	WD Error (+/- 3 Deg)	WS Standard (m/s)	WS Output (Volts)	WS Indication (m/s)	WS Error (+/- .24 m/s)	Test Items:
30	.08	29	-1	11.77	.231	11.56	-.2	Array Alignment <input checked="" type="checkbox"/>
60	.162	58.3	-1.7	11.62	.231	11.55	-.07	Jumper Config <input checked="" type="checkbox"/>
120	.334	120.1	.1	11.72	.232	11.58	-.14	Firmware Config <input checked="" type="checkbox"/>
150	.413	148.7	-1.3	11.74	.237	11.85	.11	Zero Calibration <input checked="" type="checkbox"/>
210	.58	208.9	-1.1	11.67	.229	11.45	-.22	Low Speed Test OK <input checked="" type="checkbox"/>
240	.664	239.1	-.9	11.65	.235	11.73	.07	High Speed Test OK <input checked="" type="checkbox"/>
300	.835	300.5	.5	11.79	.235	11.77	-.03	Sensor Function <input checked="" type="checkbox"/>
330	.916	329.7	-.3	11.68	.232	11.59	-.1	Physical Inspection <input checked="" type="checkbox"/>

The standards used for this calibration have accuracies equal to or greater than the instruments tested. These standards are on record and traceable to NIST to the extent allowed by the institute's calibration facility. Unless otherwise stated hereon, all instruments are calibrated to meet the manufacturer's published specifications. The calibration system complies with MIL-STD-45662A.

Lakeland Industry & Community Association

St. Lina Monitoring Site
Ambient Air Monitoring
Data Report
For
November 2009

Prepared By:



December 8, 2009

Lakeland Industry & Community Association

St. Lina

Ambient Air Monitoring

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Introduction

The following Ambient Air Monitoring report was prepared for:

Mr. Mike Bisaga

Lakeland Industry & Community Association

Box 8237

5107W – 50 Street

Bonnyville, Alberta

T9N 2J5

Monitoring Location: St. Lina

Data Period: November 2009

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Craig Snider

Calibration Procedure

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

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

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

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

The calibrations conducted at the LICA – St. Lina Air Monitoring Stations conform to the following Maxxam Analytics Standard Operation Procedures:

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

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

MONTHLY CONTINUOUS DATA SUMMARY

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – ST. LINA

Continuous Ambient Monitoring – November 2009

LICA ST. LINA SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						OBJECTIVES					1-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO2 (PPB)	172	57	0	0	0.08	3	7	12	16.7	223(SW)	0.7	7	99.6
H2S (PPB)	10	3	0	0	0.01	1	5	VAR	VRAR	VAR	0.3	5	99.3
THC (PPM)	-	-	-	-	2.07	2.9	20	6	17.1	83(E)	2.3	20	99.6
NOx (PPB)	-	-	-	-	2.91	23	26	19	11.4	238(SW)	7.2	28	99.6
NO (PPB)	-	-	-	-	0.32	4	11	10	2.9	252(WSW)	0.9	11	99.6
NO ₂ (PPB)	212	106	0	0	2.42	21	26	19	11.4	238(SW)	6.1	26	99.6
VECTOR WS (KPH)	-	-	-	-	12.43	32.8	17	13	-	199(SSW)	16.3	16	99.6
VECTOR WD (DEGREES)	-	-	-	-	221(SW)	-	-	-	-	-	-	-	99.6

VAR-VARI96.5OUS

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

A trailer audit was performed by Alberta Environment on November 5th, 2009.

Sulphur Dioxide (PPB)

- Analyzer make / model - API 100E

No operational issue was observed during this month. Three hours of data are missing this month. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

- Analyzer make / model - API 101E

No operational issue was observed during this month. The inlet filter was changed before the monthly calibration was started. The SO₂ scrubber material was replaced following the as found points on November 18th. Three hours of data are missing this month. Data was corrected using daily zero information.

Total HydroCarbon (PPM)

- Analyzer make / model –TECO 51C

No operational issue was observed during this month. The inlet filter was changed before the monthly calibration was started. Three hours of data are missing this month. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – St. Lina

Nitrogen Dioxide (PPB)

- Analyzer make / model - API 200E

No operational issue was observed during this month. The inlet filter was changed before the monthly calibration was started. Three hours of data are missing this month. Data was corrected using daily zero information.

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

- System make / model – Met 50.5

The wind system is reported as vector wind speed and vector wind direction. Three hours of data are missing this month.

Datalogger

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

The station is connected to a modem to allow for daily polling of the station.

Trailer

No issued was discovered.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA
NOVEMBER 2009
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	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	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24
7	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.7	24
8	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	0.3	24
9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1	24
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1	1	0	0	0	0	0	0	1	1	1	1	0	0	1	0.3	24
13	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	1	0	0	0	2	0.4	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
18	0	0	0	0	0	1	0	0	0	0	0	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23
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	23
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	1	0	1	0	0	1	0	1	1	2	2	2	3	2	1	1	1	2	2	1	1	1	2	2				
HOURLY AVG	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1				

STATUS FLAG CODES

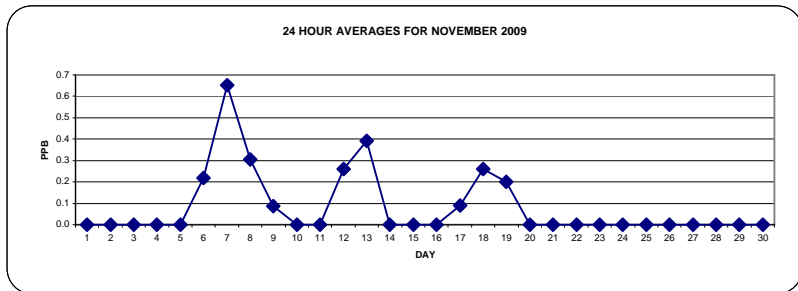
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

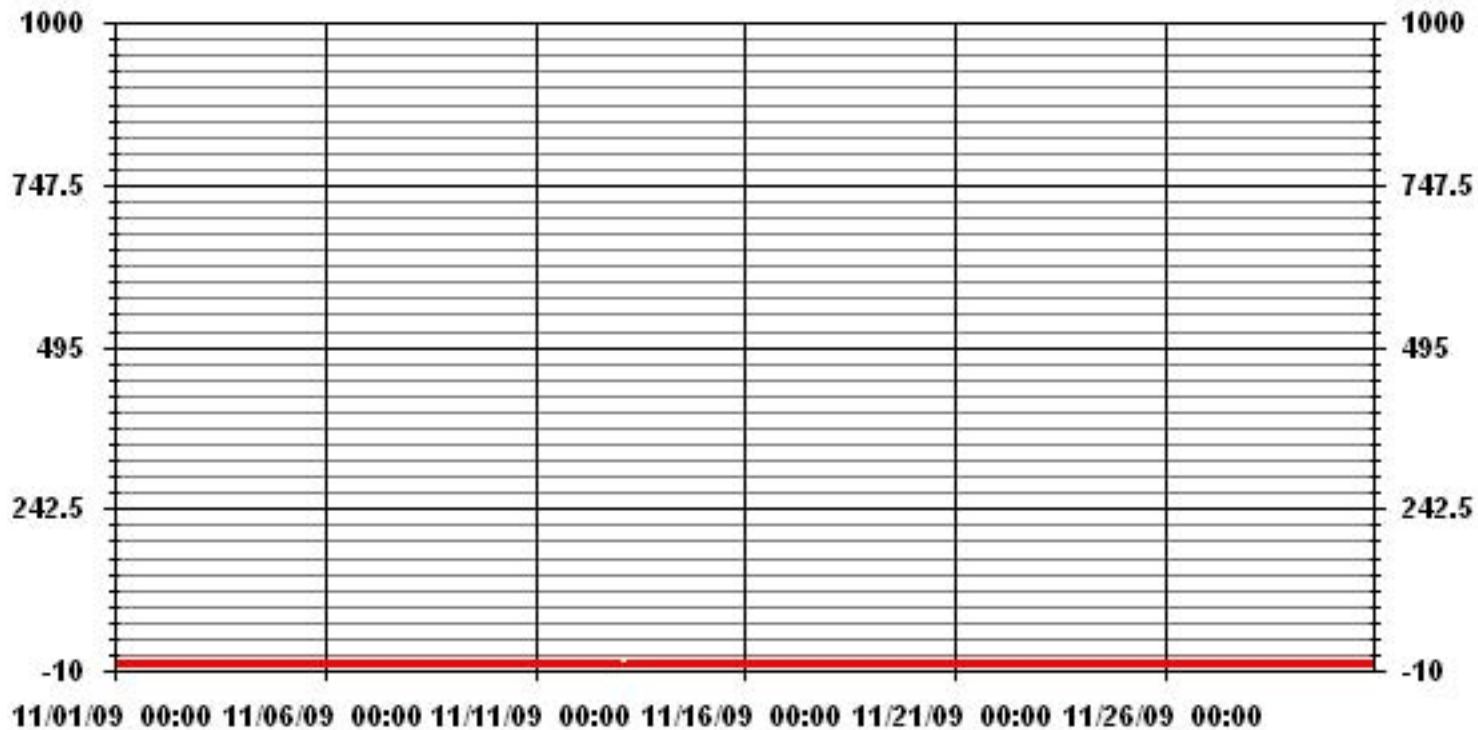
ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
----------------------	------	-----	-----	-------	----	-----

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	45		
MAXIMUM 1-HR AVERAGE:	3 PPB @ HOUR(S) 12 ON DAY(S) 7		
MAXIMUM 24-HR AVERAGE:	0.7 PPB ON DAY(S) 7		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	717 HRS
MONTHLY CALIBRATION TIME:	5 HRS	AMD OPERATION UPTIME:	99.6 %
STANDARD DEVIATION:	0.33	MONTHLY AVERAGE:	0.08 PPB



01 Hour Averages



— LICA31 SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST. LINA

NOVEMBER 2009

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			
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	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	
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24	
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	IZS	0	0	0	0	0	0	0	0	0	0	1	0.0	24
4	0	0	0	0	0	0	0	0	0	0	0	0	2	IZS	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
5	0	0	0	0	0	0	0	0	C	C	C	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	24
6	1	1	1	1	1	1	1	2	3	3	2	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.3	24	
7	0	1	1	1	1	1	1	1	2	4	IZS	3	4	3	3	2	2	2	2	2	1	1	1	1	1	4	1.7	24	
8	1	1	2	1	1	1	1	1	1	IZS	0	0	0	0	0	0	0	0	0	1	1	2	2	3	3	3	1.0	24	
9	2	1	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	1	0	1	2	1	1	0	0	1	2	0.4	24	
10	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	1	0.3	24	
11	1	1	1	0	0	0	IZS	0	0	0	2	1	1	1	1	1	0	1	1	2	1	0	0	0	2	0.7	24		
12	0	0	0	0	0	IZS	0	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	2	0.9	24	
13	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	3	3	3	3	2	2	1	1	1	3	1.3	24		
14	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	0.4	24	
15	0	0	IZS	0	0	0	0	0	0	0	0	1	1	1	1	0	1	1	0	0	0	0	1	1	0	1	0.3	24	
16	0	IZS	0	0	1	1	1	2	1	1	1	1	1	1	0	1	0	0	0	0	1	0	0	1	2	0.6	24		
17	IZS	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	2	1.1	24
18	1	1	1	1	1	2	1	1	1	1	3	3	2	2	1	1	1	1	1	1	0	0	IZS	0	3	1.2	24		
19	0	0	0	0	1	1	2	1	1	1	C	C	C	C	C	2	1	1	1	2	2	IZS	1	0	2	0.9	24		
20	1	0	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	0.8	24	
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	IZS	0	0	0	1	0	1	0.8	24		
22	0	0	0	0	0	M	1	0	0	0	0	0	0	0	0	P	0	0	0	IZS	0	0	1	1	0	1	0.1	22	
23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	IZS	0	0	0	0	1	1	1	1	0.3	24	
24	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	1	0.2	24	
25	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0.0	24	
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
28	0	0	0	0	0	M	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	1	0	0	0	1	1	0.1	23	
29	0	1	1	1	1	M	0	0	1	1	1	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.4	23	
30	0	0	0	0	0	0	0	0	0	0	0	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
HOURLY MAX	2	1	2	1	1	2	2	2	3	4	3	3	4	3	3	2	3	3	3	3	2	2	2	3	3				
HOURLY AVG	0.4	0.4	0.4	0.3	0.4	0.5	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.6	0.5					

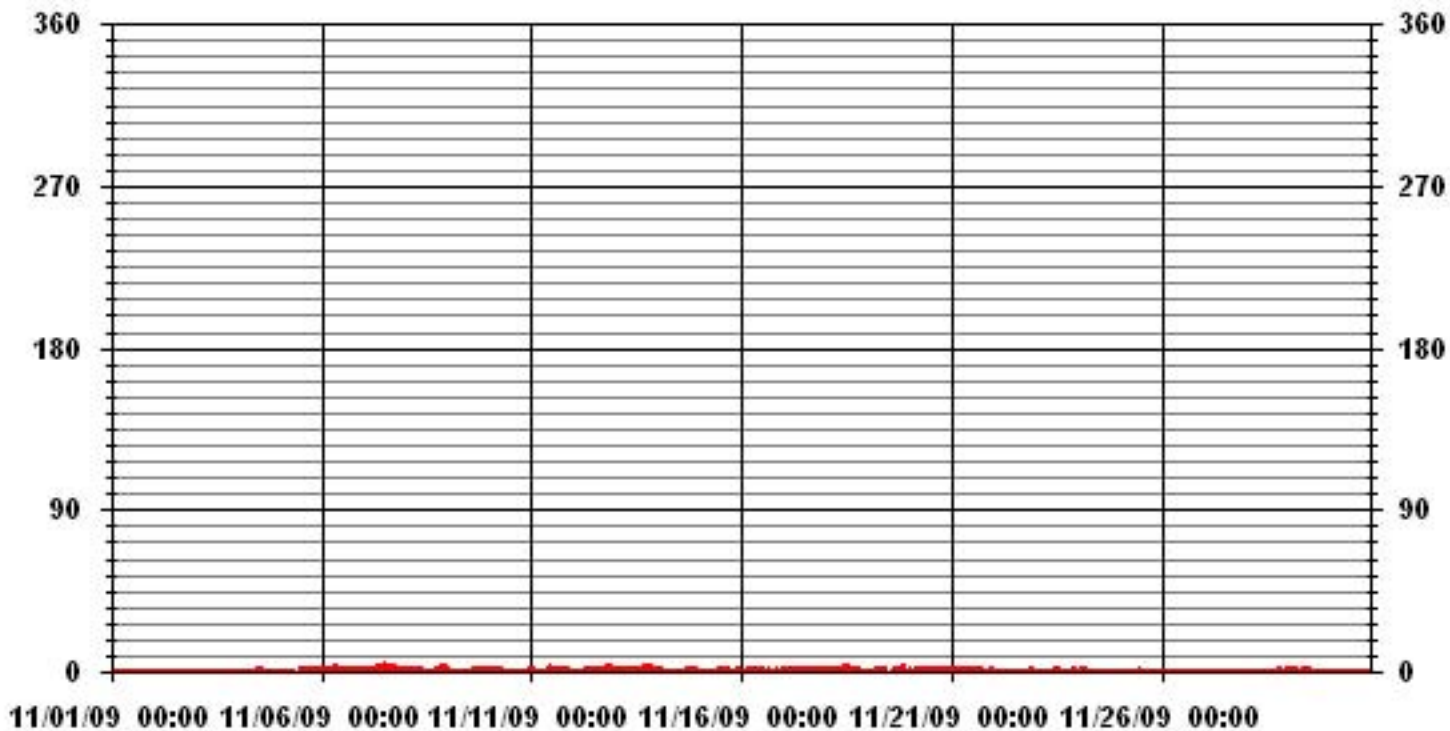
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	293
MAXIMUM INSTANTANEOUS VALUE:	4 PPB @ HOUR(S) 12 ON DAY(S) 7
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	0.69
OPERATIONAL TIME:	716 HRS

01 Hour Averages



— LICA31 SO2MAX PPB

LICA31
 SO2_ / WDR Joint Frequency Distribution (Percent)

November 2009

Distribution By % Of Samples

Logger Id : 31
 Site Name : LICA31
 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	.73	.00	.73	2.05	1.90	.44	5.87	8.51	13.65	14.39	13.36	19.23	6.31	9.10	2.79	.88	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	.73	.00	.73	2.05	1.90	.44	5.87	8.51	13.65	14.39	13.36	19.23	6.31	9.10	2.79	.88	

Calm : .00 %

Total # Operational Hours : 681

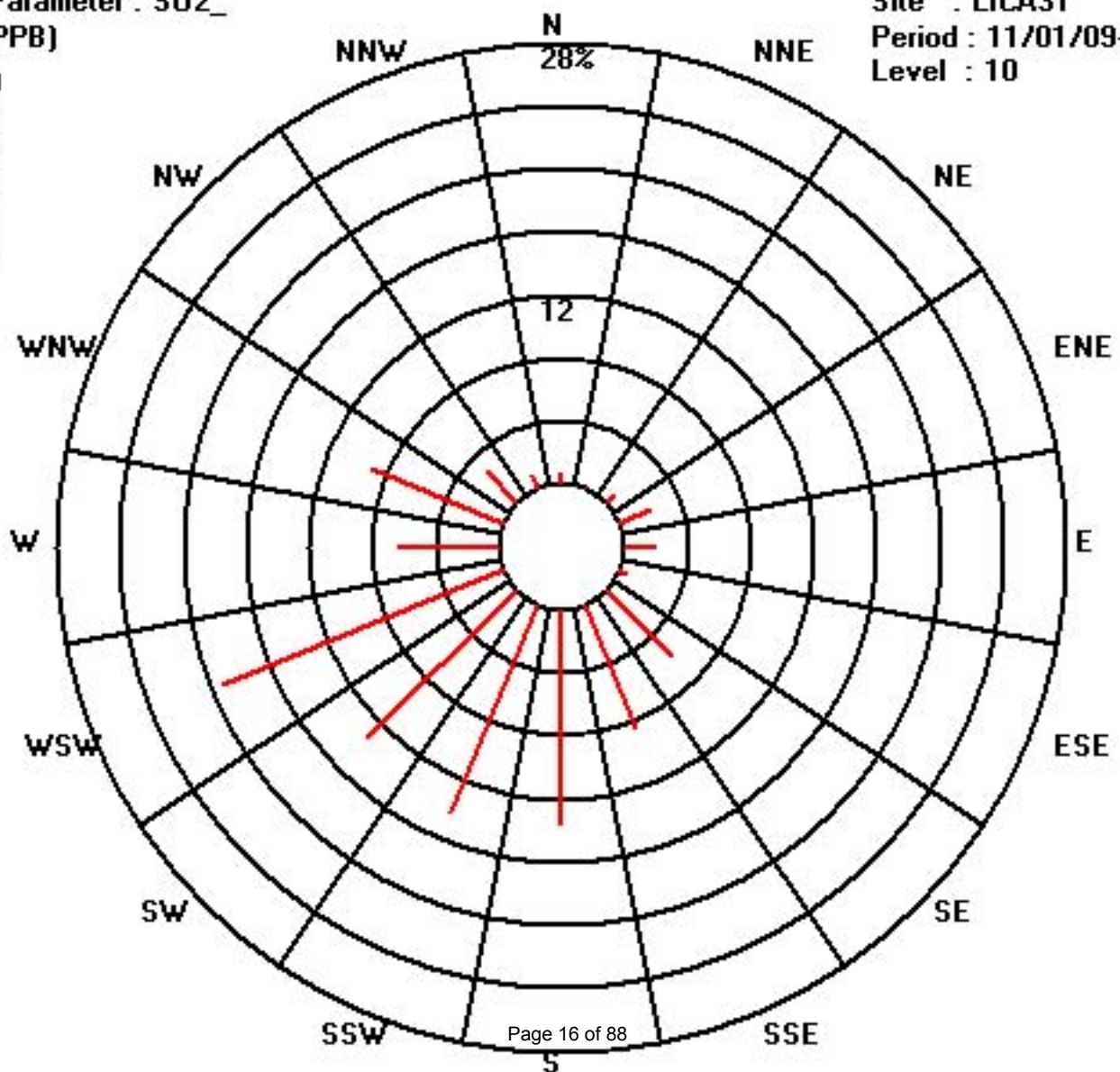
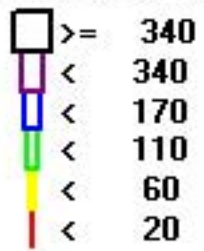
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	5		5	14	13	3	40	58	93	98	91	131	43	62	19	6	681
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	5		5	14	13	3	40	58	93	98	91	131	43	62	19	6	

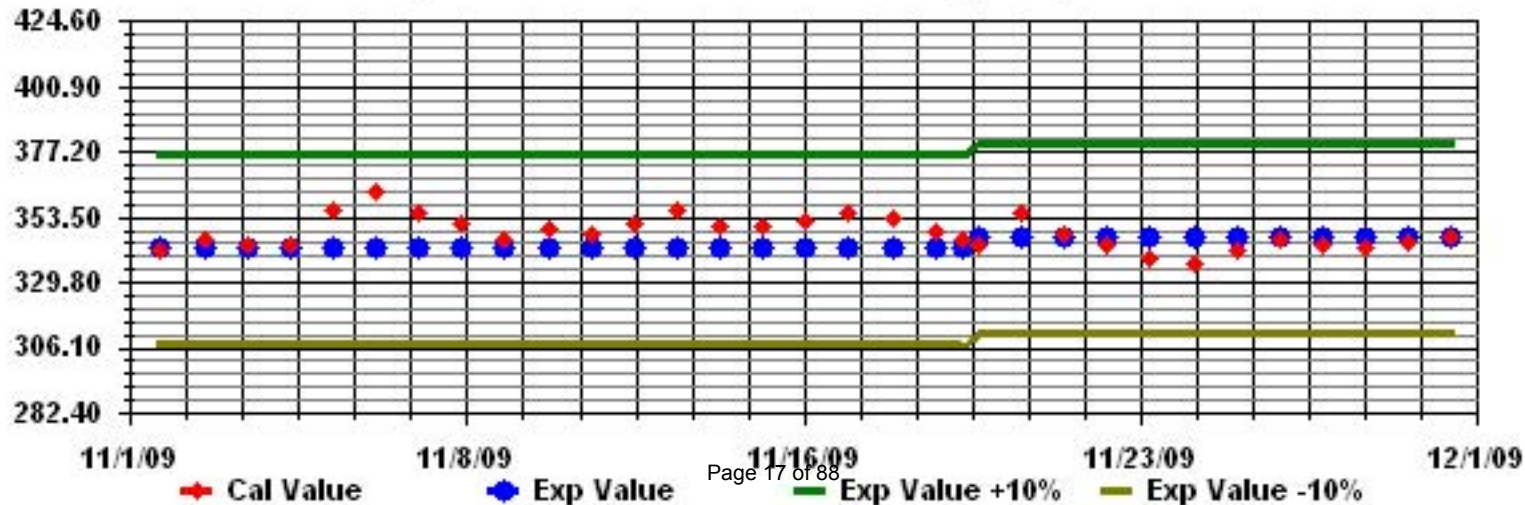
Calm : .00 %

Total # Operational Hours : 681

Class Limits (PPB)



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



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2009

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	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	1	1	1	1	1	1	1	C	C	1	IZS	0	0	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	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	24
8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
9		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
10		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
11		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
12		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
13		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
14		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
15		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
16		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
17		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
18		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
19		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	22
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	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		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23
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	23
30		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX		0	0	0	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY AVG		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

STATUS FLAG CODES

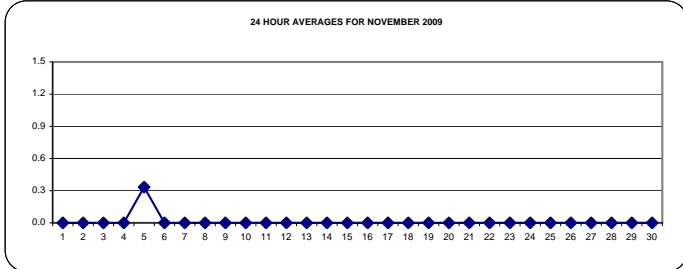
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

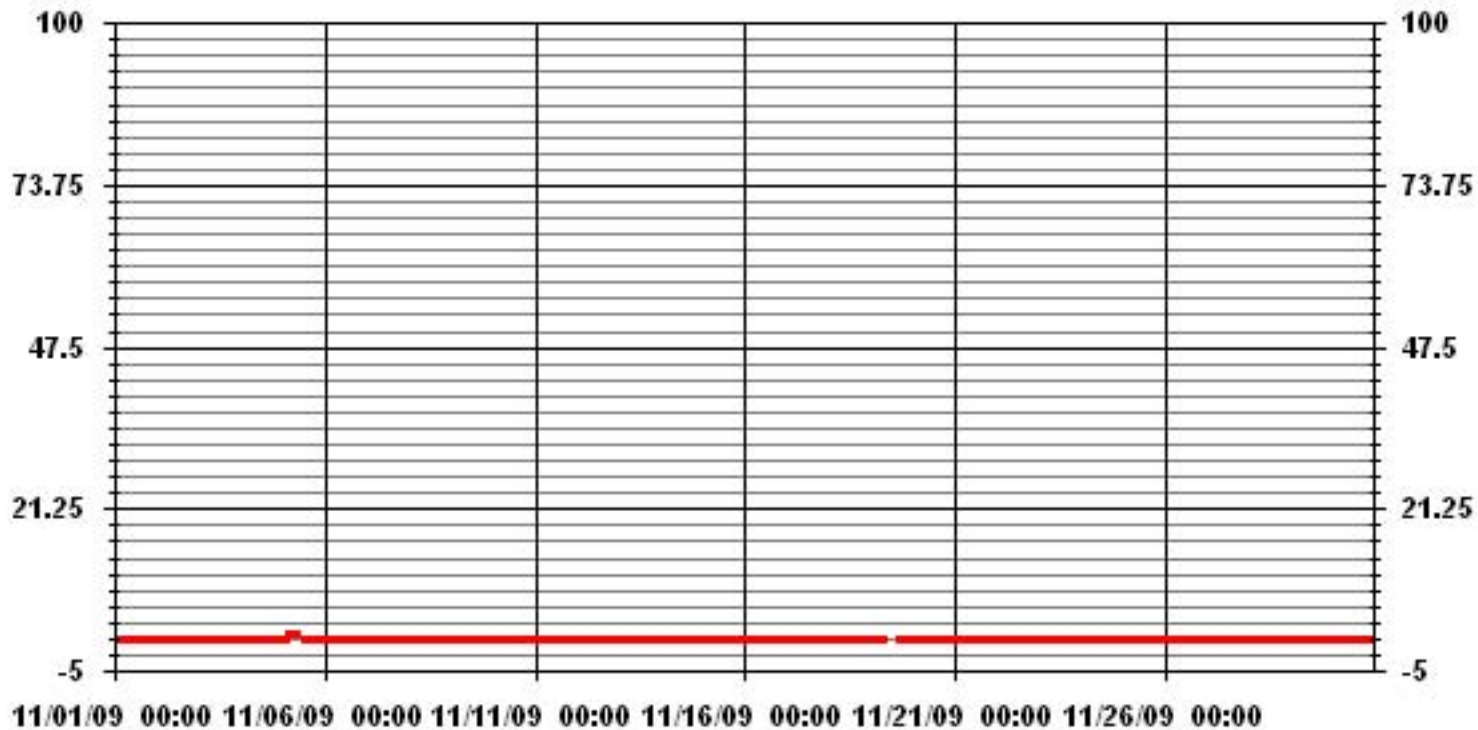
ALBERTA ENVIRONMENT: 1-HR 10 PPB 24-HR 3 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0				
NUMBER OF 24-HR EXCEEDENCES:	0				
NUMBER OF NON-ZERO READINGS:	7				
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	0.3	PPB			ON DAY(S)
				VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	715	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.3	%
STANDARD DEVIATION:	0.10		MONTHLY AVERAGE:	0.01	PPB



01 Hour Averages



— LICA31 H2S_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST. LINA

NOVEMBER 2009

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	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	1	1	0.0	24
5		0	1	1	1	1	1	1	1	C	C	C	1	IZS	0	0	0	0	0	0	0	0	0	0	1	1	1	0.5	24
6		1	1	0	1	1	1	1	1	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	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	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	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	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	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	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	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	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	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	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	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	22	
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	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	22	
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
25		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	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	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	23	
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	23	
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		1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1			
HOURLY AVG		0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1				

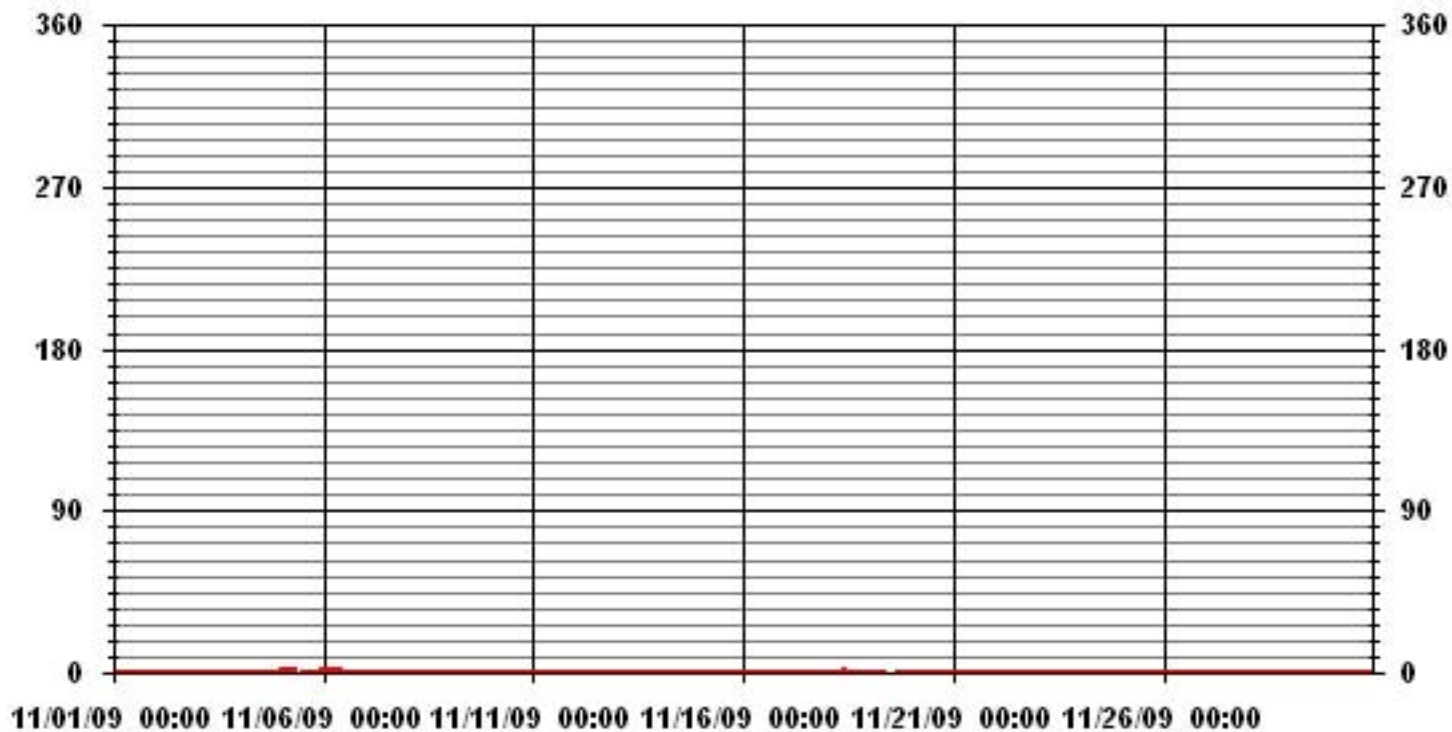
STATUS FLAG CODES

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:	23					
MAXIMUM INSTANTANEOUS VALUE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	714	HRS	
MONTHLY CALIBRATION TIME:	9	HRS				
STANDARD DEVIATION:	0.18					

01 Hour Averages



— LICA31 H2S MAX PPB

LICA31
H2S_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	.73	.00	.73	2.07	1.92	.44	5.91	8.43	13.60	14.49	13.01	19.37	6.36	9.17	2.81	.88	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	.73	.00	.73	2.07	1.92	.44	5.91	8.43	13.60	14.49	13.01	19.37	6.36	9.17	2.81	.88		

Calm : .00 %

Total # Operational Hours : 676

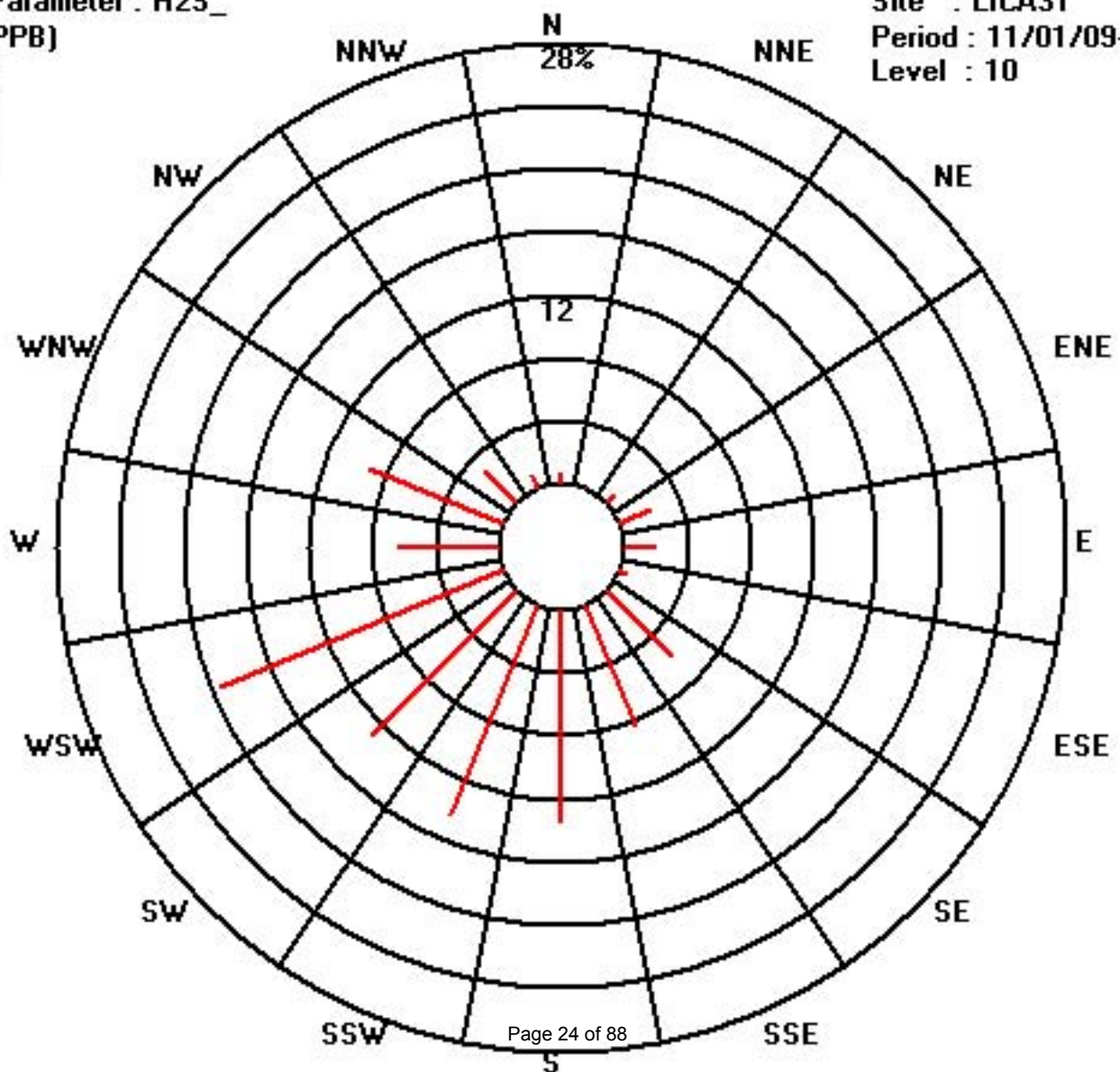
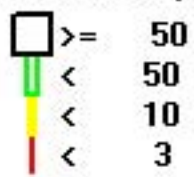
Distribution By Samples

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 3	5		5	14	13	3	40	57	92	98	88	131	43	62	19	6	676	
< 10																		
< 50																		
>= 50																		
Totals	5		5	14	13	3	40	57	92	98	88	131	43	62	19	6		

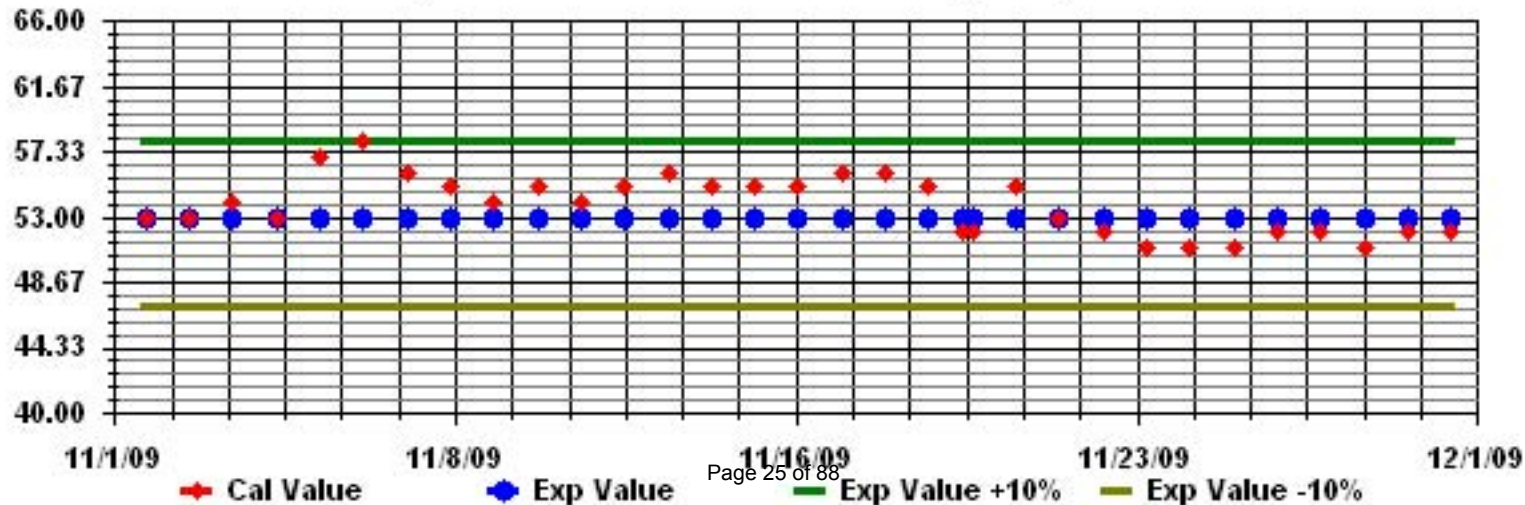
Calm : .00 %

Total # Operational Hours : 676

Class Limits (PPB)



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



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

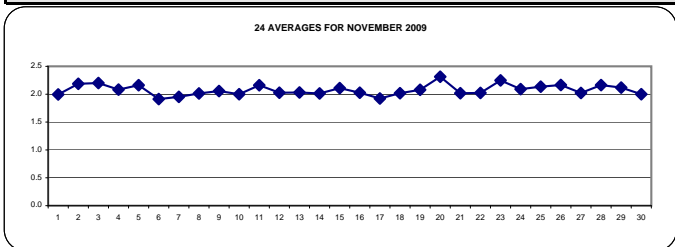
NOVEMBER 2009

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

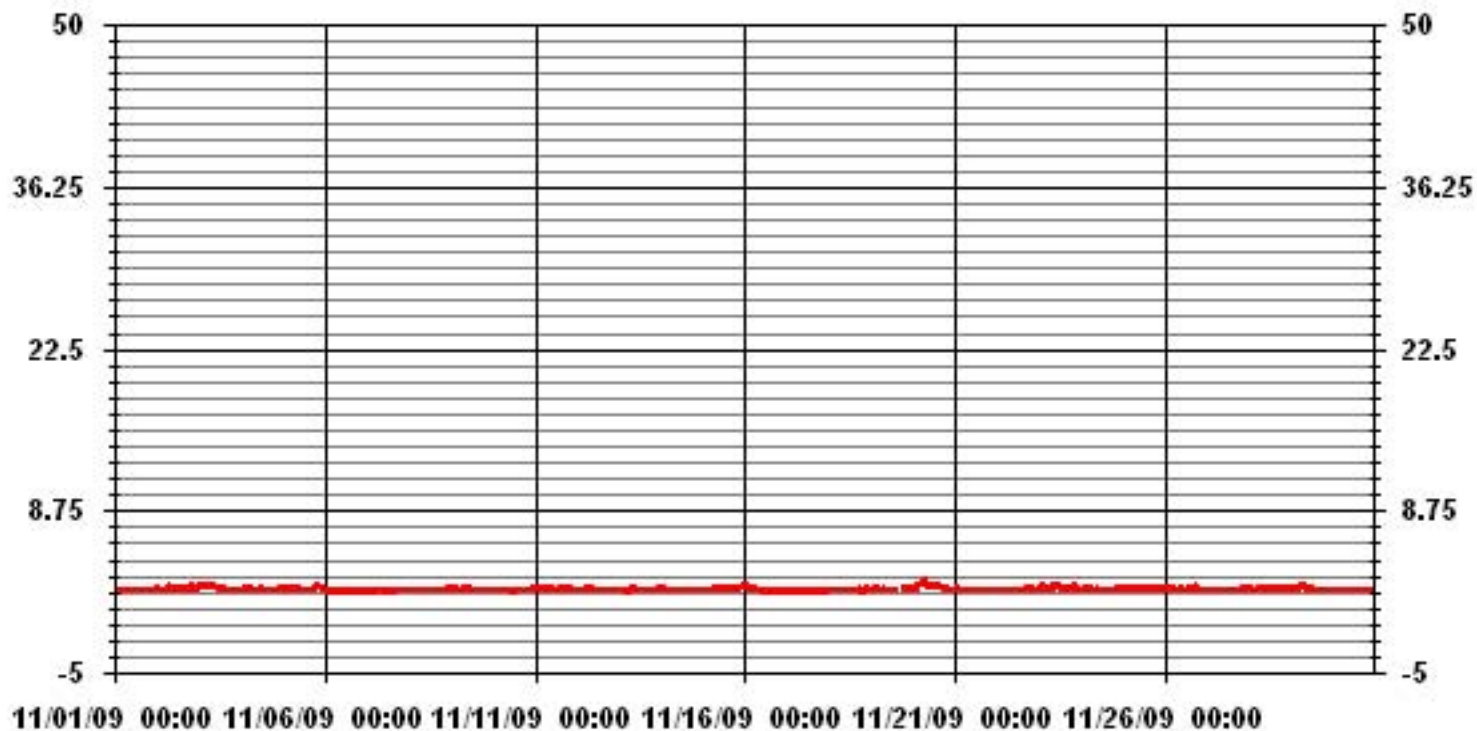
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680
MAXIMUM 1-HR AVERAGE:	2.9 PPM @ HOUR(S) 6 ON DAY(S) 20
MAXIMUM 24-HR AVERAGE:	2.3 PPM ON DAY(S) 20
	VAR- VARIOUS
IZS CALIBRATION TIME:	30 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	0.13
OPERATIONAL TIME:	717 HRS
AMD OPERATION UPTIME:	99.6 %
MONTHLY AVERAGE:	2.07 PPM

01 Hour Averages



— LICA31 THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2009

TOTAL HYDROCARBONS MAX instantaneous maximum in ppr

MST																									DAILY	24-HOUR		
HOURLY MAX	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.	
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				
DAY																												
1	1.9	1.9	2	2	2	2	2	2.1	2	2	2	2	2	2.1	2	2	IZS	2	2.1	2.3	2.2	2.1	2.1	2.3	2.3	2.0	24	
2	2.5	2.1	2.1	2.1	2.1	2.1	2.4	2.4	2.4	2.4	2.2	2.2	2.2	2.2	IZS	IZS	2.9	2.9	3.5	2.3	3.5	2.6	2.3	2.3	3.5	2.4	24	
3	2.5	2.6	2.6	2.5	2.5	2.8	2.4	2.3	2.3	2.3	2.4	2.3	2.2	2.1	IZS	2.1	2.1	2.1	2	2	2.1	2.1	2	2.1	2.8	2.3	24	
4	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	IZS	2	2	2	2	2	2	2.1	2.2	2.2	2.2	2.2	2.1	24	
5	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1	C	C	2	2.1	2	2	2.5	2.8	2.5	2.3	2.4	2.4	2.3	2.8	2.3	2.4	24	
6	2.2	2	2	1.9	1.9	1.9	1.9	1.9	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	1.9	2.2	1.9	24
7	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2	IZS	2	2	1.9	1.9	1.9	2	2	2	2	2	2	2	2	2.0	24	
8	2	2	2	2	2	2	2	2	2	IZS	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.0	24	
9	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	IZS	2.2	2.1	2.1	2.1	2.1	2	2.1	2	2.1	2	2	2	2	2	2	2	2.2	2.1	24
10	2	2	2	2	2	2	2	IZS	2	2	2.1	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.0	24
11	2.1	2.1	2.1	2.1	2.1	2.2	IZS	2.2	2.2	2.2	2.2	2.2	2.7	2.5	2.4	2.6	2.7	3.3	2.3	2.3	2.5	2.5	2.3	2.2	2.1	3.3	2.3	24
12	2	2	2	2.1	2.1	IZS	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.0	24
13	2	2	2.1	2.1	IZS	2	2.1	2.2	2.2	2.2	2.1	2.1	2	2	2	2	2	2.1	2	2	2	2	2.1	2.1	2.2	2.1	2.4	24
14	2.2	2.2	2.1	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	24
15	2	2	IZS	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.4	2.6	2.6	2.1	24
16	2.6	IZS	2.3	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.1	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	2.6	2.1	24
17	IZS	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.2	2.1	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2.4	2	2	IZS	2.4	2.0	24	
18	2	2	2	2	2	2.1	2.2	3.1	2	2	2	2.1	2.1	2.1	2.1	2.4	2.1	2.1	2.1	2.1	2.1	2.1	IZS	2.1	3.1	2.1	24	
19	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.3	2.3	2.2	2	2	2	2	2	C	C	C	C	2.1	2.1	IZS	2.2	2.2	2.3	2.1	24	
20	2.3	2.2	2.6	2.8	2.8	3.1	3.2	2.8	2.6	2.6	2.6	2.4	2.6	2.5	2.3	2.6	2.7	2.2	2.3	2.1	IZS	2.1	2	3.2	2.5	24		
21	2.2	2.2	2.1	2.1	2.1	2	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	IZS	2	2	2.1	2	2.2	2.1	24
22	2	2	2	2	2.1	M	2.1	2.1	2.1	2.1	2.2	2.1	2	2.1	P	2.1	2.1	2.1	IZS	2.1	2.3	2.2	2.1	2.1	2.3	2.1	22	
23	2.1	2.4	2.5	2.5	2.4	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.2	2.2	2.2	2.2	IZS	2.2	2.3	2.3	2.3	2.3	2.3	2.8	2.8	2.3	24	
24	2.3	2.3	2.2	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2	2	2	2	IZS	IZS	2.1	2	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.1	24
25	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	IZS	2.2	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.3	2.2	24	
26	3	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	IZS	2.2	2.3	2.3	2.3	2.3	2.2	2.2	2.1	2	3	2.2	24	
27	2	2	2	2	2	2	2	2.1	2.1	2.1	2	2	2	IZS	2.1	2.1	2.1	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	24
28	2.1	2.1	2.1	2.2	2.2	M	2.3	2.3	2.3	2.3	2.2	2.2	IZS	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	23
29	2.3	2.3	2.2	2.2	2.3	M	2.3	2.3	2.3	2.3	2.3	IZS	2.2	2.1	2	2	2	2	2	2	2	2	2	2	2.3	2.1	23	
30	2	2	2	2	2	2	2	2	2	2	IZS	2	2	2	2	2	2	2	2	2	2	2	2.1	2	2	2.1	2.0	24
HOURLY MAX	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	4	3	2	3		
HOURLY AVG	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1			

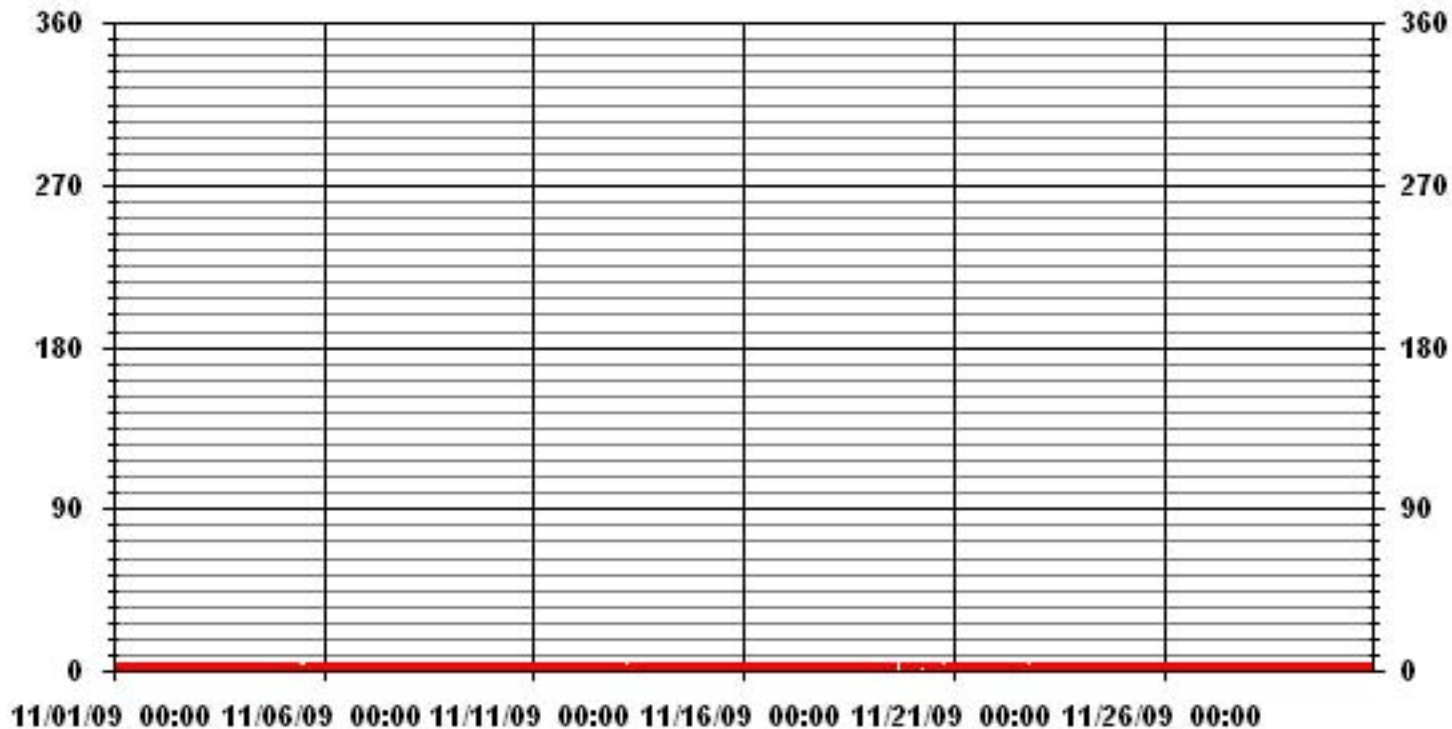
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	679					
MAXIMUM INSTANTANEOUS VALUE:	3.5	PPM	@ HOUR(S)	20	ON DAY(S)	2
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	716 HRS		
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	0.20					

01 Hour Averages



— LICA31 THCMAX PPM

LICA31
 THC / WDR Joint Frequency Distribution (Percent)

November 2009

Distribution By % Of Samples

Logger Id : 31
 Site Name : LICA31
 Parameter : THC
 Units : PPM

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	
< 3.0	.73	.00	.73	2.05	1.91	.44	5.88	8.67	13.52	14.70	13.08	19.11	6.32	9.11	2.79	.88	100.00
< 10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	.73	.00	.73	2.05	1.91	.44	5.88	8.67	13.52	14.70	13.08	19.11	6.32	9.11	2.79	.88	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	5		5	14	13	3	40	59	92	100	89	130	43	62	19	6	680
< 10.0																	
< 50.0																	
>= 50.0																	
Totals	5		5	14	13	3	40	59	92	100	89	130	43	62	19	6	

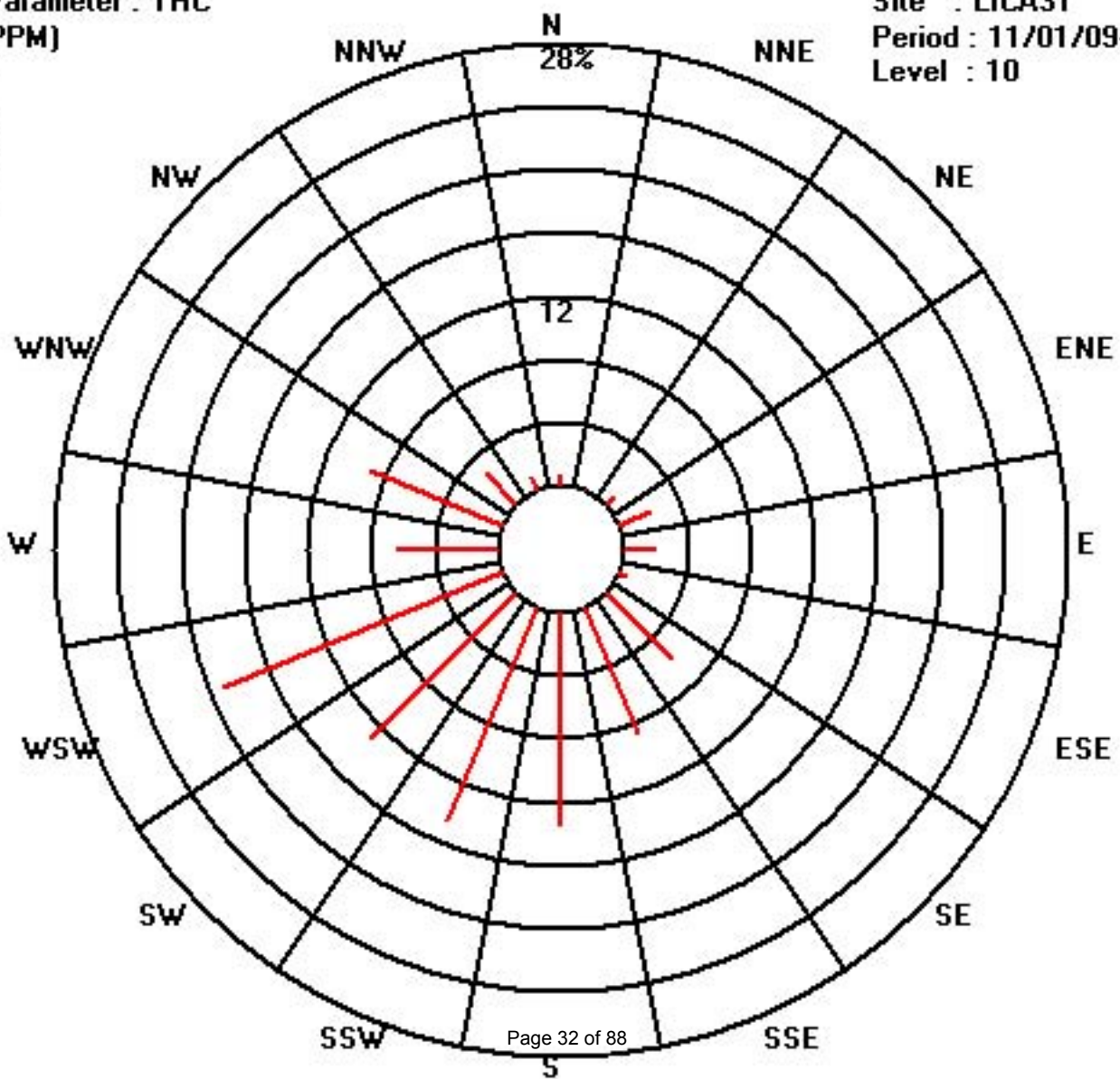
Calm : .00 %

Total # Operational Hours : 680

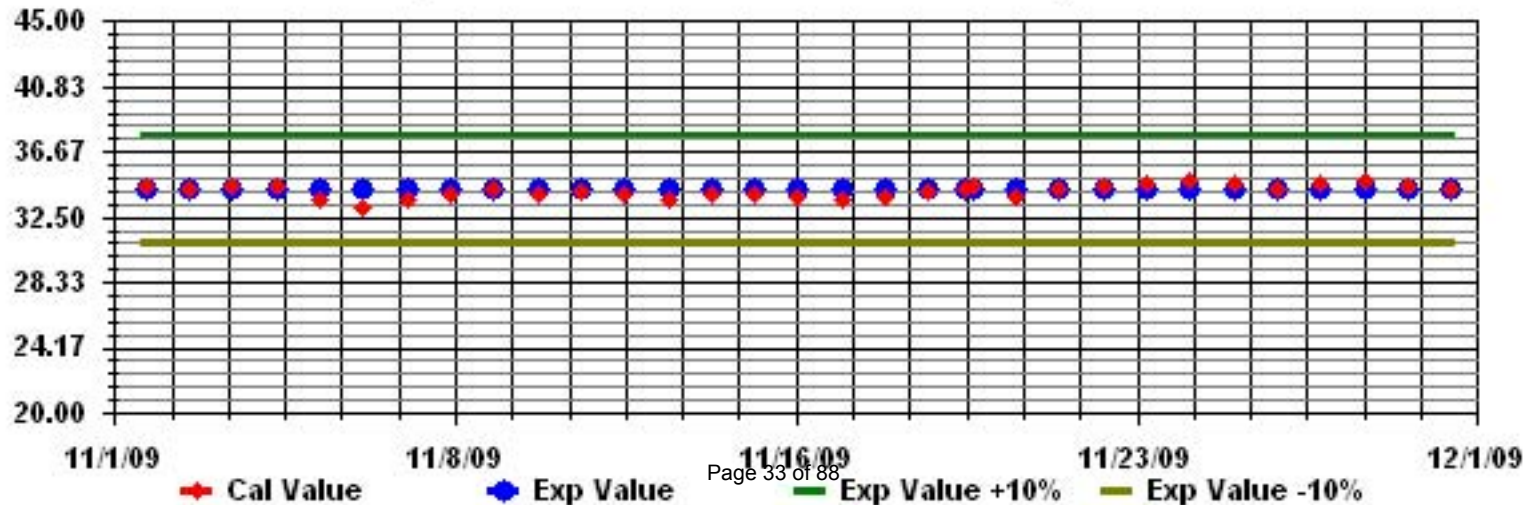
Class Limits (PPM)

Period : 11/01/09-11/30/09

Level : 10



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



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION. - ST. LINA

NOVEMBER 2009

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	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0.1	24
2	1	1	0	0	0	0	0	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	2	2	2	3	1.4	24
3	3	3	2	2	2	0	1	2	1	1	2	2	3	4	IZS	6	4	1	0	0	0	0	0	0	0	6	1.7	24
4	0	0	1	0	1	1	1	1	2	4	4	3	2	IZS	1	2	1	1	1	1	0	0	0	0	0	4	1.2	24
5	0	0	0	0	0	0	0	0	1	C	C	C	IZS	2	2	3	4	5	5	5	4	4	5	4	5	2.2	24	
6	4	3	3	3	3	3	3	3	4	4	2	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1.5	24
7	0	1	1	0	0	1	3	3	4	4	IZS	2	2	2	1	2	3	4	2	2	2	3	3	2	4	2.0	24	
8	2	3	5	3	2	1	0	0	0	IZS	0	0	0	0	0	0	1	1	1	3	5	6	8	6	8	2.0	24	
9	5	4	3	3	3	3	4	4	IZS	2	2	2	1	1	1	2	1	1	2	1	1	0	0	0	5	2.0	24	
10	0	0	0	1	1	2	2	IZS	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2	3	4	4	0.8	24
11	8	8	7	5	4	3	IZS	6	5	5	5	3	3	4	5	6	5	5	6	4	6	4	3	2	8	4.9	24	
12	1	1	1	1	2	IZS	2	2	2	2	5	5	5	4	3	1	1	2	5	7	6	5	3	2	7	3.0	24	
13	3	3	3	4	IZS	4	3	5	6	4	3	3	2	2	2	3	4	5	4	4	4	4	4	5	6	3.7	24	
14	5	5	2	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	1	1	1	5	0.9	24	
15	1	1	IZS	0	1	1	2	2	2	3	2	3	3	3	3	4	4	4	4	3	3	3	4	3	4	2.6	24	
16	3	IZS	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0.7	24
17	IZS	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	0	0	1	0	0	IZS	1	0.2	24
18	1	2	1	0	0	1	1	0	1	1	3	3	3	2	1	1	2	4	3	3	3	3	3	IZS	2	4	1.8	24
19	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	C	C	6	7	8	8	IZS	6	7	8	3.4	24	
20	6	4	4	5	5	5	5	4	4	3	3	2	3	3	3	4	4	4	4	4	IZS	3	3	3	6	3.8	24	
21	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	IZS	0	1	2	2	3	1.7	24
22	2	2	2	2	3	M	3	2	2	2	1	1	1	1	2	3	3	IZS	4	5	4	3	2	5	2.3	23		
23	2	3	3	2	2	1	1	2	2	3	5	5	4	4	3	6	7	IZS	6	11	12	13	9	4	13	4.8	24	
24	4	6	5	6	8	9	7	5	3	2	1	0	0	0	0	0	IZS	0	1	1	1	1	1	2	9	2.7	24	
25	4	2	3	5	6	8	6	5	3	3	3	3	2	2	3	IZS	2	2	2	3	3	2	2	2	8	3.3	24	
26	2	2	2	2	2	2	3	3	4	4	4	4	5	5	IZS	5	9	14	16	21	17	9	3	2	21	6.1	24	
27	1	1	1	1	1	1	1	1	1	1	0	0	0	0	IZS	1	1	1	1	2	2	3	2	3	3	1.2	24	
28	3	3	3	4	7	M	9	9	9	8	6	5	IZS	1	2	3	6	9	8	7	6	7	9	10	10	6.1	23	
29	11	15	13	9	7	M	7	7	6	6	5	IZS	3	2	1	1	1	1	0	0	0	0	0	0	15	4.3	23	
30	0	0	0	0	0	0	0	0	0	0	IZS	3	2	1	1	1	1	1	1	1	1	1	0	1	3	0.7	24	
HOURLY MAX	11	15	13	9	8	9	9	9	9	8	6	5	5	5	5	6	9	14	16	21	17	13	9	10				
HOURLY AVG	2.6	2.7	2.4	2.2	2.2	1.9	2.3	2.4	2.3	2.5	2.3	2.0	1.8	1.7	1.4	2.0	2.4	2.7	2.9	3.5	3.3	2.9	2.6	2.4				

STATUS FLAG CODES

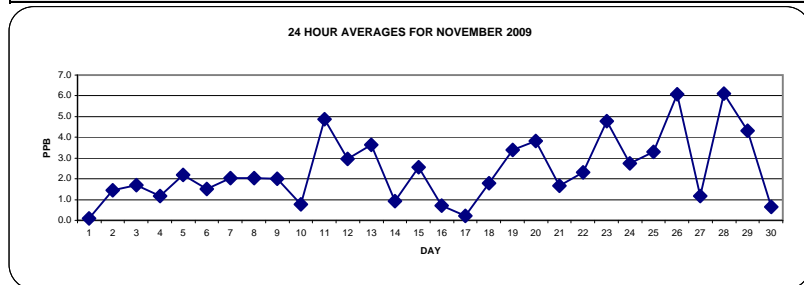
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

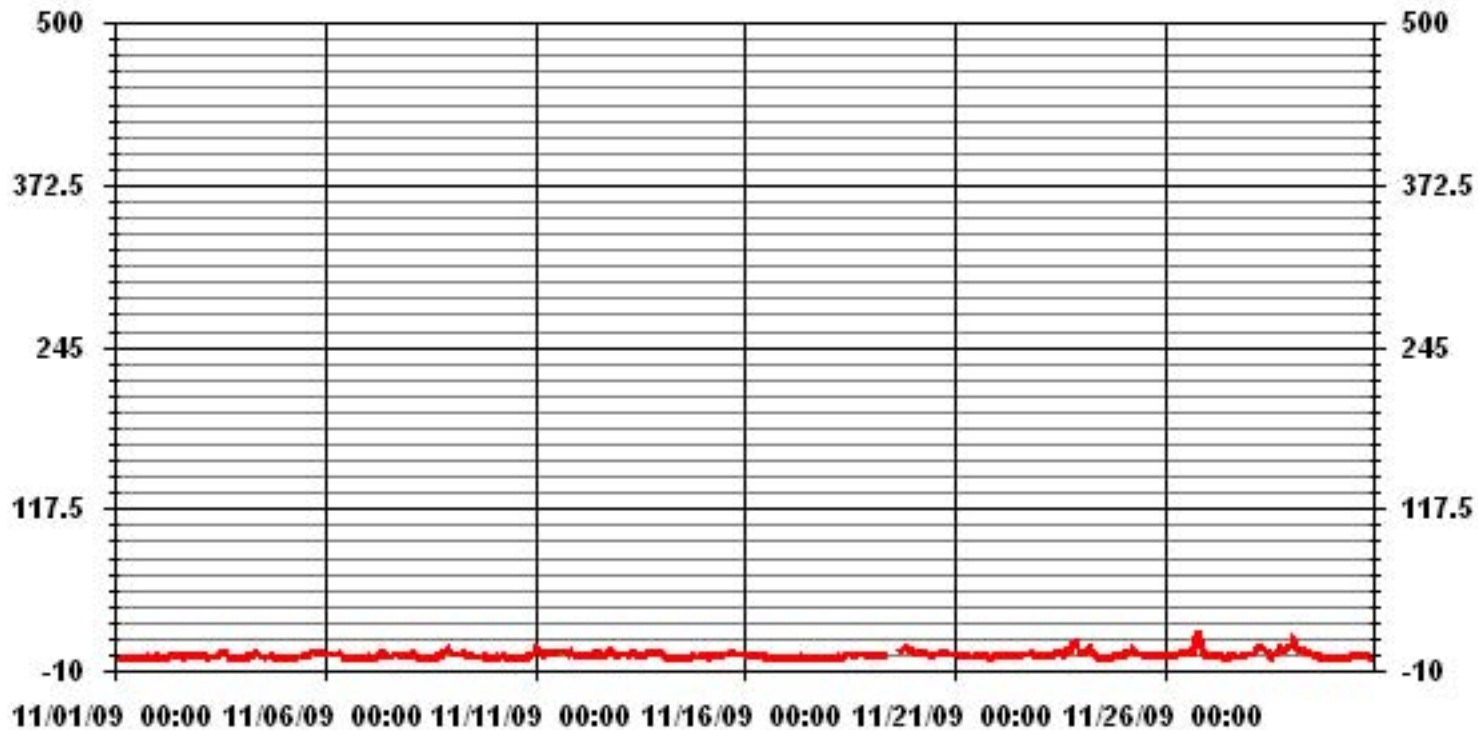
ALBERTA ENVIRONMENT:	1-HR	212	PPB	24-HR	106	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	513		
MAXIMUM 1-HR AVERAGE:	21 PPB @ HOUR(S) 19 ON DAY(S) 26		
MAXIMUM 24-HR AVERAGE:	6.1 PPB ON DAY(S) 26		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	717 HRS
MONTHLY CALIBRATION TIME:	11 HRS	AMD OPERATION UPTIME:	99.6 %
STANDARD DEVIATION:	2.58	MONTHLY AVERAGE:	2.42 PPB



01 Hour Averages



— LICA31 NO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2009

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	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	IZS	0	2	5	0	1	1	2	5	1.1	24	
2	2	2	1	1	1	0	1	1	2	2	2	2	3	3	3	IZS	3	3	3	5	4	4	3	4	5	2.4	24	
3	5	4	3	2	2	1	2	4	2	2	2	3	4	6	IZS	7	6	3	1	0	0	0	0	0	7	2.6	24	
4	0	1	1	1	2	2	5	3	3	5	5	4	3	IZS	2	3	2	2	2	1	1	1	1	1	5	2.2	24	
5	0	1	1	1	1	1	1	1	C	C	C	C	IZS	5	3	4	5	6	6	6	5	5	6	5	6	3.3	24	
6	4	4	4	3	4	4	12	5	5	5	4	IZS	0	0	0	0	1	1	1	0	7	0	0	1	12	2.8	24	
7	0	2	1	1	1	3	4	3	6	5	IZS	3	3	3	2	3	3	5	4	3	4	4	3	6	3.0	24		
8	3	5	6	5	3	2	1	1	1	IZS	0	0	0	0	1	1	7	1	3	5	6	7	10	9	10	3.3	24	
9	6	5	4	3	3	5	6	5	IZS	4	3	3	2	2	2	3	3	3	3	2	1	1	1	1	6	3.1	24	
10	1	1	1	2	2	3	3	IZS	1	2	1	1	0	0	0	1	1	1	1	1	5	3	4	8	8	1.9	24	
11	10	9	8	6	4	4	IZS	7	11	6	8	5	4	4	9	9	6	7	9	8	8	6	4	3	11	6.7	24	
12	2	2	1	2	3	IZS	3	3	5	3	6	6	6	6	4	2	2	10	6	8	13	6	5	3	13	4.7	24	
13	9	3	4	4	IZS	4	5	7	7	7	4	4	4	3	3	3	5	6	5	5	6	4	23	6	23	5.7	24	
14	7	6	4	IZS	1	0	0	0	0	0	0	0	0	0	1	1	0	3	2	4	3	2	2	2	7	1.7	24	
15	1	1	IZS	1	1	2	3	10	4	3	3	3	4	5	5	5	5	5	4	4	4	4	4	4	10	3.7	24	
16	4	IZS	3	2	2	2	2	2	2	2	2	2	2	1	0	1	1	1	1	1	1	1	1	1	4	1.6	24	
17	IZS	1	1	1	1	1	1	1	2	2	1	0	0	0	1	2	2	2	2	1	1	2	1	IZS	2	1.2	24	
18	2	3	2	1	1	2	1	1	3	2	4	5	5	3	2	2	4	4	4	4	4	4	4	IZS	2	5	2.8	24
19	2	2	2	2	2	2	2	2	2	C	C	C	C	C	C	C	C	C	7	8	9	10	IZS	7	8	10	4.5	24
20	7	5	4	6	6	5	6	5	5	4	4	3	3	4	4	5	5	6	6	5	IZS	5	3	4	7	4.8	24	
21	4	3	3	4	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	1	IZS	1	2	3	3	4	2.5	24
22	2	3	3	3	4	M	3	3	3	4	3	2	1	2	P	3	5	3	IZS	5	6	5	4	3	6	3.3	22	
23	3	4	3	3	3	2	2	2	3	8	5	19	5	5	6	8	9	IZS	8	13	19	14	25	24	25	8.4	24	
24	6	8	6	8	9	10	9	7	4	2	1	1	1	1	1	0	IZS	1	2	10	2	2	3	3	10	4.2	24	
25	5	3	4	6	7	10	9	6	4	4	4	3	3	4	4	IZS	3	3	3	3	3	3	3	3	10	4.3	24	
26	3	3	3	3	3	3	3	4	4	6	5	6	6	6	IZS	6	13	15	21	23	18	16	6	3	23	7.8	24	
27	2	2	2	2	2	1	2	2	1	4	1	1	1	IZS	1	1	2	2	2	3	3	4	3	4	4	2.1	24	
28	4	4	4	7	9	M	10	10	10	9	7	6	IZS	2	3	5	7	10	9	16	7	8	10	10	16	7.6	23	
29	13	17	16	11	8	M	7	8	7	6	6	IZS	4	3	2	2	2	2	1	1	1	1	0	17	5.4	23		
30	0	1	1	1	1	1	1	1	1	1	IZS	4	3	1	2	1	1	1	1	1	1	1	1	1	4	1.2	24	
HOURLY MAX	13	17	16	11	9	10	12	10	11	9	8	19	6	6	9	9	13	15	21	23	19	16	25	24				
HOURLY AVG	3.7	3.7	3.3	3.2	3.1	2.8	3.7	3.7	3.6	3.8	3.2	3.4	2.6	2.7	2.5	3.0	3.9	4.0	4.2	5.2	5.0	4.0	4.8	4.2				

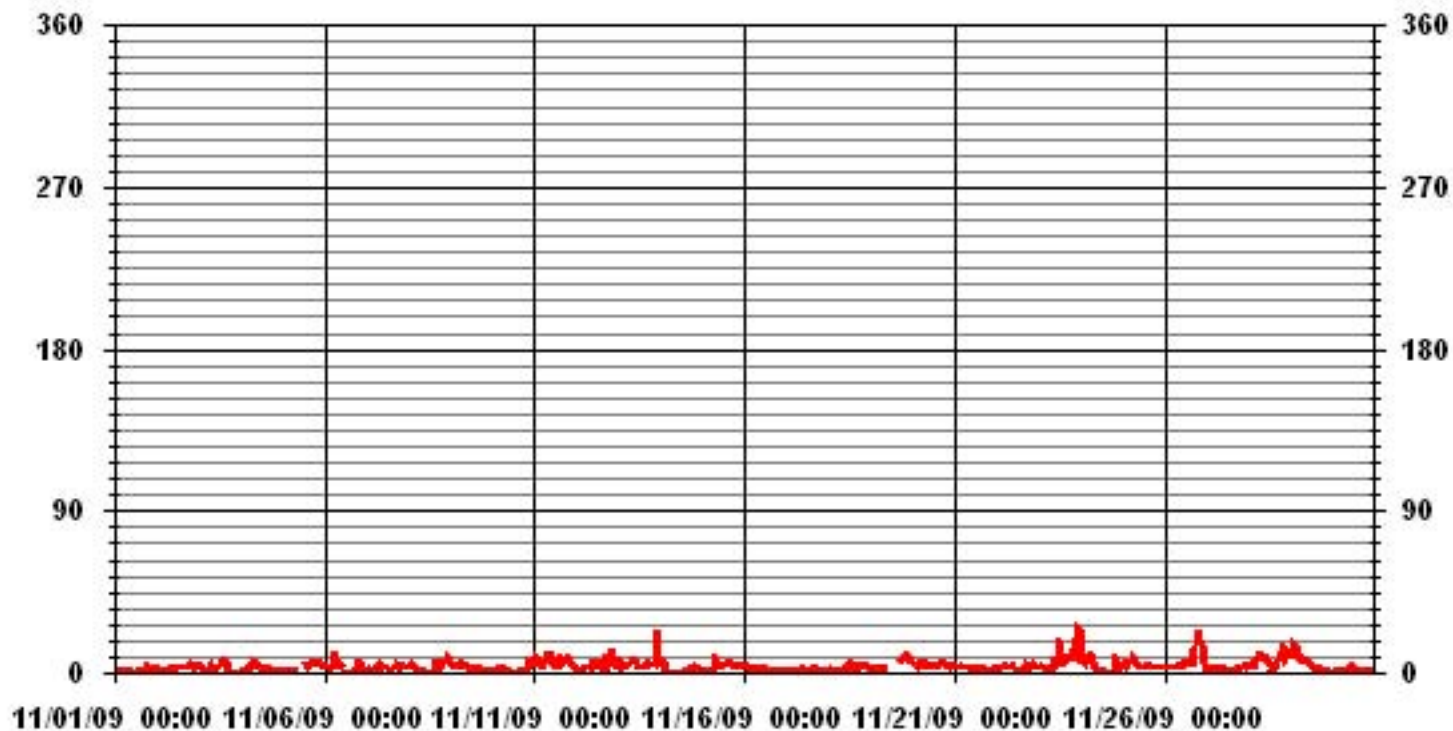
STATUS FLAG CODES

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:	629					
MAXIMUM INSTANTANEOUS VALUE:	25	PPB	@ HOUR(S)	22	ON DAY(S)	23
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	716	HRS	
MONTHLY CALIBRATION TIME:	12	HRS				
STANDARD DEVIATION:	3.40					

01 Hour Averages



— LICA31 NO2MAX PPB

LICA31
 NO2_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	.74	.00	.74	2.07	1.92	.44	5.92	8.44	13.48	14.51	13.03	19.40	6.37	9.18	2.81	.88	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	.74	.00	.74	2.07	1.92	.44	5.92	8.44	13.48	14.51	13.03	19.40	6.37	9.18	2.81	.88	

Calm : .00 %

Total # Operational Hours : 675

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	5		5	14	13	3	40	57	91	98	88	131	43	62	19	6	675
< 110																	
< 210																	
>= 210																	
Totals	5		5	14	13	3	40	57	91	98	88	131	43	62	19	6	

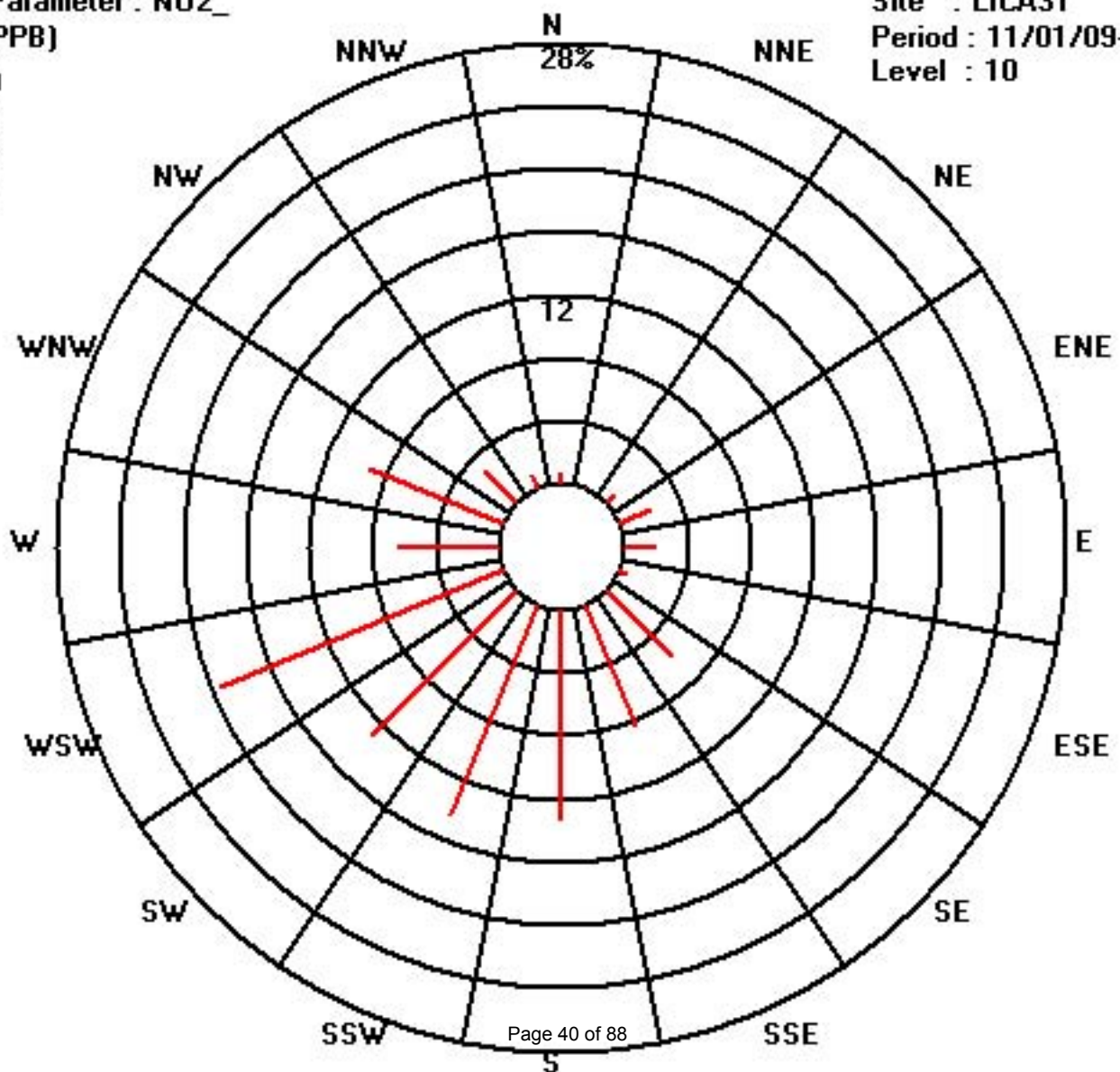
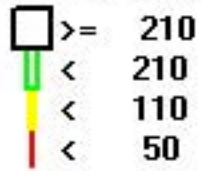
Calm : .00 %

Total # Operational Hours : 675

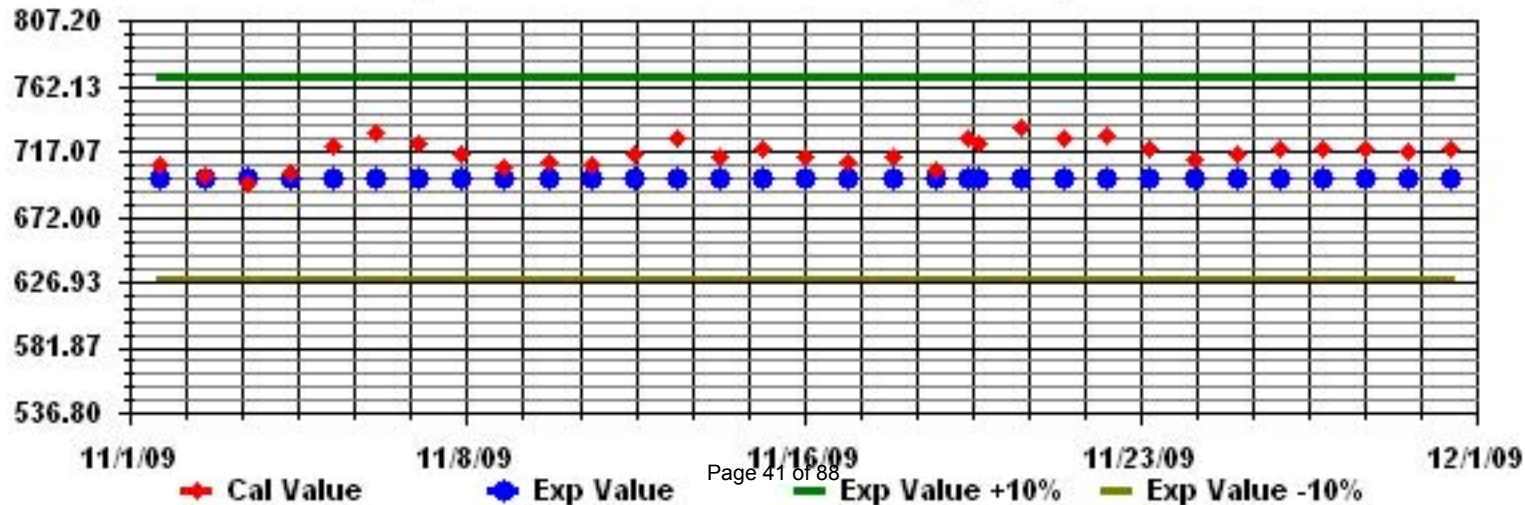
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



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



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2009

NITRIC OXIDE hourly averages in ppb

MST

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

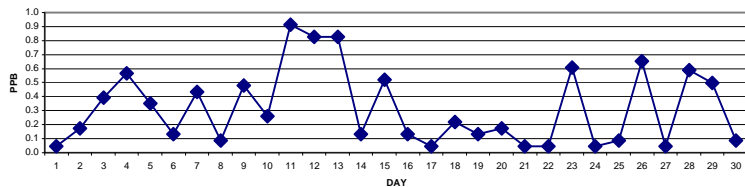
STATUS FLAG CODES

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

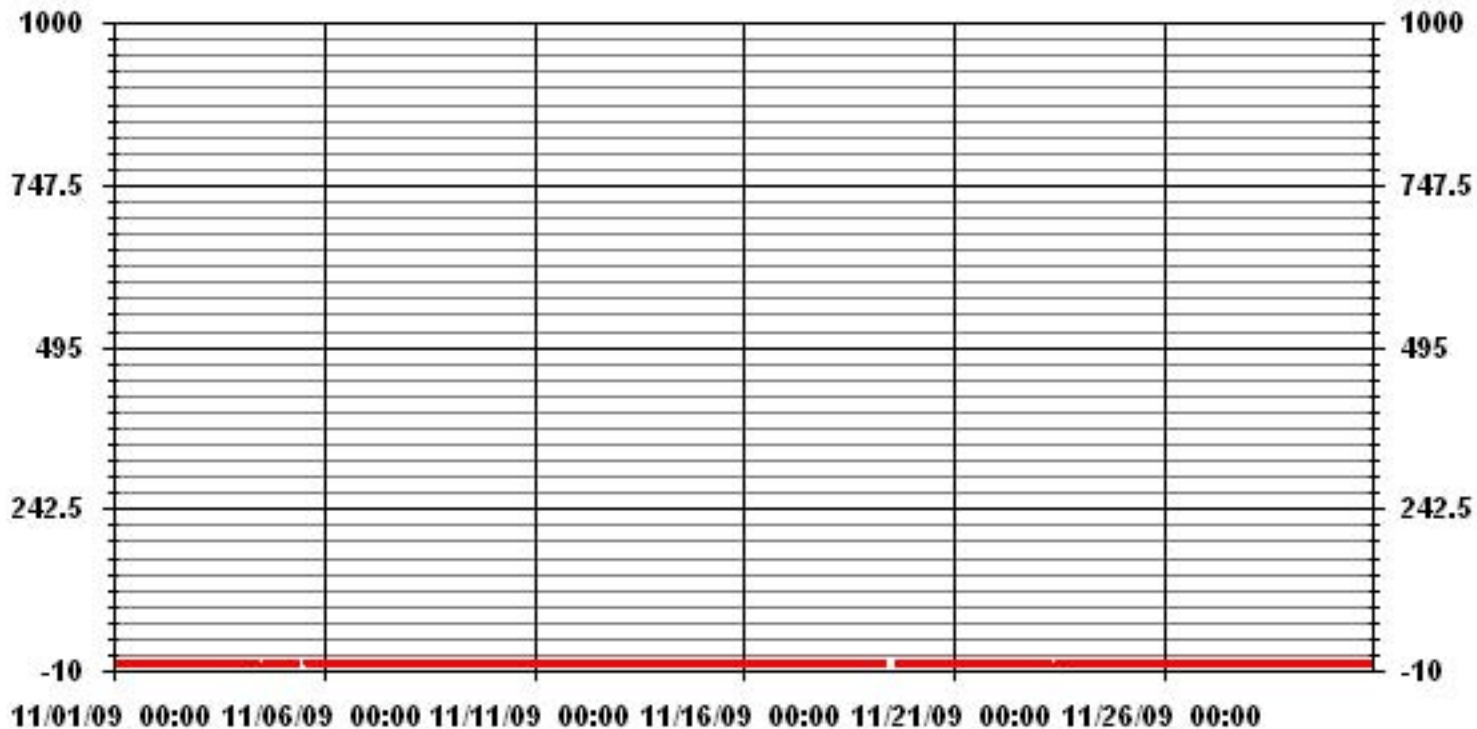
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	152					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	10	ON DAY(S)	11
MAXIMUM 24-HR AVERAGE:	0.9	PPB			ON DAY(S)	11
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	717	HRS	
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME:	99.6	%	
STANDARD DEVIATION:	0.67		MONTHLY AVERAGE:	0.32	PPB	

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA31 NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2009

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	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	0	0	1	1	1	1	0	1	1	1	1	0	IZS	2	1	1	1	1	1	1	1	2	0.8	24
2	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	IZS	3	1	1	1	1	1	1	1	1	3	1.0	24
3	0	1	1	1	1	0	1	5	1	2	1	2	2	4	IZS	4	2	1	1	1	1	0	0	0	0	5	1.4	24
4	0	0	1	0	1	1	14	1	2	5	5	2	2	IZS	4	2	1	1	1	0	0	0	1	0	14	1.9	24	
5	0	0	0	0	0	0	0	0	C	C	C	C	IZS	5	3	3	1	1	1	1	0	1	1	0	5	0.9	24	
6	1	1	1	1	1	1	13	2	1	2	1	IZS	3	1	1	1	1	1	1	0	9	0	1	0	13	1.9	24	
7	1	0	0	0	1	0	1	1	3	2	IZS	5	2	2	2	1	1	1	1	1	1	1	1	1	5	1.3	24	
8	0	0	1	1	1	1	1	1	2	IZS	2	1	1	1	1	1	12	1	1	1	1	1	1	1	1	12	1.5	24
9	1	1	1	1	1	1	2	1	IZS	4	3	3	3	2	1	1	1	1	1	1	1	1	1	0	0	4	1.4	24
10	1	1	1	1	1	1	2	IZS	3	3	2	1	1	1	1	1	1	1	1	1	1	2	1	1	1	3	1.3	24
11	1	1	1	1	1	1	IZS	4	22	6	11	4	3	2	3	3	1	3	2	1	1	1	1	1	22	3.3	24	
12	0	1	1	1	1	IZS	3	2	6	2	5	4	4	5	2	2	1	9	1	1	13	1	1	1	1	13	2.9	24
13	13	1	1	1	IZS	3	2	2	4	5	4	4	3	2	2	1	1	1	1	2	2	1	20	1	20	3.3	24	
14	1	1	1	IZS	3	1	1	1	1	1	1	0	1	1	1	2	1	2	0	1	1	1	1	1	3	1.1	24	
15	1	1	IZS	2	1	1	1	14	2	2	3	3	3	4	4	3	1	1	1	1	1	1	1	1	14	2.3	24	
16	1	IZS	3	1	1	1	1	1	1	1	1	2	1	1	1	1	0	1	1	1	1	0	0	0	3	1.0	24	
17	IZS	2	1	1	1	0	0	1	1	1	1	0	1	1	1	1	1	0	0	0	1	1	0	IZS	2	0.7	24	
18	3	1	1	1	0	0	1	0	2	1	1	17	2	2	1	1	1	1	1	1	1	1	1	IZS	2	1.8	24	
19	1	1	1	1	0	0	1	1	1	C	C	C	C	C	C	C	C	2	2	1	1	IZS	2	1	2	1.1	24	
20	1	0	1	1	1	1	1	1	1	1	2	1	2	1	1	1	0	1	0	1	IZS	2	1	1	2	1.0	24	
21	1	0	0	0	0	0	0	0	1	1	0	1	1	1	0	0	1	0	1	IZS	3	1	1	1	3	0.5	24	
22	0	1	0	1	0	M	0	1	0	1	1	1	1	1	P	1	1	0	IZS	2	1	1	1	1	2	0.8	22	
23	1	1	1	1	1	1	1	1	0	8	3	4	3	2	2	2	1	IZS	3	3	20	2	30	18	30	4.7	24	
24	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	IZS	2	1	11	1	1	1	1	11	1.3	24	
25	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	2	1	1	1	1	0	1	1	2	1.0	24	
26	1	1	1	0	0	1	1	1	3	3	4	2	2	1	IZS	3	2	1	3	2	2	1	1	1	4	1.6	24	
27	1	1	1	0	0	1	2	1	2	10	1	1	1	IZS	2	1	1	1	0	1	1	1	0	1	10	1.3	24	
28	0	1	1	1	1	M	1	2	2	4	4	4	IZS	4	2	2	1	1	1	12	1	1	2	1	12	2.2	23	
29	1	1	1	1	1	M	1	2	1	2	3	IZS	4	2	1	1	1	1	0	1	1	0	0	4	1.2	23		
30	0	0	0	0	0	1	1	1	0	1	IZS	3	1	1	1	1	1	0	0	0	0	0	1	1	3	0.6	24	
HOURLY MAX	13	2	3	2	3	3	14	14	22	10	11	17	4	5	4	4	12	9	3	12	20	2	30	18				
HOURLY AVG	1.2	0.7	0.8	0.8	0.7	0.8	1.9	1.8	2.3	2.7	2.4	2.6	1.9	1.9	1.5	1.5	1.5	1.4	1.0	1.8	2.4	0.9	2.5	1.4				

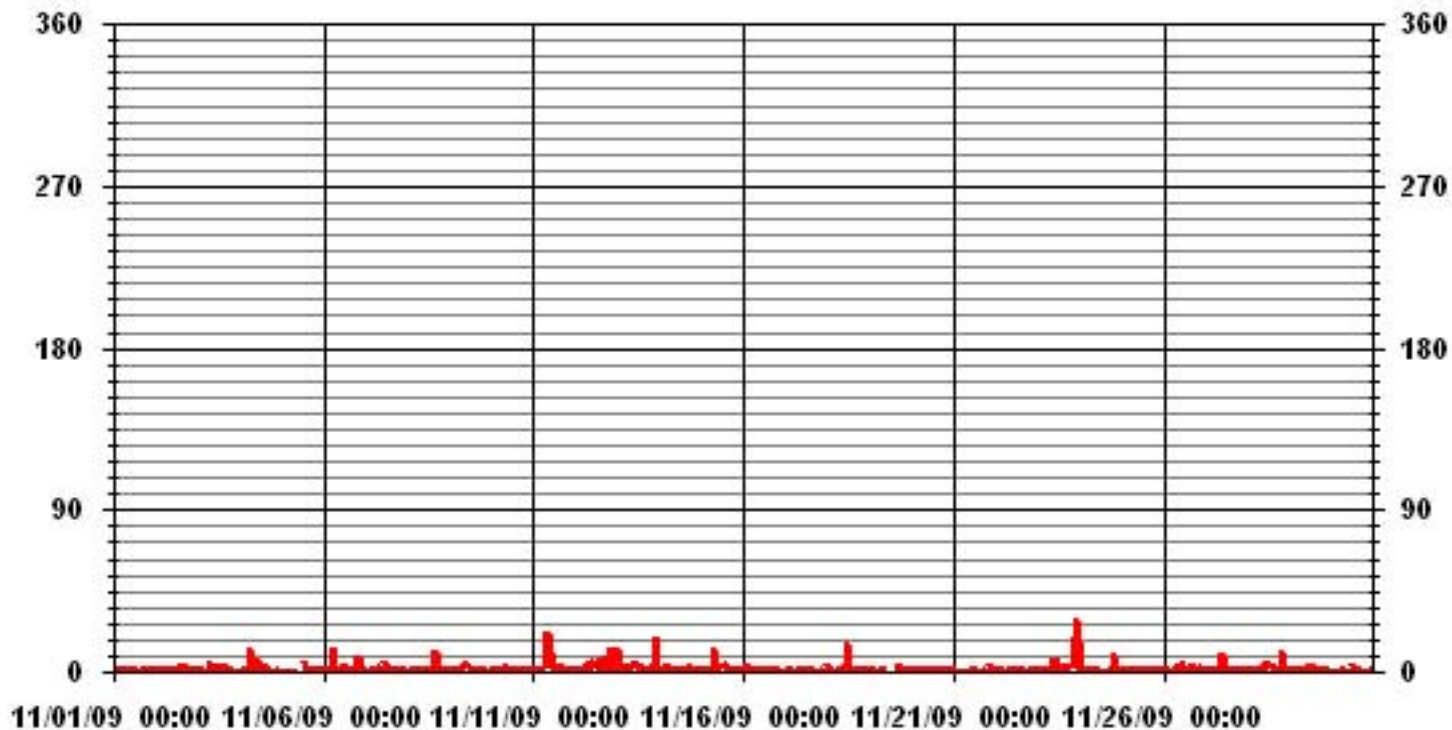
STATUS FLAG CODES

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:	562				
MAXIMUM INSTANTANEOUS VALUE:	30	PPB	@ HOUR(S)	22	ON DAY(S) 23
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	716	HRS
MONTHLY CALIBRATION TIME:	12	HRS			
STANDARD DEVIATION:	2.58				

01 Hour Averages



LICA31
 NO_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	.74	.00	.74	2.07	1.92	.44	5.92	8.44	13.48	14.51	13.03	19.40	6.37	9.18	2.81	.88	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	.74	.00	.74	2.07	1.92	.44	5.92	8.44	13.48	14.51	13.03	19.40	6.37	9.18	2.81	.88		

Calm : .00 %

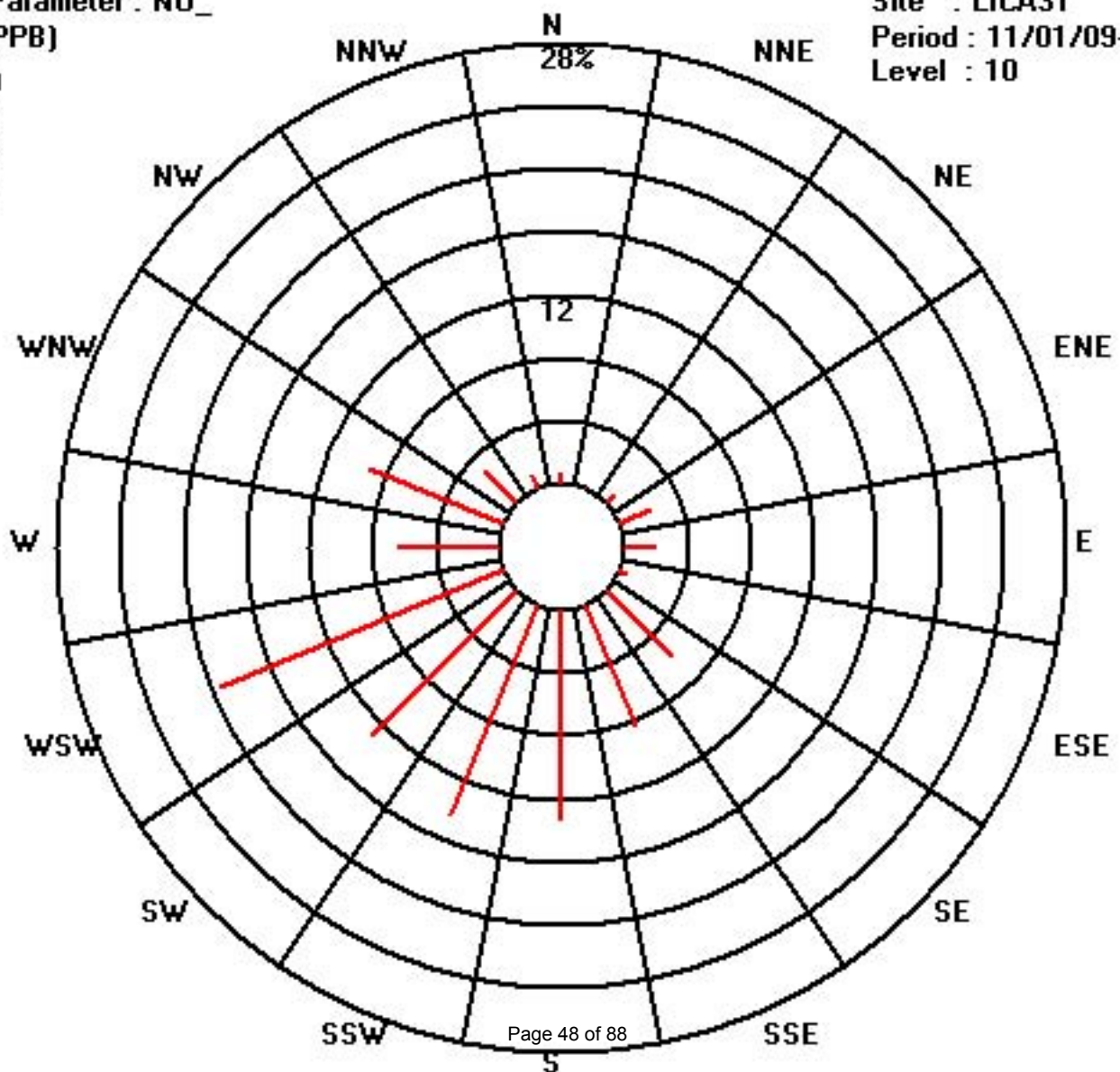
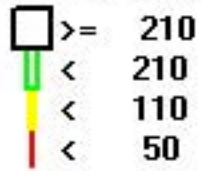
Total # Operational Hours : 675

Distribution By Samples

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 50	5		5	14	13	3	40	57	91	98	88	131	43	62	19	6	675	
< 110																		
< 210																		
>= 210																		
Totals	5		5	14	13	3	40	57	91	98	88	131	43	62	19	6		

Calm : .00 %

Total # Operational Hours : 675



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2009

OXIDES OF NITROGEN hourly averages in ppb

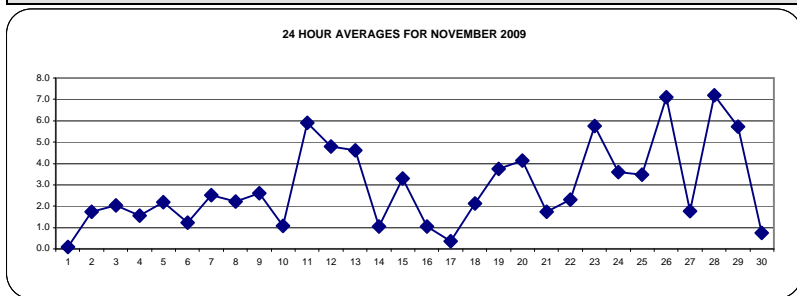
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 24-HOUR			
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0.1	24
2	1	1	0	0	0	0	0	1	1	1	2	2	2	3	3	3	3	3	3	4	3	3	2	2	4	4	1.7	24
3	3	3	2	2	1	0	1	2	1	2	2	3	4	6	3	9	5	1	0	0	0	0	0	0	9	2.0	24	
4	0	0	0	0	0	1	2	2	3	6	7	4	3	6	3	2	1	1	1	0	0	0	0	0	7	1.6	24	
5	0	0	0	0	0	0	0	0	1	C	C	C	IZS	4	4	4	4	4	4	4	3	4	4	4	4	2.2	24	
6	3	2	2	2	2	2	2	3	4	5	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	5	1.2	24	
7	0	1	1	0	0	1	3	3	5	5	IZS	4	4	4	2	2	3	4	3	2	2	3	4	2	5	2.5	24	
8	2	3	5	4	2	1	0	0	1	IZS	1	0	0	0	0	1	1	1	1	3	5	6	8	6	8	2.2	24	
9	5	4	3	3	3	4	4	5	IZS	5	4	4	3	2	2	2	1	2	2	1	1	0	0	0	5	2.6	24	
10	0	0	0	1	1	2	2	IZS	2	2	1	1	0	0	0	0	0	0	0	0	3	2	3	5	5	1.1	24	
11	9	8	7	5	4	4	IZS	8	7	7	8	5	5	5	7	8	6	6	6	4	6	5	4	2	9	5.9	24	
12	1	1	1	1	2	IZS	4	4	5	4	9	10	9	8	5	3	2	4	6	8	8	6	5	4	10	4.8	24	
13	4	4	4	5	IZS	5	4	6	8	7	5	5	4	4	3	3	4	5	4	4	4	4	5	5	8	4.6	24	
14	6	5	2	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	2	1	1	1	6	1.0	24	
15	1	1	IZS	1	1	1	2	2	3	4	4	4	5	5	5	4	4	5	4	4	4	4	4	4	5	3.3	24	
16	4	IZS	3	2	2	1	1	1	2	2	2	2	1	1	1	0	0	0	1	0	0	0	0	0	4	1.0	24	
17	IZS	1	0	0	0	1	0	0	1	1	1	1	0	0	0	0	1	0	0	1	0	0	1	0	IZS	1	0.4	24
18	2	2	1	0	0	1	1	0	1	2	3	4	5	3	1	1	3	4	3	3	3	3	3	IZS	3	5	2.1	24
19	2	2	1	2	1	1	1	1	2	C	C	C	C	C	C	C	C	6	7	8	8	IZS	7	7	8	3.7	24	
20	6	4	4	5	5	5	5	5	4	4	4	3	3	4	3	4	4	4	4	4	4	IZS	5	3	3	6	4.1	24
21	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	IZS	2	1	2	2	3	1.7	24
22	2	2	2	2	2	M	2	2	2	3	1	1	1	1	2	3	3	IZS	5	5	4	3	2	5	2.3	23		
23	2	3	3	2	2	1	1	1	2	4	6	7	6	6	4	6	8	IZS	8	13	15	15	11	6	15	5.7	24	
24	5	8	6	8	9	10	9	6	4	3	2	1	1	1	1	1	IZS	1	1	1	1	1	1	2	10	3.6	24	
25	3	2	3	4	5	8	6	5	3	4	4	3	3	3	3	IZS	3	3	3	3	3	2	2	2	8	3.5	24	
26	2	2	2	2	2	2	3	3	4	6	6	6	7	6	IZS	7	11	15	18	23	19	10	4	3	23	7.1	24	
27	2	2	2	2	2	2	2	2	2	2	1	1	1	1	IZS	2	1	1	1	1	2	2	3	2	3	3	1.8	24
28	3	3	3	4	7	M	9	10	10	10	8	7	IZS	4	3	5	7	10	9	9	8	8	10	11	11	7.2	23	
29	12	17	15	10	8	M	8	8	7	8	8	IZS	6	5	3	2	2	2	1	1	1	1	1	0	17	5.7	23	
30	0	1	1	1	1	1	1	1	1	1	IZS	4	2	0	1	0	1	0	0	0	0	0	0	4	0.7	24		
HOURLY MAX	12	17	15	10	9	10	9	10	10	10	9	10	9	8	7	9	11	15	18	23	19	15	11	11				
HOURLY AVG	2.9	2.9	2.6	2.4	2.2	2.2	2.6	2.9	3.0	3.7	3.5	3.1	2.8	2.8	2.1	2.6	2.9	3.0	3.2	3.8	3.7	3.2	3.0	2.7				

STATUS FLAG CODES

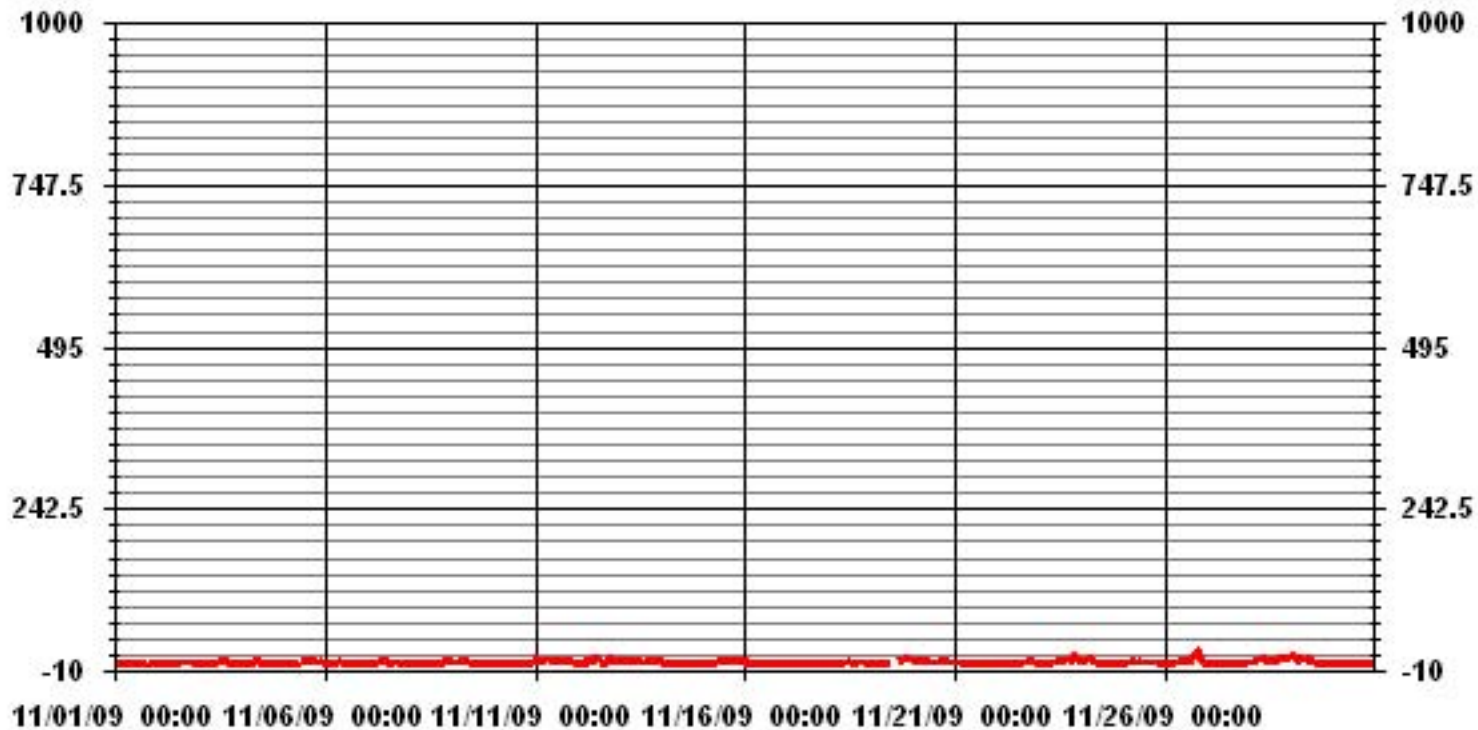
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	539					
MAXIMUM 1-HR AVERAGE:	23	PPB	@ HOUR(S)	19	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	7.2	PPB			ON DAY(S)	28
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	717	HRS	
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME	99.6	%	
STANDARD DEVIATION:	2.98		MONTHLY AVERAGE	2.91	PPB	



01 Hour Averages



— LICA31 NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2009

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	IZS	1	2	5	1	1	1	1	5	0.6	24	
2	2	2	0	0	0	1	1	2	2	2	3	3	3	3	4	IZS	4	3	4	5	4	4	3	3	5	2.5	24	
3	5	4	3	2	3	1	2	9	2	4	3	4	6	8	IZS	10	8	3	1	0	0	0	0	10	3.4	24		
4	0	1	1	1	2	2	18	4	5	10	9	5	4	IZS	5	4	2	2	2	1	1	1	1	0	18	3.5	24	
5	0	1	0	0	1	1	1	1	C	C	C	C	IZS	9	4	4	5	5	5	5	4	4	4	4	9	3.1	24	
6	4	3	3	2	3	3	22	4	5	6	4	IZS	1	1	0	0	1	1	1	0	13	0	0	0	22	3.3	24	
7	0	2	1	1	1	3	4	4	8	7	IZS	7	5	4	4	3	4	5	4	4	4	4	3	8	3.7	24		
8	3	5	6	5	3	1	1	1	2	IZS	2	1	1	0	1	1	18	2	3	6	7	7	10	9	18	4.1	24	
9	6	5	4	3	4	5	7	6	IZS	6	5	5	5	3	2	3	3	3	3	2	1	1	1	1	7	3.7	24	
10	1	1	1	2	2	3	3	IZS	3	4	2	2	0	0	0	1	1	1	2	1	6	4	5	8	8	2.3	24	
11	10	9	9	7	5	5	IZS	10	31	12	19	7	7	6	12	12	6	10	9	8	8	6	5	3	31	9.4	24	
12	2	2	1	2	3	IZS	6	5	12	5	12	11	10	11	7	4	3	18	7	10	24	7	6	4	24	7.5	24	
13	24	5	6	6	IZS	7	6	8	10	11	6	8	6	5	4	4	5	7	5	6	7	5	41	6	41	8.6	24	
14	6	7	4	IZS	2	1	1	0	1	1	0	0	0	0	1	2	1	4	2	5	4	2	2	2	7	2.1	24	
15	1	1	IZS	2	2	2	3	22	7	5	5	5	7	8	8	7	6	5	5	4	5	4	5	4	22	5.3	24	
16	4	IZS	4	3	2	3	2	2	2	3	3	3	3	2	1	1	1	2	1	1	1	1	1	0	4	2.0	24	
17	IZS	2	1	1	1	1	0	1	2	2	2	1	0	1	1	2	1	2	2	1	1	1	1	1	IZS	2	1.2	24
18	3	3	2	2	1	2	1	1	4	2	5	18	6	4	2	2	5	5	4	5	4	4	IZS	4	18	3.9	24	
19	3	2	2	2	2	2	2	2	2	C	C	C	C	C	C	C	C	8	10	10	10	IZS	9	8	10	4.9	24	
20	7	5	5	6	6	5	6	5	5	5	5	4	4	4	4	5	5	6	6	4	IZS	6	4	4	7	5.0	24	
21	4	3	3	3	3	3	3	3	3	2	3	2	2	2	2	1	2	2	1	IZS	3	2	3	3	4	2.5	24	
22	2	3	3	3	4	M	3	3	3	4	3	2	2	2	P	4	5	3	IZS	7	7	5	4	3	7	3.6	22	
23	3	4	4	3	2	2	2	2	3	15	8	22	8	7	7	9	9	IZS	9	16	34	16	51	44	51	12.2	24	
24	8	9	7	9	10	11	10	8	5	3	2	2	1	1	1	1	IZS	2	2	18	2	2	2	3	18	5.2	24	
25	5	3	4	6	8	10	9	7	4	5	4	4	3	4	4	IZS	4	4	3	3	4	3	3	3	10	4.7	24	
26	3	3	3	2	3	3	3	4	6	8	8	8	8	7	IZS	8	15	16	23	25	20	17	8	3	25	8.9	24	
27	3	3	3	2	3	3	4	4	4	15	2	2	2	IZS	2	2	2	3	2	3	3	4	3	4	15	3.4	24	
28	4	4	4	7	9	M	10	11	12	11	10	9	IZS	6	5	7	8	11	10	22	8	9	12	12	22	9.1	23	
29	14	19	18	11	9	M	9	10	8	9	8	IZS	8	6	4	3	3	3	2	3	3	2	1	1	19	7.0	23	
30	1	1	2	1	2	2	2	2	2	IZS	5	4	2	2	1	2	2	1	1	1	1	1	1	5	1.8	24		
HOURLY MAX	24	19	18	11	10	11	22	22	31	15	19	22	10	11	12	12	18	18	23	25	34	17	51	44				
HOURLY AVG	4.4	3.9	3.6	3.2	3.3	3.2	4.9	4.9	5.4	5.9	5.1	5.4	3.9	3.9	3.4	3.7	4.8	4.8	4.5	6.2	6.6	4.2	6.6	4.9				

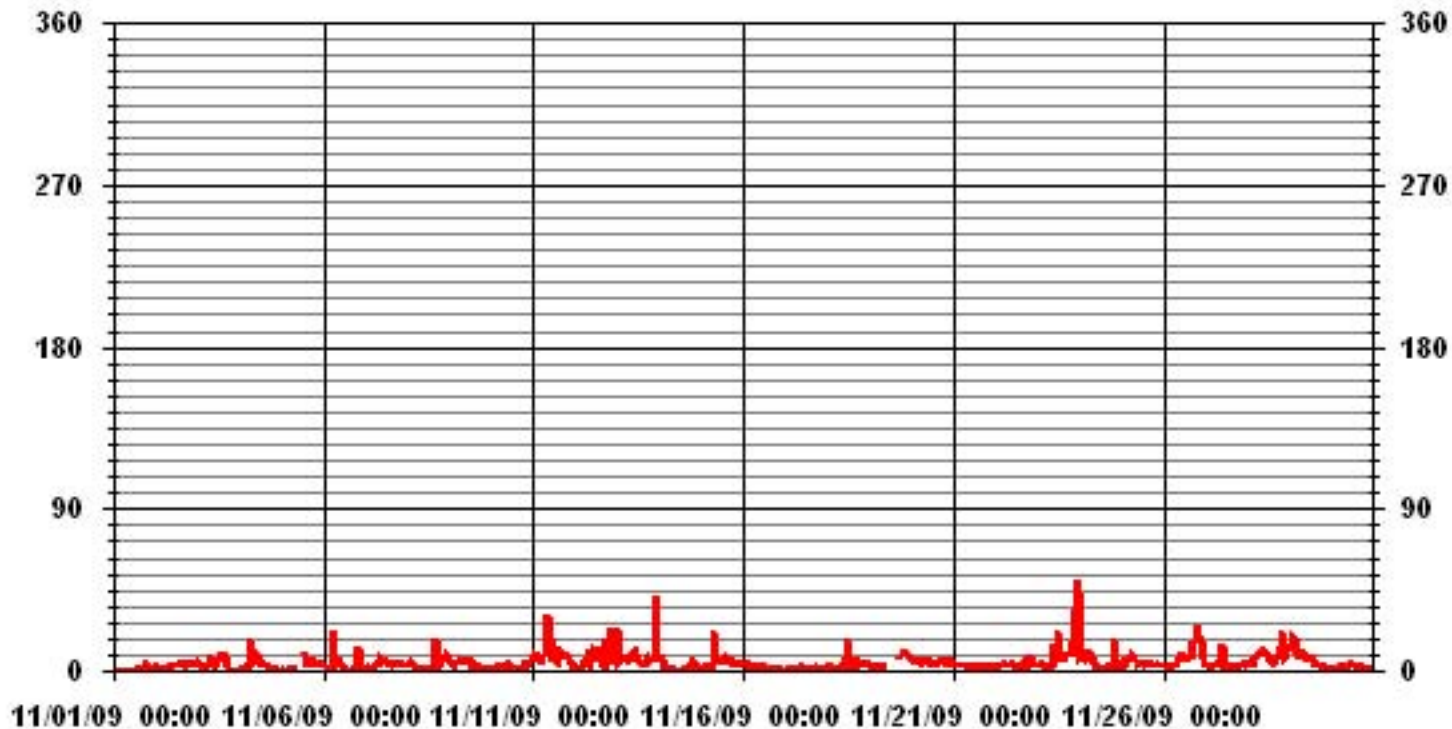
STATUS FLAG CODES

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:	626
MAXIMUM INSTANTANEOUS VALUE:	51 PPB @ HOUR(S) 22 ON DAY(S) 23
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	12 HRS
STANDARD DEVIATION:	5.12
OPERATIONAL TIME:	716 HRS

01 Hour Averages



— LICA31 NOXMAX PPB

LICA31
 NOX_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	.74	.00	.74	2.07	1.92	.44	5.92	8.44	13.48	14.51	13.03	19.40	6.37	9.18	2.81	.88	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	.74	.00	.74	2.07	1.92	.44	5.92	8.44	13.48	14.51	13.03	19.40	6.37	9.18	2.81	.88	

Calm : .00 %

Total # Operational Hours : 675

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	5		5	14	13	3	40	57	91	98	88	131	43	62	19	6	675
< 110																	
< 210																	
>= 210																	
Totals	5		5	14	13	3	40	57	91	98	88	131	43	62	19	6	

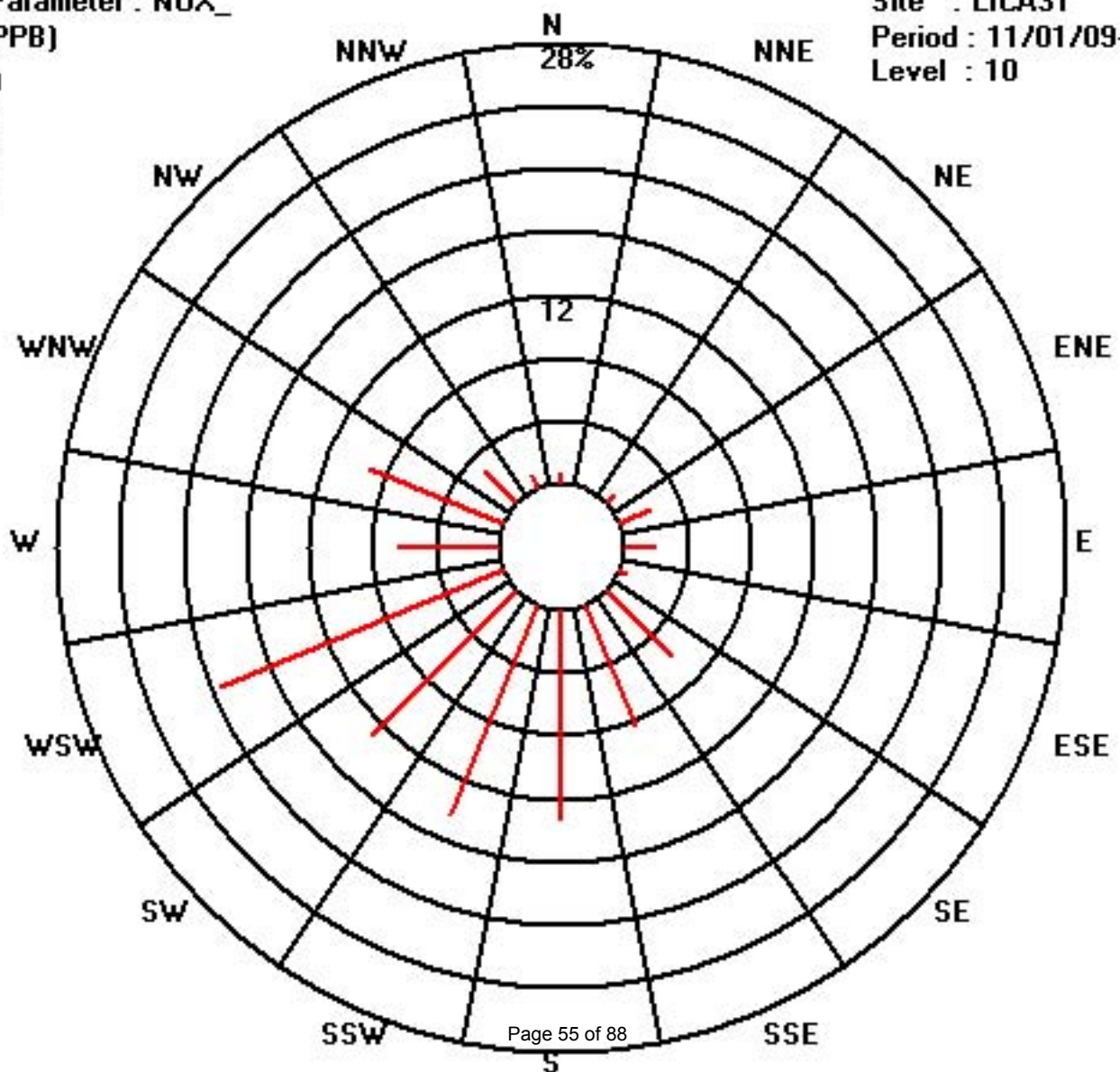
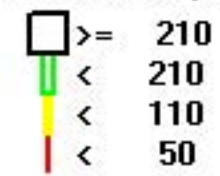
Calm : .00 %

Total # Operational Hours : 675

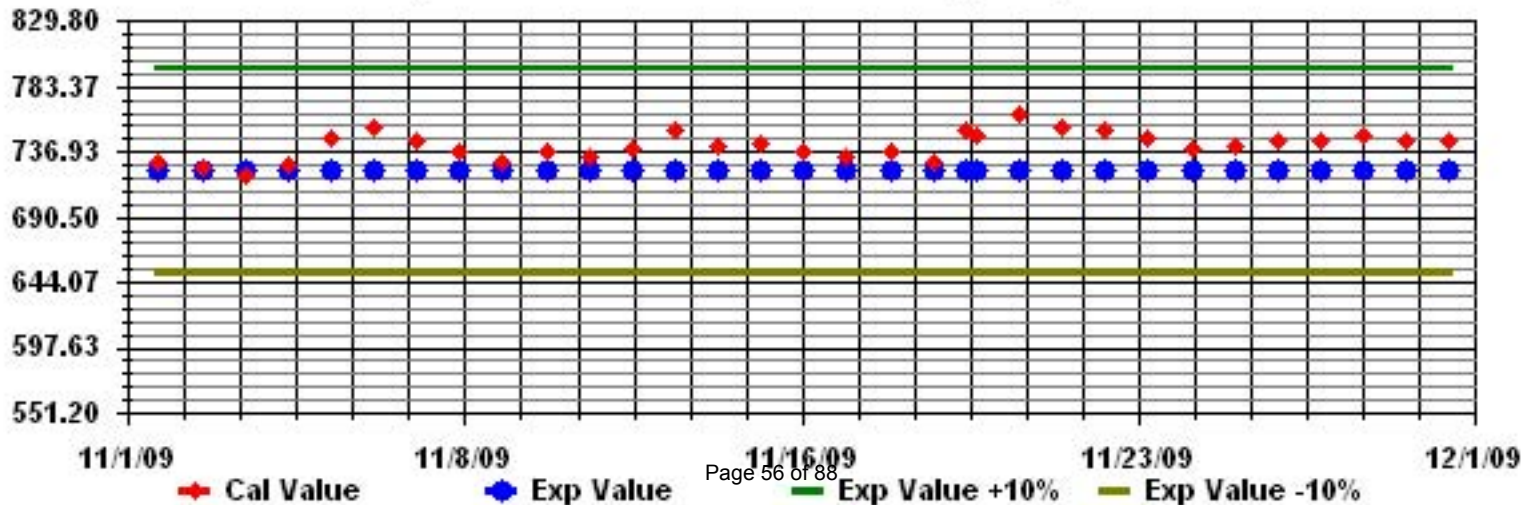
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



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



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2009

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 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	24.8	25	28.1	25	22.4	22.6	23.8	20.1	22.6	22.9	23.7	22.6	22.8	16.3	16.3	17.2	14.5	9.9	7.8	6	5.4	3.3	4.7	5.5	28.1	15	24
2	7.2	8.2	9.7	9.5	12.2	12.4	14.2	14.3	13.6	13.9	12.9	8.3	5.7	9.8	7.2	3.1	4.3	4.2	4.4	5.4	3.7	4	8.3	8.5	14.3	5.7	24
3	6.2	5.4	5	4.3	3.7	2.7	1.6	5.1	7.2	9.1	12.5	15.3	16.5	18	19.1	16.3	16.6	15.2	14	12.2	10.9	6.9	8.3	7.8	19.1	7.1	24
4	8	7.8	7.8	9.6	8.4	7.7	8.4	8.8	9.1	8.5	7.9	6.3	9.9	10.1	9.9	8.5	8.1	10.4	12.5	14.3	14.1	13.8	15.5	16.5	16.5	7.5	24
5	16.9	16.8	18.7	16.4	19.9	15.7	15.8	14.1	9.2	13.2	13.9	11.7	11.3	8.8	8.8	9.5	10.3	11.2	11.4	10.9	11.1	10.7	11.1	10.7	19.9	12.2	24
6	11.8	10.5	11.7	11	12.2	12.7	13.3	14.6	12.5	18.6	15.5	16.5	17.6	16.4	15	13.6	14	14.9	13.9	12.2	16.3	15.9	16.2	16.2	18.6	12	24
7	15.3	17.4	17.7	14.7	12.4	14.7	13.1	10.9	10.4	13.5	13.5	12.5	16.7	17.3	16.5	14.7	12.5	10.9	12.6	10.4	8.6	9.7	10.7	10.1	17.7	12.8	24
8	9.4	9.8	10.4	11.8	10.9	10	12.2	11.5	12.6	12.7	15.9	21.2	20.7	21.8	20.9	15.8	15.8	16.1	15.5	16.5	14.5	8.8	9.7	9	21.8	13.6	24
9	10.3	10.1	11.6	9.3	8.5	10.3	10.6	9.3	11.2	11.4	12.4	12.4	12.9	15.2	13.4	13.4	14.1	14.1	18.1	16.5	17.1	16.6	14.4	16.3	18.1	12.4	24
10	16.8	15.5	14.1	14.9	13.9	14.8	11.3	13.1	11.4	13.5	12	13.4	15.9	11.3	8.2	8.3	11.9	12.5	13.2	11.1	9.6	8.3	9.3	9.9	16.8	9.7	24
11	11.8	11.3	9.3	9.9	8.7	10.8	11.1	10.4	10.8	6.9	2.9	2.9	6.7	9.1	8	4.9	2.9	6.7	7.9	7.5	12.9	13.2	13	13	13.2	3.4	24
12	11	8.9	9	7.7	8.5	9.7	10.2	11.4	10.4	8.8	20.1	18.2	19.5	18.8	18.9	16.1	14.5	14.7	15.9	14.8	10.9	9.2	10.7	10.6	20.1	12.1	24
13	11.5	12.2	11.2	11	11.2	9.9	10.4	10.4	10.3	11.2	12.4	13.6	11.6	8.2	8.1	7.9	7.2	5.4	8.1	8.5	9.2	7.6	6.9	7.7	13.6	8.5	24
14	14.1	16.4	16.6	13.9	14	12.8	12.5	14.3	13.8	12	11.9	12	13.5	14	14.7	14.3	11.2	11.4	13.6	14.6	15	15.4	16.1	15.4	16.6	9.6	24
15	14	14.5	15.4	15.6	14.4	15.4	14.3	13	12.1	13.5	15.5	14.9	14.4	12.5	8.7	11.8	12.7	12.6	10.4	10.3	14.5	12.4	12.2	13.7	15.6	12.5	24
16	14	14.1	14.3	14	13.7	15.1	14.9	13.4	16.3	17.6	17.2	18.3	16.3	18.9	28.6	25.1	19.6	17.2	18.6	16.9	15.8	16.5	17.6	18.2	28.6	16.3	24
17	15	16.2	12.2	8.9	8.2	9.8	12.7	15.2	14.6	17.5	15.8	24.4	28.1	32.8	32.3	25.4	21	12.2	7	2.9	6.9	11.5	12.5	12.1	32.8	11.9	24
18	13.2	12.4	12.1	15	9.2	6.3	5	5.5	10.1	10	10.3	7.8	5.6	9.3	3.4	3.7	9.3	9.2	9.1	9.3	9.5	11.4	12.8	13.5	15	6.8	24
19	14.1	13.9	14	15.2	15.7	16.3	15.5	17.5	17.8	16.9	13.9	14.2	13	15.1	14.4	11.8	10.5	8.5	8.7	7.7	8.3	8	7.6	6.2	17.8	11	24
20	7.5	10.8	14.1	16.8	19.8	19.5	17.1	15.5	17.4	16.6	16.3	16.5	17.5	18.1	17	17.7	14.2	13.6	15.9	14.2	13.3	11.9	11	8.3	19.8	14.3	24
21	4.9	7.8	7.9	9.5	14.1	15.8	17.1	18.7	17.5	14.7	14.1	16.3	16.9	19.1	21.7	20.6	15	14.1	15.1	11.1	9.8	10.3	11	12.1	21.7	13.3	24
22	10.7	8.8	9.4	9.9	10.7	M	8.7	8.3	9.3	5.6	6.1	6.2	7.1	5.9	4.7	4.9	6	7	8.1	7.1	6	6.6	8.4	7.5	10.7	5.6	23
23	8	11.4	10.6	8.6	11.9	11.1	10.7	11.4	12.3	14	12.6	12.6	11.1	14.7	19	14.8	11.6	11.3	6.4	7.7	7.7	6	5.4	3	19	9.1	24
24	2.4	7.2	7	13.3	14.9	14	10.6	14.8	17.9	17.5	16.3	18.7	18.4	20.3	22.9	19.5	14.7	10.1	7.5	8.9	8.1	9.8	8.4	8.5	22.9	11.5	24
25	8	8.6	7.7	9.2	9.9	10.7	11.3	12.5	14.2	13.5	15.4	15	16.3	15.3	16.6	16.6	13.1	13.4	19.4	22.6	17.4	12.9	10.2	5.8	22.6	12.7	24
26	5.7	8.3	7.4	11.8	10.3	7.1	9.3	11.3	7.9	11	9.2	10.7	7.8	6.2	8.3	12.6	12.6	8.4	7.6	11.4	14.1	16.8	15.4	14.1	16.8	9.2	24
27	11.4	11.7	13	11.2	13.6	14	9.8	11.6	12.7	13.9	14.8	12.7	13.5	13.7	12	11.3	10.2	9.9	9.5	11.8	12	11.4	11.6	10.7	14.8	11.2	24
28	10.8	9.9	9.9	9.2	9.6	M	10.7	11.9	13.6	11	12	11.1	10.3	10.9	13.8	13.8	10.9	12	11.1	9.9	10.4	9.1	7.8	9.5	13.8	10.6	23
29	9.7	9.6	7.8	8.6	8.5	M	9.4	10.8	12.2	11.1	12.4	14	13.5	16.2	20.1	14.7	8.9	12.4	13.5	13.2	15.8	17	16.3	13.8	20.1	11.5	23
30	14.9	16.9	15.8	13.3	12.6	11.8	11.6	10.3	13.8	15.5	18.3	17.6	13.1	13.9	15.1	14.4	13.8	12.4	16.6	19.4	18.7	17.7	18	17.3	19.4	13.8	24
HOURLY MAX	24.8	25.0	28.1	25.0	22.4	22.6	23.8	20.1	22.6	22.9	23.7	24.4	28.1	32.8	32.3	25.4	21.0	17.2	19.4	22.6	18.7	17.7	18.0	18.2			
HOURLY AVG	11.3	11.9	12.0	12.0	12.1	12.4	11.9	12.3	12.8	13.2	13.6	13.9	14.1	14.6	14.8	13.4	12.1	11.4	11.8	11.5	11.6	11.1	11.4	11.1			

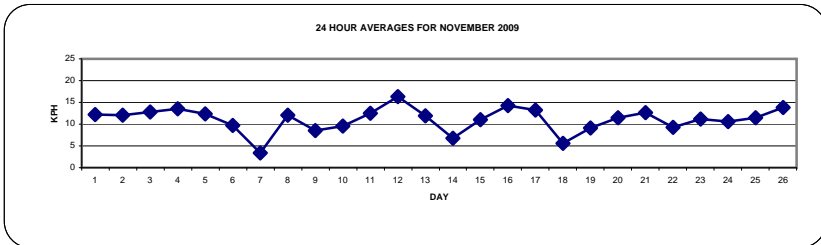
STATUS FLAG CODES

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

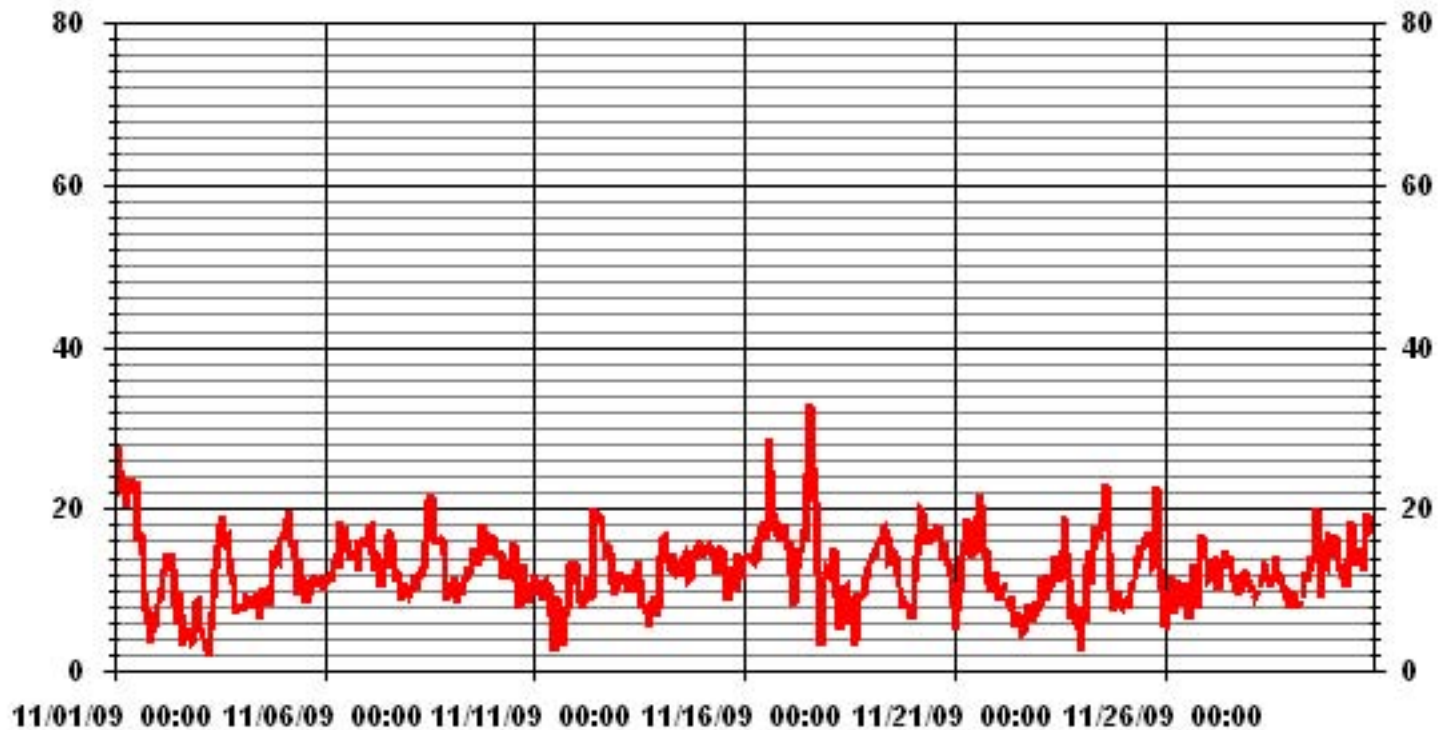
LAST CALIBRATION: February 3, 2009

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	32.8	KPH	@ HOUR(S)	13	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	16.3	KPH			ON DAY(S)	16
CALMS (≤ 1 KPH)	0.00	%	OPERATIONAL TIME:	717	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	99.6	%	
STANDARD DEVIATION	4.39		MONTHLY AVERAGE	12.43	KPH	



01 Hour Averages



— LICA31 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2009

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	
DAY																											
1		53.8	62	66.5	57	58.8	60.1	63.3	51.9	54.7	57.5	55.3	52.5	52.7	38.8	35.6	35.2	36.1	23.3	22.4	17.5	13.2	19.4	13.4	7.8	66.5	
2		15.1	13.8	16.8	18.3	23.3	22.2	27	27.2	25.9	26.6	33.3	21.8	12.9	18.1	18.6	8.4	9	11	11.4	9.5	10.8	12.9	14.9	21.8	33.3	
3		20.9	18.3	18.3	13.8	14.2	14.5	11.4	12.3	13.8	17.1	22.2	29.2	30.7	32.4	35	30.7	30	41.7	38	30.9	45.9	16.8	16.6	14	45.9	
4		14.7	11.2	11.4	13.8	11	9.9	12.5	12.7	13.4	14.9	14.5	12.7	16.2	19.3	20.1	15.5	12.7	18.4	22	28.5	27	26.6	30.9	32	32	
5		35.9	35	35.4	34.6	36.5	30.7	32	28.7	24.3	25.9	29.4	21.8	23.3	18.1	17.6	19	20.7	20.9	22	23.1	19.9	19.8	18.3	18.3	36.5	
6		21.4	19	19.4	16.8	21.4	20.5	19	21.2	27	50.3	34.9	51.6	49.2	49.2	40.8	28.7	29.8	26.1	27.8	24.8	47.1	40.8	39.3	28.7	51.6	
7		26.3	39.3	38.7	27	25.7	25	22.7	18.6	19.9	28.1	23.5	23.1	29.4	31.5	27.6	22.7	19.6	18.1	20.9	17.5	13.4	15.5	24	19.4	39.3	
8		16	16.2	15.3	17.1	19.6	14.9	19	17.5	21.1	21.2	45.8	47.5	46	46.4	44.4	29.4	27.2	25.7	24	26.1	23.7	14	19	13.6	47.5	
9		16.6	21.2	19.4	16.4	12.3	18.4	18.8	17.2	18.6	19	28.3	25.7	31.5	32	29.4	25.3	25	28.9	34.8	32.1	30.9	30	30.7	29.8	34.8	
10		36.3	22.9	23.5	25.5	28.3	40.8	25	30	20.7	33.5	30.2	36.3	40.8	26.1	21.7	19.2	17.5	32.6	32	25.7	20.5	15.1	15.3	17.7	40.8	
11		18.1	16.6	14.7	16.4	14	15.3	15.5	16.6	17.9	11.6	11.9	10.8	11.6	16.2	14.8	10.8	14.5	14.5	17.9	17.1	22.6	22.2	22	21.2	22.6	
12		20.7	15.8	17.3	17.9	13.1	16	18.5	23.3	23.5	20.5	28.1	35	33	29.2	43.9	26.6	23.3	24	23.3	23.2	18.8	15.8	17.9	22.7	43.9	
13		16.1	16.6	23.1	21.8	15.3	15.1	21.6	20.5	16.8	20.9	21.4	26.1	22	16.8	15.3	15.5	10.7	9.7	13.6	13.6	17.9	16.8	14.6	16	26.1	
14		29.8	34.8	30.9	26.1	32.2	32	25.5	33.1	32.6	34.4	30.9	33.7	36.5	35.6	26.1	25.7	18.4	20.1	22	24.2	30.9	28.1	30.9	32.6	36.5	
15		28.3	30.2	33.3	34.1	31.8	31.6	22.6	20.9	25	25	26.3	23.1	22.9	23.5	14.9	22	20.7	22.7	18.3	19	22.5	22.9	21.4	21.4	34.1	
16		25.9	26.8	27.2	28.1	26.3	30.4	24.8	27.2	33.5	32.6	36.7	36.9	30.8	51.2	57.6	45.3	35.2	35	34.5	32.4	31.3	32.4	36.3	32.6	57.6	
17		25.7	22.9	20.3	15.2	14.4	16	20.3	26.5	28.5	34.8	35.4	58.7	60.2	67.3	57.6	52.7	53.1	28.1	20.3	19.9	14.5	20.3	23.1	20.9	67.3	
18		27.8	22.4	20.3	24.8	24.2	15.8	12.5	13.1	18.8	14.5	25.3	26.3	17.9	23.1	11.8	15.5	16.2	14.5	14.2	15.8	14.7	17.7	19.2	21.6	27.8	
19		20.7	26.1	19.4	24.8	34.4	28.5	30.2	33.5	34.1	32.4	27.6	26.3	24.4	27.9	24	22.4	17.1	13.4	11.6	11.8	11.6	11.9	11.4	10.1	34.4	
20		12.1	17	29	27.6	43.6	42.8	38.4	30	31.1	36.1	32.4	31.5	40.6	39	41.5	42.3	28.9	25.1	26.6	23.5	21.8	18.1	16.8	11.9	43.6	
21		19.9	17.9	19.6	24.4	35	42.6	43.2	41.9	41	40.4	37.6	40.8	42.3	41.9	47.1	45.8	36.5	39.1	45.7	25.7	17.5	17.5	16	18.8	47.1	
22		19	14.5	18.6	15.8	19.2	M	17.7	18.8	18.6	14.7	17.3	14.5	16.6	16.6	P	12.9	13.6	14.9	16.4	10.8	9.4	11.6	13.2	10.8	19.2	
23		15.1	24.3	20.9	19	20.7	19.2	19.2	20.9	20.5	23.1	21.4	21.2	21.8	46.2	45.6	36.3	18.8	23.3	16.4	12.3	11.4	13.2	8.4	14.7	46.2	
24		20.1	14.5	14.2	26.3	35	28.9	25.7	32.6	43.2	42.1	43.6	56	54	48.6	60.5	46.7	39.7	25	17.1	20.5	17.7	22.9	11.6	15.7	60.5	
25		14	12.7	11	17.4	19.2	19	20.3	21.2	25.9	26.6	28.7	29.6	33.3	27.6	29.1	27.9	22.7	23.1	33.3	43.2	33.9	25.9	24.8	18.1	43.2	
26		17.3	16.2	13.1	19.9	22.5	14.2	20.1	25.6	17	16.4	14.7	19	13.4	12.9	12.3	25.5	24.6	21.8	15.3	20.5	25.6	40.6	37.6	27	40.6	
27		18.6	20.1	35.8	29.8	23.5	19.2	16.8	26.7	26.3	27.6	38.7	29.2	34.8	30	23.9	24.2	21.2	22.5	16.2	16.5	19.9	18.1	22.2	14.9	38.7	
28		13.8	13.3	13.2	12.9	13.2	M	14	15.5	17.3	16	19.4	17.9	17.5	18.6	25	26.1	18.5	21.2	18.8	15.3	14.9	14	12.9	13.1	26.1	
29		12.7	13.4	11.2	14.7	16	M	21.6	17.1	25.3	16.2	22.5	26.1	24.4	38.6	45.6	42.1	19.4	32.2	43.6	27.9	33.7	36.9	44.1	35.6	45.6	
30		40.6	31.3	33.2	20.9	21.4	22.4	22.5	24.2	33.7	30	40.2	40.4	39.8	40	42.6	45.2	36.5	33.3	39.5	48.4	43.5	37.4	35.4	36.5	48.4	
PEAK		53.8	62.0	66.5	57.0	58.8	60.1	63.3	51.9	54.7	57.5	55.3	58.7	60.2	67.3	60.5	52.7	53.1	41.7	45.7	48.4	47.1	40.8	44.1	36.5		

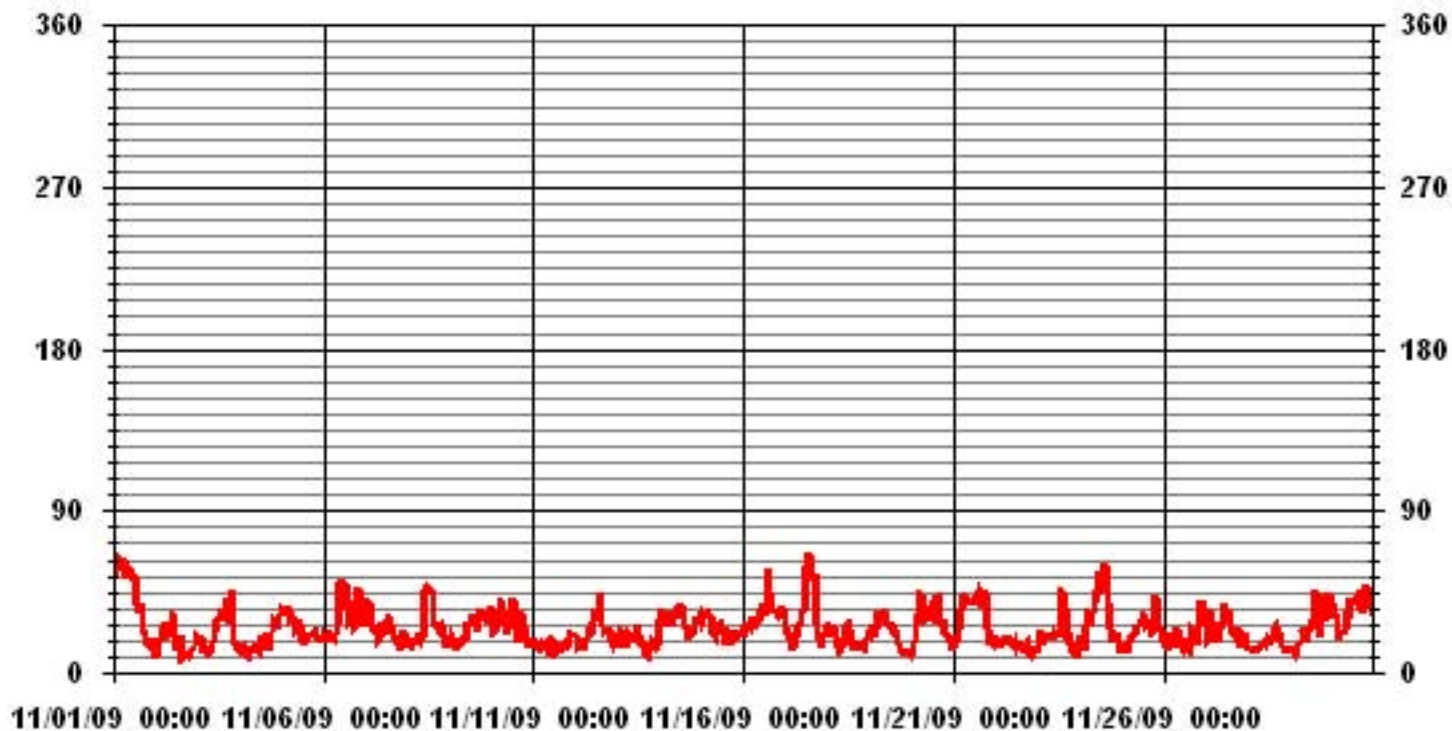
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	67.3	KPH	@ HOUR(S)	13
			ON DAY(S)	17

01 Hour Averages



— LICA31 WSMAX KPH

LICA31
WSP / WDR Joint Frequency Distribution (Percent)

November 2009

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	.55	.00	.27	.69	.41	.00	.55	.13	.97	.27	.27	.27	.27	.27	.13	.41	5.57	
< 12.0	.13	.00	.41	.41	.13	.00	1.95	2.92	7.39	8.64	6.55	7.53	2.92	1.67	1.11	.41	42.25	
< 20.0	.00	.00	.00	.97	1.25	.41	3.20	5.29	5.85	4.88	5.99	10.04	2.92	5.16	1.67	.00	47.69	
< 29.0	.00	.00	.00	.00	.00	.00	.00	.13	.00	.27	.41	1.25	.27	1.81	.00	.00	4.18	
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.27	.00	.00	.00	.00	.00	.00	.27	
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	.69	.00	.69	2.09	1.81	.41	5.71	8.50	14.22	14.36	13.24	19.10	6.41	8.92	2.92	.83		

Calm : .00 %

Total # Operational Hours : 717

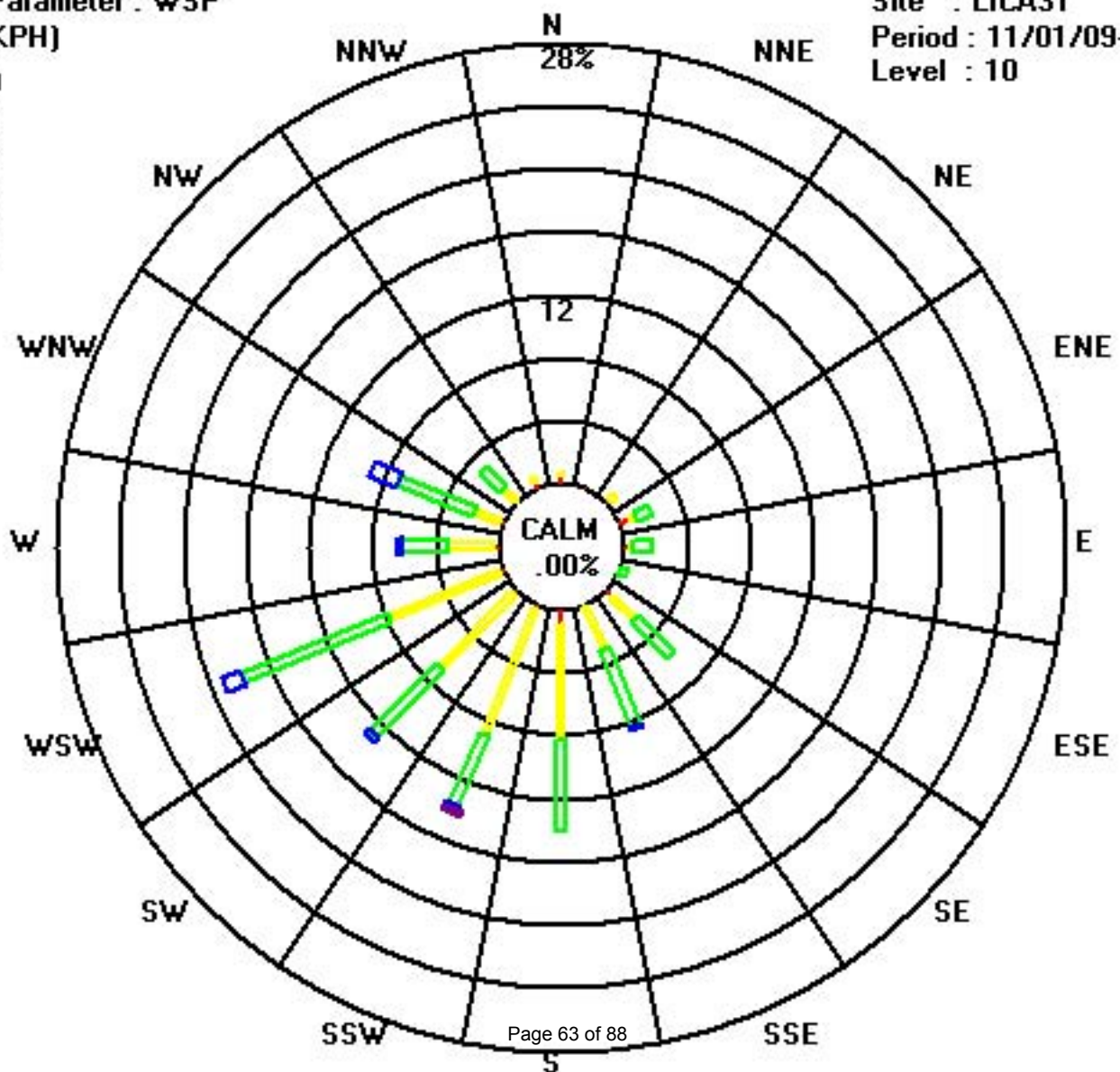
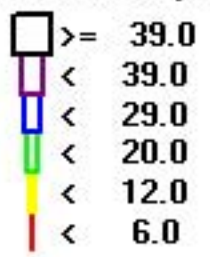
Distribution By Samples

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 6.0	4		2	5	3		4	1	7	2	2	2	2	2	1	3	40	
< 12.0	1		3	3	1		14	21	53	62	47	54	21	12	8	3	303	
< 20.0				7	9	3	23	38	42	35	43	72	21	37	12		342	
< 29.0								1		2	3	9	2	13			30	
< 39.0										2							2	
>= 39.0																		
Totals	5		5	15	13	3	41	61	102	103	95	137	46	64	21	6		

Calm : .00 %

Total # Operational Hours : 717

Class Limits (KPH)



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATE - ST.LINA

NOVEMBER 2009

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	
DAY	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	AVG.	QUADRANT	RDGS.
1	253	250	256	264	272	287	286	288	298	302	302	300	298	320	321	320	316	320	337	311	298	340	182	140	288	288	WNW	24
2	146	148	130	137	135	136	147	146	152	146	178	171	157	169	183	126	77	80	59	36	62	331	321	340	141	SE	24	
3	1	10	352	40	354	352	186	193	199	194	195	201	218	234	244	246	244	257	262	283	286	285	270	282	247	WSW	24	
4	261	239	224	241	227	215	198	200	210	213	223	213	215	194	196	173	147	130	132	136	131	128	140	147	180	S	24	
5	138	136	126	136	131	140	145	149	153	161	179	190	185	179	145	144	138	127	126	140	150	161	159	168	148	SE	24	
6	174	182	181	185	195	204	215	218	224	258	293	281	277	278	281	251	248	242	249	252	252	257	248	245	242	WSW	24	
7	246	254	250	247	234	220	234	223	212	215	214	212	223	230	224	223	219	206	233	226	200	209	210	230	226	SW	24	
8	245	262	253	244	243	240	245	235	247	240	245	249	249	253	244	238	233	237	235	236	236	232	213	193	240	WSW	24	
9	193	187	186	196	198	187	188	181	169	176	185	184	179	172	161	139	146	155	163	160	163	161	162	172	171	S	24	
10	172	176	189	199	225	256	285	281	266	255	257	298	305	294	266	240	241	255	251	252	237	224	206	221	243	WSW	24	
11	229	214	201	204	206	189	189	201	210	205	252	87	72	66	40	65	77	325	331	316	298	294	294	291	244	WSW	24	
12	288	265	265	236	219	230	250	249	231	214	241	243	239	239	239	235	231	228	232	224	213	184	188	210	233	SW	24	
13	217	222	203	207	206	207	184	183	192	189	199	200	199	177	161	158	153	200	170	189	254	264	247	277	201	SSW	24	
14	296	300	304	309	298	292	286	283	283	272	277	271	268	247	240	225	211	189	197	199	191	186	179	174	250	WSW	24	
15	189	180	180	190	189	189	203	198	187	204	201	208	209	207	197	198	194	188	187	171	153	140	144	158	186	S	24	
16	169	172	173	176	169	167	171	171	171	173	176	189	191	208	218	216	207	203	207	201	195	203	205	206	191	S	24	
17	202	220	211	197	195	158	156	138	125	141	171	197	196	199	210	229	292	305	311	171	170	173	195	191	196	SSW	24	
18	184	194	213	237	225	209	216	179	204	247	259	237	260	320	314	90	127	144	190	186	184	167	168	167	200	SSW	24	
19	163	165	167	162	167	166	155	151	159	163	172	199	211	236	230	236	226	237	221	186	191	188	170	154	182	S	24	
20	130	80	81	86	98	94	83	75	76	83	94	112	103	97	102	98	75	66	68	63	68	58	56	47	84	E	24	
21	335	322	294	279	287	292	294	298	301	287	282	284	285	298	291	288	281	282	288	278	261	243	245	246	285	WNW	24	
22	240	212	187	227	247	M	254	263	257	256	291	285	273	264	225	190	179	173	186	204	201	158	148	149	221	SW	23	
23	143	179	161	170	162	166	191	207	212	222	217	231	212	229	249	238	236	254	232	203	213	205	190	286	210	SSW	24	
24	189	175	195	227	250	257	256	259	258	257	269	280	277	292	300	304	295	285	268	269	245	261	252	236	266	W	24	
25	203	206	204	192	181	185	177	181	170	168	174	172	168	154	160	163	154	153	161	161	161	149	148	143	168	SSE	24	
26	146	159	175	220	259	251	250	254	224	222	241	223	241	243	239	218	227	251	220	238	247	255	256	251	234	SW	24	
27	238	243	252	258	243	247	257	255	253	249	265	284	297	302	299	302	287	270	257	252	249	252	254	241	262	W	24	
28	231	236	228	209	217	M	212	215	227	230	235	218	224	235	240	242	229	232	238	230	240	239	214	232	228	SW	23	
29	221	207	202	212	202	M	186	199	215	213	233	244	247	258	257	264	249	249	257	253	252	257	265	265	240	WSW	23	
30	256	252	251	243	243	248	248	242	252	247	250	255	269	286	267	278	285	285	296	302	304	304	306	303	271	W	24	
HOURLY AVG	335	322	352	309	354	352	294	298	301	302	302	300	305	320	321	320	316	325	337	316	304	340	321	340				

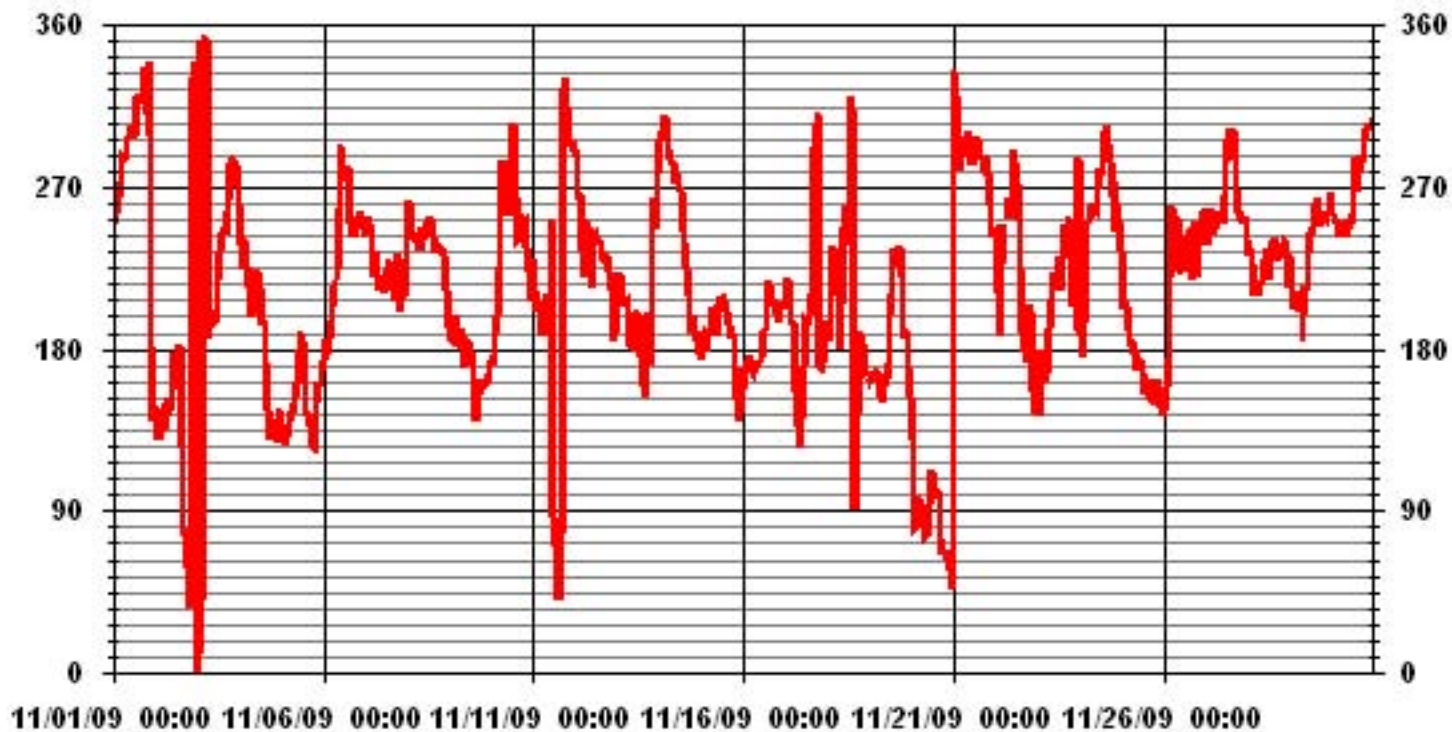
STATUS FLAG CODES

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

LAST CALIBRATION:	February 3, 2009
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	717 HRS
STANDARD DEVIATION	58.20	AMD OPERATION UPTIME	99.6 %
		MONTHLY AVERAGE	221 DEG

01 Hour Averages



— LICA31 WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

NOVEMBER 2009

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	8	8	9	11	14	15	15	15	14	14	14	15	16	15	17	14	13	12	16	10	11	34	15	9
2	9	6	9	9	10	11	11	11	11	12	14	16	20	13	17	22	19	14	15	8	13	13	12	14
3	18	17	23	13	21	28	55	30	13	13	12	11	10	10	9	8	7	9	10	15	14	12	10	11
4	7	7	8	4	4	4	5	6	5	7	10	15	13	15	14	11	8	7	9	9	9	11	11	12
5	12	12	12	11	11	12	11	11	15	11	13	13	18	15	16	11	11	9	9	11	8	8	9	8
6	9	10	8	8	9	7	6	5	9	12	15	15	15	15	15	10	7	6	7	7	9	9	6	6
7	7	9	8	7	8	7	7	9	8	9	9	14	13	10	9	7	6	8	6	5	6	7	8	8
8	8	8	5	5	6	7	5	6	7	8	9	9	8	9	8	7	6	6	6	6	6	6	7	7
9	7	8	8	11	5	6	7	8	8	10	10	12	15	13	12	10	11	11	9	10	10	9	10	9
10	8	8	9	9	9	8	13	12	10	9	13	16	16	15	14	15	6	7	6	8	8	7	8	7
11	6	6	6	6	4	6	6	6	8	7	18	43	14	9	10	16	17	13	9	9	9	9	10	10
12	10	7	6	7	6	6	5	6	9	11	7	10	9	9	8	6	5	6	5	7	8	9	9	9
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16	8	8	9	9	9	9	9	10	9	9	10	11	9	9	9	8	9	9	9	10	9	10	9	10
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18	11	11	9	7	12	14	26	27	10	6	9	14	17	15	25	23	7	7	7	7	6	5	5	5
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22	10	9	9	7	5	M	5	5	7	17	18	19	18	18	12	13	5	4	7	6	8	9	6	7
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24	65	7	10	9	7	7	7	8	9	10	14	16	15	14	14	14	15	14	10	10	8	8	8	6
25	7	6	8	7	7	7	7	6	6	8	10	11	11	11	9	8	10	10	9	8	9	12	13	18
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27	7	6	6	10	6	4	7	6	6	6	12	16	15	14	13	11	11	11	6	5	6	5	4	5
28	4	4	3	4	6	M	3	3	4	4	6	7	9	10	9	7	5	5	6	5	5	4	5	4
29	5	4	7	8	8	M	10	9	7	6	8	8	8	11	10	12	9	7	9	7	8	9	12	13
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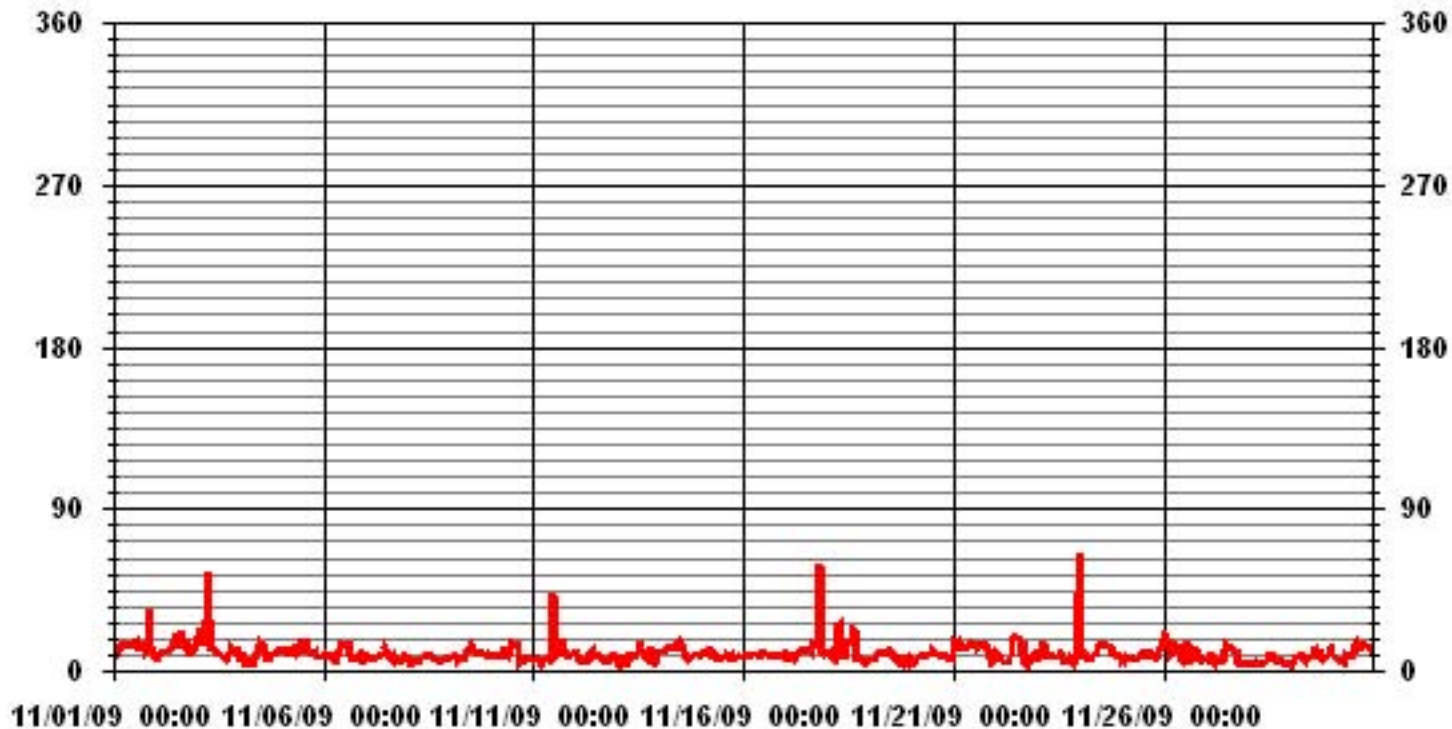
STATUS FLAG CODES

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

LAST CALIBRATION: February 3, 2009

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 717 HRS

01 Hour Averages



— LICA31 STDWDIR DEG

Calibration Reports

Sulphur Dioxide

SO₂ Calibration Report

Station Information

Calibration Date	November 19, 2009	Previous Calibration	October 14, 2009
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	10:46	End Time (MST)	14:00
Reason:	Monthly Calibration		
Barometric Pressure	691 mmHg	Station Temperature	23 Deg C
Cal Gas	52.2 ppm	Cal Gas Expiry date	12/19/2010
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	563 ccm 32.3 Deg C	564 ccm 32.1 Deg C	
HVPS / Lamp Setting	529 2580	529 2577	
PMT / RxCell Temp	7.8 Deg C 50 Deg C	7.9 Deg C 50 Deg C	
Converter / IZS Temp	NA Deg C 40 Deg C	NA Deg C 40 Deg C	
Offset / Slope	58.5 1.122	58.5 1.103	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998.0	0	0	0	N/A
4923.0	76.7	801	815	0.9826
4923.0	76.7	801	800	1.0010
4961.0	38.3	400	399	1.0023
4983.0	19.1	199	199	1.0016
4998.0	0	0	-1	N/A
Sum of Least Squares				1.0013
New Correction Factor				1.0010

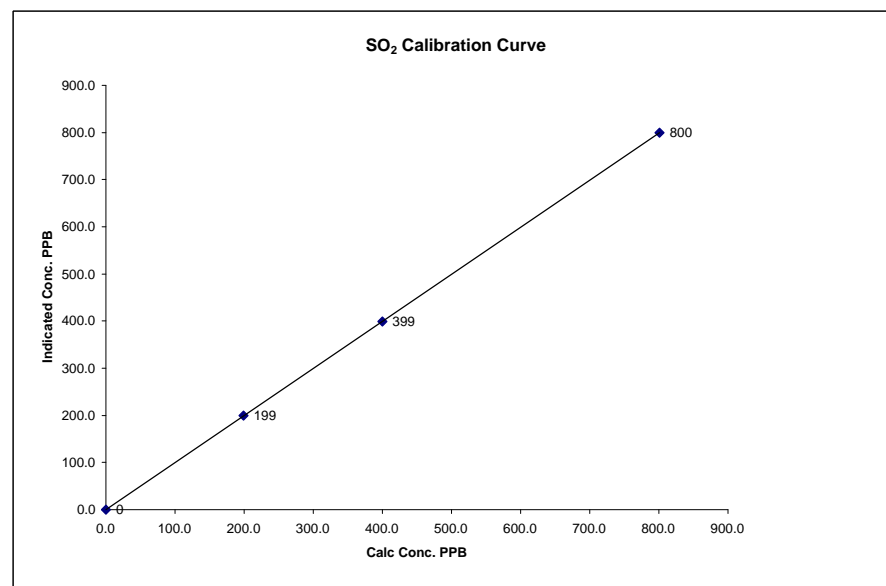
	Before Calibration	After Calibration
Auto Zero	0.1	0.0
Auto Span	349.0	346.0
Sample Lines Connected		YES
Percent Change from Previous Calibration		2.0%

Calibration Performed by: Shea Beaton

SO₂ Calibration Curve

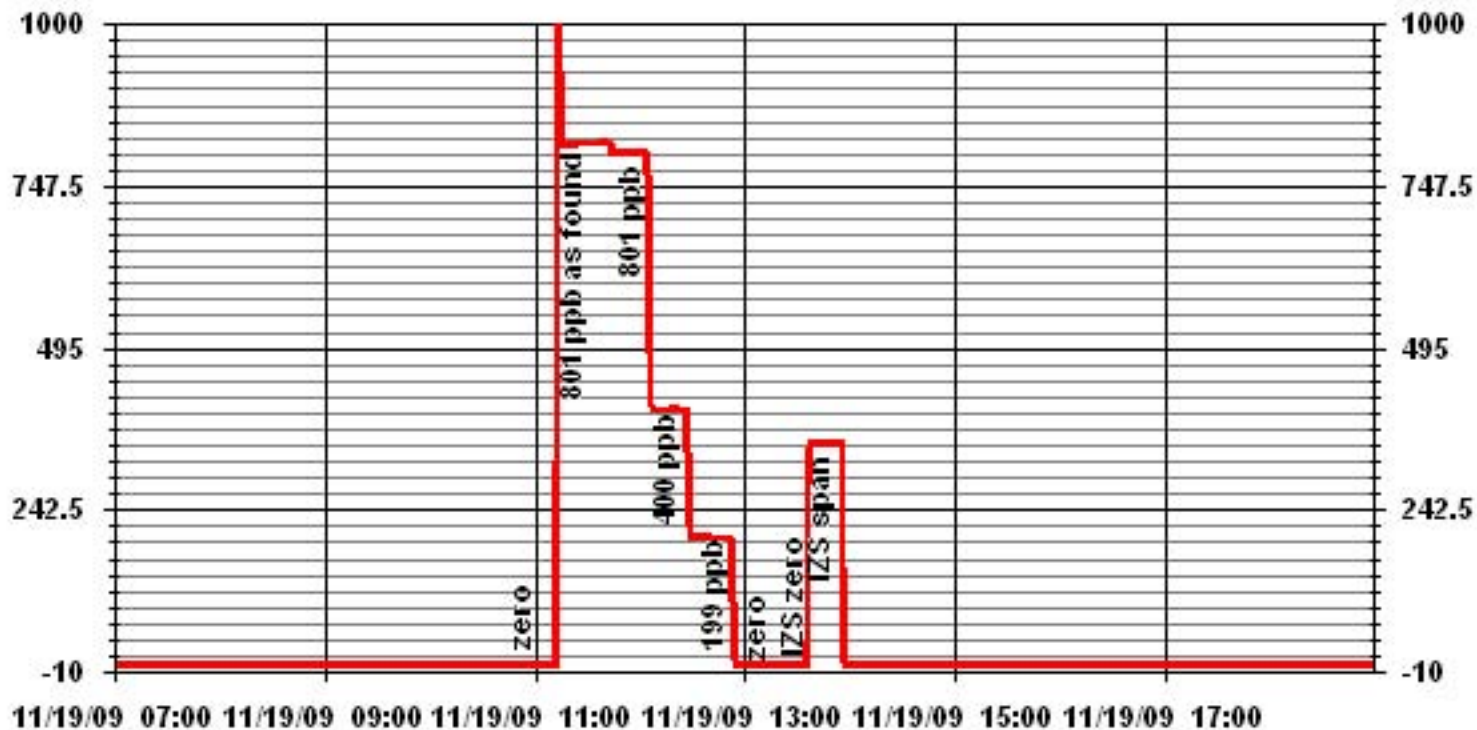
Calibration Date	November 19, 2009
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Plant / Location	ST. LINA
Start Time (MST)	10:46
End Time (MST)	14:00

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999999
0	0	n/a	Intercept	(± 3% F.S.)	-0.151101
199	199	1.0016			
400	399	1.0023			
801	800	1.0010			



Notes:

01 Minute Averages



Hydrogen Sulphide

H₂S Calibration Report

Station Information

Calibration Date	November 19, 2009	Previous Calibration	October 14, 2009
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST.LINA		
Start Time (MST)	9:38	End Time (MST)	16:15
Reason:	AS Found/Pre Repair Calibration		
Barometric Pressure	691 mmHg	Station Temperature	24 Deg C
Cal Gas	10.8 ppm	Cal Gas Expiry date	06/22/2010
DAS Output Voltage	0 - 1 Volts		

Equipment Information

Analyzer Make / Model:	API 101E	S/N :	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	535 ccm	34.2 Deg C	539	34	Deg C
HVPS / Lamp Setting	534	2206	534	2190	
PMT / RxCell Temp	8.4 Deg C	50 Deg C	8.4 Deg C	50 Deg C	
Converter / IZS Temp	315.2 Deg C	45 Deg C	314.5 Deg C	45 Deg C	
Offset / Slope	51.3	1.004	53.7	0.943	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4997	0	0	1	N/A
4961	37	80	82	0.9750
4998	0	0	0	N/A
4961	37	80	80	0.9994
4976	20.8	45	45	0.9990
4986	11.6	25	25	1.0027
4997	0	0	0	N/A
Sum of Least Squares				0.9995
New Correction Factor				0.9994

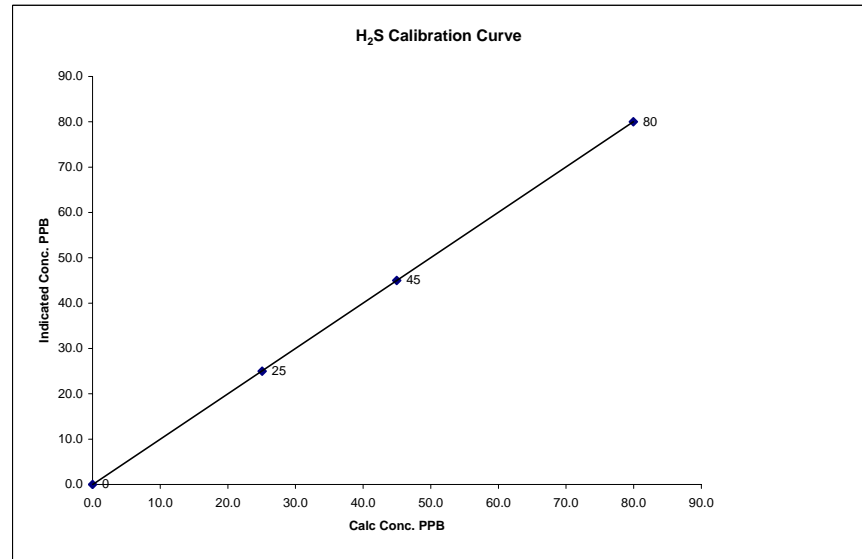
		Before Calibration	After Calibration
Auto Zero		1.2	0.3
Auto Span		55.0	53.0
Sample Lines Connected			YES
Percent Change from Previous Calibration			2.5%

Calibration Performed by: Shea Beaton

H₂S Calibration Curve

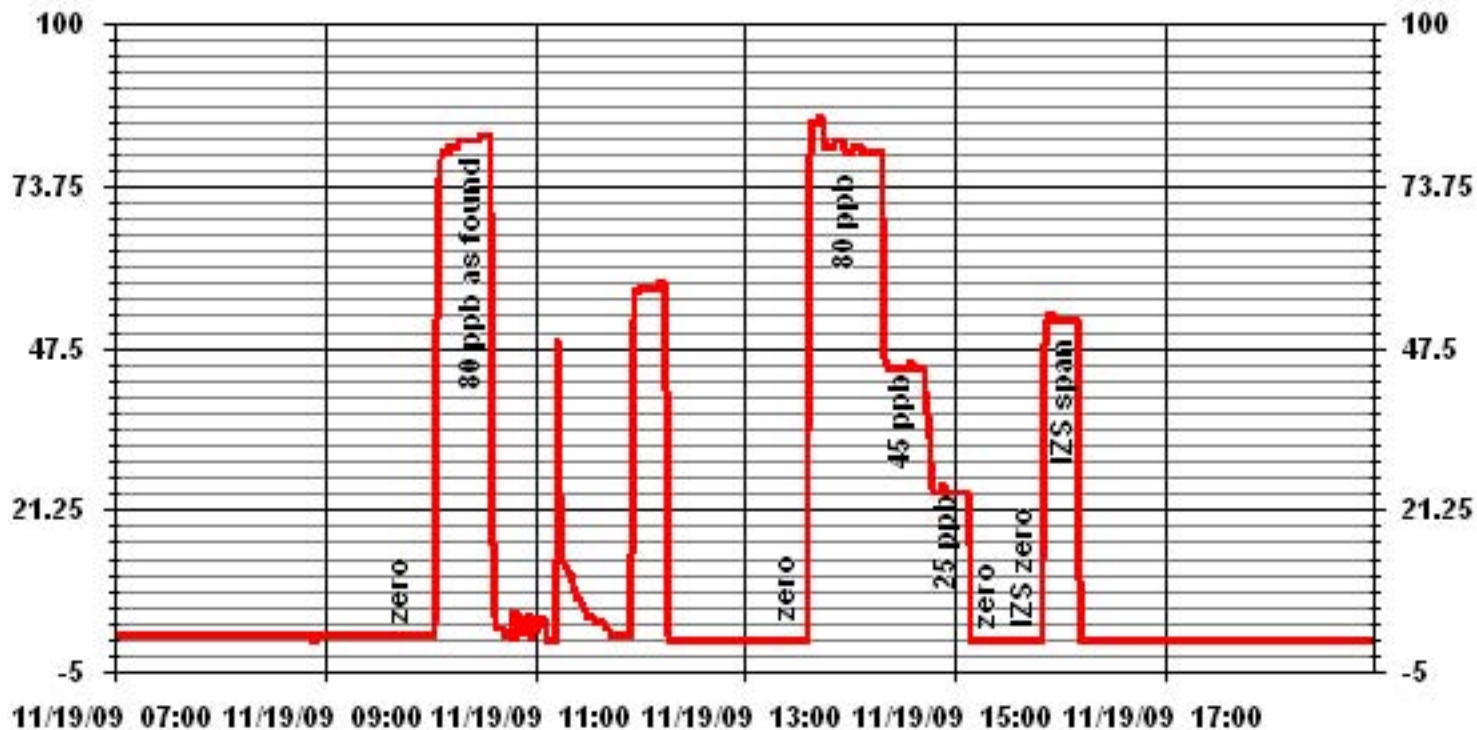
Calibration Date	November 19, 2009		
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST.LINA		
Start Time (MST)	9:38	End Time (MST)	16:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	(0.85 to 1.15)
0	0	n/a	Intercept		-0.029368
25	25	1.0027			
45	45	0.9990			
80	80	0.9994			



Notes: Following the as found points, the SO₂ scrubbing material was changed, the analyzer was allowed to stabilize, then a multi-point cal was started at 13:15.

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	November 19, 2009	Previous Calibration	October 14, 2009
Company:	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location:	ST. LINA		
:	(MST) 15:35	End Time	(MST) 18:38
Reason:	Monthly Calibration		
Barometric Pressure:	693 mmHg	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	299 Prop/ 1019 Meth	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	8.5	psi
Air Pressure	20	psi	20	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2997	0.0	0.0	0.0	N/A
2997	65.0	39.1	38.7	N/A
2997	65.0	39.1	39.2	0.9971
2997	35.0	21.3	21.0	1.0121
2997	20.0	12.2	11.9	1.0257
2997	0	0.0	0.0	N/A
Correction Factor:				0.9971

Previous Calibration Correction Factor:	0.9946
Current Correction Factor Before Span Adjust:	0.9971
Percent Change:	-0.25%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	34.2	34.4
Sample Lines Connected		YES

Cylinder Pressures

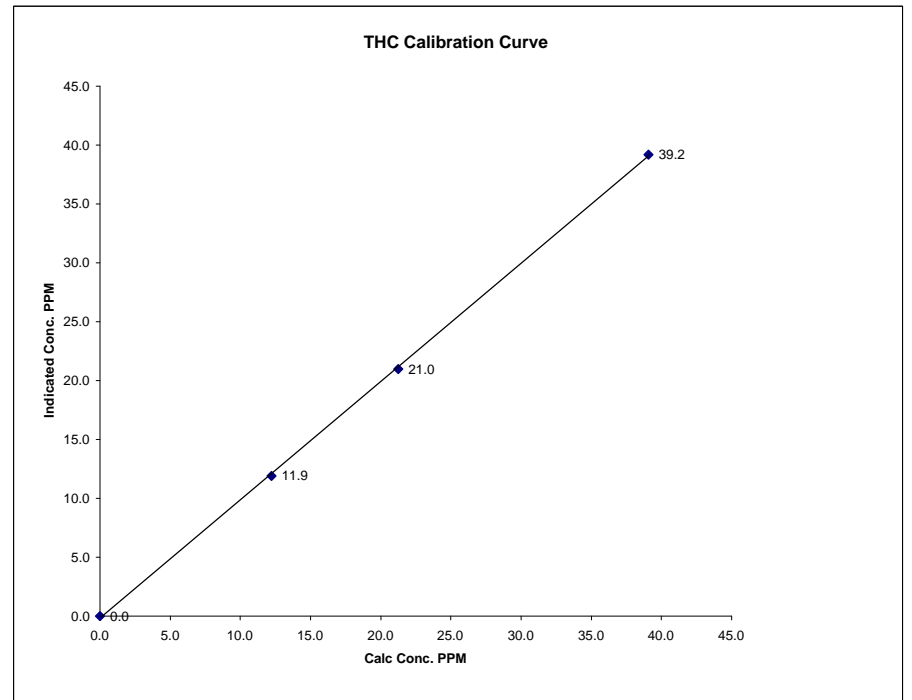
Span	1300	psi	
Hydrogen	1200	psi	
Zero Air	N/A	psi	Unlimited API 701

Calibration Performed by: Shea Beaton

THC Calibration Curve

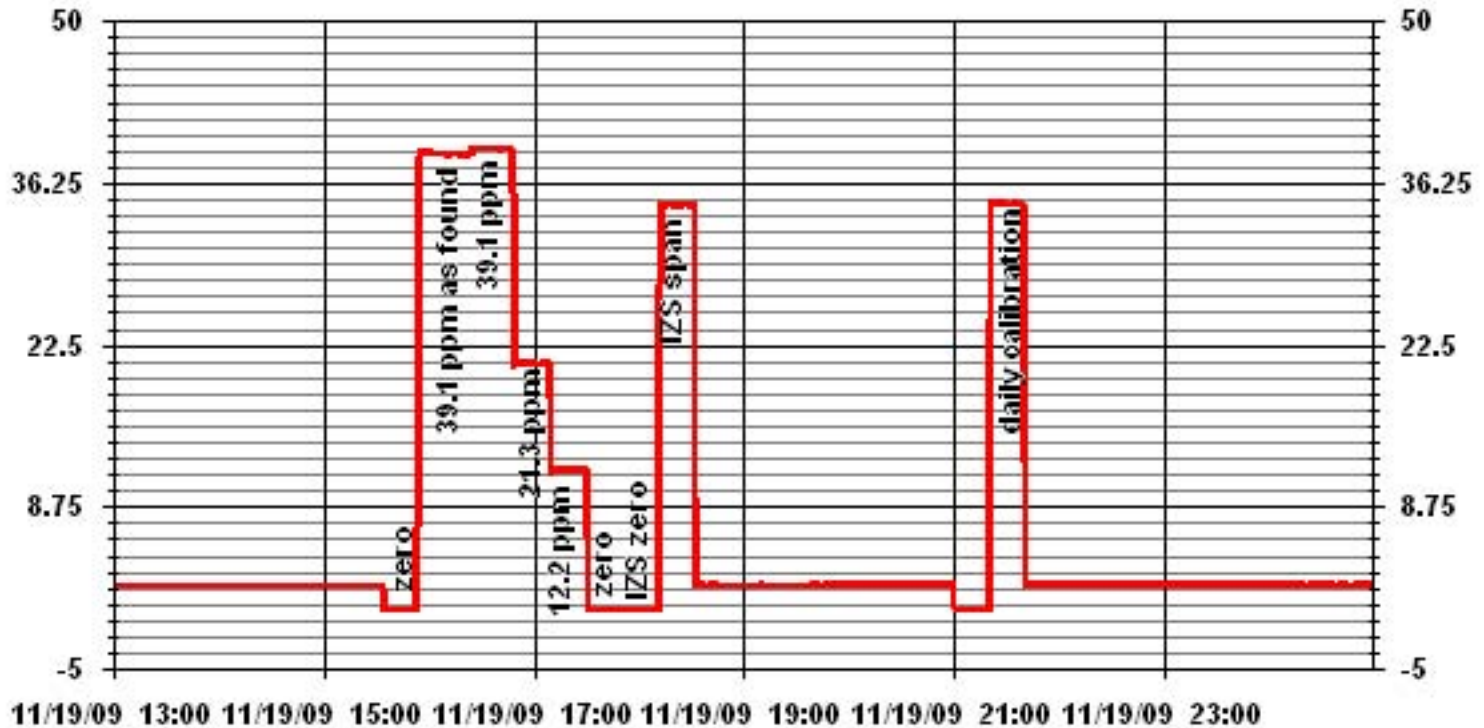
Calibration Date	November 19, 2009		
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	15:35	End Time (MST)	18:38

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		0.999869	1.004195	-0.187661
12.2	11.9	1.0257			
21.3	21.0	1.0121			
39.1	39.2	0.9971			



Notes: Flame temp 177.

01 Minute Averages



Nitrogen Dioxide

NOx - NO- NO2 Calibration Report
Station Information

Calibration Date	November 19, 2009	Previous Calibration	October 14, 2009
Company	LICA	Plant/Location	ST. LINA
Start Time (MST)	9:38	End Time (MST)	16:15
Reason:	Monthly Calibration		
Barometric Pressure	691 mmHg	Station Temperature	23.0 Deg C
Cal Gas Concentration	NOx 51.8 ppm	NO	51.6 ppm
DAS Output Voltage	0 - 1 Volts	Cal Gas Expiry date	12/19/2010

Equipment Information

Analyzer Make / Model:	API 200E	S/N :	592	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 2000	S/N:	1991		
DAS Make / Model:	ESC 8832	S/N :	AO717		
Flow Meter:	EnviroNics 2000	S/N :	1991		

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 1000 ppb		
Sample Flow/Conv. Temp	447 ccm 314 Deg C	448 ccm 316 Deg C	
Ozone Flow / Vacuum	72 ccm 3.6 *Hg-A	72 ccm 3.6 *Hg-A	
HVPS	710 Volts	710 Volts	
Rx/ Temp / PMT Temp	50 Deg C 6.9 Deg C	50 Deg C 6.9 Deg C	
Box Temp / IZS Temp	30.6 Deg C 45 Deg C	32.1 Deg C 45.2 Deg C	
Offset	3.7 NOx 0.5 NO	1.2 NOx 0.7 NO	
Slope	1.058 NOx 1.051 NO	1.076 NOx 1.067 NO	

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration		Indicated Concentration			Correction Factor		
			NOx	NO	NOx	NO	NO2	NOx	NO	
3011	0	N/A	0	0	-1	0	-1	N/A	N/A	
3011	0	N/A	0	0	0	0	0	N/A	N/A	
2970	43.8	N/A	753	750	738	739	-1	1.0201	1.0148	
2970	43.8	N/A	753	750	753	750	3	0.9998	0.9999	
2992	23.4	N/A	402	400	400	397	3	1.0049	1.0086	
3000	11.7	N/A	201	200	198	197	1	1.0163	1.0176	
3011	0	N/A	0	0	1	1	0	N/A	N/A	
Converter Efficiency										
2970	43.8	N/A	753	800	753	750	4	N/A		
2970	43.8	400	753	N/A	753	394	359	100%		
2970	43.8	200	753	N/A	753	569	184	99%		
2970	43.8	100	753	N/A	754	667	87	100%		
2970	43.8	N/A	753	750	754	750	4	N/A		
Correction Factor										
3011	0	N/A	0	0	0	0	0	N/A	N/A	
Linearity OK? Yes No										
Flows Checked on-site? Yes No										
								Sum of Least Squares	1.0017	1.0026
								New Correction Factor	0.9998	0.9999
								Average Converter Efficiency	100%	

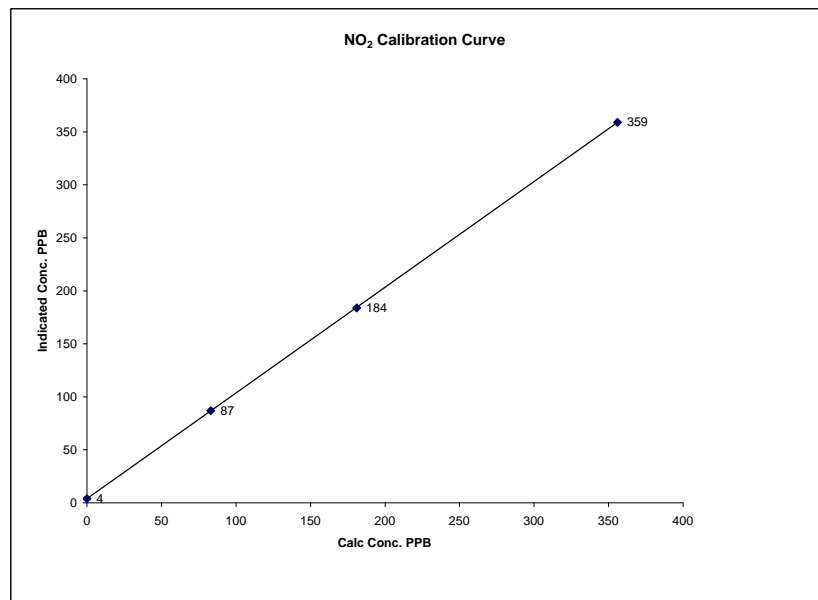
Before Calibration		After Calibration	
Auto Zero	-0.9 NOx -0.8 NO2	-0.1 NOx 0.4 NO2	
Auto Span	730.0 NOx 706.0 NO2	753.0 NOx 728.0 NO2	
Sample Lines Connected	YES		
Percent Change from Previous Calibration	NOx -2.1%	NO	-1.4%

Calibration Performed by: Shea Beaton

NO2 Calibration Curve

Calibration Date	November 19, 2009
Company	LICA
Plant / Location	ST. LINA
Start Time (MST)	9:38
End Time (MST)	16:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	4	N/A		0.999996
83	87	0.9540		0.996770
181	184	0.9837		4.000598
356	359	0.9916		

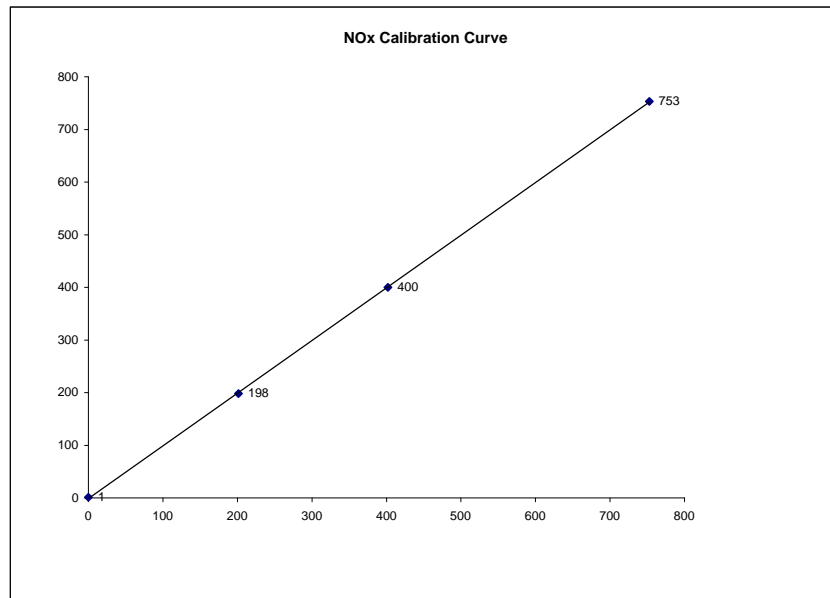


Notes:

NOx Calibration Curve

Calibration Date	November 19, 2009	
Company	LICA	
Plant / Location	ST. LINA	
Start Time (MST)	9:38	End Time (MST) 16:15

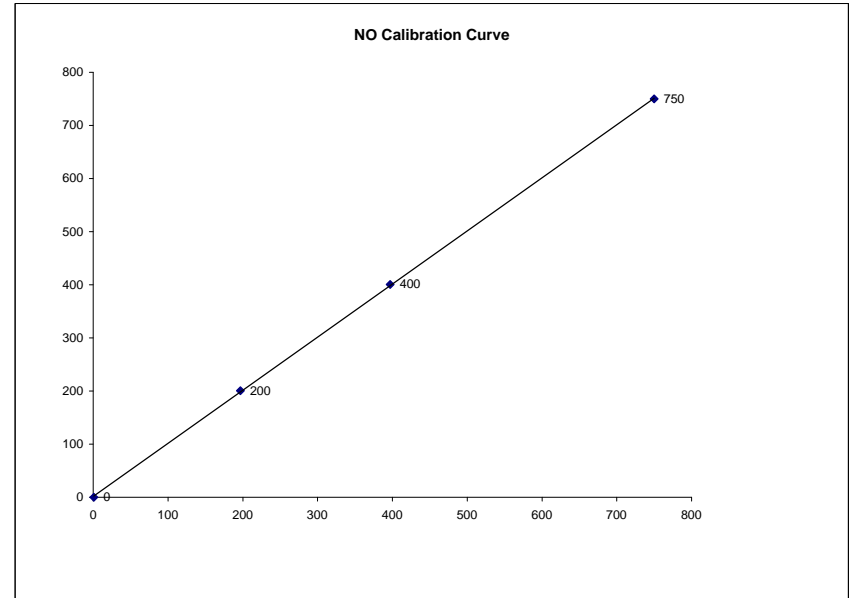
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999963
0	1	N/A	Slope	(0.85 to 1.15)	1.000188
201	198	1.0163	Intercept	($\pm 3\%$ F.S.)	-1.070752
402	400	1.0049			
753	753	0.9998			



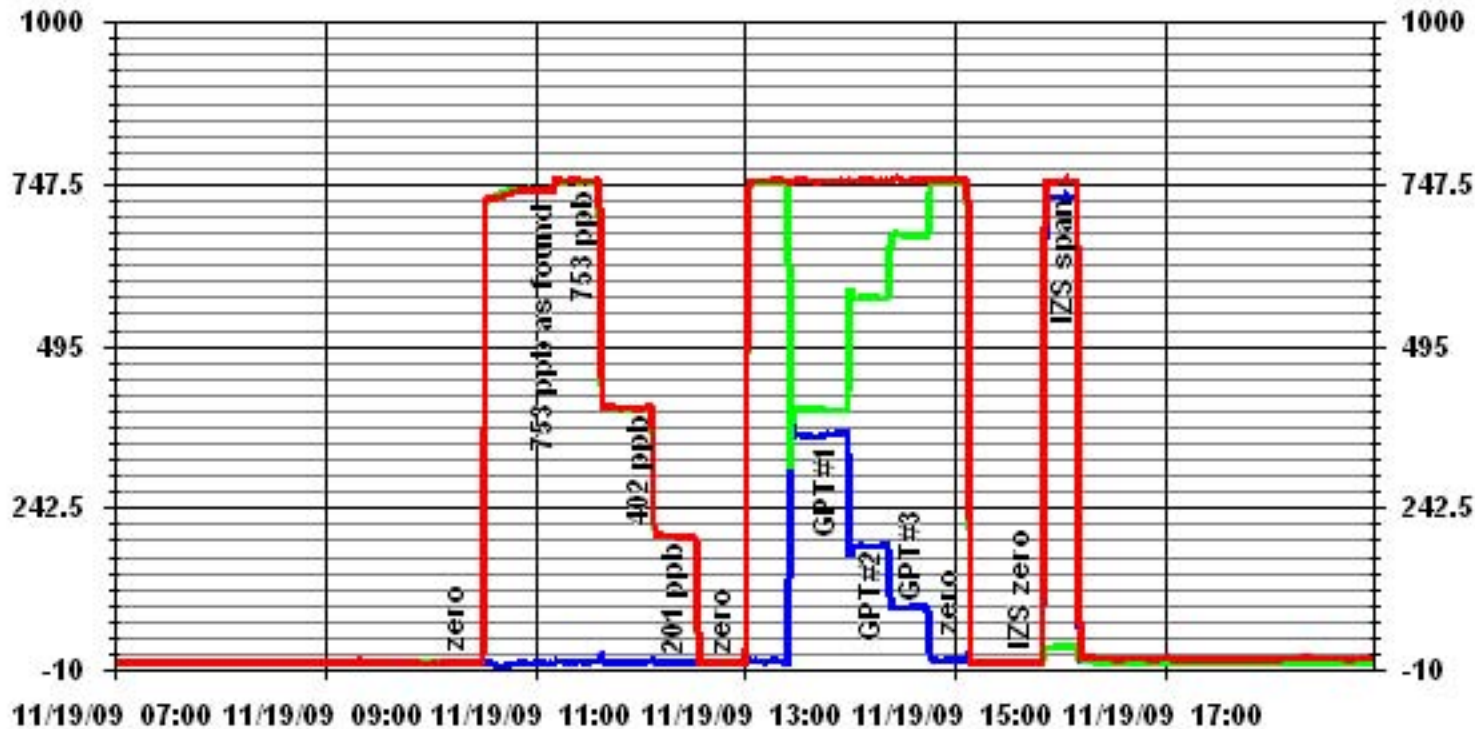
NO Calibration Curve

Calibration Date	November 19, 2009	
Company	LICA	
Plant / Location	ST. LINA	
Start Time (MST)	9:38	End Time (MST) 16:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999947
0	1	N/A	Slope	(0.85 to 1.15)	0.999866
200	197	1.0176	Intercept	($\pm 3\%$ F.S.)	-1.403173
400	397	1.0086			
750	750	0.9999			

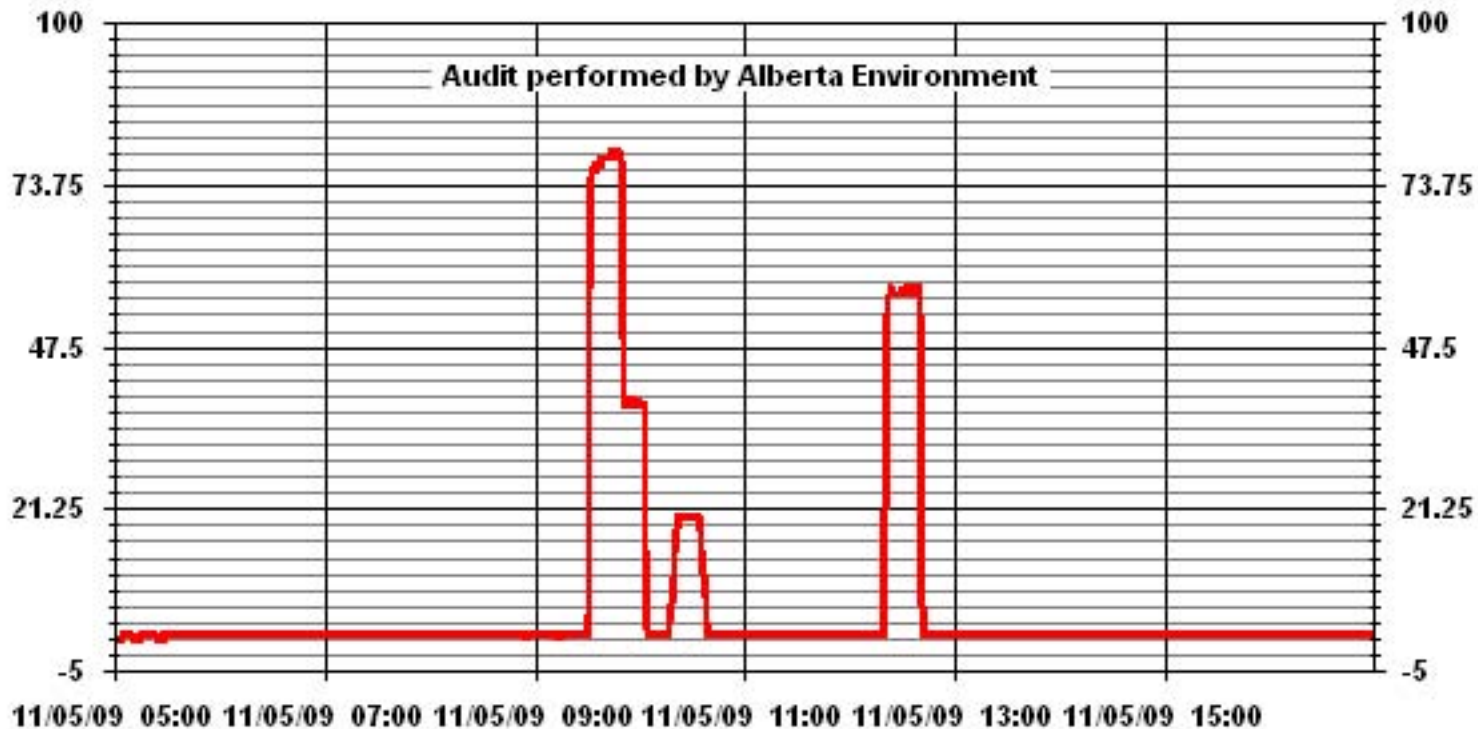


01 Minute Averages

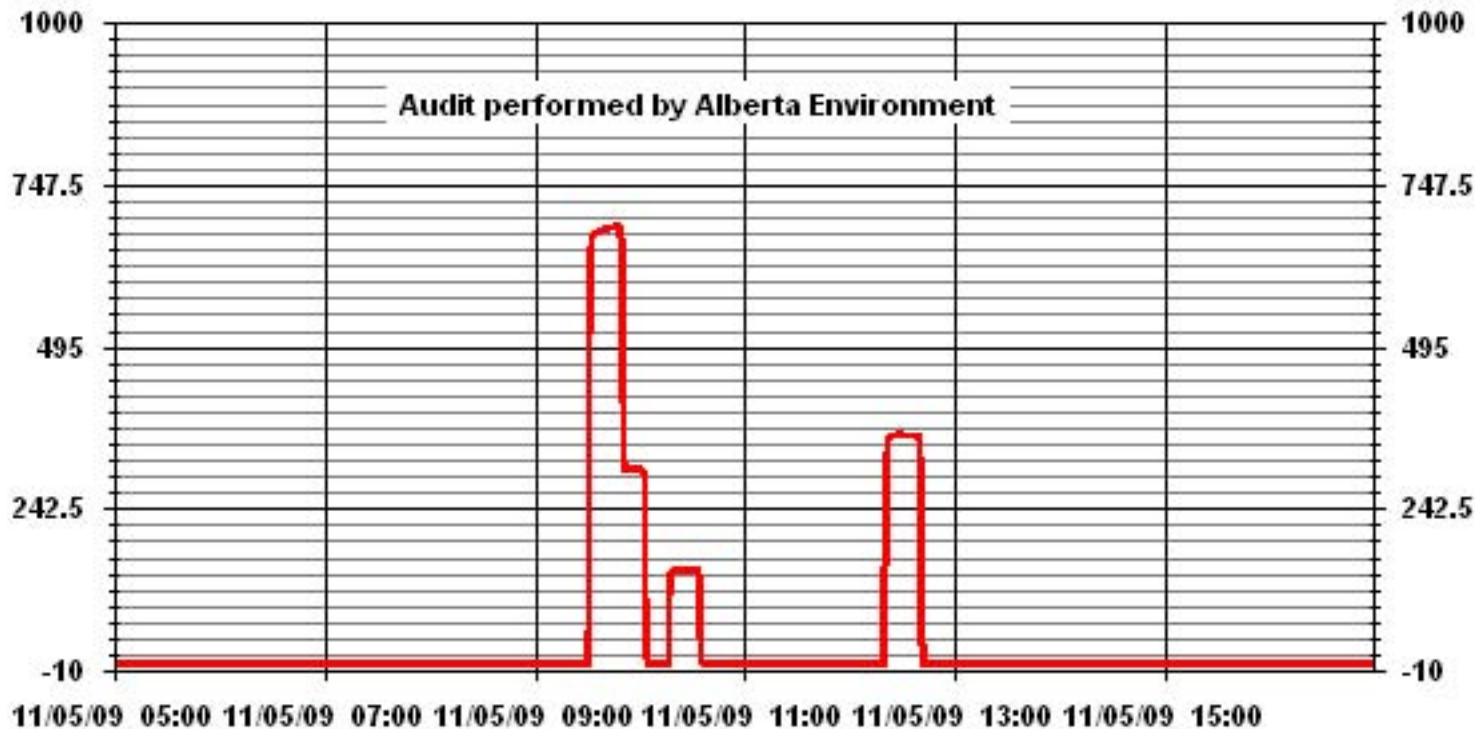


Calibration Graphs - Alberta Environment-

01 Minute Averages

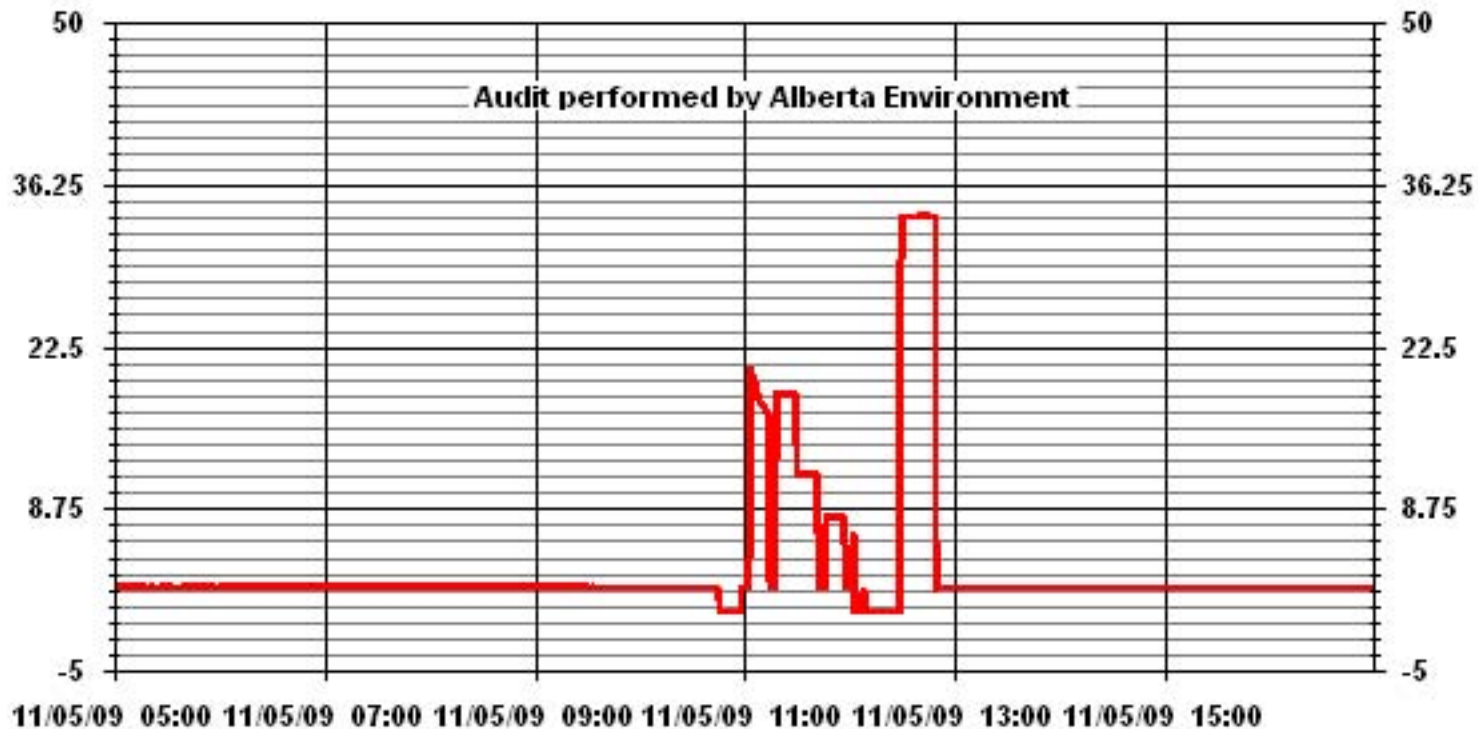


01 Minute Averages



— LICA31 SO2_ PPB

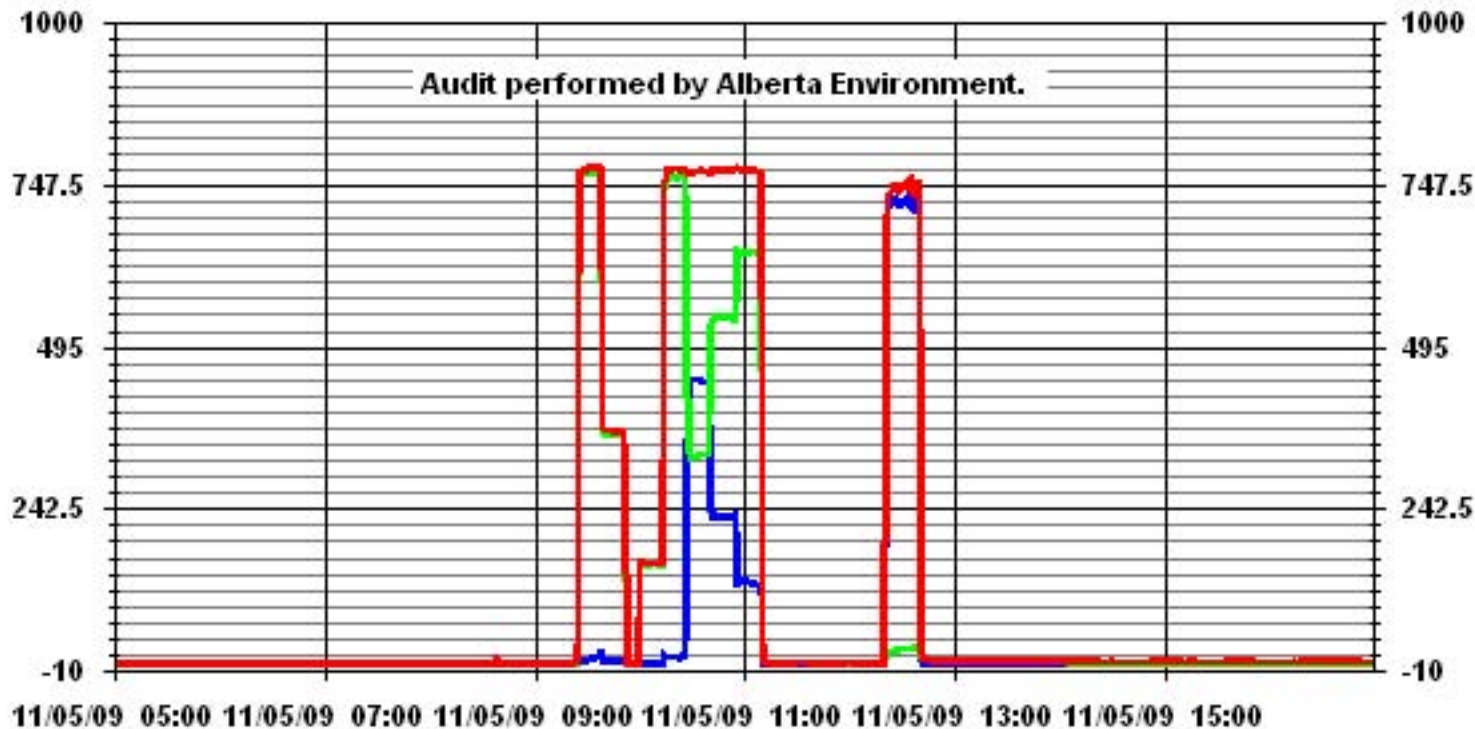
01 Minute Averages



— LICA31 THC PPM

01 Minute Averages

Audit performed by Alberta Environment.



Lakeland Industry & Community Association

Portable / Devon Wellsite 13-16-62-5 W4M Monitoring Site

Ambient Air Monitoring Data Report

For

November 2009

Prepared By:



Driven by Service and Science

December 14, 2009

Lakeland Industry & Community Association Portable / Devon Wellsite 13-16-62-5 W4M Ambient Air Monitoring

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Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Portable / Devon Wellsite 13-16-62-5 W4M
Data Period: November 2009

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 2009

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PORTABEL / DEVON WELLSITE 13-16-62-5 W4M SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO ₂ (PPB)	172	57	0	0	0.06	2	7	VAR	VAR	VAR	0.8	7	99.7
H ₂ S (PPB)	10	3	-	-	0.01	1	21	VAR	VAR	VAR	0.2	21	99.7
NO ₂ (PPB)	212	106	0	0	3.52	18	11	21	8.8	295(WNW)	7.9	11	99.2
NO (PPB)	-	-	-	-	0.18	7	11	21	8.8	295(WNW)	1.0	11	99.2
NO _x (PPB)	-	-	-	-	3.84	26	11	21	8.8	295(WNW)	9.4	11	99.2
O ₃ (PPB)	82	-	0	-	19.42	40	17	13	14.5	193(S)	31.8	30	99.7
PM 2.5 (UG/M ³)	-	30	-	0	2.48	14.3	22	13	6.2	282(W)	4.4	26	99.6
VECTOR WS (KPH)	-	-	-	-	9.76	31.0	1	6	-	282(W)	19.5	1	99.7
VECTOR WD (DEGREES)	-	-	-	-	236(SW)	-	-	-	-	-	-	-	99.7

VAR-VARIOUS

Volatile Organics Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE

Xontech Model 910A – November 03, 2009

Maximum reading (ppb)	Volatile Organic
<3.2	Methyl Isobutyl Ketone

Xontech Model 910A – November 09, 2009

Maximum reading (ppb)	Volatile Organic
<3.2	Methyl Isobutyl Ketone

Xontech Model 910A – November 15, 2009

Maximum reading (ppb)	Volatile Organic
<3.2	Methyl Isobutyl Ketone

Xontech Model 910A – November 21, 2009

Maximum reading (ppb)	Volatile Organic
<3.2	Methyl Isobutyl Ketone

Xontech Model 910A – November 27, 2009

Maximum reading (ppb)	Volatile Organic
<3.2	Methyl Isobutyl Ketone

Polycyclic Aromatic Hydrocarbons (PAHs) Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE

PUF cartridge – November 03, 2009

Maximum reading (ug)	Semi-Volatile Organic
NA	NA

Note: No sample was collected during this time as the PUF sampler was received late.

PUF cartridge – November 09, 2009

Maximum reading (ug)	Semi-Volatile Organic
< 2.0	3-Methylcholanthrene

PUF cartridge – November 15, 2009

Maximum reading (ug)	Semi-Volatile Organic
< 2.0	3-Methylcholanthrene

PUF cartridge – November 21, 2009

Maximum reading (ug)	Semi-Volatile Organic
< 2.0	3-Methylcholanthrene

PUF cartridge – November 27, 2009

Maximum reading (ug)	Semi-Volatile Organic
< 2.0	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

A trailer audit was performed by Alberta Environment on November 4th, 2009.

Sulphur Dioxide (PPB)

- Analyzer make / model – API 100E

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started. The analyzer was put into the Maintenance mode for two hours on November 11th for the configuration adjustment. The maximum channel was disabled between November 11th and November 12th to change configuration as required for the current input card. As a result, 18 hours of data for SO₂ maximum were invalidated. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

- Analyzer make / model –API 101E
- Converter - Internal

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started. The analyzer was put into the Maintenance mode for two hours on November 11th for the configuration adjustment. The maximum channel was disabled between November 11th and November 12th to change configuration as required for the current input card. As a result, 19 hours of data for H₂S maximum were invalidated. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Nitrogen Dioxide (PPB)

- Analyzer make / model – API 200E

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started. The analyzer was put into the Maintenance mode for two hours on November 11th for the configuration adjustment. The maximum channel was disabled between November 11th and November 12th to change configuration as required for the current input card. As a result, 18 hours of data for NO₂, NO and NO_x maximum were invalidated. The analyzer was put in and out of Maintenance mode on November 12th to test zero air supply. The monthly calibration was performed on November 13th, and the expected span value was changed twice on the same day. Data was corrected using daily zero information.

Ozone (PPB)

- Analyzer make / model – API 700

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started. The analyzer was put into the Maintenance mode for two hours on November 11th for the configuration adjustment. The maximum channel was disabled between November 11th and November 12th to change configuration as required for the current input card. As a result, 18 hours of data for Ozone maximum were invalidated. During the monthly calibration, it was noticed that span point of the analyzer took a long time to stabilize. As a result, the flow of span gas to the analyzer for the initial span point was restarted several times in an attempt to get a more rapid response. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Particulate Matter 2.5 (ug/m³)

- Analyzer make / model –TEOM1400A

No operational issues observed during the month. The analyzer was put into the Maintenance mode for two hours on November 11th for the configuration adjustment. The maximum channel was disabled between November 11th and November 12th to change configuration as required for the current input card. As a result, 18 hours of data for PM2.5 maximum were invalidated. 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. No hourly PM2.5 data was invalidated as no values were below –3.0 ug/m³.

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

- System make / model – RM Young 5103VK

No operational issues observed during the month. The wind system is reported as vector wind speed and vector wind direction. The wind system was put into the Maintenance mode for two hours on November 11th for the configuration adjustment.

Datalogger

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

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

Trailer

The trailer is located at N54°22'04.4", W110°42'14.6", Elevation 560m asl.

The hydrogen sensor attempted to be installed on November 12th, but some warning stated after the installation. After performed troubleshooting, the sensor was reinstalled on November 27th, and no faults or warnings appeared. The sensor started collecting on November 27th.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Air Quality Index (AQI)

The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. All AQI values recorded in November 2009 were within Good range. The highest hourly concentration of O3 was 40 ppb and an AQI value of 20 on November 17th, hour 13. The highest hourly concentration of PM2.5 was 14.3 UG/M3 and an AQI value of 18 on November 22nd, hour 13.

Volatile Organics (VOCs)

The volatile organics were sampled November 3rd to November 27th. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle.

Polycyclic Aromatic Hydrocarbons (PAHs)

The PAHs were sampled from November 9th to November 27th. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle.

No sample was collected on November 3rd as the PUF sampler was received late.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Air Quality Index

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	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	IZS	0	0	0	C	C	C	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	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
6	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	1	0.0	24	
7	0	IZS	0	0	0	0	1	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	0	0	2	0.8	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	IZS	0	0.0	24	
9	1	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	0.2	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	24	
11	0	0	0	0	0	0	0	0	0	0	0	0	0	M	M	0	0	0	0	0	0	0	0	0	0	0	0.0	22	
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	IZS	0	1	0	0	1	0.1	24	
13	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	IZS	0	0	0	0	0	0	1	0.3	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	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	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	0.0	24	
17	0	0	0	0	0	0	0	0	1	0	1	1	0	1	IZS	0	0	0	0	0	0	0	0	0	0	1	0.2	24	
18	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	0	0	0	0	0	0	0	0	0	1	0.1	24	
19	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	0.0	24	
20	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	
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	IZS	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	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	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	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	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	24	
28	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.0	24	
29	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	1	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	24	
HOURLY MAX	1	1	0	0	0	0	NA	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	0	0				
HOURLY AVG	0.0	0.1	0.0	0.0	0.0	0.0	NA	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0				

STATUS FLAG CODES

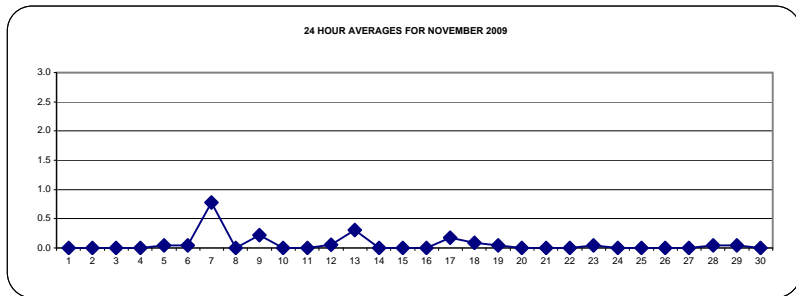
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

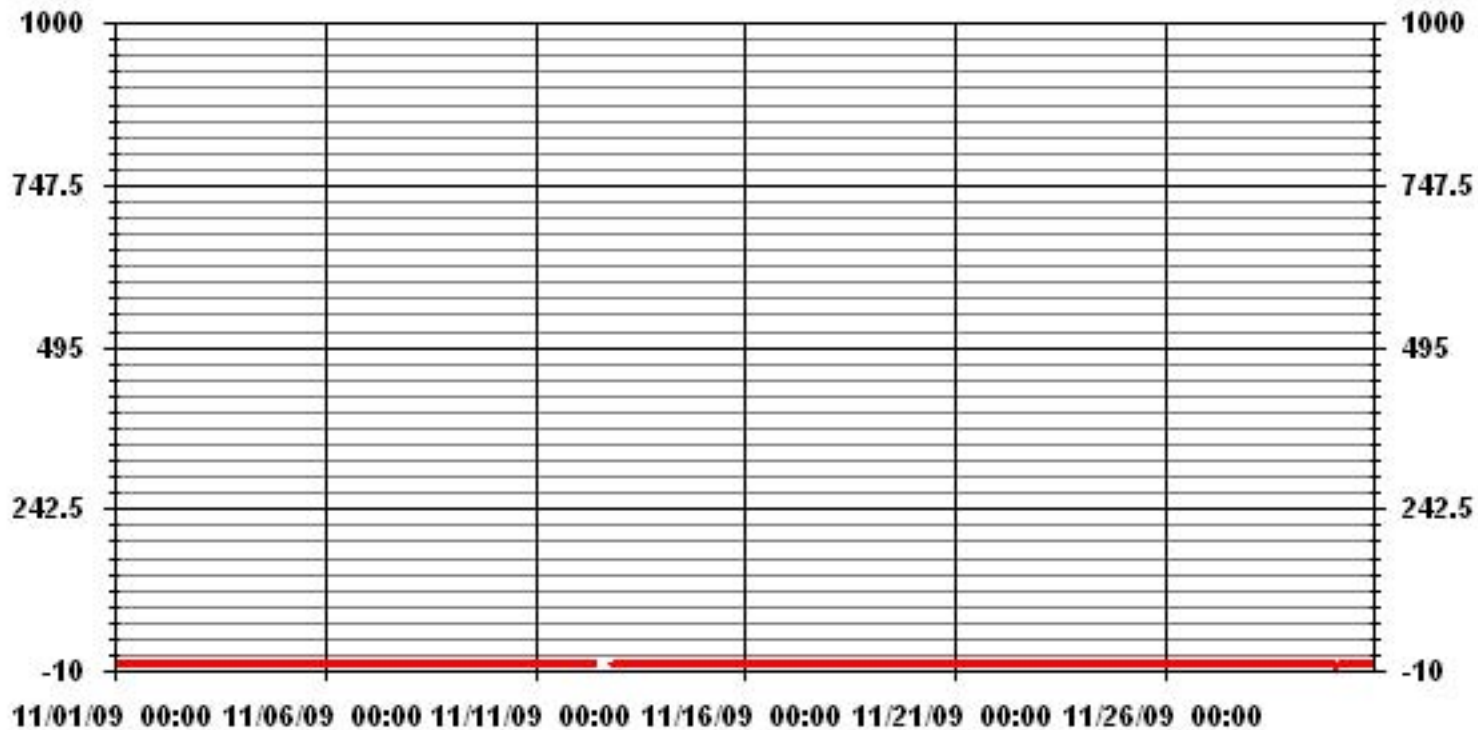
ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	40					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	0.8	PPB			ON DAY(S)	7
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.7	%	
STANDARD DEVIATION:	0.26		MONTHLY AVERAGE:	0.06	PPB	



01 Hour Averages



— LICA33 SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -PORTABLE SITE

NOVEMBER 2009

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	1	0	1	1	1	0	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.3	24	
2		0	0	0	0	0	0	0	IZS	0	0	0	0	0	1	1	1	0	0	1	1	1	0	0	0	0	1	0.3	24
3		1	1	0	0	1	IZS	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	0	1	0.6	24	
4		0	0	0	0	0	IZS	0	0	0	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
5		1	1	1	IZS	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.1	24
6		1	1	IZS	0	0	0	0	1	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0.4	24	
7		0	IZS	1	1	1	1	1	2	1	2	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	3	1.7	24
8		IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	IZS	1	0.1	24	
9		2	2	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1.3	24
10		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	24
11		1	1	1	1	1	1	1	1	1	1	1	1	M	M	M	N	N	N	N	N	N	N	N	N	N	1	1.0	12
12		N	N	N	N	N	N	N	N	N	M	1	1	1	1	C	C	C	C	1	IZS	2	2	1	1	2	1.2	14	
13		1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	IZS	1	1	1	1	2	1.3	24
14		1	1	1	1	1	1	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0.7	24
15		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1.0	24
16		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1.0	24
17		1	1	1	1	1	1	1	1	2	1	1	2	1	2	IZS	1	0	0	0	0	0	0	0	0	0	2	0.8	24
18		0	0	0	1	1	0	0	0	0	0	0	0	0	IZS	2	2	1	1	1	1	1	1	1	1	1	2	0.6	24
19		1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	2	1	1	1	1	1	1	2	1.0	24
20		1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
21		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	0.4	24
22		0	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	0.6	24
23		1	1	1	1	1	1	1	1	1	IZS	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
24		1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0.9	24	
25		1	1	0	0	0	0	IZS	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
26		1	1	1	1	1	1	IZS	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	4	1.1	24	
27		1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
28		1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
29		0	1	IZS	1	1	1	1	0	0	1	2	2	1	1	1	0	0	0	0	0	0	1	0	0	0	2	0.7	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	0	1	0.1	24
HOURLY MAX		2	2	1	1	3	1	1	2	2	2	3	3	4	3	3	2	2	2	2	2	2	2	1	1				
HOURLY AVG		0.8	0.9	0.7	0.7	0.9	0.7	0.7	0.7	0.7	1.0	1.0	0.9	1.1	0.9	1.0	0.9	0.7	0.9	0.8	0.8	0.8	0.7	0.7	0.8				

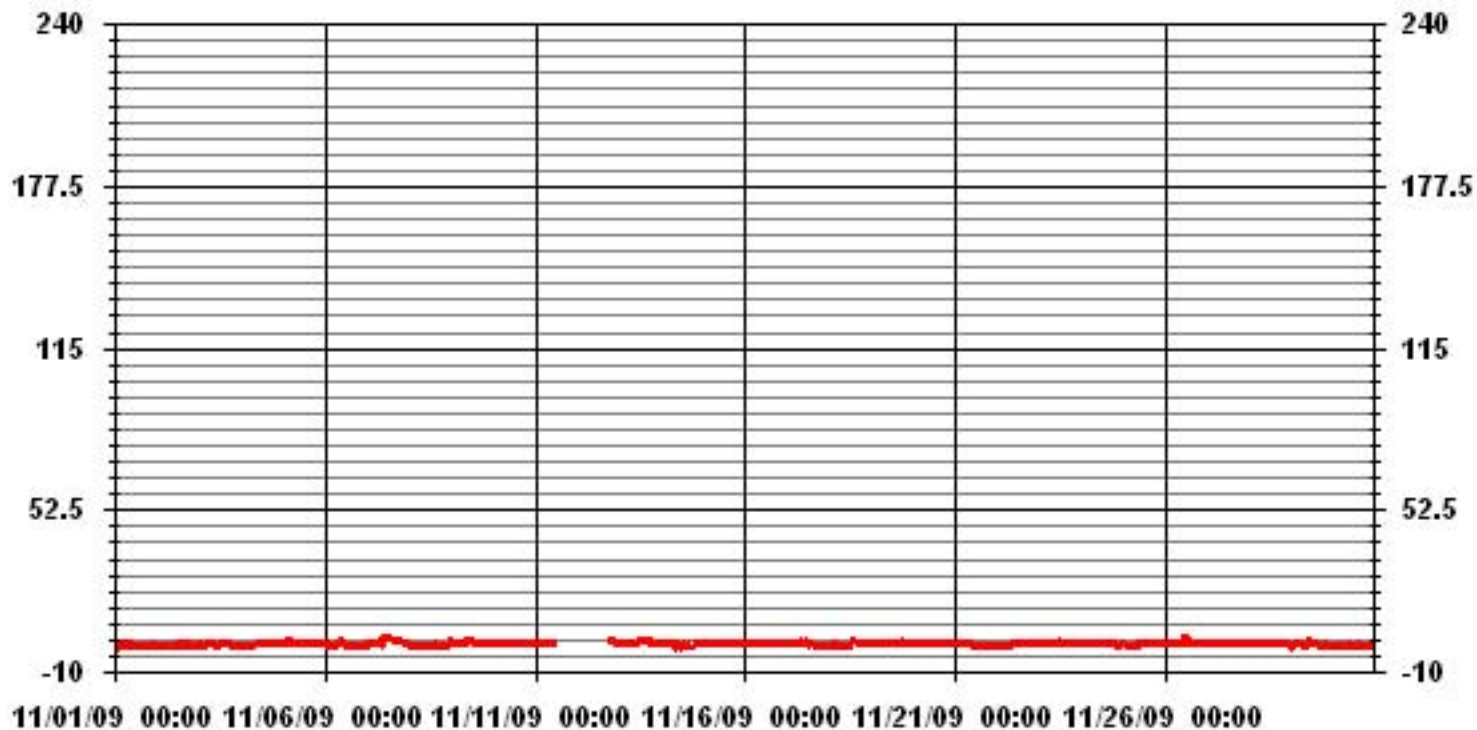
STATUS FLAG CODES

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:	489
MAXIMUM INSTANTANEOUS VALUE:	4 PPB @ HOUR(S) 12 ON DAY(S) 26
IZS CALIBRATION TIME:	30 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	0.57
OPERATIONAL TIME:	698 HRS

01 Hour Averages



— LICA33 SO2MAX PPB

LICA33
 SO2_ / WDR Joint Frequency Distribution (Percent)

November 2009

Distribution By % Of Samples

Logger Id : 33
 Site Name : LICA33
 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	1.32	.88	1.32	4.12	8.40	6.34	6.78	5.60	4.12	3.39	22.41	12.97	10.61	8.99	1.91	.73	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.32	.88	1.32	4.12	8.40	6.34	6.78	5.60	4.12	3.39	22.41	12.97	10.61	8.99	1.91	.73	

Calm : .00 %

Total # Operational Hours : 678

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	9	6	9	28	57	43	46	38	28	23	152	88	72	61	13	5	678
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	9	6	9	28	57	43	46	38	28	23	152	88	72	61	13	5	

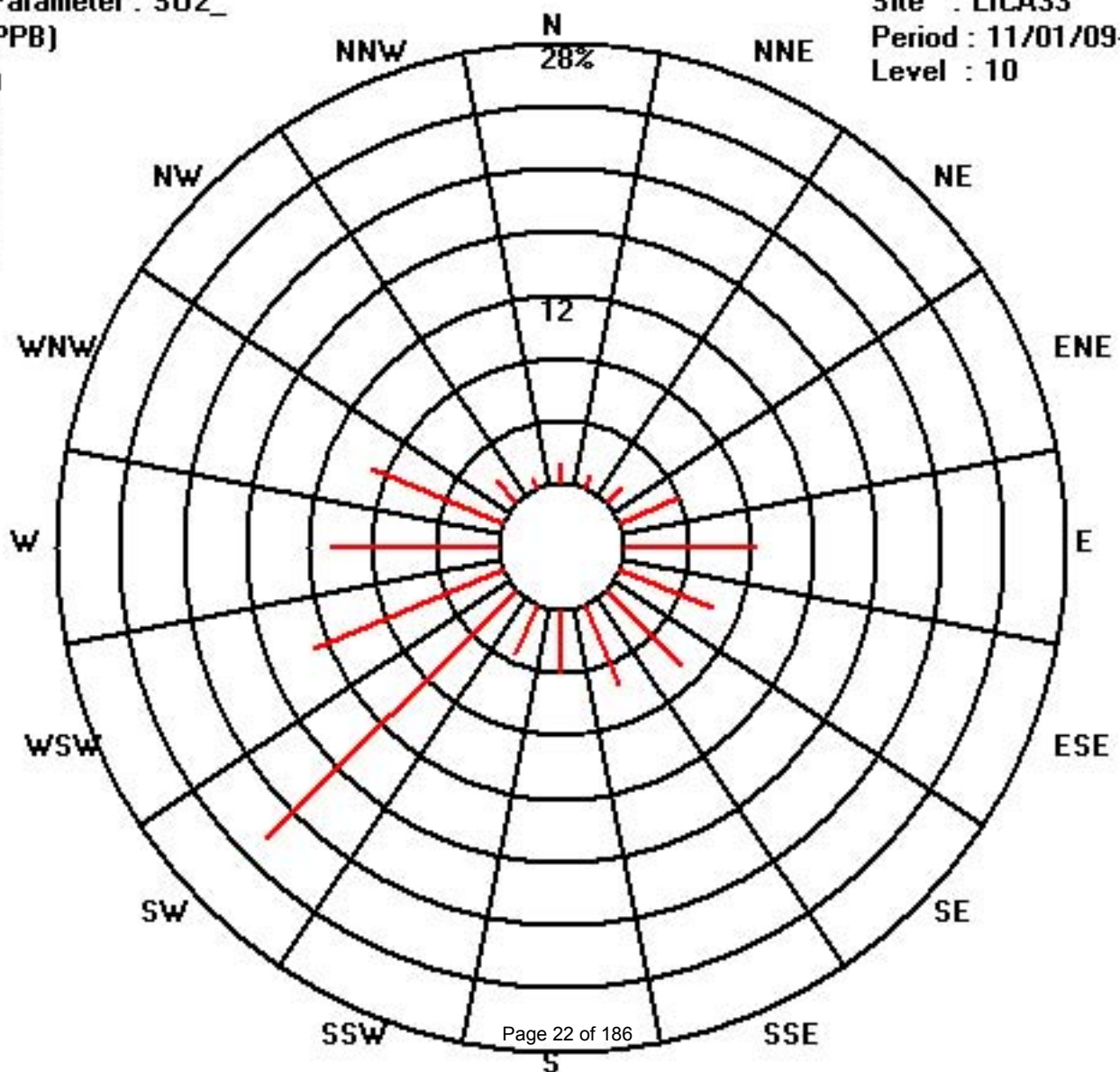
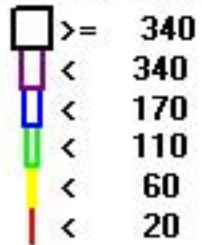
Calm : .00 %

Total # Operational Hours : 678

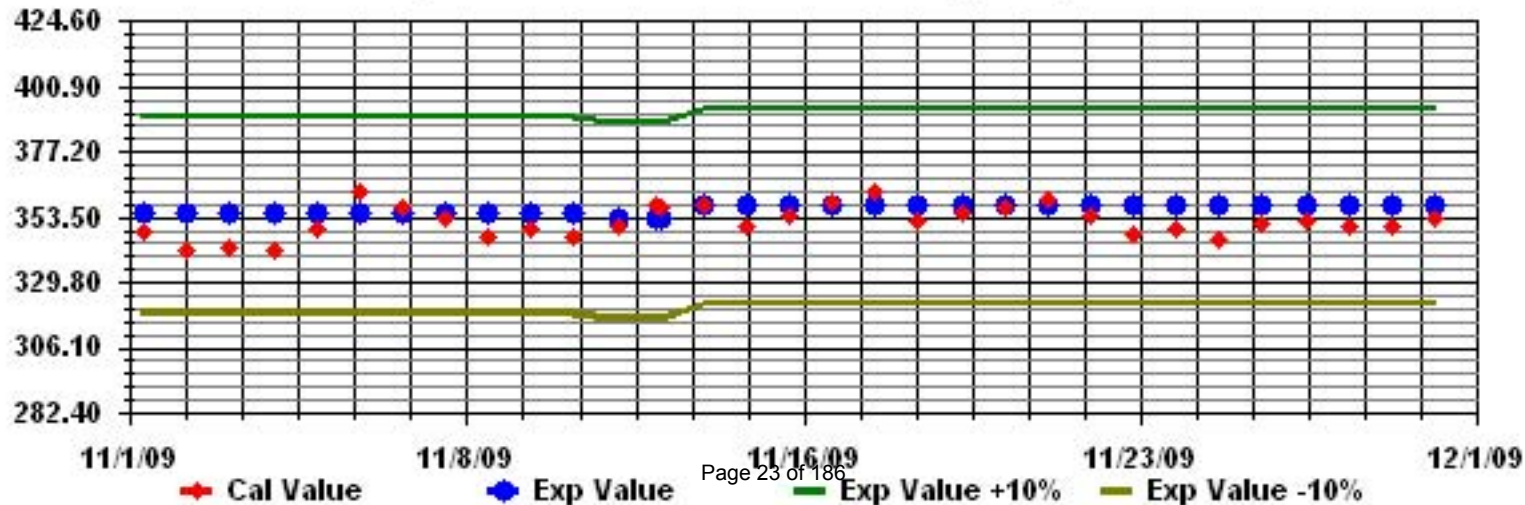
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



Calibration Graph for Site: LICA33 Parameter: S02_ Sequence: S02 Phase: SPAll



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

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	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	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	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	IZS	0	0	0	C	C	C	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	IZS	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	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	IZS	0	0	0	0.0	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	M	M	0	0	0	0	0	0	IZS	0	0	0	0	0.0	22
12	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	IZS	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	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	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	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	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	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	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	24
20	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
21	1	1	0	0	1	1	1	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	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	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	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	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	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	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	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	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	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	1	1	0	0	1	1	1	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	

STATUS FLAG CODES

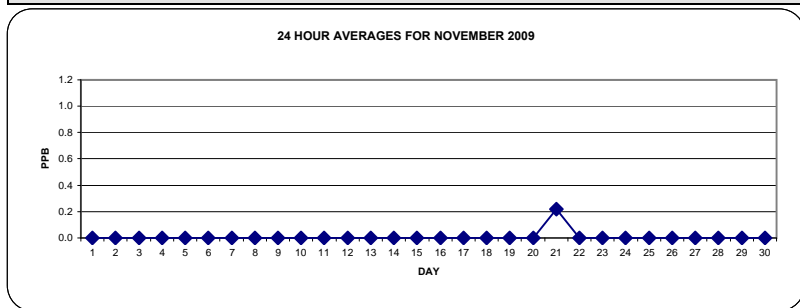
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

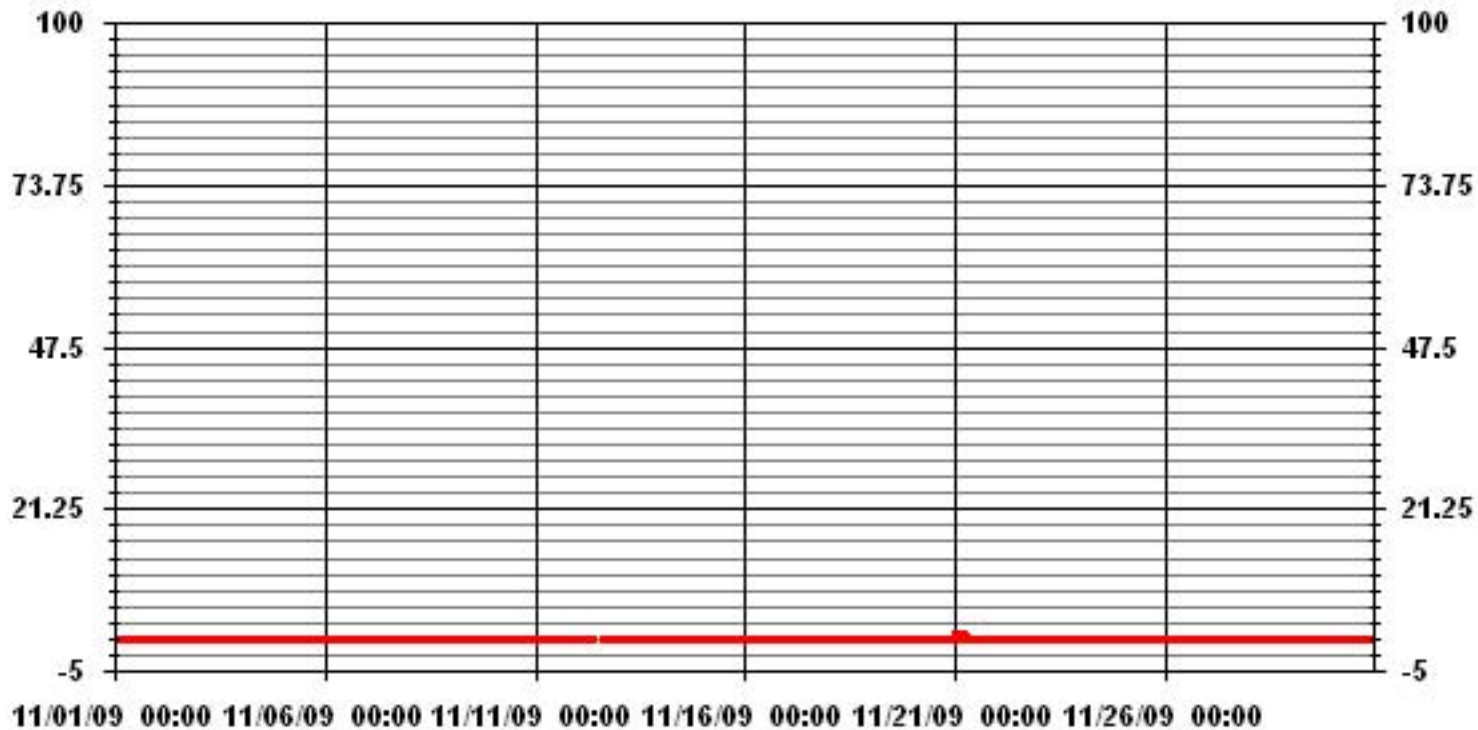
ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	5
MAXIMUM 1-HR AVERAGE:	1 PPB @ HOUR(S) VAR ON DAY(S) 21
MAXIMUM 24-HR AVERAGE:	0.2 PPB VAR-VARIOUS ON DAY(S) 21
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION	0.09
OPERATIONAL TIME:	718 HRS
AMD OPERATION UPTIME	99.7 %
MONTHLY AVERAGE	0.01 PPB



01 Hour Averages



— LICA33 H2S_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

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	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	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	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	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
4	0	0	0	0	IZS	0	0	0	C	C	C	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	1	1	1	1	1	1	1	0.2	24
6	0	1	IZS	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
7	0	IZS	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.1	24
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	0.0	24
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	M	M	N	N	N	N	N	N	N	N	N	N	N	0	0.0	13
12	N	N	N	N	N	N	N	N	N	M	0	C	C	C	C	0	0	0	0	0	IZS	0	0	0	0	0	0	0.0	14
13	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	IZS	0	0	0	0	0	1	0.1	24
14	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
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	1	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
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	0.0	24
19	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
20	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	0	1	1	1	1	1	1	1	0.3	24
21	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	0	1	0.4	24
22	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
23	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
24	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
25	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
26	0	0	0	0	0	0	IZS	0	0	0	1	0	0	0	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	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	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1		
HOURLY AVG	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1		

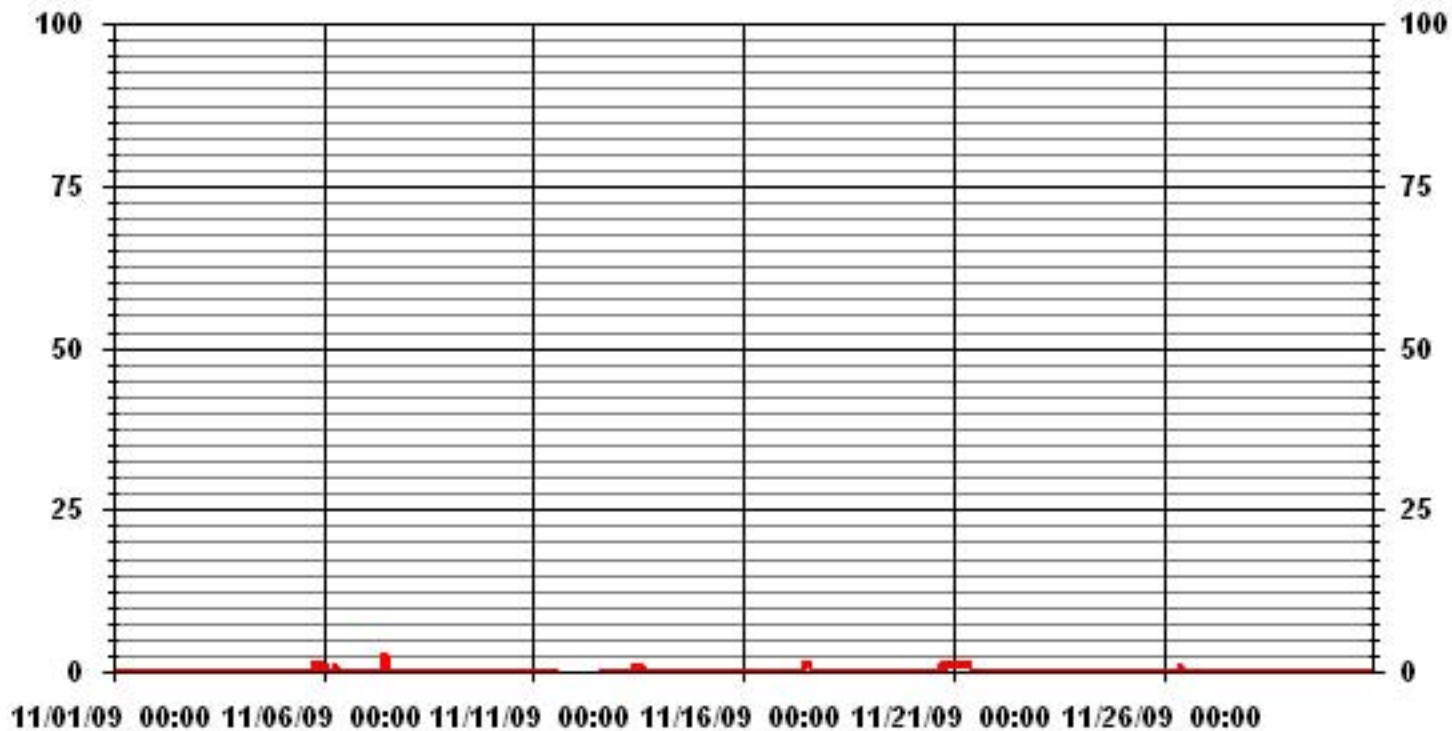
STATUS FLAG CODES

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:	32					
MAXIMUM INSTANTANEOUS VALUE:	3	PPB	@ HOUR(S)	11	ON DAY(S)	7
	VAR - VARIOUS					
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	685	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	0.24					

01 Hour Averages



LICA33
H2S_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	1.32	.88	1.32	4.11	8.38	6.32	6.76	5.58	4.11	3.38	22.64	12.94	10.58	8.97	1.91	.73	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.32	.88	1.32	4.11	8.38	6.32	6.76	5.58	4.11	3.38	22.64	12.94	10.58	8.97	1.91	.73	

Calm : .00 %

Total # Operational Hours : 680

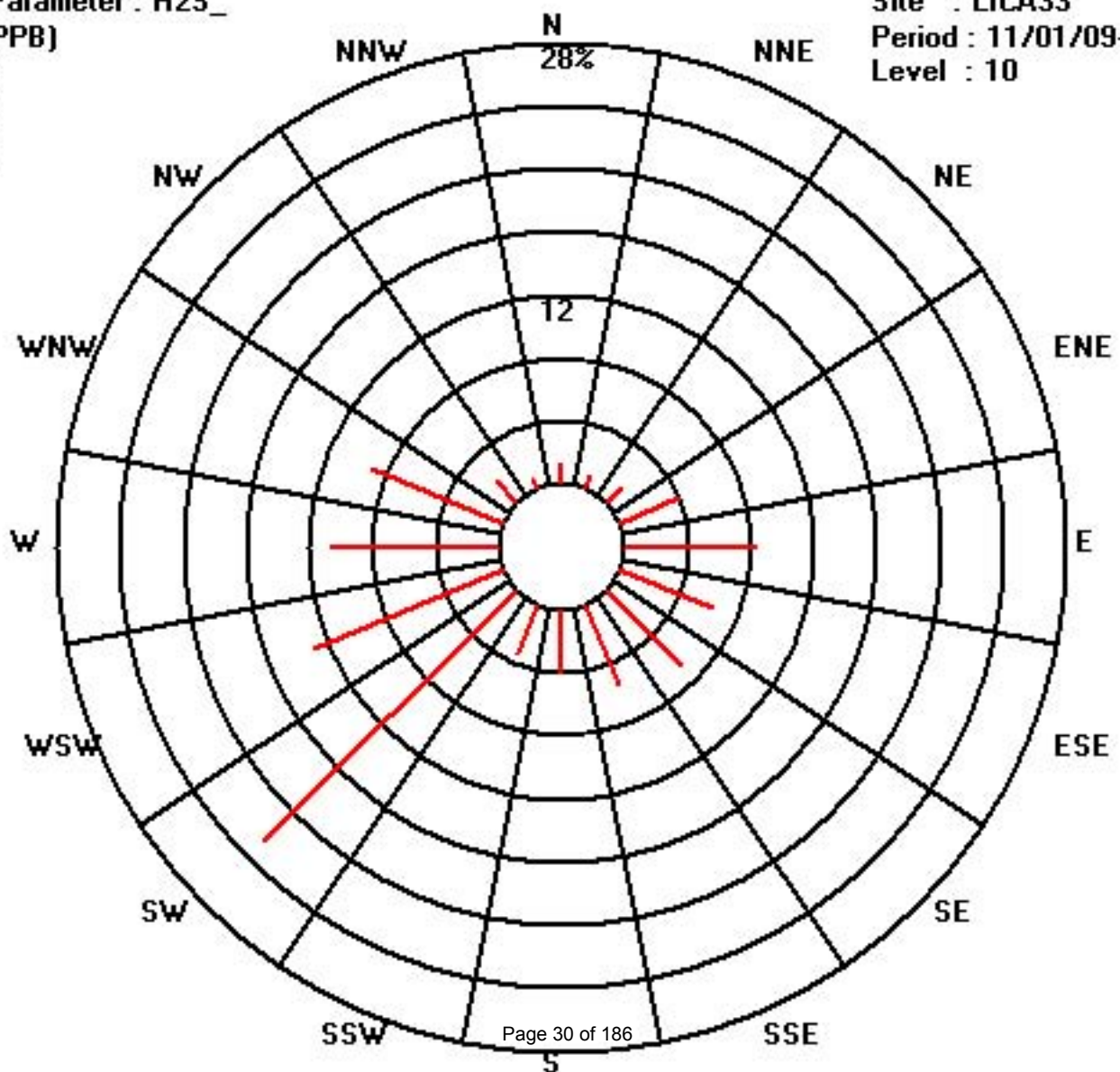
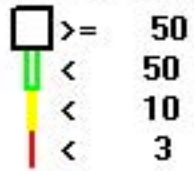
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	9	6	9	28	57	43	46	38	28	23	154	88	72	61	13	5	680
< 10																	
< 50																	
>= 50																	
Totals	9	6	9	28	57	43	46	38	28	23	154	88	72	61	13	5	

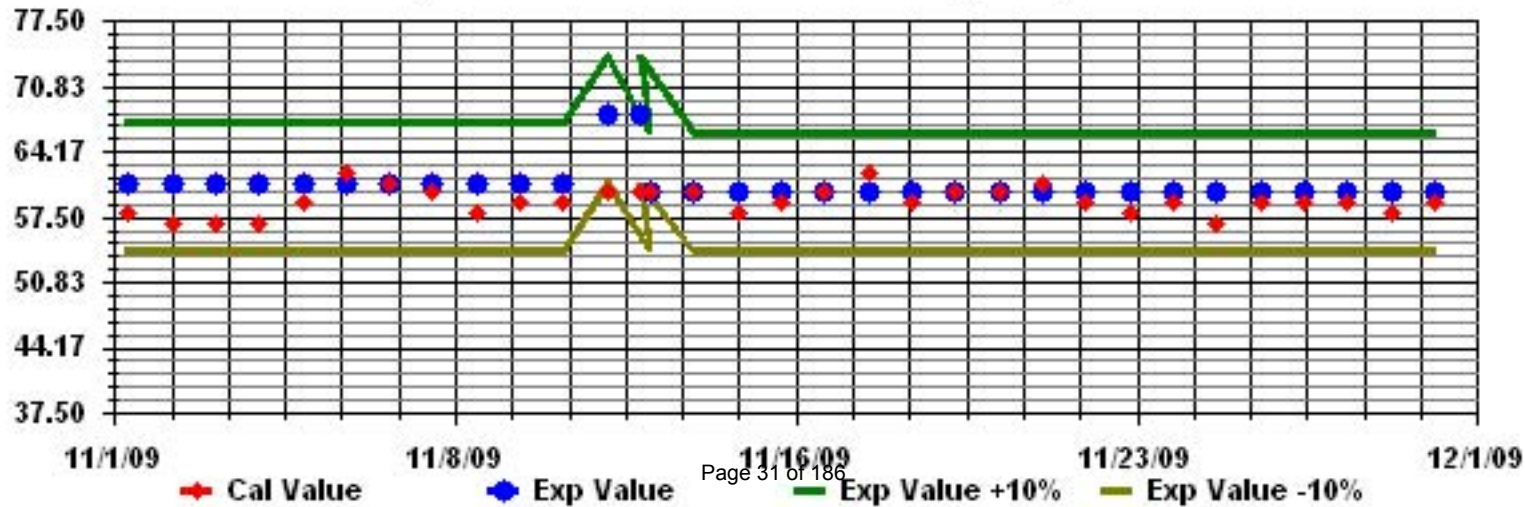
Calm : .00 %

Total # Operational Hours : 680

Class Limits (PPB)



Calibration Graph for Site: LICA33 Parameter: H2S_ Sequence: H2S Phase: SPAll



Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

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	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	1.5	0	0	1.3	0	0	0.3	1.3	1.2	1.2	2.1	1.2	0	0.2	1.1	0	1.7	1.6	0	0	0.6	3	0.5	0.7	3.0	0.8	24	
2	2	0	0	0	1	4.7	0.2	0	0	0	0	0	0	1.4	0.4	1.2	0	0	1.4	0.4	2.2	1.9	1.7	2.6	4.7	0.8	24		
3	3	1.5	2.7	2.1	1.1	1.2	1.7	2.3	2.1	0.8	2.2	1.5	2.5	2.6	4.2	5.3	3.7	1.7	2.8	1.3	2	1.6	1.8	4.3	4.6	5.3	2.4	24	
4	4	2.1	2.2	1.5	1.2	0.9	0	1.8	1.5	C	C	C	C	C	C	0.8	1.3	2.2	1.6	1.2	1.5	0.2	0	0	2.2	1.2	24		
5	5	0	0.2	0	0	0	0	0.1	0	1.6	2	1.8	0.5	1.1	1.3	1.8	2	0.9	0.9	1.3	1.4	1.2	1.7	2.5	2.9	2.9	1.1	24	
6	6	3	3.4	1.9	3.7	2.9	2.9	3.2	4.8	6.5	4.9	3.5	4.3	2.2	2.4	2.9	1.5	2.1	1.4	1.3	2.1	0.7	1.1	0.7	1	6.5	0.0	24	
7	7	2	2.2	1.8	1.5	1.9	1.8	1.3	2.1	1.9	1.6	1.6	0.9	0	0.6	1.1	1.2	0.9	1.3	1.9	2.1	2.3	2.9	3.2	3.9	3.9	1.8	24	
8	8	3.7	4.4	3.7	4.3	3.1	2.7	2.9	2.4	2.9	2.5	1.9	1.3	1.2	1.4	1.5	6.3	2.3	1.6	1.6	1.7	1.6	1.9	2.4	2.8	6.3	2.6	24	
9	9	2.7	2	2	1.6	1.9	1.9	1.2	2.1	1.1	2.7	1.6	0.9	0	0.4	0.8	0	0.6	0	0.8	0.4	0	0	0	0	2.7	1.0	24	
10	10	0	0	0.2	1.2	1	3.7	3.1	4.5	4.5	4.1	2.5	2.2	2.4	1.7	1.8	2.8	2.8	2.6	2.8	3	2.9	1.9	2.7	2.7	4.5	2.4	24	
11	11	2.2	2.6	3.5	2.6	2.6	2.3	2.4	2.4	3.9	2.9	2.4	2.1	M	M	M	4.4	5.6	5.3	3.3	3.5	7.1	3.9	3	3.7	7.1	3.4	21	
12	12	6	7.1	8.6	5	6.4	3.1	3	4.8	5	4.3	2.5	8	2.5	C	C	C	C	7.7	0	0	0.2	0	0	0	8.6	3.7	24	
13	13	0.1	1	1.3	1.1	1.4	1.3	1.8	2.9	2.8	2.4	2.7	1.6	1.9	2.6	2.2	3.5	2.8	5.2	12.4	13.8	6.8	5.7	7.7	8.4	13.8	3.9	24	
14	14	11.4	8.4	6.8	6	5.6	4.5	3.8	4.2	4.1	2.6	1.8	2.1	1.6	0.8	2	3	7.4	3.9	2.1	3.1	1.5	1	0.7	0.9	11.4	3.7	24	
15	15	1.1	0.7	0.8	1.1	0.9	0.6	5.5	4.4	2.9	3.5	5.8	4.8	5.2	4.3	4.6	3.7	4.3	3.7	12.2	5.6	3.9	3.8	2.3	3.1	12.2	3.7	24	
16	16	2.8	3	2.3	2.4	2.3	1.3	2.4	2.6	3.2	5.2	2.4	0	0.1	0	1.1	0.7	2.8	1.9	2.9	3.6	1.9	4	1.2	2.2	5.2	2.2	24	
17	17	1.6	1	0	0	0	0	0	0.4	0.7	0	0	1.6	3.1	6.7	13.2	11.5	9.1	5.9	4.6	3.1	0.1	3.2	2.1	2	13.2	2.9	24	
18	18	2.4	0.3	0.6	1.5	2.1	0.9	1.7	1.6	2.8	2	1.2	1.8	1.3	0.2	3	3.6	4	3.1	4.4	4.6	4.3	3.5	2.4	2.1	4.6	2.3	24	
19	19	1	0.5	0	0	0	0.7	0	0	0.3	1.4	0.4	0.9	1.5	2.3	2.2	3.7	5.6	6.8	3.2	4.9	4.9	3.7	3.7	4.6	6.8	2.2	24	
20	20	2.6	2.3	1.4	1.1	0.8	0.2	0.6	1	0.8	0.4	0.4	0	0	0.4	1	0.4	0.8	0.9	0.5	3	2.4	2	1.6	2.2	3.0	1.1	24	
21	21	1.7	2.6	3.2	3.9	4.2	4.9	3.6	3.2	3.8	4	4.1	3.2	3.1	3.2	4.2	6.3	9	8.4	4.9	3	3	3.9	3.5	1.1	9.0	4.0	24	
22	22	2.6	2.6	1.2	0.9	1	0.7	1.2	2.4	2.5	2.9	4.5	2.2	13.6	14.3	3.5	3.2	3.2	2.7	3.4	9	6.6	6.8	5.8	4.7	14.3	4.2	24	
23	23	4.9	5.4	4.5	1.9	2.5	2	3.5	5	7.4	6.9	1.1	2.2	1.4	4.6	2	2.7	3	5.2	2.9	3.2	3.6	4.6	4.8	4.7	7.4	3.8	24	
24	24	3.9	5	4.6	3.4	2.5	4.1	3.1	3.6	3	2.2	0.9	1.7	1.3	1.2	1.9	2.1	1.8	1.8	1.1	1.6	0.1	2.1	0	0.1	5.0	2.2	24	
25	25	0	1.7	0.8	0.3	0	0	0.2	2.8	5.2	5	1.2	1	0.3	0	0.1	1.2	1	0.3	0	0	0.6	0	0	0.2	5.2	0.9	24	
26	26	0.9	0.1	0.8	0	2.3	0	1.6	3.1	4.6	11.5	8.2	10.3	11.1	4.7	10	6.1	4.8	4.7	3.3	2.3	3.9	3.8	4.1	3.2	11.5	4.4	24	
27	27	2.5	3.6	2.1	1.8	2.1	2	2.1	1.5	2.3	2.6	2.4	0.6	1.9	2	1.8	2.7	2.6	2.2	2.5	2.5	2	1.5	2.2	1.9	3.6	2.1	24	
28	28	1.7	3.8	3.1	2.2	2.5	3.1	3.5	3.7	4.1	3.8	3.1	2.8	2.5	2	3.1	3.1	2.6	1.9	3	2	2.8	5.8	4.8	3.3	5.8	3.1	24	
29	29	2.7	3.9	6	4.4	4	2.2	2.6	5	3.4	2.4	2.9	4.3	4.6	1.9	1.4	0.8	0	0	0.2	0	1.2	0.2	0.5	0.3	6.0	2.3	24	
30	30	0	1	0.2	0	0	0	0	1.9	6.3	5.2	0.6	2.2	1.3	0.9	0	0.6	2.1	1.6	1.4	0.9	1.9	1.7	2	2	6.3	1.4	24	
HOURLY MAX		11	8	9	6	6	5	6	5	7	12	8	10	14	14	13	12	9	8	12	14	7	7	8	8				
HOURLY AVG		2.3	2.5	2.2	1.9	2.0	1.6	2.0	2.6	3.1	3.2	2.2	2.3	2.4	2.4	2.7	2.9	3.0	2.9	2.7	2.8	2.4	2.6	2.3	2.4				

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

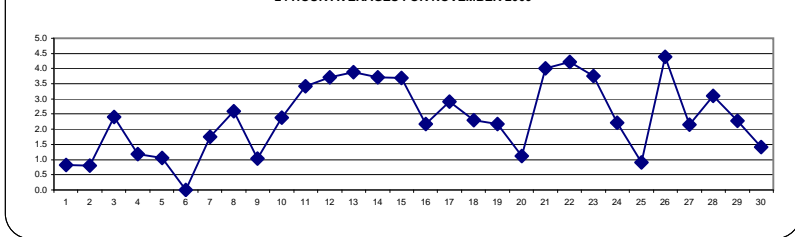
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	-	PPB	24-HR	30	PPB
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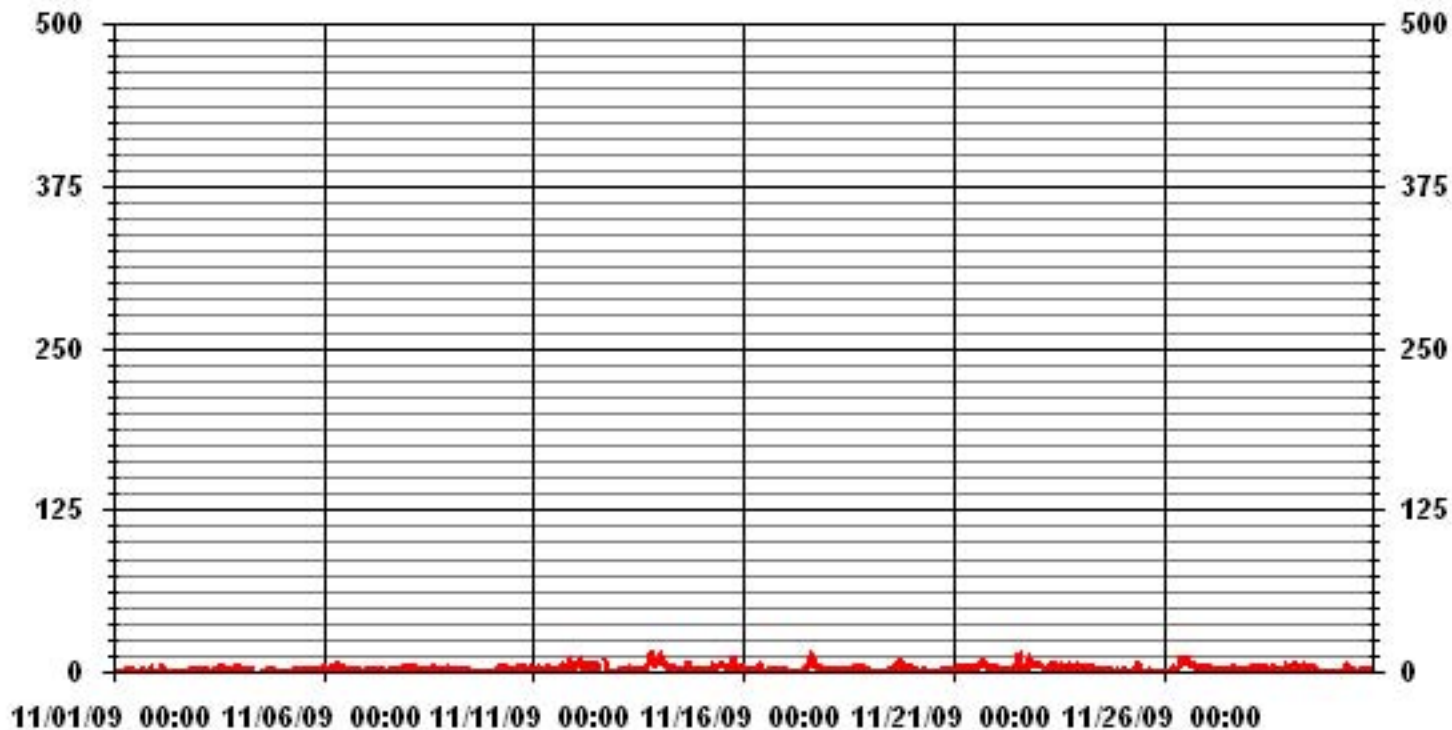
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-	PROPOSED CANADA WIDE GUIDELINE	
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	626		
MAXIMUM 1-HR AVERAGE:	14.3 UG/M ³	@ HOUR(S)	13 ON DAY(S)
MAXIMUM 24-HR AVERAGE:	4.4 UG/M ³		26 ON DAY(S)
IZS CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	717 HRS
MONTHLY CALIBRATION TIME:	11 HRS	AMD OPERATION UPTIME:	99.6 %
STANDARD DEVIATION:	2.20	MONTHLY AVERAGE:	2.48 UG/M ³

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA33 PM2 UG/M3

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

PARTICULATE MATTER 2.5 MAX instantaneous maximum in ug/m³

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	4.5	1.7	1.4	3.4	1.7	1.1	3.1	4	3.2	3.5	4.3	4.2	2.5	1.7	3.5	3	3.4	3.6	1.1	2.3	2.8	10.7	5.7	2.9	10.7	3.3	24	
2	0.3	2.4	1.4	7.3	8.4	3.1	0.2	2.9	0.9	0	1.8	1.7	2.8	3.3	2.4	2.6	2.2	1.3	3.6	2.6	4.7	4	3.6	9.6	9.6	3.0	24	
3	7.7	5.6	3.4	3.1	3.3	3	4.7	5.1	3.3	3.6	3.6	4.7	4.9	6.7	7.5	6.1	5.1	4.7	4.4	4	2.6	3.5	11.3	21.9	21.9	5.6	24	
4	11.7	8.7	4.5	4	5.5	2.5	6.2	6.3	C	C	C	C	C	C	2.5	3.1	3.9	3.4	3.2	3.5	2.2	2.4	2.1	11.7	4.5	24		
5	1.8	5.3	0.9	3.2	1.6	2.5	3.3	3.4	7.3	6.6	4.9	2.7	4.3	4.4	4	3.9	3.5	4.3	4	3.9	3.6	4.3	5.8	5.5	7.3	4.0	24	
6	8	5.5	4.7	6.2	6.3	6.3	5.6	9.2	11.3	9.6	6.4	7.7	6.1	5.6	4.8	4	4.1	3	2.6	4.7	2.5	2.5	1.9	3	11.3	0.0	24	
7	3.7	4.1	3.6	3.5	3.5	4	3.4	4.5	3.9	3.7	3.5	2.2	1.2	2.3	2.3	2.6	2.8	3.9	4.5	3.6	4.1	4.6	5.2	7.1	7.1	3.7	24	
8	6.2	6.6	5.5	5.8	4.9	4.5	4.5	4.1	5	4.7	3.4	2.8	2.9	2.8	2.6	15.2	12.4	3.3	2.9	4.3	2.9	3.5	4	4.6	15.2	5.0	24	
9	4.7	4	3.6	4.5	3.6	4	4	5.7	3.5	5.1	3.9	2.9	1.4	2.3	3	1.3	2.8	1.6	3.1	6.3	2.2	1.6	1.2	1.5	6.3	3.2	24	
10	2.2	2.6	2.4	3	4.4	6.6	6	9	6.6	6	5	3.7	4.4	3.1	3.7	6.6	6.1	4.4	5.7	5.2	4.5	3.9	4.8	5.2	9	4.8	24	
11	4.5	5.3	5.8	4.4	4.9	5	4.2	4.5	6.3	6.8	5.5	3.4	M	M	M	N	N	N	N	N	N	N	N	N	N	6.8	5.1	12
12	N	N	N	N	N	N	N	N	N	M	5.8	35.7	6.5	C	C	C	C	23.7	1.3	1.2	1.5	1.8	1.5	1.2	35.7	8.0	14	
13	1.8	2.6	3	3.5	3.6	3.3	3.2	8	7.9	5	7.9	3.4	3.4	4.7	5.3	5.6	4.8	10	29.5	28.4	9.5	8.3	16.6	12.5	29.5	8.0	24	
14	16	13.4	13.1	7.9	8	6.1	6.2	6.3	6.2	4	3.1	6.4	6.2	2.8	6.2	11.2	16.8	14.7	4.6	7.4	3.3	2.6	2.3	2.9	16.8	7.4	24	
15	2.8	2.9	3.3	3.7	4	3	13.8	8	4.4	6.1	9.6	14.8	11.5	8.7	6.7	6.2	6.8	6	32.9	10.2	6.3	7.4	5.2	6.6	32.9	8.0	24	
16	4.1	5.1	5.1	4.7	3.9	3.6	6.3	7.3	6.1	9.9	4.7	3.9	2.6	2.3	5	2.5	6.5	5.3	6.4	7.9	7	3.1	4.1	4.9	9.9	5.1	24	
17	3.8	2.2	1.9	2.4	3.5	2	4.4	2.8	5.1	1.8	2.3	5.5	5.8	11.3	16.2	16	14	8.6	7.1	6.8	3.7	4.1	4.5	3.9	16.2	5.8	24	
18	4	2	3	4.4	4.2	3.9	3.3	5.7	5.7	3.5	3.5	4.3	7	4	9.7	8.1	8	6.7	8.1	7.3	6.4	4.9	4	4.4	9.7	5.3	24	
19	2.9	2.3	1.8	2.6	0.7	3.5	2.5	2.5	3.4	3.3	2.2	3.2	4.4	5.5	5	5.3	9.7	13.9	7	6.4	6.9	5.6	6.4	7.4	13.9	4.8	24	
20	5.5	3.9	3.3	3.5	2.5	2.3	3.1	3.6	3	1.8	2.3	2.9	1.8	3.6	2.6	2.6	3	2.5	2.5	4.6	4.1	3.7	3.5	3.9	5.5	3.2	24	
21	4.4	4.5	6.6	6.6	9.2	9.6	5.6	5.6	6.6	6.2	7.5	6.2	5.2	4.8	6.4	8.4	11.3	10.1	8.2	4.9	5	6.5	9.5	3.6	11.3	6.8	24	
22	4.7	4.7	2.8	3	2.5	2.2	3.2	5.1	3.7	4.8	8.3	4	25.4	23.4	8.5	5	5.6	4.9	8.7	18.2	19.2	18.2	8	6.6	25.4	8.4	24	
23	6.2	8	8	3.4	4.4	4.6	6.1	9.9	10.5	8.7	6.7	5.1	3.9	13.8	4.7	5	6.8	10.5	7.5	5	5.3	6.8	6.7	6.3	13.8	6.8	24	
24	6.7	6.3	7.6	6.1	5.2	5.5	5.1	6.5	4.6	4.1	2.5	2.9	3.3	2.9	4.1	4.2	4.2	4.5	2.2	3.1	1.6	5.1	2.1	2.5	7.6	4.3	24	
25	1.7	4.6	4.3	2.6	2.1	0.9	2.8	5.5	11.3	7.9	7.5	6.1	4.4	0.3	2.2	3.9	2.5	2.8	2.6	2.3	3	2.4	2.2	3	11.3	3.7	24	
26	4.4	2.3	3.6	5.2	5.6	3.6	8.7	10.4	13.2	22.8	12.8	26.1	21.2	14.6	17.3	11	8.2	6.6	5.6	4.2	5.6	5.9	6.3	5.3	26.1	9.6	24	
27	4.1	5.6	3.4	3.1	4.2	3.1	3.3	3.3	3.4	4.7	4.6	2.2	3.8	4	3.3	4.7	4.1	3.6	4	4.1	3.6	4.4	3.5	5.6	5.6	3.8	24	
28	4.1	5.7	4.6	4	4	4.9	5.6	5.5	6.2	5.8	6.1	5.5	4.7	5	9	8	6.4	3.5	5.2	4	5	18.1	11	5.6	18.1	6.1	24	
29	4.1	5.8	15.7	9.7	6	5.3	4.5	10.5	6.8	4.4	6.1	11.6	10.4	5.5	3.5	3.5	0.4	1.8	2.4	1.9	8.5	2.4	2.6	1.9	15.7	5.6	24	
HOURLY MAX	16	13	16	10	9	10	14	11	13	23	13	36	25	23	17	16	17	24	33	28	19	18	17	22				
HOURLY AVG	4.9	4.8	4.6	4.5	4.3	3.9	4.7	5.9	5.9	5.7	5.2	6.6	6.0	5.7	5.8	5.9	6.1	6.2	6.5	6.0	5.0	5.4	5.2	5.3				

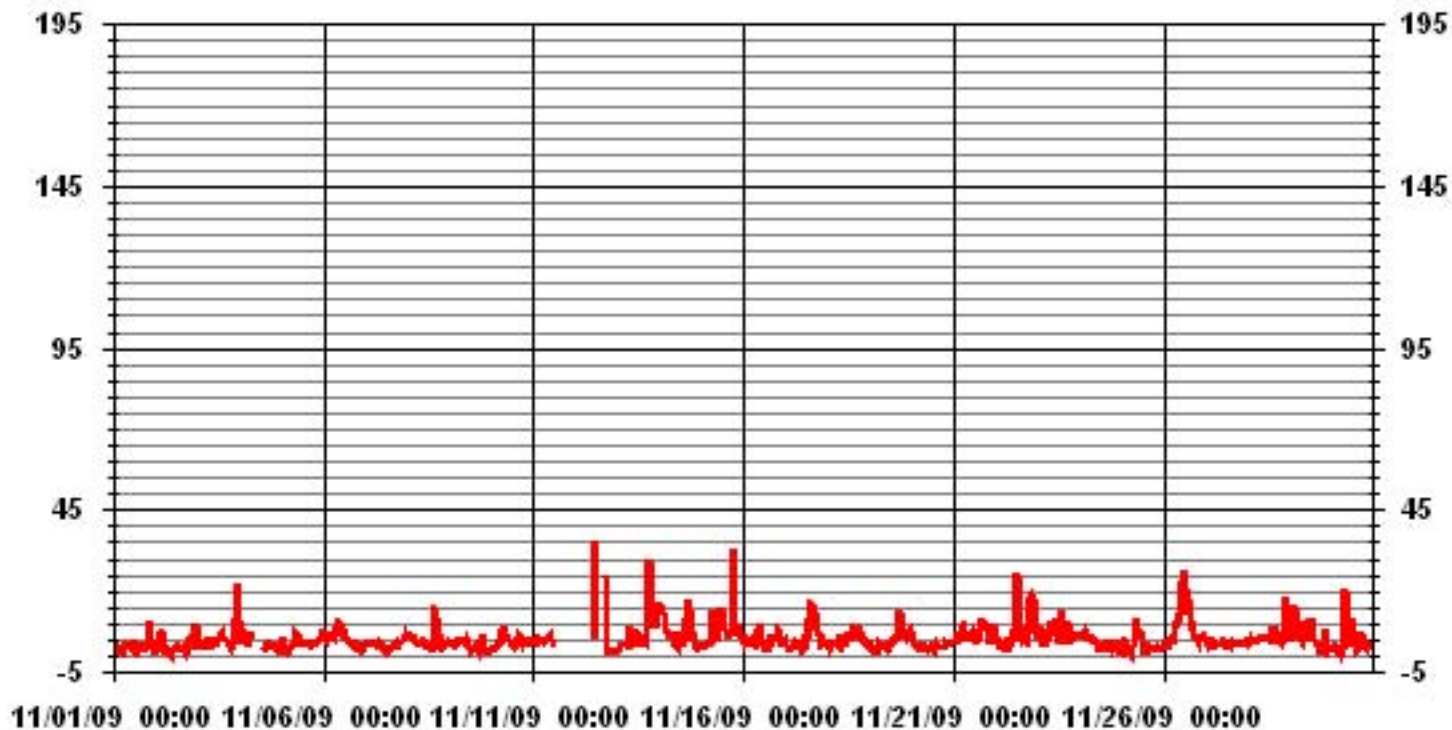
STATUS FLAG CODES

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:	662		
MAXIMUM INSTANTANEOUS VALUE:	35.7 UG/M ³	@ HOUR(S)	11 ON DAY(S)
IZS CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	674 HRS
MONTHLY CALIBRATION TIME:	11 HRS		
STANDARD DEVIATION:	4.08		

01 Hour Averages



— LICA33 PM2MAX UG/M3

LICA33
 PM2 / WDR Joint Frequency Distribution (Percent)

November 2009

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	1.41	.84	1.55	4.10	8.21	6.37	6.65	5.38	4.10	3.68	22.52	13.03	10.62	8.78	1.84	.84	100.00
< 60.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 80.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 120.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.41	.84	1.55	4.10	8.21	6.37	6.65	5.38	4.10	3.68	22.52	13.03	10.62	8.78	1.84	.84	

Calm : .00 %

Total # Operational Hours : 706

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	10	6	11	29	58	45	47	38	29	26	159	92	75	62	13	6	706
< 60.0																	
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	10	6	11	29	58	45	47	38	29	26	159	92	75	62	13	6	

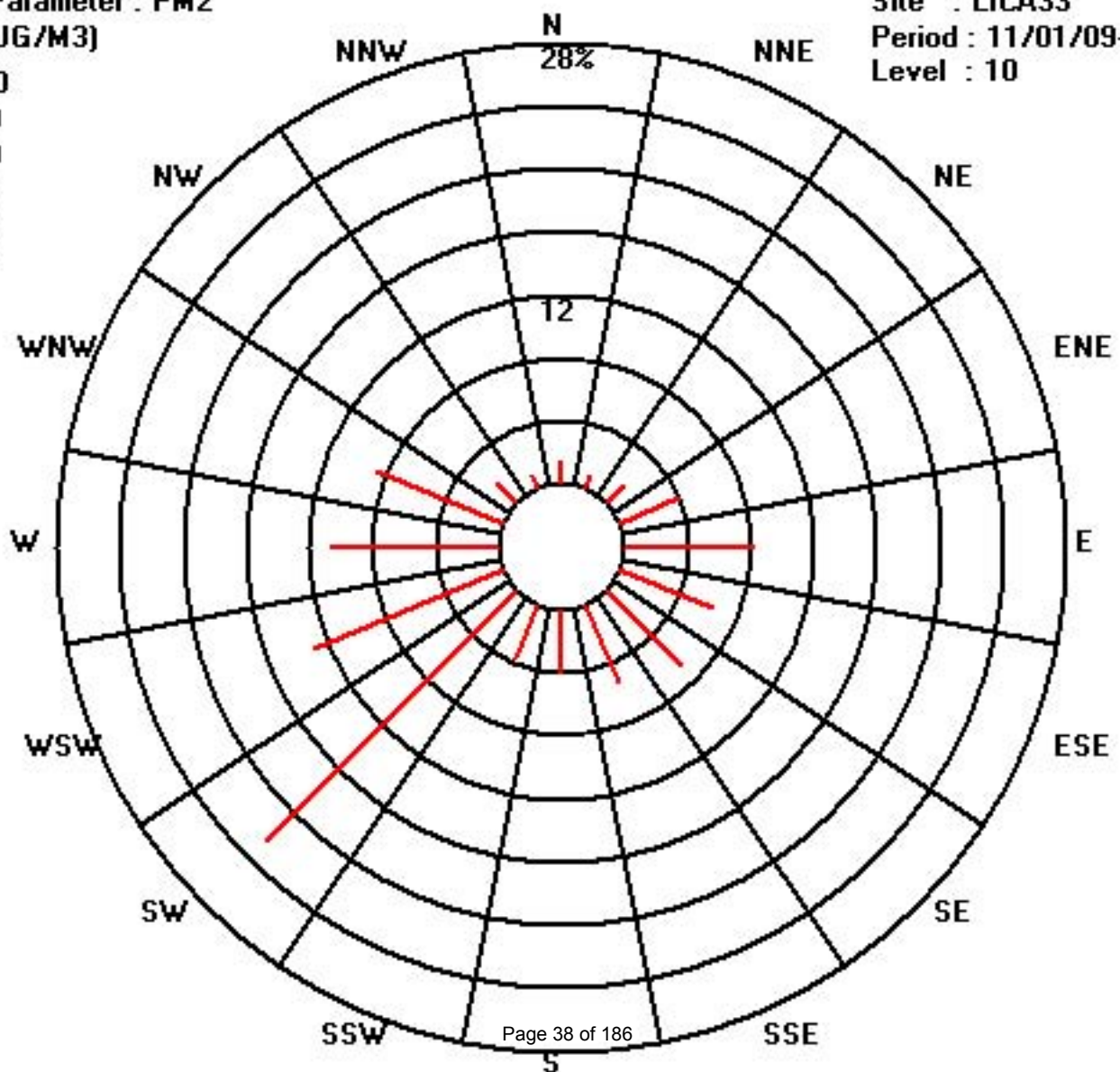
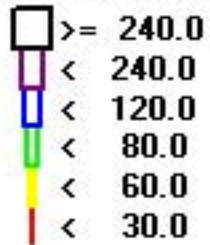
Calm : .00 %

Total # Operational Hours : 706

Class Limits (UG/M3)

Period : 11/01/09-11/30/09

Level : 10



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

NITROGEN DIOXIDE hourly averages in ppb

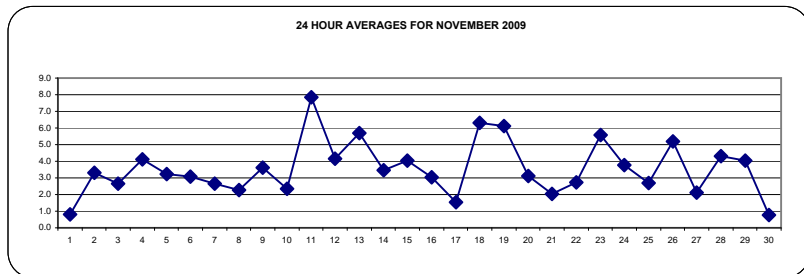
MST	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
DAY	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
1	0	1	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	1	1	1	2	4	9	9	9	0.8	24
2	7	3	1	3	4	3	IZS	1	2	1	1	2	1	2	2	3	4	5	5	5	6	6	5	4	7	7	3.3	24
3	5	3	1	1	1	IZS	4	2	1	1	1	1	1	2	2	5	8	9	4	4	1	1	1	2	9	2.7	24	
4	3	3	6	2	IZS	1	4	11	C	C	C	C	3	2	2	2	3	6	10	5	4	5	4	2	11	4.1	24	
5	2	2	1	IZS	1	1	1	2	2	3	1	2	1	2	2	3	5	7	4	7	5	6	6	8	8	3.2	24	
6	5	6	IZS	5	7	6	5	6	5	4	4	3	1	1	1	1	1	3	1	2	1	1	1	1	7	3.1	24	
7	1	IZS	0	2	3	2	2	3	3	3	3	3	2	2	3	3	3	3	3	3	3	5	3	3	3	5	2.7	24
8	IZS	3	3	4	4	4	3	2	2	2	2	1	0	0	0	2	1	2	2	3	2	4	4	IZS	4	2.3	24	
9	4	4	3	3	7	4	3	4	4	6	6	5	4	3	4	4	4	3	2	2	2	1	IZS	1	7	3.6	24	
10	1	1	1	1	2	2	3	3	3	2	1	1	1	1	1	1	2	6	5	6	3	IZS	5	2	6	2.3	24	
11	2	2	4	5	4	4	4	4	5	5	6	6	5	M	M	8	10	15	14	14	IZS	18	16	14	18	7.9	22	
12	9	7	5	6	3	3	2	3	3	2	2	M	M	4	4	M	M	9	4	IZS	5	4	2	2	9	4.2	20	
13	2	2	2	2	2	2	4	7	6	6	C	C	C	C	C	C	8	IZS	8	9	7	11	13	13	5.7	24		
14	12	12	13	10	5	2	3	3	1	1	0	0	0	0	0	0	1	IZS	4	3	1	3	3	3	13	3.5	24	
15	2	2	2	2	1	1	3	3	3	4	3	4	4	4	5	5	IZS	5	9	6	6	6	7	6	9	4.0	24	
16	5	6	6	6	5	4	5	4	7	5	4	2	2	2	2	IZS	1	1	1	1	1	0	0	0	7	3.0	24	
17	1	1	1	1	1	4	5	4	2	4	1	1	1	0	IZS	0	1	2	1	1	0	2	0	1	5	1.5	24	
18	2	1	1	1	2	4	3	6	13	5	5	4	4	IZS	5	7	10	9	8	13	13	12	10	7	13	6.3	24	
19	6	3	3	3	3	3	3	3	4	5	2	2	IZS	2	2	5	8	13	8	9	11	12	16	15	16	6.1	24	
20	12	8	7	6	5	4	3	2	2	2	2	IZS	1	1	1	3	2	1	2	2	2	1	2	1	12	3.1	24	
21	3	3	2	6	10	3	2	2	2	2	IZS	0	1	1	1	1	1	1	1	1	1	1	0	2	10	2.0	24	
22	2	1	1	0	1	1	2	6	5	IZS	2	1	3	2	1	1	3	6	3	4	2	6	6	4	6	2.7	24	
23	3	4	6	5	6	7	5	5	IZS	5	6	3	3	3	4	4	6	6	8	8	7	8	8	8	8	5.6	24	
24	9	9	8	8	7	7	7	IZS	7	4	2	1	1	1	1	1	1	1	2	2	2	2	1	3	9	3.8	24	
25	1	1	1	0	2	3	IZS	5	6	5	5	4	4	3	3	3	3	4	3	2	1	1	1	1	6	2.7	24	
26	2	3	3	2	2	IZS	6	5	4	4	3	3	3	4	5	6	5	5	6	4	9	14	12	9	14	5.2	24	
27	4	2	1	2	IZS	3	5	2	3	2	1	1	1	1	1	2	1	2	2	2	3	2	1	5	5	2.1	24	
28	2	2	1	IZS	1	3	6	7	6	7	5	3	3	3	3	3	3	4	6	6	6	8	8	8	8	4.3	24	
29	6	8	IZS	7	8	8	6	6	6	5	6	6	7	4	2	2	1	1	1	1	1	1	0	0	8	4.0	24	
30	0	IZS	0	0	0	0	1	3	3	2	1	1	1	1	1	0	1	1	1	1	0	0	0	0	3	0.8	24	
HOURLY MAX	12	12	13	10	10	8	7	11	13	7	6	6	7	4	5	8	10	15	14	14	13	18	16	15				
HOURLY AVG	3.9	3.7	3.0	3.3	3.5	3.2	3.6	4.1	3.9	3.5	2.8	2.3	2.1	1.9	2.1	2.8	3.3	4.7	4.1	4.3	3.8	4.7	4.7	4.6				

STATUS FLAG CODES

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

OBJECTIVE LIMIT:

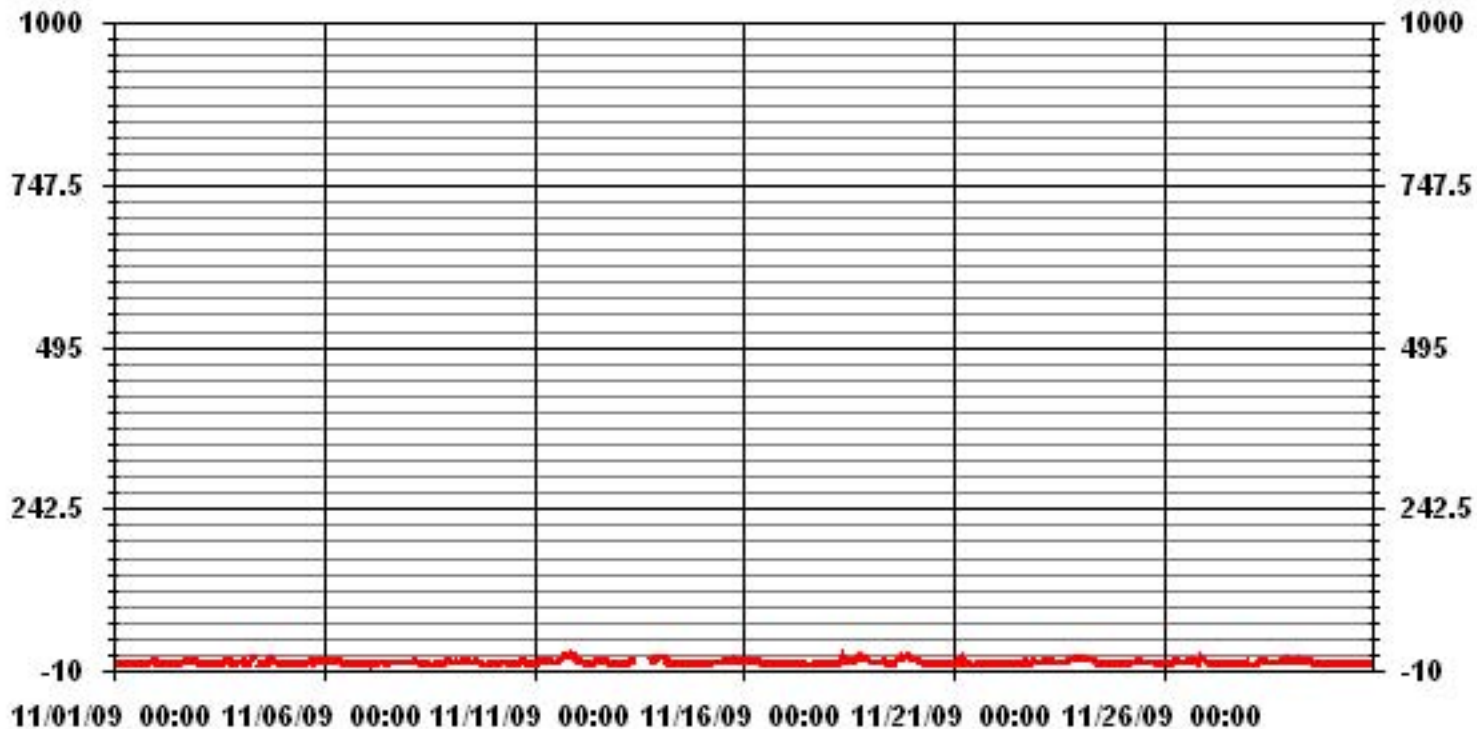
ALBERTA ENVIRONMENT:	1-HR	212	PPB	24-HR	106	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	623
MAXIMUM 1-HR AVERAGE:	18 PPB @ HOUR(S) 21 ON DAY(S) 11
MAXIMUM 24-HR AVERAGE:	7.9 PPB ON DAY(S) 11
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	11 HRS
STANDARD DEVIATION	2.97
OPERATIONAL TIME:	714 HRS
AMD OPERATION UPTIME	99.2 %
MONTHLY AVERAGE	3.52 PPB

01 Hour Averages



— LICA33 NO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

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	1	2	1	1	0	0	1	IZS	0	0	0	0	0	0	0	0	0	1	3	2	2	4	8	16	16	1.8	24	
2	12	8	3	5	5	5	IZS	3	3	2	2	2	2	3	3	3	7	8	9	7	10	7	8	7	12	5.4	24	
3	8	6	2	2	2	IZS	5	4	2	3	1	2	3	3	4	6	11	14	7	11	2	2	2	4	14	4.6	24	
4	5	4	12	6	IZS	2	10	14	C	C	C	C	5	3	2	5	4	9	17	7	6	9	5	3	17	6.7	24	
5	4	3	2	IZS	2	2	3	3	3	5	2	3	2	3	3	5	7	8	7	11	6	7	6	10	11	4.7	24	
6	8	8	IZS	9	8	7	6	8	7	7	5	4	2	2	2	9	2	9	2	3	3	3	2	2	9	5.1	24	
7	1	IZS	2	5	7	6	2	4	4	3	3	3	3	3	12	3	4	4	4	8	4	3	4	12	4.1	24		
8	IZS	4	4	6	5	5	3	3	3	9	3	3	1	1	2	5	3	2	4	6	4	4	5	IZS	9	3.9	24	
9	6	5	4	4	16	6	4	5	7	8	9	6	5	4	5	5	6	4	3	3	2	2	IZS	2	16	5.3	24	
10	2	2	2	2	4	3	7	3	4	3	2	2	1	1	1	2	6	18	21	12	5	IZS	7	5	21	5.0	24	
11	3	3	7	6	6	5	9	6	7	7	8	7	6	M	M	N	N	N	N	N	N	N	N	N	9	6.2	13	
12	N	N	N	N	N	N	N	N	N	M	32	M	M	4	5	M	M	M	7	IZS	6	6	3	3	32	8.3	9	
13	3	3	3	3	3	3	7	11	10	C	C	C	C	C	C	C	C	10	IZS	12	13	10	16	15	16	8.1	24	
14	17	14	15	12	8	4	4	3	3	1	1	1	1	0	1	3	3	IZS	6	6	2	4	4	4	17	5.1	24	
15	3	2	3	2	2	2	4	3	5	5	4	6	4	7	6	8	IZS	7	13	8	7	7	11	9	13	5.6	24	
16	6	7	9	8	8	7	7	6	9	7	5	3	3	3	3	IZS	1	1	1	1	1	1	1	1	9	4.3	24	
17	4	3	3	4	2	6	7	6	3	9	2	2	1	1	IZS	1	2	3	2	2	1	5	1	2	9	3.1	24	
18	3	2	3	3	3	7	5	12	23	15	8	8	6	IZS	7	9	13	11	9	21	17	14	14	8	23	9.6	24	
19	8	5	4	4	3	4	4	5	7	7	3	2	IZS	3	3	17	18	22	10	11	13	15	21	19	22	9.0	24	
20	16	12	8	7	6	5	4	3	3	3	3	IZS	2	3	2	5	2	2	3	3	2	2	3	3	16	4.4	24	
21	6	6	4	8	14	5	3	3	2	2	IZS	1	1	1	1	1	1	1	1	1	2	2	1	6	14	3.2	24	
22	3	3	2	1	4	1	4	9	11	IZS	3	2	5	4	1	4	15	15	6	6	6	10	8	6	15	5.6	24	
23	4	6	8	6	7	11	8	8	IZS	7	11	4	4	4	4	6	10	11	11	11	9	9	9	10	11	7.7	24	
24	12	11	9	9	9	8	9	IZS	13	16	3	2	1	1	1	2	2	2	3	3	3	4	4	8	16	5.9	24	
25	2	1	1	1	4	4	IZS	10	10	8	5	5	5	4	4	4	4	4	4	2	2	1	1	2	10	3.8	24	
26	4	5	4	3	4	IZS	8	7	8	12	5	5	4	5	7	8	7	7	9	5	13	16	14	12	16	7.5	24	
27	6	4	2	3	IZS	10	10	3	6	3	5	2	1	1	2	3	2	2	3	3	7	6	4	8	10	4.2	24	
28	6	3	2	IZS	2	5	7	7	7	9	16	5	4	4	4	4	4	4	6	7	7	7	12	12	16	6.3	24	
29	7	8	IZS	9	9	10	7	7	6	6	7	8	12	6	3	3	2	1	2	1	1	1	1	2	12	5.2	24	
30	1	IZS	1	1	1	1	3	8	16	5	2	2	2	2	2	1	2	2	2	1	0	0	0	0	16	2.4	24	
HOURLY MAX	17	14	15	12	16	11	10	14	23	16	32	8	12	7	7	17	18	22	21	21	17	16	21	19				
HOURLY AVG	5.8	5.2	4.4	4.8	5.3	5.0	5.6	6.1	6.7	6.2	5.6	3.5	3.2	2.8	3.0	5.0	5.3	6.7	6.3	6.1	5.5	5.8	6.2	6.5				

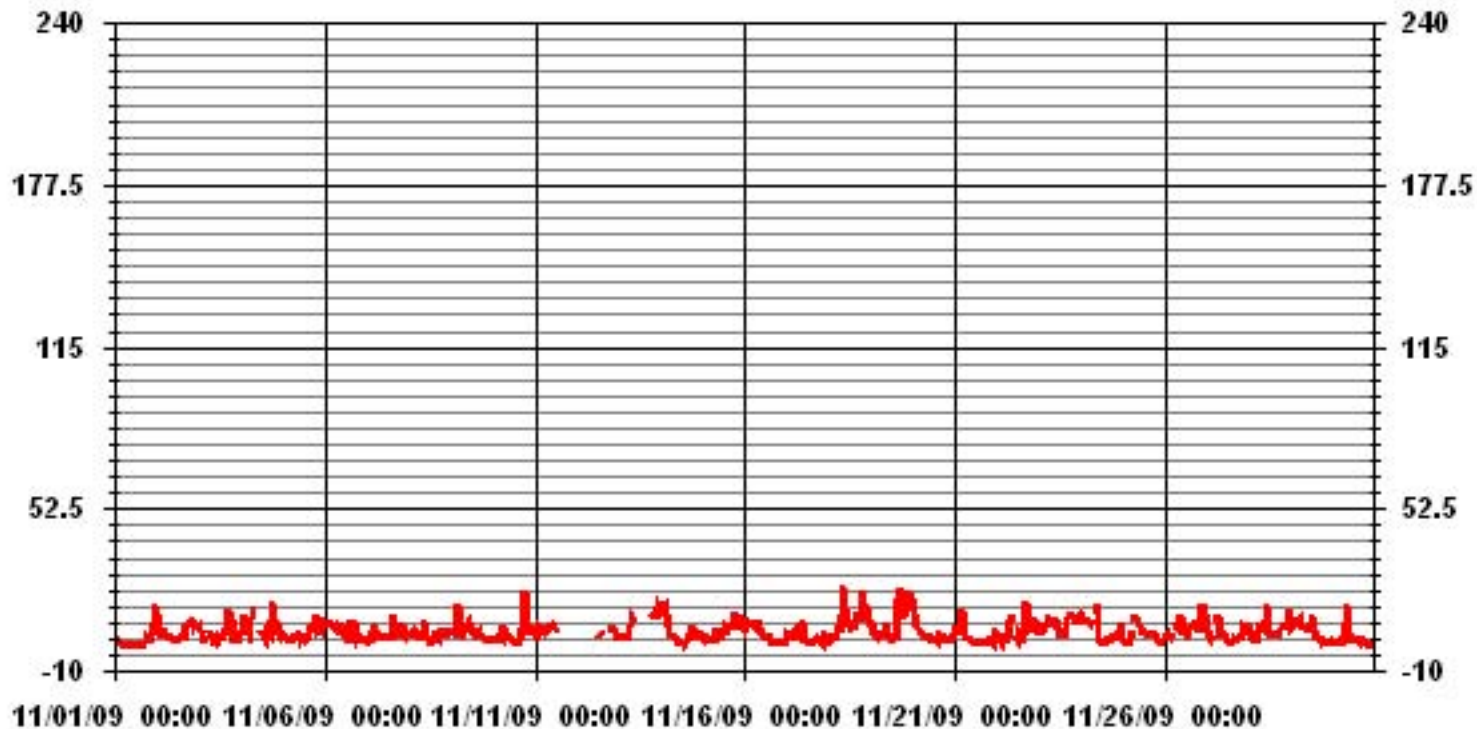
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	636					
MAXIMUM INSTANTANEOUS VALUE:	32	PPB	@ HOUR(S)	10	ON DAY(S)	12
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	694	HRS	
MONTHLY CALIBRATION TIME:	12	HRS				
STANDARD DEVIATION:	4.12					

01 Hour Averages



— LICA33 H02MAX PPB

LICA33
 NO2_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	1.33	.89	1.33	4.16	8.48	6.25	6.10	5.65	4.01	3.42	22.61	13.24	10.71	9.07	1.93	.74	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.33	.89	1.33	4.16	8.48	6.25	6.10	5.65	4.01	3.42	22.61	13.24	10.71	9.07	1.93	.74	

Calm : .00 %

Total # Operational Hours : 672

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	9	6	9	28	57	42	41	38	27	23	152	89	72	61	13	5	672
< 110																	
< 210																	
>= 210																	
Totals	9	6	9	28	57	42	41	38	27	23	152	89	72	61	13	5	

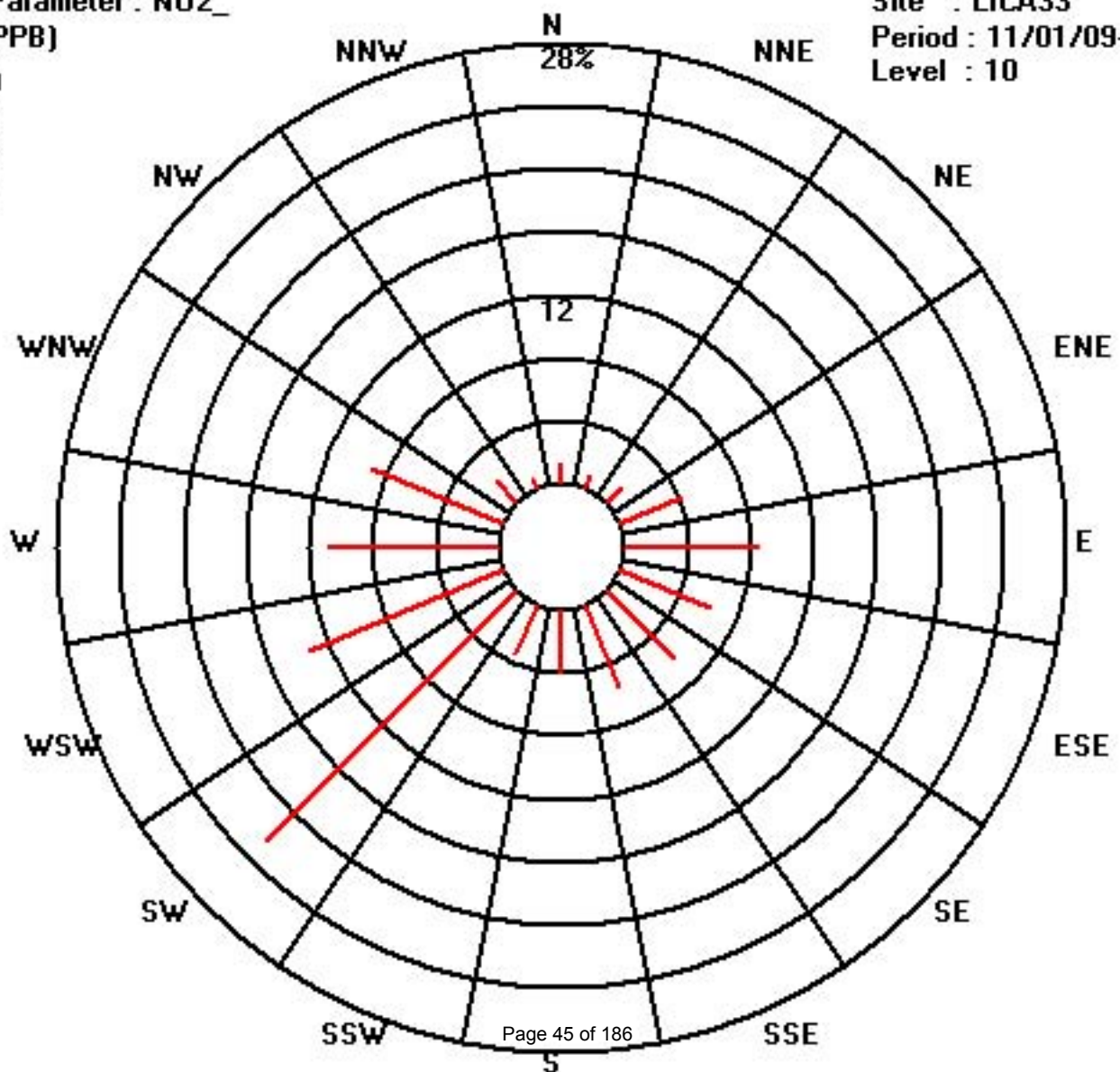
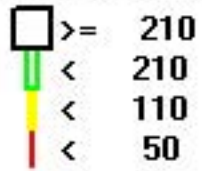
Calm : .00 %

Total # Operational Hours : 672

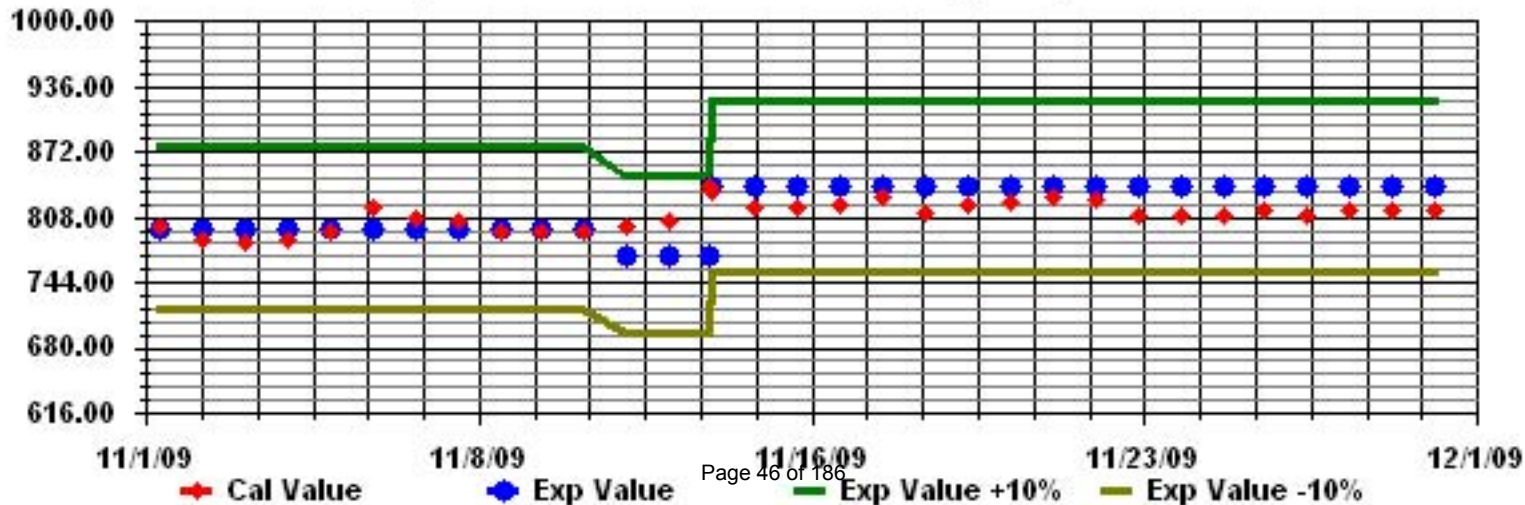
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



Calibration Graph for Site: LICA33 Parameter: NO2_ Sequence: NO2 Phase: SPAN



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

NITRIC OXIDE hourly averages in ppb

MST

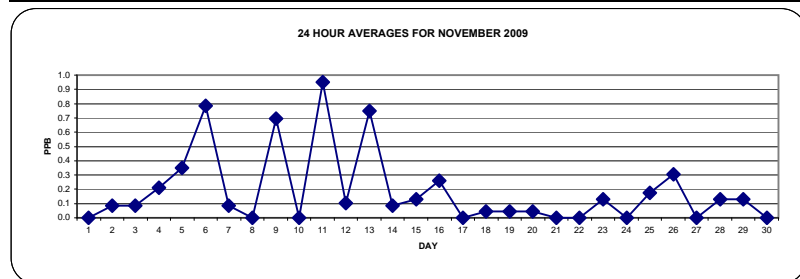
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00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

STATUS FLAG CODES

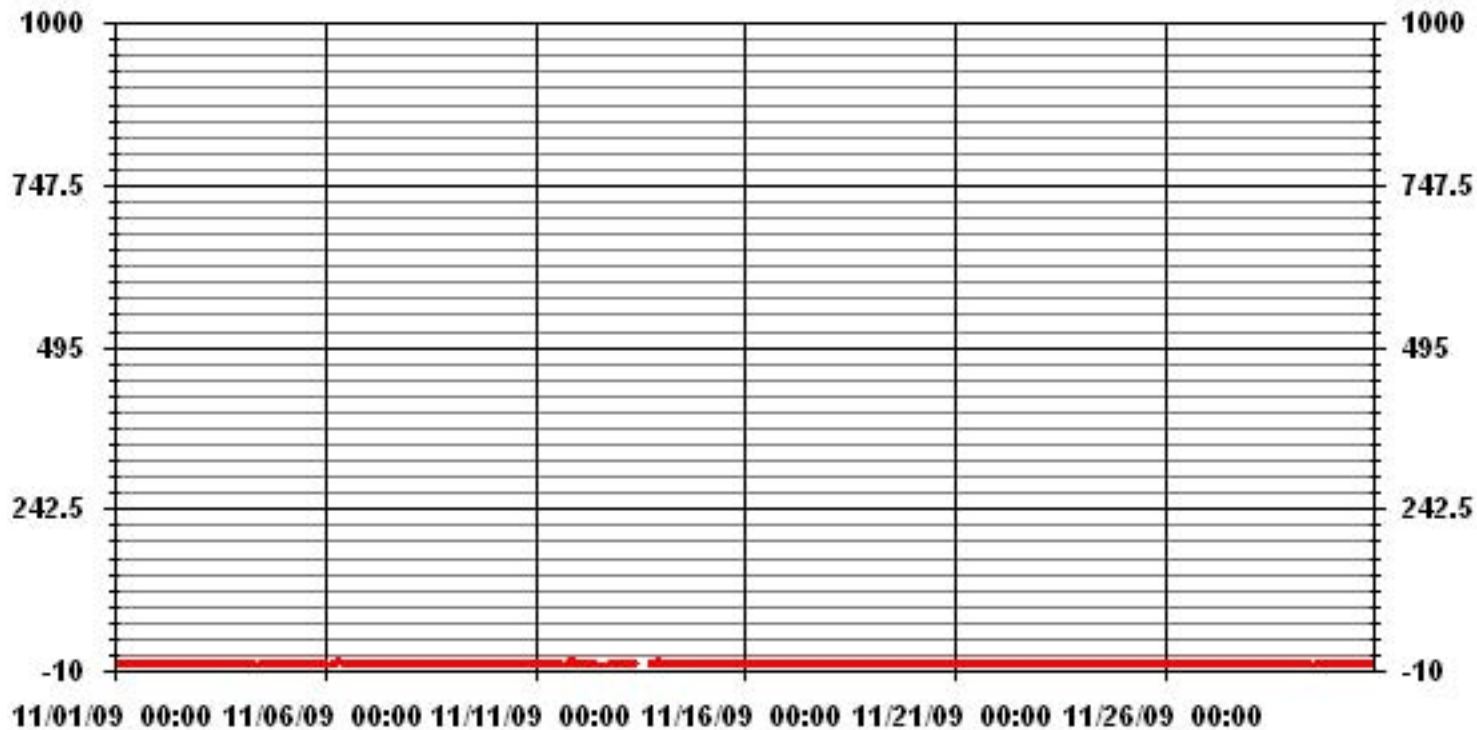
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	70					
MAXIMUM 1-HR AVERAGE:	7	PPB	@ HOUR(S)	21	ON DAY(S)	11
MAXIMUM 24-HR AVERAGE:	1.0	PPB			ON DAY(S)	11
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	714	HRS	
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME	99.2	%	
STANDARD DEVIATION	0.67		MONTHLY AVERAGE	0.18	PPB	



01 Hour Averages



— LICA33 NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

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	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	0	1	1	0	0	1	1	1	1	0	0	0	1	0	0	0	0	1	0.3	24	
3	0	0	0	0	0	0	IZS	1	2	0	0	0	1	1	1	1	2	1	0	1	0	0	0	0	0	2	0.5	24	
4	0	0	0	0	0	IZS	0	0	6	C	C	C	C	3	2	1	1	0	0	1	0	0	0	0	0	6	0.7	24	
5	0	0	0	0	IZS	0	0	0	0	1	2	1	1	2	2	1	1	1	0	0	2	0	0	0	3	3	0.7	24	
6	1	3	IZS	3	3	2	1	7	11	11	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	11	2.2	24	
7	0	IZS	0	0	0	0	0	6	1	1	1	1	1	1	1	17	0	0	0	0	0	0	0	0	0	17	1.3	24	
8	IZS	0	0	0	0	0	0	1	1	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	6	0.5	24
9	1	0	0	0	4	0	0	0	2	6	7	4	3	2	2	1	0	0	0	0	0	0	0	0	IZS	0	7	1.4	24
10	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	1	10	24	0	0	IZS	1	0	24	1.7	24		
11	0	0	0	0	0	0	0	0	1	4	8	4	3	M	M	N	N	N	N	N	N	N	N	N	N	8	1.5	13	
12	N	N	N	N	N	N	N	N	N	M	C	M	M	1	1	M	M	M	0	IZS	0	0	0	0	0	3	0.6	9	
13	0	0	0	0	0	0	0	1	1	C	C	C	C	C	C	C	1	IZS	1	0	0	0	7	9	9	1.3	24		
14	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	IZS	0	0	0	0	0	0	0	8	0.5	24	
15	0	0	0	0	0	0	0	0	0	0	1	1	2	2	1	1	1	IZS	0	2	0	0	0	1	1	2	0.6	24	
16	0	0	0	0	0	1	0	0	2	2	4	2	1	0	0	IZS	0	0	0	0	0	0	0	0	0	4	0.5	24	
17	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	2	0.1	24	
18	0	0	0	0	0	0	0	0	8	2	1	1	1	IZS	2	1	1	0	0	0	0	0	0	2	0	8	0.8	24	
19	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	0	2	2	2	0	1	0	0	6	1	6	0.7	24		
20	5	0	0	0	0	0	0	0	0	0	0	1	IZS	1	0	0	0	0	0	0	0	0	0	0	0	5	0.3	24	
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	0	0	0	0	0	0	0	1	29	IZS	1	1	1	0	0	0	0	0	0	1	0	0	0	0	29	1.5	24		
23	0	0	0	0	0	0	0	0	IZS	1	4	1	1	1	1	0	0	1	0	0	0	0	0	0	4	0.4	24		
24	0	0	0	0	0	0	0	0	IZS	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.4	24		
25	0	0	0	0	0	0	0	IZS	0	4	3	2	2	1	1	0	0	0	0	0	0	0	0	0	4	0.6	24		
26	0	0	0	0	0	0	IZS	0	2	1	34	5	3	2	2	1	1	0	0	0	0	0	0	0	34	2.3	24		
27	0	0	0	0	0	IZS	0	0	0	0	1	9	2	0	0	0	2	0	0	0	0	0	0	0	9	0.6	24		
28	0	0	0	0	IZS	0	0	0	0	0	2	14	2	1	1	1	0	0	0	0	0	0	0	0	14	0.9	24		
29	0	0	0	IZS	0	0	0	0	0	0	0	2	2	18	1	0	0	0	0	0	0	0	0	0	18	1.0	24		
30	0	IZS	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24		
HOURLY MAX	8	3	1	3	4	2	1	7	29	34	14	4	18	2	2	17	2	10	24	2	1	0	7	9					
HOURLY AVG	0.5	0.1	0.0	0.1	0.3	0.1	0.1	1.0	2.4	3.5	2.6	1.2	1.6	0.7	0.6	1.3	0.4	0.6	1.0	0.2	0.0	0.0	0.6	0.5					

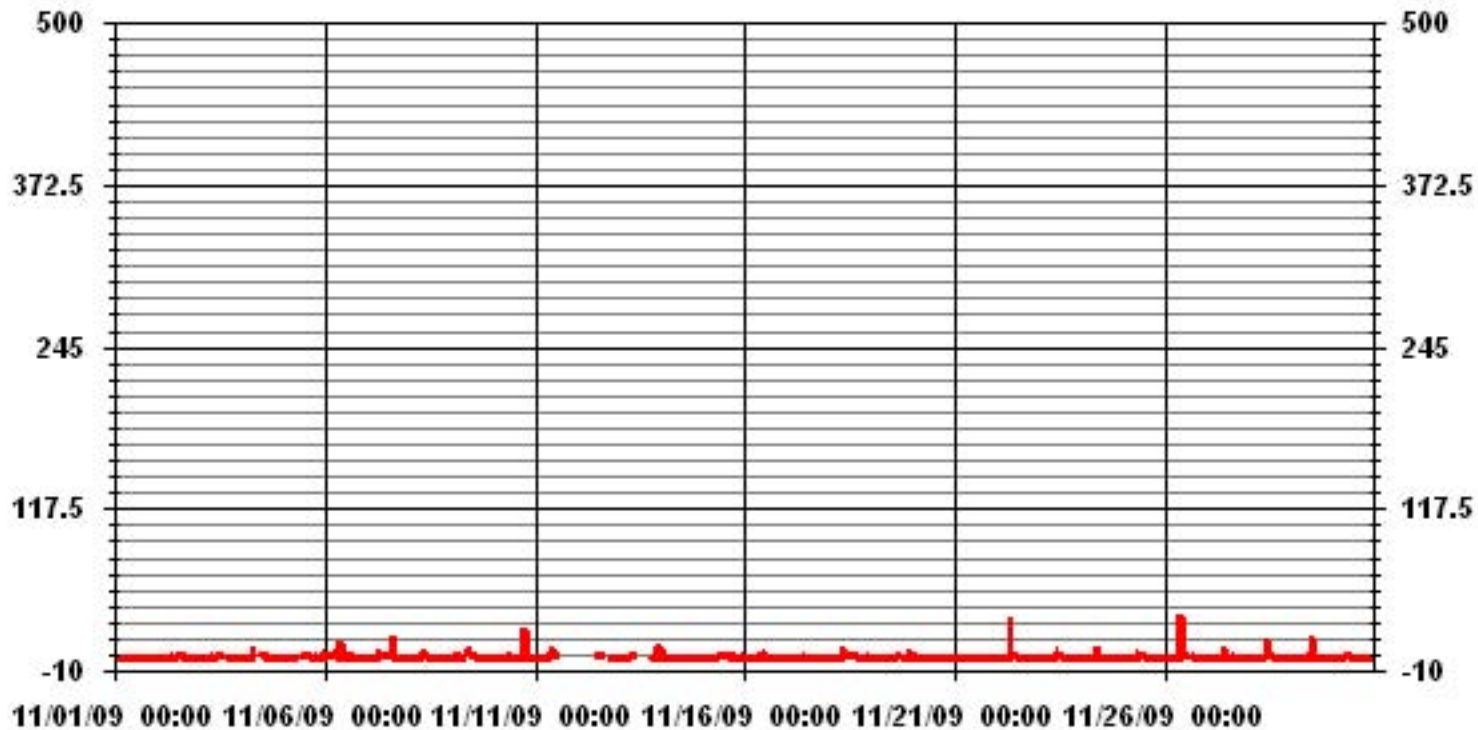
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	181					
MAXIMUM INSTANTANEOUS VALUE:	34	PPB	@ HOUR(S)	9	ON DAY(S)	26
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	694	HRS	
MONTHLY CALIBRATION TIME:	12	HRS				
STANDARD DEVIATION:	2.65					

01 Hour Averages



LICA33
 NO_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	1.33	.89	1.33	4.16	8.48	6.25	6.10	5.65	4.01	3.42	22.61	13.24	10.71	9.07	1.93	.74	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.33	.89	1.33	4.16	8.48	6.25	6.10	5.65	4.01	3.42	22.61	13.24	10.71	9.07	1.93	.74	

Calm : .00 %

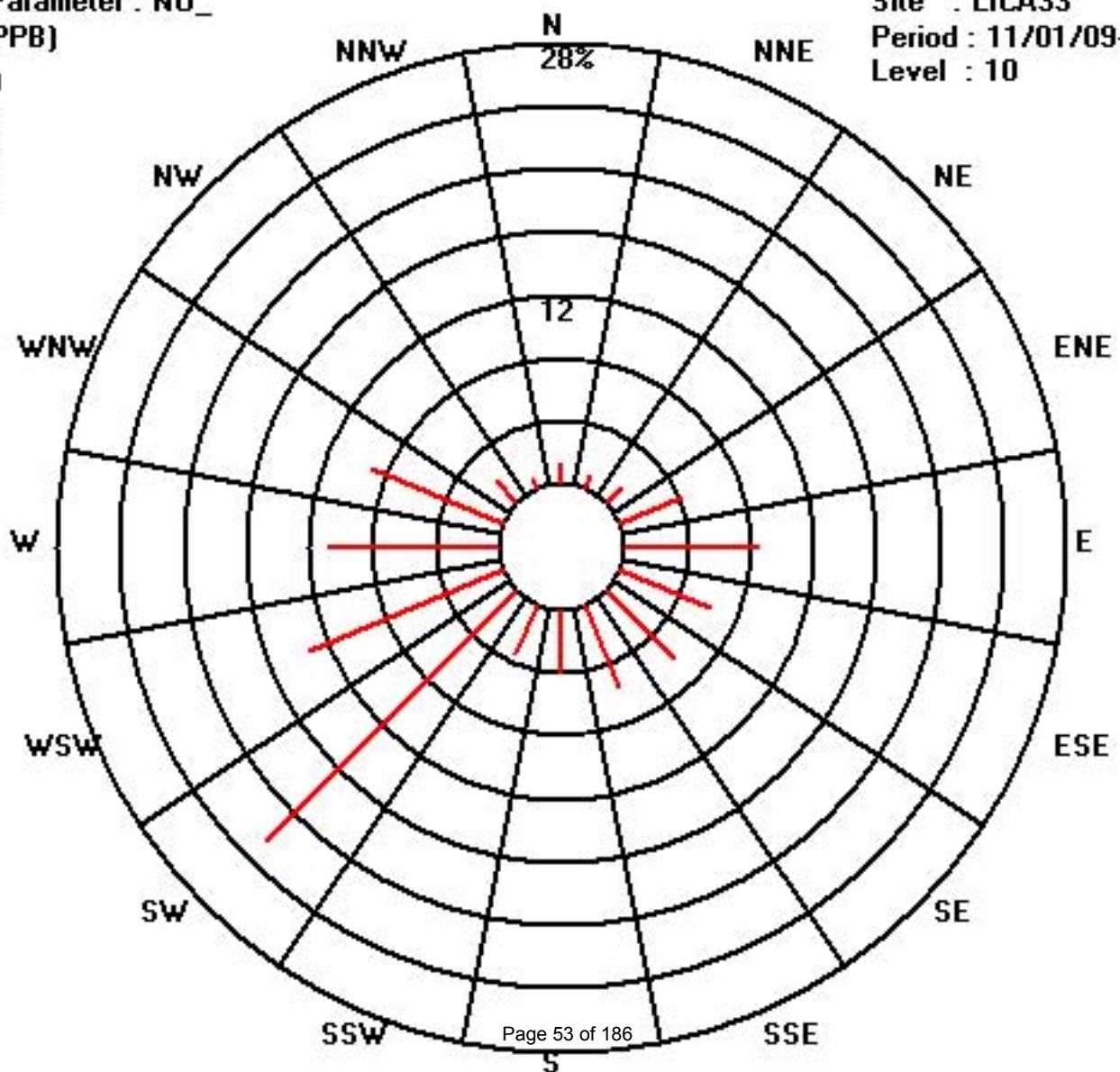
Total # Operational Hours : 672

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	9	6	9	28	57	42	41	38	27	23	152	89	72	61	13	5	672
< 110																	
< 210																	
>= 210																	
Totals	9	6	9	28	57	42	41	38	27	23	152	89	72	61	13	5	

Calm : .00 %

Total # Operational Hours : 672



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

OXIDES OF NITROGEN hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	0	1	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	1	1	1	2	4	9	9	0.8	24	
2	8	4	1	3	4	3	IZS	2	2	2	2	2	2	3	3	3	5	5	6	6	7	6	6	4	8	3.9	24	
3	5	3	2	1	1	IZS	4	3	1	2	1	2	2	3	4	7	9	9	4	5	1	1	1	2	9	3.2	24	
4	3	3	6	2	IZS	1	4	13	C	C	C	C	6	4	2	3	4	6	10	5	5	5	4	2	13	4.6	24	
5	3	2	1	IZS	1	1	1	2	2	4	3	3	3	3	3	4	5	7	5	8	5	7	6	10	10	3.9	24	
6	6	8	IZS	6	10	8	6	9	11	8	6	4	2	1	1	1	1	3	2	2	1	1	1	1	11	4.3	24	
7	1	IZS	1	3	3	2	2	3	4	4	4	4	3	3	3	4	3	3	3	3	5	3	3	3	5	3.0	24	
8	IZS	4	4	5	4	4	3	2	3	3	3	2	1	0	1	2	1	2	2	3	3	4	4	IZS	5	2.7	24	
9	5	4	3	3	8	5	3	4	5	9	12	8	6	5	5	5	5	3	2	2	2	2	2	IZS	2	12	4.7	24
10	1	1	1	1	2	2	3	3	3	3	2	1	1	1	1	1	2	6	6	6	3	IZS	5	3	6	2.5	24	
11	3	2	4	5	5	4	5	4	6	7	11	10	8	M	M	9	10	17	15	14	IZS	26	18	14	26	9.4	22	
12	9	7	5	6	3	2	3	2	3	3	3	M	M	5	5	M	M	11	4	IZS	5	4	2	2	11	4.5	20	
13	2	2	2	2	1	2	4	6	7	9	C	C	C	C	C	C	C	9	IZS	8	9	7	16	20	20	6.6	24	
14	15	12	13	10	4	2	2	2	1	1	0	0	0	0	0	0	1	IZS	4	3	1	2	3	3	15	3.4	24	
15	1	1	2	1	1	1	2	2	3	5	4	5	5	5	6	5	IZS	5	10	6	6	5	7	6	10	4.1	24	
16	5	6	6	6	5	4	5	4	8	8	7	3	3	3	3	IZS	1	1	0	0	0	0	0	0	8	3.4	24	
17	1	0	1	1	1	3	4	3	2	5	2	1	1	0	IZS	0	1	2	1	0	0	1	0	1	5	1.3	24	
18	2	1	1	1	1	4	3	6	15	6	5	4	5	IZS	6	8	11	9	7	13	13	12	10	7	15	6.5	24	
19	5	3	3	3	3	3	2	3	4	5	2	2	IZS	3	2	5	9	14	8	9	10	12	17	15	17	6.2	24	
20	13	8	7	6	4	4	2	1	2	3	3	IZS	3	3	2	4	2	2	3	2	2	2	2	2	13	3.6	24	
21	3	4	3	7	11	4	3	2	2	2	IZS	0	1	1	0	0	1	1	0	0	1	1	0	2	11	2.1	24	
22	1	1	1	0	1	0	2	6	6	IZS	3	2	4	2	1	1	3	6	3	4	2	6	6	4	6	2.8	24	
23	3	4	6	5	6	7	4	5	IZS	6	7	3	5	5	4	4	6	6	8	8	6	7	7	7	8	5.6	24	
24	9	9	8	8	7	6	7	IZS	7	5	2	1	0	0	0	1	0	1	1	1	2	2	1	3	9	3.5	24	
25	1	0	0	0	1	2	IZS	5	8	7	7	6	5	4	3	3	3	3	3	2	1	1	1	1	8	2.8	24	
26	1	3	3	2	1	IZS	6	5	4	8	5	5	5	5	6	7	5	5	6	4	8	14	12	9	14	5.6	24	
27	4	2	1	1	IZS	3	5	2	3	2	2	1	1	1	1	2	1	1	2	2	3	2	1	5	5	2.1	24	
28	2	1	1	IZS	2	3	6	7	6	8	6	5	3	3	4	3	3	3	4	5	6	6	8	8	8	4.5	24	
29	6	7	IZS	8	8	8	6	6	5	6	7	7	9	5	2	2	1	0	1	0	0	0	0	0	9	4.1	24	
30	0	IZS	0	0	0	0	1	3	3	3	1	1	1	1	1	0	1	1	1	0	0	0	0	0	3	0.8	24	
HOURLY MAX	15	12	13	10	11	8	7	13	15	9	12	10	9	5	6	9	11	17	15	14	13	26	18	20				
HOURLY AVG	4.1	3.7	3.1	3.4	3.5	3.2	3.5	4.1	4.5	4.8	4.1	3.2	3.1	2.6	2.6	3.1	3.5	4.9	4.2	4.2	3.7	4.9	5.0	5.0				

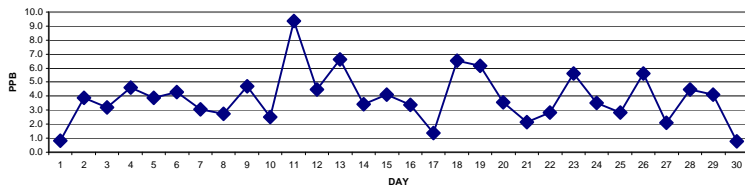
STATUS FLAG CODES

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

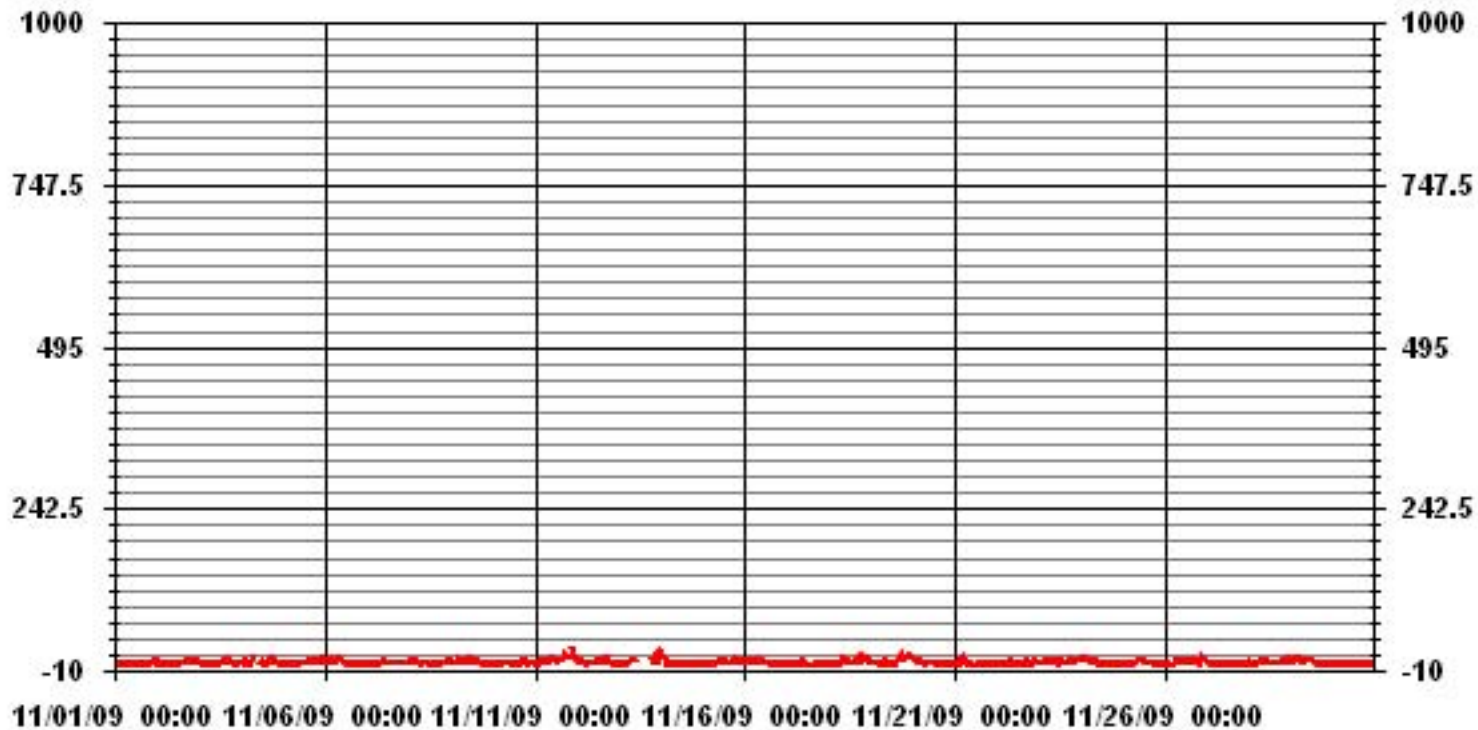
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	605				
MAXIMUM 1-HR AVERAGE:	26	PPB	@ HOUR(S)	21	ON DAY(S) 11
MAXIMUM 24-HR AVERAGE:	9.4	PPB			ON DAY(S) 11
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	714	HRS
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME	99.2	%
STANDARD DEVIATION	3.36		MONTHLY AVERAGE	3.84	PPB

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA33 NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	1	2	1	1	0	0	1	IZS	1	1	0	0	0	0	0	0	1	3	2	1	4	8	16	16	16	1.9	24	
2	12	8	3	5	5	5	IZS	4	4	3	2	3	4	4	4	8	9	9	8	11	7	9	7	12	12	6.0	24	
3	8	6	2	2	2	IZS	5	6	3	3	2	2	3	4	6	7	13	15	7	12	2	2	5	15	15	5.2	24	
4	5	4	13	6	IZS	2	10	21	C	C	C	C	9	5	3	6	4	9	18	7	6	9	5	3	21	7.6	24	
5	5	3	3	IZS	2	2	3	4	4	7	3	4	4	5	4	6	7	8	7	13	6	7	7	13	13	5.5	24	
6	9	11	IZS	12	11	9	7	13	18	18	8	6	3	2	2	10	2	9	2	3	3	3	2	2	18	7.2	24	
7	1	IZS	2	6	7	6	3	6	5	4	5	5	4	4	27	3	4	4	5	9	4	3	4	27	5.4	24		
8	IZS	4	4	6	5	5	4	4	4	15	5	4	1	1	2	5	3	2	4	7	4	4	5	IZS	15	4.5	24	
9	7	5	4	3	20	6	4	6	8	15	16	9	9	5	6	7	6	4	3	2	2	2	IZS	2	20	6.6	24	
10	2	2	2	2	4	3	7	4	4	4	3	2	2	1	2	2	6	25	46	12	5	IZS	7	5	46	6.6	24	
11	3	3	7	7	6	5	6	6	9	11	17	12	9	M	M	N	N	N	N	N	N	N	N	N	17	7.8	13	
12	N	N	N	N	N	N	N	N	N	M	36	M	M	6	6	M	M	M	6	IZS	6	6	3	3	36	9.0	9	
13	3	3	3	3	2	3	7	13	10	C	C	C	C	C	C	C	12	IZS	13	14	10	23	24	24	9.5	24		
14	20	15	16	13	8	4	3	3	2	1	1	0	1	0	1	3	4	IZS	6	5	2	3	3	4	20	5.1	24	
15	3	2	2	2	2	1	4	3	5	6	5	8	6	8	8	9	IZS	7	15	9	7	7	12	10	15	6.1	24	
16	6	7	10	8	8	8	7	6	12	10	10	6	3	3	4	IZS	1	1	1	1	1	0	1	0	12	5.0	24	
17	3	3	2	3	2	6	6	5	3	10	3	2	1	1	IZS	8	1	2	3	2	1	1	4	1	2	10	2.9	24
18	3	2	3	2	2	7	5	13	31	17	9	9	6	IZS	8	10	14	11	9	21	18	14	15	8	31	10.3	24	
19	7	5	4	4	4	4	3	5	7	7	3	3	IZS	4	4	20	21	25	10	12	13	15	28	20	28	9.9	24	
20	17	13	8	7	5	5	3	2	3	4	4	IZS	4	5	4	7	3	3	4	3	3	3	4	4	17	5.1	24	
21	7	7	4	9	15	6	4	3	3	3	IZS	1	1	1	1	1	1	1	1	1	1	1	1	6	15	3.4	24	
22	2	3	1	0	4	1	4	11	36	IZS	4	3	6	5	1	4	15	15	5	7	6	10	8	6	36	6.8	24	
23	4	6	8	6	7	11	8	8	IZS	8	15	4	6	5	5	6	10	12	11	11	9	9	8	10	15	8.1	24	
24	12	11	9	9	9	8	8	IZS	15	19	3	2	1	1	1	2	2	2	2	2	2	3	4	8	19	5.9	24	
25	1	1	1	1	3	3	IZS	11	13	12	8	8	6	5	5	4	4	4	3	2	1	1	1	1	13	4.3	24	
26	3	5	4	2	3	IZS	8	9	9	44	10	8	7	7	9	9	8	7	8	5	13	17	15	12	44	9.7	24	
27	6	3	2	3	IZS	11	10	3	6	5	14	5	2	1	1	5	2	2	3	3	7	6	3	8	14	4.8	24	
28	6	3	2	IZS	2	5	7	7	8	12	30	7	6	4	5	4	5	4	6	7	7	7	12	12	30	7.3	24	
29	7	8	IZS	9	9	10	7	7	6	7	9	9	25	7	3	2	1	1	2	1	1	1	1	1	25	5.8	24	
30	1	IZS	1	1	1	1	3	9	17	6	2	1	1	2	2	1	1	1	1	1	0	0	0	0	17	2.3	24	
HOURLY MAX	20	15	16	13	20	11	10	21	36	44	36	12	25	8	9	27	21	25	46	21	18	17	28	24				
HOURLY AVG	5.9	5.4	4.5	4.9	5.5	5.1	5.4	7.1	9.1	9.7	8.4	4.7	4.8	3.6	3.7	6.2	5.6	7.3	7.1	6.3	5.6	5.7	6.8	7.0				

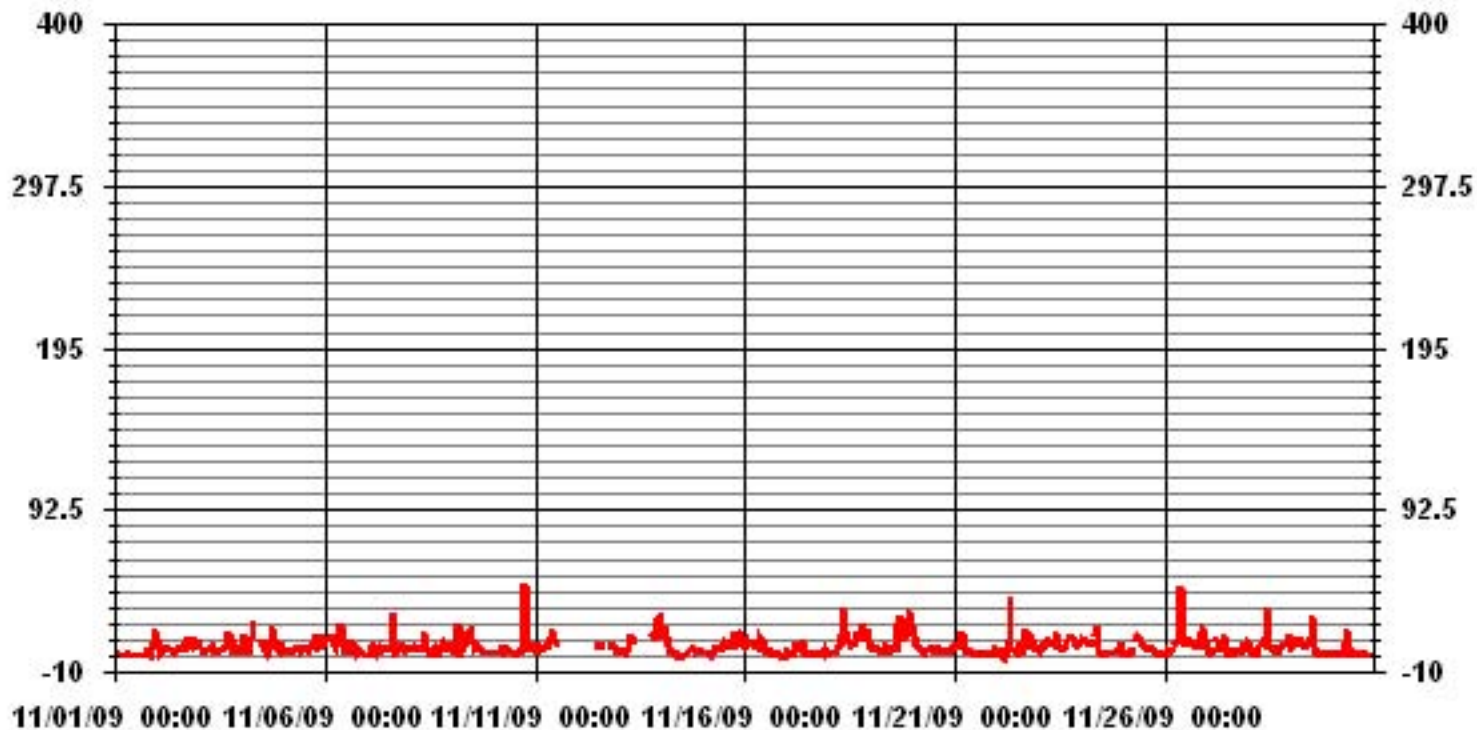
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	634
MAXIMUM INSTANTANEOUS VALUE:	46 PPB @ HOUR(S) 18 ON DAY(S) 10
IZS CALIBRATION TIME:	30 HRS
MONTHLY CALIBRATION TIME:	12 HRS
STANDARD DEVIATION:	5.56
OPERATIONAL TIME:	694 HRS

01 Hour Averages



— LICA33 NOxMAX PPB

LICA33
 NOX_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	1.33	.89	1.33	4.16	8.48	6.25	6.10	5.65	4.01	3.42	22.61	13.24	10.71	9.07	1.93	.74	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.33	.89	1.33	4.16	8.48	6.25	6.10	5.65	4.01	3.42	22.61	13.24	10.71	9.07	1.93	.74	

Calm : .00 %

Total # Operational Hours : 672

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	9	6	9	28	57	42	41	38	27	23	152	89	72	61	13	5	672
< 110																	
< 210																	
>= 210																	
Totals	9	6	9	28	57	42	41	38	27	23	152	89	72	61	13	5	

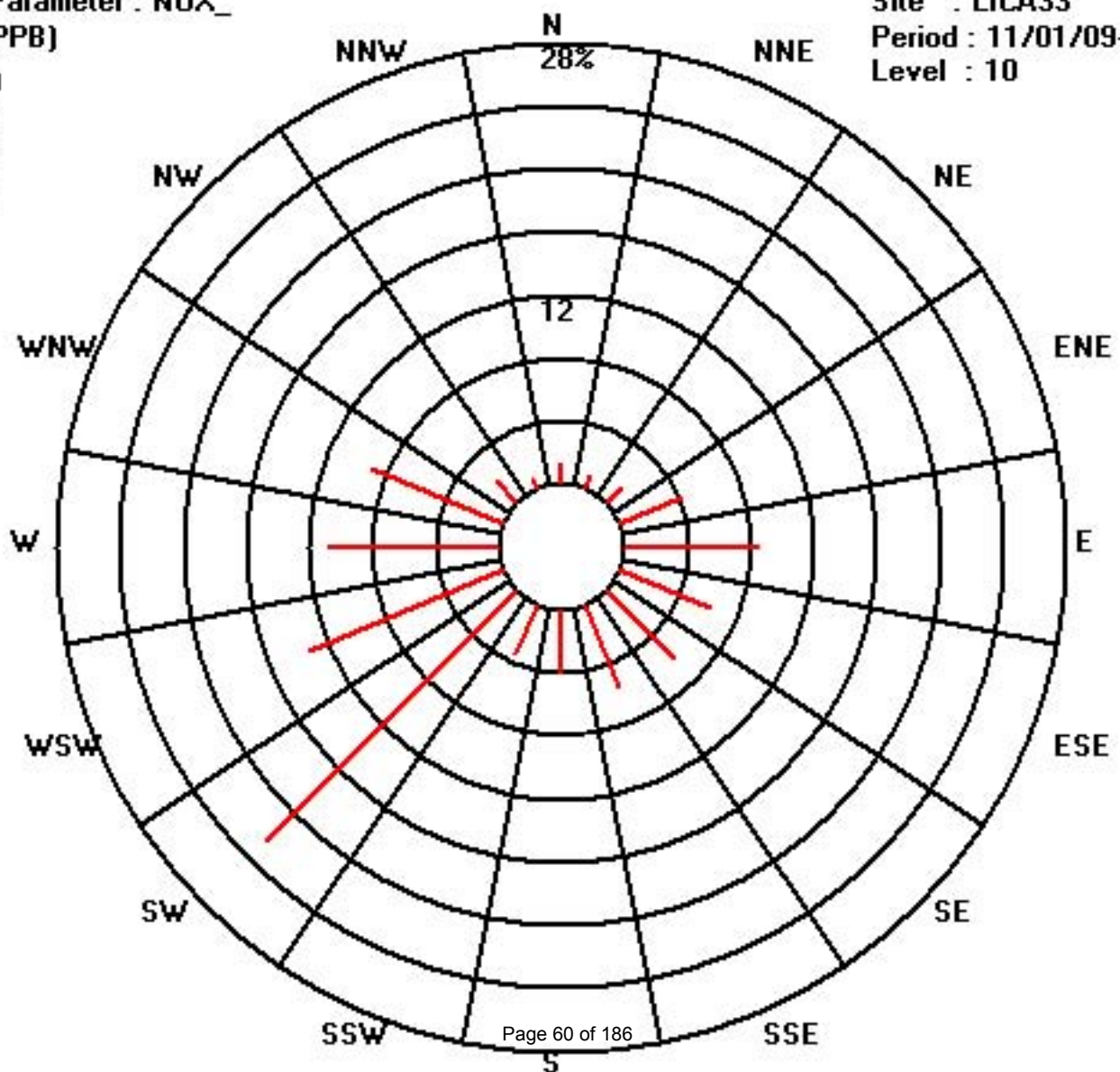
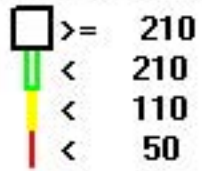
Calm : .00 %

Total # Operational Hours : 672

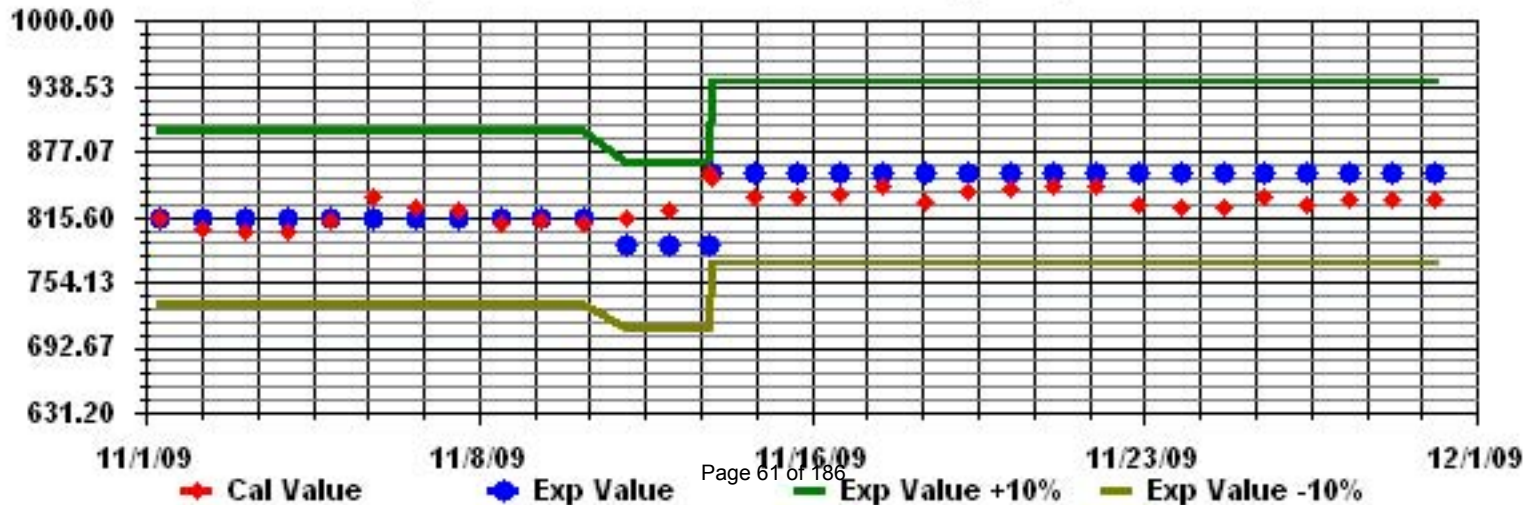
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



Calibration Graph for Site: LICA33 Parameter: NOX_ Sequence: NO2 Phase: SPAN



Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

OZONE (O₃) hourly averages in ppb

MST

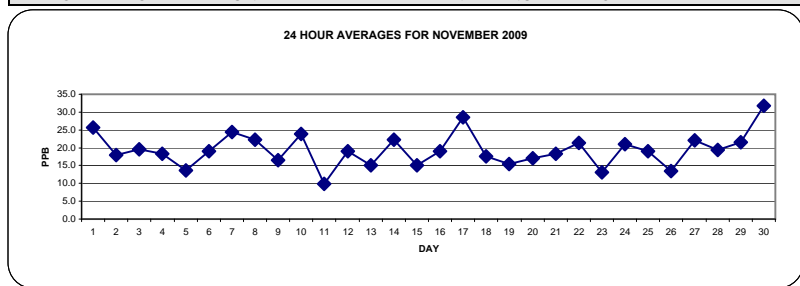
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
DAY																												
1	26	27	28	22	15	16	17	IZS	19	20	23	26	28	29	30	33	35	34	33	32	32	29	22	16	35	25.7	24	
2	15	13	15	12	15	20	IZS	24	25	25	26	26	24	20	19	18	16	17	16	15	13	13	13	13	26	18.0	24	
3	13	18	21	22	21	IZS	15	17	22	22	22	21	21	19	17	16	15	13	21	19	27	25	24	21	27	19.7	24	
4	18	19	14	18	IZS	16	12	6	7	17	21	C	C	28	31	31	24	18	13	18	19	17	17	19	31	18.2	24	
5	21	22	22	IZS	22	22	20	18	16	16	17	16	16	15	14	12	8	5	7	7	5	5	2	22	13.7	24		
6	5	3	IZS	4	0	0	0	0	3	15	21	27	33	35	34	35	34	27	27	27	28	27	26	28	35	19.1	24	
7	27	IZS	27	25	24	24	24	22	23	24	26	28	30	30	28	25	23	25	24	22	19	20	20	21	30	24.4	24	
8	IZS	16	16	16	16	18	20	21	21	23	25	26	29	31	29	28	26	24	23	21	20	20	19	IZS	31	22.2	24	
9	16	17	13	10	7	8	9	9	7	10	15	19	22	23	20	19	18	21	23	22	23	25	IZS	24	25	16.5	24	
10	23	21	18	19	17	13	16	19	22	27	31	32	34	35	34	30	30	22	22	20	22	IZS	20	22	35	23.9	24	
11	20	15	15	15	16	13	11	7	9	8	9	13	15	M	M	13	10	5	4	3	IZS	0	2	4	20	9.9	22	
12	10	14	16	14	17	17	17	14	15	18	22	25	25	26	26	24	21	18	18	IZS	18	20	21	21	26	19.0	24	
13	21	20	20	20	16	18	14	13	12	13	16	21	22	23	23	19	C	C	C	C	4	5	1	0	23	15.1	24	
14	3	4	5	8	19	23	22	24	28	29	30	31	32	35	34	32	27	IZS	20	19	24	22	21	18	35	22.2	24	
15	24	21	21	22	19	16	15	18	15	14	18	20	19	19	17	14	IZS	9	5	8	8	8	7	9	24	15.0	24	
16	8	7	7	6	7	7	7	6	6	9	12	23	25	25	24	IZS	34	33	32	32	31	32	32	31	34	19.0	24	
17	29	27	25	21	20	13	13	15	22	21	28	35	36	40	IZS	39	36	32	34	36	38	32	32	31	40	28.5	24	
18	28	28	29	27	23	19	18	17	11	22	22	23	23	IZS	26	19	13	9	10	7	5	7	8	11	29	17.6	24	
19	14	19	18	17	17	19	18	16	15	16	22	24	IZS	25	25	20	15	12	14	10	10	8	2	1	25	15.5	24	
20	4	8	10	12	15	16	18	19	20	20	21	IZS	23	23	23	20	19	19	19	18	17	17	16	17	23	17.1	24	
21	14	13	12	8	5	14	15	17	17	18	IZS	22	20	18	20	22	23	23	23	24	23	24	21	24	18.3	24		
22	20	22	23	24	24	26	21	18	19	IZS	29	30	33	35	33	30	22	17	14	12	12	11	11	7	35	21.4	24	
23	10	7	11	10	10	9	12	12	IZS	11	14	17	16	19	20	20	18	16	13	14	13	11	11	8	20	13.1	24	
24	8	8	8	9	11	11	10	IZS	15	21	28	31	31	31	31	30	30	29	28	27	25	19	23	20	31	21.0	24	
25	21	22	21	21	16	13	IZS	9	5	12	18	20	22	25	25	22	19	19	20	23	23	21	20	21	25	19.0	24	
26	20	15	15	16	15	IZS	8	9	10	11	14	17	18	16	12	10	14	17	16	18	12	7	8	11	20	13.4	24	
27	16	19	21	22	IZS	19	17	21	20	21	23	26	27	28	28	26	26	25	24	24	20	20	19	15	28	22.0	24	
28	18	20	20	IZS	19	16	13	13	14	16	21	24	26	27	26	23	23	22	21	18	17	14	15	27	19.3	24		
29	15	13	IZS	10	9	12	12	9	9	12	16	15	16	22	25	28	32	34	34	34	33	36	36	34	36	21.6	24	
30	36	IZS	33	32	33	32	30	26	25	25	28	30	31	32	34	34	34	33	32	33	35	35	35	34	36	31.8	24	
HOURLY MAX	36	28	33	32	33	32	30	26	28	29	31	35	36	40	34	39	36	34	34	36	38	36	36	34				
HOURLY AVG	17.3	16.4	18.0	16.5	16.0	16.1	15.1	15.0	15.6	17.8	21.3	23.9	24.9	26.2	25.3	23.9	23.0	20.6	20.3	20.1	20.0	18.4	17.6	17.1				

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:

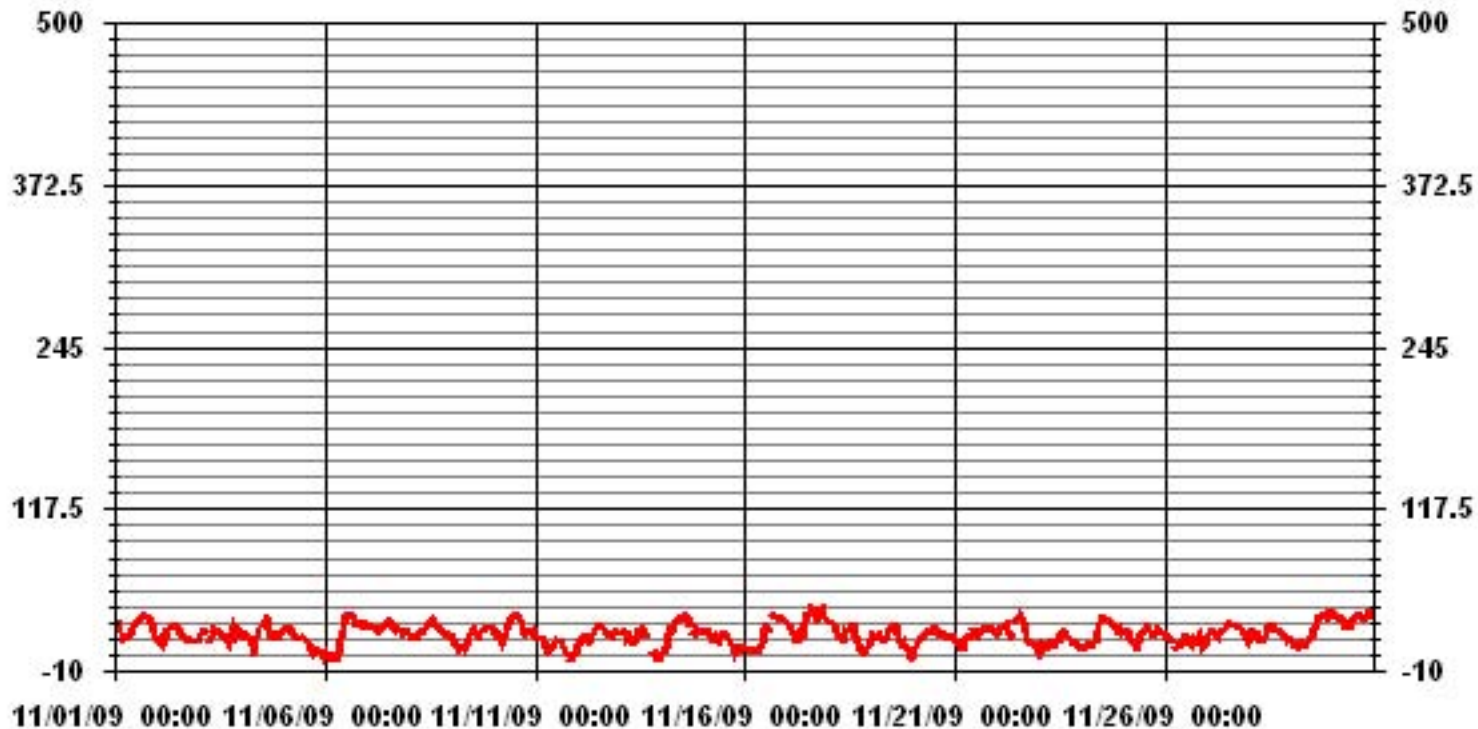
ALBERTA ENVIRONMENT: 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	676					
MAXIMUM 1-HR AVERAGE:	40	PPB	@ HOUR(S)	13	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	31.8	PPB			ON DAY(S)	30
					VAR-VARIOUS	
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME	99.7	%	
STANDARD DEVIATION	8.07		MONTHLY AVERAGE	19.42	PPB	

01 Hour Averages



— LICA33_03_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

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	29	29	29	26	18	18	18	IZS	20	22	26	27	29	30	31	36	36	35	35	33	33	33	26	23	36	27.9	24	
2	19	19	19	15	19	23	IZS	27	27	27	28	27	26	21	20	19	18	20	18	17	16	14	15	16	28	20.4	24	
3	15	22	22	23	22	IZS	17	21	25	24	24	22	22	20	19	17	17	16	23	26	28	28	26	25	28	21.9	24	
4	21	22	18	19	IZS	18	16	8	9	20	23	C	C	31	33	33	31	23	18	20	20	19	18	21	33	21.0	24	
5	23	23	24	IZS	24	23	22	19	18	18	18	17	17	16	15	15	11	7	10	9	8	6	6	5	24	15.4	24	
6	6	6	IZS	6	1	1	2	2	6	21	22	32	36	36	35	37	36	32	29	29	30	30	28	29	37	21.4	24	
7	29	IZS	28	27	28	26	25	23	24	27	27	29	31	32	30	27	25	28	26	24	22	21	22	22	32	26.2	24	
8	IZS	17	18	17	17	20	22	22	23	24	27	27	31	31	31	29	29	25	24	24	22	21	20	IZS	31	23.7	24	
9	19	20	16	13	15	12	13	11	10	13	18	22	23	24	22	20	19	23	24	24	25	27	IZS	25	27	19.0	24	
10	25	22	21	22	22	19	19	21	24	29	32	34	36	35	35	33	32	27	28	25	24	IZS	24	24	36	26.7	24	
11	22	19	19	19	19	18	18	15	12	10	12	16	17	M	M	N	N	N	N	N	N	N	N	N	22	16.6	13	
12	N	N	N	N	N	N	N	N	N	M	25	26	27	27	28	26	23	21	20	IZS	19	22	23	23	28	23.8	14	
13	23	21	22	22	20	21	17	17	14	14	19	22	25	24	24	C	C	C	C	C	8	9	5	2	25	17.3	24	
14	5	6	7	13	21	24	24	26	29	30	31	32	34	36	35	35	31	IZS	23	23	26	24	24	22	36	24.4	24	
15	25	24	22	24	22	20	19	19	18	17	20	22	20	21	20	17	IZS	11	10	12	10	10	11	11	25	17.6	24	
16	10	8	8	8	8	9	9	8	8	13	15	26	27	27	26	IZS	35	34	34	33	32	33	32	32	35	20.7	24	
17	31	29	27	27	24	18	18	20	24	24	31	38	38	41	IZS	40	38	35	38	38	40	39	34	33	41	31.5	24	
18	31	31	31	30	30	24	22	24	19	24	24	25	25	IZS	28	22	23	17	14	12	7	10	12	15	31	21.7	24	
19	19	20	20	19	19	20	20	19	17	22	24	25	IZS	26	26	24	18	17	19	15	13	14	6	2	26	18.4	24	
20	8	11	11	14	16	18	19	20	21	21	24	IZS	24	24	24	22	21	20	20	19	18	18	17	18	24	18.6	24	
21	17	16	15	11	11	15	17	19	18	18	IZS	24	23	19	22	24	24	24	24	24	24	26	26	25	26	20.3	24	
22	22	23	25	25	27	28	25	24	23	IZS	30	32	37	36	35	33	31	28	24	19	16	15	14	10	37	25.3	24	
23	13	10	14	12	12	13	14	13	IZS	13	19	19	18	21	23	24	20	20	15	16	16	12	13	11	24	15.7	24	
24	10	10	10	13	14	13	11	IZS	19	24	31	32	32	32	32	32	32	31	29	28	27	24	25	24	32	23.3	24	
25	25	25	23	23	20	20	IZS	15	7	17	19	23	24	27	26	24	20	20	24	25	25	23	22	23	27	21.7	24	
26	22	18	18	18	18	IZS	12	13	13	14	17	20	20	17	15	13	19	18	20	19	17	10	10	15	22	16.3	24	
27	18	22	22	24	IZS	22	21	22	23	22	25	27	28	29	29	28	27	26	26	25	24	24	21	18	29	24.0	24	
28	20	22	20	IZS	20	18	15	14	16	19	23	26	15	29	27	25	25	24	23	19	19	19	17	17	29	20.5	24	
29	17	15	IZS	12	11	14	15	11	11	17	17	17	19	26	26	31	34	34	35	35	36	36	37	36	37	23.6	24	
30	37	IZS	36	33	34	33	32	31	27	27	30	32	32	33	36	36	34	34	34	33	35	35	36	36	35	37	33.3	24
HOURLY MAX	37	31	36	33	34	33	32	31	29	30	32	38	38	41	36	40	38	35	38	38	40	39	37	36				
HOURLY AVG	20.0	18.9	20.2	19.1	19.0	18.8	17.9	17.9	18.0	20.4	23.5	25.8	26.3	27.5	26.9	26.7	26.3	24.1	23.8	23.3	22.1	21.5	20.4	20.1				

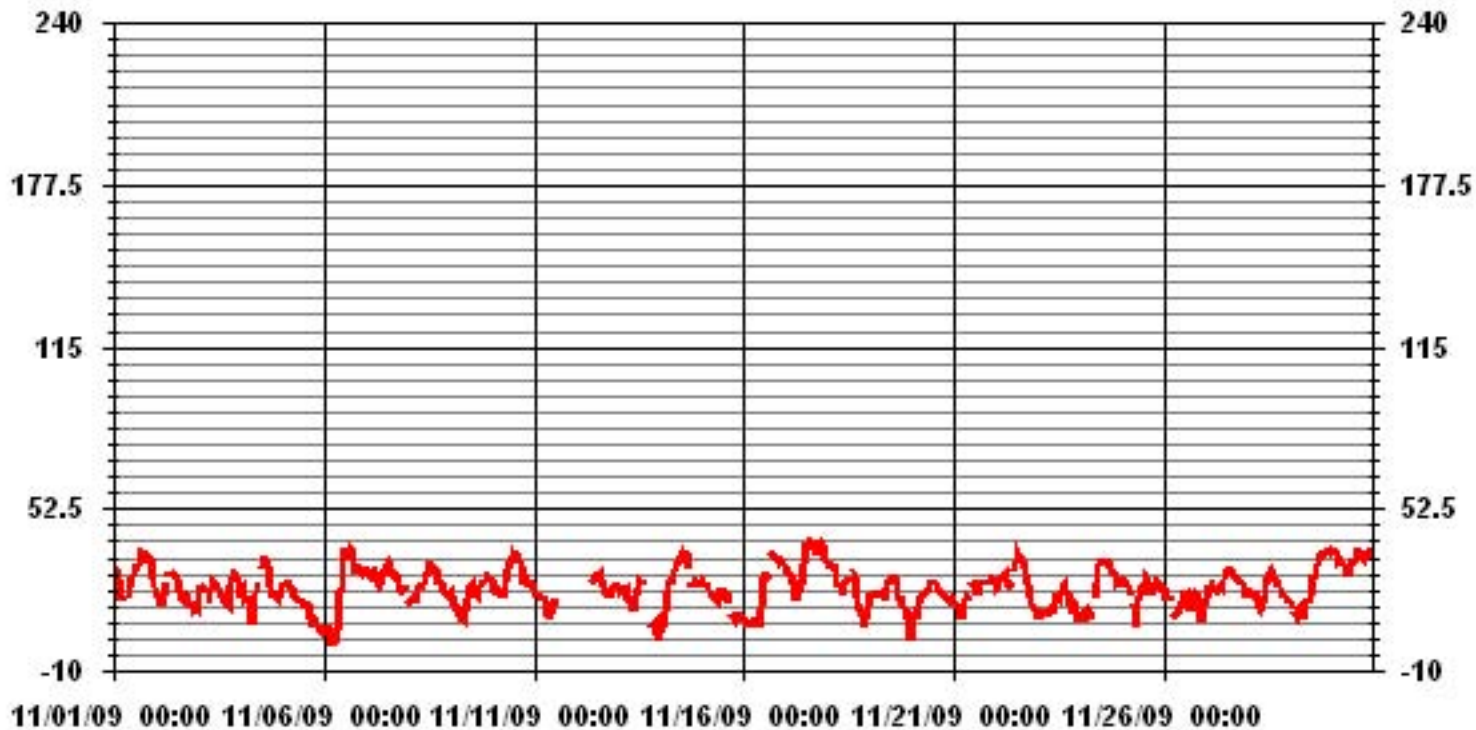
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	663					
MAXIMUM INSTANTANEOUS VALUE:	41	PPB	@ HOUR(S)	13	ON DAY(S)	17
IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:	699	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	7.66					

01 Hour Averages



— LICA33 O3MAX PPB

LICA33
 O3_ / WDR Joint Frequency Distribution (Percent)

November 2009

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	1.31	.87	1.31	4.10	8.21	6.01	6.74	5.57	4.10	3.37	22.72	13.48	10.55	8.94	1.90	.73	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.31	.87	1.31	4.10	8.21	6.01	6.74	5.57	4.10	3.37	22.72	13.48	10.55	8.94	1.90	.73	

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	9	6	9	28	56	41	46	38	28	23	155	92	72	61	13	5	682
< 110																	
< 210																	
>= 210																	
Totals	9	6	9	28	56	41	46	38	28	23	155	92	72	61	13	5	

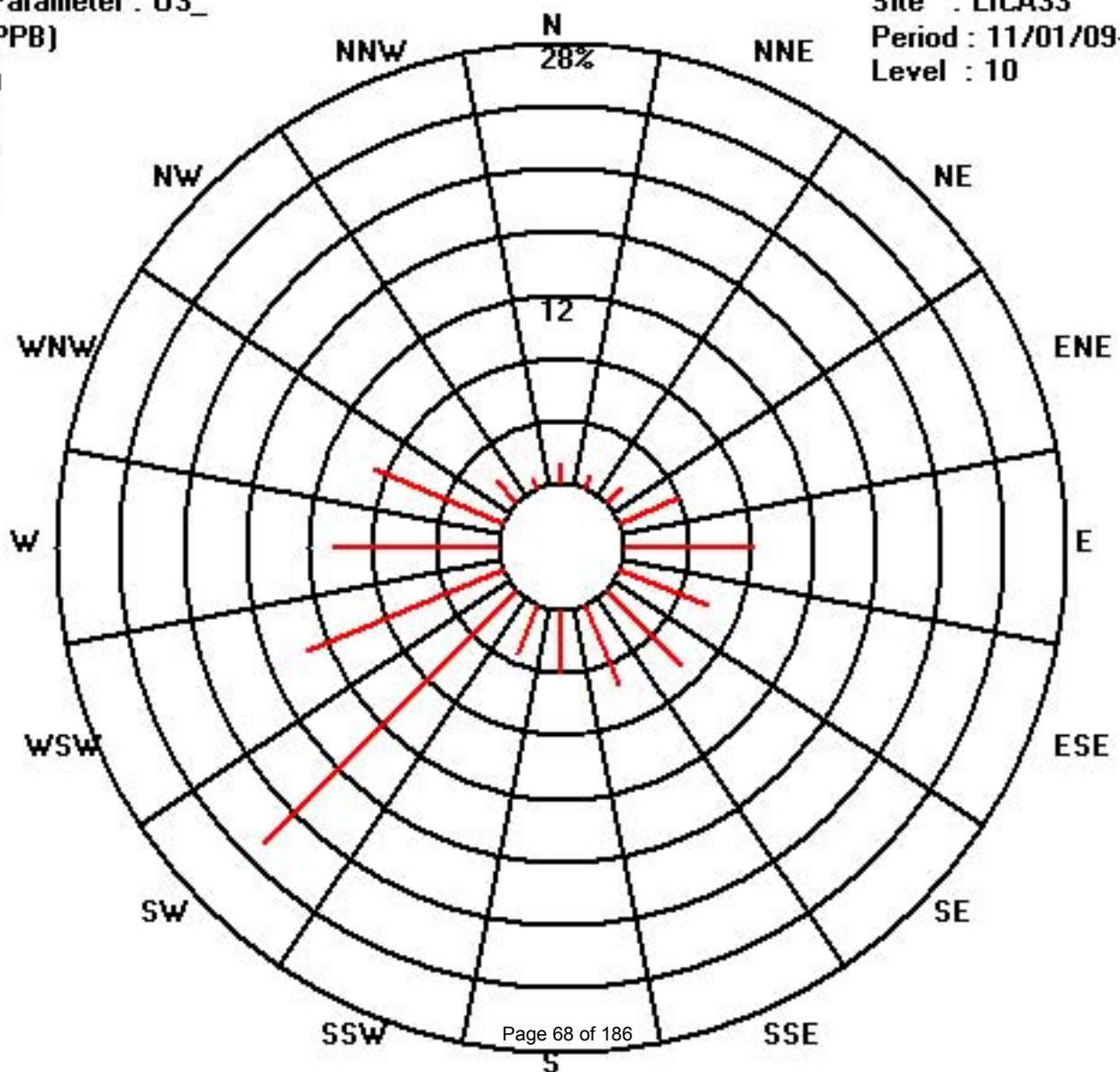
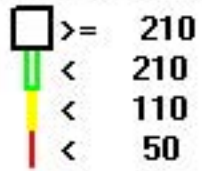
Calm : .00 %

Total # Operational Hours : 682

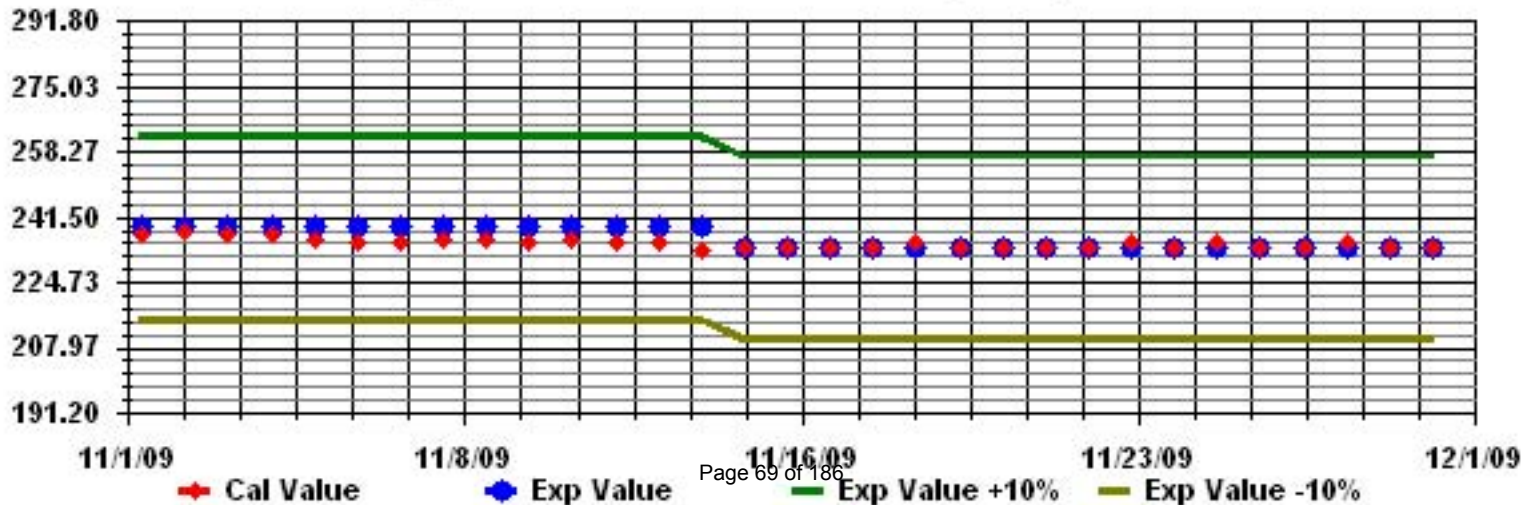
Class Limits (PPB)

Period : 11/01/09-11/30/09

Level : 10



Calibration Graph for Site: LICA33 Parameter: 03_ Sequence: 03 Phase: SPAN



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

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.
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.	
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	19.8	20.3	22.8	25.8	28.5	28.7	31	26.8	25.9	28.7	27.3	24.9	25.1	26.4	22.9	25.2	22.3	15.5	11.9	11.5	10.2	5.8	7.1	6.8	31	19.5	24	
2	2.6	3	4.7	4.1	5.3	9.1	9.9	11.2	15.5	16.4	13.3	12.2	9.2	10.4	6.7	4.4	6.9	6.8	4.3	1.6	3.8	4.1	4	3.6	16.4	5.2	24	
3	5.1	8.6	7.6	5.5	7.4	5	1.5	3.6	3.6	7.1	8.5	9.4	7.6	8.9	14.1	16.4	13.7	13.8	13	11.7	15.3	12	8.8	8.1	16.4	5.5	24	
4	6.8	6.5	6.9	8.7	10.3	5.4	3.7	4.3	5.7	11.1	12.6	9.1	6	4.8	2.7	3.8	3.8	6.4	8.3	8.9	6.5	10	10.4	9.9	12.6	3.8	24	
5	12.3	9	11.8	12.6	14.2	13	8.7	11.2	7.7	6.9	10.1	9.5	10.2	8	7	5.7	7.8	7.8	8.3	10.5	8.1	7.2	6.9	5.6	14.2	9.2	24	
6	3.8	4.4	4.4	3	0.3	1.2	2.9	1.4	3.7	10.7	19.1	17.4	24.3	24.7	18.2	20.3	12.8	12	17.3	16.8	15.2	15	15.9	18.2	24.7	11.8	24	
7	19.6	20.3	19.6	18.7	18.4	21.9	21	15.7	18.1	18.5	19.2	21.8	20.9	19.5	16.7	11.1	10.4	12.3	11.8	8.7	11	9.7	13.1	10.7	21.9	16.2	24	
8	10.2	9.3	7.9	14.2	11.4	14.2	17.2	17.4	15	15.8	16.6	16.3	17.2	17.1	14	13.4	12.8	13.9	14.8	13.5	14.2	14.4	15.2	10.1	17.4	14.0	24	
9	3.3	5.3	2.3	1.4	1.8	1.7	4	5.4	4.1	3.5	5.9	4.7	9.8	12.7	11.5	13.6	13.2	10.8	13.8	14.1	14.7	18	16.6	18.0	8.5	24		
10	9.2	6.1	6	3.1	1.7	4.5	11.3	16	15.5	13.8	19.8	21	18.7	11.9	9.6	10.4	9.7	8.5	10.2	9.9	11	7.6	10.6	9.9	21.0	10.7	24	
11	4.6	2.7	5.2	3.1	2.2	3.5	3.8	3.4	1.7	1.4	4.5	4.3	7.7	M	M	3.4	2.8	4.3	6.3	5.3	7	8.8	10.7	11.4	11.4	4.9	22	
12	10.4	10.3	7.3	7.9	8.1	7.3	11.8	12.2	12.5	13.9	13.4	14.6	15.5	15.2	15	12.1	8.7	7.6	7.6	10.8	11.9	13	8.2	6.4	15.5	10.9	24	
13	3.9	3	4.1	4.1	2.1	3.1	4.2	3.7	3.9	5.5	5.4	3.6	3.4	2.8	7	7.1	5.6	2.7	1.2	2.5	1.5	5	2.9	3.2	7.1	3.8	24	
14	5.5	3.6	9.8	11.6	15.6	13.7	10.7	13.7	17.9	14.8	14.3	13.3	10.1	12.3	11.6	8.3	6.9	4.2	4.3	4.7	5.5	9	5.7	5.8	17.9	9.7	24	
15	3.5	4.6	6.1	4.1	1.6	5.1	0.8	3.9	5	4.9	5	8.1	4.7	5.3	5.1	5.7	4.6	3.7	4.9	7	8.9	7.4	6.4	7.5	8.9	5.2	24	
16	7.3	5.9	6	5.4	5.3	6.3	5.6	5.1	5.9	7	7.6	10.2	10.3	10.9	8.2	7.5	19.3	17.4	17.8	18	17.5	17.7	20.3	22.2	22.2	11.0	24	
17	17.8	9.8	5.7	3.8	4.6	5.5	5.5	8.6	12.2	10.5	13	12.9	16.6	14.5	20	21	14.6	14.4	14.7	10.5	7.3	10.7	10	6.9	21.0	11.3	24	
18	9.1	8.3	12.8	3.2	5.9	1.2	2.6	7.6	5.2	7.4	7.9	5.2	1.2	2.9	1.2	4.5	1.9	2.8	5	4	5.4	3.7	4.3	5.2	12.8	4.9	24	
19	6.7	3.8	3.3	3.6	9.7	8.5	11.5	8.8	11	8.5	11.9	9.9	7.9	12.1	14.1	11.4	8.2	8.6	5.4	4	3	0.8	2.1	2.8	14.1	7.4	24	
20	3.8	7	7.9	6.3	8.5	10.3	13.8	17	17.6	19.1	18.1	20.7	18.1	17.6	16.7	14.1	11.4	11.3	12.9	11.1	10.6	11.9	10.9	9.7	20.7	12.8	24	
21	6.1	1.1	3.2	7	9.3	9.8	11.8	14.7	12.6	17.1	20	22.6	17.6	18.1	20.7	21.1	19.2	17.4	15.2	14.9	10.8	12.8	11.8	10	22.6	13.5	24	
22	10.6	11.9	11.3	8.9	10.4	11.1	9.7	8.2	7.1	10.1	7	8	7.4	6.2	3.9	3.3	0.8	1.2	2	2.8	1.2	2.4	2.3	1.6	11.9	6.2	24	
23	1.7	4.6	3	3	4.6	5.2	4.4	4.1	0.9	1.2	6	12	11.4	12.5	11.4	12.9	12.6	11.2	8.6	4.6	3.6	5.5	2.4	0.9	12.9	6.2	24	
24	7.2	2.4	5.4	5.1	4.7	9.2	9.3	9.1	14.9	16.1	20.8	20.8	21.6	18	15	10.9	11.8	11.5	7.8	9.1	3.1	6	8.4	4.7	21.6	10.5	24	
25	3.6	9.1	6.8	3.7	0.9	2.9	1.9	2.5	3	4	4.9	4.8	8.5	10.8	12	9.4	8	9.1	10	11	10.1	7.8	8.5	8.7	12.0	6.8	24	
26	3.8	4.3	1.8	5.8	5.9	2	5.8	6.1	8.6	8.4	9.5	7.7	6.9	3.3	3.6	7.5	11.4	14.1	15.4	12.5	11.7	11.1	10.9	7.5	15.4	7.7	24	
27	9.5	13.1	15.4	15.9	15.7	13.4	13.6	15.4	15.9	13	10.2	16.1	14	14.2	13.8	10.6	12.3	11.9	11.9	9.3	7.7	9.8	10.3	8.4	16.1	12.6	24	
28	10.9	11.4	10.4	8.2	5.8	7.2	9.2	6.9	7.4	9.6	8.2	7.9	10.3	11.6	9.4	8.3	10.2	11.1	11	10	13	6.1	5.1	6.1	13.0	9.0	24	
29	6.2	5	3.3	2.3	3.4	5.5	2.1	2.9	2.1	3.4	8.1	7.7	10.3	13.2	12.7	15.9	19	18.1	16.7	15.1	15	16.1	14.9	14.1	19.0	9.7	24	
30	16.9	14.1	10.2	12.4	14.1	12.7	12.7	11.4	11.4	11.2	8.9	7.6	8.4	10.8	14	17.7	15.3	11.9	15.4	17.1	19.3	17.9	17.3	14.2	19.3	13.5	24	
HOURLY MAX	19.8	20.3	22.8	25.8	28.5	28.7	31.0	26.8	25.9	28.7	27.3	24.9	25.1	26.4	22.9	25.2	22.3	18.1	17.8	18.0	19.3	17.9	20.3	22.2				
HOURLY AVG	8.1	7.6	7.8	7.4	7.9	8.3	8.7	9.3	9.7	10.7	11.9	12.1	12.0	12.3	11.7	11.2	10.6	10.2	10.2	9.7	9.5	9.5	9.4	8.6				

STATUS FLAG CODES

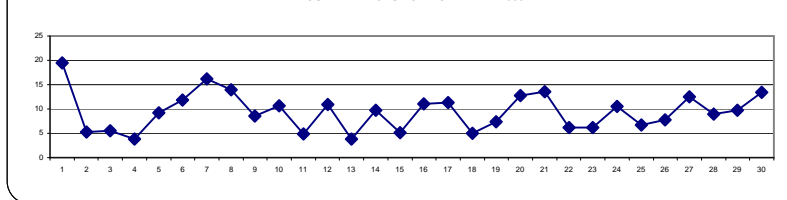
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION: September 24, 2009

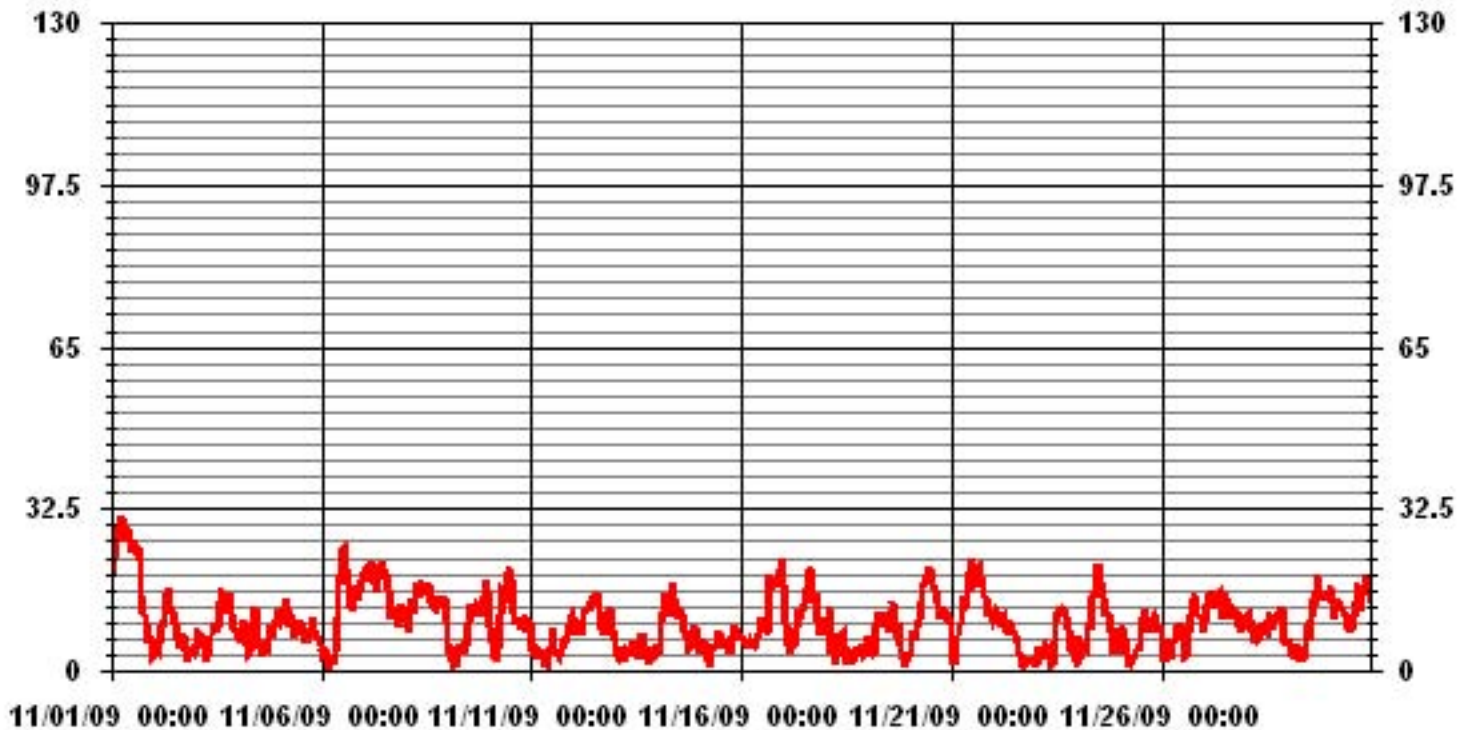
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	31.0	KPH	@ HOUR(S)	6	ON DAY(S)	1
MAXIMUM 24-HR AVERAGE:	19.5	KPH			ON DAY(S)	1
CALMS (≤ 1 KPH)	0.13	%	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	99.7	%	
STANDARD DEVIATION:	5.62		MONTHLY AVERAGE	9.76	KPH	

24 HOUR AVERAGES FOR NOVEMBER 2009



01 Hour Averages



— LICA33 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY	1	33.8	35.1	45.4	49	47.5	50	51.3	43.9	43.2	55	52.4	46.2	45.4	44.9	43.2	48.4	44	32	23.2	20.8	20.1	10.6	12	9.8	55
2	7.7	8.1	8.1	6.4	10	14.6	14.8	18.2	24	24.4	19.9	17	23.8	23.7	12.2	9.7	10.3	11.8	8.7	6.5	7.2	7.5	10.1	6.6	24.4	
3	11.4	16.2	14.3	13.4	15.5	7.6	5.8	6.5	12.7	19.2	19.1	18.9	16.5	19.6	25.6	26.4	21.1	21.5	34.4	22.5	25.7	20.7	14.2	10.4	34.4	
4	9.2	11.2	12	13	14.5	11.3	8.8	9.7	9.5	18	19.4	14.8	12.2	10.3	7.4	9.9	9.4	9.8	10.2	11.6	9	14.1	15	13	19.4	
5	17.1	15.8	17.1	17.3	19.9	18.9	12.9	15	17.9	23.2	17.7	17.6	17.9	15.3	12.5	10.3	10.8	14.7	16.4	15.9	13.4	10.2	10.6	9.8	23.2	
6	9.9	9.1	8.6	10.5	5.1	8.1	7.1	9.9	9.2	26.2	37.3	35.9	44.3	52.6	33	35.6	35.6	19.5	24.6	26.1	24.5	23.1	19.9	26.8	52.6	
7	28.9	27.8	28.4	27	26.9	30.2	30.2	26.2	27.4	25.8	29.5	36.8	32.8	31.5	28.5	17.3	15.6	20.5	21.8	14.6	14.2	14.3	20.2	19.9	36.8	
8	14.6	13.8	11.4	20.6	20	18.8	24.2	24.6	22.1	24.5	26.2	26.7	33.2	32.5	26.3	22.2	20.9	19.2	21.9	19.2	19.1	22	19.5	17.4	33.2	
9	9.2	13	7.2	7.8	6.7	5.1	6.1	7.8	7.8	8.2	9.3	8.4	17.8	26.3	23.3	18.2	18.8	20.8	17.4	19.2	21.5	26.8	31.3	30.4	31.3	
10	24	15	11.5	7.9	11.8	12.5	19.7	26.6	33.3	26.8	33.3	37.1	33	23.7	17.2	18.2	16.2	12.4	16.8	16.4	15.3	12	16.6	15.2	37.1	
11	10.5	8.5	11.2	10.6	9.5	9.5	7.8	8	5.6	4.7	7.8	8.6	11.9	M	M	N	N	N	N	N	N	N	N	N	11.9	
12	N	N	N	N	N	N	N	N	N	N	M	21.9	23.9	27.5	28.3	24.8	20.8	15	10.3	10.5	13.5	15.8	16.2	14.9	12.3	28.3
13	11.7	8.1	9.8	10.6	6	8.3	8.1	9.3	8.1	10.3	9	8.8	10.4	7.6	10.5	10.7	9.2	5.9	4.1	6.7	4.5	7.3	5.7	9.1	11.7	
14	10.7	8.3	18.3	19.1	24	22.7	15.9	22.3	26.9	23.6	25	22	19.4	22.5	21.4	19.6	13.1	11	9.5	9.8	11.4	15.3	12.3	11.8	26.9	
15	9.7	9.1	13.4	12.3	10.9	10.4	9.6	10.7	11.5	9.8	16.1	20	13.6	11	10.1	10.6	6.9	6.7	9	10	13.4	11.8	11.3	11.5	20	
16	13.4	8.7	10.5	8.2	8.4	11	11.3	9.9	10.6	11.4	12.9	17.8	16.5	18.7	15.3	33.5	34.4	27.1	25.7	28.1	24.8	26.3	34.4	37.4	37.4	
17	31.8	18	12.5	9.4	7.6	11	11.6	14.9	18.4	17.5	27.1	33.5	31.8	43.6	55.8	44	42.4	26.9	27.5	22.7	14.8	16.8	15.9	19.4	55.8	
18	23.2	19	23.4	13	9.7	7.7	8.1	15.3	8.5	13	16.7	12.6	11.5	15.6	7.8	6.5	5.2	6.7	8.7	8.4	8.3	6.1	7.1	7.7	23.4	
19	11.1	9.5	7.5	8.6	14.7	15.6	17.7	12.8	15.9	18.7	19.6	19.2	19.9	24	24	18.4	13.3	11.6	9.8	9.4	8	6.7	5.7	6.3	24	
20	7.4	10.3	10.1	9.7	14.5	15.2	22.9	26.5	26.8	27.1	26.9	30.3	26.7	25.6	25.1	21.2	16.4	16.1	18.8	17.3	15.5	16.6	16.9	15.9	30.3	
21	9.1	4.8	10.8	12.9	14.5	17.2	20.3	29.2	29.5	33.4	32.4	36.5	31.3	29.5	34.2	37.2	33	29.3	23.6	25.1	21.1	20.2	17.5	14.9	37.2	
22	17.3	20.6	16	15.3	17.2	18.4	13.2	12.4	10.5	16	16.5	15	14.2	14.9	6.9	5.2	4.4	4.3	4.6	6	3	5.5	5.1	4.5	20.6	
23	4.1	6.6	7.3	5.2	8.8	10.9	8.9	7.4	6.2	6.7	18.1	20.2	19.6	19.5	18.7	20.7	19.8	14.9	14.4	9.1	11.2	10.7	6.5	8.2	20.7	
24	11	8.9	11.3	10.7	12.3	13.7	13.2	13.3	26.7	24.9	37.2	37.6	34.8	29.4	28.1	21.1	25.8	18.2	12.3	14.9	8	10.4	11.7	8.9	37.6	
25	10.3	12.9	11.8	9.2	5.2	6.7	5	4.3	6	7.1	10.3	10.8	14.1	16.8	20.7	17.4	10.5	13.2	19.8	18.4	16.1	11	13.7	13.8	20.7	
26	11.8	14	11	9.9	11.2	6.2	11	10.5	14.2	13.2	15.6	13.6	12.4	10.7	8.3	11.3	18.5	23.2	24.4	17.6	19.8	15.8	17	11.5	24.4	
27	14.8	19.3	19.9	23.3	23.9	20.2	19.2	21.7	24.7	24.6	18.7	26.1	23.9	21.7	22.4	18.9	20.8	19.1	18.3	15.4	16.5	15.6	15.4	11.9	26.1	
28	14.1	15.9	15.8	13.1	9	14.6	10.1	11.4	15.4	16.7	14.6	18	20	15	11	13.1	15.1	15.6	14.9	18.1	11	8.7	9.4	20		
29	11.1	7.2	5.4	8.4	8.7	13.1	5.7	5.7	4.1	10.6	17.8	15	18.8	23.9	21.3	35.1	37.3	31.7	27.6	29.2	27.5	26.6	30.8	28.9	37.3	
30	28.8	23.8	20.9	18.1	22.6	18.9	22.4	15.5	17.3	17.4	16.6	14.3	14.3	17.2	27.2	30	27.9	20.9	25.6	39.2	33.4	36.9	30.2	24	39.2	
PEAK		33.8	35.1	45.4	49.0	47.5	50.0	51.3	43.9	43.2	55.0	52.4	46.2	45.4	52.6	55.8	48.4	44.0	32.0	34.4	39.2	33.4	36.9	34.4	37.4	

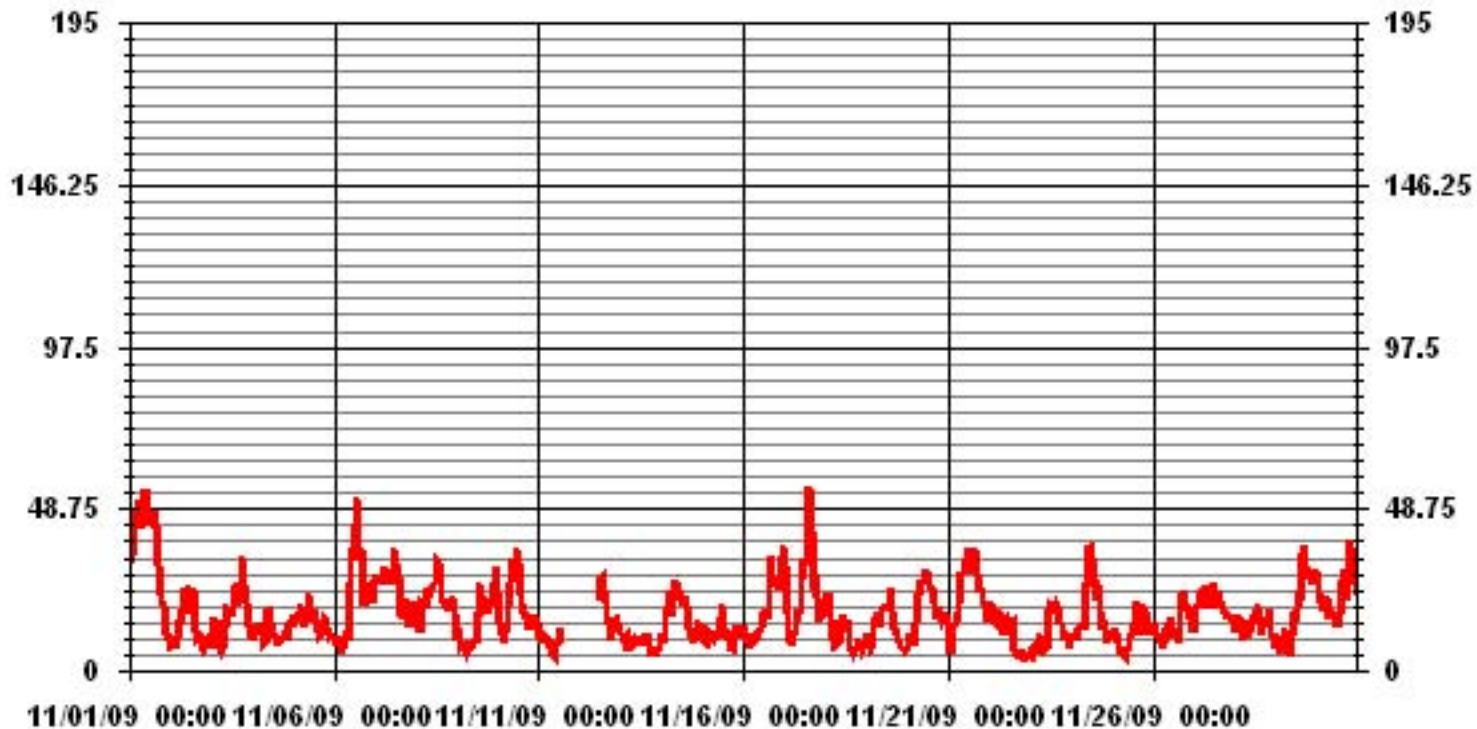
STATUS FLAG CODES

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

MAXIMUM INSTANTANEOUS READING	55.8	KPH	@ HOUR(S)	14
			ON DAY(S)	17

01 Hour Averages



— LICA33 WSMAX KPH

LICA33
WSP / WDR Joint Frequency Distribution (Percent)

November 2009

Distribution By % Of Samples

Logger Id : 33
Site Name : LICA33
Parameter : WSP
Units : KPH

Wind Parameter : WDR
Instrument Height : 10 Meters

	Direction																	
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 6.0	1.11	.55	1.25	2.22	2.64	2.64	3.06	3.20	2.64	2.22	4.17	1.25	.97	1.11	.41	.83	30.36	
< 12.0	.27	.27	.27	1.67	3.34	3.06	2.78	1.67	.83	1.25	11.00	5.98	4.03	1.81	.69	.00	38.99	
< 20.0	.00	.00	.00	.13	2.08	.55	.69	.41	.55	.13	6.82	5.71	4.59	3.20	.55	.00	25.48	
< 29.0	.00	.00	.00	.00	.13	.00	.00	.00	.00	.13	1.11	.27	.83	2.36	.13	.00	5.01	
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00	.13	
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	1.39	.83	1.53	4.03	8.21	6.26	6.54	5.29	4.03	3.76	23.11	13.23	10.44	8.63	1.81	.83		

Calm : .00 %

Total # Operational Hours : 718

Distribution By Samples

	Direction																	
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 6.0	8	4	9	16	19	19	22	23	19	16	30	9	7	8	3	6	218	
< 12.0	2	2	2	12	24	22	20	12	6	9	79	43	29	13	5		280	
< 20.0				1	15	4	5	3	4	1	49	41	33	23	4		183	
< 29.0					1					1	8	2	6	17	1		36	
< 39.0														1			1	
>= 39.0																		
Totals	10	6	11	29	59	45	47	38	29	27	166	95	75	62	13	6		

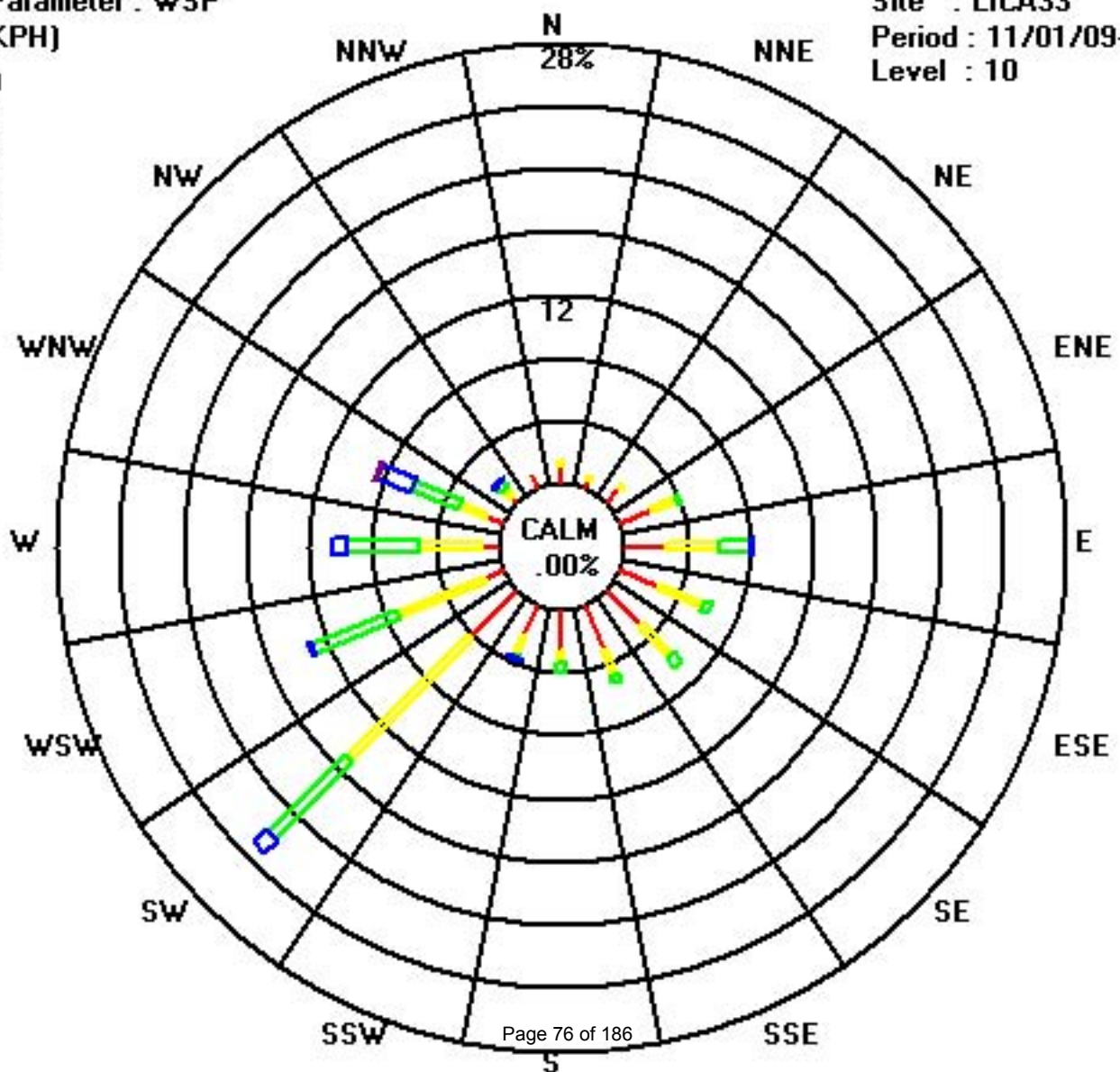
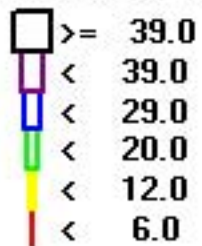
Calm : .00 %

Total # Operational Hours : 718

Class Limits (KPH)

Period : 11/01/09-11/30/09

Level : 10



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUADRANT		
DAY																												
1	245	239	257	273	285	283	282	280	282	295	300	303	302	303	304	300	300	315	314	304	306	290	232	242	286	WNW	24	
2	233	147	136	135	122	123	118	103	98	107	99	92	127	157	151	99	63	30	20	79	348	4	350	314	103	ESE	24	
3	320	3	358	347	35	38	1	244	166	213	199	173	181	213	225	234	238	249	260	253	268	259	275	277	250	WSW	24	
4	258	282	227	222	225	220	189	200	234	234	232	230	220	223	192	197	162	103	106	113	114	100	110	107	191	S	24	
5	97	94	103	102	97	98	91	100	105	116	150	146	151	153	147	123	91	89	97	74	87	81	81	58	105	ESE	24	
6	80	87	51	352	52	104	290	331	280	239	273	284	285	291	282	280	265	232	234	243	244	232	230	232	261	W	24	
7	233	234	236	237	239	235	235	237	235	233	232	232	231	232	228	226	224	220	232	259	225	225	230	253	233	SW	24	
8	232	235	229	229	234	234	233	236	234	237	244	242	251	254	245	245	232	230	237	233	230	232	233	229	236	SW	24	
9	261	224	161	226	101	222	122	131	160	156	115	125	144	157	147	125	121	129	148	132	141	154	172	173	147	SE	24	
10	161	129	140	167	204	284	244	257	272	267	268	283	292	280	274	247	233	245	234	235	232	234	232	252	WSW	24		
11	224	151	167	214	200	145	141	181	133	36	14	70	89	M	M	45	336	344	292	297	269	295	286	271	272	W	22	
12	266	270	257	235	236	233	236	235	233	235	247	244	240	242	240	238	229	226	221	226	227	228	223	217	237	SW	24	
13	216	213	203	219	213	184	168	186	153	142	141	130	134	172	129	131	108	98	336	102	27	291	245	249	161	SSE	24	
14	237	262	281	279	289	284	277	273	271	272	278	279	264	265	259	241	215	204	186	179	179	173	170	143	258	WSW	24	
15	161	145	141	166	160	137	239	195	156	147	185	193	207	178	169	153	137	120	64	46	117	132	76	78	140	SE	24	
16	80	86	80	69	83	66	72	69	70	71	83	131	141	148	152	201	230	227	224	222	222	224	226	232	190	S	24	
17	242	248	254	161	131	121	108	125	123	98	144	182	175	193	209	218	262	300	296	282	209	175	178	193	201	SSW	24	
18	211	225	239	249	118	79	169	183	236	282	281	275	10	7	220	248	208	180	152	192	138	129	93	103	209	SSW	24	
19	112	127	86	117	112	138	118	96	92	113	148	161	207	226	235	230	222	228	220	216	205	293	85	79	161	SSE	24	
20	55	82	75	84	84	84	81	83	86	89	95	100	90	92	88	88	79	75	71	76	82	77	78	78	84	E	24	
21	80	73	282	277	261	269	259	287	272	288	282	288	283	281	286	284	282	282	281	280	266	259	249	240	277	W	24	
22	229	236	232	225	241	247	237	241	245	251	288	276	271	282	312	356	354	94	151	180	93	73	126	53	247	WSW	24	
23	21	117	161	68	35	72	69	78	57	287	221	233	234	231	236	238	236	238	238	223	217	225	218	42	226	SW	24	
24	23	105	159	173	233	227	231	230	232	249	273	276	279	290	302	304	304	285	285	287	260	236	242	221	267	W	24	
25	198	225	217	217	173	174	96	87	76	95	130	140	146	145	134	111	107	116	124	131	131	114	107	124	134	SE	24	
26	70	104	111	150	280	245	218	239	225	225	238	241	248	262	231	224	232	242	236	228	235	234	232	228	231	SW	24	
27	228	230	233	247	241	245	239	246	244	253	258	287	286	290	291	279	280	280	276	264	245	240	238	240	257	WSW	24	
28	225	225	229	231	225	231	232	231	233	240	250	247	244	239	231	225	225	232	240	232	234	231	227	224	232	SW	24	
29	222	227	227	212	229	220	121	95	116	173	228	245	240	242	245	260	277	274	273	263	261	271	279	260	255	WSW	24	
30	270	263	249	244	245	245	246	238	232	243	259	273	282	293	286	282	285	278	281	296	304	307	306	303	274	W	24	
HOURLY AVG	320	282	358	352	289	284	290	331	282	295	300	303	302	303	312	356	354	344	336	304	348	307	350	314				

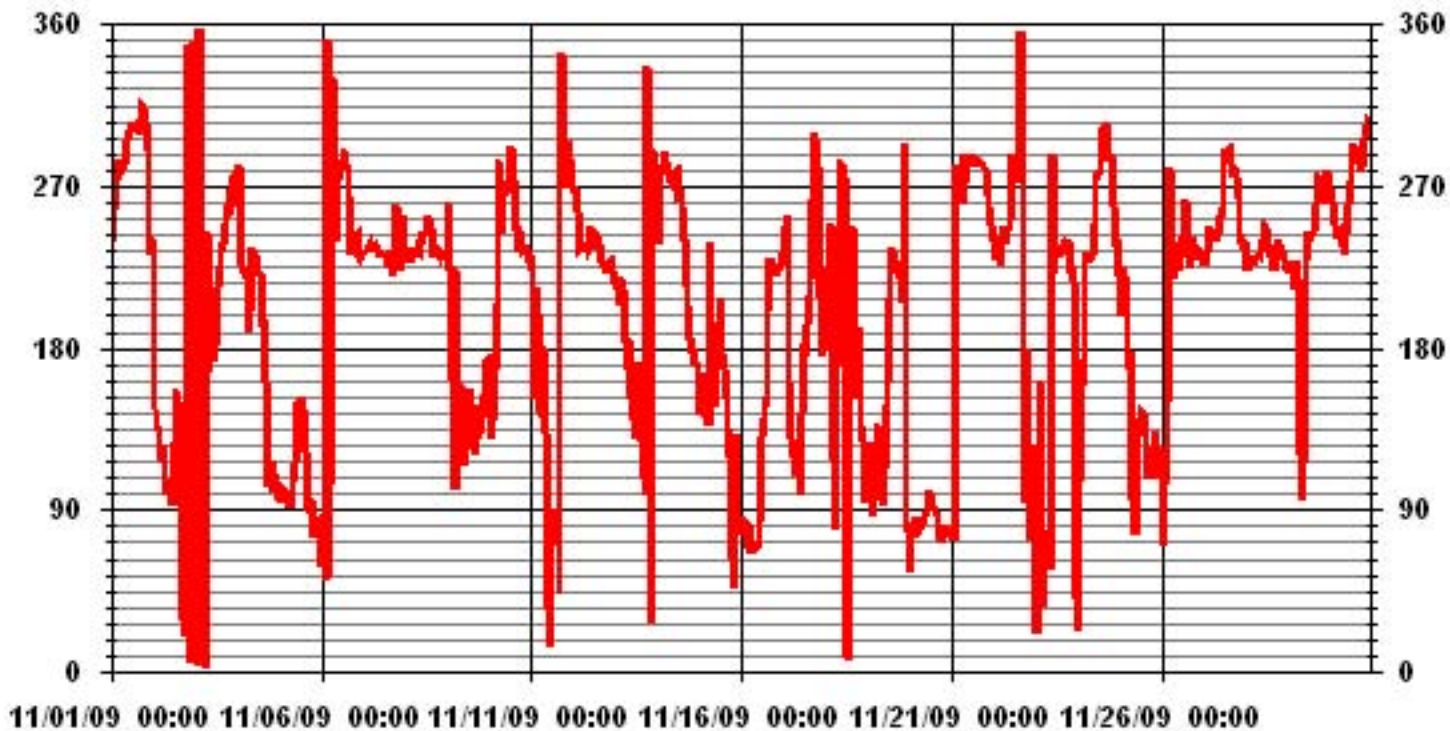
STATUS FLAG CODES

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:	718 HRS
STANDARD DEVIATION	75.48	AMD OPERATION UPTIME	99.7 %
		MONTHLY AVERAGE	236 DEG

01 Hour Averages



— LICA33 WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

NOVEMBER 2009

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	9	9	11	10	10	10	9	9	10	10	11	12	11	12	12	11	10	12	11	9	11	20	7	5
2	22	22	13	12	8	7	5	7	6	7	7	7	16	15	16	18	8	11	9	30	9	11	10	11
3	10	12	15	17	11	8	30	11	31	22	23	16	19	20	12	7	7	8	10	9	9	8	6	5
4	10	12	9	7	5	21	18	13	5	8	7	9	16	19	34	21	15	6	5	5	6	5	4	3
5	4	6	5	6	6	6	6	7	41	19	13	14	14	13	14	10	12	10	15	6	9	9	10	14
6	24	19	15	50	60	27	17	48	30	50	10	9	10	10	9	9	8	4	5	8	7	6	3	5
7	5	6	6	7	7	6	7	7	7	7	8	8	8	9	7	5	5	15	9	12	5	8	6	18
8	8	5	5	4	3	4	4	6	6	7	10	10	10	11	10	9	6	5	7	5	4	5	4	8
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10	17	17	17	34	61	17	11	7	9	11	10	10	11	11	10	8	11	9	6	6	5	6	4	6
11	20	37	14	43	32	33	14	14	25	59	13	15	11	M	15	40	16	26	12	15	18	8	7	5
12	7	6	6	5	4	4	5	6	7	8	11	11	10	11	10	9	4	5	9	3	3	3	14	16
13	36	28	21	36	26	19	13	18	14	10	14	20	20	35	11	5	9	20	26	18	28	6	17	25
14	14	16	9	7	7	6	5	7	8	8	10	13	15	15	12	12	18	23	16	15	17	12	16	12
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17	9	11	15	19	10	42	11	8	8	8	13	18	13	23	24	16	17	9	10	11	24	10	10	22
18	23	17	8	41	19	47	36	18	20	9	13	17	34	30	62	9	26	20	7	29	10	5	14	8
19	8	18	19	22	7	12	8	10	9	11	11	14	17	13	8	7	10	5	17	21	20	34	11	18
20	12	8	4	6	7	8	7	7	7	7	8	8	8	7	7	7	7	7	7	7	6	7	6	8
21	11	23	20	12	10	11	9	10	10	10	9	10	9	9	9	10	9	8	8	8	10	8	6	6
22	6	8	5	16	6	7	5	7	5	8	14	13	15	18	18	11	33	47	19	14	20	13	18	27
23	19	6	23	24	25	9	15	12	33	62	26	11	9	10	9	7	4	4	5	23	15	14	20	45
24	10	20	15	17	34	8	4	3	5	9	10	11	9	11	11	12	11	9	8	7	17	9	5	21
25	21	5	15	15	43	16	16	15	10	11	13	18	11	11	9	6	5	5	7	6	6	13	6	7
26	21	18	51	17	13	27	22	12	12	8	10	11	12	34	18	11	5	9	7	5	6	5	6	5
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29	9	7	11	21	14	25	23	12	18	23	16	10	8	9	9	10	9	9	8	9	10	10	10	9
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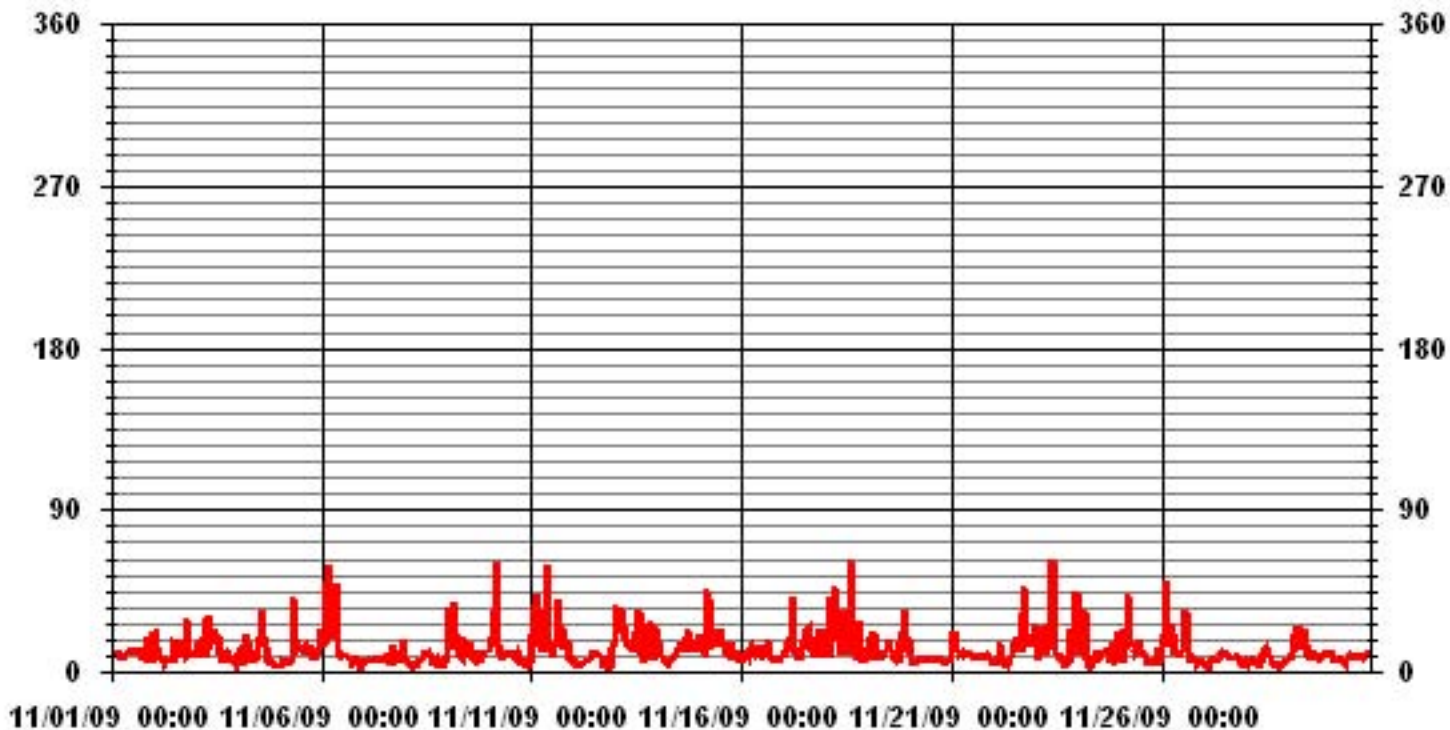
STATUS FLAG CODES

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: 719 HRS

01 Hour Averages



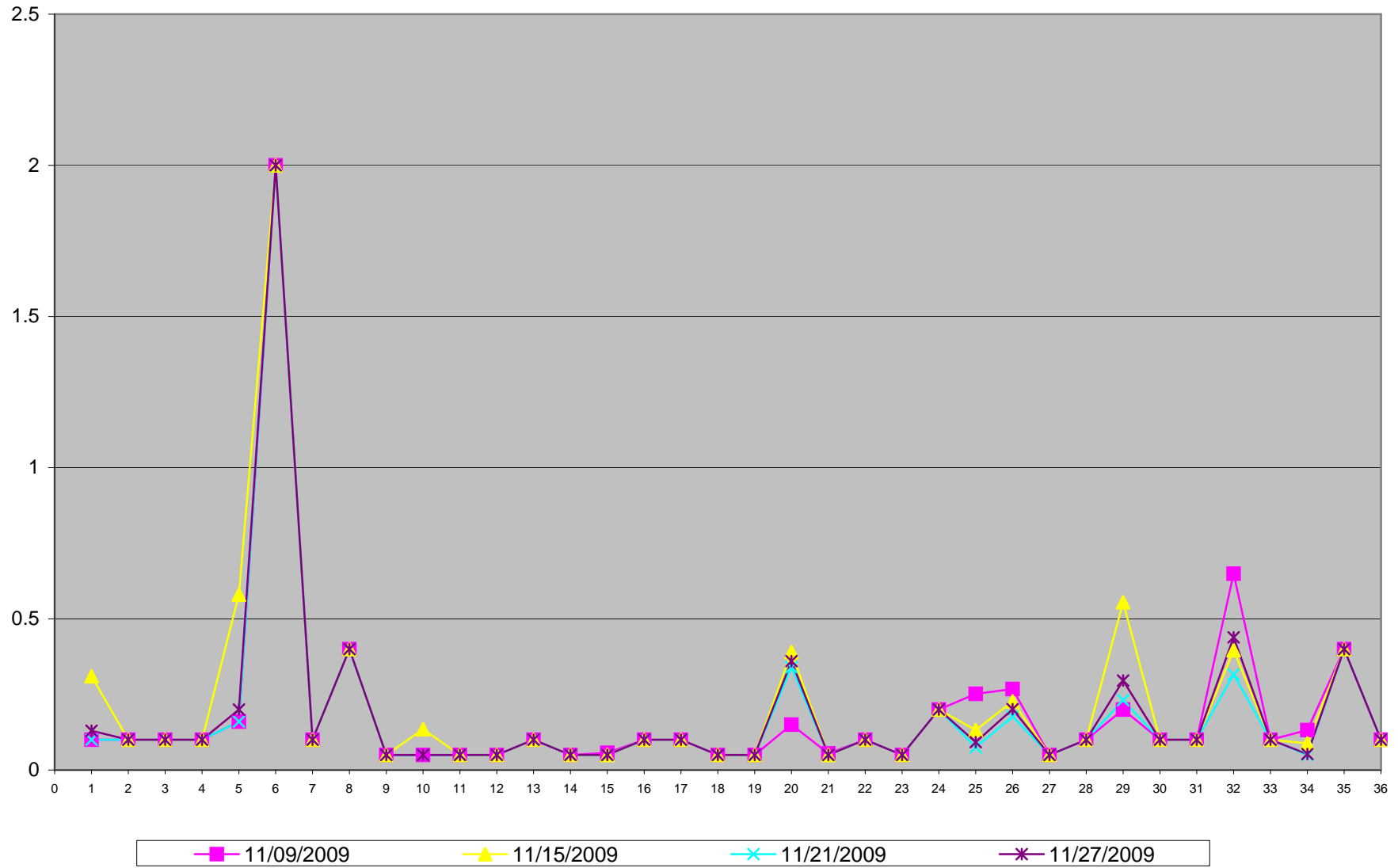
— LICA33 STDWDIR DEG

Volatile Organics

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

PAHs in ug 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 12, 2009	Previous Calibration	October 27, 2009
Company	Lakeland Community and Industry Association		
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M		
Start Time (MST)	13:48	End Time (MST)	17:36
Reason:	Monthly Calibration		
Barometric Pressure	702 mmHg	Station Temperature	22 Deg C
Cal Gas	52.2 ppm	Cal Gas Expiry date	12/19/2010
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	API 100E	S/N :	467	Method:	UV absorbtion
Converter Make / Model:	-	S/N :	-		
Calibrator Make / Model:	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 - 500 ppb		
Sample Flow / Box Temp	599 ccm, 32.6 Deg C	598 ccm, 32.6 Deg C	
HVPS / Lamp Setting	556, 3110	556, 3110	
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	40.7, 1.011	40.7, 1.028	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4999	0	0	0	N/A
4924	76.7	801	789	1.0147
4924	76.7	801	802	0.9983
4961	38.3	400	400	0.9998
4982	19.2	200	199	1.0070
4998	0	0	0	N/A
Sum of Least Squares				0.9990
New Correction Factor				0.9983

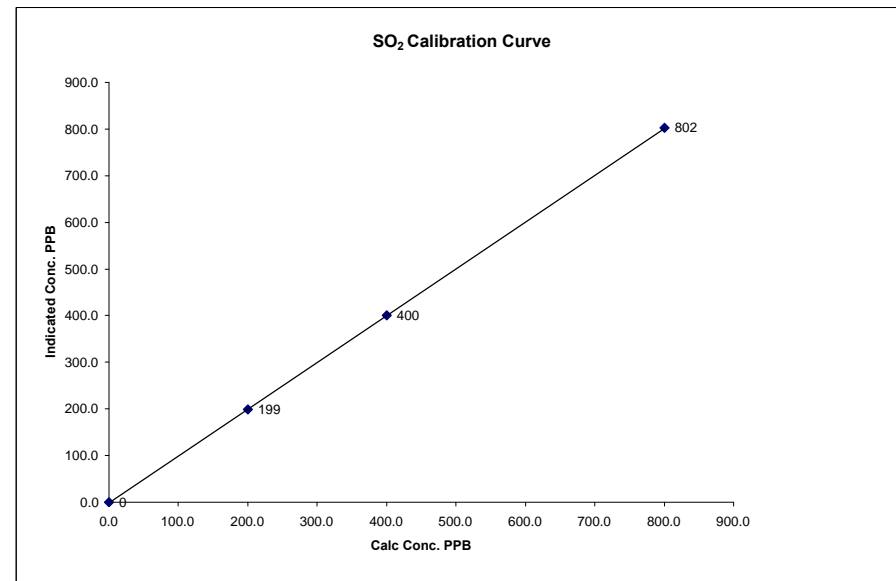
	Before Calibration	After Calibration
Auto Zero	0.3	0.6
Auto Span	351.0	358.0
Sample Lines Connected		YES
Percent Change from Previous Calibration		-1.5%

Calibration Performed by: Shea Beaton

SO₂ Calibration Curve

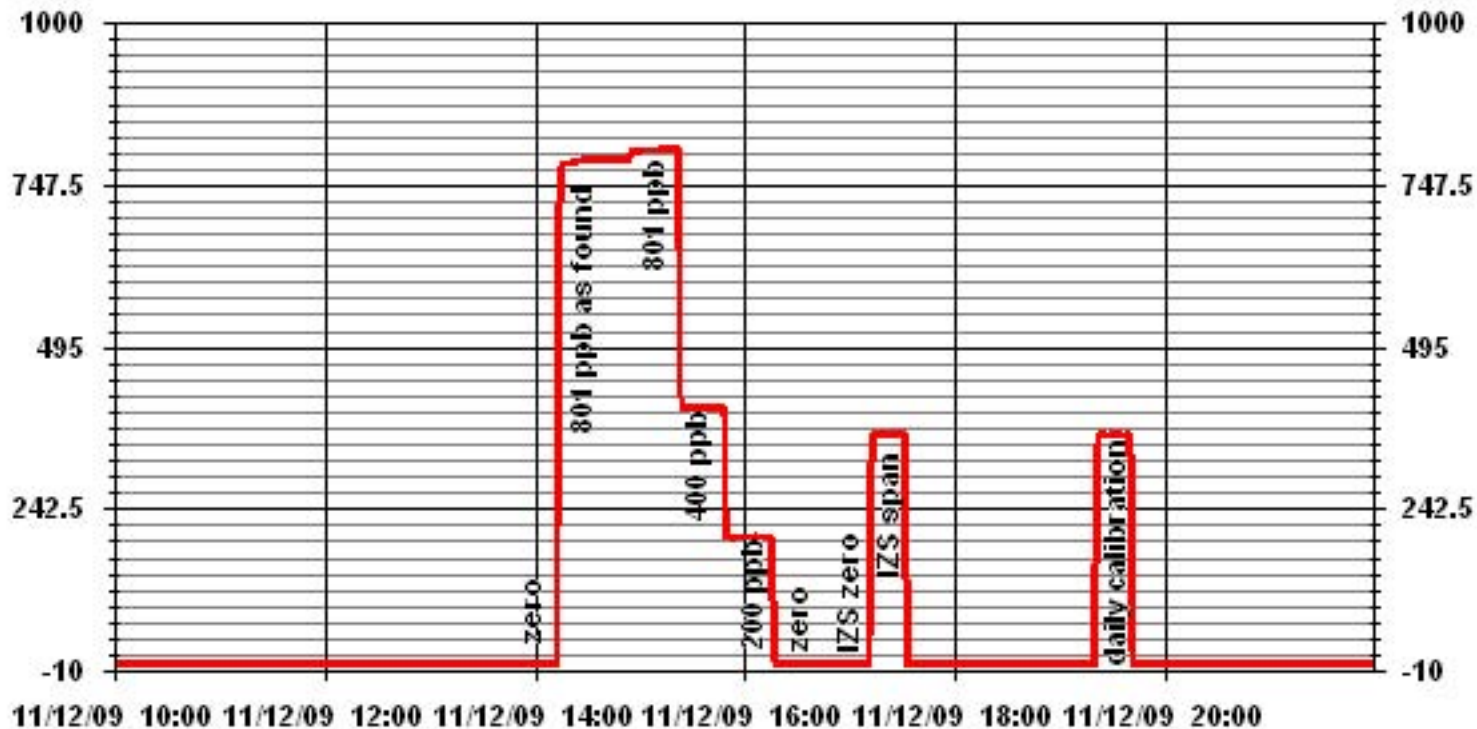
Calibration Date	November 12, 2009
Company	Lakeland Community and Industry Association
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M
Start Time (MST)	13:48
End Time (MST)	17:36

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope (≥ 0.995) (0.85 to 1.15)	Intercept (± 3% F.S.)
0	0	n/a	0.999995	1.002365
200	199	1.0070		-0.814172
400	400	0.9998		
801	802	0.9983		



Notes:

01 Minute Averages



Hydrogen Sulphide

H₂S Calibration Report

Station Information

Calibration Date	November 12, 2009	Previous Calibration	October 26, 2009
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	Portable/ Devon Wellsite 13-16-62-5-W4M		
Start Time (MST)	11:18	End Time (MST)	14:31
Reason:	Monthly Calibration		
Barometric Pressure	702 mmHg	Station Temperature	22 Deg C
Cal Gas	10.8 ppm	Cal Gas Expiry date	06/22/2010
DAS Output Voltage	0 - 1 Volts		

Equipment Information

Analyzer Make / Model:	API 101E	S/N :	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	550 ccm	31.7 Deg C	547	32.3	Deg C
HVPS / Lamp Setting	504	2938	504	2934	
PMT / RxCell Temp	7.9 Deg C	50 Deg C	7.9 Deg C	50 Deg C	
Converter / IZS Temp	314.8 Deg C	45 Deg C	314.8 Deg C	45 Deg C	
Offset / Slope	38.1	1.061	38.1	1.061	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	0	N/A
4961	37.1	80	80	1.0021
4976	20.9	45	45	1.0038
4988	11.6	25	25	1.0023
4999	0	0	0	N/A
Sum of Least Squares				1.0025
New Correction Factor				1.0021

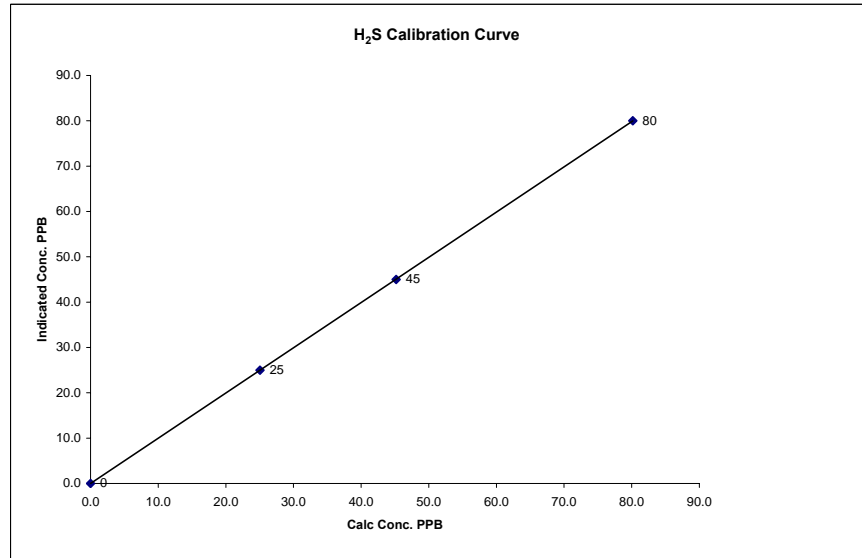
		Before Calibration	After Calibration
Auto Zero		0.5	0.6
Auto Span		60.0	60.0
Sample Lines Connected			YES
Percent Change from Previous Calibration			-0.3%

Calibration Performed by: Shea Beaton

H₂S Calibration Curve

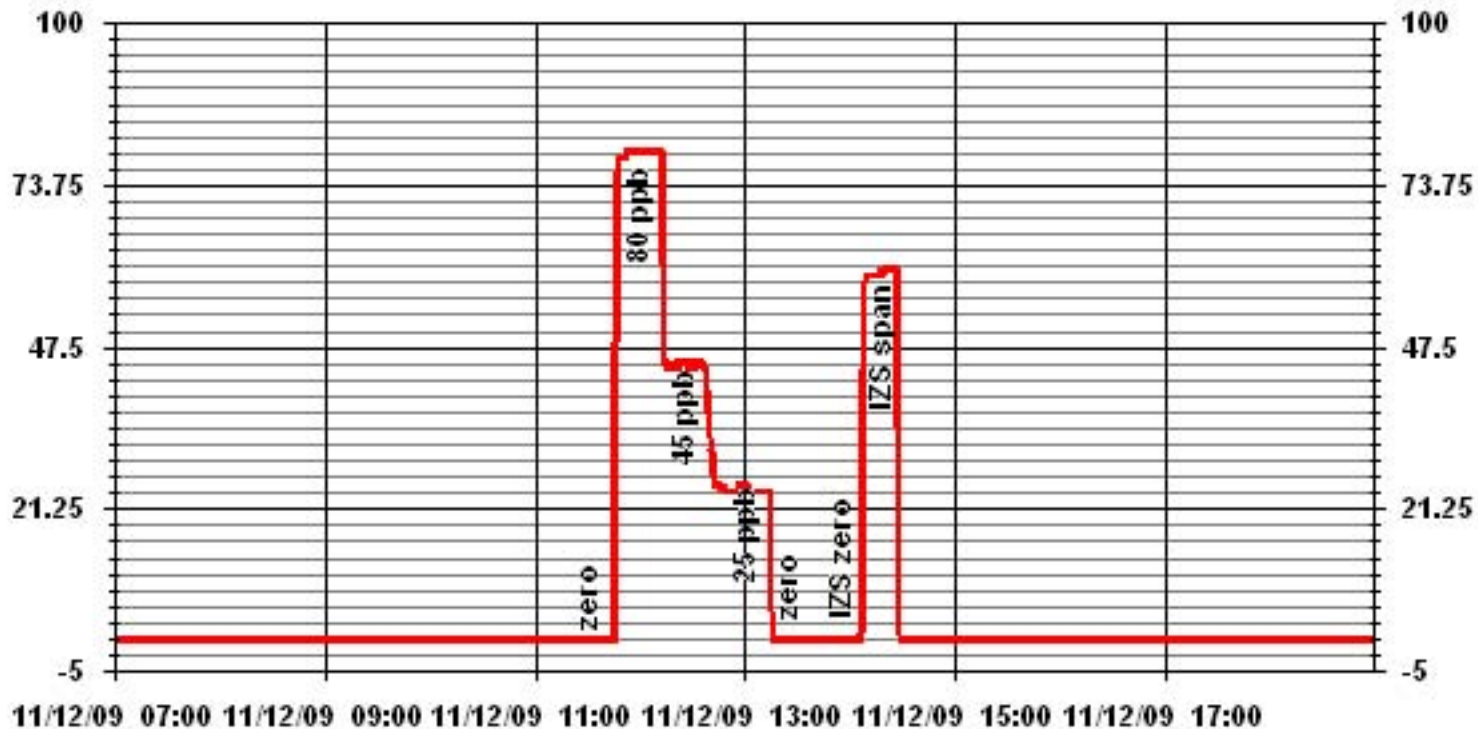
Calibration Date	November 12, 2009		
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	Portable/ Devon Wellsite 13-16-62-5-W4M		
Start Time (MST)	11:18	End Time (MST)	14:31

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999999
0	0	n/a	Intercept	(± 3% F.S.)	-0.015391
25	25	1.0023			
45	45	1.0038			
80	80	1.0021			



Notes:

01 Minute Averages



— LICA33 H2S_ PPB

Particulate Matter 2.5

TEOM® Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	November 12, 2009	Make/Model:	Bios DC2
Station Name:	Lica Portable	Serial Number:	1193
Location:	Devon Wellsite 13-16-62-5 W4M	Cell s/n:	2272
Operator:	LICA	Thermometer s/n:	14-990A

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
Make/Model	R+P Series 1400a Teom	F-Main Set Pt (l/min)	3.00
Unit #	NA	F-Aux Set Pt (l/min)	13.67
Control unit s/n	140AB220740001	Filter Load (%)	23%
Transducer s/n	140AB220740001	K _o Factor	13043
Parameter	PM 2.5	Temp (°C)	3.6
		Press (ATM)	0.924

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

Zero flow				
	Pump Off		Pump On (Time to reach set points)	
F-Main (l/min)	0.07		(45-60 Sec)	43
F-Aux (l/min)	0.17		(45-60 Sec)	55
Temperature/Pressure				
Measured Temp (± 1 °C)	3.8	Δ °C	-0.2	
Measured Press (± 1.5% ATM)	0.924	Δ % ATM	0.0%	
Flow Audit				
Indicated Main/Aux Flow (l/min)	2.99	/	13.64	Δ % from Set-pt
Total Flow = Main + Aux (l/min)	16.63			(± 2%)
Measured Total Flow (l/min)	17.01			-0.3% / -0.2%
Measured Main Flow (l/min)	3.13			(± 2%)
				-0.2%
				(± 1.0 l/min. (5.65%))
				0.38
				(± 0.2 l/min. (6.25%))
				0.14
Leak Check				
Main (< 0.15 l/min)	-0.01	Actual leakage = Pump On - Pump Off		
Aux (< 0.15 l/min)	0.15	0.02 l/min = 0.06-0.07		
		0.19 l/min = 0.32-0.17		
K_o Factor				
Measured	na			
K _o Difference (± 2.5%)	na			

Start Time: 13:02 **Finish Time:** 13:50

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

Comments: Left teom in Maintenance mode until stable.

Auditor/s: Shea Beaton

Nitrogen Dioxide

NOx - NO- NO2 Calibration Report

Station Information

Calibration Date	November 13, 2009		Previous Calibration	October 27, 2009	
Company	Lakeland Ind & Comm. Assoc.		Plant/Location	Portable/ 13-16-62-5W4M	
Start Time (MST)	9:55	End Time (MST)	16:36		
Reason:	Monthly Calibration				
Barometric Pressure	699 mmHg	Station Temperature	22.0 Deg C		
Cal Gas Concentration	NOx 51.8 ppm	NO	51.6 ppm	Cal Gas Expiry date	12/19/2010
DAS Output Voltage	0 - 1 Volts	Chart Rec. Output	0 - 1 Volts		

Equipment Information

Analyzer Make / Model:	API 200E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 2000	S/N:	1991		
DAS Make / Model:	ESC 8832	S/N :	AO717		
Flow Meter:	EnviroNics 2000	S/N :	1991		

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 1000	ppb	314.3
Sample Flow/Conv. Temp	459 ccm	314.4 Deg C	459 ccm
Ozone Flow / Vacuum	78 ccm	4.2 mmHg	78 ccm
HVPS	686 Volts		686 Volts
Rx/ Temp / PMT Temp	50.0 Deg C	6.7 Deg C	50.0 Deg C
Box Temp / IZS Temp	31.3 Deg C	45.2 Deg C	31.9 Deg C
Offset	0.7 NOx	0.2 NO	0.7 NOx
Slope	1.082 NOx	1.071 NO	1.110 NOx

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration		Indicated Concentration			Correction Factor	
			NOx	NO	NOx	NO	NO2	NOx	NO
5001.0	0.0	N/A	0	0	0	0	0	N/A	N/A
4922.0	77.5	N/A	803	800	780	780	0	1.0295	1.0255
4922.0	77.5	N/A	803	800	801	800	1	1.0025	0.9998
4966.0	38.7	N/A	401	399	402	402	0	0.9964	0.9926
4982.0	19.4	N/A	201	200	200	200	0	1.0046	1.0008
5005.0	0.0	N/A	0	0	0	0	-1	N/A	N/A
Converter Efficiency									
4929.0	77.5	N/A	802	799	802	800	2	N/A	
4928.0	77.5	400	802	799	799	430	369	99%	
4929.0	77.5	200	802	799	802	615	187	100%	
4929.0	77.5	100	802	799	805	709	95	102%	
4929.0	77.5	N/A	802	799	806	803	3	N/A	
5006.0	0	N/A	0	0	0	0	-1	N/A	N/A

Linearity OK?	Yes	No	Sum of Least Squares	1.0014	0.9985
Flows Checked on-site?	Yes	No	New Correction Factor	1.0025	0.9998
			Average Converter Efficiency	100%	

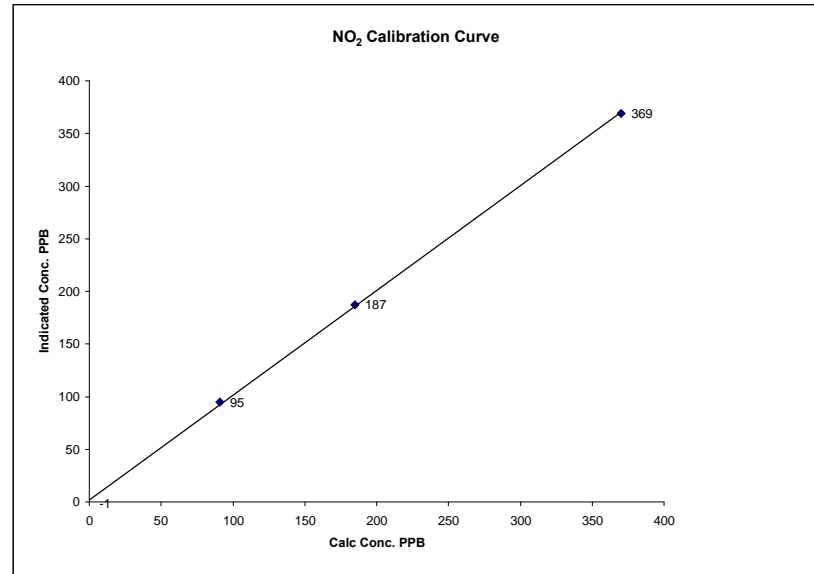
Before Calibration		After Calibration	
Auto Zero	-0.9 NOx	-0.3 NO2	-0.8 NOx
Auto Span	824.0 NOx	806.0 NO2	858.0 NOx
Sample Lines Connected	YES		
Percent Change from Previous Calibration	NOx	-2.9%	NO
			-2.4%

Calibration Performed by: Shea Beaton

NO2 Calibration Curve

Calibration Date	November 13, 2009	
Company	Lakeland Ind & Comm. Assoc.	
Plant / Location	Portable/ 13-16-62-5W4M	
Start Time (MST)	9:55	End Time (MST)
	16:36	

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
0	-1	N/A	Slope (0.85 to 1.15)	0.999773
91	95	0.9579	Intercept (± 3% F.S.)	0.996244
185	187	0.9893		1.60662
370	369	1.0027		

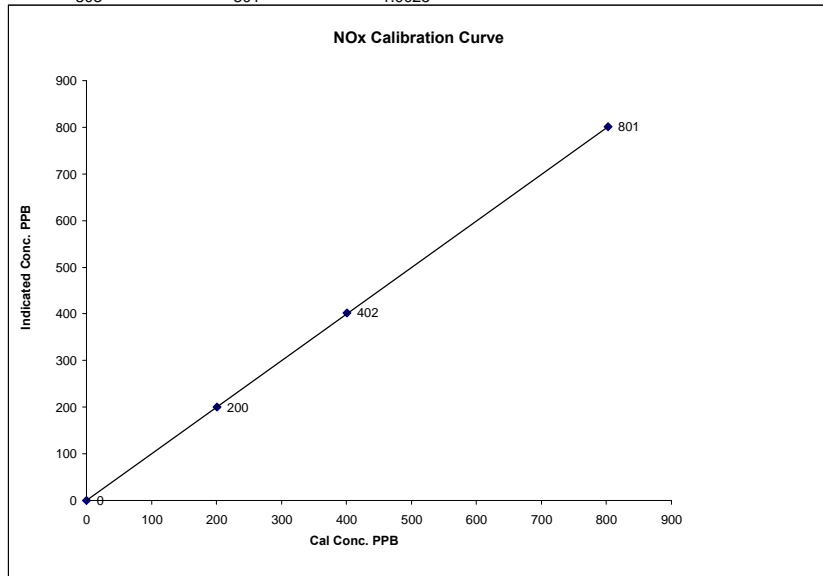


Notes: _____

NOx Calibration Curve

Calibration Date November 13, 2009
 Company Lakeland Ind & Comm. Assoc.
 Plant / Location Portable/ 13-16-62-5W4M
 Start Time (MST) 9:55 End Time (MST) 16:36

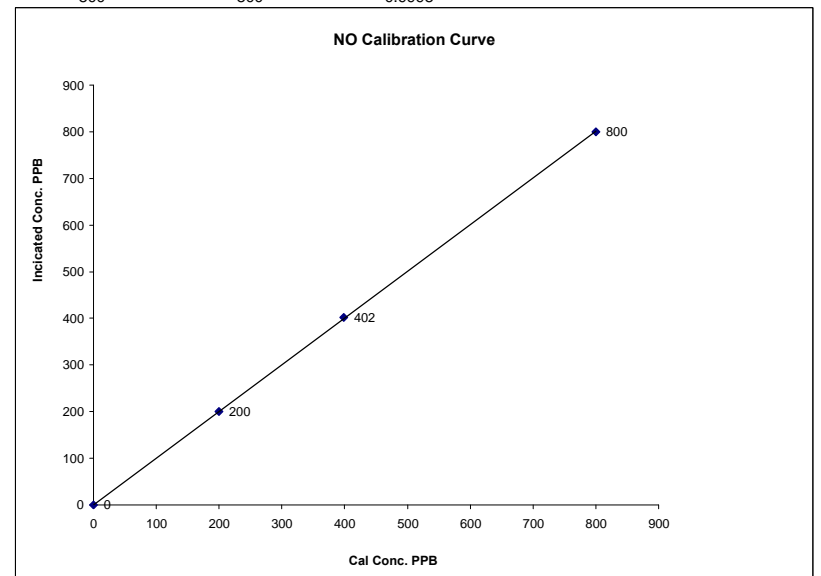
Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999986
ppb	ppb		Slope	(0.85 to 1.15)	0.998059
0	0	N/A	Intercept	(± 3% F.S.)	0.31558
201	200	1.0046			
401	402	0.9964			
803	801	1.0025			



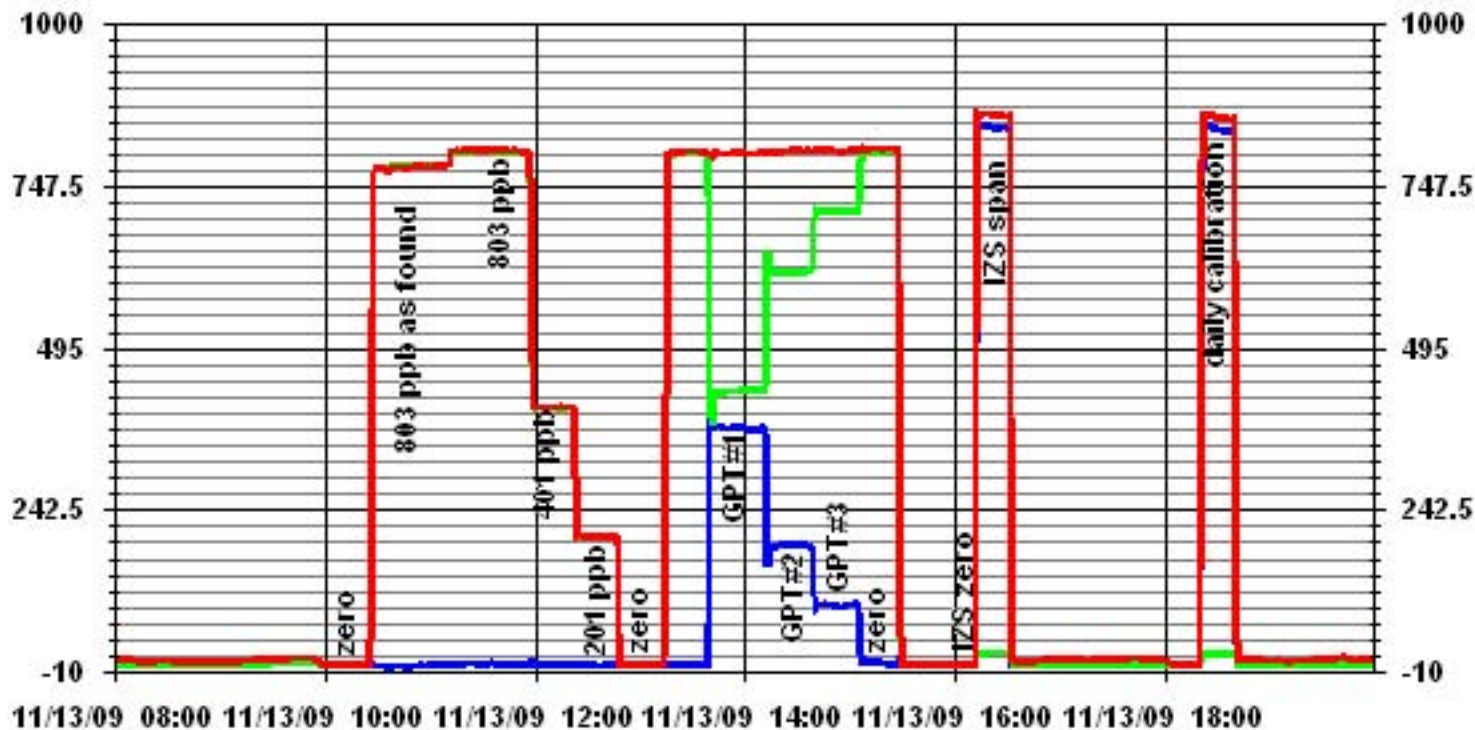
NO Calibration Curve

Calibration Date November 13, 2009
 Company Lakeland Ind & Comm. Assoc.
 Plant / Location Portable/ 13-16-62-5W4M
 Start Time (MST) 9:55 End Time (MST) 16:36

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999981
ppb	ppb		Slope	(0.85 to 1.15)	0.999352
0	0	N/A	Intercept	(± 3% F.S.)	5.8488
200	200	1.0008			
399	402	0.9926			
800	800	0.9998			



01 Minute Averages



— LICA33 NOX_ PPB
 — LICA33 NO_ PPB
 — LICA33 NO2_ PPB

Ozone

O₃ Calibration Report

Station Information

Calibration Date	November 13, 2009	Previous Calibration	October 27, 2009
Company	Lakeland Industry & Community Association		
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M		
Start Time (MST)	16:00	End Time (MST)	19:38
Reason:	Monthly Calibration		
Barometric Pressure	699 mm Hg	Station Temperature	23 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	API 700	S/N :	446	Method:	Photometric
Calibrator Make / Model:	EnviroNics 2000	S/N :	1991	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	263		

Analyzer Settings

		Before Calibration				After Calibration			
Concentration Range		0 - 500				ppb			
Sample Flow / Box Temp	800 ccm	27 Deg C	800	25.5	800	25.5	25.5	25.5	Deg C
VAC / PRES	44% IN-HG-A	25.8 IN-HG-A	11%	IN-HG-A	25.9	IN-HG-A	25.9	IN-HG-A	
Sample Temp/ Photo Temp	35.7 Deg C	52 Deg C	34.5	Deg C	52	Deg C	52	Deg C	
O3 Gen Temp/Orific Temp	47.9 Deg C	49.2 Deg C	48.2	Deg C	47.8	Deg C	47.8	Deg C	
Offset/Slop	-3.7	0.969	-3.7		0.969				

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5001	0	0	0	N/A
5001	400	380	375	1.0133
5000	200	185	189	0.9788
5001	100	91	92	0.9891
5001	0	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				1.0133

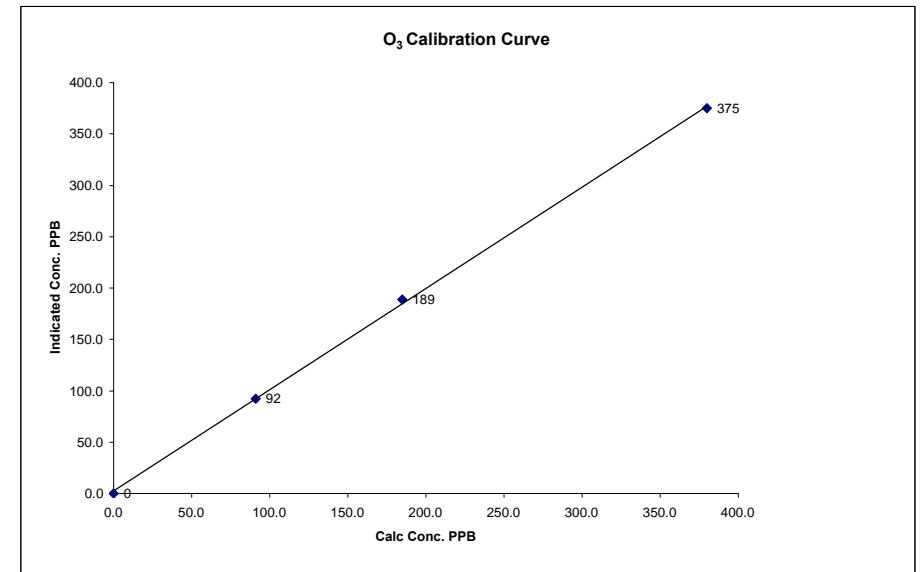
	Before Calibration	After Calibration
Auto Zero	0.2	0.1
Auto Span	236	234
Sample Lines Connected		YES
Percent Change from Previous Calibration		-1.3%

Calibration Performed by: Shea Beaton

O₃ Calibration Curve

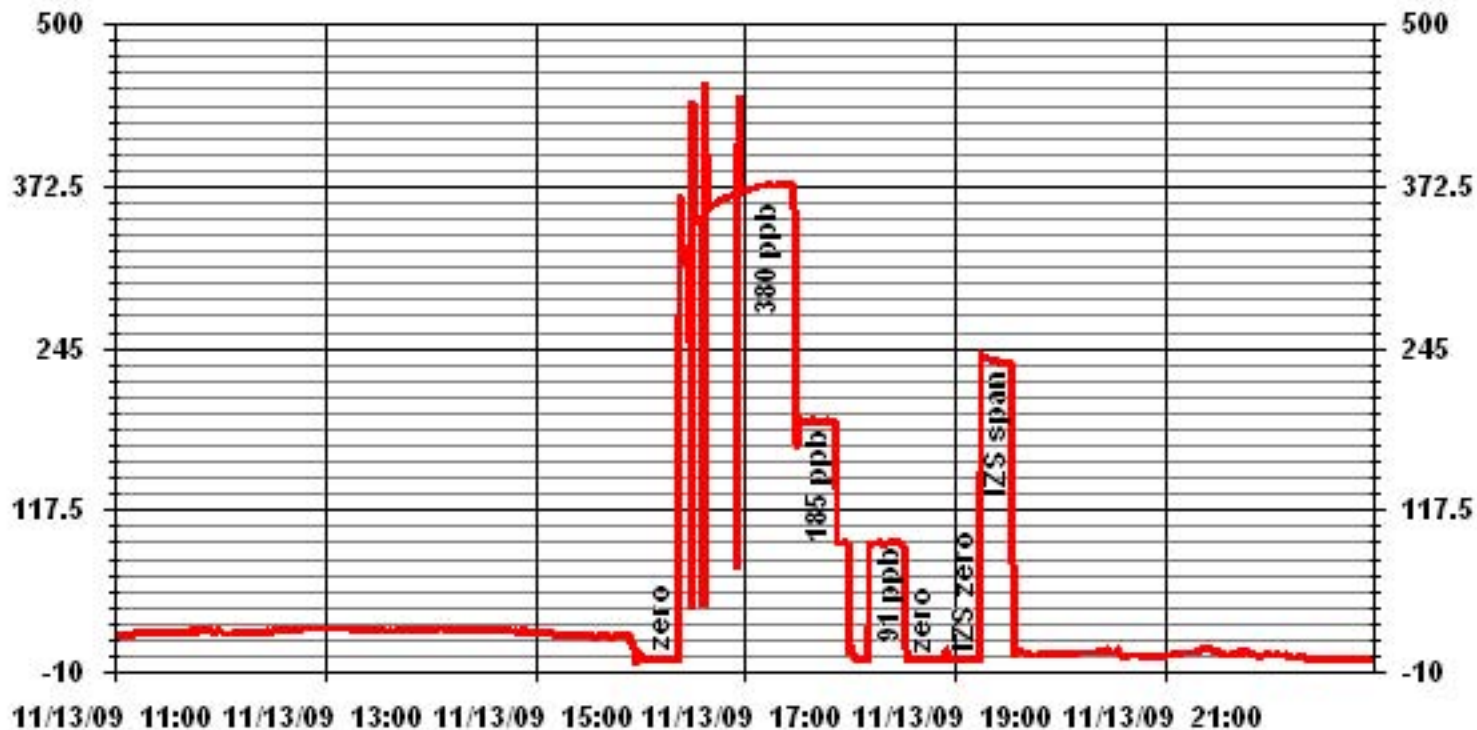
Calibration Date	November 13, 2009
Company	Lakeland Industry & Community Association
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M
Start Time (MST)	16:00
End Time (MST)	19:38

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999643
0	0	n/a	Intercept	(± 3% F.S.)	2.210181
91	92	0.9891			
185	189	0.9788			
380	375	1.0133			



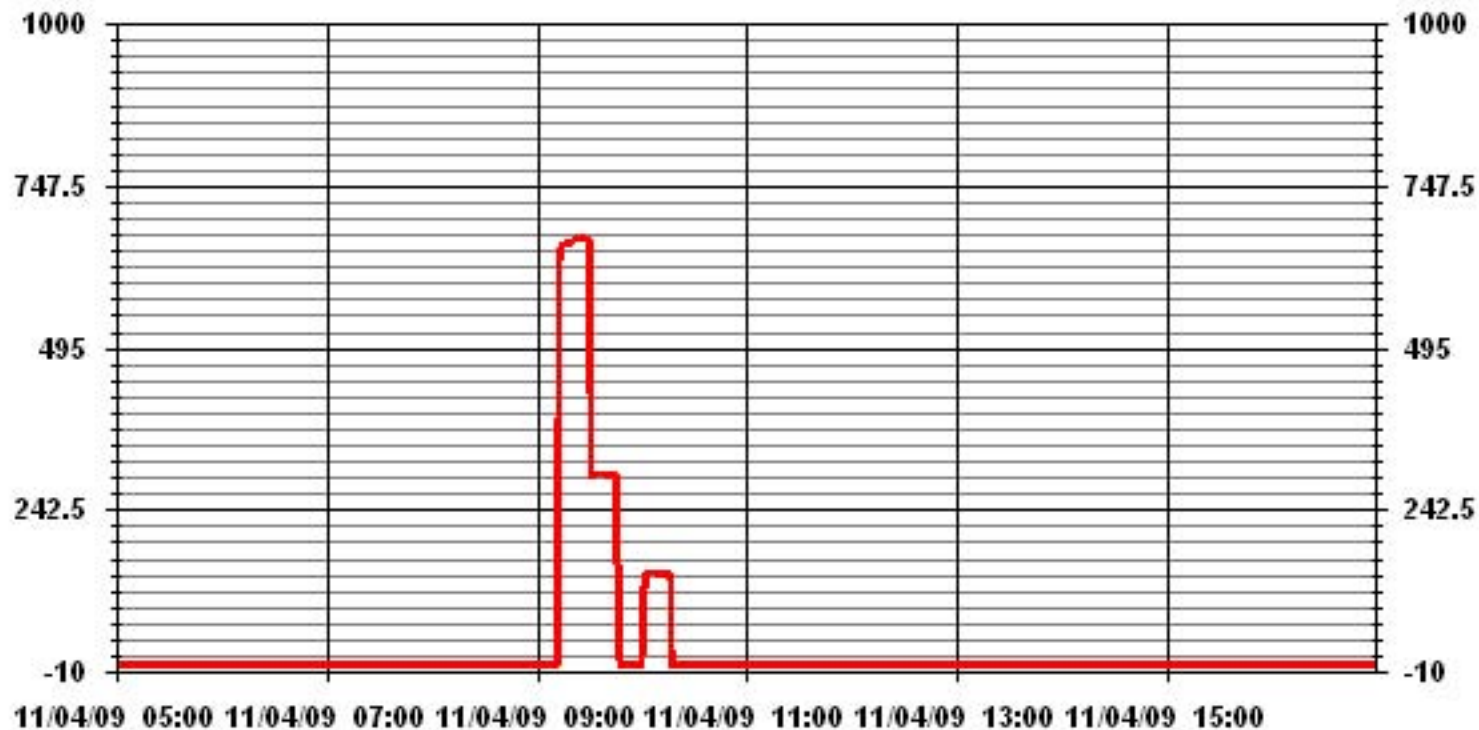
Notes: Daily cal program began during last span point. Aborted program, repeated point.

01 Minute Averages

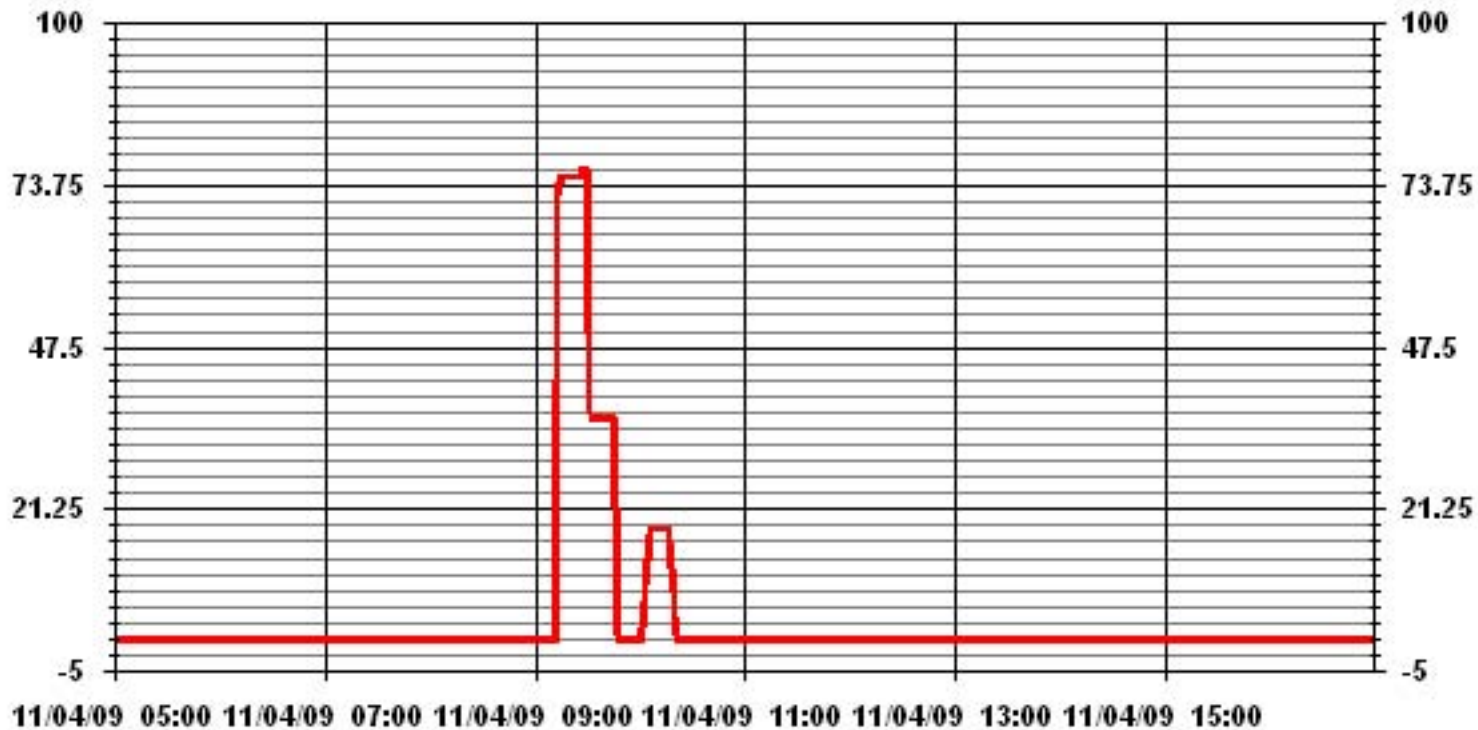


Calibration Graphs – Alberta Environment Audit -

01 Minute Averages

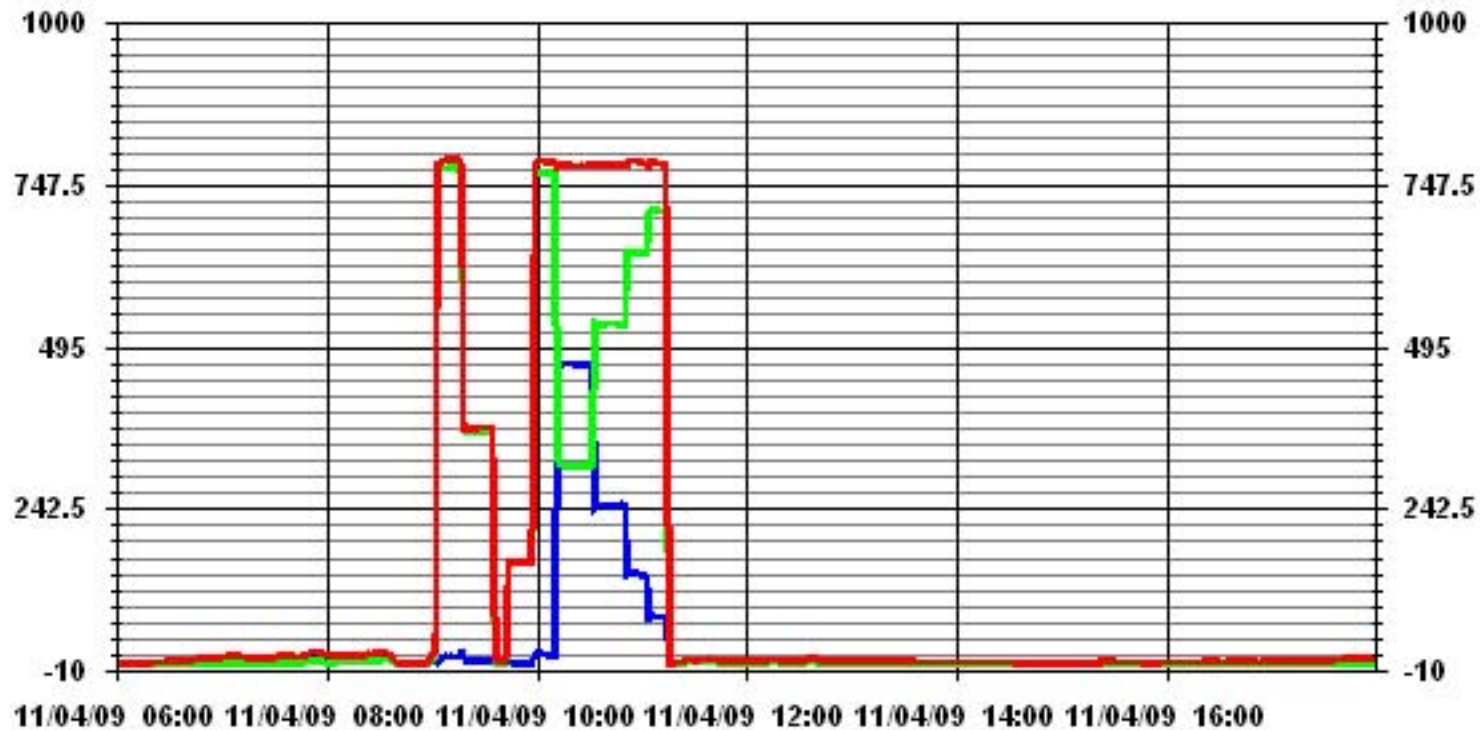


01 Minute Averages



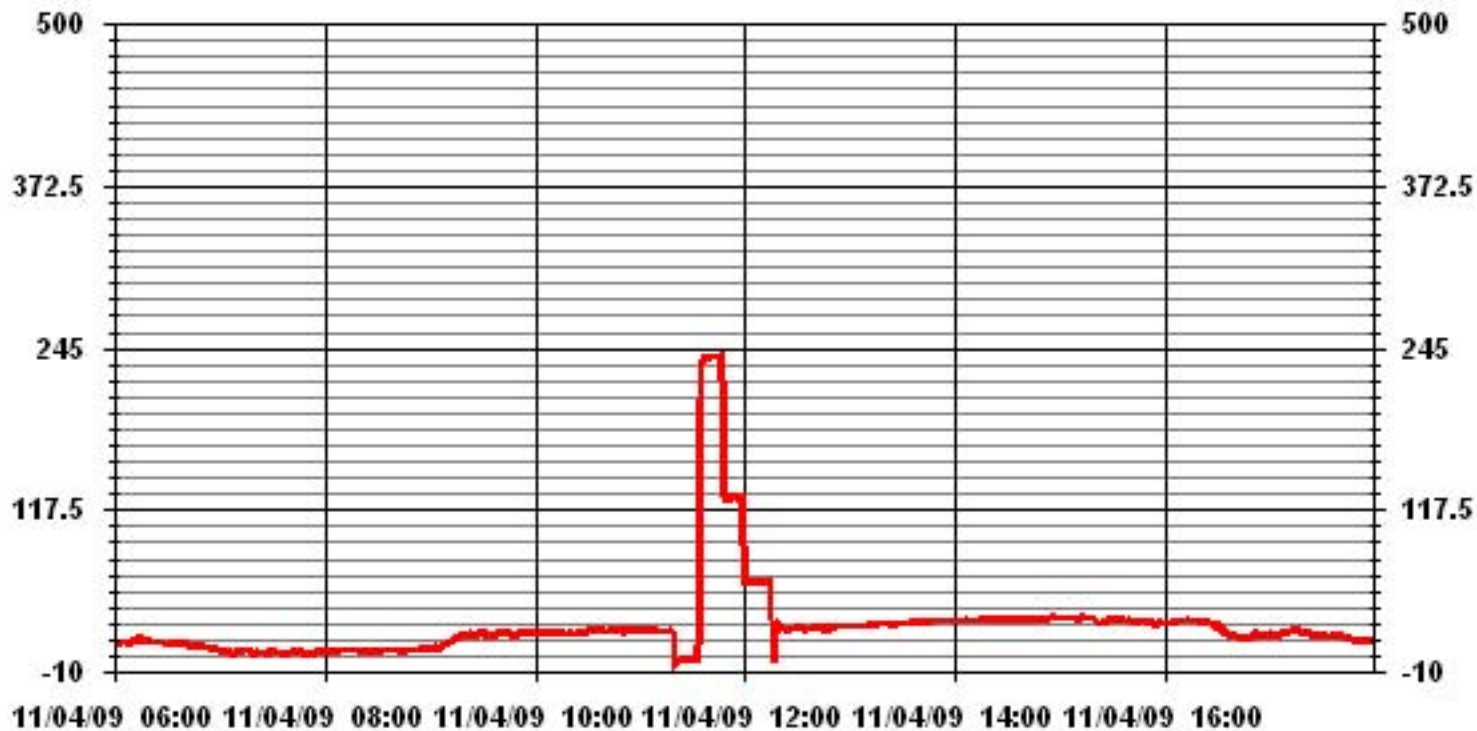
— LICA33 H2S_ PPB

01 Minute Averages



— LICA33 HNOX_PPB — LICA33 HNO_PPB — LICA33 HNO2_PPB

01 Minute Averages



Volatile Organics Laboratory Analysis



Site: 13-16-62-5 W4M
Your C.O.C. #: 0597

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

Report Date: 2009/11/20

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9F5284
Received: 2009/11/17, 15:41

Sample Matrix: AIR
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	4	N/A	2009/11/18	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	4	N/A	2009/11/18	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

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

=====
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Total cover pages: 1

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

RESULTS OF ANALYSES OF AIR

Maxxam ID		EJ4782	EJ4783	EJ4784		
Sampling Date		2009/11/03	2009/11/09	2009/11/03		
COC Number		0597	0597	0597		
	Units	LICA VOC/CLS/NOV3,09 (7789)	LICA VOC/CLS/NOV9,09 (7614)	LICA VOC/PORT/NOV3,09 (7834)	DL	QC Batch

Volatile Organics						
Pressure on Receipt	psig	19	19	19	N/A	2013423

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam ID		EJ4785		
Sampling Date		2009/11/09		
COC Number		0597		
	Units	LICA VOC/PORT/NOV9,09 (7782)	DL	QC Batch

Volatile Organics				
Pressure on Receipt	psig	19	N/A	2013423

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4782				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/CLS/NOV3,09 (7789)	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2013417
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2013417
Propene	ppbv	<0.30	0.30	<0.516	0.516	2013417
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2013417
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2013417
Dichlorodifluoromethane (FREON 12)	ppbv	0.71	0.20	3.50	0.989	2013417
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2013417
Chloromethane	ppbv	0.50	0.30	1.04	0.620	2013417
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2013417
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2013417
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2013417
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.93	1.12	2013417
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2013417
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2013417
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2013417
2-Propanone	ppbv	1.69	0.80	4.03	1.90	2013417
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2013417
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2013417
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2013417
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2013417
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2013417
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2013417
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2013417
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2013417
Methylene Chloride(Dichloromethane)	ppbv	0.42	0.30	1.47	1.04	2013417
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2013417
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2013417
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2013417
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2013417

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4782				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/CLS/NOV3,09 (7789)	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2013417
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2013417
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2013417
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2013417
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2013417
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2013417
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2013417
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2013417
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2013417
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2013417
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2013417
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2013417
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2013417
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2013417
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2013417
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2013417
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2013417
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2013417
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2013417
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2013417
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2013417
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2013417
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2013417
Hexane	ppbv	0.61	0.30	2.14	1.06	2013417
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2013417
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2013417
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2013417
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2013417
QC Batch = Quality Control Batch						

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4782				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/CLS/NOV3,09 (7789)	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	95		N/A	N/A	2013417
D5-Chlorobenzene	%	96		N/A	N/A	2013417
Difluorobenzene	%	99		N/A	N/A	2013417

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

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4783				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/CLS/NOV9,09 (7614)	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2013417
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2013417
Propene	ppbv	<0.30	0.30	<0.516	0.516	2013417
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2013417
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2013417
Dichlorodifluoromethane (FREON 12)	ppbv	0.75	0.20	3.72	0.989	2013417
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2013417
Chloromethane	ppbv	0.48	0.30	0.990	0.620	2013417
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2013417
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2013417
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2013417
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.05	1.12	2013417
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2013417
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2013417
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2013417
2-Propanone	ppbv	1.54	0.80	3.66	1.90	2013417
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2013417
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2013417
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2013417
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2013417
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2013417
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2013417
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2013417
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2013417
Methylene Chloride(Dichloromethane)	ppbv	0.47	0.30	1.64	1.04	2013417
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2013417
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2013417
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2013417
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2013417

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4783				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/CLS/NOV9,09 (7614)	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2013417
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2013417
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2013417
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2013417
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2013417
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2013417
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2013417
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2013417
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2013417
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2013417
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2013417
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2013417
Benzene	ppbv	0.19	0.18	0.611	0.575	2013417
Toluene	ppbv	0.49	0.20	1.83	0.753	2013417
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2013417
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2013417
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2013417
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2013417
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2013417
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2013417
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2013417
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2013417
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2013417
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2013417
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2013417
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2013417
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2013417
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2013417
QC Batch = Quality Control Batch						

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4783				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/CLS/NOV9,09 (7614)	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	85		N/A	N/A	2013417
D5-Chlorobenzene	%	89		N/A	N/A	2013417
Difluorobenzene	%	90		N/A	N/A	2013417

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

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4784				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/PORT/NOV3,09 (7834)	DL	ug/m3	DL (ug/m3)	QC Batch
Volatiles Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2013417
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2013417
Propene	ppbv	<0.30	0.30	<0.516	0.516	2013417
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2013417
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2013417
Dichlorodifluoromethane (FREON 12)	ppbv	0.75	0.20	3.68	0.989	2013417
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2013417
Chloromethane	ppbv	0.47	0.30	0.980	0.620	2013417
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2013417
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2013417
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2013417
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.07	1.12	2013417
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2013417
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2013417
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2013417
2-Propanone	ppbv	2.04	0.80	4.84	1.90	2013417
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2013417
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2013417
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2013417
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2013417
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2013417
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2013417
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2013417
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2013417
Methylene Chloride(Dichloromethane)	ppbv	0.47	0.30	1.64	1.04	2013417
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2013417
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2013417
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2013417
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2013417
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4784				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/PORT/NOV3,09 (7834)	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2013417
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2013417
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2013417
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2013417
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2013417
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2013417
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2013417
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2013417
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2013417
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2013417
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2013417
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2013417
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2013417
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2013417
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2013417
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2013417
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2013417
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2013417
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2013417
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2013417
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2013417
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2013417
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2013417
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2013417
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2013417
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2013417
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2013417
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2013417
QC Batch = Quality Control Batch						

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4784				
Sampling Date		2009/11/03				
COC Number		0597				
	Units	LICA VOC/PORT/NOV3,09 (7834)	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	85		N/A	N/A	2013417
D5-Chlorobenzene	%	88		N/A	N/A	2013417
Difluorobenzene	%	88		N/A	N/A	2013417

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

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4785				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/PORT/NOV9,09 (7782)	DL	ug/m3	DL (ug/m3)	QC Batch

Volatiles Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2013417
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2013417
Propene	ppbv	<0.30	0.30	<0.516	0.516	2013417
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2013417
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2013417
Dichlorodifluoromethane (FREON 12)	ppbv	0.75	0.20	3.69	0.989	2013417
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2013417
Chloromethane	ppbv	0.45	0.30	0.940	0.620	2013417
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2013417
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2013417
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2013417
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.07	1.12	2013417
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2013417
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2013417
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2013417
2-Propanone	ppbv	1.88	0.80	4.47	1.90	2013417
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2013417
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2013417
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2013417
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2013417
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2013417
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2013417
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2013417
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2013417
Methylene Chloride(Dichloromethane)	ppbv	0.45	0.30	1.55	1.04	2013417
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2013417
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2013417
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2013417
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2013417
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2013417

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4785				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/PORT/NOV9,09 (7782)	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2013417
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2013417
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2013417
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2013417
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2013417
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2013417
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2013417
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2013417
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2013417
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2013417
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2013417
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2013417
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2013417
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2013417
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2013417
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2013417
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2013417
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2013417
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2013417
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2013417
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2013417
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2013417
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2013417
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2013417
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2013417
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2013417
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2013417
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2013417
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2013417
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2013417
QC Batch = Quality Control Batch						

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ4785				
Sampling Date		2009/11/09				
COC Number		0597				
	Units	LICA VOC/PORT/NOV9,09 (7782)	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	82		N/A	N/A	2013417
D5-Chlorobenzene	%	84		N/A	N/A	2013417
Difluorobenzene	%	86		N/A	N/A	2013417

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

Maxxam Job #: A9F5284
 Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

Test Summary

Maxxam ID EJ4782
Sample ID LICA VOC/CLS/NOV3,09 (7789)
Matrix AIR
Collected 2009/11/03
Shipped
Received 2009/11/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2013423	N/A	2009/11/18	MM2
Volatile Organics in Air (TO-15)	GC/MS	2013417	N/A	2009/11/18	MM2

Maxxam ID EJ4783
Sample ID LICA VOC/CLS/NOV9,09 (7614)
Matrix AIR
Collected 2009/11/09
Shipped
Received 2009/11/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2013423	N/A	2009/11/18	MM2
Volatile Organics in Air (TO-15)	GC/MS	2013417	N/A	2009/11/18	MM2

Maxxam ID EJ4784
Sample ID LICA VOC/PORT/NOV3,09 (7834)
Matrix AIR
Collected 2009/11/03
Shipped
Received 2009/11/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2013423	N/A	2009/11/18	MM2
Volatile Organics in Air (TO-15)	GC/MS	2013417	N/A	2009/11/18	MM2

Maxxam ID EJ4785
Sample ID LICA VOC/PORT/NOV9,09 (7782)
Matrix AIR
Collected 2009/11/09
Shipped
Received 2009/11/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2013423	N/A	2009/11/18	MM2
Volatile Organics in Air (TO-15)	GC/MS	2013417	N/A	2009/11/18	MM2

Maxxam Job #: A9F5284
Report Date: 2009/11/20

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

GENERAL COMMENTS

Results relate only to the items tested.

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report

Maxxam Job Number: GA9F5284

QA/QC Batch	Date Analyzed	Parameter	Value	%Recovery	Units	QC Limits
Num Init	QC Type	yyyy/mm/dd				
2013417 MM2	Spiked Blank	Bromochloromethane	2009/11/18	103	%	60 - 140
		D5-Chlorobenzene	2009/11/18	107	%	60 - 140
		Difluorobenzene	2009/11/18	108	%	60 - 140
		2,2,4-Trimethylpentane	2009/11/18	83	%	70 - 130
		Carbon Disulfide	2009/11/18	102	%	70 - 130
		Propene	2009/11/18	97	%	70 - 130
		Vinyl Acetate	2009/11/18	112	%	70 - 130
		Vinyl Bromide	2009/11/18	102	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/11/18	109	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/11/18	107	%	70 - 130
		Chloromethane	2009/11/18	108	%	70 - 130
		Vinyl Chloride	2009/11/18	107	%	70 - 130
		Chloroethane	2009/11/18	106	%	70 - 130
		1,3-Butadiene	2009/11/18	106	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/11/18	113	%	70 - 130
		Trichlorotrifluoroethane	2009/11/18	104	%	70 - 130
		Ethanol	2009/11/18	77	%	70 - 130
		2-propanol	2009/11/18	102	%	70 - 130
		2-Propanone	2009/11/18	116	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/11/18	103	%	70 - 130
		Methyl Isobutyl Ketone	2009/11/18	96	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/11/18	100	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/11/18	119	%	70 - 130
		Ethyl Acetate	2009/11/18	100	%	70 - 130
		1,1-Dichloroethylene	2009/11/18	101	%	70 - 130
		cis-1,2-Dichloroethylene	2009/11/18	102	%	70 - 130
		trans-1,2-Dichloroethylene	2009/11/18	115	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/11/18	92	%	70 - 130
		Chloroform	2009/11/18	100	%	70 - 130
		Carbon Tetrachloride	2009/11/18	106	%	70 - 130
		1,1-Dichloroethane	2009/11/18	116	%	70 - 130
		1,2-Dichloroethane	2009/11/18	109	%	70 - 130
		Ethylene Dibromide	2009/11/18	95	%	70 - 130
		1,1,1-Trichloroethane	2009/11/18	102	%	70 - 130
		1,1,2-Trichloroethane	2009/11/18	90	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/11/18	91	%	70 - 130
		cis-1,3-Dichloropropene	2009/11/18	97	%	70 - 130
		trans-1,3-Dichloropropene	2009/11/18	101	%	70 - 130
		1,2-Dichloropropane	2009/11/18	91	%	70 - 130
		Bromomethane	2009/11/18	117	%	70 - 130
		Bromoform	2009/11/18	97	%	70 - 130
		Bromodichloromethane	2009/11/18	103	%	70 - 130
		Dibromochloromethane	2009/11/18	97	%	70 - 130
		Heptane	2009/11/18	89	%	70 - 130
		Trichloroethylene	2009/11/18	86	%	70 - 130
		Tetrachloroethylene	2009/11/18	86	%	70 - 130
		Benzene	2009/11/18	86	%	70 - 130
		Toluene	2009/11/18	87	%	70 - 130
		Ethylbenzene	2009/11/18	91	%	70 - 130
		p+m-Xylene	2009/11/18	92	%	70 - 130
		o-Xylene	2009/11/18	92	%	70 - 130
		Styrene	2009/11/18	92	%	70 - 130
		1,3,5-Trimethylbenzene	2009/11/18	90	%	70 - 130
		1,2,4-Trimethylbenzene	2009/11/18	87	%	70 - 130
		4-ethyltoluene	2009/11/18	86	%	70 - 130

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9F5284

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2013417 MM2	Spiked Blank	Chlorobenzene	2009/11/18		87	%	70 - 130
		Benzyl chloride	2009/11/18		85	%	70 - 130
		1,3-Dichlorobenzene	2009/11/18		82	%	70 - 130
		1,4-Dichlorobenzene	2009/11/18		83	%	70 - 130
		1,2-Dichlorobenzene	2009/11/18		75	%	70 - 130
		1,2,4-Trichlorobenzene	2009/11/18		70	%	70 - 130
		Hexachlorobutadiene	2009/11/18		80	%	70 - 130
		Hexane	2009/11/18		99	%	70 - 130
		Cyclohexane	2009/11/18		84	%	70 - 130
		Tetrahydrofuran	2009/11/18		90	%	70 - 130
		1,4-Dioxane	2009/11/18		79	%	70 - 130
	Method Blank	Bromochloromethane	2009/11/18		102	%	60 - 140
		D5-Chlorobenzene	2009/11/18		106	%	60 - 140
		Difluorobenzene	2009/11/18		108	%	60 - 140
		2,2,4-Trimethylpentane	2009/11/18	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/11/18	ND, RDL=0.50		ppbv	
		Propene	2009/11/18	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/11/18	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/11/18	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/11/18	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/11/18	ND, RDL=0.17		ppbv	
		Chloromethane	2009/11/18	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/11/18	ND, RDL=0.18		ppbv	
		Chloroethane	2009/11/18	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/11/18	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/11/18	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/11/18	ND, RDL=0.15		ppbv	
		Ethanol	2009/11/18	ND, RDL=2.3		ppbv	
		2-propanol	2009/11/18	ND, RDL=3.0		ppbv	
		2-Propanone	2009/11/18	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/11/18	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/11/18	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/11/18	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/11/18	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/11/18	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/11/18	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/11/18	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/11/18	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/11/18	0.51, RDL=0.30		ppbv	
		Chloroform	2009/11/18	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/11/18	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/11/18	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/11/18	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/11/18	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/11/18	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/11/18	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/11/18	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/11/18	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/11/18	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/11/18	ND, RDL=0.40		ppbv	
		Bromomethane	2009/11/18	ND, RDL=0.18		ppbv	
		Bromoform	2009/11/18	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/11/18	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/11/18	ND, RDL=0.20		ppbv	
		Heptane	2009/11/18	ND, RDL=0.30		ppbv	

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9F5284

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2013417 MM2	Method Blank	Trichloroethylene	2009/11/18	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/11/18	ND, RDL=0.20		ppbv	
		Benzene	2009/11/18	ND, RDL=0.18		ppbv	
		Toluene	2009/11/18	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/11/18	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/11/18	ND, RDL=0.37		ppbv	
		o-Xylene	2009/11/18	ND, RDL=0.20		ppbv	
		Styrene	2009/11/18	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/11/18	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/11/18	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/11/18	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/11/18	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/11/18	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/11/18	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/11/18	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/11/18	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/11/18	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/11/18	ND, RDL=3.0		ppbv	
		Hexane	2009/11/18	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/11/18	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/11/18	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/11/18	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/11/18	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2009/11/18	NC		%	25
		Carbon Disulfide	2009/11/18	2.8		%	25
		Propene	2009/11/18	NC		%	25
		Vinyl Acetate	2009/11/18	NC		%	25
		Vinyl Bromide	2009/11/18	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2009/11/18	NC		%	25
		1,2-Dichlorotetrafluoroethane	2009/11/18	NC		%	25
		Chloromethane	2009/11/18	NC		%	25
		Vinyl Chloride	2009/11/18	NC		%	25
		Chloroethane	2009/11/18	NC		%	25
		1,3-Butadiene	2009/11/18	NC		%	25
		Trichlorofluoromethane (FREON 11)	2009/11/18	NC		%	25
		Trichlorotrifluoroethane	2009/11/18	NC		%	25
		Ethanol	2009/11/18	NC		%	25
		2-propanol	2009/11/18	NC		%	25
		2-Propanone	2009/11/18	5.4		%	25
		Methyl Ethyl Ketone (2-Butanone)	2009/11/18	NC		%	25
		Methyl Isobutyl Ketone	2009/11/18	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2009/11/18	NC		%	25
		Methyl t-butyl ether (MTBE)	2009/11/18	NC		%	25
		Ethyl Acetate	2009/11/18	NC		%	25
		1,1-Dichloroethylene	2009/11/18	NC		%	25
		cis-1,2-Dichloroethylene	2009/11/18	NC		%	25
		trans-1,2-Dichloroethylene	2009/11/18	NC		%	25
		Methylene Chloride(Dichloromethane)	2009/11/18	NC		%	25
		Chloroform	2009/11/18	NC		%	25
		Carbon Tetrachloride	2009/11/18	NC		%	25
		1,1-Dichloroethane	2009/11/18	NC		%	25
		1,2-Dichloroethane	2009/11/18	NC		%	25
		Ethylene Dibromide	2009/11/18	NC		%	25

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9F5284

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2013417 MM2	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2009/11/18	NC		%	25
		1,1,2-Trichloroethane	2009/11/18	NC		%	25
		1,1,2,2-Tetrachloroethane	2009/11/18	NC		%	25
		cis-1,3-Dichloropropene	2009/11/18	NC		%	25
		trans-1,3-Dichloropropene	2009/11/18	NC		%	25
		1,2-Dichloropropane	2009/11/18	NC		%	25
		Bromomethane	2009/11/18	NC		%	25
		Bromoform	2009/11/18	NC		%	25
		Bromodichloromethane	2009/11/18	NC		%	25
		Dibromochloromethane	2009/11/18	NC		%	25
		Heptane	2009/11/18	NC		%	25
		Trichloroethylene	2009/11/18	NC		%	25
		Tetrachloroethylene	2009/11/18	NC		%	25
		Benzene	2009/11/18	NC		%	25
		Toluene	2009/11/18	NC		%	25
		Ethylbenzene	2009/11/18	NC		%	25
		p+m-Xylene	2009/11/18	NC		%	25
		o-Xylene	2009/11/18	NC		%	25
		Styrene	2009/11/18	NC		%	25
		1,3,5-Trimethylbenzene	2009/11/18	NC		%	25
		1,2,4-Trimethylbenzene	2009/11/18	NC		%	25
		4-ethyltoluene	2009/11/18	NC		%	25
		Chlorobenzene	2009/11/18	NC		%	25
		Benzyl chloride	2009/11/18	NC		%	25
		1,3-Dichlorobenzene	2009/11/18	NC		%	25
		1,4-Dichlorobenzene	2009/11/18	NC		%	25
		1,2-Dichlorobenzene	2009/11/18	NC		%	25
		1,2,4-Trichlorobenzene	2009/11/18	NC		%	25
		Hexachlorobutadiene	2009/11/18	NC		%	25
		Hexane	2009/11/18	NC		%	25
		Cyclohexane	2009/11/18	NC		%	25
		Tetrahydrofuran	2009/11/18	NC		%	25
		1,4-Dioxane	2009/11/18	NC		%	25
		Xylene (Total)	2009/11/18	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.



Site Location: COLD LAKE SOUTH 13-16-62-5 W4M
Your C.O.C. #: 5356

Attention: Shea Beaton

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

Report Date: 2009/11/24

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9F5814

Received: 2009/11/18, 13:43

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/11/19	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/11/19	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

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

=====

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Total cover pages: 1

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5814

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

Report Date: 2009/11/24

RESULTS OF ANALYSES OF AIR

Maxxam ID		EJ7262	EJ7263		
Sampling Date		2009/11/15	2009/11/15		
COC Number		5356	5356		
	Units	LICA	LICA	DL	QC Batch
		VOC/CLS/NOV15,09-7859	VOC/PORT/NOV15,09-7798		

Volatile Organics					
Pressure on Receipt	psig	19	19	N/A	2014826

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Lakeland Industry & Community Assoc.

 Maxxam Job #: A9F5814
 Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7262				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV15,09-7859				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2014838
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2014838
Propene	ppbv	<0.30	0.30	<0.516	0.516	2014838
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2014838
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2014838
Dichlorodifluoromethane (FREON 12)	ppbv	0.70	0.20	3.47	0.989	2014838
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2014838
Chloromethane	ppbv	0.54	0.30	1.11	0.620	2014838
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2014838
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2014838
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2014838
Trichlorofluoromethane (FREON 11)	ppbv	0.31	0.20	1.77	1.12	2014838
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2014838
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2014838
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2014838
2-Propanone	ppbv	1.95	0.80	4.63	1.90	2014838
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2014838
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2014838
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2014838
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2014838
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2014838
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2014838
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2014838
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2014838
Methylene Chloride(Dichloromethane)	ppbv	1.14	0.30	3.95	1.04	2014838
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2014838
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2014838
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2014838
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2014838
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2014838
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2014838
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2014838

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Lakeland Industry & Community Assoc.

 Maxxam Job #: A9F5814
 Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7262				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV15,09-7859				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2014838
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2014838
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2014838
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2014838
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2014838
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2014838
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2014838
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2014838
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2014838
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2014838
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2014838
Benzene	ppbv	0.30	0.18	0.955	0.575	2014838
Toluene	ppbv	0.41	0.20	1.53	0.753	2014838
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2014838
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2014838
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2014838
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2014838
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2014838
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2014838
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2014838
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2014838
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2014838
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2014838
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2014838
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2014838
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2014838
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2014838
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2014838
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2014838
Surrogate Recovery (%)						
Bromochloromethane	%	90		N/A	N/A	2014838
N/A = Not Applicable QC Batch = Quality Control Batch						

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5814

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

Report Date: 2009/11/24

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7262				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV15,09-7859				

D5-Chlorobenzene	%	90		N/A	N/A	2014838
Difluorobenzene	%	91		N/A	N/A	2014838

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

Lakeland Industry & Community Assoc.

 Maxxam Job #: A9F5814
 Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7263				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV15,09-7798				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2014838
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2014838
Propene	ppbv	<0.30	0.30	<0.516	0.516	2014838
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2014838
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2014838
Dichlorodifluoromethane (FREON 12)	ppbv	0.70	0.20	3.45	0.989	2014838
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2014838
Chloromethane	ppbv	0.52	0.30	1.08	0.620	2014838
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2014838
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2014838
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2014838
Trichlorofluoromethane (FREON 11)	ppbv	0.32	0.20	1.81	1.12	2014838
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2014838
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2014838
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2014838
2-Propanone	ppbv	2.13	0.80	5.05	1.90	2014838
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2014838
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2014838
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2014838
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2014838
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2014838
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2014838
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2014838
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2014838
Methylene Chloride(Dichloromethane)	ppbv	0.47	0.30	1.63	1.04	2014838
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2014838
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2014838
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2014838
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2014838
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2014838
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2014838
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2014838

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Lakeland Industry & Community Assoc.

 Maxxam Job #: A9F5814
 Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7263				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV15,09-7798				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2014838
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2014838
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2014838
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2014838
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2014838
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2014838
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2014838
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2014838
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2014838
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2014838
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2014838
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2014838
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2014838
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2014838
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2014838
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2014838
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2014838
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2014838
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2014838
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2014838
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2014838
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2014838
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2014838
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2014838
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2014838
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2014838
Cyclohexane	ppbv	0.31	0.20	1.08	0.688	2014838
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2014838
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2014838
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2014838
Surrogate Recovery (%)						
Bromochloromethane	%	88		N/A	N/A	2014838
N/A = Not Applicable QC Batch = Quality Control Batch						

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5814
 Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EJ7263				
Sampling Date		2009/11/15				
COC Number		5356				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV15,09-7798				

D5-Chlorobenzene	%	88		N/A	N/A	2014838
Difluorobenzene	%	90		N/A	N/A	2014838

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

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5814
 Report Date: 2009/11/24

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

Test Summary

Maxxam ID	EJ7262	Collected	2009/11/15
Sample ID	LICA VOC/CLS/NOV15,09-7859	Shipped	
Matrix	AIR	Received	2009/11/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2014826	N/A	2009/11/19	LSY
Volatile Organics in Air (TO-15)	GC/MS	2014838	N/A	2009/11/19	LSY

Maxxam ID	EJ7263	Collected	2009/11/15
Sample ID	LICA VOC/PORT/NOV15,09-7798	Shipped	
Matrix	AIR	Received	2009/11/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2014826	N/A	2009/11/19	LSY
Volatile Organics in Air (TO-15)	GC/MS	2014838	N/A	2009/11/19	LSY

Maxxam Job #: A9F5814
Report Date: 2009/11/24

Lakeland Industry & Community Assoc.

Project name: COLD LAKE SOUTH 13-16-62-5 W4M

GENERAL COMMENTS

Results relate only to the items tested.

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Site Location: COLD LAKE SOUTH 13-16-62-5 W4M

Quality Assurance Report
 Maxxam Job Number: GA9F5814

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2014838 LSY	Spiked Blank	Bromochloromethane	2009/11/19		102	%	60 - 140
		D5-Chlorobenzene	2009/11/19		103	%	60 - 140
		Difluorobenzene	2009/11/19		103	%	60 - 140
		2,2,4-Trimethylpentane	2009/11/19		96	%	70 - 130
		Carbon Disulfide	2009/11/19		96	%	70 - 130
		Propene	2009/11/19		98	%	70 - 130
		Vinyl Acetate	2009/11/19		89	%	70 - 130
		Vinyl Bromide	2009/11/19		98	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/11/19		101	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/11/19		98	%	70 - 130
		Chloromethane	2009/11/19		98	%	70 - 130
		Vinyl Chloride	2009/11/19		97	%	70 - 130
		Chloroethane	2009/11/19		94	%	70 - 130
		1,3-Butadiene	2009/11/19		87	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/11/19		104	%	70 - 130
		Trichlorotrifluoroethane	2009/11/19		96	%	70 - 130
		Ethanol	2009/11/19		90	%	70 - 130
		2-propanol	2009/11/19		96	%	70 - 130
		2-Propanone	2009/11/19		96	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/11/19		107	%	70 - 130
		Methyl Isobutyl Ketone	2009/11/19		106	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/11/19		113	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/11/19		93	%	70 - 130
		Ethyl Acetate	2009/11/19		99	%	70 - 130
		1,1-Dichloroethylene	2009/11/19		96	%	70 - 130
		cis-1,2-Dichloroethylene	2009/11/19		94	%	70 - 130
		trans-1,2-Dichloroethylene	2009/11/19		98	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/11/19		87	%	70 - 130
		Chloroform	2009/11/19		97	%	70 - 130
		Carbon Tetrachloride	2009/11/19		100	%	70 - 130
		1,1-Dichloroethane	2009/11/19		96	%	70 - 130
		1,2-Dichloroethane	2009/11/19		100	%	70 - 130
		Ethylene Dibromide	2009/11/19		98	%	70 - 130
		1,1,1-Trichloroethane	2009/11/19		96	%	70 - 130
		1,1,2-Trichloroethane	2009/11/19		94	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/11/19		91	%	70 - 130
		cis-1,3-Dichloropropene	2009/11/19		94	%	70 - 130
		trans-1,3-Dichloropropene	2009/11/19		95	%	70 - 130
		1,2-Dichloropropane	2009/11/19		92	%	70 - 130
		Bromomethane	2009/11/19		97	%	70 - 130
		Bromoform	2009/11/19		114	%	70 - 130
		Bromodichloromethane	2009/11/19		104	%	70 - 130
		Dibromochloromethane	2009/11/19		111	%	70 - 130
		Heptane	2009/11/19		96	%	70 - 130
		Trichloroethylene	2009/11/19		94	%	70 - 130
		Tetrachloroethylene	2009/11/19		97	%	70 - 130
		Benzene	2009/11/19		92	%	70 - 130
		Toluene	2009/11/19		92	%	70 - 130
		Ethylbenzene	2009/11/19		93	%	70 - 130
		p+m-Xylene	2009/11/19		93	%	70 - 130
		o-Xylene	2009/11/19		93	%	70 - 130
		Styrene	2009/11/19		104	%	70 - 130
		1,3,5-Trimethylbenzene	2009/11/19		93	%	70 - 130
		1,2,4-Trimethylbenzene	2009/11/19		88	%	70 - 130
		4-ethyltoluene	2009/11/19		96	%	70 - 130

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Site Location: COLD LAKE SOUTH 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9F5814

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2014838 LSY	Spiked Blank	Chlorobenzene	2009/11/19		87	%	70 - 130
		Benzyl chloride	2009/11/19		80	%	70 - 130
		1,3-Dichlorobenzene	2009/11/19		88	%	70 - 130
		1,4-Dichlorobenzene	2009/11/19		90	%	70 - 130
		1,2-Dichlorobenzene	2009/11/19		84	%	70 - 130
		1,2,4-Trichlorobenzene	2009/11/19		124	%	70 - 130
		Hexachlorobutadiene	2009/11/19		124	%	70 - 130
		Hexane	2009/11/19		91	%	70 - 130
		Cyclohexane	2009/11/19		94	%	70 - 130
		Tetrahydrofuran	2009/11/19		99	%	70 - 130
		1,4-Dioxane	2009/11/19		101	%	70 - 130
	Method Blank	Bromochloromethane	2009/11/19		95	%	60 - 140
		D5-Chlorobenzene	2009/11/19		95	%	60 - 140
		Difluorobenzene	2009/11/19		97	%	60 - 140
		2,2,4-Trimethylpentane	2009/11/19	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/11/19	ND, RDL=0.50		ppbv	
		Propene	2009/11/19	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/11/19	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/11/19	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/11/19	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/11/19	ND, RDL=0.17		ppbv	
		Chloromethane	2009/11/19	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/11/19	ND, RDL=0.18		ppbv	
		Chloroethane	2009/11/19	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/11/19	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/11/19	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/11/19	ND, RDL=0.15		ppbv	
		Ethanol	2009/11/19	ND, RDL=2.3		ppbv	
		2-propanol	2009/11/19	ND, RDL=3.0		ppbv	
		2-Propanone	2009/11/19	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/11/19	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/11/19	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/11/19	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/11/19	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/11/19	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/11/19	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/11/19	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/11/19	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/11/19	0.42, RDL=0.30		ppbv	
		Chloroform	2009/11/19	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/11/19	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/11/19	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/11/19	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/11/19	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/11/19	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/11/19	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/11/19	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/11/19	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/11/19	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/11/19	ND, RDL=0.40		ppbv	
		Bromomethane	2009/11/19	ND, RDL=0.18		ppbv	
		Bromoform	2009/11/19	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/11/19	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/11/19	ND, RDL=0.20		ppbv	
		Heptane	2009/11/19	ND, RDL=0.30		ppbv	

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Site Location: COLD LAKE SOUTH 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9F5814

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2014838 LSY	Method Blank	Trichloroethylene	2009/11/19	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/11/19	ND, RDL=0.20		ppbv	
		Benzene	2009/11/19	ND, RDL=0.18		ppbv	
		Toluene	2009/11/19	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/11/19	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/11/19	ND, RDL=0.37		ppbv	
		o-Xylene	2009/11/19	ND, RDL=0.20		ppbv	
		Styrene	2009/11/19	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/11/19	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/11/19	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/11/19	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/11/19	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/11/19	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/11/19	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/11/19	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/11/19	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/11/19	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/11/19	ND, RDL=3.0		ppbv	
		Hexane	2009/11/19	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/11/19	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/11/19	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/11/19	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/11/19	ND, RDL=0.60		ppbv	

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



Site: 13-16-62-5 W4M
Your C.O.C. #: 5468

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

Report Date: 2009/12/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G4910
Received: 2009/12/05, 12:09

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/12/07	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/12/07	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

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

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

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Total cover pages: 1

Lakeland Industry & Community Assoc.

Maxxam Job #: A9G4910
 Report Date: 2009/12/11

Project name: 13-16-62-5 W4M

RESULTS OF ANALYSES OF AIR

Maxxam ID		EO3508	EO3509		
Sampling Date		2009/11/27	2009/11/27		
COC Number		5468	5468		
	Units	LICA	LICA	DL	QC Batch
		VOC/CLS/NOV27,09	VOC/PORT/NOV27,09		

Volatile Organics					
Pressure on Receipt	psig	19	19	N/A	2031019

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3508				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV27,09				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2031051
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2031051
Propene	ppbv	<0.30	0.30	<0.516	0.516	2031051
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2031051
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2031051
Dichlorodifluoromethane (FREON 12)	ppbv	0.73	0.20	3.59	0.989	2031051
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2031051
Chloromethane	ppbv	0.60	0.30	1.25	0.620	2031051
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2031051
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2031051
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2031051
Trichlorofluoromethane (FREON 11)	ppbv	0.33	0.20	1.88	1.12	2031051
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2031051
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2031051
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2031051
2-Propanone	ppbv	1.60	0.80	3.81	1.90	2031051
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2031051
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2031051
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2031051
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2031051
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2031051
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2031051
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2031051
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2031051
Methylene Chloride(Dichloromethane)	ppbv	0.47	0.30	1.65	1.04	2031051
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2031051
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2031051
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2031051
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2031051
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2031051
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2031051
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2031051

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3508				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV27,09				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2031051
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2031051
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2031051
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2031051
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2031051
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2031051
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2031051
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2031051
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2031051
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2031051
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2031051
Benzene	ppbv	0.27	0.18	0.851	0.575	2031051
Toluene	ppbv	0.21	0.20	0.809	0.753	2031051
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2031051
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2031051
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2031051
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2031051
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2031051
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2031051
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2031051
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2031051
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2031051
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2031051
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2031051
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2031051
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2031051
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2031051
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2031051
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2031051
Surrogate Recovery (%)						
Bromochloromethane	%	86		N/A	N/A	2031051
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: A9G4910
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3508				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/NOV27,09				

D5-Chlorobenzene	%	86		N/A	N/A	2031051
Difluorobenzene	%	87		N/A	N/A	2031051

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

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3509				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV27,09				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2031051
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2031051
Propene	ppbv	<0.30	0.30	<0.516	0.516	2031051
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2031051
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2031051
Dichlorodifluoromethane (FREON 12)	ppbv	0.74	0.20	3.65	0.989	2031051
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2031051
Chloromethane	ppbv	0.59	0.30	1.23	0.620	2031051
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2031051
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2031051
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2031051
Trichlorofluoromethane (FREON 11)	ppbv	0.33	0.20	1.86	1.12	2031051
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2031051
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2031051
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2031051
2-Propanone	ppbv	1.46	0.80	3.48	1.90	2031051
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2031051
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2031051
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2031051
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2031051
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2031051
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2031051
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2031051
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2031051
Methylene Chloride(Dichloromethane)	ppbv	0.60	0.30	2.09	1.04	2031051
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2031051
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2031051
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2031051
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2031051
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2031051
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2031051
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2031051
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3509				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV27,09				
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2031051
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2031051
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2031051
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2031051
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2031051
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2031051
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2031051
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2031051
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2031051
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2031051
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2031051
Benzene	ppbv	0.21	0.18	0.678	0.575	2031051
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2031051
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2031051
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2031051
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2031051
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2031051
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2031051
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2031051
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2031051
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2031051
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2031051
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2031051
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2031051
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2031051
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2031051
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2031051
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2031051
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2031051
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2031051
Surrogate Recovery (%)						
Bromochloromethane	%	84		N/A	N/A	2031051
N/A = Not Applicable QC Batch = Quality Control Batch						

Lakeland Industry & Community Assoc.

Maxxam Job #: A9G4910
 Report Date: 2009/12/11

Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EO3509				
Sampling Date		2009/11/27				
COC Number		5468				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/NOV27,09				

D5-Chlorobenzene	%	84		N/A	N/A	2031051
Difluorobenzene	%	86		N/A	N/A	2031051

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

Maxxam Job #: A9G4910
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

Test Summary

Maxxam ID EO3508 **Collected** 2009/11/27
Sample ID LICA VOC/CLS/NOV27,09 **Shipped**
Matrix AIR **Received** 2009/12/05

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2031019	N/A	2009/12/07	LSY
Volatile Organics in Air (TO-15)	GC/MS	2031051	N/A	2009/12/07	LSY

Maxxam ID EO3509 **Collected** 2009/11/27
Sample ID LICA VOC/PORT/NOV27,09 **Shipped**
Matrix AIR **Received** 2009/12/05

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2031019	N/A	2009/12/07	LSY
Volatile Organics in Air (TO-15)	GC/MS	2031051	N/A	2009/12/07	LSY

Maxxam Job #: A9G4910
Report Date: 2009/12/11

Lakeland Industry & Community Assoc.

Project name: 13-16-62-5 W4M

GENERAL COMMENTS

Results relate only to the items tested.

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report

Maxxam Job Number: GA9G4910

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2031051 LSY	Spiked Blank	Bromochloromethane	2009/12/07		106	%	60 - 140
		D5-Chlorobenzene	2009/12/07		105	%	60 - 140
		Difluorobenzene	2009/12/07		107	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/07		90	%	70 - 130
		Carbon Disulfide	2009/12/07		91	%	70 - 130
		Propene	2009/12/07		91	%	70 - 130
		Vinyl Acetate	2009/12/07		100	%	70 - 130
		Vinyl Bromide	2009/12/07		92	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/12/07		93	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/12/07		81	%	70 - 130
		Chloromethane	2009/12/07		88	%	70 - 130
		Vinyl Chloride	2009/12/07		93	%	70 - 130
		Chloroethane	2009/12/07		91	%	70 - 130
		1,3-Butadiene	2009/12/07		80	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/12/07		93	%	70 - 130
		Trichlorotrifluoroethane	2009/12/07		92	%	70 - 130
		Ethanol	2009/12/07		76	%	70 - 130
		2-propanol	2009/12/07		88	%	70 - 130
		2-Propanone	2009/12/07		89	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/12/07		96	%	70 - 130
		Methyl Isobutyl Ketone	2009/12/07		88	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/12/07		87	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/12/07		96	%	70 - 130
		Ethyl Acetate	2009/12/07		89	%	70 - 130
		1,1-Dichloroethylene	2009/12/07		92	%	70 - 130
		cis-1,2-Dichloroethylene	2009/12/07		90	%	70 - 130
		trans-1,2-Dichloroethylene	2009/12/07		92	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/12/07		81	%	70 - 130
		Chloroform	2009/12/07		91	%	70 - 130
		Carbon Tetrachloride	2009/12/07		97	%	70 - 130
		1,1-Dichloroethane	2009/12/07		90	%	70 - 130
		1,2-Dichloroethane	2009/12/07		89	%	70 - 130
		Ethylene Dibromide	2009/12/07		87	%	70 - 130
		1,1,1-Trichloroethane	2009/12/07		94	%	70 - 130
		1,1,2-Trichloroethane	2009/12/07		91	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/12/07		85	%	70 - 130
		cis-1,3-Dichloropropene	2009/12/07		97	%	70 - 130
		trans-1,3-Dichloropropene	2009/12/07		95	%	70 - 130
		1,2-Dichloropropane	2009/12/07		90	%	70 - 130
		Bromomethane	2009/12/07		88	%	70 - 130
		Bromoform	2009/12/07		98	%	70 - 130
		Bromodichloromethane	2009/12/07		95	%	70 - 130
		Dibromochloromethane	2009/12/07		94	%	70 - 130
		Heptane	2009/12/07		90	%	70 - 130
		Trichloroethylene	2009/12/07		91	%	70 - 130
		Tetrachloroethylene	2009/12/07		91	%	70 - 130
		Benzene	2009/12/07		89	%	70 - 130
		Toluene	2009/12/07		90	%	70 - 130
		Ethylbenzene	2009/12/07		88	%	70 - 130
		p+m-Xylene	2009/12/07		89	%	70 - 130
		o-Xylene	2009/12/07		88	%	70 - 130
		Styrene	2009/12/07		90	%	70 - 130
		1,3,5-Trimethylbenzene	2009/12/07		80	%	70 - 130
		1,2,4-Trimethylbenzene	2009/12/07		77	%	70 - 130
		4-ethyltoluene	2009/12/07		82	%	70 - 130

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G4910

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2031051 LSY	Spiked Blank	Chlorobenzene	2009/12/07		88	%	70 - 130
		Benzyl chloride	2009/12/07		89	%	70 - 130
		1,3-Dichlorobenzene	2009/12/07		78	%	70 - 130
		1,4-Dichlorobenzene	2009/12/07		75	%	70 - 130
		1,2-Dichlorobenzene	2009/12/07		74	%	70 - 130
		1,2,4-Trichlorobenzene	2009/12/07		106	%	70 - 130
		Hexachlorobutadiene	2009/12/07		111	%	70 - 130
		Hexane	2009/12/07		87	%	70 - 130
		Cyclohexane	2009/12/07		91	%	70 - 130
		Tetrahydrofuran	2009/12/07		89	%	70 - 130
		1,4-Dioxane	2009/12/07		81	%	70 - 130
	Method Blank	Bromochloromethane	2009/12/07		94	%	60 - 140
		D5-Chlorobenzene	2009/12/07		93	%	60 - 140
		Difluorobenzene	2009/12/07		96	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/07	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/12/07	ND, RDL=0.50		ppbv	
		Propene	2009/12/07	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/12/07	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/12/07	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/12/07	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/12/07	ND, RDL=0.17		ppbv	
		Chloromethane	2009/12/07	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/12/07	ND, RDL=0.18		ppbv	
		Chloroethane	2009/12/07	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/12/07	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/12/07	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/12/07	ND, RDL=0.15		ppbv	
		Ethanol	2009/12/07	ND, RDL=2.3		ppbv	
		2-propanol	2009/12/07	ND, RDL=3.0		ppbv	
		2-Propanone	2009/12/07	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/12/07	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/12/07	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/12/07	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/12/07	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/12/07	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/12/07	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/12/07	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/12/07	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/12/07	0.40, RDL=0.30		ppbv	
		Chloroform	2009/12/07	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/12/07	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/12/07	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/12/07	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/12/07	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/12/07	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/12/07	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/12/07	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/12/07	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/12/07	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/12/07	ND, RDL=0.40		ppbv	
		Bromomethane	2009/12/07	ND, RDL=0.18		ppbv	
		Bromoform	2009/12/07	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/12/07	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/12/07	ND, RDL=0.20		ppbv	
		Heptane	2009/12/07	ND, RDL=0.30		ppbv	

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G4910

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2031051 LSY	Method Blank	Trichloroethylene	2009/12/07	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/12/07	ND, RDL=0.20		ppbv	
		Benzene	2009/12/07	ND, RDL=0.18		ppbv	
		Toluene	2009/12/07	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/12/07	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/12/07	ND, RDL=0.37		ppbv	
		o-Xylene	2009/12/07	ND, RDL=0.20		ppbv	
		Styrene	2009/12/07	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/12/07	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/12/07	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/12/07	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/12/07	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/12/07	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/12/07	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/12/07	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/12/07	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/12/07	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/12/07	ND, RDL=3.0		ppbv	
		Hexane	2009/12/07	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/12/07	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/12/07	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/12/07	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/12/07	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	Chloromethane	2009/12/07	NC		%	25
		Vinyl Chloride	2009/12/07	NC		%	25
		Chloroethane	2009/12/07	NC		%	25
		1,1-Dichloroethylene	2009/12/07	NC		%	25
		cis-1,2-Dichloroethylene	2009/12/07	NC		%	25
		Chloroform	2009/12/07	NC		%	25
		Carbon Tetrachloride	2009/12/07	NC		%	25
		1,1-Dichloroethane	2009/12/07	NC		%	25
		1,2-Dichloroethane	2009/12/07	NC		%	25
		Ethylene Dibromide	2009/12/07	NC		%	25
		cis-1,3-Dichloropropene	2009/12/07	NC		%	25
		1,2-Dichloropropane	2009/12/07	NC		%	25
		Bromomethane	2009/12/07	NC		%	25
		Trichloroethylene	2009/12/07	NC		%	25
		Tetrachloroethylene	2009/12/07	NC		%	25
		Benzene	2009/12/07	NC		%	25
		Toluene	2009/12/07	NC		%	25
		Ethylbenzene	2009/12/07	NC		%	25
		p+m-Xylene	2009/12/07	NC		%	25
		o-Xylene	2009/12/07	NC		%	25
		Styrene	2009/12/07	NC		%	25
		1,3,5-Trimethylbenzene	2009/12/07	NC		%	25
		1,2,4-Trimethylbenzene	2009/12/07	NC		%	25
		Chlorobenzene	2009/12/07	NC		%	25
		1,3-Dichlorobenzene	2009/12/07	NC		%	25
		1,4-Dichlorobenzene	2009/12/07	NC		%	25
		1,2-Dichlorobenzene	2009/12/07	NC		%	25
		1,2,4-Trichlorobenzene	2009/12/07	NC		%	25
		Hexachlorobutadiene	2009/12/07	NC		%	25
		Xylene (Total)	2009/12/07	NC		%	25

Lakeland Industry & Community Assoc.
Attention: Shea Beaton
Client Project #:
P.O. #:
Project name: 13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G4910

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.

Polycyclic Aromatic Hydrocarbons Laboratory Analysis



Your C.O.C. #: 1032

Attention: Shea Beaton

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

Report Date: 2009/11/25

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9F4131

Received: 2009/11/14, 14:15

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/11/18	2009/11/23	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

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

=====

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Total cover pages: 1

Page 1 of 7

Maxxam Job #: A9F4131
 Report Date: 2009/11/25

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

Maxxam ID		EI9124	EI9125		
Sampling Date		2009/11/11	2009/11/11		
COC Number		1032	1032		
	Units	LICA PUF/CLS/NOV 9, 09	LICA PUF/PORT/NOV 9, 09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2012639
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2012639
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2012639
2-Methylantracene	ug	<0.10	<0.10	0.10	2012639
2-Methylnaphthalene	ug	0.26	0.16	0.10	2012639
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2012639
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2012639
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2012639
Acenaphthene	ug	<0.050	<0.050	0.050	2012639
Acenaphthylene	ug	<0.050	<0.050	0.050	2012639
Anthracene	ug	<0.050	<0.050	0.050	2012639
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2012639
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2012639
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2012639
Benzo(b)fluoranthene	ug	<0.050	0.057	0.050	2012639
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2012639
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2012639
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2012639
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2012639
Biphenyl	ug	0.13	0.15	0.10	2012639
Chrysene	ug	<0.050	0.055	0.050	2012639
Coronene	ug	<0.10	<0.10	0.10	2012639
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2012639
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2012639
Fluoranthene	ug	0.074	0.252	0.050	2012639
Fluorene	ug	0.158	0.268	0.050	2012639
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2012639
m-Terphenyl	ug	<0.10	<0.10	0.10	2012639
Naphthalene	ug	0.206	0.120	0.072	2012639
o-Terphenyl	ug	<0.10	<0.10	0.10	2012639
Perylene	ug	<0.10	<0.10	0.10	2012639

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9F4131
 Report Date: 2009/11/25

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

Maxxam ID		EI9124	EI9125		
Sampling Date		2009/11/11	2009/11/11		
COC Number		1032	1032		
	Units	LICA PUF/CLS/NOV 9, 09	LICA PUF/PORT/NOV 9, 09	DL	QC Batch

Phenanthrene	ug	0.241	0.649	0.050	2012639
p-Terphenyl	ug	<0.10	<0.10	0.10	2012639
Pyrene	ug	0.056	0.132	0.050	2012639
Quinoline	ug	<0.40	<0.40	0.40	2012639
Tetralin	ug	<0.10	<0.10	0.10	2012639
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	79	96		2012639
D10-Fluoranthene	%	106	111		2012639
D10-Fluorene (FS)	%	45 (1)	45 (1)		2012639
D10-Phenanthrene	%	100	110		2012639
D12-Benzo(a)anthracene	%	110	119		2012639
D12-Benzo(a)pyrene	%	97	104		2012639
D12-Benzo(b)fluoranthene	%	107	109		2012639
D12-Benzo(ghi)perylene	%	103	107		2012639
D12-Benzo(k)fluoranthene	%	99	102		2012639
D12-Chrysene	%	101	101		2012639
D12-Indeno(1,2,3-cd)pyrene	%	103	108		2012639
D12-Perylene	%	100	103		2012639
D14-Dibenzo(a,h)anthracene	%	103	108		2012639
D14-Terphenyl (FS)	%	91	94		2012639
D8-Acenaphthylene	%	87	106		2012639
D8-Naphthalene	%	76	94		2012639

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 #: A9F4131
 Report Date: 2009/11/25

Test Summary

Maxxam ID	EI9124	Collected	2009/11/11
Sample ID	LICA PUF/CLS/NOV 9, 09	Shipped	
Matrix	PUF AND FILTER	Received	2009/11/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2012639	2009/11/18	2009/11/23	WZ

Maxxam ID	EI9125	Collected	2009/11/11
Sample ID	LICA PUF/PORT/NOV 9, 09	Shipped	
Matrix	PUF AND FILTER	Received	2009/11/14

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2012639	2009/11/18	2009/11/23	WZ

Maxxam Job #: A9F4131
Report Date: 2009/11/25

GENERAL COMMENTS

PAHMS-F

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

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

Sample EI9124-01: PAHMS-F

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

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

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

Sample EI9125-01: PAHMS-F

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

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

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.055ug, which is the value reported for Chrysene.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Searched for ions specific to this compound in the appropriate retention time range with no possible positive detected.

Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to this compounds in the appropriate retention time range, possible positive detected, but would fall below the mdl using Dibenzo(a,h) anthracene calibration.

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GA9F4131

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2012639 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/11/23		91	%	50 - 150
		D10-Fluoranthene	2009/11/23		108	%	50 - 150
		D10-Phenanthrene	2009/11/23		100	%	50 - 150
		D12-Benzo(a)anthracene	2009/11/23		113	%	50 - 150
		D12-Benzo(a)pyrene	2009/11/23		108	%	50 - 150
		D12-Benzo(b)fluoranthene	2009/11/23		112	%	50 - 150
		D12-Benzo(ghi)perylene	2009/11/23		108	%	50 - 150
		D12-Benzo(k)fluoranthene	2009/11/23		105	%	50 - 150
		D12-Chrysene	2009/11/23		106	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2009/11/23		107	%	50 - 150
		D12-Perylene	2009/11/23		106	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/11/23		107	%	50 - 150
		D8-Acenaphthylene	2009/11/23		92	%	50 - 150
		D8-Naphthalene	2009/11/23		92	%	50 - 150
		RPD	Acenaphthene	2009/11/23		84	%
	RPD	Acenaphthene	2009/11/23	1.7		%	50
	Spiked Blank	Acenaphthylene	2009/11/23		85	%	60 - 130
	RPD	Acenaphthylene	2009/11/23	0.4		%	50
	Spiked Blank	Anthracene	2009/11/23		85	%	60 - 130
	RPD	Anthracene	2009/11/23	6.6		%	50
	Spiked Blank	Benzo(a)anthracene	2009/11/23		97	%	60 - 130
	RPD	Benzo(a)anthracene	2009/11/23	3.4		%	50
	Spiked Blank	Benzo(a)pyrene	2009/11/23		91	%	60 - 130
	RPD	Benzo(a)pyrene	2009/11/23	4.8		%	50
	Spiked Blank	Benzo(b)fluoranthene	2009/11/23		85	%	60 - 130
	RPD	Benzo(b)fluoranthene	2009/11/23	2.2		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2009/11/23		93	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2009/11/23	4.7		%	50
	Spiked Blank	Benzo(k)fluoranthene	2009/11/23		113	%	60 - 130
	RPD	Benzo(k)fluoranthene	2009/11/23	3.9		%	50
	Spiked Blank	Chrysene	2009/11/23		98	%	60 - 130
	RPD	Chrysene	2009/11/23	2.9		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2009/11/23		95	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2009/11/23	4.9		%	50
	Spiked Blank	Fluoranthene	2009/11/23		100	%	60 - 130
	RPD	Fluoranthene	2009/11/23	5.8		%	50
	Spiked Blank	Fluorene	2009/11/23		86	%	60 - 130
	RPD	Fluorene	2009/11/23	2.3		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/11/23		94	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2009/11/23	4.6		%	50
	Spiked Blank	Naphthalene	2009/11/23		86	%	60 - 130
	RPD	Naphthalene	2009/11/23	1.8		%	50
	Spiked Blank	Phenanthrene	2009/11/23		86	%	60 - 130
	RPD	Phenanthrene	2009/11/23	2.4		%	50
	Spiked Blank	Pyrene	2009/11/23		88	%	60 - 130
RPD	Pyrene	2009/11/23	3.6		%	50	
Method Blank	D10-2-Methylnaphthalene	2009/11/23		87	%	50 - 150	
	D10-Fluoranthene	2009/11/23		103	%	50 - 150	
	D10-Phenanthrene	2009/11/23		99	%	50 - 150	
	D12-Benzo(a)anthracene	2009/11/23		110	%	50 - 150	
	D12-Benzo(a)pyrene	2009/11/23		102	%	50 - 150	
	D12-Benzo(b)fluoranthene	2009/11/23		105	%	50 - 150	
	D12-Benzo(ghi)perylene	2009/11/23		102	%	50 - 150	
	D12-Benzo(k)fluoranthene	2009/11/23		97	%	50 - 150	
	D12-Chrysene	2009/11/23		99	%	50 - 150	

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

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9F4131

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2012639 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/11/23		104	%	50 - 150
		D12-Perylene	2009/11/23		103	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/11/23		104	%	50 - 150
		D8-Acenaphthylene	2009/11/23		97	%	50 - 150
		D8-Naphthalene	2009/11/23		89	%	50 - 150
		1-Methylnaphthalene	2009/11/23	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/11/23	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/11/23	ND, RDL=0.10		ug	
		2-Methylanthracene	2009/11/23	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/11/23	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/11/23	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/11/23	ND, RDL=0.10		ug	
		9,10-Dimethylanthracene	2009/11/23	ND, RDL=0.40		ug	
		Acenaphthene	2009/11/23	ND, RDL=0.050		ug	
		Acenaphthylene	2009/11/23	ND, RDL=0.050		ug	
		Anthracene	2009/11/23	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/11/23	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/11/23	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/11/23	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/11/23	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/11/23	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/11/23	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/11/23	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/11/23	ND, RDL=0.050		ug	
		Biphenyl	2009/11/23	ND, RDL=0.10		ug	
		Chrysene	2009/11/23	ND, RDL=0.050		ug	
		Coronene	2009/11/23	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/11/23	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/11/23	ND, RDL=0.20		ug	
		Fluoranthene	2009/11/23	ND, RDL=0.050		ug	
		Fluorene	2009/11/23	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/11/23	ND, RDL=0.050		ug	
		m-Terphenyl	2009/11/23	ND, RDL=0.10		ug	
		Naphthalene	2009/11/23	ND, RDL=0.072		ug	
		o-Terphenyl	2009/11/23	ND, RDL=0.10		ug	
		Perylene	2009/11/23	ND, RDL=0.10		ug	
		Phenanthrene	2009/11/23	ND, RDL=0.050		ug	
		p-Terphenyl	2009/11/23	ND, RDL=0.10		ug	
		Pyrene	2009/11/23	ND, RDL=0.050		ug	
		Quinoline	2009/11/23	ND, RDL=0.40		ug	
		Tetralin	2009/11/23	ND, RDL=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.



Site Location: COLD LAKE SOUTH/13-16-62-5 W4M
Your C.O.C. #: 1043

Attention: Shea Beaton

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

Report Date: 2009/11/30

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9F5561

Received: 2009/11/18, 08:56

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/11/19	2009/11/25	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

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

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Total cover pages: 1

Lakeland Industry & Community Assoc.

 Maxxam Job #: A9F5561
 Report Date: 2009/11/30

Project name: COLD LAKE SOUTH/13-16-62-5 W4M

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

Maxxam ID		EJ6005	EJ6006		
Sampling Date		2009/11/15	2009/11/15		
COC Number		1043	1043		
	Units	LICA PUF QFF/CLS/NOV15,09	LICA PUF QFF/PORT/NOV15,09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	0.75	0.31	0.10	2013717
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2013717
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2013717
2-Methylantracene	ug	<0.10	<0.10	0.10	2013717
2-Methylnaphthalene	ug	1.66	0.58	0.10	2013717
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2013717
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2013717
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2013717
Acenaphthene	ug	0.200	<0.050	0.050	2013717
Acenaphthylene	ug	1.07	0.135	0.050	2013717
Anthracene	ug	0.182	<0.050	0.050	2013717
Benzo(a)anthracene	ug	0.148	<0.050	0.050	2013717
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2013717
Benzo(a)pyrene	ug	0.102	<0.050	0.050	2013717
Benzo(b)fluoranthene	ug	0.174	<0.050	0.050	2013717
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2013717
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2013717
Benzo(g,h,i)perylene	ug	0.108	<0.050	0.050	2013717
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2013717
Biphenyl	ug	0.76	0.39	0.10	2013717
Chrysene	ug	0.146	<0.050	0.050	2013717
Coronene	ug	<0.10	<0.10	0.10	2013717
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2013717
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2013717
Fluoranthene	ug	0.466	0.132	0.050	2013717
Fluorene	ug	0.530	0.227	0.050	2013717
Indeno(1,2,3-cd)pyrene	ug	0.088	<0.050	0.050	2013717
m-Terphenyl	ug	<0.10	<0.10	0.10	2013717
Naphthalene	ug	1.44	0.555	0.072	2013717
o-Terphenyl	ug	<0.10	<0.10	0.10	2013717
Perylene	ug	<0.10	<0.10	0.10	2013717
Phenanthrene	ug	1.25	0.396	0.050	2013717
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5561

Report Date: 2009/11/30

Project name: COLD LAKE SOUTH/13-16-62-5 W4M

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

Maxxam ID		EJ6005	EJ6006		
Sampling Date		2009/11/15	2009/11/15		
COC Number		1043	1043		
	Units	LICA PUF QFF/CLS/NOV15,09	LICA PUF QFF/PORT/NOV15,09	DL	QC Batch

p-Terphenyl	ug	<0.10	<0.10	0.10	2013717
Pyrene	ug	0.379	0.088	0.050	2013717
Quinoline	ug	<0.40	<0.40	0.40	2013717
Tetralin	ug	<0.10	<0.10	0.10	2013717
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	86	90		2013717
D10-Fluoranthene	%	108	108		2013717
D10-Fluorene (FS)	%	53	46 (1)		2013717
D10-Phenanthrene	%	101	100		2013717
D12-Benzo(a)anthracene	%	113	107		2013717
D12-Benzo(a)pyrene	%	102	99		2013717
D12-Benzo(b)fluoranthene	%	108	106		2013717
D12-Benzo(ghi)perylene	%	102	100		2013717
D12-Benzo(k)fluoranthene	%	94	91		2013717
D12-Chrysene	%	98	95		2013717
D12-Indeno(1,2,3-cd)pyrene	%	104	100		2013717
D12-Perylene	%	100	97		2013717
D14-Dibenzo(a,h)anthracene	%	103	100		2013717
D14-Terphenyl (FS)	%	90	89		2013717
D8-Acenaphthylene	%	91	97		2013717
D8-Naphthalene	%	85	89		2013717

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.

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5561
 Report Date: 2009/11/30

Project name: COLD LAKE SOUTH/13-16-62-5 W4M

Test Summary

Maxxam ID EJ6005 **Collected** 2009/11/15
Sample ID LICA PUF QFF/CLS/NOV15,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/11/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2013717	2009/11/19	2009/11/25	WZ

Maxxam ID EJ6006 **Collected** 2009/11/15
Sample ID LICA PUF QFF/PORT/NOV15,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/11/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2013717	2009/11/19	2009/11/25	WZ

Lakeland Industry & Community Assoc.

Maxxam Job #: A9F5561
Report Date: 2009/11/30

Project name: COLD LAKE SOUTH/13-16-62-5 W4M

GENERAL COMMENTS

PAHMS-F

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

Sample EJ6005-01: PAHMS-F

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

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.146ug, which is the value reported for Chrysene.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Searched for ions specific to this compound in the appropriate retention time range with no possible positive detected.

Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to this compounds in the appropriate retention time range, possible positive detected, but would fall below the mdl using Dibenzo(a,h) anthracene calibration.

Sample EJ6006-01: PAHMS-F

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 or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

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

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

Results relate only to the items tested.

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Site Location: COLD LAKE SOUTH/13-16-62-5 W4M

Quality Assurance Report
 Maxxam Job Number: GA9F5561

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2013717 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/11/25		84	%	50 - 150
		D10-Fluoranthene	2009/11/25		100	%	50 - 150
		D10-Phenanthrene	2009/11/25		91	%	50 - 150
		D12-Benzo(a)anthracene	2009/11/25		106	%	50 - 150
		D12-Benzo(a)pyrene	2009/11/25		99	%	50 - 150
		D12-Benzo(b)fluoranthene	2009/11/25		106	%	50 - 150
		D12-Benzo(ghi)perylene	2009/11/25		99	%	50 - 150
		D12-Benzo(k)fluoranthene	2009/11/25		94	%	50 - 150
		D12-Chrysene	2009/11/25		96	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2009/11/25		99	%	50 - 150
		D12-Perylene	2009/11/25		98	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/11/25		99	%	50 - 150
		D8-Acenaphthylene	2009/11/25		87	%	50 - 150
		D8-Naphthalene	2009/11/25		85	%	50 - 150
		RPD	Acenaphthene	2009/11/25		4.2	%
	Spiked Blank	Acenaphthene	2009/11/25				50
	RPD	Acenaphthylene	2009/11/25		5.6	%	60 - 130
	Spiked Blank	Acenaphthylene	2009/11/25				50
	RPD	Anthracene	2009/11/25		2.0	%	60 - 130
	Spiked Blank	Anthracene	2009/11/25				50
	RPD	Benzo(a)anthracene	2009/11/25		4.2	%	60 - 130
	Spiked Blank	Benzo(a)anthracene	2009/11/25				50
	RPD	Benzo(a)pyrene	2009/11/25		3.4	%	60 - 130
	Spiked Blank	Benzo(a)pyrene	2009/11/25				50
	RPD	Benzo(b)fluoranthene	2009/11/25		0.1	%	60 - 130
	Spiked Blank	Benzo(b)fluoranthene	2009/11/25				50
	RPD	Benzo(g,h,i)perylene	2009/11/25		1.1	%	60 - 130
	Spiked Blank	Benzo(g,h,i)perylene	2009/11/25				50
	RPD	Benzo(k)fluoranthene	2009/11/25		3.7	%	60 - 130
	Spiked Blank	Benzo(k)fluoranthene	2009/11/25				50
	RPD	Chrysene	2009/11/25		2.3	%	60 - 130
	Spiked Blank	Chrysene	2009/11/25				50
	RPD	Dibenz(a,h)anthracene	2009/11/25		0.3	%	60 - 130
	Spiked Blank	Dibenz(a,h)anthracene	2009/11/25				50
	RPD	Fluoranthene	2009/11/25		5.4	%	60 - 130
	Spiked Blank	Fluoranthene	2009/11/25				50
	RPD	Fluorene	2009/11/25		3.2	%	60 - 130
	Spiked Blank	Fluorene	2009/11/25				50
	RPD	Indeno(1,2,3-cd)pyrene	2009/11/25		0.03	%	60 - 130
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/11/25				50
RPD	Naphthalene	2009/11/25		5.2	%	60 - 130	
Spiked Blank	Naphthalene	2009/11/25				50	
RPD	Phenanthrene	2009/11/25		0.5	%	60 - 130	
Spiked Blank	Phenanthrene	2009/11/25				50	
RPD	Pyrene	2009/11/25		3.6	%	60 - 130	
Spiked Blank	Pyrene	2009/11/25				50	
Method Blank	D10-2-Methylnaphthalene	2009/11/25				50 - 150	
	D10-Fluoranthene	2009/11/25				50 - 150	
	D10-Phenanthrene	2009/11/25				50 - 150	
	D12-Benzo(a)anthracene	2009/11/25				50 - 150	
	D12-Benzo(a)pyrene	2009/11/25				50 - 150	
	D12-Benzo(b)fluoranthene	2009/11/25				50 - 150	
	D12-Benzo(ghi)perylene	2009/11/25				50 - 150	
	D12-Benzo(k)fluoranthene	2009/11/25				50 - 150	
	D12-Chrysene	2009/11/25				50 - 150	

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
 P.O. #:
 Site Location: COLD LAKE SOUTH/13-16-62-5 W4M

Quality Assurance Report (Continued)

Maxxam Job Number: GA9F5561

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2013717 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/11/25		102	%	50 - 150
		D12-Perylene	2009/11/25		101	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/11/25		103	%	50 - 150
		D8-Acenaphthylene	2009/11/25		88	%	50 - 150
		D8-Naphthalene	2009/11/25		81	%	50 - 150
		1-Methylnaphthalene	2009/11/25	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/11/25	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/11/25	ND, RDL=0.10		ug	
		2-Methylantracene	2009/11/25	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/11/25	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/11/25	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/11/25	ND, RDL=0.10		ug	
		9,10-Dimethylantracene	2009/11/25	ND, RDL=0.40		ug	
		Acenaphthene	2009/11/25	ND, RDL=0.050		ug	
		Acenaphthylene	2009/11/25	ND, RDL=0.050		ug	
		Anthracene	2009/11/25	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/11/25	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/11/25	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/11/25	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/11/25	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/11/25	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/11/25	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/11/25	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/11/25	ND, RDL=0.050		ug	
		Biphenyl	2009/11/25	ND, RDL=0.10		ug	
		Chrysene	2009/11/25	ND, RDL=0.050		ug	
		Coronene	2009/11/25	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/11/25	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/11/25	ND, RDL=0.20		ug	
		Fluoranthene	2009/11/25	ND, RDL=0.050		ug	
		Fluorene	2009/11/25	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/11/25	ND, RDL=0.050		ug	
		m-Terphenyl	2009/11/25	ND, RDL=0.10		ug	
		Naphthalene	2009/11/25	ND, RDL=0.072		ug	
		o-Terphenyl	2009/11/25	ND, RDL=0.10		ug	
		Perylene	2009/11/25	ND, RDL=0.10		ug	
		Phenanthrene	2009/11/25	ND, RDL=0.050		ug	
		p-Terphenyl	2009/11/25	ND, RDL=0.10		ug	
		Pyrene	2009/11/25	ND, RDL=0.050		ug	
		Quinoline	2009/11/25	ND, RDL=0.40		ug	
		Tetralin	2009/11/25	ND, RDL=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.



Your C.O.C. #: 1049

Attention: Shea Beaton

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

Report Date: 2009/12/03

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G0124

Received: 2009/11/26, 08:45

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/11/27	2009/12/01	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

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

=====

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Total cover pages: 1

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Maxxam Job #: A9G0124
 Report Date: 2009/12/03

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

Maxxam ID		EL9302	EL9303		
Sampling Date		2009/11/12	2009/11/21		
COC Number		1049	1049		
	Units	LICA PUFF/CLS/NOV21, 04	LICAPUFF/PORT/NOV21, 04	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	0.12	0.10	0.10	2023673
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2023673
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2023673
2-Methylantracene	ug	<0.10	<0.10	0.10	2023673
2-Methylnaphthalene	ug	0.23	0.16	0.10	2023673
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2023673
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2023673
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2023673
Acenaphthene	ug	<0.050	<0.050	0.050	2023673
Acenaphthylene	ug	0.062	<0.050	0.050	2023673
Anthracene	ug	<0.050	<0.050	0.050	2023673
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2023673
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2023673
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2023673
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2023673
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2023673
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2023673
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2023673
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2023673
Biphenyl	ug	0.29	0.34	0.10	2023673
Chrysene	ug	<0.050	<0.050	0.050	2023673
Coronene	ug	<0.10	<0.10	0.10	2023673
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2023673
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2023673
Fluoranthene	ug	0.132	0.075	0.050	2023673
Fluorene	ug	0.225	0.177	0.050	2023673
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2023673
m-Terphenyl	ug	<0.10	<0.10	0.10	2023673
Naphthalene	ug	0.258	0.231	0.072	2023673
o-Terphenyl	ug	<0.10	<0.10	0.10	2023673
Perylene	ug	<0.10	<0.10	0.10	2023673

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G0124
 Report Date: 2009/12/03

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

Maxxam ID		EL9302	EL9303		
Sampling Date		2009/11/12	2009/11/21		
COC Number		1049	1049		
	Units	LICA PUFF/CLS/NOV21, 04	LICAPUFF/PORT/NOV21, 04	DL	QC Batch

Phenanthrene	ug	0.479	0.316	0.050	2023673
p-Terphenyl	ug	<0.10	<0.10	0.10	2023673
Pyrene	ug	0.100	<0.050	0.050	2023673
Quinoline	ug	<0.40	<0.40	0.40	2023673
Tetralin	ug	<0.10	<0.10	0.10	2023673
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	63	59		2023673
D10-Fluoranthene	%	110	85		2023673
D10-Fluorene (FS)	%	34 (1)	29 (1)		2023673
D10-Phenanthrene	%	92	74		2023673
D12-Benzo(a)anthracene	%	119	91		2023673
D12-Benzo(a)pyrene	%	102	81		2023673
D12-Benzo(b)fluoranthene	%	104	85		2023673
D12-Benzo(ghi)perylene	%	100	81		2023673
D12-Benzo(k)fluoranthene	%	89	71		2023673
D12-Chrysene	%	91	75		2023673
D12-Indeno(1,2,3-cd)pyrene	%	104	82		2023673
D12-Perylene	%	99	82		2023673
D14-Dibenzo(a,h)anthracene	%	103	82		2023673
D14-Terphenyl (FS)	%	86	72		2023673
D8-Acenaphthylene	%	74	67		2023673
D8-Naphthalene	%	62	59		2023673

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 #: A9G0124
 Report Date: 2009/12/03

Test Summary

Maxxam ID EL9302 **Collected** 2009/11/12
Sample ID LICA PUFF/CLS/NOV21, 04 **Shipped**
Matrix PUF AND FILTER **Received** 2009/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2023673	2009/11/27	2009/12/01	WZ

Maxxam ID EL9303 **Collected** 2009/11/21
Sample ID LICAPUFF/PORT/NOV21, 0 4 **Shipped**
Matrix PUF AND FILTER **Received** 2009/11/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2023673	2009/11/27	2009/12/01	WZ

Maxxam Job #: A9G0124
Report Date: 2009/12/03

GENERAL COMMENTS

PAHMS-F

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

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 or Triphenylene. An estimated mdl for each of these compounds is 0.1ug

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

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

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GA9G0124

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2023673 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/12/01		74	%	50 - 150
		D10-Fluoranthene	2009/12/01		98	%	50 - 150
		D10-Phenanthrene	2009/12/01		85	%	50 - 150
		D12-Benzo(a)anthracene	2009/12/01		113	%	50 - 150
		D12-Benzo(a)pyrene	2009/12/01		99	%	50 - 150
		D12-Benzo(b)fluoranthene	2009/12/01		108	%	50 - 150
		D12-Benzo(ghi)perylene	2009/12/01		104	%	50 - 150
		D12-Benzo(k)fluoranthene	2009/12/01		88	%	50 - 150
		D12-Chrysene	2009/12/01		99	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2009/12/01		104	%	50 - 150
		D12-Perylene	2009/12/01		100	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/01		103	%	50 - 150
		D8-Acenaphthylene	2009/12/01		78	%	50 - 150
		D8-Naphthalene	2009/12/01		76	%	50 - 150
		RPD	Acenaphthene	2009/12/01		73	%
	RPD	Acenaphthene	2009/12/01	9.2		%	50
	Spiked Blank	Acenaphthylene	2009/12/01		75	%	60 - 130
	RPD	Acenaphthylene	2009/12/01	8.0		%	50
	Spiked Blank	Anthracene	2009/12/01		77	%	60 - 130
	RPD	Anthracene	2009/12/01	9.2		%	50
	Spiked Blank	Benzo(a)anthracene	2009/12/01		95	%	60 - 130
	RPD	Benzo(a)anthracene	2009/12/01	4.6		%	50
	Spiked Blank	Benzo(a)pyrene	2009/12/01		86	%	60 - 130
	RPD	Benzo(a)pyrene	2009/12/01	2.2		%	50
	Spiked Blank	Benzo(b)fluoranthene	2009/12/01		92	%	60 - 130
	RPD	Benzo(b)fluoranthene	2009/12/01	6.6		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2009/12/01		89	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2009/12/01	5.3		%	50
	Spiked Blank	Benzo(k)fluoranthene	2009/12/01		89	%	60 - 130
	RPD	Benzo(k)fluoranthene	2009/12/01	1.1		%	50
	Spiked Blank	Chrysene	2009/12/01		92	%	60 - 130
	RPD	Chrysene	2009/12/01	3.0		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2009/12/01		88	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2009/12/01	4.7		%	50
	Spiked Blank	Fluoranthene	2009/12/01		91	%	60 - 130
	RPD	Fluoranthene	2009/12/01	7.5		%	50
	Spiked Blank	Fluorene	2009/12/01		75	%	60 - 130
	RPD	Fluorene	2009/12/01	10.9		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/12/01		88	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2009/12/01	5.3		%	50
Spiked Blank	Naphthalene	2009/12/01		74	%	60 - 130	
RPD	Naphthalene	2009/12/01	7.4		%	50	
Spiked Blank	Phenanthrene	2009/12/01		77	%	60 - 130	
RPD	Phenanthrene	2009/12/01	5.8		%	50	
Spiked Blank	Pyrene	2009/12/01		81	%	60 - 130	
RPD	Pyrene	2009/12/01	5.1		%	50	
Method Blank	D10-2-Methylnaphthalene	2009/12/01		82	%	50 - 150	
	D10-Fluoranthene	2009/12/01		103	%	50 - 150	
	D10-Phenanthrene	2009/12/01		88	%	50 - 150	
	D12-Benzo(a)anthracene	2009/12/01		112	%	50 - 150	
	D12-Benzo(a)pyrene	2009/12/01		101	%	50 - 150	
	D12-Benzo(b)fluoranthene	2009/12/01		109	%	50 - 150	
	D12-Benzo(ghi)perylene	2009/12/01		102	%	50 - 150	
	D12-Benzo(k)fluoranthene	2009/12/01		95	%	50 - 150	
	D12-Chrysene	2009/12/01		106	%	50 - 150	

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

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9G0124

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2023673 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/12/01		101	%	50 - 150
		D12-Perylene	2009/12/01		103	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/01		100	%	50 - 150
		D8-Acenaphthylene	2009/12/01		85	%	50 - 150
		D8-Naphthalene	2009/12/01		83	%	50 - 150
		1-Methylnaphthalene	2009/12/01	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/12/01	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/12/01	ND, RDL=0.10		ug	
		2-Methylantracene	2009/12/01	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/12/01	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/12/01	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/12/01	ND, RDL=0.10		ug	
		9,10-Dimethylantracene	2009/12/01	ND, RDL=0.40		ug	
		Acenaphthene	2009/12/01	ND, RDL=0.050		ug	
		Acenaphthylene	2009/12/01	ND, RDL=0.050		ug	
		Anthracene	2009/12/01	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/12/01	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/12/01	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/12/01	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/12/01	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/12/01	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/12/01	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/12/01	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/12/01	ND, RDL=0.050		ug	
		Biphenyl	2009/12/01	ND, RDL=0.10		ug	
		Chrysene	2009/12/01	ND, RDL=0.050		ug	
		Coronene	2009/12/01	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/12/01	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/12/01	ND, RDL=0.20		ug	
		Fluoranthene	2009/12/01	ND, RDL=0.050		ug	
		Fluorene	2009/12/01	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/12/01	ND, RDL=0.050		ug	
		m-Terphenyl	2009/12/01	ND, RDL=0.10		ug	
		Naphthalene	2009/12/01	ND, RDL=0.072		ug	
		o-Terphenyl	2009/12/01	ND, RDL=0.10		ug	
		Perylene	2009/12/01	ND, RDL=0.10		ug	
		Phenanthrene	2009/12/01	ND, RDL=0.050		ug	
		p-Terphenyl	2009/12/01	ND, RDL=0.10		ug	
		Pyrene	2009/12/01	ND, RDL=0.050		ug	
		Quinoline	2009/12/01	ND, RDL=0.40		ug	
		Tetralin	2009/12/01	ND, RDL=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.



Your C.O.C. #: 1050

Attention: Shea Beaton

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

Report Date: 2009/12/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G3499

Received: 2009/12/03, 09:24

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/12/04	2009/12/08	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

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

=====

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Total cover pages: 1

Page 1 of 7

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Maxxam Job #: A9G3499
 Report Date: 2009/12/09

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

Maxxam ID		EN6465	EN6466		
Sampling Date		2009/11/27	2009/11/27		
COC Number		1050	1050		
	Units	LICAPUF/QFF/CLS/NOV.27,0	LICAPUF/QFF/PORT/NOV.27,0	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	0.22	0.13	0.10	2029194
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2029194
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2029194
2-Methylantracene	ug	<0.10	<0.10	0.10	2029194
2-Methylnaphthalene	ug	0.40	0.20	0.10	2029194
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2029194
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2029194
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2029194
Acenaphthene	ug	0.059	<0.050	0.050	2029194
Acenaphthylene	ug	0.090	<0.050	0.050	2029194
Anthracene	ug	<0.050	<0.050	0.050	2029194
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2029194
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2029194
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2029194
Benzo(b)fluoranthene	ug	0.076	<0.050	0.050	2029194
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2029194
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2029194
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2029194
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2029194
Biphenyl	ug	0.51	0.36	0.10	2029194
Chrysene	ug	0.072	<0.050	0.050	2029194
Coronene	ug	<0.10	<0.10	0.10	2029194
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2029194
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2029194
Fluoranthene	ug	0.224	0.092	0.050	2029194
Fluorene	ug	0.407	0.201	0.050	2029194
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2029194
m-Terphenyl	ug	<0.10	<0.10	0.10	2029194
Naphthalene	ug	0.421	0.296	0.072	2029194
o-Terphenyl	ug	<0.10	<0.10	0.10	2029194
Perylene	ug	<0.10	<0.10	0.10	2029194
Phenanthrene	ug	0.805	0.439	0.050	2029194

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G3499
 Report Date: 2009/12/09

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

Maxxam ID		EN6465	EN6466		
Sampling Date		2009/11/27	2009/11/27		
COC Number		1050	1050		
	Units	LICAPUF/QFF/CLS/NOV.27,0	LICAPUF/QFF/PORT/NOV.27,0	DL	QC Batch

p-Terphenyl	ug	<0.10	<0.10	0.10	2029194
Pyrene	ug	0.171	0.053	0.050	2029194
Quinoline	ug	<0.40	<0.40	0.40	2029194
Tetralin	ug	<0.10	<0.10	0.10	2029194
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	77	72		2029194
D10-Fluoranthene	%	109	107		2029194
D10-Fluorene (FS)	%	34 (1)	40 (1)		2029194
D10-Phenanthrene	%	96	92		2029194
D12-Benzo(a)anthracene	%	91	90		2029194
D12-Benzo(a)pyrene	%	87	92		2029194
D12-Benzo(b)fluoranthene	%	88	88		2029194
D12-Benzo(ghi)perylene	%	96	98		2029194
D12-Benzo(k)fluoranthene	%	99	101		2029194
D12-Chrysene	%	99	101		2029194
D12-Indeno(1,2,3-cd)pyrene	%	95	96		2029194
D12-Perylene	%	94	97		2029194
D14-Dibenzo(a,h)anthracene	%	94	96		2029194
D14-Terphenyl (FS)	%	85	89		2029194
D8-Acenaphthylene	%	89	82		2029194
D8-Naphthalene	%	75	71		2029194

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 #: A9G3499
 Report Date: 2009/12/09

Test Summary

Maxxam ID	EN6465	Collected	2009/11/27
Sample ID	LICAPUF/QFF/CLS/NOV.27,0	Shipped	
Matrix	PUF AND FILTER	Received	2009/12/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2029194	2009/12/04	2009/12/08	WZ

Maxxam ID	EN6466	Collected	2009/11/27
Sample ID	LICAPUF/QFF/PORT/NOV.27,0	Shipped	
Matrix	PUF AND FILTER	Received	2009/12/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2029194	2009/12/04	2009/12/08	WZ

Maxxam Job #: A9G3499
Report Date: 2009/12/09

GENERAL COMMENTS

PAHMS-F

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

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

Sample EN6465-01: PAHMS-F

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

Since Triphenylene co-elutes with Chrysene, the maximum possible value for this compound would be 0.072ug, which is the value reported for Chrysene.

Benzo(b)Anthracene elutes after Benzo(a)Anthracene and Chrysene. Searched for ions specific to this compound in the appropriate retention time range with no possible positive detected.

Picene elutes after Dibenzo(a,h) anthracene. Searched for ions specific to this compounds in the appropriate retention time range, possible positive detected, but would fall below the mdl using Dibenzo(a,h) anthracene calibration.

Sample EN6466-01: PAHMS-F

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

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

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

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GA9G3499

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2029194 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/12/08		83	%	50 - 150
		D10-Fluoranthene	2009/12/08		105	%	50 - 150
		D10-Phenanthrene	2009/12/08		89	%	50 - 150
		D12-Benzo(a)anthracene	2009/12/08		84	%	50 - 150
		D12-Benzo(a)pyrene	2009/12/08		92	%	50 - 150
		D12-Benzo(b)fluoranthene	2009/12/08		84	%	50 - 150
		D12-Benzo(ghi)perylene	2009/12/08		93	%	50 - 150
		D12-Benzo(k)fluoranthene	2009/12/08		105	%	50 - 150
		D12-Chrysene	2009/12/08		106	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2009/12/08		91	%	50 - 150
		D12-Perylene	2009/12/08		99	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/08		91	%	50 - 150
		D8-Acenaphthylene	2009/12/08		94	%	50 - 150
		D8-Naphthalene	2009/12/08		85	%	50 - 150
		RPD	Acenaphthene	2009/12/08		81	%
	RPD	Acenaphthene	2009/12/08	0.8		%	50
	Spiked Blank	Acenaphthylene	2009/12/08		90	%	60 - 130
	RPD	Acenaphthylene	2009/12/08	1.2		%	50
	Spiked Blank	Anthracene	2009/12/08		82	%	60 - 130
	RPD	Anthracene	2009/12/08	4.5		%	50
	Spiked Blank	Benzo(a)anthracene	2009/12/08		75	%	60 - 130
	RPD	Benzo(a)anthracene	2009/12/08	14.6		%	50
	Spiked Blank	Benzo(a)pyrene	2009/12/08		82	%	60 - 130
	RPD	Benzo(a)pyrene	2009/12/08	4.3		%	50
	Spiked Blank	Benzo(b)fluoranthene	2009/12/08		90	%	60 - 130
	RPD	Benzo(b)fluoranthene	2009/12/08	9.5		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2009/12/08		80	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2009/12/08	9.3		%	50
	Spiked Blank	Benzo(k)fluoranthene	2009/12/08		82	%	60 - 130
	RPD	Benzo(k)fluoranthene	2009/12/08	19.8		%	50
	Spiked Blank	Chrysene	2009/12/08		98	%	60 - 130
	RPD	Chrysene	2009/12/08	3.3		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2009/12/08		78	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2009/12/08	6.5		%	50
	Spiked Blank	Fluoranthene	2009/12/08		91	%	60 - 130
	RPD	Fluoranthene	2009/12/08	2.7		%	50
	Spiked Blank	Fluorene	2009/12/08		83	%	60 - 130
	RPD	Fluorene	2009/12/08	1.3		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/12/08		79	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2009/12/08	6.9		%	50
	Spiked Blank	Naphthalene	2009/12/08		82	%	60 - 130
	RPD	Naphthalene	2009/12/08	3.2		%	50
	Spiked Blank	Phenanthrene	2009/12/08		78	%	60 - 130
	RPD	Phenanthrene	2009/12/08	6.3		%	50
	Spiked Blank	Pyrene	2009/12/08		84	%	60 - 130
RPD	Pyrene	2009/12/08	2.3		%	50	
Method Blank	D10-2-Methylnaphthalene	2009/12/08		85	%	50 - 150	
	D10-Fluoranthene	2009/12/08		106	%	50 - 150	
	D10-Phenanthrene	2009/12/08		96	%	50 - 150	
	D12-Benzo(a)anthracene	2009/12/08		83	%	50 - 150	
	D12-Benzo(a)pyrene	2009/12/08		94	%	50 - 150	
	D12-Benzo(b)fluoranthene	2009/12/08		102	%	50 - 150	
	D12-Benzo(ghi)perylene	2009/12/08		97	%	50 - 150	
	D12-Benzo(k)fluoranthene	2009/12/08		90	%	50 - 150	
	D12-Chrysene	2009/12/08		111	%	50 - 150	

Lakeland Industry & Community Assoc.
 Attention: Shea Beaton
 Client Project #:
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Quality Assurance Report (Continued)
 Maxxam Job Number: GA9G3499

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2029194 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/12/08		93	%	50 - 150
		D12-Perylene	2009/12/08		104	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/08		92	%	50 - 150
		D8-Acenaphthylene	2009/12/08		96	%	50 - 150
		D8-Naphthalene	2009/12/08		85	%	50 - 150
		1-Methylnaphthalene	2009/12/08	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/12/08	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/12/08	ND, RDL=0.10		ug	
		2-Methylanthracene	2009/12/08	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/12/08	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/12/08	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/12/08	ND, RDL=0.10		ug	
		9,10-Dimethylanthracene	2009/12/08	ND, RDL=0.40		ug	
		Acenaphthene	2009/12/08	ND, RDL=0.050		ug	
		Acenaphthylene	2009/12/08	ND, RDL=0.050		ug	
		Anthracene	2009/12/08	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/12/08	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/12/08	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/12/08	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/12/08	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/12/08	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/12/08	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/12/08	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/12/08	ND, RDL=0.050		ug	
		Biphenyl	2009/12/08	ND, RDL=0.10		ug	
		Chrysene	2009/12/08	ND, RDL=0.050		ug	
		Coronene	2009/12/08	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/12/08	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/12/08	ND, RDL=0.20		ug	
		Fluoranthene	2009/12/08	ND, RDL=0.050		ug	
		Fluorene	2009/12/08	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/12/08	ND, RDL=0.050		ug	
		m-Terphenyl	2009/12/08	ND, RDL=0.10		ug	
		Naphthalene	2009/12/08	ND, RDL=0.072		ug	
		o-Terphenyl	2009/12/08	ND, RDL=0.10		ug	
		Perylene	2009/12/08	ND, RDL=0.10		ug	
		Phenanthrene	2009/12/08	ND, RDL=0.050		ug	
		p-Terphenyl	2009/12/08	ND, RDL=0.10		ug	
		Pyrene	2009/12/08	ND, RDL=0.050		ug	
		Quinoline	2009/12/08	ND, RDL=0.40		ug	
		Tetralin	2009/12/08	ND, RDL=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.