

Lakeland Industry & Community Association

Cold Lake Monitoring Site

Ambient Air Monitoring

Data Report

For

December 2009

(Revised)

Prepared By:



October 4, 2010

Lakeland Industry & Community Association Ambient Air Monitoring

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Introduction

The following Ambient Air Monitoring report was prepared for:

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Monitoring Location: Cold Lake
Data Period: December 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 – December 2009

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION COLD LAKE SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)	
						OBJECTIVES					EXCEEDENCES			MONTHLY AVERAGE
PARAMETER	1-HR	24-HR	1-HR	24-HR		READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY		
SO ₂ (PPB)	172	57	0	0	0.31	6	29	19, 20	7.8, 4.5	331(NNW), 331(NNW)	2.0	31	99.9	
TRS (PPB)	-	-	-	-	0.00	0	ALL	ALL	VAR	VAR	0.0	ALL	99.9	
NO ₂ (PPB)	212	106	0	0	8.06	25	7	16	1	165(SSE)	15.7	7	99.9	
NO (PPB)	-	-	-	-	1.84	44	18	8	0.8	78(ENE)	11.4	18	99.9	
NO _x (PPB)	-	-	-	-	10.14	65	18	10	2.6	92(E)	26.9	18	99.9	
O ₃ (PPB)	82	-	0	-	18.69	38	5	8	17.6	334(NNW)	35.3	5	99.9	
THC (PPM)	-	-	-	-	2.48	4.9	21	9	0.4	303(WNW)	3.7	21	99.9	
PM 2.5 (UG/M ³)	-	30	-	0	6.94	28.5	17	16	1.7	221(SW)	17.3	18	97.4	
TEMPERATURE (DEG C)	-	-	-	-	-18.62	-2.1	1	0	9.8	293(WNW)	-4.8	1	99.2	
RELATIVE HUMIDITY (%)	-	-	-	-	74.68	92.0	4	16, 17	5.2, 8.8	275(W), 317(NW)	86.2	28	99.9	
VECTOR WS (KPH)	-	-	-	-	4.80	18.5	5	4	-	333(NW)	15.2	5	99.9	
VECTOR WD (DEGREES)	-	-	-	-	280(W)	-	-	-	-	-	-	-	99.9	

VAR-VARIOUS

Monthly Non-Continuous Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Passive Ambient Monitoring Network – December 2009

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO ₂	#27	1.6	0.7
H ₂ S	#14	0.30	0.20
NO ₂	#28	9.3	3.8
O ₃	#32	26.3	20.1

Volatile Volatile Organics Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Xontech Model 910A – December 03, 2009

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

Xontech Model 910A – December 09, 2009

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

Xontech Model 910A – December 15, 2009

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

Xontech Model 910A – December 21, 2009

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

Xontech Model 910A – December 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 – December 03, 2009

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

PUF cartridge – December 09, 2009

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

PUF cartridge – December 15, 2009

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

PUF cartridge – December 21, 2009

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

PUF cartridge – December 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

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 December 10th. During the middle span point of the monthly calibration, the daily calibration program started. The daily cal was aborted and the low span point was restarted. One hour of data was invalidated due to a power failure on December 16th. 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 December 10th. One hour of data was invalidated due to a power failure on December 16th. 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 December 10th. During the low span point of the monthly calibration, the flow of cal gas was accidentally stopped. The issue was corrected and the low span point was restarted. One hour of data was invalidated due to a power failure on December 16th. 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

The inlet filter was changed before the monthly calibration was started on December 10th. One hour of data was invalidated due to a power failure on December 16th. The power failure caused the analyzer to fail. The analyzer was relit on December 17th, and a single point was performed. 18 hours of data were invalidated. 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 December 17th. One hour of data was invalidated due to a power failure on December 16th.

Particulate Matter 2.5 (ug/m³)

- Analyzer make / model –TEOM1405F

No operational issues observed during the month. The unit was audited with the Chinook FTS cells on December 10th. The flows were double checked following the adjustment. One hour of data was invalidated due to a power failure on December 16th. Data was corrected using Alberta air quality guideline for PM2.5 analyzer. If the data was between 0 to –3, the data was corrected to 0. If the data was below –3, the data was invalidated. 5 hours of data were invalidated as 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. One hour of data was invalidated due to a power failure on December 16th.

Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month. One hour of data was invalidated due to a power failure on December 16th.

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month. One hour of data was invalidated due to a power failure on December 16th.

Trailer Temperature (DEGC)

- System make / model - R&R 61

No operational issues observed during the month. One hour of data was invalidated due to a power failure on December 16th.

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 28.5 UG/M3 and an AQI value of 24 on December 17th, hour 16. The highest hourly concentration of Ozone was 38 ppb and an AQI value of 19 on December 5th, hour of 8.

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 December 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 December 3, 09th, 15th, 21st and 27th. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Air Quality Index

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 2009

AIR QUALITY INDEX (AQI)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY		
DAY	PEAK	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX		
1		18	18	18	18	-	-	18	18	17	16	16	16	16	16	16	16	15	15	16	15	-	17	16	16	19		
2		16	16	16	16	16	16	15	12	12	13	14	14	15	16	15	15	15	14	-	7	6	11	18	18			
3		20	15	14	14	14	14	15	14	14	14	14	14	15	15	14	9	10	-	17	15	11	11	11	21			
4		11	10	10	11	9	10	9	11	10	10	9	12	13	12	15	17	17	-	11	11	12	13	12	13	17		
5		15	16	17	17	18	18	18	18	19	19	19	19	19	18	18	18	-	18	18	18	18	18	18	18	19		
6		18	18	18	18	17	17	17	17	17	18	18	18	18	18	18	-	18	17	15	14	14	10	10	9	18		
7		10	9	10	9	9	9	13	14	15	11	11	13	13	12	-	9	6	3	7	5	3	4	6	5	15		
8		5	7	6	6	3	5	5	5	5	6	8	9	12	-	12	10	11	15	18	13	12	12	11	9	18		
9		12	9	7	10	7	9	5	6	9	8	5	8	-	7	7	7	7	7	8	8	6	4	5	7	12		
10		5	5	7	7	5	8	10	8	5	-	-	-	-	-	-	-	-	14	16	15	16	16	16	16	16		
11		16	17	17	17	16	16	16	16	-	-	-	-	14	14	13	11	6	6	6	8	11	13	14	13	17		
12		13	13	12	11	12	13	13	12	11	-	13	13	14	14	14	13	12	12	12	12	11	11	11	11	14		
13		12	12	12	12	11	11	12	12	-	12	13	13	14	14	14	14	13	13	13	13	13	13	13	13	14		
14		12	13	13	13	12	12	12	-	11	12	13	14	14	13	13	12	12	11	11	10	8	5	5	7	14		
15		6	8	9	7	5	6	-	9	9	8	7	10	10	11	10	9	7	10	8	4	9	11	11	9	11		
16		10	10	10	10	8	-	10	6	10	9	11	10	10	-	16	12	11	12	10	9	11	9	10	13	16		
17		17	12	7	9	-	8	8	9	9	7	11	13	14	21	20	22	24	23	24	23	13	13	18	13	24		
18		13	14	12	-	10	15	14	15	17	15	19	19	17	17	17	20	19	13	13	9	11	10	16	9	20		
19		8	12	-	9	11	10	16	16	19	20	18	18	16	14	14	14	13	14	-	14	17	17	17	20			
20		17	-	16	16	13	13	14	15	13	12	15	17	17	17	16	15	15	12	8	7	6	4	4	4	17		
21		3	3	5	3	3	3	3	6	5	5	6	5	8	6	6	6	9	8	7	8	7	8	9	9	-	9	
22		11	12	9	9	9	9	9	9	10	9	9	10	12	13	12	13	12	11	10	9	7	-	6	13			
23		9	9	9	8	9	10	10	9	-	11	12	12	12	12	11	11	10	8	9	7	7	-	11	8	12		
24		5	5	5	4	4	7	5	7	7	7	7	9	11	10	8	9	11	9	10	8	-	7	8	8	11		
25		12	7	8	7	6	5	6	2	5	4	7	13	10	11	10	11	10	11	9	14	-	12	12	11	19		
26		10	12	10	9	9	9	8	10	7	9	9	10	12	11	10	9	10	9	10	9	-	7	9	8	10	15	
27		8	9	7	7	7	7	7	5	8	5	14	11	9	11	12	12	13	-	13	13	13	13	13	14	14		
28		14	14	15	15	14	14	15	15	15	14	14	14	15	15	15	-	14	14	14	14	14	14	15	15	15		
29		14	14	13	13	12	11	11	10	10	9	10	10	10	10	-	10	10	10	11	11	10	11	10	11	12	14	
30		12	12	12	12	13	14	14	13	9	10	13	14	14	-	14	11	8	11	15	15	13	13	15	15	15		
31		15	13	11	10	10	11	11	11	10	10	11	12	12	-	14	12	8	6	9	4	5	6	5	6	15		
PEAK		20	18	18	18	18	18	18	18	19	20	19	19	19	21	20	22	24	23	24	23	18	18	18	18	18		

STATUS FLAG CODES

NA - NOT APPLICABLE

V - VARIOUS

AQI CLASS	OZONE (O ₃)					PARTICULATE MATTER 2.5 (PM _{2.5})					NITROGEN DIOXIDE (NO ₂)					SULPHUR DIOXIDE (SO ₂)					FREQUENCY		
	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	
VERY POOR (101-255)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	
POOR (51-100)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	
FAIR (26-50)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	
GOOD (1-25)	440	59.1%	19	VAR	5	257	34.5%	24	16	18	17	0	0.0%	-	-	-	0	0.0%	-	-	-	697	93.7%
OVERALL	440	59.1%	-	-	-	257	34.5%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	744	100.0%	
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	6.3%	

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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	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	MAX.	AVG.		
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	IZS	0	0	0	1	0.1	24
2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	IZS	0	0	0	0	1	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	1	1	0.1	24
4	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	1	0.2	24
5	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
6	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
7	2	2	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	2	0.2	24
8	0	0	0	0	0	0	0	0	0	0	0	0	1	IZS	1	1	0	0	0	0	0	0	0	1	1	0.2	24
9	1	1	1	1	1	1	1	1	1	0	0	1	IZS	1	1	1	1	1	1	1	1	0	0	0	1	0.7	24
10	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.0	24
11	0	0	0	0	0	0	0	0	0	0	IZS	0	0	1	1	1	0	0	0	0	1	1	0	0	1	0.3	24
12	1	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
13	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
14	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
15	0	0	0	0	0	0	IZS	0	0	0	1	3	3	2	2	1	1	0	0	0	0	0	0	1	3	0.6	24
16	1	1	0	1	1	IZS	1	1	1	0	0	0	0	P	0	0	0	0	0	0	0	0	0	0	1	0.3	23
17	0	0	0	0	IZS	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	0.2	24
18	0	0	0	IZS	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0.1	24
19	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
20	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
21	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
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0.0	24
23	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	1	0.1	24
24	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	IZS	0	0	0	1	0.1	24
25	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	IZS	0	0	0	0	1	0.3	24
26	0	0	0	1	1	1	1	0	0	0	1	2	2	2	1	1	0	0	IZS	0	0	0	0	0	2	0.6	24
27	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	IZS	0	0	0	0	0	0	1	0.2	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	0	0	0	0	1	1	1	1	1	4	3	IZS	5	4	4	6	6	2	2	1	6	1.8	24
30	1	2	2	1	1	1	1	1	1	0	1	2	1	1	IZS	1	1	1	1	0	0	0	1	2	2	1.0	24
31	1	1	0	0	1	3	4	5	4	4	5	5	5	IZS	3	3	2	1	0	0	0	0	0	0	5	2.0	24
HOURLY MAX	2	2	2	1	1	3	NA	5	4	4	5	5	5	4	3	3	5	4	4	6	6	2	2	2			
HOURLY AVG	0.3	0.3	0.2	0.2	0.2	0.2	NA	0.3	0.3	0.2	0.3	0.5	0.7	0.6	0.5	0.4	0.4	0.3	0.2	0.3	0.3	0.1	0.2	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

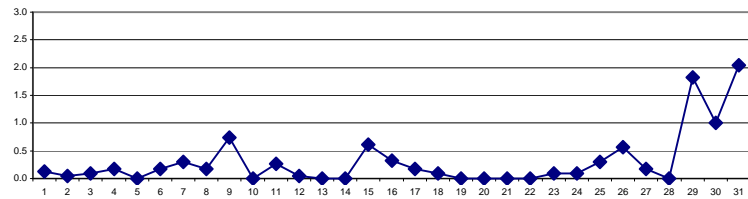
OBJECTIVE LIMIT:

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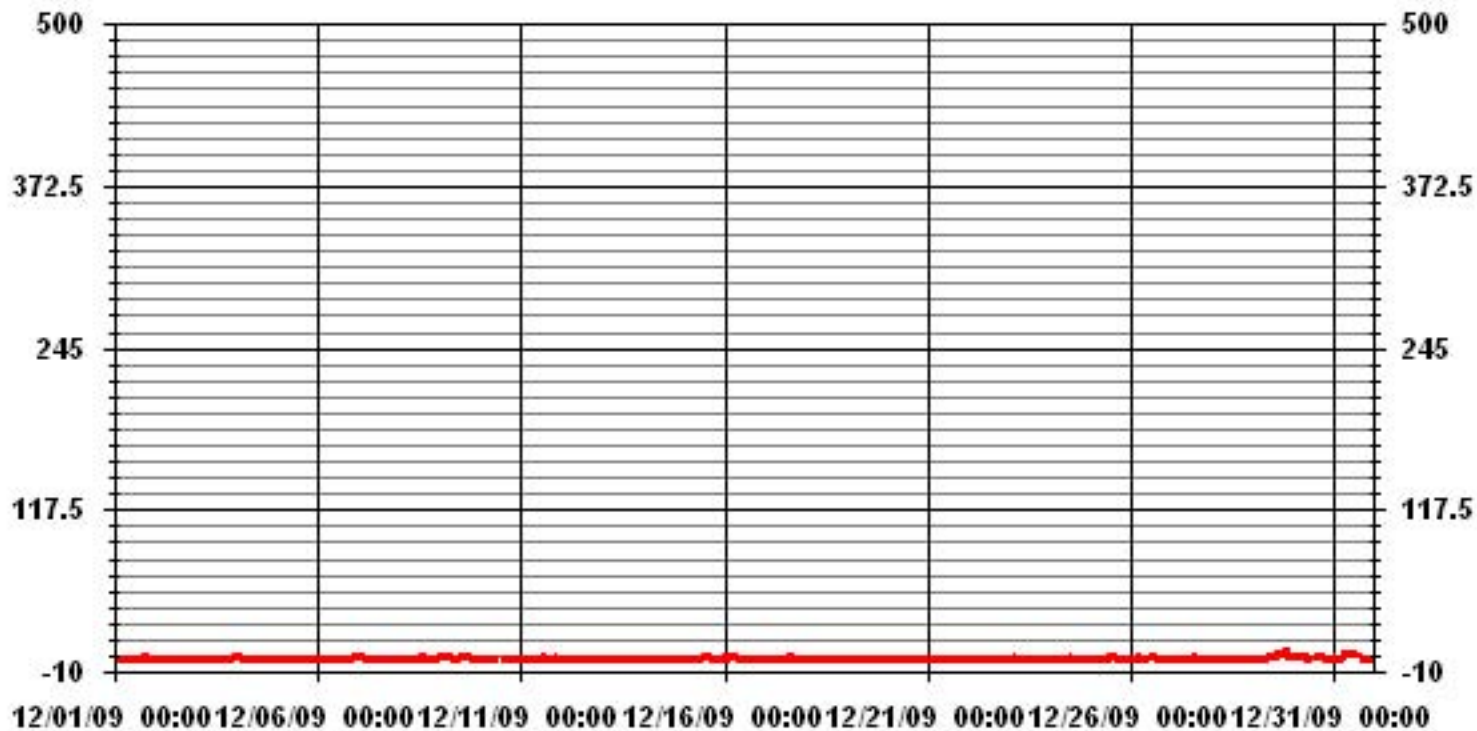
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	141		
MAXIMUM 1-HR AVERAGE:	6 PPB @ HOUR(S) 19, 20 ON DAY(S) 29		
MAXIMUM 24-HR AVERAGE:	2.0 PPB ON DAY(S) 31		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	743 HRS
MONTHLY CALIBRATION TIME:	5 HRS	AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	0.80	MONTHLY AVERAGE:	0.31 PPB

24 HOUR AVERAGES FOR DECEMBER 2009



01 Hour Averages



— LICA SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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	HR	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
1		0	0	0	0	0	1	1	1	0	1	1	1	1	1	0	0	1	1	1	2	IZS	1	0	0	2	0.6	24	
2		0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	IZS	0	0	0	1	0.1	24		
3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	1	1	1	0.1	24	
4		1	1	1	1	1	1	0	1	1	1	1	0	0	0	0	0	0	IZS	0	0	0	0	0	0	1	0.4	24	
5		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	1	0.0	24		
6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	1	1	2	2	0.2	24	
7		3	2	2	1	1	1	1	1	1	1	1	1	1	1	IZS	1	0	0	0	0	0	0	0	0	3	0.8	24	
8		0	0	0	0	0	0	0	0	0	0	1	1	1	IZS	1	1	1	1	1	1	0	1	1	1	1	0.5	24	
9		1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	2	2	2	1	0	0	0	0	2	1.0	24	
10		0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
11		0	1	1	0	0	0	0	0	1	0	IZS	1	1	3	2	2	1	1	1	1	1	1	1	1	3	0.9	24	
12		2	1	1	1	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24	
13		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	
14		0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.0	24	
15		0	0	0	0	0	1	IZS	0	0	0	2	3	3	3	2	2	1	1	0	0	1	1	1	1	3	1.0	24	
16		1	1	1	1	1	IZS	1	1	1	1	1	1	1	P	P	0	0	0	1	1	0	0	1	1	1	0.8	22	
17		1	1	0	0	IZS	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0.5	24	
18		0	0	0	IZS	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24	
19		0	0	IZS	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	
20		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	
21		IZS	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	IZS	1	0.2	24
22		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0.0	24	
23		0	0	0	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	2	0.3	24
24		0	0	0	0	0	0	0	0	0	1	0	1	1	2	1	1	0	0	0	0	0	IZS	0	1	1	2	0.4	24
25		1	0	0	0	0	0	0	0	0	1	1	1	2	2	1	1	1	0	0	IZS	0	0	1	1	2	0.6	24	
26		0	1	1	1	1	1	1	1	0	1	2	2	2	2	2	1	0	IZS	0	0	0	0	0	0	2	0.9	24	
27		0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	1	1	IZS	1	0	0	0	0	0	2	0.4	24	
28		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24	
29		0	0	0	0	0	0	1	1	1	1	1	1	2	7	3	IZS	6	5	6	7	7	5	2	2	7	2.5	24	
30		2	2	2	2	2	1	1	1	1	1	2	3	1	1	IZS	1	1	1	1	1	1	1	1	2	2	3	1.4	24
31		2	1	1	1	2	4	5	5	5	5	5	6	6	IZS	4	4	3	1	1	1	0	0	0	0	6	2.7	24	
HOURLY MAX		3	2	2	2	2	4	5	5	5	5	5	6	6	7	4	4	6	5	6	7	7	5	2	2				
HOURLY AVG		0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.5	0.7	0.9	0.9	1.1	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.4	0.5	0.4	0.5			

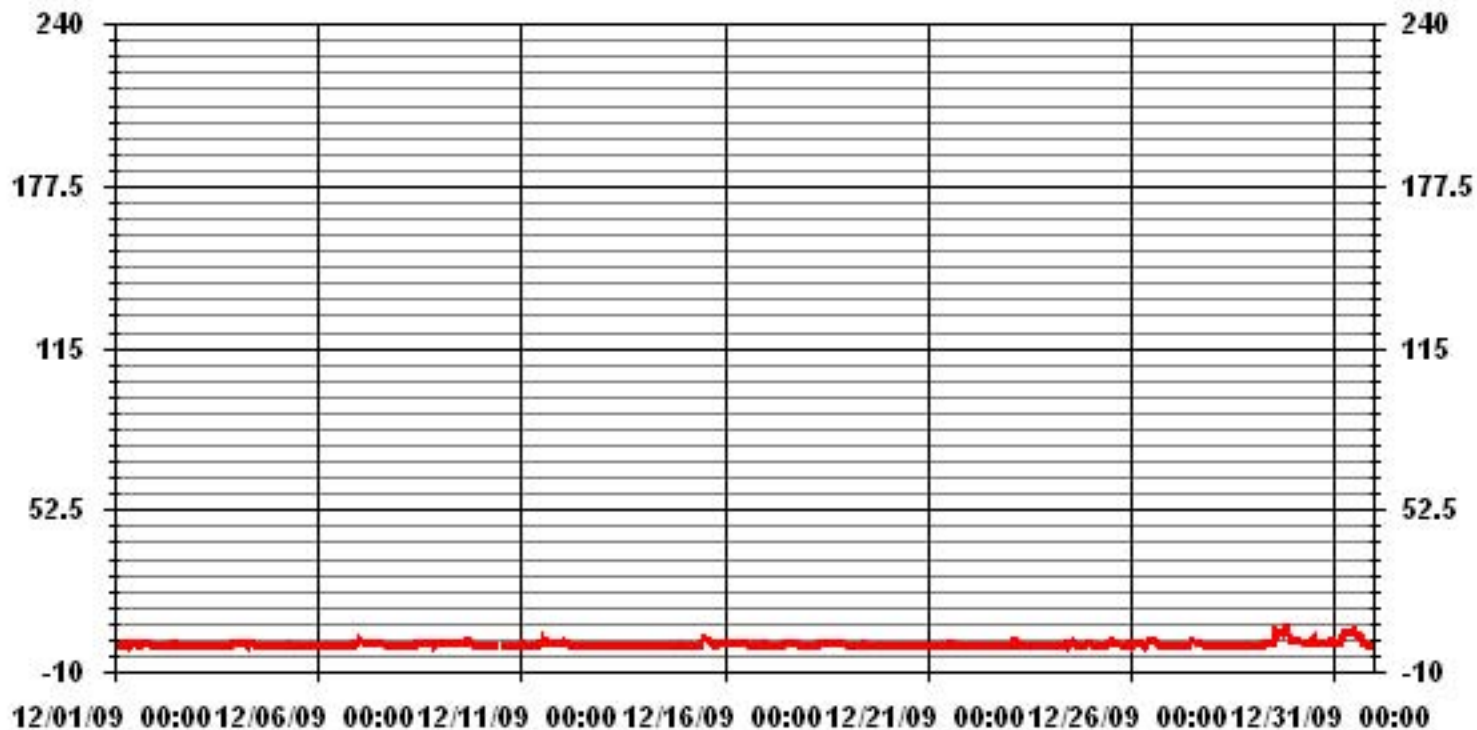
STATUS FLAG CODES

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:	268					
MAXIMUM INSTANTANEOUS VALUE:	7	PPB	@ HOUR(S)	19, 20	ON DAY(S)	29
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	742	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	1.01					

01 Hour Averages



— LICA SO2MAX PPB

LICA
 SO2_ / WDR Joint Frequency Distribution (Percent)

December 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	1.83	.42	2.12	2.68	2.26	4.66	9.90	2.26	2.68	4.38	13.71	21.07	10.04	4.52	12.16	5.23	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	1.83	.42	2.12	2.68	2.26	4.66	9.90	2.26	2.68	4.38	13.71	21.07	10.04	4.52	12.16	5.23	

Calm : .00 %

Total # Operational Hours : 707

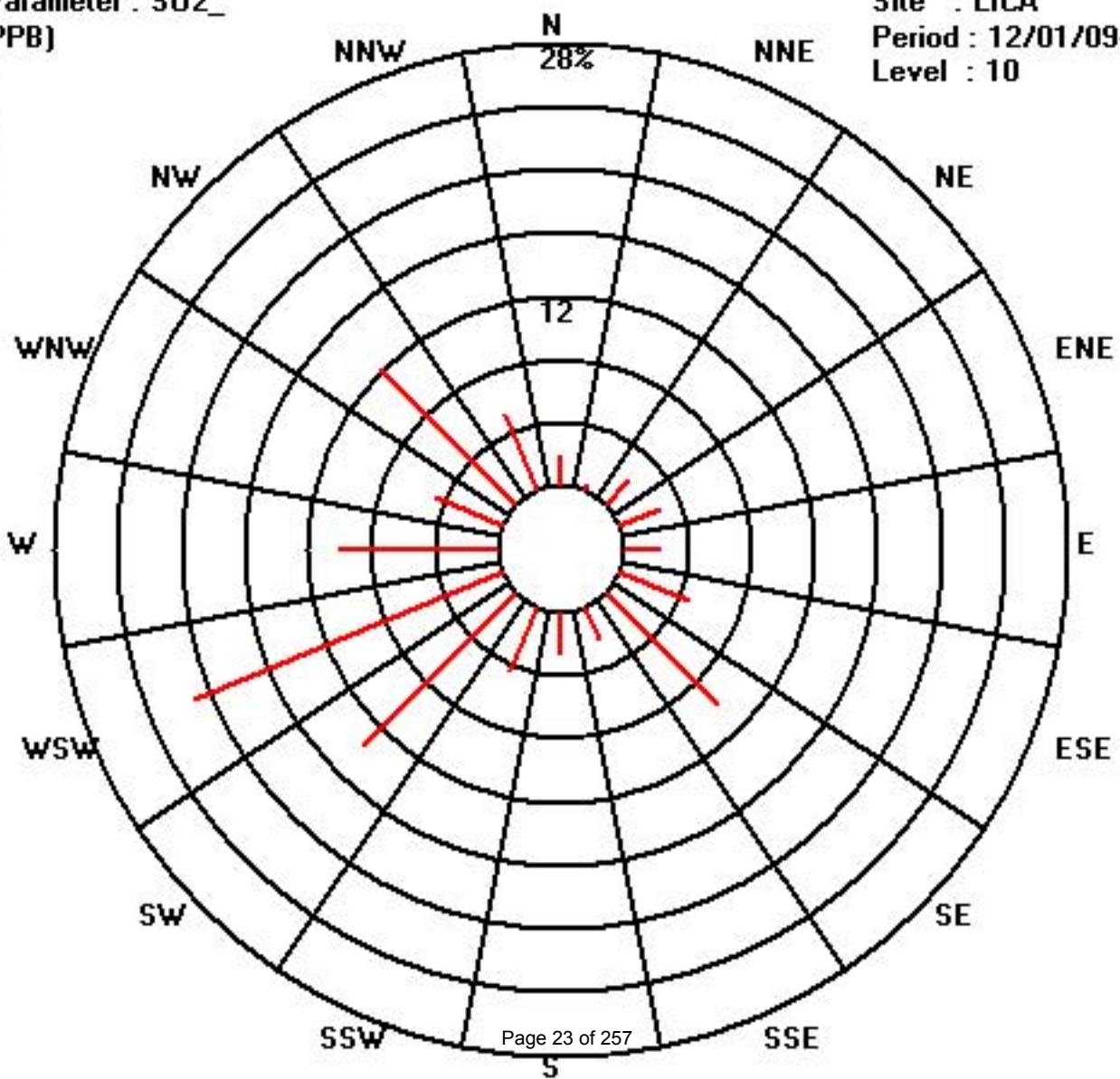
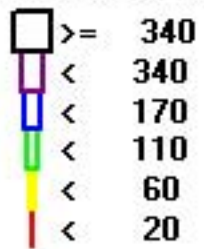
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	13	3	15	19	16	33	70	16	19	31	97	149	71	32	86	37	707
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	13	3	15	19	16	33	70	16	19	31	97	149	71	32	86	37	

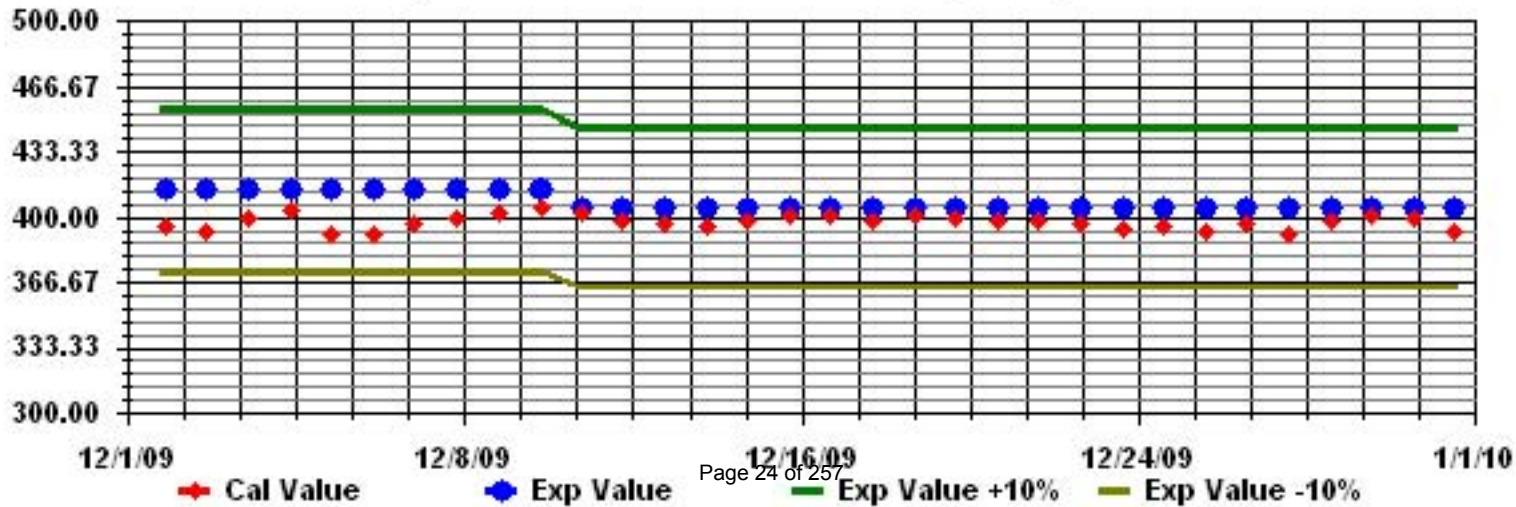
Calm : .00 %

Total # Operational Hours : 707

Class Limits (PPB)



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



Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
12	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
13	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	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	0.0	24
16	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23
17	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
18	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
19	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	21	0	0	0	0	0	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	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	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
31	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY AVG		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

STATUS FLAG CODES

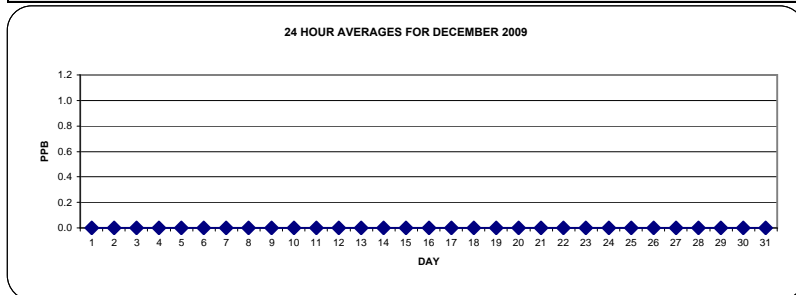
S - OUT OF SERVICE	IZS - IZS - DAILY ZERO/SPAN CHECK
N - INVALID DATA	M - MISSING DATA
D - INSTRUMENT DRIFT	P - POWER FAILURE
C - CALIBRATION	NA - NOT APPLICABLE

OBJECTIVE LIMIT:

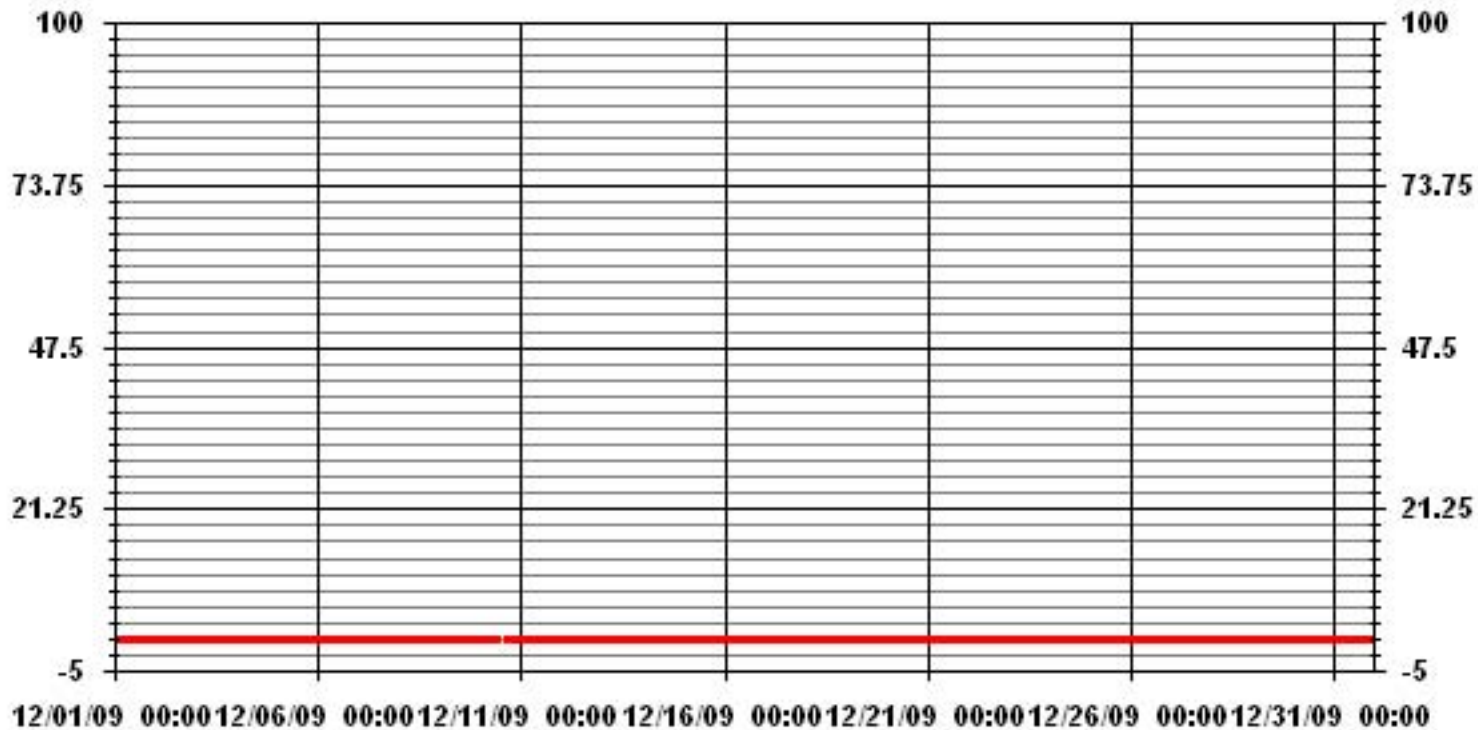
ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	0
MAXIMUM 1-HR AVERAGE:	0 PPB @ HOUR(S) ALL ON DAY(S) ALL
MAXIMUM 24-HR AVERAGE:	0.0 PPB ON DAY(S) ALL
	VAR-VARIOUS
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	0.00
OPERATIONAL TIME:	743 HRS
AMD OPERATION UPTIME:	99.9 %
MONTHLY AVERAGE:	0.00 PPB



01 Hour Averages



— LICA TRS_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 2009

TOTAL REDUCED SULPHUR 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			
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	22
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

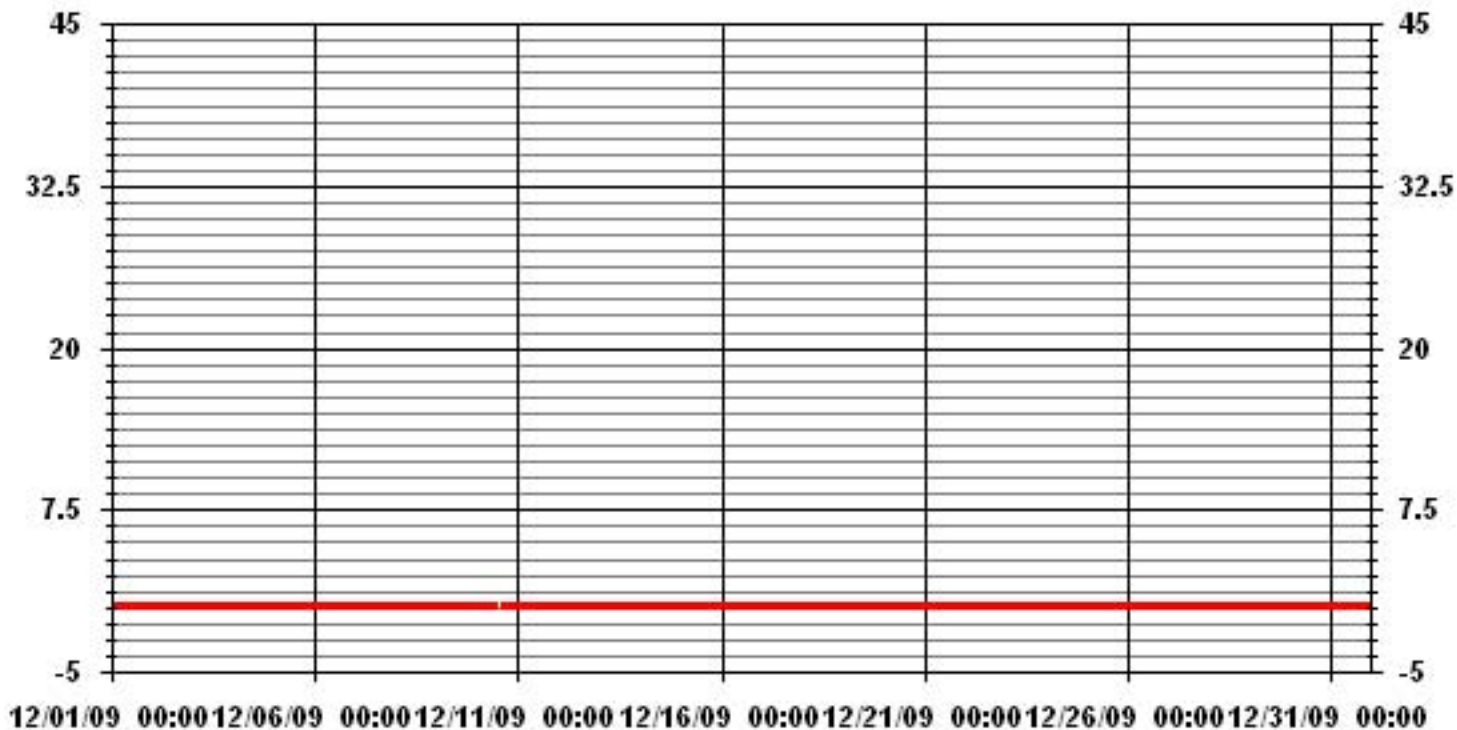
STATUS FLAG CODES

S - OUT OF SERVICE	IZS - IZS - DAILY ZERO/SPAN CHECK
N - INVALID DATA	M - 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
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	742	HRS	
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.00					

01 Hour Averages



— LICA TRSMAX PPB

LICA
 TRS_ / WD Joint Frequency Distribution (Percent)

December 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	1.83	.42	2.12	2.68	2.26	4.66	9.90	2.26	2.68	4.38	13.43	21.35	10.04	4.52	12.16	5.23	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.83	.42	2.12	2.68	2.26	4.66	9.90	2.26	2.68	4.38	13.43	21.35	10.04	4.52	12.16	5.23	

Calm : .00 %

Total # Operational Hours : 707

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	13	3	15	19	16	33	70	16	19	31	95	151	71	32	86	37	707
< 10																	
< 50																	
>= 50																	
Totals	13	3	15	19	16	33	70	16	19	31	95	151	71	32	86	37	

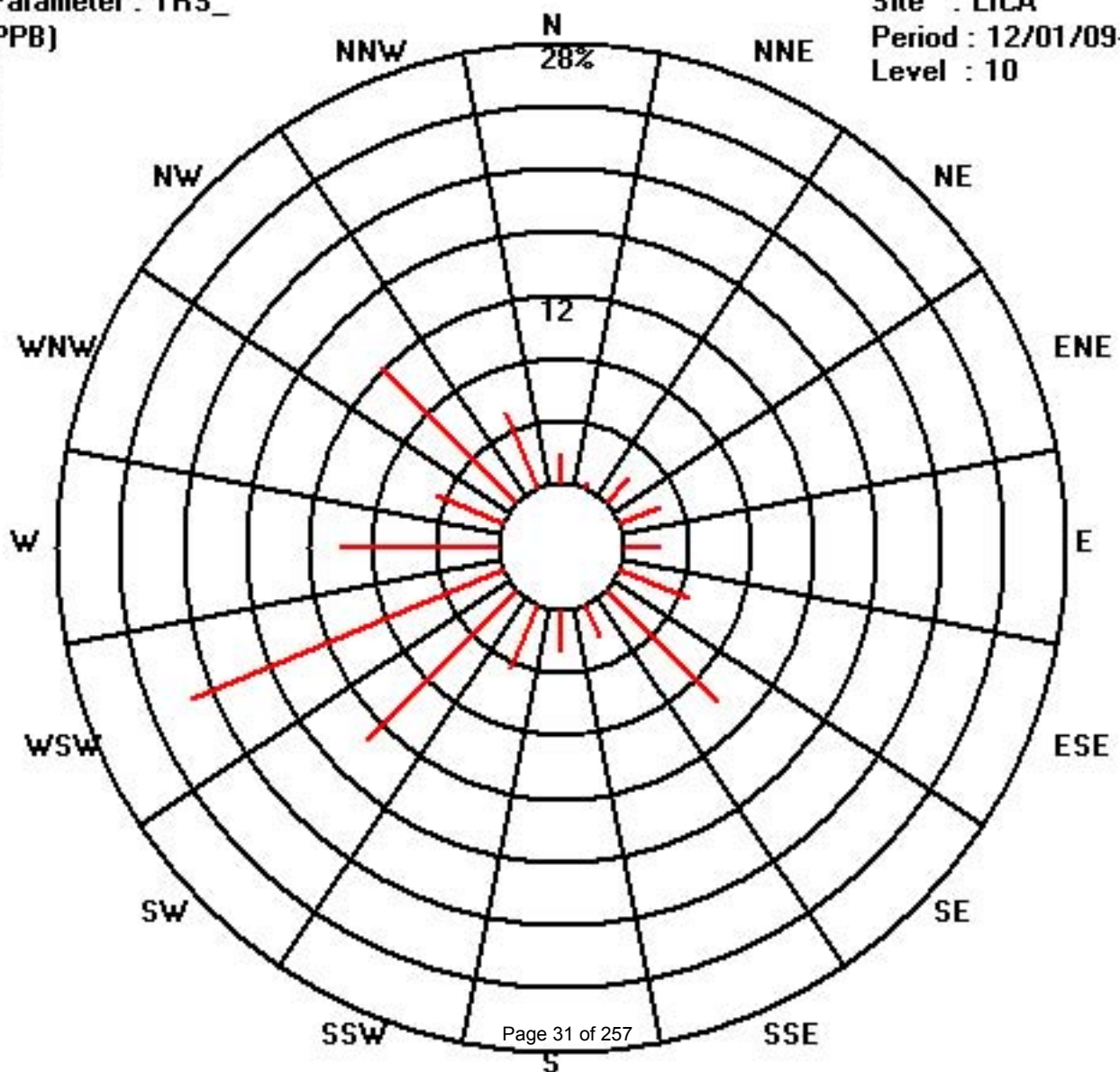
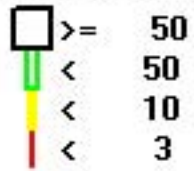
Calm : .00 %

Total # Operational Hours : 707

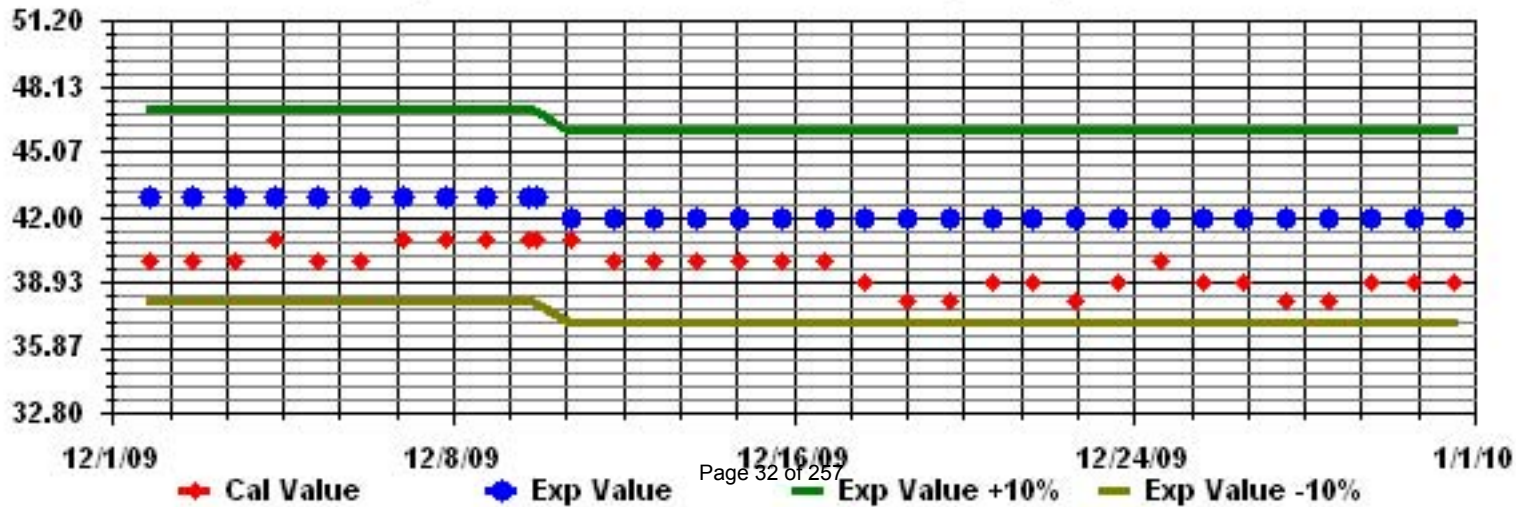
Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10

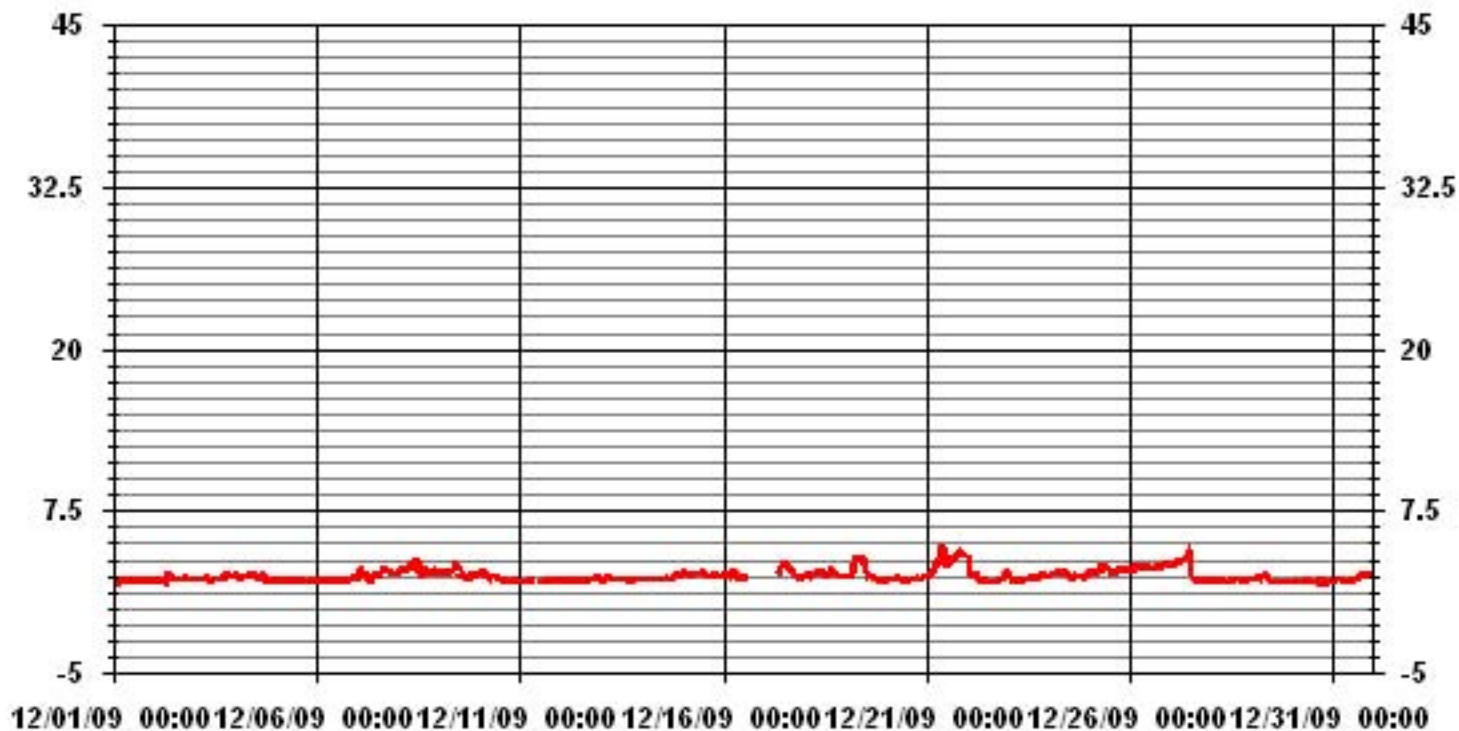


Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN



Total Hydrocarbons

01 Hour Averages



— LICA THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 2009

TOTAL HYDROCARBONS MAX instantaneous maximum in ppr

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	2.1	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	2.1	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	2.1	2.2	2.1	2.4
2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.8	2.7	2.9	2.6	2.5	2.2	2.2	2.3	2.2	2.3	2.4	2.8	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.9	2.4	2.4	2.4		
3	2.3	2.2	2.3	2.3	2.3	2.3	2.4	2.5	3.1	2.3	2.3	2.3	2.2	2.2	2.2	2.4	2.4	2.3	2.3	2.7	2.8	2.7	2.8	2.8	2.8	2.8	3.1	2.4	2.4	2.4			
4	2.7	2.6	2.6	2.5	2.6	2.5	2.5	2.7	2.7	2.8	2.7	2.6	2.7	2.5	2.6	2.8	2.7	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.8	2.5	2.4	2.4			
5	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	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.4	2.4			
6	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	2.3	2.1	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.5	2.4	2.5	2.2	2.4			
7	2.8	3	3.1	3	2.9	2.8	2.5	2.4	2.5	2.7	2.7	2.7	2.6	2.5	2.3	4.3	3.1	3	3	2.9	2.9	2.8	2.8	2.8	2.8	3	4.3	2.9	2.4	2.4			
8	2.9	3.2	3.1	3.1	3.1	3.2	3.5	3.6	3.3	3.5	3.6	4	3.9	2.8	3	3.1	2.9	2.8	2.8	2.9	3	2.9	2.9	2.9	2.9	3	2.9	2.9	3.2	2.4			
9	2.8	2.8	2.8	2.8	2.8	2.7	2.7	3.1	3.3	3.6	3.6	3.3	2.6	2.5	2.7	2.6	2.4	2.4	2.6	2.6	2.6	2.6	2.7	2.8	3.6	2.8	2.4	2.4	2.4				
10	2.8	2.9	2.9	2.7	2.8	2.8	2.4	2.5	2.6	2.6	2.6	2.6	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	2.9	2.4	2.4				
11	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	C	C	C	C	2.1	2.1	2.1	2.2	2.2	2.2	2.5	2.4	2.2	2.1	2.1	2.2	2.5	2.2	2.5	2.2	2.4				
12	2.1	2.1	2.3	2.2	2.2	2.2	2.1	2.3	2.7	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.4	2.3	2.3	2.3	2.4	2.4	2.3	2.7	2.3	2.4	2.4					
13	2.3	2.3	2.3	2.4	2.3	2.4	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.4	2.3	2.4	2.3	2.4				
14	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.5	2.3	2.3	2.3	2.4	2.5	2.4	2.5	3.3	2.7	2.6	2.7	3.3	2.4	2.4					
15	2.8	2.8	2.8	2.9	2.8	2.7	2.3	2.9	2.7	2.7	2.7	3	2.6	3.7	2.6	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	3.7	2.8	2.4	2.4				
16	2.6	2.7	2.6	2.7	2.6	2.7	2.8	3	2.5	2.4	2.3	2.3	P	N	N	N	N	N	N	N	N	N	N	N	N	3	2.6	13					
17	N	N	N	N	N	N	N	N	C	3.1	3.2	3.6	3.5	3.4	3.3	3.1	3	2.7	2.7	2.4	2.4	2.4	2.4	2.5	3.6	3.0	16						
18	2.6	2.6	2.8	2.7	2.8	2.9	4.8	3.4	3.8	2.9	2.8	2.8	2.7	2.8	3.1	3.1	3	2.7	2.6	2.6	2.6	2.5	2.5	4.8	2.9	2.4	2.4						
19	2.5	2.5	2.3	2.6	3.3	3.6	3.9	3.8	4.1	4.1	4.1	3.9	3.2	3	3.5	2.8	2.4	2.4	2.2	2.3	2.2	2.2	2.2	4.1	3.0	2.4	2.4						
20	2.2	2.3	2.3	2.3	2.4	2.4	2.5	2.5	3.2	2.3	2.1	2.2	2.3	2.3	2.3	2.5	2.3	2.5	2.3	2.3	2.5	2.4	3.9	2.4	2.5	3.9	2.5	2.4					
21	2.3	2.7	2.8	3	3	3.5	3.9	4	4.4	5.2	4.7	4.3	4.1	4.1	4	4	4	4.2	4.4	4.4	4.8	4.2	4.4	4.8	5.2	4.0	2.4						
22	4.3	2.8	2.7	2.6	2.6	2.8	2.6	2.3	2.2	2.2	2.3	2.3	2.1	2.2	2.1	2.1	2.1	2.1	2.4	2.3	2.4	2.8	2.9	4.3	2.5	2.4							
23	2.8	3	2.3	2.4	2.3	2.1	2.1	2.1	2.6	2.3	2.4	2.3	2.5	2.5	2.5	2.9	2.7	3.6	3.4	2.6	2.7	2.7	2.7	3.6	2.6	2.4							
24	2.7	2.6	2.7	2.7	2.8	2.8	2.8	3.4	3	3.2	2.9	2.9	2.6	2.6	2.7	2.5	2.6	2.5	2.4	2.4	2.4	2.5	2.6	2.7	3.4	2.7	2.4						
25	2.9	3	3	3.2	3.3	3.2	3.3	3.3	3.1	3.2	3.2	3.4	3.1	3.2	2.9	2.9	4.3	3.4	3.1	2.3	3.2	3.3	3.2	2.9	4.3	3.2	2.4						
26	3	3.1	3	3.2	3.2	3.3	3.4	3.3	3.4	3.3	3.2	3.2	3.3	3.2	3.2	3.3	4	2.3	3.5	3.6	3.4	3.7	3.5	4	3.3	2.4							
27	3.5	3.5	3.5	3.5	3.5	3.6	3.8	3.8	3.9	4.1	4.4	4.3	3.1	2.4	2.3	2.2	2.2	2.2	2.1	2.1	2.6	2.5	2.2	2.1	4.4	3.1	2.4						
28	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	2.3	2.2	2.2	2.3	4.5	2.2	2.3	2.1	2.2	2.2	2.2	4.5	2.3	2.4						
29	2.2	2.4	2.5	2.5	2.5	2.4	2.6	2.6	2.7	2.6	2.5	2.2	2.1	2.1	2.1	2.3	2.1	2.1	2.1	2	2.1	2.1	2.1	2.1	2.7	2.3	2.4						
30	2.1	2.2	2.1	2.1	2.1	2	2.1	2.1	2.5	2.6	2.5	2.2	2.1	2.1	2.3	2.1	2.4	2.5	2.3	3	2.1	2.7	2.8	2.1	3	2.3	2.4						
31	2.1	2.3	2.3	2.3	2.3	2.2	2.3	2.2	2.2	2.3	2.2	2.2	2.3	2.3	2.5	2.6	2.7	2.6	2.6	2.7	2.6	2.8	2.7	2.6	2.8	2.4	2.4						
HOURLY MAX	4	4	4	4	4	4	4	5	4	5	5	4	4	4	4	4	4	5	4	4	5	4	4	4	4	4							
HOURLY AVG	2.6	2.6	2.5	2.6	2.6	2.6	2.6	2.8	2.8	2.9	2.8	2.7	2.6	2.5	2.6	2.6	2.6	2.6	2.7	2.5	2.5	2.6	2.6	2.6	2.5								

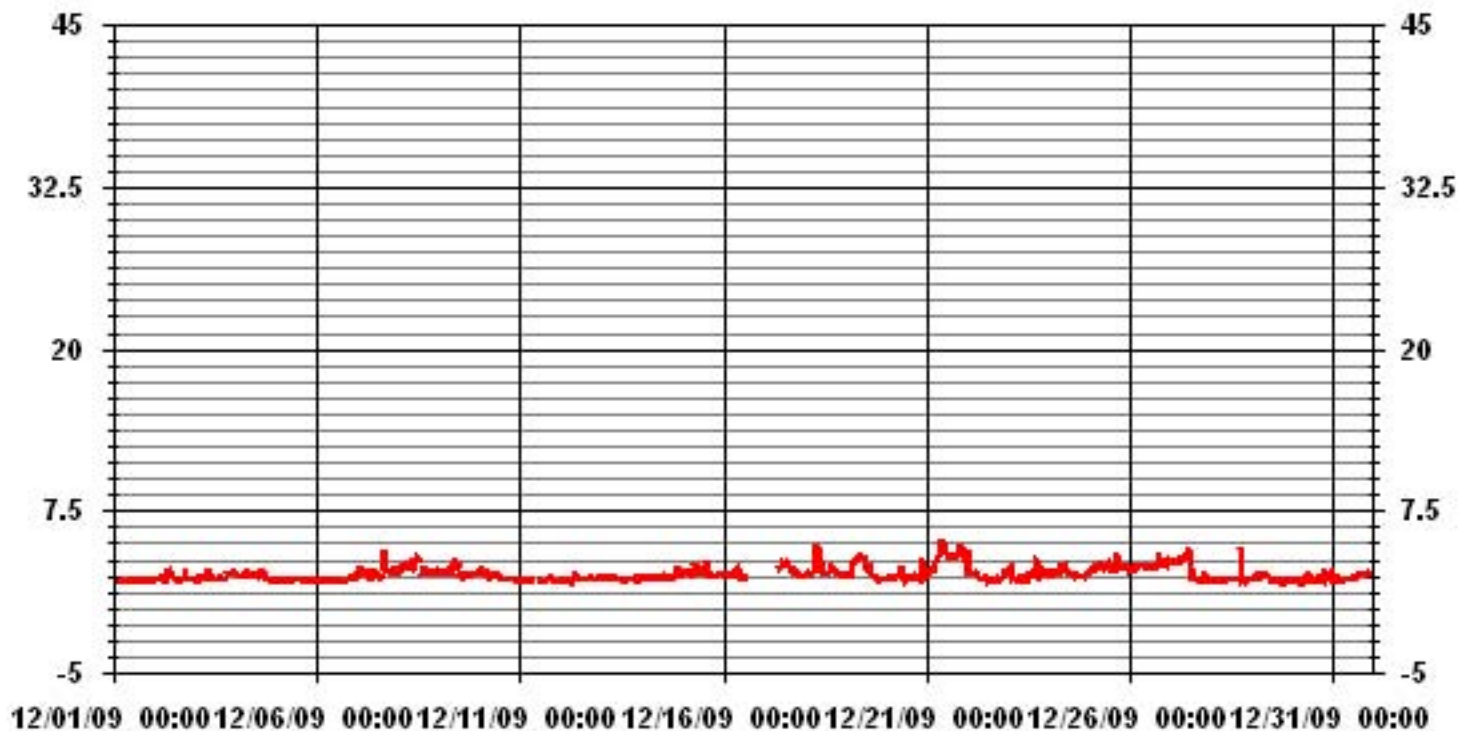
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	690					
MAXIMUM INSTANTANEOUS VALUE:	5.2	PPM	@ HOUR(S)	9	ON DAY(S)	21
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	725	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.55					

01 Hour Averages



— LICA THCMAX PPM

LICA
 THC / WD Joint Frequency Distribution (Percent)

December 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	1.73	.28	2.02	2.46	1.88	3.62	8.69	1.73	2.02	2.75	11.30	17.97	8.11	4.34	12.02	5.36	86.37
< 10.0	.00	.00	.00	.28	.14	.57	1.15	.28	.57	1.73	2.46	4.05	2.02	.28	.00	.00	13.62
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.73	.28	2.02	2.75	2.02	4.20	9.85	2.02	2.60	4.49	13.76	22.02	10.14	4.63	12.02	5.36	

Calm : .00 %

Total # Operational Hours : 690

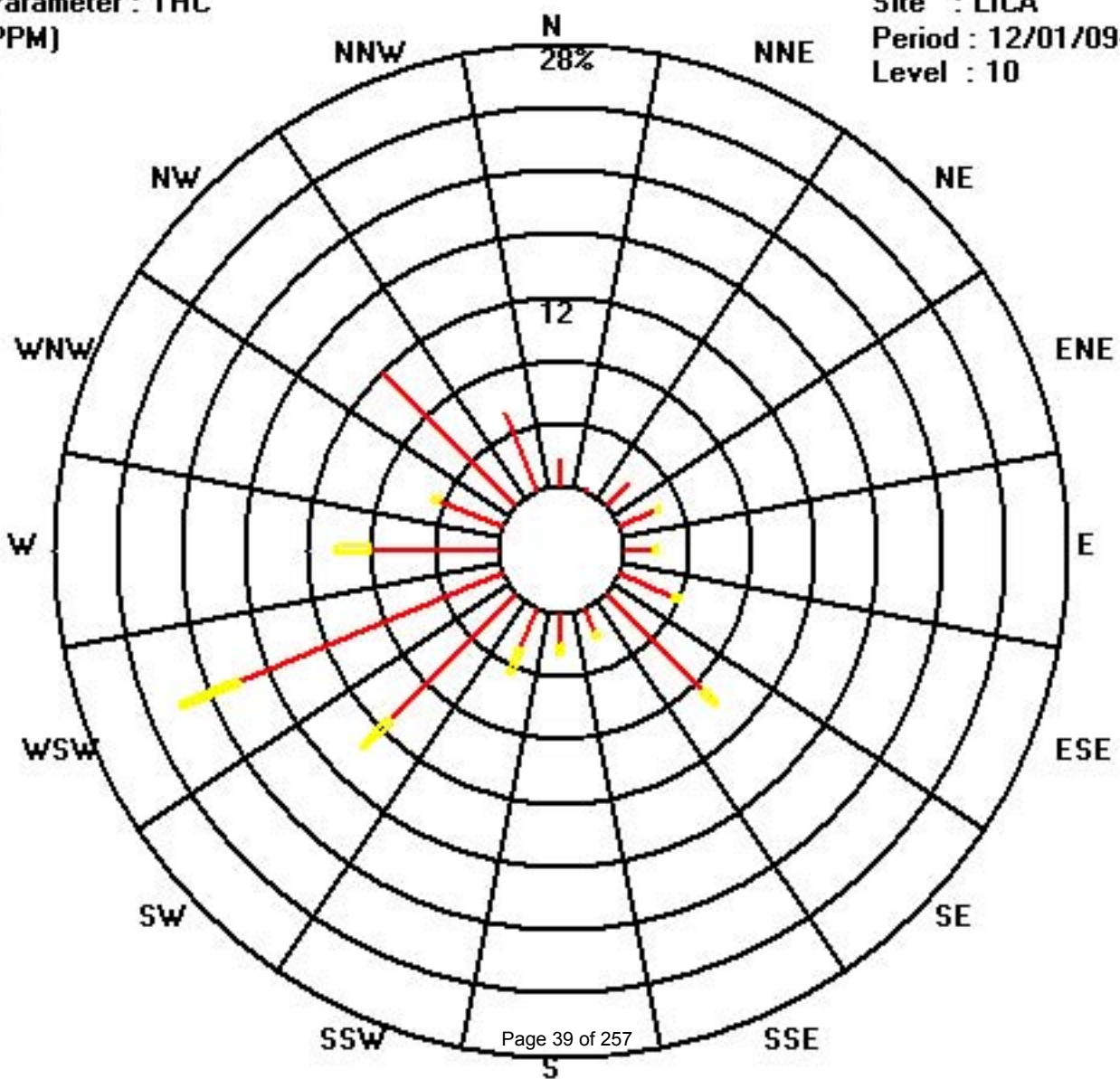
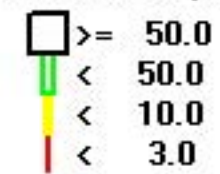
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	12	2	14	17	13	25	60	12	14	19	78	124	56	30	83	37	596
< 10.0				2	1	4	8	2	4	12	17	28	14	2			94
< 50.0																	
>= 50.0																	
Totals	12	2	14	19	14	29	68	14	18	31	95	152	70	32	83	37	

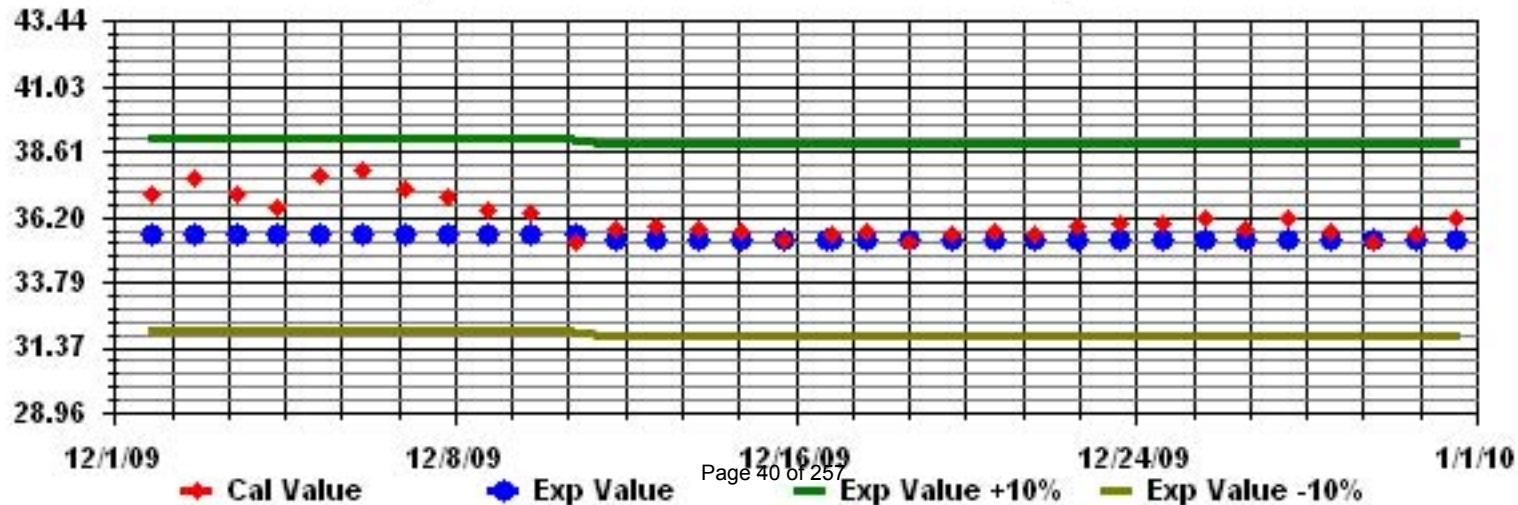
Calm : .00 %

Total # Operational Hours : 690

Class Limits (PPM)



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



Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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	24:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	3.3	0.4	0	2.4	N	N	0.9	0	0	2.9	2.4	1.9	3.3	0	3.3	0	2.4	3.3	3.3	0	N	0.9	5.9	5.9	5.9	5.9	2.0	21
2	0.9	0.9	2.4	0	3.3	2.9	3.3	1.9	2.9	0	1.4	1.9	2.4	1.4	1.9	3.3	0.9	3.9	2.9	0	4.9	5.9	13.4	21.4	21.4	3.5	24	
3	23.4	17.4	5.4	3.3	3.3	0	1.9	6.9	1.9	3.3	0.4	1.9	1.4	6.9	3.3	5.9	5.9	10.9	25.4	19.9	17.4	10.9	5.9	12.9	25.4	8.2	24	
4	4.9	8.4	11.4	13.4	6.9	11.9	10.8	13.4	11.9	11.9	10.9	14.4	15.4	14.9	17.9	19.9	20.9	11.9	4.9	4.9	5.9	2.4	4.9	2.4	20.9	10.7	24	
5	2.4	2.9	0.4	0.4	2.4	2.9	0.9	1.4	0.4	0	0.9	2.9	0.9	2.9	1.9	3.3	1.4	0.4	4.3	2.4	1.4	3.9	3.9	1.9	4.3	1.9	24	
6	2.9	1.9	1.4	2.9	1.4	1.9	3.3	0.4	2.4	3.3	5.9	3.3	0	3.3	5.4	1.9	5.4	4.3	3.3	2.9	2.4	2.4	2.4	2.4	4.3	5.9	2.9	24
7	4.3	4.9	12.4	5.4	10.4	10.8	5.9	5.9	3.9	8.9	10.4	11.9	12.4	10.4	7.9	7.9	6.9	3.9	8.9	5.9	3.3	3.3	7.4	6.4	12.4	7.5	24	
8	4.9	2.9	4.3	7.4	2.4	5.4	6.4	5.4	5.4	7.4	9.8	7.4	14.4	9.8	13.9	11.9	13.4	17.9	21.4	15.9	14.4	14.9	12.9	10.4	21.4	10.0	24	
9	13.9	10.9	7.9	12.4	8.4	10.9	5.9	7.4	10.4	9.4	5.9	9.8	3.3	6.4	6.9	6.9	8.4	8.4	9.4	5.9	4.3	4.9	6.4	7.9	13.9	8.0	24	
10	5.9	6.4	7.4	4.9	6.4	1.9	0.9	1.9	3.3	2.4	8.9	0	C	C	C	C	1.9	2.4	2.4	3.3	1.9	5.9	0.4	3.3	8.9	3.6	24	
11	4.3	3.3	3.3	3.3	3.3	4.9	0.9	1.9	2.4	1.4	3.3	3.3	4.3	1.9	3.3	2.4	3.9	0.9	1.9	4.3	3.3	5.9	3.9	0.4	5.9	3.0	24	
12	4.3	6.4	3.9	2.4	3.9	6.4	3.3	3.3	1.9	6.9	2.9	1.9	6.4	4.9	4.9	6.4	7.4	6.9	4.9	3.9	2.9	5.4	3.9	3.9	7.4	4.6	24	
13	1.9	6.9	3.3	2.9	4.9	5.4	2.9	3.9	4.9	4.9	1.4	2.4	5.9	4.9	5.9	1.4	7.4	7.9	3.9	2.4	5.9	6.4	3.9	0	7.9	4.2	24	
14	5.4	2.4	0.9	3.9	4.9	4.3	3.3	6.4	7.9	3.3	4.3	5.4	4.3	1.9	5.4	3.9	6.4	6.9	3.9	5.4	3.9	6.4	6.4	4.9	7.9	4.7	24	
15	6.9	9.8	10.4	8.9	5.4	5.9	5.4	11.4	11.4	9.8	8.4	7.4	6.4	5.9	6.9	10.8	8.9	12.4	9.4	4.3	10.9	4.3	1.4	5.9	12.4	7.9	24	
16	2.8	7.9	8.4	10.8	8.9	10.8	11.9	7.4	11.9	4.9	6.4	8.4	10.4	P	19.6	13.8	12.9	13.8	11.9	10.9	12.7	11.4	12.4	15.8	19.6	10.7	23	
17	19.9	14.3	5.5	10.7	9.3	9.8	9.1	10.8	10.8	7.9	12.9	15.4	16.8	25.4	23.4	26.9	28.5	27.4	28.3	27.8	15.9	15.9	21.3	15.9	28.5	17.1	24	
18	15.9	16.9	14.4	16.4	12.4	17.4	16.4	17.9	20.9	17.4	22.9	22.9	20.4	19.9	20.4	23.9	22.4	15.4	15.9	10.9	12.9	11.9	18.9	11.4	23.9	17.3	24	
19	7.9	14.4	17.4	10.4	13.4	11.9	19.4	18.9	22.4	23.9	21.9	21.9	18.9	12.4	10.4	12.9	5.9	2.8	1.4	N	0	0	0	1.4	23.9	11.7	23	
20	5.9	1.9	1.4	2.4	0	0.4	0.4	0	4.3	0.9	3.9	2.4	3.4	0	2.9	4.9	0.4	6.4	1.9	2.4	2.4	3.3	3.9	2.9	6.4	2.4	24	
21	6.9	3.9	3.3	5.4	3.9	1.9	2.4	6.9	5.4	6.4	7.4	6.4	9.4	2.8	6.4	11.4	9.4	8.9	9.4	7.9	9.4	10.4	10.4	11.4	11.4	7.0	24	
22	12.9	13.9	11.4	8.9	11.4	11.4	5.9	5.9	6.4	6.4	7.4	2.8	1.4	2.4	4.3	3.9	3.9	2.4	2.9	2.4	3.9	4.3	5.9	5.4	13.9	6.2	24	
23	6.4	1.9	4.3	1.9	4.9	4.3	0.4	5.9	N	0.9	2.4	1.4	2.4	3.9	2.4	2.9	3.9	1.9	2.8	4.9	7.4	11.9	13.4	9.8	13.4	4.4	23	
24	5.9	5.4	5.4	1.9	4.3	7.9	5.4	8.4	7.9	8.9	8.4	11.4	7.4	12.4	9.8	10.9	13.4	11.4	12.4	9.4	11.9	8.4	9.4	6.9	13.4	8.5	24	
25	13.9	7.9	9.4	8.4	7.4	5.9	7.4	2.8	5.4	4.9	7.9	15.4	9.8	12.9	12.9	8.9	12.9	10.8	16.4	22.4	13.9	14.9	14.4	13.4	22.4	10.8	24	
26	12.4	14.4	12.4	11.4	8.4	10.4	8.9	11.9	7.9	10.4	7.9	12.4	13.9	12.9	11.9	11.4	12.4	11.4	17.4	8.9	10.9	9.3	12.4	11.9	17.4	11.4	24	
27	9.4	11.4	8.9	8.4	7.9	8.4	8.9	6.4	9.8	6.4	16.4	13.4	7.9	6.4	5.9	5.9	2.4	3.9	3.3	3.3	3.9	4.3	0.4	2.8	16.4	6.9	24	
28	4.3	2.4	0.9	1.9	1.9	3.9	4.9	7.9	3.9	4.3	3.3	1.4	3.9	1.4	2.8	2.8	5.9	2.8	3.9	3.9	5.4	1.9	5.9	3.3	7.9	3.5	24	
29	2.8	7.9	8.4	5.9	8.4	8.4	8.9	7.4	7.9	7.9	4.3	2.4	6.9	8.9	7.9	5.9	4.3	11.9	0.9	2.8	5.9	0.4	7.4	6.4	11.9	6.3	24	
30	2.8	8.9	6.9	0.4	0	2.8	6.9	2.4	2.9	1.9	0	0.9	1.9	0.4	5.4	2.8	2.9	3.3	1.9	1.4	1.4	1.9	3.3	2.4	8.9	2.7	24	
31	1.4	2.4	3.3	1.9	1.9	2.4	1.4	4.9	1.9	4.3	2.8	4.3	4.3	7.4	3.9	5.9	5.4	7.4	10.4	3.3	5.9	6.9	5.9	7.4	10.4	4.5	24	
HOURLY MAX	23	17	17	16	13	17	19	19	22	24	23	23	20	25	23	27	29	27	28	28	17	16	21	21				
HOURLY AVG	7.1	7.1	6.3	5.8	5.7	6.5	5.6	6.4	6.7	6.2	6.9	7.1	7.3	7.1	8.0	8.0	8.0	7.9	8.1	6.8	6.9	6.5	7.4	7.1				

STATUS FLAG CODES

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

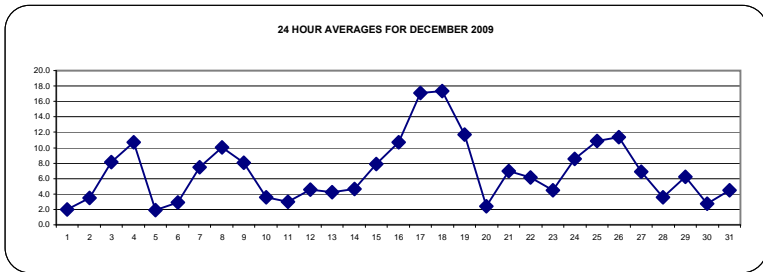
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:

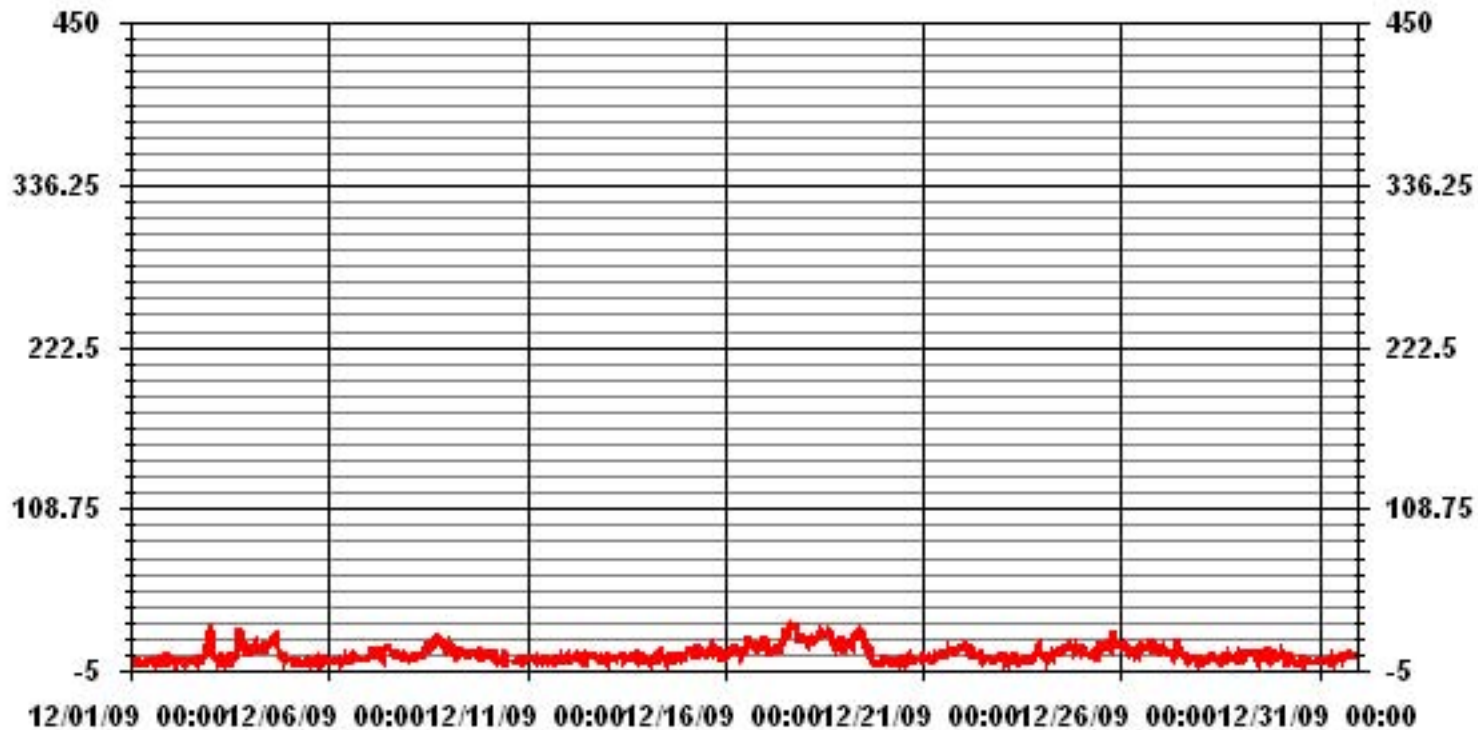
1-HR	-	PPB	24-HR	30	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-				
NUMBER OF 24-HR EXCEEDENCES:	0	PROPOSED CANADA WIDE GUIDELINE			
NUMBER OF NON-ZERO READINGS:	712				
MAXIMUM 1-HR AVERAGE:	28.5	UG/M ³	@ HOUR(S)	16	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	17.3	UG/M ³			ON DAY(S)
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	738	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.2	%
STANDARD DEVIATION:	5.42		MONTHLY AVERAGE:	6.94	UG/M ³



01 Hour Averages



— LICA PM2 UG/M3

LICA
PM2 / WD Joint Frequency Distribution (Percent)

December 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	1.77	.68	2.17	2.58	2.45	4.49	9.80	2.31	2.58	4.35	13.48	21.52	9.94	4.49	11.98	5.31	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	1.77	.68	2.17	2.58	2.45	4.49	9.80	2.31	2.58	4.35	13.48	21.52	9.94	4.49	11.98	5.31	

Calm : .00 %

Total # Operational Hours : 734

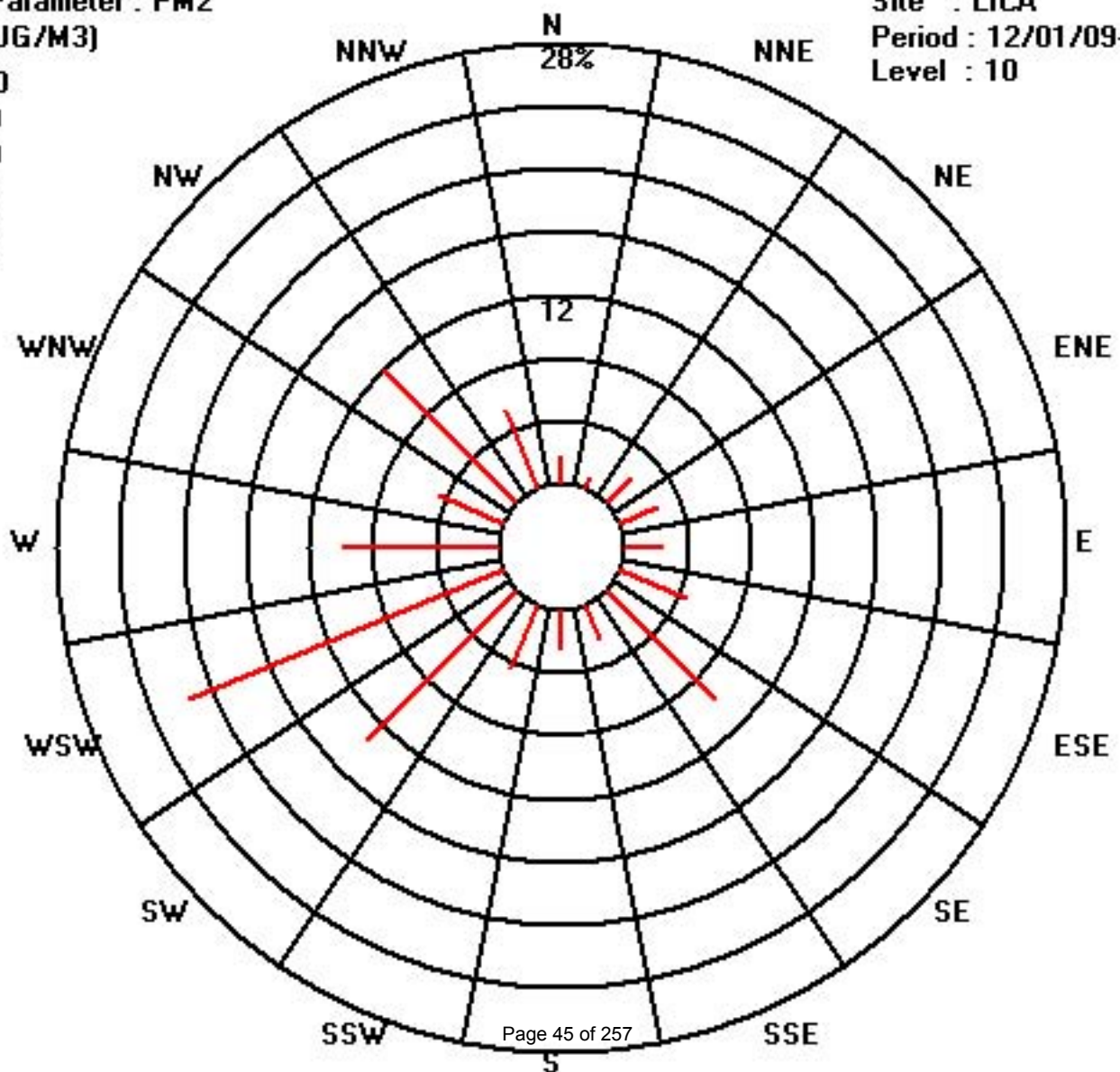
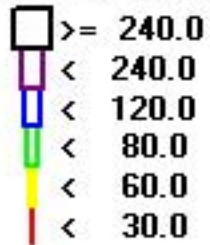
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	13	5	16	19	18	33	72	17	19	32	99	158	73	33	88	39	734
< 60.0																	
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	13	5	16	19	18	33	72	17	19	32	99	158	73	33	88	39	

Calm : .00 %

Total # Operational Hours : 734

Class Limits (UG/M3)



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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.	
DAY																												
1	1	1	1	1	1	1	1	1	2	1	1	2	4	2	1	1	1	1	1	2	IZS	1	1	0	4	1.3	24	
2	0	1	0	0	1	0	1	5	6	4	2	4	3	2	2	2	2	3	IZS	8	8	5	3	8	2.8	24		
3	3	2	1	1	2	1	1	2	2	2	2	2	2	2	2	3	12	7	IZS	7	5	4	4	4	12	3.2	24	
4	4	4	4	4	4	4	4	6	6	7	7	6	7	8	10	9	11	IZS	4	4	2	2	1	1	11	5.2	24	
5	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	IZS	0	0	0	0	0	0	0	1	0.5	24	
6	0	0	1	0	1	1	1	1	1	1	1	0	0	0	0	IZS	1	2	4	5	6	14	12	13	14	2.8	24	
7	11	11	12	12	14	13	7	5	4	9	10	7	7	8	IZS	14	25	19	21	19	16	13	14	10	25	12.2	24	
8	9	8	9	14	14	13	15	17	13	13	10	10	10	IZS	10	14	17	17	19	19	20	17	15	15	20	13.8	24	
9	14	15	14	14	12	12	12	16	17	15	14	13	IZS	10	10	11	14	16	12	10	12	14	11	11	17	13.0	24	
10	14	15	12	11	14	10	9	14	18	C	C	C	C	C	C	C	C	C	6	4	4	3	3	3	2	18	8.9	24
11	1	1	1	1	1	0	0	1	9	1	IZS	2	3	3	6	9	16	15	17	12	6	3	2	2	17	4.9	24	
12	2	1	3	5	4	3	2	3	5	IZS	3	2	2	1	2	3	6	6	6	4	6	5	6	5	6	3.7	24	
13	5	4	3	4	4	5	4	4	IZS	4	2	2	2	2	2	3	4	4	4	4	4	4	4	5	5	3.6	24	
14	5	4	5	5	5	5	6	IZS	8	7	4	3	3	5	4	6	7	9	9	9	12	19	13	8	19	7.0	24	
15	8	10	13	10	9	9	IZS	21	20	14	13	9	10	9	10	14	18	19	20	21	13	6	5	9	21	12.6	24	
16	6	6	6	6	10	IZS	14	15	20	10	6	5	7	0	7	11	24	21	20	21	18	18	19	21	24	12.7	23	
17	23	21	8	10	IZS	12	13	16	16	15	10	10	11	16	18	19	22	22	21	15	11	14	15	14	23	15.3	24	
18	14	14	15	IZS	14	16	17	17	19	18	23	19	17	14	16	22	22	18	9	9	9	10	7	7	23	15.0	24	
19	7	8	IZS	7	8	11	15	14	15	13	12	12	11	8	9	10	9	11	11	11	8	5	5	4	15	9.7	24	
20	4	IZS	5	5	5	4	7	6	8	10	6	5	4	4	4	6	7	10	12	12	12	15	12	12	15	7.6	24	
21	IZS	14	10	11	10	10	13	13	15	15	15	14	11	11	13	18	19	21	22	23	22	22	23	IZS	23	15.7	24	
22	20	9	7	6	6	7	5	4	6	6	6	4	4	4	3	4	2	3	5	7	7	10	IZS	11	20	6.3	24	
23	6	6	4	6	6	4	5	8	8	4	4	4	4	5	6	7	9	10	8	10	13	IZS	16	15	16	7.3	24	
24	12	12	11	11	13	13	15	17	18	18	16	12	9	9	12	19	21	21	16	17	IZS	15	11	10	21	14.3	24	
25	11	10	9	9	9	10	12	14	14	11	9	11	6	6	7	8	11	12	18	IZS	18	19	16	11	19	11.3	24	
26	8	18	17	8	8	7	9	8	8	7	7	7	8	8	9	10	14	16	IZS	15	16	17	17	13	18	11.1	24	
27	13	11	10	12	12	11	11	11	10	8	10	11	6	4	4	4	4	IZS	4	3	3	3	3	2	13	7.4	24	
28	3	3	2	2	3	2	1	1	1	2	1	2	2	2	2	2	IZS	3	3	2	2	2	2	2	3	2.0	24	
29	2	3	4	4	4	4	3	4	4	5	4	3	3	5	4	IZS	4	5	5	3	3	3	3	2	5	3.7	24	
30	2	3	4	4	3	2	2	3	4	9	9	5	3	3	IZS	3	9	13	8	3	4	5	5	3	13	4.7	24	
31	3	4	6	8	7	10	9	10	10	11	10	10	8	IZS	7	11	17	16	16	15	15	14	15	14	17	10.7	24	
HOURLY MAX	23	21	17	14	14	16	17	21	20	18	23	19	17	16	18	22	25	22	22	23	22	22	23	21				
HOURLY AVG	7.1	7.3	6.6	6.4	6.8	6.7	7.2	8.6	9.6	8.3	7.5	6.6	5.8	5.4	6.4	8.7	11.7	11.2	10.4	9.9	9.4	9.5	8.8	7.6				

STATUS FLAG CODES

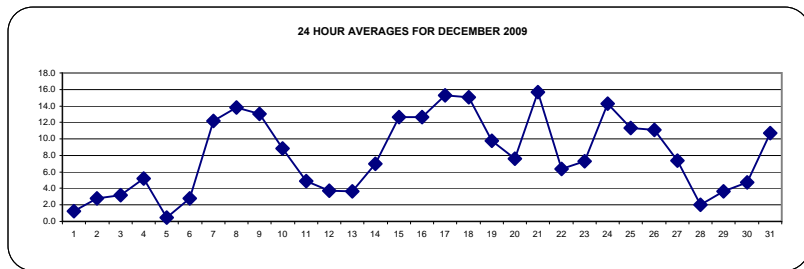
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

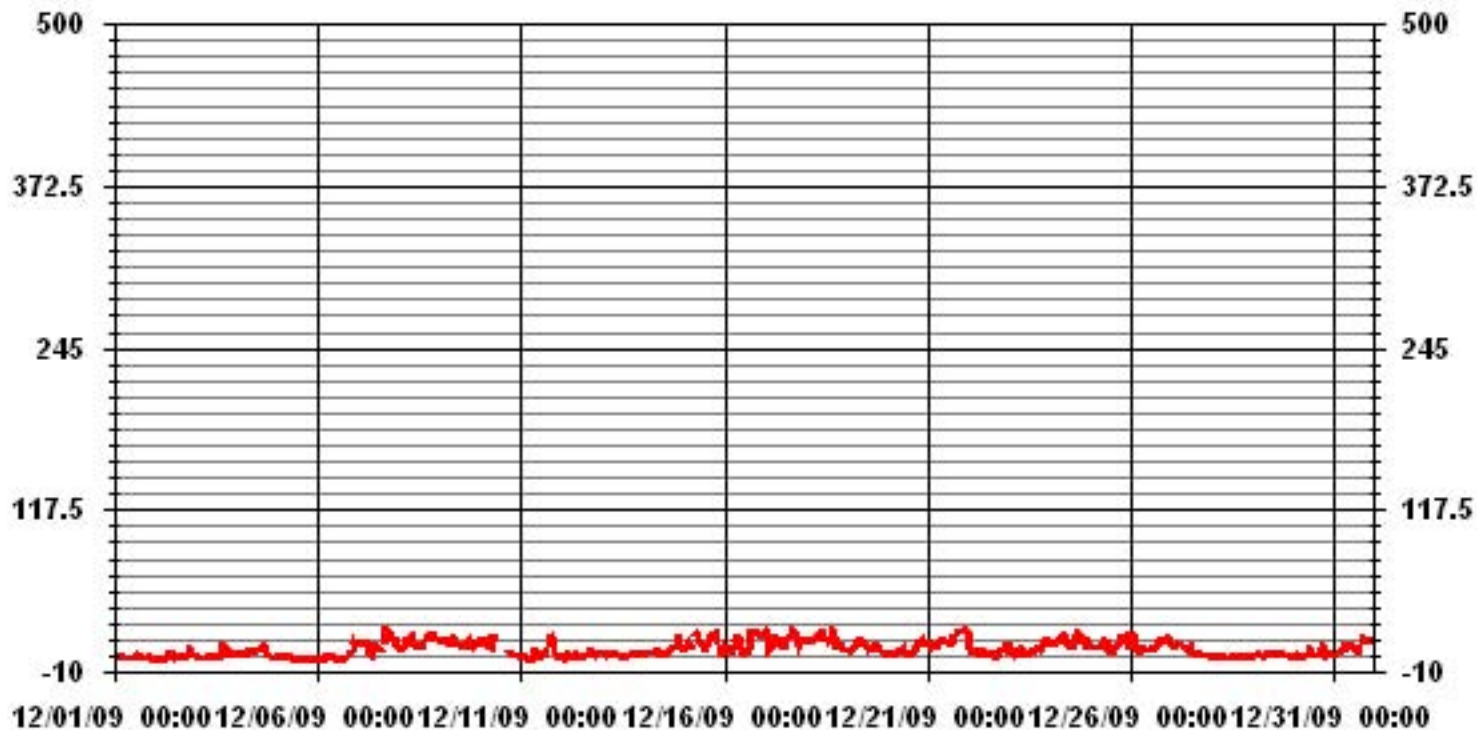
ALBERTA ENVIRONMENT:	1-HR	212	PPB	24-HR	106	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0				
NUMBER OF 24-HR EXCEEDENCES:	0				
NUMBER OF NON-ZERO READINGS:	678				
MAXIMUM 1-HR AVERAGE:	25	PPB	@ HOUR(S)	16	ON DAY(S) 7
MAXIMUM 24-HR AVERAGE:	15.7	PPB			ON DAY(S) 7
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	5.86		MONTHLY AVERAGE:	8.06	PPB



01 Hour Averages



— LICA H02_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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	2	1	2	1	1	1	3	6	2	15	9	7	1	1	2	1	2	3	IZS	2	1	1	15	2.9	24
2	1	1	1	0	1	1	4	8	8	18	4	7	5	3	3	3	4	4	6	IZS	23	11	8	4	23	5.6	24
3	6	3	2	2	3	3	2	4	4	3	3	3	3	10	11	24	17	IZS	10	6	9	6	5	24	6.2	24	
4	4	4	4	5	5	4	5	9	8	37	13	8	10	11	13	11	13	IZS	5	5	3	2	2	2	37	8.0	24
5	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	0	IZS	1	1	1	1	0	1	1	2	1.1	24
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	5	9	8	8	19	15	16	19	4.2	24
7	13	12	15	14	16	17	10	9	5	14	12	11	9	20	IZS	22	64	23	24	24	18	17	16	13	64	17.3	24
8	10	11	14	16	16	14	17	19	23	16	15	11	12	IZS	12	18	20	20	21	21	21	20	19	17	23	16.7	24
9	15	18	19	17	15	14	14	19	19	17	18	16	IZS	12	12	15	16	21	15	13	15	17	14	14	21	15.9	24
10	18	18	15	14	19	15	14	21	26	C	C	C	C	C	C	C	C	7	6	7	5	4	5	4	26	12.4	24
11	1	2	2	1	1	1	1	26	37	4	IZS	9	14	7	13	26	24	24	24	14	11	4	2	3	37	10.9	24
12	2	2	7	7	5	5	4	6	7	IZS	4	3	3	2	3	4	9	9	7	6	9	11	8	7	11	5.7	24
13	7	6	6	5	5	7	5	6	IZS	6	4	5	3	3	5	5	7	7	7	6	5	6	6	7	7	5.6	24
14	8	5	7	6	8	8	8	IZS	10	9	6	5	7	21	6	10	8	10	11	12	15	74	16	12	74	12.3	24
15	10	16	15	15	13	12	IZS	32	40	24	16	15	15	25	26	22	26	24	25	24	23	12	14	14	40	19.9	24
16	8	7	7	7	12	IZS	18	21	27	16	11	17	17	P	P	21	28	30	29	40	22	27	23	25	40	19.7	22
17	26	25	10	13	IZS	16	18	20	22	24	15	12	16	17	20	22	29	24	30	20	14	19	19	16	30	19.4	24
18	16	16	18	IZS	17	40	24	21	27	31	36	22	21	18	21	25	26	26	17	10	10	13	11	9	40	20.7	24
19	8	12	IZS	8	10	15	17	16	22	16	15	14	13	11	11	13	13	13	14	14	12	6	7	6	22	12.4	24
20	6	IZS	7	6	8	8	11	10	10	16	10	8	10	7	9	8	9	16	25	15	16	33	15	21	33	12.3	24
21	IZS	17	12	12	11	11	19	17	18	17	18	19	16	15	16	23	20	36	23	24	23	24	24	IZS	36	18.9	24
22	23	11	8	6	8	8	6	6	8	13	9	7	36	8	7	6	3	4	10	12	8	14	IZS	13	36	10.2	24
23	10	8	4	7	8	4	8	12	12	6	5	5	5	6	8	13	23	19	11	15	29	IZS	19	17	29	11.0	24
24	13	13	14	14	16	19	19	19	24	26	22	23	14	13	18	24	30	29	19	23	IZS	22	12	12	30	19.0	24
25	12	11	13	11	10	14	17	18	16	13	13	15	13	8	11	14	17	18	21	IZS	25	24	25	16	25	15.4	24
26	15	24	21	9	11	9	15	13	13	9	9	8	10	9	10	14	21	22	IZS	19	20	22	20	16	24	14.7	24
27	15	13	13	15	14	12	13	12	12	10	11	12	11	11	6	5	5	IZS	5	4	6	5	4	3	15	9.4	24
28	4	4	3	3	5	4	2	3	2	12	2	9	5	3	3	9	IZS	9	4	4	2	3	3	3	12	4.4	24
29	5	6	7	6	5	6	4	5	5	6	4	3	4	7	6	IZS	6	7	7	4	5	4	4	4	7	5.2	24
30	3	5	5	4	4	2	4	4	7	16	22	7	4	4	IZS	5	14	16	15	5	8	8	8	4	22	7.6	24
31	4	6	8	12	10	11	13	12	11	13	12	12	12	IZS	10	38	45	28	32	25	23	22	18	19	45	17.2	24
HOURLY MAX	26	25	21	17	19	40	24	32	40	37	36	23	36	25	26	38	64	36	32	40	29	74	25	25			
HOURLY AVG	8.9	9.3	8.7	7.9	8.7	9.5	9.9	12.4	14.3	13.8	10.8	10.1	10.3	9.4	9.7	13.9	18.1	16.2	14.7	13.4	13.3	15.1	11.5	10.1			

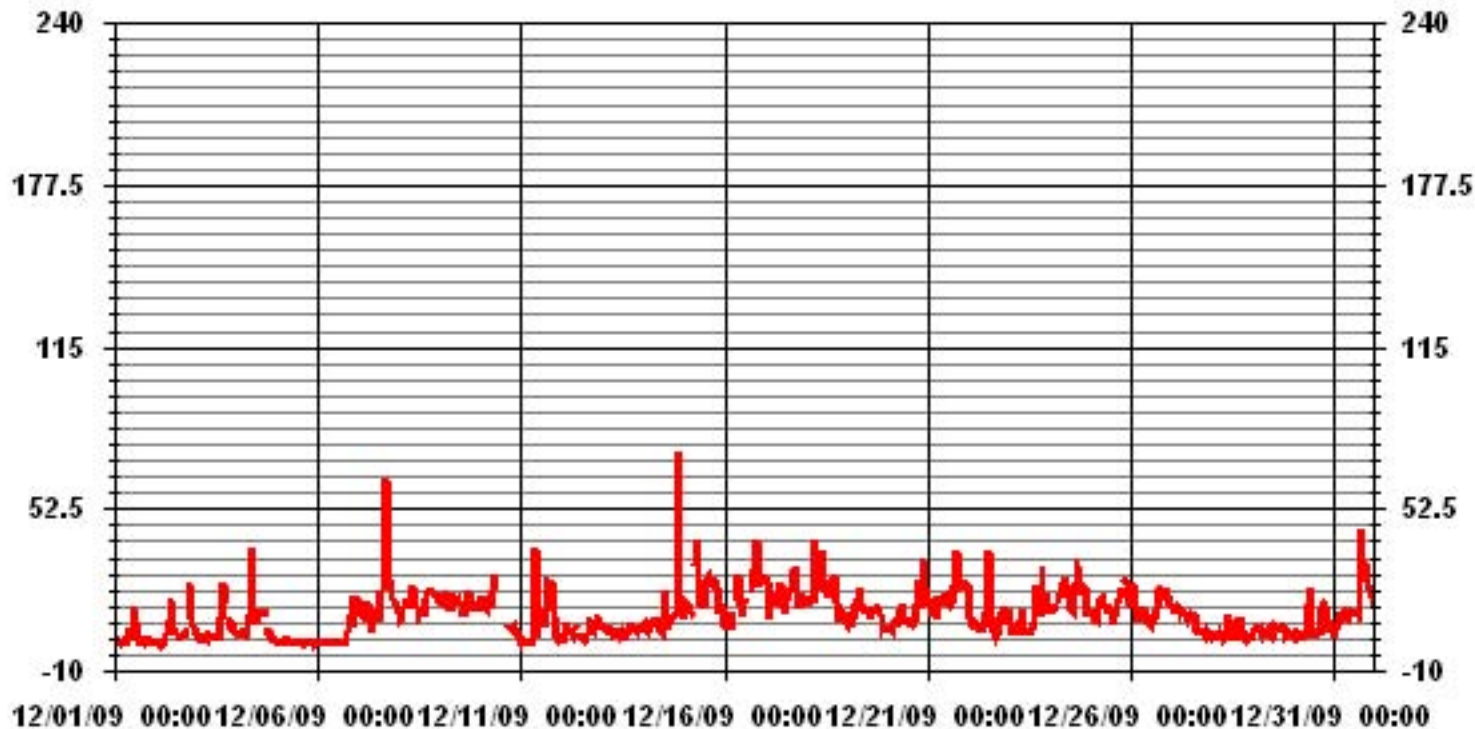
STATUS FLAG CODES

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:	700		
MAXIMUM INSTANTANEOUS VALUE:	74 PPB @ HOUR(S) 21 ON DAY(S) 14		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	742 HRS
MONTHLY CALIBRATION TIME:	8 HRS		
STANDARD DEVIATION	8.62		

01 Hour Averages



— LICA NO2MAX PPB

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

December 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	1.84	.42	2.13	2.69	2.27	4.68	9.94	2.27	2.69	4.40	13.35	21.16	10.08	4.54	12.21	5.25	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	1.84	.42	2.13	2.69	2.27	4.68	9.94	2.27	2.69	4.40	13.35	21.16	10.08	4.54	12.21	5.25	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	13	3	15	19	16	33	70	16	19	31	94	149	71	32	86	37	704
< 110																	
< 210																	
>= 210																	
Totals	13	3	15	19	16	33	70	16	19	31	94	149	71	32	86	37	

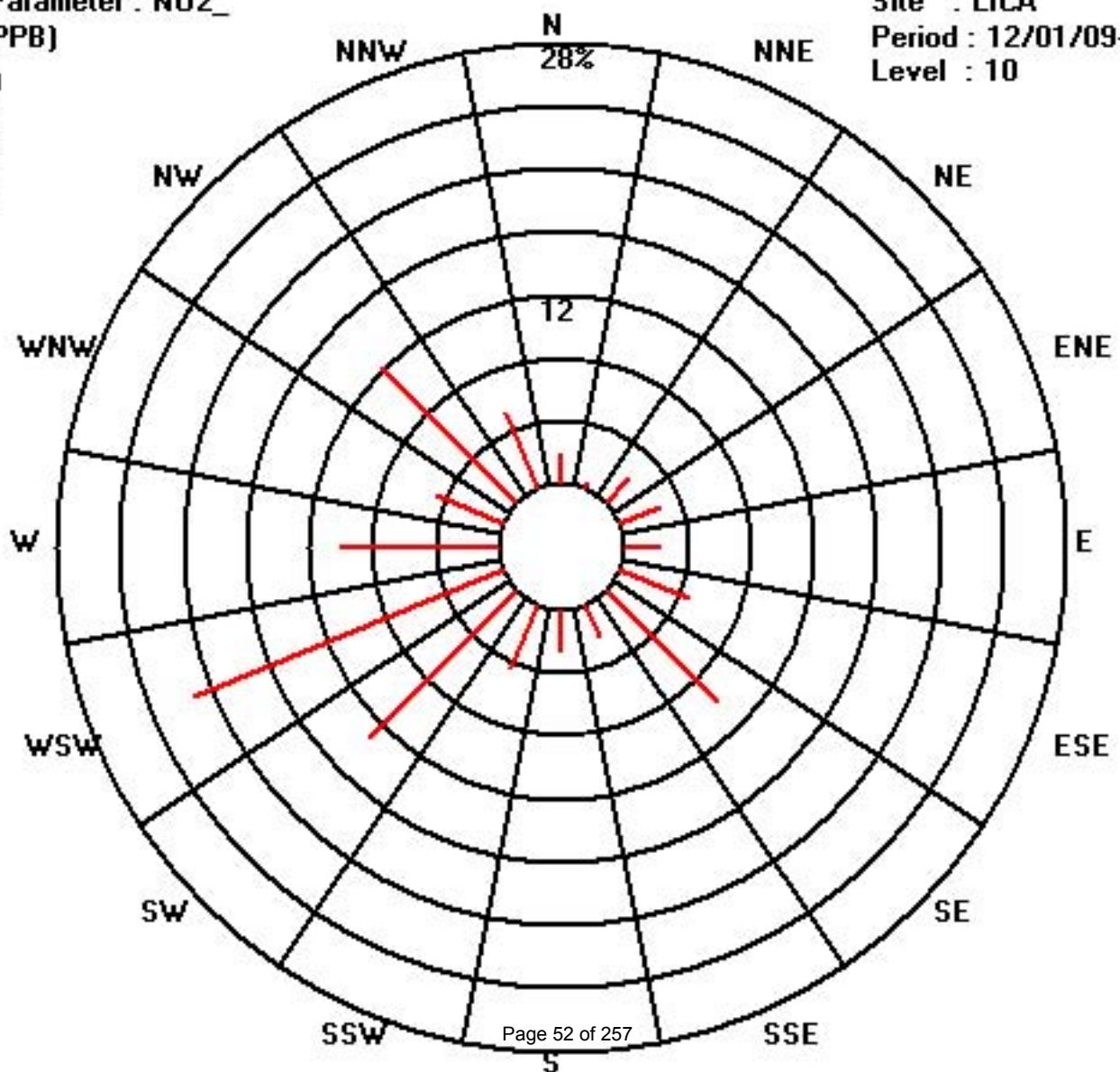
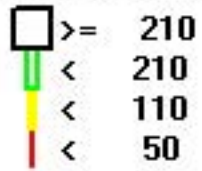
Calm : .00 %

Total # Operational Hours : 704

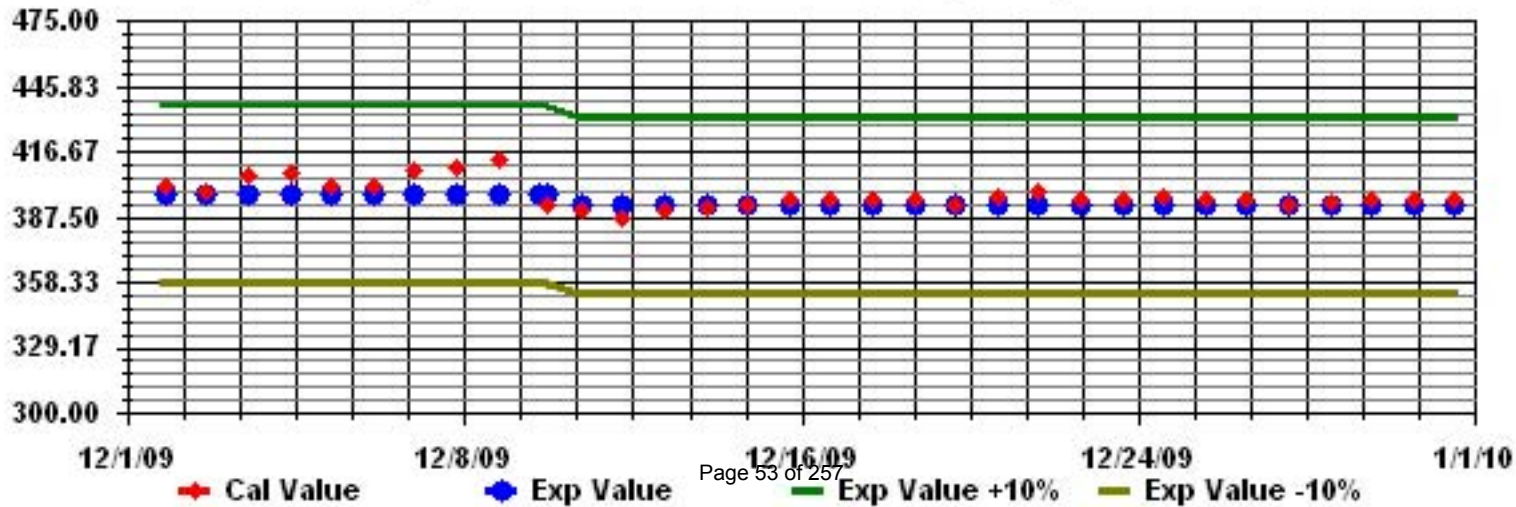
Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



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



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 2009

NITRIC OXIDE hourly averages in ppb

MST

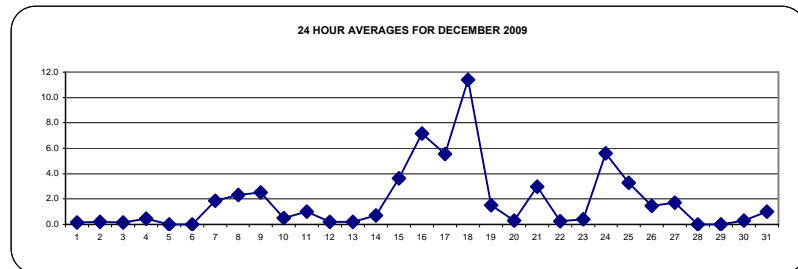
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0.1	24
2	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	3	0.2	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	2	0.2	24
4	0	0	0	0	0	0	0	0	0	3	1	1	1	2	2	1	0	0	0	0	0	0	0	0	0	3	0.5	24
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	0	1	0	0	0	0	0	0	2	4	4	4	5	0	3	7	4	4	3	1	0	1	0	7	1.9	24	
8	0	0	0	0	0	0	1	4	4	9	7	7	8	0	4	3	1	1	1	0	1	1	1	0	9	2.3	24	
9	0	0	1	1	0	0	1	2	4	9	12	12	0	6	4	2	1	2	0	0	0	1	0	0	12	2.5	24	
10	1	1	0	0	1	0	0	1	4	C	C	C	C	C	C	C	C	C	0	0	0	0	0	0	4	0.5	24	
11	0	0	0	0	0	0	0	1	11	0	0	1	2	1	3	2	1	1	0	0	0	0	0	0	11	1.0	24	
12	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	1	0	0	0	0	0	0	1	0.2	24	
13	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.2	24	
14	0	0	0	0	0	0	0	0	0	0	1	2	2	3	1	0	0	0	0	0	0	0	4	0	4	0.7	24	
15	0	0	0	0	0	0	0	0	0	0	11	13	9	9	6	7	5	4	3	3	4	5	1	0	13	3.6	24	
16	0	0	0	0	0	0	0	0	0	0	2	1	4	4	1	4	4	5	7	12	19	10	14	29	29	29	7.2	23
17	28	18	0	0	0	0	2	7	4	17	7	8	8	9	8	5	4	1	2	0	0	0	0	0	28	5.6	24	
18	0	1	3	0	2	9	21	33	44	34	41	19	18	10	8	11	5	3	0	0	0	0	0	0	44	11.4	24	
19	0	0	0	0	0	0	0	1	2	6	10	9	4	2	1	0	0	0	0	0	0	0	0	0	10	1.5	24	
20	0	0	0	0	0	0	0	0	0	2	1	1	1	1	0	0	0	0	0	0	0	0	1	0	2	0.3	24	
21	0	0	0	0	0	0	0	1	3	7	15	14	7	6	4	3	0	2	0	1	0	0	2	0	15	3.0	24	
22	3	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0.3	24	
23	0	0	0	0	0	0	0	0	0	0	1	2	1	2	1	0	0	1	0	0	1	0	0	0	2	0.4	24	
24	0	0	0	0	0	0	2	9	17	30	22	15	5	5	7	8	5	3	0	1	0	0	0	30	5.6	24		
25	0	0	0	0	0	0	1	2	2	7	7	10	4	3	2	1	1	1	2	0	10	14	8	0	14	3.3	24	
26	0	2	0	0	0	0	0	0	0	1	2	3	3	3	2	1	0	1	0	2	4	6	4	0	6	1.5	24	
27	0	0	0	1	0	0	1	2	3	7	11	12	2	1	0	0	0	0	0	0	0	0	0	0	12	1.7	24	
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
30	0	0	0	0	0	0	1	0	0	1	3	1	1	0	0	0	0	0	0	0	0	0	0	0	3	0.3	24	
31	0	0	0	0	0	0	0	0	0	1	2	4	4	0	1	1	4	1	2	2	0	0	0	1	4	1.0	24	
HOURLY MAX	28	18	3	1	2	9	21	33	44	34	41	19	18	10	8	11	12	7	12	19	10	14	29	29				
HOURLY AVG	1.1	0.7	0.2	0.1	0.1	0.3	1.1	2.5	3.9	5.2	5.6	4.6	3.1	2.4	2.2	1.7	1.7	1.1	0.9	1.1	1.1	1.4	1.5	1.0				

STATUS FLAG CODES

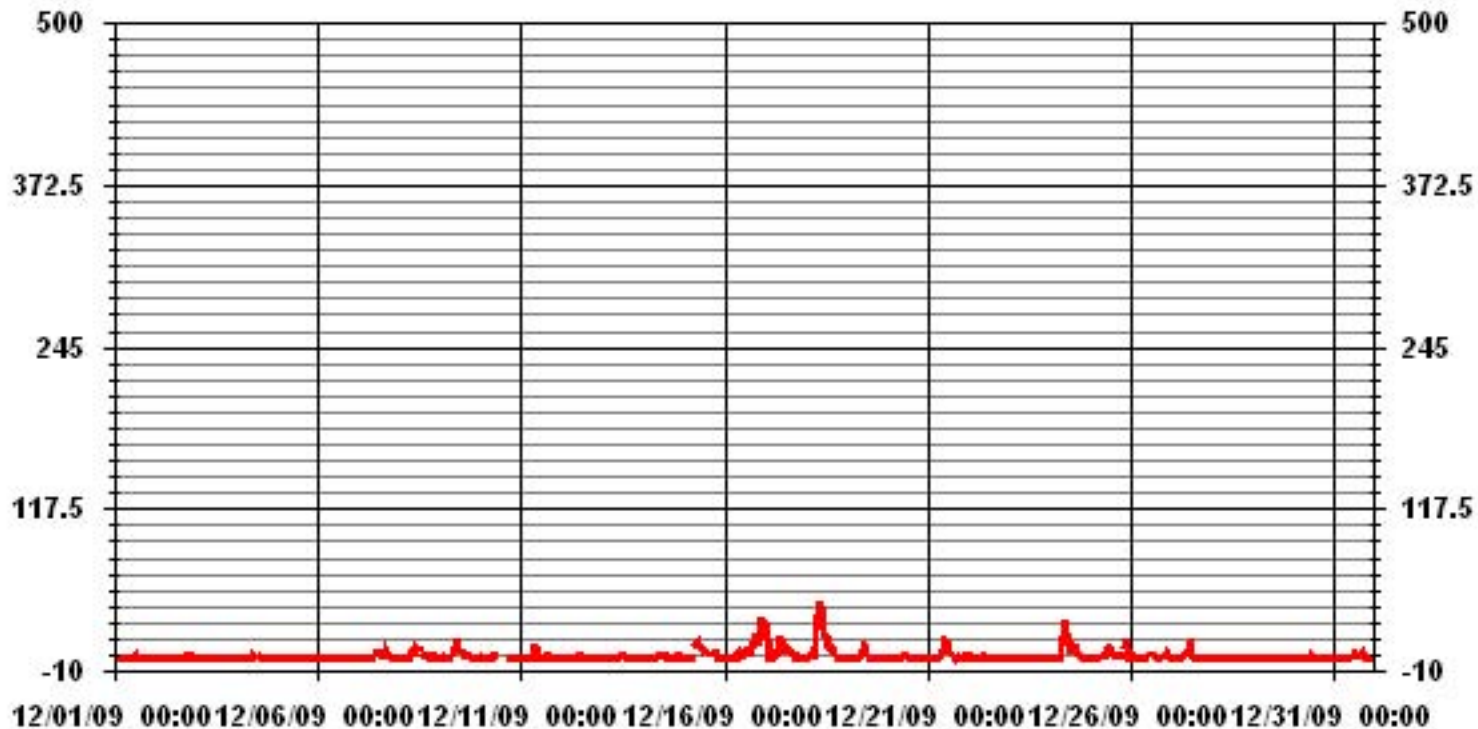
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	254					
MAXIMUM 1-HR AVERAGE:	44	PPB	@ HOUR(S)	8	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	11.4	PPB			ON DAY(S)	18
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	4.72		MONTHLY AVERAGE:	1.84	PPB	



01 Hour Averages



— LICA NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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	0:00	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	5	1	11	7	5	0	0	0	0	0	0	0	0	0	0	0	11	1.3	24
2	0	0	0	0	0	0	1	1	1	23	3	2	1	3	0	11	1	0	1	0	1	0	1	1	1	51	4.5	24
3	1	1	1	0	1	1	0	2	3	1	1	1	2	2	6	23	18	13	IZS	1	1	5	1	0	23	3.7	24	
4	0	0	0	1	1	1	1	2	1	87	6	3	3	4	6	3	2	IZS	0	0	1	0	1	0	87	5.3	24	
5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	1	0.0	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	12	1	2	4	2	1	12	1.0	24
7	2	4	4	2	2	1	1	1	1	4	7	9	8	22	IZS	14	73	9	9	15	4	3	10	0	73	8.9	24	
8	0	5	2	6	2	1	2	6	39	35	13	11	11	IZS	5	5	4	3	3	4	3	3	4	3	39	7.4	24	
9	2	2	3	5	3	2	4	5	6	13	32	18	IZS	7	7	5	4	4	2	3	2	4	3	3	32	6.0	24	
10	7	4	3	5	6	2	2	5	12	C	C	C	C	C	C	C	C	C	4	0	2	1	0	0	2	12	3.4	24
11	0	1	0	0	0	1	0	28	37	9	IZS	7	18	8	16	11	11	6	4	3	0	0	0	0	37	7.0	24	
12	0	0	1	2	2	3	3	3	2	IZS	4	4	2	2	2	2	3	2	3	4	3	4	4	3	4	2.5	24	
13	2	4	3	1	1	3	1	2	IZS	2	3	5	3	2	2	2	2	3	2	2	1	2	2	2	5	2.3	24	
14	3	3	3	3	2	3	2	IZS	3	4	3	3	7	11	2	2	3	1	3	2	6	41	1	1	41	4.9	24	
15	1	1	3	3	2	7	IZS	30	39	28	14	15	14	15	12	13	15	23	15	12	9	3	4	2	39	12.2	24	
16	0	0	2	1	3	IZS	5	5	13	5	7	62	18	P	P	15	44	19	64	68	24	23	46	48	68	22.5	22	
17	35	35	1	3	IZS	1	17	15	23	41	15	12	10	11	11	10	30	6	45	2	4	5	2	2	45	14.6	24	
18	2	4	17	IZS	11	46	31	50	78	63	68	29	25	19	12	25	11	9	7	2	2	1	0	2	78	22.3	24	
19	0	2	IZS	1	2	3	2	3	6	13	14	11	8	4	2	4	3	3	3	3	5	1	1	2	14	4.2	24	
20	1	IZS	3	1	3	3	3	3	3	10	20	3	4	2	6	2	3	3	3	3	1	2	11	2	5	20	4.2	24
21	IZS	1	3	1	1	1	2	4	10	12	21	24	13	14	7	9	6	40	2	2	2	2	4	IZS	40	8.2	24	
22	4	1	1	0	0	0	0	1	1	3	5	2	6	7	7	2	0	1	2	2	2	4	IZS	2	7	2.2	24	
23	0	1	0	0	0	0	3	3	2	3	3	5	5	5	4	5	9	8	5	2	10	IZS	3	2	10	3.4	24	
24	1	1	3	5	5	7	10	16	29	70	35	38	11	10	12	11	14	11	4	6	IZS	4	1	1	70	13.3	24	
25	1	1	1	2	1	3	6	10	6	10	13	18	14	11	4	8	3	15	7	IZS	34	32	28	9	34	10.3	24	
26	1	8	2	0	1	3	2	4	3	5	3	4	5	4	4	3	2	6	IZS	5	13	19	12	3	19	4.9	24	
27	3	3	5	6	2	1	2	4	6	11	14	17	5	8	5	5	1	IZS	2	2	1	1	1	1	17	4.6	24	
28	0	0	0	0	1	0	0	0	0	9	1	2	3	2	5	10	IZS	4	0	1	0	1	1	0	10	1.7	24	
29	0	2	2	1	1	1	0	0	0	1	0	0	1	1	1	IZS	0	0	0	0	0	0	0	0	2	0.5	24	
30	0	0	0	0	0	0	48	0	2	4	11	3	1	1	IZS	0	2	1	1	0	1	0	0	0	48	3.3	24	
31	0	2	1	2	0	0	3	2	1	3	5	6	7	IZS	3	14	27	19	27	9	5	7	1	5	27	6.5	24	
HOURLY MAX	35	35	17	6	11	46	48	50	78	87	68	62	25	22	16	25	73	40	64	68	51	41	46	48				
HOURLY AVG	2.2	2.9	2.1	1.7	1.8	3.1	5.0	6.9	10.9	16.3	11.1	10.8	7.3	6.7	5.2	7.6	10.4	7.3	7.8	5.3	6.5	6.1	4.5	3.3				

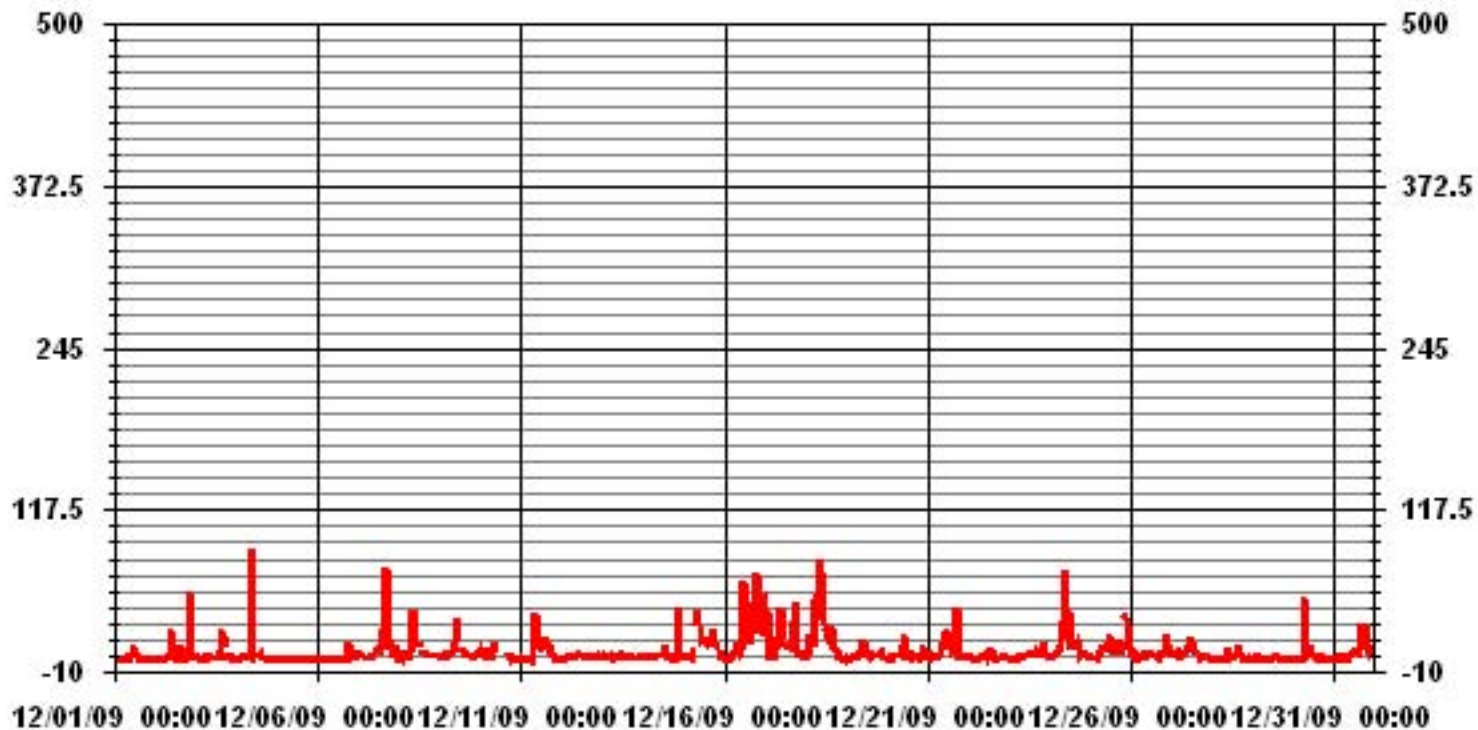
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	557					
MAXIMUM INSTANTANEOUS VALUE:	87	PPB	@ HOUR(S)	9	ON DAY(S)	4
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	742	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION	11.22					

01 Hour Averages



— LICA NOMAX PPB

LICA
 NO_ / WD Joint Frequency Distribution (Percent)

December 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	1.84	.42	2.13	2.69	2.27	4.68	9.94	2.27	2.69	4.40	13.35	21.16	10.08	4.54	12.21	5.25	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	1.84	.42	2.13	2.69	2.27	4.68	9.94	2.27	2.69	4.40	13.35	21.16	10.08	4.54	12.21	5.25	

Calm : .00 %

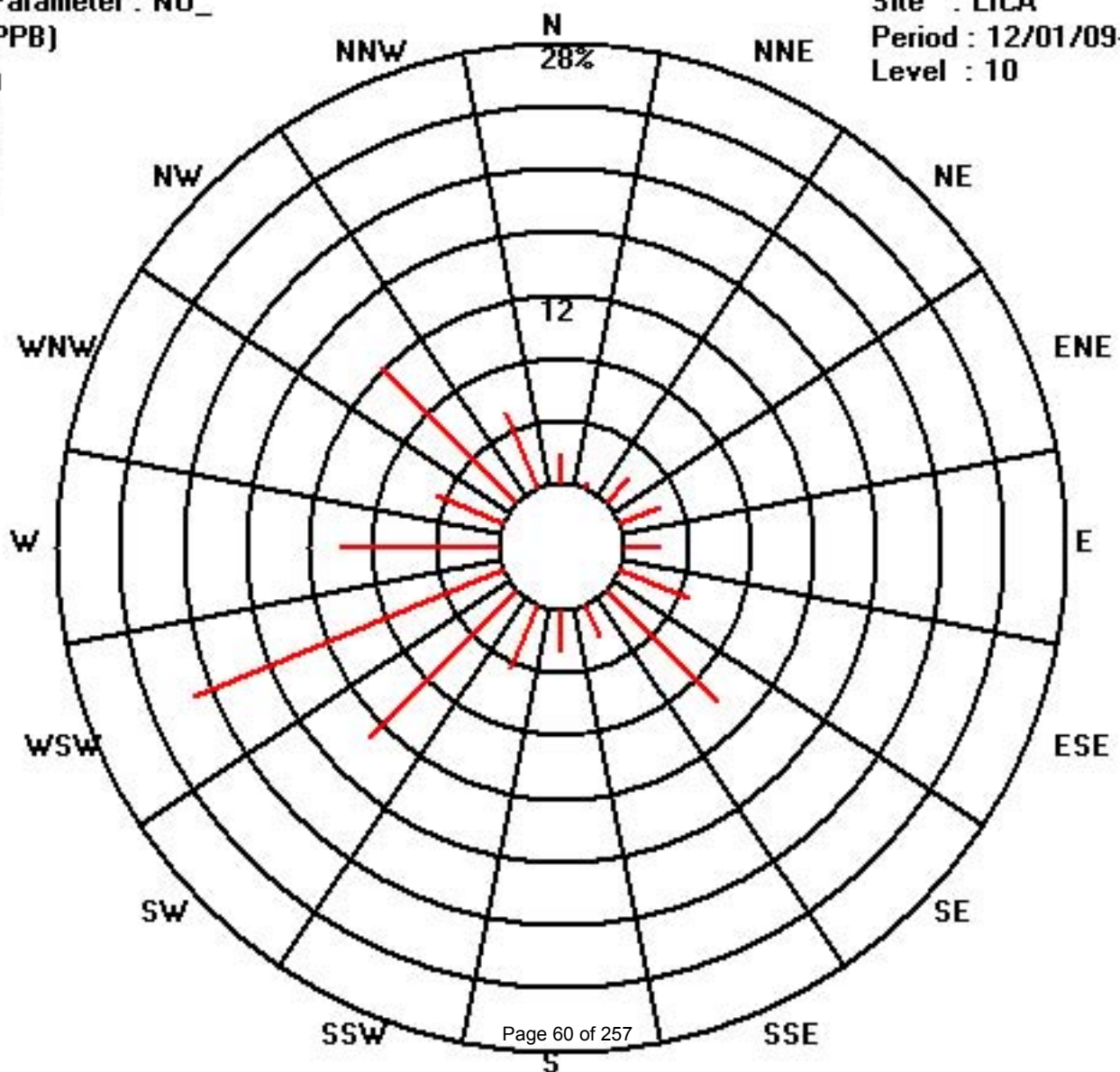
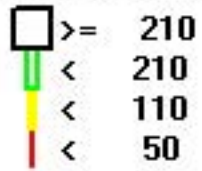
Total # Operational Hours : 704

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	13	3	15	19	16	33	70	16	19	31	94	149	71	32	86	37	704
< 110																	
< 210																	
>= 210																	
Totals	13	3	15	19	16	33	70	16	19	31	94	149	71	32	86	37	

Calm : .00 %

Total # Operational Hours : 704



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 2009

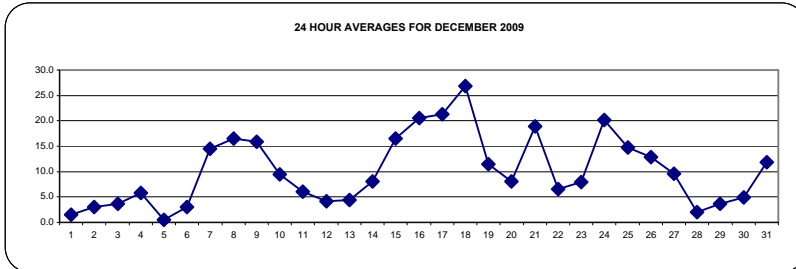
OXIDES OF NITROGEN hourly averages in ppb

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 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	1	1	1	1	1	1	1	1	2	2	1	3	7	2	1	1	1	1	1	2	IZS	1	1	0	7	1.5	24	
2	0	1	0	0	1	0	1	5	6	6	2	5	4	2	2	2	2	3	IZS	11	8	5	3	11	3.1	24		
3	3	2	1	2	2	1	1	2	3	2	2	3	2	2	3	4	14	9	IZS	7	5	5	4	4	14	3.6	24	
4	4	4	4	4	4	4	4	6	7	10	9	7	9	10	12	10	12	IZS	4	4	2	2	1	1	12	5.8	24	
5	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	IZS	0	0	0	0	0	0	0	1	0.5	24	
6	0	0	1	0	1	1	1	1	1	1	1	1	1	1	0	IZS	1	2	4	6	6	15	12	13	15	3.0	24	
7	11	11	13	13	14	13	7	5	4	12	15	12	12	13	IZS	17	32	23	25	23	18	14	15	11	32	14.5	24	
8	9	8	9	14	14	13	16	21	18	23	18	18	18	IZS	14	17	19	18	20	20	21	19	17	16	23	16.5	24	
9	15	16	15	15	13	13	13	18	21	24	27	26	IZS	16	14	13	15	18	12	11	12	16	12	11	27	15.9	24	
10	15	16	12	12	15	10	10	16	22	C	C	C	C	C	C	C	C	6	3	4	3	3	3	2	22	9.5	24	
11	1	1	1	1	1	0	0	2	20	1	IZS	3	5	4	10	11	18	17	18	12	6	3	2	2	20	6.0	24	
12	1	1	3	5	4	3	2	3	5	IZS	5	4	3	2	3	4	7	7	6	5	7	5	6	6	7	4.2	24	
13	6	5	4	4	4	5	4	5	IZS	5	4	3	4	4	4	4	5	5	4	4	4	5	5	5	5	6	4.4	24
14	6	4	6	5	5	6	6	IZS	9	9	6	5	6	8	5	7	7	9	10	10	12	24	13	8	24	8.1	24	
15	8	10	13	11	9	9	IZS	32	34	24	22	15	17	14	14	18	22	23	24	26	15	6	5	9	34	16.5	24	
16	6	6	6	6	10	IZS	16	17	24	11	7	9	12	P	15	13	36	28	32	40	28	32	48	51	51	20.6	23	
17	51	40	8	11	IZS	12	16	23	20	32	18	19	20	25	26	24	27	24	23	16	12	14	16	14	51	21.3	24	
18	14	15	19	IZS	16	26	39	51	64	53	65	39	35	25	24	34	27	21	9	9	9	10	7	7	65	26.9	24	
19	7	8	IZS	7	8	11	16	15	18	20	22	21	16	10	11	9	11	11	11	9	5	5	4	22	11.5	24		
20	4	IZS	5	5	5	5	7	6	8	12	8	6	6	5	5	6	7	10	12	12	11	16	12	12	16	8.0	24	
21	IZS	14	10	11	10	10	13	14	18	22	30	29	19	17	17	22	20	23	22	24	23	26	IZS	30	19.0	24		
22	23	9	7	5	6	7	4	4	5	7	8	4	4	5	4	2	2	5	7	7	10	IZS	11	23	6.5	24		
23	6	6	3	6	6	3	5	8	8	5	5	6	6	7	8	8	9	11	9	11	14	IZS	17	15	17	7.9	24	
24	12	12	11	11	13	14	18	27	36	48	38	27	14	14	20	27	26	25	17	18	IZS	16	11	10	48	20.2	24	
25	11	9	9	9	9	10	14	17	16	19	16	21	10	9	9	12	13	20	IZS	28	33	24	11	33	14.7	24		
26	8	20	17	8	8	7	9	9	8	8	9	11	11	11	11	15	17	IZS	17	20	24	22	14	24	12.8	24		
27	14	11	11	13	13	12	12	14	14	15	21	23	8	6	5	5	5	IZS	4	3	3	3	3	3	23	9.6	24	
28	2	3	2	2	3	2	1	1	1	2	1	2	2	2	2	3	IZS	3	3	2	2	2	2	2	3	2.0	24	
29	2	2	5	4	4	3	3	3	4	5	4	3	4	6	5	IZS	4	5	5	3	3	3	3	2	6	3.7	24	
30	2	3	4	4	2	1	2	3	4	10	12	7	4	4	IZS	4	9	13	8	3	3	5	4	3	13	5.0	24	
31	3	4	6	8	7	10	9	10	10	13	13	13	12	IZS	9	13	21	17	19	17	15	14	15	15	21	11.9	24	
HOURLY MAX	51	40	19	15	16	26	39	51	64	53	65	39	35	25	26	34	36	28	32	40	28	33	48	51				
HOURLY AVG	8.2	8.1	6.9	6.6	7.0	7.1	8.4	11.3	13.7	13.9	13.4	11.5	9.3	8.3	9.0	10.8	13.7	12.5	11.5	11.3	10.7	11.2	10.5	8.8				

STATUS FLAG CODES

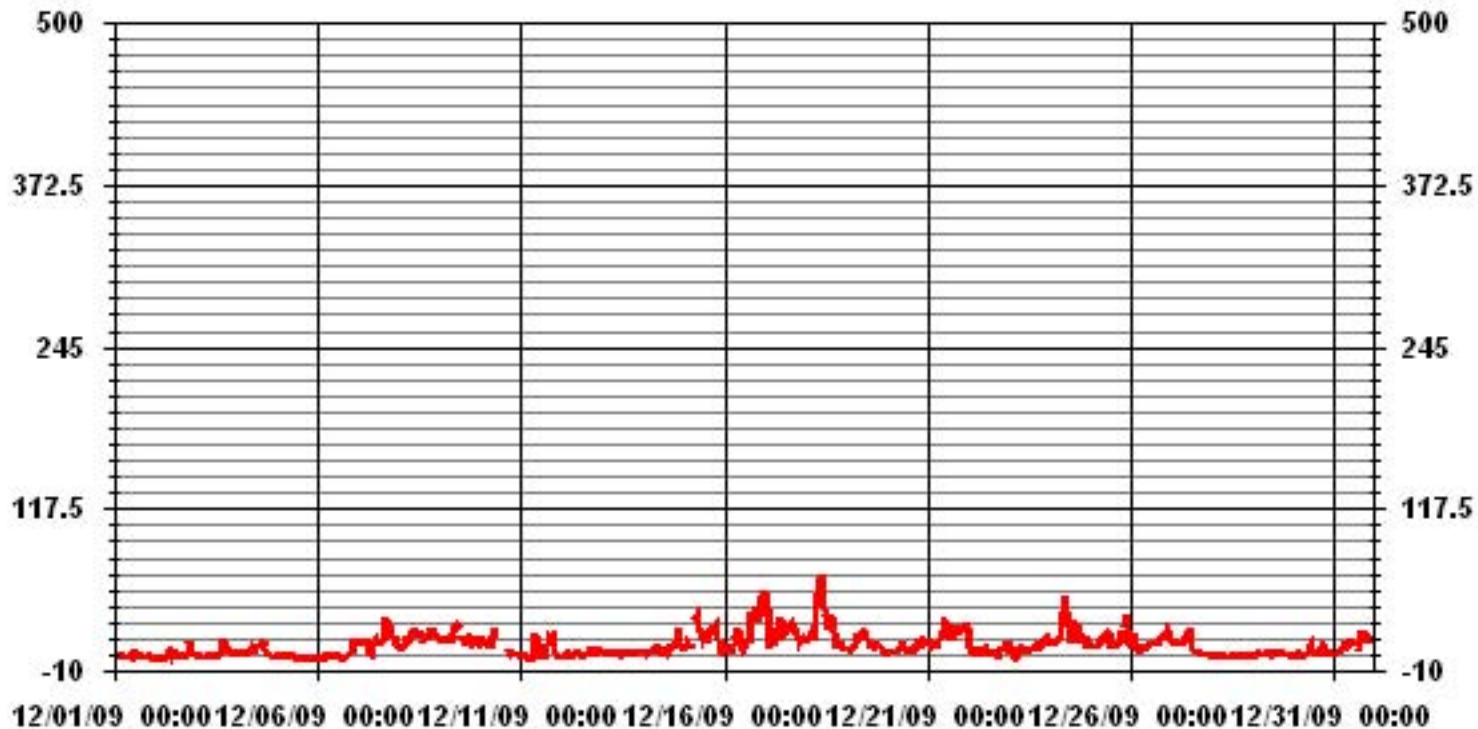
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	682					
MAXIMUM 1-HR AVERAGE:	65	PPB	@ HOUR(S)	10	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	26.9	PPB			ON DAY(S)	18
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	9.24		MONTHLY AVERAGE:	10.14	PPB	

01 Hour Averages



— LICA HX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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	3	2	1	2	1	1	1	4	11	4	26	17	11	1	1	2	1	2	3	IZS	2	2	1	26	4.3	24
2	1	1	1	1	2	1	5	8	9	35	6	9	6	6	3	12	5	4	7	IZS	72	13	8	5	72	9.6	24
3	7	4	3	2	4	4	3	7	7	4	4	4	5	6	14	13	39	28	IZS	11	6	10	6	5	39	8.5	24
4	5	4	5	6	6	5	6	11	8	120	19	11	13	15	18	14	13	IZS	5	6	4	2	2	2	120	13.0	24
5	2	1	1	1	2	2	2	3	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	3	1.3	24
6	1	1	1	1	1	2	2	1	2	1	2	1	1	1	1	IZS	1	6	18	9	8	21	16	17	21	5.0	24
7	15	14	17	15	17	18	12	10	6	17	18	17	15	39	IZS	32	137	32	32	34	22	20	22	13	137	25.0	24
8	10	16	14	21	18	15	19	24	55	44	28	22	23	IZS	17	21	24	21	23	23	23	21	20	19	55	22.7	24
9	17	20	21	21	16	15	17	23	26	28	42	32	IZS	20	19	18	19	25	16	15	17	22	15	16	42	20.9	24
10	25	21	18	17	22	15	16	25	37	C	C	C	C	C	C	C	C	11	6	8	6	4	5	4	37	15.0	24
11	1	3	3	1	1	2	0	53	70	12	IZS	15	22	14	27	36	34	29	26	16	11	4	2	3	70	16.7	24
12	2	2	8	9	6	6	5	6	8	IZS	9	7	5	4	5	5	11	11	9	7	10	15	10	9	15	7.3	24
13	8	8	8	5	6	10	5	8	IZS	7	5	9	5	5	7	6	8	10	8	6	6	8	8	7	10	7.1	24
14	9	6	9	8	8	9	9	IZS	11	11	8	8	13	29	8	11	11	11	13	13	18	103	18	13	103	15.5	24
15	11	16	18	18	14	19	IZS	56	64	53	30	28	29	35	33	28	34	43	40	36	33	15	17	16	64	29.8	24
16	9	7	9	7	14	IZS	21	26	36	19	15	35	34	P	P	35	66	49	82	102	44	42	67	71	102	37.6	22
17	60	60	11	14	IZS	17	35	34	44	65	30	24	26	27	31	29	56	29	75	21	17	24	20	17	75	33.3	24
18	17	19	33	IZS	28	86	52	71	97	93	95	51	46	33	32	44	37	35	24	11	11	14	12	9	97	41.3	24
19	9	13	IZS	9	12	15	19	18	28	26	29	24	20	15	13	17	14	15	17	15	17	7	8	8	29	16.0	24
20	7	IZS	9	7	10	10	13	12	12	19	30	10	15	8	14	10	11	18	28	16	18	44	16	26	44	15.8	24
21	IZS	18	15	13	12	13	21	20	28	29	39	43	30	27	20	30	25	73	25	25	25	26	28	IZS	73	26.6	23
22	27	12	8	6	8	8	6	6	8	16	15	9	38	14	13	8	3	4	10	14	9	15	IZS	14	38	11.8	24
23	9	8	4	7	8	5	9	14	13	8	8	9	9	10	11	18	32	27	16	16	39	IZS	20	18	39	13.8	24
24	14	14	18	17	21	24	27	34	49	94	57	59	25	22	30	35	44	40	23	29	IZS	26	12	13	94	31.6	24
25	13	12	13	13	11	16	23	28	21	22	26	33	28	17	15	16	20	27	27	IZS	60	55	52	25	60	24.9	24
26	16	33	22	10	12	11	16	17	16	13	13	12	14	12	13	15	23	26	IZS	24	31	39	30	18	39	19.0	24
27	17	16	19	19	16	14	15	16	16	20	25	29	15	17	9	8	7	IZS	6	5	7	6	5	4	29	13.5	24
28	4	4	3	4	5	4	2	3	2	16	3	11	8	5	6	17	IZS	9	4	5	2	3	4	4	17	5.6	24
29	6	7	8	5	6	7	4	4	5	6	5	4	5	8	6	IZS	6	7	7	4	5	3	4	3	8	5.4	24
30	3	5	5	4	4	2	8	4	8	20	33	9	5	5	IZS	6	16	16	16	5	9	8	8	4	33	8.8	24
31	5	8	9	14	10	11	14	13	12	16	16	17	17	IZS	13	44	72	47	58	31	27	28	20	24	72	22.9	24
HOURLY MAX	60	60	33	21	28	86	52	71	97	120	95	59	46	39	33	44	137	73	82	102	72	103	67	71			
HOURLY AVG	11.0	11.9	10.5	9.2	10.1	12.2	12.9	18.5	23.4	28.5	21.2	19.0	16.9	15.0	14.1	18.9	27.5	22.6	21.5	17.6	19.2	20.0	15.3	13.0			

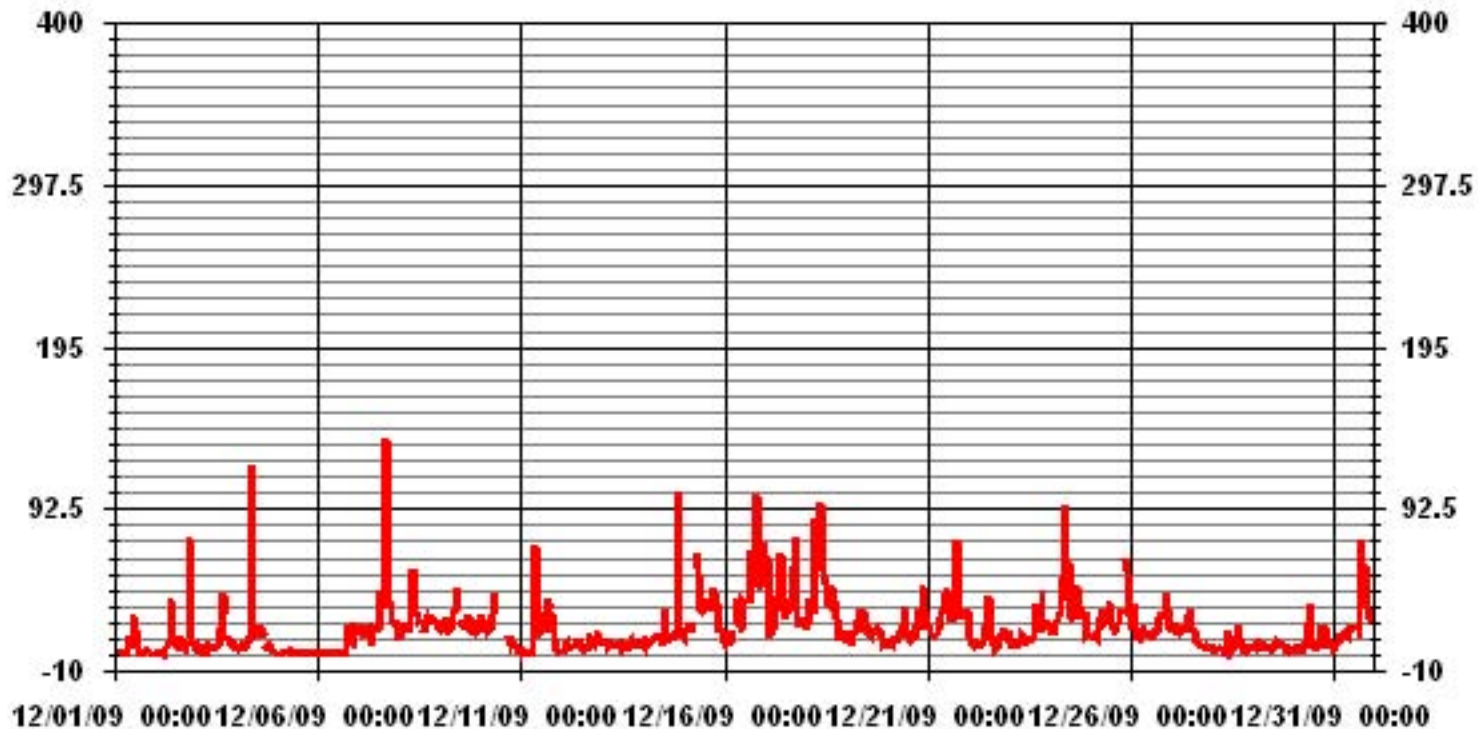
STATUS FLAG CODES

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:	702
MAXIMUM INSTANTANEOUS VALUE:	137 PPB @ HOUR(S) 16 ON DAY(S) 7
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION	17.11
OPERATIONAL TIME:	741 HRS

01 Hour Averages



— LICA NOXMAX PPB

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

December 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	1.70	.42	2.13	2.55	1.98	4.68	9.80	2.27	2.69	4.40	13.35	21.16	9.94	4.54	12.21	5.25	99.14
< 110	.14	.00	.00	.14	.28	.00	.14	.00	.00	.00	.00	.00	.14	.00	.00	.00	.85
< 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	1.84	.42	2.13	2.69	2.27	4.68	9.94	2.27	2.69	4.40	13.35	21.16	10.08	4.54	12.21	5.25	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	12	3	15	18	14	33	69	16	19	31	94	149	70	32	86	37	698
< 110	1			1	2		1						1				6
< 210																	
>= 210																	
Totals	13	3	15	19	16	33	70	16	19	31	94	149	71	32	86	37	

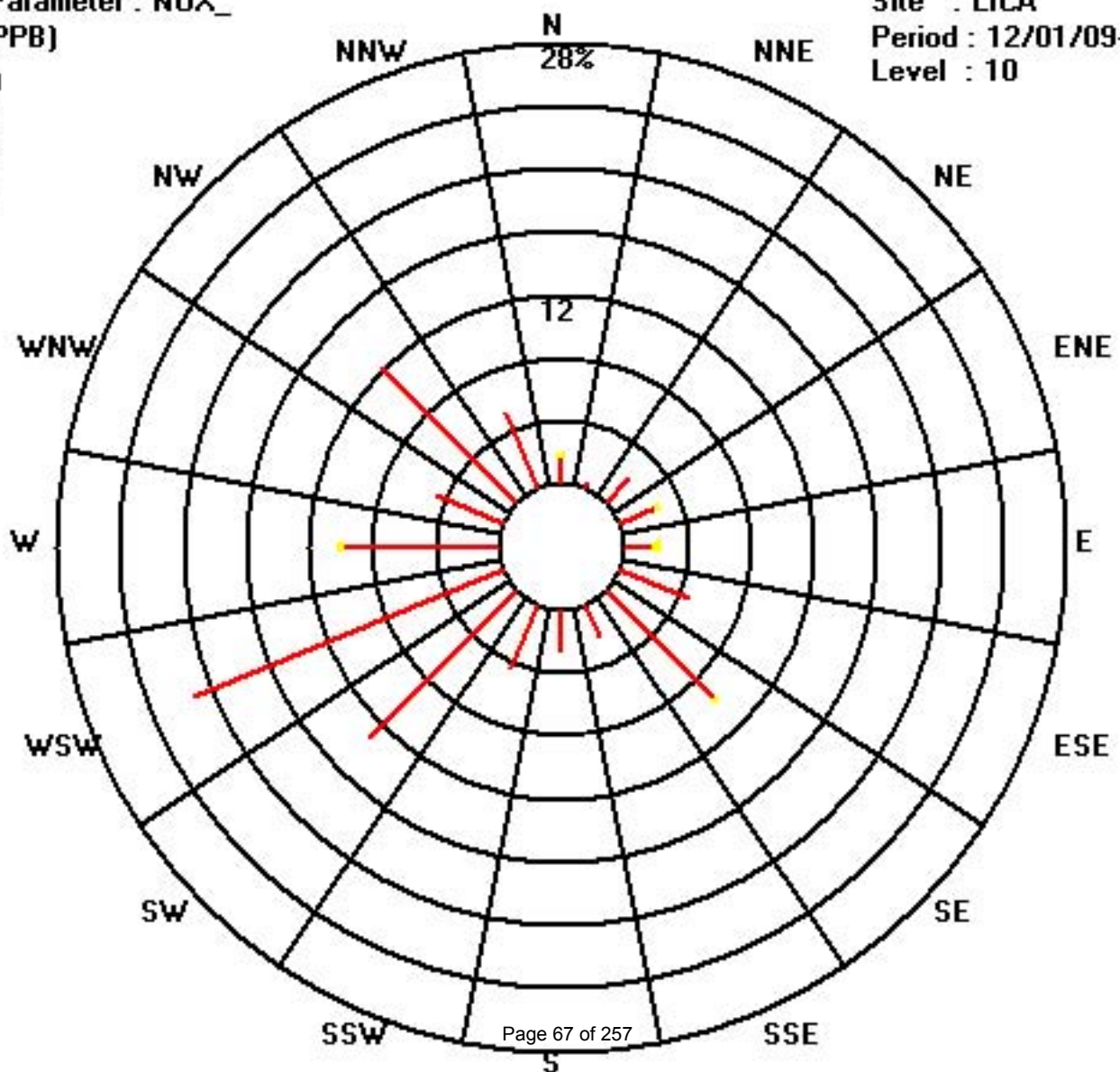
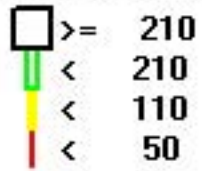
Calm : .00 %

Total # Operational Hours : 704

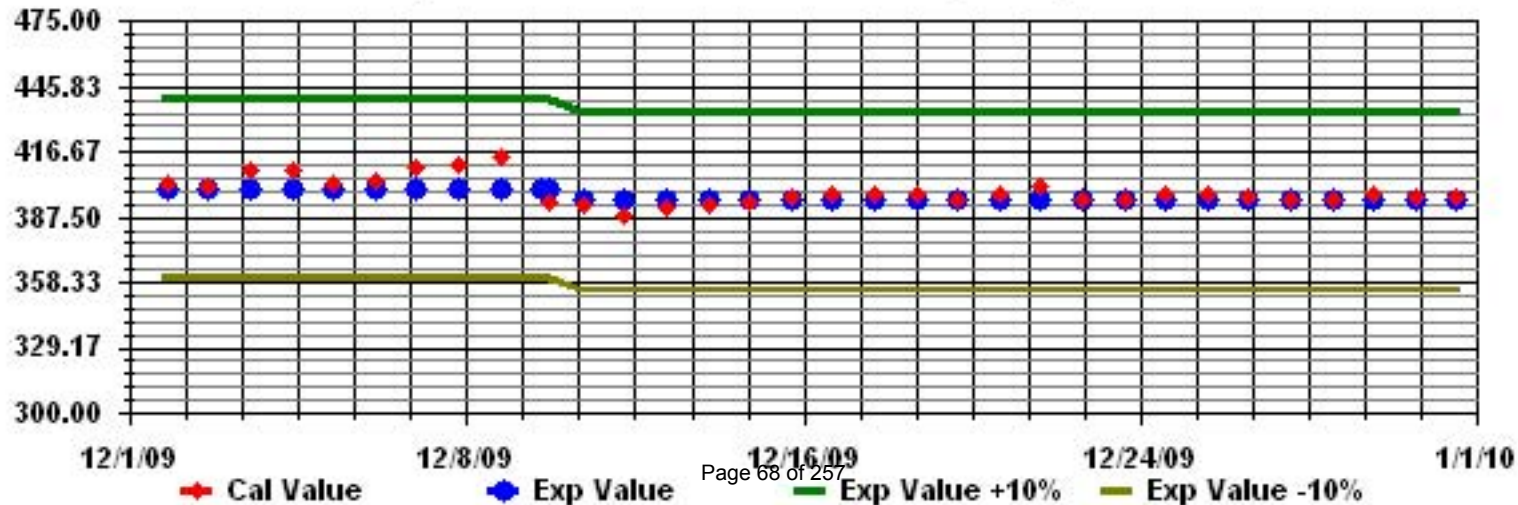
Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



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



Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 2009

OZONE (O₃) hourly averages in ppb

MST

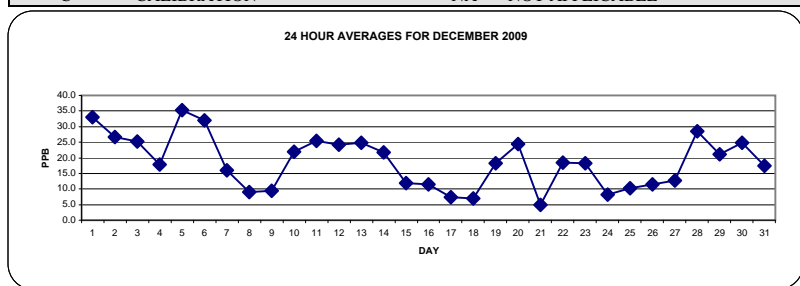
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.		
DAY																												
1	35	35	35	36	37	36	36	36	33	31	32	33	31	32	32	31	30	30	31	30	IZS	33	32	32	37	33.0	24	
2	32	31	31	31	31	31	30	23	23	25	27	27	28	30	31	30	30	29	27	IZS	13	12	16	25	32	26.7	24	
3	26	27	27	28	27	28	29	27	27	27	28	28	29	29	27	17	20	IZS	18	21	21	21	21	21	29	25.3	24	
4	21	20	20	19	18	19	18	18	16	16	15	14	13	12	10	10	9	IZS	22	22	23	25	24	26	26	17.8	24	
5	29	32	33	34	36	36	35	36	38	37	37	37	37	36	35	35	IZS	35	35	35	36	36	36	36	38	35.3	24	
6	36	36	35	35	34	34	34	34	34	35	35	36	35	36	36	IZS	35	33	30	28	28	19	20	18	36	32.0	24	
7	19	18	17	17	16	17	26	28	29	22	21	26	26	24	IZS	17	5	5	3	4	6	7	7	10	29	16.1	24	
8	10	13	11	5	5	6	3	2	6	8	14	17	18	IZS	17	13	9	9	7	7	6	7	8	8	18	9.1	24	
9	8	7	7	7	9	8	8	4	4	6	9	10	IZS	13	14	13	12	11	14	16	11	7	10	9	16	9.4	24	
10	6	9	13	14	10	16	19	15	10	14	21	IZS	27	28	30	29	28	28	31	30	31	32	31	31	32	21.9	24	
11	32	33	33	33	32	32	32	32	C	C	C	C	28	28	25	21	12	11	11	15	21	25	27	26	33	25.5	24	
12	26	26	23	21	24	25	25	24	22	IZS	25	26	27	28	27	26	24	23	23	24	22	22	21	22	28	24.2	24	
13	23	24	24	23	22	22	24	23	IZS	23	25	26	26	27	27	27	25	26	26	26	25	25	25	25	27	24.7	24	
14	24	26	25	25	24	23	23	IZS	22	23	25	27	27	26	26	24	24	21	21	19	15	10	9	13	27	21.8	24	
15	12	10	7	10	9	12	IZS	2	4	7	12	19	20	22	20	15	11	6	4	2	11	21	21	18	22	12.0	24	
16	20	20	19	19	16	IZS	12	11	9	17	21	20	20	P	18	16	3	2	1	1	3	1	1	1	21	11.4	23	
17	1	3	14	12	IZS	7	4	1	2	4	10	12	12	9	6	5	2	2	5	12	18	12	8	7	18	7.3	24	
18	4	3	1	IZS	1	0	0	0	1	2	4	9	10	10	9	4	4	7	16	16	16	14	16	15	16	7.0	24	
19	15	14	IZS	10	10	7	3	2	2	5	7	10	19	27	27	27	26	27	27	27	34	33	33	34	34	18.2	24	
20	34	IZS	31	31	25	26	28	29	26	24	30	33	33	33	32	30	29	24	16	13	11	7	8	7	34	24.3	24	
21	IZS	3	5	4	6	6	5	3	2	6	7	9	11	11	11	6	5	3	2	1	1	1	0	IZS	11	4.9	24	
22	3	14	15	17	15	14	18	20	18	17	20	24	25	24	25	24	25	23	22	19	18	14	IZS	12	25	18.5	24	
23	17	17	18	16	17	20	20	18	18	22	23	24	24	23	22	21	19	16	18	14	14	IZS	11	9	24	18.3	24	
24	8	7	7	7	5	4	2	0	1	3	7	16	21	19	14	8	5	5	9	6	IZS	6	15	15	21	8.3	24	
25	16	14	11	10	10	6	5	2	2	5	11	14	19	21	20	19	15	11	3	IZS	2	1	7	13	21	10.3	24	
26	14	7	5	18	17	17	15	13	10	12	18	19	20	19	19	18	10	5	IZS	2	1	1	1	3	20	11.5	24	
27	2	2	2	2	1	1	1	0	0	3	6	8	18	22	24	23	25	IZS	25	26	25	25	26	27	27	12.8	24	
28	28	28	29	29	28	28	30	29	29	28	28	28	29	29	29	29	IZS	28	28	28	28	28	29	29	30	28.5	24	
29	27	27	25	25	24	22	21	20	19	18	19	19	20	19	19	IZS	19	17	19	22	21	20	21	23	27	21.1	24	
30	24	24	23	23	25	27	28	27	25	17	20	25	28	28	IZS	28	21	16	22	29	29	26	26	30	30	24.8	24	
31	29	26	21	19	19	21	22	21	20	20	21	23	24	IZS	27	23	16	10	7	8	7	7	4	6	29	17.4	24	
HOURLY MAX	36	36	35	36	37	36	36	36	38	37	37	37	37	36	36	35	35	35	35	35	35	36	36	36	36			
HOURLY AVG	19.4	18.5	18.9	19.3	18.4	18.4	18.5	16.7	15.6	16.4	19.3	21.3	23.5	23.8	22.8	20.7	17.1	16.6	17.4	17.2	16.9	16.6	17.1	18.3				

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:

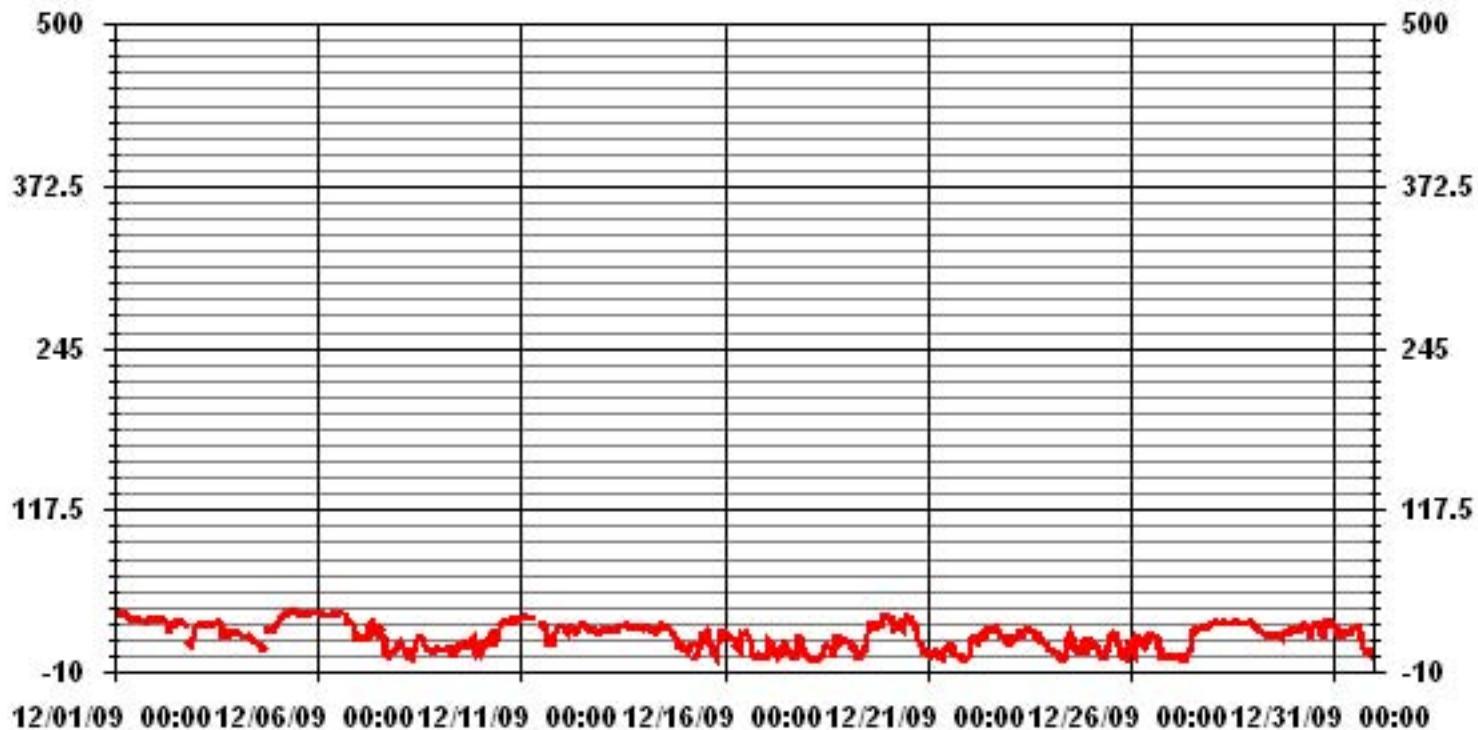
ALBERTA ENVIRONMENT: 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	701
MAXIMUM 1-HR AVERAGE:	38 PPB @ HOUR(S) 8 ON DAY(S) 5
MAXIMUM 24-HR AVERAGE:	35.3 PPB ON DAY(S) 5 VAR-VARIOUS
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION	10.11
OPERATIONAL TIME:	743 HRS
AMD OPERATION UPTIME	99.9 %
MONTHLY AVERAGE	18.69 PPB

01 Hour Averages



— LICA 03_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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	36	36	36	38	38	37	37	37	36	33	33	33	33	33	33	32	31	31	31	31	IZS	33	33	33	38	34.1	24	
2	32	31	31	31	31	32	32	29	25	27	29	28	29	32	32	31	31	30	29	IZS	IZS	19	20	26	27	32	28.9	24
3	27	28	28	28	28	30	30	28	28	28	28	29	29	30	30	29	26	22	IZS	20	22	22	22	21	30	26.7	24	
4	21	21	20	20	19	19	19	19	17	17	16	15	14	13	12	11	10	IZS	23	23	24	25	25	28	28	18.7	24	
5	30	33	34	37	37	36	36	38	38	38	38	37	38	37	36	35	IZS	35	35	35	37	37	36	37	38	36.1	24	
6	36	36	36	35	34	35	35	35	35	35	36	36	36	37	IZS	35	34	33	30	29	26	22	20	37	33.1	24		
7	20	19	18	18	17	22	29	30	30	30	22	28	27	26	IZS	23	11	9	5	8	11	11	9	17	30	19.1	24	
8	12	19	17	7	8	8	6	9	9	12	17	17	20	IZS	18	15	10	11	8	8	7	8	9	9	20	11.5	24	
9	10	8	9	9	9	9	9	7	5	7	12	11	IZS	14	16	16	15	15	17	17	15	10	13	12	17	11.5	24	
10	8	12	14	16	12	20	24	20	15	19	26	IZS	28	30	31	31	30	30	32	32	33	33	32	32	33	24.3	24	
11	33	35	33	33	32	33	33	C	C	C	C	C	29	29	28	24	17	18	18	18	24	26	28	28	35	27.3	24	
12	27	27	26	23	25	26	26	26	23	IZS	25	26	27	28	28	27	26	25	24	25	24	25	23	23	28	25.4	24	
13	24	25	25	24	23	23	25	24	IZS	24	26	26	26	27	28	28	28	27	27	27	27	26	26	26	26	28	25.7	24
14	26	27	26	26	26	24	24	IZS	23	25	27	28	28	27	27	26	25	23	22	20	18	15	13	15	28	23.5	24	
15	13	13	11	14	14	17	IZS	5	12	10	14	21	22	23	22	20	18	11	9	5	18	22	23	20	23	15.5	24	
16	20	20	20	19	19	IZS	15	14	13	22	22	21	22	P	P	20	11	5	3	5	6	2	2	1	22	13.4	22	
17	3	11	15	14	IZS	9	8	3	4	5	12	13	13	10	8	6	4	4	6	20	20	18	11	11	20	9.9	24	
18	6	6	3	IZS	2	2	1	2	4	4	10	10	13	13	11	7	7	16	17	17	17	16	16	16	17	9.4	24	
19	16	16	IZS	12	11	8	5	4	4	6	9	16	20	31	31	29	29	27	29	29	33	35	35	35	35	20.4	24	
20	35	IZS	33	33	28	29	30	31	28	29	33	34	34	33	32	31	27	24	15	12	12	10	11	35	26.9	24		
21	IZS	7	6	8	8	7	7	5	3	8	10	12	13	12	12	9	6	4	4	1	2	1	0	IZS	13	6.6	24	
22	14	16	17	18	17	17	20	21	20	20	24	25	27	26	27	26	26	24	24	22	19	16	IZS	13	27	20.8	24	
23	20	19	19	17	19	21	21	20	21	24	24	24	25	24	23	24	21	20	20	18	17	IZS	12	12	25	20.2	24	
24	10	9	9	12	7	6	3	3	2	4	9	21	23	23	16	13	10	10	11	8	IZS	14	16	16	23	11.1	24	
25	16	15	12	12	14	8	9	7	3	6	16	16	20	23	21	20	17	14	7	IZS	5	2	18	17	23	13.0	24	
26	18	17	15	18	18	18	17	16	13	17	19	21	21	20	20	20	15	7	IZS	5	3	3	5	5	21	14.4	24	
27	3	4	4	5	1	2	2	0	1	4	9	15	22	23	25	25	IZS	26	26	26	26	27	28	28	28	14.4	24	
28	29	29	30	30	29	29	30	30	29	29	28	29	30	30	29	IZS	30	29	29	29	29	30	30	30	30	29.4	24	
29	29	28	27	26	25	23	23	21	20	19	20	20	20	20	20	IZS	19	18	22	23	21	20	21	25	29	22.2	24	
30	25	25	24	24	27	28	29	28	26	26	23	27	28	29	IZS	29	25	20	28	30	30	30	30	30	30	27.0	24	
31	30	28	25	22	23	21	23	22	22	22	22	24	26	IZS	30	26	21	13	11	15	11	9	7	9	30	20.1	24	
HOURLY MAX	36	36	36	38	38	37	37	38	38	38	38	37	38	37	38	37	35	35	35	35	37	37	37	37	37			
HOURLY AVG	21.0	20.7	20.8	21.0	20.0	20.0	20.3	18.4	17.6	19.0	21.3	22.9	24.8	25.1	24.5	22.9	20.0	19.3	19.8	19.4	19.2	19.1	19.4	20.2				

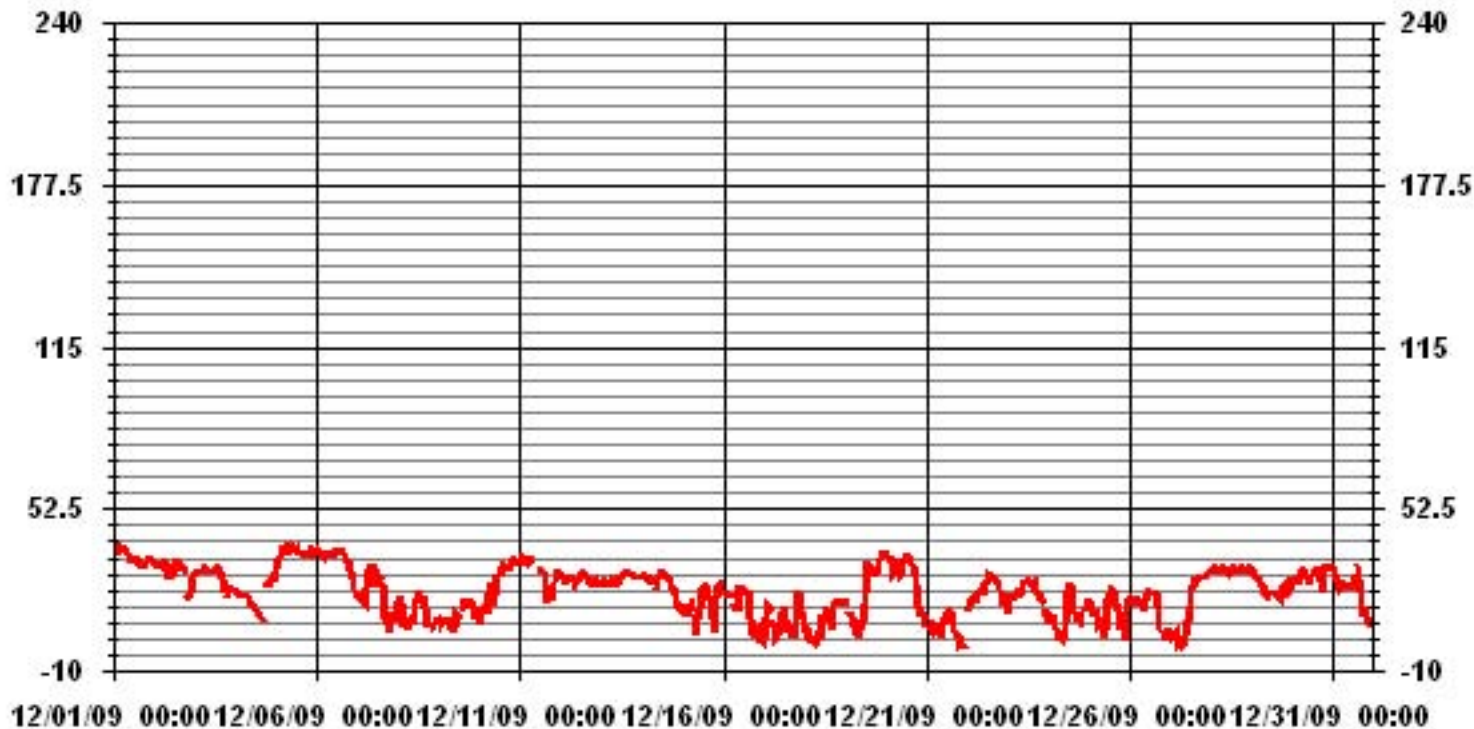
STATUS FLAG CODES

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:	704					
MAXIMUM INSTANTANEOUS VALUE:	38	PPB	@ HOUR(S)	3, 4	ON DAY(S)	1
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	742	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION	9.56					

01 Hour Averages



— LICA O3MAX PPB

LICA
O3_ / WD Joint Frequency Distribution (Percent)

December 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	1.83	.42	2.11	2.68	2.25	4.66	9.88	2.25	2.68	4.37	13.70	21.61	10.02	4.51	11.72	5.22	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.83	.42	2.11	2.68	2.25	4.66	9.88	2.25	2.68	4.37	13.70	21.61	10.02	4.51	11.72	5.22	

Calm : .00 %

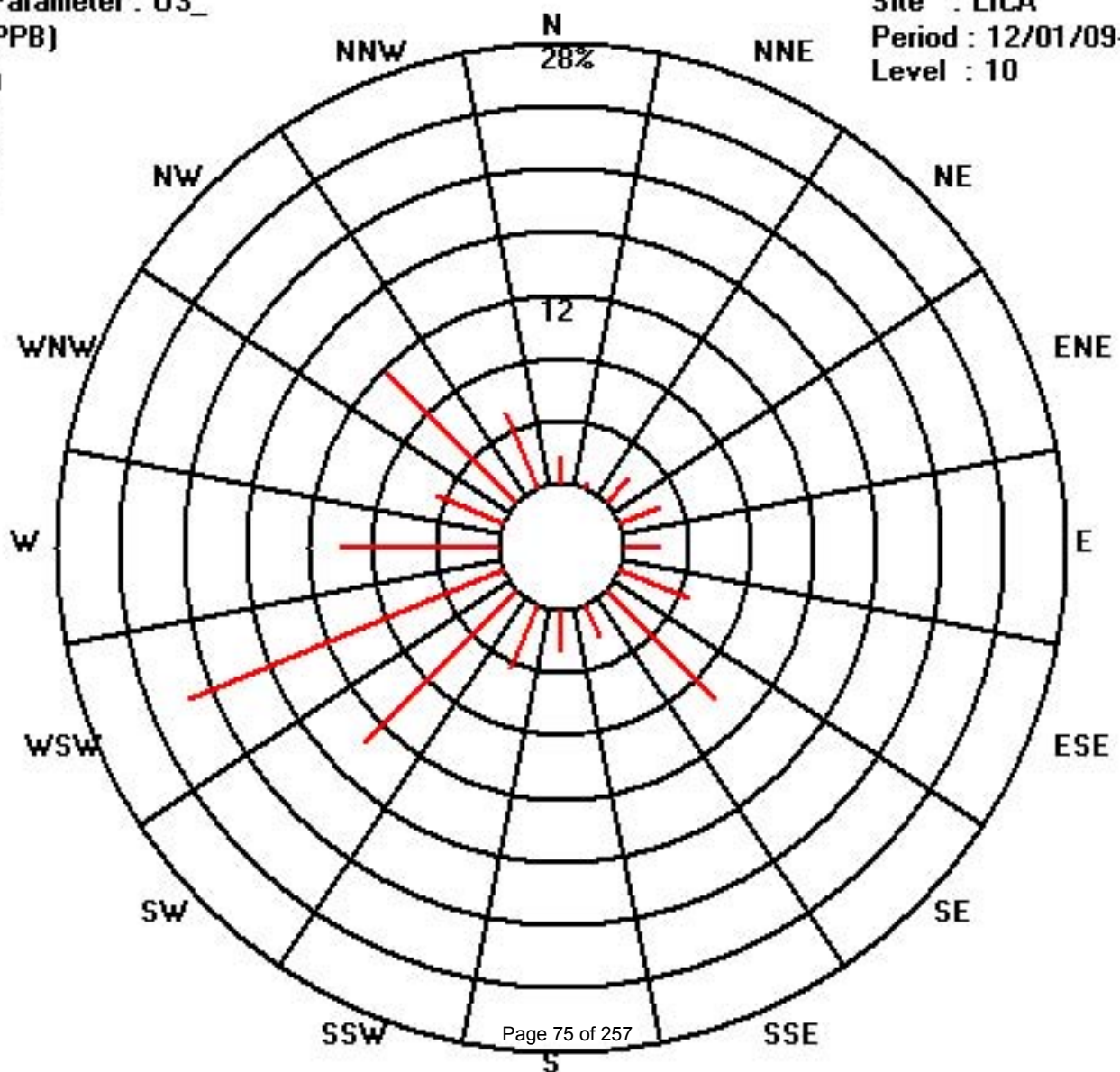
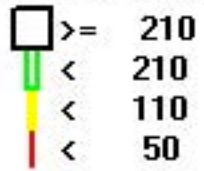
Total # Operational Hours : 708

Distribution By Samples

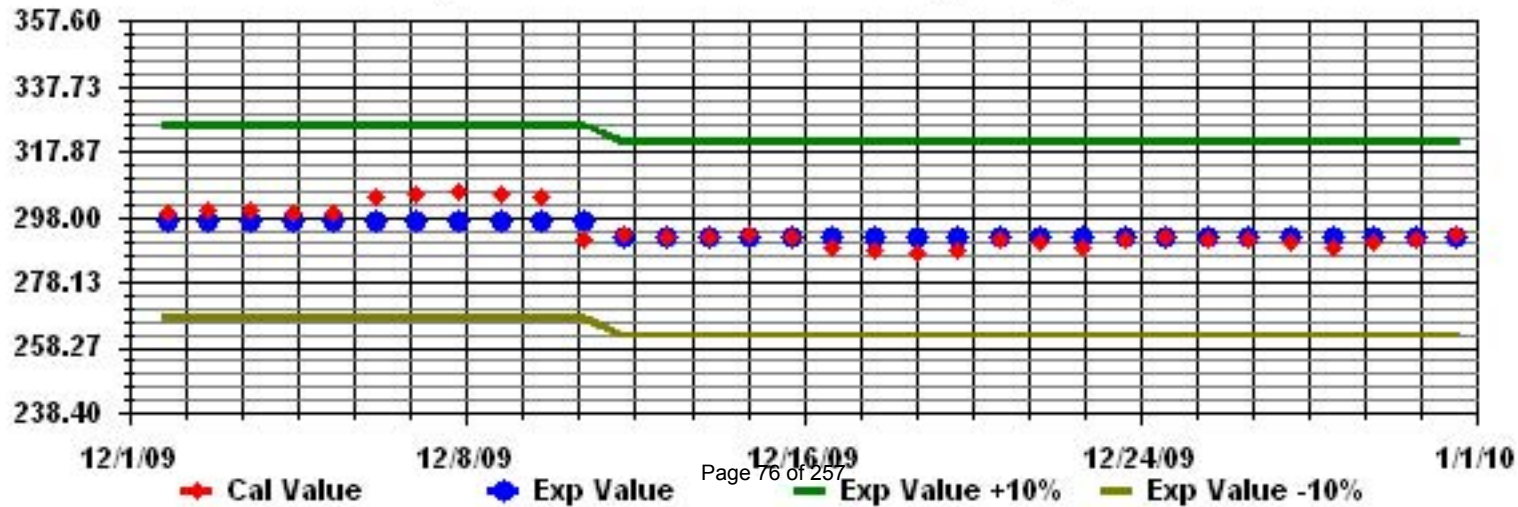
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	13	3	15	19	16	33	70	16	19	31	97	153	71	32	83	37	708
< 110																	
< 210																	
>= 210																	
Totals	13	3	15	19	16	33	70	16	19	31	97	153	71	32	83	37	

Calm : .00 %

Total # Operational Hours : 708



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



Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 2009

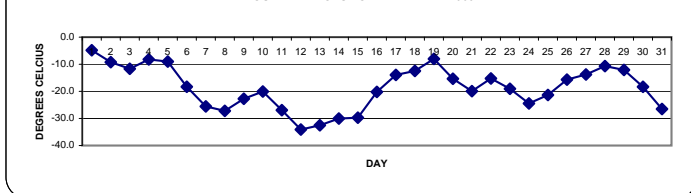
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	0:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY																													
1		-2.1	-2.4	-2.8	-2.7	-2.6	-2.8	-3.2	-4.2	-4.9	-5.1	-5.2	-5.1	-5	-4.9	-4.9	-5.1	-5.5	-5.9	-6.3	-6.5	-6.8	-7.1	-7.3	-7.5	-7.5	-2.1	-4.8	24
2		-7.7	-8.1	-8.5	-8.7	-8.9	-9	-9.2	-9.7	-9.6	-9.3	-8.5	-8.3	-8	-7.8	-8	-8.4	-9	-9.1	-9.3	-10.5	-12.2	-12.2	-11.3	-10.4	-7.7	-9.2	24	
3		-10.5	-10.4	-11	-11.9	-12	-12.1	-12.7	-12.8	-12.6	-12.2	-11.4	-10	-9.7	-8.8	-8.6	-9.5	-11.1	-12.1	-12.8	-13.7	-13.9	-13.6	-13.4	-13.2	-8.6	-11.7	24	
4		-13	-12.3	-12.1	-11.8	-11.9	-11.2	-10.8	-10.1	-10.1	-9.8	-8.9	-8.4	-7.7	-7.2	-6.8	-6.3	-5.8	-4.8	-4.5	-4.5	-4.5	-4.6	-5	-5.3	-4.5	-8.2	24	
5		-5.2	-5.2	-5.2	-5.3	-5.7	-5.8	-6.3	-6.8	-7.5	-7.7	-7.8	-7.8	-8.4	-9.1	-10.6	-11.5	-11.9	-12.1	-12.4	-12.6	-12.7	-12.7	-13	-13.1	-5.2	-9.0	24	
6		-13.3	-13.6	-13.8	-14.1	-14.8	-16.1	-17.4	-18.5	-18.7	-18.4	-18.5	-18.5	-17.7	-16.7	-16.7	-17.8	-19.2	-20	-21	-22.1	-22.4	-22.9	-23.1	-24.2	-13.3	-18.3	24	
7		-24.7	-25.1	-25.5	-25.6	-25.5	-25.1	-24.9	-24.9	-25.1	-24	-22.8	-21.7	-20.2	-21.5	-24	-26.2	-27.5	-28.6	-29.4	-30.1	-30.2	-30.3	-20.2	-25.6	24			
8		-30.7	-30.2	-31	-31.5	-30.9	-30.3	-30.4	-30.8	-31.1	-29.3	-27.5	-27	-25.3	-25.3	-25.5	-25.6	-25.6	-25.2	-24.6	-23.9	-23.6	-23	-22.6	-22.2	-22.2	-27.2	24	
9		-22.2	-22.1	-22.4	-22.4	-22.3	-22.5	-22.9	-23.4	-23.6	-23.8	-23	-22	-21.2	-20.7	-20.5	-20.5	-20.9	-22	-23	-23.2	-24.5	-25	-25.5	-26.3	-20.5	-22.7	24	
10		-25.7	-23	-22	-21.2	-22.7	-23	-22.6	-23.8	-24.8	-23.9	-21.8	-20.6	-19.5	-18.8	-18.2	-17.9	-17.6	-17.2	-16.6	-16.3	-16	-15.7	-16	-16.8	-15.7	-20.1	24	
11		-17.4	-18.1	-19.8	-21.6	-23.1	-24.5	-26.3	-27.5	-28.5	-29.1	-29	-28.4	-27.2	-26.9	-27.3	-27.6	-29.1	-30.5	-30.5	-30.4	-30.6	-30.3	-30.7	-32.3	-17.4	-26.9	24	
12		-33.1	-33.8	-34.7	-35.4	-35.4	-36.1	-36.7	-37.1	-37.7	-36.9	-35.4	-33.7	-32	-31.1	-30.7	-31.1	-31.8	-32.3	-32.8	-33.2	-33.7	-34.3	-34.7	-34.7	-30.7	-34.1	24	
13		-34.7	-34.9	-34.9	-35.4	-35.8	-35.9	-36.1	-36.1	-36	-35.2	-33.5	-32.2	-30.7	-29.8	-29.1	-29.3	-30.2	-30.5	-30.4	-30.3	-30.5	-30.3	-29.7	-29.2	-29.1	-32.5	24	
14		-29.1	-29.1	-29.8	-30.3	-30.9	-31.7	-32	-32.7	-32.7	-31.8	-30.2	-28.4	-27.4	-26.5	-26.1	-26.9	-28	-28.8	-29.5	-29.8	-30.9	-32	-32.9	-33.4	-26.1	-30.0	24	
15		-33.8	-34.2	-34.6	-33.6	-34.1	-33.1	-34.5	-34.2	-34.3	-32.2	-29.5	-27.1	-26.1	-24.7	-24.4	-25.1	-26.2	-27.9	-29.7	-30.6	-27.9	-25.8	-25.2	-24.4	-24.4	-29.7	24	
16		-23.8	-23.5	-23.7	-24.1	-23.9	-23.7	-23	-21.8	-20.2	-19.4	-18.3	-17.7	-16	P	-14.3	-15	-16.8	-18.2	-19.2	-20	-20.1	-21	-21.1	-20	-14.3	-20.2	23	
17		-19	-17.5	-16.1	-15.5	-15.8	-16.5	-17.9	-18.5	-18.6	-17.9	-15.9	-14.3	-13	-12.9	-11.6	-10.7	-10.2	-9.8	-9.3	-8.6	-8.9	-10.1	-12	-14	-8.6	-13.9	24	
18		-15	-16.1	-16.5	-17.3	-17.9	-17.8	-17.7	-17.8	-17.3	-17.2	-14	-10.8	-9	-9.6	-9.6	-10	-10	-9.3	-8.3	-7.8	-7.3	-7.6	-7.8	-7.7	-7.3	-12.5	24	
19		-7.5	-7.9	-9	-10.2	-9.7	-9.7	-10.4	-10.7	-11.7	-11.7	-9.6	-6.3	-4.2	-2.4	-2.4	-4.4	-6.9	-7.8	-8.3	-9	-9.4	-7.5	-7.7	-8.4	-2.4	-8.0	24	
20		-8.4	-9.4	-10.9	-12.1	-14.8	-15.7	-15.1	-15.1	-16.5	-16.7	-14.6	-12.8	-11.7	-10.9	-10.2	-12.5	-14.1	-15.7	-18.6	-20.6	-21.6	-22.6	-23.5	-24.3	-8.4	-15.4	24	
21		-24.1	-23.5	-24	-24.6	-25.5	-25.2	-23.5	-24.4	-24.4	-22.7	-20	-18.6	-17.5	-16.7	-16.5	-16.5	-16.6	-16.5	-16.6	-16.5	-16.3	-16.3	-16	-15.9	-15.9	-19.9	24	
22		-15.8	-15.9	-15.6	-15.7	-15.9	-16	-16.1	-16.1	-15.9	-16.1	-15.7	-15.6	-15.3	-14.5	-14.6	-14.7	-14.8	-14.8	-14.6	-14.6	-14.4	-14.2	-14.5	-14.5	-14.2	-15.2	24	
23		-14.4	-14.3	-14.2	-14.4	-15	-15.9	-17	-18	-18.4	-18.5	-18.4	-18	-17.7	-17.6	-18.2	-18.3	-19.7	-21.5	-22.6	-23.4	-24.1	-25.6	-25.5	-26.6	-14.2	-19.1	24	
24		-27.6	-28.6	-29	-29.5	-30	-30.3	-31	-31	-30.7	-29	-24.5	-21.8	-19.1	-18.3	-19.6	-20.6	-21.4	-20.3	-20.6	-21.6	-21.7	-20.9	-20.1	-19.8	-18.3	-24.5	24	
25		-19.7	-21.3	-22.8	-24	-24.3	-25.2	-25.5	-26	-26.8	-24.8	-21.1	-19.5	-17.6	-15.3	-15.2	-16.2	-17.6	-19.2	-21	-21.9	-22.5	-22.7	-21.8	-20.5	-15.2	-21.4	24	
26		-21.3	-20.2	-20.5	-18.3	-17.4	-17.8	-18.3	-18.6	-19.2	-18	-14.7	-12	-11.4	-9.9	-8.9	-9.8	-12.2	-13.9	-14.7	-15.3	-15.7	-15.8	-16	-16.3	-8.9	-15.7	24	
27		-16.8	-17.3	-17.7	-18.1	-18.7	-18.7	-19	-19.1	-19.4	-17.9	-14.4	-10.6	-8.3	-8.4	-8.7	-9.4	-10.1	-10.2	-10.3	-10.8	-11.4	-11.6	-11.9	-12.1	-8.3	-13.8	24	
28		-12	-11.6	-11.2	-11	-10.7	-10.6	-10.8	-10.9	-11	-11	-10.7	-10.5	-10.2	-10.1	-10	-10.1	-10.2	-10.3	-10.4	-10.6	-10.7	-10.6	-10.6	-10.6	-10.0	-10.7	24	
29		-10.6	-10.7	-10.9	-11.1	-11	-10.7	-10.7	-10.7	-10.8	-10.8	-10.6	-10.9	-11.1	-11.5	-11.8	-12.5	-13.2	-13.3	-13.7	-14.3	-14.3	-14.6	-15.1	-15.4	-10.6	-12.1	24	
30		-15.7	-15.8	-15.9	-16	-16.1	-16.3	-17.4	-19	-19.6	-19.9	-18.6	-17.6	-17	-16	-16	-16.7	-18.3	-19.3	-19.3	-20.1	-20.6	-22.1	-23.3	-23.6	-15.7	-18.3	24	
31		-24.7	-26.1	-27.7	-28.5	-28.5	-26.2	-25.7	-25.4	-24.8	-24.1	-23.5	-23.3	-22.6	-21.7	-21.7	-22.6	-25.4	-27.7	-29	-30.1	-30.7	-31.6	-32.3	-32.7	-21.7	-26.5	24	
HOURLY MAX		-2.1	-2.4	-2.8	-2.7	-2.6	-2.8	-3.2	-4.2	-4.9	-5.1	-5.2	-5.1	-5	-4.2	-4.4	-4.4	-5.5	-5.9	-6.3	-6.5	-6.8	-7.1	-7.3	-7.5	-7.5			
HOURLY AVG		-18.7	-18.8	-19.2	-19.4	-19.7	-19.9	-20.2	-20.5	-20.7	-20.2	-18.7	-17.5	-16.5	-15.9	-15.7	-16.3	-17.2	-17.8	-18.3	-18.8	-19.0	-19.2	-19.3	-19.5				

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 DECEMBER 2009

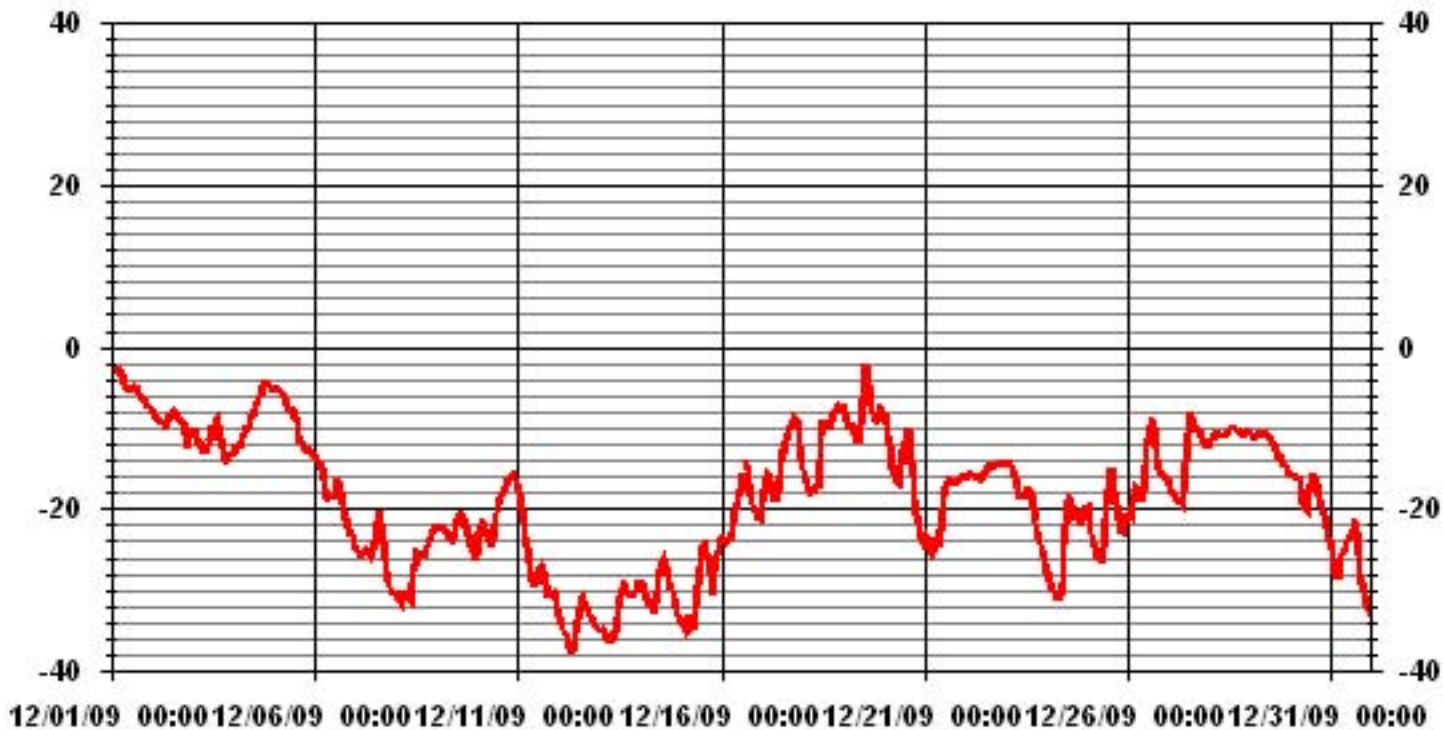


MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-37.7 °C	@ HOUR(S)	8	ON DAY(S)	12
MAXIMUM 1-HR AVERAGE:	-2.1 °C	@ HOUR(S)	0	ON DAY(S)	1
MAXIMUM 24-HR AVERAGE:	-4.8 °C			ON DAY(S)	1
VAR-VARIOUS					
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	743	HRS
STANDARD DEVIATION:	8.32		AMD OPERATION UPTIME:	99.9	%
			MONTHLY AVERAGE:	-18.62	°C

* Outside detection limits of sensor.

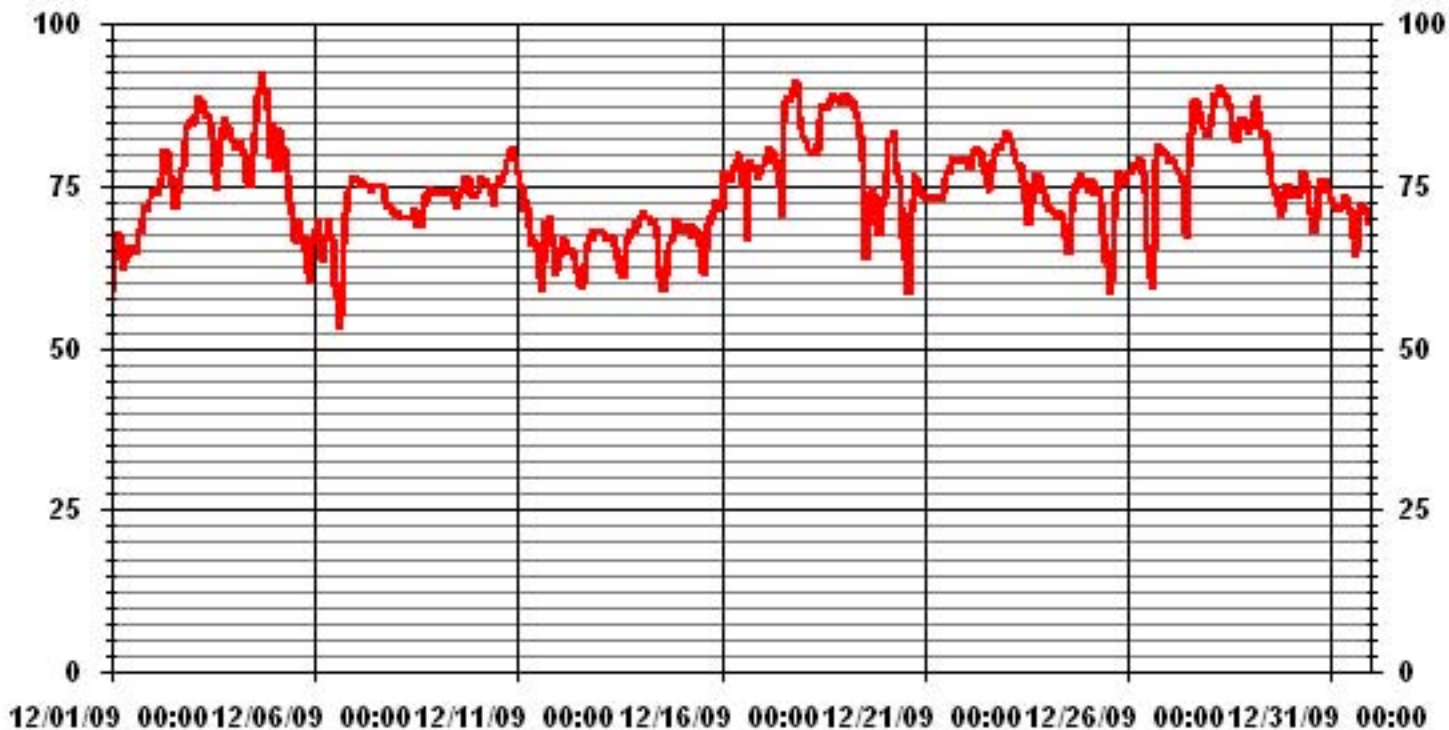
01 Hour Averages



— LICA TPX DGC

Relative Humidity

01 Hour Averages



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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	23:00	DAILY	24-HOUR	
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		9.8	9.8	9.6	15.2	15.4	15.8	16.9	14.5	11.7	11.3	11.4	12.2	12.9	11.9	10	10.7	10.4	9.9	10	7.7	8.2	8.1	7.5	7.6	16.9	10.8	24	
2		7	7.4	8	8.1	8.5	8.1	4.4	3.3	2.6	3.4	2.2	5.4	6	3.8	4.3	4.4	4.9	2.8	1.9	0.8	0.6	0.8	1.8	4.3	8.5	3.7	24	
3		5.2	3.2	3.3	3.6	2.8	4.6	4	3.2	2	1.8	1.9	2.9	6.2	4.5	5.5	3.4	1.3	5	4.3	4.3	6.2	4.8	4.9	4.8	6.2	3.1	24	
4		3.9	2.7	4.1	2.5	4.1	1.8	2.2	5.3	4.8	4.3	6.6	6.6	6.2	5.8	5.2	4.8	5.2	8.8	10.5	9.3	11.5	15.1	10.5	12.1	15.1	3.1	24	
5		13.8	15.3	12.2	14	18.5	13	13.1	14.9	17.6	17.5	15.2	16.6	17.7	18.4	16.3	15.2	15	15	16.4	15.6	14.2	15.3	12	12.1	18.5	15.2	24	
6		12.7	10	11.1	14.4	14.7	13.9	10.9	8.7	10.7	12.4	12.2	12.4	8.1	9.2	9.3	9.3	7.2	7.6	5.9	5.7	5.7	4.7	4.1	3.5	14.7	9.4	24	
7		4.2	4.2	4.5	3.7	4.8	2.9	3.2	3.1	2	4	3.7	4	4.7	2.8	1.9	2.5	1	0.8	1.1	0.7	0.1	0.3	0.8	0.8	4.8	2.6	24	
8		0.5	2.3	1.1	1	0.9	1.3	1.2	1.9	0.4	1.7	4.8	5.9	6.3	6.3	6.2	6.5	5.1	4.6	5.5	5.1	7.3	6.3	5.1	4.9	7.3	3.8	24	
9		5.2	4.9	5.3	4.3	4.5	6.3	5.4	5	5.6	4.8	5.3	5.8	6.4	5.9	6.2	5.5	5.4	5.3	5.4	4.8	1.6	4.1	3.2	2.5	6.4	4.9	24	
10		3	5.2	5.2	4.6	5.9	5.5	5.1	5.1	3.6	4.3	4.7	5.8	5.1	6	6.7	5.8	6.3	4.7	5.1	6.3	7.5	7.1	5.1	5.6	7.5	5.4	24	
11		5.7	7.5	11.2	11.5	11.7	10.8	10.3	8.9	9.1	8.7	4.1	4.6	3.8	3.8	5.7	1.8	2.9	2.8	3.1	2.9	3	5.8	8.3	6.2	11.7	6.4	24	
12		5.4	4.8	4.9	3.6	7.1	8	2.7	4.2	6.4	6.8	9.5	11.5	11.4	11.3	10.7	8.3	8.4	9.1	8.4	8.2	6.8	5.2	5.7	7.3	11.5	7.3	24	
13		8	6.7	6.5	4.3	5	4.8	7	7.4	5.8	6.3	6.7	8.3	8.4	10.5	9.3	8	7.9	10.1	11.2	10.1	7.9	6.4	7.3	8.4	11.2	7.6	24	
14		7.1	9.3	8.9	7.7	7.9	6.4	5.9	5.9	6.6	7.3	7.6	6.8	9.3	8.2	8.6	5.1	5	4.4	6.4	4.9	2.3	1.8	0.6	0.8	9.3	6.0	24	
15		0.6	0.1	1.9	1.3	0.6	1.5	1.3	0.9	0.3	0.4	0.4	2.2	4.6	4.8	3.8	2.3	2.9	1.2	1.2	0.3	1.6	3.5	2.9	1.5	4.8	1.8	24	
16		2.5	5	3.9	4.7	3.7	3.3	4.1	2.5	2.7	3.7	4.8	4.5	2	P	2.4	1.4	0.9	1.6	0.4	0.5	1.8	0.2	0.3	0.6	5.0	2.5	23	
17		0.9	0.9	0.4	2	1.2	1.9	1.4	2.1	2.3	1.4	4.3	5.1	7.1	7	5.4	5.8	1.7	1.5	1.2	4.6	4.2	1	0.1	0.8	7.1	2.7	24	
18		0.4	0.3	0.7	0.5	0.5	0.4	0.2	0.5	0.8	0.1	2.6	1.3	2.1	3.9	1.7	3.4	3.3	2.5	7.9	7.1	0.7	3	5.6	2	7.9	2.1	24	
19		3.4	1.8	1.9	1.3	3.4	3	2.1	1.4	4.3	2.8	1.8	2.4	5.3	5.5	5.5	5.3	4.6	6	5.7	4.6	5.5	8.3	6.5	5.5	8.3	4.1	24	
20		8.9	6.6	5.8	5	3.6	5.5	7.5	6.8	3.5	4.4	6.2	5.3	7.5	5.7	4.3	4.6	5.4	3.2	0.3	1.4	0.2	0.4	0.8	1.2	8.9	4.3	24	
21		0.2	0.8	0.9	0.8	0.8	0.9	0.5	0.9	0.3	0.4	1.9	2.2	3.3	2.7	3	2.4	2.8	1.9	1.9	1.3	1.3	1	0.7	0.5	3.3	1.4	24	
22		0.4	0.9	1.6	0.3	1.3	1.5	1.9	1.6	0.7	1.2	1.9	3.4	2.2	1.3	2.6	2.5	1.9	2.3	2.9	3.8	2.1	2.7	3.8	3.3	3.8	2.0	24	
23		3.3	4.1	5	6.7	5.6	5.2	4.4	4.5	5.1	6.2	6.7	6.7	5.6	5.7	5.7	3.3	4	4.5	5.3	2.5	4.3	2.9	4.4	0.3	6.7	4.7	24	
24		0.1	0.5	0.4	0.6	0.1	0.1	0.4	0.2	0.3	0.2	0.9	2.9	1.2	1.3	2	2.3	1.8	1.2	0.3	1.3	1.1	0.6	1.4	0.8	2.9	0.9	24	
25		1.3	0.9	0.9	1.1	0.8	0.1	0.8	0.6	0.8	0.5	1.4	1.7	4.4	1.8	3.4	3.7	2.8	0.4	0.9	0.4	0.2	0.5	3.6	0.3	4.4	1.4	24	
26		1.7	0.7	1	1.6	1.7	1.8	2.1	1.2	0.6	0.5	1.9	1.2	2.6	2.4	3	2.9	1.4	1.7	0.3	0.1	0.8	0.4	0.5	0.3	3.0	1.4	24	
27		0.7	0.2	0.5	0.7	0.8	1	0.3	0.5	0.5	0.9	1.6	1	6.7	8.8	9.2	9.5	10	9.5	8.4	10.5	9.5	7.7	7.5	6.7	10.5	4.7	24	
28		7	6.1	5	4.6	4.7	4.7	8.9	9.3	9.9	7.9	7.3	7	7.8	6.2	7	7	6.6	5.6	4.4	4.6	3.9	1.8	2.9	1.7	9.9	5.9	24	
29		0.7	2	3.2	4.9	5	5.3	7.5	6.6	5.4	5.2	7.1	11.1	9.9	11.7	9.7	9.6	8.4	6.9	11	7.8	4.5	7.5	6.6	7.4	11.7	6.9	24	
30		7.2	6.4	6.2	5.3	6	6.9	7.1	3.2	3.4	0.8	3.8	4.5	5.2	6.4	6.2	5.1	3.7	3.2	3.1	3.3	4.7	3.6	6.3	4.2	7.2	4.8	24	
31		3.1	3.5	2.8	2.5	2.8	2.3	3.9	5.2	1.3	3	3.2	5.1	5.4	4.1	3.6	3	2.5	0.5	0	0.5	1	0.1	0.8	0.6	5.4	2.5	24	
HOURLY MAX		13.8	15.3	12.2	15.2	18.5	15.8	16.9	14.9	17.6	17.5	15.2	16.6	17.7	18.4	16.3	15.2	15.0	15.0	16.4	15.6	14.2	15.3	12.0	12.1				
HOURLY AVG		4.3	4.3	4.5	4.6	5.0	4.8	4.7	4.5	4.2	4.3	5.0	5.7	6.3	6.3	5.9	5.3	4.9	4.7	4.9	4.5	4.2	4.2	4.2	3.8				

STATUS FLAG CODES

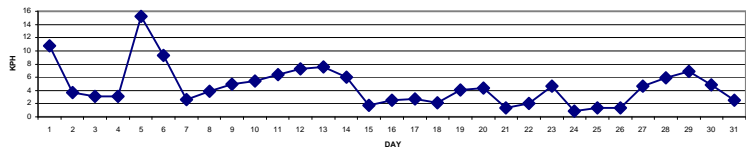
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION: November 5, 2008

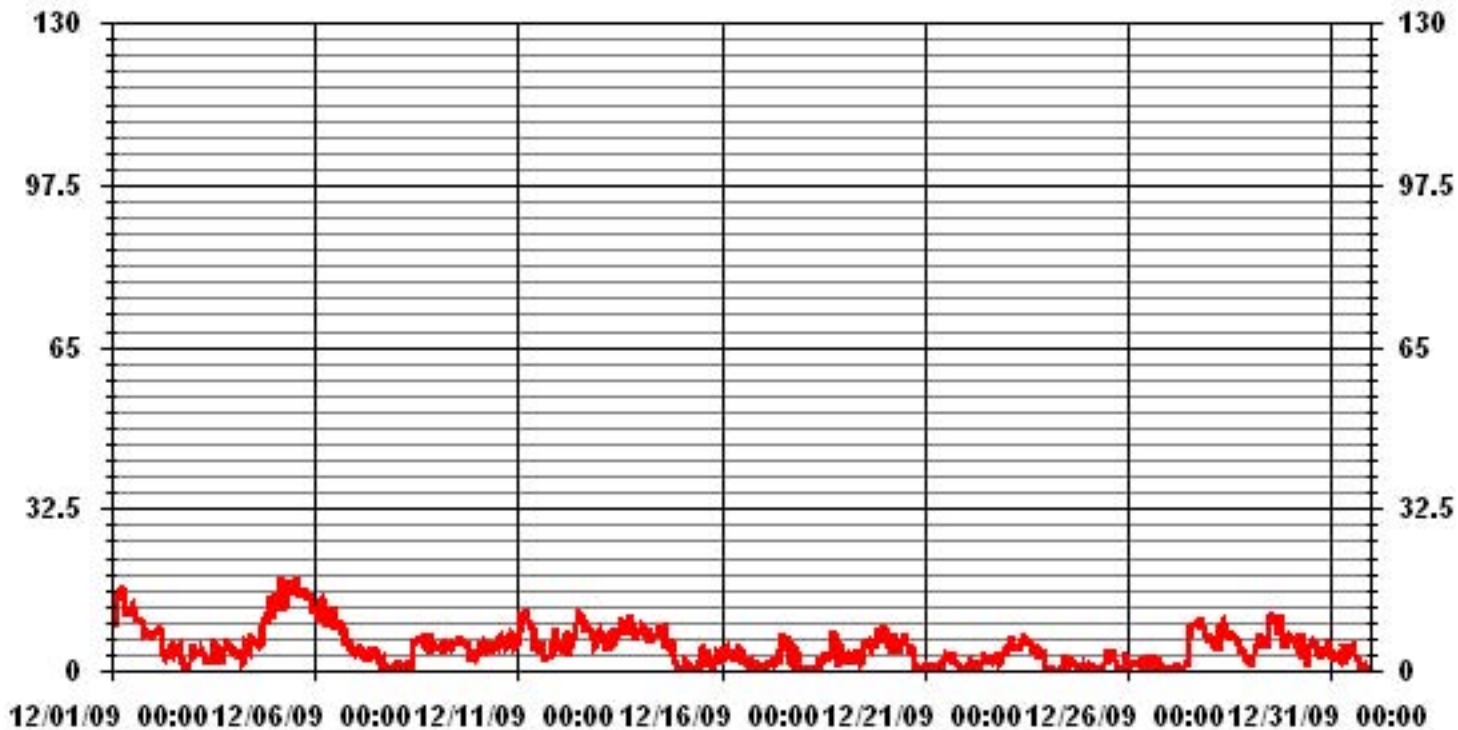
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	18.5	KPH	@ HOUR(S)	4	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	15.2	KPH			ON DAY(S)	5
CALMS (≤ 0 KPH)	4.57	%	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	99.9	%	
STANDARD DEVIATION:	3.74		MONTHLY AVERAGE	4.80	KPH	

24 HOUR AVERAGES FOR OCTOBER 2009



01 Hour Averages



— LICA WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 2009

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	15	16.6	16.5	22.3	23.7	23.7	22.8	24.7	18.5	19.2	20.7	18.4	17.5	16.3	15	16.2	14	16.7	13.3	13.4	14.8	12.7	13.2	12.2	24.7
2	10	10.9	11.6	11.6	13.1	11.9	10.2	5.9	4.8	6	5.5	9.2	10.1	7.3	8.7	8.6	8.4	7.4	4.1	3.5	1.6	4.9	5.6	8.3	13.1
3	9.7	7	6	6.7	7.8	10.1	7.3	7.3	4.2	4.9	4.4	7.7	10.1	10.6	9.2	6.6	3.8	7.1	7.9	7.6	9.2	7.1	8	8	10.6
4	6.5	5.2	6.1	4.9	5.8	3.9	4.5	9.8	7.7	8.4	10.3	10.1	8.9	9.2	8	7.1	8.2	18.4	14.4	15	18.6	23.2	16.4	22.1	23.2
5	20.5	22.2	18	28.4	28	21.8	17.7	25.1	28.6	24.7	22.5	24.3	25.3	25.8	24.7	21	22.8	22.7	22.8	21.8	20.2	23.5	18	19.3	28.6
6	20.6	19.3	17.5	24.8	21.7	21.5	15.6	15.7	19	18.8	16	19	11.8	18.3	13.4	12.4	9.7	11	7.3	7.9	7.8	7.3	6.1	6.1	24.8
7	6.1	6.4	7.9	7.7	8.8	7.3	6.6	8.1	5.1	6.7	6.3	7.4	8.3	5.1	4.2	4.5	2.3	2.7	3.2	5.2	2.5	2.1	31.3	2.8	31.3
8	6.8	4.8	5.1	4.6	5.9	3.5	4.9	5.2	2.8	4.6	9	9	11	9.8	9.7	11.4	10.9	9.5	8.5	8.8	10.4	10.5	9.3	7.9	11.4
9	9.1	8.9	8.8	8.5	8	9.8	8.1	8.5	9.5	8.2	9.7	9.3	10.3	11.1	9.8	9.8	9	8.6	8.2	7.4	5.2	7.2	6	7.3	11.1
10	6.4	8	7.7	9	8.9	7.5	7.8	7	6.5	6	7	8.4	8.3	10	9.6	11.8	9.8	8.8	9.3	10.6	11	10.8	8.2	10.7	11.8
11	9	14.4	14.8	15.7	17.6	14.8	14.6	12.5	11.5	11.2	10.8	8.2	9.6	9	9	7.6	5.4	14.4	37.3	5.9	5.2	9.6	13.7	10.2	37.3
12	10.5	7.1	7.4	36.2	11.7	11.6	31.1	27.9	10.2	11.3	14.2	16.3	15.5	15.3	15.2	11.3	11.6	12	11.4	10.9	10.2	8.2	8.2	9.9	36.2
13	11.2	10.4	10.3	6.5	8.1	7.7	9.7	9.8	9.5	10.1	11.2	12.6	12.1	14.5	14.1	11.8	11.5	13.8	15	13.3	13	10.5	10	11.3	15
14	10.2	12.2	12.5	10.8	12.6	10.5	9.1	8.6	10.2	10.5	11.9	11.9	15.5	15	13.3	8.4	7.6	6.5	10.1	7.3	4.5	4.4	7.2	3.1	15.5
15	18.6	6.4	27.9	40.6	9.1	3.5	4.2	4.3	2.6	11.2	4.2	5.2	7.5	9.8	8.2	4.2	6.1	3.7	2.7	2.8	4.3	6.9	5.2	4.1	40.6
16	5.3	7.5	6.8	6.9	7.6	6.9	6.5	5.1	5.6	9.4	9.9	6.8	6.7	P	P	3.5	3.5	3.2	3	3.2	4.3	3.2	5.1	4	9.9
17	3.2	5.4	6.4	6.9	5.7	5.1	5.7	5.3	5.8	4.8	7.4	8.5	11.5	11.5	8.6	8.9	5.7	3.8	3.1	10	7.2	4.8	1.7	2.3	11.5
18	3.5	3	2.4	2.6	3.6	3.2	2.1	4.1	4.5	2.9	6.3	6.4	6.2	6.2	5.4	6.5	6.7	10.2	13.3	12.4	12.3	6.8	12.7	9.2	13.3
19	13.3	10.2	6.1	6.2	6.9	8.8	5	3	8.5	5.4	5.9	6.2	8.3	8.7	9.7	7.3	7	7.9	7.6	7.1	8.6	12.1	9.5	9.7	13.3
20	12.5	9.5	7.6	6.6	5.4	7.4	9.3	9.8	6.5	8.1	10.3	8.8	13.1	11	7.2	7.2	6.9	6.3	1.6	3.8	1.6	3.3	3.1	5.3	13.1
21	3.4	3	3.6	2.8	4.2	2.8	2.3	2.6	1.9	2.1	7.6	5.3	6.6	5.1	5.6	5.5	4.8	3.8	4.2	3.4	2.7	2.5	1.7	2.4	7.6
22	2.8	3.7	3	2	2.8	3.4	4	3	2.6	2.3	6	6	5.5	4.9	4.1	5.6	3.1	5.2	4.7	6.7	4.8	5.4	6.2	5.7	6.7
23	5.1	6.2	7	10	11.2	8.1	6.6	6.6	7.6	9.1	9.5	9.8	9.7	9.5	9.3	6.3	6.1	5.9	7.7	6	8.5	6.2	7.3	3.2	11.2
24	3.6	3.3	3.1	4.4	2.3	23.3	2.6	4.8	5.8	4.8	4.4	5.7	4.3	6.7	4.7	6.5	5.5	3	4.4	4.6	3.4	2.8	4.3	5.1	23.3
25	4.9	3.7	3.6	4.4	4.6	2.3	4.9	2	4.1	5.3	3	5.6	6.9	4.3	6.8	6.1	5.9	3.5	3.6	27.8	5.5	4.7	9.1	4	27.8
26	4.9	5.9	6.4	6.3	4.2	5.2	3.9	3.4	4.9	3.4	4	4.2	5.3	6	5.4	5.6	2.8	3.7	2	3.5	2.4	1.5	1.7	2.4	6.4
27	2.9	2.1	2.1	2.6	3.1	2.9	2.3	2.1	2.3	2.1	3.4	7.7	11.6	13.1	13.3	14.8	15.1	14.9	14.8	17.4	13.6	12.7	12.1	10.7	17.4
28	10.1	9.7	9.7	8	8.6	9.8	12.6	12.2	14.5	13.6	12	10.2	13.3	10.1	11.6	10	9.9	8.1	6.6	7	6.1	6.9	5.7	4.2	14.5
29	2.5	3.5	6.9	7.2	9	8	11.5	10.9	8.2	8.1	11.6	15.9	14.3	16.5	17.6	15.6	12.9	13.4	16.3	13.8	8.1	11	11.1	11.6	17.6
30	11	12.5	9.1	7.8	9.8	10.1	11.9	6.1	6.1	7	8	7.9	8.1	10.6	8.8	9.8	5.6	5.1	6.5	5.9	7.6	5.1	11.6	8.6	12.5
31	5.6	6.6	6.2	4.5	6.6	3.7	8.5	9.2	6.9	5.7	5.9	8	8.5	7	6.7	5.3	5.2	20.1	3.7	13.8	4.4	4.4	4.2	34.4	34.4
PEAK	20.6	22.2	27.9	40.6	28.0	23.7	31.1	27.9	28.6	24.7	22.5	24.3	25.3	25.8	24.7	21.0	22.8	22.7	37.3	27.8	20.2	23.5	31.3	34.4	

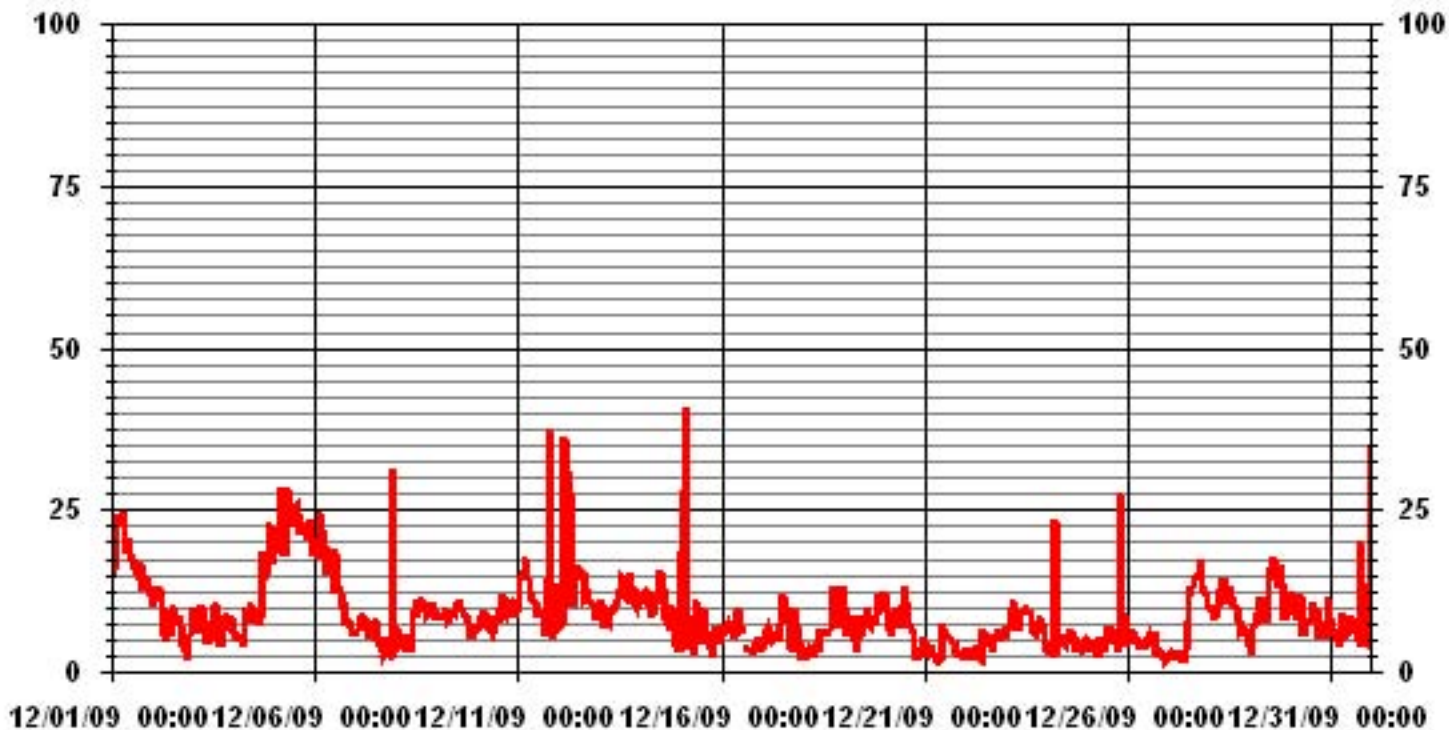
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	40.6	KPH	@ HOUR(S)	3
			ON DAY(S)	15

01 Hour Averages



— LICA WSMAX KPH

LICA
WSP / WD Joint Frequency Distribution (Percent)

December 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	.67	.26	.94	1.61	2.01	3.63	7.80	1.88	2.42	3.63	11.57	13.45	7.80	3.36	3.09	.67	64.87	
< 12.0	1.07	.26	.80	.53	.26	.13	1.88	.00	.00	.00	1.61	8.20	1.34	.80	6.99	1.21	25.16	
< 20.0	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.01	3.23	5.38	
< 29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	1.88	.53	1.74	2.15	2.28	3.76	9.69	1.88	2.42	3.63	13.18	21.66	9.15	4.17	12.11	5.11		

Calm : 4.57 %

Total # Operational Hours : 743

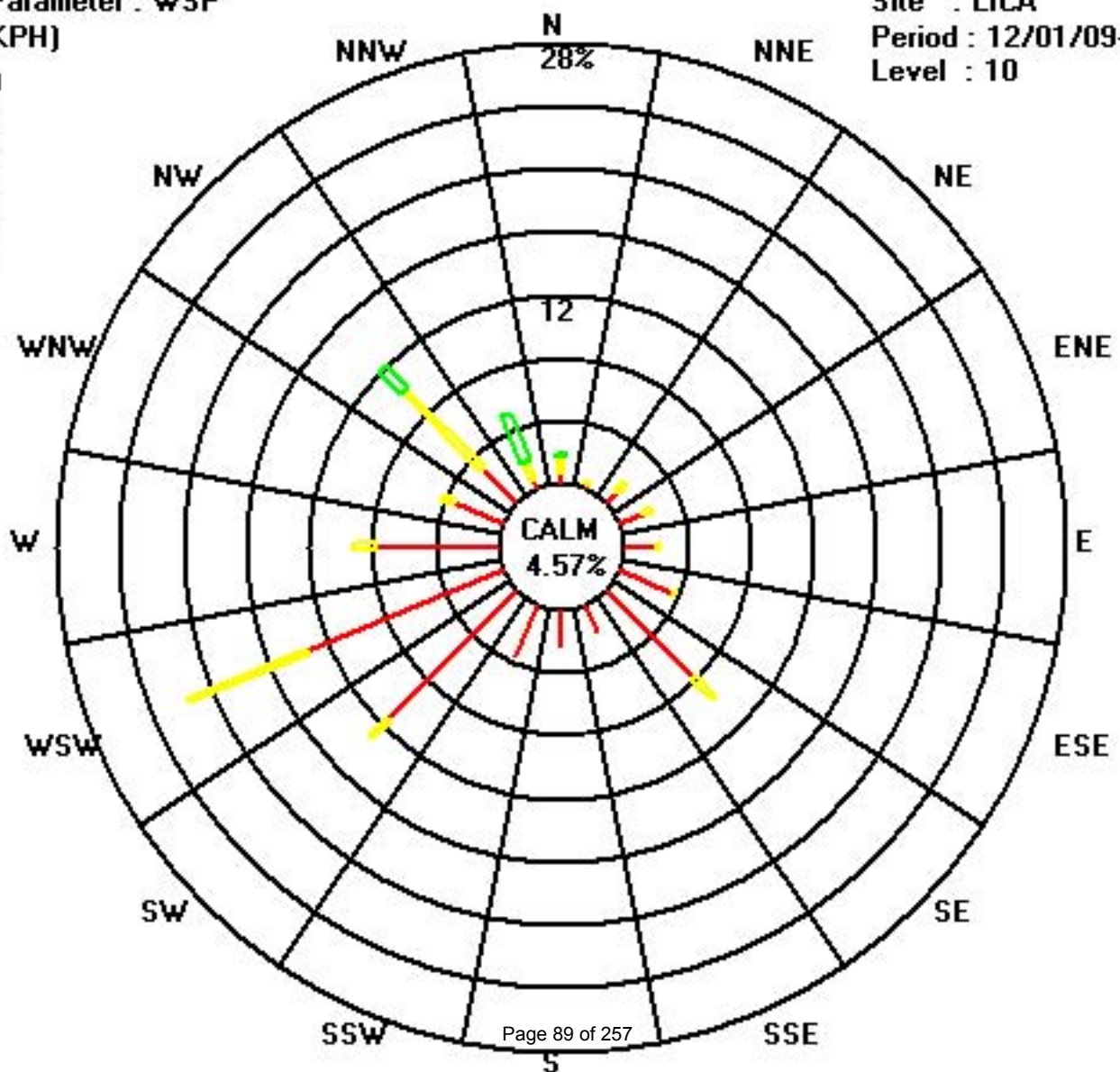
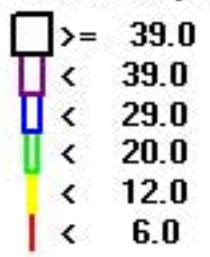
Distribution By Samples

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 6.0	5	2	7	12	15	27	58	14	18	27	86	100	58	25	23	5	482	
< 12.0	8	2	6	4	2	1	14				12	61	10	6	52	9	187	
< 20.0	1														15	24	40	
< 29.0																		
< 39.0																		
>= 39.0																		
Totals	14	4	13	16	17	28	72	14	18	27	98	161	68	31	90	38		

Calm : 4.57 %

Total # Operational Hours : 743

Class Limits (KPH)



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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	QUADRANT	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUADRANT	RDGS.		
DAY																													
1	293	300	290	306	304	309	318	313	307	315	314	321	309	316	315	322	320	314	322	333	351	350	337	323	315	NW	24		
2	323	317	319	323	322	324	319	274	272	307	286	267	273	282	270	268	290	277	279	245	170	207	213	228	295	WNW	24		
3	245	226	172	146	209	228	203	197	151	142	166	192	135	145	139	141	165	133	132	127	130	132	130	137	157	SSE	24		
4	130	137	132	145	131	199	154	229	230	216	248	267	252	253	262	268	275	317	332	343	350	353	333	328	300	WNW	24		
5	334	336	334	331	333	332	325	333	334	337	337	337	333	332	342	331	331	331	332	325	332	330	323	322	332	NNW	24		
6	323	323	328	329	331	331	326	319	321	324	324	324	309	312	318	310	306	308	287	283	276	252	243	213	315	NW	24		
7	224	227	246	245	268	269	236	217	204	262	270	264	270	292	290	131	165	215	231	211	116	193	191	144	245	WSW	24		
8	184	130	190	248	242	239	259	239	196	270	255	236	249	228	228	241	241	236	233	236	247	250	246	252	239	WSW	24		
9	252	252	252	249	257	254	265	252	249	232	237	236	233	228	235	238	236	239	232	237	239	251	244	256	243	WSW	24		
10	255	253	254	259	261	260	259	237	235	240	239	239	237	237	231	226	229	219	221	245	269	281	320	347	250	WSW	24		
11	329	349	9	349	351	336	326	317	320	320	342	315	268	265	319	295	242	259	143	317	313	319	325	324	327	NW	24		
12	318	302	292	270	281	265	279	253	238	238	252	259	260	263	253	248	258	255	255	253	250	233	243	250	258	WSW	24		
13	253	246	247	231	229	232	237	240	241	232	238	247	251	252	247	245	239	247	249	252	242	246	252	251	244	WSW	24		
14	245	255	254	245	247	243	241	228	243	251	253	243	254	252	258	224	231	227	240	242	236	230	166	137	244	WSW	24		
15	37	70	250	229	129	133	240	52	102	317	313	102	57	76	106	118	105	194	221	91	131	133	152	121	113	ESE	24		
16	133	129	129	135	115	90	74	90	68	117	113	71	92	P	120	123	138	159	175	91	111	108	51	353	108	ESE	23		
17	83	125	166	24	18	232	240	230	274	231	245	236	224	233	233	243	221	243	184	246	263	227	202	264	238	SW	24		
18	179	51	98	249	50	185	123	144	78	271	92	98	75	66	78	94	71	94	125	119	180	117	131	127	106	ESE	24		
19	138	255	239	193	231	209	230	208	239	229	257	239	247	246	227	229	235	238	237	244	239	236	248	261	236	SW	24		
20	256	272	256	247	229	232	242	238	223	222	229	234	229	249	237	226	229	234	212	235	75	197	221	239	239	WSW	24		
21	17	221	262	224	211	245	235	211	222	303	260	260	254	246	240	249	222	237	187	199	209	224	220	247	235	SW	24		
22	152	168	236	214	179	151	154	146	208	143	122	123	125	2	7	8	321	286	275	258	263	264	269	276	247	WSW	24		
23	305	288	286	303	293	289	270	262	251	253	250	247	227	224	231	226	237	237	242	217	240	234	241	152	254	WSW	24		
24	184	250	100	229	210	264	301	228	290	53	283	125	108	35	34	50	40	4	299	229	100	175	130	145	88	E	24		
25	139	131	184	113	210	158	114	114	249	276	297	91	128	121	119	128	125	91	110	161	151	78	123	109	126	SE	24		
26	140	57	171	140	126	137	129	112	182	197	215	278	276	270	255	234	193	173	210	276	135	199	138	254	187	S	24		
27	250	269	124	201	260	214	275	211	242	257	280	277	23	32	36	35	46	51	53	53	57	65	76	77	48	NE	24		
28	88	91	110	105	95	117	129	126	135	136	136	139	133	134	134	129	129	126	127	132	137	169	237	252	127	SE	24		
29	225	237	253	268	270	291	305	306	302	294	299	305	321	319	320	312	322	318	324	331	331	313	309	314	309	NW	24		
30	315	307	302	304	310	322	350	319	294	219	264	319	313	316	325	313	286	285	318	323	328	307	328	324	313	NW	24		
31	306	262	267	251	247	227	239	262	260	269	247	248	242	243	236	224	236	221	343	102	231	74	243	250	248	WSW	24		
HOURLY AVG	334	349	334	349	351	336	350	333	334	337	342	337	333	332	342	331	331	331	343	343	351	353	337	353					

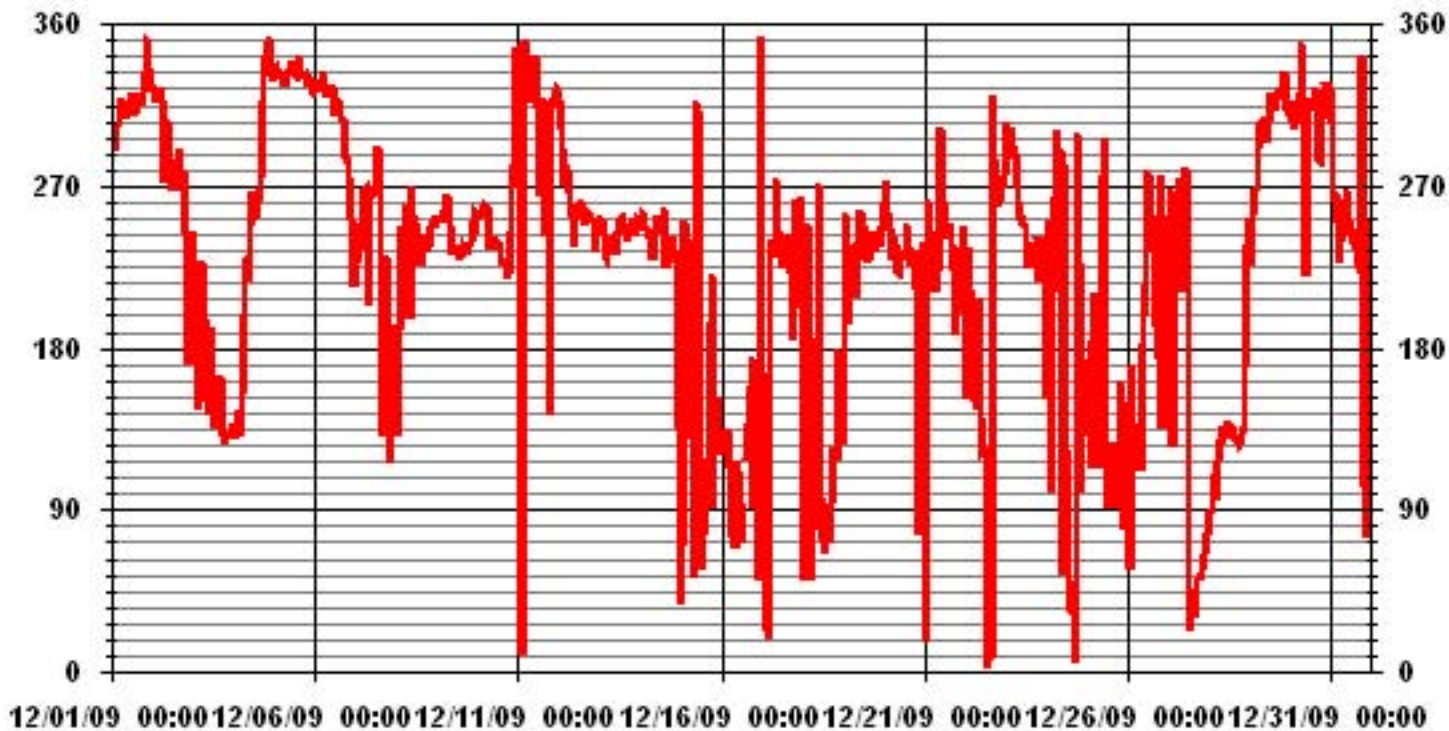
STATUS FLAG CODES

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

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

MONTHLY CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	743 HRS
STANDARD DEVIATION	78.78	AMD OPERATION UPTIME	99.9 %
		MONTHLY AVERAGE	280 DEG

01 Hour Averages



— LICA WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

DECEMBER 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	16	16	15	14	15	15	14	15	18	17	17	14	15	14	14	15	13	14	17	21	19	17	15
2	14	13	15	14	14	13	24	20	24	36	40	19	19	28	28	25	22	29	31	27	31	49	45	21
3	21	27	35	30	39	24	30	33	36	43	43	45	22	30	25	29	39	12	12	15	11	14	13	19
4	18	22	15	36	13	42	26	21	20	22	20	18	16	16	17	17	17	13	15	19	19	19	16	16
5	17	18	16	15	17	17	15	17	16	17	18	18	18	16	18	15	15	16	16	14	16	16	14	15
6	14	15	16	16	16	16	14	13	12	15	14	14	16	17	13	10	11	11	12	15	15	20	18	20
7	17	17	15	22	25	39	27	23	45	25	26	24	29	20	42	16	39	46	50	49	55	62	42	53
8	59	31	33	46	51	31	53	40	67	41	27	20	24	21	20	17	18	18	17	19	15	16	19	19
9	20	20	19	22	21	17	19	18	16	18	21	17	18	18	19	17	15	10	11	13	41	18	32	48
10	40	17	19	23	23	19	18	12	18	11	19	18	19	19	20	20	19	20	19	19	19	17	15	17
11	13	18	18	22	17	16	12	12	12	13	38	26	30	32	18	31	22	33	64	23	14	12	15	14
12	16	16	14	44	17	19	53	40	18	19	18	16	17	18	16	15	15	15	14	14	16	16	14	14
13	15	15	16	17	18	17	16	16	18	19	20	19	19	17	17	16	17	16	15	15	18	19	16	14
14	15	15	15	14	15	15	17	16	15	16	19	20	18	18	16	16	15	17	13	17	27	39	44	37
15	64	69	63	60	51	39	50	64	55	45	63	44	21	24	26	24	31	29	31	58	32	20	28	45
16	26	14	22	13	21	26	21	32	28	32	20	20	48	P	25	38	42	23	71	55	26	70	58	68
17	44	57	44	50	45	38	51	42	37	41	22	19	19	18	21	17	30	34	43	23	17	61	57	27
18	37	61	40	50	42	44	40	42	30	69	29	49	53	16	36	18	22	47	16	19	64	43	46	69
19	57	54	47	41	19	30	28	31	18	20	43	44	23	17	17	16	13	11	11	11	11	16	16	16
20	15	18	13	11	14	11	9	14	26	19	17	18	16	19	20	13	12	43	66	64	57	58	55	51
21	72	33	56	41	37	45	40	31	54	69	38	29	23	23	23	27	18	25	32	28	27	47	39	43
22	71	31	19	40	25	19	22	20	35	33	64	20	25	46	24	25	15	19	20	17	33	23	17	18
23	18	15	16	13	16	17	18	16	15	16	16	15	20	21	17	20	10	9	9	32	26	29	29	63
24	66	64	75	54	76	51	67	72	61	43	51	27	45	41	31	22	32	47	69	40	47	60	58	60
25	46	46	56	52	44	58	44	67	31	63	41	43	15	35	23	17	20	54	46	50	39	51	26	49
26	43	66	49	52	28	32	28	38	45	65	37	47	26	29	24	17	19	24	63	51	43	48	43	62
27	34	65	54	31	38	42	46	48	48	33	32	35	21	19	18	18	16	15	17	15	16	17	18	20
28	19	20	20	22	21	20	13	14	15	18	19	23	16	20	15	13	13	13	12	12	15	35	21	27
29	39	22	15	17	16	14	13	14	13	13	13	13	15	13	15	14	13	13	15	15	16	13	14	14
30	13	15	14	14	13	14	18	15	16	39	20	22	20	20	15	12	14	20	20	21	14	10	11	14
31	22	32	32	50	25	20	33	22	44	25	30	19	20	24	23	22	32	34	52	60	50	63	54	77

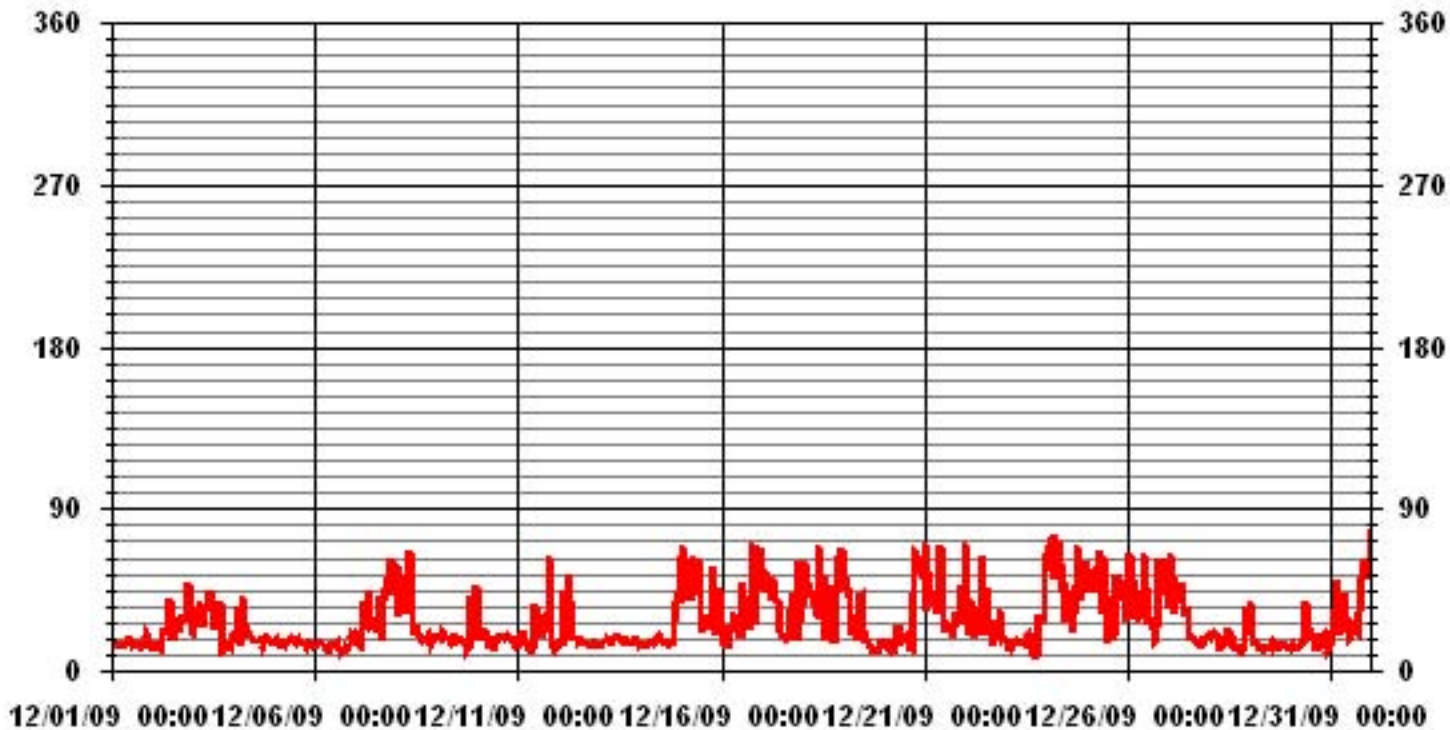
STATUS FLAG CODES

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

LAST CALIBRATION: November 5, 2008

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 743 HRS

01 Hour Averages



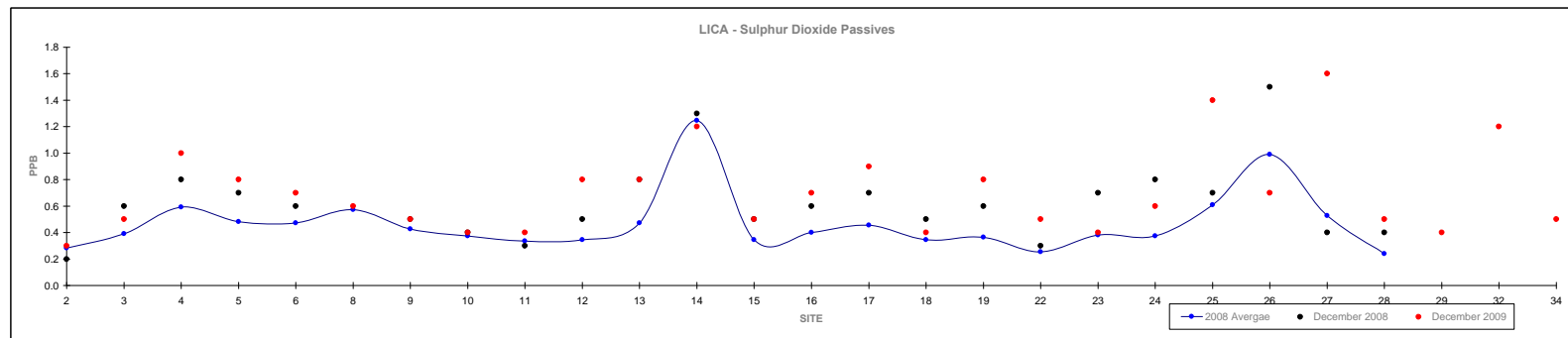
— LICA STDWDIR DEG

Non-Continuous Monitoring

Passive Summary Results for December 2009

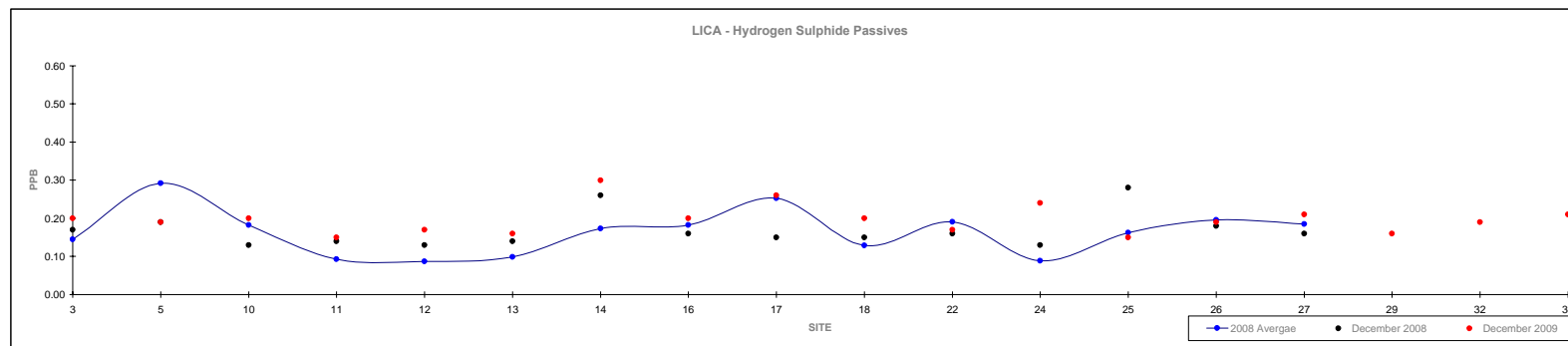
Lakeland Industry & Community Association

	Sulphur Dioxide ppb																													December 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	0.4	0.6	1.0	0.5	0.2	0.7	-			
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	0.1	0.4	0.6	0.3	0.1	0.3	#2			
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	1.6	#27				



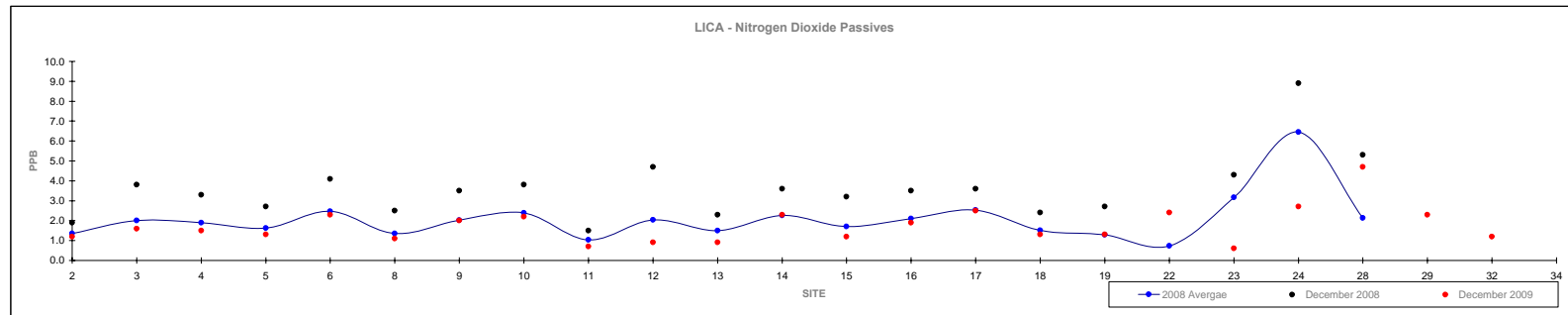
Passive Summary Results for December 2009 Lakeland Industry & Community Association

	Hydrogen Sulphide ppb															December 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	0.20	-
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	0.15	#11, #25
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	0.30	#14



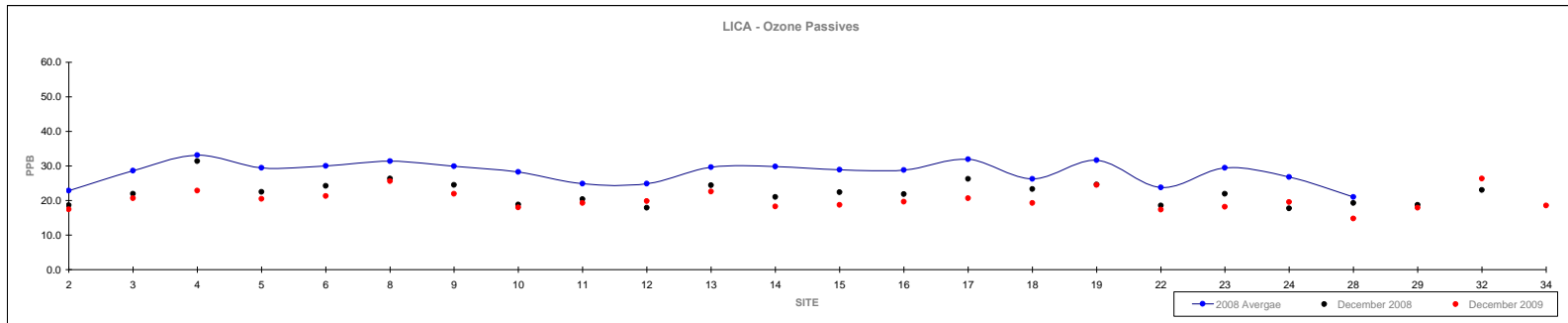
Passive Summary Results for December 2009 Lakeland Industry & Community Association

	Nitrogen Dioxide ppb																												December 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	3.8	-						
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	1.3	#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	9.3	#28						



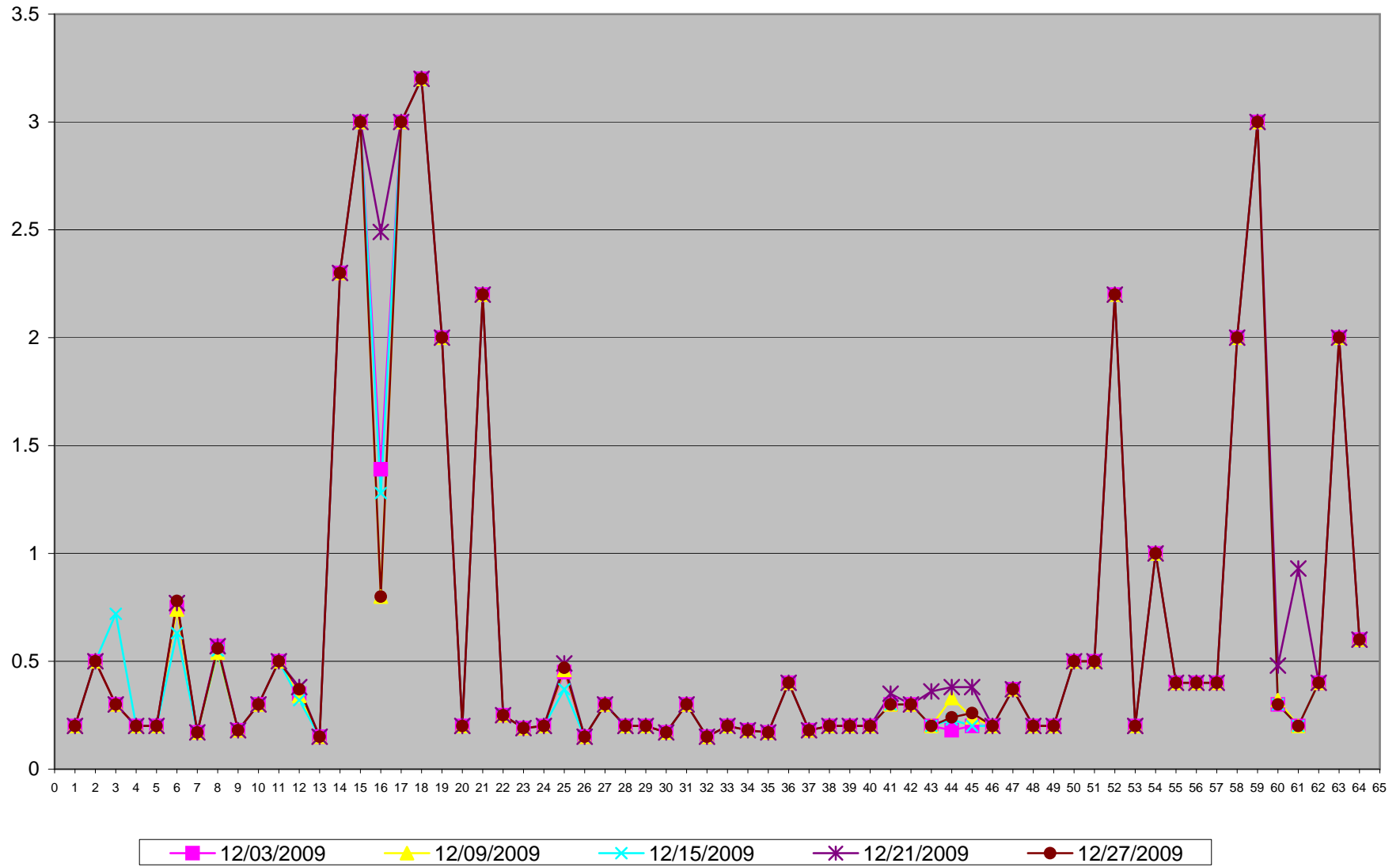
Passive Summary Results for December 2009 Lakeland Industry & Community Association

	1	2	3	4	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	25	26	December 2009	
	Ozone ppb																						Reading	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	20.1	-
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	14.8	#28
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	26.3	#28 #32



Volatile Organics

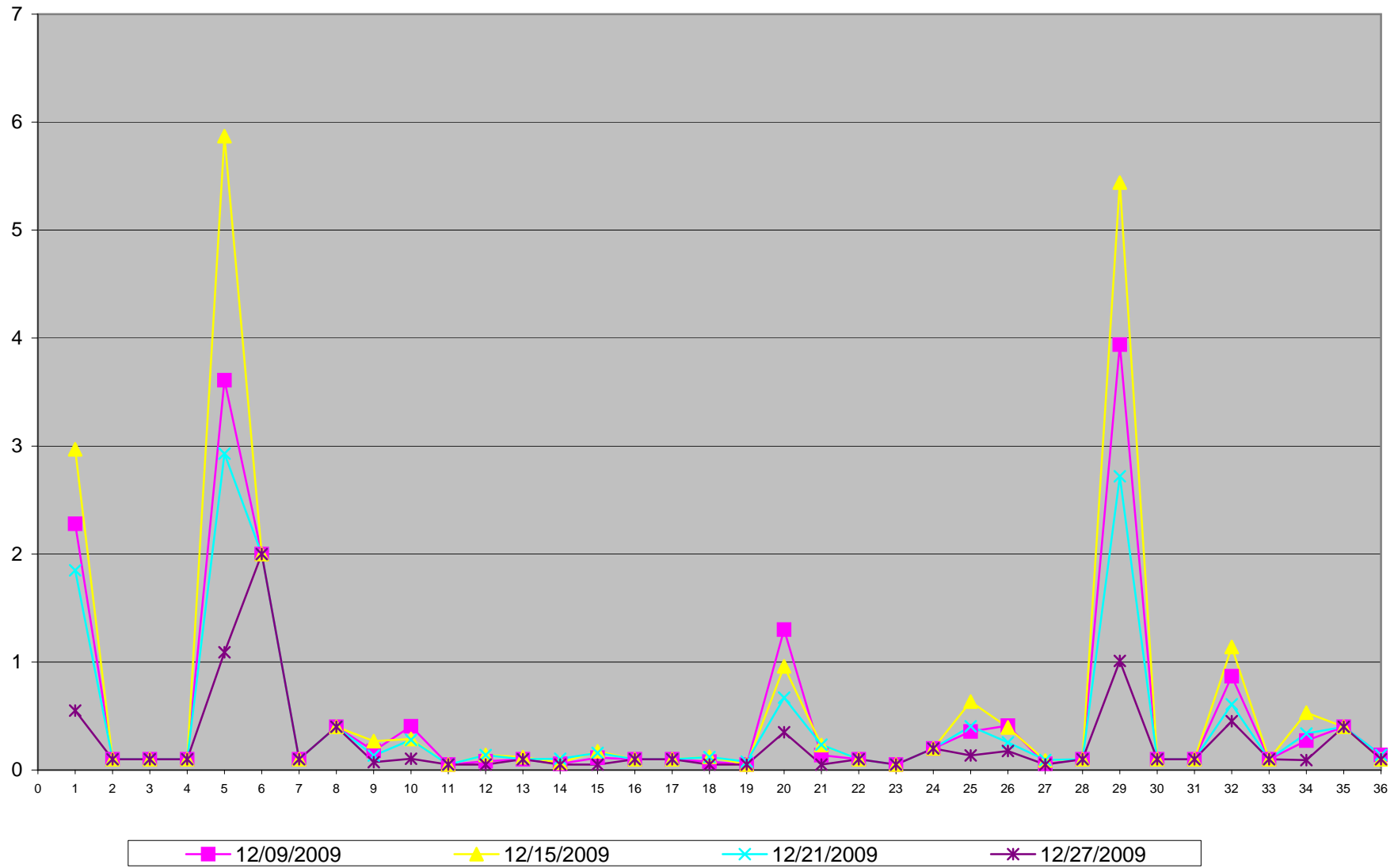
Volatile Organics in ppb Site: LICA - Cold Lake South Site



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

Polycyclic Aromatic Hydrocarbons

PAHs in ug Site: LICA - Cold Lake South



1	1-Methylnaphthalene
2	1-Methylphenanthrene
3	2-Chloronaphthalene
4	2-Methylantracene
5	2-Methylnaphthalene
6	3-Methylcholanthrene
7	7,12-Dimethylbenzo(a)anthracene
8	9,10-Dimethylantracene
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	December 10, 2009	Previous Calibration	November 17, 2009
Company	Lakeland Community and Industry Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	9:43	End Time (MST)	13:16
Reason:	Monthly Calibration		
Barometric Pressure	708 mmHg	Station Temperature	24 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	446 ccm, 29 Deg C	443 ccm, 28.1 Deg C	
HVPS / Lamp Setting	-631.2, 752	-630.9, 752	
PMT / RxCell Temp	OK Deg C, 45.2 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
4996	0	0	0	N/A
4961	38.3	400	399	1.0023
4976	23.9	250	252	0.9902
4986	14.4	150	151	0.9955
4999	0	0	0	N/A
Sum of Least Squares				0.3462
New Correction Factor				1.0023

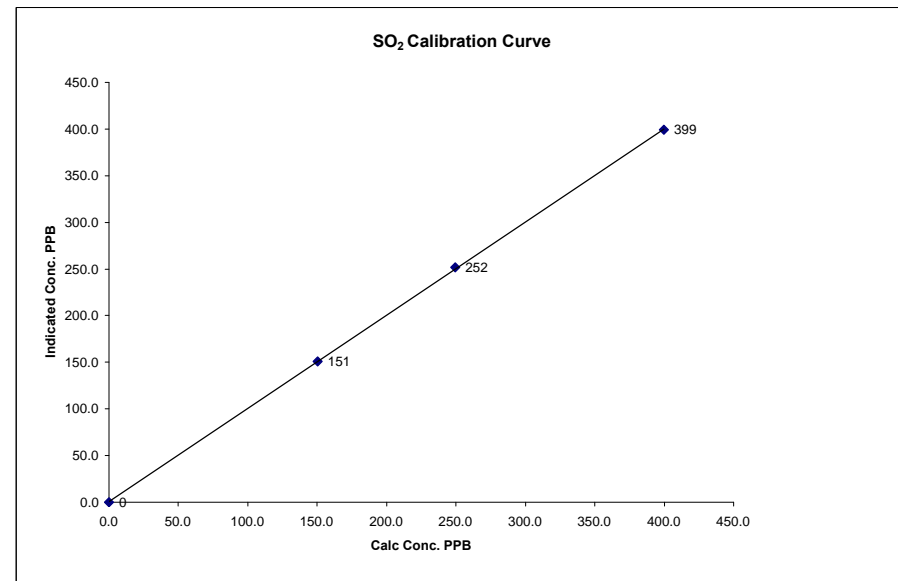
	Before Calibration	After Calibration
Auto Zero	0.3	0.2
Auto Span	403.0	405.0
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.3%

Calibration Performed by: Shea Beaton

SO₂ Calibration Curve

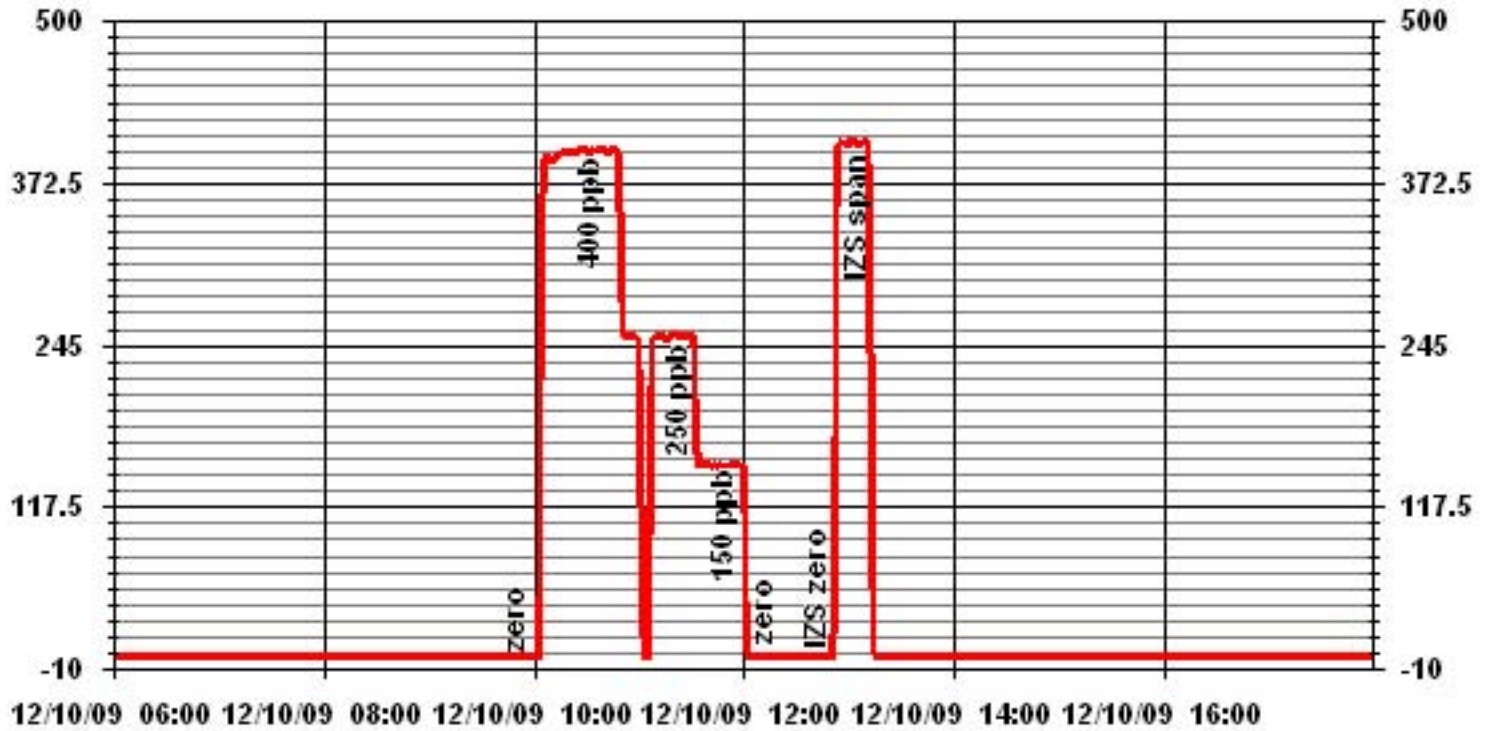
Calibration Date	December 10, 2009
Company	Lakeland Community and Industry Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	9:43
End Time (MST)	13:16

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	0.999928	0.998914
150	151	0.9955		
250	252	0.9902		
400	399	1.0023		0.778921



Notes:

01 Minute Averages



Total Reduced Sulphur

TRS Calibration Report
Station Information

Calibration Date	December 10, 2009	Previous Calibration	November 17, 2009
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	12:35	End Time (MST)	15:55
Reason:	Monthly Calibration		
Barometric Pressure	708 mm Hg	Station Temperature	24 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	359 ccm	31.5 Deg C	354 ccm	31.7 Deg C	
HVPS / Lamp Setting	-622.3	760	-622.3	763	
PMT / RxCell Temp	OK Deg C	44.9 Deg C	OK Deg C	45.0 Deg C	
Converter / IZS Temp	849 Deg C	45.0 Deg C	849 Deg C	45.0 Deg C	
Offset / Slope	11.4	1.182	11.2	1.156	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4997	0	0	0	N/A
4960	37	80	81	0.9873
4961	37	80	80	0.9994
4975	20.8	45	45	0.9992
4990	11.6	25	25	1.0019
4999	0	0	0	N/A
Sum of Least Squares				0.9995
New Correction Factor				0.9994

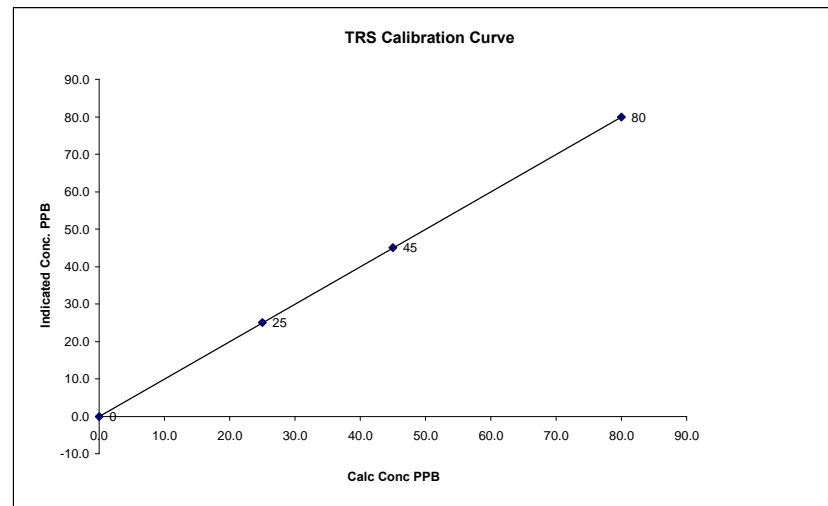
Before Calibration		After Calibration	
Auto Zero	0.1	Auto Zero	0.1
Auto Span	42.0	Auto Span	42.0
Sample Lines Connected	YES	Sample Lines Connected	YES
Percent Change from Previous Calibration	0.0%	Percent Change from Previous Calibration	0.0%

Calibration Performed by: Shea Beaton

TRS Calibration Curve

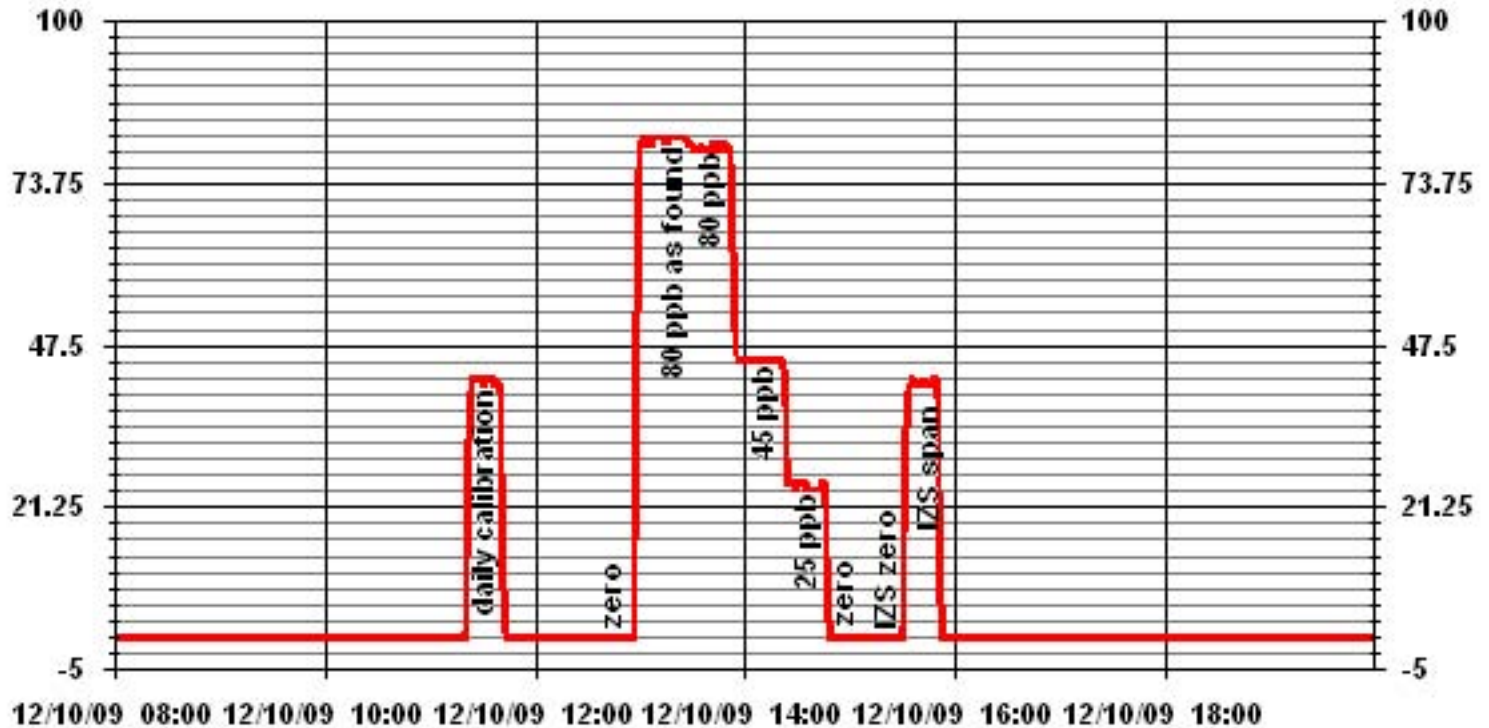
Calibration Date	December 10, 2009		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	12:35	End Time (MST)	15:55

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.)	-0.023143
25	25	1.0019			
45	45	0.9992			
80	80	0.9994			



Notes: _____

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	December 11, 2009	Previous Calibration	November 17, 2009
Company:	Lakeland Industry and Community Association		
Plant / Location:	LICA1/Cold Lake		
Start Time (MST)	8:22	End Time (MST)	11:55
Reason:	Monthly Calibration		
Barometric Pressure:	710 mmHg	Station Temperature:	24 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	299Prop/1019Meth	ppm	Cal Gas Expiry Date: 8/12/2011
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
2999	0	0.0	0.0	N/A
2999	65.0	39.1	40.8	0.9574
3000	65.0	39.0	39.4	0.9911
3000	35.0	21.2	20.9	1.0160
3000	20.0	12.2	11.9	1.0247
3000	0	0.0	0.0	N/A
Correction Factor:				0.9911

Percent Change

Previous Calibration Correction Factor:	0.9942
Current Correction Factor Before Span Adjust:	0.9911
Percent Change:	0.3%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	36.5	35.4
Sample Lines Connected		YES

Cylinder Pressures

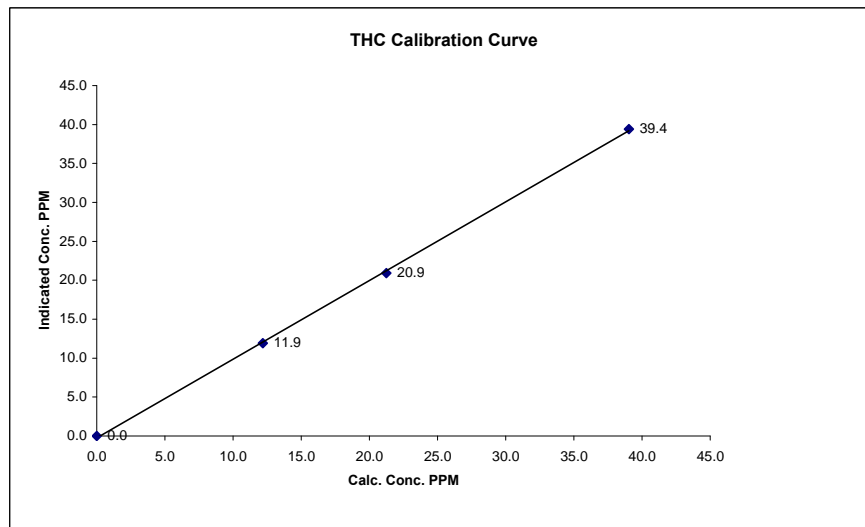
Span	1800 psi
Hydrogen	600 psi
Zero Air	unlimited psi Maxxam-owned API 701 zero air supply with catalytic oxidizer

Calibration Performed by: Shea Beaton

THC Calibration Curve

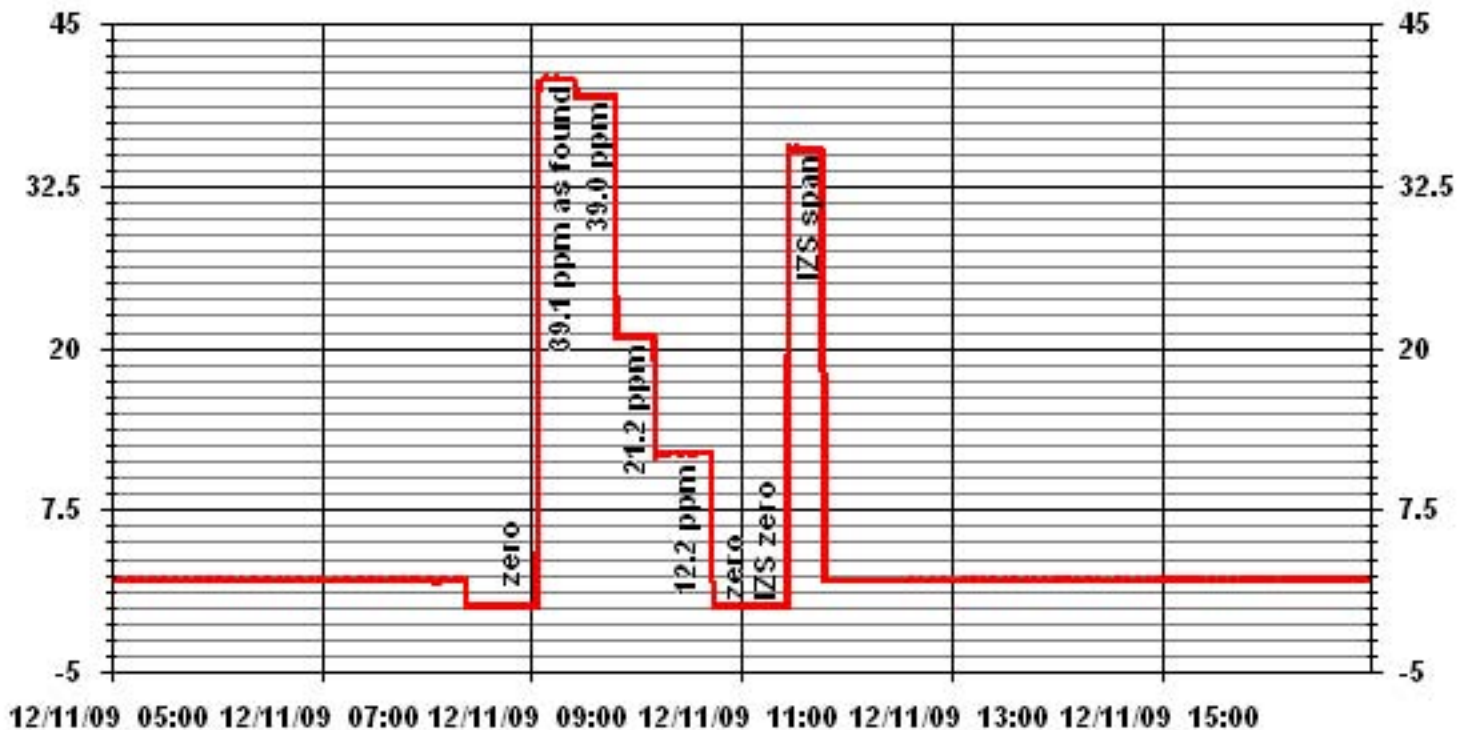
Calibration Date	December 11, 2009		
Company	Lakeland Industry and Community Association		
Plant / Location	LICA1/Cold Lake		
Start Time (MST)	8:22	End Time (MST)	11:55

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999731
0.0	0.0		Intercept	(0.85 to 1.15)	1.009955
12.2	11.9	1.0247		(± 3% F.S.)	-0.249101
21.2	20.9	1.0160			
39.0	39.4	0.9911			



Notes:

01 Minute Averages



Particulate Matter 2.5

TEOM® 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	December 10, 2009	Make/Model:	Chinook FTS
Station Name:	LICA 1	Serial Number:	Hi - 091001
Location:	Cold Lake South	Cell s/n:	Low - 091099
Operator:	LICA	Thermometer s/n:	WWR 90758398

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
Make/Model	Thermo Scientific Series 1405F	F-Main Set Pt (l/min)	3.00
Unit #	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)	-19.7
		Press (ATM)	0.936

Conversion from mmHg or "Hg to ATM (Atmospheres)

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

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

Audit

Status			
Noise <0.10µg	0.006	Warnings	None
Pump Vacuum	0.35		
Temperature/Pressure			
Measured Temp (± 2 °C)	-19.7	Δ °C	0.0
Measured Press (± 0.01atm)	0.932	ΔATM	0.004
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	6.37%
Measured Main Flow (l/min)	2.87	Flow Adjusted to Measured?	NO
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (±10.0%)	4.60%
Measured Bypass Flow (l/min)	13.41	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: 12:10 **Finish Time:** 15:10

Sample Inlet Cleaned: YES **New Filters Installed:** YES
New Filter Loading %: 21.3%

Comments: First time this unit has been audited with these FTS cells, rechecked flows following the adjustment
 Main = 2.98 lpm, bypass = 13.52 lpm.

Auditor/s: Shea Beaton

Nitrogen Dioxide

NOx - NO- NO2 Calibration Report

Station Information

Calibration Date	December 10, 2009		Previous Calibration	November 17, 2009	
Company	Lakeland Ind & Comm. Assoc.		Plant/Location	LICA 1 - Cold Lake South	
Start Time (MST)	9:43	End Time (MST)	16:21		
Reason:	Monthly Calibration				
Barometric Pressure	708 mmHg	Station Temperature	24.0 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	726 ccm	317 Deg C	724 ccm	317 Deg C		
Ozone Flow / Vacuum	OK ccm	176.8 mmHg	OK ccm	175.9 mmHg		
HVPS	-821 Volts		-820 Volts			
Rx/ Temp / PMT Temp	49.8 Deg C	-2.5 Deg C	50.1 Deg C	-2.5 Deg C		
Box Temp / IZS Temp	28.9 Deg C	OK Deg C	29.0 Deg C	OK Deg C		
Offset	3.8 NOx	3.6 NO	3.8 NOx	3.7 NO		
Slope	1.005 NOx	0.946 NO	1.003 NOx	0.903 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
3006	0	N/A	0	0	1	1	0	N/A	N/A
3006.0	0.0	N/A	0	0	0	0	0	N/A	N/A
2979.0	23.3	N/A	402	400	420	418	2	0.9572	0.9580
2979.0	23.3	N/A	402	400	401	400	1	1.0025	1.0011
2993.0	14.6	N/A	251	250	252	251	1	0.9978	0.9979
2993.0	8.7	N/A	150	150	151	150	1	0.9943	0.9970
3001.0	0.0	N/A	0	0	1	1	0	N/A	N/A
Converter Efficiency									
2979.0	23.3	N/A	402	400	401	400	1	N/A	
2980.0	23.3	300	402	400	397	123	274	99%	
2980.0	23.3	200	402	400	398	214	184	98%	
2980.0	23.3	100	402	400	399	314	85	98%	
2980.0	23.3	N/A	402	400	400	399	1	N/A	
3003.0	0	N/A	0	0	1	1	0	N/A	N/A

Linearity OK?	Yes	No	Sum of Least Squares	1.0006	0.9999
Flows Checked on-site?	Yes	No	New Correction Factor	1.0025	1.0011
			Average Converter Efficiency	98%	

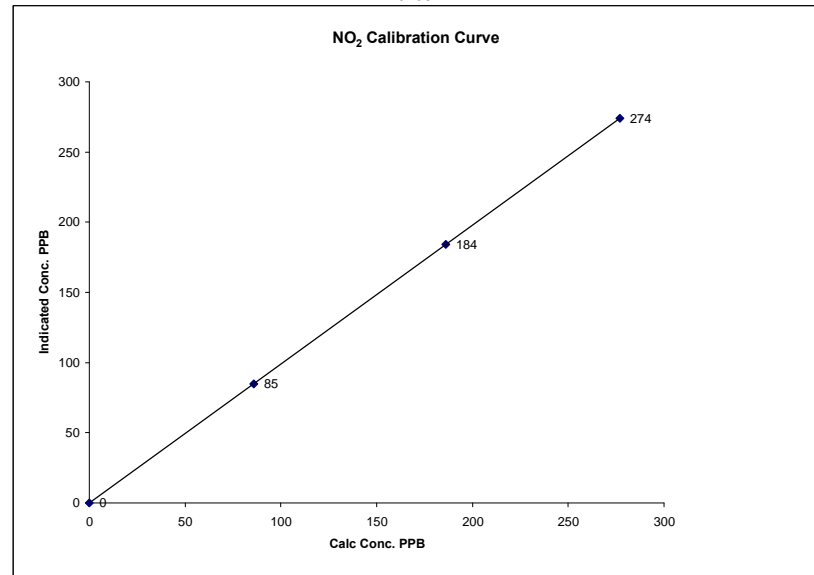
Before Calibration			After Calibration		
Auto Zero	0.6 NOx	0.3 NO2	0.1 NOx	0.3 NO2	
Auto Span	415 NOx	413 NO2	395 NOx	393 NO2	
Sample Lines Connected	YES				
Percent Change from Previous Calibration	NOx	4.6%	NO	4.7%	

Calibration Performed by: Shea Beaton

NO2 Calibration Curve

Calibration Date	December 10, 2009	
Company	Lakeland Ind & Comm. Assoc.	
Plant / Location	LICA 1 - Cold Lake South	
Start Time (MST)	9:43	End Time (MST)
	16:21	

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
0	0	N/A	Slope (0.85 to 1.15)	1.000000
86	85	1.0118	Intercept (± 3% F.S.)	0.989267
186	184	1.0109		-0.02689
277	274	1.0109		

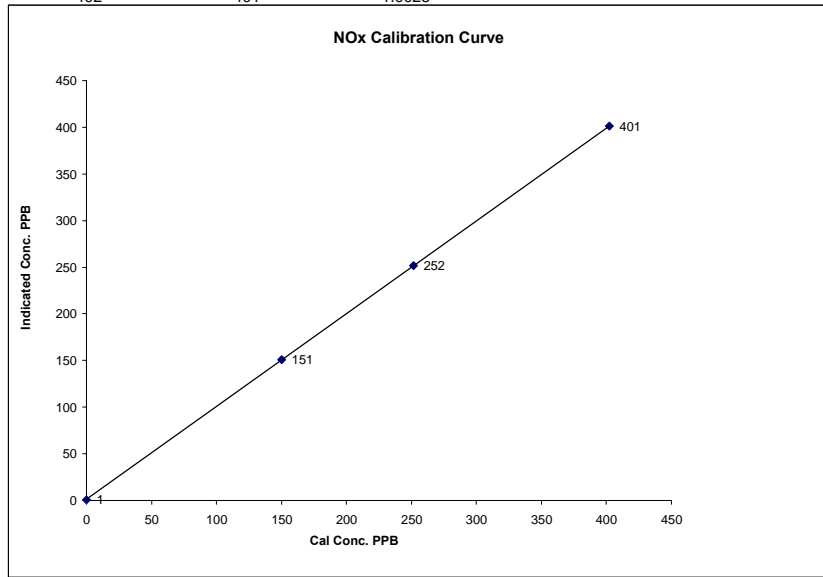


Notes: _____

NOx Calibration Curve

Calibration Date December 10, 2009
 Company Lakeland Ind & Comm. Assoc.
 Plant / Location LICA 1 - Cold Lake South
 Start Time (MST) 9:43 End Time (MST) 16:21

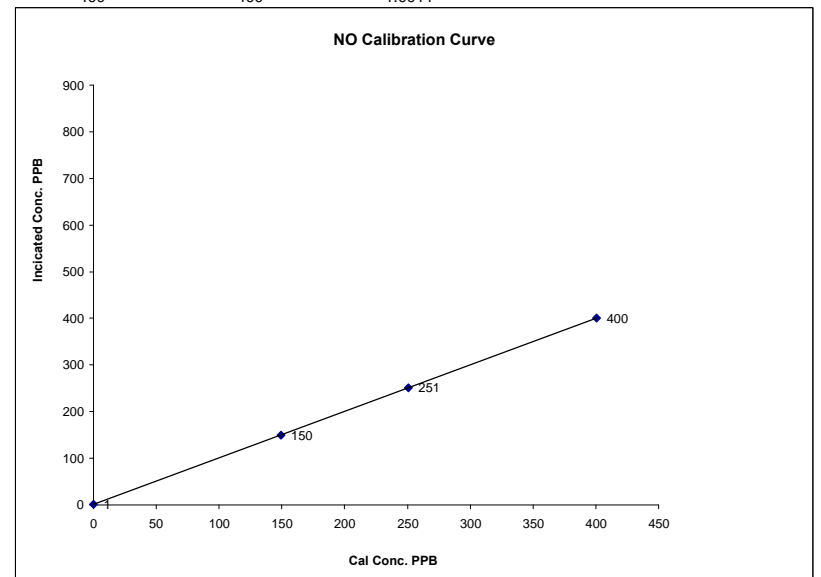
Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999994
ppb	ppb		Slope	(0.85 to 1.15)	0.995119
0	1	N/A	Intercept	(± 3% F.S.)	1.33151
150	151	0.9943			
251	252	0.9978			
402	401	1.0025			



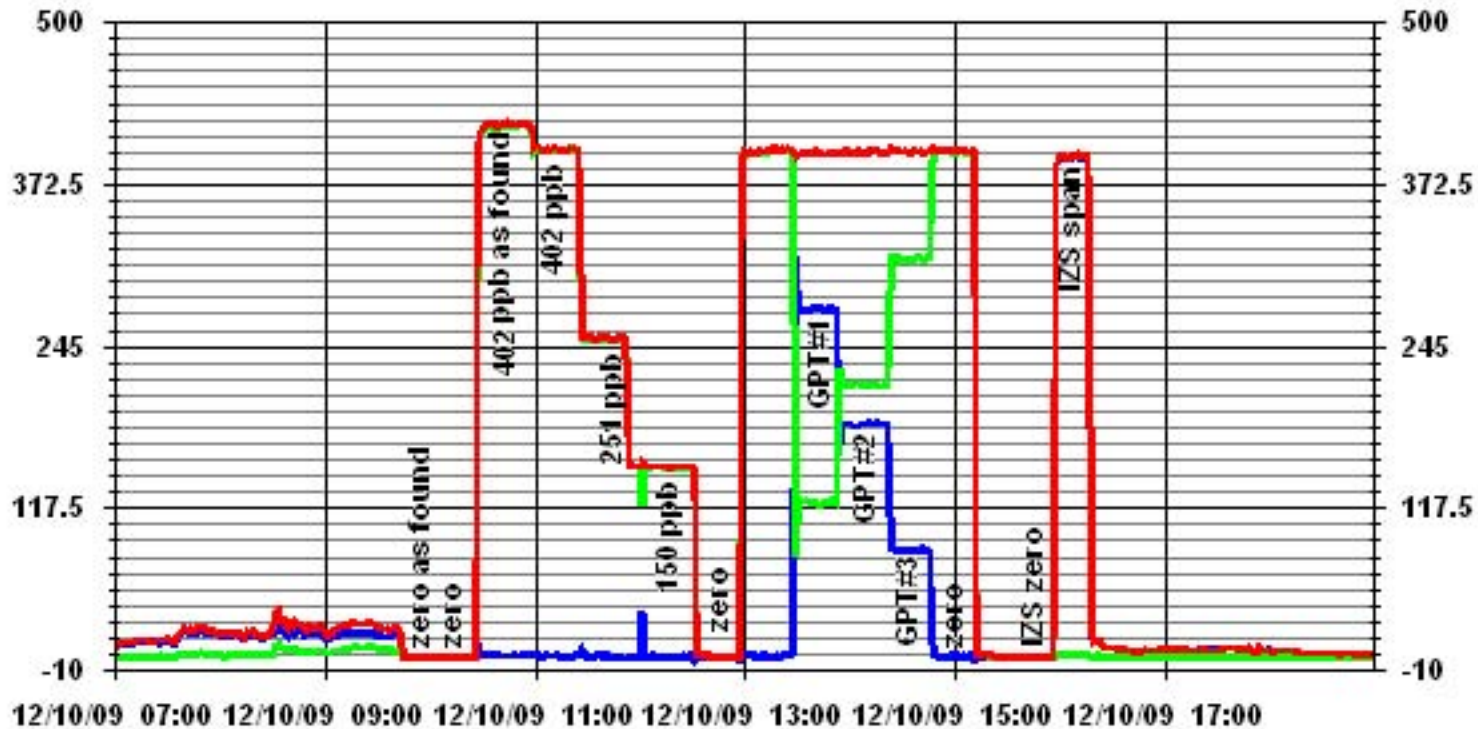
NO Calibration Curve

Calibration Date December 10, 2009
 Company Lakeland Ind & Comm. Assoc.
 Plant / Location LICA 1 - Cold Lake South
 Start Time (MST) 9:43 End Time (MST) 16:21

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999998
ppb	ppb		Slope	(0.85 to 1.15)	0.996201
0	1	N/A	Intercept	(± 3% F.S.)	2.1306
150	150	0.9970			
250	251	0.9979			
400	400	1.0011			



01 Minute Averages



— LICA NOx_ PPB
 — LICA NO_ PPB
 — LICA NO2_ PPB

Ozone

O₃ Calibration Report

Station Information

Calibration Date	December 11, 2009	Previous Calibration	November 17, 2009
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:50	End Time (MST)	11:33
Reason:	Monthly Calibration		
Barometric Pressure	710 mm Hg	Station Temperature	24 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb			
Bench Temp/ Pressure	28.5 Deg C		28.3 Deg C	
O ₃ Set Level	29%		29%	
Bench Lamp/O ₃ Lamp				
Sample Flow A/B	0.735 LPM	0.75 LPM	0.737 LPM	0.751 LPM
Offset / Slope	0.7	1.053	0.7	1.007

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
3006	0	0	0	N/A
3006	400	368	379	0.9710
3006	400	368	369	0.9973
3006	200	183	187	0.9786
3006	100	84	87	0.9655
3006	0	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				0.9973

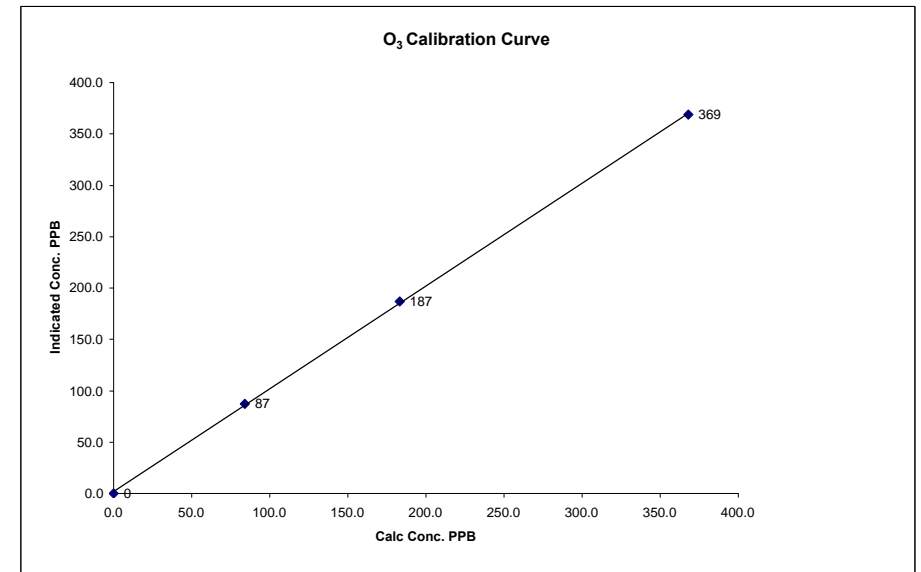
	Before Calibration	After Calibration
Auto Zero	-0.1	0.0
Auto Span	305	292
Sample Lines Connected	YES	
Percent Change from Previous Calibration	2.7%	

Calibration Performed by: Shea Beaton

O₃ Calibration Curve

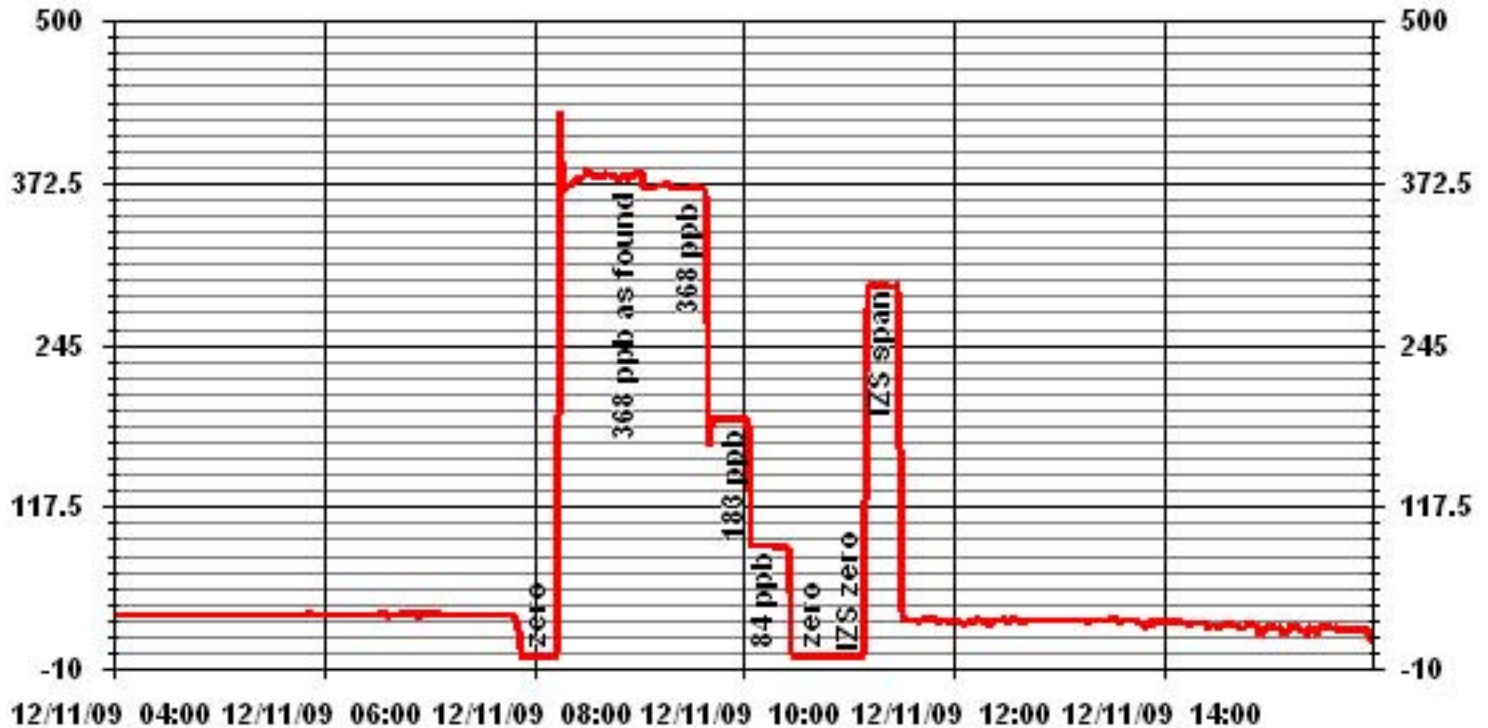
Calibration Date	December 11, 2009		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:50	End Time (MST)	11:33

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			0.999868
84	87	0.9655			1.001091
183	187	0.9786			
368	369	0.9973			1.826809



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

01 Minute Averages



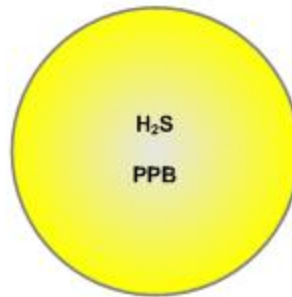
Passive Bubble Maps

Lakeland Industry & Community Association H₂S Passive Bubble Map

DECEMBER 2009

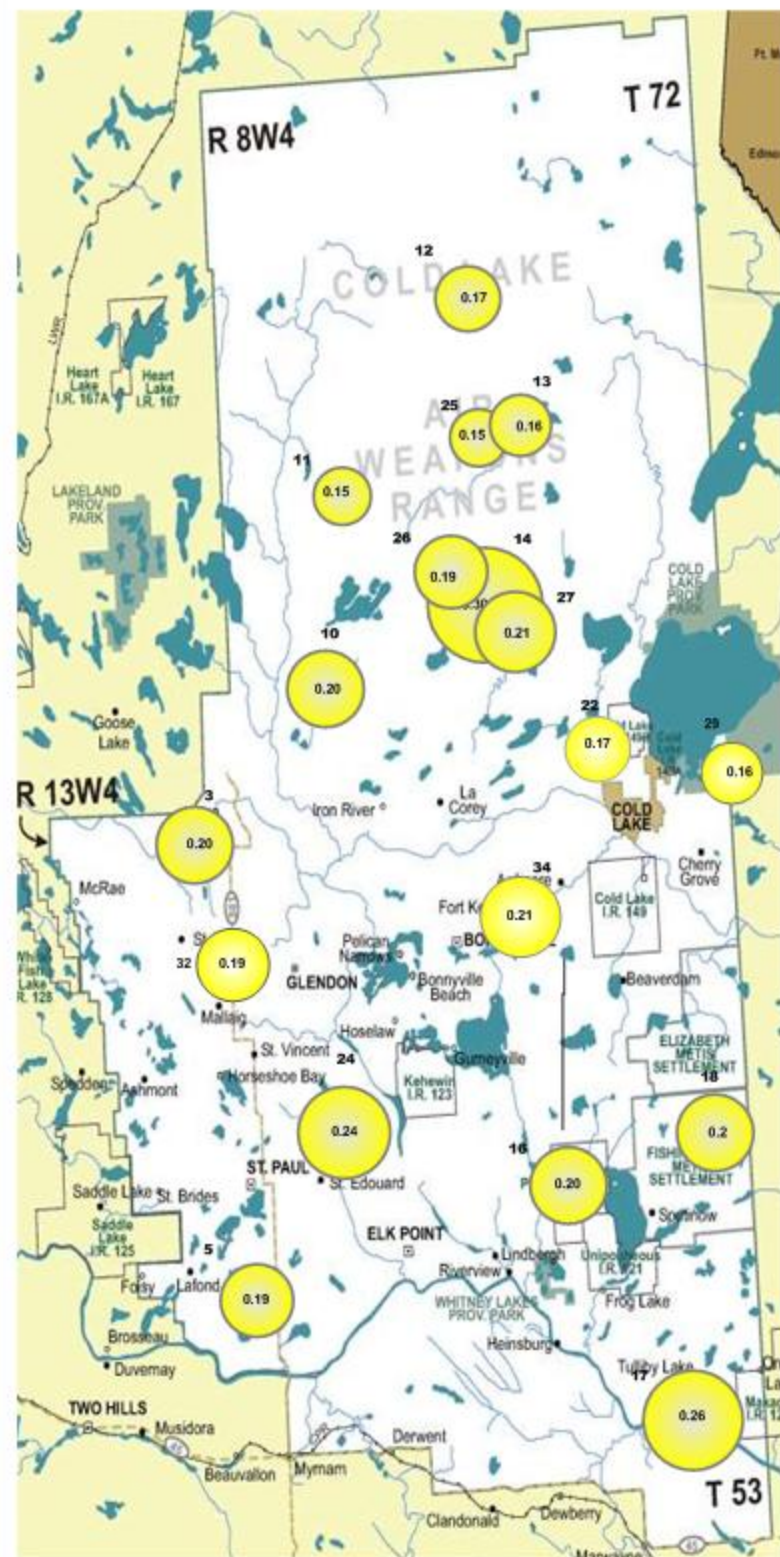
PASSIVE STATIONS

		DUPLICATE
3 – Therien	0.19 PPB	0.20 PPB
5 – Lake Eliza	0.19 PPB	NA
10 – La Corey	0.20 PPB	NA
11 – Wolf Lake	0.15 PPB	0.15 PPB
12 – Foster Creek	0.17 PPB	NA
13 – Primrose	0.16 PPB	0.16 PPB
14 – Maskwa	0.30 PPB	NA
16 – Frog Lake	0.20 PPB	0.19 PPB
17 – Clear Range	0.26 PPB	NA
18 – Fishing Lake	0.16 PPB	0.23 PPB
22 – Cold Lake South	0.17 PPB	NA
24 – Fort George	0.24 PPB	NA
25 – Burnt Lake	0.15 PPB	0.14 PPB
26 – Mahihkan	0.19 PPB	NA
27 – Mahkeses	0.20 PPB	0.21 PPB
29 – Cold Lake South 2	0.16 PPB	NA
32 – St. Lina	0.19 PPB	NA
34 – Portable	0.21 PPB	NA



Summary

Minimum : 0.15 PPB – Wolf Lake AND Burnt Lake
 Maximum: 0.30 PPB – Maskwa
 Average: 0.20 PPB *Includes Duplicates

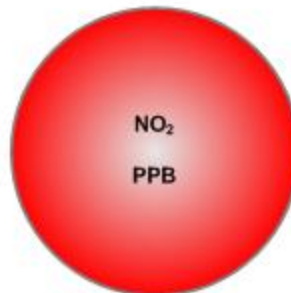


Lakeland Industry & Community Association NO₂ Passive Bubble Map

DECEMBER 2009

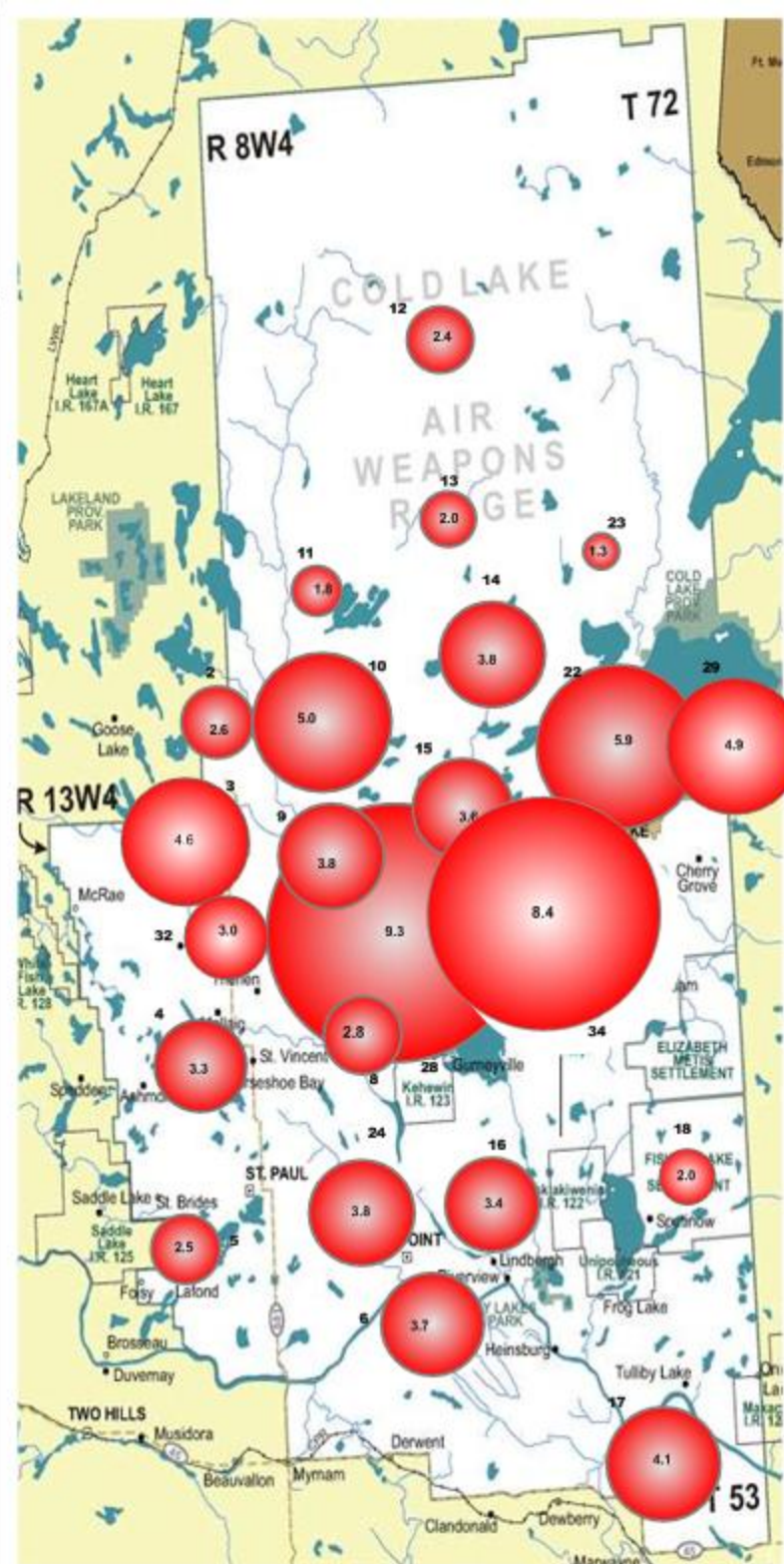
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	2.6 PPB	NA
3 – Therien	4.6 PPB	NA
4 – Flat Lake	3.6 PPB	3.0 PPB
5 – Lake Eliza	2.5 PPB	NA
6 – Telegraph Creek	3.8 PPB	3.5 PPB
8 – Muriel-Kehewin	2.8 PPB	NA
9 – Dupre	3.4 PPB	4.1 PPB
10 – La Corey	5.0 PPB	NA
11 – Wolf Lake	1.8 PPB	1.7 PPB
12 – Foster Creek	2.4 PPB	NA
13 – Primrose	2.1 PPB	1.9 PPB
14 – Maskwa	3.8 PPB	NA
15 – Ardmore	4.2 PPB	3.0 PPB
16 – Frog Lake	3.4 PPB	NA
17 – Clear Range	4.1 PPB	4.0 PPB
18 – Fishing Lake	2.0 PPB	NA
19 – Beaverdam	2.0 PPB	2.0 PPB
22 – Cold Lake South	5.9 PPB	NA
23 – Medley-Martineau	1.3 PPB	NA
24 – Fort George	3.9 PPB	3.6 PPB
28 – Town of Bonnyville	9.3 PPB	NA
29 – Cold Lake South 2	4.1 PPB	5.7 PPB
32 – St. Lina	3.0 PPB	NA
34 – Portable	8.4 PPB	NA



Summary

Minimum : 1.3 PPB – Medley-Martineau
 Maximum: 9.3 PPB – Town of Bonnyville
 Average: 3.8 PPB *Includes Duplicates

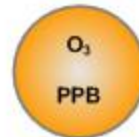


Lakeland Industry & Community Association O₃ Passive Bubble Map

DECEMBER 2009

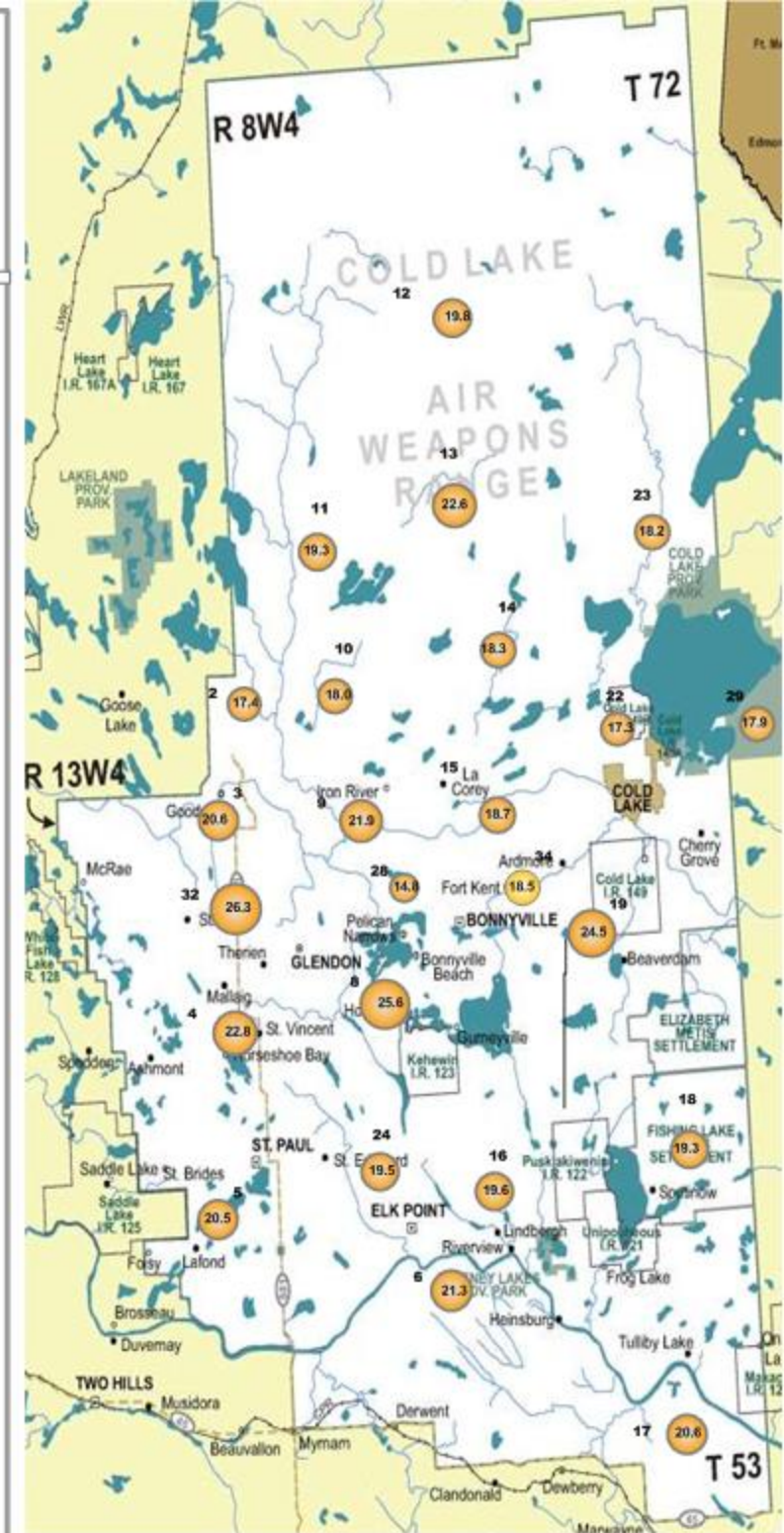
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	17.4 PPB	NA
3 – Therien	20.6 PPB	18.4 PPB
4 – Flat Lake	22.1 PPB	23.5 PPB
5 – Lake Eliza	20.5 PPB	NA
6 – Telegraph Creek	21.9 PPB	20.6 PPB
8 – Muriel-Kehewin	25.6 PPB	NA
9 – Dupre	21.5 PPB	22.3 PPB
10 – La Corey	18.0 PPB	NA
11 – Wolf Lake	17.8 PPB	20.7 PPB
12 – Foster Creek	19.8 PPB	NA
13 – Primrose	21.8 PPB	NA
14 – Maskwa	18.3 PPB	NA
15 – Ardmore	17.8 PPB	19.0 PPB
16 – Frog Lake	19.6 PPB	NA
17 – Clear Range	20.2 PPB	20.9 PPB
18 – Fishing Lake	19.3 PPB	NA
19 – Beaverdam	22.4 PPB	26.6 PPB
22 – Cold Lake South	17.3 PPB	NA
23 – Medley-Martineau	18.2 PPB	NA
24 – Fort George	19.8 PPB	19.1 PPB
28 – Town of Bonnyville	14.8 PPB	NA
29 – Cold Lake South 2	18.9 PPB	16.8 PPB
32 – St. Lina	26.3 PPB	NA
34 – Portable	18.5 PPB	NA



Summary

Minimum : 14.8 PPB – Town of Bonnyville
 Maximum: 26.3 PPB – St. Lina
 Average: 20.1 PPB *Includes Duplicates



Lakeland Industry & Community Association SO₂ Passive Bubble Map

DECEMBER 2009

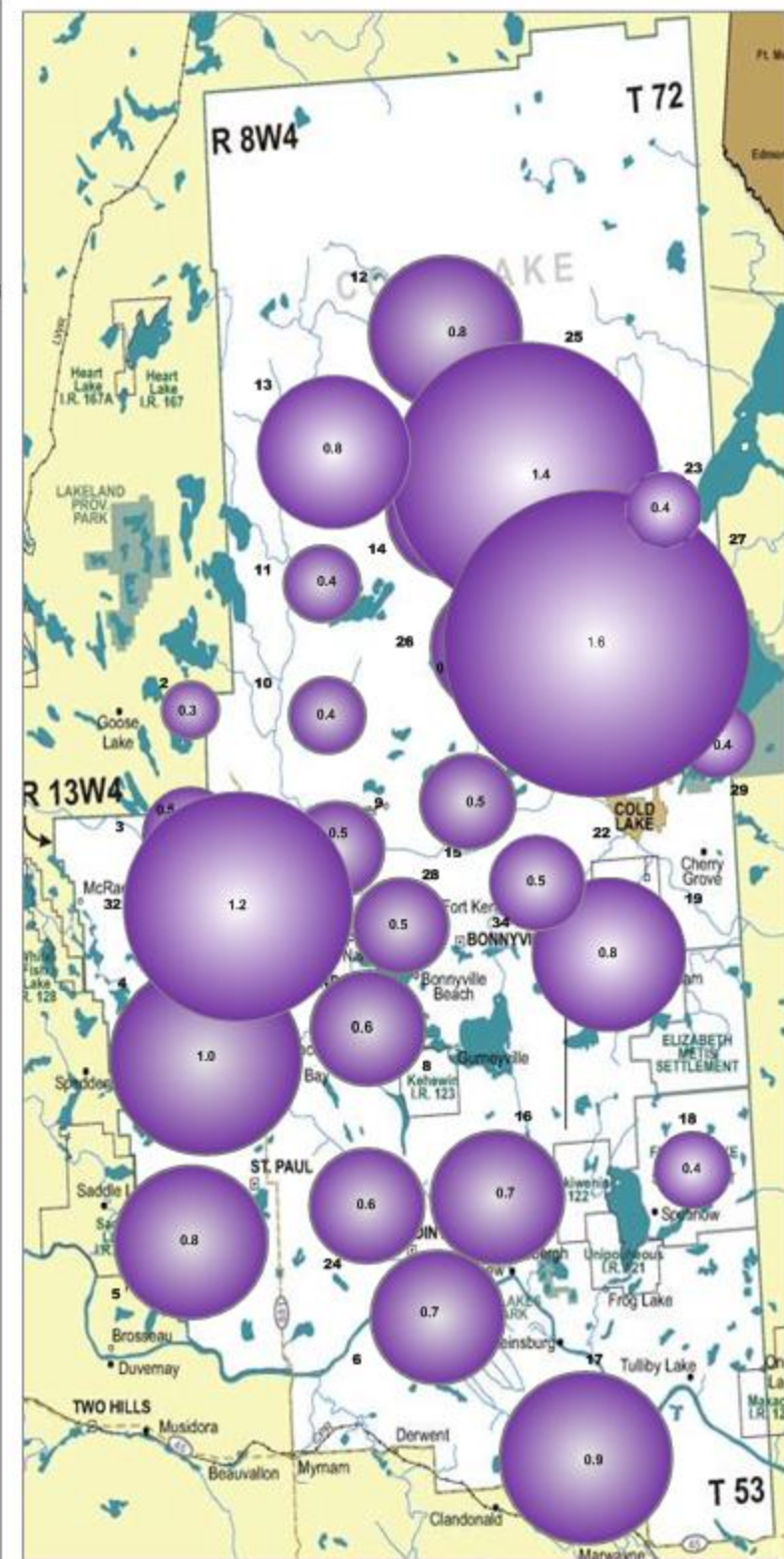
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	0.3 PPB	NA
3 – Therien	0.5 PPB	NA
4 – Flat Lake	1.0 PPB	1.0 PPB
5 – Lake Eliza	0.8 PPB	NA
6 – Telegraph Creek	0.7 PPB	0.7 PPB
8 – Muriel-Kehewin	0.6 PPB	NA
9 – Dupre	0.5 PPB	0.5 PPB
10 – La Corey	0.4 PPB	NA
11 – Wolf Lake	0.4 PPB	0.4 PPB
12 – Foster Creek	0.8 PPB	NA
13 – Primrose	0.8 PPB	0.9 PPB
14 – Maskwa	1.2 PPB	NA
15 – Ardmore	0.4 PPB	0.5 PPB
16 – Frog Lake	0.7 PPB	NA
17 – Clear Range	1.0 PPB	0.8 PPB
18 – Fishing Lake	0.4 PPB	NA
19 – Beaverdam	0.8 PPB	0.7 PPB
22 – Cold Lake South	0.5 PPB	NA
23 – Medley-Martineau	0.4 PPB	NA
24 – Fort George	0.6 PPB	0.6 PPB
25 – Burnt Lake	1.4 PPB	NA
26 – Mahikan	0.7 PPB	0.7 PPB
27 – Mahkeses	1.6 PPB	NA
28 – Town of Bonnyville	0.5 PPB	0.5 PPB
29 – Cold Lake South 2	0.4 PPB	NA
32 – St. Lina	1.2 PPB	NA
34 – Portable	0.5 PPB	NA



Summary

Minimum : 0.3 PPB – Sand River
 Maximum: 1.6 PPB –Mahkeses
 Average: 0.7 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 #: 2009/11/30 - 2009/12/29
Site:LICA

Attention: MICHAEL BISAGA

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

Report Date: 2010/01/21

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B000331

Received: 2010/01/05, 12:59

Sample Matrix: Air
Samples Received: 44

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
H2S Passive Analysis (1)	24	2010/01/20	2010/01/21	EINDSOP-00150	Tang.Passive H2S in
H2S Passive Analysis (1)	1	2010/01/21	2010/01/21	EINDSOP-00150	Tang.Passive H2S in
NO2 Passive Analysis (1)	34	2010/01/13	2010/01/20	EINDSOP-00148	Tang Passive NO2 in
O3 Passive Analysis (1)	34	2010/01/18	2010/01/20	EINDSOP-00197	EPA 300 R2.1
SO2 Passive Analysis (1)	37	2010/01/18	2010/01/20	EINDSOP-00149	Tang Passive SO2 in
SO2 Passive Analysis (1)	1	2010/01/18	2010/01/21	EINDSOP-00149	Tang Passive SO2 in

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

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

Encryption Key

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

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

=====

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		S34021	S34022	S34023	S34024		
Sampling Date		2009/11/30 08:00	2009/11/30 07:15	2009/11/30 07:15	2009/12/01 12:40		
	Units	2	3	3A (DUP)	4	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb		0.19	0.20		0.02	3689487
Calculated NO2	ppb	2.6	4.6		3.6	0.1	3672480
Calculated O3	ppb	17.4	20.6		22.1	0.1	3682402
Calculated SO2	ppb	0.3	0.5		1.0	0.1	3683144
RDL = Reportable Detection Limit							

Maxxam ID		S34025	S34026	S34027	S34028		
Sampling Date		2009/12/01 12:40	2009/12/01 11:40	2009/12/01 10:20	2009/12/01 10:20		
	Units	4 (DUP)	5	6	6A (DUP)	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb		0.19			0.02	3689487
Calculated NO2	ppb	3.0	2.5	3.8	3.5	0.1	3672480
Calculated O3	ppb	23.5	20.5	21.9	20.6	0.1	3682402
Calculated SO2	ppb	1.0	0.8	0.7	0.7	0.1	3683144
RDL = Reportable Detection Limit							

Maxxam ID		S34029	S34030	S34031	S34032		
Sampling Date		2009/12/01 13:35	2009/11/30 17:05	2009/11/30 17:05	2009/11/30 08:50		
	Units	8	9	9A (DUP)	10	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb				0.20	0.02	3689487
Calculated NO2	ppb	2.8	3.4	4.1	5.0	0.1	3672480
Calculated O3	ppb	25.6	21.5	22.3	18.0	0.1	3682402
Calculated SO2	ppb	0.6	0.5	0.5	0.4	0.1	3683144
RDL = Reportable Detection Limit							

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		S34033	S34034		S34035		
Sampling Date		2009/11/30 09:30	2009/11/30 09:30		2009/11/30 10:45		
	Units	11	11A (DUP)	QC Batch	12	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb	0.15	0.15	3689487	0.17	0.02	3689487
Calculated NO2	ppb	1.8	1.7	3672480	2.4	0.1	3672481
Calculated O3	ppb	17.8	20.7	3682402	19.8	0.1	3682402
Calculated SO2	ppb	0.4	0.4	3683144	0.8	0.1	3683144
RDL = Reportable Detection Limit							

Maxxam ID		S34036	S34037		S34038		
Sampling Date		2009/11/30 12:15	2009/11/30 12:15		2009/11/30 13:15		
	Units	13	13A (DUP)	QC Batch	14	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb	0.16	0.16	3689487	0.30	0.02	3689487
Calculated NO2	ppb	2.1	1.9	3672481	3.8	0.1	3672481
Calculated O3	ppb	23.3	21.8	3682402	18.3	0.1	3682403
Calculated SO2	ppb	0.8	0.9	3683144	1.2	0.1	3683145
RDL = Reportable Detection Limit							

Maxxam ID		S34039	S34040	S34041	S34042		
Sampling Date		2009/11/30 16:20	2009/12/01 08:50	2009/12/01 08:50	2009/12/01 09:35		
	Units	15	16	16A (DUP)	17	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb		0.20	0.19	0.26	0.02	3689487
Calculated NO2	ppb	4.2	3.4		4.1	0.1	3672481
Calculated O3	ppb	17.8	19.6		20.2	0.1	3682403
Calculated SO2	ppb	0.4	0.7		1.0	0.1	3683145
RDL = Reportable Detection Limit							

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		S34043	S34044	S34045	S34046		
Sampling Date		2009/12/01 09:35	2009/12/01 08:05	2009/12/01 08:05	2009/12/01 07:05		
	Units	17A (DUP)	18	18A (DUP)	19	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb		0.16	0.23		0.02	3689487
Calculated NO2	ppb	4.0	2.0		2.0	0.1	3672481
Calculated O3	ppb	20.9	19.3		22.4	0.1	3682403
Calculated SO2	ppb	0.8	0.4		0.8	0.1	3683145
RDL = Reportable Detection Limit							

Maxxam ID		S34047	S34048	S34049	S34050		
Sampling Date		2009/12/01 07:05	2009/11/30 15:25	2009/11/30 14:40	2009/12/01 10:55		
	Units	19A (DUP)	22	23	24	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb		0.17		0.24	0.02	3689487
Calculated NO2	ppb	2.0	5.9	1.3	3.9	0.1	3672481
Calculated O3	ppb	26.6	17.3	18.2	19.8	0.1	3682403
Calculated SO2	ppb	0.7	0.5	0.4	0.6	0.1	3683145
RDL = Reportable Detection Limit							

Maxxam ID		S34051	S34052	S34053	S34054		
Sampling Date		2009/12/01 10:55	2009/11/30 11:55	2009/11/30 11:55	2009/11/30 13:45		
	Units	24A (DUP)	25	25A (DUP)	27	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb		0.15	0.14	0.20	0.02	3689487
Calculated NO2	ppb	3.6				0.1	3672481
Calculated O3	ppb	19.1				0.1	3682403
Calculated SO2	ppb	0.6	1.4		1.6	0.1	3683145
RDL = Reportable Detection Limit							

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		S34055	S34056	S34057	S34058		
Sampling Date		2009/11/30 13:45	2009/12/01 14:10	2009/12/01 14:10	2009/11/30 15:35		
	Units	27A (DUP)	28	28A (DUP)	29	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb	0.21			0.16	0.02	3689487
Calculated NO2	ppb		9.3		4.1	0.1	3672481
Calculated O3	ppb		14.8		18.9	0.1	3682403
Calculated SO2	ppb		0.5	0.5	0.4	0.1	3683145
RDL = Reportable Detection Limit							

Maxxam ID		S34059	S34060	S34064	S34120		
Sampling Date		2009/11/30 15:35	2009/11/30 06:35	2009/12/04 12:00	2009/11/30 16:20		
	Units	29A (DUP)	32	34	15A (DUP)	RDL	QC Batch

Passive Monitoring							
Calculated H2S	ppb		0.19	0.21		0.02	3689487
Calculated NO2	ppb	5.7	3.0	8.4	3.0	0.1	3672481
Calculated O3	ppb	16.8	26.3	18.5	19.0	0.1	3682403
Calculated SO2	ppb		1.2	0.5	0.5	0.1	3683145
RDL = Reportable Detection Limit							

Maxxam ID		S34121	S34122		
Sampling Date		2009/11/30 12:55	2009/11/30 12:55		
	Units	26	26A (DUP)	RDL	QC Batch

Passive Monitoring					
Calculated H2S	ppb	0.19		0.02	3689487
Calculated SO2	ppb	0.7	0.7	0.1	3683145
RDL = Reportable Detection Limit					



Maxxam Job #: B000331
Report Date: 2010/01/21

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2009/11/30 - 2009/12/29
Site Reference: LICA
Sampler Initials: SB

General Comments

Results relate only to the items tested.

Quality Assurance Report
 Maxxam Job Number: PB000331

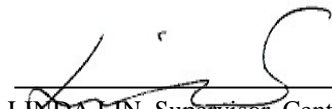
QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3672480 DF4	Calibration Check	Calculated NO2	2010/01/13		99	%	76 - 118
	Spiked Blank	Calculated NO2	2010/01/13		101	%	N/A
	Method Blank	Calculated NO2	2010/01/13	<0.1		ppb	
3672481 DF4	Calibration Check	Calculated NO2	2010/01/13		99	%	76 - 118
	Spiked Blank	Calculated NO2	2010/01/13		102	%	N/A
	Method Blank	Calculated NO2	2010/01/13	<0.1		ppb	
3682402 OZ	Calibration Check	Calculated O3	2010/01/18		96	%	91 - 107
	Spiked Blank	Calculated O3	2010/01/18		102	%	N/A
	Method Blank	Calculated O3	2010/01/18	<0.1		ppb	
3682403 OZ	Calibration Check	Calculated O3	2010/01/18		101	%	91 - 107
	Spiked Blank	Calculated O3	2010/01/18		101	%	N/A
	Method Blank	Calculated O3	2010/01/18	<0.1		ppb	
3683144 DF4	Calibration Check	Calculated SO2	2010/01/18		97	%	95 - 105
	Spiked Blank	Calculated SO2	2010/01/18		98	%	N/A
	Method Blank	Calculated SO2	2010/01/18	<0.1		ppb	
3683145 DF4	Calibration Check	Calculated SO2	2010/01/18		97	%	95 - 105
	Spiked Blank	Calculated SO2	2010/01/18		103	%	N/A
	Method Blank	Calculated SO2	2010/01/18	<0.1		ppb	
3689487 TM5	Calibration Check	Calculated H2S	2010/01/20		103	%	80 - 120
	Spiked Blank	Calculated H2S	2010/01/20		100	%	N/A

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 #: B000331

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

=====

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.

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: 7796 (Maxxam Supplied)
 Station ID: Lica 1 Canister Installation Date/Time: Dec 2, 09 @ 20:10 mst
 Field Sample ID: LICA VOC/ CLS / Dec 3, 09 Canister Removal Date/Time: Dec 4, 09 @ 09:55 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
03-Dec-09	12/03/2009 0:00	12/04/2009 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	20.5

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



Your Project #: COLD LAKE SOUTH
 Site: 13-16-62-5 W4M
 Your C.O.C. #: 5348

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 #: A9G6150
Received: 2009/12/08, 16:59

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/12/09	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/12/09	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

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

RESULTS OF ANALYSES OF AIR

Maxxam ID		EP0572	EP0573		
Sampling Date		2009/12/03 00:00	2009/12/03 00:00		
COC Number		5348	5348		
	Units	LICA	LICA	DL	QC Batch
		VOC/CLS/DEC3,09	VOC/PORT/DEC3,09		

Volatile Organics					
Pressure on Receipt	psig	20	20	N/A	2032777

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

 Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0572				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/DEC3,09				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2032784
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2032784
Propene	ppbv	<0.30	0.30	<0.516	0.516	2032784
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2032784
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2032784
Dichlorodifluoromethane (FREON 12)	ppbv	0.75	0.20	3.71	0.989	2032784
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2032784
Chloromethane	ppbv	0.57	0.30	1.18	0.620	2032784
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2032784
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2032784
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2032784
Trichlorofluoromethane (FREON 11)	ppbv	0.35	0.20	1.98	1.12	2032784
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2032784
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2032784
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2032784
2-Propanone	ppbv	1.39	0.80	3.30	1.90	2032784
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2032784
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2032784
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2032784
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2032784
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2032784
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2032784
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2032784
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2032784
Methylene Chloride(Dichloromethane)	ppbv	0.45	0.30	1.56	1.04	2032784
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2032784
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2032784
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2032784
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2032784
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2032784
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2032784

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

 Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0572				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/DEC3,09				
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2032784
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2032784
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2032784
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2032784
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2032784
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2032784
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2032784
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2032784
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2032784
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2032784
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2032784
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2032784
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2032784
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2032784
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2032784
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2032784
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2032784
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2032784
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2032784
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2032784
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2032784
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2032784
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2032784
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2032784
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2032784
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2032784
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2032784
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2032784
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2032784
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2032784
QC Batch = Quality Control Batch						

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0572				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/DEC3,09				

Surrogate Recovery (%)						
Bromochloromethane	%	87		N/A	N/A	2032784
D5-Chlorobenzene	%	85		N/A	N/A	2032784
Difluorobenzene	%	88		N/A	N/A	2032784

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

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

 Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0573				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/DEC3,09				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2032784
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2032784
Propene	ppbv	0.36	0.30	0.616	0.516	2032784
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2032784
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2032784
Dichlorodifluoromethane (FREON 12)	ppbv	0.74	0.20	3.67	0.989	2032784
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2032784
Chloromethane	ppbv	0.56	0.30	1.16	0.620	2032784
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2032784
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2032784
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2032784
Trichlorofluoromethane (FREON 11)	ppbv	0.35	0.20	1.96	1.12	2032784
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2032784
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2032784
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2032784
2-Propanone	ppbv	1.64	0.80	3.89	1.90	2032784
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2032784
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2032784
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2032784
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2032784
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2032784
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2032784
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2032784
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2032784
Methylene Chloride(Dichloromethane)	ppbv	0.44	0.30	1.53	1.04	2032784
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2032784
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2032784
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2032784
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2032784
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2032784
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2032784

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

 Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0573				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/DEC3,09				
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2032784
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2032784
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2032784
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2032784
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2032784
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2032784
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2032784
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2032784
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2032784
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2032784
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2032784
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2032784
Benzene	ppbv	0.22	0.18	0.688	0.575	2032784
Toluene	ppbv	0.22	0.20	0.840	0.753	2032784
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2032784
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2032784
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2032784
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2032784
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2032784
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2032784
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2032784
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2032784
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2032784
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2032784
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2032784
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2032784
Cyclohexane	ppbv	0.68	0.20	2.33	0.688	2032784
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2032784
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2032784
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2032784
QC Batch = Quality Control Batch						

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0573				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/DEC3,09				

Surrogate Recovery (%)						
Bromochloromethane	%	86		N/A	N/A	2032784
D5-Chlorobenzene	%	84		N/A	N/A	2032784
Difluorobenzene	%	88		N/A	N/A	2032784

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

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

Test Summary

Maxxam ID EP0572
Sample ID LICA VOC/CLS/DEC3,09
Matrix AIR
Collected 2009/12/03
Shipped
Received 2009/12/08

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2032777	N/A	2009/12/09	LSY
Volatile Organics in Air (TO-15)	GC/MS	2032784	N/A	2009/12/09	LSY

Maxxam ID EP0573
Sample ID LICA VOC/PORT/DEC3,09
Matrix AIR
Collected 2009/12/03
Shipped
Received 2009/12/08

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2032777	N/A	2009/12/09	LSY
Volatile Organics in Air (TO-15)	GC/MS	2032784	N/A	2009/12/09	LSY

Maxxam Job #: A9G6150
Report Date: 2009/12/11

Lakeland Industry & Community Assoc.
Client Project #: COLD LAKE SOUTH
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 #: COLD LAKE SOUTH
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report

Maxxam Job Number: GA9G6150

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2032784 LSY	Spiked Blank	Bromochloromethane	2009/12/09		108	%	60 - 140
		D5-Chlorobenzene	2009/12/09		106	%	60 - 140
		Difluorobenzene	2009/12/09		110	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/09		91	%	70 - 130
		Carbon Disulfide	2009/12/09		91	%	70 - 130
		Propene	2009/12/09		90	%	70 - 130
		Vinyl Acetate	2009/12/09		104	%	70 - 130
		Vinyl Bromide	2009/12/09		93	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/12/09		95	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/12/09		81	%	70 - 130
		Chloromethane	2009/12/09		87	%	70 - 130
		Vinyl Chloride	2009/12/09		93	%	70 - 130
		Chloroethane	2009/12/09		93	%	70 - 130
		1,3-Butadiene	2009/12/09		80	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/12/09		95	%	70 - 130
		Trichlorotrifluoroethane	2009/12/09		94	%	70 - 130
		Ethanol	2009/12/09		79	%	70 - 130
		2-propanol	2009/12/09		82	%	70 - 130
		2-Propanone	2009/12/09		92	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/12/09		96	%	70 - 130
		Methyl Isobutyl Ketone	2009/12/09		89	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/12/09		88	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/12/09		100	%	70 - 130
		Ethyl Acetate	2009/12/09		90	%	70 - 130
		1,1-Dichloroethylene	2009/12/09		93	%	70 - 130
		cis-1,2-Dichloroethylene	2009/12/09		91	%	70 - 130
		trans-1,2-Dichloroethylene	2009/12/09		93	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/12/09		82	%	70 - 130
		Chloroform	2009/12/09		94	%	70 - 130
		Carbon Tetrachloride	2009/12/09		102	%	70 - 130
		1,1-Dichloroethane	2009/12/09		92	%	70 - 130
		1,2-Dichloroethane	2009/12/09		92	%	70 - 130
		Ethylene Dibromide	2009/12/09		88	%	70 - 130
		1,1,1-Trichloroethane	2009/12/09		97	%	70 - 130
		1,1,2-Trichloroethane	2009/12/09		92	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/12/09		86	%	70 - 130
		cis-1,3-Dichloropropene	2009/12/09		99	%	70 - 130
		trans-1,3-Dichloropropene	2009/12/09		96	%	70 - 130
		1,2-Dichloropropane	2009/12/09		90	%	70 - 130
		Bromomethane	2009/12/09		90	%	70 - 130
		Bromoform	2009/12/09		101	%	70 - 130
		Bromodichloromethane	2009/12/09		98	%	70 - 130
		Dibromochloromethane	2009/12/09		97	%	70 - 130
		Heptane	2009/12/09		91	%	70 - 130
		Trichloroethylene	2009/12/09		93	%	70 - 130
		Tetrachloroethylene	2009/12/09		94	%	70 - 130
		Benzene	2009/12/09		90	%	70 - 130
		Toluene	2009/12/09		91	%	70 - 130
		Ethylbenzene	2009/12/09		90	%	70 - 130
		p+m-Xylene	2009/12/09		90	%	70 - 130
		o-Xylene	2009/12/09		90	%	70 - 130
		Styrene	2009/12/09		88	%	70 - 130
		1,3,5-Trimethylbenzene	2009/12/09		81	%	70 - 130
		1,2,4-Trimethylbenzene	2009/12/09		78	%	70 - 130
		4-ethyltoluene	2009/12/09		83	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G6150

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2032784 LSY	Spiked Blank	Chlorobenzene	2009/12/09		89	%	70 - 130
		Benzyl chloride	2009/12/09		92	%	70 - 130
		1,3-Dichlorobenzene	2009/12/09		78	%	70 - 130
		1,4-Dichlorobenzene	2009/12/09		75	%	70 - 130
		1,2-Dichlorobenzene	2009/12/09		75	%	70 - 130
		1,2,4-Trichlorobenzene	2009/12/09		109	%	70 - 130
		Hexachlorobutadiene	2009/12/09		113	%	70 - 130
		Hexane	2009/12/09		89	%	70 - 130
		Cyclohexane	2009/12/09		92	%	70 - 130
		Tetrahydrofuran	2009/12/09		90	%	70 - 130
		1,4-Dioxane	2009/12/09		81	%	70 - 130
	Method Blank	Bromochloromethane	2009/12/09		95	%	60 - 140
		D5-Chlorobenzene	2009/12/09		91	%	60 - 140
		Difluorobenzene	2009/12/09		96	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/09	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/12/09	ND, RDL=0.50		ppbv	
		Propene	2009/12/09	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/12/09	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/12/09	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/12/09	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/12/09	ND, RDL=0.17		ppbv	
		Chloromethane	2009/12/09	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/12/09	ND, RDL=0.18		ppbv	
		Chloroethane	2009/12/09	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/12/09	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/12/09	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/12/09	ND, RDL=0.15		ppbv	
		Ethanol	2009/12/09	ND, RDL=2.3		ppbv	
		2-propanol	2009/12/09	ND, RDL=3.0		ppbv	
		2-Propanone	2009/12/09	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/12/09	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/12/09	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/12/09	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/12/09	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/12/09	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/12/09	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/12/09	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/12/09	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/12/09	0.39, RDL=0.30		ppbv	
		Chloroform	2009/12/09	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/12/09	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/12/09	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/12/09	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/12/09	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/12/09	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/12/09	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/12/09	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/12/09	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/12/09	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/12/09	ND, RDL=0.40		ppbv	
		Bromomethane	2009/12/09	ND, RDL=0.18		ppbv	
		Bromoform	2009/12/09	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/12/09	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/12/09	ND, RDL=0.20		ppbv	
		Heptane	2009/12/09	ND, RDL=0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G6150

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2032784 LSY	Method Blank	Trichloroethylene	2009/12/09	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/12/09	ND, RDL=0.20		ppbv	
		Benzene	2009/12/09	ND, RDL=0.18		ppbv	
		Toluene	2009/12/09	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/12/09	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/12/09	ND, RDL=0.37		ppbv	
		o-Xylene	2009/12/09	ND, RDL=0.20		ppbv	
		Styrene	2009/12/09	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/12/09	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/12/09	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/12/09	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/12/09	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/12/09	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/12/09	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/12/09	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/12/09	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/12/09	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/12/09	ND, RDL=3.0		ppbv	
		Hexane	2009/12/09	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/12/09	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/12/09	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/12/09	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/12/09	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: 7871 (Maxxam Supplied)
 Station ID: Lica 1 Canister Installation Date/Time: Dec 8, 09 @ 8:00 mst
 Field Sample ID: LICA VOC/ CLS / Dec 9, 09 Canister Removal Date/Time: Dec 10, 09 @ 09:55 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
09-Dec-09	12/09/2009 0:00	12/10/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	579	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 Project #: 13-16-62-5 W4M
 Site: COLD LAKE SOUTH
 Your C.O.C. #: 2801

Attention: Shea Beaton

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

Report Date: 2009/12/18

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G8323

Received: 2009/12/12, 15:04

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/12/14	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/12/14	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 #: A9G8323
 Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

RESULTS OF ANALYSES OF AIR

Maxxam ID		EQ3259	EQ3260		
Sampling Date		2009/12/09	2009/12/09		
		00:00	00:00		
COC Number		2801	2801		
	Units	LICAVOC/PORT/DEC9,09	LICAVOC/CLS/DEC9,09	DL	QC Batch

Volatile Organics					
Pressure on Receipt	psig	19	19	N/A	2036813

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3259				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/PORT/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2036817
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2036817
Propene	ppbv	<0.30	0.30	<0.516	0.516	2036817
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2036817
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2036817
Dichlorodifluoromethane (FREON 12)	ppbv	0.73	0.20	3.61	0.989	2036817
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2036817
Chloromethane	ppbv	0.58	0.30	1.19	0.620	2036817
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2036817
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2036817
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2036817
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.92	1.12	2036817
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2036817
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2036817
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2036817
2-Propanone	ppbv	2.14	0.80	5.08	1.90	2036817
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2036817
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2036817
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2036817
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2036817
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2036817
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2036817
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2036817
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2036817
Methylene Chloride(Dichloromethane)	ppbv	0.45	0.30	1.55	1.04	2036817
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2036817
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2036817
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2036817
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2036817
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2036817
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2036817
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2036817

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3259				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/PORT/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2036817
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2036817
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2036817
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2036817
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2036817
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2036817
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2036817
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2036817
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2036817
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2036817
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2036817
Benzene	ppbv	0.25	0.18	0.804	0.575	2036817
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2036817
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2036817
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2036817
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2036817
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2036817
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2036817
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2036817
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2036817
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2036817
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2036817
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2036817
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2036817
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2036817
Cyclohexane	ppbv	0.44	0.20	1.50	0.688	2036817
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2036817
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2036817
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2036817
Surrogate Recovery (%)						
Bromochloromethane	%	92		N/A	N/A	2036817
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3259				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/PORT/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch

D5-Chlorobenzene	%	90		N/A	N/A	2036817
Difluorobenzene	%	93		N/A	N/A	2036817

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

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3260				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/CLS/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2036817
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2036817
Propene	ppbv	<0.30	0.30	<0.516	0.516	2036817
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2036817
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2036817
Dichlorodifluoromethane (FREON 12)	ppbv	0.74	0.20	3.65	0.989	2036817
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2036817
Chloromethane	ppbv	0.54	0.30	1.11	0.620	2036817
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2036817
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2036817
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2036817
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.94	1.12	2036817
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2036817
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2036817
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2036817
2-Propanone	ppbv	<0.80	0.80	<1.90	1.90	2036817
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2036817
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2036817
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2036817
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2036817
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2036817
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2036817
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2036817
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2036817
Methylene Chloride(Dichloromethane)	ppbv	0.46	0.30	1.59	1.04	2036817
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2036817
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2036817
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2036817
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2036817
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2036817
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2036817
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2036817
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3260				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/CLS/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2036817
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2036817
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2036817
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2036817
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2036817
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2036817
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2036817
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2036817
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2036817
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2036817
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2036817
Benzene	ppbv	0.33	0.18	1.05	0.575	2036817
Toluene	ppbv	0.24	0.20	0.921	0.753	2036817
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2036817
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2036817
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2036817
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2036817
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2036817
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2036817
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2036817
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2036817
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2036817
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2036817
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2036817
Hexane	ppbv	0.32	0.30	1.11	1.06	2036817
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2036817
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2036817
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2036817
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2036817
Surrogate Recovery (%)						
Bromochloromethane	%	90		N/A	N/A	2036817
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3260				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/CLS/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch

D5-Chlorobenzene	%	87		N/A	N/A	2036817
Difluorobenzene	%	90		N/A	N/A	2036817

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

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID EQ3259
Sample ID LICAVOC/PORT/DEC9,09
Matrix AIR
Collected 2009/12/09
Shipped
Received 2009/12/12

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2036813	N/A	2009/12/14	LSY
Volatile Organics in Air (TO-15)	GC/MS	2036817	N/A	2009/12/14	LSY

Maxxam ID EQ3260
Sample ID LICAVOC/CLS/DEC9,09
Matrix AIR
Collected 2009/12/09
Shipped
Received 2009/12/12

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2036813	N/A	2009/12/14	LSY
Volatile Organics in Air (TO-15)	GC/MS	2036817	N/A	2009/12/14	LSY

Maxxam Job #: A9G8323
Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5 W4M
Project name: COLD LAKE SOUTH

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GA9G8323

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2036817 LSY	Spiked Blank	Bromochloromethane	2009/12/14		110	%	60 - 140
		D5-Chlorobenzene	2009/12/14		111	%	60 - 140
		Difluorobenzene	2009/12/14		112	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/14		88	%	70 - 130
		Carbon Disulfide	2009/12/14		89	%	70 - 130
		Propene	2009/12/14		87	%	70 - 130
		Vinyl Acetate	2009/12/14		100	%	70 - 130
		Vinyl Bromide	2009/12/14		91	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/12/14		93	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/12/14		81	%	70 - 130
		Chloromethane	2009/12/14		88	%	70 - 130
		Vinyl Chloride	2009/12/14		92	%	70 - 130
		Chloroethane	2009/12/14		91	%	70 - 130
		1,3-Butadiene	2009/12/14		79	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/12/14		94	%	70 - 130
		Trichlorotrifluoroethane	2009/12/14		92	%	70 - 130
		Ethanol	2009/12/14		83	%	70 - 130
		2-propanol	2009/12/14		82	%	70 - 130
		2-Propanone	2009/12/14		93	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/12/14		94	%	70 - 130
		Methyl Isobutyl Ketone	2009/12/14		85	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/12/14		82	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/12/14		98	%	70 - 130
		Ethyl Acetate	2009/12/14		87	%	70 - 130
		1,1-Dichloroethylene	2009/12/14		90	%	70 - 130
		cis-1,2-Dichloroethylene	2009/12/14		89	%	70 - 130
		trans-1,2-Dichloroethylene	2009/12/14		91	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/12/14		80	%	70 - 130
		Chloroform	2009/12/14		91	%	70 - 130
		Carbon Tetrachloride	2009/12/14		100	%	70 - 130
		1,1-Dichloroethane	2009/12/14		89	%	70 - 130
		1,2-Dichloroethane	2009/12/14		90	%	70 - 130
		Ethylene Dibromide	2009/12/14		87	%	70 - 130
		1,1,1-Trichloroethane	2009/12/14		95	%	70 - 130
		1,1,2-Trichloroethane	2009/12/14		91	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/12/14		84	%	70 - 130
		cis-1,3-Dichloropropene	2009/12/14		96	%	70 - 130
		trans-1,3-Dichloropropene	2009/12/14		93	%	70 - 130
		1,2-Dichloropropane	2009/12/14		87	%	70 - 130
		Bromomethane	2009/12/14		89	%	70 - 130
		Bromoform	2009/12/14		100	%	70 - 130
		Bromodichloromethane	2009/12/14		97	%	70 - 130
		Dibromochloromethane	2009/12/14		96	%	70 - 130
		Heptane	2009/12/14		89	%	70 - 130
		Trichloroethylene	2009/12/14		91	%	70 - 130
		Tetrachloroethylene	2009/12/14		94	%	70 - 130
		Benzene	2009/12/14		87	%	70 - 130
		Toluene	2009/12/14		90	%	70 - 130
		Ethylbenzene	2009/12/14		87	%	70 - 130
		p+m-Xylene	2009/12/14		87	%	70 - 130
		o-Xylene	2009/12/14		87	%	70 - 130
		Styrene	2009/12/14		78	%	70 - 130
		1,3,5-Trimethylbenzene	2009/12/14		79	%	70 - 130
		1,2,4-Trimethylbenzene	2009/12/14		77	%	70 - 130
		4-ethyltoluene	2009/12/14		81	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G8323

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2036817 LSY	Spiked Blank	Chlorobenzene	2009/12/14		86	%	70 - 130
		Benzyl chloride	2009/12/14		91	%	70 - 130
		1,3-Dichlorobenzene	2009/12/14		79	%	70 - 130
		1,4-Dichlorobenzene	2009/12/14		75	%	70 - 130
		1,2-Dichlorobenzene	2009/12/14		77	%	70 - 130
		1,2,4-Trichlorobenzene	2009/12/14		109	%	70 - 130
		Hexachlorobutadiene	2009/12/14		116	%	70 - 130
		Hexane	2009/12/14		85	%	70 - 130
		Cyclohexane	2009/12/14		89	%	70 - 130
		Tetrahydrofuran	2009/12/14		86	%	70 - 130
		1,4-Dioxane	2009/12/14		79	%	70 - 130
	Method Blank	Bromochloromethane	2009/12/14		91	%	60 - 140
		D5-Chlorobenzene	2009/12/14		88	%	60 - 140
		Difluorobenzene	2009/12/14		93	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/14	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/12/14	ND, RDL=0.50		ppbv	
		Propene	2009/12/14	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/12/14	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/12/14	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/12/14	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/12/14	ND, RDL=0.17		ppbv	
		Chloromethane	2009/12/14	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/12/14	ND, RDL=0.18		ppbv	
		Chloroethane	2009/12/14	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/12/14	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/12/14	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/12/14	ND, RDL=0.15		ppbv	
		Ethanol	2009/12/14	ND, RDL=2.3		ppbv	
		2-propanol	2009/12/14	ND, RDL=3.0		ppbv	
		2-Propanone	2009/12/14	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/12/14	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/12/14	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/12/14	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/12/14	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/12/14	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/12/14	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/12/14	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/12/14	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/12/14	0.41, RDL=0.30		ppbv	
		Chloroform	2009/12/14	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/12/14	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/12/14	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/12/14	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/12/14	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/12/14	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/12/14	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/12/14	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/12/14	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/12/14	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/12/14	ND, RDL=0.40		ppbv	
		Bromomethane	2009/12/14	ND, RDL=0.18		ppbv	
		Bromoform	2009/12/14	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/12/14	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/12/14	ND, RDL=0.20		ppbv	
		Heptane	2009/12/14	ND, RDL=0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G8323

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2036817 LSY	Method Blank	Trichloroethylene	2009/12/14	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/12/14	ND, RDL=0.20		ppbv	
		Benzene	2009/12/14	ND, RDL=0.18		ppbv	
		Toluene	2009/12/14	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/12/14	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/12/14	ND, RDL=0.37		ppbv	
		o-Xylene	2009/12/14	ND, RDL=0.20		ppbv	
		Styrene	2009/12/14	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/12/14	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/12/14	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/12/14	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/12/14	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/12/14	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/12/14	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/12/14	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/12/14	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/12/14	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/12/14	ND, RDL=3.0		ppbv	
		Hexane	2009/12/14	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/12/14	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/12/14	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/12/14	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/12/14	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: T2415 (Maxxam Supplied)
 Station ID: Lica 1 Canister Installation Date/Time: Dec 11, 09 @ 9:40 mst
 Field Sample ID: LICA VOC/ CLS / Dec 15, 09 Canister Removal Date/Time: Dec 16, 09 @ 10:20 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
15-Dec-09	12/15/2009 0:00	12/16/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	550	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	18

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 Project #: 13-16-62-5-W4M
 Site: COLD LAKE SOUTH
 Your C.O.C. #: 2900

Attention: Shea Beaton

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

Report Date: 2009/12/23

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9H1413

Received: 2009/12/18, 09:48

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/12/22	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/12/22	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
 Email: 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.

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Total cover pages: 1

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

RESULTS OF ANALYSES OF AIR

Maxxam ID		ER7195	ER7196		
Sampling Date		2009/12/15	2009/12/15		
COC Number		2900	2900		
	Units	LICA VOC/CLS/DEC15,09 / T2415	LICA VOC/PORT/DEC15,09 / T2501	DL	QC Batch
Volatile Organics					
Pressure on Receipt	psig	17	20	N/A	2043540
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7195				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/CLS/DEC15,09 / T2415	DL	ug/m3	DL (ug/m3)	QC Batch
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2043552
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2043552
Propene	ppbv	0.72	0.30	1.24	0.516	2043552
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2043552
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2043552
Dichlorodifluoromethane (FREON 12)	ppbv	0.63	0.20	3.11	0.989	2043552
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2043552
Chloromethane	ppbv	0.55	0.30	1.14	0.620	2043552
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2043552
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2043552
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2043552
Trichlorofluoromethane (FREON 11)	ppbv	0.32	0.20	1.79	1.12	2043552
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2043552
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2043552
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2043552
2-Propanone	ppbv	1.28	0.80	3.04	1.90	2043552
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2043552
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2043552
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2043552
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2043552
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2043552
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2043552
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2043552
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2043552
Methylene Chloride(Dichloromethane)	ppbv	0.37	0.30	1.29	1.04	2043552
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2043552
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2043552
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2043552
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2043552
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2043552
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2043552
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7195				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/CLS/DEC15,09 / T2415	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2043552
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2043552
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2043552
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2043552
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2043552
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2043552
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2043552
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2043552
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2043552
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2043552
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2043552
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2043552
Benzene	ppbv	0.23	0.18	0.726	0.575	2043552
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2043552
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2043552
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2043552
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2043552
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2043552
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2043552
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2043552
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2043552
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2043552
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2043552
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2043552
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2043552
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2043552
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2043552
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2043552
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2043552
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2043552
QC Batch = Quality Control Batch						

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7195				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/CLS/DEC15,09 / T2415	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	89		N/A	N/A	2043552
D5-Chlorobenzene	%	84		N/A	N/A	2043552
Difluorobenzene	%	90		N/A	N/A	2043552

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

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7196				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/PORT/DEC15,09 / T2501	DL	ug/m3	DL (ug/m3)	QC Batch
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2043552
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2043552
Propene	ppbv	0.59	0.30	1.01	0.516	2043552
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2043552
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2043552
Dichlorodifluoromethane (FREON 12)	ppbv	0.65	0.20	3.19	0.989	2043552
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2043552
Chloromethane	ppbv	0.53	0.30	1.10	0.620	2043552
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2043552
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2043552
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2043552
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.88	1.12	2043552
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2043552
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2043552
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2043552
2-Propanone	ppbv	1.44	0.80	3.42	1.90	2043552
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2043552
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2043552
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2043552
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2043552
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2043552
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2043552
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2043552
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2043552
Methylene Chloride(Dichloromethane)	ppbv	0.39	0.30	1.35	1.04	2043552
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2043552
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2043552
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2043552
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2043552
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2043552
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2043552
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7196				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/PORT/DEC15,09 / T2501	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2043552
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2043552
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2043552
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2043552
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2043552
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2043552
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2043552
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2043552
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2043552
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2043552
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2043552
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2043552
Benzene	ppbv	0.20	0.18	0.636	0.575	2043552
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2043552
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2043552
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2043552
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2043552
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2043552
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2043552
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2043552
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2043552
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2043552
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2043552
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2043552
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2043552
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2043552
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2043552
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2043552
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2043552
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2043552
QC Batch = Quality Control Batch						

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7196				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/PORT/DEC15,09 / T2501	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	88		N/A	N/A	2043552
D5-Chlorobenzene	%	83		N/A	N/A	2043552
Difluorobenzene	%	90		N/A	N/A	2043552

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

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID ER7195
Sample ID LICA VOC/CLS/DEC15,09 / T2415
Matrix AIR
Collected 2009/12/15
Shipped
Received 2009/12/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2043540	N/A	2009/12/22	S_S
Volatile Organics in Air (TO-15)	GC/MS	2043552	N/A	2009/12/22	S_S

Maxxam ID ER7195 Dup
Sample ID LICA VOC/CLS/DEC15,09 / T2415
Matrix AIR
Collected 2009/12/15
Shipped
Received 2009/12/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Volatile Organics in Air (TO-15)	GC/MS	2043552	N/A	2009/12/22	S_S

Maxxam ID ER7196
Sample ID LICA VOC/PORT/DEC15,09 / T2501
Matrix AIR
Collected 2009/12/15
Shipped
Received 2009/12/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2043540	N/A	2009/12/22	S_S
Volatile Organics in Air (TO-15)	GC/MS	2043552	N/A	2009/12/22	S_S

Maxxam Job #: A9H1413
Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5-W4M
Project name: COLD LAKE SOUTH

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GA9H1413

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2043552 S_S	Spiked Blank	Bromochloromethane	2009/12/22		107	%	60 - 140
		D5-Chlorobenzene	2009/12/22		103	%	60 - 140
		Difluorobenzene	2009/12/22		108	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/22		92	%	70 - 130
		Carbon Disulfide	2009/12/22		89	%	70 - 130
		Propene	2009/12/22		94	%	70 - 130
		Vinyl Acetate	2009/12/22		104	%	70 - 130
		Vinyl Bromide	2009/12/22		91	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/12/22		116	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/12/22		92	%	70 - 130
		Chloromethane	2009/12/22		97	%	70 - 130
		Vinyl Chloride	2009/12/22		100	%	70 - 130
		Chloroethane	2009/12/22		91	%	70 - 130
		1,3-Butadiene	2009/12/22		94	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/12/22		115	%	70 - 130
		Trichlorotrifluoroethane	2009/12/22		93	%	70 - 130
		Ethanol	2009/12/22		132 (1)	%	70 - 130
		2-propanol	2009/12/22		98	%	70 - 130
		2-Propanone	2009/12/22		123	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/12/22		112	%	70 - 130
		Methyl Isobutyl Ketone	2009/12/22		99	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/12/22		102	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/12/22		92	%	70 - 130
		Ethyl Acetate	2009/12/22		101	%	70 - 130
		1,1-Dichloroethylene	2009/12/22		90	%	70 - 130
		cis-1,2-Dichloroethylene	2009/12/22		97	%	70 - 130
		trans-1,2-Dichloroethylene	2009/12/22		97	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/12/22		95	%	70 - 130
		Chloroform	2009/12/22		96	%	70 - 130
		Carbon Tetrachloride	2009/12/22		99	%	70 - 130
		1,1-Dichloroethane	2009/12/22		97	%	70 - 130
		1,2-Dichloroethane	2009/12/22		103	%	70 - 130
		Ethylene Dibromide	2009/12/22		91	%	70 - 130
		1,1,1-Trichloroethane	2009/12/22		97	%	70 - 130
		1,1,2-Trichloroethane	2009/12/22		92	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/12/22		96	%	70 - 130
		cis-1,3-Dichloropropene	2009/12/22		107	%	70 - 130
		trans-1,3-Dichloropropene	2009/12/22		110	%	70 - 130
		1,2-Dichloropropane	2009/12/22		95	%	70 - 130
		Bromomethane	2009/12/22		92	%	70 - 130
		Bromoform	2009/12/22		93	%	70 - 130
		Bromodichloromethane	2009/12/22		100	%	70 - 130
		Dibromochloromethane	2009/12/22		94	%	70 - 130
		Heptane	2009/12/22		96	%	70 - 130
		Trichloroethylene	2009/12/22		86	%	70 - 130
		Tetrachloroethylene	2009/12/22		83	%	70 - 130
		Benzene	2009/12/22		87	%	70 - 130
		Toluene	2009/12/22		89	%	70 - 130
		Ethylbenzene	2009/12/22		86	%	70 - 130
		p+m-Xylene	2009/12/22		87	%	70 - 130
		o-Xylene	2009/12/22		88	%	70 - 130
		Styrene	2009/12/22		77	%	70 - 130
		1,3,5-Trimethylbenzene	2009/12/22		89	%	70 - 130
		1,2,4-Trimethylbenzene	2009/12/22		86	%	70 - 130
		4-ethyltoluene	2009/12/22		89	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9H1413

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2043552 S_S	Spiked Blank	Chlorobenzene	2009/12/22		86	%	70 - 130
		Benzyl chloride	2009/12/22		119	%	70 - 130
		1,3-Dichlorobenzene	2009/12/22		87	%	70 - 130
		1,4-Dichlorobenzene	2009/12/22		86	%	70 - 130
		1,2-Dichlorobenzene	2009/12/22		85	%	70 - 130
		1,2,4-Trichlorobenzene	2009/12/22		87	%	70 - 130
		Hexachlorobutadiene	2009/12/22		83	%	70 - 130
		Hexane	2009/12/22		90	%	70 - 130
		Cyclohexane	2009/12/22		91	%	70 - 130
		Tetrahydrofuran	2009/12/22		101	%	70 - 130
		1,4-Dioxane	2009/12/22		92	%	70 - 130
	Method Blank	Bromochloromethane	2009/12/22		104	%	60 - 140
		D5-Chlorobenzene	2009/12/22		97	%	60 - 140
		Difluorobenzene	2009/12/22		106	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/22	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/12/22	ND, RDL=0.50		ppbv	
		Propene	2009/12/22	0.31, RDL=0.30		ppbv	
		Vinyl Acetate	2009/12/22	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/12/22	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/12/22	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/12/22	ND, RDL=0.17		ppbv	
		Chloromethane	2009/12/22	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/12/22	ND, RDL=0.18		ppbv	
		Chloroethane	2009/12/22	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/12/22	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/12/22	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/12/22	ND, RDL=0.15		ppbv	
		Ethanol	2009/12/22	ND, RDL=2.3		ppbv	
		2-propanol	2009/12/22	ND, RDL=3.0		ppbv	
		2-Propanone	2009/12/22	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/12/22	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/12/22	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/12/22	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/12/22	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/12/22	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/12/22	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/12/22	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/12/22	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/12/22	0.33, RDL=0.30		ppbv	
		Chloroform	2009/12/22	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/12/22	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/12/22	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/12/22	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/12/22	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/12/22	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/12/22	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/12/22	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/12/22	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/12/22	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/12/22	ND, RDL=0.40		ppbv	
		Bromomethane	2009/12/22	ND, RDL=0.18		ppbv	
		Bromoform	2009/12/22	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/12/22	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/12/22	ND, RDL=0.20		ppbv	
		Heptane	2009/12/22	ND, RDL=0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9H1413

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2043552 S_S	Method Blank	Trichloroethylene	2009/12/22	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/12/22	ND, RDL=0.20		ppbv	
		Benzene	2009/12/22	ND, RDL=0.18		ppbv	
		Toluene	2009/12/22	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/12/22	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/12/22	ND, RDL=0.37		ppbv	
		o-Xylene	2009/12/22	ND, RDL=0.20		ppbv	
		Styrene	2009/12/22	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/12/22	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/12/22	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/12/22	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/12/22	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/12/22	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/12/22	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/12/22	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/12/22	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/12/22	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/12/22	ND, RDL=3.0		ppbv	
		Hexane	2009/12/22	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/12/22	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/12/22	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/12/22	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/12/22	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2009/12/22	NC		%	25
		Carbon Disulfide	2009/12/22	NC		%	25
		Propene	2009/12/22	NC		%	25
		Vinyl Acetate	2009/12/22	NC		%	25
		Vinyl Bromide	2009/12/22	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2009/12/22	NC		%	25
		1,2-Dichlorotetrafluoroethane	2009/12/22	NC		%	25
		Chloromethane	2009/12/22	NC		%	25
		Vinyl Chloride	2009/12/22	NC		%	25
		Chloroethane	2009/12/22	NC		%	25
		1,3-Butadiene	2009/12/22	NC		%	25
		Trichlorofluoromethane (FREON 11)	2009/12/22	NC		%	25
		Trichlorotrifluoroethane	2009/12/22	NC		%	25
		Ethanol	2009/12/22	NC		%	25
		2-propanol	2009/12/22	NC		%	25
		2-Propanone	2009/12/22	NC		%	25
		Methyl Ethyl Ketone (2-Butanone)	2009/12/22	NC		%	25
		Methyl Isobutyl Ketone	2009/12/22	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2009/12/22	NC		%	25
		Methyl t-butyl ether (MTBE)	2009/12/22	NC		%	25
		Ethyl Acetate	2009/12/22	NC		%	25
		1,1-Dichloroethylene	2009/12/22	NC		%	25
		cis-1,2-Dichloroethylene	2009/12/22	NC		%	25
		trans-1,2-Dichloroethylene	2009/12/22	NC		%	25
		Methylene Chloride(Dichloromethane)	2009/12/22	NC		%	25
		Chloroform	2009/12/22	NC		%	25
		Carbon Tetrachloride	2009/12/22	NC		%	25
		1,1-Dichloroethane	2009/12/22	NC		%	25
		1,2-Dichloroethane	2009/12/22	NC		%	25
		Ethylene Dibromide	2009/12/22	NC		%	25

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

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9H1413

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2043552 S_S	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2009/12/22	NC		%	25
		1,1,2-Trichloroethane	2009/12/22	NC		%	25
		1,1,2,2-Tetrachloroethane	2009/12/22	NC		%	25
		cis-1,3-Dichloropropene	2009/12/22	NC		%	25
		trans-1,3-Dichloropropene	2009/12/22	NC		%	25
		1,2-Dichloropropane	2009/12/22	NC		%	25
		Bromomethane	2009/12/22	NC		%	25
		Bromoform	2009/12/22	NC		%	25
		Bromodichloromethane	2009/12/22	NC		%	25
		Dibromochloromethane	2009/12/22	NC		%	25
		Heptane	2009/12/22	NC		%	25
		Trichloroethylene	2009/12/22	NC		%	25
		Tetrachloroethylene	2009/12/22	NC		%	25
		Benzene	2009/12/22	NC		%	25
		Toluene	2009/12/22	NC		%	25
		Ethylbenzene	2009/12/22	NC		%	25
		p+m-Xylene	2009/12/22	NC		%	25
		o-Xylene	2009/12/22	NC		%	25
		Styrene	2009/12/22	NC		%	25
		1,3,5-Trimethylbenzene	2009/12/22	NC		%	25
		1,2,4-Trimethylbenzene	2009/12/22	NC		%	25
		4-ethyltoluene	2009/12/22	NC		%	25
		Chlorobenzene	2009/12/22	NC		%	25
		Benzyl chloride	2009/12/22	NC		%	25
		1,3-Dichlorobenzene	2009/12/22	NC		%	25
		1,4-Dichlorobenzene	2009/12/22	NC		%	25
		1,2-Dichlorobenzene	2009/12/22	NC		%	25
		1,2,4-Trichlorobenzene	2009/12/22	NC		%	25
		Hexachlorobutadiene	2009/12/22	NC		%	25
		Hexane	2009/12/22	NC		%	25
		Cyclohexane	2009/12/22	NC		%	25
		Tetrahydrofuran	2009/12/22	NC		%	25
		1,4-Dioxane	2009/12/22	NC		%	25
		Xylene (Total)	2009/12/22	NC		%	25

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

Maxxam Analytics Inc.

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6167
 Location: Cold Lake South Canister ID: 7858 (Maxxam Supplied)
 Station ID: Lica 1 Canister Installation Date/Time: Dec 18, 09 @ 14:40 mst
 Field Sample ID: LICA VOC/ CLS / Dec 21, 09 Canister Removal Date/Time: Dec 22, 09 @ 13:00 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
21-Dec-09	12/21/2009 0:00	12/22/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	558	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 Project #: 13-16-62-5 W4M
Site: COLD LAKE SOUTH
Your C.O.C. #: 0579

Attention: Shea Beaton

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

Report Date: 2010/01/05

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9H3792

Received: 2009/12/24, 08:53

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/12/31	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/12/31	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 #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

RESULTS OF ANALYSES OF AIR

Maxxam ID		ET0037	ET0038		
Sampling Date		2009/12/21	2009/12/21		
COC Number		0579	0579		
	Units	LICA VOC/CLS/DEC21/09 - 7858	LICA VOC/PORT/DEC21/09 - 7870	DL	QC Batch

Volatile Organics					
Pressure on Receipt	psig	19	19	N/A	2048145

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0037				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA VOC/CLS/DEC21/09 - 7858	DL	ug/m3	DL (ug/m3)	QC Batch
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2048164
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2048164
Propene	ppbv	<0.30	0.30	<0.516	0.516	2048164
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2048164
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2048164
Dichlorodifluoromethane (FREON 12)	ppbv	0.77	0.20	3.82	0.989	2048164
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2048164
Chloromethane	ppbv	0.57	0.30	1.19	0.620	2048164
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2048164
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2048164
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2048164
Trichlorofluoromethane (FREON 11)	ppbv	0.38	0.20	2.13	1.12	2048164
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2048164
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2048164
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2048164
2-Propanone	ppbv	2.49	0.80	5.91	1.90	2048164
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2048164
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2048164
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2048164
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2048164
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2048164
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2048164
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2048164
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2048164
Methylene Chloride(Dichloromethane)	ppbv	0.49	0.30	1.70	1.04	2048164
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2048164
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2048164
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048164
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048164
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2048164
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2048164
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0037				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA VOC/CLS/DEC21/09 - 7858	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2048164
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2048164
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2048164
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2048164
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2048164
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2048164
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2048164
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2048164
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2048164
Heptane	ppbv	0.35	0.30	1.44	1.23	2048164
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2048164
Tetrachloroethylene	ppbv	0.36	0.20	2.46	1.36	2048164
Benzene	ppbv	0.38	0.18	1.22	0.575	2048164
Toluene	ppbv	0.38	0.20	1.41	0.753	2048164
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2048164
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2048164
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2048164
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2048164
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048164
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048164
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2048164
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2048164
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2048164
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2048164
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2048164
Hexane	ppbv	0.48	0.30	1.70	1.06	2048164
Cyclohexane	ppbv	0.93	0.20	3.21	0.688	2048164
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2048164
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2048164
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2048164
QC Batch = Quality Control Batch						

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0037				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA VOC/CLS/DEC21/09 - 7858	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	87		N/A	N/A	2048164
D5-Chlorobenzene	%	88		N/A	N/A	2048164
Difluorobenzene	%	90		N/A	N/A	2048164

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

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0038				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA VOC/PORT/DEC21/09 - 7870	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2048164
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2048164
Propene	ppbv	<0.30	0.30	<0.516	0.516	2048164
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2048164
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2048164
Dichlorodifluoromethane (FREON 12)	ppbv	0.77	0.20	3.81	0.989	2048164
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2048164
Chloromethane	ppbv	0.54	0.30	1.11	0.620	2048164
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2048164
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2048164
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2048164
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.06	1.12	2048164
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2048164
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2048164
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2048164
2-Propanone	ppbv	2.66	0.80	6.31	1.90	2048164
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2048164
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2048164
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2048164
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2048164
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2048164
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2048164
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2048164
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2048164
Methylene Chloride(Dichloromethane)	ppbv	0.42	0.30	1.44	1.04	2048164
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2048164
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2048164
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048164
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048164
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2048164
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2048164

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0038				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA VOC/PORT/DEC21/09 - 7870	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2048164
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2048164
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2048164
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2048164
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2048164
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2048164
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2048164
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2048164
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2048164
Heptane	ppbv	0.37	0.30	1.51	1.23	2048164
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2048164
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2048164
Benzene	ppbv	0.31	0.18	0.981	0.575	2048164
Toluene	ppbv	0.32	0.20	1.20	0.753	2048164
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2048164
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2048164
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2048164
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2048164
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048164
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048164
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2048164
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2048164
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2048164
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2048164
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2048164
Hexane	ppbv	0.48	0.30	1.70	1.06	2048164
Cyclohexane	ppbv	1.34	0.20	4.61	0.688	2048164
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2048164
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2048164
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2048164
QC Batch = Quality Control Batch						

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0038				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA VOC/PORT/DEC21/09 - 7870	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	87		N/A	N/A	2048164
D5-Chlorobenzene	%	88		N/A	N/A	2048164
Difluorobenzene	%	90		N/A	N/A	2048164

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

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID ET0037
Sample ID LICA VOC/CLS/DEC21/09 - 7858
Matrix AIR
Collected 2009/12/21
Shipped
Received 2009/12/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2048145	N/A	2009/12/31	LSY
Volatile Organics in Air (TO-15)	GC/MS	2048164	N/A	2009/12/31	LSY

Maxxam ID ET0038
Sample ID LICA VOC/PORT/DEC21/09 - 7870
Matrix AIR
Collected 2009/12/21
Shipped
Received 2009/12/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2048145	N/A	2009/12/31	LSY
Volatile Organics in Air (TO-15)	GC/MS	2048164	N/A	2009/12/31	LSY

Maxxam ID ET0038 Dup
Sample ID LICA VOC/PORT/DEC21/09 - 7870
Matrix AIR
Collected 2009/12/21
Shipped
Received 2009/12/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Volatile Organics in Air (TO-15)	GC/MS	2048164	N/A	2009/12/31	LSY

Maxxam Job #: A9H3792
Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5 W4M
Project name: COLD LAKE SOUTH

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GA9H3792

QA/QC Batch	Date Analyzed	Parameter	Value	%Recovery	Units	QC Limits
Num Init	yy/mm/dd					
2048164 LSY		Spiked Blank				
	2009/12/31	Bromochloromethane		107	%	60 - 140
	2009/12/31	D5-Chlorobenzene		106	%	60 - 140
	2009/12/31	Difluorobenzene		108	%	60 - 140
	2009/12/31	2,2,4-Trimethylpentane		94	%	70 - 130
	2009/12/31	Carbon Disulfide		96	%	70 - 130
	2009/12/31	Propene		90	%	70 - 130
	2009/12/31	Vinyl Acetate		109	%	70 - 130
	2009/12/31	Vinyl Bromide		101	%	70 - 130
	2009/12/31	Dichlorodifluoromethane (FREON 12)		104	%	70 - 130
	2009/12/31	1,2-Dichlorotetrafluoroethane		89	%	70 - 130
	2009/12/31	Chloromethane		92	%	70 - 130
	2009/12/31	Vinyl Chloride		97	%	70 - 130
	2009/12/31	Chloroethane		95	%	70 - 130
	2009/12/31	1,3-Butadiene		84	%	70 - 130
	2009/12/31	Trichlorofluoromethane (FREON 11)		106	%	70 - 130
	2009/12/31	Trichlorotrifluoroethane		101	%	70 - 130
	2009/12/31	Ethanol		75	%	70 - 130
	2009/12/31	2-propanol		84	%	70 - 130
	2009/12/31	2-Propanone		97	%	70 - 130
	2009/12/31	Methyl Ethyl Ketone (2-Butanone)		101	%	70 - 130
	2009/12/31	Methyl Isobutyl Ketone		90	%	70 - 130
	2009/12/31	Methyl Butyl Ketone (2-Hexanone)		87	%	70 - 130
	2009/12/31	Methyl t-butyl ether (MTBE)		107	%	70 - 130
	2009/12/31	Ethyl Acetate		89	%	70 - 130
	2009/12/31	1,1-Dichloroethylene		98	%	70 - 130
	2009/12/31	cis-1,2-Dichloroethylene		97	%	70 - 130
	2009/12/31	trans-1,2-Dichloroethylene		98	%	70 - 130
	2009/12/31	Methylene Chloride(Dichloromethane)		85	%	70 - 130
	2009/12/31	Chloroform		100	%	70 - 130
	2009/12/31	Carbon Tetrachloride		116	%	70 - 130
	2009/12/31	1,1-Dichloroethane		95	%	70 - 130
	2009/12/31	1,2-Dichloroethane		101	%	70 - 130
	2009/12/31	Ethylene Dibromide		97	%	70 - 130
	2009/12/31	1,1,1-Trichloroethane		109	%	70 - 130
	2009/12/31	1,1,2-Trichloroethane		100	%	70 - 130
	2009/12/31	1,1,2,2-Tetrachloroethane		92	%	70 - 130
	2009/12/31	cis-1,3-Dichloropropene		106	%	70 - 130
	2009/12/31	trans-1,3-Dichloropropene		106	%	70 - 130
	2009/12/31	1,2-Dichloropropane		94	%	70 - 130
	2009/12/31	Bromomethane		97	%	70 - 130
	2009/12/31	Bromoform		116	%	70 - 130
	2009/12/31	Bromodichloromethane		108	%	70 - 130
	2009/12/31	Dibromochloromethane		109	%	70 - 130
	2009/12/31	Heptane		93	%	70 - 130
	2009/12/31	Trichloroethylene		102	%	70 - 130
	2009/12/31	Tetrachloroethylene		106	%	70 - 130
	2009/12/31	Benzene		95	%	70 - 130
	2009/12/31	Toluene		98	%	70 - 130
	2009/12/31	Ethylbenzene		97	%	70 - 130
	2009/12/31	p+m-Xylene		98	%	70 - 130
	2009/12/31	o-Xylene		99	%	70 - 130
	2009/12/31	Styrene		93	%	70 - 130
	2009/12/31	1,3,5-Trimethylbenzene		92	%	70 - 130
	2009/12/31	1,2,4-Trimethylbenzene		89	%	70 - 130
	2009/12/31	4-ethyltoluene		94	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9H3792

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048164 LSY	Spiked Blank	Chlorobenzene	2009/12/31		97	%	70 - 130
		Benzyl chloride	2009/12/31		109	%	70 - 130
		1,3-Dichlorobenzene	2009/12/31		94	%	70 - 130
		1,4-Dichlorobenzene	2009/12/31		92	%	70 - 130
		1,2-Dichlorobenzene	2009/12/31		89	%	70 - 130
		1,2,4-Trichlorobenzene	2009/12/31		129	%	70 - 130
		Hexachlorobutadiene	2009/12/31		131 (1)	%	70 - 130
		Hexane	2009/12/31		89	%	70 - 130
		Cyclohexane	2009/12/31		94	%	70 - 130
		Tetrahydrofuran	2009/12/31		88	%	70 - 130
		1,4-Dioxane	2009/12/31		83	%	70 - 130
	Method Blank	Bromochloromethane	2009/12/31		88	%	60 - 140
		D5-Chlorobenzene	2009/12/31		84	%	60 - 140
		Difluorobenzene	2009/12/31		91	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/31	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/12/31	ND, RDL=0.50		ppbv	
		Propene	2009/12/31	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/12/31	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/12/31	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/12/31	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/12/31	ND, RDL=0.17		ppbv	
		Chloromethane	2009/12/31	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/12/31	ND, RDL=0.18		ppbv	
		Chloroethane	2009/12/31	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/12/31	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/12/31	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/12/31	ND, RDL=0.15		ppbv	
		Ethanol	2009/12/31	ND, RDL=2.3		ppbv	
		2-propanol	2009/12/31	ND, RDL=3.0		ppbv	
		2-Propanone	2009/12/31	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/12/31	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/12/31	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/12/31	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/12/31	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/12/31	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/12/31	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/12/31	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/12/31	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/12/31	0.36, RDL=0.30		ppbv	
		Chloroform	2009/12/31	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/12/31	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/12/31	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/12/31	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/12/31	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/12/31	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/12/31	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/12/31	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/12/31	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/12/31	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/12/31	ND, RDL=0.40		ppbv	
		Bromomethane	2009/12/31	ND, RDL=0.18		ppbv	
		Bromoform	2009/12/31	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/12/31	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/12/31	ND, RDL=0.20		ppbv	
		Heptane	2009/12/31	ND, RDL=0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9H3792

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048164 LSY	Method Blank	Trichloroethylene	2009/12/31	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/12/31	ND, RDL=0.20		ppbv	
		Benzene	2009/12/31	ND, RDL=0.18		ppbv	
		Toluene	2009/12/31	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/12/31	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/12/31	ND, RDL=0.37		ppbv	
		o-Xylene	2009/12/31	ND, RDL=0.20		ppbv	
		Styrene	2009/12/31	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/12/31	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/12/31	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/12/31	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/12/31	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/12/31	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/12/31	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/12/31	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/12/31	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/12/31	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/12/31	ND, RDL=3.0		ppbv	
		Hexane	2009/12/31	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/12/31	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/12/31	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/12/31	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/12/31	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2009/12/31	NC		%	25
		Carbon Disulfide	2009/12/31	NC		%	25
		Propene	2009/12/31	NC		%	25
		Vinyl Acetate	2009/12/31	NC		%	25
		Vinyl Bromide	2009/12/31	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2009/12/31	NC		%	25
		1,2-Dichlorotetrafluoroethane	2009/12/31	NC		%	25
		Chloromethane	2009/12/31	NC		%	25
		Vinyl Chloride	2009/12/31	NC		%	25
		Chloroethane	2009/12/31	NC		%	25
		1,3-Butadiene	2009/12/31	NC		%	25
		Trichlorofluoromethane (FREON 11)	2009/12/31	NC		%	25
		Trichlorotrifluoroethane	2009/12/31	NC		%	25
		Ethanol	2009/12/31	NC		%	25
		2-propanol	2009/12/31	NC		%	25
		2-Propanone	2009/12/31	NC		%	25
		Methyl Ethyl Ketone (2-Butanone)	2009/12/31	NC		%	25
		Methyl Isobutyl Ketone	2009/12/31	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2009/12/31	NC		%	25
		Methyl t-butyl ether (MTBE)	2009/12/31	NC		%	25
		Ethyl Acetate	2009/12/31	NC		%	25
		1,1-Dichloroethylene	2009/12/31	NC		%	25
		cis-1,2-Dichloroethylene	2009/12/31	NC		%	25
		trans-1,2-Dichloroethylene	2009/12/31	NC		%	25
		Methylene Chloride(Dichloromethane)	2009/12/31	NC		%	25
		Chloroform	2009/12/31	NC		%	25
		Carbon Tetrachloride	2009/12/31	NC		%	25
		1,1-Dichloroethane	2009/12/31	NC		%	25
		1,2-Dichloroethane	2009/12/31	NC		%	25
		Ethylene Dibromide	2009/12/31	NC		%	25

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

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9H3792

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048164 LSY	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2009/12/31	NC		%	25
		1,1,2-Trichloroethane	2009/12/31	NC		%	25
		1,1,2,2-Tetrachloroethane	2009/12/31	NC		%	25
		cis-1,3-Dichloropropene	2009/12/31	NC		%	25
		trans-1,3-Dichloropropene	2009/12/31	NC		%	25
		1,2-Dichloropropane	2009/12/31	NC		%	25
		Bromomethane	2009/12/31	NC		%	25
		Bromoform	2009/12/31	NC		%	25
		Bromodichloromethane	2009/12/31	NC		%	25
		Dibromochloromethane	2009/12/31	NC		%	25
		Heptane	2009/12/31	NC		%	25
		Trichloroethylene	2009/12/31	NC		%	25
		Tetrachloroethylene	2009/12/31	NC		%	25
		Benzene	2009/12/31	NC		%	25
		Toluene	2009/12/31	NC		%	25
		Ethylbenzene	2009/12/31	NC		%	25
		p+m-Xylene	2009/12/31	NC		%	25
		o-Xylene	2009/12/31	NC		%	25
		Styrene	2009/12/31	NC		%	25
		1,3,5-Trimethylbenzene	2009/12/31	NC		%	25
		1,2,4-Trimethylbenzene	2009/12/31	NC		%	25
		4-ethyltoluene	2009/12/31	NC		%	25
		Chlorobenzene	2009/12/31	NC		%	25
		Benzyl chloride	2009/12/31	NC		%	25
		1,3-Dichlorobenzene	2009/12/31	NC		%	25
		1,4-Dichlorobenzene	2009/12/31	NC		%	25
		1,2-Dichlorobenzene	2009/12/31	NC		%	25
		1,2,4-Trichlorobenzene	2009/12/31	NC		%	25
		Hexachlorobutadiene	2009/12/31	NC		%	25
		Hexane	2009/12/31	NC		%	25
		Cyclohexane	2009/12/31	3.6		%	25
		Tetrahydrofuran	2009/12/31	NC		%	25
		1,4-Dioxane	2009/12/31	NC		%	25
		Xylene (Total)	2009/12/31	NC		%	25

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



Your C.O.C. #: 0580

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

Report Date: 2010/01/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B000013
Received: 2010/01/04, 08:20

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/01/04	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/01/04	BRL SOP-00304	EPA TO-15

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

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

MAXXAM ANALYTICS

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Total cover pages: 1

Maxxam Job #: B000013
 Report Date: 2010/01/19

RESULTS OF ANALYSES OF AIR

Maxxam ID		ET4911	ET4912		
Sampling Date		2009/12/27	2009/12/27		
COC Number		0580	0580		
	Units	LICA-VOC/CLS/DEC27,09	LICA-VOC/PORT/DEC27,09	DL	QC Batch

Volatile Organics					
Pressure on Receipt	psig	16	18	N/A	2048648

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4911				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/CLS/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2048653
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2048653
Propene	ppbv	<0.30	0.30	<0.516	0.516	2048653
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2048653
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2048653
Dichlorodifluoromethane (FREON 12)	ppbv	0.78	0.20	3.88	0.989	2048653
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2048653
Chloromethane	ppbv	0.56	0.30	1.16	0.620	2048653
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2048653
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2048653
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2048653
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.07	1.12	2048653
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2048653
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2048653
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2048653
2-Propanone	ppbv	<0.80	0.80	<1.90	1.90	2048653
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2048653
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2048653
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2048653
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2048653
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2048653
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2048653
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2048653
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2048653
Methylene Chloride(Dichloromethane)	ppbv	0.47	0.30	1.62	1.04	2048653
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2048653
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2048653
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048653
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048653
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2048653
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2048653
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2048653

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4911				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/CLS/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2048653
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2048653
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2048653
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2048653
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2048653
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2048653
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2048653
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2048653
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2048653
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2048653
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2048653
Benzene	ppbv	0.24	0.18	0.781	0.575	2048653
Toluene	ppbv	0.26	0.20	0.985	0.753	2048653
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2048653
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2048653
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2048653
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2048653
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048653
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048653
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2048653
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2048653
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2048653
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2048653
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2048653
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2048653
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2048653
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2048653
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2048653
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2048653
Surrogate Recovery (%)						
Bromochloromethane	%	94		N/A	N/A	2048653
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4911				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/CLS/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch

D5-Chlorobenzene	%	92		N/A	N/A	2048653
Difluorobenzene	%	97		N/A	N/A	2048653

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

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4912				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/PORT/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2048653
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2048653
Propene	ppbv	<0.30	0.30	<0.516	0.516	2048653
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2048653
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2048653
Dichlorodifluoromethane (FREON 12)	ppbv	0.79	0.20	3.88	0.989	2048653
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2048653
Chloromethane	ppbv	0.56	0.30	1.15	0.620	2048653
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2048653
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2048653
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2048653
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.07	1.12	2048653
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2048653
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2048653
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2048653
2-Propanone	ppbv	<0.80	0.80	<1.90	1.90	2048653
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2048653
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2048653
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2048653
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2048653
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2048653
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2048653
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2048653
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2048653
Methylene Chloride(Dichloromethane)	ppbv	0.43	0.30	1.49	1.04	2048653
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2048653
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2048653
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048653
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048653
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2048653
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2048653
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2048653
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4912				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/PORT/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2048653
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2048653
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2048653
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2048653
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2048653
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2048653
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2048653
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2048653
Heptane	ppbv	0.37	0.30	1.53	1.23	2048653
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2048653
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2048653
Benzene	ppbv	0.33	0.18	1.06	0.575	2048653
Toluene	ppbv	0.36	0.20	1.36	0.753	2048653
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2048653
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2048653
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2048653
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2048653
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048653
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048653
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2048653
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2048653
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2048653
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2048653
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2048653
Hexane	ppbv	0.60	0.30	2.13	1.06	2048653
Cyclohexane	ppbv	0.93	0.20	3.21	0.688	2048653
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2048653
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2048653
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2048653
Surrogate Recovery (%)						
Bromochloromethane	%	96		N/A	N/A	2048653
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4912				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/PORT/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch

D5-Chlorobenzene	%	96		N/A	N/A	2048653
Difluorobenzene	%	100		N/A	N/A	2048653

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

Maxxam Job #: B000013
 Report Date: 2010/01/19

Test Summary

Maxxam ID	ET4911	Collected	2009/12/27
Sample ID	LICA-VOC/CLS/DEC27,09	Shipped	
Matrix	AIR	Received	2010/01/04

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2048648	N/A	2010/01/04	LSY
Volatile Organics in Air (TO-15)	GC/MS	2048653	N/A	2010/01/04	LSY

Maxxam ID	ET4912	Collected	2009/12/27
Sample ID	LICA-VOC/PORT/DEC27,09	Shipped	
Matrix	AIR	Received	2010/01/04

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2048648	N/A	2010/01/04	LSY
Volatile Organics in Air (TO-15)	GC/MS	2048653	N/A	2010/01/04	LSY

Maxxam Job #: B000013
Report Date: 2010/01/19

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GB000013

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048653 LSY	Spiked Blank	Bromochloromethane	2010/01/04		107	%	60 - 140
		D5-Chlorobenzene	2010/01/04		107	%	60 - 140
		Difluorobenzene	2010/01/04		110	%	60 - 140
		2,2,4-Trimethylpentane	2010/01/04		96	%	70 - 130
		Carbon Disulfide	2010/01/04		99	%	70 - 130
		Propene	2010/01/04		92	%	70 - 130
		Vinyl Acetate	2010/01/04		113	%	70 - 130
		Vinyl Bromide	2010/01/04		103	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/01/04		108	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/01/04		92	%	70 - 130
		Chloromethane	2010/01/04		96	%	70 - 130
		Vinyl Chloride	2010/01/04		100	%	70 - 130
		Chloroethane	2010/01/04		99	%	70 - 130
		1,3-Butadiene	2010/01/04		88	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/01/04		111	%	70 - 130
		Trichlorotrifluoroethane	2010/01/04		105	%	70 - 130
		Ethanol	2010/01/04		77	%	70 - 130
		2-propanol	2010/01/04		86	%	70 - 130
		2-Propanone	2010/01/04		105	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/01/04		100	%	70 - 130
		Methyl Isobutyl Ketone	2010/01/04		93	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/01/04		89	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/01/04		112	%	70 - 130
		Ethyl Acetate	2010/01/04		93	%	70 - 130
		1,1-Dichloroethylene	2010/01/04		102	%	70 - 130
		cis-1,2-Dichloroethylene	2010/01/04		99	%	70 - 130
		trans-1,2-Dichloroethylene	2010/01/04		102	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/01/04		88	%	70 - 130
		Chloroform	2010/01/04		104	%	70 - 130
		Carbon Tetrachloride	2010/01/04		121	%	70 - 130
		1,1-Dichloroethane	2010/01/04		99	%	70 - 130
		1,2-Dichloroethane	2010/01/04		106	%	70 - 130
		Ethylene Dibromide	2010/01/04		100	%	70 - 130
		1,1,1-Trichloroethane	2010/01/04		114	%	70 - 130
		1,1,2-Trichloroethane	2010/01/04		102	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/01/04		93	%	70 - 130
		cis-1,3-Dichloropropene	2010/01/04		109	%	70 - 130
		trans-1,3-Dichloropropene	2010/01/04		110	%	70 - 130
		1,2-Dichloropropane	2010/01/04		95	%	70 - 130
		Bromomethane	2010/01/04		101	%	70 - 130
		Bromoform	2010/01/04		119	%	70 - 130
		Bromodichloromethane	2010/01/04		113	%	70 - 130
		Dibromochloromethane	2010/01/04		113	%	70 - 130
		Heptane	2010/01/04		97	%	70 - 130
		Trichloroethylene	2010/01/04		105	%	70 - 130
		Tetrachloroethylene	2010/01/04		109	%	70 - 130
		Benzene	2010/01/04		97	%	70 - 130
		Toluene	2010/01/04		101	%	70 - 130
		Ethylbenzene	2010/01/04		98	%	70 - 130
		p+m-Xylene	2010/01/04		100	%	70 - 130
		o-Xylene	2010/01/04		101	%	70 - 130
		Styrene	2010/01/04		87	%	70 - 130
		1,3,5-Trimethylbenzene	2010/01/04		93	%	70 - 130
		1,2,4-Trimethylbenzene	2010/01/04		89	%	70 - 130
		4-ethyltoluene	2010/01/04		95	%	70 - 130

Lakeland Industry & Community Assoc.
 Attention: Michael Bisaga
 Client Project #:
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Quality Assurance Report (Continued)

Maxxam Job Number: GB000013

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048653 LSY	Spiked Blank	Chlorobenzene	2010/01/04		99	%	70 - 130
		Benzyl chloride	2010/01/04		110	%	70 - 130
		1,3-Dichlorobenzene	2010/01/04		95	%	70 - 130
		1,4-Dichlorobenzene	2010/01/04		93	%	70 - 130
		1,2-Dichlorobenzene	2010/01/04		91	%	70 - 130
		1,2,4-Trichlorobenzene	2010/01/04		131 (1)	%	70 - 130
		Hexachlorobutadiene	2010/01/04		136 (1)	%	70 - 130
		Hexane	2010/01/04		93	%	70 - 130
		Cyclohexane	2010/01/04		97	%	70 - 130
		Tetrahydrofuran	2010/01/04		91	%	70 - 130
		1,4-Dioxane	2010/01/04		85	%	70 - 130
	Method Blank	Bromochloromethane	2010/01/04		96	%	60 - 140
		D5-Chlorobenzene	2010/01/04		92	%	60 - 140
		Difluorobenzene	2010/01/04		100	%	60 - 140
		2,2,4-Trimethylpentane	2010/01/04	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2010/01/04	ND, RDL=0.50		ppbv	
		Propene	2010/01/04	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2010/01/04	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2010/01/04	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/01/04	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/01/04	ND, RDL=0.17		ppbv	
		Chloromethane	2010/01/04	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2010/01/04	ND, RDL=0.18		ppbv	
		Chloroethane	2010/01/04	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2010/01/04	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/01/04	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2010/01/04	ND, RDL=0.15		ppbv	
		Ethanol	2010/01/04	ND, RDL=2.3		ppbv	
		2-propanol	2010/01/04	ND, RDL=3.0		ppbv	
		2-Propanone	2010/01/04	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/01/04	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2010/01/04	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/01/04	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/01/04	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2010/01/04	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2010/01/04	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/01/04	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/01/04	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/01/04	0.38, RDL=0.30		ppbv	
		Chloroform	2010/01/04	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2010/01/04	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2010/01/04	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2010/01/04	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2010/01/04	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2010/01/04	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2010/01/04	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/01/04	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2010/01/04	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2010/01/04	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2010/01/04	ND, RDL=0.40		ppbv	
		Bromomethane	2010/01/04	ND, RDL=0.18		ppbv	
		Bromoform	2010/01/04	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2010/01/04	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2010/01/04	ND, RDL=0.20		ppbv	
		Heptane	2010/01/04	ND, RDL=0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB000013

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048653 LSY	Method Blank	Trichloroethylene	2010/01/04	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2010/01/04	ND, RDL=0.20		ppbv	
		Benzene	2010/01/04	ND, RDL=0.18		ppbv	
		Toluene	2010/01/04	ND, RDL=0.20		ppbv	
		Ethylbenzene	2010/01/04	ND, RDL=0.20		ppbv	
		p+m-Xylene	2010/01/04	ND, RDL=0.37		ppbv	
		o-Xylene	2010/01/04	ND, RDL=0.20		ppbv	
		Styrene	2010/01/04	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/01/04	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/01/04	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2010/01/04	ND, RDL=2.2		ppbv	
		Chlorobenzene	2010/01/04	ND, RDL=0.20		ppbv	
		Benzyl chloride	2010/01/04	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2010/01/04	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2010/01/04	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2010/01/04	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/01/04	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2010/01/04	ND, RDL=3.0		ppbv	
		Hexane	2010/01/04	ND, RDL=0.30		ppbv	
		Cyclohexane	2010/01/04	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2010/01/04	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2010/01/04	ND, RDL=2.0		ppbv	
		Xylene (Total)	2010/01/04	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2010/01/04	NC		%	25
		Carbon Disulfide	2010/01/04	0.2		%	25
		Propene	2010/01/04	NC		%	25
		Vinyl Acetate	2010/01/04	NC		%	25
		Vinyl Bromide	2010/01/04	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2010/01/04	NC		%	25
		1,2-Dichlorotetrafluoroethane	2010/01/04	NC		%	25
		Chloromethane	2010/01/04	NC		%	25
		Vinyl Chloride	2010/01/04	NC		%	25
		Chloroethane	2010/01/04	NC		%	25
		1,3-Butadiene	2010/01/04	NC		%	25
		Trichlorofluoromethane (FREON 11)	2010/01/04	NC		%	25
		Trichlorotrifluoroethane	2010/01/04	NC		%	25
		Ethanol	2010/01/04	NC		%	25
		2-propanol	2010/01/04	NC		%	25
		2-Propanone	2010/01/04	1.8		%	25
		Methyl Ethyl Ketone (2-Butanone)	2010/01/04	NC		%	25
		Methyl Isobutyl Ketone	2010/01/04	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2010/01/04	NC		%	25
		Methyl t-butyl ether (MTBE)	2010/01/04	NC		%	25
		Ethyl Acetate	2010/01/04	NC		%	25
		1,1-Dichloroethylene	2010/01/04	NC		%	25
		cis-1,2-Dichloroethylene	2010/01/04	NC		%	25
		trans-1,2-Dichloroethylene	2010/01/04	NC		%	25
		Methylene Chloride(Dichloromethane)	2010/01/04	NC		%	25
		Chloroform	2010/01/04	NC		%	25
		Carbon Tetrachloride	2010/01/04	NC		%	25
		1,1-Dichloroethane	2010/01/04	NC		%	25
		1,2-Dichloroethane	2010/01/04	NC		%	25
		Ethylene Dibromide	2010/01/04	NC		%	25

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB000013

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048653 LSY	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2010/01/04	NC		%	25
		1,1,2-Trichloroethane	2010/01/04	NC		%	25
		1,1,2,2-Tetrachloroethane	2010/01/04	NC		%	25
		cis-1,3-Dichloropropene	2010/01/04	NC		%	25
		trans-1,3-Dichloropropene	2010/01/04	NC		%	25
		1,2-Dichloropropane	2010/01/04	NC		%	25
		Bromomethane	2010/01/04	NC		%	25
		Bromoform	2010/01/04	NC		%	25
		Bromodichloromethane	2010/01/04	NC		%	25
		Dibromochloromethane	2010/01/04	NC		%	25
		Heptane	2010/01/04	NC		%	25
		Trichloroethylene	2010/01/04	NC		%	25
		Tetrachloroethylene	2010/01/04	NC		%	25
		Benzene	2010/01/04	NC		%	25
		Toluene	2010/01/04	NC		%	25
		Ethylbenzene	2010/01/04	NC		%	25
		p+m-Xylene	2010/01/04	NC		%	25
		o-Xylene	2010/01/04	NC		%	25
		Styrene	2010/01/04	NC		%	25
		1,3,5-Trimethylbenzene	2010/01/04	NC		%	25
		1,2,4-Trimethylbenzene	2010/01/04	NC		%	25
		4-ethyltoluene	2010/01/04	NC		%	25
		Chlorobenzene	2010/01/04	NC		%	25
		Benzyl chloride	2010/01/04	NC		%	25
		1,3-Dichlorobenzene	2010/01/04	NC		%	25
		1,4-Dichlorobenzene	2010/01/04	NC		%	25
		1,2-Dichlorobenzene	2010/01/04	NC		%	25
		1,2,4-Trichlorobenzene	2010/01/04	NC		%	25
		Hexachlorobutadiene	2010/01/04	NC		%	25
		Hexane	2010/01/04	NC		%	25
		Cyclohexane	2010/01/04	NC		%	25
		Tetrahydrofuran	2010/01/04	1.5		%	25
		1,4-Dioxane	2010/01/04	NC		%	25
		Xylene (Total)	2010/01/04	NC		%	25

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

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

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

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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

Polycyclic Aromatic Hydrocarbons Laboratory Analysis

Maxxam Analytics Inc.

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
 Location: Cold Lake South
 Station ID: Lica1
 Field Sample ID: LICA PUF/CLS/Dec 3, 09

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Dec 2, 09 @ 20:20 mst
 Removal Date/Time: Dec 4, 09 @ 10:00 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
03-Dec-09	12/03/2009 0:00	12/04/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
02-Dec-09	04-Dec-09	14-Dec-09	30-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)
720	229	-11.8	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 Project #: COLD LAKE SOUTH
 Site: 13-16-62-W4M
 Your C.O.C. #: 1044

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

Report Date: 2009/12/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G5790
Received: 2009/12/08, 08:49

Sample Matrix: Filter
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/12/09	2009/12/11	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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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

Maxxam Job #: A9G5790
 Report Date: 2009/12/14

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-W4M

SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)

Maxxam ID		EO8487	EO8488		
Sampling Date		2009/12/03	2009/12/03		
		00:00	00:00		
COC Number		1044	1044		
	Units	LICAPUF/QFF/CLS/DEC3,09	LICAPUF/QFF/PORT/DEC3,09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	0.47	1.02	0.10	2031550
1-Methylphenanthrene	ug	<0.10	0.19	0.10	2031550
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2031550
2-Methylantracene	ug	<0.10	<0.10	0.10	2031550
2-Methylnaphthalene	ug	0.88	1.68	0.10	2031550
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2031550
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2031550
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2031550
Acenaphthene	ug	0.069	0.398	0.050	2031550
Acenaphthylene	ug	0.080	0.640	0.050	2031550
Anthracene	ug	<0.050	0.112	0.050	2031550
Benzo(a)anthracene	ug	<0.050	0.072	0.050	2031550
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2031550
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2031550
Benzo(b)fluoranthene	ug	<0.050	0.077	0.050	2031550
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2031550
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2031550
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2031550
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2031550
Biphenyl	ug	0.61	1.96	0.10	2031550
Chrysene	ug	<0.050	0.101	0.050	2031550
Coronene	ug	<0.10	<0.10	0.10	2031550
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2031550
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2031550
Fluoranthene	ug	0.098	0.566	0.050	2031550
Fluorene	ug	0.236	1.10	0.050	2031550
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2031550
m-Terphenyl	ug	<0.10	<0.10	0.10	2031550
Naphthalene	ug	0.763	1.09	0.072	2031550
o-Terphenyl	ug	<0.10	<0.10	0.10	2031550
Perylene	ug	<0.10	<0.10	0.10	2031550
Phenanthrene	ug	0.442	1.97	0.050	2031550

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G5790
 Report Date: 2009/12/14

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-W4M

SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)

Maxxam ID		EO8487	EO8488		
Sampling Date		2009/12/03	2009/12/03		
		00:00	00:00		
COC Number		1044	1044		
	Units	LICAPUF/QFF/CLS/DEC3,09	LICAPUF/QFF/PORT/DEC3,09	DL	QC Batch

p-Terphenyl	ug	<0.10	<0.10	0.10	2031550
Pyrene	ug	0.068	0.335	0.050	2031550
Quinoline	ug	<0.40	<0.40	0.40	2031550
Tetralin	ug	<0.10	0.17	0.10	2031550
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	73	81		2031550
D10-Fluoranthene	%	96	107		2031550
D10-Fluorene (FS)	%	63	69		2031550
D10-Phenanthrene	%	85	102		2031550
D12-Benzo(a)anthracene	%	93	98		2031550
D12-Benzo(a)pyrene	%	100	99		2031550
D12-Benzo(b)fluoranthene	%	93	93		2031550
D12-Benzo(ghi)perylene	%	98	96		2031550
D12-Benzo(k)fluoranthene	%	100	98		2031550
D12-Chrysene	%	94	98		2031550
D12-Indeno(1,2,3-cd)pyrene	%	97	95		2031550
D12-Perylene	%	103	102		2031550
D14-Dibenzo(a,h)anthracene	%	96	92		2031550
D14-Terphenyl (FS)	%	86	92		2031550
D8-Acenaphthylene	%	81	111		2031550
D8-Naphthalene	%	72	79		2031550

QC Batch = Quality Control Batch

Maxxam Job #: A9G5790
 Report Date: 2009/12/14

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-W4M

Test Summary

Maxxam ID	EO8487	Collected	2009/12/03
Sample ID	LICAPUF/QFF/CLS/DEC3,09	Shipped	
Matrix	Filter	Received	2009/12/08

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2031550	2009/12/09	2009/12/11	WZ

Maxxam ID	EO8488	Collected	2009/12/03
Sample ID	LICAPUF/QFF/PORT/DEC3,09	Shipped	
Matrix	Filter	Received	2009/12/08

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2031550	2009/12/09	2009/12/11	WZ

Maxxam Job #: A9G5790
Report Date: 2009/12/14

Lakeland Industry & Community Assoc.
Client Project #: COLD LAKE SOUTH
Project name: 13-16-62-W4M

GENERAL COMMENTS

PAHMS-F

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

Sample EO8487-01: 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 EO8488-01: 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 0.10ug, 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 #: COLD LAKE SOUTH
 P.O. #:
 Project name: 13-16-62-W4M

Quality Assurance Report
 Maxxam Job Number: GA9G5790

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2031550 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/12/11		81	%	50 - 150
		D10-Fluoranthene	2009/12/11		104	%	50 - 150
		D10-Phenanthrene	2009/12/11		90	%	50 - 150
		D12-Benzo(a)anthracene	2009/12/11		94	%	50 - 150
		D12-Benzo(a)pyrene	2009/12/11		102	%	50 - 150
		D12-Benzo(b)fluoranthene	2009/12/11		96	%	50 - 150
		D12-Benzo(ghi)perylene	2009/12/11		103	%	50 - 150
		D12-Benzo(k)fluoranthene	2009/12/11		100	%	50 - 150
		D12-Chrysene	2009/12/11		100	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2009/12/11		102	%	50 - 150
		D12-Perylene	2009/12/11		103	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/11		100	%	50 - 150
		D8-Acenaphthylene	2009/12/11		91	%	50 - 150
		D8-Naphthalene	2009/12/11		80	%	50 - 150
		RPD	Acenaphthene	2009/12/11		1.5	%
	Spiked Blank	Acenaphthene	2009/12/11				50
	RPD	Acenaphthylene	2009/12/11		1.8	%	60 - 130
	Spiked Blank	Acenaphthylene	2009/12/11				50
	RPD	Anthracene	2009/12/11		5.4	%	60 - 130
	Spiked Blank	Anthracene	2009/12/11				50
	RPD	Benzo(a)anthracene	2009/12/11		0.7	%	60 - 130
	Spiked Blank	Benzo(a)anthracene	2009/12/11				50
	RPD	Benzo(a)pyrene	2009/12/11		0.6	%	60 - 130
	Spiked Blank	Benzo(a)pyrene	2009/12/11				50
	RPD	Benzo(b)fluoranthene	2009/12/11		2.6	%	60 - 130
	Spiked Blank	Benzo(b)fluoranthene	2009/12/11				50
	RPD	Benzo(g,h,i)perylene	2009/12/11		1.9	%	60 - 130
	Spiked Blank	Benzo(g,h,i)perylene	2009/12/11				50
	RPD	Benzo(k)fluoranthene	2009/12/11		1.3	%	60 - 130
	Spiked Blank	Benzo(k)fluoranthene	2009/12/11				50
	RPD	Chrysene	2009/12/11		0.4	%	60 - 130
	Spiked Blank	Chrysene	2009/12/11				50
	RPD	Dibenz(a,h)anthracene	2009/12/11		1.8	%	60 - 130
	Spiked Blank	Dibenz(a,h)anthracene	2009/12/11				50
	RPD	Fluoranthene	2009/12/11		4.1	%	60 - 130
	Spiked Blank	Fluoranthene	2009/12/11				50
	RPD	Fluorene	2009/12/11		0.1	%	60 - 130
	Spiked Blank	Fluorene	2009/12/11				50
	RPD	Indeno(1,2,3-cd)pyrene	2009/12/11		1.4	%	60 - 130
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/12/11				50
	RPD	Naphthalene	2009/12/11		3.9	%	60 - 130
	Spiked Blank	Naphthalene	2009/12/11				50
	RPD	Phenanthrene	2009/12/11		1.2	%	60 - 130
	Spiked Blank	Phenanthrene	2009/12/11				50
	RPD	Pyrene	2009/12/11		2.2	%	60 - 130
Spiked Blank	Pyrene	2009/12/11				50	
Method Blank	D10-2-Methylnaphthalene	2009/12/11				50 - 150	
	D10-Fluoranthene	2009/12/11				50 - 150	
	D10-Phenanthrene	2009/12/11				50 - 150	
	D12-Benzo(a)anthracene	2009/12/11				50 - 150	
	D12-Benzo(a)pyrene	2009/12/11				50 - 150	
	D12-Benzo(b)fluoranthene	2009/12/11				50 - 150	
	D12-Benzo(ghi)perylene	2009/12/11				50 - 150	
	D12-Benzo(k)fluoranthene	2009/12/11				50 - 150	
	D12-Chrysene	2009/12/11				50 - 150	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G5790

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2031550 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/12/11		90	%	50 - 150
		D12-Perylene	2009/12/11		98	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/11		87	%	50 - 150
		D8-Acenaphthylene	2009/12/11		77	%	50 - 150
		D8-Naphthalene	2009/12/11		70	%	50 - 150
		1-Methylnaphthalene	2009/12/11	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/12/11	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/12/11	ND, RDL=0.10		ug	
		2-Methylantracene	2009/12/11	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/12/11	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/12/11	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/12/11	ND, RDL=0.10		ug	
		9,10-Dimethylantracene	2009/12/11	ND, RDL=0.40		ug	
		Acenaphthene	2009/12/11	ND, RDL=0.050		ug	
		Acenaphthylene	2009/12/11	ND, RDL=0.050		ug	
		Anthracene	2009/12/11	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/12/11	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/12/11	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/12/11	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/12/11	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/12/11	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/12/11	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/12/11	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/12/11	ND, RDL=0.050		ug	
		Biphenyl	2009/12/11	ND, RDL=0.10		ug	
		Chrysene	2009/12/11	ND, RDL=0.050		ug	
		Coronene	2009/12/11	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/12/11	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/12/11	ND, RDL=0.20		ug	
		Fluoranthene	2009/12/11	ND, RDL=0.050		ug	
		Fluorene	2009/12/11	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/12/11	ND, RDL=0.050		ug	
		m-Terphenyl	2009/12/11	ND, RDL=0.10		ug	
		Naphthalene	2009/12/11	ND, RDL=0.072		ug	
		o-Terphenyl	2009/12/11	ND, RDL=0.10		ug	
		Perylene	2009/12/11	ND, RDL=0.10		ug	
		Phenanthrene	2009/12/11	ND, RDL=0.050		ug	
		p-Terphenyl	2009/12/11	ND, RDL=0.10		ug	
		Pyrene	2009/12/11	ND, RDL=0.050		ug	
		Quinoline	2009/12/11	ND, RDL=0.40		ug	
		Tetralin	2009/12/11	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/Dec 9, 09

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Dec 8, 09 @ 08:15 mst
 Removal Date/Time: Dec 10, 09 @ 11:10 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
09-Dec-09	12/09/2009 0:00	12/10/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
07-Dec-09	10-Dec-09	17-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)
713	229	-23.2	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:

GA9G2004 PUFF#1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Dec 9, 09

Technician Signature: _____



Your Project #: 13-16-62-5 W4M
 Site: COLD LAKE SOUTH
 Your C.O.C. #: 1051

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

Report Date: 2009/12/24

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G8321
Received: 2009/12/12, 15:01

Sample Matrix: PUF AND FILTER
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/12/15	2009/12/21	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

Maxxam Job #: A9G8321
 Report Date: 2009/12/24

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

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

Maxxam ID		EQ3255	EQ3256		
Sampling Date		2009/12/09 00:00	2009/12/09 00:00		
COC Number		1051	1051		
	Units	LICA/CLS/DEC9,09	LICA/PORT/DEC9,09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	2.28	0.82	0.10	2041804
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2041804
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2041804
2-Methylantracene	ug	<0.10	<0.10	0.10	2041804
2-Methylnaphthalene	ug	3.61	1.30	0.10	2041804
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2041804
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2041804
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2041804
Acenaphthene	ug	0.177	0.079	0.050	2041804
Acenaphthylene	ug	0.405	0.089	0.050	2041804
Anthracene	ug	<0.050	<0.050	0.050	2041804
Benzo(a)anthracene	ug	0.081	<0.050	0.050	2041804
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2041804
Benzo(a)pyrene	ug	0.058	<0.050	0.050	2041804
Benzo(b)fluoranthene	ug	0.114	0.071	0.050	2041804
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2041804
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2041804
Benzo(g,h,i)perylene	ug	0.077	<0.050	0.050	2041804
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2041804
Biphenyl	ug	1.30	0.86	0.10	2041804
Chrysene	ug	0.137	0.110	0.050	2041804
Coronene	ug	<0.10	<0.10	0.10	2041804
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2041804
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2041804
Fluoranthene	ug	0.357	0.196	0.050	2041804
Fluorene	ug	0.411	0.254	0.050	2041804
Indeno(1,2,3-cd)pyrene	ug	0.058	<0.050	0.050	2041804
m-Terphenyl	ug	<0.10	<0.10	0.10	2041804
Naphthalene	ug	3.94	1.73	0.072	2041804
o-Terphenyl	ug	<0.10	<0.10	0.10	2041804
Perylene	ug	<0.10	<0.10	0.10	2041804
Phenanthrene	ug	0.868	0.576	0.050	2041804
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Maxxam Job #: A9G8321
 Report Date: 2009/12/24

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

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

Maxxam ID		EQ3255	EQ3256		
Sampling Date		2009/12/09 00:00	2009/12/09 00:00		
COC Number		1051	1051		
	Units	LICA/CLS/DEC9,09	LICA/PORT/DEC9,09	DL	QC Batch

p-Terphenyl	ug	<0.10	<0.10	0.10	2041804
Pyrene	ug	0.272	0.137	0.050	2041804
Quinoline	ug	<0.40	<0.40	0.40	2041804
Tetralin	ug	0.14	<0.10	0.10	2041804
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	78	73		2041804
D10-Fluoranthene	%	99	100		2041804
D10-Fluorene (FS)	%	76	71		2041804
D10-Phenanthrene	%	93	94		2041804
D12-Benzo(a)anthracene	%	112	109		2041804
D12-Benzo(a)pyrene	%	99	98		2041804
D12-Benzo(b)fluoranthene	%	107	106		2041804
D12-Benzo(ghi)perylene	%	99	99		2041804
D12-Benzo(k)fluoranthene	%	87	90		2041804
D12-Chrysene	%	96	95		2041804
D12-Indeno(1,2,3-cd)pyrene	%	100	99		2041804
D12-Perylene	%	99	99		2041804
D14-Dibenzo(a,h)anthracene	%	100	100		2041804
D14-Terphenyl (FS)	%	93	92		2041804
D8-Acenaphthylene	%	89	84		2041804
D8-Naphthalene	%	75	71		2041804

QC Batch = Quality Control Batch

Maxxam Job #: A9G8321
 Report Date: 2009/12/24

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID	EQ3255	Collected	2009/12/09
Sample ID	LICA/CLS/DEC9,09	Shipped	
Matrix	PUF AND FILTER	Received	2009/12/12

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2041804	2009/12/15	2009/12/21	WZ

Maxxam ID	EQ3256	Collected	2009/12/09
Sample ID	LICA/PORT/DEC9,09	Shipped	
Matrix	PUF AND FILTER	Received	2009/12/12

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2041804	2009/12/15	2009/12/21	WZ

Maxxam Job #: A9G8321
Report Date: 2009/12/24

Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5 W4M
Project name: COLD LAKE SOUTH

GENERAL COMMENTS

PAHMS-F

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

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

Sample EQ3255-01: 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 0.14ug, 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 EQ3256-01: 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 0.11ug, 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 #: 13-16-62-5 W4M
 P.O. #:
 Project name: COLD LAKE SOUTH

Quality Assurance Report
 Maxxam Job Number: GA9G8321

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2041804 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/12/21		85	%	50 - 150
		D10-Fluoranthene	2009/12/21		107	%	50 - 150
		D10-Phenanthrene	2009/12/21		99	%	50 - 150
		D12-Benzo(a)anthracene	2009/12/21		109	%	50 - 150
		D12-Benzo(a)pyrene	2009/12/21		105	%	50 - 150
		D12-Benzo(b)fluoranthene	2009/12/21		112	%	50 - 150
		D12-Benzo(ghi)perylene	2009/12/21		109	%	50 - 150
		D12-Benzo(k)fluoranthene	2009/12/21		91	%	50 - 150
		D12-Chrysene	2009/12/21		98	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2009/12/21		112	%	50 - 150
		D12-Perylene	2009/12/21		104	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/21		114	%	50 - 150
		D8-Acenaphthylene	2009/12/21		89	%	50 - 150
		D8-Naphthalene	2009/12/21		84	%	50 - 150
		RPD	Acenaphthene	2009/12/21	6.8		%
	Spiked Blank	Acenaphthene	2009/12/21			%	50
	RPD	Acenaphthylene	2009/12/21	10.5		%	60 - 130
	RPD	Acenaphthylene	2009/12/21			%	50
	Spiked Blank	Anthracene	2009/12/21			%	60 - 130
	RPD	Anthracene	2009/12/21	5.4		%	50
	Spiked Blank	Benzo(a)anthracene	2009/12/21			%	60 - 130
	RPD	Benzo(a)anthracene	2009/12/21	4.6		%	50
	Spiked Blank	Benzo(a)pyrene	2009/12/21			%	60 - 130
	RPD	Benzo(a)pyrene	2009/12/21	6.0		%	50
	Spiked Blank	Benzo(b)fluoranthene	2009/12/21			%	60 - 130
	RPD	Benzo(b)fluoranthene	2009/12/21	4.8		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2009/12/21			%	60 - 130
	RPD	Benzo(g,h,i)perylene	2009/12/21	8.7		%	50
	Spiked Blank	Benzo(k)fluoranthene	2009/12/21			%	60 - 130
	RPD	Benzo(k)fluoranthene	2009/12/21	4.0		%	50
	Spiked Blank	Chrysene	2009/12/21			%	60 - 130
	RPD	Chrysene	2009/12/21	3.0		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2009/12/21			%	60 - 130
	RPD	Dibenz(a,h)anthracene	2009/12/21	7.9		%	50
	Spiked Blank	Fluoranthene	2009/12/21			%	60 - 130
	RPD	Fluoranthene	2009/12/21	1.9		%	50
	Spiked Blank	Fluorene	2009/12/21			%	60 - 130
	RPD	Fluorene	2009/12/21	9.1		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/12/21			%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2009/12/21	7.7		%	50
Spiked Blank	Naphthalene	2009/12/21			%	60 - 130	
RPD	Naphthalene	2009/12/21	11.4		%	50	
Spiked Blank	Phenanthrene	2009/12/21			%	60 - 130	
RPD	Phenanthrene	2009/12/21	1.7		%	50	
Spiked Blank	Pyrene	2009/12/21			%	60 - 130	
RPD	Pyrene	2009/12/21	3.8		%	50	
Method Blank	D10-2-Methylnaphthalene	2009/12/21			%	50 - 150	
	D10-Fluoranthene	2009/12/21			%	50 - 150	
	D10-Phenanthrene	2009/12/21			%	50 - 150	
	D12-Benzo(a)anthracene	2009/12/21			%	50 - 150	
	D12-Benzo(a)pyrene	2009/12/21			%	50 - 150	
	D12-Benzo(b)fluoranthene	2009/12/21			%	50 - 150	
	D12-Benzo(ghi)perylene	2009/12/21			%	50 - 150	
	D12-Benzo(k)fluoranthene	2009/12/21			%	50 - 150	
	D12-Chrysene	2009/12/21			%	50 - 150	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G8321

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2041804 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/12/21		102	%	50 - 150
		D12-Perylene	2009/12/21		99	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/21		103	%	50 - 150
		D8-Acenaphthylene	2009/12/21		79	%	50 - 150
		D8-Naphthalene	2009/12/21		67	%	50 - 150
		1-Methylnaphthalene	2009/12/21	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/12/21	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/12/21	ND, RDL=0.10		ug	
		2-Methylantracene	2009/12/21	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/12/21	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/12/21	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/12/21	ND, RDL=0.10		ug	
		9,10-Dimethylantracene	2009/12/21	ND, RDL=0.40		ug	
		Acenaphthene	2009/12/21	ND, RDL=0.050		ug	
		Acenaphthylene	2009/12/21	ND, RDL=0.050		ug	
		Anthracene	2009/12/21	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/12/21	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/12/21	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/12/21	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/12/21	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/12/21	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/12/21	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/12/21	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/12/21	ND, RDL=0.050		ug	
		Biphenyl	2009/12/21	ND, RDL=0.10		ug	
		Chrysene	2009/12/21	ND, RDL=0.050		ug	
		Coronene	2009/12/21	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/12/21	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/12/21	ND, RDL=0.20		ug	
		Fluoranthene	2009/12/21	ND, RDL=0.050		ug	
		Fluorene	2009/12/21	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/12/21	ND, RDL=0.050		ug	
		m-Terphenyl	2009/12/21	ND, RDL=0.10		ug	
		Naphthalene	2009/12/21	ND, RDL=0.072		ug	
		o-Terphenyl	2009/12/21	ND, RDL=0.10		ug	
		Perylene	2009/12/21	ND, RDL=0.10		ug	
		Phenanthrene	2009/12/21	ND, RDL=0.050		ug	
		p-Terphenyl	2009/12/21	ND, RDL=0.10		ug	
		Pyrene	2009/12/21	ND, RDL=0.050		ug	
		Quinoline	2009/12/21	ND, RDL=0.40		ug	
		Tetralin	2009/12/21	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/Dec 15, 09

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Dec 11, 09 @ 12:10 mst
 Removal Date/Time: Dec 16, 09 @ 10:30 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
15-Dec-09	12/15/2009 0:00	12/16/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
11-Dec-09	16-Dec-09	23-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)
719	229	-30	330.29

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

Comments:

GA9G2086 PUFF#1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Dec 15, 09

Technician Signature: _____



Your Project #: 13-16-62-5 WM
 Site: COLD LAKE SOUTH
 Your C.O.C. #: 1052

Attention: Shea Beaton

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

Report Date: 2010/01/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9H1447

Received: 2009/12/18, 09:46

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/12/21	2010/01/05	BRL SOP-00201	CARB429(ARBM1,M2)mod

MAXXAM ANALYTICS

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.

Total cover pages: 1

Page 1 of 7

Maxxam Job #: A9H1447
 Report Date: 2010/01/19

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 WM
 Project name: COLD LAKE SOUTH

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

Maxxam ID		ER7403	ER7404		
Sampling Date		2009/12/15 00:00	2009/12/15 00:00		
COC Number		1052	1052		
	Units	LICA/CLS/DEC15,09	LICA/PORT/DEC15,09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	2.97	2.01	0.10	2042722
1-Methylphenanthrene	ug	<0.10	0.12	0.10	2042722
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2042722
2-Methylantracene	ug	<0.10	<0.10	0.10	2042722
2-Methylnaphthalene	ug	5.87	3.20	0.10	2042722
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2042722
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2042722
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2042722
Acenaphthene	ug	0.268	0.183	0.050	2042722
Acenaphthylene	ug	0.287	0.162	0.050	2042722
Anthracene	ug	<0.050	<0.050	0.050	2042722
Benzo(a)anthracene	ug	0.140	0.196	0.050	2042722
Benzo(a)fluorene	ug	0.12	0.17	0.10	2042722
Benzo(a)pyrene	ug	0.068	0.079	0.050	2042722
Benzo(b)fluoranthene	ug	0.172	0.211	0.050	2042722
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2042722
Benzo(e)pyrene	ug	<0.10	0.10	0.10	2042722
Benzo(g,h,i)perylene	ug	0.122	0.108	0.050	2042722
Benzo(k)fluoranthene	ug	<0.050	0.055	0.050	2042722
Biphenyl	ug	0.96	1.14	0.10	2042722
Chrysene	ug	0.231	0.315	0.050	2042722
Coronene	ug	<0.10	<0.10	0.10	2042722
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2042722
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2042722
Fluoranthene	ug	0.634	1.02	0.050	2042722
Fluorene	ug	0.394	0.500	0.050	2042722
Indeno(1,2,3-cd)pyrene	ug	0.088	0.089	0.050	2042722
m-Terphenyl	ug	<0.10	<0.10	0.10	2042722
Naphthalene	ug	5.44	4.12	0.072	2042722
o-Terphenyl	ug	<0.10	<0.10	0.10	2042722
Perylene	ug	<0.10	<0.10	0.10	2042722
Phenanthrene	ug	1.14	1.88	0.050	2042722

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9H1447
 Report Date: 2010/01/19

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 WM
 Project name: COLD LAKE SOUTH

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

Maxxam ID		ER7403	ER7404		
Sampling Date		2009/12/15 00:00	2009/12/15 00:00		
COC Number		1052	1052		
	Units	LICA/CLS/DEC15,09	LICA/PORT/DEC15,09	DL	QC Batch

p-Terphenyl	ug	<0.10	<0.10	0.10	2042722
Pyrene	ug	0.532	0.680	0.050	2042722
Quinoline	ug	<0.40	<0.40	0.40	2042722
Tetralin	ug	<0.10	0.12	0.10	2042722
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	75	80		2042722
D10-Fluoranthene	%	104	105		2042722
D10-Fluorene (FS)	%	70	76		2042722
D10-Phenanthrene	%	92	92		2042722
D12-Benzo(a)anthracene	%	115	100		2042722
D12-Benzo(a)pyrene	%	74	70		2042722
D12-Benzo(b)fluoranthene	%	98	99		2042722
D12-Benzo(ghi)perylene	%	105	103		2042722
D12-Benzo(k)fluoranthene	%	103	101		2042722
D12-Chrysene	%	90	104		2042722
D12-Indeno(1,2,3-cd)pyrene	%	104	104		2042722
D12-Perylene	%	83	81		2042722
D14-Dibenzo(a,h)anthracene	%	106	105		2042722
D14-Terphenyl (FS)	%	87	88		2042722
D8-Acenaphthylene	%	78	79		2042722
D8-Naphthalene	%	72	79		2042722

QC Batch = Quality Control Batch

Maxxam Job #: A9H1447
 Report Date: 2010/01/19

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 WM
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID ER7403 **Collected** 2009/12/15
Sample ID LICA/CLS/DEC15,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/12/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2042722	2009/12/21	2010/01/05	WZ

Maxxam ID ER7404 **Collected** 2009/12/15
Sample ID LICA/PORT/DEC15,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/12/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2042722	2009/12/21	2010/01/05	WZ

Maxxam Job #: A9H1447
Report Date: 2010/01/19

Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5 WM
Project name: COLD LAKE SOUTH

GENERAL COMMENTS

PAHMS-F

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

Pyrene is statistically out of control at 76.6% recovery in the spike. Spike:dup recovery is in control. Acceptance criteria met for both spike and dup. Data reported and flagged.

Naphthalene positive found in blank. Samples should be considered to be possibly contaminated to the level found in the blank.

Sample ER7403-01: 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 0.23ug, 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 ER7404-01: 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 0.32ug, 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.

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GA9H1447

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2042722 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/01/05		75	%	50 - 150
		D10-Fluoranthene	2010/01/05		93	%	50 - 150
		D10-Phenanthrene	2010/01/05		87	%	50 - 150
		D12-Benzo(a)anthracene	2010/01/05		115	%	50 - 150
		D12-Benzo(a)pyrene	2010/01/05		98	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/01/05		96	%	50 - 150
		D12-Benzo(ghi)perylene	2010/01/05		99	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/01/05		101	%	50 - 150
		D12-Chrysene	2010/01/05		91	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/01/05		98	%	50 - 150
		D12-Perylene	2010/01/05		98	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/05		97	%	50 - 150
		D8-Acenaphthylene	2010/01/05		85	%	50 - 150
		D8-Naphthalene	2010/01/05		75	%	50 - 150
		Acenaphthene	2010/01/05		73	%	60 - 130
	RPD	Acenaphthene	2010/01/05	8.2		%	50
	Spiked Blank	Acenaphthylene	2010/01/05		81	%	60 - 130
	RPD	Acenaphthylene	2010/01/05	4.4		%	50
	Spiked Blank	Anthracene	2010/01/05		79	%	60 - 130
	RPD	Anthracene	2010/01/05	7.3		%	50
	Spiked Blank	Benzo(a)anthracene	2010/01/05		93	%	60 - 130
	RPD	Benzo(a)anthracene	2010/01/05	1.6		%	50
	Spiked Blank	Benzo(a)pyrene	2010/01/05		82	%	60 - 130
	RPD	Benzo(a)pyrene	2010/01/05	3.3		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/01/05		79	%	60 - 130
	RPD	Benzo(b)fluoranthene	2010/01/05	5.3		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/01/05		85	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2010/01/05	8.5		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/01/05		110	%	60 - 130
	RPD	Benzo(k)fluoranthene	2010/01/05	4.8		%	50
	Spiked Blank	Chrysene	2010/01/05		88	%	60 - 130
	RPD	Chrysene	2010/01/05	0.9		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/01/05		86	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2010/01/05	7.6		%	50
	Spiked Blank	Fluoranthene	2010/01/05		84	%	60 - 130
	RPD	Fluoranthene	2010/01/05	12.1		%	50
	Spiked Blank	Fluorene	2010/01/05		77	%	60 - 130
	RPD	Fluorene	2010/01/05	8.4		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/01/05		86	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2010/01/05	6.9		%	50
	Spiked Blank	Naphthalene	2010/01/05		85	%	60 - 130
	RPD	Naphthalene	2010/01/05	8.7		%	50
	Spiked Blank	Phenanthrene	2010/01/05		79	%	60 - 130
	RPD	Phenanthrene	2010/01/05	7.8		%	50
	Spiked Blank	Pyrene	2010/01/05		77	%	60 - 130
	RPD	Pyrene	2010/01/05	13.6		%	50
	Method Blank	D10-2-Methylnaphthalene	2010/01/05		79	%	50 - 150
		D10-Fluoranthene	2010/01/05		96	%	50 - 150
		D10-Phenanthrene	2010/01/05		90	%	50 - 150
		D12-Benzo(a)anthracene	2010/01/05		105	%	50 - 150
		D12-Benzo(a)pyrene	2010/01/05		84	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/01/05		93	%	50 - 150
		D12-Benzo(ghi)perylene	2010/01/05		101	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/01/05		102	%	50 - 150
		D12-Chrysene	2010/01/05		90	%	50 - 150

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

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9H1447

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2042722 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/01/05		99	%	50 - 150
		D12-Perylene	2010/01/05		92	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/05		100	%	50 - 150
		D8-Acenaphthylene	2010/01/05		90	%	50 - 150
		D8-Naphthalene	2010/01/05		79	%	50 - 150
		1-Methylnaphthalene	2010/01/05	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2010/01/05	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2010/01/05	ND, RDL=0.10		ug	
		2-Methylanthracene	2010/01/05	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2010/01/05	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2010/01/05	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/01/05	ND, RDL=0.10		ug	
		9,10-Dimethylanthracene	2010/01/05	ND, RDL=0.40		ug	
		Acenaphthene	2010/01/05	ND, RDL=0.050		ug	
		Acenaphthylene	2010/01/05	ND, RDL=0.050		ug	
		Anthracene	2010/01/05	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2010/01/05	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2010/01/05	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2010/01/05	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2010/01/05	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2010/01/05	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2010/01/05	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2010/01/05	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2010/01/05	ND, RDL=0.050		ug	
		Biphenyl	2010/01/05	ND, RDL=0.10		ug	
		Chrysene	2010/01/05	ND, RDL=0.050		ug	
		Coronene	2010/01/05	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2010/01/05	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2010/01/05	ND, RDL=0.20		ug	
		Fluoranthene	2010/01/05	ND, RDL=0.050		ug	
		Fluorene	2010/01/05	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/01/05	ND, RDL=0.050		ug	
		m-Terphenyl	2010/01/05	ND, RDL=0.10		ug	
		Naphthalene	2010/01/05	0.165, RDL=0.072		ug	
		o-Terphenyl	2010/01/05	ND, RDL=0.10		ug	
		Perylene	2010/01/05	ND, RDL=0.10		ug	
		Phenanthrene	2010/01/05	ND, RDL=0.050		ug	
		p-Terphenyl	2010/01/05	ND, RDL=0.10		ug	
		Pyrene	2010/01/05	ND, RDL=0.050		ug	
		Quinoline	2010/01/05	ND, RDL=0.40		ug	
		Tetralin	2010/01/05	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/Dec 21, 09

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Dec 18, 09 @ 14:50 mst
 Removal Date/Time: Dec 22, 09 @ 13:10 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
21-Dec-09	12/21/2009 0:00	12/22/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
16-Dec-09	22-Dec-09	28-Dec-09	14-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)
719	229	-20	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:

GA9G2105 PUFF#1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Dec 21, 09

Technician Signature: _____



Your Project #: 13-16-62-5 W4M
 Site: COLD LAKE SOUTH
 Your C.O.C. #: 1053

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

Report Date: 2010/01/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9H3740
Received: 2009/12/24, 08:36

Sample Matrix: PUF AND FILTER
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/01/07	2010/01/12	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
 Email: 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

Maxxam Job #: A9H3740
 Report Date: 2010/01/14

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

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

Maxxam ID		ES9741	ES9742		
Sampling Date		2009/12/21	2009/12/21		
COC Number		1053	1053		
	Units	LICA/CLS/DEC21,09	LICA/PORT/DEC21,09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	1.85	1.07	0.10	2050878
1-Methylphenanthrene	ug	<0.10	0.17	0.10	2050878
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2050878
2-Methylantracene	ug	<0.10	<0.10	0.10	2050878
2-Methylnaphthalene	ug	2.93	1.66	0.10	2050878
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2050878
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2050878
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2050878
Acenaphthene	ug	0.134	0.123	0.050	2050878
Acenaphthylene	ug	0.279	0.436	0.050	2050878
Anthracene	ug	<0.050	0.095	0.050	2050878
Benzo(a)anthracene	ug	0.138	0.170	0.050	2050878
Benzo(a)fluorene	ug	0.10	0.16	0.10	2050878
Benzo(a)pyrene	ug	0.104	0.107	0.050	2050878
Benzo(b)fluoranthene	ug	0.159	0.144	0.050	2050878
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2050878
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2050878
Benzo(g,h,i)perylene	ug	0.120	0.093	0.050	2050878
Benzo(k)fluoranthene	ug	0.077	0.061	0.050	2050878
Biphenyl	ug	0.67	1.04	0.10	2050878
Chrysene	ug	0.235	0.230	0.050	2050878
Coronene	ug	<0.10	<0.10	0.10	2050878
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2050878
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2050878
Fluoranthene	ug	0.405	0.470	0.050	2050878
Fluorene	ug	0.256	0.372	0.050	2050878
Indeno(1,2,3-cd)pyrene	ug	0.093	0.076	0.050	2050878
m-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Naphthalene	ug	2.72	1.58	0.072	2050878
o-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Perylene	ug	<0.10	<0.10	0.10	2050878
Phenanthrene	ug	0.609	0.966	0.050	2050878

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9H3740
 Report Date: 2010/01/14

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

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

Maxxam ID		ES9741	ES9742		
Sampling Date		2009/12/21	2009/12/21		
COC Number		1053	1053		
	Units	LICA/CLS/DEC21,09	LICA/PORT/DEC21,09	DL	QC Batch
p-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Pyrene	ug	0.338	0.384	0.050	2050878
Quinoline	ug	<0.40	<0.40	0.40	2050878
Tetralin	ug	0.14	<0.10	0.10	2050878
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	83	82		2050878
D10-Fluoranthene	%	100	102		2050878
D10-Fluorene (FS)	%	82	62		2050878
D10-Phenanthrene	%	99	95		2050878
D12-Benzo(a)anthracene	%	106	106		2050878
D12-Benzo(a)pyrene	%	105	100		2050878
D12-Benzo(b)fluoranthene	%	101	100		2050878
D12-Benzo(ghi)perylene	%	100	97		2050878
D12-Benzo(k)fluoranthene	%	103	88		2050878
D12-Chrysene	%	103	95		2050878
D12-Indeno(1,2,3-cd)pyrene	%	103	100		2050878
D12-Perylene	%	105	100		2050878
D14-Dibenzo(a,h)anthracene	%	101	99		2050878
D14-Terphenyl (FS)	%	89	82		2050878
D8-Acenaphthylene	%	90	89		2050878
D8-Naphthalene	%	83	80		2050878
QC Batch = Quality Control Batch					

Maxxam Job #: A9H3740
 Report Date: 2010/01/14

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID ES9741 **Collected** 2009/12/21
Sample ID LICA/CLS/DEC21,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/12/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2050878	2010/01/07	2010/01/12	WZ

Maxxam ID ES9742 **Collected** 2009/12/21
Sample ID LICA/PORT/DEC21,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/12/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2050878	2010/01/07	2010/01/12	WZ

Maxxam Job #: A9H3740
Report Date: 2010/01/14Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5 W4M
Project name: COLD LAKE SOUTH**GENERAL COMMENTS**

PAHMS-F

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

Sample ES9741-01: 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 0.23ug, 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 ES9742-01: 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 0.23ug, 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 #: 13-16-62-5 W4M
 P.O. #:
 Project name: COLD LAKE SOUTH

Quality Assurance Report
 Maxxam Job Number: GA9H3740

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2050878 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/01/12		84	%	50 - 150
		D10-Fluoranthene	2010/01/12		99	%	50 - 150
		D10-Phenanthrene	2010/01/12		99	%	50 - 150
		D12-Benzo(a)anthracene	2010/01/12		89	%	50 - 150
		D12-Benzo(a)pyrene	2010/01/12		99	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/01/12		100	%	50 - 150
		D12-Benzo(ghi)perylene	2010/01/12		98	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/01/12		97	%	50 - 150
		D12-Chrysene	2010/01/12		103	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/01/12		98	%	50 - 150
		D12-Perylene	2010/01/12		101	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/12		98	%	50 - 150
		RPD	D8-Acenaphthylene	2010/01/12		82	%
	D8-Naphthalene		2010/01/12		86	%	50 - 150
	Spiked Blank	Acenaphthene	2010/01/12		80	%	60 - 130
		Acenaphthene	2010/01/12	1.4		%	50
	RPD	Acenaphthylene	2010/01/12		78	%	60 - 130
		Acenaphthylene	2010/01/12	2.4		%	50
	Spiked Blank	Anthracene	2010/01/12		77	%	60 - 130
		Anthracene	2010/01/12	3.6		%	50
	Spiked Blank	Benzo(a)anthracene	2010/01/12		76	%	60 - 130
		Benzo(a)anthracene	2010/01/12	8.8		%	50
	Spiked Blank	Benzo(a)pyrene	2010/01/12		85	%	60 - 130
		Benzo(a)pyrene	2010/01/12	3.4		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/01/12		85	%	60 - 130
		Benzo(b)fluoranthene	2010/01/12	8.0		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/01/12		87	%	60 - 130
		Benzo(g,h,i)perylene	2010/01/12	0.7		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/01/12		95	%	60 - 130
		Benzo(k)fluoranthene	2010/01/12	5.4		%	50
	Spiked Blank	Chrysene	2010/01/12		94	%	60 - 130
		Chrysene	2010/01/12	1.3		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/01/12		88	%	60 - 130
		Dibenz(a,h)anthracene	2010/01/12	0.2		%	50
	Spiked Blank	Fluoranthene	2010/01/12		91	%	60 - 130
		Fluoranthene	2010/01/12	4.4		%	50
	Spiked Blank	Fluorene	2010/01/12		79	%	60 - 130
		Fluorene	2010/01/12	2.0		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/01/12		88	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2010/01/12	0.5		%	50
Spiked Blank	Naphthalene	2010/01/12		84	%	60 - 130	
	Naphthalene	2010/01/12	0.5		%	50	
Spiked Blank	Phenanthrene	2010/01/12		76	%	60 - 130	
	Phenanthrene	2010/01/12	7.5		%	50	
Spiked Blank	Pyrene	2010/01/12		82	%	60 - 130	
	Pyrene	2010/01/12	3.7		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/01/12		90	%	50 - 150	
	D10-Fluoranthene	2010/01/12		109	%	50 - 150	
	D10-Phenanthrene	2010/01/12		107	%	50 - 150	
	D12-Benzo(a)anthracene	2010/01/12		101	%	50 - 150	
	D12-Benzo(a)pyrene	2010/01/12		109	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/01/12		106	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/01/12		105	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/01/12		107	%	50 - 150	
	D12-Chrysene	2010/01/12		110	%	50 - 150	

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

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9H3740

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2050878 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/01/12		106	%	50 - 150
		D12-Perylene	2010/01/12		111	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/12		105	%	50 - 150
		D8-Acenaphthylene	2010/01/12		91	%	50 - 150
		D8-Naphthalene	2010/01/12		92	%	50 - 150
		1-Methylnaphthalene	2010/01/12	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2010/01/12	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2010/01/12	ND, RDL=0.10		ug	
		2-Methylantracene	2010/01/12	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2010/01/12	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2010/01/12	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/01/12	ND, RDL=0.10		ug	
		9,10-Dimethylantracene	2010/01/12	ND, RDL=0.40		ug	
		Acenaphthene	2010/01/12	ND, RDL=0.050		ug	
		Acenaphthylene	2010/01/12	ND, RDL=0.050		ug	
		Anthracene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Biphenyl	2010/01/12	ND, RDL=0.10		ug	
		Chrysene	2010/01/12	ND, RDL=0.050		ug	
		Coronene	2010/01/12	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2010/01/12	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2010/01/12	ND, RDL=0.20		ug	
		Fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Fluorene	2010/01/12	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/01/12	ND, RDL=0.050		ug	
		m-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Naphthalene	2010/01/12	ND, RDL=0.072		ug	
		o-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Perylene	2010/01/12	ND, RDL=0.10		ug	
		Phenanthrene	2010/01/12	ND, RDL=0.050		ug	
		p-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Pyrene	2010/01/12	ND, RDL=0.050		ug	
		Quinoline	2010/01/12	ND, RDL=0.40		ug	
		Tetralin	2010/01/12	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/Dec 27, 09

Puf+ s/n: 100-1020
 Motor s/n: 1138
 Installation Date/Time: Dec 24, 09 @ 10:20 mst
 Removal Date/Time: Dec 30, 09 @ 07:00 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
27-Dec-09	12/27/2009 0:00	12/28/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
22-Dec-09	30-Dec-09	01-Jan-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)
723	229	-13.9	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:

GA9G2128 PUFF#1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Dec 27, 09

Technician Signature: _____



Your C.O.C. #: 1055

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

Report Date: 2010/01/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B000052
Received: 2010/01/04, 08:18

Sample Matrix: Filter
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/01/07	2010/01/12	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: 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

Maxxam Job #: B000052
 Report Date: 2010/01/14

SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)

Maxxam ID		ET5011	ET5012		
Sampling Date		2009/12/27 00:00	2009/12/27 00:00		
COC Number		1055	1055		
	Units	LICA	LICA	DL	QC Batch
		PUF/QFF/CLS/DEC27,09	PUF/QFF/PORT/DEC27,09		

Semivolatile Organics					
1-Methylnaphthalene	ug	0.55	0.63	0.10	2050878
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2050878
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2050878
2-Methylantracene	ug	<0.10	<0.10	0.10	2050878
2-Methylnaphthalene	ug	1.09	1.19	0.10	2050878
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2050878
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2050878
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2050878
Acenaphthene	ug	0.073	0.095	0.050	2050878
Acenaphthylene	ug	0.105	0.295	0.050	2050878
Anthracene	ug	<0.050	0.056	0.050	2050878
Benzo(a)anthracene	ug	<0.050	0.065	0.050	2050878
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2050878
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2050878
Benzo(b)fluoranthene	ug	<0.050	0.107	0.050	2050878
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2050878
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2050878
Benzo(g,h,i)perylene	ug	<0.050	0.062	0.050	2050878
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2050878
Biphenyl	ug	0.35	0.94	0.10	2050878
Chrysene	ug	0.051	0.147	0.050	2050878
Coronene	ug	<0.10	<0.10	0.10	2050878
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2050878
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2050878
Fluoranthene	ug	0.135	0.269	0.050	2050878
Fluorene	ug	0.176	0.373	0.050	2050878
Indeno(1,2,3-cd)pyrene	ug	<0.050	0.052	0.050	2050878
m-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Naphthalene	ug	1.01	0.896	0.072	2050878
o-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Perylene	ug	<0.10	<0.10	0.10	2050878

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B000052
 Report Date: 2010/01/14

SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)

Maxxam ID		ET5011	ET5012		
Sampling Date		2009/12/27 00:00	2009/12/27 00:00		
COC Number		1055	1055		
	Units	LICA	LICA	DL	QC Batch
		PUF/QFF/CLS/DEC27,09	PUF/QFF/PORT/DEC27,09		
Phenanthrene	ug	0.452	0.906	0.050	2050878
p-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Pyrene	ug	0.091	0.195	0.050	2050878
Quinoline	ug	<0.40	<0.40	0.40	2050878
Tetralin	ug	<0.10	<0.10	0.10	2050878
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	82	80		2050878
D10-Fluoranthene	%	104	98		2050878
D10-Fluorene (FS)	%	76	66		2050878
D10-Phenanthrene	%	96	93		2050878
D12-Benzo(a)anthracene	%	105	102		2050878
D12-Benzo(a)pyrene	%	103	101		2050878
D12-Benzo(b)fluoranthene	%	105	81		2050878
D12-Benzo(ghi)perylene	%	103	98		2050878
D12-Benzo(k)fluoranthene	%	92	120		2050878
D12-Chrysene	%	102	99		2050878
D12-Indeno(1,2,3-cd)pyrene	%	103	100		2050878
D12-Perylene	%	104	101		2050878
D14-Dibenzo(a,h)anthracene	%	102	99		2050878
D14-Terphenyl (FS)	%	88	87		2050878
D8-Acenaphthylene	%	90	87		2050878
D8-Naphthalene	%	81	79		2050878
QC Batch = Quality Control Batch					

Maxxam Job #: B000052
 Report Date: 2010/01/14

Test Summary

Maxxam ID	ET5011	Collected	2009/12/27
Sample ID	LICA PUF/QFF/CLS/DEC27,09	Shipped	
Matrix	Filter	Received	2010/01/04

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2050878	2010/01/07	2010/01/12	WZ

Maxxam ID	ET5012	Collected	2009/12/27
Sample ID	LICA PUF/QFF/PORT/DEC27,09	Shipped	
Matrix	Filter	Received	2010/01/04

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2050878	2010/01/07	2010/01/12	WZ

Maxxam Job #: B000052
Report Date: 2010/01/14**GENERAL COMMENTS**

PAHMS-F

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

Sample ET5011-01: 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 0.05ug, 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 ET5012-01: 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 0.15ug, 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: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report
 Maxxam Job Number: GB000052

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2050878 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/01/12		84	%	50 - 150
		D10-Fluoranthene	2010/01/12		99	%	50 - 150
		D10-Phenanthrene	2010/01/12		99	%	50 - 150
		D12-Benzo(a)anthracene	2010/01/12		89	%	50 - 150
		D12-Benzo(a)pyrene	2010/01/12		99	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/01/12		100	%	50 - 150
		D12-Benzo(ghi)perylene	2010/01/12		98	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/01/12		97	%	50 - 150
		D12-Chrysene	2010/01/12		103	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/01/12		98	%	50 - 150
		D12-Perylene	2010/01/12		101	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/12		98	%	50 - 150
		RPD	D8-Acenaphthylene	2010/01/12		82	%
	D8-Naphthalene		2010/01/12		86	%	50 - 150
	Spiked Blank	Acenaphthene	2010/01/12		80	%	60 - 130
		Acenaphthene	2010/01/12	1.4		%	50
	RPD	Acenaphthylene	2010/01/12		78	%	60 - 130
		Acenaphthylene	2010/01/12	2.4		%	50
	Spiked Blank	Anthracene	2010/01/12		77	%	60 - 130
		Anthracene	2010/01/12	3.6		%	50
	Spiked Blank	Benzo(a)anthracene	2010/01/12		76	%	60 - 130
		Benzo(a)anthracene	2010/01/12	8.8		%	50
	Spiked Blank	Benzo(a)pyrene	2010/01/12		85	%	60 - 130
		Benzo(a)pyrene	2010/01/12	3.4		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/01/12		85	%	60 - 130
		Benzo(b)fluoranthene	2010/01/12	8.0		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/01/12		87	%	60 - 130
		Benzo(g,h,i)perylene	2010/01/12	0.7		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/01/12		95	%	60 - 130
		Benzo(k)fluoranthene	2010/01/12	5.4		%	50
	Spiked Blank	Chrysene	2010/01/12		94	%	60 - 130
		Chrysene	2010/01/12	1.3		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/01/12		88	%	60 - 130
		Dibenz(a,h)anthracene	2010/01/12	0.2		%	50
	Spiked Blank	Fluoranthene	2010/01/12		91	%	60 - 130
		Fluoranthene	2010/01/12	4.4		%	50
	Spiked Blank	Fluorene	2010/01/12		79	%	60 - 130
		Fluorene	2010/01/12	2.0		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/01/12		88	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2010/01/12	0.5		%	50
Spiked Blank	Naphthalene	2010/01/12		84	%	60 - 130	
	Naphthalene	2010/01/12	0.5		%	50	
Spiked Blank	Phenanthrene	2010/01/12		76	%	60 - 130	
	Phenanthrene	2010/01/12	7.5		%	50	
Spiked Blank	Pyrene	2010/01/12		82	%	60 - 130	
	Pyrene	2010/01/12	3.7		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/01/12		90	%	50 - 150	
	D10-Fluoranthene	2010/01/12		109	%	50 - 150	
	D10-Phenanthrene	2010/01/12		107	%	50 - 150	
	D12-Benzo(a)anthracene	2010/01/12		101	%	50 - 150	
	D12-Benzo(a)pyrene	2010/01/12		109	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/01/12		106	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/01/12		105	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/01/12		107	%	50 - 150	
	D12-Chrysene	2010/01/12		110	%	50 - 150	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB000052

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2050878 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/01/12		106	%	50 - 150
		D12-Perylene	2010/01/12		111	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/12		105	%	50 - 150
		D8-Acenaphthylene	2010/01/12		91	%	50 - 150
		D8-Naphthalene	2010/01/12		92	%	50 - 150
		1-Methylnaphthalene	2010/01/12	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2010/01/12	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2010/01/12	ND, RDL=0.10		ug	
		2-Methylantracene	2010/01/12	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2010/01/12	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2010/01/12	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/01/12	ND, RDL=0.10		ug	
		9,10-Dimethylantracene	2010/01/12	ND, RDL=0.40		ug	
		Acenaphthene	2010/01/12	ND, RDL=0.050		ug	
		Acenaphthylene	2010/01/12	ND, RDL=0.050		ug	
		Anthracene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Biphenyl	2010/01/12	ND, RDL=0.10		ug	
		Chrysene	2010/01/12	ND, RDL=0.050		ug	
		Coronene	2010/01/12	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2010/01/12	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2010/01/12	ND, RDL=0.20		ug	
		Fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Fluorene	2010/01/12	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/01/12	ND, RDL=0.050		ug	
		m-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Naphthalene	2010/01/12	ND, RDL=0.072		ug	
		o-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Perylene	2010/01/12	ND, RDL=0.10		ug	
		Phenanthrene	2010/01/12	ND, RDL=0.050		ug	
		p-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Pyrene	2010/01/12	ND, RDL=0.050		ug	
		Quinoline	2010/01/12	ND, RDL=0.40		ug	
		Tetralin	2010/01/12	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
December 2009

Prepared By:



January 13, 2010

Lakeland Industry & Community Association Ambient Air Monitoring Maskwa

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Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Maskwa
Data Period: December 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 – December 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	0.72	11	31	11	3.8	288(WNW)	3.6	31	99.9
H2S (PPB)	10	3	0	0	0.11	3	VAR	VAR	VAR	VAR	0.8	10	99.9
THC (PPM)	-	-	-	-	2.24	3.7	8	17	1.9	222(SW)	3.0	26	99.9
NOx (PPB)	-	-	-	-	8.80	170	10	9	2.6	264(W)	33.3	9	99.9
NO (PPB)	-	-	-	-	2.04	87	10	9	2.6	264(W)	15.0	9	99.9
NO ₂ (PPB)	212	106	0	0	6.44	82	10	9	2.6	264(W)	18.0	8, 9	99.9
VECTOR WS (KPH)	-	-	-	-	3.91	14.3	5	14	-	11(NNE)	10.5	5	99.9
VECTOR WD (DEGREES)	-	-	-	-	303(WNW)	-	-	-	-	-	-	-	99.9
RELATIVE HUMIDITY (%)	-	-	-	-	68.57	84	4	15, 16	3.8, 6.3	327(NW), 345(NNW)	80.8	4	99.7
TEMPERATURE (DEG C)	-	-	-	-	-19.11	-0.5	19	12	9.2	281(W)	-6.3	19	99.7
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	945	962	6	9, 10	7.2, 9.9	1(N), 79N)	960.3	6	99.7
PRECIPITATION (MM)	-	-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA

VAR-VARIOUS

General Monthly Summary

Equipment Operation

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

AQM STATION – LICA – Maskwa

Sulphur Dioxide (PPB)

- Analyzer make / model - API 100E

No operational issue was observed during the month. One-minute data between December 30th at 7:12 and December 31st at 7:18 is missing due to incorrect configuration setup. The error was fixed on December 31st. The total sample collection time is 711 hours this month, and the operational uptime is 99.9%. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

- Analyzer make / model - API 101E

No operational issue was observed during the month. A lamp cal and a factory cal were performed prior to an installation calibration on December 2nd. The internal pump was removed and replaced with a new external Thomas diaphragm pump as well. One-minute data between December 30th at 7:12 and December 31st at 7:18 is missing due to incorrect configuration setup. The error was fixed on December 31st. The total sample collection time is 713 hours this month, and the operational uptime is 99.9%. 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. An installation calibration was performed on December 2nd. One-minute data between December 30th at 7:12 and December 31st at 7:18 is missing due to incorrect configuration setup. The error was fixed on December 31st. The total sample collection time is 713 hours this month, and the operational uptime is 99.9%. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

- Analyzer make / model - API 200E

No operational issue was observed during the month. An installation calibration was performed on December 2nd. One-minute data between December 30th at 7:12 and December 31st at 7:18 is missing due to incorrect configuration setup. The error was fixed on December 31st. The total sample collection time is 713 hours this month, and the operational uptime is 99.9%. 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.

No operational issue was observed during the month. One-minute data between December 30th at 7:12 and December 31st at 7:18 is missing due to incorrect configuration setup. The error was fixed on December 31st. The total sample collection time is 711 hours this month, and the operational uptime is 99.9%.

General Monthly Summary

AQM STATION – LICA – Maskwa

Relative Humidity (PERCENT)

- System make / model - Met One 083

No operational issues observed during the month. One-minute data between December 30th at 7:12 and December 31st at 7:18 is missing due to incorrect configuration setup. The error was fixed on December 31st. The total sample collection time is 708 hours this month, and the operational uptime is 99.9%.

Precipitation (MM)

- System make / model - Met One 387

No data was collected this month; waiting for the electricians to complete the trench/wiring to the new station.

Barometric Pressure (MILLIBAR)

- System make / model - Met One 092

No operational issue was observed during the month. One-minute data between December 30th at 7:12 and December 31st at 7:18 is missing due to incorrect configuration setup. The error was fixed on December 31st. The total sample collection time is 708 hours this month, and the operational uptime is 99.9%.

Ambient Temperature (DEGC)

- System make / model - Met One 060

No operational issue was observed during the month. One-minute data between December 30th at 7:12 and December 31st at 7:18 is missing due to incorrect configuration setup. The error was fixed on December 31st. The total sample collection time is 708 hours this month, and the operational uptime is 99.9%.

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. One-minute data between December 30th at 7:12 and December 31st at 7:18 is missing due to incorrect configuration setup. The error was fixed on December 31st. The total sample collection time is 708 hours this month, and the operational uptime is 99.9%.

Standard Deviation Wind Direction (DEG)

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

No operational issue was observed during the month. One-minute data between December 30th at 7:12 and December 31st at 7:18 is missing due to incorrect configuration setup. The error was fixed on December 31st. The total sample collection time is 711 hours this month, and the operational uptime is 99.9%.

Datalogger

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

No operational issue was observed during the month.

Trailer

The trailer was installed following an installation calibration on December 2nd.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA
DECEMBER 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	
2											C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.0	15	
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	0.1	24		
4	0	0	1	1	IZS	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0.2	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	24		
6	0	0	IZS	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.2	24		
7	1	IZS	1	6	4	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	24		
8	IZS	0	0	0	0	0	0	0	0	1	2	3	2	4	4	1	1	0	0	1	0	0	1	IZS	4	0.9	24	
9	0	0	0	0	0	0	1	2	3	2	4	4	5	3	4	2	1	1	1	1	2	2	IZS	0	5	1.7	24	
10	1	0	1	4	1	6	10	2	1	2	1	1	0	1	0	0	0	0	0	0	1	IZS	0	0	10	1.4	24	
11	0	1	0	0	0	0	0	0	0	0	0	1	2	3	1	1	0	0	0	0	0	IZS	0	0	1	3	0.4	24
12	1	3	6	4	7	10	2	4	0	0	1	1	2	3	4	3	3	1	2	IZS	1	6	2	1	10	2.9	24	
13	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	IZS	0	0	0	1	1	1	0.2	24	
14	1	1	0	0	1	1	2	2	0	2	2	2	1	0	0	0	0	IZS	0	0	0	0	0	0	2	0.7	24	
15	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	IZS	1	0	0	0	1	1	1	2	0.5	24	
16	1	1	1	1	1	1	1	1	1	3	1	3	1	1	1	IZS	0	0	0	0	0	0	0	0	3	0.8	24	
17	0	0	0	0	0	0	0	1	1	1	1	1	1	1	IZS	1	0	0	1	0	1	0	0	0	1	0.4	24	
18	0	0	0	0	0	0	2	1	1	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	2	0.2	24	
19	0	0	0	0	0	0	0	0	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
20	1	9	7	0	0	0	0	1	0	0	0	0	IZS	2	2	2	0	0	0	0	0	0	0	0	9	1.0	24	
21	0	0	0	0	0	0	0	0	0	0	0	IZS	1	1	1	0	0	0	0	1	1	1	0	0	1	0.3	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	24	
23	0	2	0	1	0	0	0	3	IZS	7	8	2	4	3	2	0	0	0	0	0	0	0	0	0	8	1.4	24	
24	0	0	0	0	0	0	0	IZS	1	2	1	1	2	2	2	1	0	0	0	0	0	0	1	1	2	0.6	24	
25	0	0	0	0	0	0	0	IZS	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	0.2	24	
26	0	0	0	1	0	IZS	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0.5	24	
27	0	0	0	0	IZS	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
28	0	0	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
29	0	0	IZS	0	0	0	0	0	0	0	0	0	3	3	2	4	1	2	2	1	0	0	0	0	4	0.8	24	
30	0	IZS	0	0	1	2	2	1	1	2	2	2	1	2	2	1	1	1	0	3	1	1	2	1	3	1.3	24	
31	1	1	1	5	3	4	M	6	6	5	7	11	9	5	5	5	3	1	1	0	0	0	0	IZS	11	3.6	23	
HOURLY MAX	1	9	7	6	7	10	10	6	6	7	8	11	9	5	5	5	3	2	2	3	2	6	2	1				
HOURLY AVG	0.3	0.7	0.7	0.9	0.7	1.0	0.8	0.9	0.6	1.1	1.1	1.3	1.5	1.4	1.2	0.8	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.3				

STATUS FLAG CODES

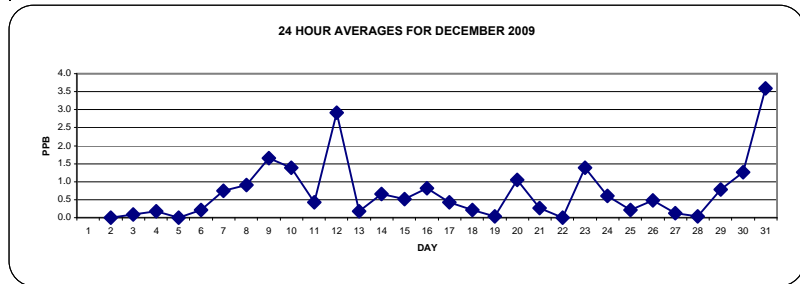
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

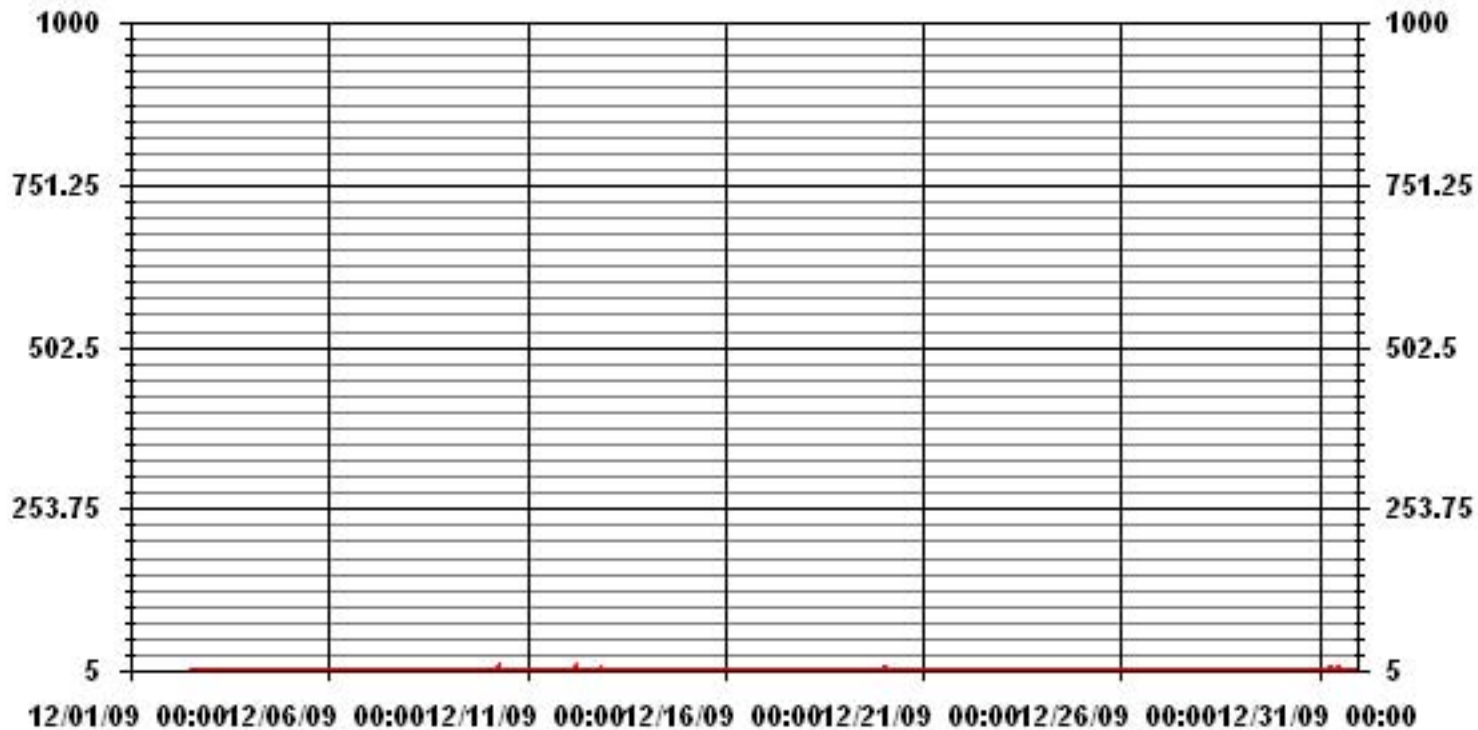
ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	236
MAXIMUM 1-HR AVERAGE:	11 PPB @ HOUR(S) 11 ON DAY(S) 31
MAXIMUM 24-HR AVERAGE:	3.6 PPB ON DAY(S) 31
IZS CALIBRATION TIME:	30 HRS
MONTHLY CALIBRATION TIME:	5 HRS
STANDARD DEVIATION:	1.46
OPERATIONAL TIME:	710 HRS
AMD OPERATION UPTIME:	99.9 %
MONTHLY AVERAGE:	0.72 PPB



01 Hour Averages



— LICA30 SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

DECEMBER 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	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
2	2										C	C	C	C	C	0	C	2	0	0	0	0	0	0	0	0	2	0.2	15
3	3	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0.2	24
4	4	1	1	1	1	IZS	1	1	1	1	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	2	0.7	24
5	5	0	0	0	IZS	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
6	6	0	0	IZS	0	0	1	0	1	1	0	0	0	0	0	0	1	1	1	1	1	2	1	2	2	2	2	0.7	24
7	7	1	IZS	2	9	6	4	2	1	1	2	2	0	0	0	0	0	0	0	0	1	1	1	1	0	0	9	1.4	24
8	8	IZS	0	0	0	0	0	1	1	1	2	3	4	4	8	9	2	4	1	1	2	2	1	1	IZS	9	2.1	24	
9	9	1	1	1	1	1	1	1	3	5	5	5	5	7	6	5	4	5	1	2	2	3	3	IZS	1	7	3.0	24	
10	10	2	1	1	11	4	15	25	3	3	4	2	1	1	1	1	1	1	1	1	1	10	IZS	4	1	25	4.1	24	
11	11	1	1	1	1	1	1	0	1	1	1	1	3	3	4	2	1	1	1	1	1	1	IZS	1	1	2	4	1.3	24
12	12	1	15	13	9	13	14	8	11	3	0	2	2	6	9	11	7	11	2	8	IZS	2	18	11	3	18	7.8	24	
13	13	1	1	2	1	1	1	0	0	0	0	1	1	2	0	0	0	0	0	IZS	0	0	0	2	2	2	2	0.7	24
14	14	2	2	1	0	1	3	4	3	1	3	4	4	3	1	1	1	0	IZS	0	1	0	0	2	0	4	1.6	24	
15	15	0	0	0	1	1	1	0	1	1	1	1	1	2	2	2	2	IZS	1	1	1	1	2	1	2	2	1.1	24	
16	16	2	2	2	2	1	1	1	4	4	5	4	6	5	1	1	IZS	1	1	1	0	1	0	0	1	6	2.0	24	
17	17	0	0	1	1	1	1	1	1	1	2	1	2	2	1	IZS	1	1	1	1	1	2	1	1	1	2	1.1	24	
18	18	1	0	0	0	1	1	5	2	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	5	1.1	24	
19	19	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	0	0	1	1	1	0	0	0	0	1	0.7	24
20	20	7	13	18	1	0	0	1	3	0	0	0	IZS	9	7	6	1	1	1	1	0	0	0	0	0	18	3.0	24	
21	21	0	0	0	0	0	0	0	0	1	1	IZS	2	2	2	1	0	0	0	1	2	2	1	1	1	2	0.7	24	
22	22	0	0	0	0	0	0	0	0	0	0	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
23	23	0	6	2	4	2	3	0	11	IZS	16	15	6	12	7	6	1	0	0	0	0	0	0	0	0	16	4.0	24	
24	24	0	0	0	0	0	0	0	IZS	2	3	2	1	3	3	2	2	1	1	0	0	0	1	2	1	3	1.0	24	
25	25	1	0	1	0	0	0	IZS	0	0	0	1	1	1	1	2	2	1	0	0	0	0	0	0	0	2	0.5	24	
26	26	0	1	1	1	1	1	IZS	0	0	1	1	1	2	2	2	1	1	1	1	1	1	1	1	0	2	1.0	24	
27	27	1	1	0	0	IZS	0	0	0	0	0	1	1	2	1	1	1	0	0	0	0	0	0	0	0	2	0.4	24	
28	28	3	2	4	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.4	24	
29	29	1	1	IZS	0	0	0	0	0	0	0	2	1	5	11	4	5	2	3	3	3	3	0	0	1	1	11	1.9	24
30	30	0	IZS	1	1	1	2	2	2	2	3	3	3	2	3	3	3	1	1	1	12	1	2	2	2	12	2.3	24	
31	31	2	2	2	21	13	5	M	7	9	7	12	27	12	9	6	6	4	2	1	1	1	1	0	IZS	27	6.8	24	
HOURLY MAX		7	15	18	21	13	15	25	11	9	16	15	27	12	11	11	7	11	3	8	12	10	18	11	3				
HOURLY AVG		1.0	1.9	2.0	2.4	1.8	2.1	2.0	2.1	1.4	2.1	2.4	2.7	3.1	2.9	2.3	1.5	1.4	0.7	0.9	1.1	1.1	1.2	1.2	0.8				

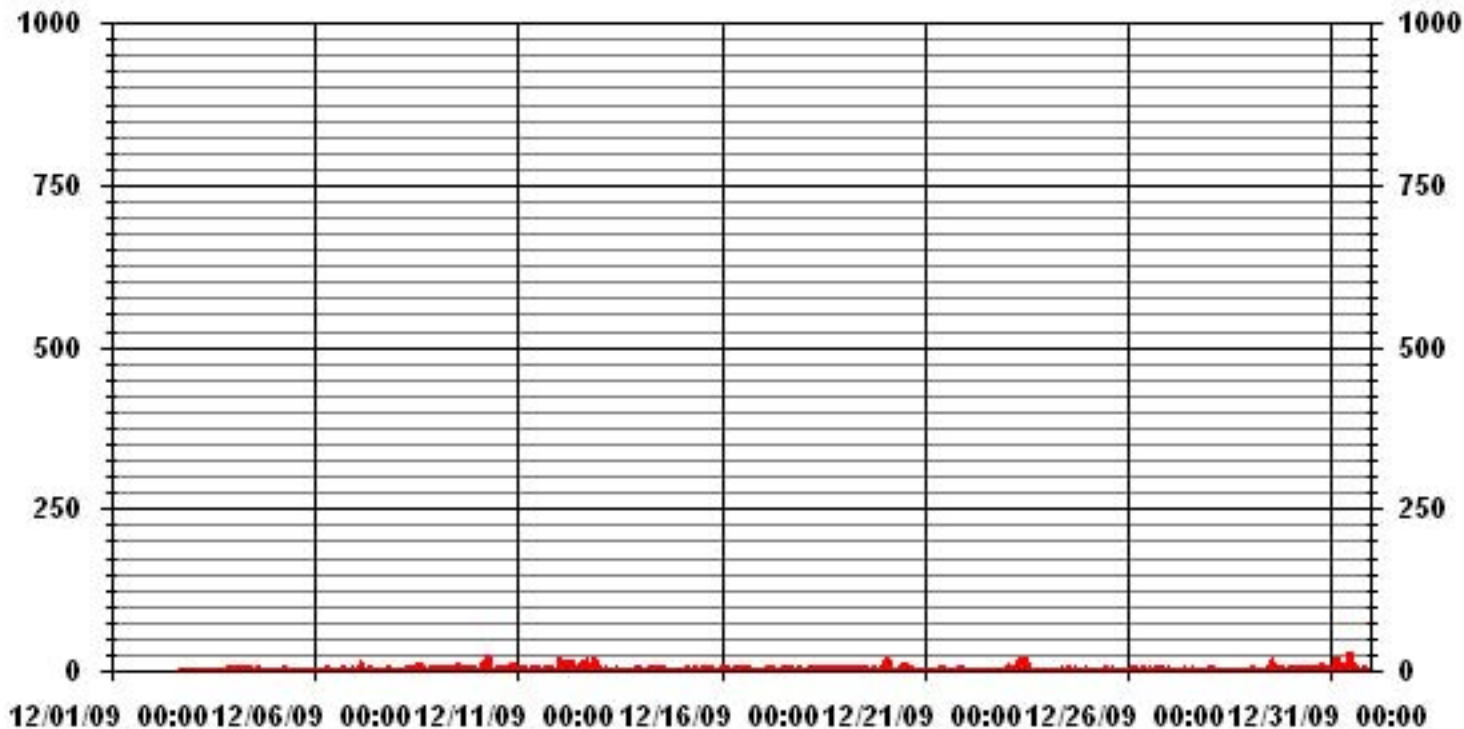
STATUS FLAG CODES

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:	428
MAXIMUM INSTANTANEOUS VALUE:	27 PPB @ HOUR(S) 11 ON DAY(S) 31
IZS CALIBRATION TIME:	30 HRS
MONTHLY CALIBRATION TIME:	6 HRS
STANDARD DEVIATION:	3.12
OPERATIONAL TIME:	712 HRS

01 Hour Averages



— LICA30 SO2MAX PPB

LICA30
SO2_ / WDR Joint Frequency Distribution (Percent)

December 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	9.62	4.44	6.07	4.59	3.85	1.77	1.62	4.14	4.88	10.22	9.92	7.11	10.81	6.66	7.11	7.11	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	9.62	4.44	6.07	4.59	3.85	1.77	1.62	4.14	4.88	10.22	9.92	7.11	10.81	6.66	7.11	7.11	

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
< 20	65	30	41	31	26	12	11	28	33	69	67	48	73	45	48	48	675
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	65	30	41	31	26	12	11	28	33	69	67	48	73	45	48	48	

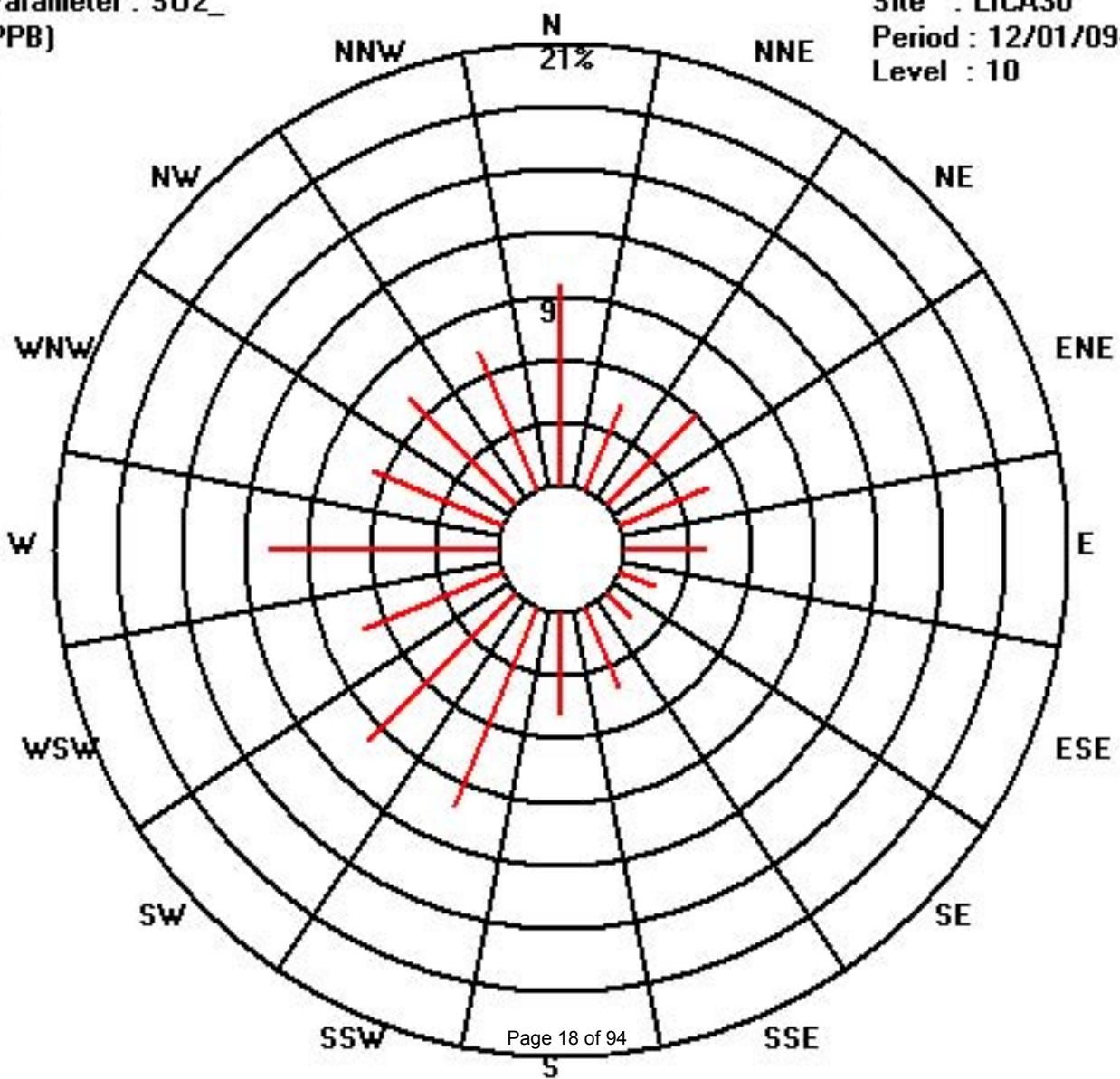
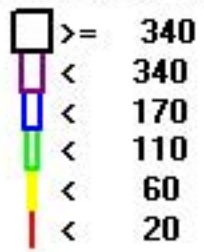
Calm : .00 %

Total # Operational Hours : 675

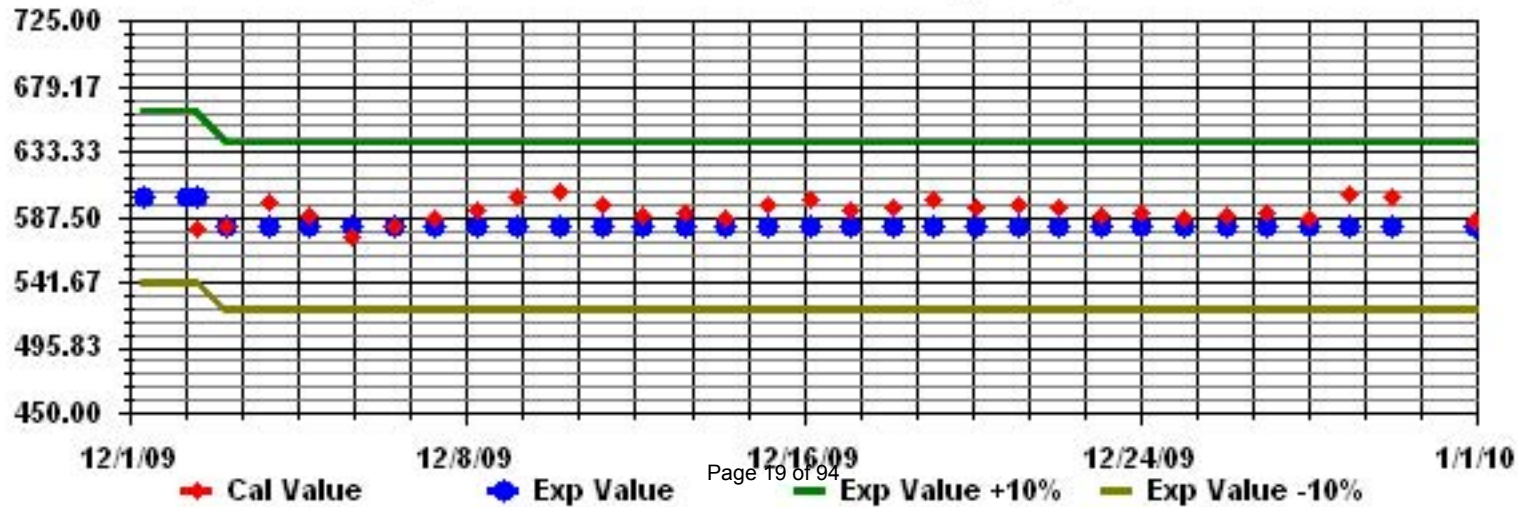
Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



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



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 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	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																												0	
2	2																												0.0	17
3	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	4	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
5	5	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
6	6	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
7	7	0	IZS	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
8	8	IZS	3	2	1	0	1	0	0	0	1	2	2	0	2	1	0	0	0	0	0	0	0	0	0	IZS	3	0.7	24	
9	9	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	1	1	0	0	0	0	0	0	IZS	1	2	0.4	24	
10	10	1	1	1	0	0	1	1	1	2	3	0	0	1	1	1	1	1	0	1	1	1	IZS	0	0	3	0.8	24		
11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0.0	24		
12	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0.0	24		
13	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	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24	
15	15	0	0	0	1	2	3	2	1	2	1	0	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	3	0.6	24	
16	16	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	1	2	0.2	24	
17	17	2	2	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	2	0.2	24	
18	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
19	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	24	
20	20	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
21	21	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	
22	22	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
23	23	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
24	24	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
25	25	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
26	26	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
27	27	0	0	0	0	0	IZS	1	1	1	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0.3	24	
28	28	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	
29	29	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
30	30	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
31	31	0	0	0	0	0	0	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0.0	23	
HOURLY MAX		2	3	2	1	2	3	2	1	2	3	2	2	1	2	2	1	1	0	1	1	1	1	0	0	1				
HOURLY AVG		0.1	0.2	0.1	0.1	0.1	0.3	0.2	0.1	0.2	0.3	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1					

STATUS FLAG CODES

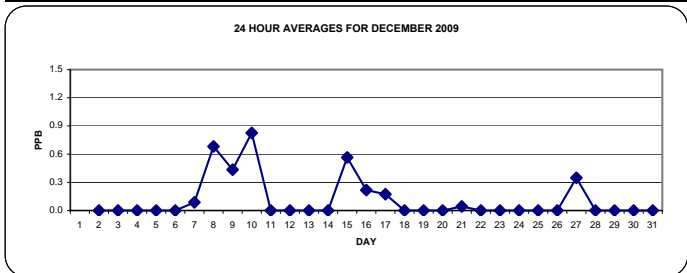
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

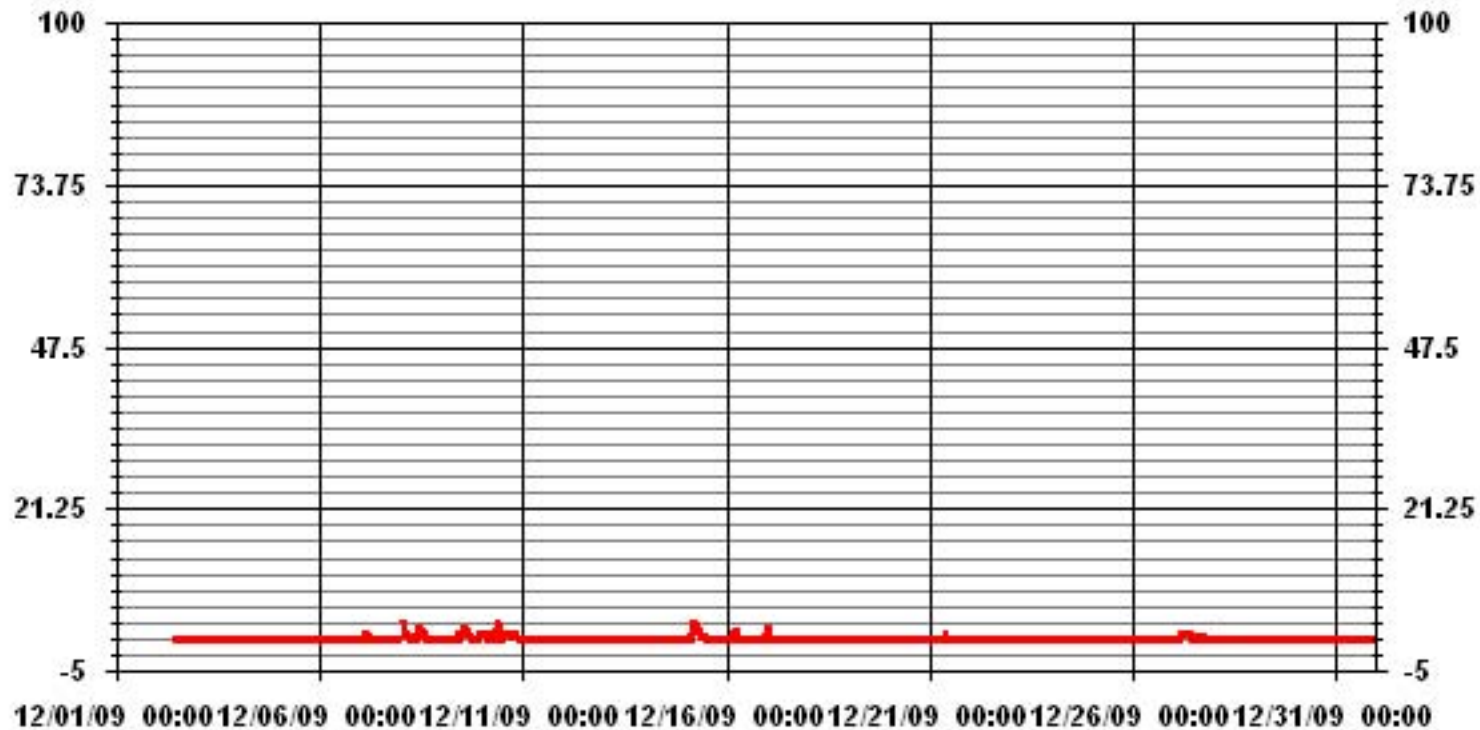
ALBERTA ENVIRONMENT: 1-HR 10 PPB 24-HR 3 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	58
MAXIMUM 1-HR AVERAGE:	3 PPB @ HOUR(S) VAR ON DAY(S) VAR
MAXIMUM 24-HR AVERAGE:	0.8 PPB VAR ON DAY(S) VAR
	VAR-VARIOUS
IZS CALIBRATION TIME:	30 HRS
MONTHLY CALIBRATION TIME:	4 HRS
OPERATIONAL TIME:	712 HRS
AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	0.41
MONTHLY AVERAGE:	0.11 PPB



01 Hour Averages



— LICA30 H2S_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

DECEMBER 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		
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																												0
2	2									C	C	C	C	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0.2	17
3	3	0	0	0	0	0	IZS	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
4	4	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0.1	24	
5	5	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	6	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	7	0	IZS	0	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.3	24
8	8	IZS	5	2	1	1	1	1	0	1	2	2	3	2	3	3	1	0	1	0	1	0	0	0	0	IZS	5	1.4	24
9	9	0	0	0	0	0	0	0	0	1	2	2	3	3	4	4	7	5	0	0	0	0	0	0	IZS	1	7	1.4	24
10	10	1	1	1	1	1	1	1	1	5	7	3	1	1	1	1	1	1	1	1	1	1	1	IZS	0	0	7	1.4	24
11	11	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0.1	24
12	12	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	0.0	24
13	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24
14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24
15	15	0	0	0	3	4	7	5	2	2	2	1	2	1	1	0	0	IZS	0	0	0	0	0	0	0	0	7	1.3	24
16	16	0	0	0	0	3	3	3	1	0	0	0	1	1	0	0	IZS	0	0	1	1	0	1	1	3	3	0.8	24	
17	17	3	3	1	1	0	0	0	1	1	1	0	0	1	0	IZS	1	0	0	1	0	0	0	0	0	0	3	0.6	24
18	18	0	0	0	0	1	0	0	1	1	0	0	1	1	IZS	0	0	0	0	1	1	1	1	0	0	1	0.4	24	
19	19	0	0	1	0	0	0	1	1	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
20	20	0	0	1	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
21	21	0	0	0	0	0	0	0	0	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
22	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
23	23	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	24	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	25	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.1	24
26	26	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	27	0	0	1	0	IZS	1	2	1	3	3	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	3	0.9	24
28	28	1	1	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	24
29	29	0	0	IZS	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
30	30	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
31	31	0	0	0	0	0	0	M	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	IZS	1	0.0	24
HOURLY MAX		3	5	2	3	4	7	5	2	5	7	3	3	3	4	4	7	5	1	1	1	1	1	1	1	3			
HOURLY AVG		0.2	0.4	0.3	0.3	0.4	0.5	0.5	0.3	0.6	0.7	0.4	0.4	0.5	0.3	0.3	0.4	0.3	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2			

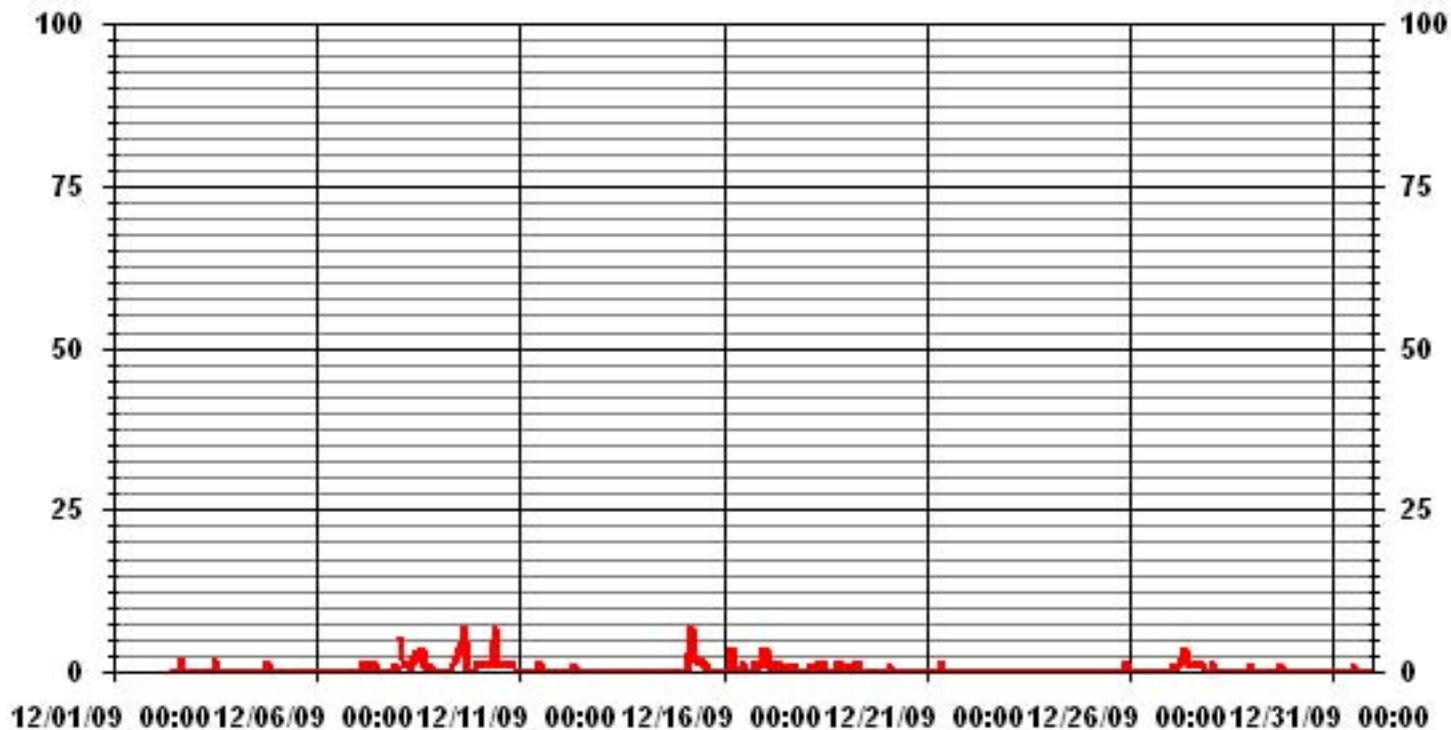
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	132					
MAXIMUM INSTANTANEOUS VALUE:	7	PPB	@ HOUR(S)	15, 9	ON DAY(S)	9, 10
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	713	HRS	
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.86					

01 Hour Averages



LICA30
H2S_ / WDR Joint Frequency Distribution (Percent)

December 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	9.58	4.42	6.04	4.57	3.83	1.62	1.62	4.12	4.71	10.17	9.88	7.22	10.61	6.93	7.07	7.07	99.55
< 10	.00	.00	.00	.00	.00	.14	.00	.00	.14	.00	.00	.00	.14	.00	.00	.00	.44
< 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	9.58	4.42	6.04	4.57	3.83	1.76	1.62	4.12	4.86	10.17	9.88	7.22	10.76	6.93	7.07	7.07	

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
< 3	65	30	41	31	26	11	11	28	32	69	67	49	72	47	48	48	675
< 10						1			1				1				3
< 50																	
>= 50																	
Totals	65	30	41	31	26	12	11	28	33	69	67	49	73	47	48	48	

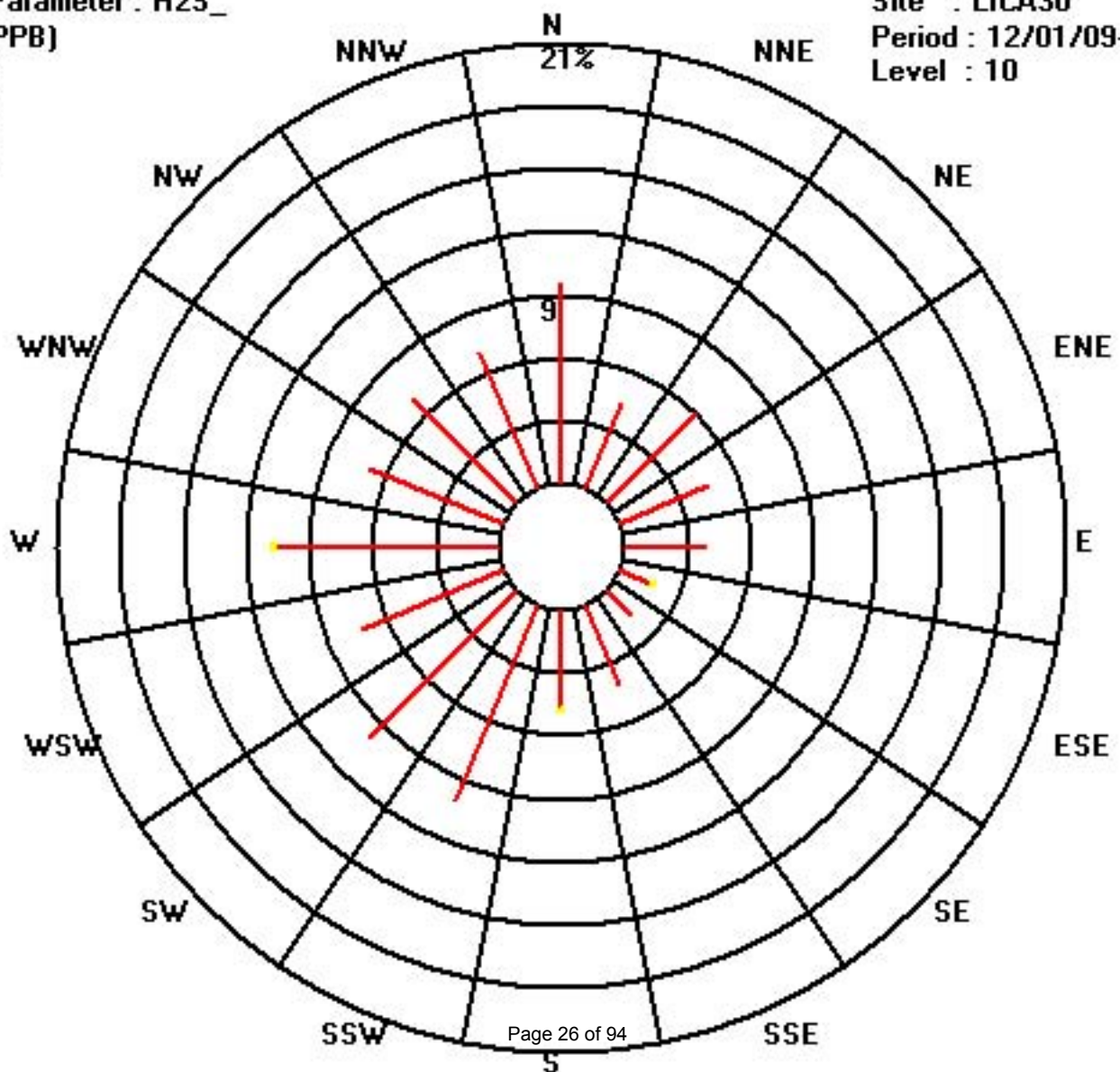
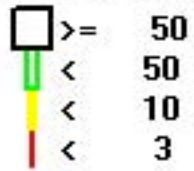
Calm : .00 %

Total # Operational Hours : 678

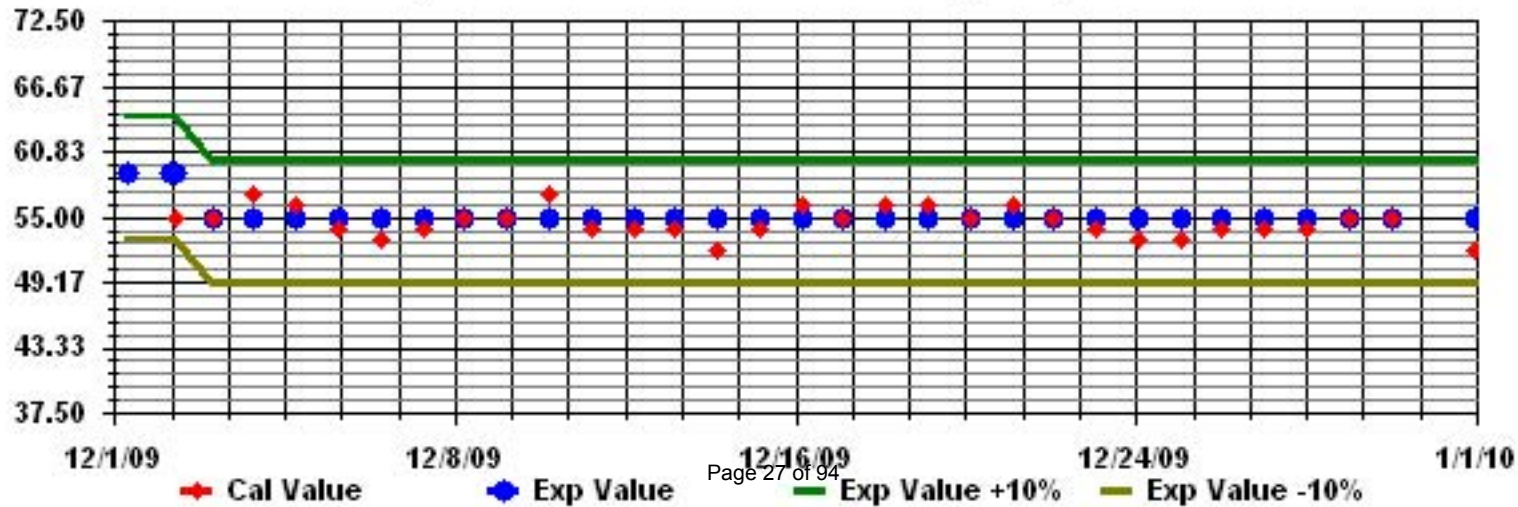
Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



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



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

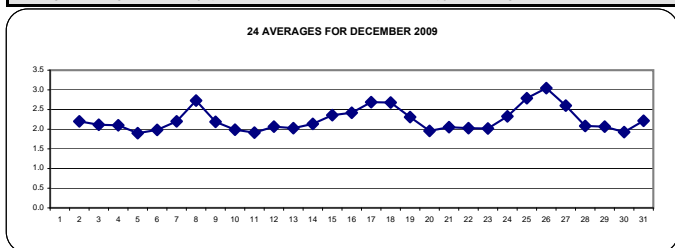
DECEMBER 2009

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 MAX.	24-HOUR AVG.	RDGS.		
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					
1																													0	
2																														11
3		2.1	2	2	2	2	IZS	2	2	2	2.1	2.2	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.3	2.2	24	
4		2.2	2.2	2.2	2.2	IZS	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3	24	
5		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	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	24	
6		1.9	1.9	IZS	2	1.9	2	1.9	2	2	2	2	1.9	1.9	2	2	2	2	2	2	2	2	2	2	2	2	2.2	2.0	24	
7		2.1	IZS	2.1	2.2	2.2	2.3	2.5	2.2	2.3	2.2	2.1	2.1	2	2	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.5	2.2	24	
8		IZS	2.6	2.6	2.6	2.6	2.6	2.6	3	2.9	2.9	2.8	2.8	2.7	2.6	2.7	2.9	2.8	3.7	3.1	2.6	2.3	2.3	2.3	IZS	3.7	2.7	24		
9		2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.3	2.3	2.2	2.2	2.1	2.4	2.4	2.1	2	2	2	2	IZS	2	2.4	2.2	24		
10		2	2	2	2	2	2	2	2	2	2.1	1.9	1.9	1.9	2	2.1	2	2	2	2	2	2	2	IZS	1.9	1.9	2.1	2.0	24	
11		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	1.9	1.9	1.9	1.9	2	2	IZS	2	1.9	2.0	1.9	24		
12		1.9	2	2	2	2	2	2.2	2.4	2.3	2.1	2.2	2.1	2	2.1	2	2	2	2	2	2.1	IZS	2.1	2	2	2	2.4	2.1	24	
13		2	2	2	2	2	2.1	2	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	IZS	2	2	2	2	2	2.1	2.0	24
14		2	2	2	2	2	2.1	2.2	2.3	2	2.1	2.1	2.1	2.1	2.1	2	2	2	IZS	2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.1	24	
15		2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.3	IZS	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.4	24	
16		2.5	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.3	2.3	2.2	2.2	2.2	IZS	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.6	2.4	24	
17		2.4	2.3	2.4	2.4	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.5	2.7	IZS	3.2	3.3	3.2	3	3	2.9	2.9	3	3	3.3	2.7	24		
18		2.8	2.8	2.8	2.9	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.6	2.5	IZS	2.5	2.5	2.6	2.7	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.9	2.7	24	
19		2.6	2.6	2.6	2.6	2.9	3.2	3.2	3.1	2.7	2.3	2.1	2	IZS	1.9	1.9	1.9	1.9	1.9	2	2	2	1.9	1.9	1.9	3.2	2.3	24		
20		1.9	2	2	2	1.9	1.9	2	2	1.9	1.9	1.9	IZS	2	2	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2	2.0	2.0	24	
21		2	2	2.1	2.1	2.1	2.1	2	2	2	2	2.1	IZS	2.4	2.2	2.1	2	2	2	2	2	2	2	2	2	2	2.4	2.1	24	
22		2	2	2	2	2	2	2	1.9	1.9	IZS	2	2	2	2	2	2	2	2	2.1	2.2	2.3	2.2	2	2	2	2.3	2.0	24	
23		2	2.1	2	2.1	2	2	2	2	IZS	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.0	24	
24		2	2.1	2.1	2.2	2.3	2.3	2.4	IZS	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.7	2.7	2.3	24		
25		2.6	2.5	2.5	2.7	2.8	2.7	IZS	2.5	2.5	2.5	2.6	3	3.1	3.1	3	3.1	2.9	2.9	2.8	2.8	2.8	2.9	2.9	2.9	2.9	3.1	2.8	24	
26		2.9	3	3	3	3	IZS	3	3	3	3	3.2	3.1	2.8	2.9	2.8	2.9	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	24	
27		3.3	3.4	3.4	3.4	IZS	3.3	3.3	3.3	3.4	3.2	2.8	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2	3.4	2.6	24		
28		2	2	2.1	IZS	2	2	2	2	2	2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	24	
29		2.2	2.2	IZS	2.2	2.2	2.3	2.3	2.3	2.2	2.1	2	1.9	2	2	2	2	2	2	2	2	2	1.9	1.9	1.9	1.9	2.3	2.1	24	
30		1.9	IZS	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	1.9	2	1.9	1.9	2	1.9	2	2	2	2.0	1.9	24		
31		2	2	2	2	2	2	M	2	2	2	2.1	2.1	2.1	2	2	2	2.1	2.5	2.9	2.9	2.7	2.7	2.6	IZS	2.9	2.2	23		
HOURLY MAX		3.3	3.4	3.4	3.4	3.0	3.3	3.3	3.3	3.4	3.2	3.2	3.1	3.1	3.1	3.0	3.2	3.3	3.7	3.2	3.2	3.2	3.2	3.2	3.2	3.2				
HOURLY AVG		2.2	2.2	2.3	2.3	2.2	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	2.3	2.3	2.3	2.2	2.2	2.2	2.2				

STATUS FLAG CODES

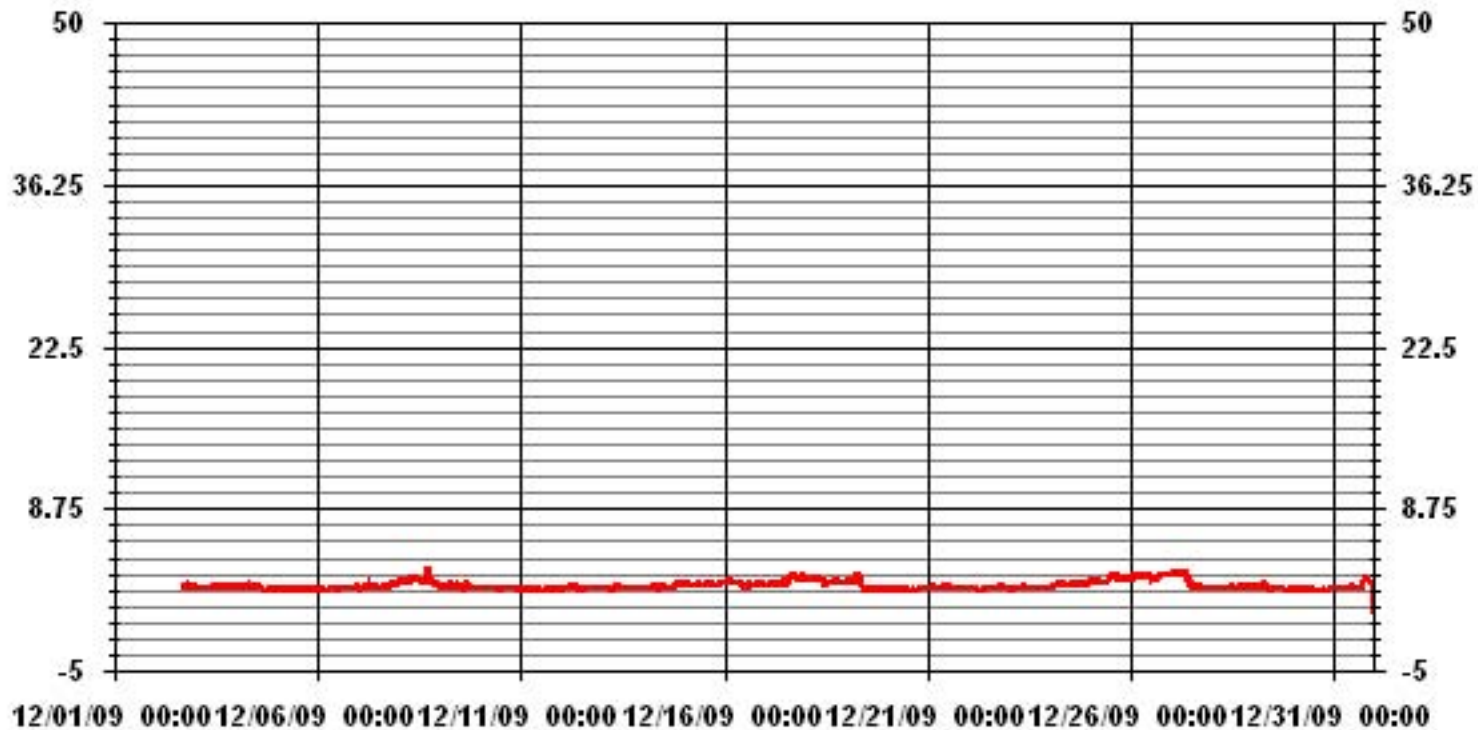
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	672					
MAXIMUM 1-HR AVERAGE:	3.7	PPM	@ HOUR(S)	17	ON DAY(S)	8
MAXIMUM 24-HR AVERAGE:	3.0	PPM			ON DAY(S)	26
					VAR- VARIOUS	
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	706	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	0.36		MONTHLY AVERAGE:	2.24	PPM	

01 Hour Averages



— LICA30 THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 2009

TOTAL HYDROCARBONS MAX instantaneous maximum in ppr

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.		
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					
1																													0	
2															C	C	C	C	2.2	2.3	2.3	2.3	2.3	2.2	2.1	2.3	2.2	2.1	11	
3		2.1	2.1	2	2	2	IZS	2.1	2	2	2.1	2.4	2.4	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.1	24	
4		2.3	2.2	2.2	2.2	IZS	2.2	2.3	2.3	2.3	2.3	2.2	2.3	2.7	2.3	2.3	2	2.5	1.9	1.9	2	2	1.9	1.9	1.9	2.7	2.2	2.4	24	
5		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	2	2	1.9	2	2	2	2	2	2	1.9	24	24	
6		2	2	IZS	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.2	2.3	2.3	2.0	24	
7		2.2	IZS	2.2	2.2	2.2	3.1	3.1	2.3	2.3	2.3	2.2	2	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.4	2.4	2.4	2.4	2.4	3.1	2.3	24	24	
8		IZS	2.8	2.6	2.6	2.7	2.8	2.7	3.1	3.1	3.1	3	3	2.8	2.9	3.5	3.7	3.9	4	3.4	3.1	2.5	2.3	2.3	IZS	4	3.0	24	24	
9		2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.5	2.4	2.9	2.8	2.3	2.5	2.3	2.7	3.2	2.3	2.1	2	2.1	2.1	IZS	2	3.2	2.4	24	24	
10		2	2	2	2.1	2	2.1	2.1	2	2.3	2.4	2.2	1.9	1.9	2.1	2.2	2	2	2.1	2	2	2	IZS	2	1.9	2.4	2.1	24	24	
11		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	2	2	1.9	1.9	2	2	2	IZS	2	2	2	2.1	1.9	24	24	
12		2	2.1	2.1	2.1	2.1	2.1	2.7	2.9	2.5	2.6	2.4	2.3	2.4	2.5	2.1	2.1	2.1	2.1	2.4	IZS	2.3	2.1	2.1	2.1	2.9	2.3	24	24	
13		2.1	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	2	IZS	2	2	2	2	2.1	2.1	2.1	24	24	
14		2.1	2.1	2	2	2.1	2.3	2.3	2.9	2.2	2.1	2.1	2.4	2.3	2.1	2.1	2	2.1	IZS	2.3	2.3	2.3	2.5	2.5	2.5	2.9	2.2	24	24	
15		2.4	2.4	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	IZS	2.4	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.4	24	24	
16		2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.4	2.3	2.2	2.3	IZS	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.4	2.6	2.5	24	24	
17		2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.6	2.6	2.6	2.6	2.6	2.8	IZS	3.3	3.3	3.3	3.1	3	3	3	3	3	3.3	2.7	24	24	
18		3	2.8	2.8	3	3	3	2.9	2.9	2.9	2.9	2.7	2.6	2.6	IZS	2.5	2.5	2.6	2.7	2.7	2.6	2.6	2.6	2.5	2.6	3	2.7	24	24	
19		2.6	2.6	2.6	2.7	3.1	3.2	3.3	3.2	3	2.5	2.3	2.1	IZS	1.9	1.9	1.9	1.9	1.9	2	2	2	1.9	1.9	1.9	3.3	2.4	24	24	
20		2.1	2.1	2.1	2.1	1.9	1.9	2.1	2	1.9	2	1.9	IZS	2	2	2	2	2	2	2.1	2	2.1	2.1	2	2.1	2.0	24	24	24	
21		2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.2	IZS	3.7	2.4	2.1	2.1	2	2	2	2	2	2	2	2	2	3.7	2.2	24	24	
22		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.3	2.3	2.3	2.1	2	2.3	2.0	24	24	
23		2.1	2.2	2.1	2.1	2.1	2.1	2	2.1	IZS	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.2	2.1	24	24
24		2.1	2.1	2.2	2.3	2.3	2.3	2.6	IZS	2.4	2.3	2.3	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.6	2.7	2.7	2.4	24	24
25		2.7	2.6	2.7	2.8	2.9	2.9	IZS	2.6	2.5	2.7	2.9	3	3.2	3.2	3	3.2	3	3	3	2.9	2.9	2.9	3	3	2.9	3.2	2.9	24	24
26		2.9	3.1	3.1	3.1	3	IZS	3	3	3.1	3.1	3.2	3.2	2.8	3	2.9	3	3.1	3.2	3.3	3.2	3.2	3.2	3.2	3.2	3.3	3.1	24	24	
27		3.5	3.5	3.5	3.5	IZS	3.4	3.4	3.4	3.5	3.5	3.1	2.6	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	3.5	2.7	24	24	
28		2.2	2.1	2.2	IZS	2.1	2	2	2	2	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	24	24	
29		2.2	2.2	IZS	2.2	2.3	2.3	2.4	2.4	2.3	2.1	2.1	2	2	2	2	2	2	2	2	2	2	1.9	1.9	1.9	2.4	2.1	24	24	
30		1.9	IZS	1.9	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	2.0	24	24
31		2	2	2	2.1	2	2	M	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2	2	2.4	2.7	3	2.9	2.9	2.8	2.7	IZS	3	2.3	23	23	
HOURLY MAX		4	4	4	4	3	3	3	3	4	4	3	4	3	3	4	4	4	4	4	3	3	3	3	3	3				
HOURLY AVG		2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.3	2.4	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3				

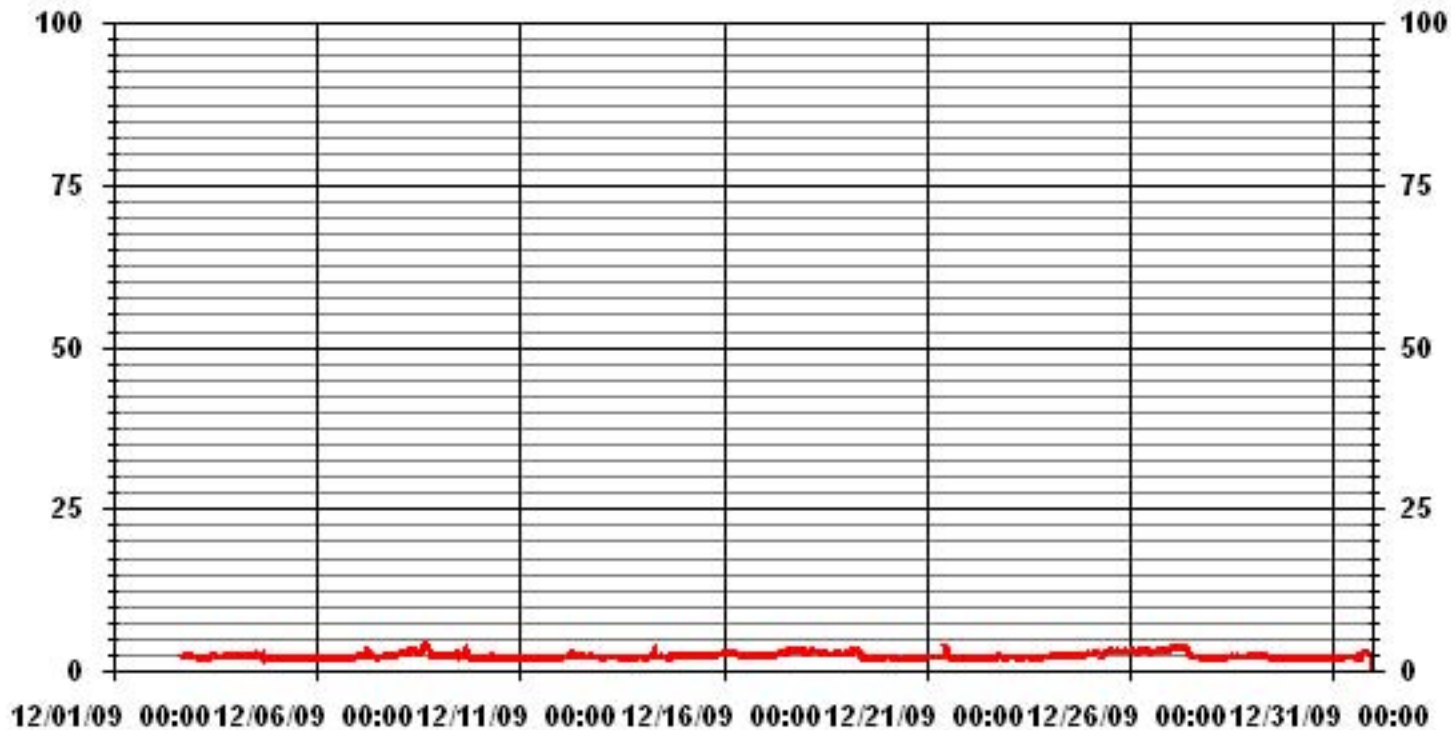
STATUS FLAG CODES

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:	672					
MAXIMUM INSTANTANEOUS VALUE:	4.0	PPM	@ HOUR(S)	17	ON DAY(S)	8
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	706	HRS	
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.40					

01 Hour Averages



— LICA30 THCMAX PPM

LICA30
 THC / WDR Joint Frequency Distribution (Percent)

December 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	9.37	4.16	5.50	4.46	3.57	1.78	1.48	3.72	4.61	8.92	7.58	6.99	10.41	6.69	6.84	7.14	93.30
< 10.0	.29	.29	.59	.14	.29	.00	.14	.44	.29	1.33	2.08	.14	.29	.00	.29	.00	6.69
< 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	9.67	4.46	6.10	4.61	3.86	1.78	1.63	4.16	4.91	10.26	9.67	7.14	10.71	6.69	7.14	7.14	

Calm : .00 %

Total # Operational Hours : 672

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	63	28	37	30	24	12	10	25	31	60	51	47	70	45	46	48	627
< 10.0	2	2	4	1	2		1	3	2	9	14	1	2		2		45
< 50.0																	
>= 50.0																	
Totals	65	30	41	31	26	12	11	28	33	69	65	48	72	45	48	48	

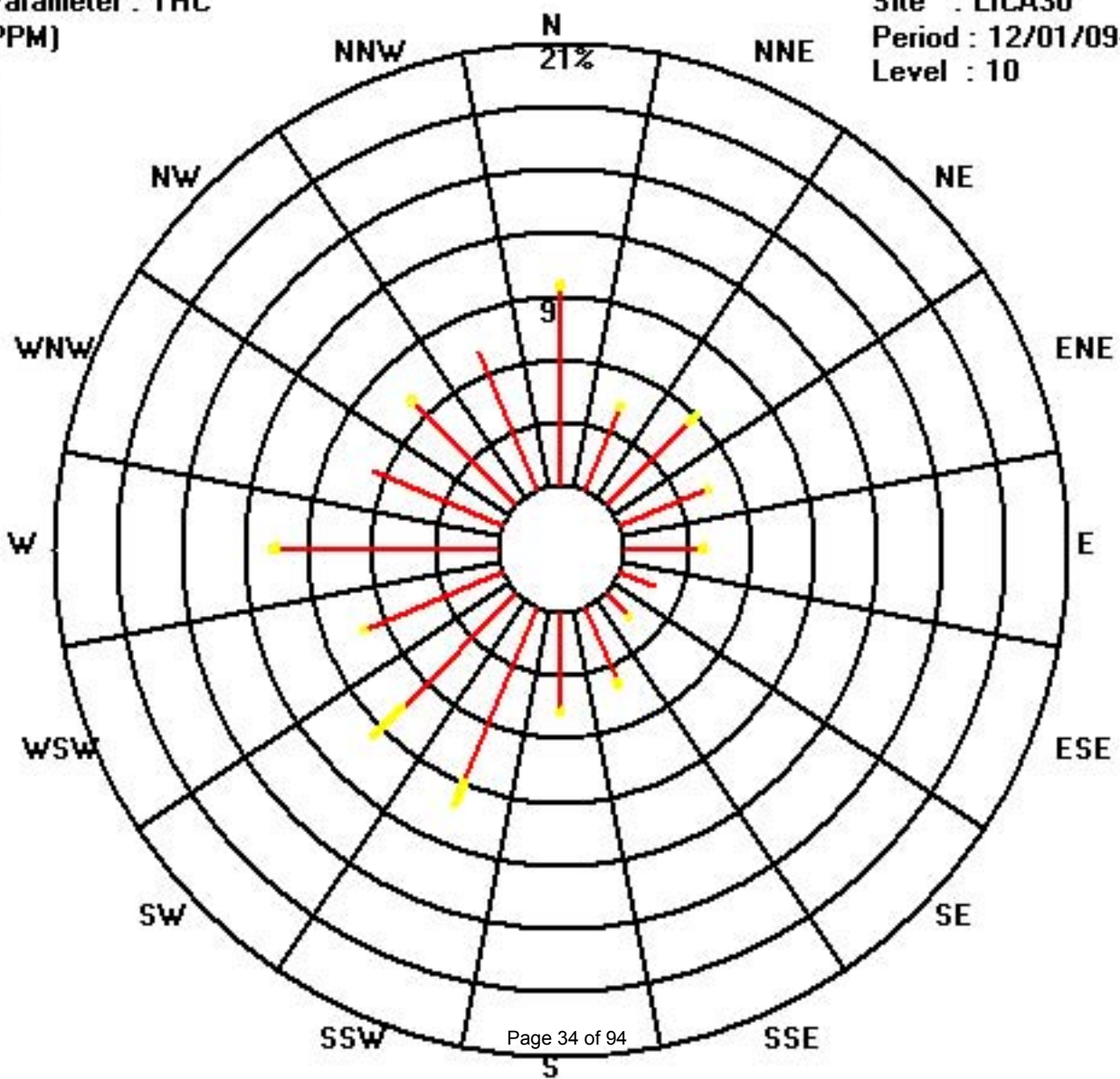
Calm : .00 %

Total # Operational Hours : 672

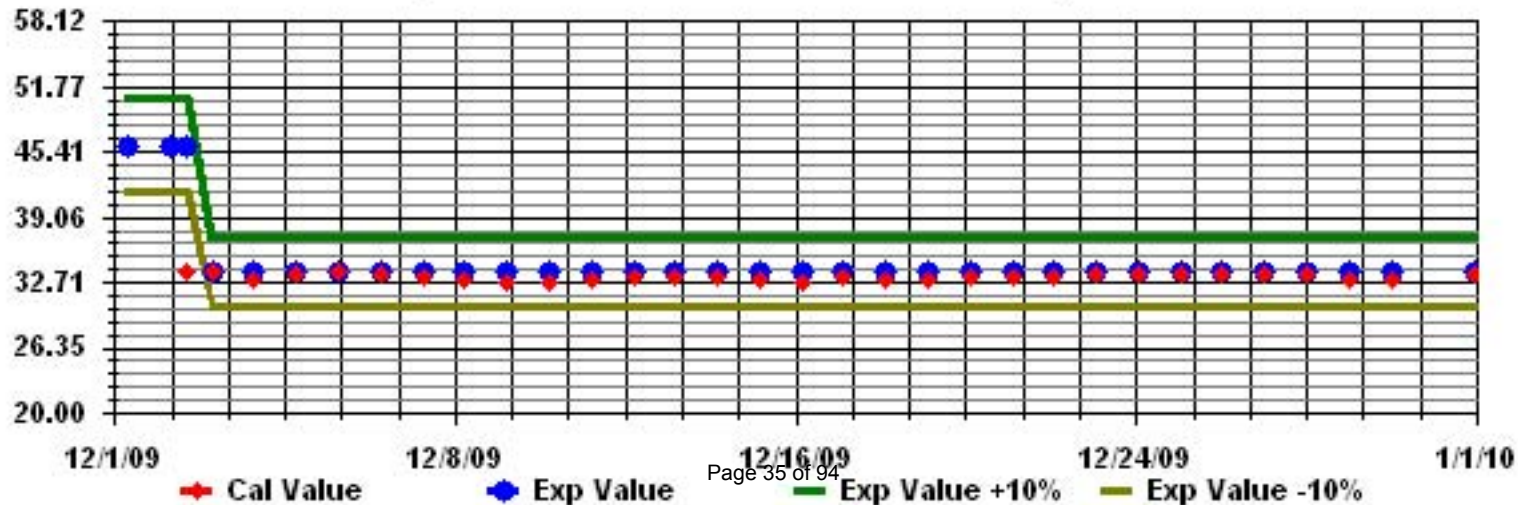
Class Limits (PPM)

Period : 12/01/09-12/31/09

Level : 10



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



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 2009

NITROGEN DIOXIDE hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 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
2									C	C	C	C	C	C	1	1	11	4	5	6	8	6	2	2	11	4.6	17
3	1	1	1	1	1	IZS	1	1	2	1	2	2	1	1	3	4	3	3	3	4	5	5	4	4	5	2.3	24
4	4	4	4	4	IZS	4	4	6	7	7	8	7	9	12	11	9	6	4	4	5	3	1	1	0	12	5.4	24
5	0	0	1	IZS	1	1	2	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0.4	24
6	0	1	IZS	1	1	1	1	2	3	2	1	0	0	1	1	1	2	3	5	3	3	3	4	5	5	1.9	24
7	5	IZS	7	24	27	24	18	23	22	27	22	7	4	3	4	7	9	10	10	5	6	4	4	4	27	12.0	24
8	IZS	6	7	7	6	6	7	14	18	35	47	38	19	43	29	23	14	24	18	13	7	8	8	IZS	47	18.0	24
9	7	7	7	7	7	7	9	10	22	25	17	31	30	47	58	42	36	11	6	7	9	7	IZS	4	58	18.0	24
10	3	3	3	7	2	6	8	8	51	82	9	5	2	4	6	5	5	5	3	4	5	IZS	1	0	82	9.9	24
11	0	1	1	1	1	0	0	0	0	1	1	8	7	7	2	2	3	8	5	3	IZS	2	1	2	8	2.4	24
12	2	3	5	4	6	9	4	6	7	4	4	2	2	3	4	5	3	6	5	IZS	4	7	4	3	9	4.4	24
13	1	3	5	3	3	3	3	9	7	4	4	4	4	1	1	0	1	1	IZS	1	3	3	6	8	9	3.4	24
14	7	7	1	2	6	7	6	9	5	7	6	5	7	4	6	3	9	IZS	7	10	10	14	15	13	15	7.2	24
15	13	14	13	12	10	9	9	8	8	6	5	5	5	4	4	5	IZS	8	11	12	15	11	12	10	15	9.1	24
16	12	8	9	8	8	7	6	6	8	8	6	6	4	5	5	IZS	10	13	14	7	8	8	8	8	14	7.9	24
17	7	4	5	6	6	7	9	19	20	17	14	10	11	10	IZS	18	22	23	24	24	25	25	25	23	25	15.4	24
18	21	18	16	18	18	18	17	16	18	12	11	10	10	IZS	11	11	11	10	9	7	7	7	7	8	21	12.7	24
19	8	8	8	8	9	13	16	20	18	10	8	4	IZS	2	2	3	4	7	9	3	3	1	0	1	20	7.2	24
20	5	15	11	6	1	0	7	13	5	5	2	IZS	7	7	4	5	11	4	5	2	5	3	2	2	15	5.5	24
21	2	2	2	1	2	3	2	6	17	20	IZS	10	6	5	3	3	2	2	3	3	4	3	3	2	20	4.6	24
22	3	2	1	1	1	1	0	0	1	IZS	0	0	0	0	0	0	0	5	3	4	4	1	0	0	5	1.2	24
23	1	4	1	2	1	1	0	3	IZS	7	7	3	3	3	2	2	4	2	2	1	2	2	2	2	7	2.5	24
24	2	2	2	4	5	5	6	IZS	8	6	6	5	5	6	7	8	7	7	7	6	6	7	8	9	9	5.8	24
25	8	6	6	7	9	8	IZS	5	4	3	3	4	5	5	7	9	7	6	6	6	5	5	5	9	5.9	24	
26	5	6	7	7	7	IZS	6	6	6	6	7	6	6	7	8	10	11	11	12	12	11	10	10	10	12	8.1	24
27	12	13	12	13	IZS	11	10	11	9	6	4	2	1	1	1	1	1	1	0	0	0	0	0	0	13	4.7	24
28	0	1	2	IZS	1	0	0	0	0	1	1	1	1	1	1	2	2	1	1	1	1	2	1	2	2	1.0	24
29	1	1	IZS	2	1	1	2	2	1	2	2	1	4	4	4	5	5	4	4	2	0	1	1	1	5	2.2	24
30	0	IZS	0	1	1	2	3	3	4	5	3	4	3	3	5	3	3	3	3	4	2	3	3	3	5	2.8	24
31	3	5	4	5	4	4	M	9	7	4	5	7	8	3	2	3	4	10	13	11	10	8	8	IZS	13	6.2	23
HOURLY MAX	21	18	16	24	27	24	18	23	51	82	47	38	30	47	58	42	36	24	24	24	25	25	25	23			
HOURLY AVG	4.8	5.4	5.2	6.0	5.4	5.9	5.8	7.7	10.0	11.2	7.3	6.7	5.9	6.9	6.6	6.6	7.2	6.7	6.8	5.7	5.9	5.4	5.0	4.7			

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

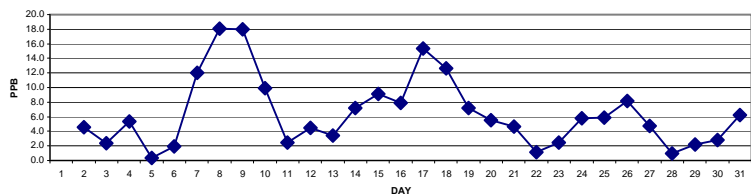
OBJECTIVE LIMIT:

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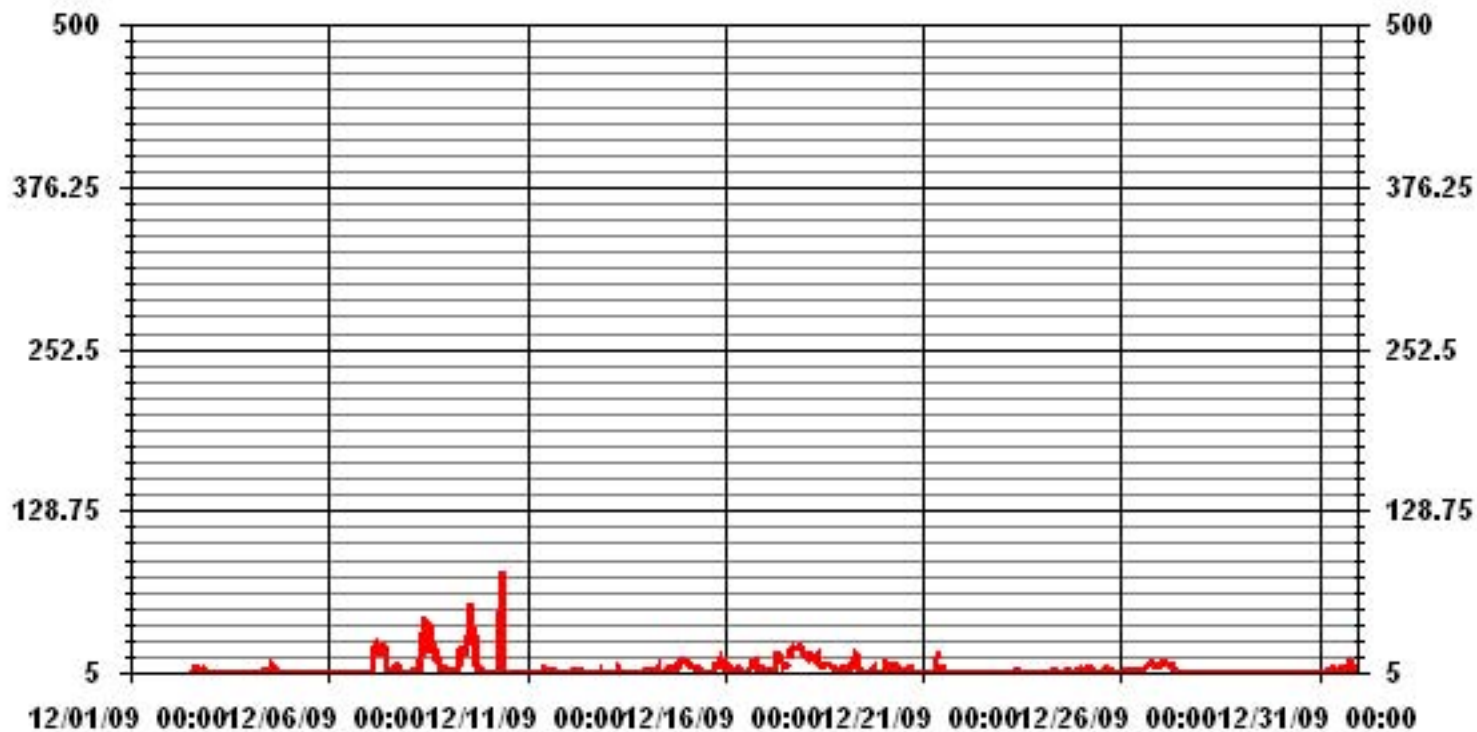
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	621		
MAXIMUM 1-HR AVERAGE:	82 PPB @ HOUR(S) 9 ON DAY(S) 10		
MAXIMUM 24-HR AVERAGE:	18.0 PPB ON DAY(S) 8, 9		
IZS CALIBRATION TIME:	30 HRS	OPERATIONAL TIME:	712 HRS
MONTHLY CALIBRATION TIME:	7 HRS	AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	7.61	MONTHLY AVERAGE:	6.44 PPB

24 HOUR AVERAGES FOR DECEMBER 2009



01 Hour Averages



— LICA30 NO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 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																												0
2									C	C	C	C	C	C	3	6	139	8	6	8	9	8	4	3	139	19.4	17	
3	3	1	1	1	1	IZS	2	2	3	2	3	3	3	2	4	5	4	3	4	5	6	6	5	5	6	6	3.2	24
4	5	6	5	5	IZS	5	6	8	10	11	16	9	12	14	13	10	8	5	5	6	6	1	1	1	16	7.3	24	
5	1	1	2	IZS	1	2	3	2	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0	1	3	1.0	24	
6	2	2	IZS	1	1	3	2	3	4	3	2	1	0	1	2	2	4	4	6	5	4	4	6	6	6	3.0	24	
7	6	IZS	11	29	29	28	23	43	37	190	108	22	6	5	6	13	16	12	21	7	7	5	5	5	190	27.6	24	
8	IZS	10	9	8	7	7	8	17	59	184	146	124	118	190	236	115	26	26	21	20	9	8	8	IZS	236	61.6	24	
9	7	8	8	7	7	8	11	11	163	137	74	129	187	167	251	194	198	17	8	8	12	12	IZS	5	251	70.8	24	
10	4	4	4	11	6	15	16	35	369	261	75	9	10	6	8	6	7	7	5	5	13	IZS	4	0	369	38.3	24	
11	1	3	2	1	2	2	0	3	1	1	1	120	105	10	4	3	4	16	9	4	IZS	3	2	3	120	13.0	24	
12	4	10	10	7	9	11	8	12	12	9	6	4	5	8	10	10	12	7	11	IZS	5	14	10	7	14	8.7	24	
13	4	6	7	4	4	5	6	12	9	7	5	5	9	3	2	1	26	1	IZS	3	4	5	9	10	26	6.4	24	
14	10	9	4	3	8	10	10	15	10	9	9	11	11	8	7	8	32	IZS	9	11	12	17	17	14	32	11.0	24	
15	15	17	15	14	11	10	10	9	9	8	6	6	7	5	5	6	IZS	13	14	14	18	14	14	13	18	11.0	24	
16	19	9	9	9	9	8	7	9	9	13	8	8	6	6	7	IZS	13	19	19	10	10	9	9	9	19	10.2	24	
17	8	6	6	7	7	7	15	37	23	34	16	13	14	12	IZS	21	24	24	25	24	26	25	26	25	37	18.5	24	
18	23	20	18	20	20	20	20	18	19	17	11	11	11	IZS	11	12	12	12	12	8	8	8	8	8	8	23	14.2	24
19	9	9	9	10	12	17	19	23	26	14	10	6	IZS	4	5	24	10	9	12	6	4	2	1	1	26	10.5	24	
20	20	24	23	12	7	1	16	19	20	8	3	IZS	12	9	7	12	44	9	7	4	12	4	3	3	44	12.1	24	
21	3	3	2	2	5	4	4	10	29	24	IZS	15	18	6	4	4	3	3	3	5	5	4	4	4	29	7.1	24	
22	4	3	2	1	2	2	1	0	2	IZS	1	0	1	0	1	2	2	6	4	5	5	2	1	1	6	2.1	24	
23	2	9	3	5	2	2	1	9	IZS	13	12	14	16	5	5	14	25	5	4	2	2	5	4	3	25	7.0	24	
24	3	2	3	6	6	6	8	IZS	10	7	9	6	6	6	8	9	8	8	8	7	7	8	9	10	10	7.0	24	
25	10	7	7	8	12	11	IZS	5	5	4	4	5	5	6	9	10	8	7	7	7	7	7	6	6	5	12	7.0	24
26	6	7	8	8	7	IZS	6	6	7	7	8	7	7	8	9	11	12	13	13	12	12	11	11	12	13	9.0	24	
27	14	14	13	14	IZS	12	10	14	12	7	5	3	2	2	2	1	2	2	1	0	0	0	0	0	14	5.7	24	
28	4	5	6	IZS	3	1	1	1	2	2	1	1	2	2	2	3	3	2	2	1	2	2	2	2	6	2.3	24	
29	2	2	IZS	4	2	2	2	2	2	3	3	3	5	8	5	6	7	6	5	5	1	1	2	2	8	3.5	24	
30	1	IZS	1	2	2	4	4	3	7	9	4	5	3	5	6	6	4	4	4	10	3	4	4	4	10	4.3	24	
31	5	6	5	13	9	5	M	11	9	7	9	22	10	9	3	6	10	12	19	13	11	9	9	IZS	22	9.6	23	
HOURLY MAX	23	24	23	29	29	28	23	43	369	261	146	129	187	190	251	194	198	26	25	24	26	25	26	25	25			
HOURLY AVG	7.0	7.5	7.1	7.9	7.1	7.7	8.1	12.1	31.0	35.4	19.9	20.1	21.1	18.1	21.9	18.0	22.9	9.0	9.1	7.4	7.6	6.8	6.3	5.8				

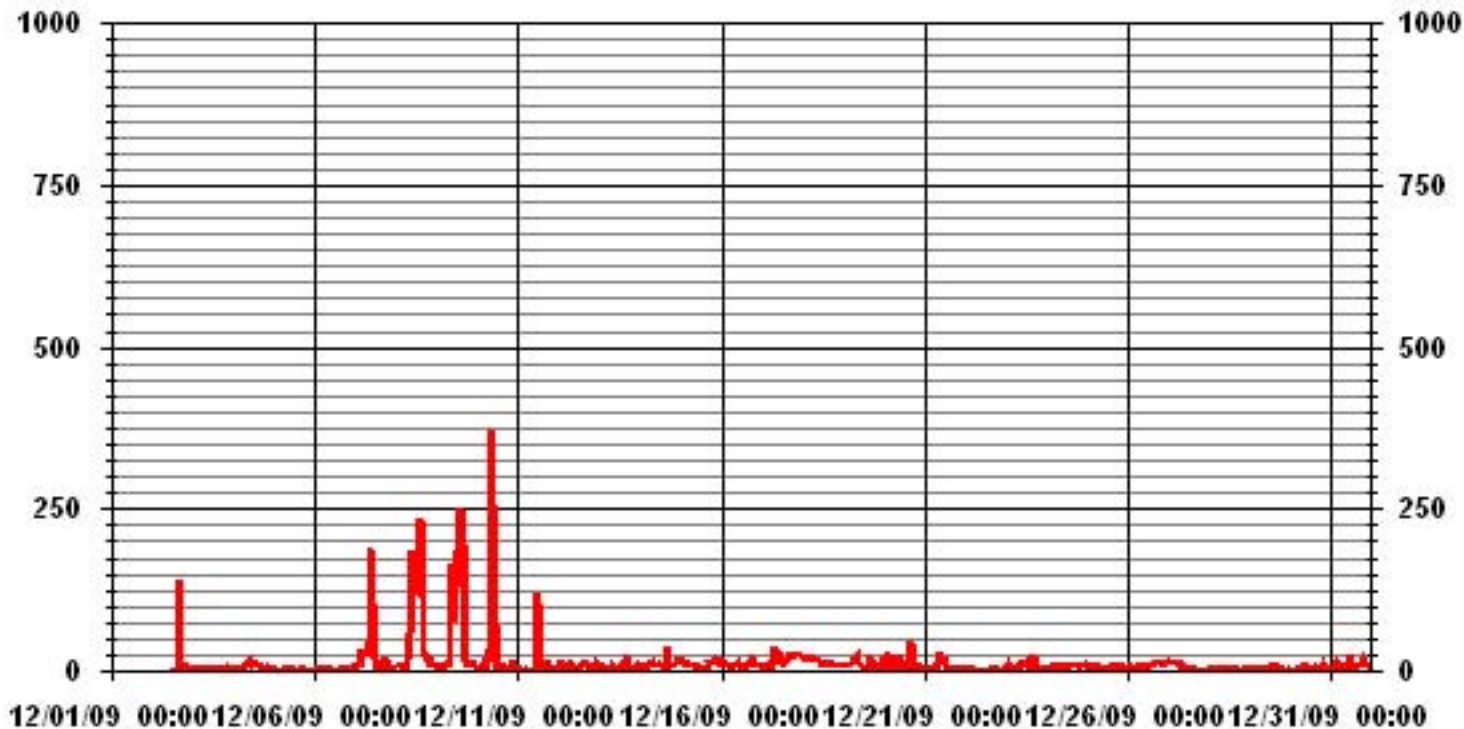
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	660					
MAXIMUM INSTANTANEOUS VALUE:	369	PPB	@ HOUR(S)	10	ON DAY(S)	8
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	712	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION	32.43					

01 Hour Averages



— LICA30 NO2MAX PPB

LICA30
 NO2_ / WDR Joint Frequency Distribution (Percent)

December 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	9.62	4.44	6.07	4.59	3.85	1.77	1.62	4.14	4.88	10.22	9.92	6.96	10.51	6.66	7.11	7.11	99.55
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.29	.00	.00	.00	.44
< 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	9.62	4.44	6.07	4.59	3.85	1.77	1.62	4.14	4.88	10.22	9.92	7.11	10.81	6.66	7.11	7.11	

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	65	30	41	31	26	12	11	28	33	69	67	47	71	45	48	48	672
< 110												1	2				3
< 210																	
>= 210																	
Totals	65	30	41	31	26	12	11	28	33	69	67	48	73	45	48	48	

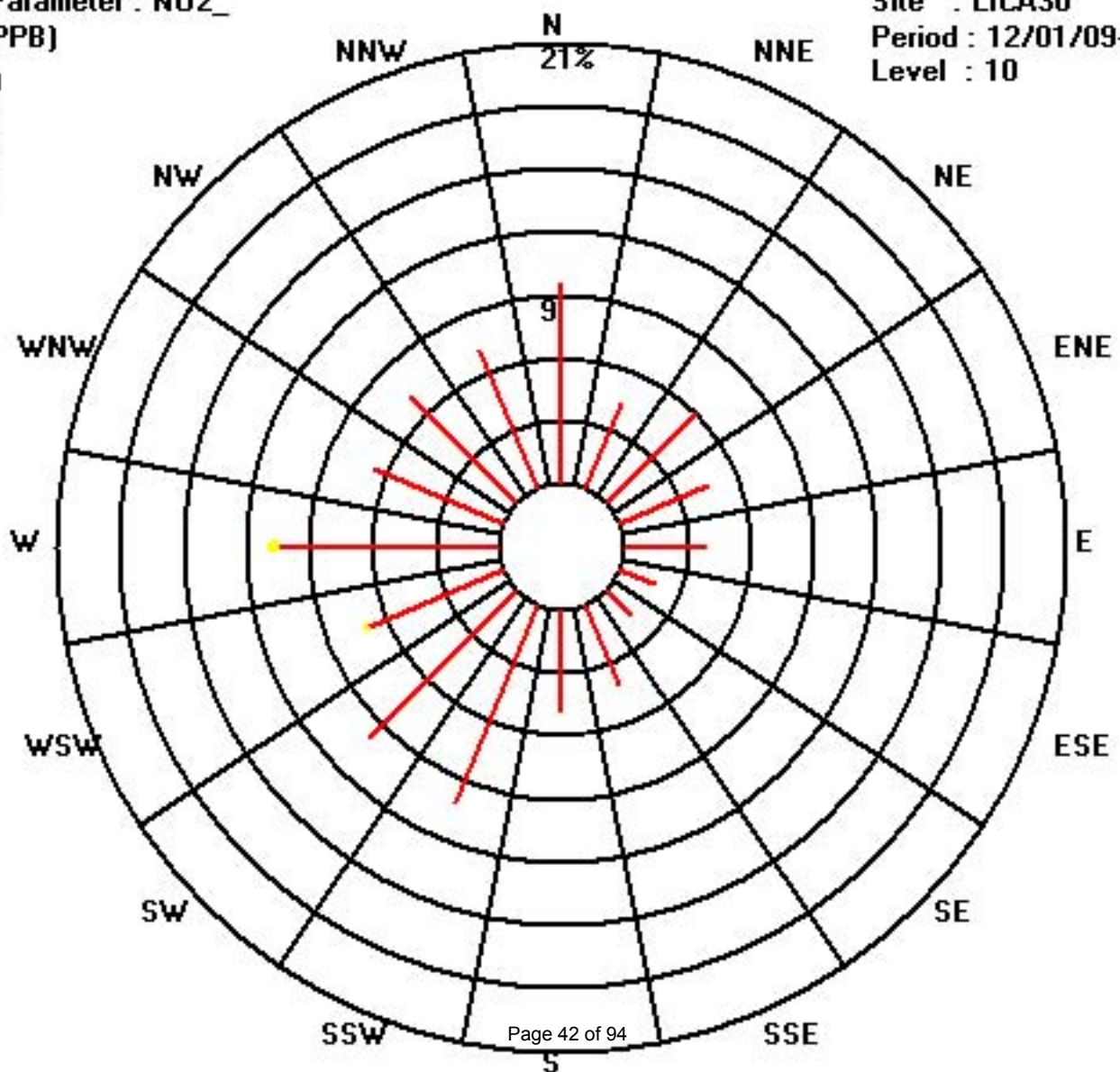
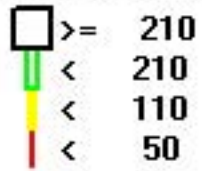
Calm : .00 %

Total # Operational Hours : 675

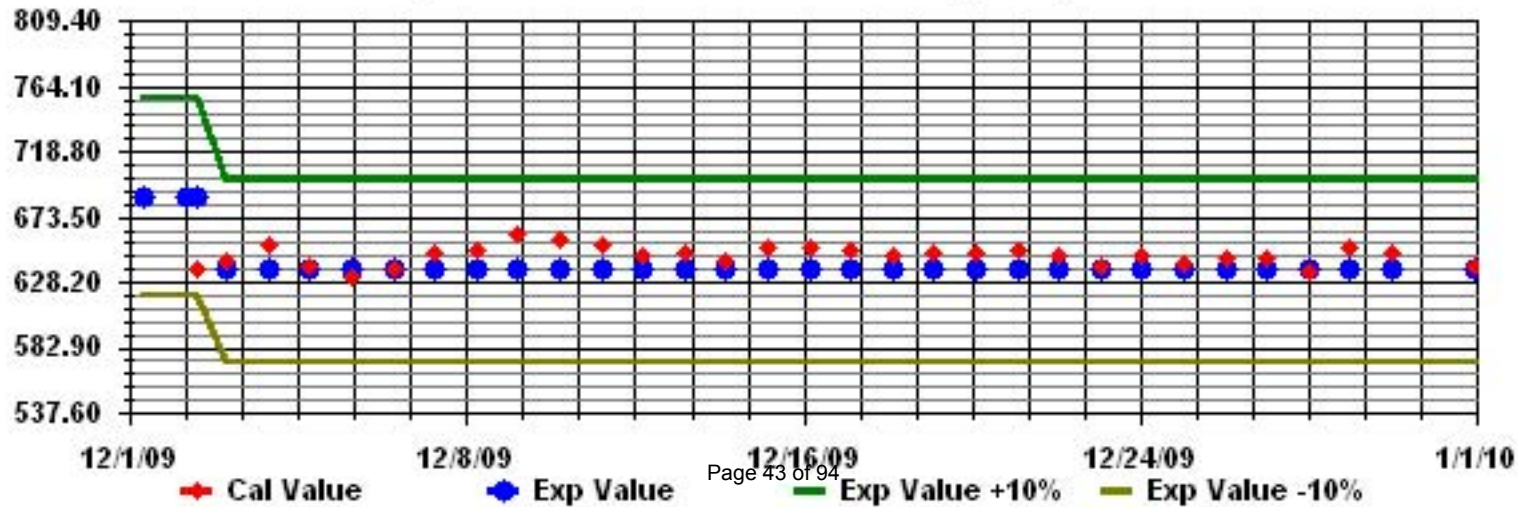
Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



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



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOICATION - MASKWA

DECEMBER 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																											
2								C	C	C	C	C	C	C	0	0	15	0	0	0	0	0	0	0	15	1.5	17
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	24	
4	0	0	0	0	IZS	0	0	0	1	1	3	2	3	4	3	0	0	0	0	0	0	0	0	4	0.7	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	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	24	
7	0	IZS	0	4	4	3	1	7	15	25	23	5	2	1	1	1	0	0	1	0	0	0	0	25	4.0	24	
8	IZS	0	0	0	0	0	0	5	9	32	64	50	26	70	30	11	2	7	1	0	0	0	0	IZS	70	14.0	24
9	0	0	0	0	0	0	0	6	25	19	43	37	67	76	34	36	1	0	0	0	0	0	IZS	0	76	15.0	24
10	0	0	0	0	0	1	2	3	36	87	11	3	1	1	1	0	0	0	0	0	0	IZS	0	87	6.3	24	
11	0	0	0	0	0	0	0	0	0	0	9	5	3	1	0	0	1	0	0	0	IZS	0	0	9	0.8	24	
12	0	1	1	1	2	4	2	2	1	1	2	1	2	2	2	2	1	0	1	IZS	1	3	1	1	4	1.5	24
13	0	0	0	0	0	0	0	0	0	1	2	3	2	0	0	0	1	0	IZS	0	0	0	0	0	3	0.4	24
14	0	0	0	0	0	0	0	0	0	1	2	2	3	1	1	0	2	IZS	0	0	0	0	0	0	3	0.5	24
15	0	0	0	0	0	0	0	0	1	3	4	5	4	2	1	1	IZS	0	0	0	0	0	0	0	5	0.9	24
16	0	0	0	0	0	0	0	0	0	1	1	2	2	2	1	IZS	0	1	1	0	0	0	0	0	2	0.5	24
17	0	0	0	0	0	0	0	10	16	16	13	7	6	4	IZS	7	9	5	4	2	3	2	4	4	16	4.9	24
18	2	0	0	1	2	2	5	4	11	7	8	8	8	IZS	4	1	0	0	0	0	0	0	0	0	11	2.7	24
19	0	0	0	0	0	0	2	6	4	1	2	1	IZS	0	0	1	0	0	0	0	0	0	0	0	6	0.7	24
20	0	3	2	0	0	0	1	0	1	0	0	IZS	3	2	1	0	5	0	0	0	0	0	0	0	5	0.8	24
21	0	0	0	0	0	0	0	0	6	20	IZS	6	2	1	1	0	0	0	0	0	0	0	0	0	20	1.6	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	24
23	0	1	0	0	0	0	0	1	IZS	3	4	2	3	1	1	1	1	0	0	0	0	0	0	0	4	0.8	24
24	0	0	0	0	0	0	0	IZS	1	3	5	5	3	3	2	1	0	0	0	0	0	0	0	0	5	1.0	24
25	0	0	0	0	0	0	IZS	0	0	1	2	3	4	3	2	1	0	0	0	0	0	0	0	0	4	0.7	24
26	0	0	0	0	0	IZS	0	0	0	1	3	3	3	3	2	1	0	0	0	0	0	0	0	0	3	0.7	24
27	0	0	0	0	IZS	0	0	1	0	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
28	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	IZS	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	2	0.2	24
30	0	IZS	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.3	24
31	0	0	0	0	0	0	M	1	0	0	2	5	5	1	1	1	0	0	0	0	0	0	0	IZS	5	0.7	23
HOURLY MAX	2	3	2	4	4	4	5	10	36	87	64	50	37	70	76	34	36	7	4	2	3	3	4	4			
HOURLY AVG	0.1	0.2	0.1	0.2	0.3	0.4	0.5	1.4	3.9	8.3	6.2	6.0	4.5	6.2	4.6	2.2	2.5	0.5	0.3	0.1	0.1	0.2	0.2	0.2			

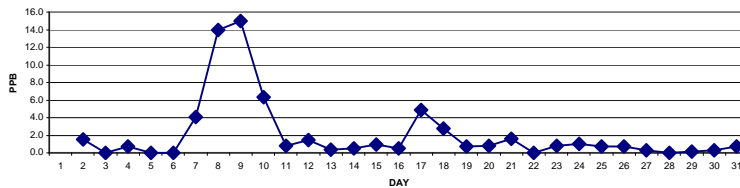
STATUS FLAG CODES

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

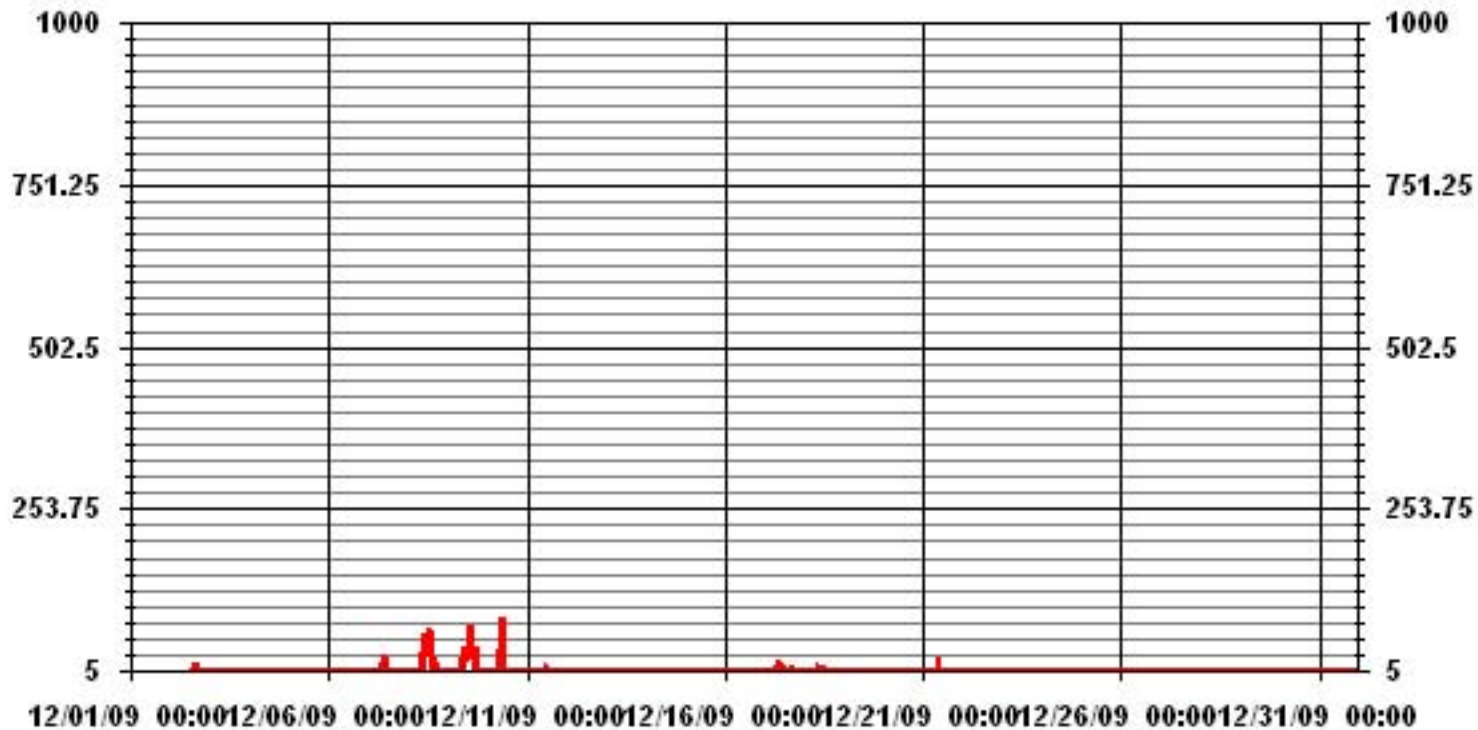
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	211
MAXIMUM 1-HR AVERAGE:	87 PPB @ HOUR(S) 9 ON DAY(S) 10
MAXIMUM 24-HR AVERAGE:	15.0 PPB ON DAY(S) 9
IZS CALIBRATION TIME:	30 HRS
MONTHLY CALIBRATION TIME:	7 HRS
OPERATIONAL TIME:	712 HRS
AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	7.89
MONTHLY AVERAGE:	2.04 PPB

24 HOUR AVERAGES FOR DECEMBER 2009



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 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																										342	35.1	17
2									C	C	C	C	C	C	C	2	2	342	4	0	0	1	0	0	0	342	35.1	17
3	0	0	0	0	0	IZS	1	0	2	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	2	0.4	24
4	0	0	0	0	IZS	0	1	2	4	8	40	5	6	6	8	2	0	0	0	0	0	0	0	0	40	3.6	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	1	1	1	0	0	1	1	1	0	0	0	0	0	1	0	0	1	0.3	24	
7	0	IZS	1	6	5	4	8	81	69	132	130	31	4	3	3	4	3	1	5	0	0	0	0	1	132	21.3	24	
8	IZS	1	1	1	0	1	2	10	65	167	319	302	190	235	147	63	9	10	3	1	1	1	0	IZS	319	69.5	24	
9	1	0	1	1	1	1	0	1	54	150	129	236	175	617	340	191	296	3	1	1	1	1	IZS	1	617	95.7	24	
10	1	1	1	2	1	4	7	62	293	291	138	5	16	2	2	1	1	1	0	1	2	IZS	1	0	293	36.2	24	
11	0	0	0	0	0	0	1	1	1	1	146	125	6	2	1	0	4	0	0	IZS	1	1	0	146	12.6	24		
12	0	5	4	3	4	6	5	6	1	2	5	3	5	6	7	4	4	1	3	IZS	2	7	4	2	7	3.9	24	
13	0	1	1	1	0	1	0	1	1	2	3	4	6	2	1	0	31	1	IZS	0	0	0	0	0	31	2.4	24	
14	0	0	0	0	0	1	2	0	5	3	4	7	7	2	2	1	58	IZS	1	1	1	1	1	1	58	4.3	24	
15	1	1	1	1	1	2	2	1	3	3	5	7	7	3	2	1	IZS	2	1	1	1	1	1	1	7	2.1	24	
16	1	1	1	1	1	1	1	1	1	2	2	3	3	3	2	IZS	1	3	3	1	1	0	0	1	3	1.5	24	
17	0	1	1	1	1	1	2	52	39	87	17	13	9	6	IZS	8	17	7	5	2	5	5	6	5	87	12.6	24	
18	5	1	1	3	3	4	12	7	19	9	8	9	9	IZS	5	2	1	1	1	0	0	0	0	0	19	4.3	24	
19	0	1	0	1	1	4	9	15	15	2	4	2	IZS	1	1	20	3	0	0	0	0	0	0	0	20	3.4	24	
20	3	7	6	0	0	0	4	3	36	1	1	IZS	6	4	2	3	72	1	0	1	1	1	1	0	72	6.7	24	
21	0	0	0	0	0	0	1	1	18	25	IZS	12	10	2	1	1	0	0	1	0	0	0	0	1	25	3.2	24	
22	0	0	1	0	0	1	0	0	0	IZS	1	0	0	0	0	1	1	0	1	0	0	0	0	0	1	0.3	24	
23	1	3	0	1	1	0	0	4	IZS	8	7	14	27	3	2	33	21	0	1	0	0	0	0	1	33	5.5	24	
24	0	0	1	1	0	1	0	IZS	1	5	8	5	5	3	3	1	1	1	1	1	1	1	1	1	8	1.8	24	
25	1	1	0	0	0	1	IZS	1	1	2	3	4	4	4	3	2	1	1	0	1	1	1	1	0	4	1.4	24	
26	1	1	1	1	1	IZS	1	1	1	2	4	3	3	4	3	2	1	1	1	1	1	1	1	0	4	1.6	24	
27	1	1	1	1	IZS	1	1	2	1	3	3	1	1	1	1	1	0	1	0	1	0	0	0	1	3	1.0	24	
28	1	1	1	IZS	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24	
29	0	0	IZS	1	0	0	1	1	0	1	1	1	2	5	1	1	0	1	1	0	0	0	0	0	5	0.7	24	
30	0	IZS	1	0	1	0	1	1	4	4	1	2	1	2	2	1	1	1	0	2	0	0	1	0	4	1.1	24	
31	1	0	0	2	0	0	M	3	1	1	4	45	6	5	1	3	1	1	1	1	1	1	0	IZS	45	3.5	23	
HOURLY MAX	5	7	6	6	5	6	12	81	293	291	319	302	190	617	340	191	342	10	5	2	5	7	6	5				
HOURLY AVG	0.6	1.0	0.9	1.0	0.8	1.3	2.3	9.2	22.7	32.6	30.0	30.8	22.4	33.1	18.8	12.1	29.8	1.6	1.0	0.6	0.7	0.8	0.6	0.6				

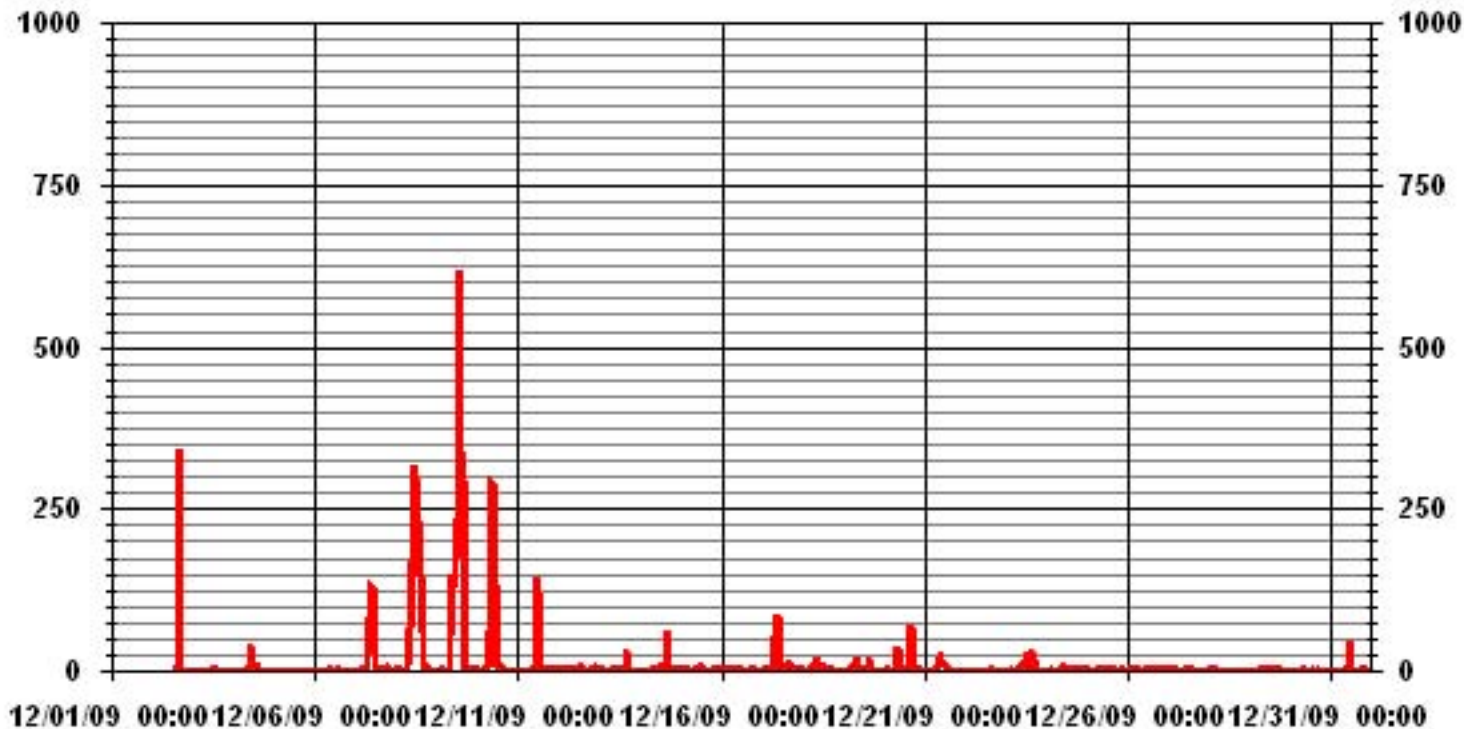
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	452		
MAXIMUM INSTANTANEOUS VALUE:	617 PPB @ HOUR(S) 13 ON DAY(S) 9		
IZS CALIBRATION TIME:	30 HRS	OPERATIONAL TIME:	712 HRS
MONTHLY CALIBRATION TIME:	7 HRS		
STANDARD DEVIATION	46.25		

01 Hour Averages



LICA30
 NO_ / WDR Joint Frequency Distribution (Percent)

December 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	9.62	4.44	6.07	4.59	3.85	1.77	1.62	4.14	4.88	10.22	9.92	6.66	10.37	6.66	7.11	7.11	99.11
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.44	.44	.00	.00	.00	.88
< 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	9.62	4.44	6.07	4.59	3.85	1.77	1.62	4.14	4.88	10.22	9.92	7.11	10.81	6.66	7.11	7.11	

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	65	30	41	31	26	12	11	28	33	69	67	45	70	45	48	48	669
< 110												3	3				6
< 210																	
>= 210																	
Totals	65	30	41	31	26	12	11	28	33	69	67	48	73	45	48	48	

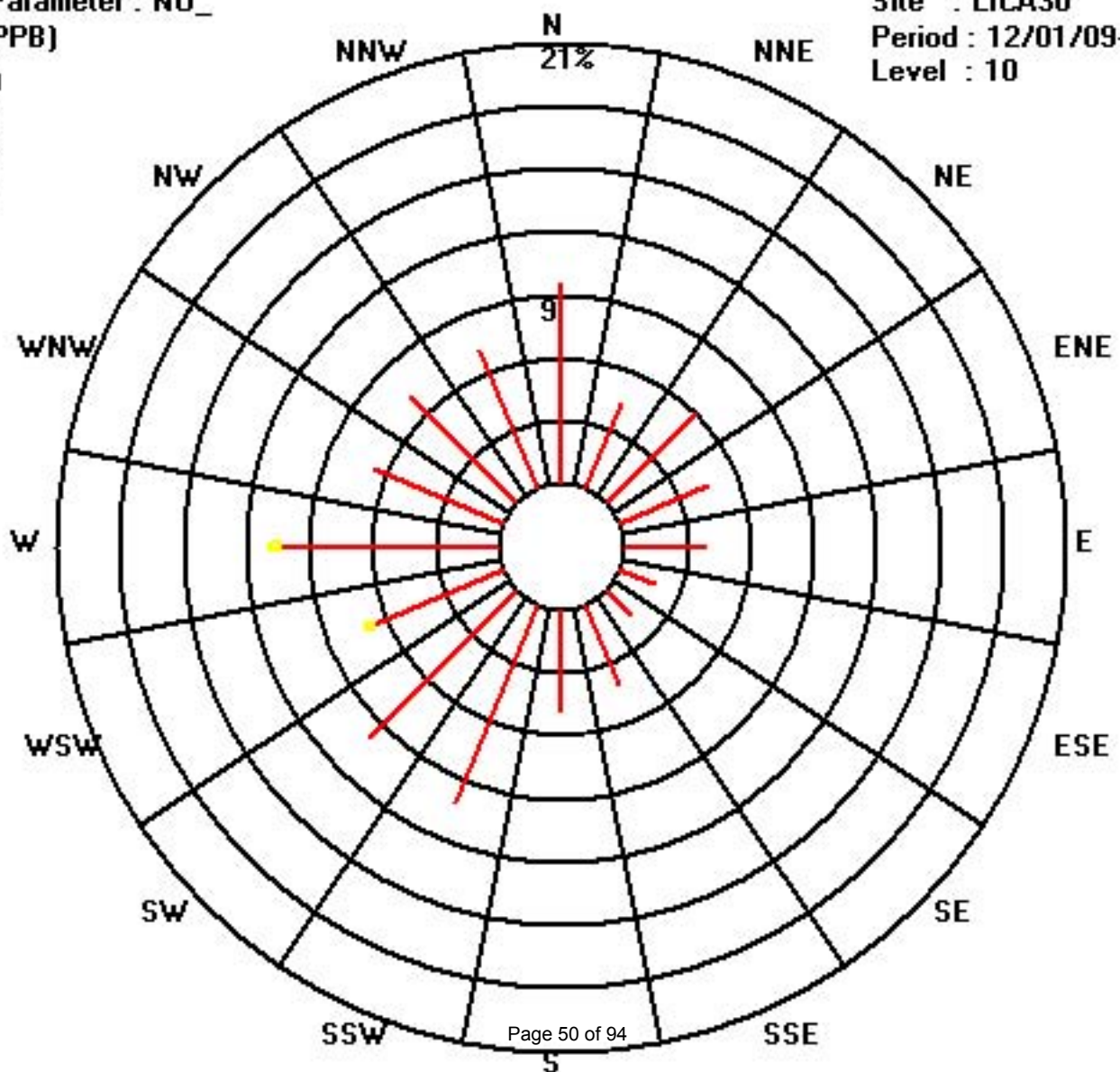
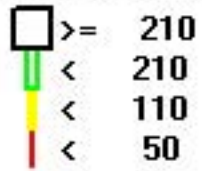
Calm : .00 %

Total # Operational Hours : 675

Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA
DECEMBER 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
2									C	C	C	C	C	C	2	2	27	5	5	6	8	6	2	2	27	6.5	17	
3	1	1	1	1	1	IZS	1	1	2	1	2	3	2	2	4	4	3	3	3	5	5	5	5	4	5	2.6	24	
4	4	5	4	5	IZS	4	5	6	8	9	12	10	12	17	15	10	6	4	4	5	3	1	1	0	17	6.5	24	
5	0	0	1	IZS	1	2	2	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0.5	24	
6	0	1	IZS	1	1	1	1	2	3	3	1	0	0	1	1	2	3	3	5	3	3	3	4	5	5	2.0	24	
7	5	IZS	7	28	32	27	19	31	37	52	45	12	7	4	6	8	10	10	12	5	6	5	4	4	52	16.3	24	
8	IZS	7	8	7	6	6	7	20	27	68	112	88	46	112	60	35	17	31	20	14	8	8	8	IZS	112	32.5	24	
9	7	7	7	7	7	7	9	11	29	50	36	74	68	115	134	77	72	13	6	7	10	8	IZS	4	134	33.3	24	
10	4	3	3	7	3	8	11	11	87	170	20	8	3	6	8	6	5	5	3	4	5	IZS	1	0	170	16.6	24	
11	0	2	1	1	1	0	0	0	0	1	1	17	12	10	3	2	3	9	5	3	IZS	2	1	3	17	3.3	24	
12	2	4	7	5	9	13	6	9	8	5	6	4	4	5	7	7	6	4	7	IZS	5	10	5	4	13	6.2	24	
13	2	4	5	3	3	3	3	10	8	5	6	7	7	2	1	0	2	1	IZS	1	3	4	7	8	10	4.1	24	
14	7	7	2	2	6	8	8	9	6	9	9	9	12	7	8	4	12	IZS	8	10	11	15	15	14	15	8.6	24	
15	14	15	14	12	11	10	9	9	9	9	9	10	10	7	6	6	IZS	9	12	13	16	11	13	10	16	10.6	24	
16	13	9	9	9	8	7	6	7	9	9	7	8	6	7	7	IZS	10	14	15	8	8	9	8	9	15	8.8	24	
17	7	5	5	7	6	7	9	29	36	33	27	17	18	15	IZS	25	31	28	26	29	28	30	27	36	20.6	24		
18	23	19	16	20	21	21	23	21	29	20	19	19	18	IZS	15	13	11	11	10	8	8	7	7	8	29	16.0	24	
19	8	8	8	8	10	14	19	26	23	12	10	5	IZS	2	3	4	5	7	9	4	3	1	1	1	26	8.3	24	
20	6	18	13	6	2	0	8	13	7	6	3	IZS	10	9	5	5	16	4	5	2	5	3	2	2	18	6.5	24	
21	2	2	2	2	2	3	3	7	24	40	IZS	16	9	6	4	3	2	2	3	3	4	4	3	3	40	6.5	24	
22	3	2	1	1	1	1	0	1	IZS	0	0	0	0	0	0	1	5	3	5	4	1	0	0	5	1.3	24		
23	1	5	1	2	1	1	0	4	IZS	10	11	5	6	5	3	3	5	2	2	1	2	3	2	2	11	3.3	24	
24	2	2	2	4	5	6	6	IZS	9	9	11	10	9	9	9	8	8	7	7	6	7	8	10	11	7.0	24		
25	8	6	6	7	10	8	IZS	5	5	5	5	8	9	8	9	10	7	7	6	6	6	5	5	10	6.8	24		
26	5	6	7	8	7	IZS	6	6	7	7	10	9	10	10	11	11	12	12	13	12	12	11	11	13	9.3	24		
27	12	13	12	13	IZS	11	10	12	10	8	6	3	2	2	2	1	1	1	0	0	0	0	0	0	13	5.2	24	
28	0	1	2	IZS	2	1	0	0	0	1	1	1	1	1	1	2	2	1	1	1	1	2	2	2	2	1.1	24	
29	1	2	IZS	2	1	1	2	2	1	2	3	2	5	6	5	6	5	5	4	2	0	1	1	1	6	2.6	24	
30	1	IZS	1	1	1	3	3	3	4	6	4	5	4	5	6	4	3	3	3	4	2	3	3	3	6	3.3	24	
31	4	5	4	5	5	4	M	10	7	5	7	13	13	5	3	4	4	4	11	14	12	10	8	8	IZS	14	7.3	23
HOURLY MAX	23	19	16	28	32	27	23	31	87	170	112	88	68	115	134	77	72	31	28	26	29	28	30	27				
HOURLY AVG	5.1	5.9	5.5	6.4	6.0	6.6	6.6	9.5	14.2	19.9	13.7	13.0	10.9	13.5	11.7	9.0	10.0	7.5	7.3	6.1	6.3	5.9	5.4	5.1				

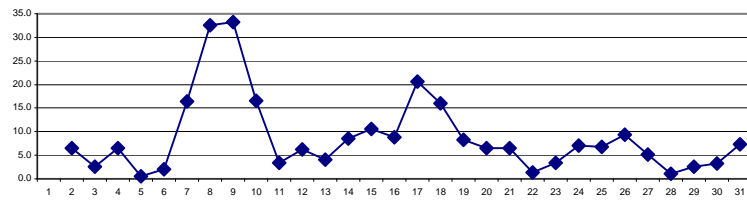
STATUS FLAG CODES

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

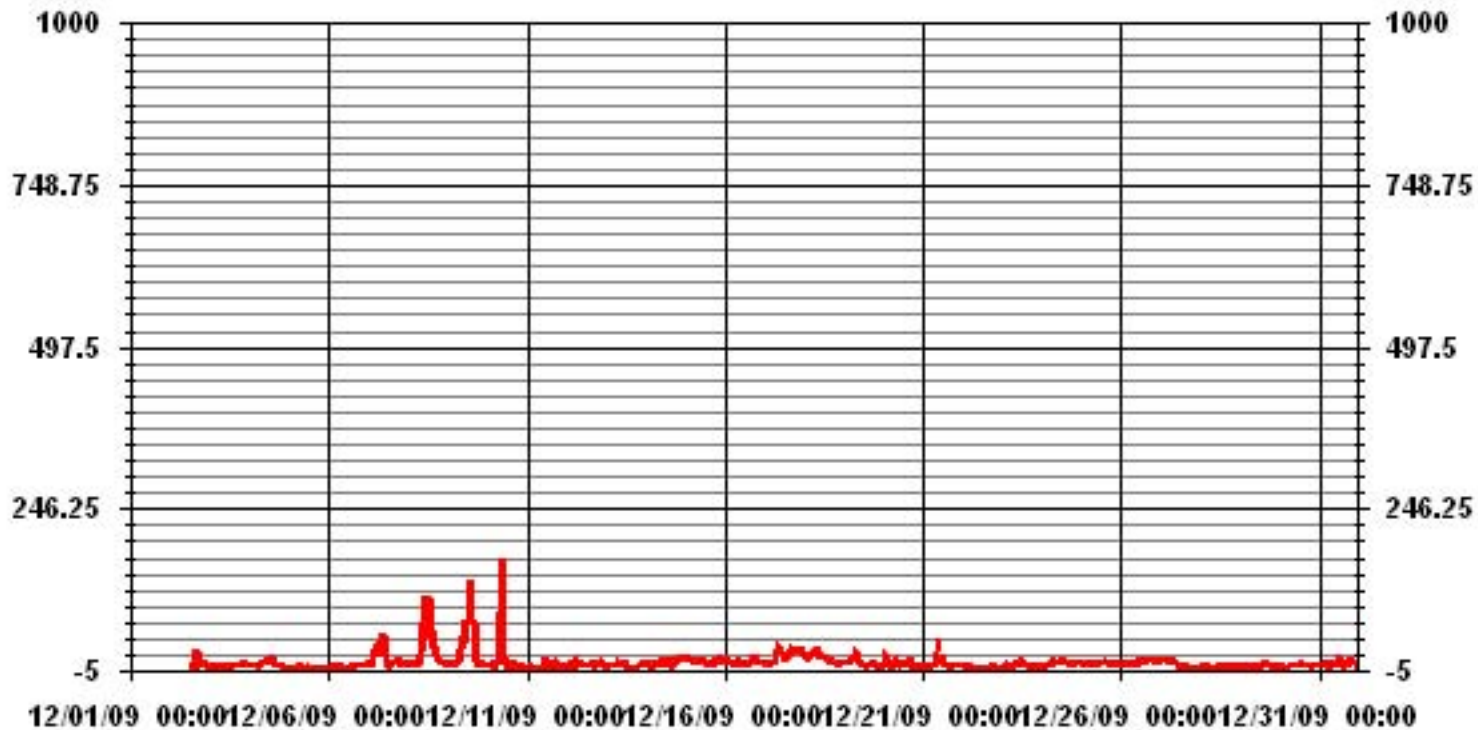
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	628					
MAXIMUM 1-HR AVERAGE:	170	PPB	@ HOUR(S)	9	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:	33.3	PPB			ON DAY(S)	9
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	712	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	14.78		MONTHLY AVERAGE:	8.80	PPB	

24 HOUR AVERAGES FOR DECEMBER 2009



01 Hour Averages



— LICA30 NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 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	
2																												17	
3		3	2	1	1	2	IZS	4	3	5	2	3	4	4	3	5	6	4	4	4	6	6	6	5	5	6	345	41.2	17
4		5	6	5	6	IZS	5	7	10	14	19	57	14	18	20	22	12	9	5	5	6	6	2	1	1	57	11.1	24	
5		0	0	1	IZS	2	2	3	2	2	1	1	1	1	0	2	1	1	2	1	0	1	0	1	0	1	3	1.1	24
6		2	2	IZS	2	1	3	2	3	4	4	3	1	1	2	2	4	5	6	5	4	4	6	6	6	6	3.2	24	
7		6	IZS	11	35	33	33	28	119	106	320	222	45	10	8	8	17	19	14	26	8	8	6	5	5	320	47.5	24	
8	IZS	12	9	8	7	7	10	27	115	303	339	334	299	300	276	166	35	35	23	20	9	9	9	IZS	339	106.9	24		
9		8	8	9	8	8	8	11	13	217	213	167	292	266	690	394	277	410	20	8	9	13	13	IZS	5	690	133.3	24	
10		5	5	5	13	6	18	23	77	646	497	206	15	27	8	10	7	7	7	5	6	16	IZS	5	0	646	70.2	24	
11		1	4	3	1	2	3	0	4	1	1	2	227	230	17	6	3	4	20	9	4	IZS	4	2	4	230	24.0	24	
12		4	15	15	11	13	17	14	18	13	11	10	7	10	14	17	14	16	7	14	IZS	7	21	14	9	21	12.7	24	
13		4	6	8	5	5	5	6	12	9	8	7	8	15	5	3	1	57	2	IZS	3	5	5	10	11	57	8.7	24	
14		11	10	4	3	9	12	13	15	13	13	13	19	19	11	10	10	84	IZS	10	11	12	17	18	15	84	15.3	24	
15		16	17	15	14	12	12	10	11	11	11	12	13	7	7	6	IZS	14	16	15	18	15	15	13	18	18	12.7	24	
16		21	10	10	9	9	8	7	10	10	15	10	11	9	10	9	IZS	14	22	22	11	10	10	10	9	22	11.6	24	
17		9	6	6	7	7	8	18	87	60	121	33	26	23	18	IZS	28	39	31	29	27	31	30	32	29	121	30.7	24	
18		27	20	18	22	24	23	32	24	38	26	20	19	20	IZS	16	14	12	12	12	8	9	9	8	9	38	18.3	24	
19		9	9	9	10	12	22	28	38	39	16	14	8	IZS	4	6	43	13	9	12	7	4	2	1	1	43	13.7	24	
20		24	31	29	13	7	2	17	22	57	9	5	IZS	18	13	10	15	103	9	7	4	13	4	3	3	103	18.2	24	
21		3	3	3	2	5	4	5	11	47	47	IZS	27	28	8	5	4	3	3	3	5	5	4	4	4	47	10.1	24	
22		4	3	2	1	2	2	1	0	2	IZS	1	1	1	1	0	3	2	6	5	6	6	3	1	1	6	2.3	24	
23		2	12	3	6	3	2	1	13	IZS	21	19	26	43	8	6	44	43	6	4	2	2	5	4	4	44	12.1	24	
24		3	3	4	6	6	7	8	IZS	11	12	16	11	10	9	10	10	8	8	8	7	7	9	9	11	16	8.4	24	
25		10	7	8	8	12	11	IZS	6	6	6	8	9	9	9	11	12	9	7	7	7	7	7	6	6	12	8.2	24	
26		6	7	8	8	8	IZS	7	7	7	9	11	10	10	11	12	12	12	13	14	13	12	12	11	12	14	10.1	24	
27		14	14	14	15	IZS	13	11	15	13	9	8	4	3	3	2	2	2	2	1	0	0	0	0	0	15	6.3	24	
28		5	5	7	IZS	4	2	1	1	2	2	2	1	2	2	2	3	3	2	2	2	2	3	2	2	7	2.6	24	
29		2	2	IZS	5	2	2	3	3	2	4	4	4	7	14	6	7	8	6	6	5	1	1	2	2	14	4.3	24	
30		1	IZS	1	2	2	4	4	3	11	13	5	6	5	7	8	7	5	4	4	12	3	4	4	4	13	5.2	24	
31		5	6	5	16	9	5	M	14	9	8	12	64	16	14	4	9	10	12	20	13	11	9	10	IZS	64	12.8	23	
HOURLY MAX	27	31	29	35	33	33	32	119	646	497	339	334	299	690	394	277	410	35	29	27	31	30	32	29					
HOURLY AVG	7.5	8.3	7.9	8.8	7.9	8.9	10.2	20.3	52.5	61.5	43.2	43.1	39.9	43.5	30.1	25.7	44.2	10.3	10.0	8.0	8.2	7.7	7.0	6.3					

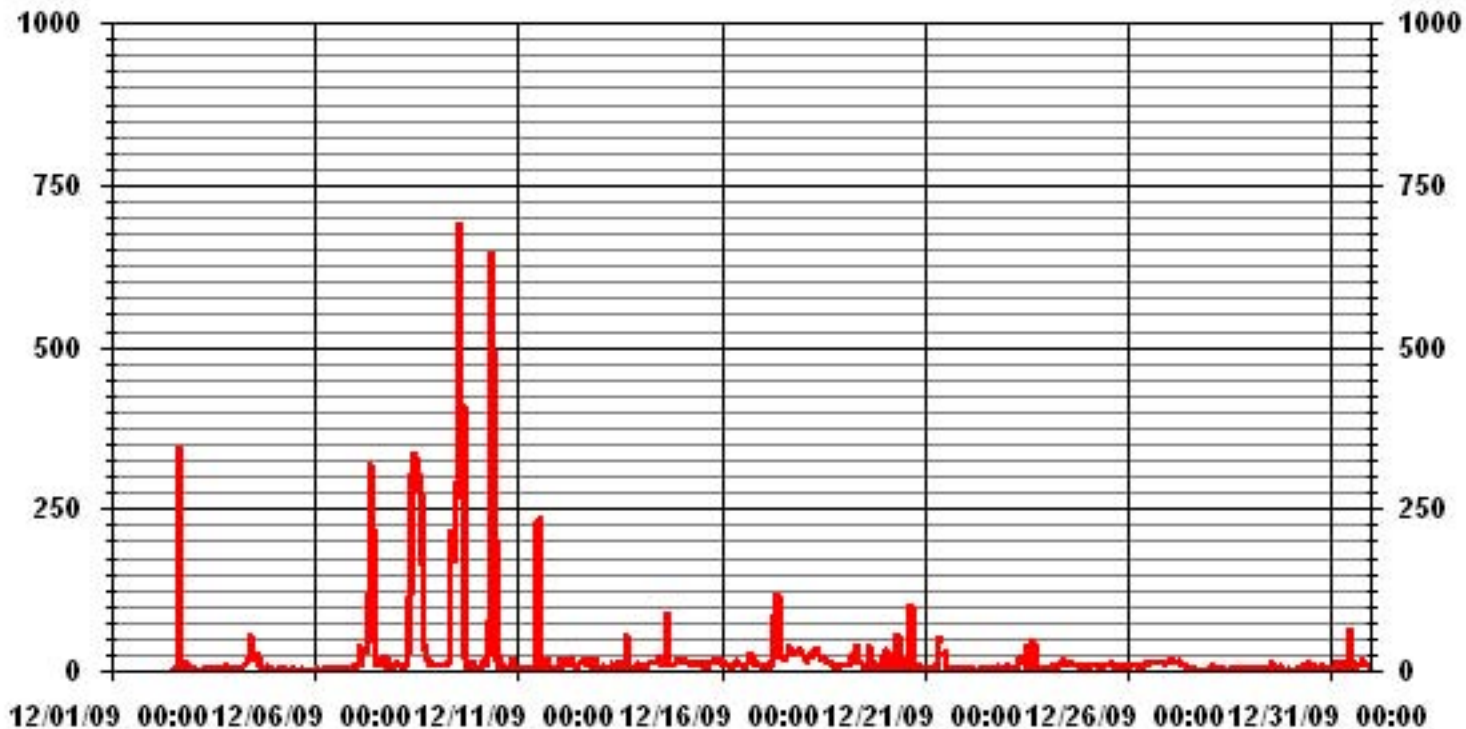
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	661
MAXIMUM INSTANTANEOUS VALUE:	690 PPB @ HOUR(S) 13 ON DAY(S) 9
IZS CALIBRATION TIME:	30 HRS
MONTHLY CALIBRATION TIME:	7 HRS
OPERATIONAL TIME:	712 HRS
STANDARD DEVIATION	63.44

01 Hour Averages



LICA30
NOX_ / WDR Joint Frequency Distribution (Percent)

December 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	9.62	4.44	6.07	4.59	3.85	1.77	1.62	4.14	4.88	9.92	9.77	6.37	9.92	6.51	7.11	7.11	97.77
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.29	.14	.44	.44	.14	.00	.00	1.48
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.29	.44	.00	.00	.00	.74
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	9.62	4.44	6.07	4.59	3.85	1.77	1.62	4.14	4.88	10.22	9.92	7.11	10.81	6.66	7.11	7.11	

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	65	30	41	31	26	12	11	28	33	67	66	43	67	44	48	48	660
< 110										2	1	3	3	1			10
< 210												2	3				5
>= 210																	
Totals	65	30	41	31	26	12	11	28	33	69	67	48	73	45	48	48	

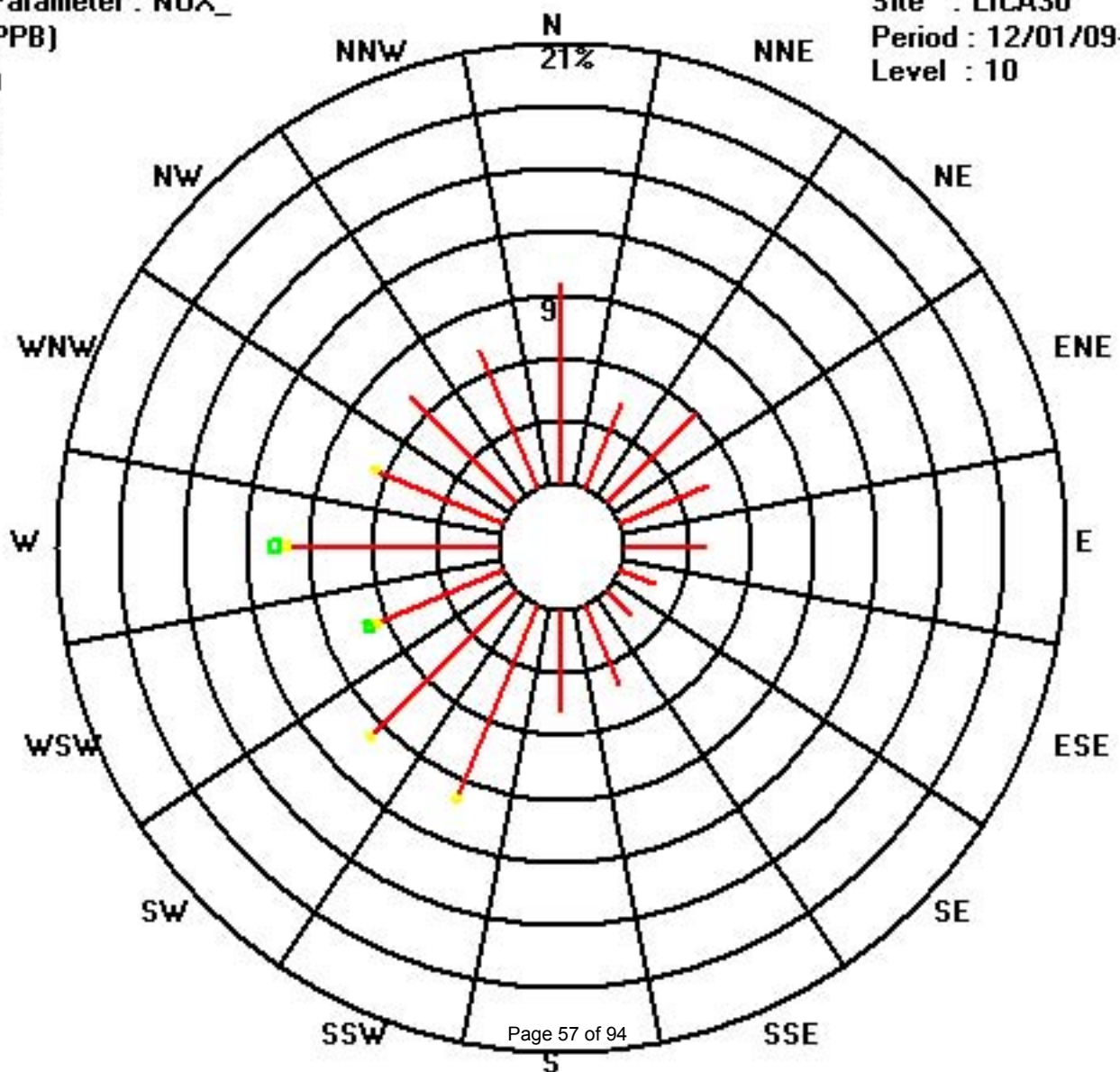
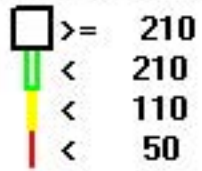
Calm : .00 %

Total # Operational Hours : 675

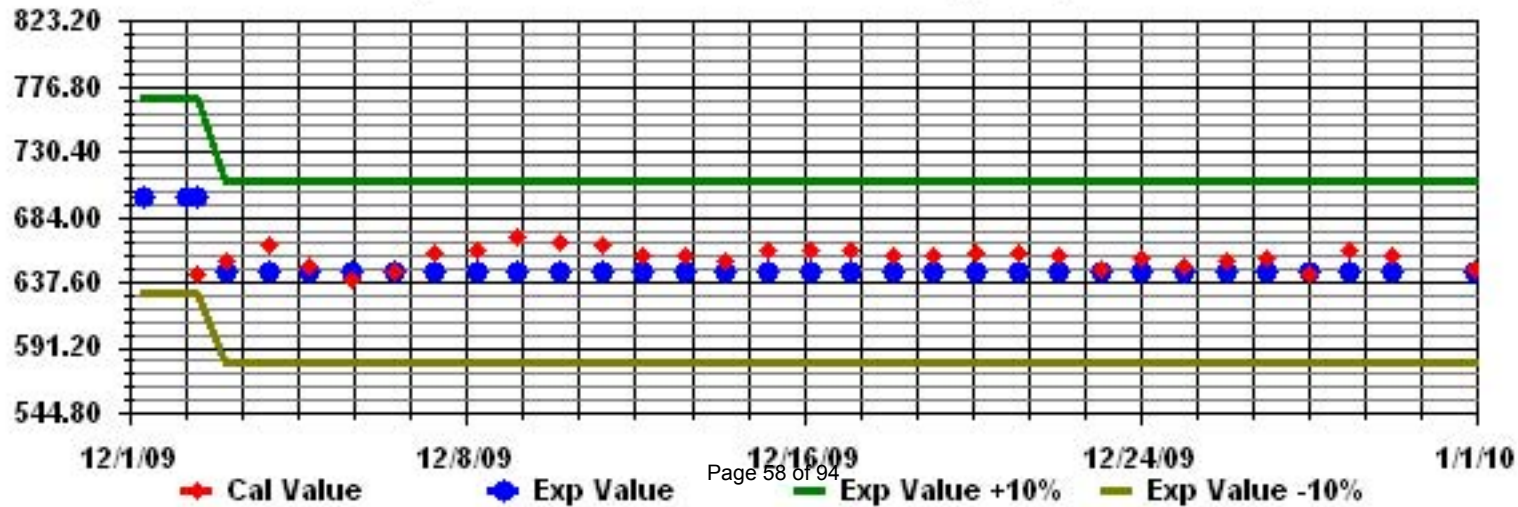
Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



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



Temperature

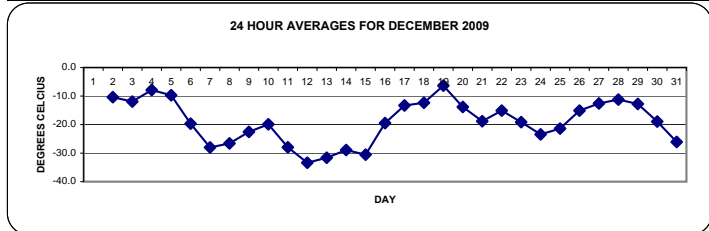
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA
DECEMBER 2009

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	0:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY	1																												0
	2												M	-9.1	-9.2	-9.2	-9.4	-9.8	-10.5	-11.3	-11.4	-11.5	-11.4	-11.4	-9.1	-10.4	11		
	3	-11.4	-11.8	-11.9	-11.8	-11.9	-12.3	-12.5	-12.8	-12.8	-12.4	-11.9	-11.6	-10.7	-10.2	-9.6	-11.2	-11.8	-12.2	-12.6	-12.7	-12.8	-12.4	-12.3	-12.6	-9.6	-11.9	24	
	4	-12.3	-12.4	-11.9	-11.7	-11.6	-11.3	-10.9	-10.6	-10.2	-9.5	-8.6	-7.4	-6.4	-6.1	-5.5	-4.1	-3.9	-4.5	-4.6	-4.6	-4.6	-5.1	-5.5	-5.7	-3.9	-7.9	24	
	5	-5.7	-5.6	-5.6	-5.7	-6.1	-6.8	-7.3	-7.6	-8	-8.2	-8.2	-8.4	-9	-9.9	-11.4	-12.2	-12.7	-12.9	-13.2	-13.4	-13.4	-13.8	-14.3	-13.8	-5.6	-9.7	24	
	6	-14.2	-14.4	-14.6	-15	-15.9	-17.3	-18.9	-19.7	-19.9	-19.3	-18.7	-18.1	-17.1	-16.5	-17.2	-19	-21	-22	-23	-23.7	-24.2	-26.3	-27.6	-28.6	-14.2	-19.7	24	
	7	-29.2	-29.3	-27.9	-27.9	-29.9	-30.9	-31.5	-31.8	-30.9	-28	-26.4	-24.7	-22.5	-22.7	-22.1	-24.2	-27.2	-28.5	-26.7	-25.7	-28.3	-30.9	-32	-32.7	-22.1	-28.0	24	
	8	-32.9	-33	-33.1	-32.3	-31.8	-31.3	-31.4	-31.2	-30.4	-27.5	-26.4	-25	-23.2	-20.5	-20.3	-22.6	-23.1	-24	-23.2	-22.8	-22.7	-22.8	-22.9	-23.9	-20.3	-26.6	24	
	9	-24.5	-25.6	-25.4	-24.3	-24	-23.8	-24	-23.9	-23.5	-21.9	-20.7	-19.5	-18.2	-18	-17.9	-19.4	-21.4	-22.9	-23	-22.9	-22.9	-23.8	-24.3	-25.3	-17.9	-22.5	24	
	10	-23.3	-21.9	-21.8	-22.2	-23.3	-22.2	-22.7	-23.8	-22.3	-22.3	-19.7	-18.1	-17.9	-18.8	-18.7	-18.7	-18.4	-18.2	-17.8	-17.3	-16.9	-16.3	-17	-17.9	-16.3	-19.9	24	
	11	-18.5	-19.9	-22	-23.2	-25.1	-26.8	-28.4	-29.3	-30.1	-30.4	-29.9	-28.4	-27	-26.3	-27.1	-28	-29.7	-30.1	-30.3	-31.8	-31.1	-31.4	-32.6	-33.5	-18.5	-28.0	24	
	12	-34.3	-34.4	-34.8	-35.7	-36.3	-36.5	-36.9	-36.4	-36.1	-34.6	-32.6	-31.3	-29.4	-28.9	-29.5	-30.6	-31.2	-32	-32.7	-32.9	-33.1	-33.2	-33.5	-33.8	-28.9	-33.4	24	
	13	-34.2	-34.4	-34.5	-34.9	-35.4	-35.5	-36	-36.6	-36.7	-35.2	-33.2	-30	-26.5	-25.8	-26.4	-28.2	-29.4	-30	-30.3	-30.2	-29.6	-29	-28.3	-28.5	-25.8	-31.6	24	
	14	-28.9	-29.5	-30.4	-30.7	-30.9	-31.2	-30.9	-31.3	-31.7	-30.3	-27.9	-25.4	-23.7	-22.7	-23.4	-25.9	-27.6	-28.4	-29.1	-29.4	-30.5	-30.8	-31	-32.2	-22.7	-28.9	24	
	15	-32.9	-33.5	-34.3	-34.8	-35.1	-35.5	-35.6	-35.9	-35.8	-34.2	-31.8	-29.1	-26.5	-24.8	-24.5	-26.1	-28.5	-29.7	-30.3	-30.8	-28.5	-25.8	-24.9	-24.3	-24.3	-30.6	24	
	16	-23.6	-22.9	-23.5	-24.7	-25.2	-24.8	-23.6	-21.6	-19.8	-18.4	-17.1	-14.4	-12.4	-12.3	-12.5	-14.5	-16.5	-18	-19	-19.8	-20.8	-21.2	-21.1	-19.7	-12.3	-19.5	24	
	17	-19.2	-17.7	-16	-15.3	-15.7	-15.6	-16.6	-16.6	-17.1	-16.2	-12.3	-10	-9.7	-9.7	-9.9	-10.2	-11.3	-10.7	-10.1	-10.3	-10.8	-11.6	-12.7	-13.7	-9.7	-13.3	24	
	18	-14.9	-16	-16.4	-16.8	-17.1	-17.3	-16.8	-17.1	-17.2	-15.8	-13.5	-11.2	-9.8	-9.5	-10.1	-10.5	-10.2	-8.4	-7.7	-7.9	-7.4	-7.2	-7.3	-7.2	-12.4	24		
	19	-7.4	-7.9	-8.9	-8.7	-9	-9	-8.7	-8.6	-8	-6.5	-3.1	-1.1	-0.5	-0.7	-1.5	-4.1	-5.3	-6.6	-7.7	-7.9	-8.1	-7.6	-7.6	-7.8	-0.5	-6.3	24	
	20	-7.7	-8.7	-9.8	-11.5	-12.7	-13.5	-13.9	-14.4	-14.8	-13.7	-11.2	-9.5	-8.8	-7.9	-8.6	-12.3	-14.9	-16.6	-18	-18.7	-19.7	-20.5	-21.7	-22.3	-7.7	-13.8	24	
	21	-23	-22.7	-22.8	-23.6	-23.4	-22.4	-22.1	-23.1	-22.7	-19.9	-17.6	-16.2	-15.7	-15.7	-15.6	-15.8	-16	-16	-16.2	-16.2	-16.1	-16.3	-16.2	-16.2	-15.6	-18.8	24	
	22	-16.2	-16.2	-16.1	-16.1	-16.1	-16	-15.9	-15.8	-15.7	-15.8	-15.1	-14.5	-14.1	-13.9	-14	-14.2	-14.6	-14.9	-14.9	-14.8	-14.7	-14.3	-14.2	-14.2	-13.9	-15.1	24	
	23	-14.2	-14.5	-15.1	-15.5	-16.3	-17.4	-18.3	-18.5	-18.7	-19.3	-19.1	-16.8	-15.7	-16.7	-17	-18.4	-20.3	-21.7	-22.4	-23.1	-23.9	-24.6	-25.5	-26.2	-14.2	-19.1	24	
	24	-26.3	-27.7	-29.1	-29.5	-30	-30.3	-30.7	-30.7	-30.6	-28.8	-24.1	-19.5	-16	-14.9	-16.4	-18.6	-20.1	-20	-20.6	-20.8	-20.5	-19.4	-18.9	-18.6	-14.9	-23.4	24	
	25	-20.6	-22.3	-23.4	-24.4	-25.2	-25.6	-26	-26.6	-26.8	-24.9	-19.9	-16.1	-13.1	-12.9	-13.2	-16.1	-19.4	-20.8	-21.6	-21.8	-22.8	-23.1	-23.3	-23.3	-12.9	-21.4	24	
	26	-22	-20.5	-18.1	-17	-18.1	-19.1	-19.6	-19.8	-19.2	-18.2	-13.6	-10.3	-9	-8.4	-8.8	-10.6	-11.9	-12.6	-13.2	-14	-14.7	-14.9	-15.5	-8.4	-15.1	24		
	27	-15.1	-14.4	-15.8	-16.3	-16.1	-16.6	-17.1	-17.1	-17.8	-15.7	-10.2	-6.5	-6	-5.9	-7.2	-8.9	-10	-10.9	-11	-12	-12.7	-12.8	-12.9	-13	-5.9	-12.6	24	
	28	-12.9	-12.7	-12.3	-11.9	-11.6	-11.2	-11.1	-11.1	-11.2	-11.2	-11	-10.8	-10.6	-10.5	-10.6	-10.8	-10.9	-10.9	-10.9	-11	-11	-11.1	-11.2	-11.2	-10.5	-11.2	24	
	29	-11.1	-11.1	-11.1	-11	-11.1	-11.2	-11.2	-11.3	-11.3	-11.3	-11.5	-11.3	-11.8	-12.3	-12.8	-13.6	-13.9	-14.1	-14.6	-14.8	-15.4	-15.9	-16.1	-16.3	-11.0	-12.8	24	
	30	-16.5	-16.6	-16.7	-16.8	-16.9	-17.8	-18.9	-19.5	-19.8	-19.5	-18	-17.5	-16.4	-16.3	-16.3	-17.5	-18.9	-19.2	-20	-21.1	-22.3	-23.3	-23.8	-24.9	-16.3	-18.9	24	
	31	-25.6	-26.7	-27.8	-27.5	-27.5	-26.2	M	-25.6	-25.6	-26.4	-23.8	-21.1	-19.4	-19.3	-19	-22.4	-25	-26.7	-27.7	-28.8	-30.7	-31.4	-32.3	-33.3	-19.0	-26.1	23	
HOURLY MAX		-5.7	-5.6	-5.6	-5.7	-6.1	-6.8	-7.3	-7.6	-8.0	-6.5	-3.1	-1.1	-0.5	-0.7	-1.5	-4.1	-3.9	-4.5	-4.6	-4.6	-4.6	-5.1	-5.5	-5.7				
HOURLY AVG		-20.0	-20.1	-20.4	-20.6	-21.0	-21.2	-21.3	-21.6	-21.6	-20.5	-18.5	-16.7	-15.4	-14.9	-15.2	-16.6	-17.8	-18.5	-18.8	-19.1	-19.4	-19.6	-19.9	-20.3				

STATUS FLAG CODES

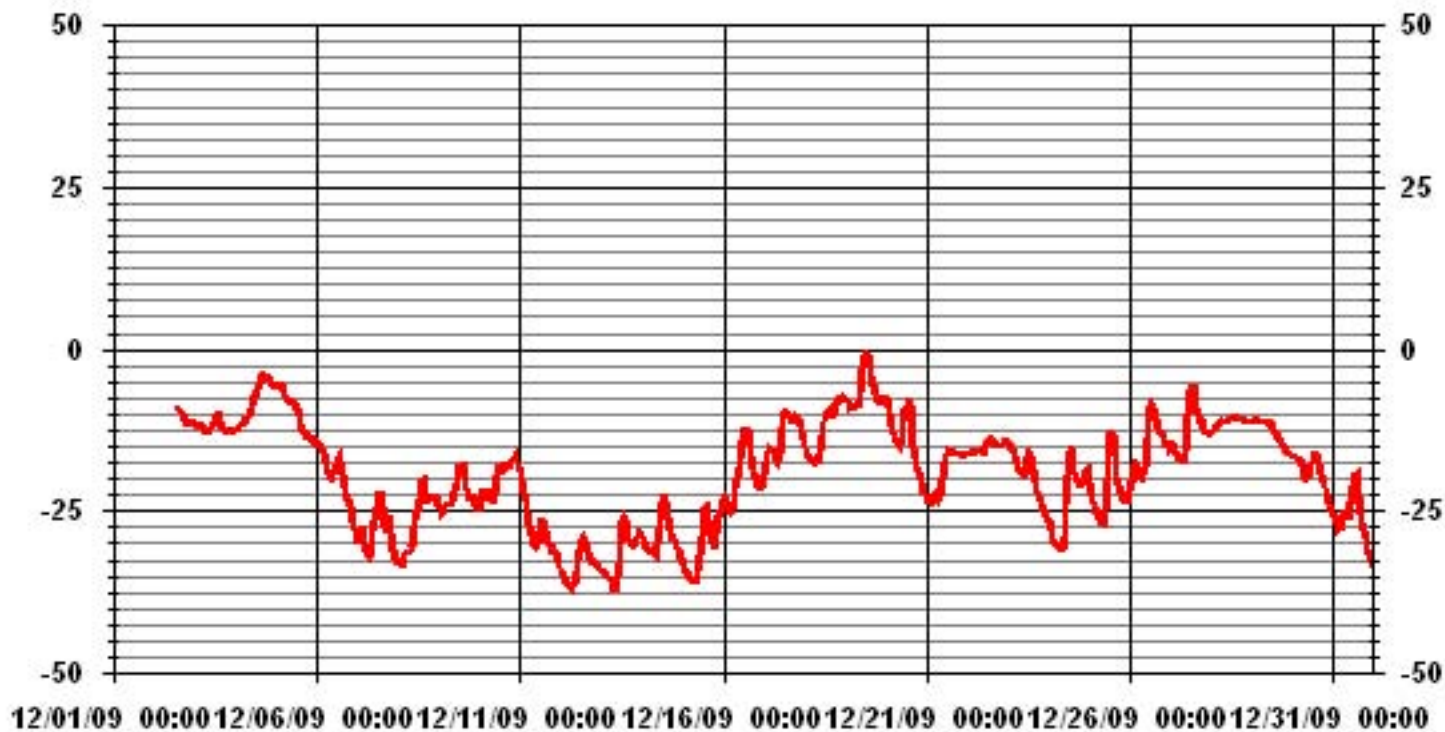
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-36.9 °C	@ HOUR(S)	6	ON DAY(S)	12
MAXIMUM 1-HR AVERAGE:	-0.5 °C	@ HOUR(S)	12	ON DAY(S)	19
MAXIMUM 24-HR AVERAGE:	-6.3 °C			ON DAY(S)	19
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	706 HRS		
STANDARD DEVIATION:	8.15	AMD OPERATION UPTIME:	99.7 %		
		MONTHLY AVERAGE:	-19.11 °C		

01 Hour Averages



— LICA30 TPX DGC

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 2009

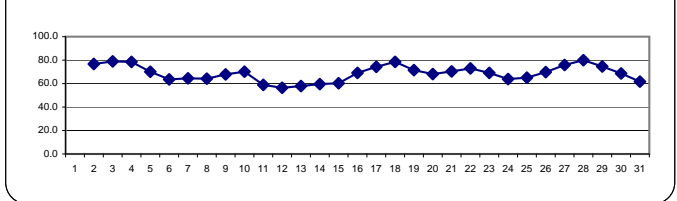
RELATIVE HUMIDITY hourly averages (%)

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	0:00	DAILY MAX.	24-HOUR AVG.	RDGS.		
DAY																															
1														M	72	74	74	74	75	77	79	79	80	80	80	80	80	80	80	76.7	11
2																															
3		80	80	80	80	79	79	79	79	79	79	79	79	79	79	78	80	79	79	79	79	78	78	77	77	77	77	80	78.9	24	
4		77	77	77	77	77	77	77	77	78	77	77	77	79	81	82	84	84	79	80	82	79	76	76	76	76	84	78.5	24		
5		74	77	81	77	76	78	78	77	74	72	68	67	67	66	65	65	67	65	65	64	61	66	67	65	81	70.1	24			
6		65	67	67	65	65	64	65	69	69	64	57	55	53	49	50	56	65	69	71	71	70	68	67	65	71	63.6	24			
7		65	64	65	66	63	62	62	61	62	65	65	66	67	67	68	66	65	67	67	67	64	62	61	61	68	64.5	24			
8		60	60	60	60	61	61	61	61	62	64	64	64	64	64	65	67	68	67	68	68	68	68	68	68	68	68	68	64.2	24	
9		67	67	67	67	67	67	67	67	68	68	67	67	66	66	68	69	71	70	70	69	69	69	69	68	67	71	67.8	24		
10		68	70	70	70	70	70	70	70	69	69	69	67	67	69	70	71	72	72	73	73	72	72	71	70	73	70.2	24			
11		70	67	63	64	62	60	58	59	59	58	56	54	51	51	52	56	61	62	61	61	60	57	55	57	70	58.9	24			
12		57	58	58	57	57	57	56	57	57	56	54	50	49	49	52	56	58	59	60	60	59	60	59	60	59	60	56.4	24		
13		58	58	58	58	58	57	57	56	56	56	54	54	54	52	54	59	61	61	61	61	61	62	62	62	62	62	57.9	24		
14		63	63	62	62	62	62	62	61	61	59	55	51	50	48	51	59	62	63	63	63	63	62	62	61	63	59.6	24			
15		60	59	59	58	58	57	57	57	58	59	58	57	58	60	64	64	63	62	62	63	64	64	67	67	60.3	24				
16		69	69	68	67	67	67	68	70	71	72	73	69	61	61	63	68	73	74	73	72	71	71	71	71	74	69.1	24			
17		71	72	73	74	74	74	75	74	74	71	63	59	67	72	74	76	80	81	82	81	80	80	79	77	82	74.3	24			
18		77	76	76	75	75	75	75	74	74	75	77	78	78	79	80	81	81	81	82	83	83	83	83	83	83	83	78.5	24		
19		83	83	83	83	82	82	82	83	83	83	72	58	52	51	54	61	64	67	70	68	67	67	69	69	83	71.5	24			
20		72	74	74	74	75	73	71	70	70	65	57	52	51	50	52	65	73	77	76	75	74	73	71	71	77	68.1	24			
21		69	69	69	69	70	69	70	69	69	70	71	71	70	69	69	70	71	71	72	72	72	72	73	73	73	70.4	24			
22		73	74	74	74	74	74	75	75	75	74	72	69	67	66	67	70	73	74	74	75	75	75	76	76	76	73.0	24			
23		75	74	72	72	71	72	72	72	72	70	67	59	57	63	65	69	73	72	71	70	69	69	68	68	66	75	69.1	24		
24		66	65	64	64	63	63	63	62	62	62	62	55	53	53	59	66	69	69	69	69	69	69	69	68	69	63.9	24			
25		71	71	70	69	68	68	67	66	66	64	55	51	47	51	53	63	72	72	71	70	70	69	69	68	72	65.0	24			
26		69	70	71	72	73	73	72	72	72	70	64	58	59	58	60	66	70	72	74	73	77	76	77	77	77	69.8	24			
27		77	76	75	77	77	76	75	75	73	72	70	71	72	71	74	80	81	81	79	78	77	78	78	78	81	75.9	24			
28		78	78	79	79	80	82	81	81	81	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80.0	24		
29		80	80	80	80	80	79	79	79	79	78	77	74	71	71	70	70	70	70	71	71	70	70	71	70	80	74.6	24			
30		70	70	70	70	70	70	71	72	72	70	66	65	63	62	63	67	71	70	70	70	70	70	68	68	72	68.7	24			
31		67	65	65	65	64	64	M	65	65	64	57	52	49	49	50	63	68	66	67	65	64	62	62	61	68	61.7	23			
HOURLY MAX		83	83	83	83	82	82	82	83	83	83	80	80	80	81	82	84	84	81	82	83	83	83	83	83	83	83	83			
HOURLY AVG		70.0	70.1	70.0	69.9	69.6	69.4	69.5	69.3	69.3	68.4	65.8	63.1	62.1	62.6	64.0	68.1	70.7	70.9	71.3	71.0	70.5	70.2	70.0	69.7						

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

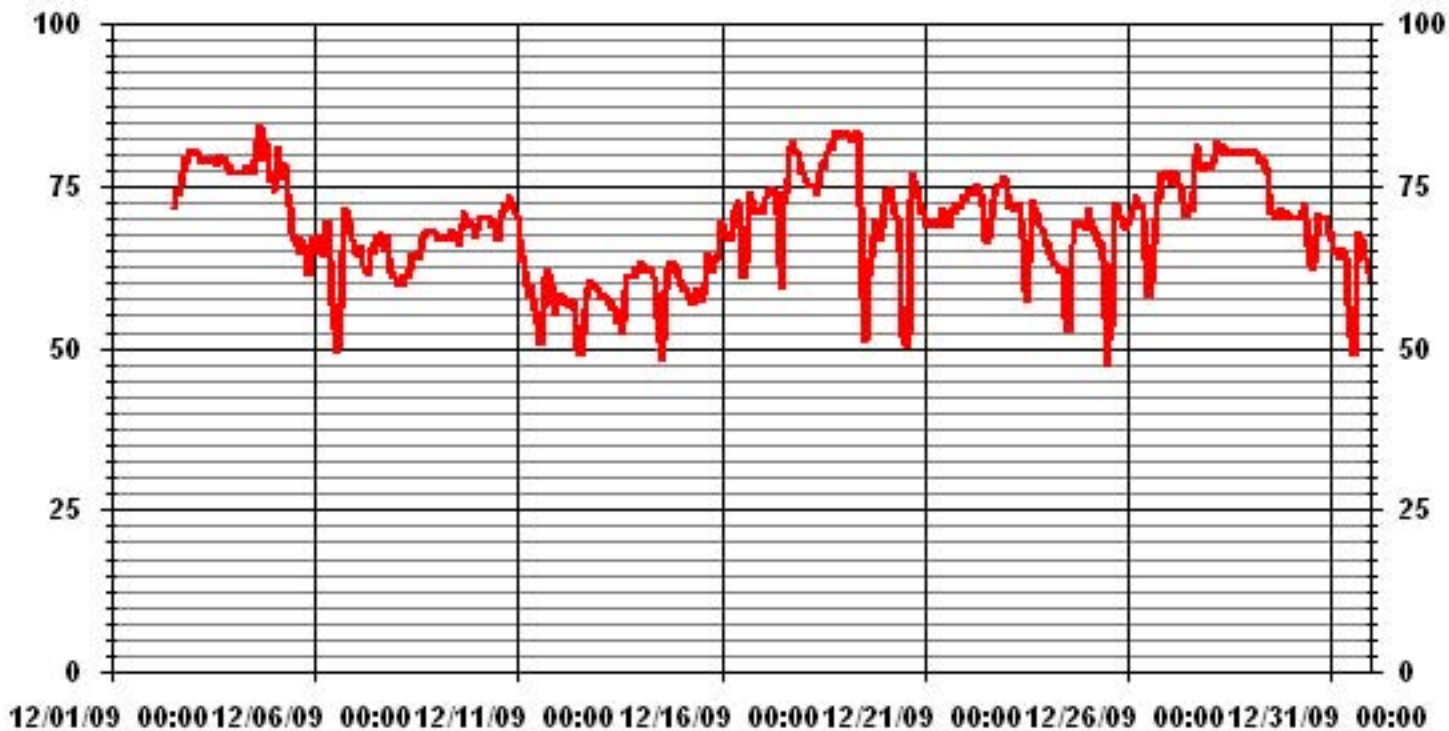
24 HOUR AVERAGES FOR DECEMBER 2009



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	84	%	@ HOUR(S)	15, 16	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	80.0	%			ON DAY(S)	4
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	706	HRS	
STANDARD DEVIATION:	8.03		AMD OPERATION UPTIME:	99.7	%	
			MONTHLY AVERAGE:	68.57	%	

01 Hour Averages



— LICA30 RH %FS

Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 2009

BAROMETRIC PRESSURE hourly averages (millibar)

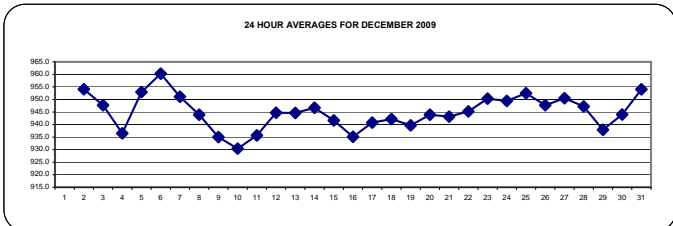
MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
DAY																													
1																													0
2													M	954	954	955	955	954	954	954	954	954	953	954	955	954.1	11		
3		953	953	953	953	953	952	952	951	951	951	950	949	948	947	946	946	944	943	942	941	940	939	938	953	947.7	24		
4		937	937	937	936	935	935	934	934	934	934	934	934	934	935	936	936	937	938	939	940	941	942	943	943	936.5	24		
5		944	945	945	946	947	948	949	950	951	951	952	953	953	954	956	956	957	958	958	959	959	960	960	960	960	953.0	24	
6		960	960	961	961	961	961	961	961	961	962	962	961	961	960	960	960	960	960	960	959	959	959	959	958	962	960.3	24	
7		958	957	956	956	955	955	954	954	953	952	951	950	949	948	948	948	948	948	948	947	947	948	948	948	958	951.1	24	
8		948	947	947	947	946	946	946	946	946	945	945	944	943	943	942	943	943	942	942	941	941	941	940	940	948	943.9	24	
9		940	940	939	939	938	938	937	937	936	936	936	935	934	933	933	933	933	933	932	932	932	931	931	932	940	935.0	24	
10		931	931	931	932	932	933	933	933	933	933	933	932	931	931	930	930	929	928	927	927	927	927	928	928	933	930.4	24	
11		928	929	931	932	933	934	935	935	936	937	937	936	936	936	936	937	937	938	937	938	938	939	940	941	941	935.7	24	
12		941	942	943	943	944	944	945	945	945	945	945	944	944	944	944	945	946	946	946	946	946	946	947	947	947	944.7	24	
13		947	946	946	946	946	946	946	946	946	945	945	944	943	942	942	943	944	944	944	944	944	944	944	944	947	944.6	24	
14		945	945	946	946	946	946	946	946	947	947	947	946	946	946	946	947	947	948	948	948	948	948	948	948	948	946.7	24	
15		947	947	947	946	945	945	945	944	944	943	942	941	939	938	937	938	939	939	940	940	939	938	939	938	947	941.7	24	
16		938	937	937	937	937	936	935	934	934	934	934	934	934	934	934	934	935	935	935	935	935	935	935	935	938	935.1	24	
17		935	935	936	936	937	937	937	938	939	940	941	941	941	942	943	943	944	944	945	945	945	945	945	945	945	940.8	24	
18		945	945	945	945	945	945	945	944	944	944	944	943	942	942	941	941	940	939	939	939	939	939	939	939	945	942.2	24	
19		939	939	938	938	939	939	939	938	939	939	940	940	940	940	940	940	940	940	940	940	941	941	941	942	942	939.7	24	
20		942	943	944	944	944	944	944	944	945	945	945	945	945	944	944	944	944	944	944	943	943	943	943	944	945	943.9	24	
21		944	944	944	944	943	943	943	943	943	943	943	943	943	943	943	943	943	943	943	943	943	943	943	944	943.2	24		
22		943	943	944	944	944	944	944	944	945	945	945	945	945	945	945	946	946	946	947	947	947	947	947	948	948	945.3	24	
23		948	948	949	949	949	950	950	950	951	951	951	951	951	950	951	951	951	951	951	951	951	951	951	951	951	950.3	24	
24		951	950	950	950	950	950	950	950	950	949	949	948	948	948	948	948	948	949	949	949	950	950	950	951	949.4	24		
25		950	951	952	952	953	953	953	953	954	954	953	953	953	953	953	953	953	953	952	952	952	952	952	951	954	952.5	24	
26		951	950	950	949	949	948	948	948	948	948	948	948	947	947	947	947	947	947	946	946	946	946	946	947	951	947.7	24	
27		947	947	947	947	947	948	948	948	948	949	950	950	951	951	952	952	953	953	954	954	954	954	954	954	954	950.5	24	
28		954	954	954	954	953	953	952	951	950	950	949	948	947	946	945	944	944	943	942	941	941	940	939	939	954	947.2	24	
29		938	938	938	937	937	937	937	937	937	937	938	938	938	938	938	938	938	938	938	939	939	939	939	939	939	939	937.9	24
30		939	940	940	940	941	941	941	941	942	943	943	943	944	944	944	945	946	946	947	948	948	949	950	951	951	944.0	24	
31		952	952	953	953	953	M	953	953	954	954	954	954	954	954	955	955	955	955	955	955	955	956	956	956	956	954.0	23	
HOURLY MAX		960	960	961	961	961	961	961	961	961	962	962	961	961	960	960	960	960	960	960	959	959	960	960	960				
HOURLY AVG		945	945	945	945	945	945	945	945	945	945	945	945	944	944	944	945	945	945	945	945	945	945	945	945				

STATUS FLAG CODES

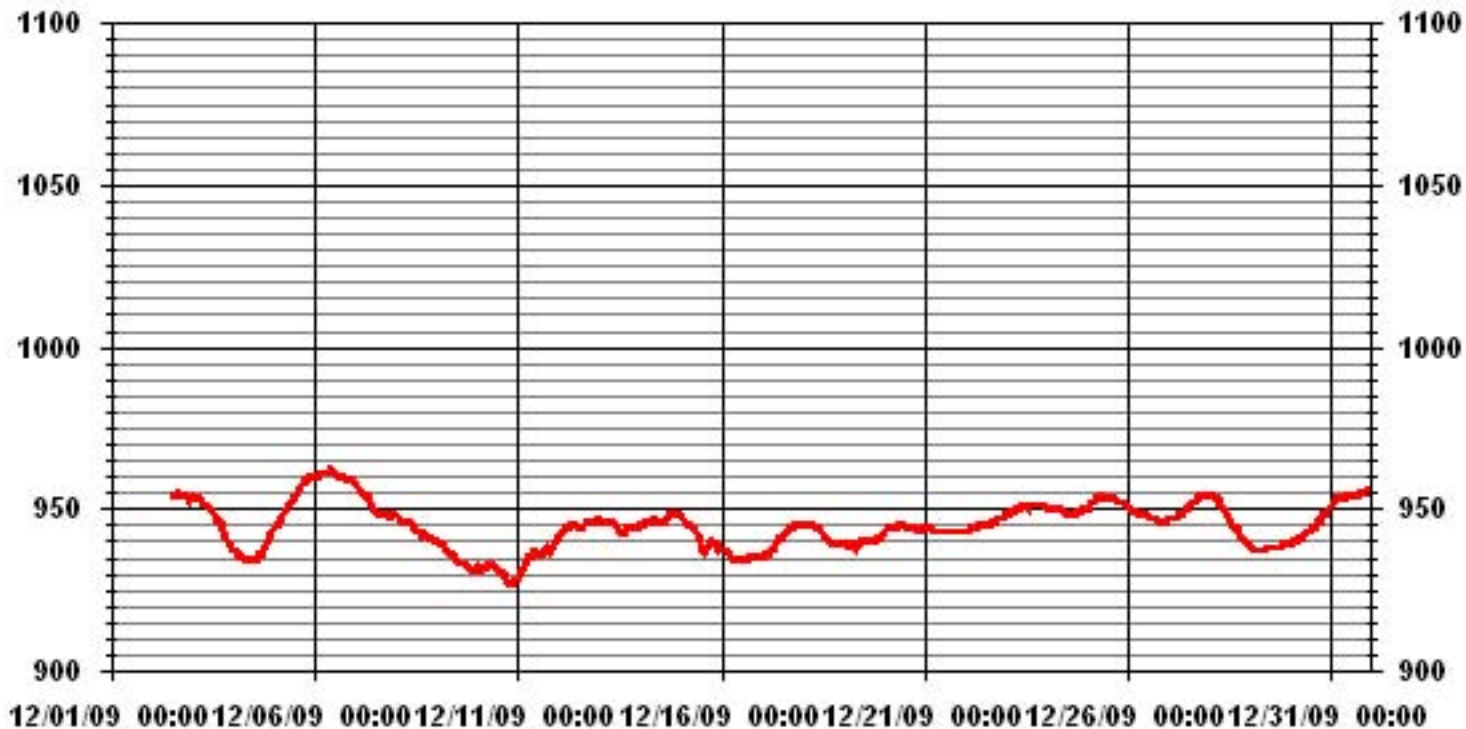
S	- OUT OF SERVICE	I	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	962	MB	@ HOUR(S)	9, 10	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:	960.3	MB			ON DAY(S)	6
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	706	HRS	
STANDARD DEVIATION:	7.12		AMD OPERATION UPTIME:	99.7	%	
			MONTHLY AVERAGE:	945	MB	



01 Hour Averages



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 2009

WIND SPEED 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		
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																													0
2										M	0.9	3.1	4.7	3.5	3.1	2.2	3.2	2.5	1.6	2.5	2.7	2.5	3.4	3.2	4.7	4.7	2.5	15	
3		3.7	4.8	3.5	4.1	5.4	4.3	5.9	6.1	6.2	6.1	4.7	5.6	5.3	4.5	4.7	4.4	4.8	5	4.6	4.6	4.7	5.2	5.7	4.9	6.2	4.7	24	
4		4.8	3	3.1	4.2	4.9	3.8	2.3	3.5	3.5	2.8	3.1	2.5	2.1	2.7	1.4	3.8	6.3	10.8	10.6	7.4	10.7	13.2	13.6	12.8	13.6	2.4	24	
5		13.6	9.4	7.9	12.2	9.7	9.1	8.1	11.1	12.2	11	12	12.1	14.2	12.6	14.3	11.7	10	12.1	10.5	10.3	10.1	7.3	6.4	8.1	14.3	10.5	24	
6		7.4	6.8	8.7	9.4	9.4	9.6	7.3	5	6.1	7.2	9.9	10.9	8.2	7	7.4	5	2.8	2.7	2.3	2.6	3	0.8	1.1	1.2	10.9	5.5	24	
7		1.2	1.4	1.8	1.7	0.6	1	1.2	1.3	1.3	3.4	5.4	3.2	2.8	4	3.7	1.8	0.6	2.3	4.5	4.1	0.5	1.2	1.2	1.4	5.4	1.9	24	
8		1.6	0.7	1	1.9	1.8	1.4	2.3	2.9	3.8	3.4	4.2	3.9	4.4	4.2	5.1	2	2.5	1.9	1.4	2	2.3	2.2	2.4	0.2	5.1	2.1	24	
9		0.8	1	0.4	1	1.7	1.2	1.3	2.6	2.1	1.7	2.1	2.5	2.7	3.1	3.1	3.9	3.6	2.1	3.7	3.1	3.7	2.8	1.9	1	3.9	1.8	24	
10		1.6	2.1	2.2	1.5	2.6	4.3	5	4.1	2.3	2.6	4.9	4.7	3.1	5.4	4.6	5.4	4.9	4.4	4.5	3	4.8	5.5	4.2	4.3	5.5	2.7	24	
11		5.2	9.4	10.3	7.9	9.7	10	8.2	4.2	4.6	5.2	6.1	2.1	2.4	2	3.1	2	0.8	0.3	1.6	1.6	2.4	5.7	3.5	3.9	10.3	4.4	24	
12		3.7	5.2	7.3	6.3	7.5	10.2	11	9.7	9.6	10.5	11.4	13.6	8.9	9.5	10	10.2	9.2	7.7	7.2	8.1	8	8.4	9.1	7.6	13.6	8.5	24	
13		5.9	6.1	5.5	4.6	4.2	3.3	3.8	3.9	4.3	5.1	5.5	4.3	6.3	7	5.7	3.8	6.3	6.6	7	7.4	7	7.5	7.9	7.8	7.9	5.4	24	
14		6.4	6.2	6.1	5.9	4.9	5.6	6.9	5.5	5.7	7	7.6	7.2	5.4	4	4.1	2.9	2.9	4.8	3.6	4.1	3.3	3.9	5.2	1.9	7.6	4.5	24	
15		2.5	1.8	0.2	1.7	1.2	0.5	0.4	1.1	0.1	0.1	0.2	1	3.6	4.2	4	2.4	1	1.2	0.8	0.5	0.7	2.6	4	0.9	4.2	0.3	24	
16		1.9	2.5	1.3	0.4	2	1.9	2.6	1.8	3.8	4.1	3.5	3.5	2.9	4.3	3.8	3.2	2.1	1.7	1	1	1	0.3	1.7	0.5	4.3	1.4	24	
17		1.3	1.3	0.8	1.2	3.2	1.5	2.4	3	2.3	1.9	1.9	2.9	3.1	3.5	4.1	4.4	5.4	4.1	4.4	4.1	2	2	1	0.7	5.4	1.8	24	
18		0.9	0.7	1.2	0.9	1.2	1.5	2.3	1.1	0.4	1.9	2.4	4.2	4.7	4	3.1	3.2	3.1	2	3.4	2.1	1.6	2.8	3.8	1.2	4.7	1.7	24	
19		1.6	1.5	1.6	2.1	3.7	2.1	3.2	3.1	3.8	4.6	6.8	9.2	9.2	8.3	5.5	3.8	3.8	4.6	4.6	4.6	4.4	5.7	5.4	6.2	9.2	4.1	24	
20		10.3	8.4	8	5.3	4.3	3.7	3.8	4.6	4.7	5.7	5.9	6	6.8	4.8	3.1	2.3	0.8	1.4	0.9	0.8	1.2	1.5	1.5	1.3	10.3	3.6	24	
21		0.1	0.8	0.1	1	2.4	1.8	0.5	1.2	1.1	0.6	1.5	1.3	2.3	3.4	3.1	3.3	3.6	2.1	1.4	2.9	2.5	3.6	3.9	4.2	4.2	1.4	24	
22		4.7	3.4	2.6	3.4	2.9	3.3	2.8	3.1	3	3.4	3.8	4.4	3	2.4	0.9	0.6	3.1	2.2	1.4	1	1.7	2.4	1.9	4.7	1.8	24		
23		2.3	5.6	5.4	6	5.3	4.3	3.6	4.8	6	5.8	5	4.1	5	6.1	5.4	2.3	2.4	1.7	2.3	2.4	1.5	1.9	1.4	0.3	6.1	3.3	24	
24		0.1	0.5	0.5	0.4	0.2	0.5	0.7	0.4	1.5	1.8	0.9	1	1.3	2	3.1	1.1	1.2	1.6	2	1	1.3	1	1.5	1.8	3.1	0.3	24	
25		0.8	0.1	1.5	0.7	0.2	1.6	1	0.6	0.7	0.2	1	0.9	1.1	1.6	2.6	1.5	0.7	1.2	1.1	1.8	0.1	1	1.1	0.5	2.6	0.5	24	
26		1.3	0.2	1	1.4	1.1	1.1	0.7	0.4	0.6	0.7	3.1	3.4	5	4.6	5	4.2	2.8	2.8	2.4	1.7	1.2	1	1.2	1.4	5	1.4	24	
27		3.8	3.7	1.1	0.7	0.8	0.5	0.1	1.3	1.2	3.4	3.4	5.5	8.3	8.2	8.3	8.5	7.1	8.7	10.5	10.5	6.8	6.2	6.2	6.4	10.5	4.2	24	
28		7.7	6.1	4.8	3.4	4	5.8	7.1	6.9	7	8	8.3	7.6	6.4	6.5	5.6	4.6	4	3.3	3.4	3.6	3.4	2.7	2.3	2.1	8.3	4.6	24	
29		0.3	1.6	3.1	4.6	4.1	4.4	4.9	4.2	4.1	4.9	7	6.7	6.1	6.6	7	5.4	6.1	5.6	5.6	4.8	5.7	5	4.1	4	7	4.6	24	
30		4.8	5.1	5	5	4.4	5.8	5.3	4.5	3.3	3.5	4.6	5.2	4.8	4	4.3	3.5	3	4.2	3.4	3.6	3.7	2.9	5.1	3.8	5.8	4.1	24	
31		3.2	2.6	2.6	4.5	3.9	4.6	M	4.1	3.9	0.7	2.7	3.8	3.1	2.8	1.6	1.9	2.5	3.5	4.1	3.5	0.8	1.6	0.6	1	4.6	1.6	23	
HOURLY MAX		13.6	9.4	10.3	12.2	9.7	10.2	11.0	11.1	12.2	11.0	12.0	13.6	14.2	12.6	14.3	11.7	10.0	12.1	10.6	10.5	10.7	13.2	13.6	12.8				
HOURLY AVG		3.6	3.5	3.4	3.6	3.7	3.7	3.7	3.7	3.8	4.0	4.7	4.9	4.9	4.9	4.7	3.9	3.6	3.9	3.9	3.7	3.4	3.7	3.8	3.2				

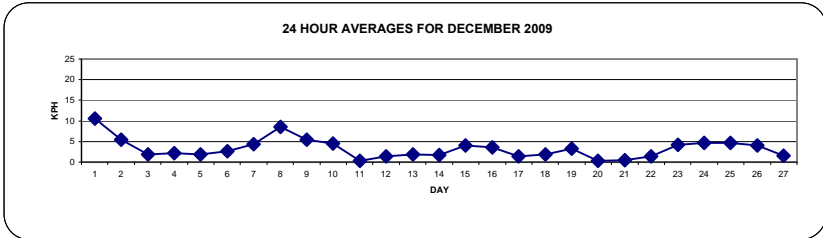
STATUS FLAG CODES

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

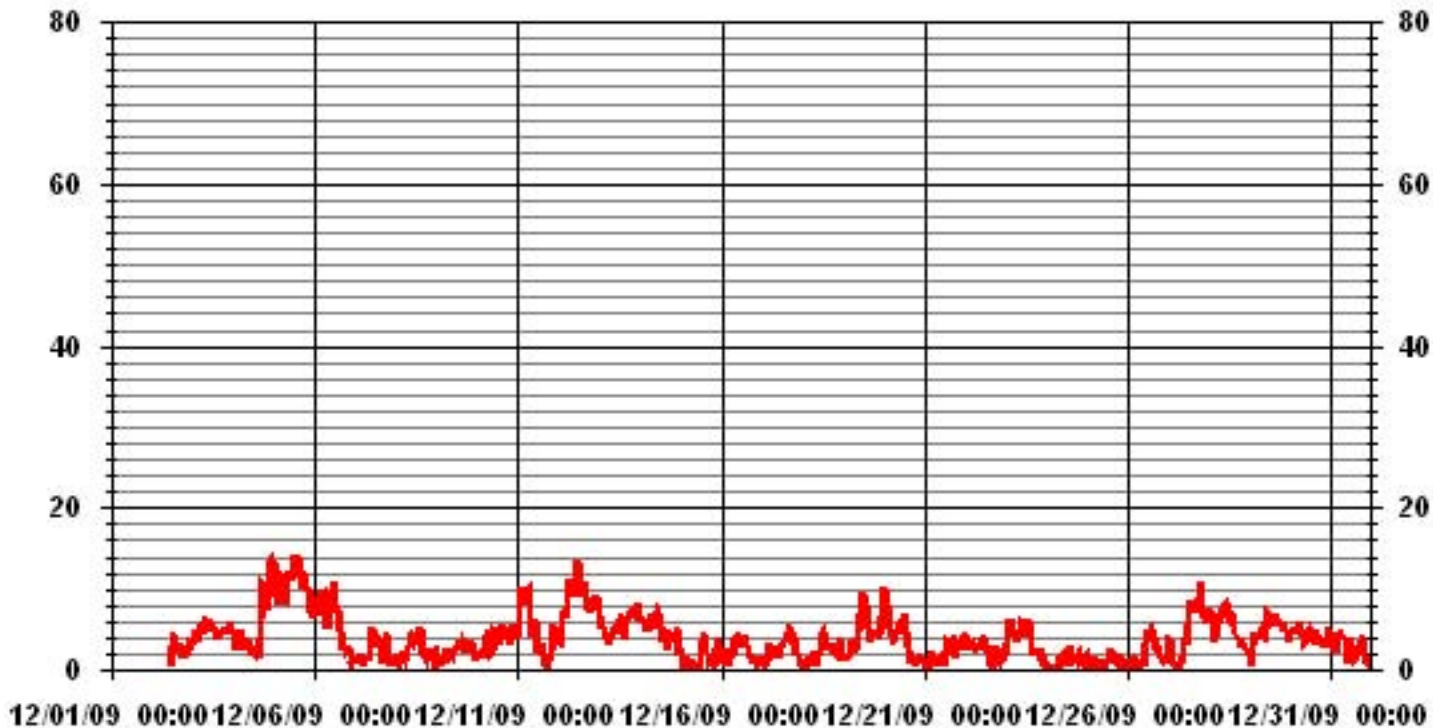
LAST CALIBRATION: February 4, 2009

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	14.3	KPH	@ HOUR(S)	14	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	10.5	KPH			ON DAY(S)	5
CALMS (≤ 0 KPH)	8.87	%	OPERATIONAL TIME:	710	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	99.9	%	
STANDARD DEVIATION	2.81		MONTHLY AVERAGE	3.91	KPH	



01 Hour Averages



— LICA30 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 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																											0
2										M	3.9	12	16.6	11.6	14.4	23.2	21.9	75.5	30.4	55.1	32.5	17.9	16.6	19.6		75.5	
3	16.7	15.5	20.9	17.6	15.7	14.6	18.9	16.6	20	14.6	15	15.7	14.2	15	13.5	15.5	15	16.8	16.1	16.1	18.7	16.4	16.5	19.2		20.9	
4	14.2	13.5	12.7	14.1	13.1	14	28.4	19.4	33.8	59.8	17.4	30.8	20.6	11.6	20.2	13.7	36.8	33.3	32	22.4	41.5	46.9	45.6	42.2		59.8	
5	45.8	36.2	38.5	47.4	34.4	42	28.8	48.4	42.4	40.8	40.9	45	48	41.5	51.5	33.6	33	37	39.6	33	30.4	25.6	22.8	27.1		51.5	
6	29.5	24.5	30.1	35.7	40.3	34.4	24.8	15.7	19.4	26.1	37.5	30.4	26.7	23.2	21.8	16.8	10.3	9.9	9	9.5	9.7	7.8	5	4.1		40.3	
7	3	4.1	4.7	5	3	4.6	4.1	6.3	5.2	9.1	15.3	12.4	9.9	10.6	8.2	7.5	9.9	9.9	11.4	11.7	12.9	13.8	13.8	12.7		15.3	
8	11.6	12.7	12.6	8.9	8.9	8.6	8.9	11.4	13.8	12.7	13.6	14	14.5	16.8	17.5	14.5	11.4	5.6	5.2	6.5	9.7	9.1	8	3.7		17.5	
9	3.3	4.3	3	4.3	5.2	4.3	5.2	8.9	12.7	13.6	6.9	13.8	10.6	13.4	14	13.6	7.8	6.9	14.7	12.5	14	9.3	10.6	10.1		14.7	
10	9.5	7.3	8.9	13.6	14	16.6	16.2	19.9	10.2	10.4	21.6	15.5	11.2	14	13	17.3	14.2	14	13.2	12.7	25.7	19.2	18.6	14.2		25.7	
11	17.5	22.4	25.7	20.2	21.1	33.9	26.5	12.8	11	16.1	12.7	7.1	8.4	7.8	10.2	7.5	2.4	4.4	4.4	4.1	11	21.4	15.3	15.8		33.9	
12	16.9	19	21.6	22.2	24.2	31.8	33.7	33.3	37.4	37.6	36	33.9	28.5	31.5	33.5	33.3	27	27.2	21.2	23.5	25.5	26.6	27.2	29.4		37.6	
13	19.3	19.6	21.2	19.6	17.7	16.9	14.1	13.2	14.5	14.5	15.1	16.2	20.3	26.3	22.7	17.7	24.4	21.4	25.3	26.6	24.2	26.1	27.4	27.4		27.4	
14	23.1	23.5	21.8	23.1	22.2	22	24.6	22.7	20.7	22.7	28.1	26.3	19.2	17.5	17.9	16	14.9	12.7	12.7	14.5	12.7	13.4	17.1	10.6		28.1	
15	13	9.3	8.2	11.9	11.7	9.7	9.1	9.9	8.7	7.8	8.5	10	15.1	13	16.2	13.4	8.2	9.1	9.1	8.7	10.6	13.6	10.2	11		16.2	
16	6.7	8.4	11.7	5	7.4	6.3	6.1	11.5	14.5	16.4	14.5	11.7	8.9	12.7	9.7	9.9	4.5	6.5	3.9	3.9	4.4	3	13.4	3.9		16.4	
17	5	13.6	12.1	5.9	11.7	10.7	12.3	9.7	6.9	10.4	11.7	12.9	14	11.2	10.4	13.9	12.5	12.7	9.7	11	8.8	7.8	7.5	3.3		14	
18	6.5	3.3	5.2	3.5	9.9	12.1	12.1	4.3	4.1	11.4	11.7	13.2	12.5	12.3	15.1	14.2	14	12.3	19.4	17.3	16.8	16	14	17.7		19.4	
19	17.7	7.8	10.4	8.6	14	6.7	9.1	12.3	13.5	16	23	30.2	36.2	28.7	23	20.9	10.8	11.9	11.7	16.2	16	22.2	26.5	24.9		36.2	
20	36.4	25.6	25.4	19.4	24.4	15.8	19.6	21.3	22	23.3	24.1	22.2	22.2	19.2	14	10.6	5.2	8.4	6.3	4.1	4.1	5.2	3.9	3.7		36.4	
21	3.5	2.6	1.5	3.5	6.3	5	2.2	3.3	3	7.8	12.1	9.9	7.8	11.7	7.8	8.9	9.5	5.6	5	8	6.9	8.4	9.1	8.9		12.1	
22	9.5	8	6.7	9.5	9.5	7.1	11.6	14	7.6	7.3	15.1	15.3	13.8	9.7	5.6	10.2	4.3	5.4	7.6	6.1	5.6	6.7	7.6	8.4		15.3	
23	13.2	20.9	22.4	20.3	15.5	19.4	17.2	18.6	21.8	19.2	20.3	16.6	17.7	20.5	20.3	11.2	13.8	13.8	10.2	14.3	6.3	12.3	6.3	4.3		22.4	
24	8.2	5.4	5.2	2.4	2	3.1	2.6	2.6	4.1	7.6	9.3	9.1	11.2	13.4	10.4	8.4	12.3	11.7	11.2	9.1	11	11	7.3	12.1		13.4	
25	9.7	9.7	3.9	4.4	7.8	11.2	3.3	11.9	5.4	8.7	8.2	11.2	8.8	11.2	10.6	8.4	4.6	7.5	4.8	11.2	3.7	4.6	9.9	5.6		11.9	
26	10.8	7.3	6.1	10.8	3.5	5	4.4	3.9	6.1	9.1	11.9	11.2	16.2	17	12	13.6	8.6	9.5	7.8	8.2	4.4	3.7	5.4	4.3		17	
27	10.5	9.5	4.6	2.8	4.1	3.3	2.8	2.6	3	10.8	10.3	17.7	22.6	25.2	26.9	24.6	23.1	27.9	31.7	28.5	21.1	22.2	24.1	26.3		31.7	
28	32.4	23.7	23.7	14.5	17.4	20.5	22.4	18.6	19.2	19.8	21.5	21.1	18.1	18.8	20.3	14.7	12.1	13.2	12.7	12.5	10.1	7.1	5.6	4.3		32.4	
29	3.5	4.8	17	19.4	19.4	15.7	20.9	17.7	14.5	21.6	24.1	23.9	24.8	25.7	31.3	20.1	23.3	19	16.6	20.5	21.3	17.9	16.8	17		31.3	
30	15	19.9	17.7	15.3	16.8	19.4	16.8	15.8	12.9	16	16.4	15.1	13.2	15.3	18.8	13.2	17.3	16	14	16.6	13.2	15.5	16.2	10.2		19.9	
31	12.5	12.1	11.2	17.1	17.7	17.9	M	16.2	13.6	11.2	12.5	16	13.6	13.1	11.5	13.4	8.6	8.4	10.4	8.9	9.1	8.7	9.3	10		17.9	
PEAK	45.8	36.2	38.5	47.4	40.3	42.0	33.7	48.4	42.4	59.8	40.9	45.0	48.0	41.5	51.5	33.6	36.8	75.5	39.6	55.1	41.5	46.9	45.6	42.2			

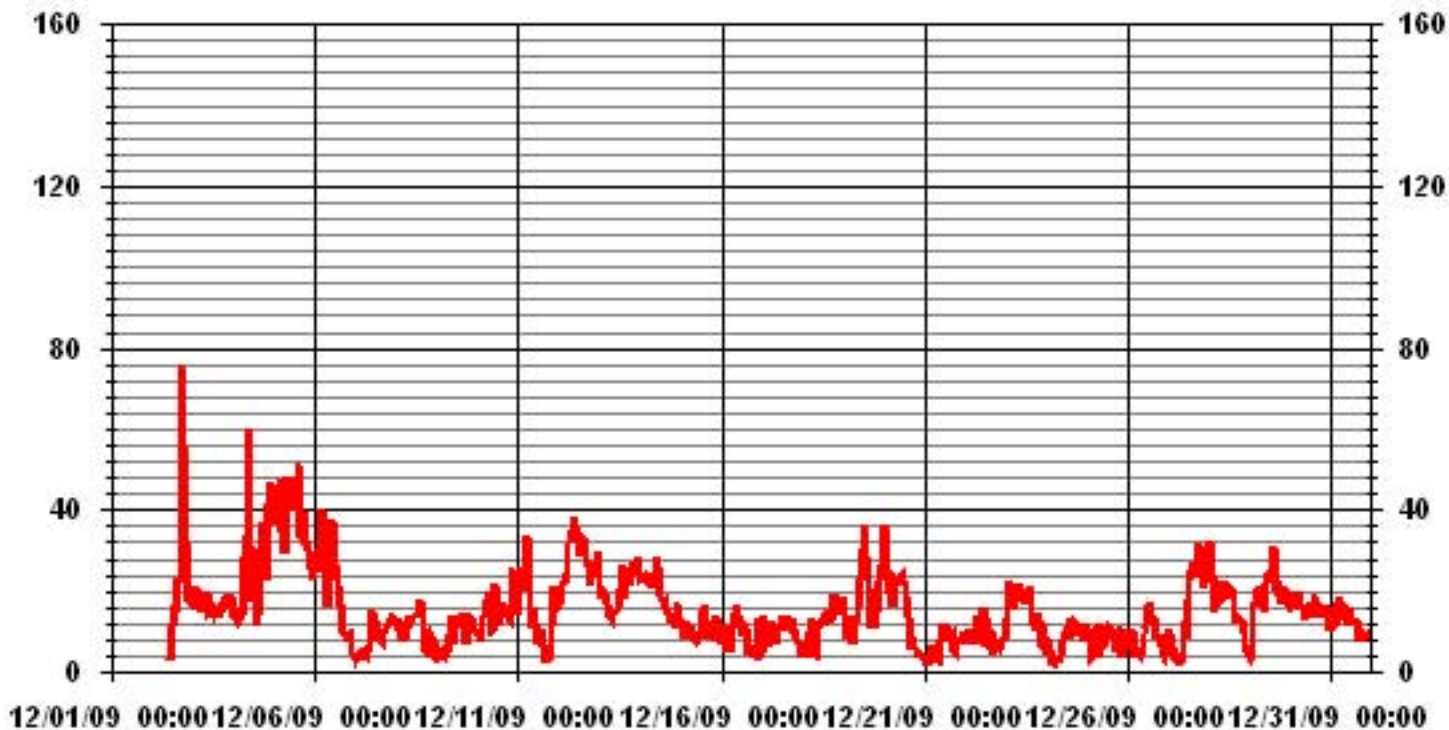
STATUS FLAG CODES

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

MAXIMUM INSTANTANEOUS READING	75.5	KPH	@ HOUR(S)	17
			ON DAY(S)	3

01 Hour Averages



LICA30
WSP / WDR Joint Frequency Distribution (Percent)

December 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	3.94	3.38	5.21	3.94	3.52	1.97	1.26	3.10	4.23	10.29	9.73	7.05	7.05	4.09	6.34	5.50	80.67
< 12.0	3.80	.98	1.12	.42	.42	.00	.28	.84	.42	.00	.00	.00	3.80	2.96	.98	1.41	17.48
< 20.0	1.69	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	1.83
< 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	9.44	4.37	6.34	4.37	3.94	1.97	1.55	3.94	4.65	10.29	9.73	7.05	11.00	7.05	7.33	6.91	

Calm : .00 %

Total # Operational Hours : 709

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	28	24	37	28	25	14	9	22	30	73	69	50	50	29	45	39	572
< 12.0	27	7	8	3	3		2	6	3				27	21	7	10	124
< 20.0	12												1				13
< 29.0																	
< 39.0																	
>= 39.0																	
Totals	67	31	45	31	28	14	11	28	33	73	69	50	78	50	52	49	

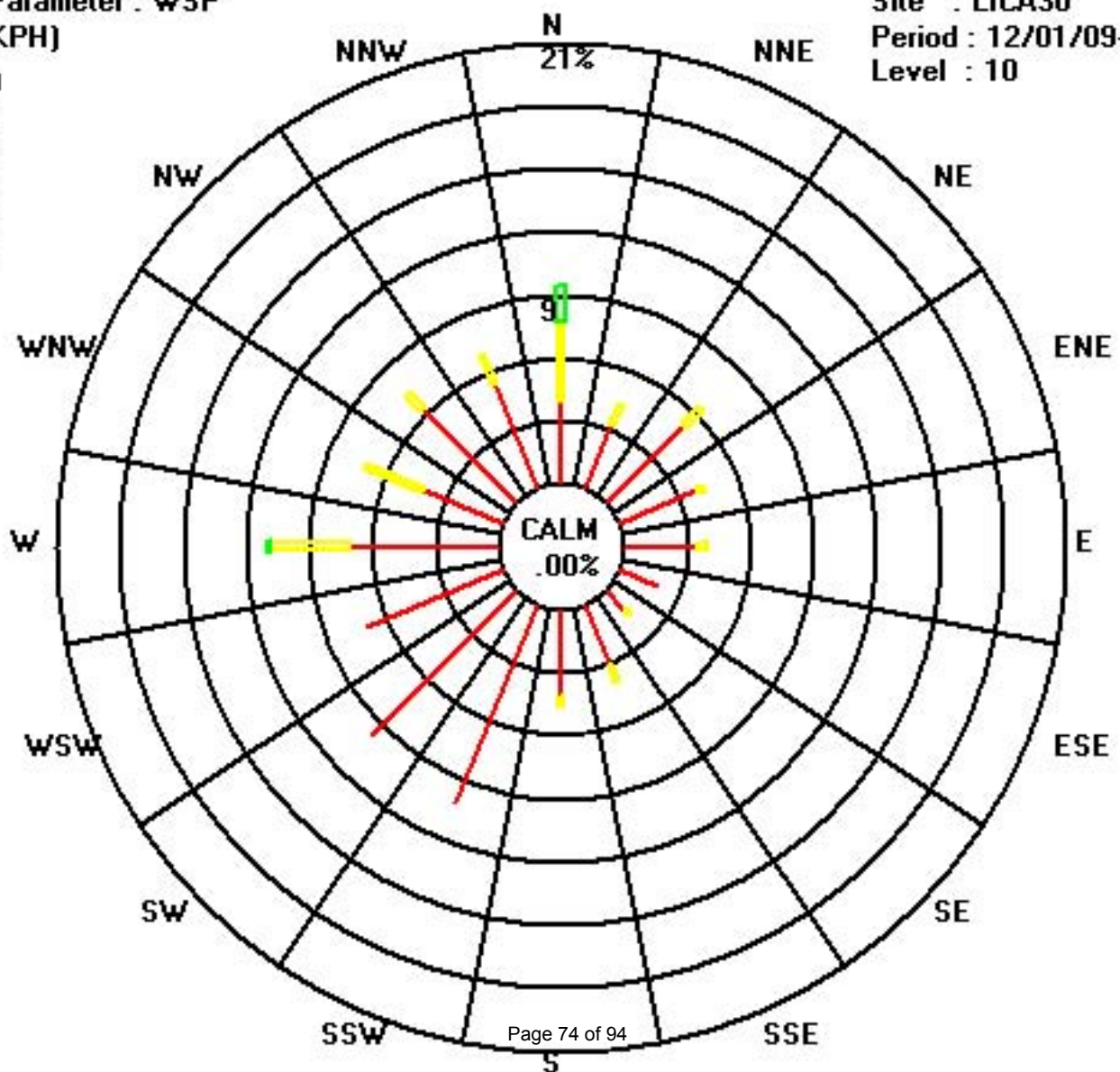
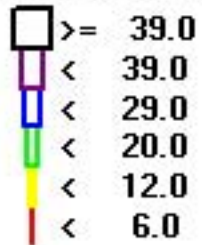
Calm : .00 %

Total # Operational Hours : 709

Class Limits (KPH)

Period : 12/01/09-12/31/09

Level : 10



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 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	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	AVG.	QUADRANT		
DAY																													
1																													0
2											M	288	289	286	248	230	261	229	233	243	255	258	209	212	249	248	WSW	15	
3		221	194	207	191	198	212	197	189	189	185	173	190	167	176	151	158	175	177	173	162	162	168	170	168	180	S	24	
4		180	188	173	193	196	201	235	241	236	243	241	258	250	212	267	327	345	4	4	4	3	6	1	4	336	NNW	24	
5		4	0	347	2	352	341	344	356	2	4	357	358	9	3	11	9	1	357	353	358	4	353	343	352	358	N	24	
6		351	337	348	353	358	348	353	351	1	1	7	5	4	354	7	355	344	343	323	329	324	284	175	194	353	N	24	
7		233	227	212	209	221	187	221	220	241	210	203	217	200	194	202	192	204	208	189	177	221	245	308	296	206	SSW	24	
8		316	187	249	265	263	246	243	238	237	251	249	237	257	262	274	298	248	222	218	284	316	319	318	305	260	WSW	24	
9		201	258	282	329	357	319	283	296	289	283	260	265	273	239	261	213	218	250	269	260	278	234	246	215	260	WSW	24	
10		202	241	229	275	304	299	290	274	257	264	276	275	240	213	216	208	219	208	215	244	277	311	355	0	259	WSW	24	
11		12	20	19	16	29	23	17	8	31	30	29	343	342	335	345	5	179	301	8	12	356	3	352	351	14	NNE	24	
12		344	311	298	308	292	292	286	288	282	283	282	280	292	296	292	290	283	271	283	279	277	291	279	269	287	WNW	24	
13		260	263	263	256	257	242	225	210	224	229	225	232	277	276	267	249	264	265	267	268	264	264	279	277	258	WSW	24	
14		275	272	264	260	260	268	281	266	267	277	284	285	277	264	275	248	227	209	220	225	223	213	210	205	258	WSW	24	
15		215	221	178	83	60	106	18	34	303	269	14	41	56	48	66	69	45	233	202	238	306	202	200	228	107	ESE	24	
16		187	159	130	106	61	81	62	78	115	118	113	114	166	198	196	221	199	183	154	178	79	289	84	22	137	SE	24	
17		78	70	320	341	42	100	214	238	218	246	247	240	233	210	208	206	200	219	207	216	236	233	200	150	216	SW	24	
18		247	86	93	56	88	74	73	69	49	65	48	47	53	50	58	62	57	64	113	106	90	122	158	207	76	ENE	24	
19		192	190	206	233	227	212	216	266	252	261	277	279	281	279	273	250	227	222	230	233	245	273	272	272	255	WSW	24	
20		287	306	294	272	263	260	278	267	265	270	271	276	286	289	305	297	229	280	354	321	218	193	207	175	278	W	24	
21		163	110	52	47	74	94	167	156	233	255	278	295	341	355	12	20	39	32	359	27	43	34	34	25	27	NNE	24	
22		33	30	7	18	42	33	57	62	42	33	53	51	77	28	42	93	164	199	206	207	41	2	357	330	39	NE	24	
23		318	309	317	317	316	319	317	313	292	298	300	293	304	313	318	340	282	262	237	254	197	224	209	207	302	WNW	24	
24		7	242	193	212	230	58	66	56	74	35	81	27	235	238	185	111	47	71	36	85	86	146	159	203	110	ESE	24	
25		87	179	169	125	243	82	104	59	83	24	323	30	357	45	174	148	52	16	32	77	72	43	89	81	85	E	24	
26		101	202	0	79	80	85	37	305	163	316	213	221	219	219	210	214	225	226	225	222	192	220	175	212	212	SSW	24	
27		214	215	229	61	50	139	266	35	19	39	47	51	49	57	51	48	56	52	43	52	53	65	70	84	55	NE	24	
28		92	89	101	96	107	127	127	137	152	158	154	153	167	150	149	152	141	131	131	141	148	174	193	193	138	SE	24	
29		287	223	295	319	325	343	333	330	336	331	319	325	350	322	335	338	337	342	354	326	329	323	331	329	330	NNW	24	
30		332	317	322	332	349	346	347	341	319	322	319	353	338	321	335	323	346	357	334	316	345	346	3	3	337	NNW	24	
31		352	348	346	307	325	314	M	282	307	344	289	288	279	339	322	272	207	206	208	192	209	202	182	109	287	WNW	23	
HOURLY AVG		352	348	348	353	358	348	353	356	336	344	357	358	357	355	345	355	346	357	359	358	356	353	357	352				

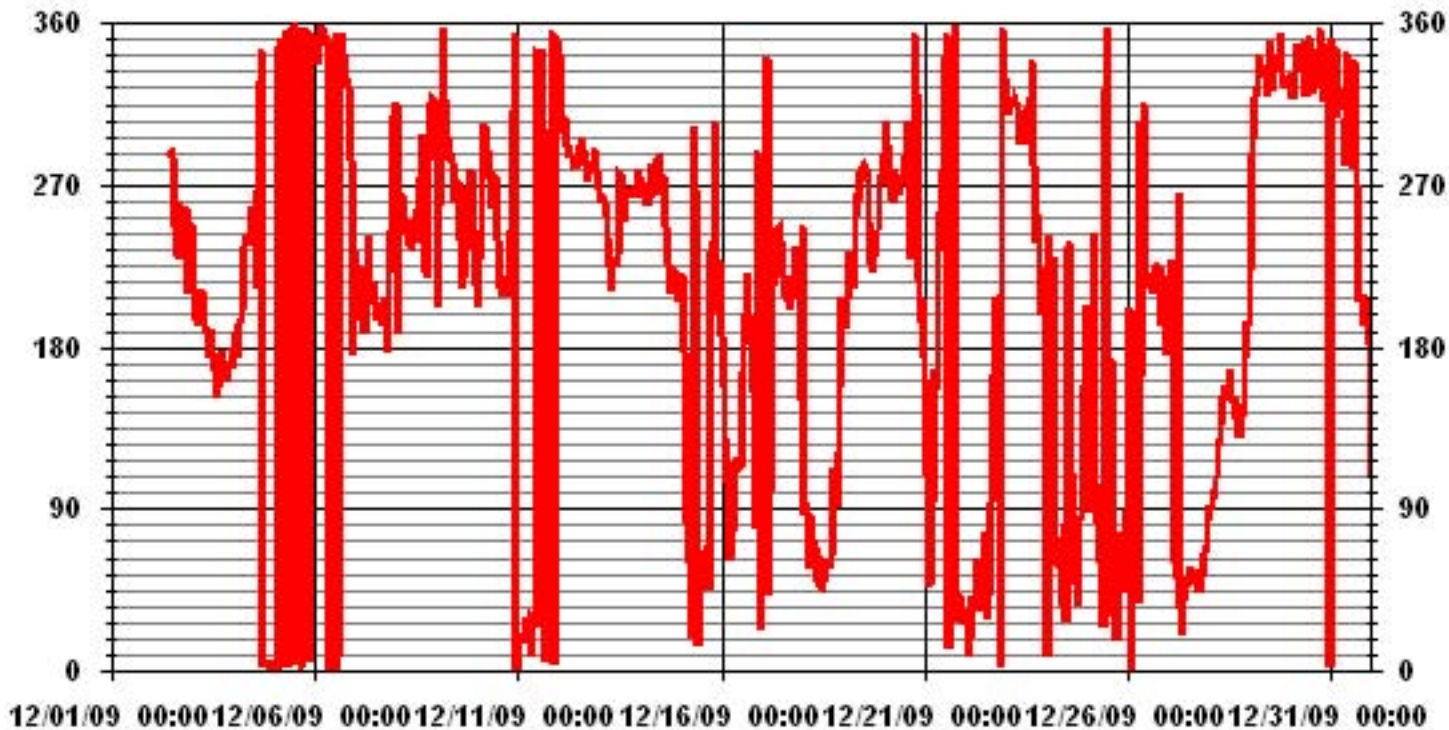
STATUS FLAG CODES

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:	710 HRS
STANDARD DEVIATION	105.39	AMD OPERATION UPTIME	99.9 %
		MONTHLY AVERAGE	303 DEG

01 Hour Averages



Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

DECEMBER 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																								
2																								
3								M	44	52	26	27	25	32	48	29	30	34	31	28	32	33	38	
4	31	26	32	24	21	30	20	21	20	23	25	22	25	24	18	18	22	22	22	23	24	23	23	23
5	23	21	26	17	17	23	35	32	27	30	32	38	35	21	34	32	31	29	25	22	24	23	24	23
6	24	24	30	26	27	33	30	26	23	28	27	25	22	25	21	26	25	27	28	26	23	29	29	29
7	27	32	31	26	25	29	27	26	23	24	25	24	25	27	22	27	29	28	31	29	24	44	24	29
8	28	21	17	23	41	42	26	32	36	25	16	26	30	17	16	21	47	26	17	20	58	68	70	66
9	65	73	75	63	78	76	52	53	47	46	49	47	43	37	30	38	27	22	40	31	35	30	27	65
10	48	38	54	57	32	38	46	23	32	49	35	32	39	27	34	17	14	26	27	33	30	19	29	42
11	28	32	32	64	35	31	25	25	30	38	25	30	30	19	22	19	22	20	22	35	28	32	29	25
12	21	16	16	21	13	15	19	23	18	14	16	49	41	49	35	40	34	51	28	41	39	22	31	29
13	30	37	29	37	27	28	31	23	22	24	26	23	28	29	27	22	24	25	24	25	28	26	25	24
14	30	26	29	30	28	30	19	18	16	16	16	24	28	26	30	31	28	26	28	27	27	27	25	26
15	26	26	25	28	30	27	26	26	25	23	24	22	30	32	33	30	25	12	17	18	22	16	18	41
16	22	26	46	43	38	51	35	30	54	49	60	60	23	20	23	18	32	32	51	53	62	39	19	56
17	32	27	53	44	25	31	19	33	26	29	29	29	28	24	23	24	18	31	44	57	41	62	49	61
18	49	36	66	52	28	55	46	26	36	28	51	31	26	26	28	20	15	22	17	19	30	34	52	49
19	50	58	32	33	34	37	37	32	70	25	23	21	24	18	20	21	24	34	41	54	70	45	43	65
20	45	58	50	40	30	26	23	31	27	25	21	22	24	26	30	28	17	14	20	23	23	23	24	25
21	22	25	23	21	24	28	30	23	24	23	27	28	24	25	34	22	60	35	38	34	25	27	28	41
22	45	46	60	42	22	32	43	54	24	55	34	54	38	28	28	24	19	21	25	22	21	15	15	16
23	14	21	21	18	35	15	19	24	22	17	21	20	34	34	21	58	38	15	23	41	43	34	22	36
24	34	29	35	32	30	33	36	31	24	26	28	29	30	30	34	35	25	32	18	29	29	31	43	50
25	54	66	59	43	47	59	53	60	30	27	38	53	45	27	25	36	52	50	40	64	38	56	59	30
26	43	53	23	59	52	33	25	27	38	50	40	42	42	46	23	43	45	52	41	29	45	45	61	47
27	59	57	56	48	50	35	57	55	49	61	51	31	25	22	20	20	22	26	27	37	45	22	42	21
28	20	15	30	46	59	28	39	35	35	11	19	20	20	21	22	20	23	22	19	21	22	23	23	25
29	25	26	27	25	24	22	21	24	21	21	21	22	23	23	22	21	21	24	22	20	21	22	14	16
30	51	19	25	34	39	34	36	35	33	34	32	34	29	32	32	34	34	30	26	31	36	33	36	36
31	33	35	35	31	31	32	30	30	34	30	31	31	30	35	32	36	31	23	31	30	26	30	18	19
31	27	25	27	26	26	29	M	22	26	54	33	27	34	38	45	22	19	9	11	12	48	34	43	44

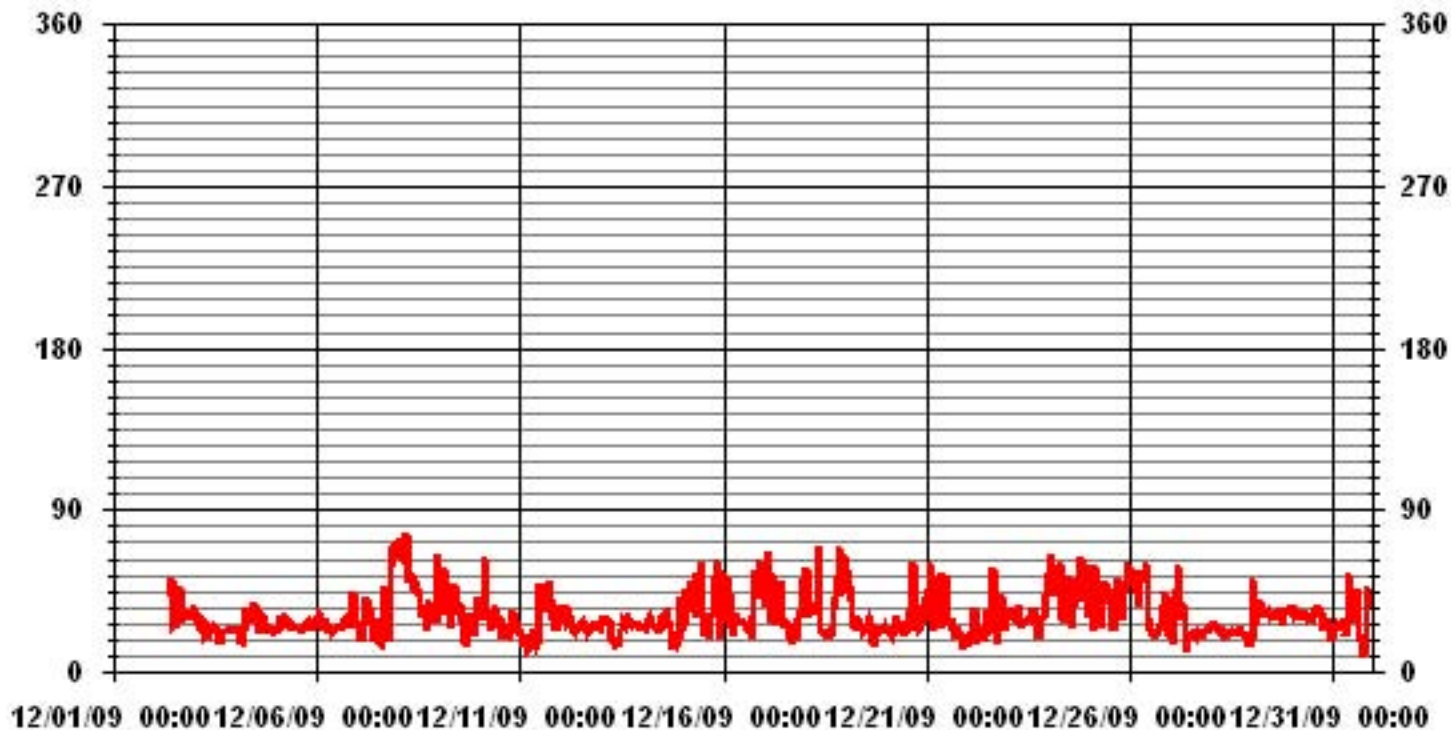
STATUS FLAG CODES

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
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CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	710 HRS
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01 Hour Averages



Calibration Reports

Sulphur Dioxide

SO₂ Calibration Report

Station Information

Calibration Date	December 2, 2009	Previous Calibration	November 30, 2009
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:44	End Time (MST)	13:18
Reason:	Installation Calibration		
Barometric Pressure	955 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:	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	621 ccm 31.6 Deg C	620 ccm 31.8 Deg C	
HVPS / Lamp Setting	494 3557	494 3557	
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	30.8 0.987	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	0	N/A
4923	76.7	801	802	0.9985
4960	38.3	400	399	1.0025
4982	19.2	200	199	1.0070
4998	0	0	0	N/A
Sum of Least Squares				0.9997
New Correction Factor				0.9985

Before Calibration

After Calibration

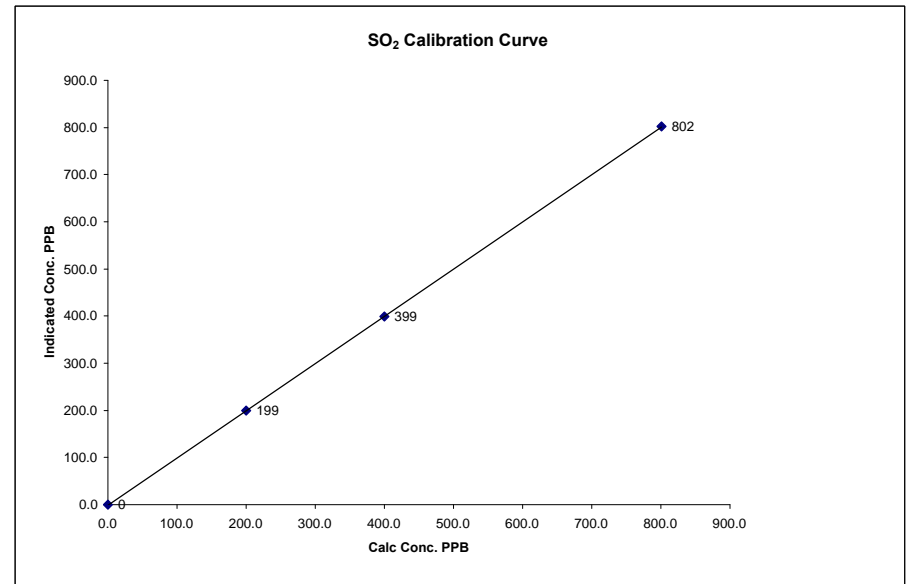
Auto Zero	-	0.5
Auto Span	-	581.0
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.3%

Calibration Performed by: Shea Beaton

SO₂ Calibration Curve

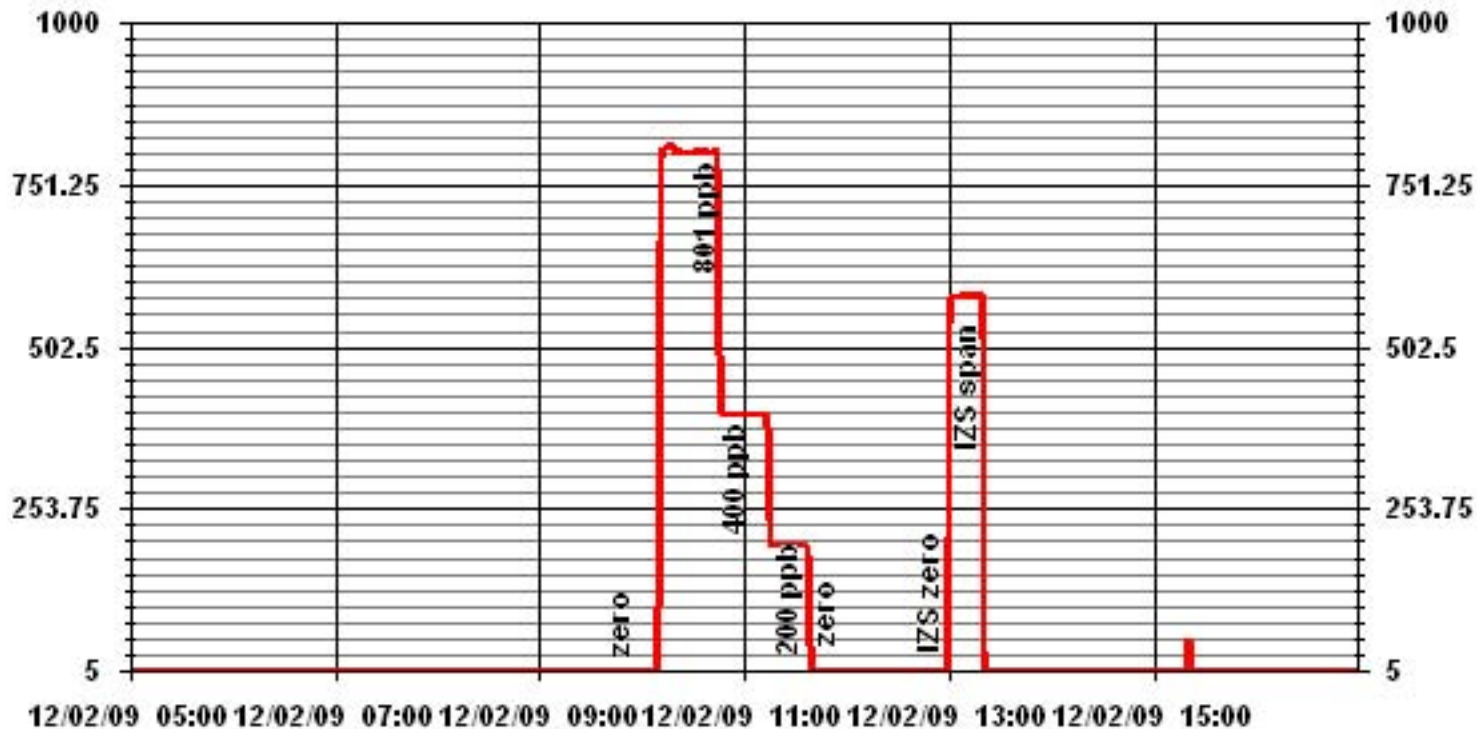
Calibration Date	December 2, 2009
Company	Lakeland Industry & Community Association
Plant / Location	Cold Lake - Maskwa
Start Time (MST)	9:44
End Time (MST)	13:18

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	
0	0	n/a	Intercept	(± 3% F.S.)	0.999993
200	199	1.0070			1.002006
400	399	1.0025			
801	802	0.9985			-0.998511



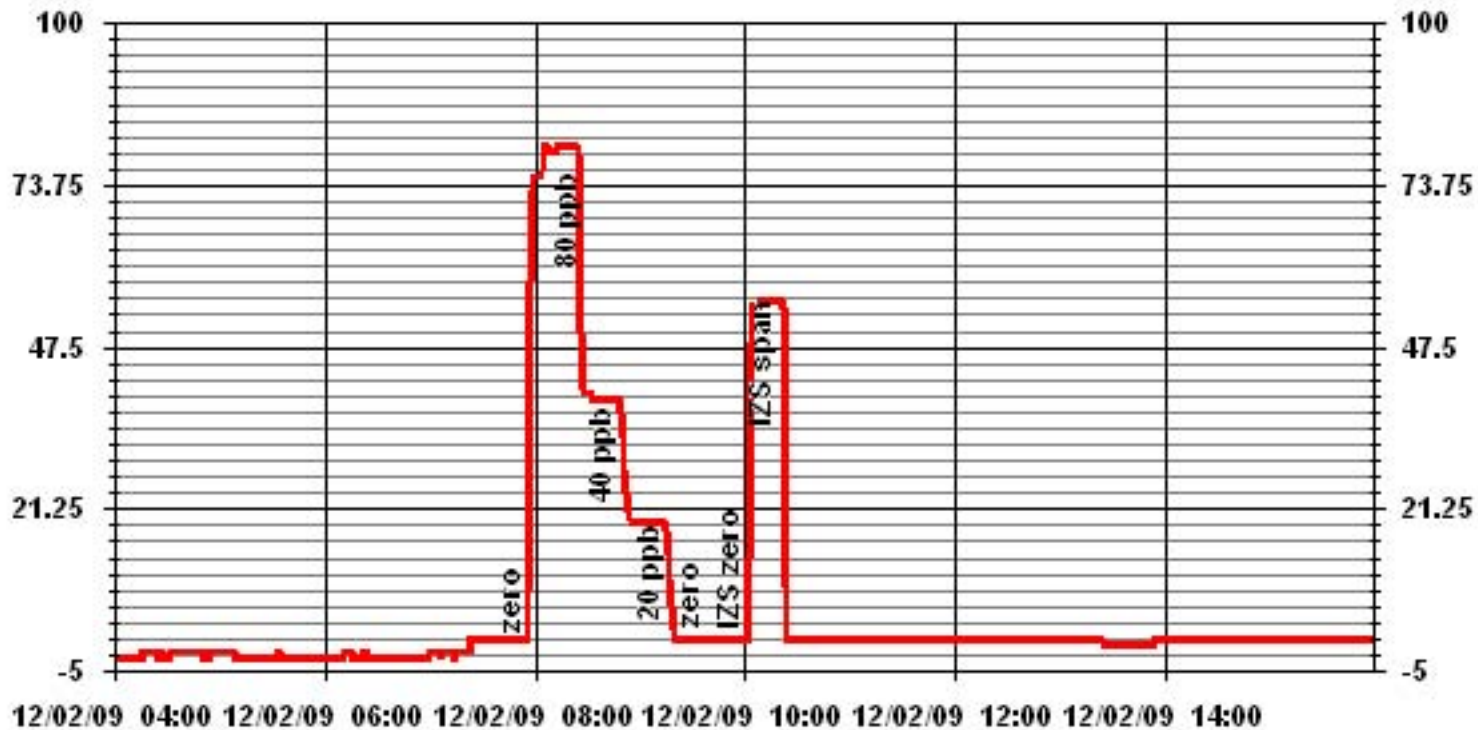
Notes: Lamp cal performed prior to calibration.

01 Minute Averages



Hydrogen Sulphide

01 Minute Averages



— LICA30 H2S_ PPB

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	December 2, 2009	Previous Calibration	November 30, 2009
Company:	Lakeland Industry & Community Association		
Plant / Location:	Cold Lake - Maskwa		
:	(MST) 13:40	End Time	(MST) 16:18
Reason:	Installation Calibration		
Barometric Pressure:	955 mBar	Station Temperature:	24 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	0.0	N/A
2998	65.0	39.1	39.1	0.9993
2998	35.0	21.2	21.0	1.0118
2997	20.0	12.2	11.9	1.0257
2997	0	0.0	0.0	N/A
Correction Factor:				0.9993

Previous Calibration Correction Factor: 0.9870

Current Correction Factor Before Span Adjust: 0.9993

Percent Change: -1.23%

IZS Calibration Data

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

Cylinder Pressures Changed H2 following a/f points.

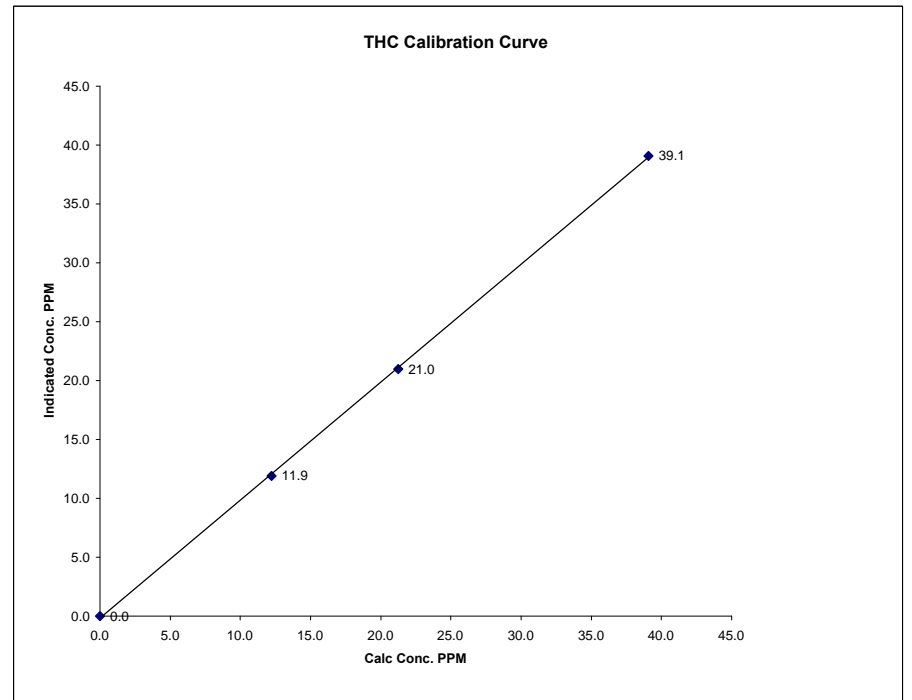
Span	2100	psi
Hydrogen	1100	psi
Zero Air	-	psi

Calibration Performed by: Shea Beaton

THC Calibration Curve

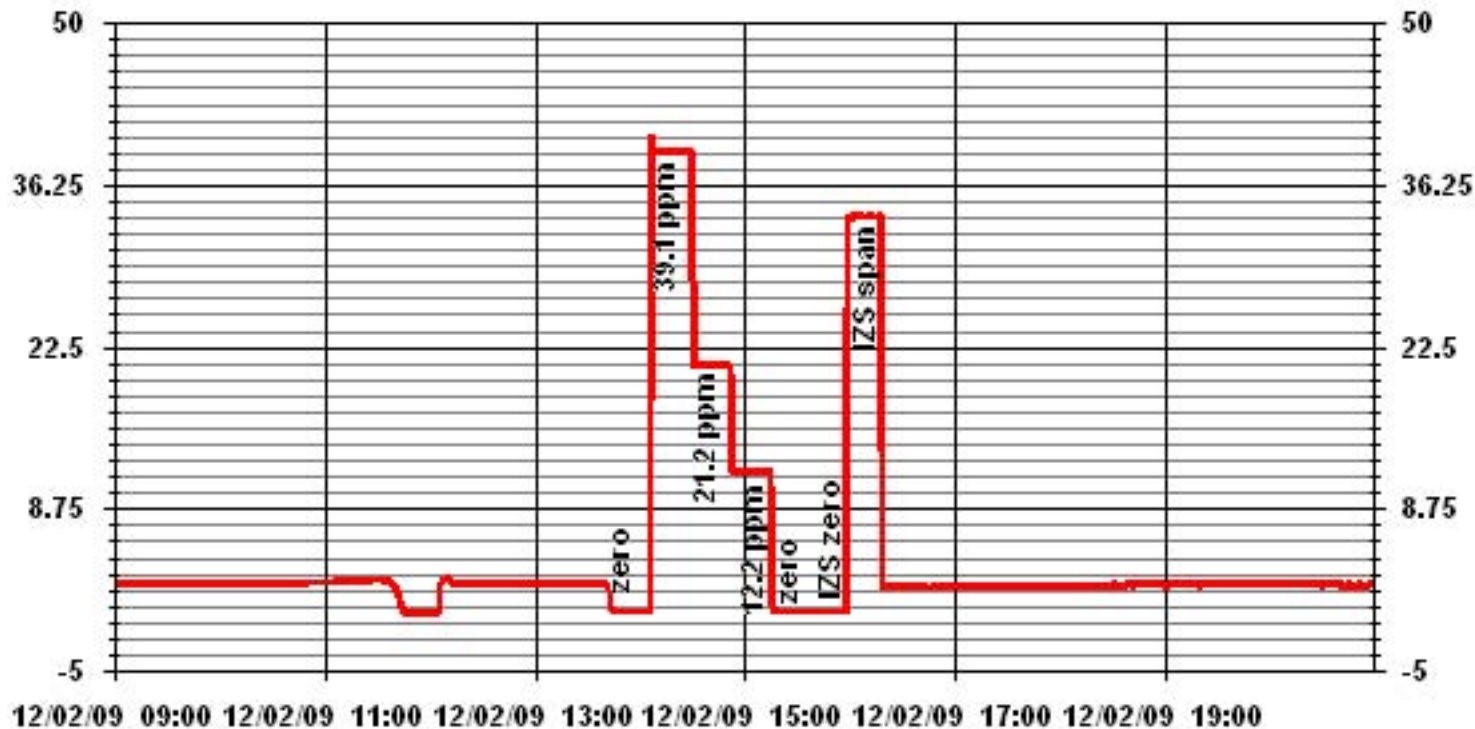
Calibration Date	December 2, 2009		
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	13:40	End Time (MST)	16:18

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999898
0.0	0.0		Intercept	(± 3% F.S.)	-0.167410
12.2	11.9	1.0257			
21.2	21.0	1.0118			
39.1	39.1	0.9993			



Notes:

01 Minute Averages



Nitrogen Dioxide

NOx - NO- NO2 Calibration Report
Station Information

Calibration Date	December 2, 2009	Previous Calibration	November 30, 2009
Company	LICA	Plant/Location	Cold Lake - Maskwa
Start Time (MST)	7:30	End Time (MST)	13:45
Reason:	Installation Calibration		
Barometric Pressure	955 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	465 ccm	317.1 Deg C		465 ccm	315.1 Deg C		
Ozone Flow / Vacuum	77 ccm	4.6 *Hg-A		77 ccm	4.6 *Hg-A		
HVPS	767 Volts			767 Volts			
Rx/ Temp / PMT Temp	50 Deg C	6.5 Deg C		50 Deg C	6.5 Deg C		
Box Temp / IZS Temp	31.2 Deg C	45.1 Deg C		32.2 Deg C	45.1 Deg C		
Offset	0.9 NOx	0.6 NO		1.4 NOx	0.1 NO		
Slope	1.149 NOx	1.145 NO		1.059 NOx	1.049 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
3005	0	N/A	0	0	0	0	0	N/A	N/A
2967	43.7	N/A	752	749	753	748	4	0.9985	1.0013
2989	20.4	N/A	351	350	349	347	2	1.0061	1.0080
2999	11.7	N/A	201	201	199	198	0	1.0116	1.0128
3008	0	N/A	0	0	0	0	-1	N/A	N/A
Converter Efficiency									
2967	43.7	N/A	752	800	755	749	6	N/A	
2963	43.7	400	753	N/A	752	372	379	99%	
2963	43.7	200	753	N/A	754	556	197	99%	
2963	43.7	100	753	N/A	757	661	94	100%	
2963	43.7	N/A	753	750	756	749	5	N/A	
Correction Factor									
3011	0	N/A	0	0	0	0	-1	N/A	N/A
Linearity OK? Yes No									
Flows Checked on-site? Yes No									
Sum of Least Squares								1.0005	1.0031
New Correction Factor								0.9985	1.0013
Average Converter Efficiency								99%	

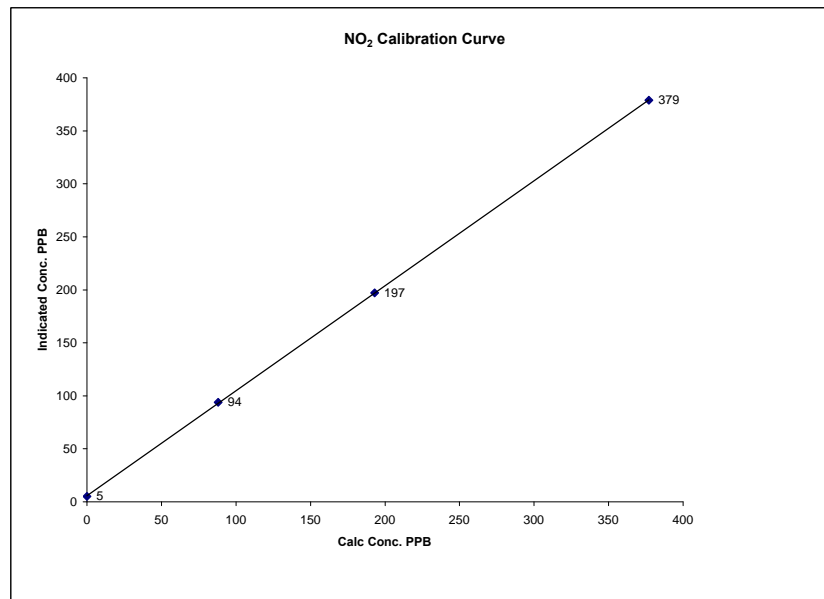
Before Calibration				After Calibration			
Auto Zero	-	NOx	-	NO2	-0.4	NOx	-0.6
Auto Span	-	NOx	-	NO2	645.0	NOx	637.0
Sample Lines Connected							
Percent Change from Previous Calibration							
				NOx	2.4%	NO	1.9%

Calibration Performed by: Shea Beaton

NO2 Calibration Curve

Calibration Date	December 2, 2009	
Company	LICA	
Plant / Location	Cold Lake - Maskwa	
Start Time (MST)	7:30	End Time (MST) 13:45

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	5	N/A		0.999977
88	94	0.9362		0.990587
193	197	0.9797		5.798424
377	379	0.9947		

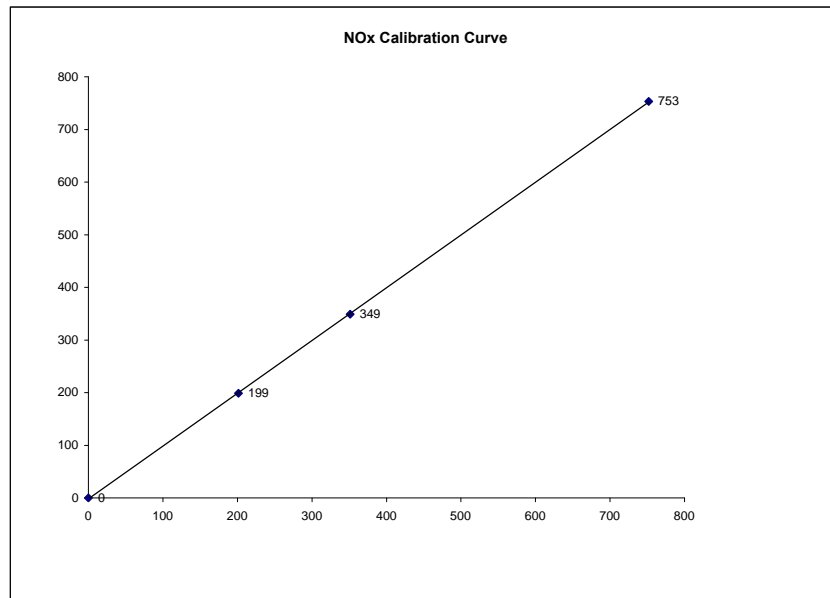


Notes:

NOx Calibration Curve

Calibration Date	December 2, 2009		
Company	LICA		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	7:30	End Time (MST)	13:45

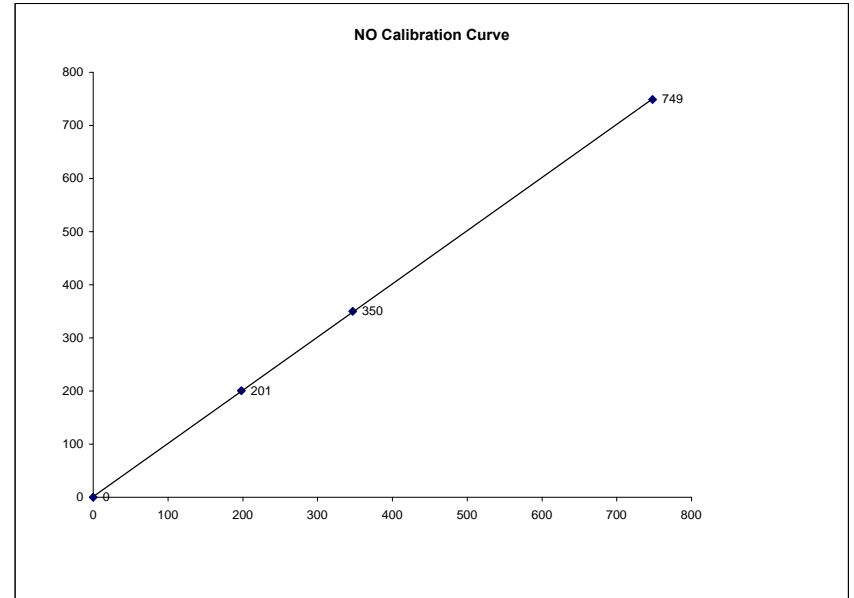
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999978
0	0	N/A	Slope	(0.85 to 1.15)	1.002350
201	199	1.0116	Intercept	($\pm 3\%$ F.S.)	-1.594716
351	349	1.0061			
752	753	0.9985			



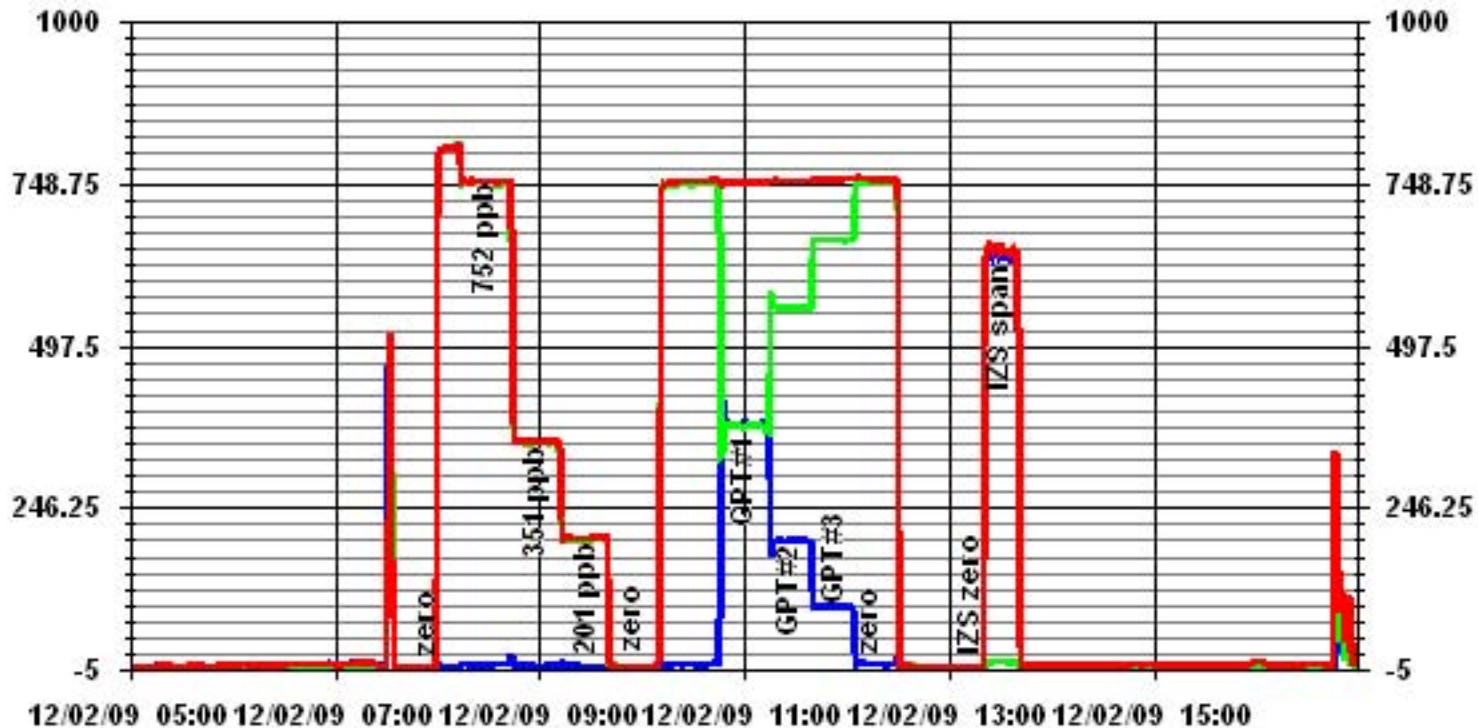
NO Calibration Curve

Calibration Date	December 2, 2009		
Company	LICA		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	7:30	End Time (MST)	13:45

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999983
0	0	N/A	Slope	(0.85 to 1.15)	0.999448
201	198	1.0128	Intercept	($\pm 3\%$ F.S.)	-1.389931
350	347	1.0080			
749	748	1.0013			



01 Minute Averages



— LICA30 NOX_ PPB
 — LICA30 NO_ PPB
 — LICA30 NO2_ PPB

Lakeland Industry & Community Association

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

Prepared By:



January 13, 2010

Lakeland Industry & Community Association

St. Lina

Ambient Air Monitoring

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Introduction

The following Ambient Air Monitoring report was prepared for:

Mr. Mike Bisaga

Lakeland Industry & Community Association

Box 8237

5107W – 50 Street

Bonnyville, Alberta

T9N 2J5

Monitoring Location: St. Lina

Data Period: December 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 – December 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									
SO ₂ (PPB)	172	57	0	0	0.21	8	15	2	13.3	172(S)	2.3	15	100.0
H ₂ S (PPB)	10	3	0	0	0.00	0	ALL	ALL	VAR	VAR	0.0	ALL	100.0
THC (PPM)	-	-	-	-	2.31	4.3	18	20, 21	6.4, 5	72(ENE), 130(SE)	3.1	18	100.0
NO _x (PPB)	-	-	-	-	5.01	61	17	23	9.5	219(SW)	25.2	17	100.0
NO (PPB)	-	-	-	-	0.84	27	17	23	9.5	219(SW)	8.1	17	100.0
NO ₂ (PPB)	212	106	0	0	4.14	35	17	21, 22	10.4, 10.1	248(WSW), 245(WSW)	17.5	17	100.0
VECTOR WS (KPH)	-	-	-	-	10.26	30.2	7	0	-	136(SE)	19.9	5	100.0
VECTOR WD (DEGREES)	-	-	-	-	272(W)	-	-	-	-	-	-	-	100.0

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

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. 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. Data was corrected using daily zero information.

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. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – St. Lina

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.

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

DECEMBER 2009

SULPHUR DIOXIDE (SO₂) hourly averages in ppb

MST

DAY	HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	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.			
1	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
2	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
3	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	0.2	24		
4	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
5	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
6	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	
7	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	
8	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	
9	0	IZS	0	0	0	0	0	0	0	0	1	2	2	3	2	1	1	0	0	0	0	0	0	0	0	0	3	0.5	24	
10	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0.0	24	
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	IZS	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	IZS	0	0	0.0	24	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	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	IZS	1	2	3	0.3	24
15	3	6	8	7	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	IZS	1	0	1	1	1	8	2.3	24		
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24	
17	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.0	24		
18	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1	IZS	0	0	0	0	0	0	0	0	0	1	0.2	24	
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
21	0	0	0	0	0	2	0	0	0	0	0	0	0	0	IZS	1	0	0	0	0	0	0	0	0	0	0	2	0.1	24	
22	0	1	1	1	1	0	0	0	0	0	0	0	0	IZS	0	1	0	0	0	0	0	0	0	0	0	0	1	0.2	24	
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	2	2	2	2	2	0.5	24	
26	2	1	1	1	1	1	1	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24	
27	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.2	24	
28	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
29	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
30	0	0	0	0	IZS	0	0	0	0	0	1	0	0	0	1	2	2	1	1	1	2	0	0	0	0	2	0.5	24		
31	0	0	0	IZS	6	8	5	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1.0	24		
HOURLY MAX	3	6	8	7	8	5	3	2	1	1	2	2	3	2	2	2	2	1	1	1	2	1	2	2	3					
HOURLY AVG	0.2	0.3	0.3	0.6	0.6	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.1	0.2	0.2					

STATUS FLAG CODES

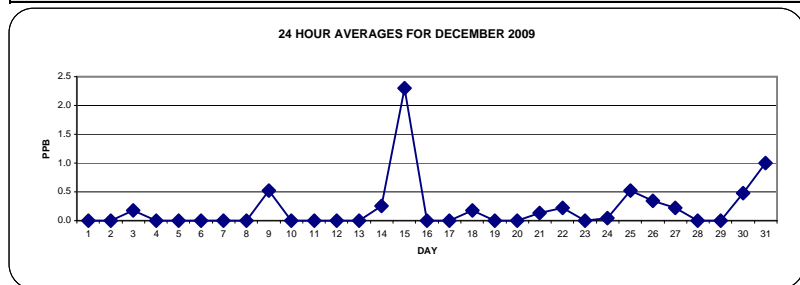
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

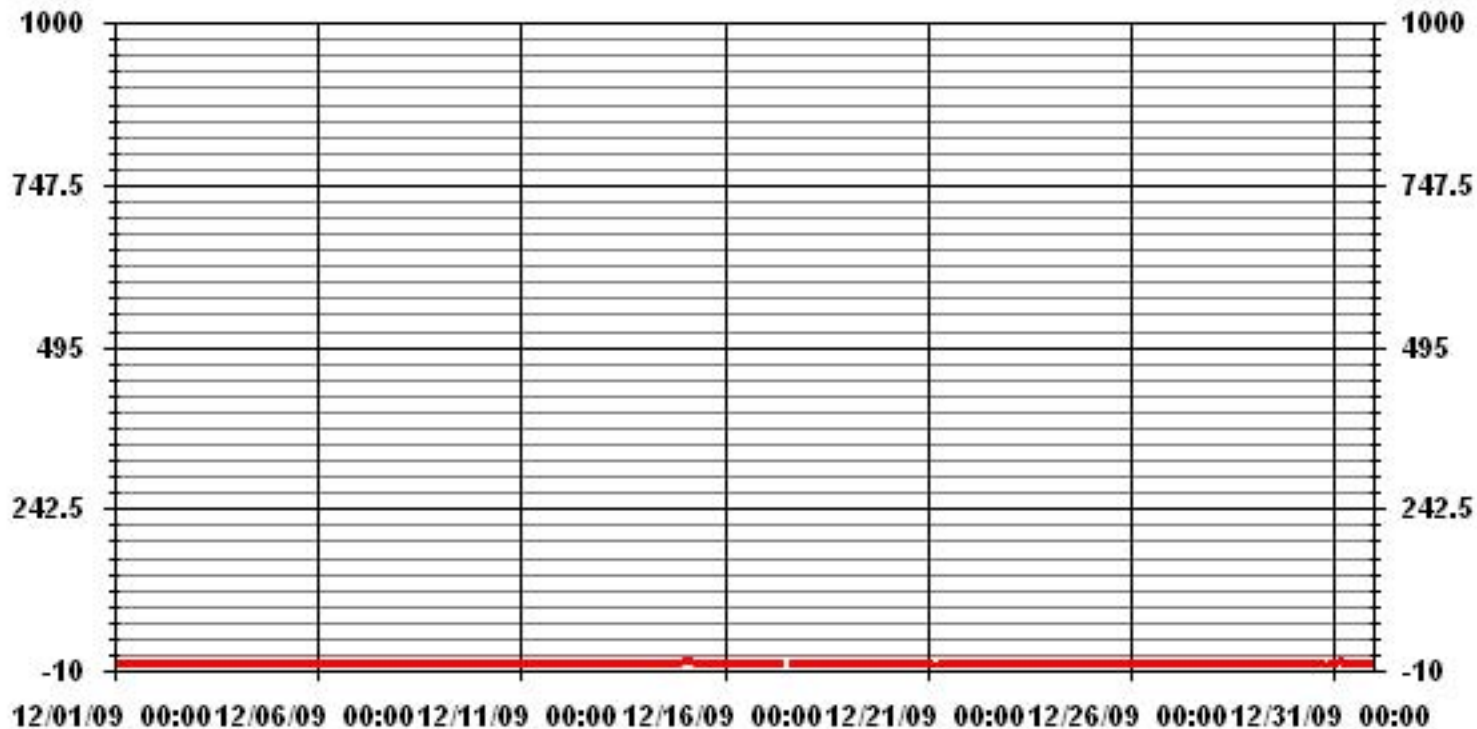
ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	83					
MAXIMUM 1-HR AVERAGE:	8	PPB	@ HOUR(S)	2	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	2.3	PPB			ON DAY(S)	15
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.79		MONTHLY AVERAGE:	0.21	PPB	



01 Hour Averages



— LICA31 SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST. LINA

DECEMBER 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	23:00	DAILY	24-HOUR		
DAY	HR	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
1		0	0	0	0	0	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	IZS	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	IZS	0	1	1	1	2	2	2	1	0	1	1	1	1	1	1	1	2	0.7	24	
4		1	1	1	1	1	1	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24	
5		0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0	24		
6		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	
7		0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	0.3	24	
8		1	1	IZS	1	1	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.5	24	
9		0	IZS	0	0	0	0	0	0	1	2	3	3	4	4	2	2	1	0	0	0	0	0	0	0	0	4	1.0	24	
10		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	
11		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	IZS	0	1	0.1	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		5	10	10	9	7	6	5	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	4	4	3.6	24
16		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	IZS	0	1	2	2	1	1	2	1	2	1.0	24
17		1	1	1	1	0	1	1	0	1	1	C	C	C	C	C	0	IZS	1	1	1	1	1	1	1	1	1	0.8	24	
18		1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	2	1.1	24	
19		1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0.2	24	
20		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
21		0	0	0	0	2	3	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	0	1	1	3	0.9	24	
22		2	2	2	2	1	1	1	1	1	0	0	IZS	1	2	1	1	1	1	0	0	0	0	0	1	1	2	1.0	24	
23		0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
24		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	
25		1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	2	2	1	1	1	1	2	3	3	3	3	1.4	24	
26		3	2	2	2	2	2	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.3	24	
27		1	2	2	2	2	1	IZS	1	1	1	2	2	1	1	1	2	1	1	0	0	0	0	0	0	2	1.0	24		
28		0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0	24		
29		0	0	1	1	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24		
30		0	0	0	IZS	0	0	0	0	1	2	1	1	1	2	3	3	2	2	3	3	1	1	1	0	3	1.2	24		
31		1	1	IZS	9	9	7	4	3	2	1	1	1	1	0	0	1	0	0	1	1	0	0	0	1	9	1.9	24		
HOURLY MAX		5	10	10	9	9	7	5	3	2	2	3	3	4	4	3	3	2	2	3	3	2	3	4	4					
HOURLY AVG		0.7	0.8	0.8	1.1	1.1	1.0	0.7	0.6	0.5	0.6	0.6	0.6	0.6	0.7	0.6	0.7	0.5	0.4	0.4	0.5	0.4	0.6	0.7	0.6					

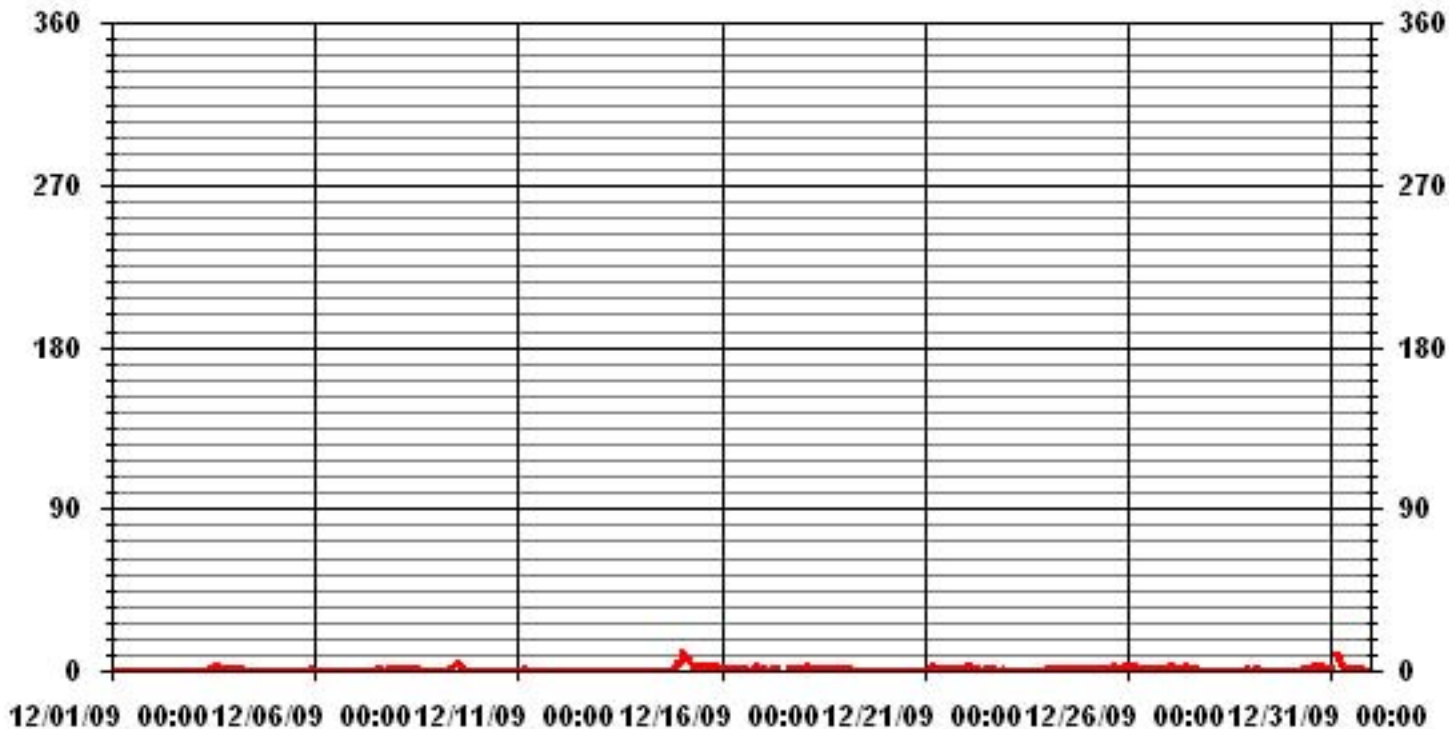
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	301					
MAXIMUM INSTANTANEOUS VALUE:	10	PPB	@ HOUR(S)	1, 2	ON DAY(S)	15
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	1.16					

01 Hour Averages



— LICA31 SO2MAX PPB

LICA31
SO2_ / WDR Joint Frequency Distribution (Percent)

December 2009

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : SO2_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	4.10	2.26	3.11	3.39	2.26	1.41	2.54	6.22	12.02	8.62	6.50	6.22	10.04	8.34	14.85	8.06	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.10	2.26	3.11	3.39	2.26	1.41	2.54	6.22	12.02	8.62	6.50	6.22	10.04	8.34	14.85	8.06	

Calm : .00 %

Total # Operational Hours : 707

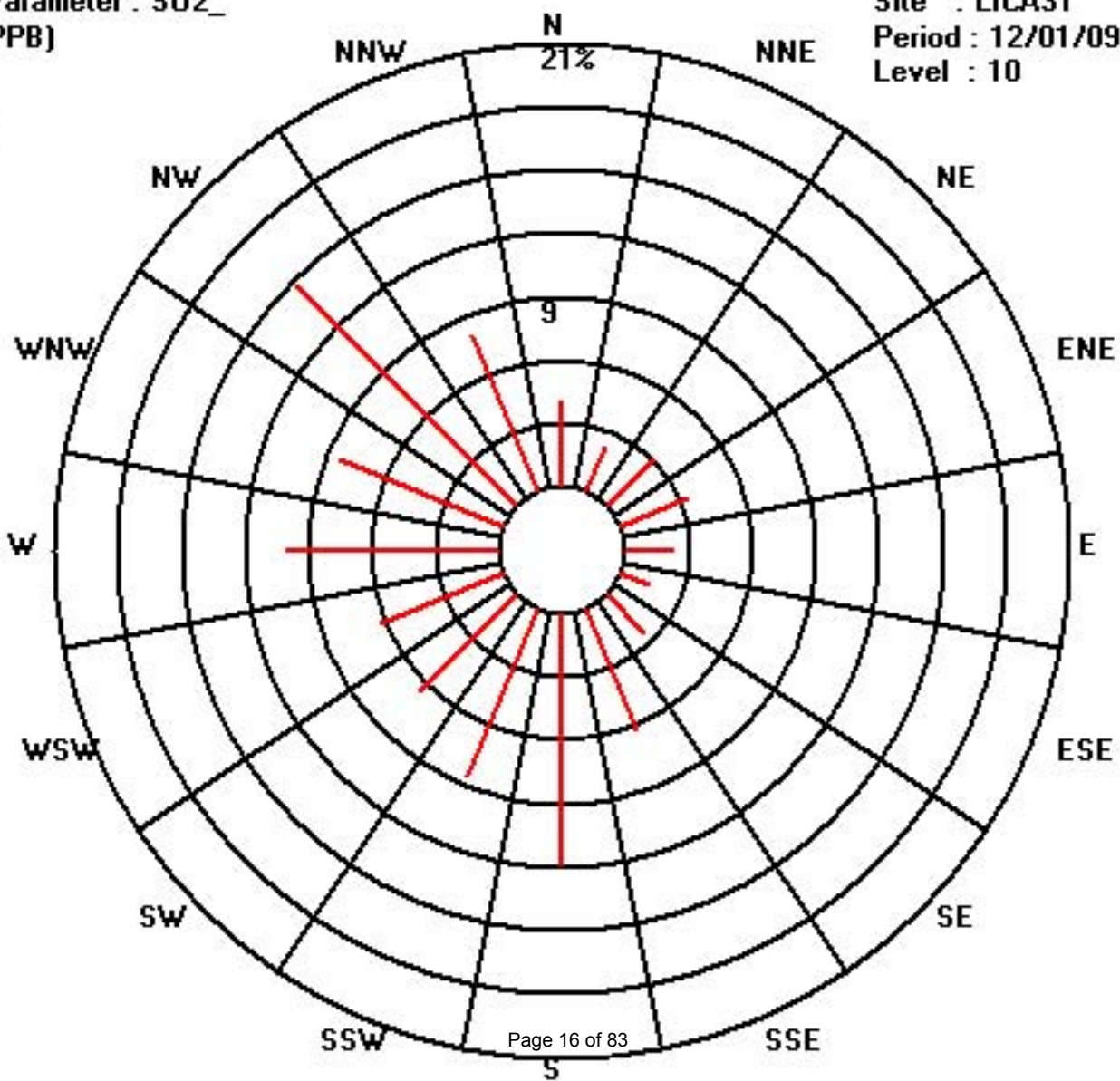
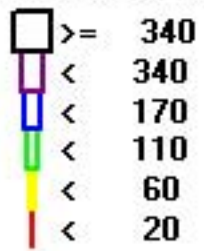
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	29	16	22	24	16	10	18	44	85	61	46	44	71	59	105	57	707
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	29	16	22	24	16	10	18	44	85	61	46	44	71	59	105	57	

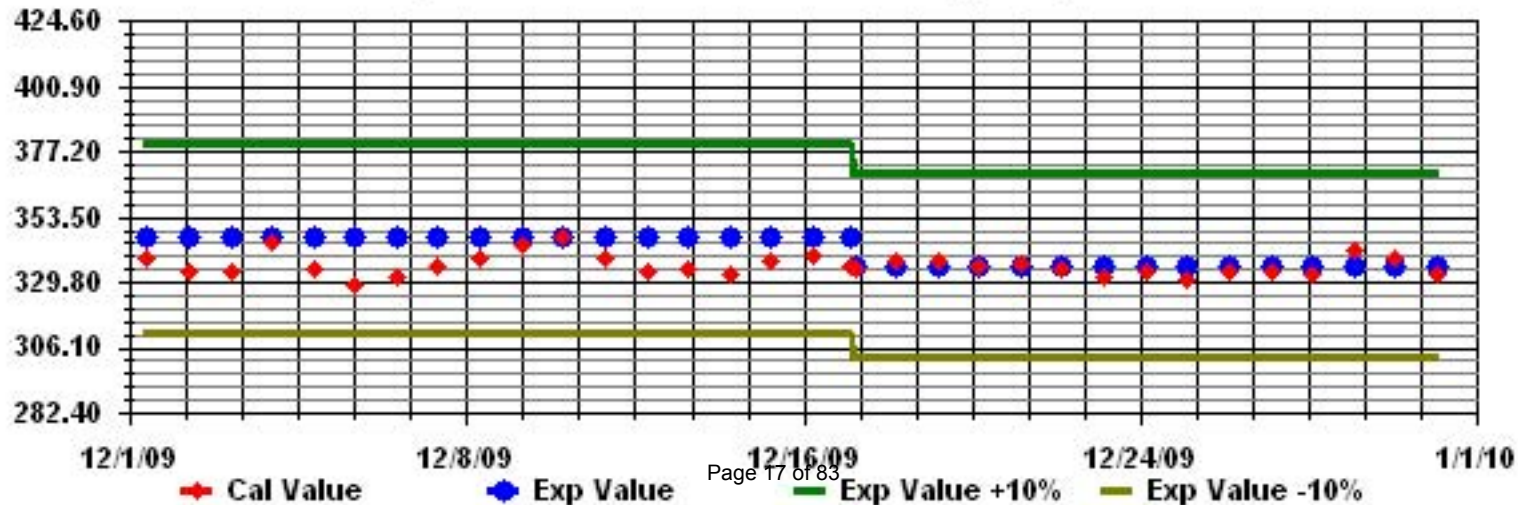
Calm : .00 %

Total # Operational Hours : 707

Class Limits (PPB)



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



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

DECEMBER 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	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		0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
2		0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
3		0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
4		0	0	0	0	0	0	IZS	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	IZS	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
7		0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
8		0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
9		0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
10		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	
11		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0.0	24	
12		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0.0	24	
13		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	IZS	0	0	0	0	0	0	0	0.0	24
17		0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24	
18		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24	
20		0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
21		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
22		0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
23		0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
24		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	
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	24	
26		0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
27		0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
28		0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
29		0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
30		0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
31		0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
HOURLY MAX		0	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

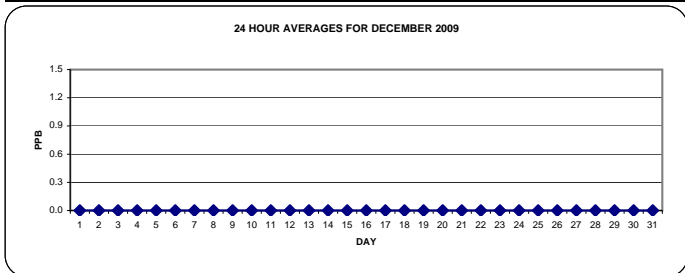
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

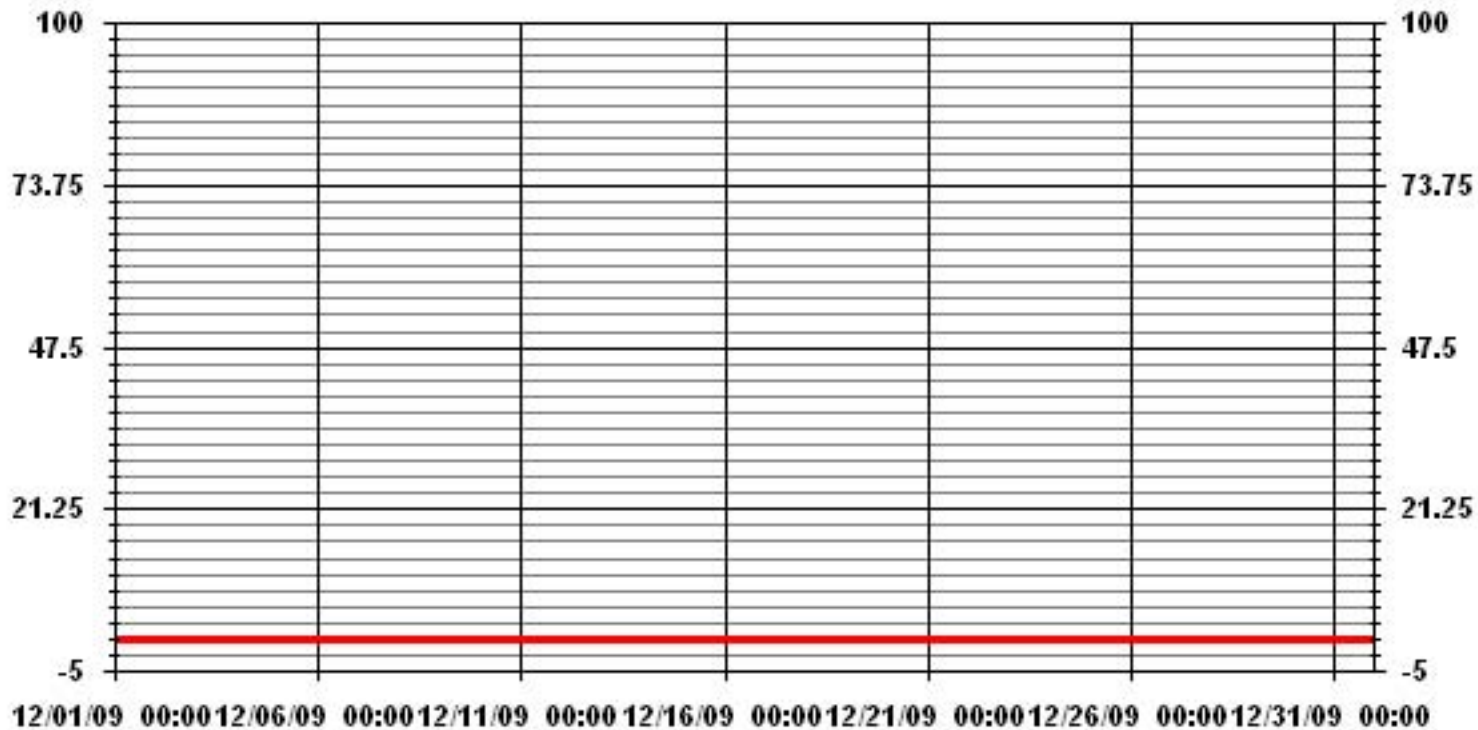
ALBERTA ENVIRONMENT: 1-HR 10 PPB 24-HR 3 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	0
MAXIMUM 1-HR AVERAGE:	0 PPB @ HOUR(S) ALL ON DAY(S) ALL
MAXIMUM 24-HR AVERAGE:	0.0 PPB ON DAY(S) ALL VAR-VARIOUS
IZS CALIBRATION TIME:	32 HRS OPERATIONAL TIME: 744 HRS
MONTHLY CALIBRATION TIME:	4 HRS AMD OPERATION UPTIME: 100.0 %
STANDARD DEVIATION:	0.00 MONTHLY AVERAGE: 0.00 PPB



01 Hour Averages



— LICA31 H2S_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST.LINA

DECEMBER 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	24:00	DAILY	24-HOUR	RDGS.	
		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.			
DAY																														
1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
5		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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	24	
31		0	0	0	0	0	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	0	0	0	0	0	1	0	0	0	2	2	0	0	0	0	0	0	0	0	1	0	1	0	1		
HOURLY AVG		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

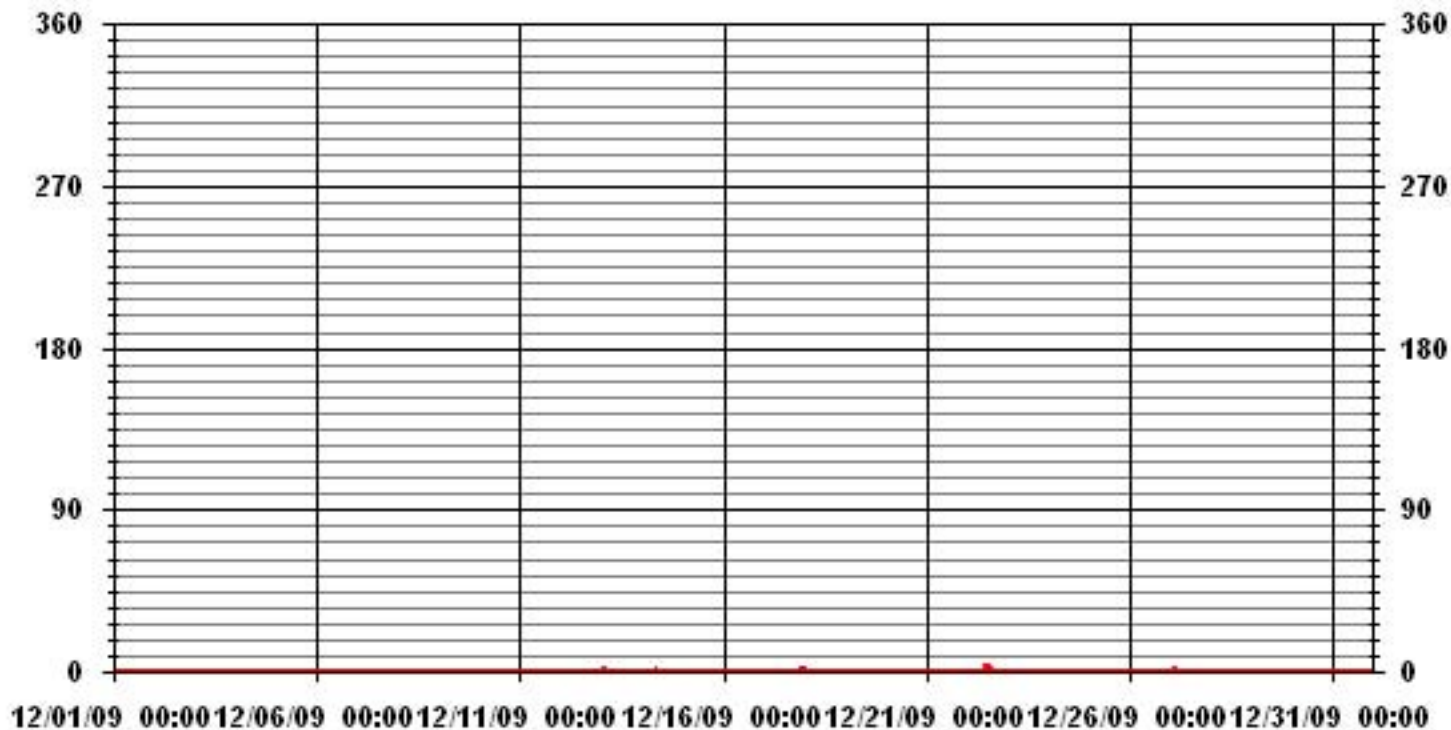
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	7					
MAXIMUM INSTANTANEOUS VALUE:	2	PPB	@ HOUR(S)	12, 13	ON DAY(S)	22
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.13					

01 Hour Averages



— LICA31 H2S MAX PPB

LICA31
H2S_ / WDR Joint Frequency Distribution (Percent)

December 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	4.09	2.25	3.10	3.38	2.25	1.41	2.54	6.21	12.00	8.61	6.49	6.35	10.02	8.33	14.83	8.05	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	4.09	2.25	3.10	3.38	2.25	1.41	2.54	6.21	12.00	8.61	6.49	6.35	10.02	8.33	14.83	8.05	

Calm : .00 %

Total # Operational Hours : 708

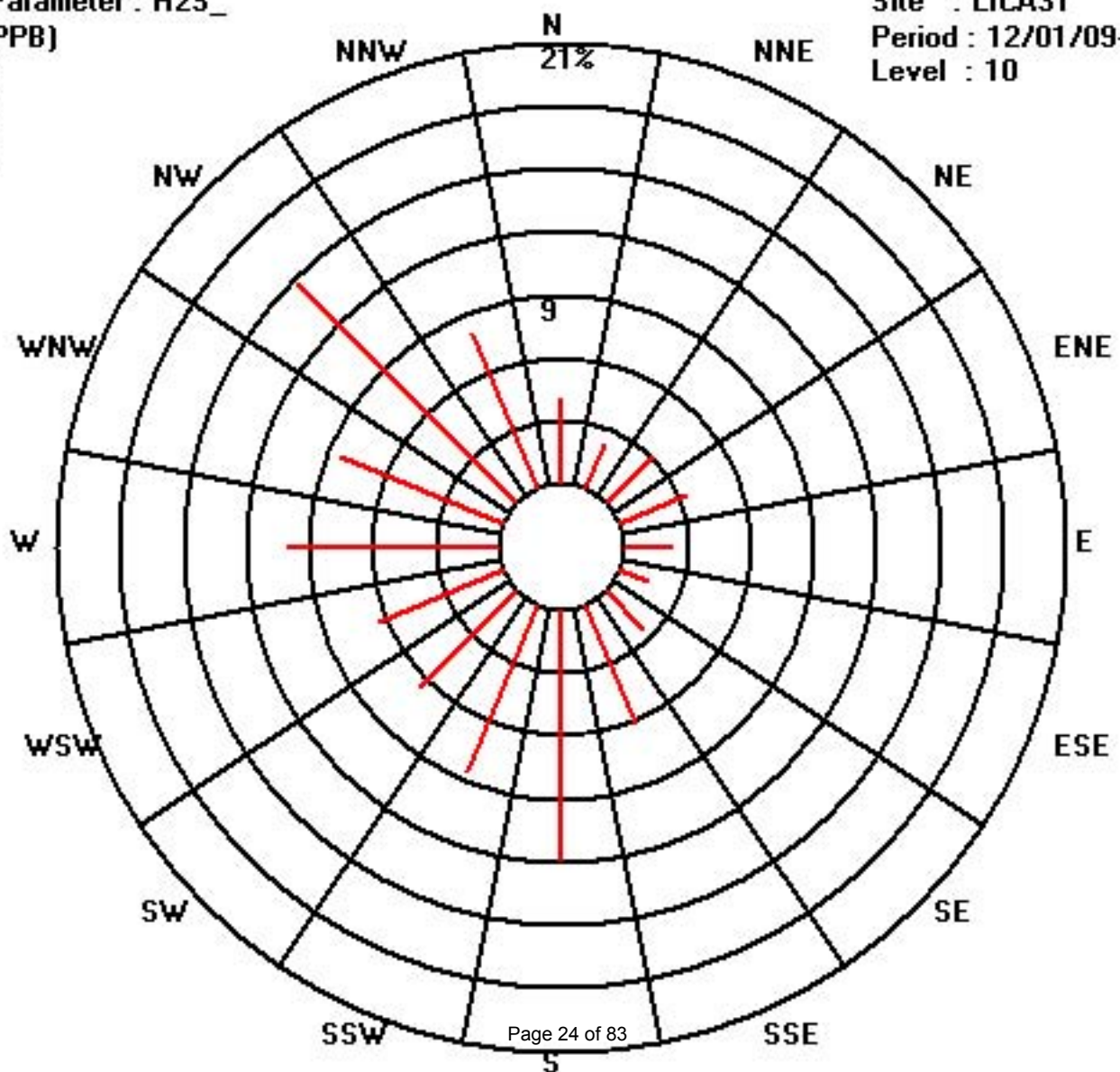
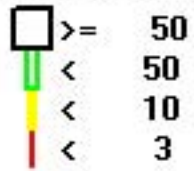
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	29	16	22	24	16	10	18	44	85	61	46	45	71	59	105	57	708
< 10																	
< 50																	
>= 50																	
Totals	29	16	22	24	16	10	18	44	85	61	46	45	71	59	105	57	

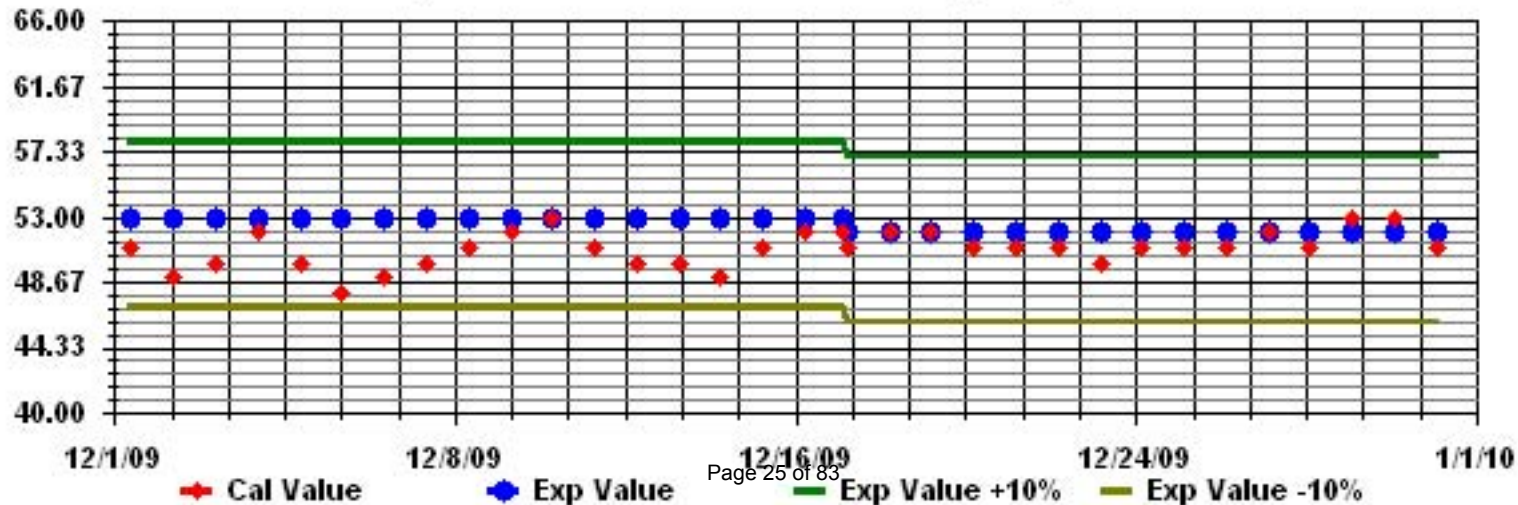
Calm : .00 %

Total # Operational Hours : 708

Class Limits (PPB)



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



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST.LINA

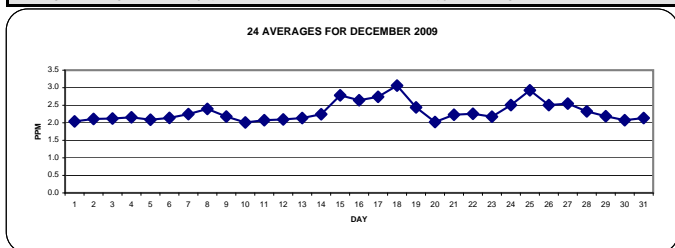
DECEMBER 2009

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			
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
DAY																														
1		2	2	2	2	2	2	2	2	2	IZS	2	2	2	2.1	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	24
2		2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	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	2.1	24
3		2.1	2.1	2.1	2.1	2.1	2.2	2.2	IZS	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	24	
4		2.2	2.2	2.2	2.2	2.2	2.2	IZS	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	24
5		2.1	2	2	2	2.1	IZS	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	24
6		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	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	24	
7		2.2	2.2	2.2	IZS	2.2	2.2	2.2	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	2.3	2.3	2.3	2.4	2.4	2.4	2.2	24	
8		2.4	2.4	IZS	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.4	2.3	2.3	2.4	2.5	2.4	2.4	24	
9		2.3	IZS	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.2	24	
10		IZS	2	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	IZS	2.1	2.0	24
11		2	2	2	2	2	2	2	2	2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	24
12		2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	IZS	2.1	2.1	24
13		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	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	24	
14		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	2.2	2.2	2.2	2.2	2.2	2.3	IZS	2.4	2.5	2.4	2.5	2.2	24	
15		2.3	2.3	2.3	2.3	2.3	2.5	2.5	2.5	2.5	2.5	2.7	2.6	2.9	3	3	3.2	3.4	3.5	IZS	3.5	3.3	3.1	3	2.8	3.5	2.8	24		
16		2.6	2.6	2.6	2.4	2.3	2.9	3.1	3.1	3.1	3	2.9	2.9	2.8	2.6	2.5	2.5	2.4	IZS	2.4	2.3	2.4	2.4	2.5	2.5	3.1	2.6	24		
17		2.8	2.8	2.7	2.7	2.8	2.9	2.9	2.8	2.6	2.5	2.6	2.6	C	C	C	C	C	2.7	2.7	2.8	2.9	2.8	2.8	2.9	2.9	2.7	24		
18		2.8	2.8	2.7	2.5	2.4	2.4	2.3	2.2	2.3	2.5	2.8	2.8	2.8	3.2	3.3	IZS	3.6	3.6	3.4	3.4	4.3	4.3	4.1	3.9	4.3	3.1	24		
19		3.9	3.8	3.8	3.5	2.8	2.7	2.5	2.2	2.2	2.2	2.2	2.1	2	IZS	2	2	2	2	2	2	2	2	2	2	2	3.9	2.4	24	
20		2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	IZS	2	2	2	2	2	2.1	2	2	2	2	2.1	2.0	24		
21		2	2	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.3	2.3	2.2	IZS	2.2	2.3	2.2	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.2	24	
22		2.5	2.4	2.3	2.3	2.3	2.3	2.4	2.5	2.5	2.4	2.2	IZS	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.5	2.3	24		
23		2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.1	IZS	2.2	2.2	2.2	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	24	
24		2.3	2.3	2.4	2.4	2.3	2.3	2.4	2.3	2.3	IZS	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.8	3.2	3.3	3.2	3	3.3	2.5	24		
25		3	2.9	2.8	2.9	3.1	3	3.4	3.7	IZS	3.3	3.3	3	2.9	2.9	2.8	2.8	2.9	2.9	2.8	2.7	2.6	2.5	2.5	3.7	2.9	24			
26		2.5	2.5	2.5	2.5	2.6	2.6	2.6	IZS	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.6	2.5	24			
27		2.5	2.5	2.5	2.5	2.5	2.5	IZS	2.5	2.6	2.7	2.7	2.6	2.6	2.6	2.7	2.8	3	3.1	2.5	2.3	2.2	2.2	2.2	2.3	3.1	2.5	24		
28		2.3	2.2	2.2	2.2	2.2	IZS	2.3	2.5	2.5	2.6	2.6	2.4	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.6	2.3	24		
29		2.4	2.4	2.4	2.4	IZS	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.4	2.2	24		
30		2.1	2	2	IZS	2	2	2.1	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	24		
31		2.1	2.1	IZS	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	24		
HOURLY MAX		3.9	3.8	3.8	3.5	3.1	3.0	3.4	3.7	3.1	3.3	3.3	3.0	2.9	3.2	3.3	3.2	3.6	3.6	3.4	3.5	4.3	4.3	4.1	3.9					
HOURLY AVG		2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4					

STATUS FLAG CODES

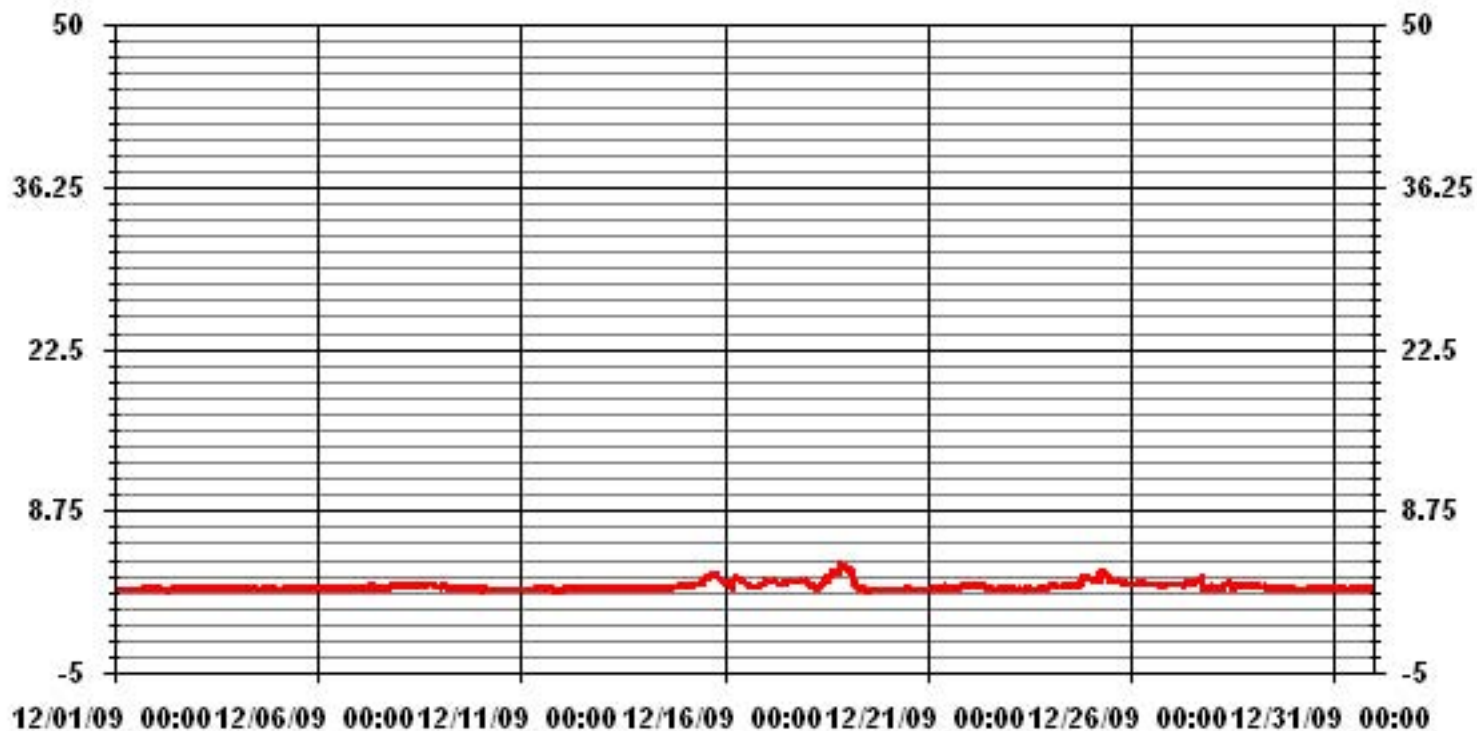
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	709					
MAXIMUM 1-HR AVERAGE:	4.3	PPM	@ HOUR(S)	20, 21	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	3.1	PPM			ON DAY(S)	18
					VAR- VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.35		MONTHLY AVERAGE:	2.31	PPM	

01 Hour Averages



— LICA31 THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

DECEMBER 2009

TOTAL HYDROCARBONS MAX instantaneous maximum in ppr

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR			
HOURLY MAX	HOURLY AVG.	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
DAY																														
1		2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	IZS	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.1	24	
2		2.1	2.2	2.1	2.1	2.1	2.1	2.6	2.5	IZS	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.6	2.2	24	
3		2.2	2.2	2.2	2.1	2.2	2.2	2.2	IZS	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	24	
4		2.2	2.2	2.2	2.2	2.2	2.2	IZS	2.2	2.2	2.2	2.3	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	2.3	2.2	24
5		2.1	2.1	2	2.1	2.1	IZS	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.1	24	
6		2.2	2.2	2.2	2.2	IZS	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.2	2.2	2.4	2.4	2.4	2.4	2.4	2.4	2.2	24
7		2.2	2.2	2.2	IZS	2.2	2.2	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	2.3	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.3	24
8		2.4	2.4	IZS	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.8	2.4	2.5	2.6	2.8	2.5	2.6	2.5	24
9		2.4	IZS	2.6	2.4	2.4	2.3	2.5	2.3	2.4	2.3	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.1	2.2	2.6	2.3	2.4	24	
10		IZS	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2.1	2	2	2	2	2	2	2	2	2	2	2.3	IZS	2.3	2.1	24	
11		2.1	2	2	2	2	2.1	2	2	2	2.6	2.8	2.2	2.2	2.6	2.7	5.1	2.4	2.1	2.1	2.1	2.1	2.1	IZS	2.1	5.1	2.3	2.4	24	
12		2.1	2.1	2.1	2.2	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.2	2.1	IZS	2.3	2.3	2.3	2.2	2.4	24	
13		2.3	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2.3	2.2	2.2	2.2	2.2	IZS	2.2	2.2	2.2	2.3	2.2	2.4	24	
14		2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	IZS	2.5	2.5	2.5	2.4	2.5	2.3	2.4	24	
15		2.4	2.3	2.3	2.3	2.4	2.5	2.5	2.5	2.6	2.6	2.8	2.7	3.5	3.6	3.6	3.3	3.9	3.6	IZS	5	4.4	3.2	3.1	3	5	3.0	2.4	24	
16		2.7	2.7	2.7	2.6	2.7	3.8	3.5	3.8	3.4	3.1	3	2.9	2.8	2.7	2.5	2.5	2.4	IZS	2.4	2.4	2.5	2.8	3.1	2.8	3.8	2.9	2.4	24	
17		3.6	2.8	3	3.3	2.9	3.7	3	3	2.7	2.6	2.6	2.6	2.6	C	C	C	C	C	2.7	2.8	2.9	2.9	2.9	2.9	2.9	3.7	2.9	2.4	24
18		2.9	2.8	2.8	2.7	2.4	2.5	2.4	2.3	2.4	2.6	2.8	2.9	3.1	3.4	3.4	IZS	3.7	3.7	3.5	3.5	6.5	4.6	5.3	5.3	6.5	3.4	2.4	24	
19		7.7	5.8	4	3.9	3	3	2.7	2.3	2.2	2.2	2.2	2.2	2.2	2	IZS	2.1	2	2	2.1	2.1	2.1	2	2	2.1	7.7	2.8	2.4	24	
20		2.1	2.1	2.1	2	2.1	2	2	2.1	2.1	2.1	2.1	2.1	2.2	IZS	2.2	2.1	2.1	2	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.1	2.2	2.1	24
21		2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	3.7	2.8	2.8	2.7	IZS	2.9	2.8	2.8	2.9	2.3	2.5	2.6	2.3	2.3	2.4	2.5	3.7	2.5	2.4	24	
22		2.5	2.5	2.4	2.3	2.3	2.3	2.4	2.5	2.6	2.5	2.4	IZS	2.2	2.1	2.2	2.1	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.6	2.3	2.4	24	
23		2.3	2.3	2.3	2.2	2.2	2.3	2.2	2.2	2.2	2.2	IZS	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.3	2.3	2.2	2.4	24	
24		2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.3	IZS	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.5	3.7	3.1	3.6	3.4	3.3	3.1	3.7	2.6	2.4	24	
25		3.1	2.9	2.9	3.1	3.1	3.1	3.6	3.9	IZS	3.4	3.3	3.2	2.9	3.3	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.6	2.6	3.9	3.0	2.4	24	
26		2.6	2.5	2.5	2.6	2.6	2.6	2.6	IZS	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.5	2.4	24	
27		2.5	2.5	2.5	2.5	2.7	2.5	IZS	2.6	2.7	2.7	2.7	2.6	2.6	2.7	2.7	2.9	3.1	3.3	2.8	2.7	2.5	2.5	2.5	2.8	3.3	2.7	2.4	24	
28		2.7	2.5	2.6	2.3	2.3	IZS	2.3	2.5	2.6	2.6	2.6	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.7	2.4	2.4	24	
29		2.5	2.5	2.5	2.5	IZS	2.5	2.5	2.3	2.3	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.5	2.2	2.4	24
30		2.1	2.1	2.1	IZS	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.4	24	
31		2.1	2.2	IZS	2.1	2.1	2.1	2.4	2.1	2.1	2.3	2.4	2.4	2.2	2.5	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.5	2.2	2.4	24	
HOURLY MAX		8	6	4	4	3	4	4	4	4	3	3	3	4	4	4	5	4	4	4	4	5	7	5	5	5				
HOURLY AVG		2.6	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.6	2.4	2.5	2.5				

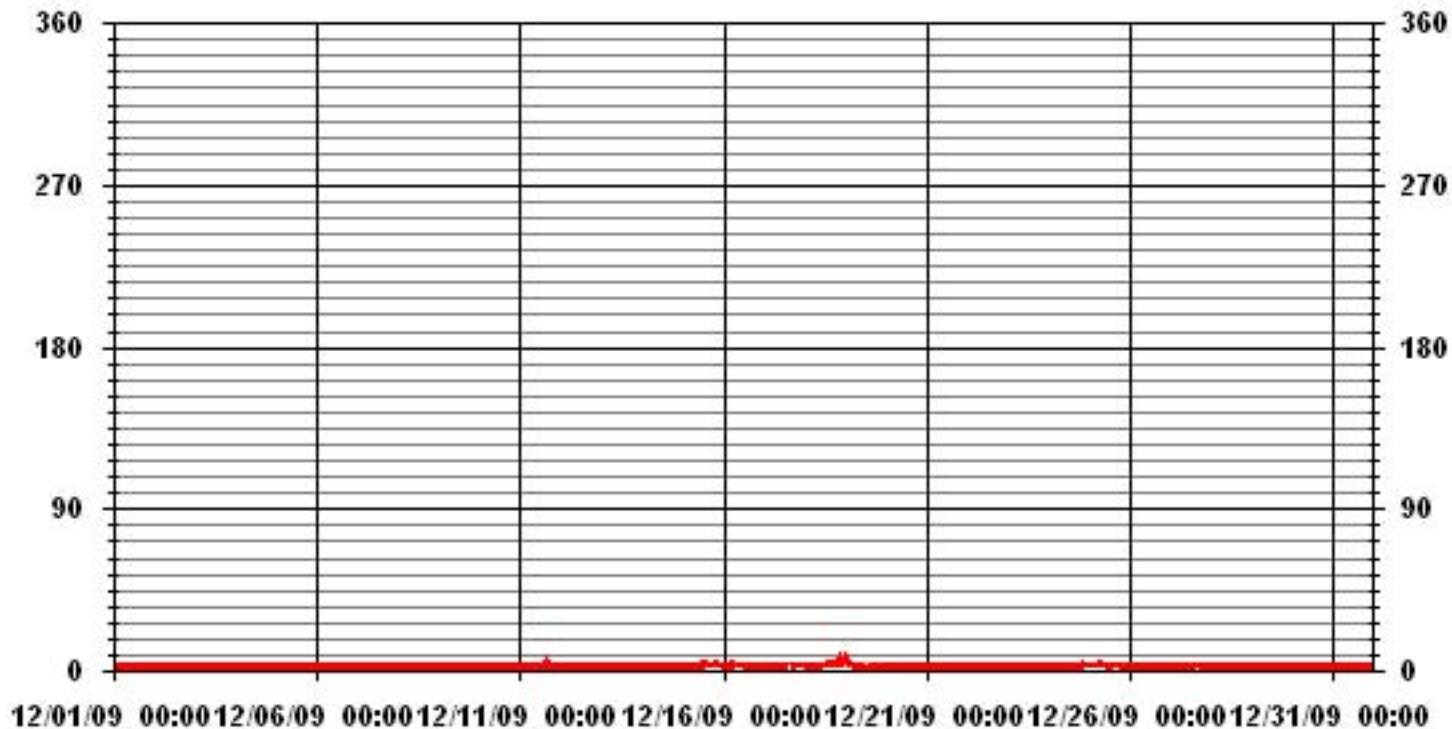
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	709					
MAXIMUM INSTANTANEOUS VALUE:	7.7	PPM	@ HOUR(S)	0	ON DAY(S)	19
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.52					

01 Hour Averages



— LICA31 THCMAX PPM

LICA31
 THC / WDR Joint Frequency Distribution (Percent)

December 2009

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	4.09	2.25	2.96	3.10	1.83	.84	1.83	5.21	10.15	8.32	6.06	6.06	10.43	8.32	14.66	8.03	94.21
< 10.0	.00	.00	.14	.28	.42	.56	.70	.98	1.83	.28	.28	.14	.00	.00	.14	.00	5.78
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.09	2.25	3.10	3.38	2.25	1.41	2.53	6.20	11.98	8.60	6.34	6.20	10.43	8.32	14.80	8.03	

Calm : .00 %

Total # Operational Hours : 709

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	29	16	21	22	13	6	13	37	72	59	43	43	74	59	104	57	668
< 10.0			1	2	3	4	5	7	13	2	2	1			1		41
< 50.0																	
>= 50.0																	
Totals	29	16	22	24	16	10	18	44	85	61	45	44	74	59	105	57	

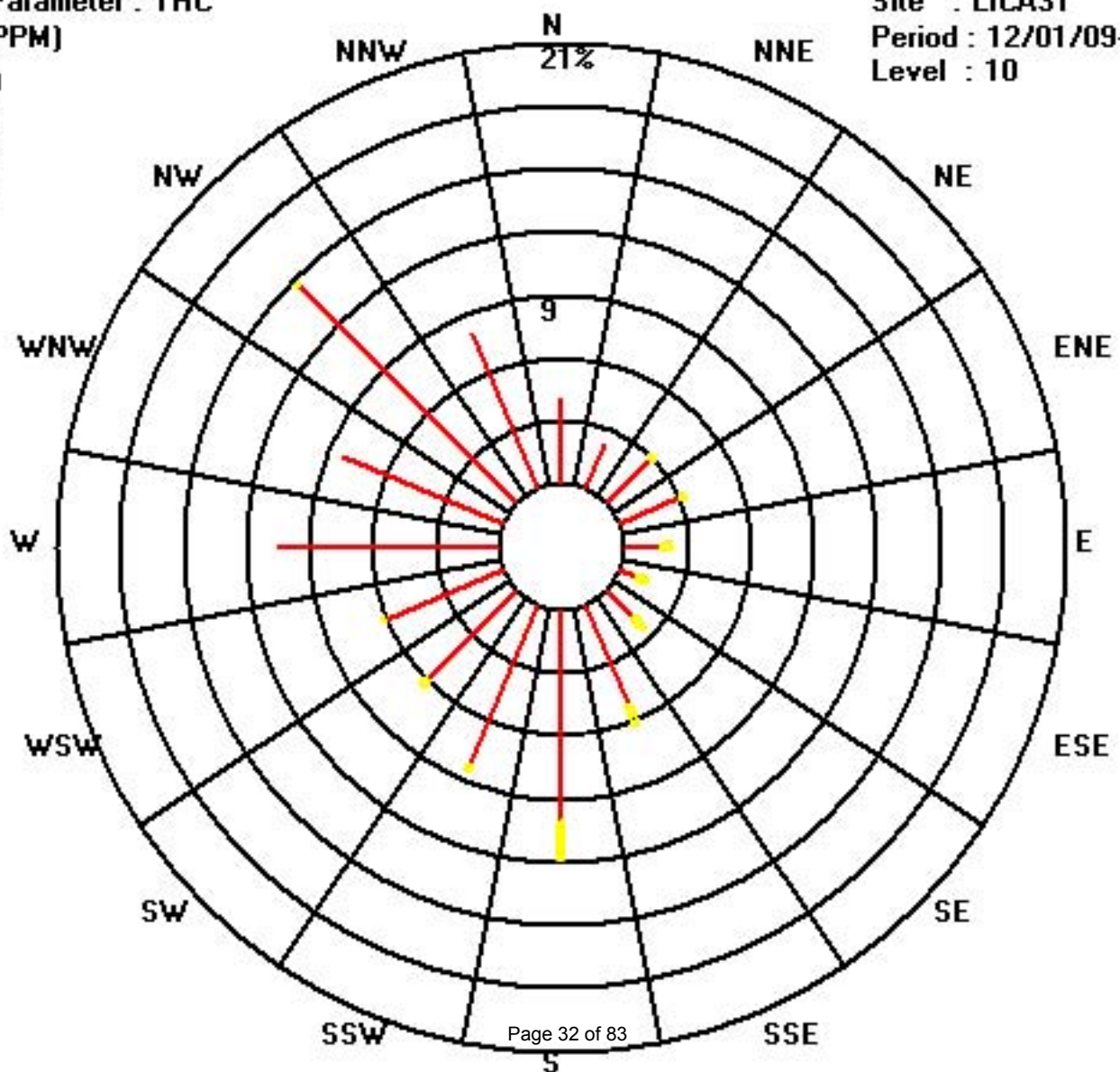
Calm : .00 %

Total # Operational Hours : 709

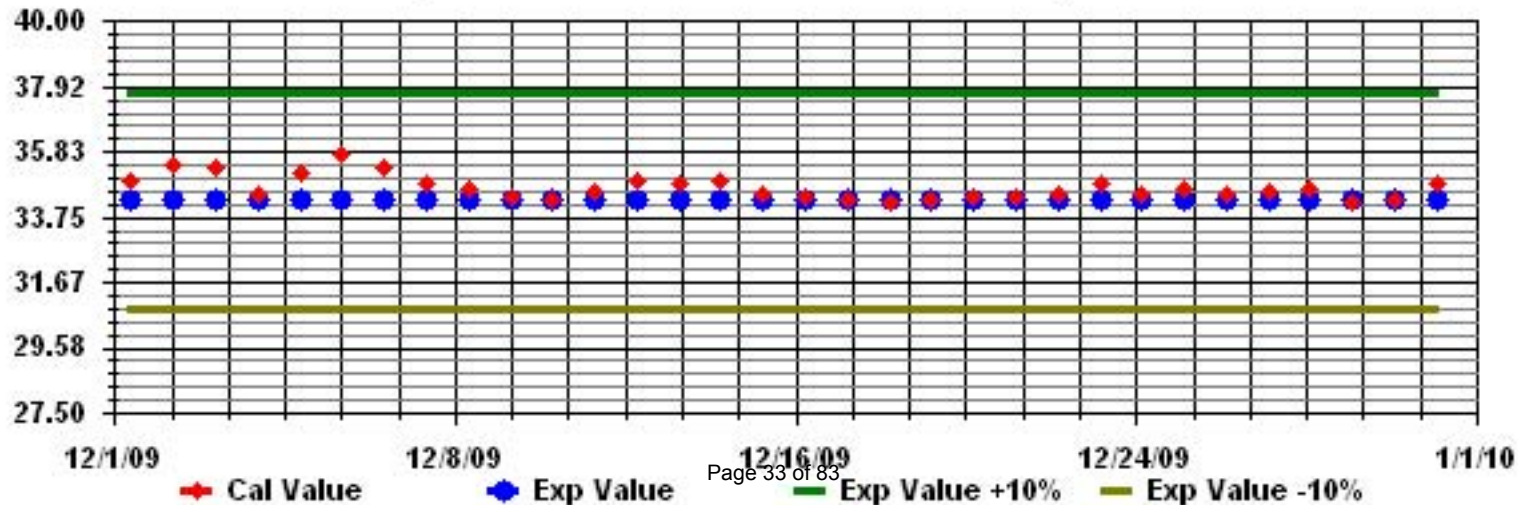
Class Limits (PPM)

Period : 12/01/09-12/31/09

Level : 10



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



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

DECEMBER 2009

NITROGEN DIOXIDE hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR			
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
DAY																													
1	1	1	0	1	1	1	1	1	1	1	IZS	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0.8	24	
2	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
3	1	2	1	1	2	2	3	IZS	2	3	3	4	4	5	5	4	3	4	3	3	4	3	3	3	3	5	3.0	24	
4	3	4	4	4	4	4	IZS	3	4	5	6	7	6	6	5	5	3	2	1	1	0	0	0	0	0	7	3.3	24	
5	0	0	0	0	0	IZS	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	0.7	24		
6	0	1	1	1	IZS	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	0.7	24	
7	2	2	2	IZS	2	3	4	4	4	5	5	3	3	3	4	4	5	5	5	6	7	7	7	7	7	7	4.3	24	
8	7	7	IZS	5	6	6	7	8	8	7	7	8	8	8	9	10	15	15	14	13	11	7	7	8	15	8.7	24		
9	7	IZS	5	5	5	4	4	4	4	4	3	2	2	1	1	1	4	4	4	3	2	1	1	0	0	7	2.9	24	
10	IZS	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	2	2	1	1	1	1	2	IZS	2	1.3	24	
11	1	1	0	0	2	2	2	1	1	1	1	1	2	1	2	3	2	2	2	2	1	2	1	2	IZS	1	3	1.4	24
12	0	0	0	0	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	0.7	24
13	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	3	3	3	5	2	IZS	2	2	3	3	1.6	24	
14	3	3	3	3	3	2	3	3	3	3	2	2	2	2	3	4	4	5	5	IZS	20	23	15	12	23	5.6	24		
15	10	10	11	11	9	9	8	7	7	6	6	5	6	6	6	8	10	12	IZS	11	10	10	10	9	12	8.6	24		
16	8	8	8	7	6	7	8	8	7	6	5	4	4	4	4	5	5	IZS	5	6	8	8	7	7	8	6.3	24		
17	7	7	8	7	7	7	7	7	9	9	C	C	C	C	C	C	C	25	28	31	34	35	35	34	35	17.5	24		
18	34	33	30	22	15	13	10	7	9	10	10	10	10	12	13	IZS	14	14	12	12	15	15	14	13	34	15.1	24		
19	12	12	12	12	11	11	10	6	5	4	4	3	1	1	IZS	0	0	0	0	1	0	0	0	0	0	12	4.6	24	
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
21	0	1	1	2	3	7	4	4	3	2	1	1	IZS	1	1	2	2	3	4	5	3	2	3	5	7	2.6	24		
22	6	5	4	4	4	4	5	5	6	5	2	1	IZS	0	2	2	2	2	2	3	2	1	2	1	2	6	3.1	24	
23	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	1	2	3	4	4	3	4	5	5	1.2	24		
24	7	10	17	19	18	16	13	12	11	IZS	6	4	4	4	6	6	8	8	8	10	12	13	12	11	19	10.2	24		
25	11	10	9	9	9	9	11	12	IZS	9	7	7	7	8	8	9	10	10	10	9	9	9	9	8	12	9.1	24		
26	8	8	8	8	8	8	9	IZS	7	7	6	6	6	6	8	9	13	12	12	11	12	12	12	12	13	9.0	24		
27	11	12	13	14	14	13	IZS	8	8	7	6	4	3	3	3	5	7	7	3	0	0	0	0	0	14	6.1	24		
28	0	0	0	0	0	IZS	0	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0.6	24		
29	2	2	2	2	IZS	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.7	24		
30	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	1	0.3	24	
31	0	0	IZS	0	1	1	0	1	0	0	1	0	0	0	0	0	1	1	1	1	2	2	3	2	3	0.7	24		
HOURLY MAX	34	33	30	22	18	16	13	12	11	10	10	10	10	12	13	10	15	25	28	31	34	35	35	34					
HOURLY AVG	4.8	4.7	4.9	4.8	4.6	4.7	4.0	3.7	3.6	3.3	3.0	2.7	2.5	2.7	3.0	3.2	4.1	4.8	4.5	4.7	5.4	5.5	5.1	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

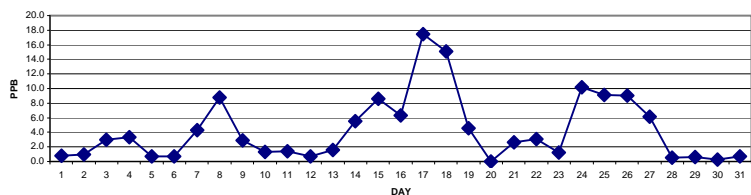
OBJECTIVE LIMIT:

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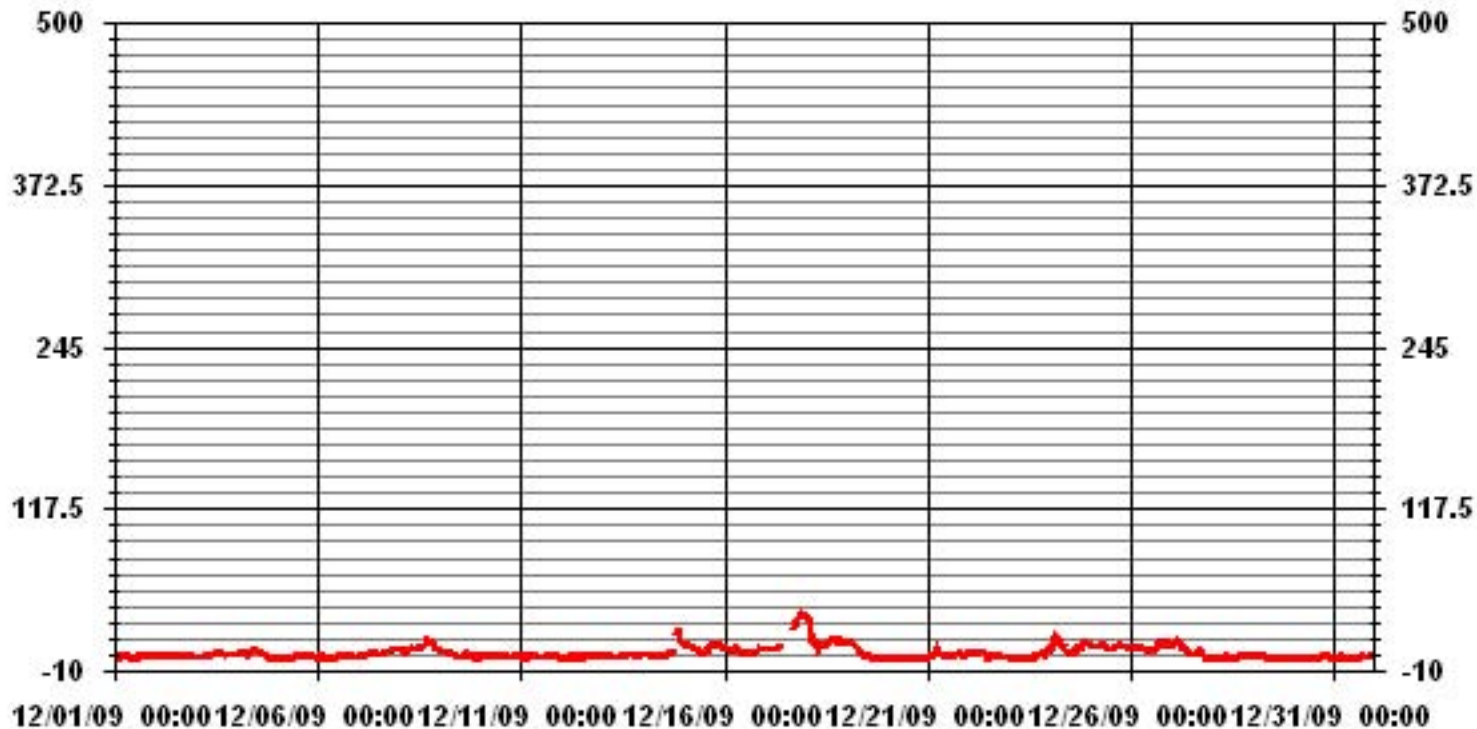
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	567		
MAXIMUM 1-HR AVERAGE:	35 PPB @ HOUR(S) 21, 22 ON DAY(S) 17		
MAXIMUM 24-HR AVERAGE:	17.5 PPB ON DAY(S) 17		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	744 HRS
MONTHLY CALIBRATION TIME:	7 HRS	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	5.29	MONTHLY AVERAGE:	4.14 PPB

24 HOUR AVERAGES FOR DECEMBER 2009



01 Hour Averages



— LICA31 NO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

DECEMBER 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	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	2	1	1	2	2	2	2	1	2	2	1.3	24
2	1	1	1	1	1	2	3	3	IZS	1	2	2	3	2	1	2	1	1	2	2	2	2	2	2	2	3	1.7	24
3	2	3	2	2	3	3	3	IZS	2	4	4	4	5	4	5	7	6	4	5	4	4	4	4	4	4	7	3.8	24
4	4	5	5	5	5	4	IZS	5	5	6	7	8	7	7	6	6	4	3	2	2	1	1	1	1	1	8	4.3	24
5	1	1	0	0	0	IZS	1	1	1	1	2	2	1	1	1	2	2	2	1	1	1	3	3	3	3	1.3	24	
6	1	2	2	1	IZS	0	1	1	1	1	1	1	1	1	2	2	2	2	1	2	2	3	3	2	3	1.5	24	
7	3	3	5	IZS	12	4	5	6	5	5	7	4	17	4	4	5	7	6	6	8	8	8	8	8	8	17	6.4	24
8	8	7	IZS	6	7	7	8	9	9	9	9	9	10	10	11	13	16	17	15	14	13	9	8	9	17	10.1	24	
9	8	IZS	6	6	6	6	5	5	4	4	4	2	2	3	5	6	5	5	4	3	2	2	1	1	8	4.1	24	
10	IZS	2	2	2	2	2	1	2	2	2	15	2	11	3	2	2	9	3	2	2	2	2	4	IZS	15	3.5	24	
11	2	1	1	1	2	3	3	2	3	2	2	2	2	2	3	3	3	3	3	4	2	3	IZS	2	4	2.3	24	
12	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	IZS	1	2	1.4	24	
13	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	3	4	4	3	IZS	3	4	4	4	2.5	24	
14	3	4	4	3	3	3	4	4	4	4	3	3	3	2	4	5	5	6	7	IZS	28	28	19	13	28	7.0	24	
15	11	13	14	12	11	10	10	8	9	7	7	6	7	7	7	10	12	13	IZS	12	11	11	11	10	14	10.0	24	
16	9	8	9	8	7	9	9	9	8	7	6	5	5	4	6	11	10	IZS	6	15	10	12	8	8	15	8.2	24	
17	7	8	9	9	8	8	8	7	11	11	C	C	C	C	C	C	C	C	C	30	34	35	36	37	35	37	18.3	24
18	35	34	32	28	17	15	14	8	11	11	11	11	12	14	14	IZS	16	16	13	13	16	16	15	13	35	16.7	24	
19	13	13	14	14	12	12	12	8	6	5	5	4	2	3	IZS	0	0	1	1	1	1	1	1	1	1	14	5.7	24
20	0	0	0	0	0	0	0	0	1	1	0	0	0	IZS	0	0	1	1	1	1	1	1	1	2	2	0.5	24	
21	0	1	2	3	6	8	6	5	5	3	2	1	IZS	2	2	3	3	4	5	6	5	3	4	6	8	3.7	24	
22	7	6	5	5	5	6	6	6	7	7	4	IZS	1	2	3	3	3	3	4	3	3	2	2	3	7	4.2	24	
23	2	1	1	0	0	0	0	1	1	1	IZS	1	1	1	1	5	2	4	4	5	4	4	6	6	6	2.2	24	
24	11	14	19	19	20	19	15	14	24	IZS	14	5	5	5	7	8	9	9	9	12	13	14	13	12	24	12.6	24	
25	12	11	11	10	10	10	12	13	IZS	10	8	8	8	9	9	10	11	11	11	11	10	10	10	9	13	10.2	24	
26	9	9	9	9	9	9	10	IZS	8	8	7	6	7	7	9	12	15	14	13	12	13	13	13	13	15	10.2	24	
27	12	15	15	15	15	15	IZS	9	8	8	7	5	4	4	4	7	8	8	5	1	1	0	0	0	15	7.2	24	
28	0	0	0	0	0	IZS	0	1	2	1	1	1	1	1	1	1	4	4	1	2	2	3	2	2	4	1.3	24	
29	3	3	3	3	IZS	3	3	2	2	7	1	1	1	1	1	1	1	0	0	0	0	0	1	1	7	1.7	24	
30	0	0	0	IZS	0	0	0	0	0	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	2	0.9	24	
31	1	1	IZS	1	2	2	1	4	2	1	9	1	1	0	1	0	3	1	1	2	3	3	4	5	9	2.1	24	
HOURLY MAX	35	34	32	28	20	19	15	14	24	11	15	11	17	14	14	13	16	17	30	34	35	36	37	35				
HOURLY AVG	5.6	5.7	6.0	5.8	5.8	5.7	5.0	4.8	5.0	4.5	4.9	3.4	4.2	3.6	3.9	4.6	5.5	5.2	5.4	6.0	6.6	6.7	6.3	6.0				

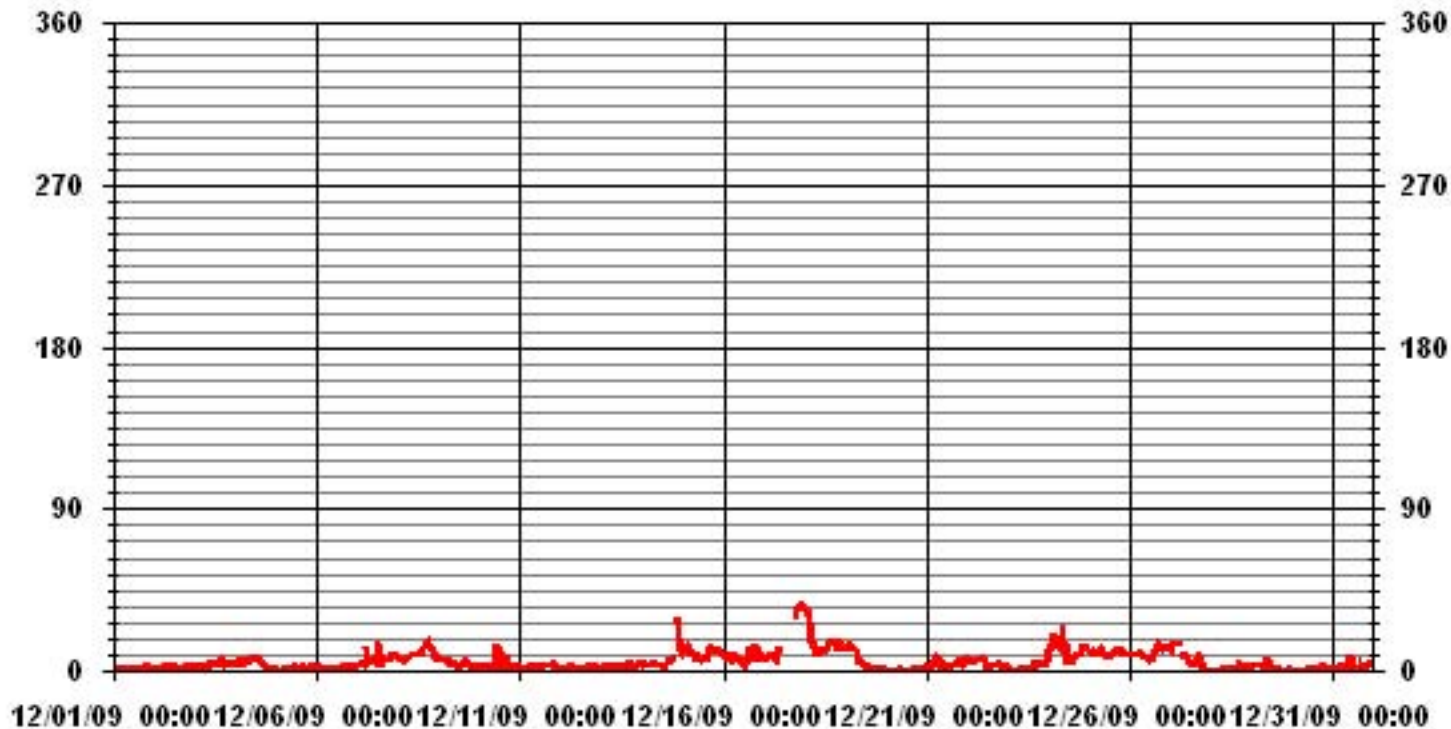
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	657					
MAXIMUM INSTANTANEOUS VALUE:	37	PPB	@ HOUR(S)	22	ON DAY(S)	17
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION	5.68					

01 Hour Averages



— LICA31 NO2MAX PPB

LICA31
NO2_ / WDR Joint Frequency Distribution (Percent)

December 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	4.10	2.26	3.11	3.39	2.26	1.41	2.54	6.23	12.03	8.64	6.37	6.23	10.05	8.35	14.87	8.07	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.10	2.26	3.11	3.39	2.26	1.41	2.54	6.23	12.03	8.64	6.37	6.23	10.05	8.35	14.87	8.07	

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
< 50	29	16	22	24	16	10	18	44	85	61	45	44	71	59	105	57	706
< 110																	
< 210																	
>= 210																	
Totals	29	16	22	24	16	10	18	44	85	61	45	44	71	59	105	57	

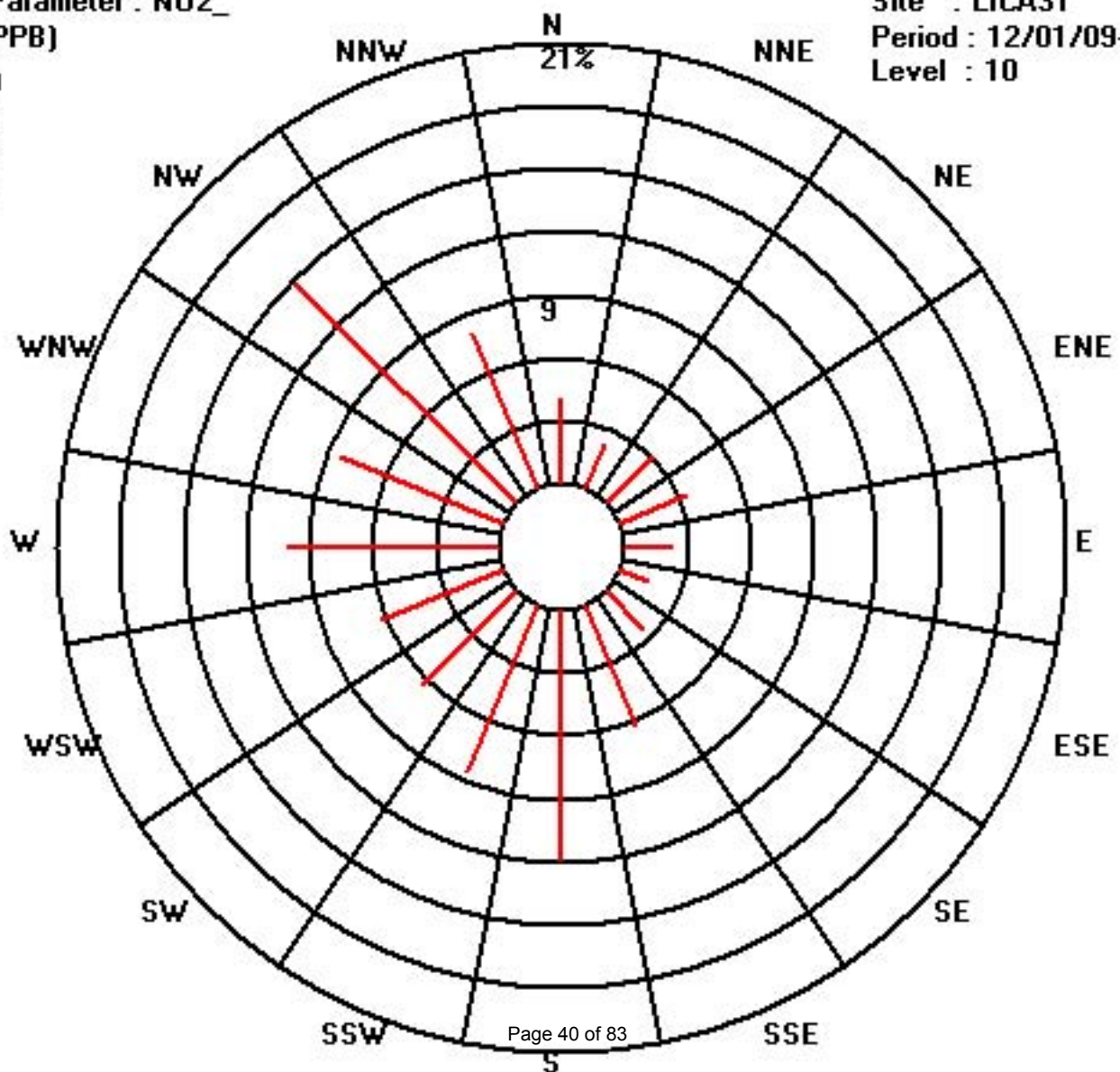
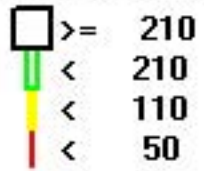
Calm : .00 %

Total # Operational Hours : 706

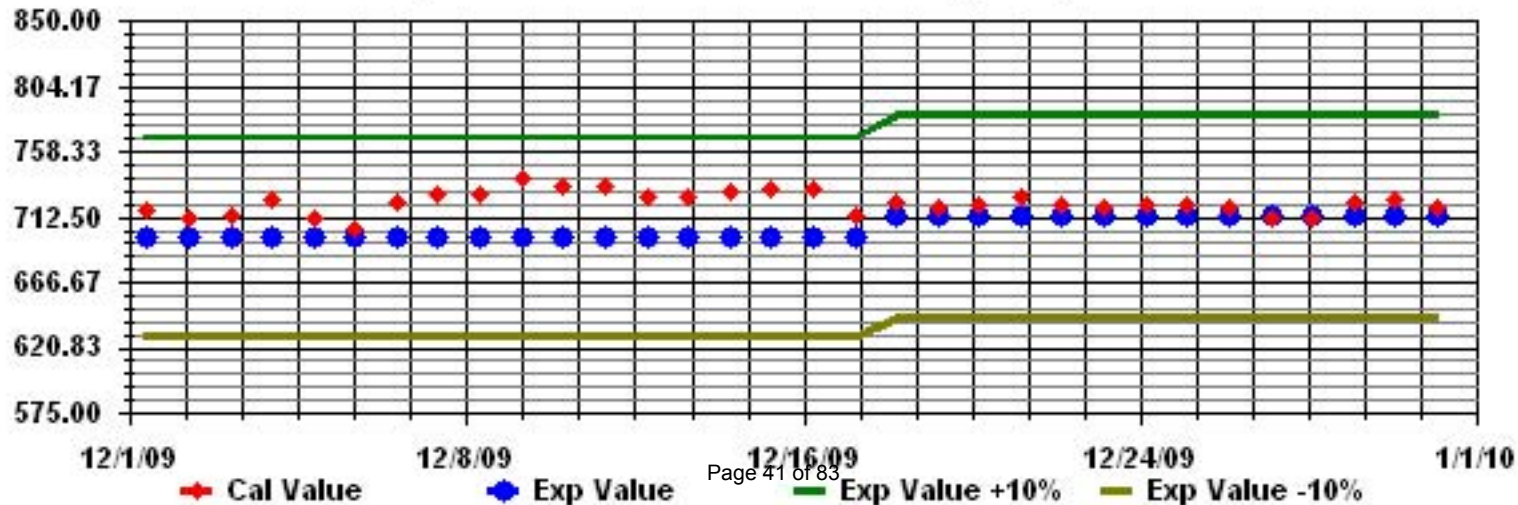
Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



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



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOICATION - ST. LINA

DECEMBER 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	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
2	0	0	0	0	0	0	0	0	0	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
3	0	0	0	0	0	0	0	0	0	IZS	1	1	2	2	2	2	1	1	0	0	0	0	0	0	0	2	0.5	24
4	0	0	0	0	0	0	0	0	IZS	2	1	1	2	2	2	2	1	0	0	0	0	0	0	0	0	2	0.6	24
5	0	0	0	0	0	0	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
6	0	0	0	0	0	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
7	0	0	0	0	IZS	2	1	1	1	1	1	3	2	3	2	1	1	0	0	0	0	1	1	1	1	3	1.0	24
8	1	1	1	IZS	1	0	0	0	0	0	0	2	4	6	6	5	5	2	1	0	1	0	0	0	0	6	1.6	24
9	0	IZS	2	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24
10	IZS	2	1	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0.3	24
11	2	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	IZS	2	0.4	24
12	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
13	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	IZS	1	0.2	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	2	0.5	24
15	2	1	2	1	1	1	1	1	1	1	2	2	3	4	4	3	2	1	1	IZS	2	1	0	0	0	4	1.6	24
16	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	IZS	2	2	1	1	1	1	2	0.5	24
17	1	1	1	1	1	1	1	1	1	1	3	C	C	C	C	C	C	C	3	6	18	26	22	23	27	27	8.1	24
18	23	21	8	2	1	1	1	0	0	2	4	5	4	4	3	IZS	2	1	1	0	1	1	1	1	1	23	3.8	24
19	1	0	1	1	0	1	1	0	0	0	1	0	0	0	0	IZS	1	0	0	0	0	0	0	0	0	1	0.3	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	1	0.1	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	2	1	0	0	0	0	1	0	0	2	0.2	24
22	0	0	0	0	0	0	0	0	0	0	1	1	IZS	2	2	1	1	0	0	0	0	0	0	0	0	2	0.3	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	3	0.2	24
24	0	1	1	2	2	2	1	1	2	IZS	6	4	3	3	3	3	2	1	1	1	1	1	1	1	1	6	1.8	24
25	1	1	1	1	1	1	1	1	1	IZS	5	6	7	7	6	5	2	1	1	1	1	1	1	1	1	7	2.3	24
26	0	1	0	0	0	0	0	0	0	IZS	2	2	3	3	4	4	3	2	1	1	1	1	1	1	1	4	1.4	24
27	1	1	1	1	1	1	1	IZS	2	1	2	4	3	3	2	2	2	1	0	0	0	0	0	0	0	4	1.2	24
28	0	0	0	0	0	0	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
29	0	0	0	0	0	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
30	0	0	0	0	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
31	0	0	0	IZS	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
HOURLY MAX	23	21	8	2	2	2	1	2	2	5	6	7	7	6	5	2	2	3	6	18	26	22	23	27				
HOURLY AVG	1.1	1.1	0.7	0.4	0.4	0.4	0.4	0.3	0.3	0.8	1.5	1.4	1.6	1.4	1.1	0.6	0.3	0.3	0.4	0.9	1.3	1.1	1.1	1.3				

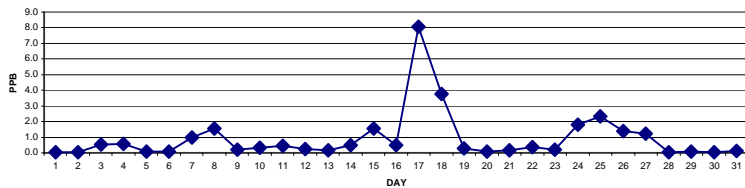
STATUS FLAG CODES

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

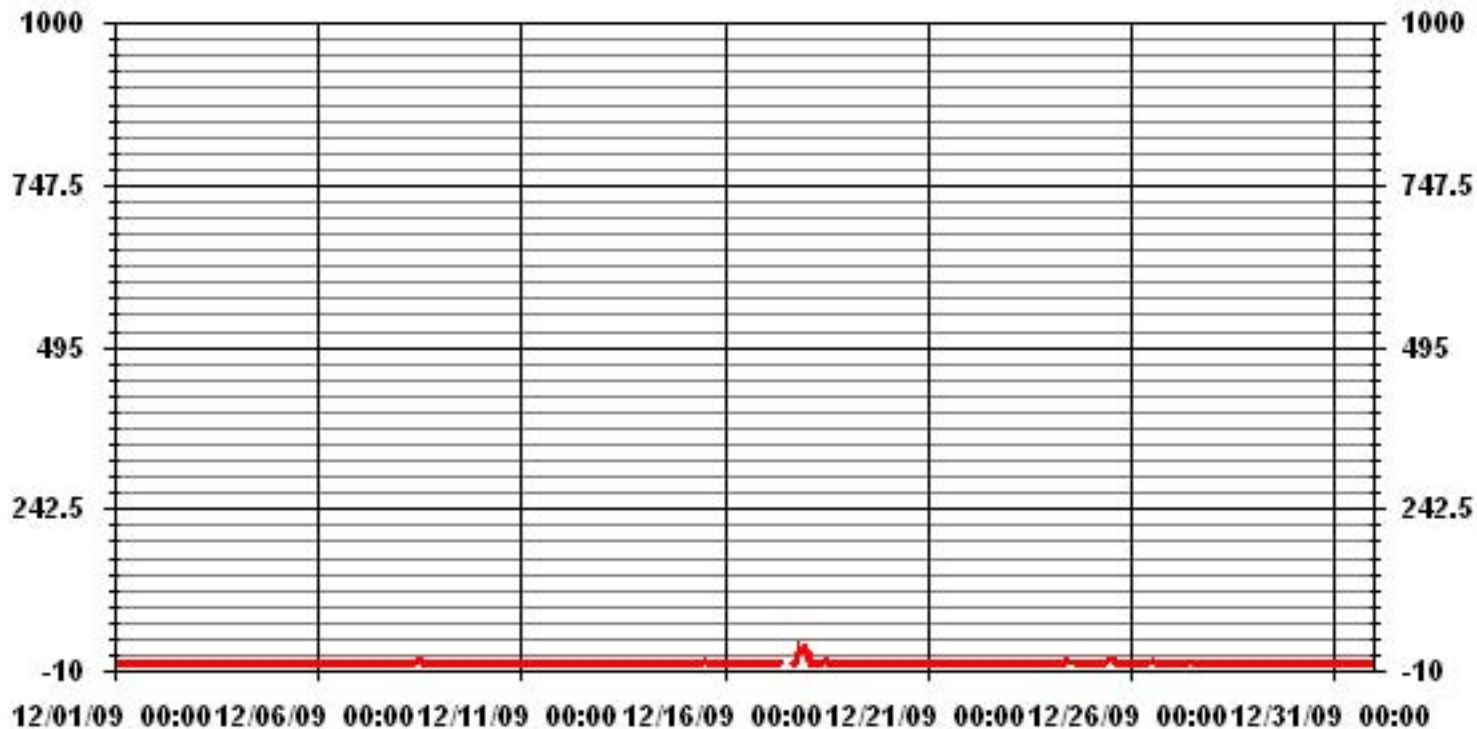
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	254					
MAXIMUM 1-HR AVERAGE:	27	PPB	@ HOUR(S)	23	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	8.1	PPB			ON DAY(S)	17
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	2.50		MONTHLY AVERAGE:	0.84	PPB	

24 HOUR AVERAGES FOR DECEMBER 2009



01 Hour Averages



— LICA31 NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

DECEMBER 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	1	0	0	0	1	0	0	IZS	2	1	1	2	1	1	1	0	1	1	0	1	1	0	2	0.7	24	
2	1	0	0	0	0	0	1	1	IZS	2	2	1	2	1	1	1	1	1	1	1	1	1	1	0	2	0.9	24	
3	0	1	1	1	1	1	0	IZS	2	2	3	3	3	2	2	2	1	1	1	1	1	1	2	1	1	3	1.4	24
4	1	3	1	1	1	1	IZS	3	2	2	3	3	2	2	2	2	1	1	1	1	1	0	1	1	3	1.6	24	
5	1	0	0	0	1	IZS	3	2	1	0	1	1	1	1	1	0	1	0	0	1	0	1	1	1	3	0.8	24	
6	1	1	1	1	IZS	2	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	2	1.0	24	
7	0	1	1	IZS	25	2	1	2	1	3	8	4	22	3	3	1	1	1	1	1	1	1	1	2	25	3.7	24	
8	1	1	IZS	3	1	1	2	1	1	5	5	6	10	6	6	4	3	2	1	1	2	1	1	1	10	2.8	24	
9	1	IZS	3	1	1	2	1	1	1	1	4	2	1	1	2	2	1	0	0	0	0	0	0	0	4	1.1	24	
10	IZS	3	2	1	1	1	1	1	5	1	24	1	17	2	1	1	6	1	1	1	1	1	4	IZS	24	3.5	24	
11	3	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0	1	IZS	3	3	1.2	24	
12	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	IZS	3	2	3	1.2	24	
13	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	IZS	3	1	1	3	1.2	24	
14	0	0	0	0	0	0	0	0	0	1	1	1	1	2	1	1	1	1	0	IZS	5	4	3	3	5	1.1	24	
15	2	2	2	2	2	2	2	2	2	2	3	4	5	5	4	3	2	2	IZS	3	2	1	1	1	5	2.4	24	
16	1	1	1	1	1	0	1	0	1	1	2	2	2	1	1	3	1	IZS	4	28	1	2	1	1	28	2.5	24	
17	1	2	2	2	2	2	2	2	2	5	C	C	C	C	C	C	C	C	11	32	27	27	30	30	32	11.2	24	
18	27	28	15	3	2	2	2	1	1	3	5	5	5	5	5	IZS	4	2	1	1	1	2	2	2	28	5.4	24	
19	1	1	1	1	1	1	1	1	1	1	2	1	1	1	IZS	2	1	1	0	1	1	0	0	0	2	0.9	24	
20	0	0	0	0	0	0	0	0	1	0	0	1	1	IZS	3	1	1	1	0	0	0	1	0	0	3	0.4	24	
21	0	0	1	1	1	1	1	1	1	1	1	1	IZS	4	2	1	1	1	1	1	1	1	1	1	4	1.1	24	
22	1	1	1	1	1	1	1	1	1	2	2	IZS	4	3	2	1	1	2	2	1	1	1	1	1	4	1.4	24	
23	1	1	0	0	0	0	0	0	1	1	IZS	5	2	2	1	11	2	0	1	1	1	1	1	11	1.4	24		
24	1	1	2	3	3	2	2	3	4	IZS	37	5	4	4	4	4	1	1	1	2	2	2	2	2	37	4.0	24	
25	2	2	2	1	2	2	1	2	IZS	5	6	7	8	7	6	4	2	2	2	2	2	1	2	2	8	3.1	24	
26	1	1	1	1	1	1	1	IZS	3	3	4	4	5	4	4	4	4	2	1	2	1	1	2	2	5	2.2	24	
27	1	2	2	2	2	2	IZS	4	1	4	4	5	4	3	3	3	1	1	1	1	0	0	0	5	2.0	24		
28	1	0	1	0	0	IZS	3	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0	3	0.8	24	
29	0	1	1	1	IZS	3	1	1	1	1	3	1	1	1	1	0	1	0	2	0	0	0	0	0	3	0.9	24	
30	1	0	0	IZS	3	1	1	2	1	2	2	3	2	1	1	1	1	0	1	0	0	0	0	0	3	1.0	24	
31	0	0	IZS	3	2	1	1	2	1	1	13	1	1	0	0	0	1	0	0	0	1	1	0	1	13	1.3	24	
HOURLY MAX	27	28	15	3	25	3	3	4	5	5	37	7	22	7	6	11	6	2	11	32	27	27	30	30				
HOURLY AVG	1.8	1.9	1.6	1.1	2.0	1.2	1.2	1.3	1.4	1.9	4.9	2.6	3.8	2.4	2.2	2.0	1.5	0.9	1.3	2.8	1.8	2.0	2.1	2.0				

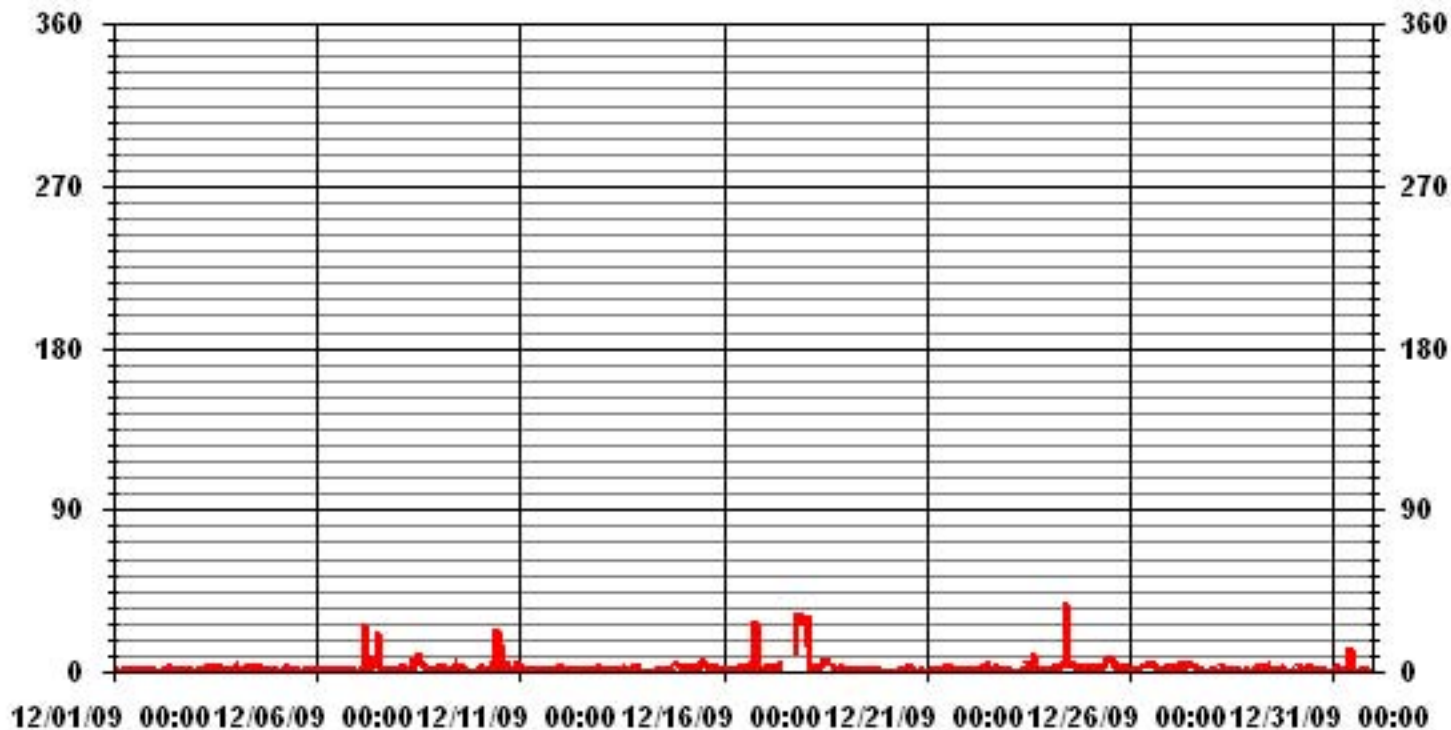
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	590					
MAXIMUM INSTANTANEOUS VALUE:	37	PPB	@ HOUR(S)	10	ON DAY(S)	24
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION	3.84					

01 Hour Averages



LICA31
 NO_ / WDR Joint Frequency Distribution (Percent)

December 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	4.10	2.26	3.11	3.39	2.26	1.41	2.54	6.23	12.03	8.64	6.37	6.23	10.05	8.35	14.87	8.07	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.10	2.26	3.11	3.39	2.26	1.41	2.54	6.23	12.03	8.64	6.37	6.23	10.05	8.35	14.87	8.07	

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
< 50	29	16	22	24	16	10	18	44	85	61	45	44	71	59	105	57	706
< 110																	
< 210																	
>= 210																	
Totals	29	16	22	24	16	10	18	44	85	61	45	44	71	59	105	57	

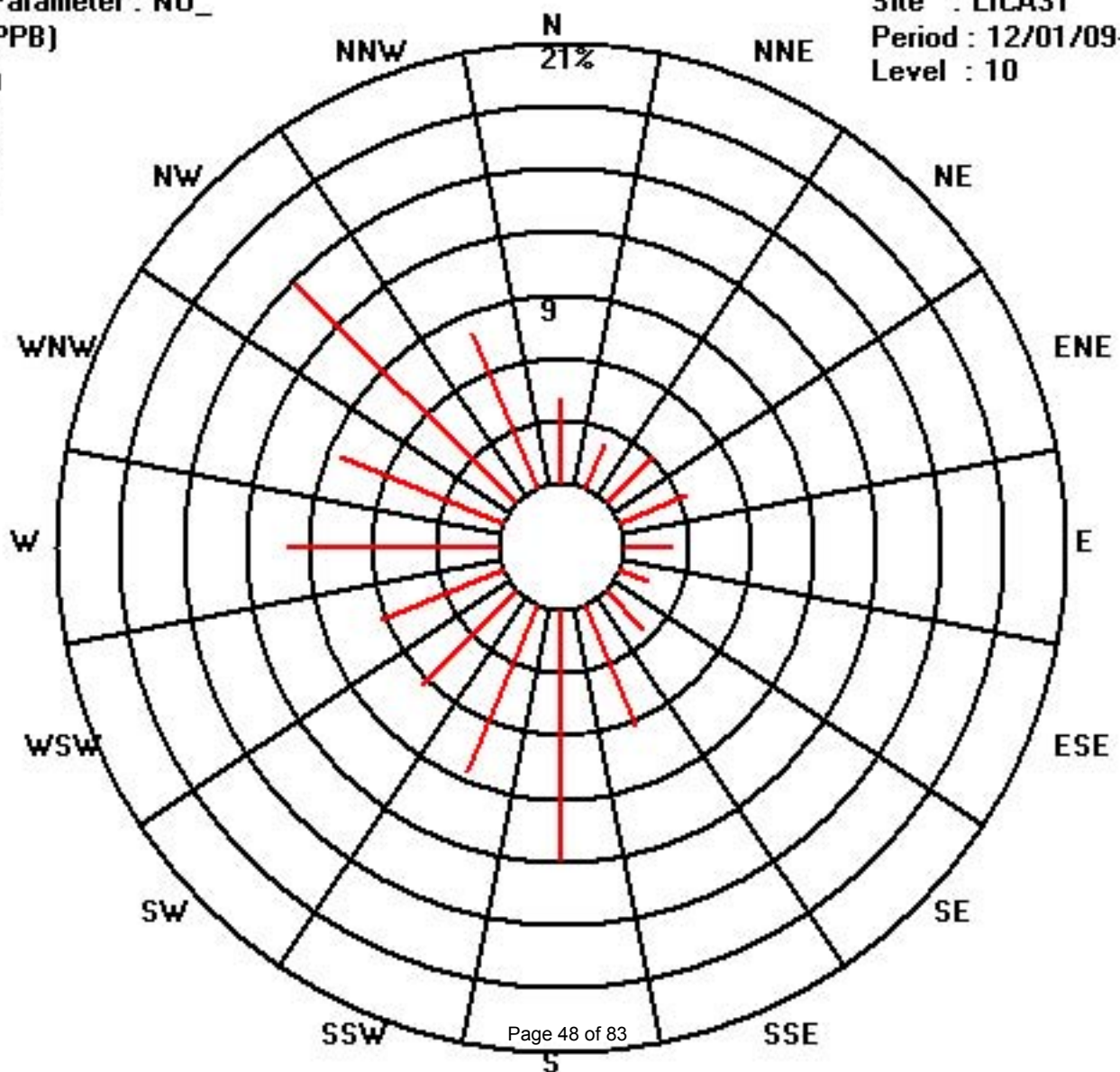
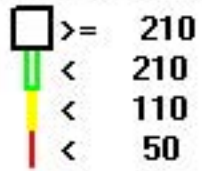
Calm : .00 %

Total # Operational Hours : 706

Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA
DECEMBER 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	1	0	0	0	0	IZS	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	0.6	24
2	0	0	0	0	0	0	1	1	IZS	2	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	2	0.7	24
3	1	2	1	1	2	2	2	IZS	3	3	5	6	6	5	6	6	4	3	4	4	3	4	3	3	6	3.4	24	
4	4	4	4	4	4	4	3	IZS	5	5	6	7	9	8	8	6	5	3	2	1	0	0	0	0	9	3.8	24	
5	0	0	0	0	0	IZS	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	1	2	0.7	24	
6	0	1	1	0	IZS	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
7	1	2	2	IZS	4	4	4	4	6	8	6	6	5	5	5	5	6	5	7	8	8	8	8	8	8	8	5.3	24
8	8	7	IZS	6	6	6	7	8	8	9	11	13	15	14	14	12	15	15	14	14	11	7	7	8	15	10.2	24	
9	7	IZS	7	7	7	6	5	4	4	4	4	3	2	2	2	6	5	4	3	2	2	1	0	0	7	3.8	24	
10	IZS	3	2	1	1	1	1	1	1	1	2	1	3	2	1	2	2	2	1	1	1	1	2	IZS	3	1.5	24	
11	2	1	1	0	1	2	2	1	2	2	2	2	2	2	3	2	2	2	2	2	1	2	IZS	2	3	1.7	24	
12	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	2	2	2	1.0	24
13	1	1	2	1	1	1	1	1	2	1	2	1	1	2	1	2	3	3	3	2	IZS	3	3	3	3	3	1.8	24
14	2	2	2	2	2	2	2	2	2	3	3	2	2	2	3	4	4	5	4	IZS	23	26	17	13	26	5.6	24	
15	11	11	13	12	10	10	9	8	8	8	8	7	9	10	9	10	11	13	IZS	12	10	10	10	9	13	9.9	24	
16	8	7	8	7	6	7	8	7	7	6	5	5	5	4	4	5	5	IZS	7	8	9	9	8	8	9	6.7	24	
17	7	8	8	8	8	8	8	7	10	12	C	C	C	C	C	C	C	28	33	49	59	57	58	61	61	25.2	24	
18	57	54	38	24	16	13	11	7	9	12	14	14	14	16	16	IZS	16	15	13	12	15	15	14	13	57	18.6	24	
19	13	13	13	13	11	12	11	6	5	5	4	3	1	1	IZS	0	0	0	0	0	0	0	0	0	13	4.8	24	
20	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	2	1	1	1	1	1	0	1	1	1	2	0.4	24	
21	1	1	2	3	4	8	5	6	4	3	2	2	IZS	3	3	3	3	4	5	6	5	3	3	6	8	3.7	24	
22	7	6	5	5	5	6	6	7	7	7	4	IZS	3	4	4	4	3	4	4	3	2	3	2	3	7	4.5	24	
23	2	1	0	0	0	0	0	1	1	1	IZS	3	2	2	2	2	2	3	4	5	5	5	6	6	6	2.3	24	
24	9	12	19	21	19	16	14	13	IZS	12	8	7	7	8	8	8	8	8	9	10	12	14	13	12	21	12.2	24	
25	11	11	10	9	10	10	11	12	IZS	13	13	13	14	13	13	11	11	11	10	10	9	10	9	9	14	11.0	24	
26	9	8	8	8	8	8	9	IZS	9	9	9	9	10	10	11	11	13	12	12	12	12	12	12	12	13	10.1	24	
27	11	13	14	14	15	14	IZS	11	9	10	10	8	6	6	6	7	8	8	4	1	0	0	0	0	15	7.6	24	
28	0	0	0	0	0	IZS	1	1	1	1	0	0	0	0	0	0	1	1	1	1	0	1	1	1	1	0.5	24	
29	2	1	2	2	IZS	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.6	24	
30	0	0	0	IZS	1	1	0	0	0	1	1	1	1	1	2	1	1	1	2	1	1	1	1	1	2	0.8	24	
31	0	1	IZS	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	1	2	2	2	2	2	0.7	24	
HOURLY MAX	57	54	38	24	21	19	16	14	13	13	14	14	15	16	16	12	16	28	33	49	59	57	58	61				
HOURLY AVG	5.8	5.7	5.6	5.2	5.0	5.1	4.3	4.1	4.0	4.3	4.5	4.2	4.2	4.3	4.3	3.9	4.3	5.1	4.9	5.6	6.5	6.6	6.2	6.2				

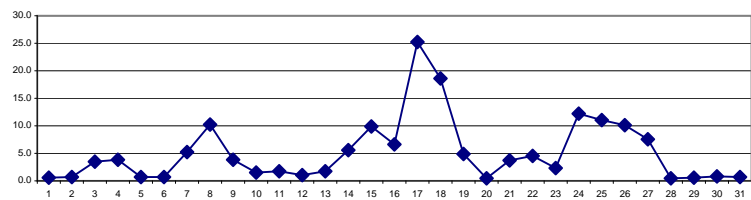
STATUS FLAG CODES

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

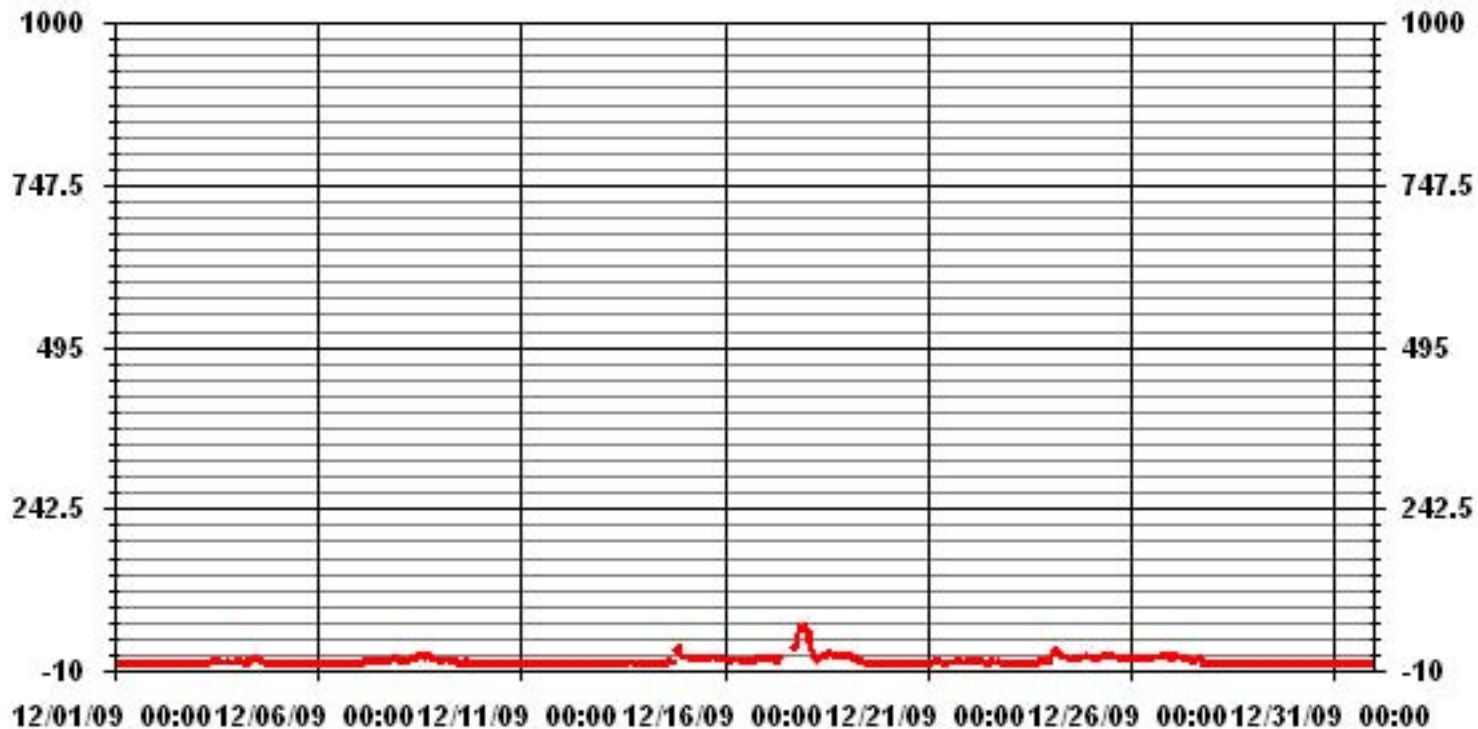
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	586
MAXIMUM 1-HR AVERAGE:	61 PPB @ HOUR(S) 23 ON DAY(S) 17
MAXIMUM 24-HR AVERAGE:	25.2 PPB ON DAY(S) 17
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	7.17
OPERATIONAL TIME:	744 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	5.01 PPB

24 HOUR AVERAGES FOR DECEMBER 2009



01 Hour Averages



— LICA31 NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

DECEMBER 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	1	1	1	1	1	1	1	1	IZS	2	1	1	3	1	2	1	1	2	2	2	1	1	2	3	1.3	24	
2	1	1	1	1	1	1	4	4	IZS	2	2	2	4	2	2	2	1	1	3	3	1	2	3	1	4	2.0	24	
3	2	2	2	2	3	3	3	IZS	4	5	6	7	6	6	7	7	6	3	5	5	4	5	5	4	7	4.4	24	
4	4	7	5	5	5	4	IZS	8	7	8	9	10	9	9	7	7	5	3	2	1	1	1	1	1	10	5.2	24	
5	1	0	0	0	0	IZS	2	2	1	1	1	2	2	2	1	2	2	2	1	1	1	3	3	3	3	1.4	24	
6	1	2	2	1	IZS	1	1	1	1	1	1	1	2	2	2	2	3	2	1	2	2	3	3	2	3	1.7	24	
7	3	3	5	IZS	32	5	5	7	6	7	14	8	38	6	6	5	7	7	6	8	8	9	9	9	38	9.3	24	
8	9	8	IZS	8	7	7	9	9	9	12	12	14	19	15	15	15	17	17	15	15	14	10	8	9	19	11.9	24	
9	8	IZS	9	8	8	8	6	5	5	6	8	4	3	4	7	9	7	6	5	3	3	2	1	1	9	5.5	24	
10	IZS	4	3	2	2	2	1	2	4	2	35	2	28	4	2	3	13	3	2	2	2	2	8	IZS	35	5.8	24	
11	4	2	2	1	2	3	3	2	3	3	3	3	3	4	4	3	3	3	3	4	2	3	IZS	4	4	2.9	24	
12	2	2	1	1	2	2	2	2	1	1	2	1	2	1	1	2	2	2	2	2	2	2	IZS	3	2	3	1.7	24
13	2	2	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	3	IZS	4	4	4	4	2.8	24	
14	3	3	3	3	3	2	3	3	3	4	3	3	3	3	5	6	6	6	7	IZS	31	31	22	15	31	7.4	24	
15	12	15	15	12	12	11	11	9	9	9	9	9	11	11	11	11	13	14	IZS	14	12	11	12	10	15	11.4	24	
16	9	8	9	8	7	8	9	8	8	7	6	6	7	5	6	13	10	IZS	9	41	12	13	9	10	41	9.9	24	
17	8	8	10	10	9	9	9	9	12	14	C	C	C	C	C	C	C	C	40	59	62	62	66	64	66	28.2	24	
18	61	59	47	31	18	16	15	8	11	13	16	15	16	17	18	IZS	17	17	14	13	17	16	15	14	61	21.0	24	
19	14	14	14	15	12	13	12	8	6	5	6	4	3	3	IZS	1	0	2	1	1	2	1	1	0	15	6.0	24	
20	0	0	0	0	0	0	0	0	0	0	0	0	1	IZS	3	2	1	2	2	2	2	1	2	3	3	0.9	24	
21	1	2	3	4	7	9	8	6	6	4	3	3	IZS	4	4	4	4	5	7	7	6	4	5	7	9	4.9	24	
22	8	8	6	6	6	7	7	8	9	8	6	IZS	4	5	5	4	4	6	6	5	4	3	3	3	9	5.7	24	
23	3	2	1	1	1	1	1	1	2	2	IZS	6	3	4	2	17	4	5	6	6	5	5	7	7	17	4.0	24	
24	12	15	22	22	23	22	17	17	28	IZS	51	10	8	8	11	10	10	9	9	13	14	15	14	13	51	16.2	24	
25	12	12	11	10	11	10	13	13	IZS	14	13	14	16	14	15	12	12	12	11	11	10	11	11	10	16	12.1	24	
26	10	9	9	9	9	9	10	IZS	10	10	10	10	11	11	13	13	15	15	14	13	13	14	14	14	15	11.5	24	
27	12	16	15	16	16	15	IZS	12	10	11	11	10	8	7	7	9	9	10	7	2	1	0	0	0	16	8.9	24	
28	0	0	0	0	0	IZS	2	1	1	1	1	1	1	0	1	1	5	4	1	1	1	4	2	2	5	1.3	24	
29	3	2	2	3	IZS	4	3	2	2	7	3	1	1	1	1	1	0	0	2	0	0	0	0	0	7	1.7	24	
30	0	0	0	IZS	2	2	1	2	2	4	3	4	3	3	3	2	3	2	3	2	2	2	2	2	4	2.1	24	
31	1	1	IZS	2	2	2	1	6	3	2	20	1	1	0	0	0	3	1	1	2	3	3	4	5	20	2.8	24	
HOURLY MAX	61	59	47	31	32	22	17	17	28	14	51	15	38	17	18	17	17	17	40	59	62	62	66	64				
HOURLY AVG	6.9	6.9	6.9	6.3	7.0	6.2	5.6	5.4	5.7	5.7	8.9	5.3	7.4	5.4	5.7	5.9	6.2	5.7	6.4	8.1	8.0	8.0	7.9	7.4				

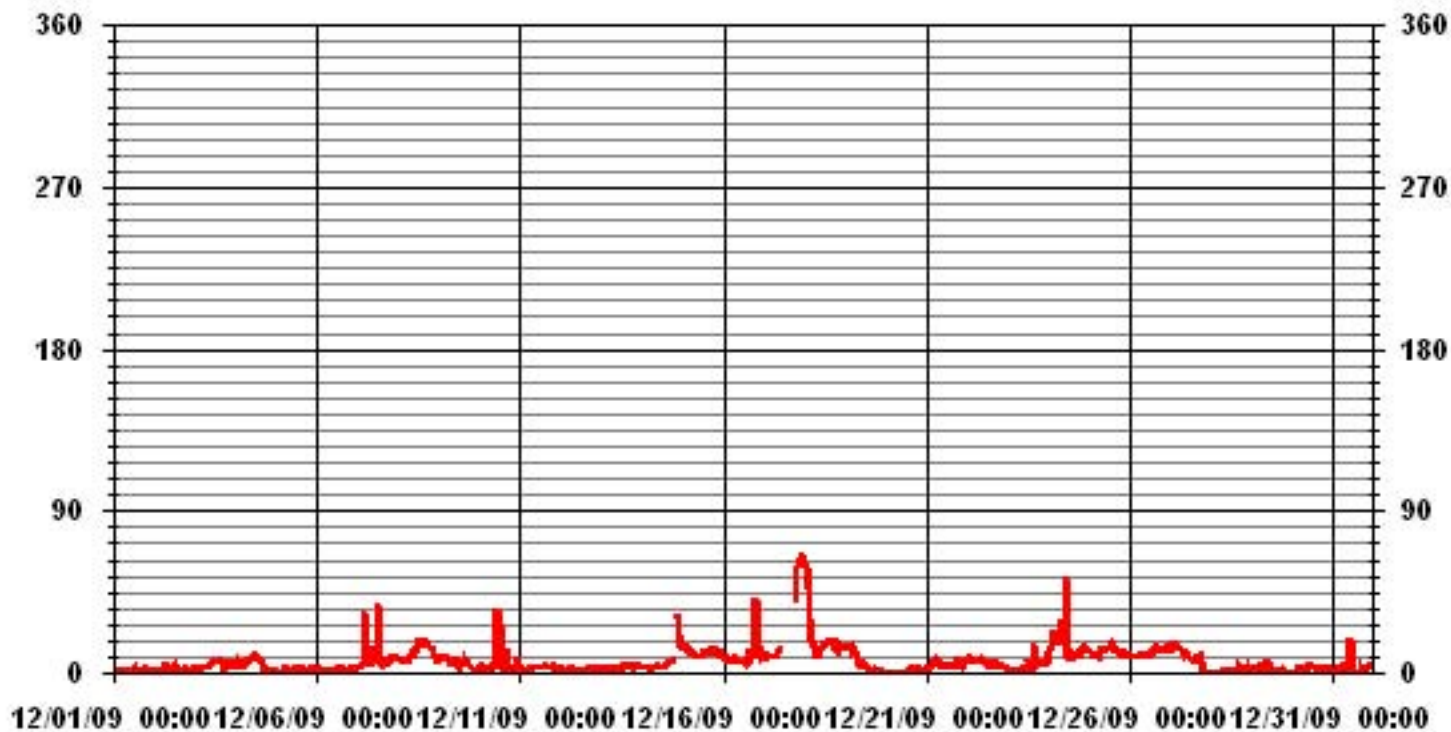
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	665		
MAXIMUM INSTANTANEOUS VALUE:	66 PPB @ HOUR(S) 22 ON DAY(S) 17		
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	744 HRS
MONTHLY CALIBRATION TIME:	8 HRS		
STANDARD DEVIATION	8.36		

01 Hour Averages



— LICA31 NOXMAX PPB

LICA31
 NOX_ / WDR Joint Frequency Distribution (Percent)

December 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	4.10	2.26	3.11	3.39	2.26	1.41	2.54	6.23	12.03	8.64	5.94	5.80	10.05	8.35	14.87	8.07	99.15
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.42	.42	.00	.00	.00	.00	.84
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.10	2.26	3.11	3.39	2.26	1.41	2.54	6.23	12.03	8.64	6.37	6.23	10.05	8.35	14.87	8.07	

Calm : .00 %

Total # Operational Hours : 706

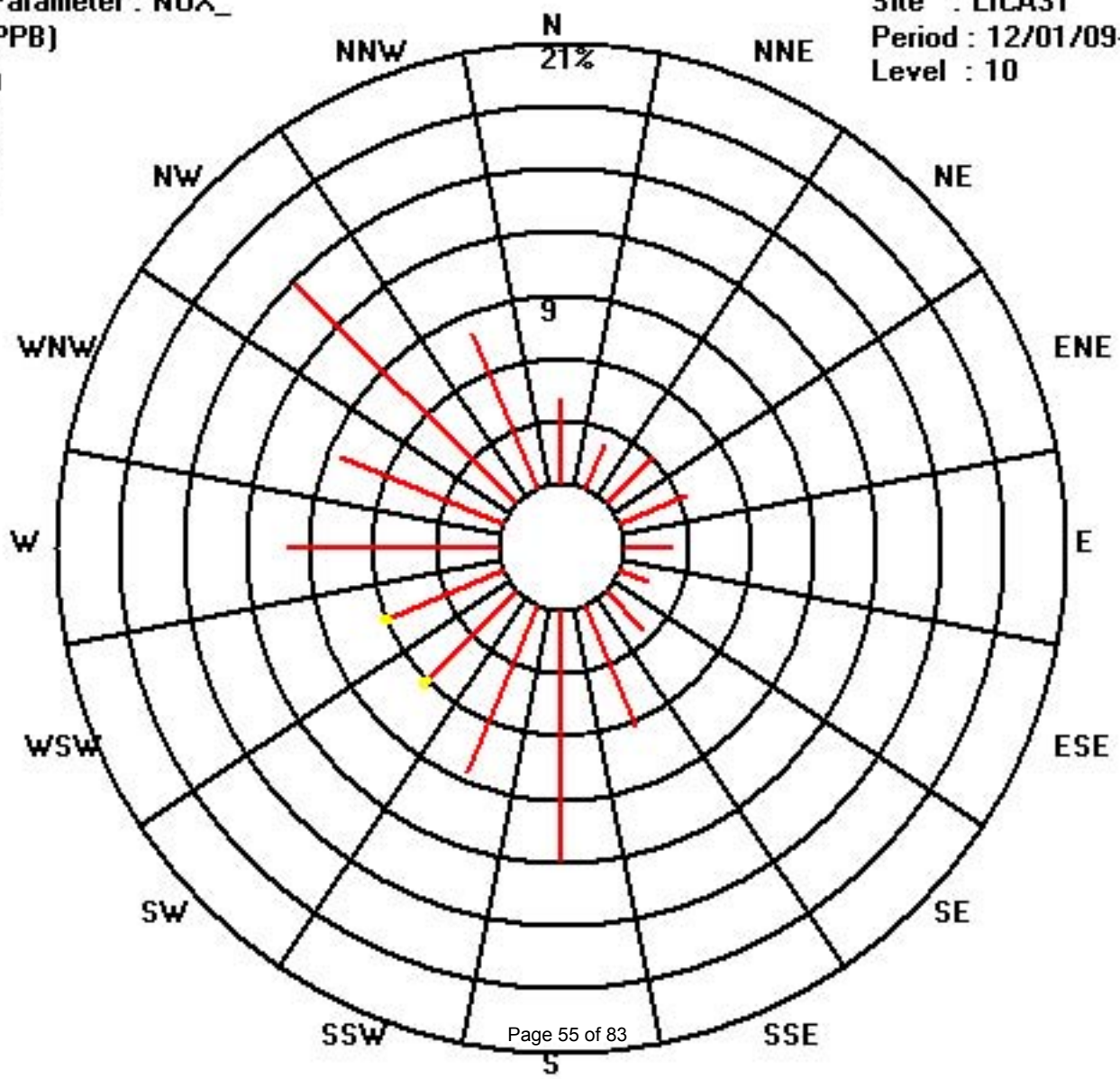
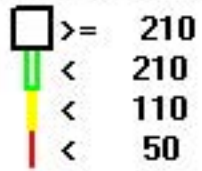
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	29	16	22	24	16	10	18	44	85	61	42	41	71	59	105	57	700
< 110											3	3					6
< 210																	
>= 210																	
Totals	29	16	22	24	16	10	18	44	85	61	45	44	71	59	105	57	

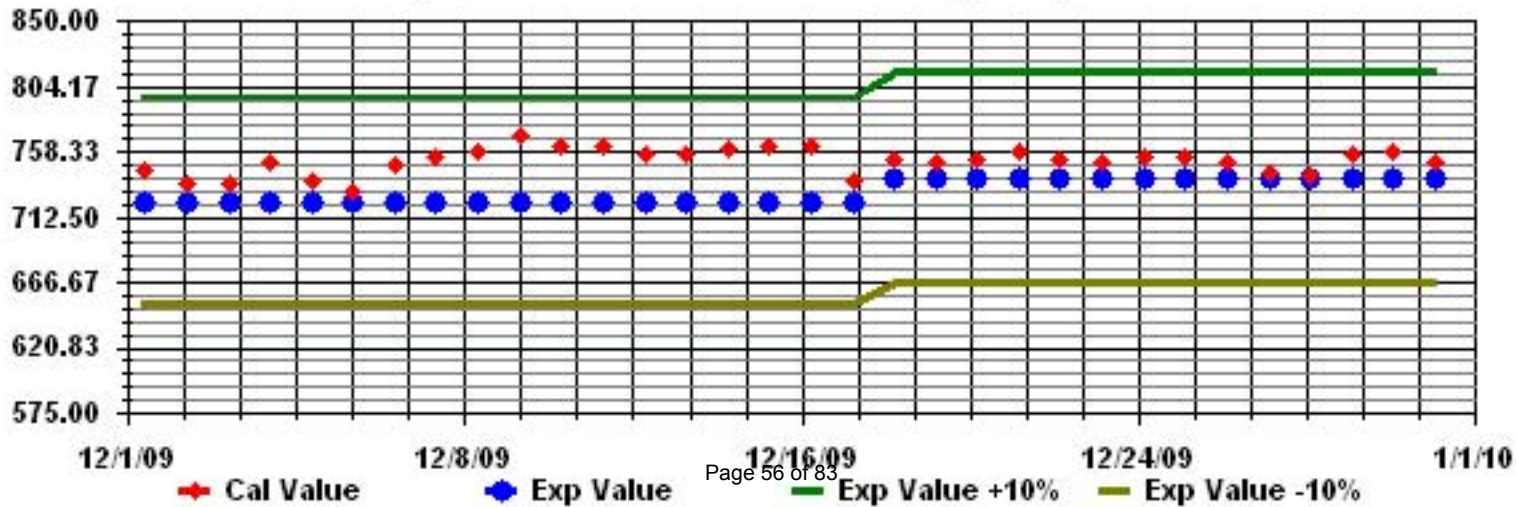
Calm : .00 %

Total # Operational Hours : 706

Class Limits (PPB)



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



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST.LINA

DECEMBER 2009

WIND SPEED 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		
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		18.8	19.3	16	15.8	15	16.3	17.3	16.5	16.4	14.4	13.3	17	17.1	16.6	16.9	14.6	9.9	10.4	10.8	10.3	9.5	8.3	9.2	8.7	19.3	13.3	24	
2		9.3	8.5	6.9	5.8	5.7	4.7	3.9	0.2	1.1	2.4	3.1	3.6	4.4	4.6	4	1.9	1.7	3.5	3.8	5.2	7.3	7.4	7.2	8.3	9.3	0.9	24	
3		9.1	9.7	9.6	8.4	8.7	9.3	9.5	11.7	11.2	11.2	11.3	11.8	11.1	12.9	15.2	16.2	16.4	13.2	13.9	15.1	14.6	12.6	12.9	11.8	16.4	11.7	24	
4		10.2	7.2	7.9	3.4	4.7	3.4	8.3	7.6	8.3	11.6	12.2	12.3	13	16.2	16.6	18.3	18.9	21	20.1	25.3	19.7	20.8	26.3	24	26.3	10.4	24	
5		20.8	18.1	23.2	26.3	24.1	22.3	22.1	22.5	21.9	19.8	20.1	19.9	23.3	20.8	23.6	21	22.4	24.4	23.2	16.6	14.7	15.6	11.3	11.2	26.3	19.9	24	
6		14.6	18.1	20.6	17.2	15.8	21.2	16.5	16.1	15.4	16.6	16.2	17.1	16.2	14.6	12.7	7.8	10.5	10	9.8	10.2	9.2	5.2	4.4	4.2	21.2	13.1	24	
7		30.2	8	8	9.3	8.5	10.6	9.8	8.7	7.4	8.2	8.2	8.5	7	9.1	8.1	8.6	11.1	13.4	12.5	12.6	11.7	10.6	9.8	11.8	30.2	9.2	24	
8		10.1	7.9	11.1	10.4	12.9	13.1	9.7	11.8	9.8	7.2	5.5	7.8	6.8	7.8	8.3	6.8	6.1	6.5	5	4.8	7.1	5.7	4.8	6.6	13.1	6.3	24	
9		8.5	7.9	6.1	6.4	9.8	9.1	6	6.3	6.7	6.3	4.8	6.4	7.2	9.2	4.5	5.5	7.4	8.7	9.1	8.1	8.8	10.6	11	9.7	11	6.8	24	
10		11.5	9.8	10.8	12.2	11.4	10.7	8	8.6	8.1	9.4	8.1	9.6	11.2	15.1	15.9	16.4	15.2	15.5	9.7	10	7.5	2.4	3	2.9	16.4	8.9	24	
11		7.4	12.9	10.5	10.1	10.4	8.6	9.6	8.8	7.9	3.9	2.1	3.1	3.5	3.7	4.5	28.1	21.8	9.8	8.7	8.9	9.1	9.7	8.7	9.8	28.1	7.7	24	
12		8.5	8.4	9.2	8.1	9.6	10.8	12	10.4	11.6	12.5	11.6	12.9	12.5	19.4	5.1	9.8	10.4	12.1	12.3	10.6	9.3	9.5	9.8	9.5	19.4	8.6	24	
13		9.3	8.6	9.1	7.8	9.3	11	12.6	10.6	11.5	14.7	13.3	10.1	12.4	9.8	9.1	6.4	11.4	7.3	9.6	11.8	11.3	10.5	10.6	11.2	14.7	9.1	24	
14		11	11	12.6	12.2	12.2	13.6	12.3	13.1	11.4	9.1	10.9	8.9	7.9	7.8	8.4	5.6	7.2	9.7	8.5	6.6	9	10.5	12	10.6	13.6	9.1	24	
15		10.7	12.1	13.3	14.6	12.8	14.5	15.1	15.3	13.2	12	15.3	9.5	8.5	9.5	6.9	6.3	7.7	8.5	8.3	5.7	7.1	9.5	8.9	9.1	15.3	9.7	24	
16		9.6	9.8	11.9	9	8.4	12.3	12.2	10.5	10.4	7.7	9	9.4	7.2	6.6	6.1	5.4	6.3	6.7	11.6	9	6.7	7.4	8.7	10.4	12.3	6.2	24	
17		8.6	6	5.2	5.8	7.9	5.5	6.1	7.6	8	8.8	11.8	9.1	9	7.9	8.8	9.8	13.5	10.9	10.3	11.5	9.8	10.4	10.1	9.5	13.5	5.8	24	
18		10.1	7.9	9.6	7.8	9.1	9.9	10	8.8	12.4	14.4	13	12.7	10.9	11.4	13.6	13.2	13.1	14.2	8.4	2.3	6.4	5	4.2	0.9	14.4	8.2	24	
19		1.7	2.7	6.2	12.2	11.8	8.5	10.9	9.7	8.7	9.3	8.4	9.2	10.4	11.3	11.2	8.6	5.8	8.9	9.5	9.6	9.9	10.1	10.4	11.6	12.2	8.1	24	
20		13.3	12.9	11.7	11.3	11.3	11.4	12.1	11.6	11.9	11.7	11.2	10.4	8.6	8.4	5.6	5.6	8.1	7.9	7.3	6.9	8.4	7.8	11.1	9	13.3	8.5	24	
21		8.7	9.4	10.9	13	10.1	9	8	10.4	9.4	7.1	7.2	6.2	7.3	6	4.4	4.1	3.8	5.1	4.2	3.6	2.1	1.7	3.5	5.1	13	6.4	24	
22		4.5	4.9	5.5	5.4	3.8	4	3.3	3.9	4.7	4.2	3.8	3.9	5	5.5	4.8	4.6	3.5	5.8	8	7.7	8.2	9.2	9.3	11.1	11.1	4.4	24	
23		11.7	10.6	11.2	12.6	13.2	11.4	12.4	13.3	12.5	11.5	9.4	10.1	9	7.2	7.6	6.7	7.1	7.6	9.1	10.4	10.7	8.8	6.1	6.6	13.3	8.9	24	
24		8.2	10.1	9.8	9.4	10.3	10.7	10.4	11.6	11.1	10.3	9.8	9.2	9.6	9.1	8.4	8.9	6.8	6.3	3.9	8.4	5.3	8.1	7	4.8	11.6	8.4	24	
25		7.1	8.5	8.8	10.9	8	11.6	14	12.8	13.2	13	12	11.5	10.7	8.1	11.1	13.9	12.5	12.3	15.2	13.8	12.2	12.4	14	14.4	15.2	11.5	24	
26		12.9	12.7	12.7	13.3	15.3	14.8	14.6	13.2	13	14.2	17.2	17.8	14.5	8.8	7.9	7.2	10.5	13.7	9.8	12.5	11.5	8.4	4	8.5	17.8	11.7	24	
27		7.9	5.7	6.3	5.7	8	11.6	11.9	10.1	12.6	10	11.6	13.6	11.3	11.9	10.7	11.8	12.7	18.9	20.3	17.5	18	17	16.5	13.7	20.3	9.3	24	
28		11.2	11.9	10.9	10.6	10.7	12	13.3	14.5	12.1	12.9	13.7	12.9	11.1	11.6	8	6.4	3.6	6.6	4.6	4.9	3.9	3.5	2.8	4.1	14.5	7.7	24	
29		7.5	10.1	10.5	9.7	9.1	9.5	12	11.3	14.1	12.9	11.4	13	12.7	11.7	11.3	10.4	12	13.4	12.4	13.1	12.7	13.4	11.4	10.9	14.1	11.4	24	
30		10.5	9.3	10.4	10.5	11.1	11.5	11.5	11	10.2	11.2	11.3	9.3	10.7	11	11.3	10.7	11.7	11.4	12.9	12.2	11.8	11	9.1	10.4	12.9	10.8	24	
31		12.1	12	12.4	12.8	12	9.4	8.1	9.6	8.6	8.6	4.9	4.4	2.8	1.8	0.6	2.9	4.8	6.6	6.6	8.2	8	9.1	8.4	10.9	12.8	2.7	24	
HOURLY MAX		30.2	19.3	23.2	26.3	24.1	22.3	22.1	22.5	21.9	19.8	20.1	19.9	23.3	20.8	23.6	28.1	22.4	24.4	23.2	25.3	19.7	20.8	26.3	24.0				
HOURLY AVG		10.8	10.1	10.6	10.6	10.7	11.0	11.1	10.9	10.8	10.6	10.4	10.4	10.1	10.2	9.4	9.8	10.1	10.7	10.3	10.1	9.7	9.4	9.2	9.4				

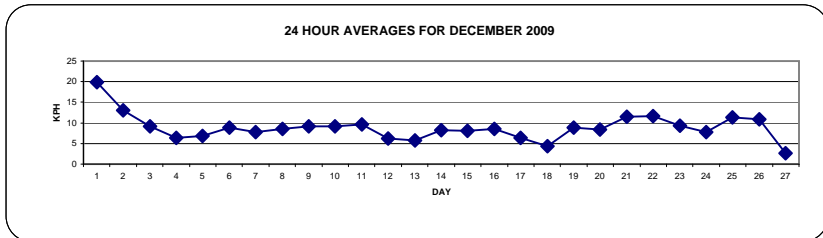
STATUS FLAG CODES

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

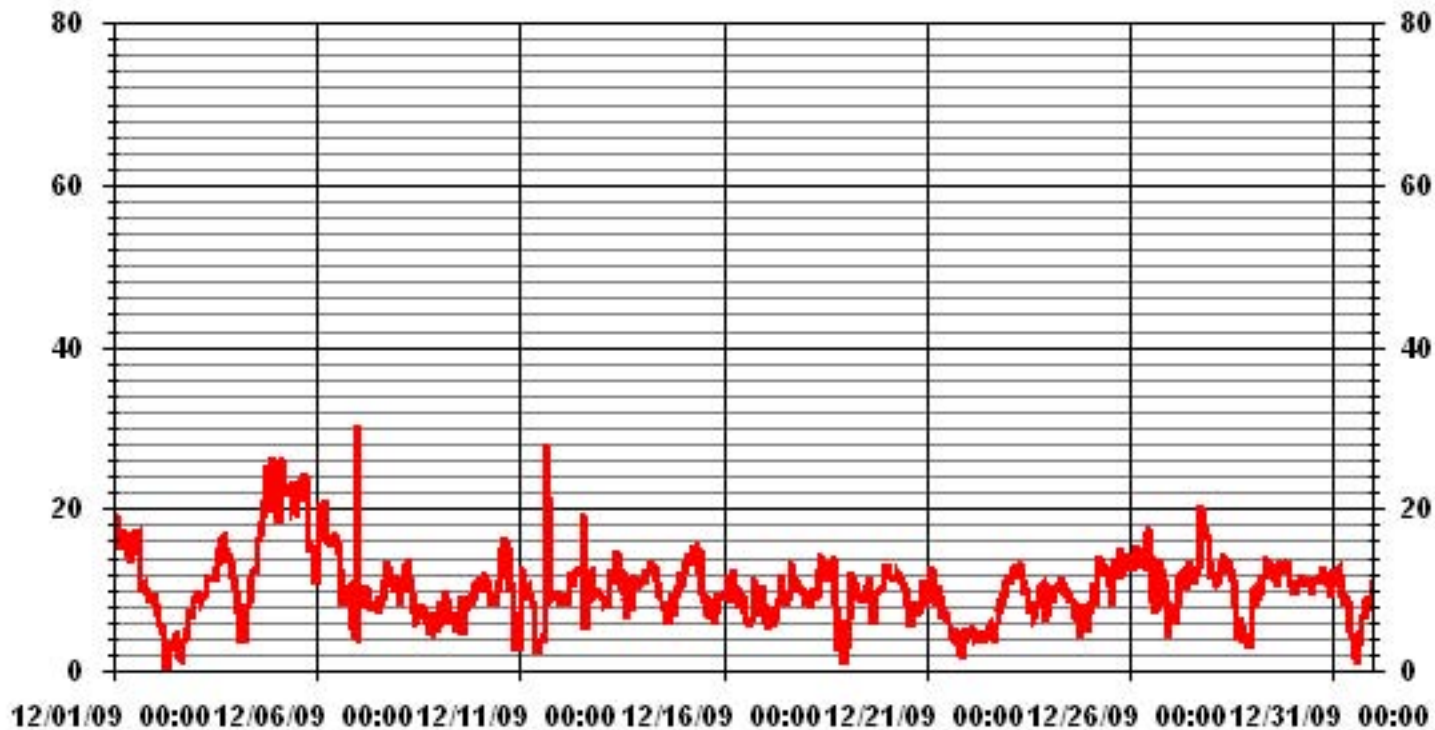
LAST CALIBRATION: February 3, 2009

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	30.2	KPH	@ HOUR(S)	0	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	19.9	KPH			ON DAY(S)	5
CALMS (≤ 1 KPH)	0.27	%	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	100.0	%	
STANDARD DEVIATION	4.29		MONTHLY AVERAGE	10.26	KPH	



01 Hour Averages



— LICA31 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

DECEMBER 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		39.5	43.6	36.2	33.5	35.9	38.5	35.9	37.9	42.8	32.2	33.7	34.8	33.2	37.4	36.1	37.8	21.6	19.9	25	23.3	22.9	21.2	22	23.1	43.6
2		23.1	21.3	20.5	19.7	19.2	18.6	12.2	9.9	9.9	11.6	13.8	14	14.9	15.8	12.5	14.9	9.1	13.6	14.8	15.6	14	17.1	16.2	23.1	23.1
3		20.2	20.5	17.9	19	16.2	18.4	18.6	23.3	22	22.9	22.5	23.3	27.2	25.3	32.2	30	26.9	27.2	28.3	35.5	30.5	30.2	30.9	27.9	35.5
4		24.9	14.7	17.1	16.6	13.6	15.5	14.7	19.7	16	25	22.5	25.7	25.7	32.6	34.5	44.1	43	50.4	46.5	62.9	48.8	56.4	72	62.2	72
5		50.1	44.7	67.2	66.1	70.9	54	59.2	57.7	54.3	57.3	47.9	57.1	67.2	51.4	69.6	58.6	59.3	67	67.7	44.9	40	35.5	32.2	30.7	70.9
6		29.4	43.7	52.3	41.9	51.7	52.5	39.4	40.2	32.4	32.9	37.6	36.3	38.7	36.6	30.7	20.3	20.3	26.4	18.8	20.7	21.2	14.9	44.1	12.3	52.5
7		177.3	21.8	14.9	16	18.8	20.5	19	15.6	14.7	20.1	20.1	19.4	18.1	25.4	20.3	17.5	21.4	25.5	22.7	24.1	22.9	22.3	20.5	20.1	177.3
8		18.9	18.6	20.9	20.1	24	22.6	18.1	20.3	16	17.5	12.2	17.9	17.7	19.8	19.4	18.3	12.9	11.6	13.1	13.1	19.8	17.9	12.7	11	24
9		18.6	21.6	29.8	14.4	25	20.1	15.5	19.9	13.3	19.4	15.3	13.3	16.4	20.9	8.6	8.8	13.8	19.6	21.8	21.2	21.4	24.8	26.1	19.6	29.8
10		24.4	21.4	21.8	25.2	23.3	24	20.1	17.7	19.9	20.3	18.1	17.9	17.9	43.2	40.4	30	28.1	31.8	21.8	22.7	21.6	60.3	28.3	30.5	60.3
11		22.4	33.7	29.6	30	26.1	21.8	30.3	28.1	24.6	52.5	50.6	30.9	45	67.9	74.8	130.5	131.6	58.8	58.8	27.9	27.9	29.6	29.8	47.6	131.6
12		58.2	56.9	23.3	21.6	24	22.5	28.1	23.8	27.2	30.1	29.4	31.2	29.6	46.5	28.3	25.9	26.8	27.9	28.8	28.8	27.2	23.6	27	23.6	58.2
13		23.4	21.2	22.5	65.8	25.5	25.9	29.2	31.2	29	28.8	31.2	27.2	30.1	26.2	25.5	29.8	67.3	43.1	25.1	26.8	29.6	24	17.9	23.8	67.3
14		19.7	19	26.8	25.3	31.6	27.2	26.6	27.3	27	29.4	30.1	21.6	22.9	20.9	17.1	14.9	17.3	17.9	15.5	21.6	19.9	19.5	25.1	23.3	31.6
15		23.6	26.6	26.4	26.4	22.5	27.3	32.6	27.7	27.2	24.4	27.7	20.5	23.8	26.3	17	13.2	20.5	17.9	19.9	21.8	18.6	20.5	21.8	20.5	32.6
16		20.6	21	25.9	25.7	19.7	26.2	25.8	24.2	23.3	16.2	18.4	19.9	17.1	16.9	20.1	16	16.4	16.9	16.9	17.3	18.3	19	17.9	18.1	26.2
17		19.7	17.3	9.3	21.2	19.5	16.9	20.1	21.4	22	21.6	29.4	23.1	19.4	16	21.6	13.6	17.9	15.1	14.9	14.2	13	13.6	15.3	12.5	29.4
18		14.5	11	14.2	12.5	14.2	16.2	14.9	13.8	20.7	23.6	21.4	21.1	21.6	22	26.1	22.7	24.8	24.6	17.5	42.1	14.5	14.5	12.7	15.1	42.1
19		17.7	15.1	21.2	24.2	25.3	12.3	22.2	18.6	17.9	23.5	16.2	19.2	22.2	29.4	28.1	18.1	14.7	13.3	15.3	17.5	27.4	18.1	22.6	36.3	36.3
20		29	28.7	23.3	26.8	30.9	32.6	24.6	26.9	24	25.5	24.2	23.5	18.1	17.5	17.3	19.8	20.3	17.1	20.7	20.5	13.2	23.1	24.2	17.2	32.6
21		11.7	15.8	16.9	19.2	18.2	16.4	13.6	17.7	20.5	16.9	16.6	15.3	18.4	17.1	16.4	13	17.9	13	12.7	59.5	8.6	17.5	13.6	14	59.5
22		18.6	14.9	13.2	18.8	10.4	11.4	11.4	11.2	8.2	21.1	13	17.9	21.2	21.2	17.5	19.9	17.3	19	18.6	20.3	17.5	19.2	19.2	22.5	22.5
23		24.1	22	24.4	28.1	26.4	21.6	26.4	31.4	29.2	25.1	24.6	22.5	21.6	17.9	20.1	17.9	54.2	18.8	17.3	18.7	19.9	22.7	12.9	13.6	54.2
24		14.5	15.1	18.2	15.8	19	19.7	19.9	21.2	18.8	20.5	19.2	19.7	22.7	22.9	25.3	17.3	17.5	18.8	19.7	28.5	19.9	17.5	20	51.7	51.7
25		15.6	17.1	19.7	22.3	18.6	24.6	27.4	24.9	24.9	25.7	25.5	25.7	22	19.7	26.2	28.3	24	25.3	31.4	27.2	31.1	24.4	27.4	33.5	33.5
26		35.7	22.7	28.1	26.8	26.7	27.7	25.5	26.6	21.2	23.3	27.4	25.5	23.9	14.2	15.1	17.1	20.3	22.3	14.5	18.6	14.5	20.5	19.2	13.4	35.7
27		10.8	12.5	18.8	14	14.9	22.9	25.1	15.1	22	16.6	19.7	23.3	22.9	22	19.4	19.9	21.8	39.1	42.7	37.6	36.1	37	32.6	29.3	42.7
28		24.6	22.2	20.5	21.2	19.9	32.2	28.1	28.8	25.7	26.8	29	28.2	24.8	24	19.2	12.9	11.9	14.7	12.7	14	13	10.1	10.8	9.2	32.2
29		23.1	21.4	22.9	17.9	21.8	21.2	26.1	27.2	33.5	30.1	24	27.4	25.9	25.5	25.1	24.6	25.7	31.4	30	29.6	27.4	29.6	25.7	22.3	33.5
30		23.1	21.8	24.9	24.2	24	23.6	22.7	22.7	23.3	22.7	23.1	19.7	21	24	23.8	21.8	22	23.1	25.9	25.3	24.4	22.7	21.4	22.5	25.9
31		25.9	22.9	24	30.3	26.8	30.1	22.3	22.9	24.2	17.1	90.5	17.1	56.3	16.4	16.9	46.1	11.4	15.3	16.2	17.1	18.6	19.7	19.9	22.5	90.5
PEAK		177.3	56.9	67.2	66.1	70.9	54.0	59.2	57.7	54.3	57.3	90.5	57.1	67.2	67.9	74.8	130.5	131.6	67.0	67.7	62.9	48.8	60.3	72.0	62.2	

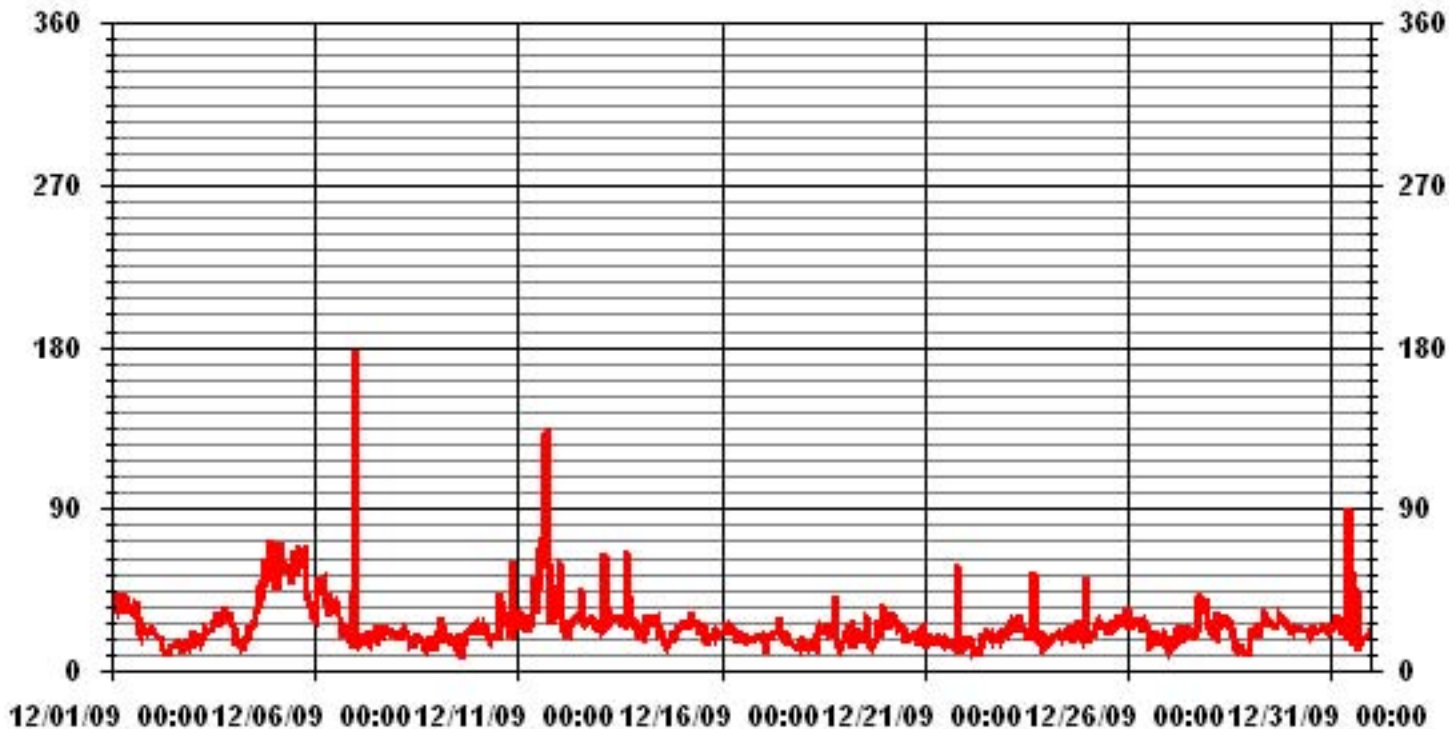
STATUS FLAG CODES

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

MAXIMUM INSTANTANEOUS READING	177.3	KPH	@ HOUR(S)	0
			ON DAY(S)	7

01 Hour Averages



LICA31
WSP / WDR Joint Frequency Distribution (Percent)

December 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	.67	1.34	1.88	.53	.40	.26	.67	.67	1.34	.80	1.61	.80	.53	.40	1.20	.53	13.70
< 12.0	2.15	.80	.94	1.47	1.61	.94	.80	2.95	7.25	6.31	3.49	4.56	8.06	6.18	8.46	2.41	58.46
< 20.0	.53	.26	.13	1.07	.26	.26	.94	2.41	3.22	1.74	1.34	.80	1.47	1.88	4.56	2.82	23.79
< 29.0	.80	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.26	2.41	3.62
< 39.0	.00	.00	.00	.00	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.16	2.41	2.95	3.22	2.28	1.47	2.55	6.04	11.82	8.87	6.45	6.18	10.08	8.46	14.51	8.19	

Calm : .26 %

Total # Operational Hours : 744

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	14	4	3	2	5	5	10	6	12	6	4	3	9	4	102
< 12.0	16	6	7	11	12	7	6	22	54	47	26	34	60	46	63	18	435
< 20.0	4	2	1	8	2	2	7	18	24	13	10	6	11	14	34	21	177
< 29.0	6			1											2	18	27
< 39.0							1										1
>= 39.0																	
Totals	31	18	22	24	17	11	19	45	88	66	48	46	75	63	108	61	

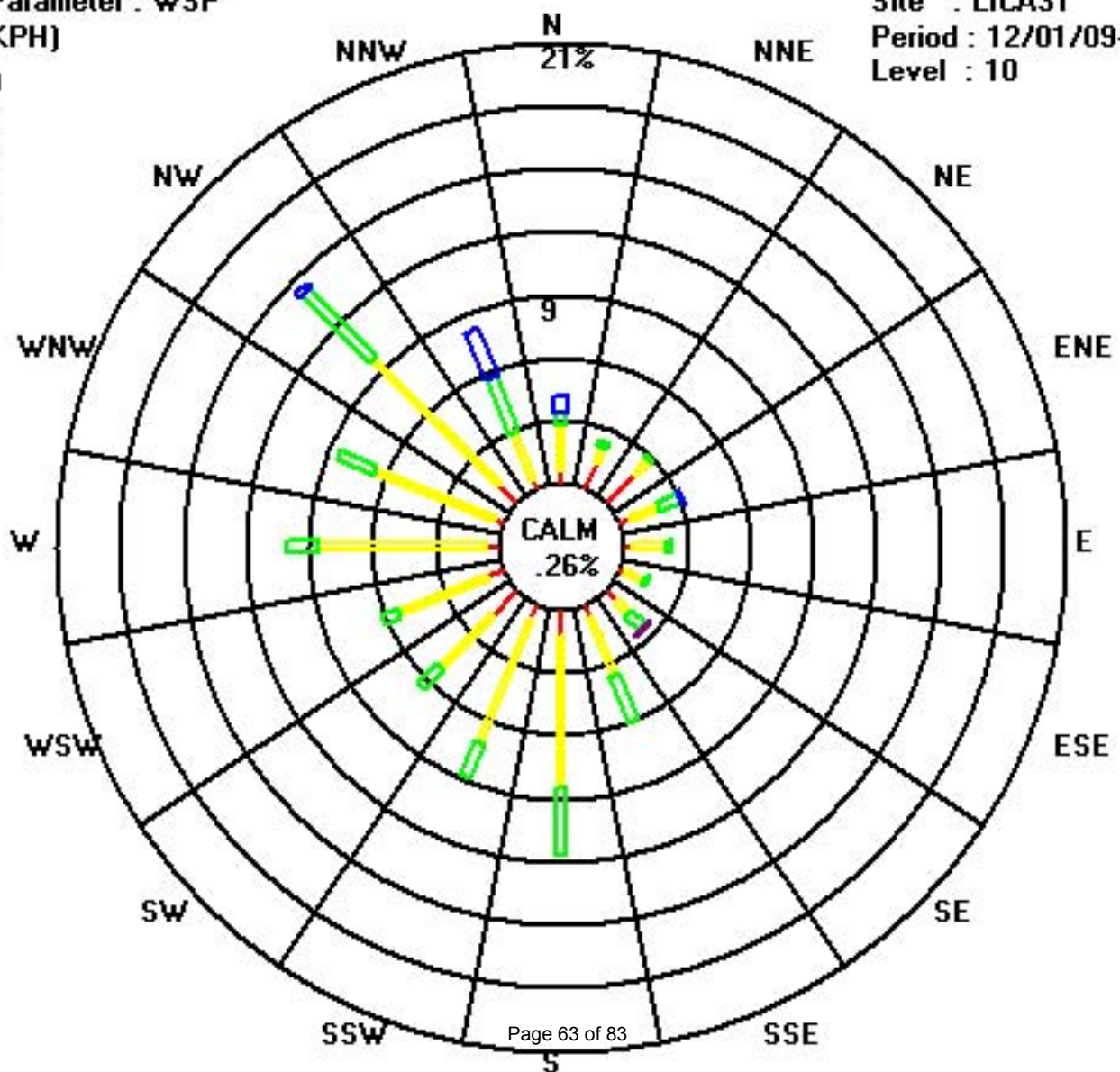
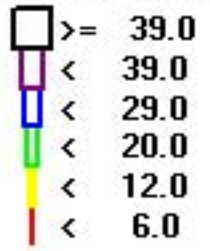
Calm : .26 %

Total # Operational Hours : 744

Class Limits (KPH)

Period : 12/01/09-12/31/09

Level : 10



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

DECEMBER 2009

WIND DIRECTION hourly averages in degrees

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	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	AVG.	QUADRANT	RDGS.	
DAY 1	307	303	306	308	300	300	302	312	319	326	316	311	312	312	317	325	316	316	329	335	8	11	0	7	317	NW	24	
2	0	350	16	16	13	6	307	267	192	127	114	225	224	230	228	264	181	149	189	196	172	197	209	193	229	SW	24	
3	188	187	169	201	183	170	168	165	174	175	167	165	175	166	161	158	157	171	177	185	188	188	183	175	173	S	24	
4	183	198	188	175	169	188	240	260	292	311	315	311	321	328	335	331	337	338	338	334	337	352	345	323	323	NW	24	
5	339	335	337	340	335	333	334	336	340	343	337	337	347	337	352	356	356	7	7	11	357	344	335	325	344	NNW	24	
6	326	341	344	341	336	340	339	330	328	325	331	334	339	338	329	316	312	308	317	325	327	316	308	313	331	NNW	24	
7	136	256	227	219	213	228	222	214	204	199	199	200	200	181	184	167	166	169	173	172	172	173	176	174	185	S	24	
8	183	188	183	195	218	225	228	227	232	259	252	282	298	274	264	271	239	234	237	246	315	322	310	291	241	WSW	24	
9	306	337	338	297	307	315	312	290	287	277	275	255	260	260	226	230	262	282	288	281	304	310	318	295	291	WNW	24	
10	294	285	293	299	299	305	293	275	271	281	268	228	227	246	256	244	234	248	248	256	273	330	236	22	266	W	24	
11	328	13	6	1	33	25	355	347	351	59	112	12	3	93	99	312	311	320	346	345	339	344	5	5	350	N	24	
12	347	338	327	292	302	291	289	290	271	271	279	296	305	136	281	287	272	280	279	273	276	280	281	285	286	WNW	24	
13	290	287	284	255	284	292	296	270	261	270	273	275	266	275	267	238	120	272	251	261	259	253	247	248	267	W	24	
14	251	245	257	260	259	263	256	259	254	239	256	242	251	233	224	211	197	210	225	197	192	197	191	201	235	SW	24	
15	189	175	172	166	156	169	161	161	157	139	158	136	99	99	122	123	108	156	181	172	154	181	192	165	156	SSE	24	
16	153	154	170	154	135	88	93	97	112	144	145	148	191	182	195	194	180	183	210	195	216	77	74	60	145	SE	24	
17	92	148	144	26	31	131	268	276	273	270	269	264	261	250	246	227	230	231	221	224	236	248	245	219	240	WSW	24	
18	238	224	198	199	191	173	164	155	166	158	155	153	149	154	141	140	149	154	141	322	72	130	156	241	162	SSE	24	
19	162	169	221	236	238	218	242	267	271	274	277	297	299	290	284	291	238	248	248	257	279	262	264	273	261	W	24	
20	295	300	290	270	280	275	276	263	265	269	262	275	298	296	283	260	260	278	259	285	316	336	359	30	286	WNW	24	
21	43	48	58	60	61	58	52	55	76	84	83	87	87	89	79	66	68	54	53	60	51	34	32	31	62	ENE	24	
22	39	39	30	38	37	34	38	39	53	33	34	30	349	339	342	9	342	324	317	323	311	306	309	316	352	N	24	
23	302	300	296	304	299	299	294	293	295	290	289	291	294	292	276	291	262	248	238	249	252	260	232	193	281	W	24	
24	202	179	189	198	204	196	203	188	205	202	190	189	192	188	194	207	180	179	149	178	146	186	189	188	190	S	24	
25	203	197	176	185	191	178	177	184	192	188	189	191	205	204	182	169	215	186	179	187	184	191	200	190	188	S	24	
26	199	208	197	205	204	199	201	204	207	197	210	214	218	209	195	185	204	220	211	219	232	250	220	192	208	SSW	24	
27	207	229	266	302	318	353	11	26	33	45	53	63	60	58	57	49	51	63	66	70	71	74	73	77	52	NE	24	
28	88	99	101	109	114	116	122	131	140	146	151	154	156	149	148	142	162	176	174	169	198	215	236	245	137	SE	24	
29	313	310	308	303	304	305	316	317	314	310	310	311	316	318	317	322	322	318	321	319	320	321	318	309	314	NW	24	
30	308	316	320	320	320	321	322	324	326	316	310	313	314	314	316	315	321	319	323	325	317	321	315	321	318	318	NW	24
31	331	323	327	349	357	352	323	343	338	305	298	318	3	48	240	234	211	185	185	183	197	193	174	148	307	NW	24	
HOURLY AVG	347	350	344	349	357	353	355	347	351	343	337	337	349	339	352	356	356	337	346	345	357	344	359	345				

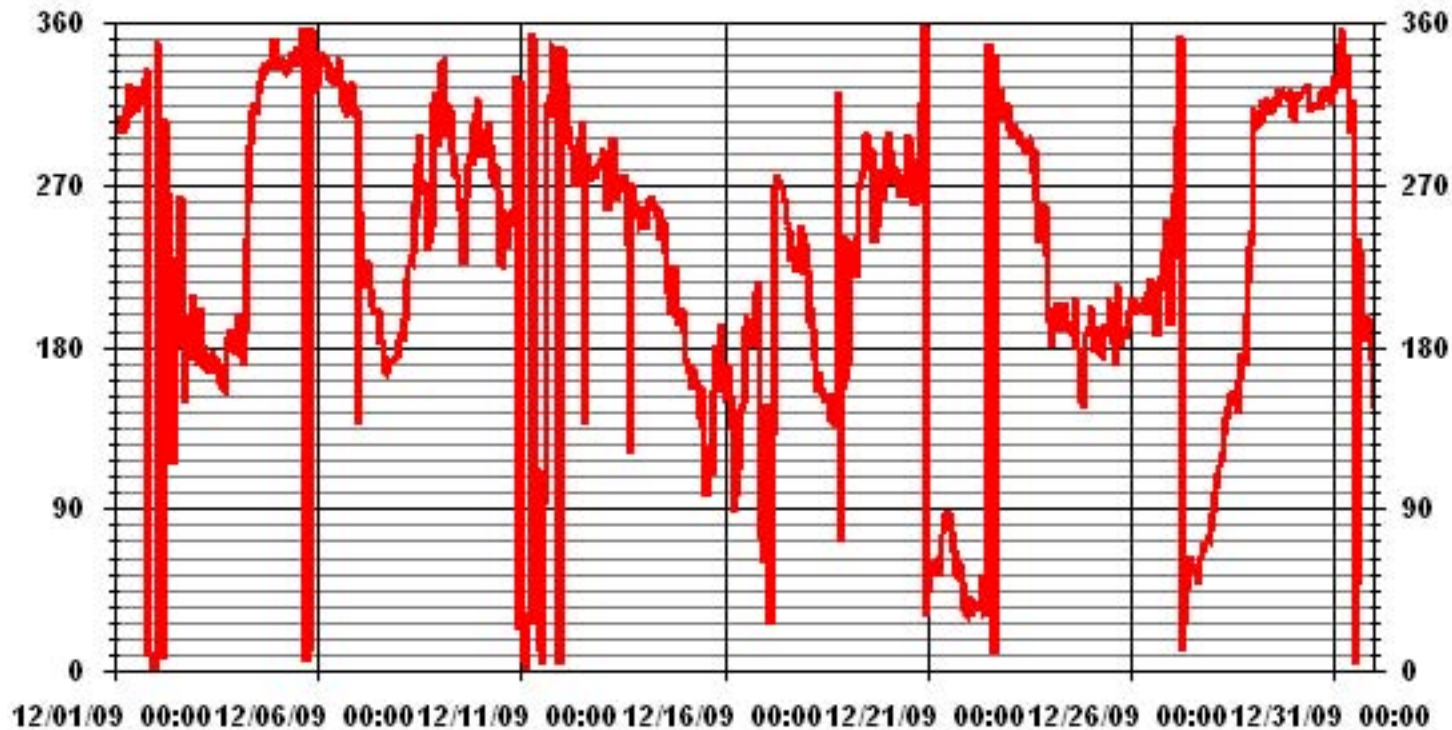
STATUS FLAG CODES

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:	744 HRS
STANDARD DEVIATION	91.44	AMD OPERATION UPTIME	100.0 %
		MONTHLY AVERAGE	272 DEG

01 Hour Averages



— LICA31 WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

DECEMBER 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	13	14	14	14	14	14	13	13	14	13	14	13	13	13	13	13	11	11	12	13	13	11	9	12	
2	10	9	7	9	11	13	16	30	42	30	34	47	30	41	23	56	59	29	27	21	13	14	11	16	
3	16	17	14	15	15	14	13	11	12	13	11	13	14	12	10	9	9	9	11	11	12	13	11	12	
4	12	14	12	20	17	18	7	11	15	12	12	12	12	13	14	15	14	14	15	15	17	14	16	16	
5	15	18	15	15	15	14	17	15	15	15	17	15	16	15	18	22	17	15	15	15	16	15	13	13	
6	12	15	15	19	14	15	15	12	12	13	14	15	15	16	12	13	10	12	10	10	9	10	15	9	
7	60	5	5	5	7	5	8	7	9	11	13	14	16	14	18	12	8	9	10	9	10	11	11	11	
8	11	12	11	11	10	7	6	4	6	12	14	17	17	15	13	14	9	6	8	11	12	12	12	10	
9	10	13	18	11	10	12	15	13	15	15	18	12	15	12	14	11	7	12	13	11	12	13	14	12	
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11	15	15	21	18	13	12	18	20	22	22	38	33	31	23	25	17	57	38	14	16	15	19	20	17	
12	21	18	13	12	12	13	13	12	12	11	15	15	14	15	34	15	12	12	13	12	13	12	12	14	
13	13	13	13	16	12	13	12	11	8	12	13	15	15	15	15	15	52	22	8	9	5	5	5	5	
14	4	4	5	5	4	7	4	5	8	7	7	8	14	11	7	11	13	8	7	17	9	10	11	12	
15	12	11	10	8	9	9	9	9	10	11	10	17	11	12	15	12	13	11	11	16	14	11	13	8	
16	9	11	11	12	14	11	12	10	11	15	13	15	20	20	19	14	13	17	6	8	22	10	10	8	
17	14	21	14	52	13	14	16	10	10	8	10	12	11	9	11	6	4	4	5	5	4	3	4	6	
18	6	10	5	6	7	7	7	7	8	8	10	10	11	10	10	11	11	10	14	58	17	20	25	44	
19	49	22	37	12	9	11	6	11	12	10	12	14	14	15	14	12	12	4	7	7	14	10	11	13	
20	14	12	12	9	12	10	10	7	8	10	10	13	13	14	15	14	6	9	9	8	8	7	14	6	
21	4	6	6	6	8	9	9	8	11	12	12	13	12	14	15	15	16	11	13	11	10	16	11	12	
22	14	10	9	10	10	9	11	11	8	14	15	20	23	20	23	20	20	15	13	13	12	12	13	12	
23	12	12	13	11	11	12	12	11	11	12	14	15	15	18	16	16	11	5	8	4	4	6	5	10	
24	9	8	9	9	10	11	11	12	9	11	12	13	13	14	14	13	14	24	26	27	20	13	15	37	
25	15	9	14	10	13	9	8	7	8	10	11	10	10	14	12	12	10	10	10	10	11	12	11	13	
26	13	10	11	9	9	9	9	9	7	7	7	6	6	8	10	11	9	5	5	4	3	4	18	5	
27	5	6	10	11	10	10	9	6	5	6	7	9	10	9	9	7	7	7	9	11	11	12	11	11	
28	12	11	11	12	13	14	12	13	13	14	14	14	14	14	16	15	18	14	18	19	18	14	13	11	
29	15	14	14	14	14	13	15	15	15	14	14	14	15	14	15	15	13	13	14	13	13	12	13	13	
30	14	14	13	13	12	12	12	12	14	13	11	14	13	12	12	12	12	12	11	12	11	12	11	10	
31	11	9	10	18	15	18	15	15	14	10	20	19	36	57	40	29	8	16	18	9	11	12	15	10	

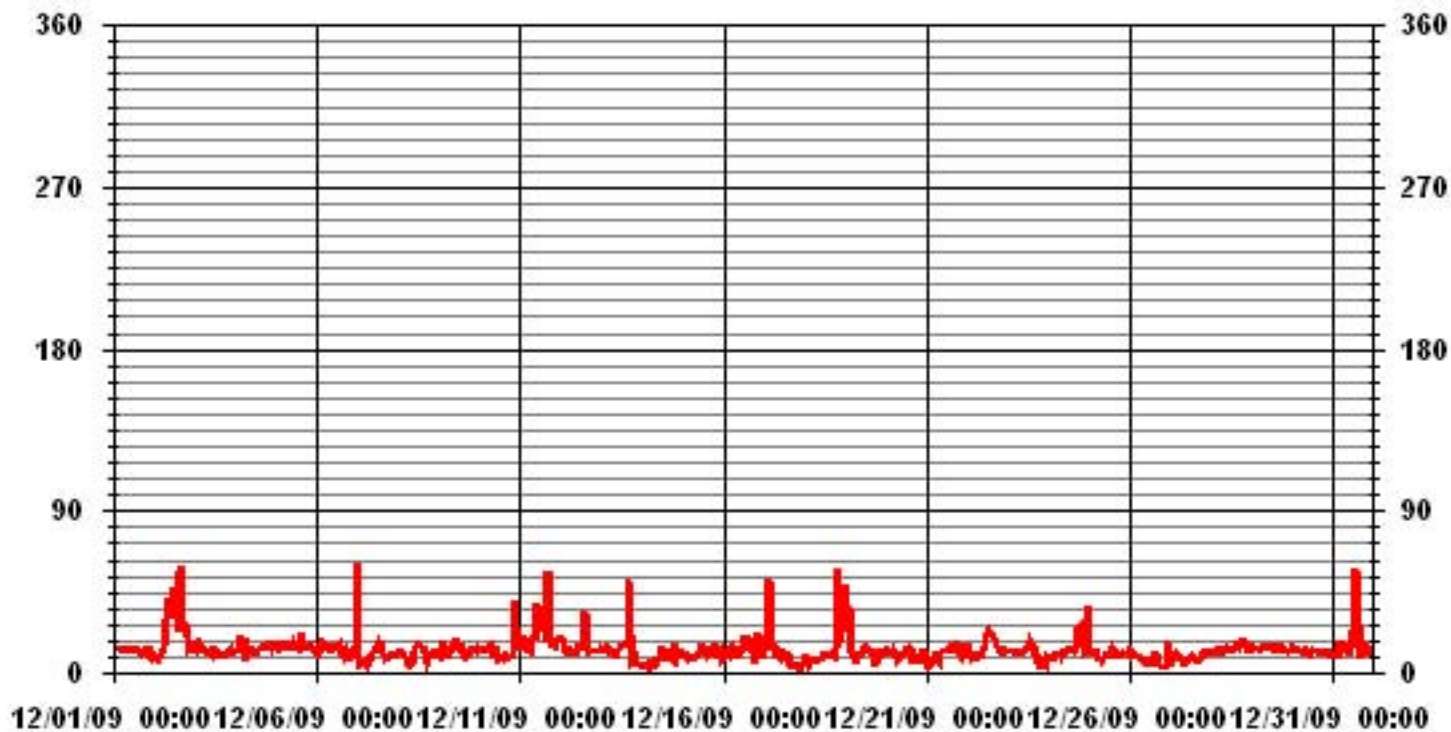
STATUS FLAG CODES

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: 744 HRS

01 Hour Averages



Calibration Reports

Sulphur Dioxide

SO₂ Calibration Report

Station Information

Calibration Date	December 17, 2009	Previous Calibration	November 19, 2009
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	10:14	End Time (MST)	14:18
Reason:	Monthly Calibration		
Barometric Pressure	700 mmHg	Station Temperature	22 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:	Enviroics 2000	S/N :	1991	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Flow Meter:	Enviroics 2000	S/N :	1991		

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 1000 ppb		
Sample Flow / Box Temp	570 ccm 29.7 Deg C	569 ccm 31.1 Deg C	
HVPS / Lamp Setting	529 2574	529 2572	
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 1.103	57.4 1.105	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
3007.0	0	0	-1	N/A
3007.0	0	0	0	N/A
2969.0	43.8	759	756	1.0038
2969.0	43.8	759	759	0.9998
2996.0	23.4	405	402	1.0063
3006.0	11.7	202	202	1.0019
3015.0	0	0	0	N/A
Sum of Least Squares				1.0013
New Correction Factor				0.9998

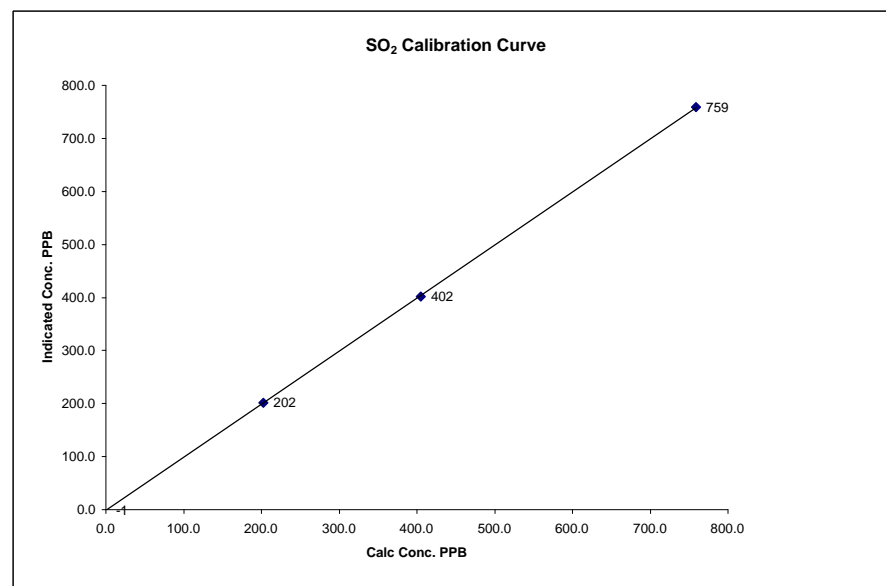
	Before Calibration	After Calibration
Auto Zero	-0.1	0.1
Auto Span	341	336
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.3%

Calibration Performed by: Shea Beaton

SO₂ Calibration Curve

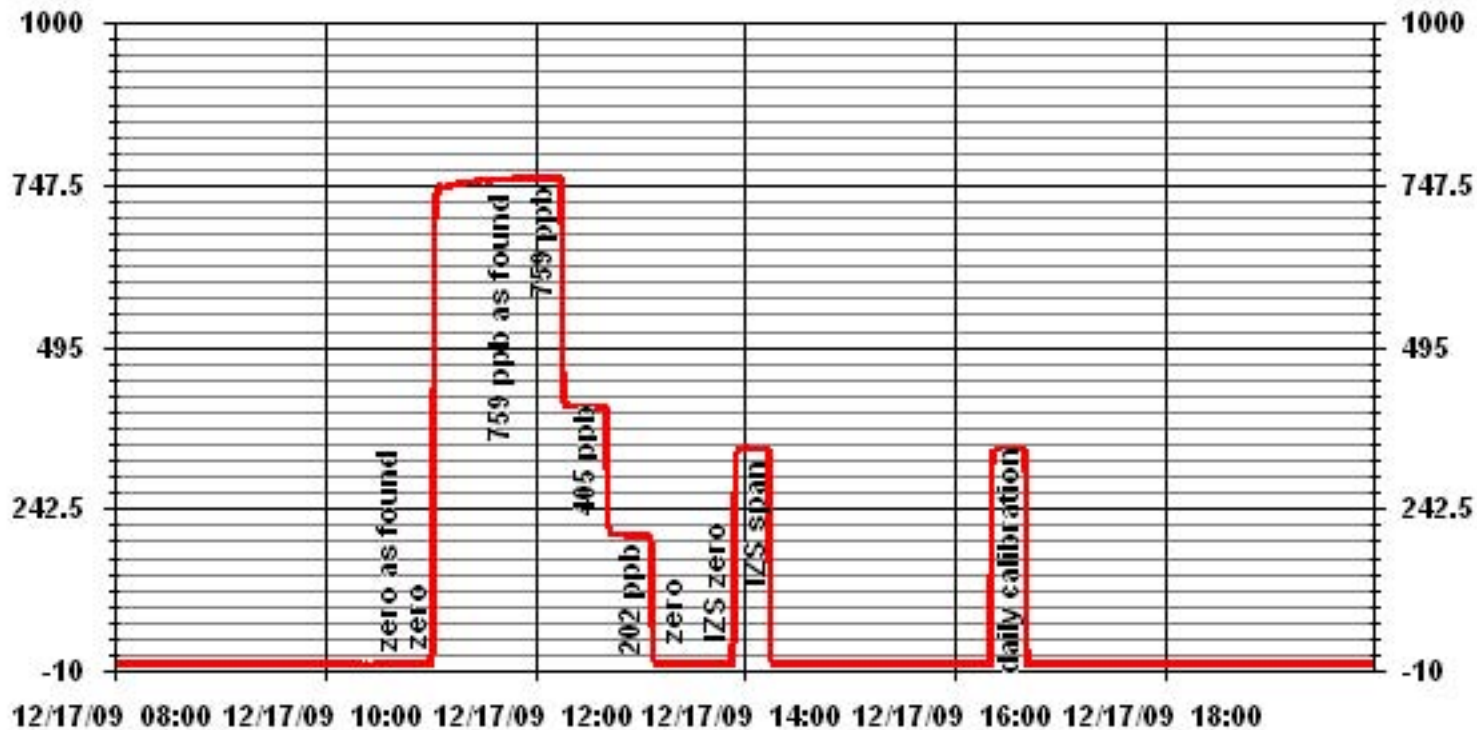
Calibration Date	December 17, 2009	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION	
Plant / Location	ST. LINA	
Start Time (MST)	10:14	End Time (MST) 14:18

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999988
0	-1	n/a	Intercept	(± 3% F.S.)	-1.261491
202	202	1.0019			
405	402	1.0063			
759	759	0.9998			



Notes:

01 Minute Averages



Hydrogen Sulphide

H₂S Calibration Report

Station Information

Calibration Date	December 17, 2009	Previous Calibration	November 19, 2009
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST.LINA		
Start Time (MST)	10:14	End Time (MST)	13:52
Reason:	Monthly Calibration		
Barometric Pressure	700 mmHg	Station Temperature	22 Deg C
Cal Gas	10.8 ppm	Cal Gas Expiry date	06/22/2010
DAS Output Voltage	0 - 1 Volts		

Equipment Information

Analyzer Make / Model:	API 101E	S/N :	510	Method:	Fluorescent
Converter Make / Model:	Internal	S/N :	N/A		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

		Before Calibration		After Calibration	
Concentration Range		0 - 100		ppb	
Sample Flow / Box Temp	547 ccm	32.3 Deg C	548 ccm	32.3 Deg C	
HVPS / Lamp Setting	534	2240	534	2238	
PMT / RxCell Temp	8.4 Deg C	50 Deg C	8.4 Deg C	50 Deg C	
Converter / IZS Temp	315.5 Deg C	45 Deg C	314.5 Deg C	45 Deg C	
Offset / Slope	53.7	0.943	53.7	0.961	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4997	0	0	0	N/A
4960	37	80	79	1.0123
4961	37	80	80	0.9994
4981	18.5	40	40	0.9991
4986	10.2	22	22	1.0022
4997	0	0	0	N/A
Sum of Least Squares				0.9995
New Correction Factor				0.9994

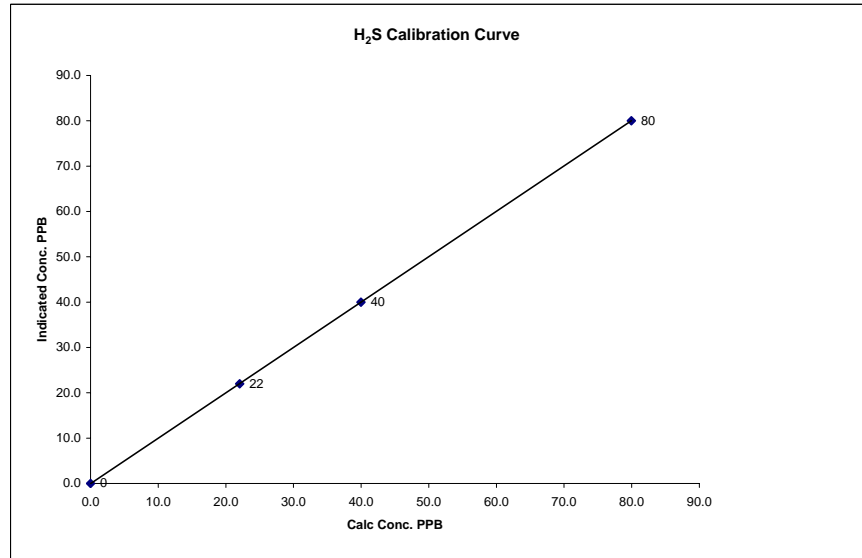
		Before Calibration	After Calibration
Auto Zero		0.2	-0.1
Auto Span		52.0	52.0
Sample Lines Connected			YES
Percent Change from Previous Calibration			-1.3%

Calibration Performed by: Shea Beaton

H₂S Calibration Curve

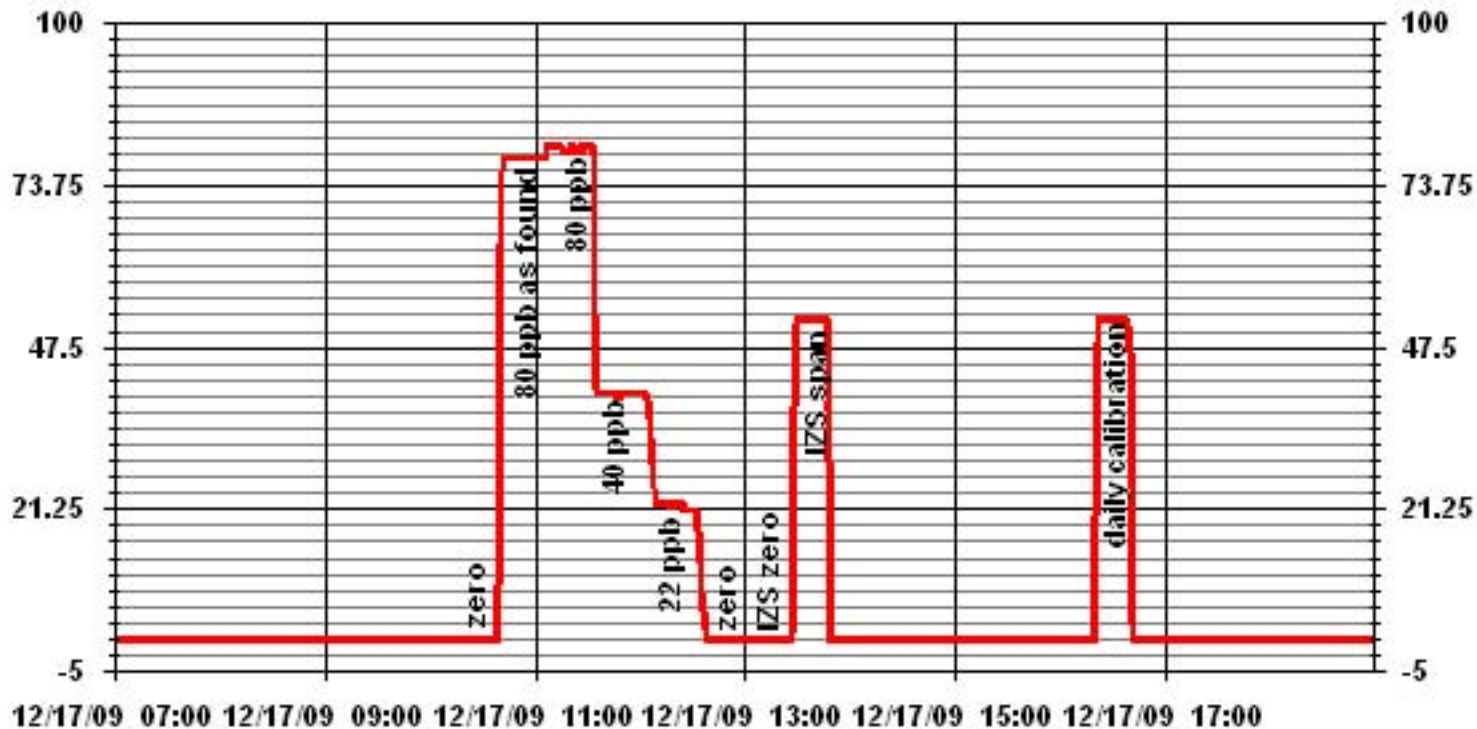
Calibration Date	December 17, 2009		
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST.LINA		
Start Time (MST)	10:14	End Time (MST)	13:52

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	(0.85 to 1.15)
0	0	n/a	Intercept		-0.021660
22	22	1.0022		0.999999	1.000859
40	40	0.9991			
80	80	0.9994			



Notes:

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information			
Calibration Date:	December 17, 2009	Previous Calibration	November 19, 2009
Company:	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location:	ST. LINA		
:	(MST) 13:35	End Time	(MST) 16:56
Reason:	Monthly Calibration		
Barometric Pressure:	700 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
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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	8.5	psi	8.5	psi
Air Pressure	20	psi	20	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2998	0.0	0.0	0.0	N/A
2999	65.0	39.1	39.9	N/A
2999	65.0	39.1	39.4	0.9914
2999	35.0	21.2	20.9	1.0163
2999	20.0	12.2	12.0	1.0165
2999	0	0.0	0.0	N/A
Correction Factor:				0.9914

Previous Calibration Correction Factor:	0.9971
Current Correction Factor Before Span Adjust:	0.9914
Percent Change:	0.58%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	34.5	34.4
Sample Lines Connected		YES

Cylinder Pressures

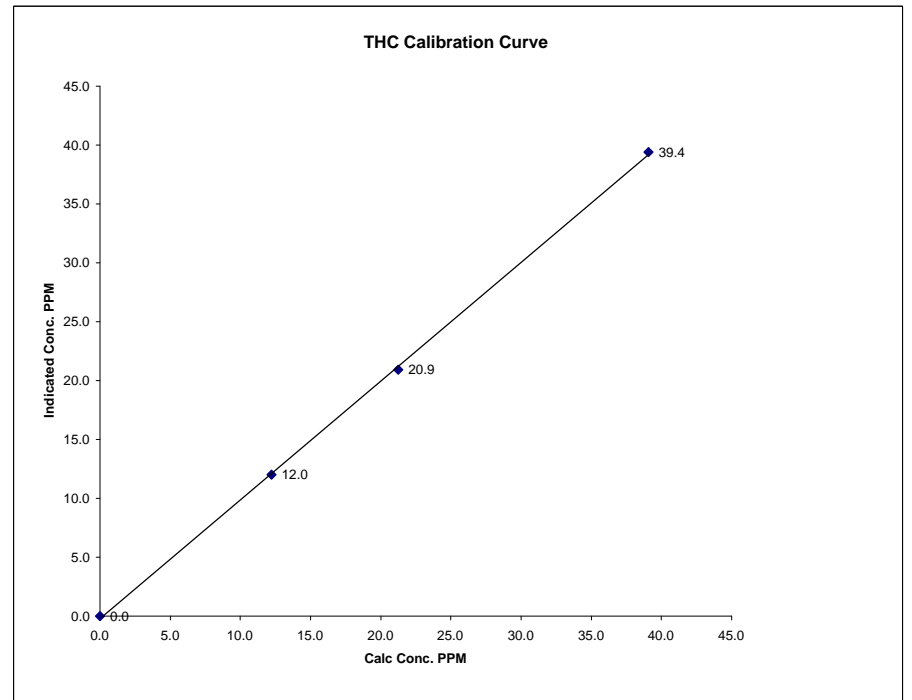
Span	900	psi	
Hydrogen	650	psi	
Zero Air	N/A	psi	Unlimited API 701

Calibration Performed by: Shea Beaton

THC Calibration Curve

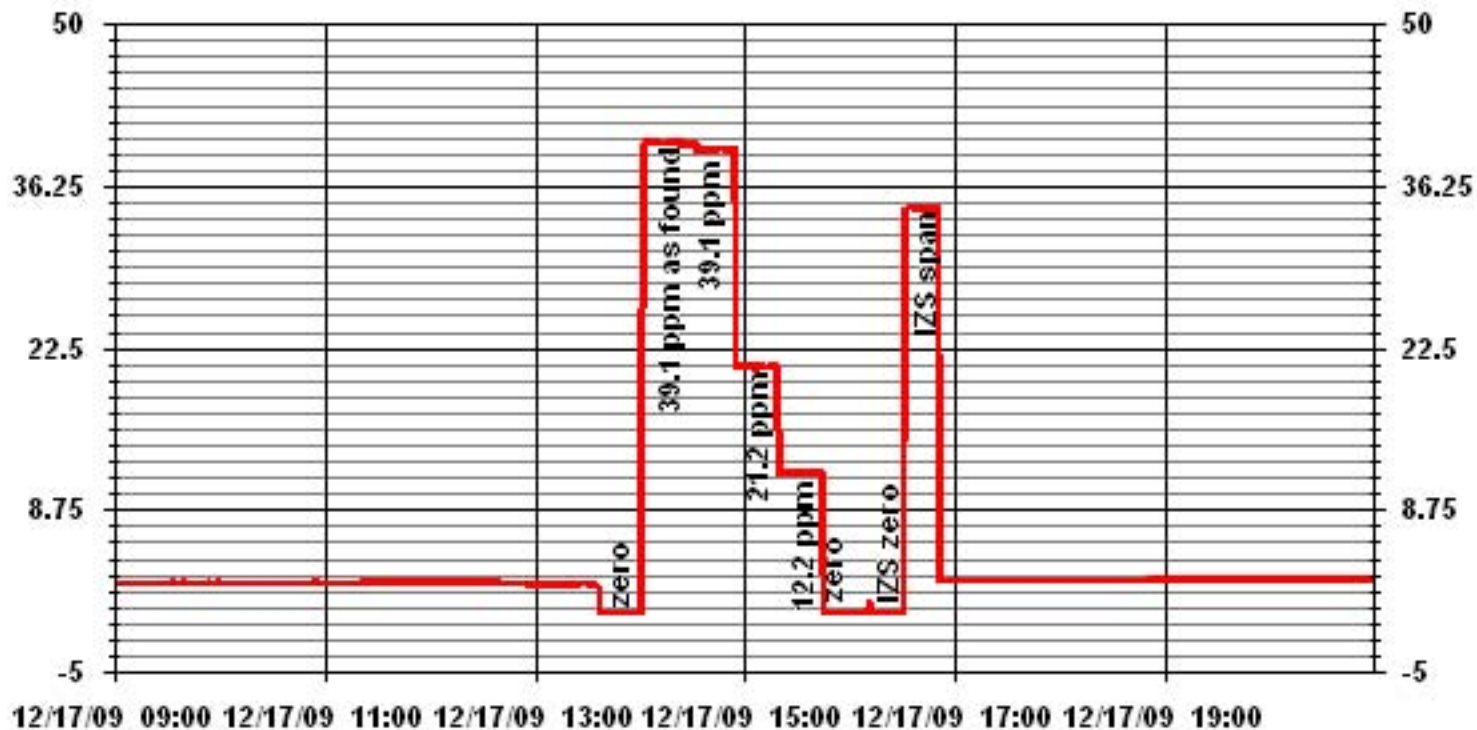
Calibration Date	December 17, 2009		
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	13:35	End Time (MST)	16:56

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		0.999763	1.008895	-0.210901
12.2	12.0	1.0165			
21.2	20.9	1.0163			
39.1	39.4	0.9914			



Notes: Flame temp 178.

01 Minute Averages



Nitrogen Dioxide

NOx - NO- NO₂ Calibration Report
Station Information

Calibration Date	December 17, 2009	Previous Calibration	November 19, 2009
Company	LICA	Plant/Location	ST. LINA
Start Time (MST)	10:14	End Time (MST)	17:08
Reason:	Monthly Calibration		
Barometric Pressure	700 mmHg	Station Temperature	22.0 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	454 ccm 316.5 Deg C	455 ccm 315.7 Deg C	
Ozone Flow / Vacuum	72 ccm 3.6 *Hg-A	73 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	28.7 Deg C 45.2 Deg C	29.5 Deg C 45.2 Deg C	
Offset	1.2 NOx 0.7 NO	4.4 NOx 1.2 NO	
Slope	1.076 NOx 1.067 NO	1.085 NOx 1.075 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	
3007	0	N/A	0	0	2	1	2	N/A	N/A	
3007	0	N/A	0	0	0	0	0	N/A	N/A	
2969	43.8	N/A	753	750	748	745	4	1.0068	1.0069	
2969	43.8	N/A	753	750	756	752	4	0.9961	0.9976	
2996	23.4	N/A	401	400	399	398	1	1.0061	1.0048	
3006	11.7	N/A	201	200	199	199	1	1.0092	1.0053	
3015	0	N/A	0	0	-1	1	-1	N/A	N/A	
Converter Efficiency										
2969	43.8	N/A	753	800	753	748	6	N/A	N/A	
2969	43.8	400	753	N/A	750	213	538	99%	99%	
2969	43.8	200	753	N/A	751	395	356	99%	99%	
2969	43.8	100	753	N/A	752	571	181	99%	99%	
2969	43.8	N/A	753	750	752	747	5	N/A	N/A	
Correction Factor										
3016	0	N/A	0	0	0	1	-1	N/A	N/A	
Linearity OK? Yes No										
Flows Checked on-site? Yes No										
								Sum of Least Squares	0.9989	0.9995
								New Correction Factor	0.9961	0.9976
								Average Converter Efficiency	99%	

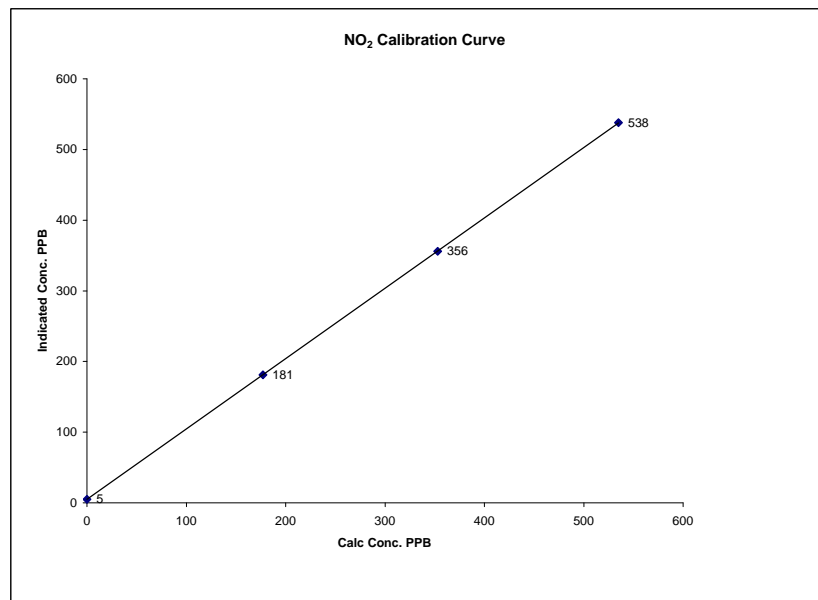
Before Calibration		After Calibration	
Auto Zero	1.2 NOx	1.1 NO2	-1.7 NOx
Auto Span	764 NOx	734 NO2	740 NOx
Sample Lines Connected	YES		
Percent Change from Previous Calibration	NOx	-0.7%	NO
			-0.7%

Calibration Performed by: Shea Beaton

NO₂ Calibration Curve

Calibration Date	December 17, 2009
Company	LICA
Plant / Location	ST. LINA
Start Time (MST)	10:14
End Time (MST)	17:08

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	5	N/A		0.999998
177	181	0.9779		0.996080
353	356	0.9916		
535	538	0.9944		4.793719

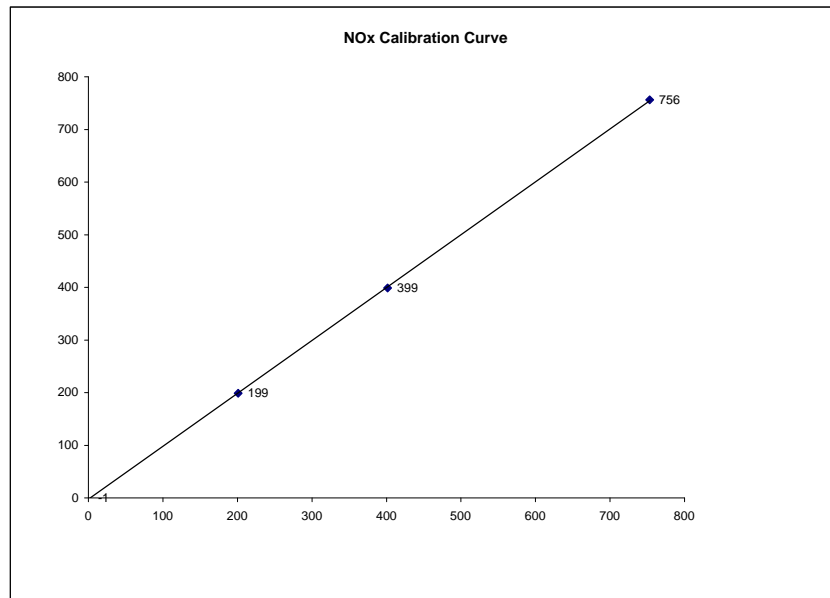


Notes:

NOx Calibration Curve

Calibration Date	December 17, 2009	
Company	LICA	
Plant / Location	ST. LINA	
Start Time (MST)	10:14	End Time (MST) 17:08

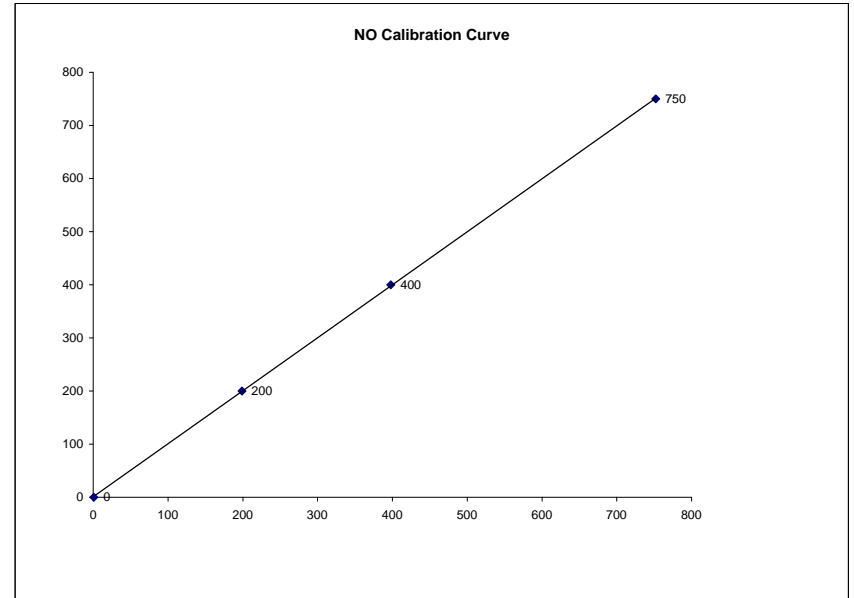
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0	-1	N/A	0.999972	1.005347	-2.398130
201	199	1.0092			
401	399	1.0061			
753	756	0.9961			



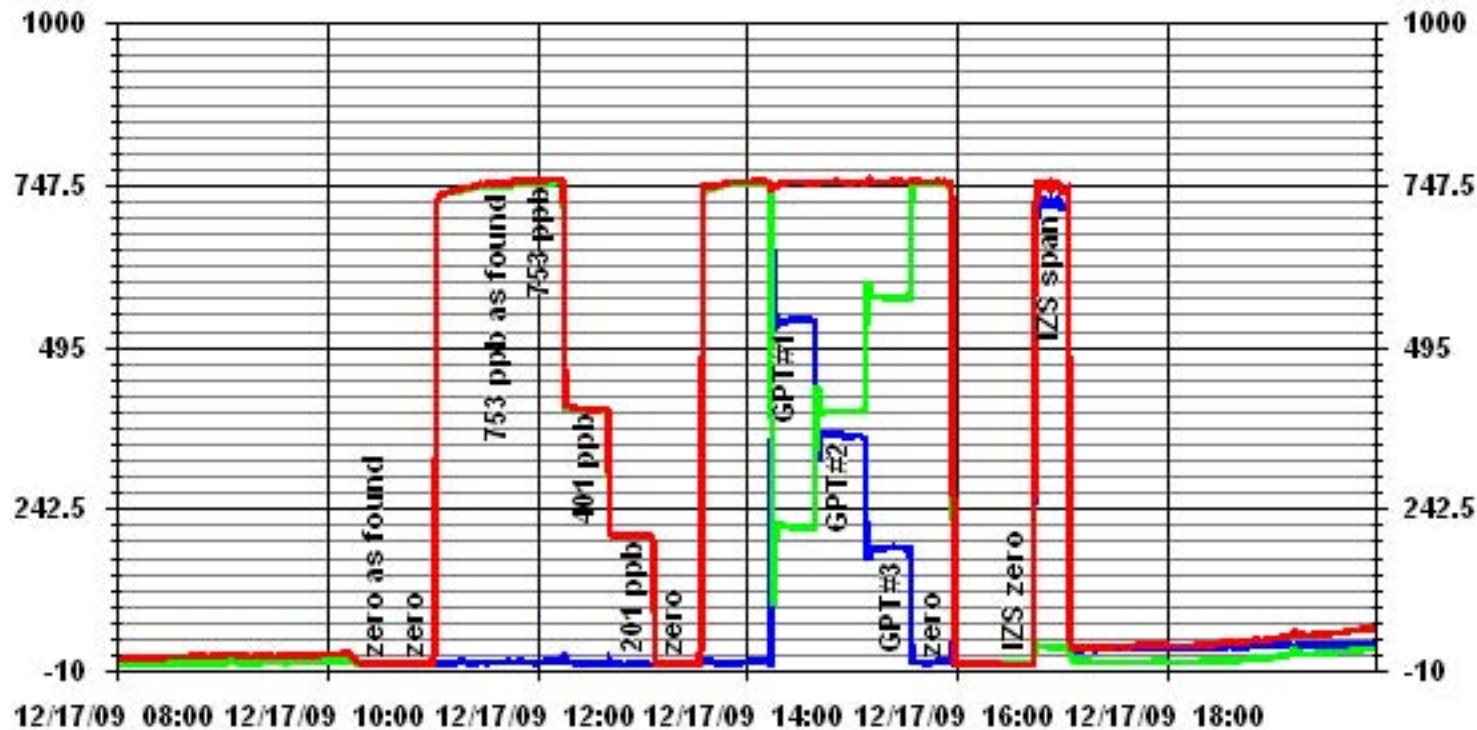
NO Calibration Curve

Calibration Date	December 17, 2009	
Company	LICA	
Plant / Location	ST. LINA	
Start Time (MST)	10:14	End Time (MST) 17:08

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0	1	N/A	0.999973	1.001464	-0.522526
200	199	1.0053			
400	398	1.0048			
750	752	0.9976			



01 Minute Averages



Lakeland Industry & Community Association

Portable / Devon Wellsite 13-16-62-5 W4M Monitoring Site

Ambient Air Monitoring Data Report

For

December 2009

Prepared By:



Driven by Service and Science

January 19, 2010

Lakeland Industry & Community Association Portable / Devon Wellsite 13-16-62-5 W4M Ambient Air Monitoring

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Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Portable / Devon Wellsite 13-16-62-5 W4M
Data Period: December 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 – December 2009

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PORTABEL / DEVON WELLSITE 13-16-62-5 W4M SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						OBJECTIVES				EXCEEDENCES		MONTHLY AVERAGE	
PARAMETER	1-HR	24-HR	1-HR	24-HR	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY		
SO ₂ (PPB)	172	57	0	0	0.26	5	31	5	6.3	304(WNW)	2.0	31	99.9
H ₂ S (PPB)	10	3	-	-	0.02	3	3	12	8.6	156(SSE)	0.5	3	99.9
THC (PPM)	-	-	-	-	2.64	8.6	27	11	2.1	285(WNW)	4.5	21	99.9
NO ₂ (PPB)	212	106	0	0	6.84	50	3	12	8.6	156(SSE)	17.6	21	99.9
NO (PPB)	-	-	-	-	1.94	132	3	12	8.6	156(SSE)	24.3	3	99.9
NO _x (PPB)	-	-	-	-	8.92	183	3	12	8.6	156(SSE)	38.6	3	99.9
O ₃ (PPB)	82	-	0	-	20.35	39	19	14	8.5	255(WSW)	34.6	5	99.9
PM 2.5 (UG/M ³)	-	30	-	0	3.45	20.4	2	23	4.8	230(SW)	8.2	17	99.9
VECTOR WS (KPH)	-	-	-	-	6.91	21.4	5	15	-	350(N)	16.4	5	99.9
VECTOR WD (DEGREES)	-	-	-	-	290(WNW)	-	-	-	-	-	-	-	99.9

VAR-VARIOUS

Volatile Organics Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE

Xontech Model 910A – December 03, 2009

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

Xontech Model 910A – December 09, 2009

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

Xontech Model 910A – December 15, 2009

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

Xontech Model 910A – December 21, 2009

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

Xontech Model 910A – December 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 – December 03, 2009

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

PUF cartridge – December 09, 2009

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

PUF cartridge – December 15, 2009

Maximum reading (ug)	Semi-Volatile Organic
4.12	Naphthalene

PUF cartridge – December 21, 2009

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

PUF cartridge – December 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

Sulphur Dioxide (PPB)

- Analyzer make / model – API 100E

No operational issues observed during the month. The UV lamp was peaked, a lamp cal and a factory cal were performed following the as found points on December 8th. A full calibration was performed on December 9th. The inlet filter was changed before the monthly calibration was started. One of hour data on December 6th was invalidated due to a power failure. 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 UV lamp was peaked, a lamp cal and a factory cal were performed following the as found points on December 8th. A full calibration was performed on December 9th. The inlet filter was changed before the monthly calibration was started. One of hour data on December 6th was invalidated due to a power failure. Data was corrected using daily zero information.

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. One of hour data on December 6th was invalidated due to a power failure. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Ozone (PPB)

- Analyzer make / model – API 700

No operational issues observed during the month. One of hour data on December 6th was invalidated due to a power failure. Data was corrected using daily zero information.

THC (PPM)

- Analyzer make / model – TECO 51C

The analyzer started collecting air samples on December 1st. A leak check was performed on all external fittings on December 1st. A test of H2 sensor was performed on the same day. It was notice the zero/span system was not functioning due to control wire issue. The issue was fixed on December 3rd. A multi-point calibration was performed on December 3rd. One of hour data on December 6th was invalidated due to a power failure. Data was corrected using daily zero information.

Particulate Matter 2.5 (ug/m³)

- Analyzer make / model –TEOM1400A

No operational issues observed during the month. One of hour data on December 6th was invalidated due to a power failure. 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 value were below –3.0 ug/m³.

General Monthly Summary

AQM STATION – LICA – PORTABLE

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. One of hour data on December 6th was invalidated due to a power failure.

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.
H2 sensor starts monitoring H2 concentration inside the trailer this month.

Air Quality Index (AQI)

The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. All AQI values recorded in December 2009 were within Good range. The highest hourly concentration of O3 was 39 ppb and an AQI value of 20 on December 19th; hour 14. The highest hourly concentration of PM2.5 was 20.4 UG/M3 and an AQI value of 17 on December 2nd, hour 23.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Volatile Organics (VOCs)

The volatile organics were sampled December 3rd to December 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 December 9th to December 27th. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Air Quality Index

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -PORTABLESITE

DECEMBER 2009

AIR QUALITY INDEX (AQI)

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

STATUS FLAG CODES NA - NOT APPLICABLE

V - VARIOUS

AQI CLASS	OZONE (O ₃)					PARTICULATE MATTER 2.5 (PM _{2.5})					NITROGEN DIOXIDE (NO ₂)					SULPHUR DIOXIDE (SO ₂)					FREQUENCY	
	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%
VERY POOR (101-255)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
POOR (51-100)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
FAIR (26-50)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
GOOD (1-25)	582	78.2%	20	14	19	118	15.9%	17	23	2	0	0.0%	-	-	-	0	0.0%	-	-	-	700	94.1%
OVERALL	582	78.2%	-	-	-	118	15.9%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	700	94.1%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	5.9%

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	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	
2	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	
3	0	0	0	0	0	0	0	0	1	0	0	1	2	1	2	2	1	0	0	0	0	IZS	0	0	2	0.5	24	
4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	IZS	0	0	1	0.1	24	
5	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	
6	0	0	0	2	3	1	P	1	2	2	1	1	0	0	1	1	1	2	IZS	1	1	1	1	1	1	3	1.0	23
7	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	IZS	0	0	0	0	0	0	1	0.2	24	
8	0	0	0	0	0	0	0	0	0	1	C	C	C	C	0	0	IZS	0	0	0	0	0	0	0	1	0.1	24	
9	0	0	0	0	0	0	0	0	C	C	C	C	1	1	2	IZS	1	1	0	0	0	0	0	0	2	0.3	24	
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24	
11	0	0	1	1	0	1	1	1	2	1	1	1	1	IZS	1	1	1	1	1	0	0	0	0	0	0	2	0.7	24
12	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
13	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
14	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
15	0	0	0	0	0	1	0	0	1	IZS	1	1	1	2	2	2	1	1	0	0	1	1	1	1	1	2	0.7	24
16	1	1	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
17	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
18	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
19	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
20	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
21	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
22	1	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
23	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
24	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
25	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.2	24
26	0	1	1	1	1	1	0	0	0	0	1	1	2	1	2	2	1	0	0	0	0	0	IZS	0	0	2	0.7	24
27	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	IZS	0	0	0	1	0.2	24
28	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
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	IZS	0	0	0	1	1	1	1	0.1	24
30	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	IZS	1	1	1	2	2	3	3	1.3	24	
31	3	3	2	2	3	5	4	3	4	3	3	2	2	2	2	2	IZS	0	0	0	0	0	0	0	5	2.0	24	
HOURLY MAX	3	3	2	2	3	5	NA	3	4	3	3	2	2	2	2	2	1	2	1	1	1	2	2	3				
HOURLY AVG	0.2	0.2	0.2	0.2	0.3	0.3	NA	0.2	0.4	0.3	0.3	0.3	0.4	0.4	0.6	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2				

STATUS FLAG CODES

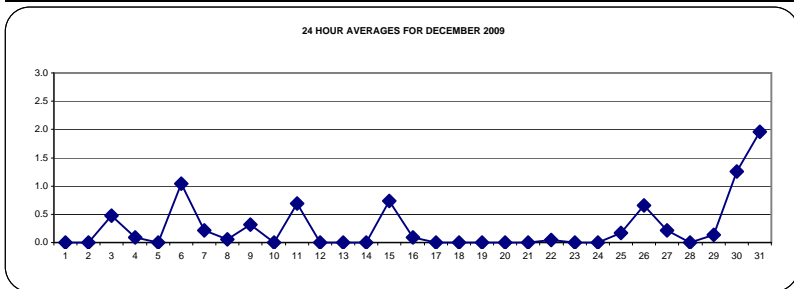
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

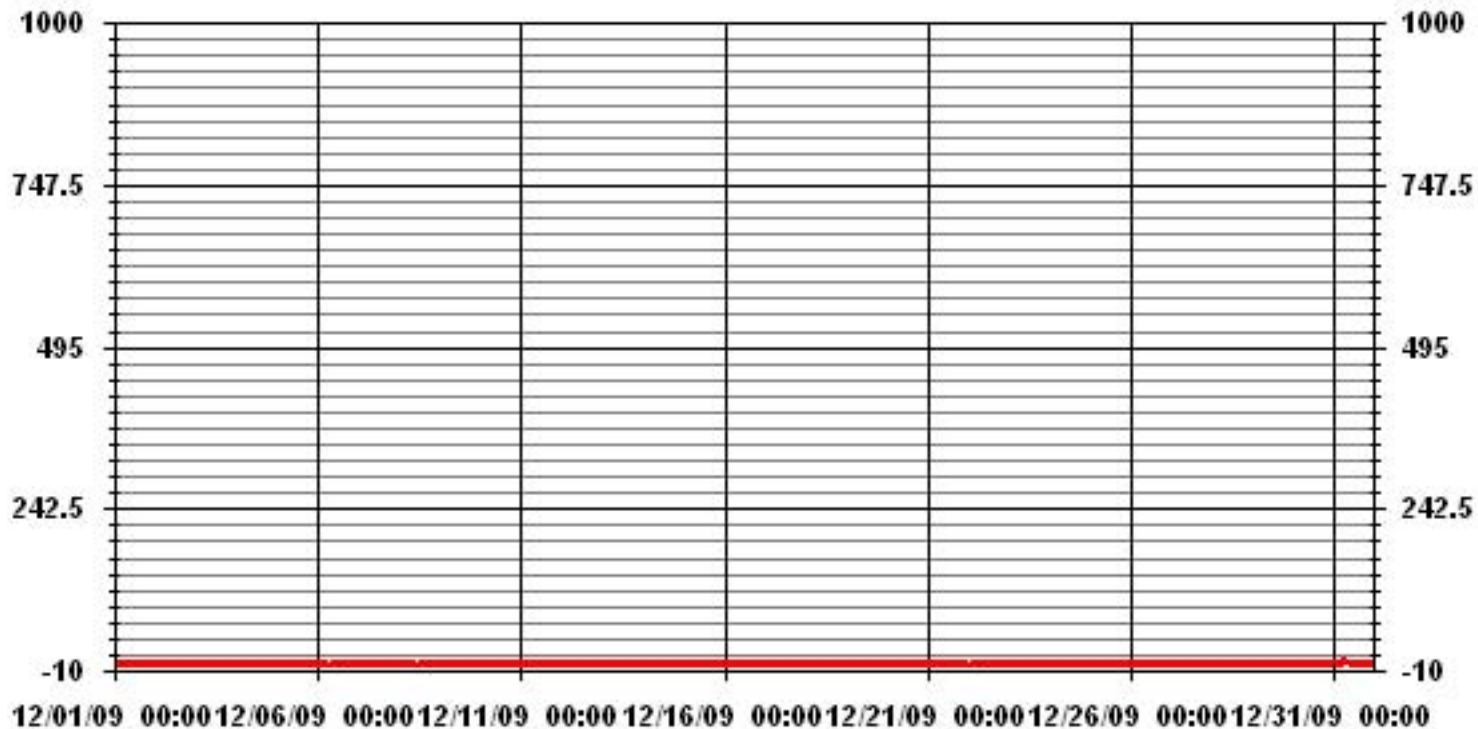
ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	57	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	133					
MAXIMUM 1-HR AVERAGE:	5	PPB	@ HOUR(S)	5	ON DAY(S)	31
MAXIMUM 24-HR AVERAGE:	2.0	PPB			ON DAY(S)	31
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	0.63		MONTHLY AVERAGE:	0.26	PPB	



01 Hour Averages



— LICA33 SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -PORTABLE SITE

DECEMBER 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	HR	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
1		IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	IZS	1	0.1	24	
2		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1.0	24
3		1	1	1	1	1	1	1	1	2	1	1	3	4	3	4	4	3	2	1	1	2	IZS	1	1	4	1.8	24	
4		2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	0	1	0	2	1.0	24	
5		0	0	0	1	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	IZS	1	1	1	1	1	1	0.4	24
6		1	1	1	4	4	P	P	2	3	3	3	2	1	2	2	2	3	IZS	2	2	2	2	2	2	4	2.1	22	
7		1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	1	IZS	0	1	1	1	1	0	0	2	1.0	24	
8		0	1	0	0	0	1	1	1	C	C	C	C	C	1	1	IZS	1	1	1	1	1	1	1	1	1	0.8	24	
9		1	1	1	1	1	1	1	1	C	C	C	C	2	3	3	IZS	3	2	1	1	1	1	1	1	1	3	1.4	24
10		1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24
11		1	1	3	2	1	1	2	2	2	3	3	3	2	IZS	2	2	2	2	2	1	1	1	1	1	1	3	1.7	24
12		1	1	1	1	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	1	0	0	0	0	0	1	0.2	24	
13		0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	1	0	0	0	0	0	1	0.0	24
14		0	0	0	0	1	1	1	1	1	1	1	IZS	0	1	3	1	1	1	0	0	0	0	0	0	3	0.6	24	
15		0	1	0	0	1	2	1	2	2	IZS	2	2	2	3	3	3	2	2	2	1	2	2	2	3	1.7	24		
16		2	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
17		1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1.0	24
18		1	1	1	1	1	1	IZS	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
19		1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
20		1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
21		1	1	1	IZS	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
22		2	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
23		1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	0	1	0	1	0.8	24
24		IZS	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	0.8	24
25		1	1	1	1	1	1	1	0	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	2	1.1	24
26		1	2	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	IZS	1	1	2	1.5	24
27		1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	IZS	1	1	1	2	1.3	24
28		1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1.0	24
29		1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	IZS	1	1	1	2	2	2	1.1	24	
30		2	2	1	2	1	2	3	3	3	2	2	2	2	2	2	2	2	IZS	1	2	2	3	3	4	4	2.2	24	
31		5	4	4	3	6	7	7	5	5	5	4	3	3	3	3	3	IZS	1	1	1	1	1	1	1	7	3.3	24	
HOURLY MAX		5	4	4	4	6	7	7	5	5	5	4	3	4	3	4	4	3	3	2	2	2	3	3	4				
HOURLY AVG		1.1	1.0	0.9	1.1	1.1	1.1	1.2	1.1	1.3	1.3	1.3	1.3	1.3	1.3	1.5	1.3	1.1	1.1	0.8	0.9	1.0	1.0	1.0	1.0				

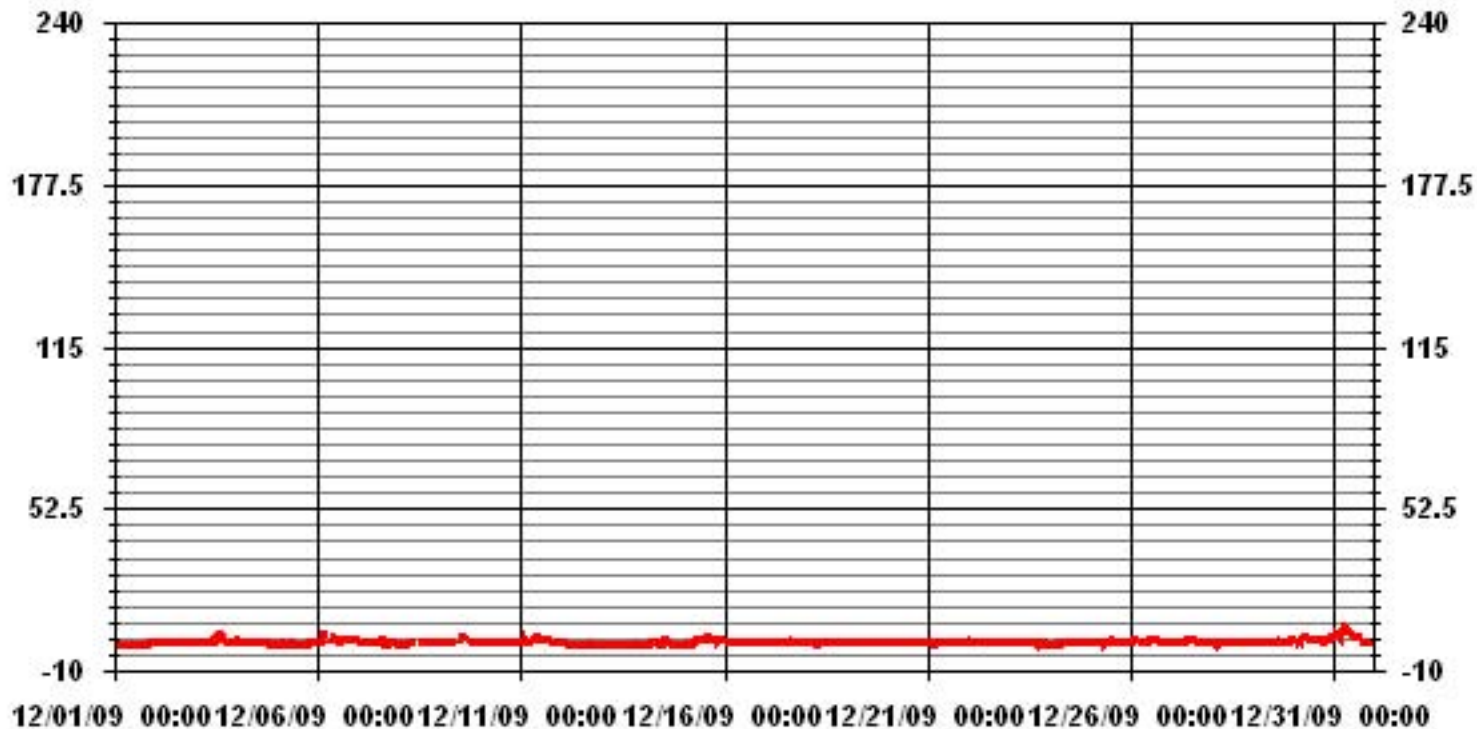
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	591					
MAXIMUM INSTANTANEOUS VALUE:	7	PPB	@ HOUR(S)	5, 6	ON DAY(S)	31
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	742	HRS	
MONTHLY CALIBRATION TIME:	9	HRS				
STANDARD DEVIATION:	0.88					

01 Hour Averages



— LICA33 SO2MAX PPB

LICA33
 SO2_ / WDR Joint Frequency Distribution (Percent)

December 2009

Distribution By % Of Samples

Logger Id : 33
 Site Name : LICA33
 Parameter : SO2_
 Units : PPB

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	4.41	1.42	2.99	5.41	8.68	4.84	3.41	3.56	2.84	2.27	7.83	13.39	12.25	10.25	9.40	6.98	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.41	1.42	2.99	5.41	8.68	4.84	3.41	3.56	2.84	2.27	7.83	13.39	12.25	10.25	9.40	6.98	

Calm : .00 %

Total # Operational Hours : 702

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	31	10	21	38	61	34	24	25	20	16	55	94	86	72	66	49	702
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	31	10	21	38	61	34	24	25	20	16	55	94	86	72	66	49	

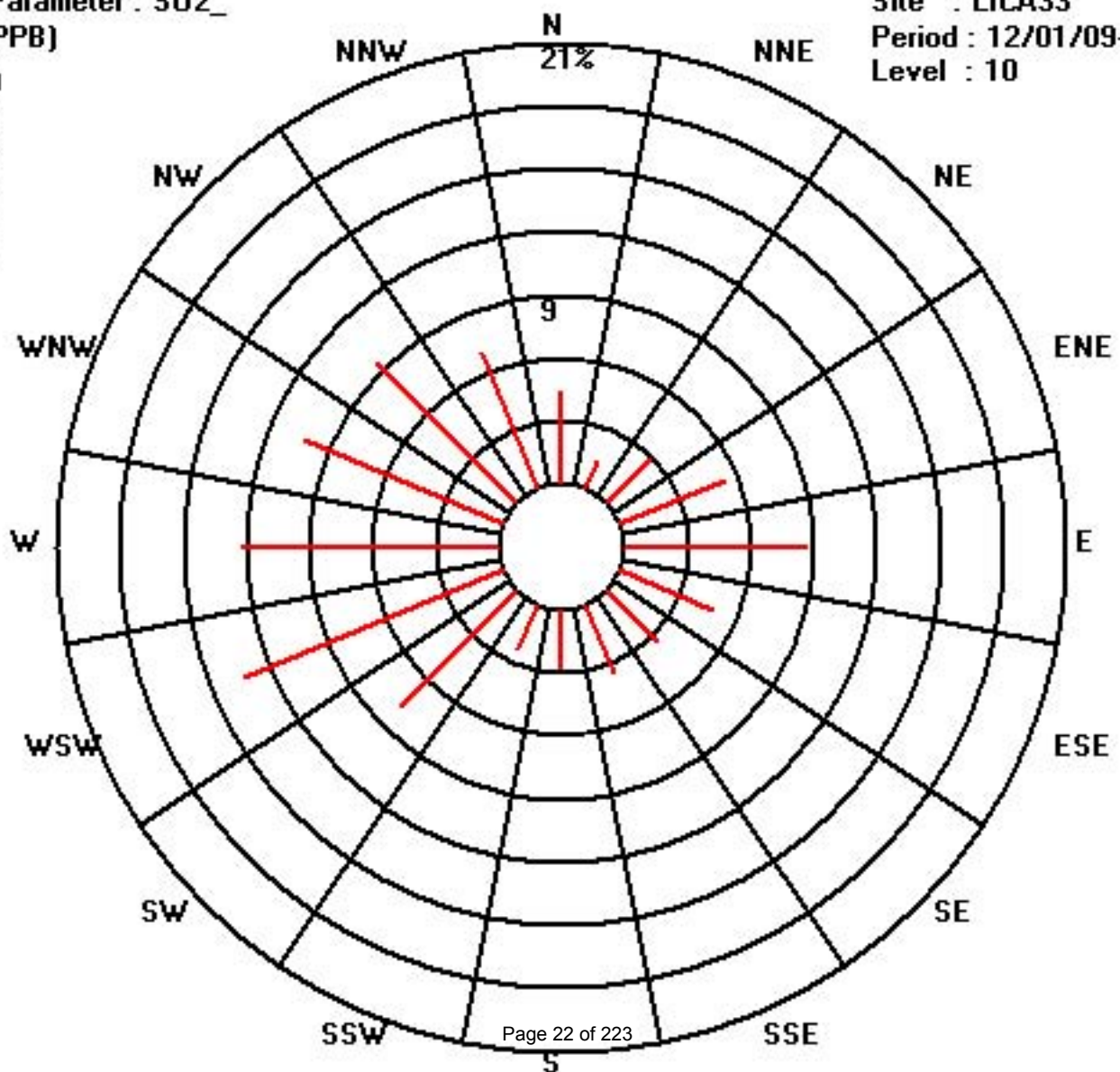
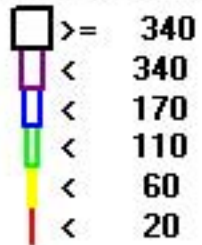
Calm : .00 %

Total # Operational Hours : 702

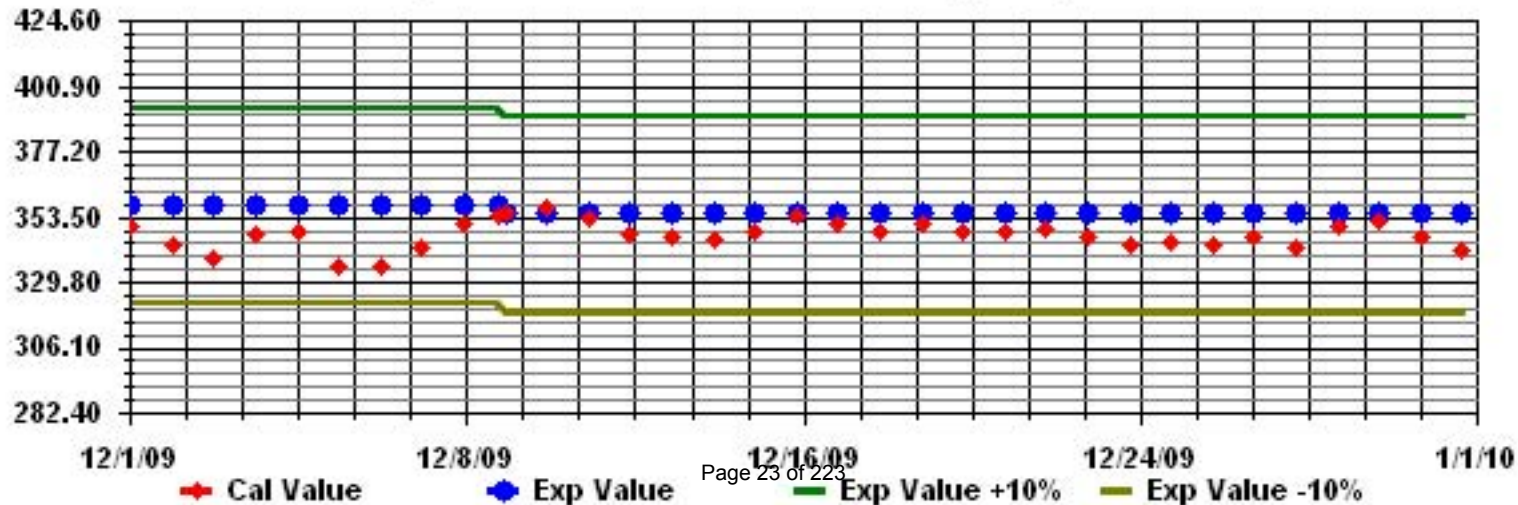
Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



Calibration Graph for Site: LICA33 Parameter: S02_ Sequence: S02 Phase: SPAll



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	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	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
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	IZS	0	0.0	24
3	0	0	0	0	0	0	0	0	0	1	0	0	1	3	1	2	2	1	0	0	0	0	0	0	3	0.5	24	
4	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	
5	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	
6	0	0	0	0	0	0	P	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0.0	23	
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24	
8	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	IZS	0	0	0	0	0	0	0	0	0.0	24	
9	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	IZS	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	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24	
11	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
12	0	0	0	0	0	0	0	0	0	0	0	0	IZS	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	IZS	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
15	0	0	0	0	0	0	0	0	0	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	IZS	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	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	
22	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	
23	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	
24	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
25	0	0	0	0	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	IZS	0	0	0.0	24	
27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0.1	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0.0	24	
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	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	IZS	0	0	0	0	0	0	0	0.0	24	
31	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	
HOURLY MAX	0	0	0	0	0	0	0	0	1	0	1	1	3	1	2	2	1	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	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

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

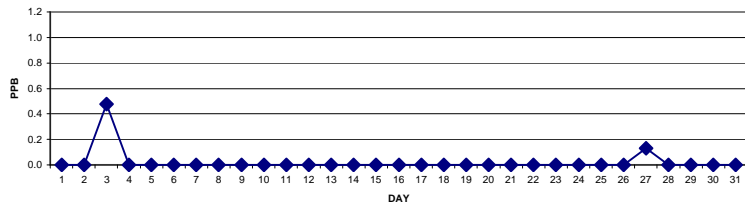
OBJECTIVE LIMIT:

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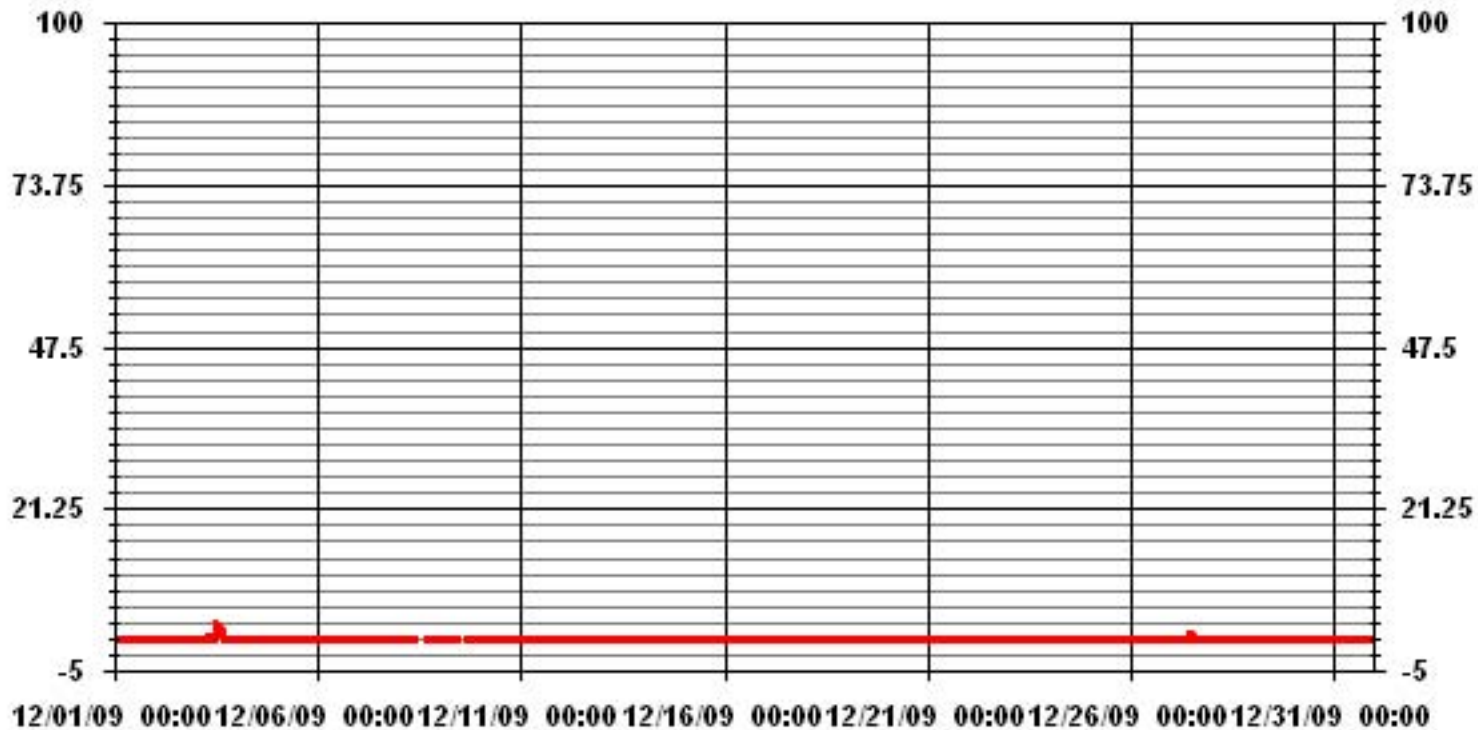
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	10					
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	12	ON DAY(S)	3
MAXIMUM 24-HR AVERAGE:	0.5	PPB			ON DAY(S)	3
				VAR-VARIOUS		
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	0.18		MONTHLY AVERAGE:	0.02	PPB	

24 HOUR AVERAGES FOR DECEMBER 2009



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0.0	24
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	IZS	0	0.0	24	
3	0	0	0	0	0	0	0	0	1	2	1	1	3	5	3	4	5	2	1	1	0	0	IZS	0	0	5	1.3	24	
4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	IZS	0	0	0	1	0.2	24	
5	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	
6	0	0	0	0	0	0	P	P	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	22
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24
8	0	0	0	0	0	0	0	0	1	1	1	1	C	C	C	C	C	IZS	0	0	0	0	0	0	0	0	1	0.2	24
9	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	IZS	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	IZS	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
14	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
17	0	0	0	0	0	0	0	0	IZS	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
18	0	0	0	0	0	0	0	IZS	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	IZS	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
20	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.0	24
21	0	0	0	0	IZS	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.3	24
22	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
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	IZS	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	IZS	0	0	1	0.0	24
27	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.3	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX		0	0	0	0	0	1	1	1	2	1	1	3	5	3	4	5	2	1	1	0	0	1	0	0				
HOURLY AVG		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0				

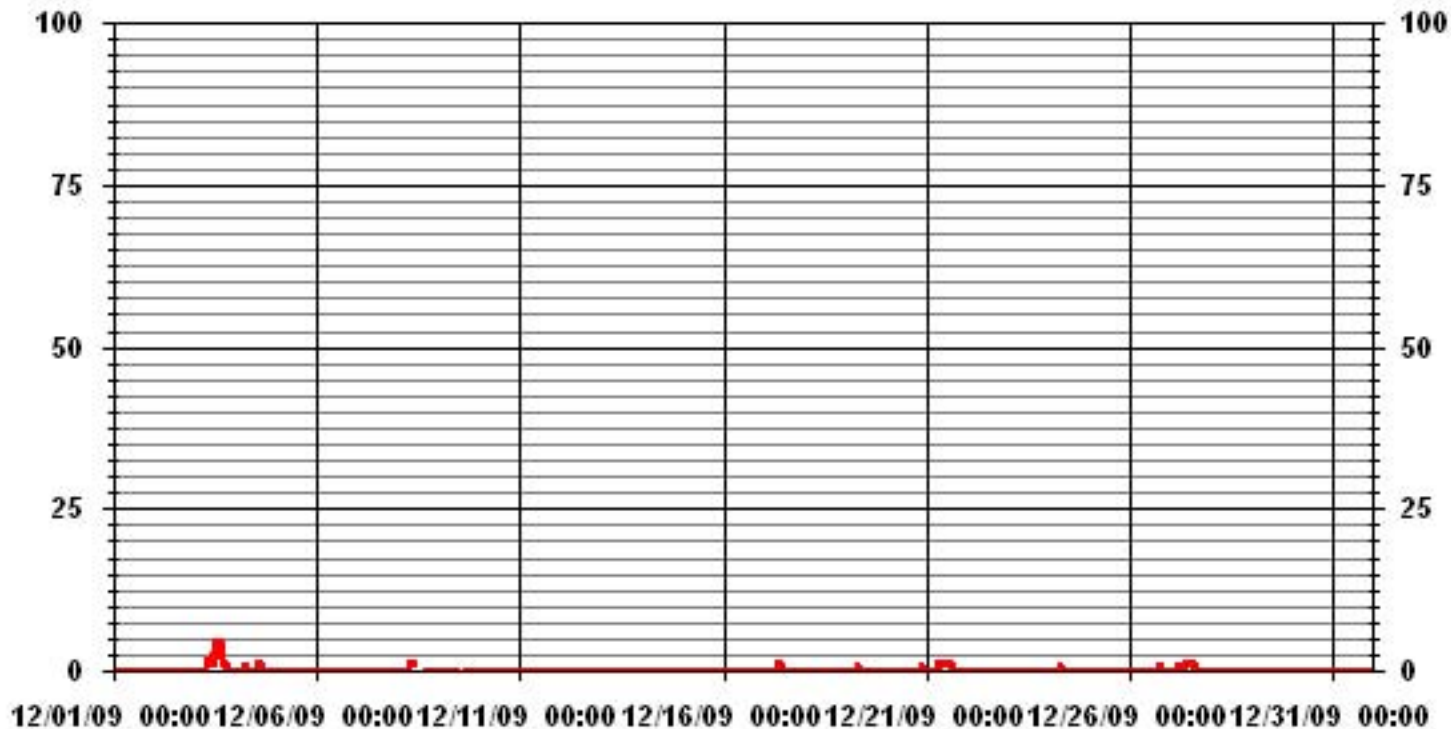
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	40					
MAXIMUM INSTANTANEOUS VALUE:	5	PPB	@ HOUR(S)	12, 15	ON DAY(S)	3
	VAR - VARIOUS					
IZS CALIBRATION TIME:	33	HRS		OPERATIONAL TIME:	742	HRS
MONTHLY CALIBRATION TIME:	9	HRS				
STANDARD DEVIATION:	0.41					

01 Hour Averages



— LICA33 H2S MAX PPB

LICA33
H2S_ / WDR Joint Frequency Distribution (Percent)

December 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	4.41	1.42	2.99	5.41	8.68	4.84	3.41	3.41	2.84	2.27	7.69	13.39	12.39	10.25	9.40	6.98	99.85
< 10	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.14
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.41	1.42	2.99	5.41	8.68	4.84	3.41	3.56	2.84	2.27	7.69	13.39	12.39	10.25	9.40	6.98	

Calm : .00 %

Total # Operational Hours : 702

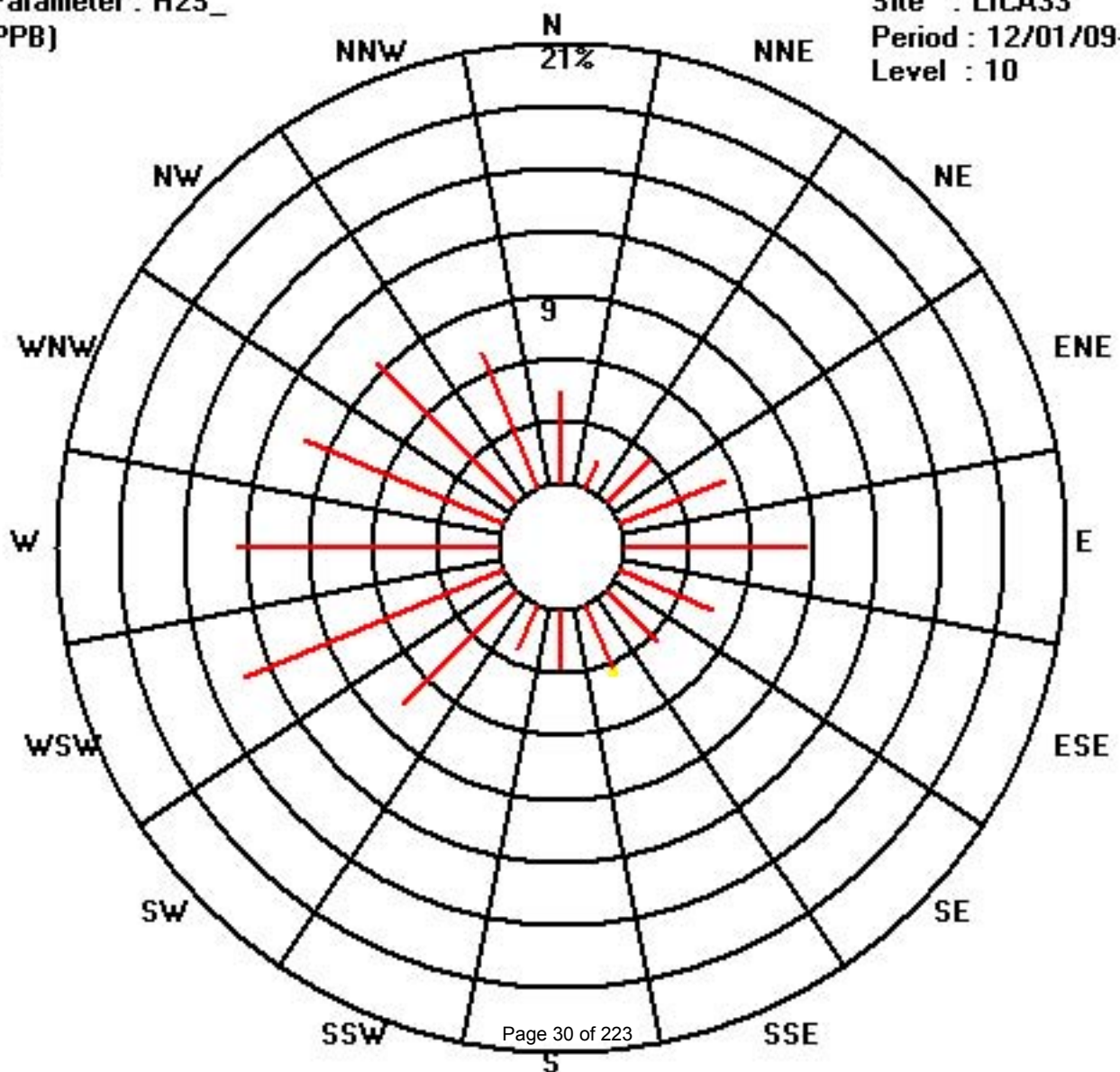
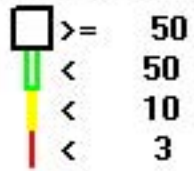
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	31	10	21	38	61	34	24	24	20	16	54	94	87	72	66	49	701
< 10								1									1
< 50																	
>= 50																	
Totals	31	10	21	38	61	34	24	25	20	16	54	94	87	72	66	49	

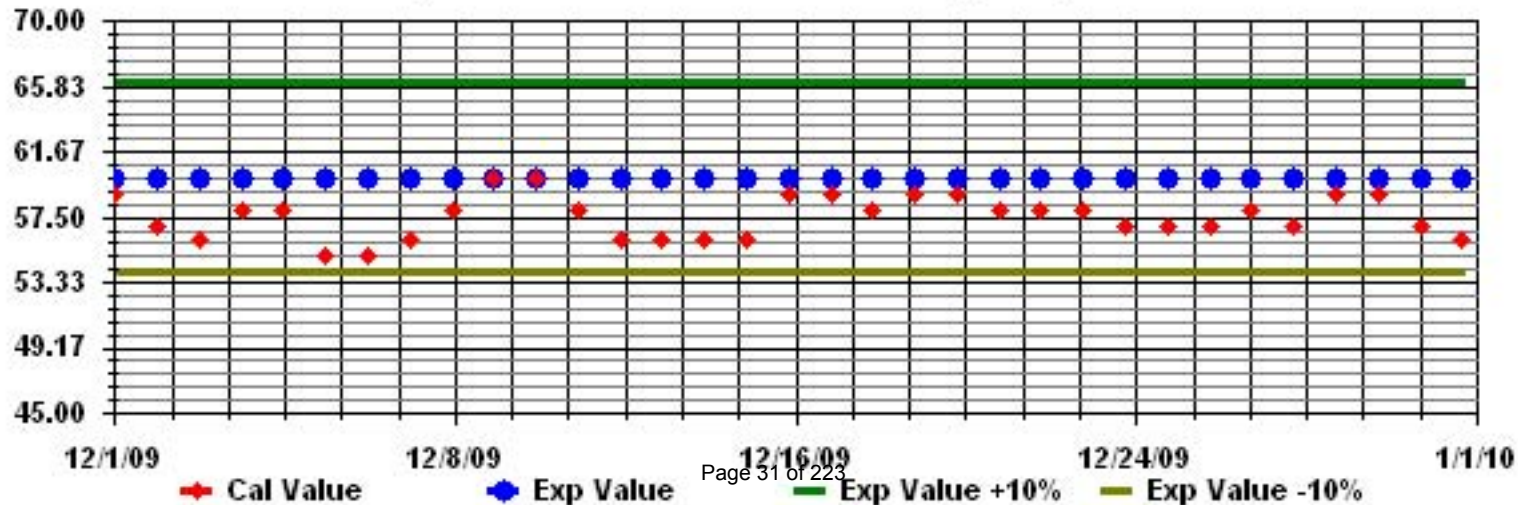
Calm : .00 %

Total # Operational Hours : 702

Class Limits (PPB)



Calibration Graph for Site: LICA33 Parameter: H2S_ Sequence: H2S Phase: SPAll



Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	24:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	1.4	1.9	1.4	1	0.8	0.6	1.2	0.7	0.4	1	1.1	0.3	0.6	0.6	1.6	1.6	1.3	0.6	0.8	1.2	1.9	2.8	2.4	2.8	2.8	2.8	1.3	24
2	2.5	2.6	2	1	1.1	2.1	4.7	3.1	3.4	3	1.7	1	2.6	3.6	2.8	2.7	4.5	5.6	5.7	4.8	3	5.4	17.2	20.4	20.4	4.4	24	
3	7.1	4.9	5.5	2.6	1.5	1	0.8	0.2	1.6	3.6	1.8	4.1	7.2	4	3.7	9.3	12.4	11.4	7.1	6.1	4	7.5	6	4.8	12.4	4.9	24	
4	5.1	5.1	4.7	4.3	3.9	5.5	4.7	4.9	6.4	7.7	6.8	7	7.8	9.1	8.4	10	6.1	4.9	3.1	2.9	1.9	1.9	2.1	1.2	10.0	5.2	24	
5	1.6	1.1	0.4	1.2	0.7	1.2	0.8	1.7	1.8	1.7	0.9	0.5	2.1	1.8	1.2	1.4	2	1.8	1.4	0.7	0.9	1.4	0.9	0.2	2.1	1.2	24	
6	0	0.1	1.3	1.9	3.1	2.1	P	3.8	3.4	2.8	2.7	2.4	2	1.7	2.4	2.4	2	10.6	10	3.4	5.7	5.6	2.6	1.6	10.6	3.2	23	
7	3	0.6	2	0.6	1.4	2.6	3.2	4.7	5.6	6.9	6	4.6	3.9	1.4	3.8	4.6	3.6	5.1	4.7	3.9	3.2	2.9	2.3	2.3	6.9	3.5	24	
8	3.3	3.3	4.2	3.8	4.5	4.7	4.4	5.1	4.9	7.7	7.3	4.7	4.4	4.5	C	C	7.5	7.3	6.6	4.6	4.4	4.9	4.7	4.9	7.7	5.1	24	
9	4	3.7	4	4.6	4	3.9	3.1	3.6	4.4	4.1	3	3	3.2	4	3.1	2.4	2.6	1.8	1.9	2.3	2.5	2.5	2.8	1.6	4.6	3.2	24	
10	2.2	1.7	1.2	0.5	0.1	0.1	0.3	0	0	1.3	0.5	0.1	0	0	0.6	0.4	0.7	0	0	0.4	0.6	0.4	0	1.4	2.2	0.5	24	
11	0.7	0.2	0.8	1.2	2	1.9	1.5	2	2.8	3.3	2.3	1.9	1.7	2.2	2.7	2.7	3.3	3.3	3.6	3.8	4.4	4.1	3.1	2.4	4.4	2.4	24	
12	2.5	2.8	3.2	3.2	2.9	3	3.1	3	3.7	4	3.5	3.5	2.4	3.2	3	3.2	2.9	2.5	2	2.2	2.4	2.6	2.6	2.2	4.0	2.9	24	
13	2.1	1.8	1.8	2.3	2	2.4	2.3	2.5	2.9	3.6	4	3.4	2.4	2.8	2.7	2.1	2.8	2.7	2.6	2.6	3.5	3.8	3.8	2.8	4.0	2.7	24	
14	2.7	3	2.7	2.2	3.1	1.9	2.7	2.6	3.3	4.7	2.6	2.7	2.3	2.7	2.7	2.4	5	3.5	3.3	5.5	8	12.5	8.7	7.7	12.5	4.1	24	
15	6.6	8.6	7.8	5.3	4.6	5.2	3.9	3	4.5	4.3	3.8	3.7	3	3.5	5.2	6.7	6.4	5.5	5.2	6.1	5.4	6.8	5.6	4	8.6	5.2	24	
16	3.8	2.9	2.5	3	4.1	2.2	3.4	4.2	4.2	5	3.7	3.1	4.2	3.6	4.4	4.3	3.9	4.6	4.3	4.1	4.5	5.6	5.9	5.7	5.9	4.1	24	
17	5.2	6.6	6.2	4.9	4.9	4.6	5.1	6.1	7.8	8.4	7.7	8.5	12.1	13.9	17	11	11.8	10.3	6.1	7.1	5.4	8.2	11.3	5.4	17.0	8.2	24	
18	7.8	7	9.5	10	13.7	15.6	18.7	16.5	11.5	8.9	2.6	5.9	6	8.4	4.7	4.6	5.2	6.8	6.5	7.1	4.5	3.7	4.4	5.6	18.7	8.1	24	
19	3.9	2.9	3.9	7.6	6.6	6.8	6.7	5	7.6	6.6	9.8	6.2	2	0	0	0	0	0	2.5	0	0	0	0.4	0	9.8	3.3	24	
20	2.3	0.8	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0.9	0	1.7	2.8	2	0.2	0.1	1.4	2.8	0.5	24	
21	4	2	3.9	0	3.8	3.9	0.9	2.3	2.8	4	3.9	3.8	4.2	3	3.8	3.5	10.3	7.6	3.4	2.6	2.7	3	3.8	3.6	10.3	3.6	24	
22	4.7	5.7	5	5.2	4.2	3.2	3.3	3	4.5	4	2.8	2.1	2.5	2.7	2.3	3	3	3.8	2.7	2.3	1.2	1	1.7	1.8	5.7	3.2	24	
23	3	2.2	2.1	0	0.7	0.2	0.1	0.3	0.5	0.6	0.6	2.7	0.8	1.7	1.5	1.1	0.3	6.5	3	4.1	3.7	2.4	3.2	1.5	6.5	1.8	24	
24	1.9	3.4	1.9	2.9	2.2	1.6	3.4	2.1	1.9	5.4	5.7	4.9	6.6	6.9	3.9	5.3	7.3	5.9	4.7	4.1	6.6	5.3	4.9	6.1	7.3	4.4	24	
25	5.2	5.2	5.6	5.6	4.7	5.1	3.5	3.4	3.9	7	7	3	5	6.1	4.4	3.5	4.3	4.5	5.4	5.5	5.1	2.8	4.7	2.7	7.0	4.7	24	
26	4.8	4.9	4.1	3	2.2	2.6	3.3	2.9	3.1	5.2	3.5	2.9	2.7	3.2	2.6	2.3	3.8	3.5	5.5	4.4	4.6	4.8	4.2	3.5	5.5	3.7	24	
27	4.2	3.7	4.6	3.9	5.5	6.8	5.8	6.1	3.3	8.2	7.6	5.7	7.3	6	4.5	7.2	1.8	2.3	0.4	1.3	0	0	0	0.7	8.2	4.0	24	
28	0	0.5	0.4	0.4	1	0.5	1.2	0.7	1.4	1.1	0.7	0	0	0	0	0.1	0.6	0.9	1.1	1.2	1	2.2	1.7	1.9	2.2	0.8	24	
29	2.2	3.2	4	4.6	3.9	4.6	3.6	4.6	6	5.3	3.6	1.9	1.9	2	1.8	2	2.7	2.5	0.6	1.5	2.3	2.5	2.4	1.4	6.0	3.0	24	
30	1.1	1.4	1	1.3	0.2	0.6	0.6	1.1	1.4	1.9	1.8	1	0.7	0.8	1.7	1.5	1.6	2.4	1.6	0.9	1.4	0.7	1.7	1.6	2.4	1.3	24	
31	0.9	2.2	2	2	1.7	3.3	2.1	1.7	2.4	2.7	3.3	2.2	2.7	0.5	1.2	1.8	3.6	5.5	5.3	2.3	7.3	3.6	6.2	1.4	7.3	2.8	24	
HOURLY MAX	8	9	10	10	14	16	19	17	12	9	10	9	12	14	17	11	12	11	10	7	8	13	17	20				
HOURLY AVG	3.2	3.1	3.2	2.9	3.1	3.2	3.3	3.3	3.6	4.3	3.6	3.1	3.4	3.4	3.3	3.4	4.0	4.3	3.6	3.3	3.4	3.6	3.9	3.4				

STATUS FLAG CODES

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

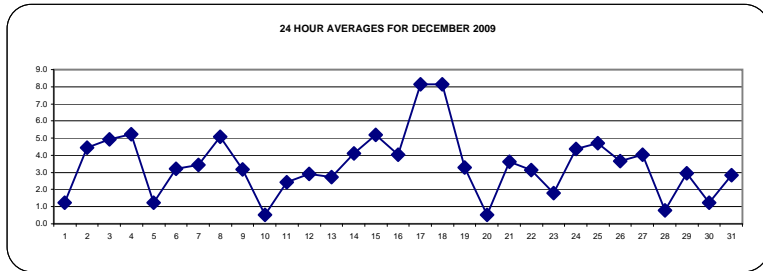
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:

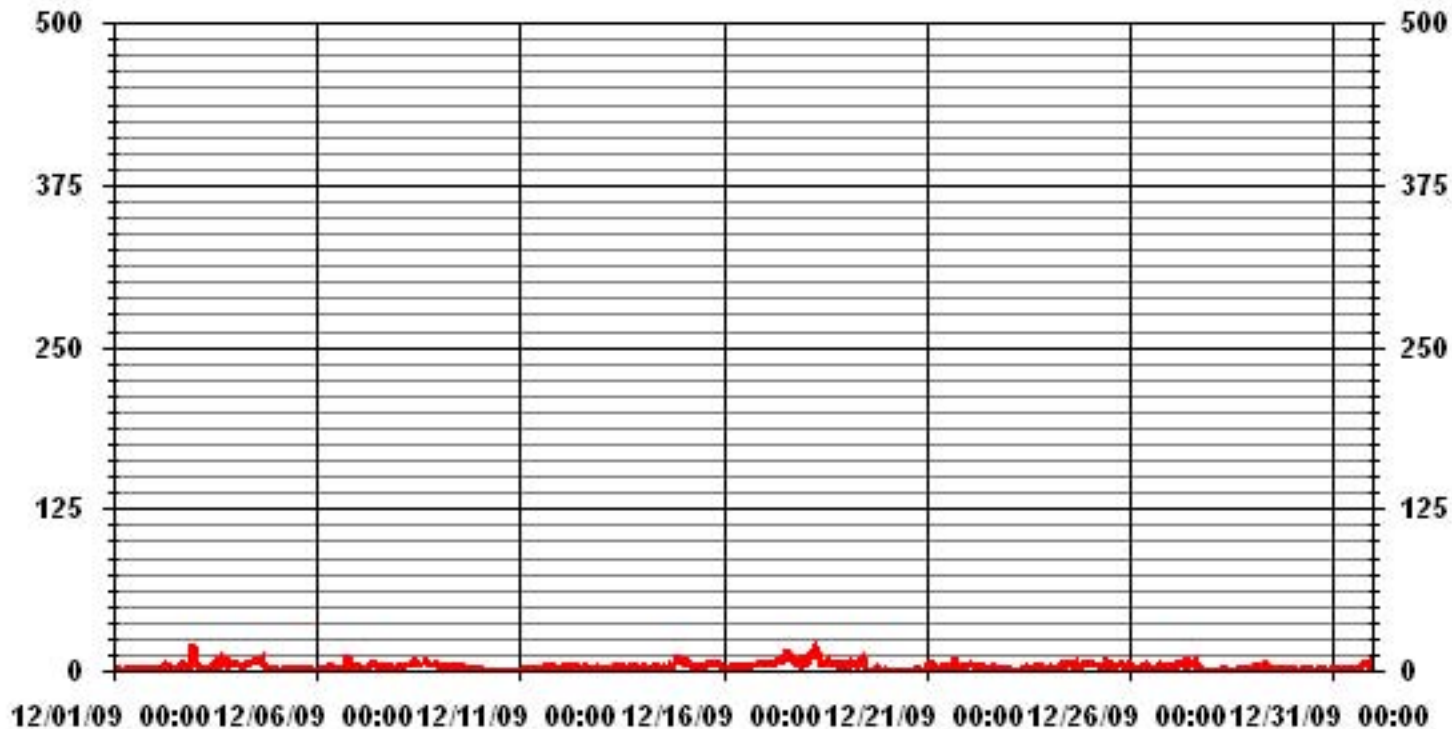
1-HR	-	PPB	24-HR	30	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-
NUMBER OF 24-HR EXCEEDENCES:	0 PROPOSED CANADA WIDE GUIDELINE
NUMBER OF NON-ZERO READINGS:	700
MAXIMUM 1-HR AVERAGE:	20.4 UG/M ³ @ HOUR(S) 23 ON DAY(S) 2
MAXIMUM 24-HR AVERAGE:	8.2 UG/M ³ ON DAY(S) 17
IZS CALIBRATION TIME:	0 HRS
MONTHLY CALIBRATION TIME:	2 HRS
STANDARD DEVIATION:	2.71
OPERATIONAL TIME:	743 HRS
AMD OPERATION UPTIME:	99.9 %
MONTHLY AVERAGE:	3.45 UG/M ³



01 Hour Averages



— LICA33 PM2 UG/M3

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 2009

PARTICULATE MATTER 2.5 MAX instantaneous maximum 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	
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		3	3.9	3	2.6	2.1	1.8	4.5	5.1	1.8	2.6	3.8	1.4	2.4	2.5	3.3	3.3	3.4	2.3	2.2	2.8	3.4	4.5	4	4.6	5.1	3.1	24	
2		4.7	5.4	4	3.2	2.9	5.3	13.8	4.9	5.7	4.5	4	2.5	7.2	9.4	4.6	4.4	13.1	17.3	11.7	7.5	5.8	7.5	24.6	25.8	25.8	8.3	24	
3		12	7.7	8.4	4.6	4.6	3.1	3.1	3.3	3.9	7	4.3	9.1	9.2	8.2	10	12.6	23.8	13.3	13.2	8.5	5.7	10.2	8	7.4	23.8	8.4	24	
4		6.8	6.7	6.4	6.3	5.3	8.4	7.2	6.7	11.9	10	9.2	11.5	9.9	10.8	10.4	12.5	10.5	11.1	5.1	4.1	3.1	4	4.4	2.8	12.5	7.7	24	
5		3.1	2.5	1.9	4	2.8	3.1	2.7	3.3	3.5	3.5	2.8	1.9	4.7	5.2	5.2	4	4.3	5.2	5.6	2.6	2.8	3.2	2.5	2.6	5.6	3.5	24	
6		2.9	2.2	3.2	3.9	5.1	P	P	10.2	5.3	4.9	4.6	3.7	4.8	3	4.4	4.5	4.2	14.9	16	5.8	8.6	7.9	5	3.8	16	5.9	22	
7		12.9	4	7.9	3.5	6.3	10	6.8	7.7	8.7	9.7	8.4	7.5	6.9	6.9	8	8	5.7	8.2	8.4	11.5	7.2	6.1	8.3	5.2	12.9	7.7	24	
8		8.4	5	8.3	6.8	6.8	8.4	10.2	7.7	13.7	12.8	10.8	8.4	8.6	C	C	C	9.1	9	9.5	6.7	6.5	6.7	6.8	7.4	13.7	8.5	24	
9		5.8	5.7	5.7	6.6	5.6	5.8	4.7	5.7	6.6	6.7	4.8	6.1	4.9	5.7	6	4.9	5.2	3.8	3.8	4.5	4.4	4.7	4.6	4.3	6.7	5.3	24	
10		5	4	3.9	2.2	2.6	2.2	2.4	2.3	2.8	3	3.2	2.3	2.2	1.9	2.7	1.8	3	0.5	1.3	2.4	2.6	1.8	2.5	2.6	5	2.6	24	
11		2.7	2.2	2.8	2.8	3.5	4.2	3.8	4.4	4.6	5.9	4.3	4	3.5	4.3	4.7	4.8	6.1	5.5	5.7	5.8	6.2	5.2	5.3	4.1	6.2	4.4	24	
12		4	4.6	4.9	4.6	5.1	4.5	4.3	5	5	5.7	5.7	6.2	4.6	5.6	4.7	4.4	4.6	4.6	4.1	3.6	3.6	4.4	4.3	3.1	6.2	4.6	24	
13		3.5	4.1	3.2	3.8	3.6	4.1	3.6	3.9	4.6	4.9	6.2	5.5	4.6	5.2	5.1	4.2	4.7	3.9	3.6	4.6	5	6	6.7	4.7	6.7	4.6	24	
14		4.6	5	4.7	3.6	5.1	3.6	4.4	4.1	5	6.2	5.6	4.6	4.7	4.7	4.1	8.4	12.1	6.5	5.5	9.1	9.7	15.1	10.6	11.2	15.1	6.6	24	
15		9.6	12.6	9.6	7	6.2	8.4	6.6	4.7	14.8	6.8	7.1	6.6	6.6	5.5	7.4	9.2	12.6	7.3	7.8	8.4	8	9.6	9	7.2	14.8	8.3	24	
16		6.3	6	6.1	6	7.7	4.6	6.3	6.6	7.1	7.9	7.1	7.3	8.6	6.8	7.9	7.9	6.7	6.9	9.1	7.3	7.1	7.9	10.6	10.1	10.6	7.3	24	
17		8.6	10	13.7	6.9	8.3	6.5	8.3	8.9	10.5	12.1	11.5	12	15.1	16.6	21.1	14.5	13.7	12.9	10.4	9.9	9.6	12.7	19.6	9	21.1	11.8	24	
18		10.1	9	13.2	12.8	15.6	25.5	28.8	36.9	14.2	14.6	4.5	10.2	10.5	10.4	7.4	7.8	10.1	10.1	9.2	17.3	9.4	8.4	7.2	11.7	36.9	13.1	24	
19		12.4	9.2	7.7	11.4	10.6	10.2	9.6	8	11.8	10.7	16.2	10.1	5.2	0	0	0	0.7	2.6	7.8	1.3	1.6	2.6	2.5	1.8	16.2	6.4	24	
20		4.9	3.2	2.6	0.3	1.7	4.1	4.5	1.6	1.6	3	1	1.7	1.4	0.5	3	0.8	2.2	1.6	5.8	6.3	4.5	3.5	2	4.2	6.3	2.8	24	
21		7.4	5.2	8.4	1.8	11.7	7.7	5	6	5.2	7	6.5	7.7	6.7	4.6	6	9.2	21.7	9.7	6.8	5.3	5.6	5.2	5.7	5.5	21.7	7.2	24	
22		6.2	7.2	6.6	8.3	5.6	5	4.9	5	6	6	5.6	4.1	4.5	5.5	4.2	5.1	4.1	6	4.5	4.3	3.3	2.5	3.9	3.6	8.3	5.1	24	
23		4.4	3.9	3.6	2.8	2.4	1.9	1.4	2.2	2.1	2.2	2.3	4.5	2.9	3.4	2.8	2.8	2	10.6	6.5	7.8	6.3	4.3	5.1	3.3	10.6	3.8	24	
24		3.6	6	3.6	4.7	4.6	2.5	6.2	3.7	3.2	8	9	9.9	10.5	11.3	7.9	8.9	9.9	8.6	6.9	6.1	9.7	7.8	7.7	9.4	11.3	7.1	24	
25		7.3	7.1	11.7	11.7	7.1	7.5	6	5.6	7.1	9.9	9.2	8.5	9.4	7.8	6.2	5.1	7.2	9.2	11	9.5	6.9	5.1	7.2	5.7	11.7	7.9	24	
26		7	7.2	7.4	6.4	5.1	4.4	5.6	5.6	7	8.9	9.4	7.7	5.4	5.8	5	3.5	6.7	7.5	13.4	14.6	7	7.4	6.9	4.8	14.6	7.1	24	
27		6.4	5.3	6.8	5.8	8.6	9.6	9.9	8.1	4.9	19.7	19.9	7.5	9.2	7.9	7.7	11.6	6.7	5.2	1.8	3.3	0.7	1.3	1.2	2.1	19.9	7.1	24	
28		1.6	2.6	2.5	1.8	2.3	2.3	2.8	2.5	2.8	2.8	2.9	0.7	1.7	1.9	2.1	2.1	2.4	2.2	3	2.4	2.9	3.4	3.7	3.7	3.7	2.5	24	
29		3.4	5	5.8	6.3	6.2	6.2	4.9	7.5	7.8	7.2	6.4	3.5	4.1	3.9	4.4	4.4	4.5	4.5	2.4	4.1	5.7	4	4.5	3.4	7.8	5.0	24	
30		3	3.4	2.5	2.8	2.4	2.5	2.6	3.1	2.6	4	3.7	3	2.3	2.3	3.5	3.2	3.5	3.9	3.5	3	2.5	2.3	3.7	3.5	4	3.0	24	
31		2.2	4.6	3.4	3.8	3.1	6	3.9	3	4.9	4.6	5.6	3.9	5.5	4.1	3.7	4.5	7.3	11.3	8.9	5.8	15.2	7.2	16.2	3.5	16.2	5.9	24	
HOURLY MAX		13	13	14	13	16	26	29	37	15	20	20	12	15	17	21	15	24	17	16	17	10	15	25	26				
HOURLY AVG		6.2	5.6	6.1	5.3	5.7	6.1	6.5	6.5	6.5	7.4	6.8	6.1	6.2	5.9	5.9	6.1	7.6	7.3	7.0	6.5	5.6	6.0	6.7	6.0				

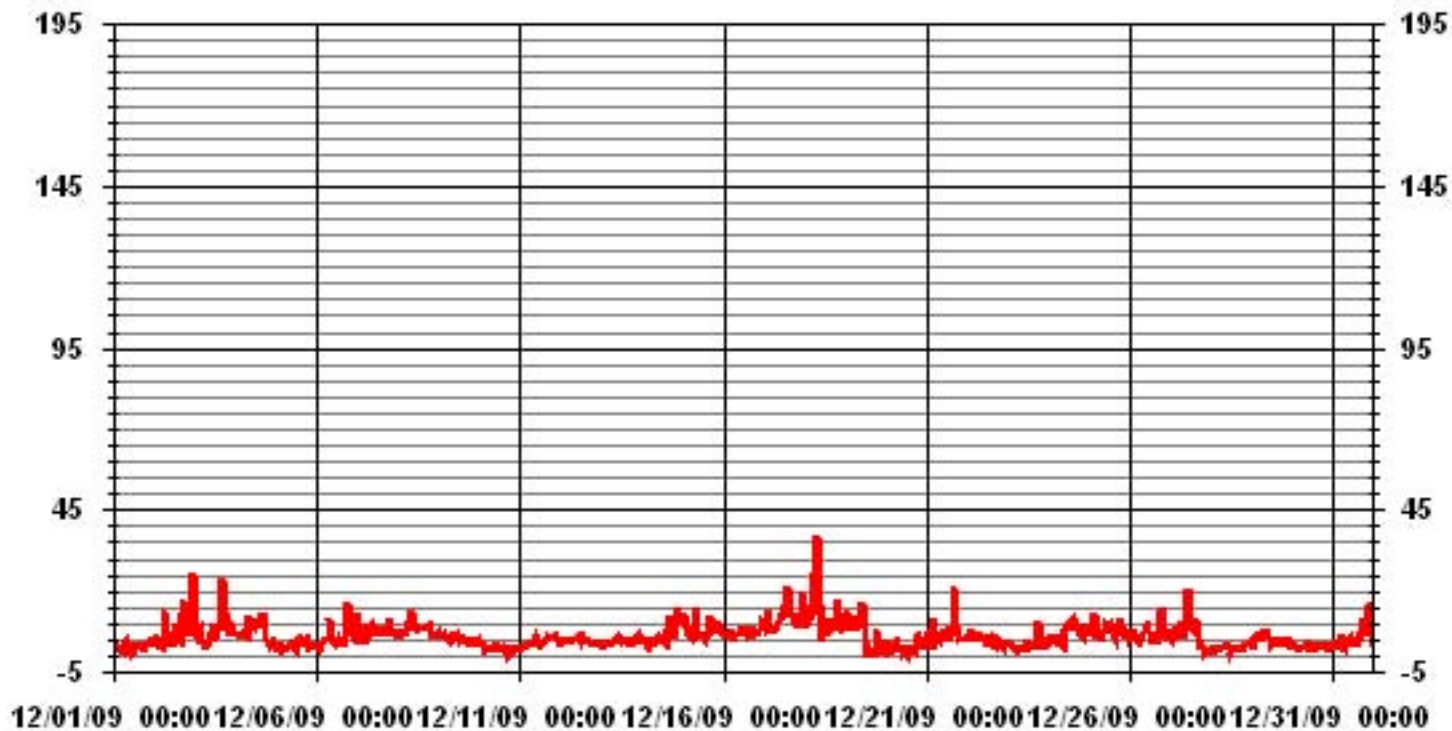
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	688					
MAXIMUM INSTANTANEOUS VALUE:	36.9	UG/M ³	@ HOUR(S)	7	ON DAY(S)	18
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	742	HRS	
MONTHLY CALIBRATION TIME:	3	HRS				
STANDARD DEVIATION	3.93					

01 Hour Averages



— LICA33 PM2MAX UG/M3

LICA33
 PM2 / WDR Joint Frequency Distribution (Percent)

December 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	4.45	1.34	2.96	5.39	8.63	4.72	3.64	3.37	2.83	2.29	8.09	13.76	12.14	10.39	8.90	7.01	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	4.45	1.34	2.96	5.39	8.63	4.72	3.64	3.37	2.83	2.29	8.09	13.76	12.14	10.39	8.90	7.01	

Calm : .00 %

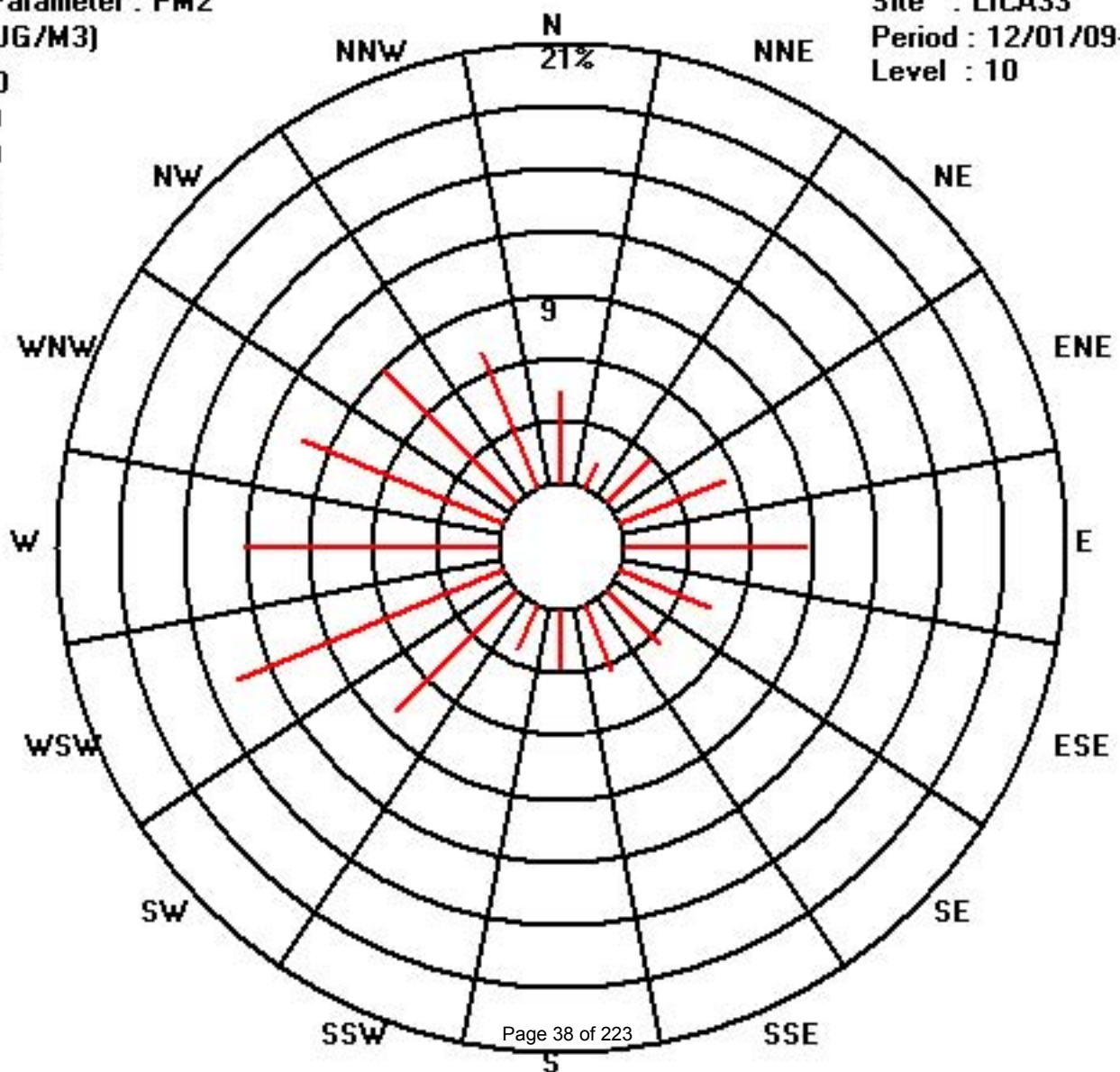
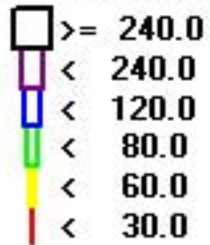
Total # Operational Hours : 741

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	33	10	22	40	64	35	27	25	21	17	60	102	90	77	66	52	741
< 60.0																	
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	33	10	22	40	64	35	27	25	21	17	60	102	90	77	66	52	

Calm : .00 %

Total # Operational Hours : 741



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	MAX.	AVG.	RDGS.	
1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	IZS	1	0.1	24		
2	1	1	2	2	2	1	1	3	4	4	2	2	2	1	2	2	2	2	2	2	1	1	IZS	1	4	1.9	24	
3	1	0	0	0	0	0	1	14	34	17	14	32	50	32	38	48	17	4	3	4	4	IZS	4	4	50	14.0	24	
4	5	4	4	4	4	4	4	5	4	5	5	5	6	8	8	11	7	4	3	3	IZS	1	1	1	11	4.6	24	
5	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	0.0	24
6	0	0	0	1	1	1	P	3	3	2	1	1	1	1	2	3	5	6	IZS	10	8	9	10	8	10	3.5	23	
7	7	7	8	5	4	7	6	6	9	8	8	5	7	7	9	13	15	IZS	13	12	10	17	9	8	17	8.7	24	
8	8	9	11	11	11	12	13	17	18	15	C	C	C	C	C	C	13	15	12	9	11	13	14	14	18	12.6	24	
9	14	14	12	12	16	17	18	18	14	10	7	5	5	4	4	IZS	6	4	5	5	7	8	5	6	18	9.4	24	
10	7	5	2	3	3	3	4	4	5	3	2	4	3	2	IZS	2	2	1	1	1	1	1	1	1	1	7	2.7	24
11	1	0	1	2	2	3	3	2	3	4	3	2	2	IZS	2	3	4	5	6	7	15	11	5	1	15	3.8	24	
12	0	1	2	3	3	6	3	2	2	1	1	0	IZS	0	0	1	1	2	1	1	2	2	2	2	6	1.7	24	
13	2	2	2	2	2	3	3	6	2	2	1	1	IZS	0	1	1	1	1	2	4	3	3	2	1	6	2.0	24	
14	1	1	1	1	1	3	3	3	5	2	IZS	1	2	1	2	3	6	6	6	6	9	10	13	12	13	4.3	24	
15	16	21	19	16	16	14	12	10	12	IZS	6	5	5	5	6	9	9	12	10	11	12	13	18	14	21	11.8	24	
16	11	8	10	11	10	9	7	7	IZS	6	5	3	3	3	4	5	7	7	8	7	8	10	9	9	11	7.3	24	
17	9	10	8	9	8	8	8	IZS	19	16	12	11	12	12	13	15	16	16	13	11	12	11	10	14	19	11.9	24	
18	14	12	14	15	13	13	IZS	15	17	11	9	9	9	12	12	13	14	13	13	12	10	8	8	8	17	11.9	24	
19	9	9	10	11	12	IZS	14	17	13	12	10	10	9	3	1	1	2	3	3	2	1	1	2	0	17	6.7	24	
20	2	1	2	1	IZS	2	3	4	5	3	2	2	1	2	2	5	15	5	9	12	11	11	12	14	15	5.5	24	
21	15	10	15	IZS	14	19	20	21	21	17	17	17	16	16	16	16	16	15	22	23	21	21	19	18	23	17.6	24	
22	14	12	IZS	12	16	7	7	6	9	8	5	4	3	3	3	3	6	7	9	7	7	5	4	3	16	7.0	24	
23	3	IZS	3	2	2	2	2	2	3	2	2	2	2	2	2	5	9	9	13	10	5	4	5	13	4.0	24		
24	IZS	11	12	10	9	7	10	8	8	7	6	6	7	9	10	12	14	15	14	14	16	13	13	IZS	16	10.5	24	
25	13	13	12	10	11	12	11	10	9	7	7	7	7	8	10	14	17	16	16	16	15	14	IZS	12	17	11.6	24	
26	15	12	12	12	11	13	12	12	9	9	8	7	7	8	9	10	12	11	12	13	15	IZS	14	17	17	11.3	24	
27	16	15	16	17	16	17	15	16	16	15	15	17	15	13	12	16	5	2	1	1	IZS	1	1	1	17	11.3	24	
28	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	2	2	IZS	2	2	2	2	2	2	1.3	24
29	2	2	2	5	3	3	3	3	3	2	2	1	1	1	2	2	3	3	IZS	1	1	1	1	1	5	2.1	24	
30	0	1	1	1	1	1	1	2	3	3	2	1	1	1	1	4	IZS	7	6	4	3	4	4	7	2.3	24		
31	3	4	7	10	10	8	12	16	14	12	9	8	7	6	5	6	IZS	12	11	13	12	14	13	12	16	9.7	24	
HOURLY MAX	16	21	19	17	16	19	20	21	34	17	17	32	50	32	38	48	17	16	22	23	21	21	19	18				
HOURLY AVG	6.6	6.2	6.3	6.3	6.7	6.6	6.8	7.8	8.8	6.8	5.6	5.8	6.3	5.6	6.1	7.5	7.6	6.8	7.3	7.8	7.9	7.2	6.9	6.7				

STATUS FLAG CODES

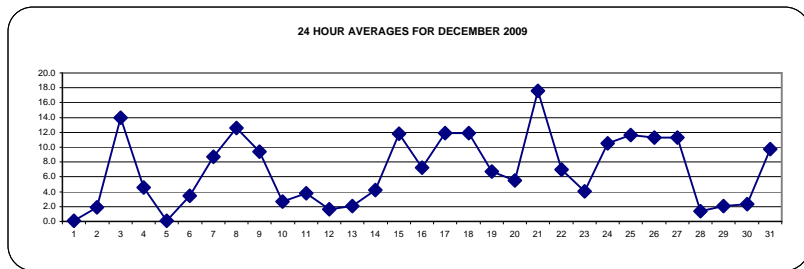
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT:

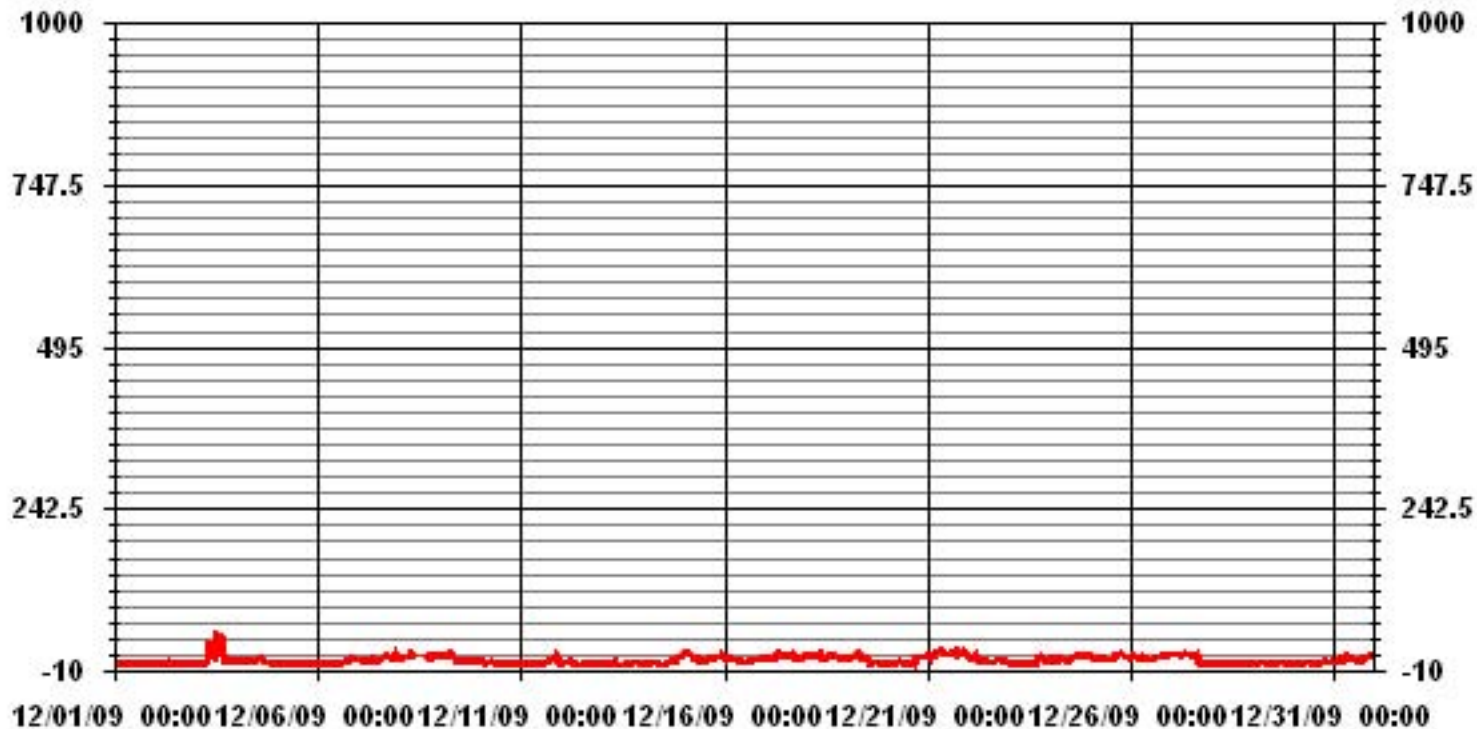
ALBERTA ENVIRONMENT:	1-HR	212	PPB	24-HR	106	PPB
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MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0		
NUMBER OF 24-HR EXCEEDENCES:	0		
NUMBER OF NON-ZERO READINGS:	647		
MAXIMUM 1-HR AVERAGE:	50 PPB @ HOUR(S) 12 ON DAY(S) 3		
MAXIMUM 24-HR AVERAGE:	17.6 PPB ON DAY(S) 21		
IZS CALIBRATION TIME:	32 HRS	OPERATIONAL TIME:	743 HRS
MONTHLY CALIBRATION TIME:	6 HRS	AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	6.28	MONTHLY AVERAGE:	6.84 PPB



01 Hour Averages



— LICA33 NO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	IZS	0	0	1	1	0	1	1	1	1	1	0	0	0	0	0	2	1	1	1	1	1	2	IZS	2	0.7	24	
2	2	2	5	3	3	2	2	7	7	7	8	35	13	2	16	19	4	4	4	2	2	1	IZS	3	35	6.7	24	
3	1	1	1	1	1	1	1	114	170	67	62	111	128	108	106	148	85	23	26	5	5	IZS	5	5	170	51.1	24	
4	6	5	5	5	5	4	6	7	5	6	6	9	12	10	12	14	10	9	4	4	IZS	2	2	1	14	6.5	24	
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	IZS	0	1	1	0	1	0.9	24	
6	2	0	1	2	2	P	P	4	4	2	3	2	2	1	3	5	7	8	IZS	12	11	13	14	11	14	5.2	22	
7	8	10	12	6	5	10	8	9	13	10	11	7	8	8	11	16	17	IZS	16	13	16	21	12	9	21	11.1	24	
8	9	11	13	12	12	14	16	27	20	C	C	C	C	C	C	C	C	C	18	17	10	12	15	15	16	27	14.8	24
9	16	16	14	14	18	18	19	19	18	13	9	11	19	8	21	IZS	10	6	6	6	10	10	8	8	21	12.9	24	
10	9	7	3	4	4	4	6	5	14	4	3	6	6	3	IZS	2	3	2	3	2	1	1	1	2	14	4.1	24	
11	2	1	3	5	3	3	3	3	5	5	4	3	3	3	IZS	3	3	5	8	16	22	15	9	5	22	5.8	24	
12	1	1	3	4	6	8	5	3	3	2	1	1	IZS	1	1	2	2	12	2	2	3	3	3	3	12	3.1	24	
13	3	3	5	3	3	4	4	9	5	3	2	IZS	1	1	1	2	15	2	2	6	4	3	3	2	15	3.7	24	
14	2	1	2	2	2	6	4	8	8	3	IZS	2	2	2	3	4	24	8	7	9	10	14	16	15	24	6.7	24	
15	21	23	21	19	19	17	14	13	15	IZS	8	7	6	6	7	10	12	14	13	12	14	15	22	21	23	14.3	24	
16	15	8	14	14	12	13	8	9	IZS	8	6	4	4	5	5	6	9	10	10	8	11	14	10	12	15	9.3	24	
17	11	13	9	10	9	9	13	IZS	38	26	15	12	13	13	14	18	18	19	18	12	13	13	13	16	38	15.0	24	
18	18	15	18	20	14	14	IZS	21	21	13	10	10	13	14	13	14	15	14	14	13	11	10	10	10	21	14.1	24	
19	10	9	12	15	15	IZS	18	18	15	14	12	12	12	5	2	3	18	5	4	2	4	6	1	18	9.3	24		
20	2	2	2	1	IZS	4	4	11	8	5	4	2	2	2	3	32	19	18	15	16	15	12	14	17	32	9.1	24	
21	18	15	19	IZS	17	22	22	27	25	19	19	19	22	17	18	18	20	19	24	24	23	23	23	19	27	20.5	24	
22	17	15	IZS	15	18	12	8	7	11	11	6	5	3	46	4	4	8	10	12	8	8	6	5	4	46	10.6	24	
23	4	IZS	4	3	2	3	3	3	4	3	3	3	3	3	3	9	13	13	20	17	6	5	6	20	5.9	24		
24	IZS	14	14	14	11	8	17	14	10	9	7	8	8	10	13	13	15	16	16	15	19	17	14	IZS	19	12.8	24	
25	14	15	14	12	13	14	12	11	11	11	8	8	8	10	11	18	19	17	21	19	17	17	IZS	15	21	13.7	24	
26	17	16	13	13	15	15	15	15	11	14	11	8	8	8	10	12	13	12	12	14	17	IZS	15	19	19	13.2	24	
27	18	17	19	18	20	20	17	19	18	25	18	18	17	15	15	18	13	5	2	1	IZS	2	2	2	25	13.9	24	
28	1	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	3	2	IZS	3	3	3	2	3	2	2.2	24	
29	2	3	4	6	4	4	4	4	4	3	3	2	2	2	2	3	4	4	IZS	1	1	1	1	2	6	2.9	24	
30	1	1	3	2	2	1	2	3	4	3	3	2	2	2	2	2	6	IZS	8	7	6	3	5	5	8	3.3	24	
31	4	6	13	14	12	11	16	17	15	14	11	21	18	7	5	8	IZS	15	12	16	15	16	14	14	21	12.8	24	
HOURLY MAX	21	23	21	20	22	22	114	170	67	62	111	128	108	106	148	85	23	26	24	23	23	23	21					
HOURLY AVG	8.1	7.8	8.3	8.0	8.4	8.4	8.7	13.7	16.2	10.5	8.9	11.4	11.7	10.8	10.6	13.8	12.8	10.6	10.1	9.6	10.0	9.0	8.7	8.4				

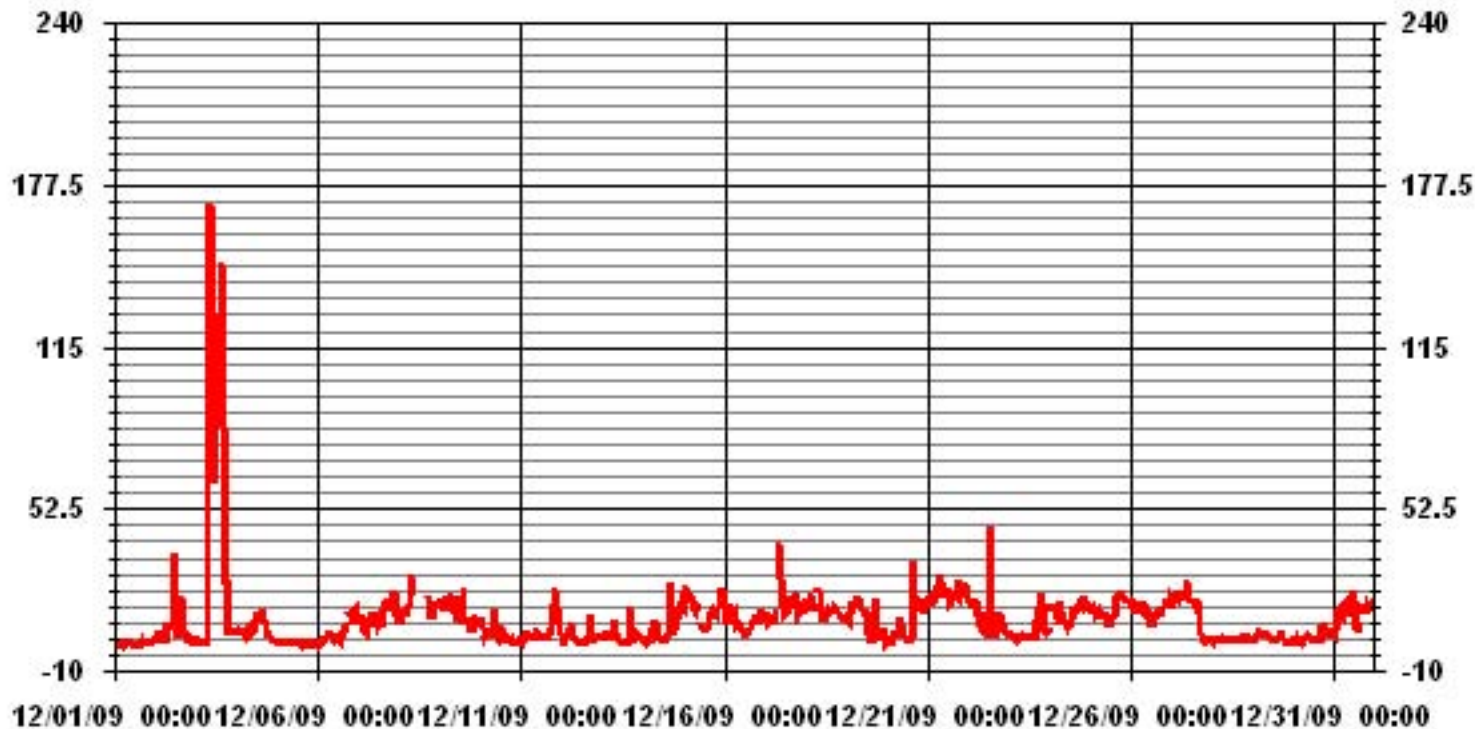
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	690					
MAXIMUM INSTANTANEOUS VALUE:	170	PPB	@ HOUR(S)	8	ON DAY(S)	3
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	742	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION	14.29					

01 Hour Averages



— LICA33 IIO2MAX PPB

LICA33
 NO2_ / WDR Joint Frequency Distribution (Percent)

December 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	4.39	1.41	2.97	5.39	8.65	4.82	3.40	3.40	2.83	2.26	7.80	13.75	12.19	10.21	9.36	6.95	99.85
< 110	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.14
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.39	1.41	2.97	5.39	8.65	4.82	3.40	3.54	2.83	2.26	7.80	13.75	12.19	10.21	9.36	6.95	

Calm : .00 %

Total # Operational Hours : 705

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	31	10	21	38	61	34	24	24	20	16	55	97	86	72	66	49	704
< 110								1									1
< 210																	
>= 210																	
Totals	31	10	21	38	61	34	24	25	20	16	55	97	86	72	66	49	

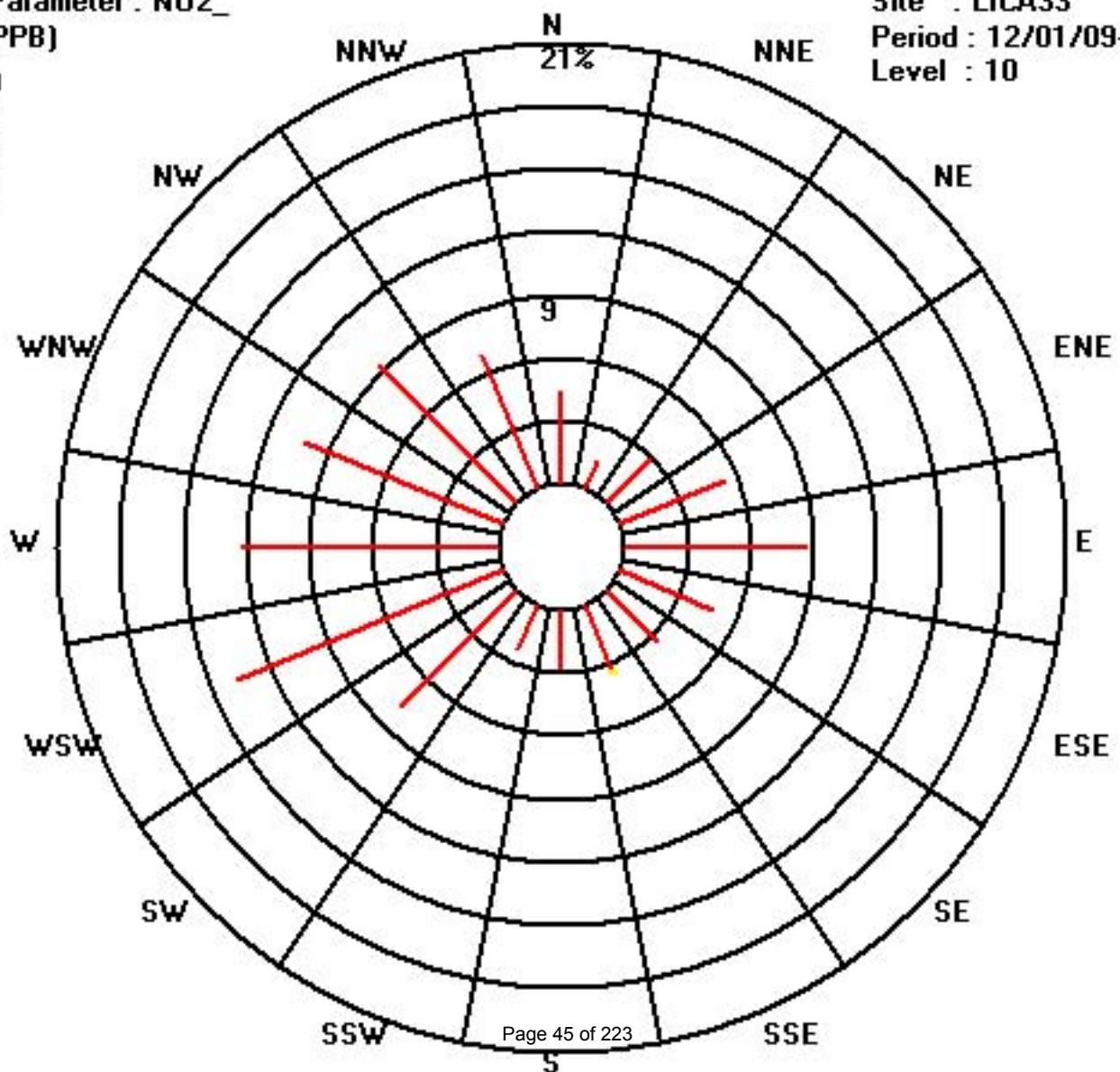
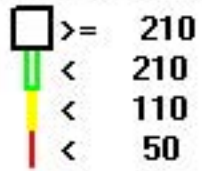
Calm : .00 %

Total # Operational Hours : 705

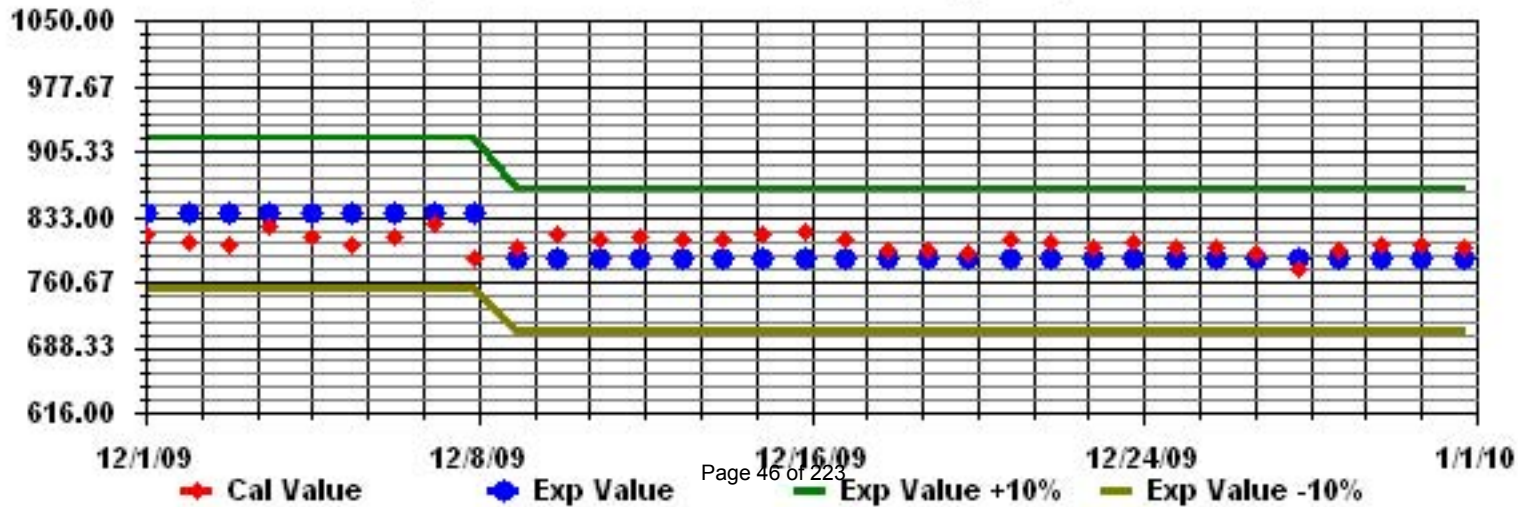
Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



Calibration Graph for Site: LICA33 Parameter: NO2_ Sequence: NO2 Phase: SPAN



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	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
2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	IZS	0	1	0.1	24
3	0	0	0	0	0	0	0	9	31	26	17	63	132	61	93	96	28	3	0	0	0	IZS	0	0	132	24.3	24	
4	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	0	0	0	0	IZS	0	0	0	2	0.3	24	
5	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	
6	0	0	0	0	0	0	P	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	23
7	0	0	0	0	0	0	0	0	0	2	5	2	5	4	4	3	0	IZS	0	0	0	1	0	0	5	1.1	24	
8	0	0	0	0	0	0	5	8	15	C	C	C	C	C	C	C	2	0	0	0	0	0	0	0	15	1.7	24	
9	0	0	0	0	1	1	3	3	1	4	4	3	2	1	1	IZS	0	0	0	0	0	0	0	0	4	1.1	24	
10	0	0	0	0	0	0	0	0	0	0	0	2	1	0	IZS	0	0	0	0	0	0	0	0	0	2	0.1	24	
11	0	0	0	0	0	0	0	0	0	0	0	1	1	IZS	1	0	0	0	0	0	0	0	0	0	1	0.1	24	
12	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	
13	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
14	0	0	0	0	0	0	0	0	0	0	IZS	1	1	0	1	0	1	0	0	0	0	0	0	0	1	0.2	24	
15	0	1	0	0	1	0	0	0	1	IZS	4	4	3	3	3	2	0	0	0	0	0	0	0	0	4	1.0	24	
16	0	0	0	0	0	0	0	0	IZS	10	1	2	1	1	1	1	0	0	0	0	0	0	0	0	2	0.3	24	
17	0	0	0	0	0	0	0	IZS	10	16	12	9	9	8	5	3	0	0	0	0	0	0	0	0	16	3.1	24	
18	0	0	2	1	0	0	IZS	2	2	4	6	8	8	10	6	3	0	0	0	0	0	0	0	0	10	2.3	24	
19	0	0	0	0	0	IZS	2	3	2	5	7	5	4	0	0	0	0	0	0	0	0	0	0	0	7	1.2	24	
20	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.0	24	
21	0	0	0	IZS	0	2	3	12	16	19	21	27	21	19	12	4	0	0	3	4	1	3	1	0	27	7.3	24	
22	0	0	IZS	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24	
23	0	IZS	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0.1	24	
24	IZS	0	0	0	0	0	1	0	0	3	5	7	7	7	6	3	0	0	0	0	1	0	0	IZS	7	1.8	24	
25	0	0	0	0	0	0	0	0	0	3	6	7	7	7	5	4	2	0	0	1	0	1	IZS	0	7	1.9	24	
26	0	0	0	0	0	0	0	0	0	3	4	4	4	3	2	0	0	0	0	0	0	0	0	IZS	0	4	1.0	24
27	0	0	0	0	1	5	4	9	14	28	38	50	33	18	10	10	0	0	0	0	IZS	0	0	0	50	9.6	24	
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0.0	24	
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0.0	24	
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0.0	24	
31	0	0	0	0	0	0	0	0	0	2	3	5	5	4	2	1	IZS	0	0	0	0	0	0	0	5	1.0	24	
HOURLY MAX	0	1	2	1	1	5	4	12	31	28	38	63	132	61	93	96	28	3	3	4	1	3	1	0				
HOURLY AVG	0.0	0.0	0.1	0.0	0.1	0.3	0.4	1.4	2.8	4.4	4.7	7.0	8.6	5.2	5.3	4.6	1.1	0.1	0.1	0.2	0.1	0.2	0.0	0.0				

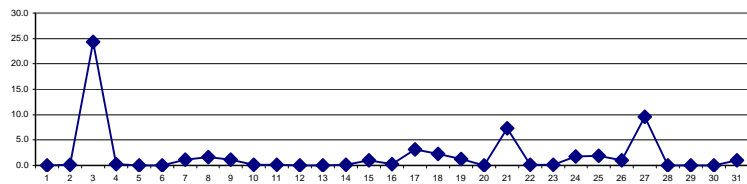
STATUS FLAG CODES

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

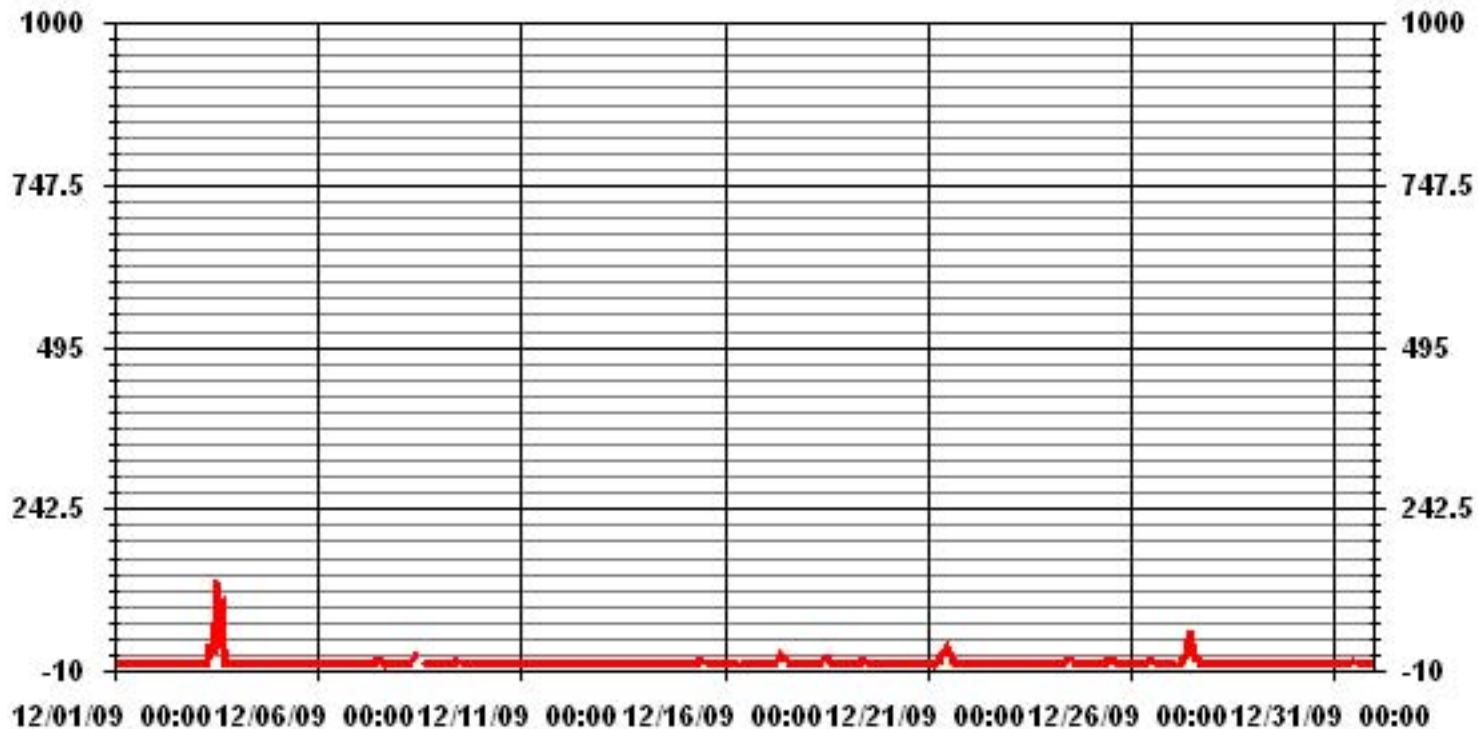
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	160					
MAXIMUM 1-HR AVERAGE:	132	PPB	@ HOUR(S)	12	ON DAY(S)	3
MAXIMUM 24-HR AVERAGE:	24.3	PPB			ON DAY(S)	3
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	8.85		MONTHLY AVERAGE:	1.94	PPB	

24 HOUR AVERAGES FOR DECEMBER 2009



01 Hour Averages



— LICA33 NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	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
2	0	0	0	0	0	0	0	0	0	1	35	29	0	6	19	2	1	0	0	0	0	0	IZS	0	35	4.0	24	
3	0	0	0	0	0	0	0	108	114	129	59	169	315	177	169	221	125	52	12	0	0	IZS	0	315	71.7	24		
4	0	0	0	0	0	0	0	0	0	3	23	11	3	2	3	1	0	0	0	IZS	0	0	0	23	2.0	24		
5	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	
6	0	0	0	0	0	P	P	0	0	1	1	0	0	0	1	0	1	IZS	1	0	0	0	0	0	1	0.2	22	
7	0	0	0	0	0	0	0	1	1	4	7	4	6	5	5	2	IZS	1	1	1	3	0	0	0	7	2.0	24	
8	0	1	1	1	1	2	1	53	11	C	C	C	C	C	C	C	C	1	1	0	1	1	1	1	53	4.8	24	
9	1	1	0	1	2	2	4	4	3	4	5	16	17	4	4	IZS	3	0	0	0	0	0	0	0	17	3.1	24	
10	0	0	0	0	0	0	0	0	2	1	1	4	3	1	IZS	1	0	0	0	0	0	0	0	0	4	0.6	24	
11	0	0	0	0	0	0	0	0	0	1	1	2	1	IZS	1	1	0	0	0	1	3	1	0	0	3	0.5	24	
12	0	0	0	0	0	0	0	0	0	0	1	1	IZS	0	0	0	0	10	0	0	0	0	0	0	10	0.5	24	
13	0	0	0	0	0	0	0	0	0	1	1	IZS	1	1	0	1	20	0	0	0	0	0	0	0	20	1.1	24	
14	0	0	0	0	0	0	0	1	0	0	IZS	1	1	2	3	1	37	0	0	0	0	0	0	0	37	2.0	24	
15	1	3	1	1	1	1	1	1	1	1	IZS	4	5	5	4	3	3	1	0	0	1	1	1	0	5	1.7	24	
16	1	0	1	1	1	0	0	0	IZS	2	3	2	2	2	3	1	0	0	1	1	0	4	0	0	4	1.1	24	
17	0	0	0	0	0	0	1	IZS	66	55	17	11	10	10	7	6	1	0	0	0	0	0	0	0	66	8.0	24	
18	1	0	8	4	0	1	IZS	4	5	6	8	10	13	14	8	4	2	0	0	0	0	0	0	0	14	3.8	24	
19	0	0	0	1	1	IZS	6	5	4	7	9	7	6	2	1	0	1	20	0	0	0	0	0	0	20	3.0	24	
20	0	0	0	0	IZS	0	0	0	0	0	1	1	0	0	0	25	6	17	0	0	0	0	0	0	25	2.2	24	
21	0	0	0	IZS	1	5	6	26	26	23	29	32	27	22	15	10	1	1	7	6	4	8	3	1	32	11.0	24	
22	1	1	IZS	1	1	0	0	0	1	3	2	2	1	9	1	0	1	0	0	0	0	0	0	0	9	1.0	24	
23	0	IZS	0	0	0	0	0	0	1	0	1	1	1	1	0	0	3	8	3	1	0	0	0	0	8	0.9	24	
24	IZS	0	0	2	0	0	5	1	1	4	7	9	8	8	7	5	1	1	1	0	3	1	0	IZS	9	2.9	24	
25	1	1	0	0	0	1	1	0	3	4	8	8	7	7	7	5	4	1	3	6	2	2	IZS	3	8	3.2	24	
26	1	1	0	0	1	1	0	0	1	6	6	5	5	4	4	3	1	0	0	1	0	IZS	0	1	6	1.8	24	
27	1	1	1	1	4	9	5	13	18	122	53	55	45	24	13	14	2	0	0	0	0	IZS	0	0	0	122	16.6	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0.0	24
30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
31	0	0	0	0	0	0	0	0	1	4	4	46	17	5	2	1	IZS	1	0	0	0	0	0	1	46	3.6	24	
HOURLY MAX	1	3	8	4	4	9	6	108	114	129	59	169	315	177	169	221	125	52	12	6	4	8	3	3				
HOURLY AVG	0.3	0.3	0.4	0.4	0.4	0.8	1.0	7.2	8.6	13.0	8.0	15.5	18.3	10.6	9.0	11.4	7.3	3.8	1.2	0.7	0.6	0.7	0.2	0.2				

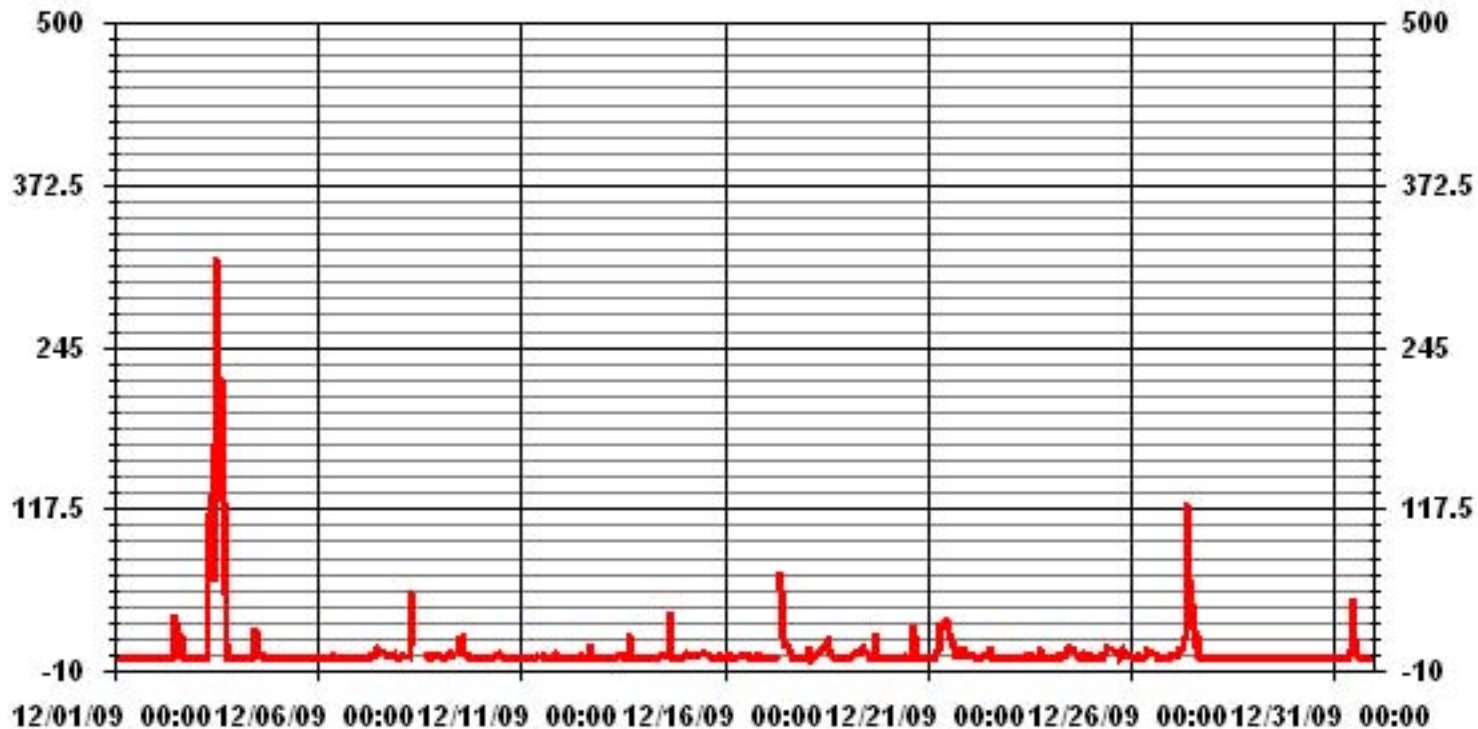
STATUS FLAG CODES

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:	301					
MAXIMUM INSTANTANEOUS VALUE:	315	PPB	@ HOUR(S)	12	ON DAY(S)	3
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	742	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION	21.86					

01 Hour Averages



LICA33
 NO_ / WDR Joint Frequency Distribution (Percent)

December 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	4.39	1.41	2.97	5.39	8.65	4.82	3.40	2.83	2.83	2.26	7.80	13.75	12.19	10.07	9.36	6.95	99.14
< 110	.00	.00	.00	.00	.00	.00	.00	.56	.00	.00	.00	.00	.00	.14	.00	.00	.70
< 210	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.14
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.39	1.41	2.97	5.39	8.65	4.82	3.40	3.54	2.83	2.26	7.80	13.75	12.19	10.21	9.36	6.95	

Calm : .00 %

Total # Operational Hours : 705

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	31	10	21	38	61	34	24	20	20	16	55	97	86	71	66	49	699
< 110								4						1			5
< 210								1									1
>= 210																	
Totals	31	10	21	38	61	34	24	25	20	16	55	97	86	72	66	49	

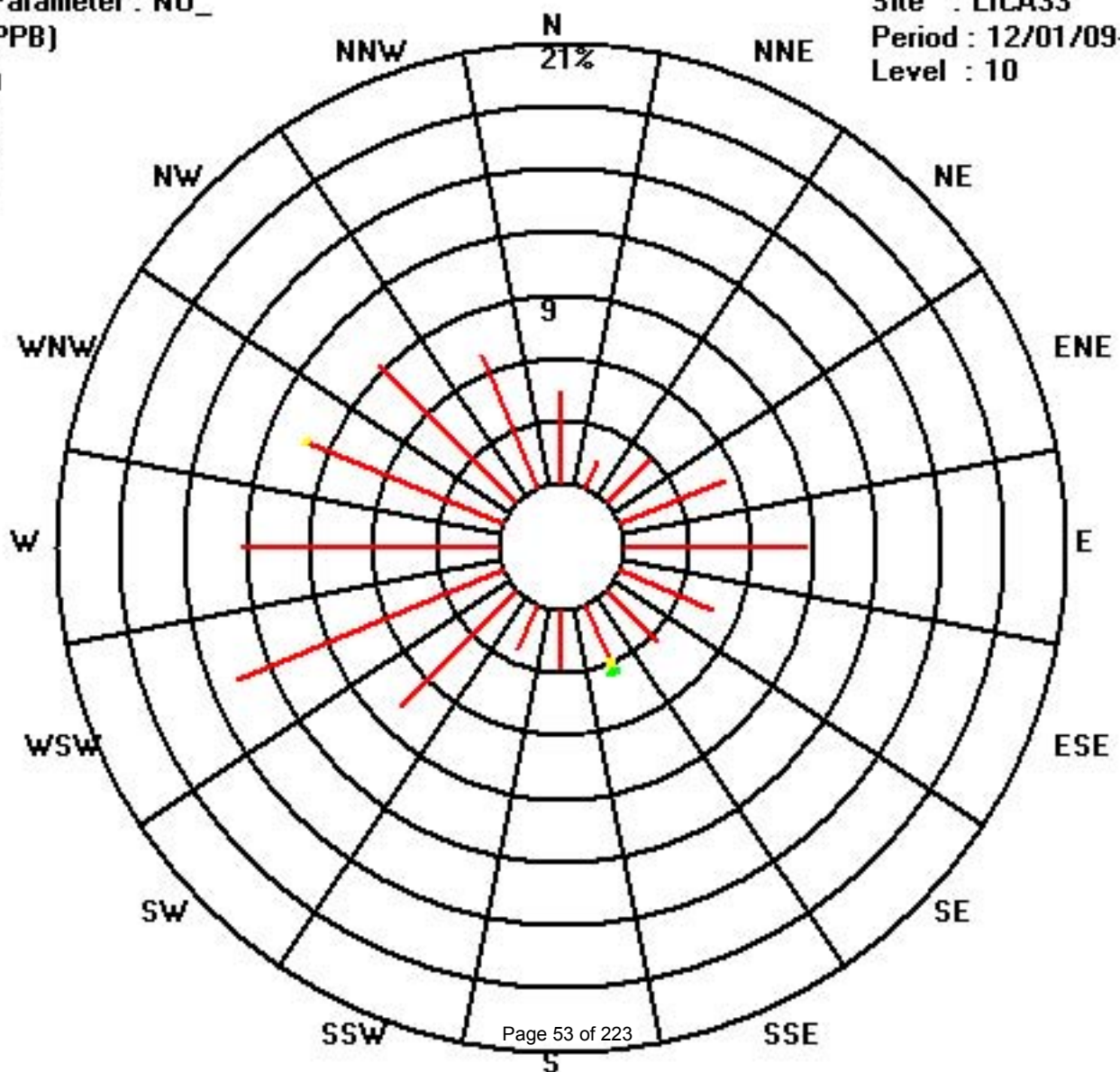
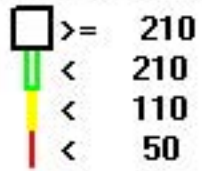
Calm : .00 %

Total # Operational Hours : 705

Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 2009

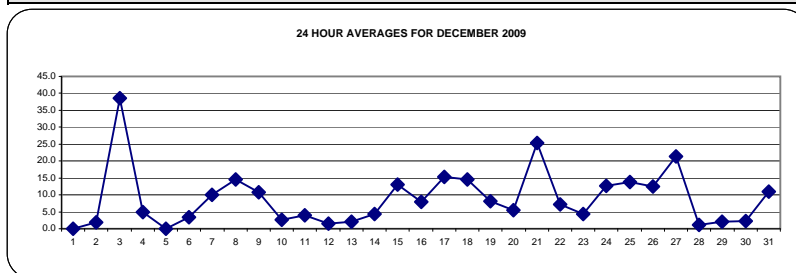
OXIDES OF NITROGEN hourly averages in ppb

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	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	
2	2	1	2	1	1	1	1	3	4	4	2	3	3	1	2	3	2	2	2	1	1	1	1	IZS	1	4	1.9	24	
3	1	0	0	0	0	0	0	24	65	44	32	96	183	93	132	145	46	8	3	4	4	IZS	4	4	183	38.6	24		
4	5	4	4	4	4	4	4	4	4	5	6	7	8	10	10	12	7	4	3	3	IZS	1	1	0	12	5.0	24		
5	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	
6	0	0	0	1	1	1	P	2	3	2	2	1	1	1	2	3	5	6	IZS	10	8	9	10	8	10	3.5	23		
7	7	7	8	5	4	7	6	6	9	10	13	7	12	12	13	16	16	IZS	14	13	10	18	9	8	18	10.0	24		
8	8	9	11	11	11	13	14	22	26	31	C	C	C	C	C	15	16	13	10	11	13	14	15	13	14	15	31	14.6	24
9	15	15	12	13	17	18	21	21	16	14	11	9	9	6	5	IZS	7	5	5	5	7	8	5	6	21	10.9	24		
10	7	5	2	2	3	3	4	4	5	3	3	6	4	2	IZS	2	2	1	1	1	0	0	0	1	7	2.7	24		
11	1	0	1	2	2	2	2	3	4	3	3	3	3	IZS	3	3	4	5	6	7	16	12	5	1	16	3.9	24		
12	0	0	1	2	3	6	3	2	2	1	1	1	IZS	0	0	1	1	2	1	1	2	2	2	2	6	1.6	24		
13	2	1	2	2	2	2	3	6	2	2	2	2	IZS	1	1	1	1	2	1	1	3	3	3	2	1	6	2.0	24	
14	1	1	1	1	1	3	3	3	5	2	IZS	2	3	2	2	3	7	6	6	6	9	10	13	12	13	4.4	24		
15	17	22	20	16	17	15	12	11	13	IZS	10	10	8	8	9	11	10	13	10	11	13	13	19	14	22	13.1	24		
16	11	8	10	11	10	9	7	8	IZS	7	7	5	5	5	5	6	7	8	8	7	8	11	9	9	11	7.9	24		
17	9	10	8	9	8	7	9	IZS	29	33	25	20	21	21	19	19	17	17	13	11	12	11	10	14	33	15.3	24		
18	15	12	16	17	13	13	IZS	17	20	16	16	17	18	22	18	17	15	13	13	12	10	8	8	8	22	14.5	24		
19	9	9	10	11	12	IZS	17	20	15	17	18	16	14	3	1	1	2	4	3	2	1	1	2	0	20	8.2	24		
20	1	1	1	0	IZS	3	3	4	5	4	2	2	2	2	2	5	16	5	9	12	12	11	12	14	16	5.6	24		
21	15	10	15	IZS	15	21	23	33	38	37	38	45	37	35	29	21	17	16	26	27	22	25	20	18	45	25.3	24		
22	15	12	IZS	12	16	7	7	6	10	9	6	5	4	4	3	3	6	7	9	7	7	5	4	2	16	7.2	24		
23	2	IZS	3	2	2	2	2	2	3	3	3	3	3	3	3	2	5	9	9	14	10	5	4	5	14	4.3	24		
24	IZS	11	13	11	9	7	11	9	8	10	11	13	15	17	16	15	14	15	14	15	17	14	13	IZS	17	12.6	24		
25	14	14	12	11	12	12	11	10	10	10	13	14	15	15	15	18	19	16	16	18	15	15	IZS	13	19	13.8	24		
26	16	12	12	12	11	13	12	12	10	12	13	12	11	12	12	12	11	12	13	15	IZS	14	17	17	12.5	24			
27	17	15	17	17	18	23	19	26	30	44	54	67	49	32	22	27	6	2	1	1	IZS	2	1	1	67	21.3	24		
28	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	1	IZS	2	2	1	1	2	1.2	24		
29	2	2	2	5	3	3	3	3	3	2	2	1	1	2	2	2	3	3	IZS	1	0	1	1	1	5	2.1	24		
30	0	1	1	1	1	0	1	2	3	3	2	2	1	1	2	1	4	IZS	7	6	4	2	4	4	7	2.3	24		
31	3	4	7	10	10	8	13	16	15	14	12	14	12	10	7	7	IZS	12	11	13	13	14	13	13	16	10.9	24		
HOURLY MAX	17	22	20	17	18	23	23	33	65	44	54	96	183	93	132	145	46	17	26	27	22	25	20	18					
HOURLY AVG	6.8	6.2	6.4	6.3	6.9	6.8	7.3	9.3	11.9	11.5	10.6	13.2	15.3	11.1	11.6	12.3	8.9	7.2	7.5	8.1	8.0	7.5	6.9	6.7					

STATUS FLAG CODES

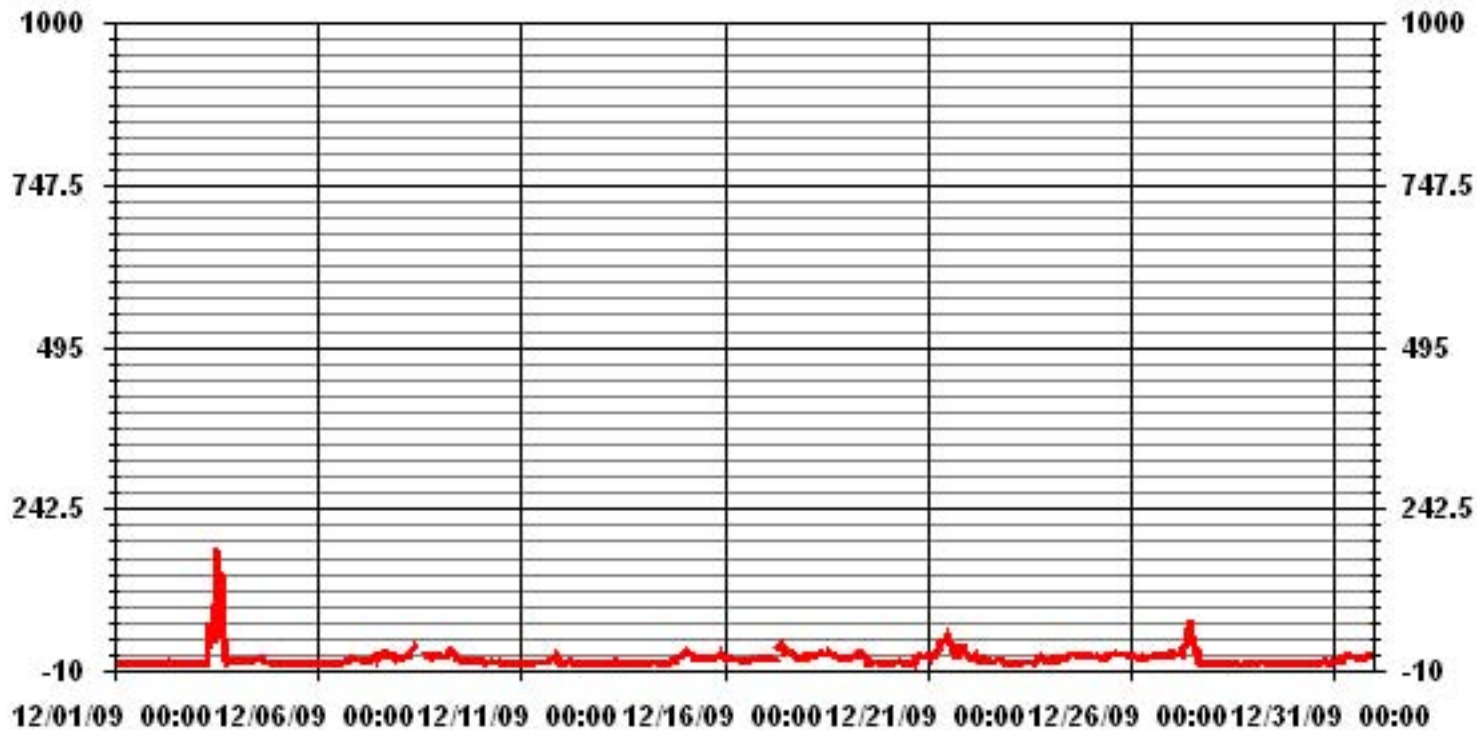
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	637					
MAXIMUM 1-HR AVERAGE:	183	PPB	@ HOUR(S)	12	ON DAY(S)	3
MAXIMUM 24-HR AVERAGE:	38.6	PPB			ON DAY(S)	3
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	13.62		MONTHLY AVERAGE:	8.92	PPB	

01 Hour Averages



— LICA33 NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	IZS	1	0	0	0	0	0	1	1	1	0	0	0	0	0	2	1	0	1	0	1	2	IZS	2	0.5	24		
2	2	2	5	2	2	1	2	6	6	7	9	68	38	3	22	30	5	5	3	3	1	1	IZS	3	68	9.8	24	
3	1	1	1	1	1	0	1	168	239	194	101	238	366	222	244	345	196	67	37	5	5	IZS	5	5	366	106.2	24	
4	6	5	5	5	4	4	6	7	5	7	8	28	23	12	14	17	11	9	4	4	IZS	2	2	1	28	8.2	24	
5	1	1	1	1	1	0	0	0	1	1	1	0	1	1	0	0	0	1	1	IZS	0	0	0	0	1	0.5	24	
6	2	0	0	2	2	P	P	4	4	3	4	2	2	1	3	5	8	8	IZS	12	11	13	14	11	14	5.3	22	
7	8	10	13	6	5	10	8	10	14	13	17	11	14	14	16	18	18	IZS	16	14	17	24	13	9	24	13.0	24	
8	9	12	13	13	13	15	16	76	30	C	C	C	C	C	C	C	C	19	17	11	12	15	15	17	76	18.9	24	
9	17	17	14	15	19	19	24	23	20	16	14	27	37	12	25	IZS	11	6	6	6	10	10	8	8	37	15.8	24	
10	9	7	3	3	3	4	6	5	16	5	5	10	9	3	IZS	3	3	2	3	2	1	1	1	2	16	4.6	24	
11	2	1	3	4	3	3	3	5	5	5	5	4	IZS	4	4	5	5	8	18	25	16	9	4	25	6.3	24		
12	1	1	2	4	6	8	4	3	3	2	2	1	IZS	1	1	2	2	17	2	2	3	2	3	3	17	3.3	24	
13	3	3	5	2	3	4	4	9	5	3	3	IZS	2	2	1	3	34	2	2	6	4	3	2	2	34	4.7	24	
14	1	1	2	1	2	6	4	8	8	3	IZS	3	3	4	7	6	58	8	7	9	10	14	16	15	58	8.5	24	
15	22	26	23	20	20	19	14	14	16	IZS	12	12	12	9	11	12	13	15	13	12	15	15	23	22	26	16.1	24	
16	16	8	15	15	13	13	8	9	IZS	10	9	6	6	7	8	7	9	10	10	9	11	18	11	13	18	10.5	24	
17	12	13	10	11	9	9	14	IZS	100	71	33	22	23	23	20	22	19	20	18	12	13	14	13	16	100	22.5	24	
18	19	15	27	24	15	15	IZS	25	26	17	18	21	27	27	19	19	16	15	15	13	11	10	10	10	27	18.0	24	
19	10	10	13	15	16	IZS	24	22	18	20	21	19	18	7	3	2	4	34	5	3	2	4	5	1	34	12.0	24	
20	2	2	2	1	IZS	4	4	11	8	5	5	3	2	3	3	57	24	35	15	16	15	12	14	17	57	11.3	24	
21	18	15	19	IZS	18	27	26	52	51	41	47	50	48	38	33	28	21	20	31	30	27	32	26	19	52	31.2	24	
22	18	16	IZS	15	18	12	8	7	12	13	8	7	4	55	5	4	8	10	12	8	8	6	5	4	55	11.4	24	
23	3	IZS	4	3	2	3	3	3	4	3	4	3	4	3	3	10	13	16	23	18	6	5	6	23	6.3	24		
24	IZS	14	14	15	11	8	22	14	10	14	14	17	17	18	18	17	16	17	17	15	21	18	14	IZS	22	15.5	24	
25	15	16	14	12	13	14	13	11	14	14	17	16	15	17	18	23	23	17	24	26	19	19	IZS	17	26	16.8	24	
26	18	16	14	14	16	16	15	15	11	21	17	12	12	13	13	13	13	12	13	15	18	IZS	16	20	21	14.9	24	
27	18	18	19	20	25	30	21	31	35	142	71	73	62	39	28	32	15	5	2	1	IZS	2	2	1	142	30.1	24	
28	1	2	2	2	2	2	1	1	2	2	2	2	2	1	1	2	2	3	2	IZS	3	3	2	2	3	1.9	24	
29	2	2	4	6	4	4	4	4	4	3	3	2	2	2	2	3	4	IZS	1	1	1	1	1	1	6	2.7	24	
30	1	1	2	1	2	1	2	3	4	3	3	3	3	2	2	2	6	IZS	8	7	7	3	5	5	8	3.3	24	
31	4	5	13	14	12	11	17	17	16	16	15	67	34	13	8	8	IZS	15	12	16	15	16	15	14	67	16.2	24	
HOURLY MAX	22	26	27	24	25	30	26	168	239	194	101	238	366	222	244	345	196	67	37	30	27	32	26	22				
HOURLY AVG	8.3	8.0	8.7	8.2	8.7	9.0	9.4	18.7	22.9	22.6	16.1	25.1	27.2	19.1	18.3	23.7	19.1	13.6	11.0	10.3	10.4	9.7	8.9	8.6				

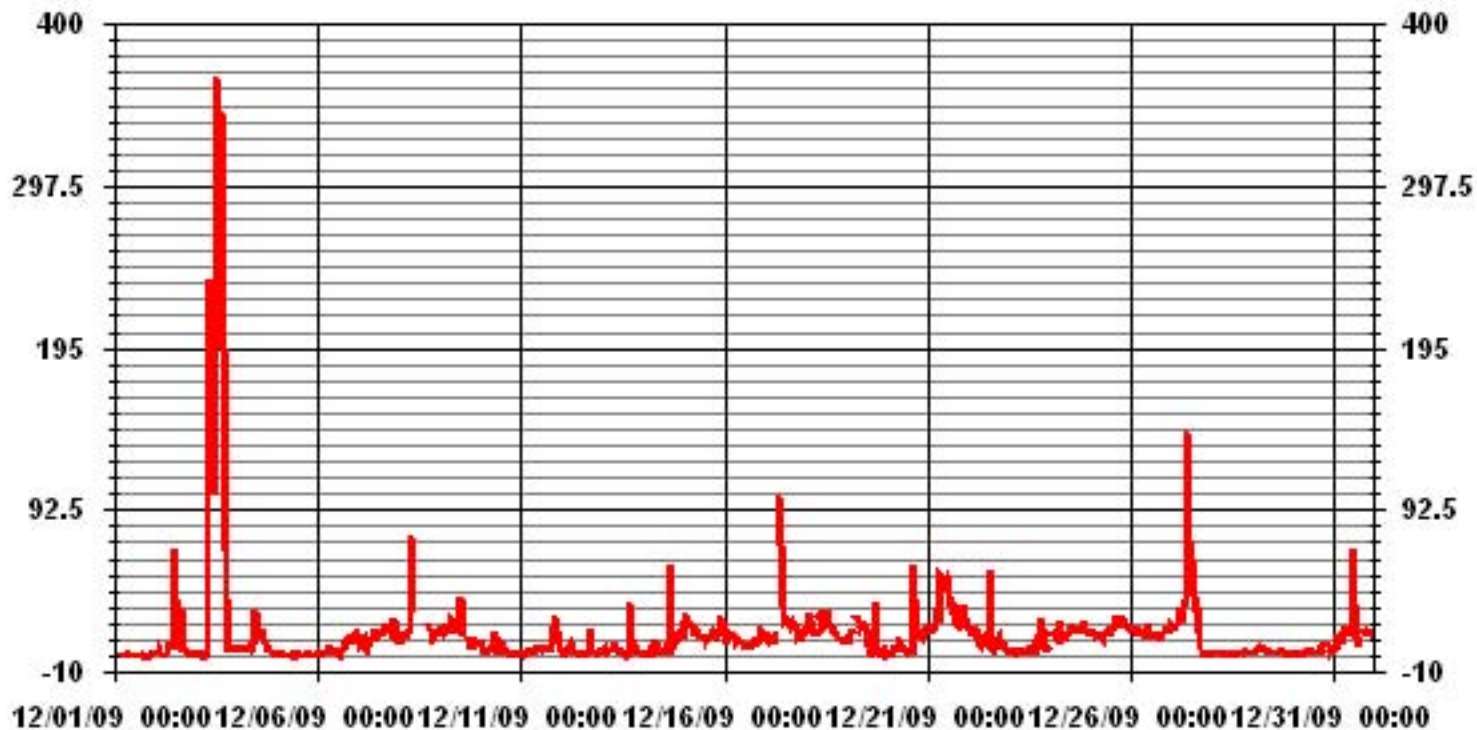
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	675
MAXIMUM INSTANTANEOUS VALUE:	366 PPB @ HOUR(S) 12 ON DAY(S) 3
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION	30.34
OPERATIONAL TIME:	742 HRS

01 Hour Averages



LICA33
NOX_ / WDR Joint Frequency Distribution (Percent)

December 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	4.39	1.41	2.97	5.39	8.65	4.82	3.40	2.83	2.69	2.26	7.80	13.75	12.05	10.07	9.36	6.95	98.86
< 110	.00	.00	.00	.00	.00	.00	.00	.28	.14	.00	.00	.00	.14	.14	.00	.00	.70
< 210	.00	.00	.00	.00	.00	.00	.00	.42	.00	.00	.00	.00	.00	.00	.00	.00	.42
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.39	1.41	2.97	5.39	8.65	4.82	3.40	3.54	2.83	2.26	7.80	13.75	12.19	10.21	9.36	6.95	

Calm : .00 %

Total # Operational Hours : 705

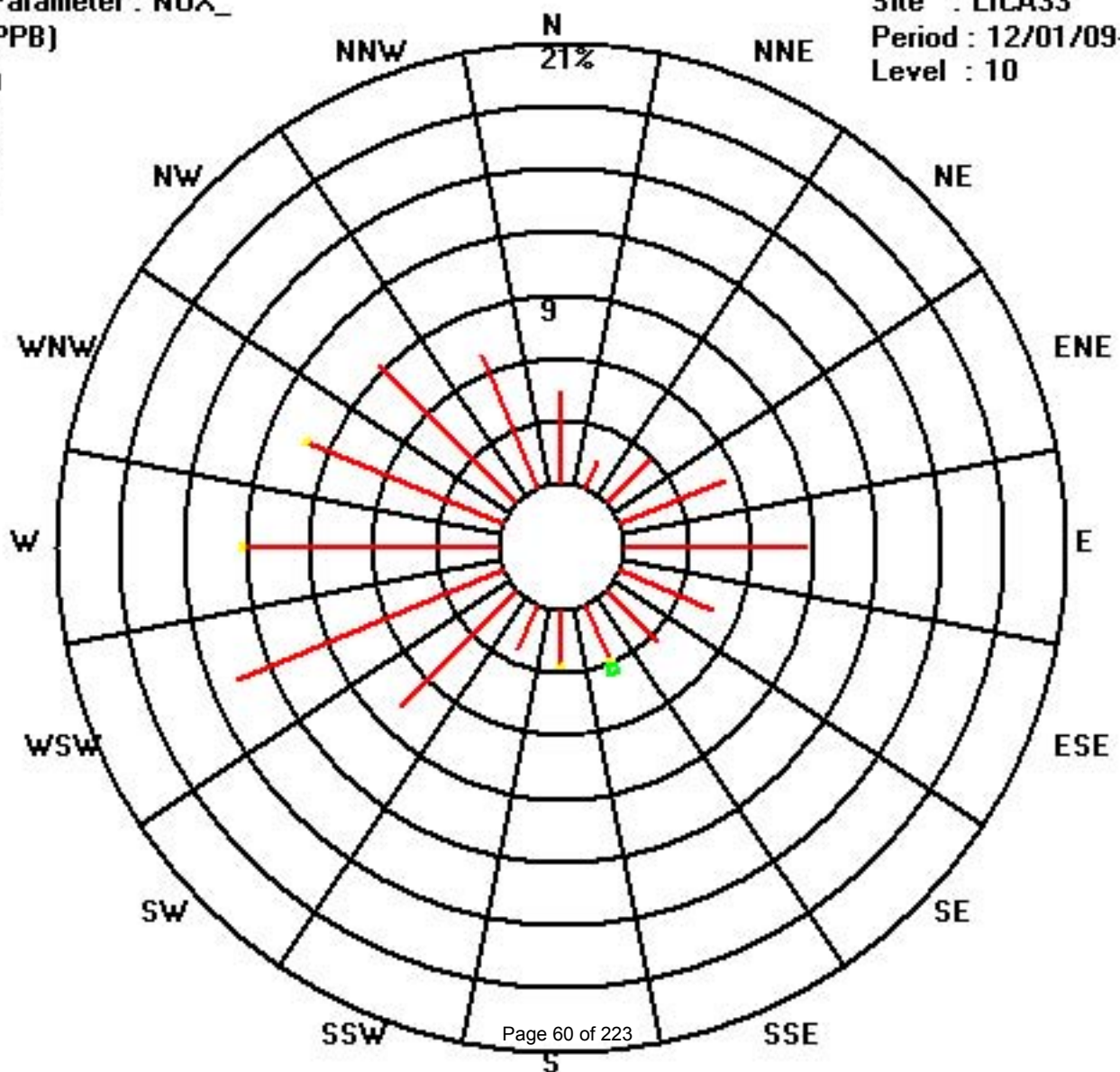
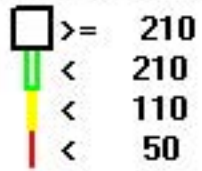
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	31	10	21	38	61	34	24	20	19	16	55	97	85	71	66	49	697
< 110								2	1				1	1			5
< 210								3									3
>= 210																	
Totals	31	10	21	38	61	34	24	25	20	16	55	97	86	72	66	49	

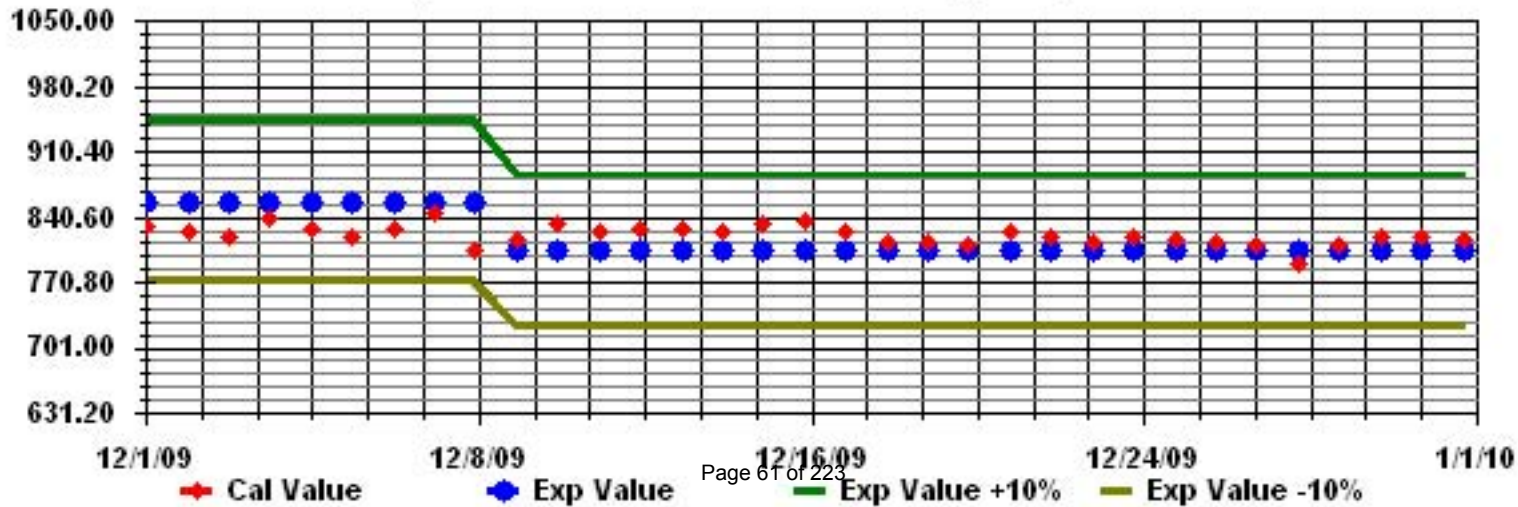
Calm : .00 %

Total # Operational Hours : 705

Class Limits (PPB)



Calibration Graph for Site: LICA33 Parameter: NOX_ Sequence: NO2 Phase: SPAN



Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 2009

OZONE (O₃) hourly averages in ppb

MST

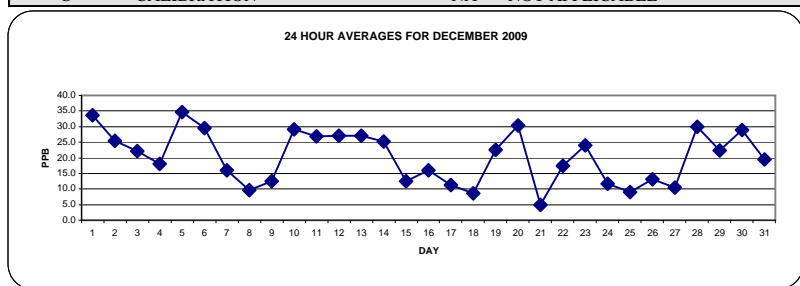
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.		
DAY																												
1	IZS	34	34	34	34	34	34	35	35	35	35	35	35	35	34	33	31	31	33	32	33	32	31	IZS	35	33.6	24	
2	28	27	27	23	17	16	25	18	20	22	27	30	29	29	28	28	28	28	26	26	29	28	IZS	27	30	25.5	24	
3	28	29	29	29	29	30	29	26	21	21	24	20	15	20	16	16	20	20	17	16	16	IZS	18	19	30	22.1	24	
4	18	19	19	19	19	18	17	17	16	14	14	14	14	13	12	12	18	22	22	21	IZS	24	24	27	27	18.0	24	
5	30	32	33	35	35	35	35	35	35	35	35	36	35	36	35	35	34	34	34	IZS	36	35	35	35	36	34.6	24	
6	34	35	34	33	32	33	P	30	31	32	33	34	34	34	33	31	28	27	IZS	21	22	20	18	20	35	29.5	23	
7	18	18	15	16	16	13	13	17	18	17	18	24	25	25	22	16	11	IZS	7	10	15	7	12	13	25	15.9	24	
8	12	11	8	7	8	5	5	2	1	6	14	18	17	17	16	13	IZS	7	11	13	11	9	7	6	18	9.7	24	
9	5	4	6	5	3	2	0	1	C	C	C	C	17	19	22	IZS	20	22	21	20	17	16	19	18	22	12.5	24	
10	18	23	26	27	27	26	25	26	25	28	30	28	31	33	IZS	32	32	32	32	33	34	35	35	33	35	29.2	24	
11	32	35	32	31	31	30	30	31	28	28	29	29	29	IZS	29	28	25	23	21	17	12	16	24	29	35	26.9	24	
12	29	28	26	25	24	22	25	26	26	27	28	29	IZS	30	30	29	29	28	28	27	27	27	27	27	30	27.1	24	
13	27	27	26	26	26	25	24	21	25	26	27	IZS	30	30	30	30	29	30	29	26	26	27	28	30	30	27.2	24	
14	30	30	29	29	29	26	27	27	25	29	IZS	30	30	31	30	28	24	24	23	22	19	16	11	9	31	25.1	24	
15	4	2	4	7	7	8	10	10	11	IZS	19	21	22	23	22	18	18	13	12	12	12	10	12	10	12	23	12.6	24
16	15	18	13	12	14	15	17	17	IZS	20	21	24	24	24	23	20	17	15	11	10	8	9	10	11	24	16.0	24	
17	12	13	15	13	13	13	11	IZS	1	4	9	11	11	11	13	11	10	11	16	17	14	13	10	9	17	11.3	24	
18	7	5	3	2	4	4	IZS	2	4	10	13	15	14	12	11	9	8	9	8	10	12	13	13	12	15	8.7	24	
19	12	11	9	6	6	IZS	3	0	4	7	11	18	26	37	39	38	37	35	36	36	38	37	35	38	39	22.6	24	
20	38	38	37	36	IZS	34	35	33	31	34	37	37	37	37	37	32	21	32	24	19	22	19	16	12	38	30.3	24	
21	9	10	7	IZS	6	2	1	0	0	3	6	6	8	7	7	9	10	11	2	1	2	1	1	3	11	4.9	24	
22	7	9	IZS	8	6	18	17	18	12	14	21	22	23	25	24	23	19	18	16	18	19	21	21	23	25	17.5	24	
23	23	IZS	21	24	26	25	26	26	26	26	27	28	28	28	29	29	25	20	20	14	17	23	23	20	29	24.1	24	
24	IZS	11	9	9	9	10	7	9	10	11	15	18	18	18	17	16	13	10	11	9	7	12	10	IZS	18	11.8	24	
25	11	10	9	8	8	8	7	7	8	8	13	15	17	17	16	11	6	6	5	4	3	3	IZS	8	17	9.0	24	
26	7	13	14	14	12	9	9	9	10	12	17	20	21	21	20	18	17	17	14	11	9	IZS	6	4	21	13.2	24	
27	4	3	3	1	1	1	0	0	0	3	5	5	7	9	10	7	20	25	27	27	IZS	27	27	28	28	10.4	24	
28	29	30	30	31	30	29	30	30	29	29	28	30	31	31	31	30	30	30	29	30	IZS	30	30	31	30	31	29.9	24
29	28	27	27	22	23	22	21	21	21	20	19	21	21	21	21	21	20	19	IZS	22	22	22	25	26	28	22.3	24	
30	27	27	27	27	29	30	29	29	28	29	30	31	31	31	31	30	26	IZS	22	26	31	34	31	31	34	29.0	24	
31	32	29	23	21	21	23	18	15	17	20	23	24	26	26	27	25	IZS	17	17	10	11	9	8	8	32	19.6	24	
HOURLY MAX	38	38	37	36	35	35	35	35	35	35	37	37	37	37	39	38	37	35	36	36	38	37	35	38				
HOURLY AVG	19.8	20.3	19.8	19.3	18.2	18.9	18.3	17.9	17.9	19.7	21.7	23.2	23.5	24.3	23.8	22.6	21.6	21.2	19.8	18.3	19.1	19.9	19.5	19.6				

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:

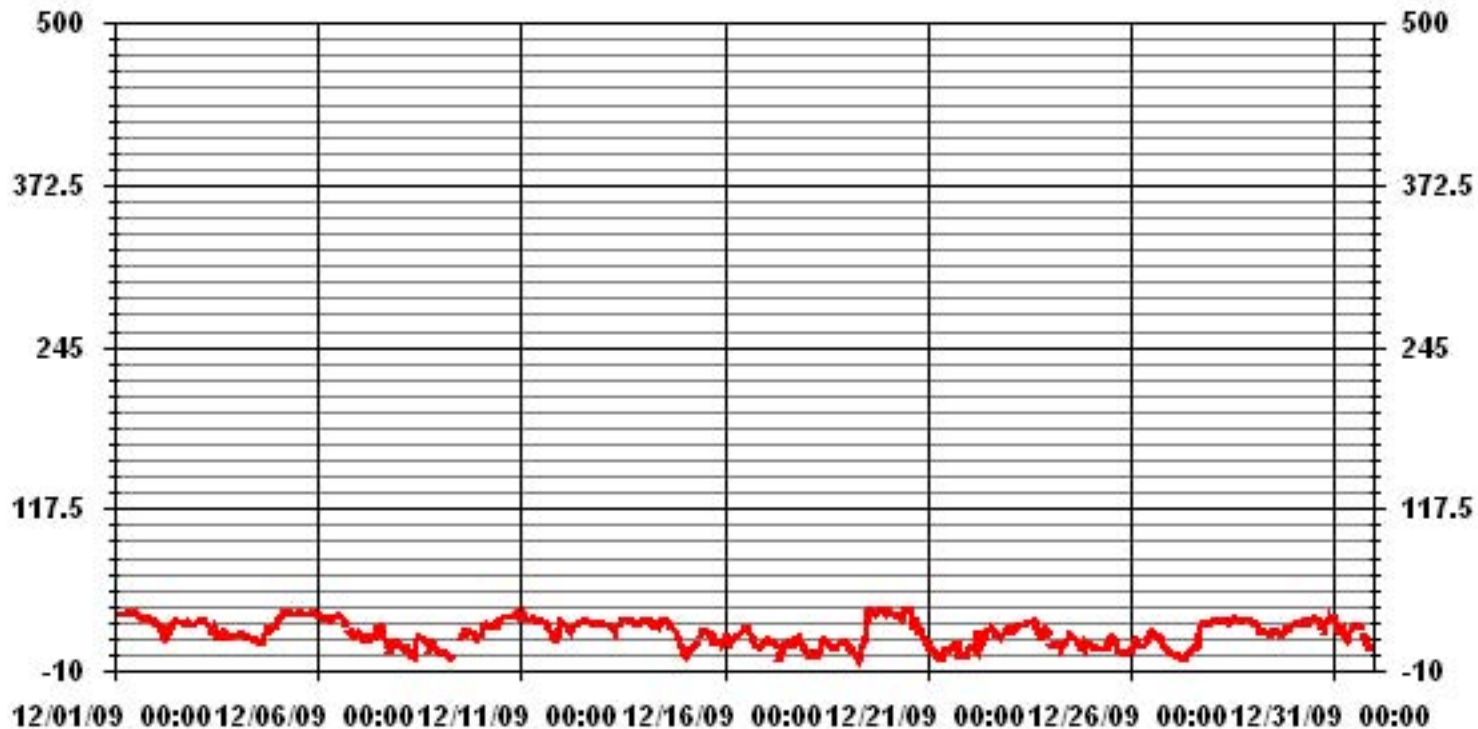
ALBERTA ENVIRONMENT: 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	699					
MAXIMUM 1-HR AVERAGE:	39	PPB	@ HOUR(S)	14	ON DAY(S)	19
MAXIMUM 24-HR AVERAGE:	34.6	PPB			ON DAY(S)	5
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME	99.9	%	
STANDARD DEVIATION	9.92		MONTHLY AVERAGE	20.35	PPB	

01 Hour Averages



— LICA33_03_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	IZS	36	35	35	35	35	36	36	36	36	36	36	36	36	36	34	33	33	34	34	34	33	32	IZS	36	34.9	24
2	30	28	28	28	24	26	27	26	31	27	30	31	31	30	30	29	29	29	28	30	30	30	IZS	29	31	28.7	24
3	29	30	30	30	30	31	30	29	28	26	28	26	25	27	26	23	23	21	21	17	18	IZS	19	19	31	25.5	24
4	19	20	20	20	20	19	18	18	17	15	15	15	15	14	13	17	20	24	24	22	IZS	25	26	29	29	19.3	24
5	32	33	35	36	36	36	36	36	36	35	37	37	36	37	36	35	35	34	34	IZS	36	36	36	36	37	35.5	24
6	36	36	35	34	32	P	P	32	32	33	34	35	35	35	32	31	29	IZS	24	24	23	21	25	36	31.1	22	
7	22	24	22	20	19	16	18	20	22	19	20	28	26	26	25	21	15	IZS	9	15	17	10	16	16	28	19.4	24
8	13	14	9	9	10	7	7	5	5	9	19	19	19	18	17	15	IZS	9	13	15	13	11	8	8	19	11.8	24
9	7	7	7	7	7	3	2	2	C	C	C	C	18	21	24	IZS	23	24	22	21	19	19	20	19	24	14.3	24
10	21	26	27	28	28	28	27	27	27	30	31	30	34	34	IZS	33	33	33	33	34	36	35	34	36	30.7	24	
11	34	36	35	33	33	31	31	32	30	29	30	30	IZS	30	29	26	25	24	22	18	20	29	31	36	29.0	24	
12	30	29	27	26	26	25	26	27	27	28	29	30	IZS	31	31	31	29	29	29	29	28	28	28	27	31	28.3	24
13	28	28	28	28	27	27	25	25	26	27	28	IZS	31	31	31	31	31	31	30	29	27	28	29	30	31	28.5	24
14	31	31	30	30	30	29	28	29	28	30	IZS	30	31	31	31	30	29	25	25	24	21	19	13	11	31	26.8	24
15	10	4	5	10	9	10	12	11	15	IZS	21	22	24	23	21	19	15	15	13	14	14	14	15	24	14.8	24	
16	20	19	17	15	16	17	19	18	IZS	22	23	25	26	26	25	22	20	18	14	14	12	14	14	13	26	18.7	24
17	0	15	17	15	15	14	14	IZS	4	7	12	12	12	12	16	15	12	13	19	19	16	15	13	13	19	13.0	24
18	10	7	6	5	5	7	IZS	4	8	13	15	16	16	14	13	11	9	10	10	12	13	15	15	14	16	10.8	24
19	14	12	10	9	7	IZS	6	2	8	9	15	21	34	41	40	39	40	40	37	38	40	39	39	39	41	25.2	24
20	38	39	38	37	IZS	36	36	36	33	36	38	38	38	38	36	30	35	28	26	26	21	20	16	39	32.9	24	
21	11	15	10	IZS	8	5	2	1	2	5	8	7	9	8	9	12	16	14	10	2	3	2	3	4	16	7.2	24
22	11	10	IZS	11	14	21	19	21	14	19	22	25	24	26	25	25	22	20	18	19	21	22	22	24	26	19.8	24
23	24	IZS	23	26	26	27	27	26	27	28	29	29	30	30	29	25	24	21	24	24	24	24	22	30	26.1	24	
24	IZS	16	10	11	11	12	11	14	11	14	17	19	20	19	19	17	14	13	12	11	10	14	12	IZS	20	14.0	24
25	12	11	11	11	9	9	9	9	9	10	15	16	18	18	18	15	9	8	8	6	6	8	IZS	11	18	11.1	24
26	10	14	16	14	14	11	12	13	13	14	20	21	22	22	21	20	19	18	17	14	10	IZS	8	6	22	15.2	24
27	5	5	4	2	2	2	2	1	2	7	6	6	9	11	13	13	24	26	27	29	IZS	28	28	29	29	12.2	24
28	30	31	31	31	31	31	31	31	30	29	29	31	32	31	31	31	31	31	31	IZS	31	31	31	31	32	30.8	24
29	30	29	29	24	24	23	22	22	22	21	20	21	22	22	23	22	21	20	IZS	23	23	23	26	28	30	23.5	24
30	28	29	28	28	31	30	31	30	29	30	31	33	32	32	32	32	29	IZS	27	29	35	35	33	33	35	30.7	24
31	33	31	29	25	26	26	25	18	19	23	25	26	27	27	28	28	IZS	19	20	15	18	14	9	13	33	22.8	24
HOURLY MAX	38	39	38	37	36	36	36	36	36	36	38	38	38	41	40	39	40	40	37	38	40	39	39	39			
HOURLY AVG	21.3	22.2	21.7	21.3	20.2	20.4	20.3	20.1	20.3	21.7	23.5	24.7	25.4	25.7	25.6	25.0	24.2	23.1	22.2	20.9	21.5	22.0	21.5	21.6			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	704					
MAXIMUM INSTANTANEOUS VALUE:	41	PPB	@ HOUR(S)	13	ON DAY(S)	19
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	742	HRS	
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION	9.57					

01 Hour Averages



— LICA33 O3MAX PPB

LICA33
 O3_ / WDR Joint Frequency Distribution (Percent)

December 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	4.39	1.41	2.97	5.38	8.64	4.81	3.39	3.54	2.83	2.26	7.79	13.59	12.46	10.19	9.34	6.94	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.39	1.41	2.97	5.38	8.64	4.81	3.39	3.54	2.83	2.26	7.79	13.59	12.46	10.19	9.34	6.94	

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
< 50	31	10	21	38	61	34	24	25	20	16	55	96	88	72	66	49	706
< 110																	
< 210																	
>= 210																	
Totals	31	10	21	38	61	34	24	25	20	16	55	96	88	72	66	49	

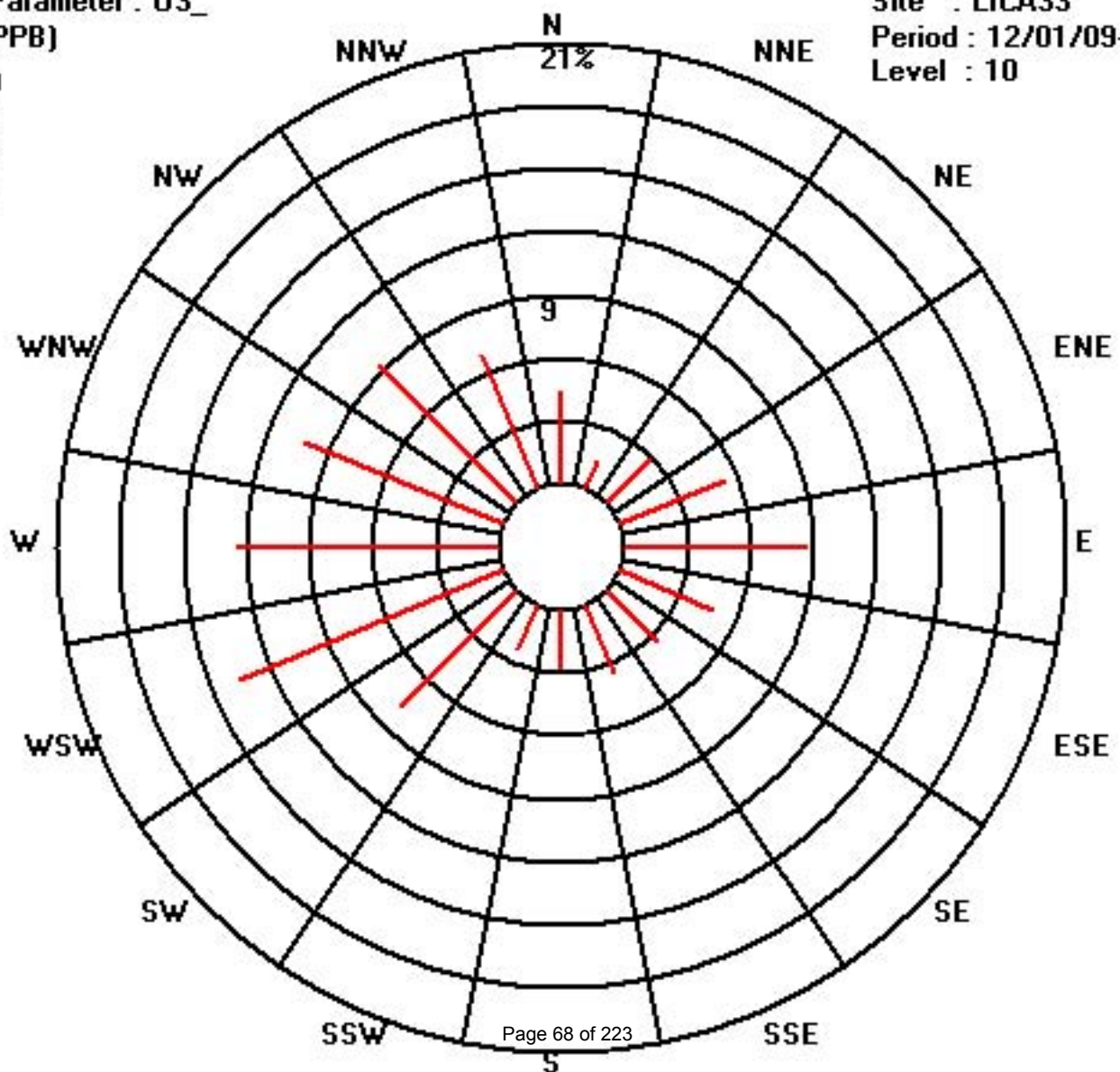
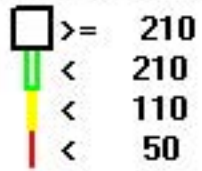
Calm : .00 %

Total # Operational Hours : 706

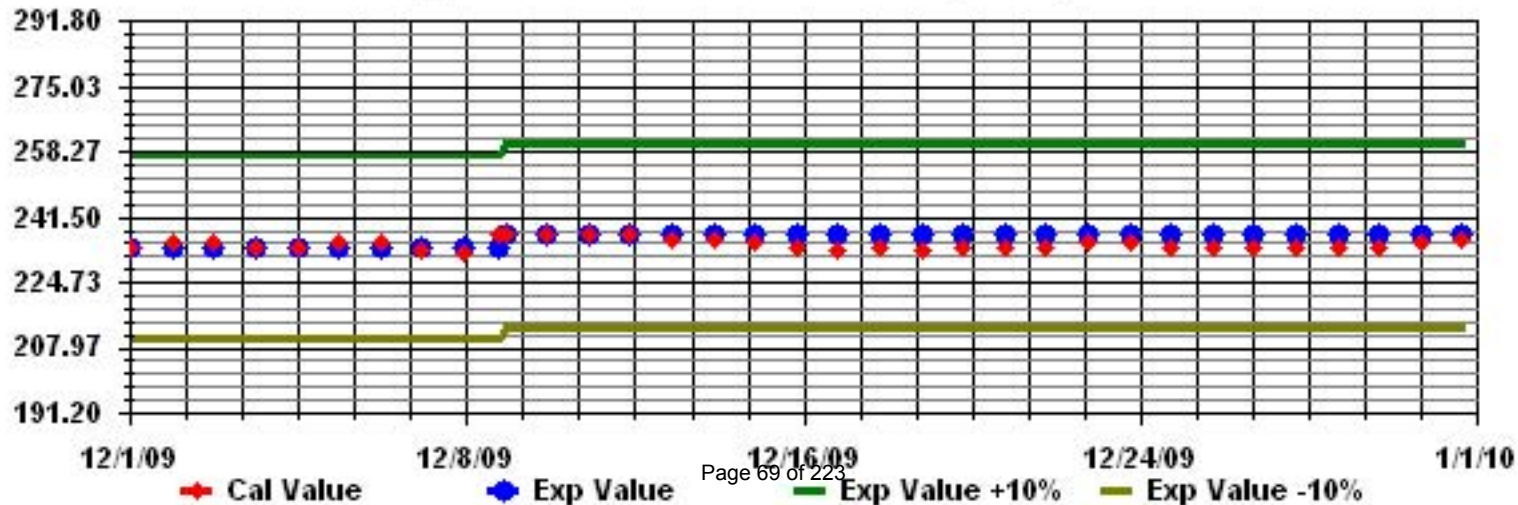
Class Limits (PPB)

Period : 12/01/09-12/31/09

Level : 10



Calibration Graph for Site: LICA33 Parameter: 03_ Sequence: 03 Phase: SPAN



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	0:00	DAILY	24-HOUR	RDGS.
DAY	HR	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	MAX.	AVG.			
1		14.2	18.8	16.3	15.2	17.2	19.9	17.4	16.5	18.9	18.5	17.9	16.4	14.5	15.3	13.7	10.7	8.2	8.5	9.3	6.7	10.1	9	9	7	19.9	12.7	24	
2		6.2	4.5	4.1	3.2	3.3	1.9	1.6	1	2	3.9	3.9	0.6	2.5	3.1	0.7	5.3	4.3	2.7	3.8	6	4	2.3	4.1	4.8	6.2	1.2	24	
3		5.1	4.7	3.8	4.3	5.5	5.2	5.1	7.1	6.1	4.4	5.9	7.4	8.6	8.9	12.4	8.8	9.9	8.8	6.5	5.5	6.8	7.3	10.3	9.4	12.4	6.1	24	
4		8.1	4.5	5.7	5.3	6	4.4	4.7	9	5.4	5.5	6.5	6.9	4.1	5.1	6.4	6.7	10.2	15.4	13.4	10.9	15.9	19.5	15.3	18.8	19.5	4	24	
5		19.2	13.5	13.3	18.2	17.5	17.6	17.8	17.9	18.1	14.9	18.6	20	16.4	18.6	19.8	21.4	17.5	15.1	16.9	16.5	17.1	10.1	8.7	9.4	21.4	16.4	24	
6		11.7	14.2	13.5	16.2	15	17.4	P	6.6	7.9	8.9	11.6	12.7	11.9	10.7	9.6	7.5	8.7	8	8	6.5	7	7.6	4.2	6.3	17.4	10.1	23	
7		5.4	3.6	4.2	1.7	2.4	2.2	1.2	0.3	1	0.6	1.4	1.5	1.8	1.8	3.9	1	1	1.8	2.8	5.7	4.6	3.9	2.4	1.1	5.7	2.4	24	
8		1	2.5	0.6	0.3	1.3	1	2.6	2.4	2	2.1	4.9	6.1	6.2	5.2	5.5	4.9	3.1	4.9	6	6.5	6.2	6	5.3	4.9	6.5	3.8	24	
9		4.7	4.6	3.1	4.5	6.1	5.2	4.4	4.3	4.6	4.5	5.2	6.3	6.9	6.7	7	7.2	7.7	9.2	10.9	9.5	11.1	11.1	9.5	5.6	11.1	6.7	24	
10		4.7	8	8.5	11.3	10.5	8.8	10.6	10.9	7.7	7.8	7.4	9.2	9.7	12.4	12.4	11.4	13.4	13.7	15.9	12	14	12.5	7.7	5.7	15.9	10.3	24	
11		7.3	7.2	11.6	13.3	10.1	9.9	10.2	11.4	7.2	6.6	6.2	4.3	3.8	2.1	1.7	3.8	4.5	1.2	3.2	3.6	4.8	5.2	9	8.2	13.3	6.5	24	
12		4.4	4.1	4.6	5.9	8.6	10.1	12.2	14.7	15.7	16	13.7	13.5	17	19	16.5	12.5	12.7	13.6	10.6	8.2	10.4	10.3	10.7	11	19.0	11.5	24	
13		10.8	9.9	9.8	8.9	10.9	10.8	8.8	8.3	10.8	11.7	10.6	8.7	9.4	10.6	8.8	10.1	12.1	12.4	10.8	9.9	11.1	11.6	11.8	11.2	12.4	10.4	24	
14		12	11.4	11.7	12.9	12.7	10.1	12.1	12.7	11.5	13.4	10.5	12.9	9.5	8.7	6.8	10.9	7.9	8.1	6	5.4	4.3	2.3	1.3	0.1	13.4	9.0	24	
15		1.8	3.2	2.3	3	5.1	3.8	4	4.9	6.2	6.2	6	7.9	7.5	9	7.8	4.8	5.2	2.7	1.5	1.8	2	1.2	2	3.8	9.0	4.3	24	
16		4.2	6	5.1	4	6.3	8.4	10.6	10	9.3	10.7	8.1	8.4	5.2	3.5	1.8	1.8	0.8	4.9	0.9	0.9	3.8	4	2.1	3.6	10.7	5.2	24	
17		5.3	6.7	0.7	5.7	3.9	3	4.2	3.9	5.7	6.1	6.4	5.7	5.4	6.6	4.8	5.3	4.1	7.6	6.1	2.7	1.9	1.7	0.5	1.7	7.6	4.4	24	
18		0.7	0.3	0.6	0.2	0	0.5	0.1	2.2	2.9	2.4	3.6	4	5.4	5.6	6.4	7.1	7	6.6	5.5	3.6	3.7	6	4.4	1.8	7.1	3.4	24	
19		1.5	0.8	2.2	3.5	4.7	3.2	3.5	1.9	3.3	4.2	5.1	8.1	10.1	12.1	8.5	7.8	10.2	11.7	12.4	12.8	12.5	10.7	12.2	11.9	12.8	7.3	24	
20		14.1	14.4	10.7	7.9	9.3	10.2	11.5	9.7	9.1	12.3	12	11.7	11.9	9.7	9.5	6.8	7.1	5.8	3.5	4.1	6.2	4.8	5.4	3.1	14.4	8.8	24	
21		1.1	0.4	3.3	1.6	3.4	1.6	2.5	3.6	1.4	1.3	2.3	2.1	0.9	0.9	1.3	1.3	1	1.9	0.9	1.9	3.1	3.2	3.1	2.4	3.6	1.9	24	
22		3.3	0.5	1.7	3	3	2.5	1.2	0.4	1.4	2.8	2.8	2.4	2	0.4	0.9	1.4	2.5	2.4	2.8	4.5	5.2	8.5	9.2	9	9.2	3.1	24	
23		9.4	12.1	13.1	14.6	12.3	13.7	12.9	11.6	13.2	13.7	11.6	11	11.5	10.9	12	10.6	6.7	3.7	5.3	6.6	4	5	6.2	1.6	14.6	9.7	24	
24		2.6	1.2	2.2	0.8	0.9	0.8	1.9	1.5	2	1.6	2.4	3.3	3.5	2	4.5	3.1	2.7	3.4	3.8	3	2.1	3	1.2	1.6	4.5	2.3	24	
25		1.9	0.6	0.3	4.7	5.1	0.9	1.9	1.6	2.3	1.5	1.3	2.5	3	2.2	4.7	4.8	2.1	0.7	0.7	2.8	1.3	5.4	3.4	4.8	5.4	2.5	24	
26		3.4	3.9	7.1	3.3	3.5	4.5	3.3	3.5	0.8	2.1	2.1	1.8	2.2	1.4	3.5	2.1	3.4	2.9	3.4	3	1.9	1.7	1.6	2.4	7.1	2.9	24	
27		0.4	2.2	3.6	1.3	3.3	1.3	0.7	2.1	3.6	3.6	2.4	2.1	1.1	0.8	2.6	6.4	10.6	14.3	18.8	17.4	17.9	14.6	14.2	13.8	18.8	6.6	24	
28		13.9	12.6	10.4	9.8	9	10.4	12.5	12.5	10.6	10	9.8	11.5	9.6	9.5	10.7	9.4	9.3	8.5	9.6	8.2	6.3	4.2	3.6	1.8	13.9	9.3	24	
29		2.3	3.6	6.7	9.2	11.7	10.7	10	9.8	9.7	11.1	11.3	13.2	12.9	13	12.5	9.9	6.4	7.3	9.9	9.8	9.8	9.2	9.6	10.8	13.2	9.6	24	
30		9.3	10.7	9	9.3	10	9.3	10.5	9.2	9.5	7.6	8.3	9.6	8.9	8.2	7.8	8	7.4	9.4	8.3	7.8	7.9	7.9	7.2	7.7	10.7	8.7	24	
31		5	4.7	5.5	5.9	6.2	6.3	7.7	7.5	7.7	5.8	4.8	5	4	2.5	1.5	3.2	2.8	2.9	4	3.6	2.4	2	2.2	4.1	7.7	4.5	24	
HOURLY MAX		19.2	18.8	16.3	18.2	17.5	19.9	17.8	17.9	18.9	18.5	18.6	20.0	17.0	19.0	19.8	21.4	17.5	15.4	18.8	17.4	17.9	19.5	15.3	18.8				
HOURLY AVG		6.3	6.3	6.3	6.7	7.3	7.0	6.9	7.1	7.0	7.2	7.2	7.6	7.3	7.3	7.3	7.0	6.8	7.1	7.1	6.7	7.1	6.8	6.4	6.1				

STATUS FLAG CODES

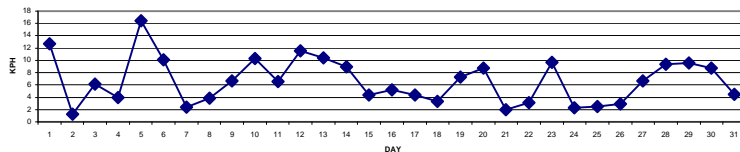
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION: September 24, 2009

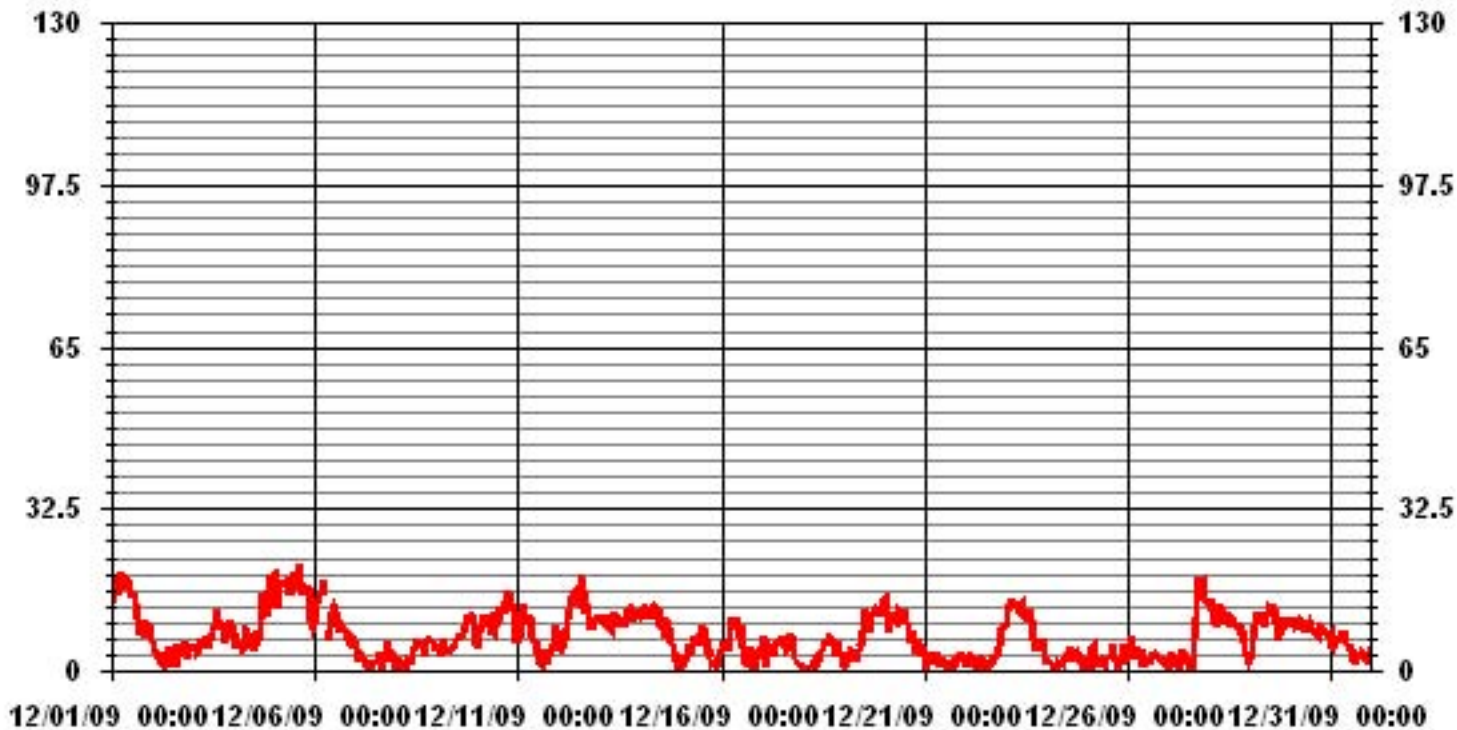
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	21.4	KPH	@ HOUR(S)	15	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	16.4	KPH			ON DAY(S)	5
CALMS (≤ 1 KPH)	1.08	%	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	99.9	%	
STANDARD DEVIATION:	4.65		MONTHLY AVERAGE	6.91	KPH	

24 HOUR AVERAGES FOR DECEMBER 2009



01 Hour Averages



— LICA33 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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		26.4	31.8	28.7	27.1	29	35.8	39.6	34.5	42.3	35.7	33.5	30.9	27.3	30.3	25.6	25.1	17.9	19.3	18.9	16.7	17.8	15.3	15.6	12.2	42.3	
2		9.7	7.8	6.8	6.4	5.9	4.8	5.7	5.1	4.9	6.7	6.8	5.8	11.9	11.4	11.2	13.4	9.3	9.2	9.3	12.8	9.6	9.2	10.9	13.5	13.5	
3		11	10.7	10.4	11	13.2	11.3	11.9	14.5	13	11	13.1	15.3	16.9	16.8	19.6	18.4	13.5	14.7	9.3	8.1	9.8	14.6	19.2	18.2	19.6	
4		16.2	10.9	10.3	8.7	10.4	10.2	11.3	13.8	12.5	9	11.2	12.4	8.3	7.7	10.2	11.8	16.7	36.2	32.8	29.2	35.6	35	45.4	35.5	45.4	
5		40.9	35	43	41.2	37.9	35.3	31.2	35.3	35	29.7	44.2	40	36.5	36.3	37.4	40	37.7	33.4	33.2	35.8	36.8	19.6	16.3	19.2	44.2	
6		27.9	27.9	31.8	31.7	34.5	P	P	11.2	15.8	16.5	23.4	27.8	24.6	19.6	16.2	12.9	11.9	10.1	10.8	9.2	10	11.3	10.9	9.7	34.5	
7		8.3	7.7	7.1	4.4	4.9	5.7	4.5	3.7	3.4	4.6	4.1	5.3	6	4.4	6	3.4	4.3	4.6	6.6	7.2	6.7	5.5	4.4	3.7	8.3	
8		2.8	6.4	3.3	4.3	5.4	4.1	4.7	5.4	7.3	5.7	11	13.2	10.9	8.9	9.7	10.4	6.4	7.7	9.6	10.6	10.1	10.3	8.5	7.6	13.2	
9		6.4	7.6	5.1	8.2	9.3	9.2	7.6	7.1	8.8	9.1	8.8	10.6	12.1	12.3	12.4	10.7	12	15	15.4	13.8	15.9	15.2	17	9.2	17	
10		11	14.5	14.7	17.5	15.7	14	17	17	12.3	14.5	11.8	12.5	19.5	20.9	18.6	16.3	19.1	21.3	24.2	24.6	30.1	32.9	12.8	11.3	32.9	
11		14.1	14.8	25.7	26.1	19.1	18	18.4	19.3	14.1	10.7	10.8	9.9	7.4	4.8	7.7	7.3	7.7	3.6	6.7	5.9	7.6	12.2	20.2	19	26.1	
12		9.6	8.2	7.7	10.2	12.4	16.1	17.9	24.2	24.4	26.3	21.9	23.1	28.2	30	26.9	22.1	20.2	20.9	17.7	13.8	15.6	16.1	18.4	17.5	30	
13		16.4	15.7	13	12.7	14	14.2	11.8	13.8	15.6	18.1	18.3	14.9	16.3	17.8	16.4	15.4	17.6	20.9	21.8	15.2	16	16.9	17.7	18.2	21.8	
14		20	18.2	17.1	19	20.1	15	17.2	20	16.2	20.1	17.1	19.7	16.1	15.9	11.2	16.7	13.6	12.4	11.5	9.4	9.1	7.1	6.7	3.3	20.1	
15		4.4	8.7	5.2	5.9	8.4	8.4	6.1	8.6	9.3	9.5	8.5	12.9	11.9	12.5	13.5	7.6	7.5	5.4	3.6	4.7	4.7	5.2	6.8	6.8	13.5	
16		9.1	8.4	8.6	9.1	10.2	14.2	16	14.7	13.6	15.5	11.8	13	10.5	7.2	4.3	5.4	4	7.3	3.2	4.2	6.1	7.5	8	6.8	16	
17		9.4	12.1	16.6	11.4	9.2	8.3	10.6	9.7	7.8	9.1	12.1	11.4	11.4	12.2	9.4	12.7	9.4	12.6	11.1	8.4	4.4	4.4	5.5	6	16.6	
18		2.5	1.9	2.3	1.9	0.4	1.9	2	5.3	6	4.9	5.9	8.2	9.2	10	11.6	10.8	12.7	12.3	9.7	17.7	11.4	11.9	10.2	15.1	17.7	
19		17.8	6.2	6.9	9.7	10.5	7.4	7.5	4.6	7	7.6	14.8	16.8	16.9	20.2	13.4	11.3	14.9	15.3	16.8	19.1	20.4	19.1	21.5	21.7	21.7	
20		29.7	22.2	19.9	11.4	13.9	17.4	17.9	14.4	13.6	16.4	17.9	18.8	20.1	15.1	14.5	11	10.5	9.5	8.8	8.6	8.2	6.7	8.8	6	29.7	
21		3.6	4.5	4.8	3.8	4.8	3.6	6.3	6.7	3.9	5.3	4.7	4.4	4.2	3.9	4.3	4	5	4.3	4.3	4.7	5.2	4.7	4.6	4.4	6.7	
22		5.5	2.2	4.3	5.7	6.5	5.8	3.4	3.6	4.3	4.6	5.3	4.6	4.9	4.2	4.4	4.3	4.1	4.6	4.8	7.4	11.4	14.3	15.1	14.7	15.1	
23		16	20.2	19.2	24.3	18.7	20.5	21.2	17.5	19.7	19.6	17.9	16.7	18.8	18	19.5	18.2	13.4	7.7	7.6	9.6	9.4	8.1	9.9	4.1	24.3	
24		5.9	4.7	4.4	3.5	5.2	3	4	4.5	7	6	5.2	6.9	6.5	7.5	8.8	7.5	6.8	7.7	9.1	7.3	5.7	6.8	4.1	7.8	9.1	
25		6.4	5.1	4.7	6.8	8	3.9	4	3.6	4.4	5.4	3.2	4.7	7	5.8	7.3	8.3	5.9	6.5	3.3	9.6	4.8	10.1	7.5	9.7	10.1	
26		6.7	9.4	12.6	8.2	5.9	6.9	6.2	8.8	5.4	5.5	8.1	6.7	6.7	3.6	5.3	4.3	7.9	6.6	8	5.9	4.1	3.5	4.8	5.6	12.6	
27		3.2	5.7	6.5	4.5	6.4	6	2.9	3.4	6.3	7.1	5	5.5	3.5	4	8	10.1	21.8	23.4	29.4	27.9	26.2	22.2	19.9	20.3	29.4	
28		22.5	20.3	14.2	13.6	13.1	15.2	18.7	18.4	17.4	17	18	19.9	17.5	15.9	16.6	13.5	13.2	13.6	13.9	13.6	13.4	9.2	11.2	4.1	22.5	
29		4.1	7	11.4	14.8	19	18.4	17.2	16.4	19.4	18.5	24.6	26.1	23.3	25.1	25.5	22.2	12.3	15.6	19.7	19.5	20.7	18.4	18.6	20.4	26.1	
30		16.3	21.7	15.7	16.2	18.2	18.6	20.9	20.7	16.4	13.5	15.8	17.8	15.6	15.8	16.7	16.4	12	14	12.4	14.9	14	15.4	11.7	14.8	21.7	
31		11.1	9.6	8.4	10	10.3	9.7	11.1	12.1	10.5	10.4	7.7	7.8	7.6	6	6	8	5.6	6.4	7.3	6.3	5.1	6.7	5	6.8	12.1	
PEAK		40.9	35.0	43.0	41.2	37.9	35.8	39.6	35.3	42.3	35.7	44.2	40.0	36.5	36.3	37.4	40.0	37.7	36.2	33.2	35.8	36.8	35.0	45.4	35.5		

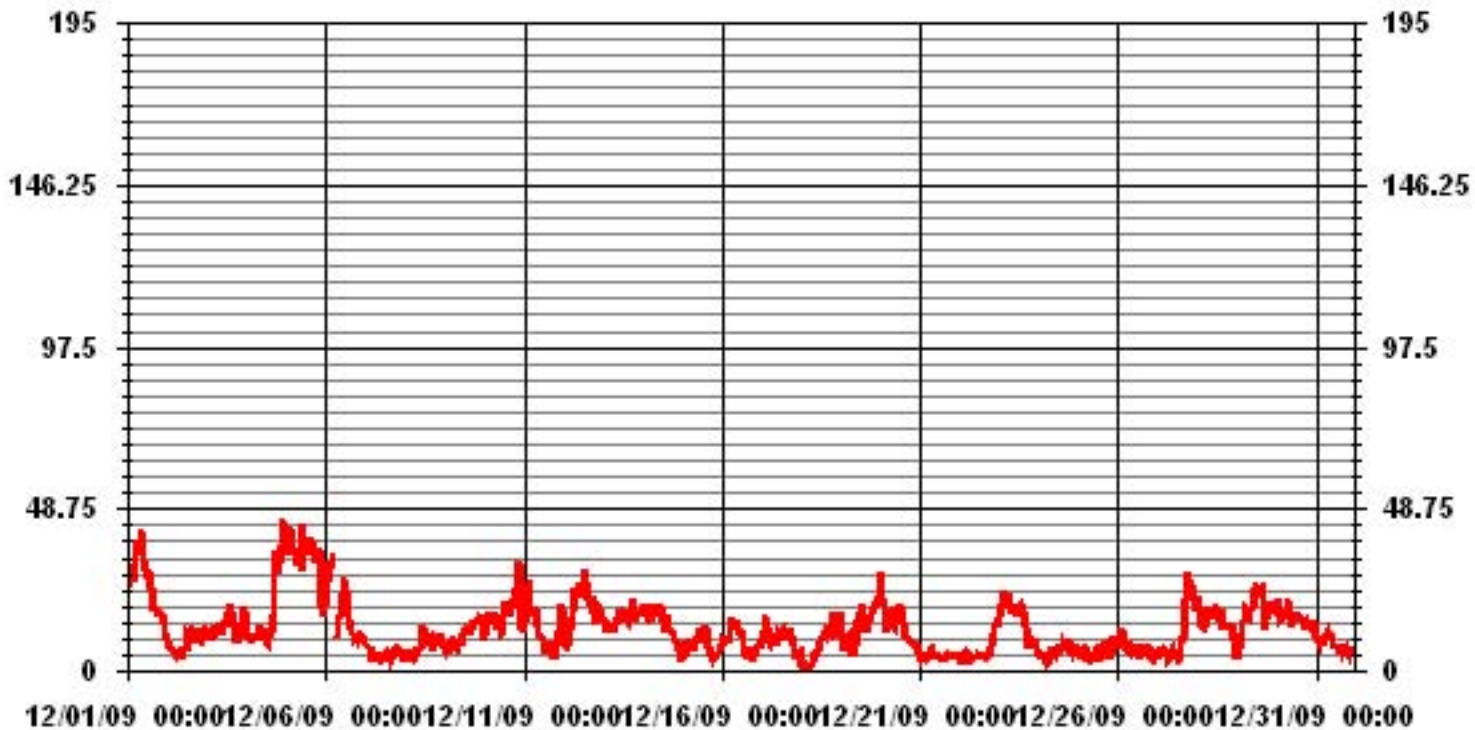
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	45.4	KPH	@ HOUR(S)	22
			ON DAY(S)	4

01 Hour Averages



— LICA33 WSMAX KPH

LICA33
WSP / WDR Joint Frequency Distribution (Percent)

December 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	2.15	.80	2.55	4.03	5.65	3.90	2.01	1.34	2.55	2.28	5.11	4.84	4.44	4.30	1.48	1.21	48.72
< 12.0	1.88	.40	.13	.67	2.69	.67	1.48	1.88	.26	.00	2.42	6.72	5.51	3.90	5.51	1.88	36.06
< 20.0	.26	.13	.26	.67	.26	.13	.13	.13	.00	.00	.67	2.01	2.28	2.15	1.88	3.76	14.80
< 29.0	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.26
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.44	1.34	2.96	5.38	8.61	4.71	3.63	3.36	2.82	2.28	8.20	13.59	12.24	10.36	8.88	6.99	

Calm : .13 %

Total # Operational Hours : 743

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	16	6	19	30	42	29	15	10	19	17	38	36	33	32	11	9	362
< 12.0	14	3	1	5	20	5	11	14	2		18	50	41	29	41	14	268
< 20.0	2	1	2	5	2	1	1	1			5	15	17	16	14	28	110
< 29.0	1															1	2
< 39.0																	
>= 39.0																	
Totals	33	10	22	40	64	35	27	25	21	17	61	101	91	77	66	52	

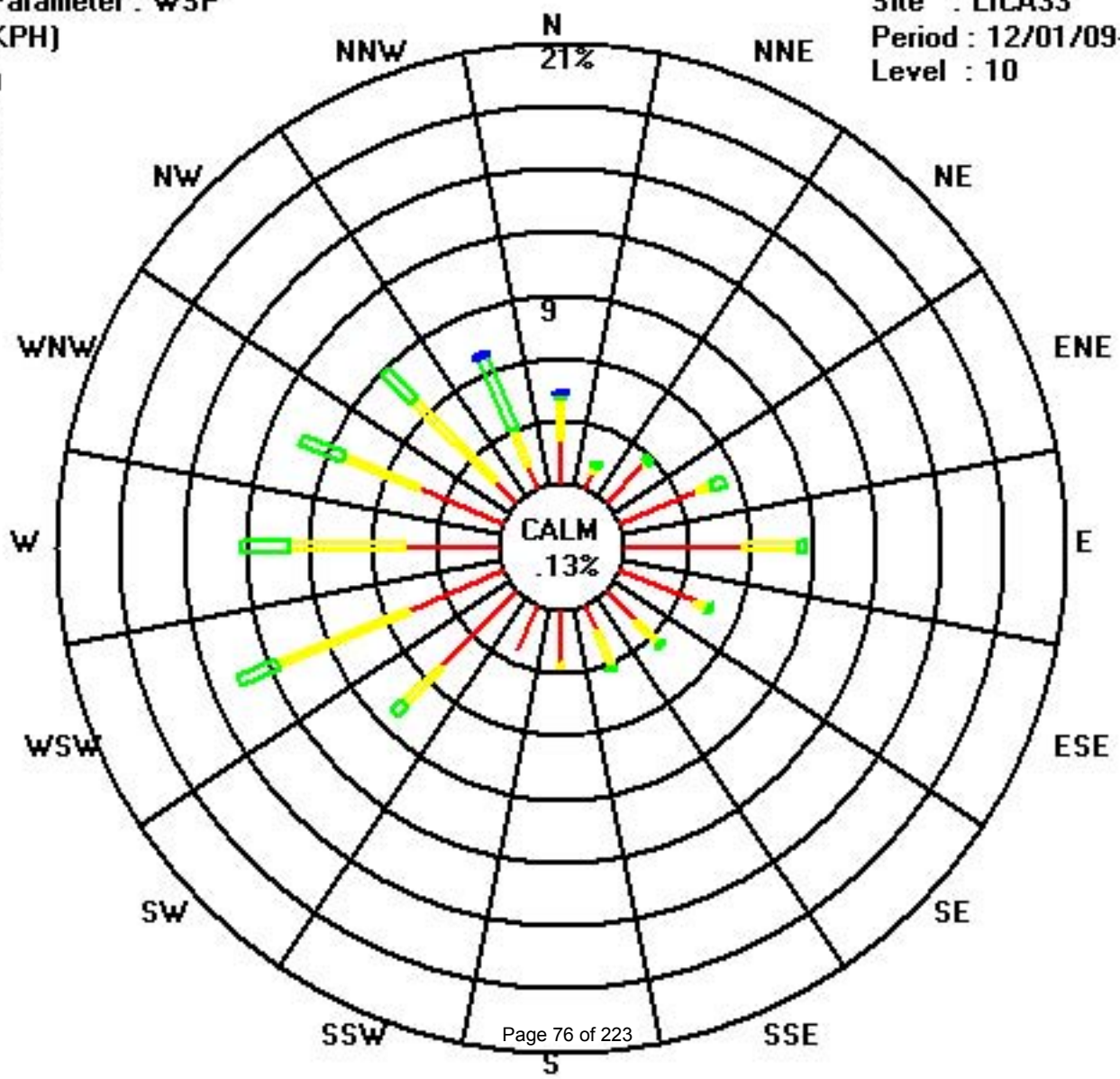
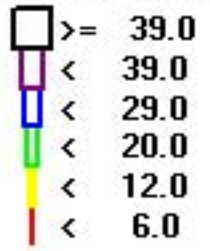
Calm : .13 %

Total # Operational Hours : 743

Class Limits (KPH)

Period : 12/01/09-12/31/09

Level : 10



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	24:00	24-HOUR	24-HOUR AVG	QUADRANT	RDGS.
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUADRANT	RDGS.		
DAY																													
1	300	300	300	301	299	298	313	322	318	312	317	327	328	324	326	332	350	351	348	351	357	15	8	0	321	NW	24		
2	27	20	335	331	337	3	330	68	89	74	62	132	255	259	265	249	235	242	245	268	253	223	223	230	285	WNW	24		
3	216	201	194	191	232	183	188	175	176	178	172	158	156	154	147	148	139	136	112	103	104	138	153	152	157	SSE	24		
4	155	167	149	145	155	169	213	248	257	252	249	253	248	225	238	283	301	345	341	332	342	349	346	346	305	WNW	24		
5	347	336	328	344	330	325	320	319	328	330	339	347	335	342	347	350	353	345	340	342	347	328	322	328	337	NNW	24		
6	326	327	331	329	336	341	P	316	323	330	343	346	340	331	319	314	301	304	300	286	280	275	271	237	321	NW	23		
7	285	242	223	202	240	297	212	242	282	325	353	127	152	105	86	34	118	215	98	105	91	86	55	90	129	SE	24		
8	100	354	342	316	8	323	237	216	244	283	255	263	278	242	236	263	227	228	246	263	283	273	270	275	261	W	24		
9	272	275	237	266	283	270	260	252	259	257	242	243	247	252	251	236	249	269	282	272	277	275	269	279	263	W	24		
10	271	259	253	279	272	272	273	275	265	262	245	230	236	246	236	228	235	226	240	256	271	298	292	299	257	WSW	24		
11	351	332	19	18	6	3	6	11	356	0	39	58	86	121	142	179	129	217	3	293	335	350	349	343	7	N	24		
12	320	278	291	291	280	276	275	266	274	267	266	265	282	281	279	277	275	269	265	260	252	248	263	263	271	W	24		
13	270	258	239	240	239	235	229	232	243	242	243	247	255	274	258	244	250	258	255	239	245	249	250	259	248	WSW	24		
14	257	247	254	255	255	250	246	243	244	260	253	271	266	254	247	234	239	223	225	236	225	185	210	291	248	WSW	24		
15	90	83	85	59	71	61	25	47	72	80	88	72	79	82	86	104	86	102	125	104	67	205	187	36	78	ENE	24		
16	103	105	71	61	75	80	81	86	85	102	76	81	88	106	135	189	71	118	117	79	101	40	93	28	86	E	24		
17	54	94	226	357	93	125	295	262	237	235	243	252	226	223	238	238	221	245	222	192	218	314	59	110	233	SW	24		
18	329	54	73	357	255	36	93	68	56	74	75	79	81	81	93	86	85	91	75	67	56	96	101	27	79	ENE	24		
19	135	92	225	237	240	225	229	257	248	239	251	275	274	257	255	250	247	240	236	245	249	245	243	252	247	WSW	24		
20	269	286	279	272	270	273	266	233	229	232	253	256	280	282	272	253	235	266	280	266	297	300	288	233	265	W	24		
21	278	284	304	256	297	288	265	224	288	289	284	275	275	230	243	274	266	260	312	256	273	286	273	301	273	W	24		
22	355	20	5	71	84	118	183	159	353	55	90	93	59	142	36	322	284	287	274	272	282	295	300	299	316	NW	24		
23	292	293	293	289	291	293	287	281	279	282	289	284	294	286	280	282	252	222	233	232	213	225	222	183	278	W	24		
24	189	176	116	4	355	99	95	24	87	7	88	79	83	72	98	98	37	51	96	92	84	102	36	39	80	E	24		
25	43	239	295	118	103	94	357	51	59	118	2	82	76	81	110	131	95	149	120	106	97	106	71	35	90	E	24		
26	75	61	128	123	77	105	78	63	66	131	190	113	169	178	134	154	217	205	216	170	151	126	159	159	128	SE	24		
27	225	291	290	281	228	250	224	251	308	283	270	285	335	332	121	111	60	56	56	62	57	61	64	77	56	NE	24		
28	82	95	94	96	93	95	115	127	141	149	159	153	157	156	134	127	125	124	129	138	159	211	221	193	127	SE	24		
29	228	258	280	296	297	301	307	306	309	301	315	321	318	318	325	326	328	319	329	324	325	318	321	318	312	NW	24		
30	322	310	309	303	316	319	323	331	306	321	325	323	317	319	309	318	292	291	308	307	307	319	308	325	313	NW	24		
31	305	292	301	321	317	304	289	303	304	288	284	264	218	206	181	197	209	212	225	153	192	112	130	109	275	W	24		
HOURLY AVG	355	354	342	357	355	341	357	331	356	330	353	347	340	342	347	350	353	351	348	351	357	350	349	346					

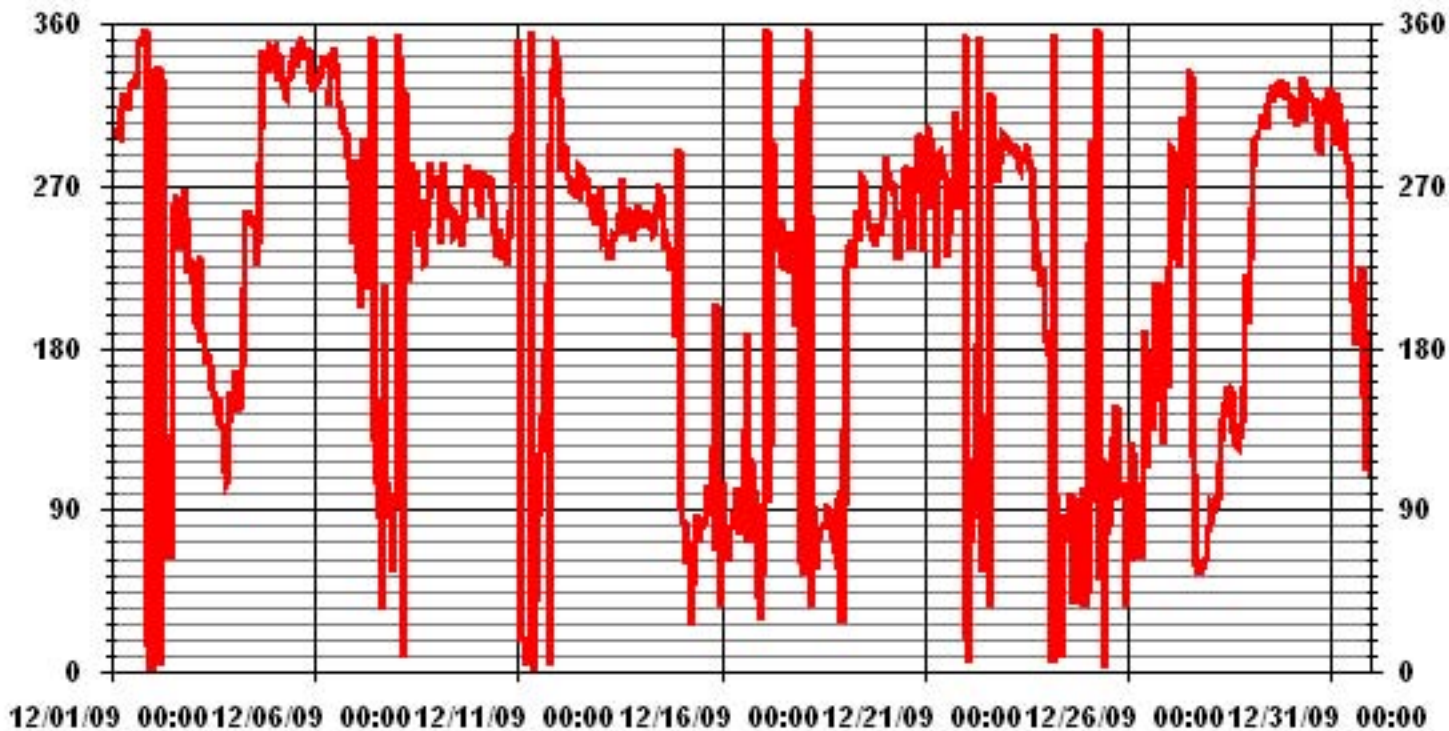
STATUS FLAG CODES

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:	743 HRS
STANDARD DEVIATION	96.25	AMD OPERATION UPTIME	99.9 %
		MONTHLY AVERAGE	290 DEG

01 Hour Averages



— LICA33 WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

DECEMBER 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	10	10	10	10	9	13	13	12	11	12	13	13	14	13	13	13	13	15	15	14	12	12	12
2	11	11	11	8	12	33	47	37	42	12	16	51	34	49	54	24	18	36	19	12	24	30	22	21
3	22	22	33	25	18	21	22	16	17	25	19	17	17	15	10	10	7	7	5	4	5	10	13	12
4	13	14	12	14	14	16	14	11	11	12	12	13	15	7	8	9	8	15	13	13	14	14	14	14
5	14	14	14	13	13	13	12	12	13	14	14	14	14	14	14	14	14	13	15	13	13	12	12	13
6	13	12	12	13	13	13	0	7	10	12	13	14	13	14	11	8	4	2	4	6	7	5	9	6
7	7	21	11	15	23	12	31	49	33	40	23	27	30	20	8	25	26	17	12	3	5	6	17	7
8	7	39	20	31	45	34	10	9	25	19	15	13	15	13	12	10	14	6	8	7	7	8	8	7
9	6	6	9	8	9	8	9	7	9	14	11	12	11	12	11	6	5	7	6	5	5	5	7	8
10	26	11	8	8	6	7	6	5	7	7	7	5	16	9	8	6	7	7	8	9	10	9	7	13
11	13	12	12	12	13	13	11	10	11	9	10	19	16	13	21	14	11	22	23	13	8	7	11	10
12	10	15	12	10	6	5	6	8	7	9	10	9	9	8	8	7	7	6	7	6	6	5	7	8
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17	13	14	23	13	28	49	35	14	7	11	8	15	13	14	17	16	18	10	14	23	30	21	27	9
18	55	39	25	48	40	15	58	7	10	9	6	8	7	8	7	7	11	8	11	18	35	26	18	58
19	35	45	41	25	14	21	24	9	16	14	19	9	8	8	7	4	5	4	5	5	8	11	7	7
20	9	7	5	7	5	5	6	6	4	5	7	9	9	8	6	4	7	11	23	12	5	7	9	17
21	18	45	8	27	11	13	18	10	12	19	23	23	22	19	24	20	24	11	28	14	9	9	9	11
22	8	21	11	9	14	12	22	42	10	7	13	14	22	64	41	26	13	9	7	8	9	7	9	9
23	7	7	8	7	7	8	7	7	6	7	8	7	9	7	7	7	6	18	6	5	18	14	9	18
24	11	13	9	43	20	29	6	18	41	25	9	9	13	23	15	27	28	20	26	21	42	32	34	29
25	18	29	35	7	7	46	35	24	18	39	15	9	16	14	8	8	31	27	51	29	45	16	17	22
26	24	22	10	28	19	13	10	25	46	22	39	57	28	22	13	17	20	18	15	15	30	8	32	15
27	15	42	15	16	5	19	36	13	5	9	15	16	21	22	29	11	7	8	7	8	7	7	6	8
28	7	6	6	6	6	6	6	7	10	12	13	13	13	13	9	7	6	7	5	7	11	19	20	16
29	7	7	7	9	9	9	11	9	11	10	12	13	13	12	13	13	12	11	13	12	12	10	12	11
30	12	10	11	10	11	12	12	13	9	10	12	13	12	12	13	11	6	7	8	7	9	10	11	9
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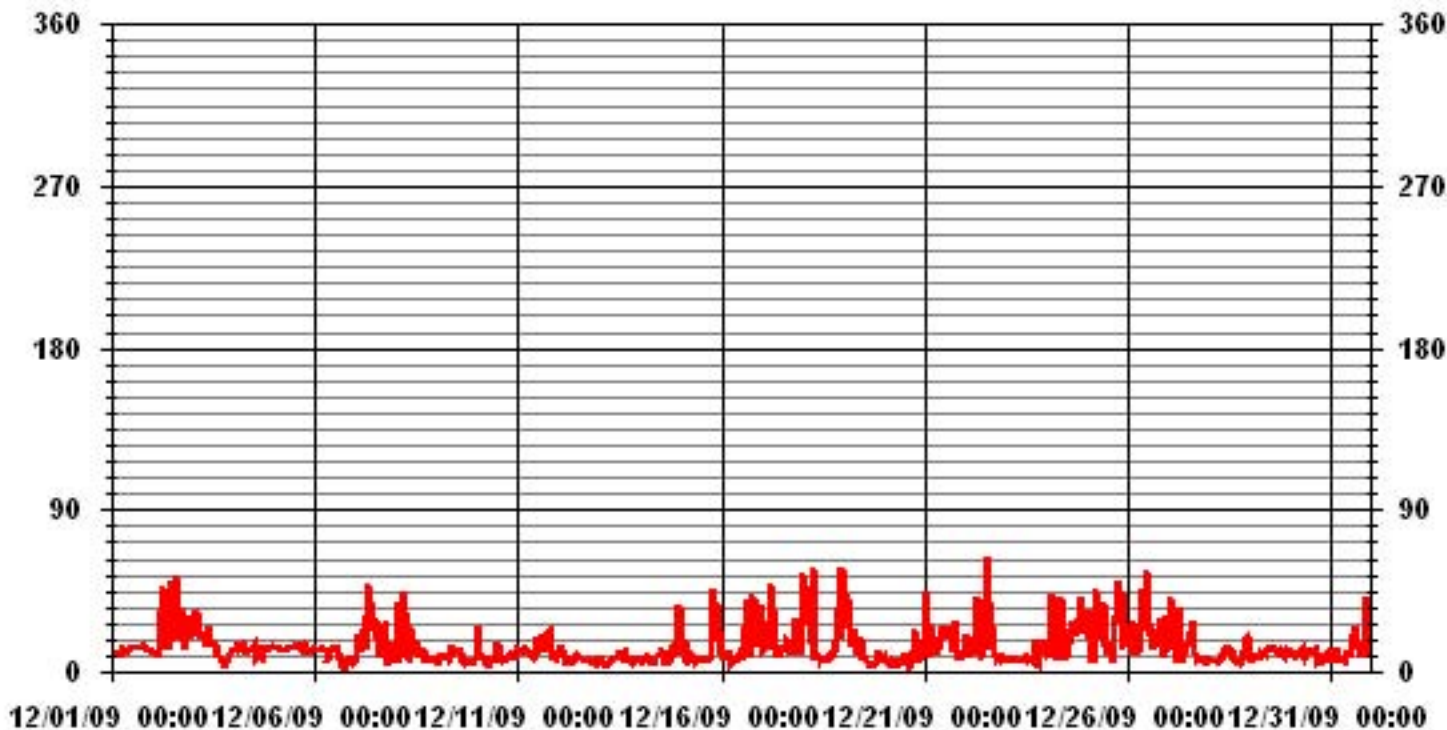
STATUS FLAG CODES

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D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION: September 24, 2009

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 743 HRS

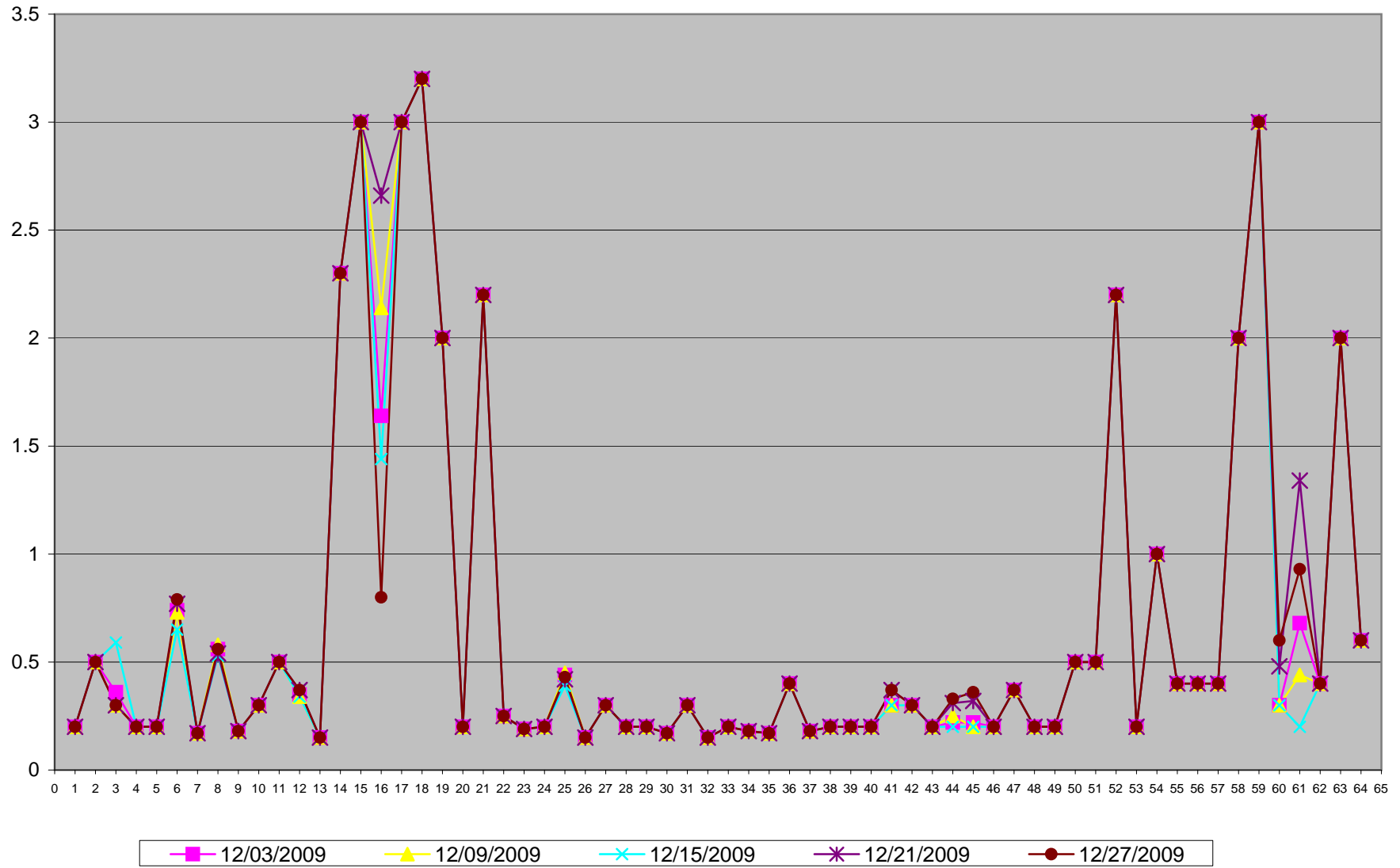
01 Hour Averages



— LICA33 STDWDIR DEG

Volatile Organics

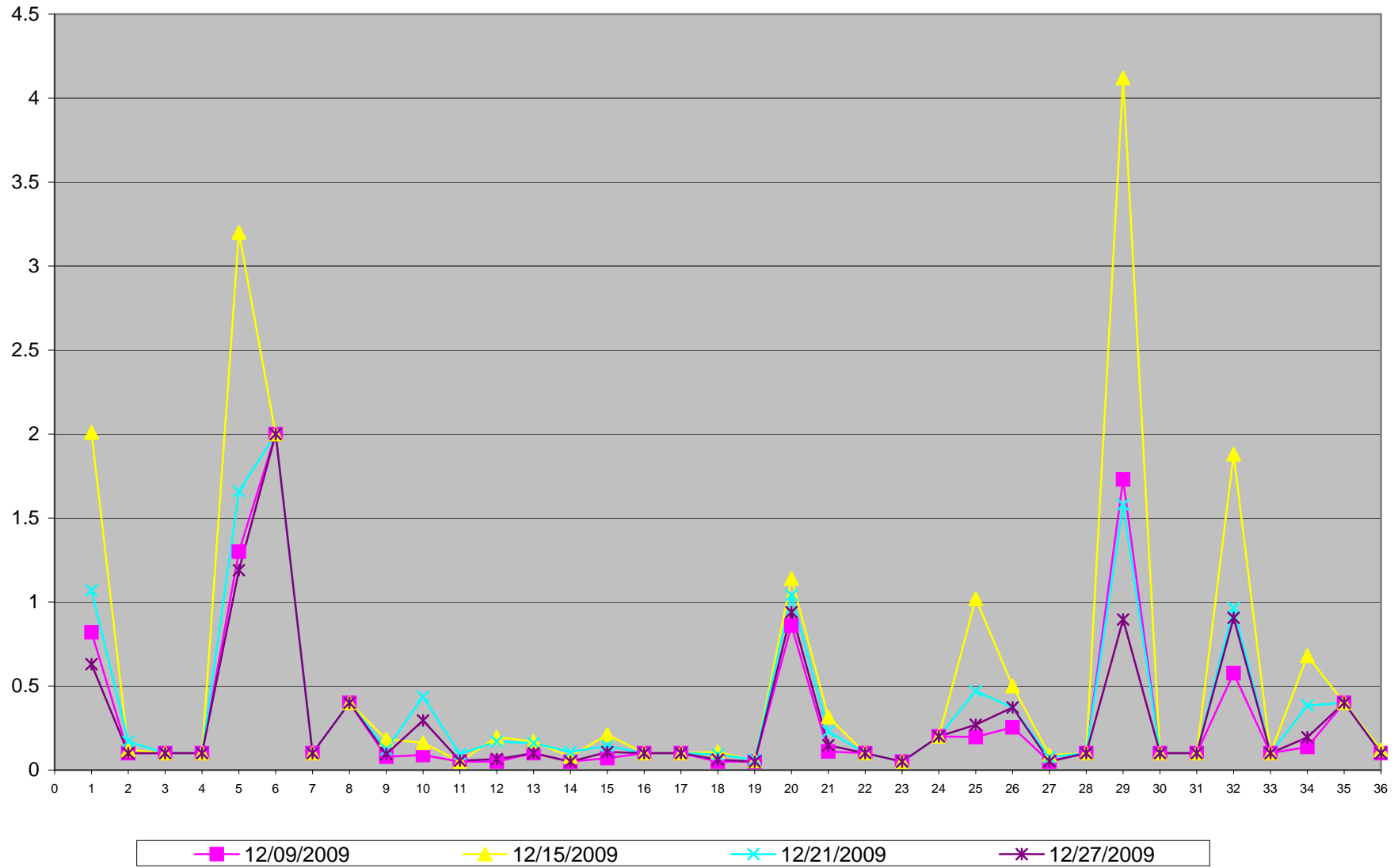
Volatile Organics in ppb Site: LICA - Portable Site



1	2,2,4-Trimethylpentane	33	1,1,1,2-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

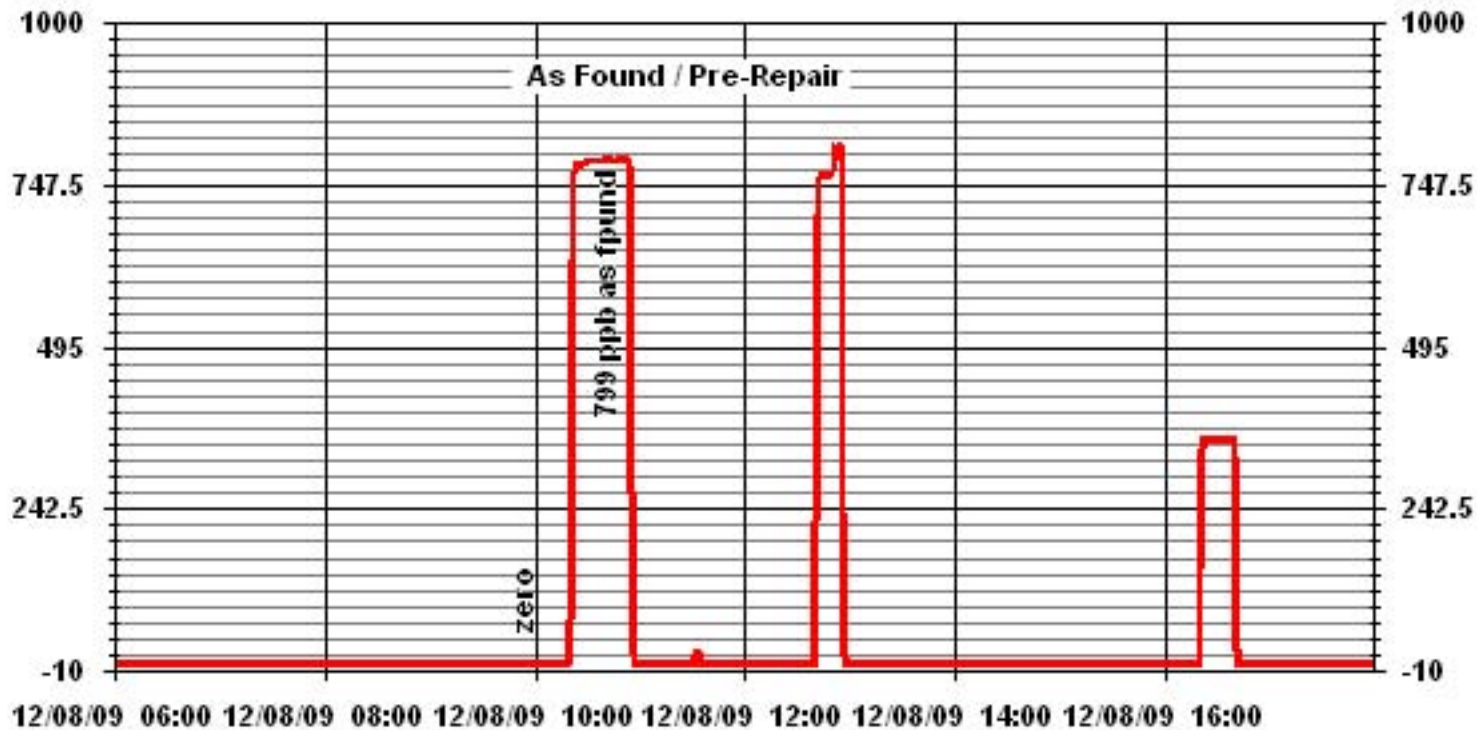


1	1-Methylnaphthalene
2	1-Methylphenanthrene
3	2-Chloronaphthalene
4	2-Methlyanthracene
5	2-Methylnaphthalene
6	3-Methylcholanthrene
7	7,12-Dimethylbenzo(a)anthracene
8	9,10-Dimethylanthracene
9	Acenaphthene
10	Acenaphthylene
11	Anthracene
12	Benzo(a)anthracene
13	Benzo(a)fluorene
14	Benzo(a)pyrene
15	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

01 Minute Averages



— LICA33 SO2_ PPB

SO₂ Calibration Report

Station Information

Calibration Date	December 9, 2009	Previous Calibration	November 12, 2009
Company	Lakeland Community and Industry Association		
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M		
Start Time (MST)	8:20	End Time (MST)	11:54
Reason:	Post Repair Calibration		
Barometric Pressure	710 mmHg	Station Temperature	24 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	598 ccm	32.3 Deg C		596 ccm	33.2 Deg C		
HVPS / Lamp Setting	560	3487		560	3481		
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	42.9	1.013		42.9	1.006		

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	0	N/A
4924	76.6	800	805	0.9933
4924	76.6	800	801	0.9983
4961	38.3	400	396	1.0099
4981	19.2	200	198	1.0123
4998	0	0	0	N/A
Sum of Least Squares				1.0011
New Correction Factor				0.9983

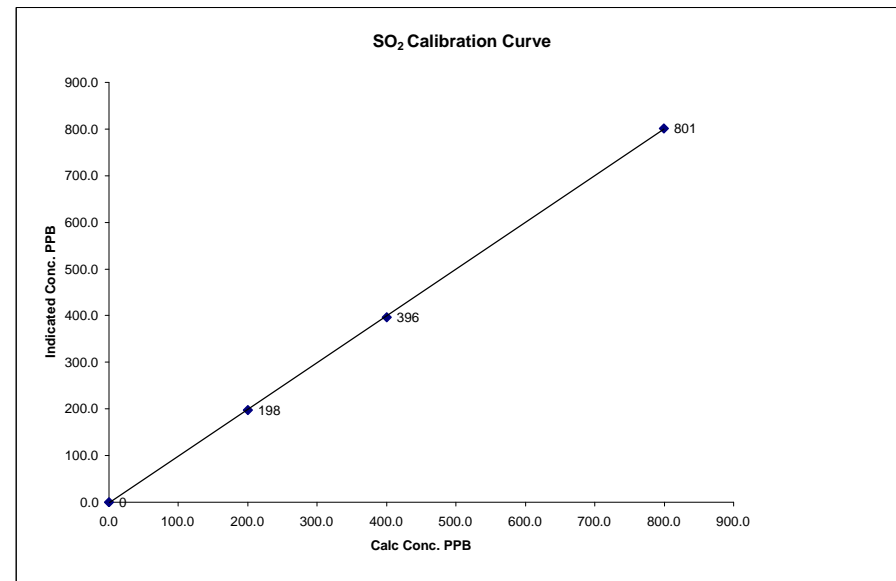
	Before Calibration	After Calibration
Auto Zero	0.4	0.4
Auto Span	352.0	355.0
Sample Lines Connected		YES
Percent Change from Previous Calibration		2.3%

Calibration Performed by: Shea Beaton

SO₂ Calibration Curve

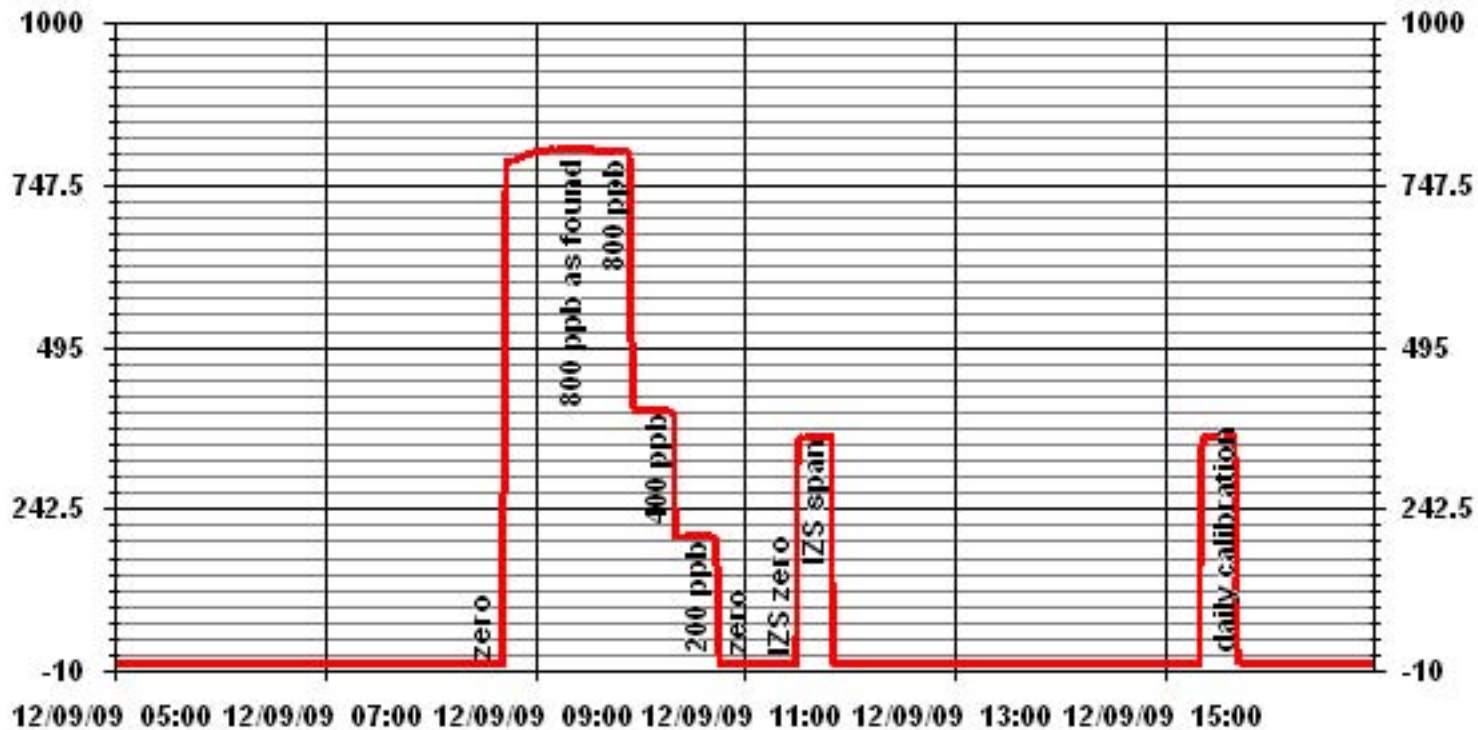
Calibration Date	December 9, 2009
Company	Lakeland Community and Industry Association
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M
Start Time (MST)	8:20
End Time (MST)	11:54

Calculated Conc. (ppb)	Indicated Response (ppb)	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999957
0	0	n/a	Intercept	(0.85 to 1.15)	1.002277
200	198	1.0123		(± 3% F.S.)	-2.035766
400	396	1.0099			
800	801	0.9983			



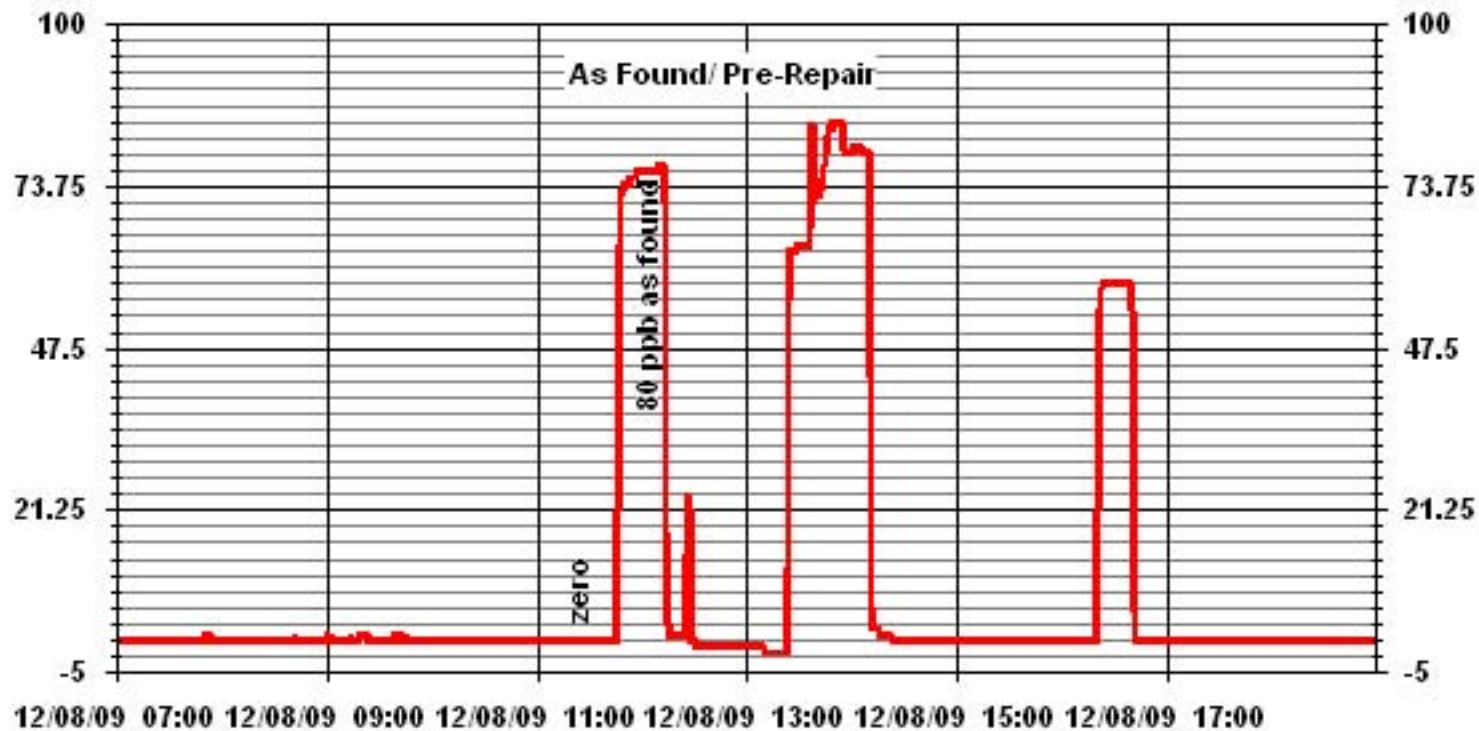
Notes:

01 Minute Averages

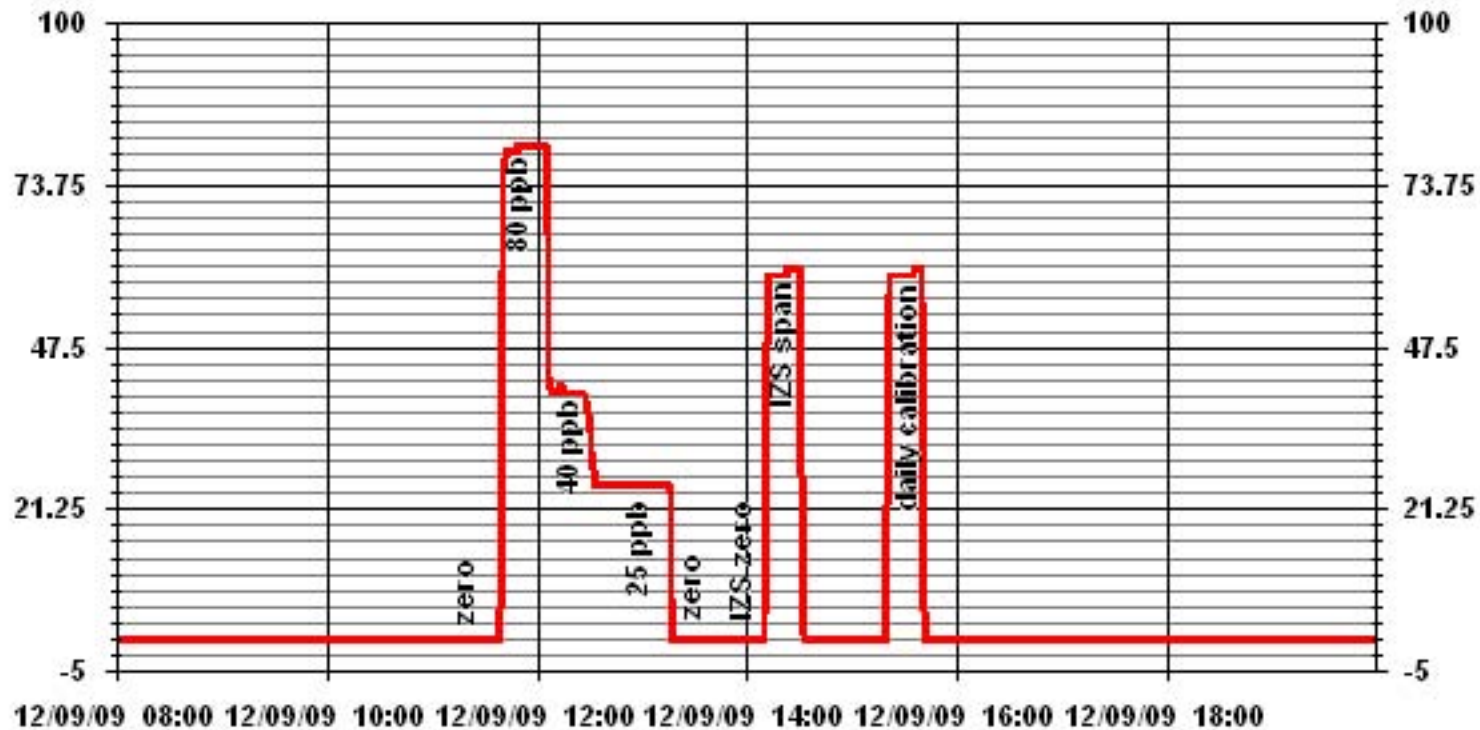


Hydrogen Sulphide

01 Minute Averages



01 Minute Averages



Particulate Matter 2.5

TEOMÒ Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	December 8, 2009	Make/Model:	Streamline FTS
Station Name:	Lica Portable	Serial Number:	Hi - 091001 Lo-091099
Location:	Devon Wellsite 13-16-62-5 W4M	Cell s/n:	NA
Operator:	LICA	Thermometer s/n:	90758398(VWR temp)

	<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 (%)	41%
Transducer s/n	140AB220740001	K _o Factor	13043
Parameter	PM 2.5	Temp (°C)	-24.2
		Press (ATM)	0.942

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)	0.06		(45-60 Sec) 45
F-Aux (l/min)	0.15		(45-60 Sec) 58
Temperature/Pressure			
Measured Temp (± 1 °C)	-23.2	D °C	-1.0
Measured Press (± 1.5% ATM)	0.940	D % ATM	0.2%
Flow Audit			
Indicated Main/Aux Flow (l/min)	2.99 / 13.64	D % from Set-pt	-0.3% / -0.2%
Total Flow = Main + Aux (l/min)	16.63	(± 2%)	-0.2%
Measured Total Flow (l/min)	16.27	(± 1.0 l/min. (5.65%))	-0.36
Measured Main Flow (l/min)	2.99	(± 0.2 l/min. (6.25%))	0.00
Leak Check			
Main (< 0.15 l/min)	NA	Actual leakage = Pump On - Pump Off	
Aux (< 0.15 l/min)	NA	NA	
K_o Factor			
Measured	na		
K _o Difference (± 2.5%)	na		

Start Time: 13:55 **Finish Time:** 15:55

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

Comments: _____

Auditor/s: Shea Beaton

Nitrogen Dioxide

NOx - NO- NO₂ Calibration Report

Station Information

Calibration Date	December 8, 2009		Previous Calibration	November 13, 2009	
Company	Lakeland Ind & Comm. Assoc.		Plant/Location	Portable/ 13-16-62-5W4M	
Start Time (MST)	9:55	End Time (MST)	16:13		
Reason:	Monthly Calibration				
Barometric Pressure	716 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		
Sample Flow/Conv. Temp	471 ccm	314.8	Deg C	470	ccm	314.6	Deg C
Ozone Flow / Vacuum	80 ccm	4.2	mmHg	79	ccm	4.2	mmHg
HVPS	686	Volts		686	Volts		
Rx/ Temp / PMT Temp	50.0 Deg C	6.7	Deg C	50.0	Deg C	6.7	Deg C
Box Temp / IZS Temp	30.0 Deg C	45.3	Deg C	32.9	Deg C	45.3	Deg C
Offset	0.7 NOx	0.2	NO	0.7	NOx	0.2	NO
Slope	1.11 NOx	1.099	NO	1.079	NOx	1.068	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
3004.0	0.0	N/A	0	0	0	0	0	N/A	N/A
2968.0	43.7	N/A	752	749	775	771	4	0.9698	0.9711
2968.0	43.7	N/A	752	749	753	746	6	0.9982	1.0036
2990.0	23.4	N/A	402	401	397	396	1	1.0132	1.0118
3006.0	11.6	N/A	199	198	199	198	1	1.0006	1.0018
3014.0	0.0	N/A	0	0	0	1	0	N/A	N/A
Converter Efficiency									
2968.0	43.7	N/A	752	749	751	746	6	N/A	
2968.0	43.7	400	752	749	747	378	369	99%	
2968.0	43.7	200	752	749	748	563	185	98%	
2968.0	43.7	100	752	749	750	662	88	98%	
2968.0	43.7	N/A	752	749	752	745	6	N/A	
3013.0	0	N/A	0	0	0	1	-1	N/A	N/A

Linearity OK?	Yes	No	Sum of Least Squares	1.0014	1.0053
Flows Checked on-site?	Yes	No	New Correction Factor	0.9982	1.0036
			Average Converter Efficiency	98%	

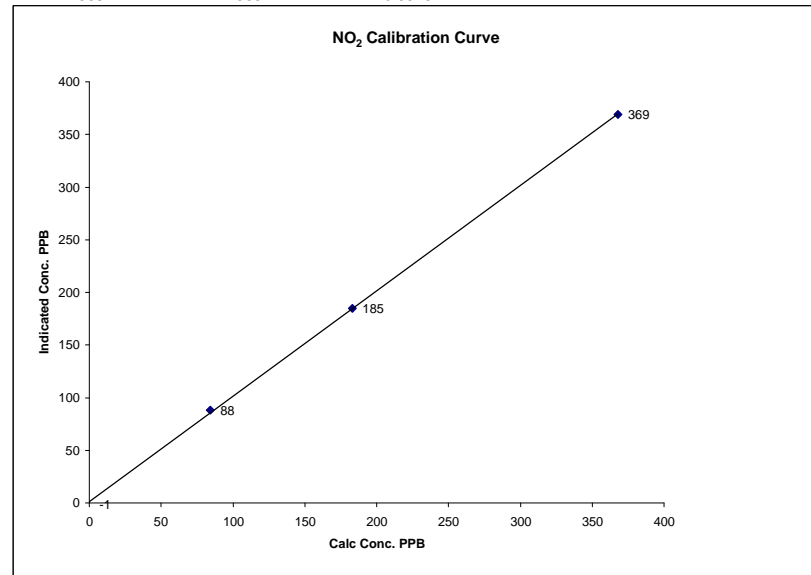
		Before Calibration			After Calibration		
Auto Zero	0.0 NOx	0.2	NO ₂	-0.2	NOx	-0.6	NO ₂
Auto Span	846 NOx	827	NO ₂	805	NOx	786	NO ₂
Sample Lines Connected		YES					
Percent Change from Previous Calibration		NOx	3.4%	NO	3.0%		

Calibration Performed by: Shea Beaton

NO₂ Calibration Curve

Calibration Date	December 8, 2009	
Company	Lakeland Ind & Comm. Assoc.	
Plant / Location	Portable/ 13-16-62-5W4M	
Start Time (MST)	9:55	End Time (MST)
	16:13	

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999830
0 ppb	-1 ppb	N/A	Slope	(0.85 to 1.15)	1.001563
84	88	0.9545	Intercept	(± 3% F.S.)	1.25183
183	185	0.9892			
368	369	0.9973			

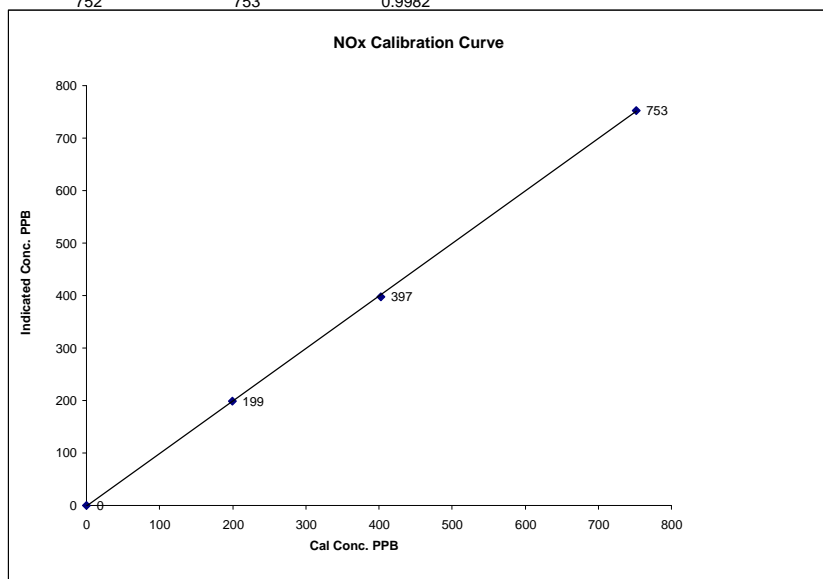


Notes: _____

NOx Calibration Curve

Calibration Date December 8, 2009
 Company Lakeland Ind & Comm. Assoc.
 Plant / Location Portable/ 13-16-62-5W4M
 Start Time (MST) 9:55 End Time (MST) 16:13

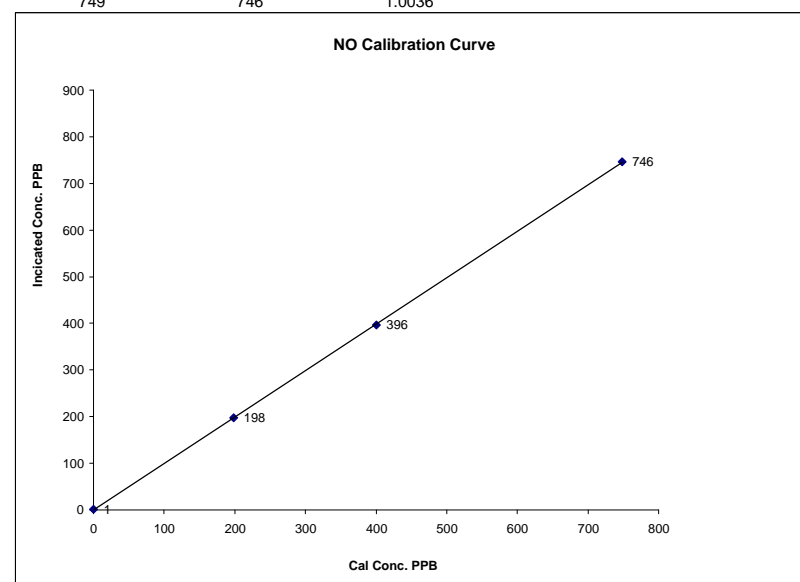
Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999918
ppb	ppb		Slope	(0.85 to 1.15)	1.000815
0	0	N/A	Intercept	(± 3% F.S.)	-1.27313
199	199	1.0006			
402	397	1.0132			
752	753	0.9982			



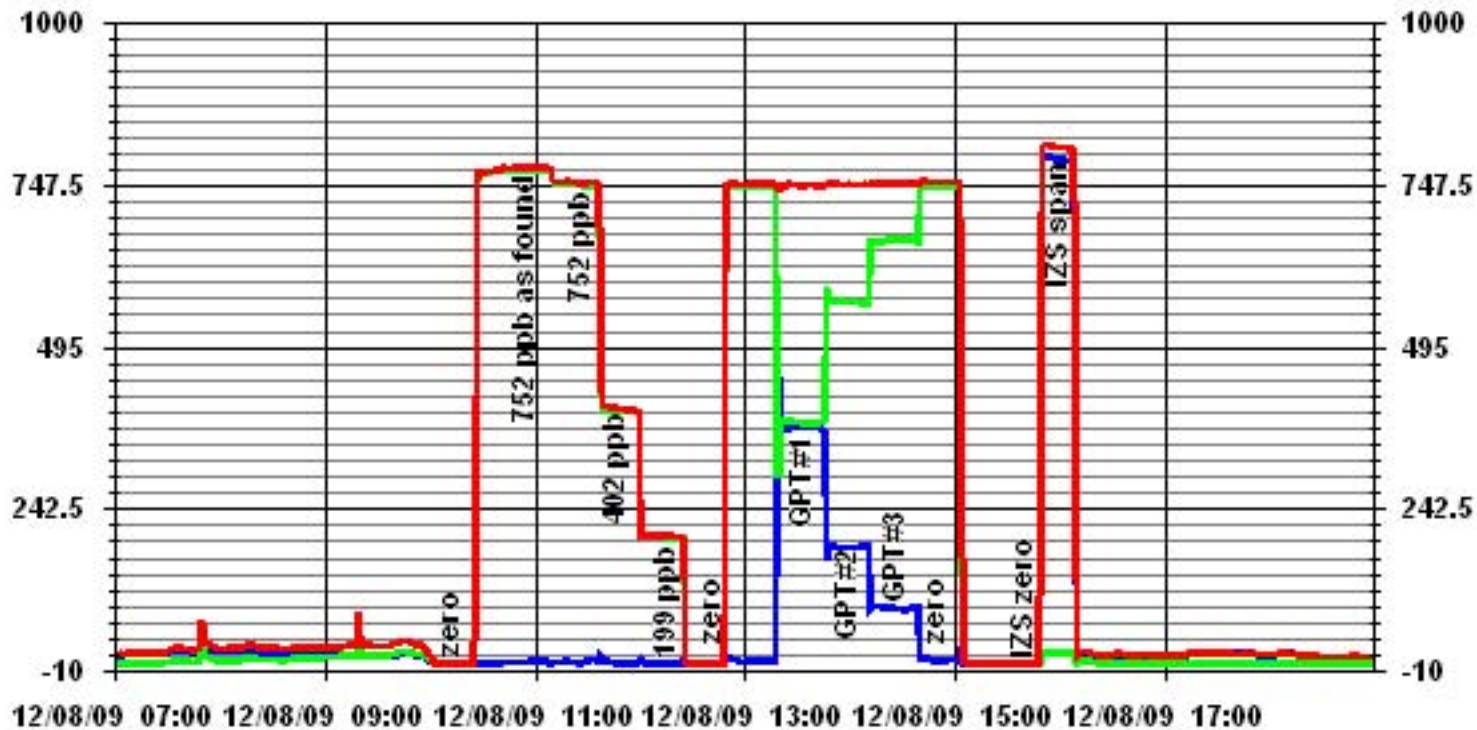
NO Calibration Curve

Calibration Date December 8, 2009
 Company Lakeland Ind & Comm. Assoc.
 Plant / Location Portable/ 13-16-62-5W4M
 Start Time (MST) 9:55 End Time (MST) 16:13

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999968
ppb	ppb		Slope	(0.85 to 1.15)	0.996791
0	1	N/A	Intercept	(± 3% F.S.)	-6.9586
198	198	1.0018			
401	396	1.0118			
749	746	1.0036			



01 Minute Averages



Ozone

O₃ Calibration Report

Station Information

Calibration Date	December 9, 2009	Previous Calibration	November 13, 2009
Company	Lakeland Industry & Community Association		
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M		
Start Time (MST)	8:20	End Time (MST)	11:50
Reason:	Monthly Calibration		
Barometric Pressure	716 mm Hg	Station Temperature	24 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	API 700	S/N :	446	Method:	Photometric
Calibrator Make / Model:	EnviroNics 2000	S/N :	1991	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	263		

Analyzer Settings

		Before Calibration				After Calibration			
Concentration Range		0 - 500				ppb			
Sample Flow / Box Temp	815 ccm	25.5	Deg C	813	26.5	Deg C			
VAC / PRES	11.3 IN-HG-A	26.4	IN-HG-A	11.4	IN-HG-A	26.3	IN-HG-A		
Sample Temp/ Photo Temp	34.4 Deg C	52	Deg C	34.8	Deg C	52	Deg C		
O3 Gen Temp/Orific Temp	47.8 Deg C	48.9	Deg C	48.2	Deg C	48.4	Deg C		
Offset/Slop	-3.7	0.969		-3.9		0.998			

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
3014	0	0	0	N/A
3007	400	368	356	1.0337
3007	400	368	368	1.0000
3005	200	183	185	0.9892
3012	100	84	83	1.0120
3008	0	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				1.0000

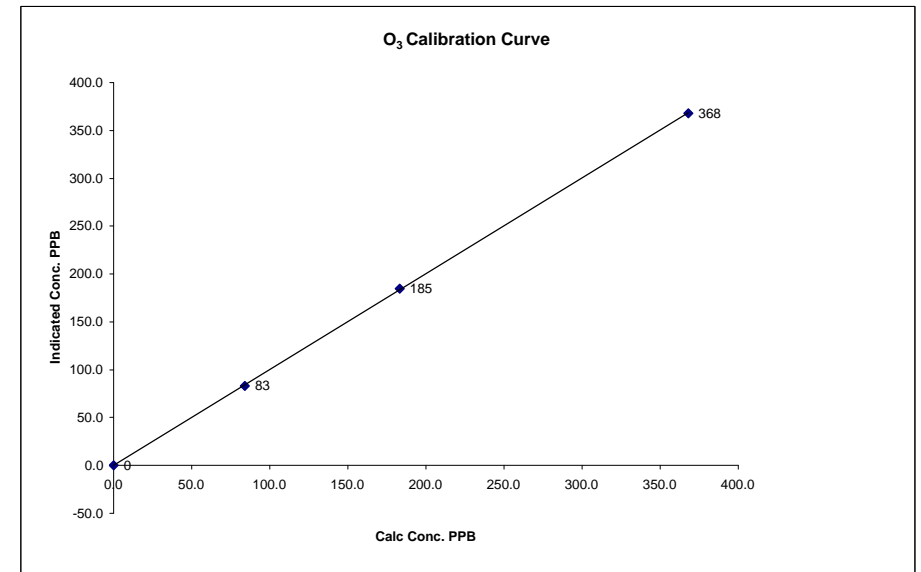
	Before Calibration	After Calibration
Auto Zero	0.4	0.6
Auto Span	233	237
Sample Lines Connected		YES
Percent Change from Previous Calibration		-2.0%

Calibration Performed by: Shea Beaton

O₃ Calibration Curve

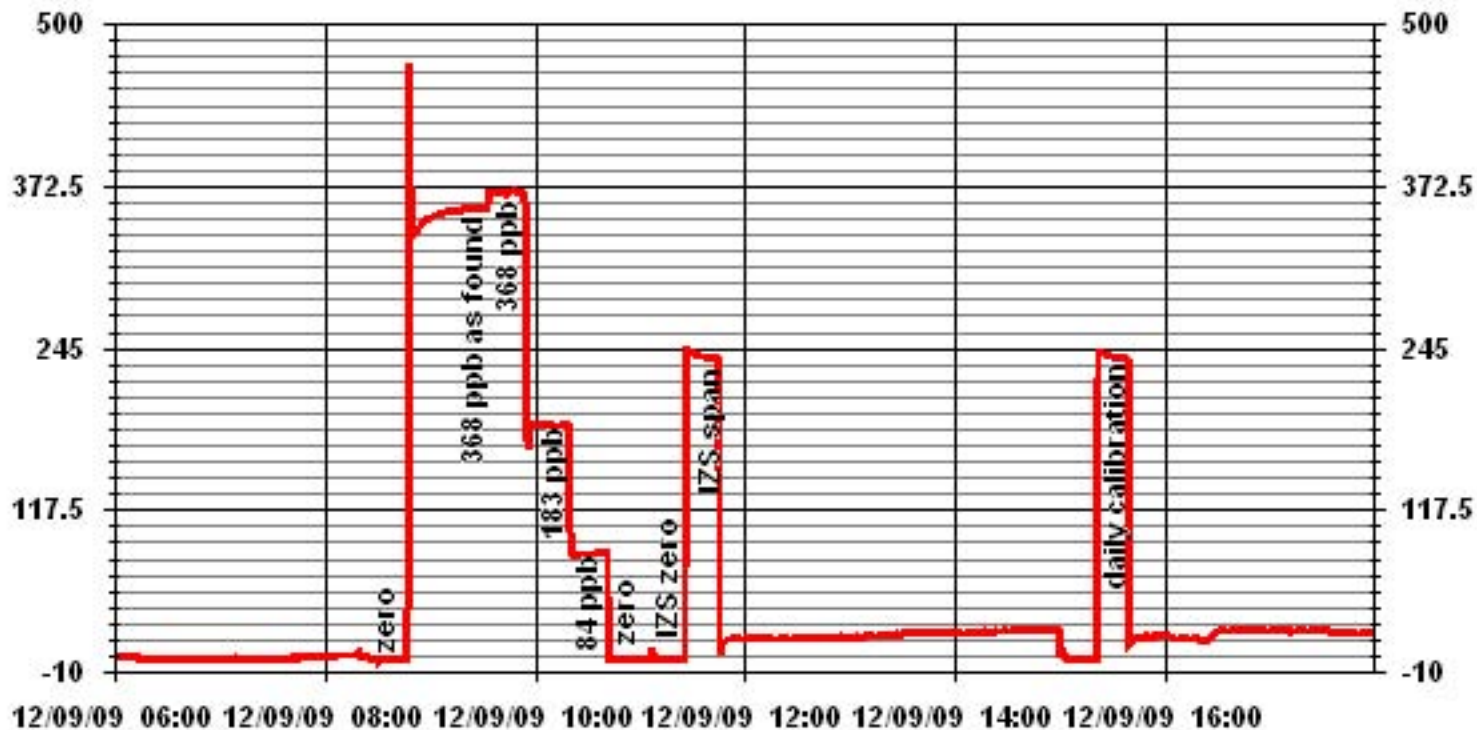
Calibration Date	December 9, 2009
Company	Lakeland Industry & Community Association
Plant / Location	Portable / Devon Wellsite 13-16-62-5 W4M
Start Time (MST)	8:20
End Time (MST)	11:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999940
0	0	n/a	Intercept	(± 3% F.S.)	-0.010314
84	83	1.0120			
183	185	0.9892			
368	368	1.0000			



Notes:

01 Minute Averages



Volatile Organics Laboratory Analysis

Maxxam Analytics Inc.

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200
 Location: 13-16-62-5 W4M Canister ID: S2241 (Maxxam Supplied)
 Station ID: Lica 33 (Portable) Canister Installation Date/Time: Dec 2, 09 @ 19:00 mst
 Field Sample ID: LICA VOC/PORT/ Dec 3, 09 Canister Removal Date/Time: Dec 4, 09 @ 11:15 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
03-Dec-09	12/03/2009 0:00	12/04/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1460	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 Project #: COLD LAKE SOUTH
 Site: 13-16-62-5 W4M
 Your C.O.C. #: 5348

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 #: A9G6150
Received: 2009/12/08, 16:59

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/12/09	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/12/09	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 #: A9G6150
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

RESULTS OF ANALYSES OF AIR

Maxxam ID		EP0572	EP0573		
Sampling Date		2009/12/03 00:00	2009/12/03 00:00		
COC Number		5348	5348		
	Units	LICA	LICA	DL	QC Batch
		VOC/CLS/DEC3,09	VOC/PORT/DEC3,09		

Volatile Organics					
Pressure on Receipt	psig	20	20	N/A	2032777

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

 Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0572				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/DEC3,09				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2032784
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2032784
Propene	ppbv	<0.30	0.30	<0.516	0.516	2032784
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2032784
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2032784
Dichlorodifluoromethane (FREON 12)	ppbv	0.75	0.20	3.71	0.989	2032784
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2032784
Chloromethane	ppbv	0.57	0.30	1.18	0.620	2032784
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2032784
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2032784
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2032784
Trichlorofluoromethane (FREON 11)	ppbv	0.35	0.20	1.98	1.12	2032784
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2032784
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2032784
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2032784
2-Propanone	ppbv	1.39	0.80	3.30	1.90	2032784
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2032784
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2032784
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2032784
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2032784
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2032784
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2032784
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2032784
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2032784
Methylene Chloride(Dichloromethane)	ppbv	0.45	0.30	1.56	1.04	2032784
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2032784
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2032784
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2032784
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2032784
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2032784
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2032784

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

 Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0572				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/DEC3,09				
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2032784
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2032784
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2032784
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2032784
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2032784
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2032784
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2032784
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2032784
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2032784
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2032784
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2032784
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2032784
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2032784
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2032784
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2032784
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2032784
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2032784
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2032784
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2032784
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2032784
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2032784
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2032784
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2032784
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2032784
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2032784
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2032784
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2032784
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2032784
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2032784
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2032784
QC Batch = Quality Control Batch						

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0572				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/DEC3,09				

Surrogate Recovery (%)						
Bromochloromethane	%	87		N/A	N/A	2032784
D5-Chlorobenzene	%	85		N/A	N/A	2032784
Difluorobenzene	%	88		N/A	N/A	2032784

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

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

 Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0573				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/DEC3,09				

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2032784
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2032784
Propene	ppbv	0.36	0.30	0.616	0.516	2032784
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2032784
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2032784
Dichlorodifluoromethane (FREON 12)	ppbv	0.74	0.20	3.67	0.989	2032784
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2032784
Chloromethane	ppbv	0.56	0.30	1.16	0.620	2032784
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2032784
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2032784
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2032784
Trichlorofluoromethane (FREON 11)	ppbv	0.35	0.20	1.96	1.12	2032784
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2032784
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2032784
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2032784
2-Propanone	ppbv	1.64	0.80	3.89	1.90	2032784
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2032784
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2032784
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2032784
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2032784
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2032784
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2032784
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2032784
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2032784
Methylene Chloride(Dichloromethane)	ppbv	0.44	0.30	1.53	1.04	2032784
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2032784
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2032784
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2032784
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2032784
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2032784
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2032784

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0573				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/DEC3,09				
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2032784
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2032784
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2032784
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2032784
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2032784
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2032784
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2032784
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2032784
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2032784
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2032784
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2032784
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2032784
Benzene	ppbv	0.22	0.18	0.688	0.575	2032784
Toluene	ppbv	0.22	0.20	0.840	0.753	2032784
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2032784
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2032784
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2032784
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2032784
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2032784
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2032784
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2032784
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2032784
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2032784
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2032784
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2032784
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2032784
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2032784
Cyclohexane	ppbv	0.68	0.20	2.33	0.688	2032784
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2032784
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2032784
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2032784
QC Batch = Quality Control Batch						

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EP0573				
Sampling Date		2009/12/03 00:00				
COC Number		5348				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/PORT/DEC3,09				

Surrogate Recovery (%)						
Bromochloromethane	%	86		N/A	N/A	2032784
D5-Chlorobenzene	%	84		N/A	N/A	2032784
Difluorobenzene	%	88		N/A	N/A	2032784

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

Maxxam Job #: A9G6150
 Report Date: 2009/12/11

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-5 W4M

Test Summary

Maxxam ID	EP0572	Collected	2009/12/03
Sample ID	LICA VOC/CLS/DEC3,09	Shipped	
Matrix	AIR	Received	2009/12/08

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2032777	N/A	2009/12/09	LSY
Volatile Organics in Air (TO-15)	GC/MS	2032784	N/A	2009/12/09	LSY

Maxxam ID	EP0573	Collected	2009/12/03
Sample ID	LICA VOC/PORT/DEC3,09	Shipped	
Matrix	AIR	Received	2009/12/08

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2032777	N/A	2009/12/09	LSY
Volatile Organics in Air (TO-15)	GC/MS	2032784	N/A	2009/12/09	LSY

Maxxam Job #: A9G6150
Report Date: 2009/12/11

Lakeland Industry & Community Assoc.
Client Project #: COLD LAKE SOUTH
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 #: COLD LAKE SOUTH
 P.O. #:
 Project name: 13-16-62-5 W4M

Quality Assurance Report
 Maxxam Job Number: GA9G6150

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2032784 LSY	Spiked Blank	Bromochloromethane	2009/12/09		108	%	60 - 140
		D5-Chlorobenzene	2009/12/09		106	%	60 - 140
		Difluorobenzene	2009/12/09		110	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/09		91	%	70 - 130
		Carbon Disulfide	2009/12/09		91	%	70 - 130
		Propene	2009/12/09		90	%	70 - 130
		Vinyl Acetate	2009/12/09		104	%	70 - 130
		Vinyl Bromide	2009/12/09		93	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/12/09		95	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/12/09		81	%	70 - 130
		Chloromethane	2009/12/09		87	%	70 - 130
		Vinyl Chloride	2009/12/09		93	%	70 - 130
		Chloroethane	2009/12/09		93	%	70 - 130
		1,3-Butadiene	2009/12/09		80	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/12/09		95	%	70 - 130
		Trichlorotrifluoroethane	2009/12/09		94	%	70 - 130
		Ethanol	2009/12/09		79	%	70 - 130
		2-propanol	2009/12/09		82	%	70 - 130
		2-Propanone	2009/12/09		92	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/12/09		96	%	70 - 130
		Methyl Isobutyl Ketone	2009/12/09		89	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/12/09		88	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/12/09		100	%	70 - 130
		Ethyl Acetate	2009/12/09		90	%	70 - 130
		1,1-Dichloroethylene	2009/12/09		93	%	70 - 130
		cis-1,2-Dichloroethylene	2009/12/09		91	%	70 - 130
		trans-1,2-Dichloroethylene	2009/12/09		93	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/12/09		82	%	70 - 130
		Chloroform	2009/12/09		94	%	70 - 130
		Carbon Tetrachloride	2009/12/09		102	%	70 - 130
		1,1-Dichloroethane	2009/12/09		92	%	70 - 130
		1,2-Dichloroethane	2009/12/09		92	%	70 - 130
		Ethylene Dibromide	2009/12/09		88	%	70 - 130
		1,1,1-Trichloroethane	2009/12/09		97	%	70 - 130
		1,1,2-Trichloroethane	2009/12/09		92	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/12/09		86	%	70 - 130
		cis-1,3-Dichloropropene	2009/12/09		99	%	70 - 130
		trans-1,3-Dichloropropene	2009/12/09		96	%	70 - 130
		1,2-Dichloropropane	2009/12/09		90	%	70 - 130
		Bromomethane	2009/12/09		90	%	70 - 130
		Bromoform	2009/12/09		101	%	70 - 130
		Bromodichloromethane	2009/12/09		98	%	70 - 130
		Dibromochloromethane	2009/12/09		97	%	70 - 130
		Heptane	2009/12/09		91	%	70 - 130
		Trichloroethylene	2009/12/09		93	%	70 - 130
		Tetrachloroethylene	2009/12/09		94	%	70 - 130
		Benzene	2009/12/09		90	%	70 - 130
		Toluene	2009/12/09		91	%	70 - 130
		Ethylbenzene	2009/12/09		90	%	70 - 130
		p+m-Xylene	2009/12/09		90	%	70 - 130
		o-Xylene	2009/12/09		90	%	70 - 130
		Styrene	2009/12/09		88	%	70 - 130
		1,3,5-Trimethylbenzene	2009/12/09		81	%	70 - 130
		1,2,4-Trimethylbenzene	2009/12/09		78	%	70 - 130
		4-ethyltoluene	2009/12/09		83	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G6150

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2032784 LSY	Spiked Blank	Chlorobenzene	2009/12/09		89	%	70 - 130
		Benzyl chloride	2009/12/09		92	%	70 - 130
		1,3-Dichlorobenzene	2009/12/09		78	%	70 - 130
		1,4-Dichlorobenzene	2009/12/09		75	%	70 - 130
		1,2-Dichlorobenzene	2009/12/09		75	%	70 - 130
		1,2,4-Trichlorobenzene	2009/12/09		109	%	70 - 130
		Hexachlorobutadiene	2009/12/09		113	%	70 - 130
		Hexane	2009/12/09		89	%	70 - 130
		Cyclohexane	2009/12/09		92	%	70 - 130
		Tetrahydrofuran	2009/12/09		90	%	70 - 130
		1,4-Dioxane	2009/12/09		81	%	70 - 130
	Method Blank	Bromochloromethane	2009/12/09		95	%	60 - 140
		D5-Chlorobenzene	2009/12/09		91	%	60 - 140
		Difluorobenzene	2009/12/09		96	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/09	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/12/09	ND, RDL=0.50		ppbv	
		Propene	2009/12/09	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/12/09	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/12/09	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/12/09	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/12/09	ND, RDL=0.17		ppbv	
		Chloromethane	2009/12/09	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/12/09	ND, RDL=0.18		ppbv	
		Chloroethane	2009/12/09	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/12/09	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/12/09	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/12/09	ND, RDL=0.15		ppbv	
		Ethanol	2009/12/09	ND, RDL=2.3		ppbv	
		2-propanol	2009/12/09	ND, RDL=3.0		ppbv	
		2-Propanone	2009/12/09	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/12/09	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/12/09	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/12/09	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/12/09	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/12/09	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/12/09	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/12/09	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/12/09	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/12/09	0.39, RDL=0.30		ppbv	
		Chloroform	2009/12/09	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/12/09	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/12/09	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/12/09	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/12/09	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/12/09	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/12/09	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/12/09	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/12/09	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/12/09	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/12/09	ND, RDL=0.40		ppbv	
		Bromomethane	2009/12/09	ND, RDL=0.18		ppbv	
		Bromoform	2009/12/09	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/12/09	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/12/09	ND, RDL=0.20		ppbv	
		Heptane	2009/12/09	ND, RDL=0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G6150

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2032784 LSY	Method Blank	Trichloroethylene	2009/12/09	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/12/09	ND, RDL=0.20		ppbv	
		Benzene	2009/12/09	ND, RDL=0.18		ppbv	
		Toluene	2009/12/09	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/12/09	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/12/09	ND, RDL=0.37		ppbv	
		o-Xylene	2009/12/09	ND, RDL=0.20		ppbv	
		Styrene	2009/12/09	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/12/09	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/12/09	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/12/09	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/12/09	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/12/09	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/12/09	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/12/09	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/12/09	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/12/09	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/12/09	ND, RDL=3.0		ppbv	
		Hexane	2009/12/09	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/12/09	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/12/09	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/12/09	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/12/09	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.



Your Project #: 13-16-62-5 W4M
 Site: COLD LAKE SOUTH
 Your C.O.C. #: 2801

Attention: Shea Beaton

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

Report Date: 2009/12/18

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G8323

Received: 2009/12/12, 15:04

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/12/14	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/12/14	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 #: A9G8323
 Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

RESULTS OF ANALYSES OF AIR

Maxxam ID		EQ3259	EQ3260		
Sampling Date		2009/12/09	2009/12/09		
		00:00	00:00		
COC Number		2801	2801		
	Units	LICAVOC/PORT/DEC9,09	LICAVOC/CLS/DEC9,09	DL	QC Batch

Volatile Organics					
Pressure on Receipt	psig	19	19	N/A	2036813

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3259				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/PORT/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2036817
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2036817
Propene	ppbv	<0.30	0.30	<0.516	0.516	2036817
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2036817
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2036817
Dichlorodifluoromethane (FREON 12)	ppbv	0.73	0.20	3.61	0.989	2036817
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2036817
Chloromethane	ppbv	0.58	0.30	1.19	0.620	2036817
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2036817
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2036817
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2036817
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.92	1.12	2036817
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2036817
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2036817
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2036817
2-Propanone	ppbv	2.14	0.80	5.08	1.90	2036817
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2036817
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2036817
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2036817
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2036817
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2036817
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2036817
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2036817
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2036817
Methylene Chloride(Dichloromethane)	ppbv	0.45	0.30	1.55	1.04	2036817
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2036817
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2036817
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2036817
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2036817
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2036817
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2036817
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2036817

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3259				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/PORT/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2036817
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2036817
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2036817
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2036817
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2036817
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2036817
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2036817
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2036817
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2036817
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2036817
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2036817
Benzene	ppbv	0.25	0.18	0.804	0.575	2036817
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2036817
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2036817
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2036817
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2036817
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2036817
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2036817
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2036817
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2036817
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2036817
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2036817
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2036817
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2036817
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2036817
Cyclohexane	ppbv	0.44	0.20	1.50	0.688	2036817
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2036817
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2036817
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2036817
Surrogate Recovery (%)						
Bromochloromethane	%	92		N/A	N/A	2036817
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3259				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/PORT/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch

D5-Chlorobenzene	%	90		N/A	N/A	2036817
Difluorobenzene	%	93		N/A	N/A	2036817

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

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3260				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/CLS/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2036817
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2036817
Propene	ppbv	<0.30	0.30	<0.516	0.516	2036817
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2036817
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2036817
Dichlorodifluoromethane (FREON 12)	ppbv	0.74	0.20	3.65	0.989	2036817
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2036817
Chloromethane	ppbv	0.54	0.30	1.11	0.620	2036817
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2036817
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2036817
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2036817
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.94	1.12	2036817
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2036817
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2036817
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2036817
2-Propanone	ppbv	<0.80	0.80	<1.90	1.90	2036817
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2036817
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2036817
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2036817
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2036817
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2036817
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2036817
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2036817
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2036817
Methylene Chloride(Dichloromethane)	ppbv	0.46	0.30	1.59	1.04	2036817
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2036817
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2036817
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2036817
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2036817
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2036817
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2036817
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2036817
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3260				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/CLS/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2036817
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2036817
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2036817
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2036817
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2036817
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2036817
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2036817
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2036817
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2036817
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2036817
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2036817
Benzene	ppbv	0.33	0.18	1.05	0.575	2036817
Toluene	ppbv	0.24	0.20	0.921	0.753	2036817
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2036817
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2036817
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2036817
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2036817
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2036817
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2036817
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2036817
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2036817
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2036817
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2036817
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2036817
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2036817
Hexane	ppbv	0.32	0.30	1.11	1.06	2036817
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2036817
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2036817
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2036817
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2036817
Surrogate Recovery (%)						
Bromochloromethane	%	90		N/A	N/A	2036817
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		EQ3260				
Sampling Date		2009/12/09				
		00:00				
COC Number		2801				
	Units	LICAVOC/CLS/DEC9,09	DL	ug/m3	DL (ug/m3)	QC Batch

D5-Chlorobenzene	%	87		N/A	N/A	2036817
Difluorobenzene	%	90		N/A	N/A	2036817

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

Maxxam Job #: A9G8323
 Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID	EQ3259	Collected	2009/12/09
Sample ID	LICAVOC/PORT/DEC9,09	Shipped	
Matrix	AIR	Received	2009/12/12

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2036813	N/A	2009/12/14	LSY
Volatile Organics in Air (TO-15)	GC/MS	2036817	N/A	2009/12/14	LSY

Maxxam ID	EQ3260	Collected	2009/12/09
Sample ID	LICAVOC/CLS/DEC9,09	Shipped	
Matrix	AIR	Received	2009/12/12

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2036813	N/A	2009/12/14	LSY
Volatile Organics in Air (TO-15)	GC/MS	2036817	N/A	2009/12/14	LSY

Maxxam Job #: A9G8323
Report Date: 2009/12/18

Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5 W4M
Project name: COLD LAKE SOUTH

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GA9G8323

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2036817 LSY	Spiked Blank	Bromochloromethane	2009/12/14		110	%	60 - 140
		D5-Chlorobenzene	2009/12/14		111	%	60 - 140
		Difluorobenzene	2009/12/14		112	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/14		88	%	70 - 130
		Carbon Disulfide	2009/12/14		89	%	70 - 130
		Propene	2009/12/14		87	%	70 - 130
		Vinyl Acetate	2009/12/14		100	%	70 - 130
		Vinyl Bromide	2009/12/14		91	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/12/14		93	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/12/14		81	%	70 - 130
		Chloromethane	2009/12/14		88	%	70 - 130
		Vinyl Chloride	2009/12/14		92	%	70 - 130
		Chloroethane	2009/12/14		91	%	70 - 130
		1,3-Butadiene	2009/12/14		79	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/12/14		94	%	70 - 130
		Trichlorotrifluoroethane	2009/12/14		92	%	70 - 130
		Ethanol	2009/12/14		83	%	70 - 130
		2-propanol	2009/12/14		82	%	70 - 130
		2-Propanone	2009/12/14		93	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/12/14		94	%	70 - 130
		Methyl Isobutyl Ketone	2009/12/14		85	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/12/14		82	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/12/14		98	%	70 - 130
		Ethyl Acetate	2009/12/14		87	%	70 - 130
		1,1-Dichloroethylene	2009/12/14		90	%	70 - 130
		cis-1,2-Dichloroethylene	2009/12/14		89	%	70 - 130
		trans-1,2-Dichloroethylene	2009/12/14		91	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/12/14		80	%	70 - 130
		Chloroform	2009/12/14		91	%	70 - 130
		Carbon Tetrachloride	2009/12/14		100	%	70 - 130
		1,1-Dichloroethane	2009/12/14		89	%	70 - 130
		1,2-Dichloroethane	2009/12/14		90	%	70 - 130
		Ethylene Dibromide	2009/12/14		87	%	70 - 130
		1,1,1-Trichloroethane	2009/12/14		95	%	70 - 130
		1,1,2-Trichloroethane	2009/12/14		91	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/12/14		84	%	70 - 130
		cis-1,3-Dichloropropene	2009/12/14		96	%	70 - 130
		trans-1,3-Dichloropropene	2009/12/14		93	%	70 - 130
		1,2-Dichloropropane	2009/12/14		87	%	70 - 130
		Bromomethane	2009/12/14		89	%	70 - 130
		Bromoform	2009/12/14		100	%	70 - 130
		Bromodichloromethane	2009/12/14		97	%	70 - 130
		Dibromochloromethane	2009/12/14		96	%	70 - 130
		Heptane	2009/12/14		89	%	70 - 130
		Trichloroethylene	2009/12/14		91	%	70 - 130
		Tetrachloroethylene	2009/12/14		94	%	70 - 130
		Benzene	2009/12/14		87	%	70 - 130
		Toluene	2009/12/14		90	%	70 - 130
		Ethylbenzene	2009/12/14		87	%	70 - 130
		p+m-Xylene	2009/12/14		87	%	70 - 130
		o-Xylene	2009/12/14		87	%	70 - 130
		Styrene	2009/12/14		78	%	70 - 130
		1,3,5-Trimethylbenzene	2009/12/14		79	%	70 - 130
		1,2,4-Trimethylbenzene	2009/12/14		77	%	70 - 130
		4-ethyltoluene	2009/12/14		81	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G8323

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2036817 LSY	Spiked Blank	Chlorobenzene	2009/12/14		86	%	70 - 130
		Benzyl chloride	2009/12/14		91	%	70 - 130
		1,3-Dichlorobenzene	2009/12/14		79	%	70 - 130
		1,4-Dichlorobenzene	2009/12/14		75	%	70 - 130
		1,2-Dichlorobenzene	2009/12/14		77	%	70 - 130
		1,2,4-Trichlorobenzene	2009/12/14		109	%	70 - 130
		Hexachlorobutadiene	2009/12/14		116	%	70 - 130
		Hexane	2009/12/14		85	%	70 - 130
		Cyclohexane	2009/12/14		89	%	70 - 130
		Tetrahydrofuran	2009/12/14		86	%	70 - 130
		1,4-Dioxane	2009/12/14		79	%	70 - 130
	Method Blank	Bromochloromethane	2009/12/14		91	%	60 - 140
		D5-Chlorobenzene	2009/12/14		88	%	60 - 140
		Difluorobenzene	2009/12/14		93	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/14	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/12/14	ND, RDL=0.50		ppbv	
		Propene	2009/12/14	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/12/14	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/12/14	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/12/14	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/12/14	ND, RDL=0.17		ppbv	
		Chloromethane	2009/12/14	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/12/14	ND, RDL=0.18		ppbv	
		Chloroethane	2009/12/14	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/12/14	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/12/14	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/12/14	ND, RDL=0.15		ppbv	
		Ethanol	2009/12/14	ND, RDL=2.3		ppbv	
		2-propanol	2009/12/14	ND, RDL=3.0		ppbv	
		2-Propanone	2009/12/14	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/12/14	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/12/14	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/12/14	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/12/14	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/12/14	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/12/14	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/12/14	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/12/14	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/12/14	0.41, RDL=0.30		ppbv	
		Chloroform	2009/12/14	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/12/14	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/12/14	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/12/14	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/12/14	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/12/14	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/12/14	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/12/14	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/12/14	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/12/14	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/12/14	ND, RDL=0.40		ppbv	
		Bromomethane	2009/12/14	ND, RDL=0.18		ppbv	
		Bromoform	2009/12/14	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/12/14	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/12/14	ND, RDL=0.20		ppbv	
		Heptane	2009/12/14	ND, RDL=0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G8323

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2036817 LSY	Method Blank	Trichloroethylene	2009/12/14	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/12/14	ND, RDL=0.20		ppbv	
		Benzene	2009/12/14	ND, RDL=0.18		ppbv	
		Toluene	2009/12/14	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/12/14	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/12/14	ND, RDL=0.37		ppbv	
		o-Xylene	2009/12/14	ND, RDL=0.20		ppbv	
		Styrene	2009/12/14	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/12/14	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/12/14	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/12/14	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/12/14	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/12/14	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/12/14	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/12/14	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/12/14	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/12/14	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/12/14	ND, RDL=3.0		ppbv	
		Hexane	2009/12/14	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/12/14	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/12/14	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/12/14	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/12/14	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: 6200
 Location: 13-16-62-5 W4M Canister ID: T2501 (Maxxam Supplied)
 Station ID: Lica 33 (Portable) Canister Installation Date/Time: Dec 11, 09 @ 13:12 mst
 Field Sample ID: LICA VOC/PORT/ Dec 15, 09 Canister Removal Date/Time: Dec 16, 09 @ 08:55 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
15-Dec-09	12/15/2009 0:00	12/16/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1460	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 Project #: 13-16-62-5-W4M
 Site: COLD LAKE SOUTH
 Your C.O.C. #: 2900

Attention: Shea Beaton

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

Report Date: 2009/12/23

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9H1413

Received: 2009/12/18, 09:48

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/12/22	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/12/22	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
 Email: 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

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

RESULTS OF ANALYSES OF AIR

Maxxam ID		ER7195	ER7196		
Sampling Date		2009/12/15	2009/12/15		
COC Number		2900	2900		
	Units	LICA VOC/CLS/DEC15,09 / T2415	LICA VOC/PORT/DEC15,09 / T2501	DL	QC Batch
Volatile Organics					
Pressure on Receipt	psig	17	20	N/A	2043540
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7195				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/CLS/DEC15,09 / T2415	DL	ug/m3	DL (ug/m3)	QC Batch
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2043552
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2043552
Propene	ppbv	0.72	0.30	1.24	0.516	2043552
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2043552
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2043552
Dichlorodifluoromethane (FREON 12)	ppbv	0.63	0.20	3.11	0.989	2043552
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2043552
Chloromethane	ppbv	0.55	0.30	1.14	0.620	2043552
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2043552
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2043552
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2043552
Trichlorofluoromethane (FREON 11)	ppbv	0.32	0.20	1.79	1.12	2043552
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2043552
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2043552
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2043552
2-Propanone	ppbv	1.28	0.80	3.04	1.90	2043552
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2043552
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2043552
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2043552
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2043552
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2043552
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2043552
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2043552
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2043552
Methylene Chloride(Dichloromethane)	ppbv	0.37	0.30	1.29	1.04	2043552
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2043552
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2043552
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2043552
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2043552
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2043552
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2043552
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7195				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/CLS/DEC15,09 / T2415	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2043552
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2043552
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2043552
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2043552
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2043552
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2043552
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2043552
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2043552
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2043552
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2043552
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2043552
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2043552
Benzene	ppbv	0.23	0.18	0.726	0.575	2043552
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2043552
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2043552
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2043552
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2043552
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2043552
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2043552
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2043552
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2043552
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2043552
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2043552
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2043552
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2043552
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2043552
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2043552
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2043552
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2043552
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2043552
QC Batch = Quality Control Batch						

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7195				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/CLS/DEC15,09 / T2415	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	89		N/A	N/A	2043552
D5-Chlorobenzene	%	84		N/A	N/A	2043552
Difluorobenzene	%	90		N/A	N/A	2043552

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

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7196				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/PORT/DEC15,09 / T2501	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2043552
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2043552
Propene	ppbv	0.59	0.30	1.01	0.516	2043552
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2043552
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2043552
Dichlorodifluoromethane (FREON 12)	ppbv	0.65	0.20	3.19	0.989	2043552
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2043552
Chloromethane	ppbv	0.53	0.30	1.10	0.620	2043552
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2043552
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2043552
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2043552
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.88	1.12	2043552
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2043552
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2043552
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2043552
2-Propanone	ppbv	1.44	0.80	3.42	1.90	2043552
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2043552
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2043552
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2043552
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2043552
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2043552
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2043552
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2043552
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2043552
Methylene Chloride(Dichloromethane)	ppbv	0.39	0.30	1.35	1.04	2043552
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2043552
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2043552
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2043552
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2043552
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2043552
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2043552

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7196				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/PORT/DEC15,09 / T2501	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2043552
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2043552
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2043552
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2043552
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2043552
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2043552
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2043552
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2043552
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2043552
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2043552
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2043552
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2043552
Benzene	ppbv	0.20	0.18	0.636	0.575	2043552
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2043552
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2043552
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2043552
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2043552
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2043552
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2043552
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2043552
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2043552
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2043552
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2043552
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2043552
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2043552
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2043552
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2043552
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2043552
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2043552
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2043552
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2043552
QC Batch = Quality Control Batch						

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ER7196				
Sampling Date		2009/12/15				
COC Number		2900				
	Units	LICA VOC/PORT/DEC15,09 / T2501	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	88		N/A	N/A	2043552
D5-Chlorobenzene	%	83		N/A	N/A	2043552
Difluorobenzene	%	90		N/A	N/A	2043552

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

Maxxam Job #: A9H1413
 Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5-W4M
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID ER7195
Sample ID LICA VOC/CLS/DEC15,09 / T2415
Matrix AIR
Collected 2009/12/15
Shipped
Received 2009/12/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2043540	N/A	2009/12/22	S_S
Volatile Organics in Air (TO-15)	GC/MS	2043552	N/A	2009/12/22	S_S

Maxxam ID ER7195 Dup
Sample ID LICA VOC/CLS/DEC15,09 / T2415
Matrix AIR
Collected 2009/12/15
Shipped
Received 2009/12/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Volatile Organics in Air (TO-15)	GC/MS	2043552	N/A	2009/12/22	S_S

Maxxam ID ER7196
Sample ID LICA VOC/PORT/DEC15,09 / T2501
Matrix AIR
Collected 2009/12/15
Shipped
Received 2009/12/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2043540	N/A	2009/12/22	S_S
Volatile Organics in Air (TO-15)	GC/MS	2043552	N/A	2009/12/22	S_S

Maxxam Job #: A9H1413
Report Date: 2009/12/23

Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5-W4M
Project name: COLD LAKE SOUTH

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GA9H1413

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2043552 S_S	Spiked Blank	Bromochloromethane	2009/12/22		107	%	60 - 140
		D5-Chlorobenzene	2009/12/22		103	%	60 - 140
		Difluorobenzene	2009/12/22		108	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/22		92	%	70 - 130
		Carbon Disulfide	2009/12/22		89	%	70 - 130
		Propene	2009/12/22		94	%	70 - 130
		Vinyl Acetate	2009/12/22		104	%	70 - 130
		Vinyl Bromide	2009/12/22		91	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/12/22		116	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/12/22		92	%	70 - 130
		Chloromethane	2009/12/22		97	%	70 - 130
		Vinyl Chloride	2009/12/22		100	%	70 - 130
		Chloroethane	2009/12/22		91	%	70 - 130
		1,3-Butadiene	2009/12/22		94	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/12/22		115	%	70 - 130
		Trichlorotrifluoroethane	2009/12/22		93	%	70 - 130
		Ethanol	2009/12/22		132 (1)	%	70 - 130
		2-propanol	2009/12/22		98	%	70 - 130
		2-Propanone	2009/12/22		123	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/12/22		112	%	70 - 130
		Methyl Isobutyl Ketone	2009/12/22		99	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/12/22		102	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/12/22		92	%	70 - 130
		Ethyl Acetate	2009/12/22		101	%	70 - 130
		1,1-Dichloroethylene	2009/12/22		90	%	70 - 130
		cis-1,2-Dichloroethylene	2009/12/22		97	%	70 - 130
		trans-1,2-Dichloroethylene	2009/12/22		97	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/12/22		95	%	70 - 130
		Chloroform	2009/12/22		96	%	70 - 130
		Carbon Tetrachloride	2009/12/22		99	%	70 - 130
		1,1-Dichloroethane	2009/12/22		97	%	70 - 130
		1,2-Dichloroethane	2009/12/22		103	%	70 - 130
		Ethylene Dibromide	2009/12/22		91	%	70 - 130
		1,1,1-Trichloroethane	2009/12/22		97	%	70 - 130
		1,1,2-Trichloroethane	2009/12/22		92	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/12/22		96	%	70 - 130
		cis-1,3-Dichloropropene	2009/12/22		107	%	70 - 130
		trans-1,3-Dichloropropene	2009/12/22		110	%	70 - 130
		1,2-Dichloropropane	2009/12/22		95	%	70 - 130
		Bromomethane	2009/12/22		92	%	70 - 130
		Bromoform	2009/12/22		93	%	70 - 130
		Bromodichloromethane	2009/12/22		100	%	70 - 130
		Dibromochloromethane	2009/12/22		94	%	70 - 130
		Heptane	2009/12/22		96	%	70 - 130
		Trichloroethylene	2009/12/22		86	%	70 - 130
		Tetrachloroethylene	2009/12/22		83	%	70 - 130
		Benzene	2009/12/22		87	%	70 - 130
		Toluene	2009/12/22		89	%	70 - 130
		Ethylbenzene	2009/12/22		86	%	70 - 130
		p+m-Xylene	2009/12/22		87	%	70 - 130
		o-Xylene	2009/12/22		88	%	70 - 130
		Styrene	2009/12/22		77	%	70 - 130
		1,3,5-Trimethylbenzene	2009/12/22		89	%	70 - 130
		1,2,4-Trimethylbenzene	2009/12/22		86	%	70 - 130
		4-ethyltoluene	2009/12/22		89	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9H1413

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2043552 S_S	Spiked Blank	Chlorobenzene	2009/12/22		86	%	70 - 130
		Benzyl chloride	2009/12/22		119	%	70 - 130
		1,3-Dichlorobenzene	2009/12/22		87	%	70 - 130
		1,4-Dichlorobenzene	2009/12/22		86	%	70 - 130
		1,2-Dichlorobenzene	2009/12/22		85	%	70 - 130
		1,2,4-Trichlorobenzene	2009/12/22		87	%	70 - 130
		Hexachlorobutadiene	2009/12/22		83	%	70 - 130
		Hexane	2009/12/22		90	%	70 - 130
		Cyclohexane	2009/12/22		91	%	70 - 130
		Tetrahydrofuran	2009/12/22		101	%	70 - 130
		1,4-Dioxane	2009/12/22		92	%	70 - 130
	Method Blank	Bromochloromethane	2009/12/22		104	%	60 - 140
		D5-Chlorobenzene	2009/12/22		97	%	60 - 140
		Difluorobenzene	2009/12/22		106	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/22	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/12/22	ND, RDL=0.50		ppbv	
		Propene	2009/12/22	0.31, RDL=0.30		ppbv	
		Vinyl Acetate	2009/12/22	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/12/22	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/12/22	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/12/22	ND, RDL=0.17		ppbv	
		Chloromethane	2009/12/22	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/12/22	ND, RDL=0.18		ppbv	
		Chloroethane	2009/12/22	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/12/22	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/12/22	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/12/22	ND, RDL=0.15		ppbv	
		Ethanol	2009/12/22	ND, RDL=2.3		ppbv	
		2-propanol	2009/12/22	ND, RDL=3.0		ppbv	
		2-Propanone	2009/12/22	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/12/22	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/12/22	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/12/22	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/12/22	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/12/22	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/12/22	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/12/22	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/12/22	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/12/22	0.33, RDL=0.30		ppbv	
		Chloroform	2009/12/22	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/12/22	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/12/22	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/12/22	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/12/22	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/12/22	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/12/22	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/12/22	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/12/22	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/12/22	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/12/22	ND, RDL=0.40		ppbv	
		Bromomethane	2009/12/22	ND, RDL=0.18		ppbv	
		Bromoform	2009/12/22	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/12/22	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/12/22	ND, RDL=0.20		ppbv	
		Heptane	2009/12/22	ND, RDL=0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9H1413

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2043552 S_S	Method Blank	Trichloroethylene	2009/12/22	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/12/22	ND, RDL=0.20		ppbv	
		Benzene	2009/12/22	ND, RDL=0.18		ppbv	
		Toluene	2009/12/22	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/12/22	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/12/22	ND, RDL=0.37		ppbv	
		o-Xylene	2009/12/22	ND, RDL=0.20		ppbv	
		Styrene	2009/12/22	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/12/22	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/12/22	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/12/22	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/12/22	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/12/22	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/12/22	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/12/22	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/12/22	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/12/22	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/12/22	ND, RDL=3.0		ppbv	
		Hexane	2009/12/22	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/12/22	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/12/22	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/12/22	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/12/22	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2009/12/22	NC		%	25
		Carbon Disulfide	2009/12/22	NC		%	25
		Propene	2009/12/22	NC		%	25
		Vinyl Acetate	2009/12/22	NC		%	25
		Vinyl Bromide	2009/12/22	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2009/12/22	NC		%	25
		1,2-Dichlorotetrafluoroethane	2009/12/22	NC		%	25
		Chloromethane	2009/12/22	NC		%	25
		Vinyl Chloride	2009/12/22	NC		%	25
		Chloroethane	2009/12/22	NC		%	25
		1,3-Butadiene	2009/12/22	NC		%	25
		Trichlorofluoromethane (FREON 11)	2009/12/22	NC		%	25
		Trichlorotrifluoroethane	2009/12/22	NC		%	25
		Ethanol	2009/12/22	NC		%	25
		2-propanol	2009/12/22	NC		%	25
		2-Propanone	2009/12/22	NC		%	25
		Methyl Ethyl Ketone (2-Butanone)	2009/12/22	NC		%	25
		Methyl Isobutyl Ketone	2009/12/22	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2009/12/22	NC		%	25
		Methyl t-butyl ether (MTBE)	2009/12/22	NC		%	25
		Ethyl Acetate	2009/12/22	NC		%	25
		1,1-Dichloroethylene	2009/12/22	NC		%	25
		cis-1,2-Dichloroethylene	2009/12/22	NC		%	25
		trans-1,2-Dichloroethylene	2009/12/22	NC		%	25
		Methylene Chloride(Dichloromethane)	2009/12/22	NC		%	25
		Chloroform	2009/12/22	NC		%	25
		Carbon Tetrachloride	2009/12/22	NC		%	25
		1,1-Dichloroethane	2009/12/22	NC		%	25
		1,2-Dichloroethane	2009/12/22	NC		%	25
		Ethylene Dibromide	2009/12/22	NC		%	25

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

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9H1413

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2043552 S_S	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2009/12/22	NC		%	25
		1,1,2-Trichloroethane	2009/12/22	NC		%	25
		1,1,2,2-Tetrachloroethane	2009/12/22	NC		%	25
		cis-1,3-Dichloropropene	2009/12/22	NC		%	25
		trans-1,3-Dichloropropene	2009/12/22	NC		%	25
		1,2-Dichloropropane	2009/12/22	NC		%	25
		Bromomethane	2009/12/22	NC		%	25
		Bromoform	2009/12/22	NC		%	25
		Bromodichloromethane	2009/12/22	NC		%	25
		Dibromochloromethane	2009/12/22	NC		%	25
		Heptane	2009/12/22	NC		%	25
		Trichloroethylene	2009/12/22	NC		%	25
		Tetrachloroethylene	2009/12/22	NC		%	25
		Benzene	2009/12/22	NC		%	25
		Toluene	2009/12/22	NC		%	25
		Ethylbenzene	2009/12/22	NC		%	25
		p+m-Xylene	2009/12/22	NC		%	25
		o-Xylene	2009/12/22	NC		%	25
		Styrene	2009/12/22	NC		%	25
		1,3,5-Trimethylbenzene	2009/12/22	NC		%	25
		1,2,4-Trimethylbenzene	2009/12/22	NC		%	25
		4-ethyltoluene	2009/12/22	NC		%	25
		Chlorobenzene	2009/12/22	NC		%	25
		Benzyl chloride	2009/12/22	NC		%	25
		1,3-Dichlorobenzene	2009/12/22	NC		%	25
		1,4-Dichlorobenzene	2009/12/22	NC		%	25
		1,2-Dichlorobenzene	2009/12/22	NC		%	25
		1,2,4-Trichlorobenzene	2009/12/22	NC		%	25
		Hexachlorobutadiene	2009/12/22	NC		%	25
		Hexane	2009/12/22	NC		%	25
		Cyclohexane	2009/12/22	NC		%	25
		Tetrahydrofuran	2009/12/22	NC		%	25
		1,4-Dioxane	2009/12/22	NC		%	25
		Xylene (Total)	2009/12/22	NC		%	25

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

Maxxam Analytics Inc.

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200
 Location: 13-16-62-5 W4M Canister ID: 7870 (Maxxam Supplied)
 Station ID: Lica 33 (Portable) Canister Installation Date/Time: Dec 18, 09 @ 12:35 mst
 Field Sample ID: LICA VOC/PORT/ Dec 21, 09 Canister Removal Date/Time: Dec 22, 09 @ 10:40 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
21-Dec-09	12/21/2009 0:00	12/22/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1460	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 Project #: 13-16-62-5 W4M
 Site: COLD LAKE SOUTH
 Your C.O.C. #: 0579

Attention: Shea Beaton

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

Report Date: 2010/01/05

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9H3792

Received: 2009/12/24, 08:53

Sample Matrix: AIR
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2009/12/31	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2009/12/31	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 #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

RESULTS OF ANALYSES OF AIR

Maxxam ID		ET0037	ET0038		
Sampling Date		2009/12/21	2009/12/21		
COC Number		0579	0579		
	Units	LICA VOC/CLS/DEC21/09 - 7858	LICA VOC/PORT/DEC21/09 - 7870	DL	QC Batch

Volatile Organics					
Pressure on Receipt	psig	19	19	N/A	2048145

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0037				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA VOC/CLS/DEC21/09 - 7858	DL	ug/m3	DL (ug/m3)	QC Batch
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2048164
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2048164
Propene	ppbv	<0.30	0.30	<0.516	0.516	2048164
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2048164
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2048164
Dichlorodifluoromethane (FREON 12)	ppbv	0.77	0.20	3.82	0.989	2048164
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2048164
Chloromethane	ppbv	0.57	0.30	1.19	0.620	2048164
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2048164
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2048164
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2048164
Trichlorofluoromethane (FREON 11)	ppbv	0.38	0.20	2.13	1.12	2048164
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2048164
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2048164
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2048164
2-Propanone	ppbv	2.49	0.80	5.91	1.90	2048164
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2048164
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2048164
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2048164
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2048164
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2048164
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2048164
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2048164
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2048164
Methylene Chloride(Dichloromethane)	ppbv	0.49	0.30	1.70	1.04	2048164
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2048164
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2048164
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048164
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048164
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2048164
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2048164
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0037				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA VOC/CLS/DEC21/09 - 7858	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2048164
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2048164
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2048164
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2048164
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2048164
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2048164
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2048164
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2048164
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2048164
Heptane	ppbv	0.35	0.30	1.44	1.23	2048164
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2048164
Tetrachloroethylene	ppbv	0.36	0.20	2.46	1.36	2048164
Benzene	ppbv	0.38	0.18	1.22	0.575	2048164
Toluene	ppbv	0.38	0.20	1.41	0.753	2048164
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2048164
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2048164
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2048164
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2048164
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048164
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048164
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2048164
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2048164
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2048164
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2048164
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2048164
Hexane	ppbv	0.48	0.30	1.70	1.06	2048164
Cyclohexane	ppbv	0.93	0.20	3.21	0.688	2048164
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2048164
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2048164
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2048164
QC Batch = Quality Control Batch						

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0037				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA	DL	ug/m3	DL (ug/m3)	QC Batch
		VOC/CLS/DEC21/09				
		- 7858				

Surrogate Recovery (%)						
Bromochloromethane	%	87		N/A	N/A	2048164
D5-Chlorobenzene	%	88		N/A	N/A	2048164
Difluorobenzene	%	90		N/A	N/A	2048164

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

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0038				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA VOC/PORT/DEC21/09 - 7870	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2048164
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2048164
Propene	ppbv	<0.30	0.30	<0.516	0.516	2048164
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2048164
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2048164
Dichlorodifluoromethane (FREON 12)	ppbv	0.77	0.20	3.81	0.989	2048164
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2048164
Chloromethane	ppbv	0.54	0.30	1.11	0.620	2048164
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2048164
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2048164
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2048164
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.06	1.12	2048164
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2048164
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2048164
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2048164
2-Propanone	ppbv	2.66	0.80	6.31	1.90	2048164
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2048164
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2048164
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2048164
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2048164
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2048164
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2048164
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2048164
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2048164
Methylene Chloride(Dichloromethane)	ppbv	0.42	0.30	1.44	1.04	2048164
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2048164
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2048164
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048164
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048164
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2048164
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2048164

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0038				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA VOC/PORT/DEC21/09 - 7870	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2048164
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2048164
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2048164
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2048164
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2048164
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2048164
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2048164
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2048164
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2048164
Heptane	ppbv	0.37	0.30	1.51	1.23	2048164
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2048164
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2048164
Benzene	ppbv	0.31	0.18	0.981	0.575	2048164
Toluene	ppbv	0.32	0.20	1.20	0.753	2048164
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2048164
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2048164
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2048164
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2048164
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048164
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048164
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2048164
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2048164
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2048164
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048164
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2048164
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2048164
Hexane	ppbv	0.48	0.30	1.70	1.06	2048164
Cyclohexane	ppbv	1.34	0.20	4.61	0.688	2048164
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2048164
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2048164
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2048164
QC Batch = Quality Control Batch						

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET0038				
Sampling Date		2009/12/21				
COC Number		0579				
	Units	LICA VOC/PORT/DEC21/09 - 7870	DL	ug/m3	DL (ug/m3)	QC Batch

Surrogate Recovery (%)						
Bromochloromethane	%	87		N/A	N/A	2048164
D5-Chlorobenzene	%	88		N/A	N/A	2048164
Difluorobenzene	%	90		N/A	N/A	2048164

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

Maxxam Job #: A9H3792
 Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID ET0037
Sample ID LICA VOC/CLS/DEC21/09 - 7858
Matrix AIR
Collected 2009/12/21
Shipped
Received 2009/12/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2048145	N/A	2009/12/31	LSY
Volatile Organics in Air (TO-15)	GC/MS	2048164	N/A	2009/12/31	LSY

Maxxam ID ET0038
Sample ID LICA VOC/PORT/DEC21/09 - 7870
Matrix AIR
Collected 2009/12/21
Shipped
Received 2009/12/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2048145	N/A	2009/12/31	LSY
Volatile Organics in Air (TO-15)	GC/MS	2048164	N/A	2009/12/31	LSY

Maxxam ID ET0038 Dup
Sample ID LICA VOC/PORT/DEC21/09 - 7870
Matrix AIR
Collected 2009/12/21
Shipped
Received 2009/12/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Volatile Organics in Air (TO-15)	GC/MS	2048164	N/A	2009/12/31	LSY

Maxxam Job #: A9H3792
Report Date: 2010/01/05

Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5 W4M
Project name: COLD LAKE SOUTH

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GA9H3792

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048164 LSY	Spiked Blank	Bromochloromethane	2009/12/31		107	%	60 - 140
		D5-Chlorobenzene	2009/12/31		106	%	60 - 140
		Difluorobenzene	2009/12/31		108	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/31		94	%	70 - 130
		Carbon Disulfide	2009/12/31		96	%	70 - 130
		Propene	2009/12/31		90	%	70 - 130
		Vinyl Acetate	2009/12/31		109	%	70 - 130
		Vinyl Bromide	2009/12/31		101	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2009/12/31		104	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2009/12/31		89	%	70 - 130
		Chloromethane	2009/12/31		92	%	70 - 130
		Vinyl Chloride	2009/12/31		97	%	70 - 130
		Chloroethane	2009/12/31		95	%	70 - 130
		1,3-Butadiene	2009/12/31		84	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2009/12/31		106	%	70 - 130
		Trichlorotrifluoroethane	2009/12/31		101	%	70 - 130
		Ethanol	2009/12/31		75	%	70 - 130
		2-propanol	2009/12/31		84	%	70 - 130
		2-Propanone	2009/12/31		97	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2009/12/31		101	%	70 - 130
		Methyl Isobutyl Ketone	2009/12/31		90	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2009/12/31		87	%	70 - 130
		Methyl t-butyl ether (MTBE)	2009/12/31		107	%	70 - 130
		Ethyl Acetate	2009/12/31		89	%	70 - 130
		1,1-Dichloroethylene	2009/12/31		98	%	70 - 130
		cis-1,2-Dichloroethylene	2009/12/31		97	%	70 - 130
		trans-1,2-Dichloroethylene	2009/12/31		98	%	70 - 130
		Methylene Chloride(Dichloromethane)	2009/12/31		85	%	70 - 130
		Chloroform	2009/12/31		100	%	70 - 130
		Carbon Tetrachloride	2009/12/31		116	%	70 - 130
		1,1-Dichloroethane	2009/12/31		95	%	70 - 130
		1,2-Dichloroethane	2009/12/31		101	%	70 - 130
		Ethylene Dibromide	2009/12/31		97	%	70 - 130
		1,1,1-Trichloroethane	2009/12/31		109	%	70 - 130
		1,1,2-Trichloroethane	2009/12/31		100	%	70 - 130
		1,1,2,2-Tetrachloroethane	2009/12/31		92	%	70 - 130
		cis-1,3-Dichloropropene	2009/12/31		106	%	70 - 130
		trans-1,3-Dichloropropene	2009/12/31		106	%	70 - 130
		1,2-Dichloropropane	2009/12/31		94	%	70 - 130
		Bromomethane	2009/12/31		97	%	70 - 130
		Bromoform	2009/12/31		116	%	70 - 130
		Bromodichloromethane	2009/12/31		108	%	70 - 130
		Dibromochloromethane	2009/12/31		109	%	70 - 130
		Heptane	2009/12/31		93	%	70 - 130
		Trichloroethylene	2009/12/31		102	%	70 - 130
		Tetrachloroethylene	2009/12/31		106	%	70 - 130
		Benzene	2009/12/31		95	%	70 - 130
		Toluene	2009/12/31		98	%	70 - 130
		Ethylbenzene	2009/12/31		97	%	70 - 130
		p+m-Xylene	2009/12/31		98	%	70 - 130
		o-Xylene	2009/12/31		99	%	70 - 130
		Styrene	2009/12/31		93	%	70 - 130
		1,3,5-Trimethylbenzene	2009/12/31		92	%	70 - 130
		1,2,4-Trimethylbenzene	2009/12/31		89	%	70 - 130
		4-ethyltoluene	2009/12/31		94	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9H3792

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048164 LSY	Spiked Blank	Chlorobenzene	2009/12/31		97	%	70 - 130
		Benzyl chloride	2009/12/31		109	%	70 - 130
		1,3-Dichlorobenzene	2009/12/31		94	%	70 - 130
		1,4-Dichlorobenzene	2009/12/31		92	%	70 - 130
		1,2-Dichlorobenzene	2009/12/31		89	%	70 - 130
		1,2,4-Trichlorobenzene	2009/12/31		129	%	70 - 130
		Hexachlorobutadiene	2009/12/31		131 (1)	%	70 - 130
		Hexane	2009/12/31		89	%	70 - 130
		Cyclohexane	2009/12/31		94	%	70 - 130
		Tetrahydrofuran	2009/12/31		88	%	70 - 130
		1,4-Dioxane	2009/12/31		83	%	70 - 130
	Method Blank	Bromochloromethane	2009/12/31		88	%	60 - 140
		D5-Chlorobenzene	2009/12/31		84	%	60 - 140
		Difluorobenzene	2009/12/31		91	%	60 - 140
		2,2,4-Trimethylpentane	2009/12/31	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2009/12/31	ND, RDL=0.50		ppbv	
		Propene	2009/12/31	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2009/12/31	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2009/12/31	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2009/12/31	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2009/12/31	ND, RDL=0.17		ppbv	
		Chloromethane	2009/12/31	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2009/12/31	ND, RDL=0.18		ppbv	
		Chloroethane	2009/12/31	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2009/12/31	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2009/12/31	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2009/12/31	ND, RDL=0.15		ppbv	
		Ethanol	2009/12/31	ND, RDL=2.3		ppbv	
		2-propanol	2009/12/31	ND, RDL=3.0		ppbv	
		2-Propanone	2009/12/31	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2009/12/31	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2009/12/31	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2009/12/31	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2009/12/31	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2009/12/31	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2009/12/31	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2009/12/31	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2009/12/31	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2009/12/31	0.36, RDL=0.30		ppbv	
		Chloroform	2009/12/31	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2009/12/31	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2009/12/31	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2009/12/31	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2009/12/31	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2009/12/31	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2009/12/31	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2009/12/31	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2009/12/31	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2009/12/31	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2009/12/31	ND, RDL=0.40		ppbv	
		Bromomethane	2009/12/31	ND, RDL=0.18		ppbv	
		Bromoform	2009/12/31	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2009/12/31	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2009/12/31	ND, RDL=0.20		ppbv	
		Heptane	2009/12/31	ND, RDL=0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9H3792

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048164 LSY	Method Blank	Trichloroethylene	2009/12/31	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2009/12/31	ND, RDL=0.20		ppbv	
		Benzene	2009/12/31	ND, RDL=0.18		ppbv	
		Toluene	2009/12/31	ND, RDL=0.20		ppbv	
		Ethylbenzene	2009/12/31	ND, RDL=0.20		ppbv	
		p+m-Xylene	2009/12/31	ND, RDL=0.37		ppbv	
		o-Xylene	2009/12/31	ND, RDL=0.20		ppbv	
		Styrene	2009/12/31	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2009/12/31	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2009/12/31	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2009/12/31	ND, RDL=2.2		ppbv	
		Chlorobenzene	2009/12/31	ND, RDL=0.20		ppbv	
		Benzyl chloride	2009/12/31	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2009/12/31	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2009/12/31	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2009/12/31	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2009/12/31	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2009/12/31	ND, RDL=3.0		ppbv	
		Hexane	2009/12/31	ND, RDL=0.30		ppbv	
		Cyclohexane	2009/12/31	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2009/12/31	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2009/12/31	ND, RDL=2.0		ppbv	
		Xylene (Total)	2009/12/31	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2009/12/31	NC		%	25
		Carbon Disulfide	2009/12/31	NC		%	25
		Propene	2009/12/31	NC		%	25
		Vinyl Acetate	2009/12/31	NC		%	25
		Vinyl Bromide	2009/12/31	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2009/12/31	NC		%	25
		1,2-Dichlorotetrafluoroethane	2009/12/31	NC		%	25
		Chloromethane	2009/12/31	NC		%	25
		Vinyl Chloride	2009/12/31	NC		%	25
		Chloroethane	2009/12/31	NC		%	25
		1,3-Butadiene	2009/12/31	NC		%	25
		Trichlorofluoromethane (FREON 11)	2009/12/31	NC		%	25
		Trichlorotrifluoroethane	2009/12/31	NC		%	25
		Ethanol	2009/12/31	NC		%	25
		2-propanol	2009/12/31	NC		%	25
		2-Propanone	2009/12/31	NC		%	25
		Methyl Ethyl Ketone (2-Butanone)	2009/12/31	NC		%	25
		Methyl Isobutyl Ketone	2009/12/31	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2009/12/31	NC		%	25
		Methyl t-butyl ether (MTBE)	2009/12/31	NC		%	25
		Ethyl Acetate	2009/12/31	NC		%	25
		1,1-Dichloroethylene	2009/12/31	NC		%	25
		cis-1,2-Dichloroethylene	2009/12/31	NC		%	25
		trans-1,2-Dichloroethylene	2009/12/31	NC		%	25
		Methylene Chloride(Dichloromethane)	2009/12/31	NC		%	25
		Chloroform	2009/12/31	NC		%	25
		Carbon Tetrachloride	2009/12/31	NC		%	25
		1,1-Dichloroethane	2009/12/31	NC		%	25
		1,2-Dichloroethane	2009/12/31	NC		%	25
		Ethylene Dibromide	2009/12/31	NC		%	25

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9H3792

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048164 LSY	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2009/12/31	NC		%	25
		1,1,2-Trichloroethane	2009/12/31	NC		%	25
		1,1,2,2-Tetrachloroethane	2009/12/31	NC		%	25
		cis-1,3-Dichloropropene	2009/12/31	NC		%	25
		trans-1,3-Dichloropropene	2009/12/31	NC		%	25
		1,2-Dichloropropane	2009/12/31	NC		%	25
		Bromomethane	2009/12/31	NC		%	25
		Bromoform	2009/12/31	NC		%	25
		Bromodichloromethane	2009/12/31	NC		%	25
		Dibromochloromethane	2009/12/31	NC		%	25
		Heptane	2009/12/31	NC		%	25
		Trichloroethylene	2009/12/31	NC		%	25
		Tetrachloroethylene	2009/12/31	NC		%	25
		Benzene	2009/12/31	NC		%	25
		Toluene	2009/12/31	NC		%	25
		Ethylbenzene	2009/12/31	NC		%	25
		p+m-Xylene	2009/12/31	NC		%	25
		o-Xylene	2009/12/31	NC		%	25
		Styrene	2009/12/31	NC		%	25
		1,3,5-Trimethylbenzene	2009/12/31	NC		%	25
		1,2,4-Trimethylbenzene	2009/12/31	NC		%	25
		4-ethyltoluene	2009/12/31	NC		%	25
		Chlorobenzene	2009/12/31	NC		%	25
		Benzyl chloride	2009/12/31	NC		%	25
		1,3-Dichlorobenzene	2009/12/31	NC		%	25
		1,4-Dichlorobenzene	2009/12/31	NC		%	25
		1,2-Dichlorobenzene	2009/12/31	NC		%	25
		1,2,4-Trichlorobenzene	2009/12/31	NC		%	25
		Hexachlorobutadiene	2009/12/31	NC		%	25
		Hexane	2009/12/31	NC		%	25
		Cyclohexane	2009/12/31	3.6		%	25
		Tetrahydrofuran	2009/12/31	NC		%	25
		1,4-Dioxane	2009/12/31	NC		%	25
		Xylene (Total)	2009/12/31	NC		%	25

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

Maxxam Analytics Inc.

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA Sampler s/n: 6200
 Location: 13-16-62-5 W4M Canister ID: 7826 (Maxxam Supplied)
 Station ID: Lica 33 (Portable) Canister Installation Date/Time: Dec 24, 09 @ 11:35 mst
 Field Sample ID: LICA VOC/PORT/ Dec 27, 09 Canister Removal Date/Time: Dec 29, 09 @ 07:50 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
27-Dec-09	12/27/2009 0:00	12/28/2009 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1460	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. #: 0580

Attention: Michael Bisaga

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

Report Date: 2010/01/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B000013

Received: 2010/01/04, 08:20

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2010/01/04	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) ¶	2	N/A	2010/01/04	BRL SOP-00304	EPA TO-15

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

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

MAXXAM ANALYTICS

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.

Total cover pages: 1

Maxxam Job #: B000013
 Report Date: 2010/01/19

RESULTS OF ANALYSES OF AIR

Maxxam ID		ET4911	ET4912		
Sampling Date		2009/12/27	2009/12/27		
COC Number		0580	0580		
	Units	LICA-VOC/CLS/DEC27,09	LICA-VOC/PORT/DEC27,09	DL	QC Batch

Volatile Organics					
Pressure on Receipt	psig	16	18	N/A	2048648

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4911				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/CLS/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch

Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2048653
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2048653
Propene	ppbv	<0.30	0.30	<0.516	0.516	2048653
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2048653
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2048653
Dichlorodifluoromethane (FREON 12)	ppbv	0.78	0.20	3.88	0.989	2048653
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2048653
Chloromethane	ppbv	0.56	0.30	1.16	0.620	2048653
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2048653
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2048653
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2048653
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.07	1.12	2048653
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2048653
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2048653
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2048653
2-Propanone	ppbv	<0.80	0.80	<1.90	1.90	2048653
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2048653
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2048653
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2048653
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2048653
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2048653
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2048653
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2048653
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2048653
Methylene Chloride(Dichloromethane)	ppbv	0.47	0.30	1.62	1.04	2048653
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2048653
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2048653
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048653
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048653
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2048653
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2048653
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2048653

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4911				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/CLS/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2048653
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2048653
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2048653
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2048653
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2048653
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2048653
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2048653
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2048653
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2048653
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2048653
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2048653
Benzene	ppbv	0.24	0.18	0.781	0.575	2048653
Toluene	ppbv	0.26	0.20	0.985	0.753	2048653
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2048653
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2048653
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2048653
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2048653
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048653
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048653
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2048653
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2048653
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2048653
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2048653
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2048653
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2048653
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2048653
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2048653
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2048653
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2048653
Surrogate Recovery (%)						
Bromochloromethane	%	94		N/A	N/A	2048653
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4911				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/CLS/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch

D5-Chlorobenzene	%	92		N/A	N/A	2048653
Difluorobenzene	%	97		N/A	N/A	2048653

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

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4912				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/PORT/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2048653
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2048653
Propene	ppbv	<0.30	0.30	<0.516	0.516	2048653
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2048653
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2048653
Dichlorodifluoromethane (FREON 12)	ppbv	0.79	0.20	3.88	0.989	2048653
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2048653
Chloromethane	ppbv	0.56	0.30	1.15	0.620	2048653
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2048653
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2048653
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2048653
Trichlorofluoromethane (FREON 11)	ppbv	0.37	0.20	2.07	1.12	2048653
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2048653
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2048653
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2048653
2-Propanone	ppbv	<0.80	0.80	<1.90	1.90	2048653
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2048653
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2048653
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2048653
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2048653
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2048653
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2048653
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2048653
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2048653
Methylene Chloride(Dichloromethane)	ppbv	0.43	0.30	1.49	1.04	2048653
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2048653
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2048653
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048653
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2048653
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2048653
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2048653
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2048653
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4912				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/PORT/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2048653
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2048653
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2048653
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2048653
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2048653
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2048653
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2048653
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2048653
Heptane	ppbv	0.37	0.30	1.53	1.23	2048653
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2048653
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2048653
Benzene	ppbv	0.33	0.18	1.06	0.575	2048653
Toluene	ppbv	0.36	0.20	1.36	0.753	2048653
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2048653
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2048653
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2048653
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2048653
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048653
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2048653
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2048653
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2048653
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2048653
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2048653
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2048653
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2048653
Hexane	ppbv	0.60	0.30	2.13	1.06	2048653
Cyclohexane	ppbv	0.93	0.20	3.21	0.688	2048653
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2048653
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2048653
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2048653
Surrogate Recovery (%)						
Bromochloromethane	%	96		N/A	N/A	2048653
N/A = Not Applicable QC Batch = Quality Control Batch						

Maxxam Job #: B000013
 Report Date: 2010/01/19

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		ET4912				
Sampling Date		2009/12/27				
COC Number		0580				
	Units	LICA-VOC/PORT/DEC27,09	DL	ug/m3	DL (ug/m3)	QC Batch

D5-Chlorobenzene	%	96		N/A	N/A	2048653
Difluorobenzene	%	100		N/A	N/A	2048653

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

Maxxam Job #: B000013
 Report Date: 2010/01/19

Test Summary

Maxxam ID	ET4911	Collected	2009/12/27
Sample ID	LICA-VOC/CLS/DEC27,09	Shipped	
Matrix	AIR	Received	2010/01/04

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2048648	N/A	2010/01/04	LSY
Volatile Organics in Air (TO-15)	GC/MS	2048653	N/A	2010/01/04	LSY

Maxxam ID	ET4912	Collected	2009/12/27
Sample ID	LICA-VOC/PORT/DEC27,09	Shipped	
Matrix	AIR	Received	2010/01/04

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2048648	N/A	2010/01/04	LSY
Volatile Organics in Air (TO-15)	GC/MS	2048653	N/A	2010/01/04	LSY

Maxxam Job #: B000013
Report Date: 2010/01/19

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GB000013

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048653 LSY	Spiked Blank	Bromochloromethane	2010/01/04		107	%	60 - 140
		D5-Chlorobenzene	2010/01/04		107	%	60 - 140
		Difluorobenzene	2010/01/04		110	%	60 - 140
		2,2,4-Trimethylpentane	2010/01/04		96	%	70 - 130
		Carbon Disulfide	2010/01/04		99	%	70 - 130
		Propene	2010/01/04		92	%	70 - 130
		Vinyl Acetate	2010/01/04		113	%	70 - 130
		Vinyl Bromide	2010/01/04		103	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2010/01/04		108	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2010/01/04		92	%	70 - 130
		Chloromethane	2010/01/04		96	%	70 - 130
		Vinyl Chloride	2010/01/04		100	%	70 - 130
		Chloroethane	2010/01/04		99	%	70 - 130
		1,3-Butadiene	2010/01/04		88	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2010/01/04		111	%	70 - 130
		Trichlorotrifluoroethane	2010/01/04		105	%	70 - 130
		Ethanol	2010/01/04		77	%	70 - 130
		2-propanol	2010/01/04		86	%	70 - 130
		2-Propanone	2010/01/04		105	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2010/01/04		100	%	70 - 130
		Methyl Isobutyl Ketone	2010/01/04		93	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2010/01/04		89	%	70 - 130
		Methyl t-butyl ether (MTBE)	2010/01/04		112	%	70 - 130
		Ethyl Acetate	2010/01/04		93	%	70 - 130
		1,1-Dichloroethylene	2010/01/04		102	%	70 - 130
		cis-1,2-Dichloroethylene	2010/01/04		99	%	70 - 130
		trans-1,2-Dichloroethylene	2010/01/04		102	%	70 - 130
		Methylene Chloride(Dichloromethane)	2010/01/04		88	%	70 - 130
		Chloroform	2010/01/04		104	%	70 - 130
		Carbon Tetrachloride	2010/01/04		121	%	70 - 130
		1,1-Dichloroethane	2010/01/04		99	%	70 - 130
		1,2-Dichloroethane	2010/01/04		106	%	70 - 130
		Ethylene Dibromide	2010/01/04		100	%	70 - 130
		1,1,1-Trichloroethane	2010/01/04		114	%	70 - 130
		1,1,2-Trichloroethane	2010/01/04		102	%	70 - 130
		1,1,2,2-Tetrachloroethane	2010/01/04		93	%	70 - 130
		cis-1,3-Dichloropropene	2010/01/04		109	%	70 - 130
		trans-1,3-Dichloropropene	2010/01/04		110	%	70 - 130
		1,2-Dichloropropane	2010/01/04		95	%	70 - 130
		Bromomethane	2010/01/04		101	%	70 - 130
		Bromoform	2010/01/04		119	%	70 - 130
		Bromodichloromethane	2010/01/04		113	%	70 - 130
		Dibromochloromethane	2010/01/04		113	%	70 - 130
		Heptane	2010/01/04		97	%	70 - 130
		Trichloroethylene	2010/01/04		105	%	70 - 130
		Tetrachloroethylene	2010/01/04		109	%	70 - 130
		Benzene	2010/01/04		97	%	70 - 130
		Toluene	2010/01/04		101	%	70 - 130
		Ethylbenzene	2010/01/04		98	%	70 - 130
		p+m-Xylene	2010/01/04		100	%	70 - 130
		o-Xylene	2010/01/04		101	%	70 - 130
		Styrene	2010/01/04		87	%	70 - 130
		1,3,5-Trimethylbenzene	2010/01/04		93	%	70 - 130
		1,2,4-Trimethylbenzene	2010/01/04		89	%	70 - 130
		4-ethyltoluene	2010/01/04		95	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB000013

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048653 LSY	Spiked Blank	Chlorobenzene	2010/01/04		99	%	70 - 130
		Benzyl chloride	2010/01/04		110	%	70 - 130
		1,3-Dichlorobenzene	2010/01/04		95	%	70 - 130
		1,4-Dichlorobenzene	2010/01/04		93	%	70 - 130
		1,2-Dichlorobenzene	2010/01/04		91	%	70 - 130
		1,2,4-Trichlorobenzene	2010/01/04		131 (1)	%	70 - 130
		Hexachlorobutadiene	2010/01/04		136 (1)	%	70 - 130
		Hexane	2010/01/04		93	%	70 - 130
		Cyclohexane	2010/01/04		97	%	70 - 130
		Tetrahydrofuran	2010/01/04		91	%	70 - 130
		1,4-Dioxane	2010/01/04		85	%	70 - 130
	Method Blank	Bromochloromethane	2010/01/04		96	%	60 - 140
		D5-Chlorobenzene	2010/01/04		92	%	60 - 140
		Difluorobenzene	2010/01/04		100	%	60 - 140
		2,2,4-Trimethylpentane	2010/01/04	ND, RDL=0.20		ppbv	
		Carbon Disulfide	2010/01/04	ND, RDL=0.50		ppbv	
		Propene	2010/01/04	ND, RDL=0.30		ppbv	
		Vinyl Acetate	2010/01/04	ND, RDL=0.20		ppbv	
		Vinyl Bromide	2010/01/04	ND, RDL=0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2010/01/04	ND, RDL=0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2010/01/04	ND, RDL=0.17		ppbv	
		Chloromethane	2010/01/04	ND, RDL=0.30		ppbv	
		Vinyl Chloride	2010/01/04	ND, RDL=0.18		ppbv	
		Chloroethane	2010/01/04	ND, RDL=0.30		ppbv	
		1,3-Butadiene	2010/01/04	ND, RDL=0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2010/01/04	ND, RDL=0.20		ppbv	
		Trichlorotrifluoroethane	2010/01/04	ND, RDL=0.15		ppbv	
		Ethanol	2010/01/04	ND, RDL=2.3		ppbv	
		2-propanol	2010/01/04	ND, RDL=3.0		ppbv	
		2-Propanone	2010/01/04	ND, RDL=0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2010/01/04	ND, RDL=3.0		ppbv	
		Methyl Isobutyl Ketone	2010/01/04	ND, RDL=3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2010/01/04	ND, RDL=2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2010/01/04	ND, RDL=0.20		ppbv	
		Ethyl Acetate	2010/01/04	ND, RDL=2.2		ppbv	
		1,1-Dichloroethylene	2010/01/04	ND, RDL=0.25		ppbv	
		cis-1,2-Dichloroethylene	2010/01/04	ND, RDL=0.19		ppbv	
		trans-1,2-Dichloroethylene	2010/01/04	ND, RDL=0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2010/01/04	0.38, RDL=0.30		ppbv	
		Chloroform	2010/01/04	ND, RDL=0.15		ppbv	
		Carbon Tetrachloride	2010/01/04	ND, RDL=0.30		ppbv	
		1,1-Dichloroethane	2010/01/04	ND, RDL=0.20		ppbv	
		1,2-Dichloroethane	2010/01/04	ND, RDL=0.20		ppbv	
		Ethylene Dibromide	2010/01/04	ND, RDL=0.17		ppbv	
		1,1,1-Trichloroethane	2010/01/04	ND, RDL=0.30		ppbv	
		1,1,2-Trichloroethane	2010/01/04	ND, RDL=0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2010/01/04	ND, RDL=0.20		ppbv	
		cis-1,3-Dichloropropene	2010/01/04	ND, RDL=0.18		ppbv	
		trans-1,3-Dichloropropene	2010/01/04	ND, RDL=0.17		ppbv	
		1,2-Dichloropropane	2010/01/04	ND, RDL=0.40		ppbv	
		Bromomethane	2010/01/04	ND, RDL=0.18		ppbv	
		Bromoform	2010/01/04	ND, RDL=0.20		ppbv	
		Bromodichloromethane	2010/01/04	ND, RDL=0.20		ppbv	
		Dibromochloromethane	2010/01/04	ND, RDL=0.20		ppbv	
		Heptane	2010/01/04	ND, RDL=0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB000013

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048653 LSY	Method Blank	Trichloroethylene	2010/01/04	ND, RDL=0.30		ppbv	
		Tetrachloroethylene	2010/01/04	ND, RDL=0.20		ppbv	
		Benzene	2010/01/04	ND, RDL=0.18		ppbv	
		Toluene	2010/01/04	ND, RDL=0.20		ppbv	
		Ethylbenzene	2010/01/04	ND, RDL=0.20		ppbv	
		p+m-Xylene	2010/01/04	ND, RDL=0.37		ppbv	
		o-Xylene	2010/01/04	ND, RDL=0.20		ppbv	
		Styrene	2010/01/04	ND, RDL=0.20		ppbv	
		1,3,5-Trimethylbenzene	2010/01/04	ND, RDL=0.50		ppbv	
		1,2,4-Trimethylbenzene	2010/01/04	ND, RDL=0.50		ppbv	
		4-ethyltoluene	2010/01/04	ND, RDL=2.2		ppbv	
		Chlorobenzene	2010/01/04	ND, RDL=0.20		ppbv	
		Benzyl chloride	2010/01/04	ND, RDL=1.0		ppbv	
		1,3-Dichlorobenzene	2010/01/04	ND, RDL=0.40		ppbv	
		1,4-Dichlorobenzene	2010/01/04	ND, RDL=0.40		ppbv	
		1,2-Dichlorobenzene	2010/01/04	ND, RDL=0.40		ppbv	
		1,2,4-Trichlorobenzene	2010/01/04	ND, RDL=2.0		ppbv	
		Hexachlorobutadiene	2010/01/04	ND, RDL=3.0		ppbv	
		Hexane	2010/01/04	ND, RDL=0.30		ppbv	
		Cyclohexane	2010/01/04	ND, RDL=0.20		ppbv	
		Tetrahydrofuran	2010/01/04	ND, RDL=0.40		ppbv	
		1,4-Dioxane	2010/01/04	ND, RDL=2.0		ppbv	
		Xylene (Total)	2010/01/04	ND, RDL=0.60		ppbv	
	RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2010/01/04	NC		%	25
		Carbon Disulfide	2010/01/04	0.2		%	25
		Propene	2010/01/04	NC		%	25
		Vinyl Acetate	2010/01/04	NC		%	25
		Vinyl Bromide	2010/01/04	NC		%	25
		Dichlorodifluoromethane (FREON 12)	2010/01/04	NC		%	25
		1,2-Dichlorotetrafluoroethane	2010/01/04	NC		%	25
		Chloromethane	2010/01/04	NC		%	25
		Vinyl Chloride	2010/01/04	NC		%	25
		Chloroethane	2010/01/04	NC		%	25
		1,3-Butadiene	2010/01/04	NC		%	25
		Trichlorofluoromethane (FREON 11)	2010/01/04	NC		%	25
		Trichlorotrifluoroethane	2010/01/04	NC		%	25
		Ethanol	2010/01/04	NC		%	25
		2-propanol	2010/01/04	NC		%	25
		2-Propanone	2010/01/04	1.8		%	25
		Methyl Ethyl Ketone (2-Butanone)	2010/01/04	NC		%	25
		Methyl Isobutyl Ketone	2010/01/04	NC		%	25
		Methyl Butyl Ketone (2-Hexanone)	2010/01/04	NC		%	25
		Methyl t-butyl ether (MTBE)	2010/01/04	NC		%	25
		Ethyl Acetate	2010/01/04	NC		%	25
		1,1-Dichloroethylene	2010/01/04	NC		%	25
		cis-1,2-Dichloroethylene	2010/01/04	NC		%	25
		trans-1,2-Dichloroethylene	2010/01/04	NC		%	25
		Methylene Chloride(Dichloromethane)	2010/01/04	NC		%	25
		Chloroform	2010/01/04	NC		%	25
		Carbon Tetrachloride	2010/01/04	NC		%	25
		1,1-Dichloroethane	2010/01/04	NC		%	25
		1,2-Dichloroethane	2010/01/04	NC		%	25
		Ethylene Dibromide	2010/01/04	NC		%	25

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

Quality Assurance Report (Continued)
 Maxxam Job Number: GB000013

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2048653 LSY	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2010/01/04	NC		%	25
		1,1,2-Trichloroethane	2010/01/04	NC		%	25
		1,1,2,2-Tetrachloroethane	2010/01/04	NC		%	25
		cis-1,3-Dichloropropene	2010/01/04	NC		%	25
		trans-1,3-Dichloropropene	2010/01/04	NC		%	25
		1,2-Dichloropropane	2010/01/04	NC		%	25
		Bromomethane	2010/01/04	NC		%	25
		Bromoform	2010/01/04	NC		%	25
		Bromodichloromethane	2010/01/04	NC		%	25
		Dibromochloromethane	2010/01/04	NC		%	25
		Heptane	2010/01/04	NC		%	25
		Trichloroethylene	2010/01/04	NC		%	25
		Tetrachloroethylene	2010/01/04	NC		%	25
		Benzene	2010/01/04	NC		%	25
		Toluene	2010/01/04	NC		%	25
		Ethylbenzene	2010/01/04	NC		%	25
		p+m-Xylene	2010/01/04	NC		%	25
		o-Xylene	2010/01/04	NC		%	25
		Styrene	2010/01/04	NC		%	25
		1,3,5-Trimethylbenzene	2010/01/04	NC		%	25
		1,2,4-Trimethylbenzene	2010/01/04	NC		%	25
		4-ethyltoluene	2010/01/04	NC		%	25
		Chlorobenzene	2010/01/04	NC		%	25
		Benzyl chloride	2010/01/04	NC		%	25
		1,3-Dichlorobenzene	2010/01/04	NC		%	25
		1,4-Dichlorobenzene	2010/01/04	NC		%	25
		1,2-Dichlorobenzene	2010/01/04	NC		%	25
		1,2,4-Trichlorobenzene	2010/01/04	NC		%	25
		Hexachlorobutadiene	2010/01/04	NC		%	25
		Hexane	2010/01/04	NC		%	25
		Cyclohexane	2010/01/04	NC		%	25
		Tetrahydrofuran	2010/01/04	1.5		%	25
		1,4-Dioxane	2010/01/04	NC		%	25
		Xylene (Total)	2010/01/04	NC		%	25

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

Polycyclic Aromatic Hydrocarbons Laboratory Analysis

Maxxam Analytics Inc.

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica Puf+ s/n: 100-1015
 Location: 13-16-62-5 W4M Motor s/n: 1139
 Station ID: Lica 33 (Portable) Installation Date/Time: Dec 2, 09 @ 19:10 mst
 Field Sample ID: LICA PUF/PORT/Dec 3, 09 Removal Date/Time: Dec 4, 09 @ 11:30 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
03-Dec-09	12/03/2009 0:00	12/04/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
02-Dec-09	04-Dec-09	14-Dec-09	30-Nov-09

Set Flow Rate (slpm): 230

Date of Last Calibration: 02-Oct-09

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
721	229	-10.7	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:

GA9F7794 PUFF#2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Dec 3, 09

Technician Signature: _____



Your Project #: COLD LAKE SOUTH
 Site: 13-16-62-W4M
 Your C.O.C. #: 1044

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

Report Date: 2009/12/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G5790
Received: 2009/12/08, 08:49

Sample Matrix: Filter
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/12/09	2009/12/11	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 #: A9G5790
 Report Date: 2009/12/14

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-W4M

SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)

Maxxam ID		EO8487	EO8488		
Sampling Date		2009/12/03	2009/12/03		
		00:00	00:00		
COC Number		1044	1044		
	Units	LICAPUF/QFF/CLS/DEC3,09	LICAPUF/QFF/PORT/DEC3,09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	0.47	1.02	0.10	2031550
1-Methylphenanthrene	ug	<0.10	0.19	0.10	2031550
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2031550
2-Methylantracene	ug	<0.10	<0.10	0.10	2031550
2-Methylnaphthalene	ug	0.88	1.68	0.10	2031550
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2031550
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2031550
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2031550
Acenaphthene	ug	0.069	0.398	0.050	2031550
Acenaphthylene	ug	0.080	0.640	0.050	2031550
Anthracene	ug	<0.050	0.112	0.050	2031550
Benzo(a)anthracene	ug	<0.050	0.072	0.050	2031550
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2031550
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2031550
Benzo(b)fluoranthene	ug	<0.050	0.077	0.050	2031550
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2031550
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2031550
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2031550
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2031550
Biphenyl	ug	0.61	1.96	0.10	2031550
Chrysene	ug	<0.050	0.101	0.050	2031550
Coronene	ug	<0.10	<0.10	0.10	2031550
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2031550
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2031550
Fluoranthene	ug	0.098	0.566	0.050	2031550
Fluorene	ug	0.236	1.10	0.050	2031550
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2031550
m-Terphenyl	ug	<0.10	<0.10	0.10	2031550
Naphthalene	ug	0.763	1.09	0.072	2031550
o-Terphenyl	ug	<0.10	<0.10	0.10	2031550
Perylene	ug	<0.10	<0.10	0.10	2031550
Phenanthrene	ug	0.442	1.97	0.050	2031550

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G5790
 Report Date: 2009/12/14

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-W4M

SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)

Maxxam ID		EO8487	EO8488		
Sampling Date		2009/12/03	2009/12/03		
		00:00	00:00		
COC Number		1044	1044		
	Units	LICAPUF/QFF/CLS/DEC3,09	LICAPUF/QFF/PORT/DEC3,09	DL	QC Batch

p-Terphenyl	ug	<0.10	<0.10	0.10	2031550
Pyrene	ug	0.068	0.335	0.050	2031550
Quinoline	ug	<0.40	<0.40	0.40	2031550
Tetralin	ug	<0.10	0.17	0.10	2031550
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	73	81		2031550
D10-Fluoranthene	%	96	107		2031550
D10-Fluorene (FS)	%	63	69		2031550
D10-Phenanthrene	%	85	102		2031550
D12-Benzo(a)anthracene	%	93	98		2031550
D12-Benzo(a)pyrene	%	100	99		2031550
D12-Benzo(b)fluoranthene	%	93	93		2031550
D12-Benzo(ghi)perylene	%	98	96		2031550
D12-Benzo(k)fluoranthene	%	100	98		2031550
D12-Chrysene	%	94	98		2031550
D12-Indeno(1,2,3-cd)pyrene	%	97	95		2031550
D12-Perylene	%	103	102		2031550
D14-Dibenzo(a,h)anthracene	%	96	92		2031550
D14-Terphenyl (FS)	%	86	92		2031550
D8-Acenaphthylene	%	81	111		2031550
D8-Naphthalene	%	72	79		2031550

QC Batch = Quality Control Batch

Maxxam Job #: A9G5790
 Report Date: 2009/12/14

Lakeland Industry & Community Assoc.
 Client Project #: COLD LAKE SOUTH
 Project name: 13-16-62-W4M

Test Summary

Maxxam ID EO8487 **Collected** 2009/12/03
Sample ID LICAPUF/QFF/CLS/DEC3,09 **Shipped**
Matrix Filter **Received** 2009/12/08

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2031550	2009/12/09	2009/12/11	WZ

Maxxam ID EO8488 **Collected** 2009/12/03
Sample ID LICAPUF/QFF/PORT/DEC3,09 **Shipped**
Matrix Filter **Received** 2009/12/08

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2031550	2009/12/09	2009/12/11	WZ

Maxxam Job #: A9G5790
Report Date: 2009/12/14Lakeland Industry & Community Assoc.
Client Project #: COLD LAKE SOUTH
Project name: 13-16-62-W4M**GENERAL COMMENTS**

PAHMS-F

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

Sample EO8487-01: 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 EO8488-01: 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 0.10ug, 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 #: COLD LAKE SOUTH
 P.O. #:
 Project name: 13-16-62-W4M

Quality Assurance Report
 Maxxam Job Number: GA9G5790

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2031550 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/12/11		81	%	50 - 150
		D10-Fluoranthene	2009/12/11		104	%	50 - 150
		D10-Phenanthrene	2009/12/11		90	%	50 - 150
		D12-Benzo(a)anthracene	2009/12/11		94	%	50 - 150
		D12-Benzo(a)pyrene	2009/12/11		102	%	50 - 150
		D12-Benzo(b)fluoranthene	2009/12/11		96	%	50 - 150
		D12-Benzo(ghi)perylene	2009/12/11		103	%	50 - 150
		D12-Benzo(k)fluoranthene	2009/12/11		100	%	50 - 150
		D12-Chrysene	2009/12/11		100	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2009/12/11		102	%	50 - 150
		D12-Perylene	2009/12/11		103	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/11		100	%	50 - 150
		RPD	D8-Acenaphthylene	2009/12/11		91	%
	D8-Naphthalene		2009/12/11		80	%	50 - 150
	Spiked Blank	Acenaphthene	2009/12/11		80	%	60 - 130
		Acenaphthene	2009/12/11	1.5		%	50
	RPD	Acenaphthylene	2009/12/11		87	%	60 - 130
		Acenaphthylene	2009/12/11	1.8		%	50
	Spiked Blank	Anthracene	2009/12/11		77	%	60 - 130
		Anthracene	2009/12/11	5.4		%	50
	Spiked Blank	Benzo(a)anthracene	2009/12/11		81	%	60 - 130
		Benzo(a)anthracene	2009/12/11	0.7		%	50
	Spiked Blank	Benzo(a)pyrene	2009/12/11		87	%	60 - 130
		Benzo(a)pyrene	2009/12/11	0.6		%	50
	Spiked Blank	Benzo(b)fluoranthene	2009/12/11		80	%	60 - 130
		Benzo(b)fluoranthene	2009/12/11	2.6		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2009/12/11		90	%	60 - 130
		Benzo(g,h,i)perylene	2009/12/11	1.9		%	50
	Spiked Blank	Benzo(k)fluoranthene	2009/12/11		99	%	60 - 130
		Benzo(k)fluoranthene	2009/12/11	1.3		%	50
	Spiked Blank	Chrysene	2009/12/11		92	%	60 - 130
		Chrysene	2009/12/11	0.4		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2009/12/11		86	%	60 - 130
		Dibenz(a,h)anthracene	2009/12/11	1.8		%	50
	Spiked Blank	Fluoranthene	2009/12/11		91	%	60 - 130
		Fluoranthene	2009/12/11	4.1		%	50
	Spiked Blank	Fluorene	2009/12/11		82	%	60 - 130
		Fluorene	2009/12/11	0.1		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/12/11		89	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2009/12/11	1.4		%	50
Spiked Blank	Naphthalene	2009/12/11		78	%	60 - 130	
	Naphthalene	2009/12/11	3.9		%	50	
Spiked Blank	Phenanthrene	2009/12/11		80	%	60 - 130	
	Phenanthrene	2009/12/11	1.2		%	50	
Spiked Blank	Pyrene	2009/12/11		86	%	60 - 130	
	Pyrene	2009/12/11	2.2		%	50	
Method Blank	D10-2-Methylnaphthalene	2009/12/11		72	%	50 - 150	
	D10-Fluoranthene	2009/12/11		86	%	50 - 150	
	D10-Phenanthrene	2009/12/11		81	%	50 - 150	
	D12-Benzo(a)anthracene	2009/12/11		78	%	50 - 150	
	D12-Benzo(a)pyrene	2009/12/11		92	%	50 - 150	
	D12-Benzo(b)fluoranthene	2009/12/11		85	%	50 - 150	
	D12-Benzo(ghi)perylene	2009/12/11		94	%	50 - 150	
	D12-Benzo(k)fluoranthene	2009/12/11		101	%	50 - 150	
	D12-Chrysene	2009/12/11		97	%	50 - 150	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G5790

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2031550 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/12/11		90	%	50 - 150
		D12-Perylene	2009/12/11		98	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/11		87	%	50 - 150
		D8-Acenaphthylene	2009/12/11		77	%	50 - 150
		D8-Naphthalene	2009/12/11		70	%	50 - 150
		1-Methylnaphthalene	2009/12/11	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/12/11	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/12/11	ND, RDL=0.10		ug	
		2-Methylanthracene	2009/12/11	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/12/11	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/12/11	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/12/11	ND, RDL=0.10		ug	
		9,10-Dimethylanthracene	2009/12/11	ND, RDL=0.40		ug	
		Acenaphthene	2009/12/11	ND, RDL=0.050		ug	
		Acenaphthylene	2009/12/11	ND, RDL=0.050		ug	
		Anthracene	2009/12/11	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/12/11	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/12/11	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/12/11	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/12/11	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/12/11	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/12/11	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/12/11	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/12/11	ND, RDL=0.050		ug	
		Biphenyl	2009/12/11	ND, RDL=0.10		ug	
		Chrysene	2009/12/11	ND, RDL=0.050		ug	
		Coronene	2009/12/11	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/12/11	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/12/11	ND, RDL=0.20		ug	
		Fluoranthene	2009/12/11	ND, RDL=0.050		ug	
		Fluorene	2009/12/11	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/12/11	ND, RDL=0.050		ug	
		m-Terphenyl	2009/12/11	ND, RDL=0.10		ug	
		Naphthalene	2009/12/11	ND, RDL=0.072		ug	
		o-Terphenyl	2009/12/11	ND, RDL=0.10		ug	
		Perylene	2009/12/11	ND, RDL=0.10		ug	
		Phenanthrene	2009/12/11	ND, RDL=0.050		ug	
		p-Terphenyl	2009/12/11	ND, RDL=0.10		ug	
		Pyrene	2009/12/11	ND, RDL=0.050		ug	
		Quinoline	2009/12/11	ND, RDL=0.40		ug	
		Tetralin	2009/12/11	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 Puf+ s/n: 100-1015
 Location: 13-16-62-5 W4M Motor s/n: 1139
 Station ID: Lica 33 (Portable) Installation Date/Time: Dec 8, 09 @ mst
 Field Sample ID: LICA PUF/PORT/Dec 9, 09 Removal Date/Time: Dec 10, 09 @ 8:25 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
09-Dec-09	12/09/2009 0:00	12/10/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
07-Dec-09	10-Dec-09	17-Dec-09	???

Set Flow Rate (slpm): 230

Date of Last Calibration: 02-Oct-09

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
716	229	-22.8	330.31

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

Comments:

GA9G2004 PUFF#2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Dec 9, 09

Technician Signature: _____



Your Project #: 13-16-62-5 W4M
 Site: COLD LAKE SOUTH
 Your C.O.C. #: 1051

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

Report Date: 2009/12/24

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G8321
Received: 2009/12/12, 15:01

Sample Matrix: PUF AND FILTER
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/12/15	2009/12/21	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

Maxxam Job #: A9G8321
 Report Date: 2009/12/24

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

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

Maxxam ID		EQ3255	EQ3256		
Sampling Date		2009/12/09 00:00	2009/12/09 00:00		
COC Number		1051	1051		
	Units	LICA/CLS/DEC9,09	LICA/PORT/DEC9,09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	2.28	0.82	0.10	2041804
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2041804
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2041804
2-Methylantracene	ug	<0.10	<0.10	0.10	2041804
2-Methylnaphthalene	ug	3.61	1.30	0.10	2041804
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2041804
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2041804
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2041804
Acenaphthene	ug	0.177	0.079	0.050	2041804
Acenaphthylene	ug	0.405	0.089	0.050	2041804
Anthracene	ug	<0.050	<0.050	0.050	2041804
Benzo(a)anthracene	ug	0.081	<0.050	0.050	2041804
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2041804
Benzo(a)pyrene	ug	0.058	<0.050	0.050	2041804
Benzo(b)fluoranthene	ug	0.114	0.071	0.050	2041804
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2041804
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2041804
Benzo(g,h,i)perylene	ug	0.077	<0.050	0.050	2041804
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2041804
Biphenyl	ug	1.30	0.86	0.10	2041804
Chrysene	ug	0.137	0.110	0.050	2041804
Coronene	ug	<0.10	<0.10	0.10	2041804
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2041804
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2041804
Fluoranthene	ug	0.357	0.196	0.050	2041804
Fluorene	ug	0.411	0.254	0.050	2041804
Indeno(1,2,3-cd)pyrene	ug	0.058	<0.050	0.050	2041804
m-Terphenyl	ug	<0.10	<0.10	0.10	2041804
Naphthalene	ug	3.94	1.73	0.072	2041804
o-Terphenyl	ug	<0.10	<0.10	0.10	2041804
Perylene	ug	<0.10	<0.10	0.10	2041804
Phenanthrene	ug	0.868	0.576	0.050	2041804

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9G8321
 Report Date: 2009/12/24

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

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

Maxxam ID		EQ3255	EQ3256		
Sampling Date		2009/12/09 00:00	2009/12/09 00:00		
COC Number		1051	1051		
	Units	LICA/CLS/DEC9,09	LICA/PORT/DEC9,09	DL	QC Batch

p-Terphenyl	ug	<0.10	<0.10	0.10	2041804
Pyrene	ug	0.272	0.137	0.050	2041804
Quinoline	ug	<0.40	<0.40	0.40	2041804
Tetralin	ug	0.14	<0.10	0.10	2041804
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	78	73		2041804
D10-Fluoranthene	%	99	100		2041804
D10-Fluorene (FS)	%	76	71		2041804
D10-Phenanthrene	%	93	94		2041804
D12-Benzo(a)anthracene	%	112	109		2041804
D12-Benzo(a)pyrene	%	99	98		2041804
D12-Benzo(b)fluoranthene	%	107	106		2041804
D12-Benzo(ghi)perylene	%	99	99		2041804
D12-Benzo(k)fluoranthene	%	87	90		2041804
D12-Chrysene	%	96	95		2041804
D12-Indeno(1,2,3-cd)pyrene	%	100	99		2041804
D12-Perylene	%	99	99		2041804
D14-Dibenzo(a,h)anthracene	%	100	100		2041804
D14-Terphenyl (FS)	%	93	92		2041804
D8-Acenaphthylene	%	89	84		2041804
D8-Naphthalene	%	75	71		2041804

QC Batch = Quality Control Batch

Maxxam Job #: A9G8321
 Report Date: 2009/12/24

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID EQ3255 **Collected** 2009/12/09
Sample ID LICA/CLS/DEC9,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/12/12

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2041804	2009/12/15	2009/12/21	WZ

Maxxam ID EQ3256 **Collected** 2009/12/09
Sample ID LICA/PORT/DEC9,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/12/12

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2041804	2009/12/15	2009/12/21	WZ

Maxxam Job #: A9G8321
Report Date: 2009/12/24

Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5 W4M
Project name: COLD LAKE SOUTH

GENERAL COMMENTS

PAHMS-F

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

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

Sample EQ3255-01: 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 0.14ug, 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 EQ3256-01: 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 0.11ug, 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 #: 13-16-62-5 W4M
 P.O. #:
 Project name: COLD LAKE SOUTH

Quality Assurance Report
 Maxxam Job Number: GA9G8321

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2041804 WZ	Spiked Blank	D10-2-Methylnaphthalene	2009/12/21		85	%	50 - 150
		D10-Fluoranthene	2009/12/21		107	%	50 - 150
		D10-Phenanthrene	2009/12/21		99	%	50 - 150
		D12-Benzo(a)anthracene	2009/12/21		109	%	50 - 150
		D12-Benzo(a)pyrene	2009/12/21		105	%	50 - 150
		D12-Benzo(b)fluoranthene	2009/12/21		112	%	50 - 150
		D12-Benzo(ghi)perylene	2009/12/21		109	%	50 - 150
		D12-Benzo(k)fluoranthene	2009/12/21		91	%	50 - 150
		D12-Chrysene	2009/12/21		98	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2009/12/21		112	%	50 - 150
		D12-Perylene	2009/12/21		104	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/21		114	%	50 - 150
		RPD	D8-Acenaphthylene	2009/12/21		89	%
	D8-Naphthalene		2009/12/21		84	%	50 - 150
	RPD	Acenaphthene	2009/12/21		79	%	60 - 130
		Acenaphthene	2009/12/21	6.8		%	50
	Spiked Blank	Acenaphthylene	2009/12/21		85	%	60 - 130
		Acenaphthylene	2009/12/21	10.5		%	50
	Spiked Blank	Anthracene	2009/12/21		83	%	60 - 130
		Anthracene	2009/12/21	5.4		%	50
	Spiked Blank	Benzo(a)anthracene	2009/12/21		93	%	60 - 130
		Benzo(a)anthracene	2009/12/21	4.6		%	50
	Spiked Blank	Benzo(a)pyrene	2009/12/21		90	%	60 - 130
		Benzo(a)pyrene	2009/12/21	6.0		%	50
	Spiked Blank	Benzo(b)fluoranthene	2009/12/21		94	%	60 - 130
		Benzo(b)fluoranthene	2009/12/21	4.8		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2009/12/21		95	%	60 - 130
		Benzo(g,h,i)perylene	2009/12/21	8.7		%	50
	Spiked Blank	Benzo(k)fluoranthene	2009/12/21		88	%	60 - 130
		Benzo(k)fluoranthene	2009/12/21	4.0		%	50
	Spiked Blank	Chrysene	2009/12/21		90	%	60 - 130
		Chrysene	2009/12/21	3.0		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2009/12/21		98	%	60 - 130
		Dibenz(a,h)anthracene	2009/12/21	7.9		%	50
	Spiked Blank	Fluoranthene	2009/12/21		98	%	60 - 130
		Fluoranthene	2009/12/21	1.9		%	50
	Spiked Blank	Fluorene	2009/12/21		83	%	60 - 130
		Fluorene	2009/12/21	9.1		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2009/12/21		96	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2009/12/21	7.7		%	50
Spiked Blank	Naphthalene	2009/12/21		83	%	60 - 130	
	Naphthalene	2009/12/21	11.4		%	50	
Spiked Blank	Phenanthrene	2009/12/21		87	%	60 - 130	
	Phenanthrene	2009/12/21	1.7		%	50	
Spiked Blank	Pyrene	2009/12/21		88	%	60 - 130	
	Pyrene	2009/12/21	3.8		%	50	
Method Blank	D10-2-Methylnaphthalene	2009/12/21		68	%	50 - 150	
	D10-Fluoranthene	2009/12/21		107	%	50 - 150	
	D10-Phenanthrene	2009/12/21		95	%	50 - 150	
	D12-Benzo(a)anthracene	2009/12/21		108	%	50 - 150	
	D12-Benzo(a)pyrene	2009/12/21		99	%	50 - 150	
	D12-Benzo(b)fluoranthene	2009/12/21		106	%	50 - 150	
	D12-Benzo(ghi)perylene	2009/12/21		100	%	50 - 150	
	D12-Benzo(k)fluoranthene	2009/12/21		83	%	50 - 150	
	D12-Chrysene	2009/12/21		91	%	50 - 150	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9G8321

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2041804 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2009/12/21		102	%	50 - 150
		D12-Perylene	2009/12/21		99	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2009/12/21		103	%	50 - 150
		D8-Acenaphthylene	2009/12/21		79	%	50 - 150
		D8-Naphthalene	2009/12/21		67	%	50 - 150
		1-Methylnaphthalene	2009/12/21	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2009/12/21	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2009/12/21	ND, RDL=0.10		ug	
		2-Methylantracene	2009/12/21	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2009/12/21	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2009/12/21	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2009/12/21	ND, RDL=0.10		ug	
		9,10-Dimethylantracene	2009/12/21	ND, RDL=0.40		ug	
		Acenaphthene	2009/12/21	ND, RDL=0.050		ug	
		Acenaphthylene	2009/12/21	ND, RDL=0.050		ug	
		Anthracene	2009/12/21	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2009/12/21	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2009/12/21	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2009/12/21	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2009/12/21	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2009/12/21	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2009/12/21	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2009/12/21	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2009/12/21	ND, RDL=0.050		ug	
		Biphenyl	2009/12/21	ND, RDL=0.10		ug	
		Chrysene	2009/12/21	ND, RDL=0.050		ug	
		Coronene	2009/12/21	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2009/12/21	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2009/12/21	ND, RDL=0.20		ug	
		Fluoranthene	2009/12/21	ND, RDL=0.050		ug	
		Fluorene	2009/12/21	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2009/12/21	ND, RDL=0.050		ug	
		m-Terphenyl	2009/12/21	ND, RDL=0.10		ug	
		Naphthalene	2009/12/21	ND, RDL=0.072		ug	
		o-Terphenyl	2009/12/21	ND, RDL=0.10		ug	
		Perylene	2009/12/21	ND, RDL=0.10		ug	
		Phenanthrene	2009/12/21	ND, RDL=0.050		ug	
		p-Terphenyl	2009/12/21	ND, RDL=0.10		ug	
		Pyrene	2009/12/21	ND, RDL=0.050		ug	
		Quinoline	2009/12/21	ND, RDL=0.40		ug	
		Tetralin	2009/12/21	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: 13-16-62-5 W4M
 Station ID: Lica 33 (Portable)
 Field Sample ID: LICA PUF/PORT/Dec 15, 09

Puf+ s/n: 100-1015
 Motor s/n: 1139
 Installation Date/Time: Dec 11, 09 @ 13:25 mst
 Removal Date/Time: Dec 16, 09 @ 09:00 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
15-Dec-09	12/15/2009 0:00	12/16/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
11-Dec-09	16-Dec-09	23-Dec-09	???

Set Flow Rate (slpm): 230

Date of Last Calibration: 02-Oct-09

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
721	229	-29.5	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:

GA9G2086 PUFF#2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Dec 15, 09

Technician Signature: _____



Your Project #: 13-16-62-5 WM
 Site: COLD LAKE SOUTH
 Your C.O.C. #: 1052

Attention: Shea Beaton

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

Report Date: 2010/01/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9H1447

Received: 2009/12/18, 09:46

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2009/12/21	2010/01/05	BRL SOP-00201	CARB429(ARBM1,M2)mod

MAXXAM ANALYTICS

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.

Total cover pages: 1

Page 1 of 7

Maxxam Job #: A9H1447
 Report Date: 2010/01/19

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 WM
 Project name: COLD LAKE SOUTH

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

Maxxam ID		ER7403	ER7404		
Sampling Date		2009/12/15 00:00	2009/12/15 00:00		
COC Number		1052	1052		
	Units	LICA/CLS/DEC15,09	LICA/PORT/DEC15,09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	2.97	2.01	0.10	2042722
1-Methylphenanthrene	ug	<0.10	0.12	0.10	2042722
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2042722
2-Methylantracene	ug	<0.10	<0.10	0.10	2042722
2-Methylnaphthalene	ug	5.87	3.20	0.10	2042722
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2042722
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2042722
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2042722
Acenaphthene	ug	0.268	0.183	0.050	2042722
Acenaphthylene	ug	0.287	0.162	0.050	2042722
Anthracene	ug	<0.050	<0.050	0.050	2042722
Benzo(a)anthracene	ug	0.140	0.196	0.050	2042722
Benzo(a)fluorene	ug	0.12	0.17	0.10	2042722
Benzo(a)pyrene	ug	0.068	0.079	0.050	2042722
Benzo(b)fluoranthene	ug	0.172	0.211	0.050	2042722
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2042722
Benzo(e)pyrene	ug	<0.10	0.10	0.10	2042722
Benzo(g,h,i)perylene	ug	0.122	0.108	0.050	2042722
Benzo(k)fluoranthene	ug	<0.050	0.055	0.050	2042722
Biphenyl	ug	0.96	1.14	0.10	2042722
Chrysene	ug	0.231	0.315	0.050	2042722
Coronene	ug	<0.10	<0.10	0.10	2042722
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2042722
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2042722
Fluoranthene	ug	0.634	1.02	0.050	2042722
Fluorene	ug	0.394	0.500	0.050	2042722
Indeno(1,2,3-cd)pyrene	ug	0.088	0.089	0.050	2042722
m-Terphenyl	ug	<0.10	<0.10	0.10	2042722
Naphthalene	ug	5.44	4.12	0.072	2042722
o-Terphenyl	ug	<0.10	<0.10	0.10	2042722
Perylene	ug	<0.10	<0.10	0.10	2042722
Phenanthrene	ug	1.14	1.88	0.050	2042722

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9H1447
 Report Date: 2010/01/19

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 WM
 Project name: COLD LAKE SOUTH

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

Maxxam ID		ER7403	ER7404		
Sampling Date		2009/12/15 00:00	2009/12/15 00:00		
COC Number		1052	1052		
	Units	LICA/CLS/DEC15,09	LICA/PORT/DEC15,09	DL	QC Batch

p-Terphenyl	ug	<0.10	<0.10	0.10	2042722
Pyrene	ug	0.532	0.680	0.050	2042722
Quinoline	ug	<0.40	<0.40	0.40	2042722
Tetralin	ug	<0.10	0.12	0.10	2042722
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	75	80		2042722
D10-Fluoranthene	%	104	105		2042722
D10-Fluorene (FS)	%	70	76		2042722
D10-Phenanthrene	%	92	92		2042722
D12-Benzo(a)anthracene	%	115	100		2042722
D12-Benzo(a)pyrene	%	74	70		2042722
D12-Benzo(b)fluoranthene	%	98	99		2042722
D12-Benzo(ghi)perylene	%	105	103		2042722
D12-Benzo(k)fluoranthene	%	103	101		2042722
D12-Chrysene	%	90	104		2042722
D12-Indeno(1,2,3-cd)pyrene	%	104	104		2042722
D12-Perylene	%	83	81		2042722
D14-Dibenzo(a,h)anthracene	%	106	105		2042722
D14-Terphenyl (FS)	%	87	88		2042722
D8-Acenaphthylene	%	78	79		2042722
D8-Naphthalene	%	72	79		2042722

QC Batch = Quality Control Batch

Maxxam Job #: A9H1447
 Report Date: 2010/01/19

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 WM
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID ER7403 **Collected** 2009/12/15
Sample ID LICA/CLS/DEC15,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/12/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2042722	2009/12/21	2010/01/05	WZ

Maxxam ID ER7404 **Collected** 2009/12/15
Sample ID LICA/PORT/DEC15,09 **Shipped**
Matrix PUF AND FILTER **Received** 2009/12/18

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2042722	2009/12/21	2010/01/05	WZ

Maxxam Job #: A9H1447
Report Date: 2010/01/19

Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5 WM
Project name: COLD LAKE SOUTH

GENERAL COMMENTS

PAHMS-F

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

Pyrene is statistically out of control at 76.6% recovery in the spike. Spike:dup recovery is in control. Acceptance criteria met for both spike and dup. Data reported and flagged.

Naphthalene positive found in blank. Samples should be considered to be possibly contaminated to the level found in the blank.

Sample ER7403-01: 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 0.23ug, 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 ER7404-01: 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 0.32ug, 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.

Results relate only to the items tested.

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

Quality Assurance Report
 Maxxam Job Number: GA9H1447

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2042722 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/01/05		75	%	50 - 150
		D10-Fluoranthene	2010/01/05		93	%	50 - 150
		D10-Phenanthrene	2010/01/05		87	%	50 - 150
		D12-Benzo(a)anthracene	2010/01/05		115	%	50 - 150
		D12-Benzo(a)pyrene	2010/01/05		98	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/01/05		96	%	50 - 150
		D12-Benzo(ghi)perylene	2010/01/05		99	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/01/05		101	%	50 - 150
		D12-Chrysene	2010/01/05		91	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/01/05		98	%	50 - 150
		D12-Perylene	2010/01/05		98	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/05		97	%	50 - 150
		D8-Acenaphthylene	2010/01/05		85	%	50 - 150
		D8-Naphthalene	2010/01/05		75	%	50 - 150
		Acenaphthene	2010/01/05		73	%	60 - 130
	RPD	Acenaphthene	2010/01/05	8.2		%	50
	Spiked Blank	Acenaphthylene	2010/01/05		81	%	60 - 130
	RPD	Acenaphthylene	2010/01/05	4.4		%	50
	Spiked Blank	Anthracene	2010/01/05		79	%	60 - 130
	RPD	Anthracene	2010/01/05	7.3		%	50
	Spiked Blank	Benzo(a)anthracene	2010/01/05		93	%	60 - 130
	RPD	Benzo(a)anthracene	2010/01/05	1.6		%	50
	Spiked Blank	Benzo(a)pyrene	2010/01/05		82	%	60 - 130
	RPD	Benzo(a)pyrene	2010/01/05	3.3		%	50
	Spiked Blank	Benzo(b)fluoranthene	2010/01/05		79	%	60 - 130
	RPD	Benzo(b)fluoranthene	2010/01/05	5.3		%	50
	Spiked Blank	Benzo(g,h,i)perylene	2010/01/05		85	%	60 - 130
	RPD	Benzo(g,h,i)perylene	2010/01/05	8.5		%	50
	Spiked Blank	Benzo(k)fluoranthene	2010/01/05		110	%	60 - 130
	RPD	Benzo(k)fluoranthene	2010/01/05	4.8		%	50
	Spiked Blank	Chrysene	2010/01/05		88	%	60 - 130
	RPD	Chrysene	2010/01/05	0.9		%	50
	Spiked Blank	Dibenz(a,h)anthracene	2010/01/05		86	%	60 - 130
	RPD	Dibenz(a,h)anthracene	2010/01/05	7.6		%	50
	Spiked Blank	Fluoranthene	2010/01/05		84	%	60 - 130
	RPD	Fluoranthene	2010/01/05	12.1		%	50
	Spiked Blank	Fluorene	2010/01/05		77	%	60 - 130
	RPD	Fluorene	2010/01/05	8.4		%	50
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/01/05		86	%	60 - 130
	RPD	Indeno(1,2,3-cd)pyrene	2010/01/05	6.9		%	50
	Spiked Blank	Naphthalene	2010/01/05		85	%	60 - 130
	RPD	Naphthalene	2010/01/05	8.7		%	50
	Spiked Blank	Phenanthrene	2010/01/05		79	%	60 - 130
	RPD	Phenanthrene	2010/01/05	7.8		%	50
	Spiked Blank	Pyrene	2010/01/05		77	%	60 - 130
	RPD	Pyrene	2010/01/05	13.6		%	50
	Method Blank	D10-2-Methylnaphthalene	2010/01/05		79	%	50 - 150
		D10-Fluoranthene	2010/01/05		96	%	50 - 150
		D10-Phenanthrene	2010/01/05		90	%	50 - 150
		D12-Benzo(a)anthracene	2010/01/05		105	%	50 - 150
		D12-Benzo(a)pyrene	2010/01/05		84	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/01/05		93	%	50 - 150
		D12-Benzo(ghi)perylene	2010/01/05		101	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/01/05		102	%	50 - 150
		D12-Chrysene	2010/01/05		90	%	50 - 150

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

Quality Assurance Report (Continued)
 Maxxam Job Number: GA9H1447

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2042722 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/01/05		99	%	50 - 150
		D12-Perylene	2010/01/05		92	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/05		100	%	50 - 150
		D8-Acenaphthylene	2010/01/05		90	%	50 - 150
		D8-Naphthalene	2010/01/05		79	%	50 - 150
		1-Methylnaphthalene	2010/01/05	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2010/01/05	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2010/01/05	ND, RDL=0.10		ug	
		2-Methylanthracene	2010/01/05	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2010/01/05	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2010/01/05	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/01/05	ND, RDL=0.10		ug	
		9,10-Dimethylanthracene	2010/01/05	ND, RDL=0.40		ug	
		Acenaphthene	2010/01/05	ND, RDL=0.050		ug	
		Acenaphthylene	2010/01/05	ND, RDL=0.050		ug	
		Anthracene	2010/01/05	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2010/01/05	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2010/01/05	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2010/01/05	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2010/01/05	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2010/01/05	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2010/01/05	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2010/01/05	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2010/01/05	ND, RDL=0.050		ug	
		Biphenyl	2010/01/05	ND, RDL=0.10		ug	
		Chrysene	2010/01/05	ND, RDL=0.050		ug	
		Coronene	2010/01/05	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2010/01/05	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2010/01/05	ND, RDL=0.20		ug	
		Fluoranthene	2010/01/05	ND, RDL=0.050		ug	
		Fluorene	2010/01/05	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/01/05	ND, RDL=0.050		ug	
		m-Terphenyl	2010/01/05	ND, RDL=0.10		ug	
		Naphthalene	2010/01/05	0.165, RDL=0.072		ug	
		o-Terphenyl	2010/01/05	ND, RDL=0.10		ug	
		Perylene	2010/01/05	ND, RDL=0.10		ug	
		Phenanthrene	2010/01/05	ND, RDL=0.050		ug	
		p-Terphenyl	2010/01/05	ND, RDL=0.10		ug	
		Pyrene	2010/01/05	ND, RDL=0.050		ug	
		Quinoline	2010/01/05	ND, RDL=0.40		ug	
		Tetralin	2010/01/05	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: 13-16-62-5 W4M
 Station ID: Lica 33 (Portable)
 Field Sample ID: LICA PUF/PORT/Dec 21, 09

Puf+ s/n: 100-1015
 Motor s/n: 1139
 Installation Date/Time: Dec 18, 09 @ 12:45 mst
 Removal Date/Time: Dec 22, 09 @ 10:55 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
21-Dec-09	12/21/2009 0:00	12/22/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
16-Dec-09	22-Dec-09	28-Dec-09	14-Dec-09

Set Flow Rate (slpm): 230

Date of Last Calibration: 02-Oct-09

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
720	229	-19.6	330.33

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

Comments:

GA9G2105 PUFF#2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Dec 21, 09

Technician Signature: _____



Your Project #: 13-16-62-5 W4M
Site: COLD LAKE SOUTH
Your C.O.C. #: 1053

Attention: Shea Beaton

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

Report Date: 2010/01/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9H3740

Received: 2009/12/24, 08:36

Sample Matrix: PUF AND FILTER

Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/01/07	2010/01/12	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: 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

Maxxam Job #: A9H3740
 Report Date: 2010/01/14

 Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

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

Maxxam ID		ES9741	ES9742		
Sampling Date		2009/12/21	2009/12/21		
COC Number		1053	1053		
	Units	LICA/CLS/DEC21,09	LICA/PORT/DEC21,09	DL	QC Batch

Semivolatile Organics					
1-Methylnaphthalene	ug	1.85	1.07	0.10	2050878
1-Methylphenanthrene	ug	<0.10	0.17	0.10	2050878
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2050878
2-Methylantracene	ug	<0.10	<0.10	0.10	2050878
2-Methylnaphthalene	ug	2.93	1.66	0.10	2050878
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2050878
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2050878
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2050878
Acenaphthene	ug	0.134	0.123	0.050	2050878
Acenaphthylene	ug	0.279	0.436	0.050	2050878
Anthracene	ug	<0.050	0.095	0.050	2050878
Benzo(a)anthracene	ug	0.138	0.170	0.050	2050878
Benzo(a)fluorene	ug	0.10	0.16	0.10	2050878
Benzo(a)pyrene	ug	0.104	0.107	0.050	2050878
Benzo(b)fluoranthene	ug	0.159	0.144	0.050	2050878
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2050878
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2050878
Benzo(g,h,i)perylene	ug	0.120	0.093	0.050	2050878
Benzo(k)fluoranthene	ug	0.077	0.061	0.050	2050878
Biphenyl	ug	0.67	1.04	0.10	2050878
Chrysene	ug	0.235	0.230	0.050	2050878
Coronene	ug	<0.10	<0.10	0.10	2050878
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2050878
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2050878
Fluoranthene	ug	0.405	0.470	0.050	2050878
Fluorene	ug	0.256	0.372	0.050	2050878
Indeno(1,2,3-cd)pyrene	ug	0.093	0.076	0.050	2050878
m-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Naphthalene	ug	2.72	1.58	0.072	2050878
o-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Perylene	ug	<0.10	<0.10	0.10	2050878
Phenanthrene	ug	0.609	0.966	0.050	2050878

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: A9H3740
 Report Date: 2010/01/14

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

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

Maxxam ID		ES9741	ES9742		
Sampling Date		2009/12/21	2009/12/21		
COC Number		1053	1053		
	Units	LICA/CLS/DEC21,09	LICA/PORT/DEC21,09	DL	QC Batch
p-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Pyrene	ug	0.338	0.384	0.050	2050878
Quinoline	ug	<0.40	<0.40	0.40	2050878
Tetralin	ug	0.14	<0.10	0.10	2050878
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	83	82		2050878
D10-Fluoranthene	%	100	102		2050878
D10-Fluorene (FS)	%	82	62		2050878
D10-Phenanthrene	%	99	95		2050878
D12-Benzo(a)anthracene	%	106	106		2050878
D12-Benzo(a)pyrene	%	105	100		2050878
D12-Benzo(b)fluoranthene	%	101	100		2050878
D12-Benzo(ghi)perylene	%	100	97		2050878
D12-Benzo(k)fluoranthene	%	103	88		2050878
D12-Chrysene	%	103	95		2050878
D12-Indeno(1,2,3-cd)pyrene	%	103	100		2050878
D12-Perylene	%	105	100		2050878
D14-Dibenzo(a,h)anthracene	%	101	99		2050878
D14-Terphenyl (FS)	%	89	82		2050878
D8-Acenaphthylene	%	90	89		2050878
D8-Naphthalene	%	83	80		2050878
QC Batch = Quality Control Batch					

Maxxam Job #: A9H3740
 Report Date: 2010/01/14

Lakeland Industry & Community Assoc.
 Client Project #: 13-16-62-5 W4M
 Project name: COLD LAKE SOUTH

Test Summary

Maxxam ID	ES9741	Collected	2009/12/21
Sample ID	LICA/CLS/DEC21,09	Shipped	
Matrix	PUF AND FILTER	Received	2009/12/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2050878	2010/01/07	2010/01/12	WZ

Maxxam ID	ES9742	Collected	2009/12/21
Sample ID	LICA/PORT/DEC21,09	Shipped	
Matrix	PUF AND FILTER	Received	2009/12/24

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2050878	2010/01/07	2010/01/12	WZ

Maxxam Job #: A9H3740
Report Date: 2010/01/14Lakeland Industry & Community Assoc.
Client Project #: 13-16-62-5 W4M
Project name: COLD LAKE SOUTH**GENERAL COMMENTS**

PAHMS-F

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

Sample ES9741-01: 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 0.23ug, 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 ES9742-01: 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 0.23ug, 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 #: 13-16-62-5 W4M
 P.O. #:
 Project name: COLD LAKE SOUTH

Quality Assurance Report
 Maxxam Job Number: GA9H3740

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2050878 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/01/12		84	%	50 - 150
		D10-Fluoranthene	2010/01/12		99	%	50 - 150
		D10-Phenanthrene	2010/01/12		99	%	50 - 150
		D12-Benzo(a)anthracene	2010/01/12		89	%	50 - 150
		D12-Benzo(a)pyrene	2010/01/12		99	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/01/12		100	%	50 - 150
		D12-Benzo(ghi)perylene	2010/01/12		98	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/01/12		97	%	50 - 150
		D12-Chrysene	2010/01/12		103	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/01/12		98	%	50 - 150
		D12-Perylene	2010/01/12		101	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/12		98	%	50 - 150
		D8-Acenaphthylene	2010/01/12		82	%	50 - 150
		D8-Naphthalene	2010/01/12		86	%	50 - 150
		RPD	Acenaphthene	2010/01/12		80	%
	Spiked Blank	Acenaphthene	2010/01/12	1.4		%	50
	RPD	Acenaphthylene	2010/01/12		78	%	60 - 130
	Spiked Blank	Acenaphthylene	2010/01/12	2.4		%	50
	RPD	Anthracene	2010/01/12		77	%	60 - 130
	Spiked Blank	Anthracene	2010/01/12	3.6		%	50
	RPD	Anthracene	2010/01/12		76	%	60 - 130
	Spiked Blank	Benzo(a)anthracene	2010/01/12	8.8		%	50
	RPD	Benzo(a)anthracene	2010/01/12		85	%	60 - 130
	Spiked Blank	Benzo(a)pyrene	2010/01/12	3.4		%	50
	RPD	Benzo(a)pyrene	2010/01/12		85	%	60 - 130
	Spiked Blank	Benzo(b)fluoranthene	2010/01/12	8.0		%	50
	RPD	Benzo(b)fluoranthene	2010/01/12		87	%	60 - 130
	Spiked Blank	Benzo(g,h,i)perylene	2010/01/12	0.7		%	50
	RPD	Benzo(g,h,i)perylene	2010/01/12		95	%	60 - 130
	Spiked Blank	Benzo(k)fluoranthene	2010/01/12	5.4		%	50
	RPD	Benzo(k)fluoranthene	2010/01/12		94	%	60 - 130
	Spiked Blank	Chrysene	2010/01/12	1.3		%	50
	RPD	Chrysene	2010/01/12		88	%	60 - 130
	Spiked Blank	Dibenz(a,h)anthracene	2010/01/12	0.2		%	50
	RPD	Dibenz(a,h)anthracene	2010/01/12		91	%	60 - 130
	Spiked Blank	Fluoranthene	2010/01/12	4.4		%	50
	RPD	Fluoranthene	2010/01/12		79	%	60 - 130
	Spiked Blank	Fluorene	2010/01/12	2.0		%	50
	RPD	Fluorene	2010/01/12		88	%	60 - 130
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/01/12	0.5		%	50
RPD	Indeno(1,2,3-cd)pyrene	2010/01/12		84	%	60 - 130	
Spiked Blank	Naphthalene	2010/01/12	0.5		%	50	
RPD	Naphthalene	2010/01/12		76	%	60 - 130	
Spiked Blank	Phenanthrene	2010/01/12	7.5		%	50	
RPD	Phenanthrene	2010/01/12		82	%	60 - 130	
Spiked Blank	Pyrene	2010/01/12	3.7		%	50	
RPD	Pyrene	2010/01/12		90	%	50 - 150	
Method Blank	D10-2-Methylnaphthalene	2010/01/12		109	%	50 - 150	
	D10-Fluoranthene	2010/01/12		107	%	50 - 150	
	D10-Phenanthrene	2010/01/12		101	%	50 - 150	
	D12-Benzo(a)anthracene	2010/01/12		109	%	50 - 150	
	D12-Benzo(a)pyrene	2010/01/12		109	%	50 - 150	
	D12-Benzo(b)fluoranthene	2010/01/12		106	%	50 - 150	
	D12-Benzo(ghi)perylene	2010/01/12		105	%	50 - 150	
	D12-Benzo(k)fluoranthene	2010/01/12		107	%	50 - 150	
	D12-Chrysene	2010/01/12		110	%	50 - 150	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GA9H3740

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2050878 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/01/12		106	%	50 - 150
		D12-Perylene	2010/01/12		111	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/12		105	%	50 - 150
		D8-Acenaphthylene	2010/01/12		91	%	50 - 150
		D8-Naphthalene	2010/01/12		92	%	50 - 150
		1-Methylnaphthalene	2010/01/12	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2010/01/12	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2010/01/12	ND, RDL=0.10		ug	
		2-Methylanthracene	2010/01/12	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2010/01/12	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2010/01/12	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/01/12	ND, RDL=0.10		ug	
		9,10-Dimethylanthracene	2010/01/12	ND, RDL=0.40		ug	
		Acenaphthene	2010/01/12	ND, RDL=0.050		ug	
		Acenaphthylene	2010/01/12	ND, RDL=0.050		ug	
		Anthracene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Biphenyl	2010/01/12	ND, RDL=0.10		ug	
		Chrysene	2010/01/12	ND, RDL=0.050		ug	
		Coronene	2010/01/12	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2010/01/12	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2010/01/12	ND, RDL=0.20		ug	
		Fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Fluorene	2010/01/12	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/01/12	ND, RDL=0.050		ug	
		m-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Naphthalene	2010/01/12	ND, RDL=0.072		ug	
		o-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Perylene	2010/01/12	ND, RDL=0.10		ug	
		Phenanthrene	2010/01/12	ND, RDL=0.050		ug	
		p-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Pyrene	2010/01/12	ND, RDL=0.050		ug	
		Quinoline	2010/01/12	ND, RDL=0.40		ug	
		Tetralin	2010/01/12	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: 13-16-62-5 W4M
 Station ID: Lica 33 (Portable)
 Field Sample ID: LICA PUF/PORT/Dec 27, 09

Puf+ s/n: 100-1015
 Motor s/n: 1139
 Installation Date/Time: Dec 24, 09 @ 11:50 mst
 Removal Date/Time: Dec 28, 09 @ 08:00 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
27-Dec-09	12/27/2009 0:00	12/28/2009 0:00	24.00

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
22-Dec-09	30-Dec-09	01-Jan-10	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 02-Oct-09

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Temperature (C)	Volume (Vstd m ³)
724	229	-13	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:

GA9G2128 PUFF#2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Dec 27, 09

Technician Signature: _____



Your C.O.C. #: 1055

Attention: Michael Bisaga

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

Report Date: 2010/01/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B000052

Received: 2010/01/04, 08:18

Sample Matrix: Filter
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2010/01/07	2010/01/12	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: 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

Maxxam Job #: B000052
 Report Date: 2010/01/14

SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)

Maxxam ID		ET5011	ET5012		
Sampling Date		2009/12/27 00:00	2009/12/27 00:00		
COC Number		1055	1055		
	Units	LICA	LICA	DL	QC Batch
		PUF/QFF/CLS/DEC27,09	PUF/QFF/PORT/DEC27,09		

Semivolatile Organics					
1-Methylnaphthalene	ug	0.55	0.63	0.10	2050878
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2050878
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2050878
2-Methylantracene	ug	<0.10	<0.10	0.10	2050878
2-Methylnaphthalene	ug	1.09	1.19	0.10	2050878
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2050878
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2050878
9,10-Dimethylantracene	ug	<0.40	<0.40	0.40	2050878
Acenaphthene	ug	0.073	0.095	0.050	2050878
Acenaphthylene	ug	0.105	0.295	0.050	2050878
Anthracene	ug	<0.050	0.056	0.050	2050878
Benzo(a)anthracene	ug	<0.050	0.065	0.050	2050878
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2050878
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2050878
Benzo(b)fluoranthene	ug	<0.050	0.107	0.050	2050878
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2050878
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2050878
Benzo(g,h,i)perylene	ug	<0.050	0.062	0.050	2050878
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2050878
Biphenyl	ug	0.35	0.94	0.10	2050878
Chrysene	ug	0.051	0.147	0.050	2050878
Coronene	ug	<0.10	<0.10	0.10	2050878
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2050878
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2050878
Fluoranthene	ug	0.135	0.269	0.050	2050878
Fluorene	ug	0.176	0.373	0.050	2050878
Indeno(1,2,3-cd)pyrene	ug	<0.050	0.052	0.050	2050878
m-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Naphthalene	ug	1.01	0.896	0.072	2050878
o-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Perylene	ug	<0.10	<0.10	0.10	2050878

 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B000052
 Report Date: 2010/01/14

SEMI-VOLATILE ORGANICS BY GC-MS (FILTER)

Maxxam ID		ET5011	ET5012		
Sampling Date		2009/12/27	2009/12/27		
		00:00	00:00		
COC Number		1055	1055		
	Units	LICA	LICA	DL	QC Batch
		PUF/QFF/CLS/DEC27,09	PUF/QFF/PORT/DEC27,09		
Phenanthrene	ug	0.452	0.906	0.050	2050878
p-Terphenyl	ug	<0.10	<0.10	0.10	2050878
Pyrene	ug	0.091	0.195	0.050	2050878
Quinoline	ug	<0.40	<0.40	0.40	2050878
Tetralin	ug	<0.10	<0.10	0.10	2050878
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	82	80		2050878
D10-Fluoranthene	%	104	98		2050878
D10-Fluorene (FS)	%	76	66		2050878
D10-Phenanthrene	%	96	93		2050878
D12-Benzo(a)anthracene	%	105	102		2050878
D12-Benzo(a)pyrene	%	103	101		2050878
D12-Benzo(b)fluoranthene	%	105	81		2050878
D12-Benzo(ghi)perylene	%	103	98		2050878
D12-Benzo(k)fluoranthene	%	92	120		2050878
D12-Chrysene	%	102	99		2050878
D12-Indeno(1,2,3-cd)pyrene	%	103	100		2050878
D12-Perylene	%	104	101		2050878
D14-Dibenzo(a,h)anthracene	%	102	99		2050878
D14-Terphenyl (FS)	%	88	87		2050878
D8-Acenaphthylene	%	90	87		2050878
D8-Naphthalene	%	81	79		2050878
QC Batch = Quality Control Batch					

Maxxam Job #: B000052
 Report Date: 2010/01/14

Test Summary

Maxxam ID ET5011 **Collected** 2009/12/27
Sample ID LICA PUF/QFF/CLS/DEC27,09 **Shipped**
Matrix Filter **Received** 2010/01/04

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2050878	2010/01/07	2010/01/12	WZ

Maxxam ID ET5012 **Collected** 2009/12/27
Sample ID LICA PUF/QFF/PORT/DEC27,09 **Shipped**
Matrix Filter **Received** 2010/01/04

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2050878	2010/01/07	2010/01/12	WZ

Maxxam Job #: B000052
Report Date: 2010/01/14**GENERAL COMMENTS**

PAHMS-F

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

Sample ET5011-01: 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 0.05ug, 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 ET5012-01: 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 0.15ug, 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: Michael Bisaga
 Client Project #:
 P.O. #:
 Project name:

Quality Assurance Report
 Maxxam Job Number: GB000052

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2050878 WZ	Spiked Blank	D10-2-Methylnaphthalene	2010/01/12		84	%	50 - 150
		D10-Fluoranthene	2010/01/12		99	%	50 - 150
		D10-Phenanthrene	2010/01/12		99	%	50 - 150
		D12-Benzo(a)anthracene	2010/01/12		89	%	50 - 150
		D12-Benzo(a)pyrene	2010/01/12		99	%	50 - 150
		D12-Benzo(b)fluoranthene	2010/01/12		100	%	50 - 150
		D12-Benzo(ghi)perylene	2010/01/12		98	%	50 - 150
		D12-Benzo(k)fluoranthene	2010/01/12		97	%	50 - 150
		D12-Chrysene	2010/01/12		103	%	50 - 150
		D12-Indeno(1,2,3-cd)pyrene	2010/01/12		98	%	50 - 150
		D12-Perylene	2010/01/12		101	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/12		98	%	50 - 150
		D8-Acenaphthylene	2010/01/12		82	%	50 - 150
		D8-Naphthalene	2010/01/12		86	%	50 - 150
		RPD	Acenaphthene	2010/01/12		80	%
	Spiked Blank	Acenaphthene	2010/01/12	1.4		%	50
	RPD	Acenaphthylene	2010/01/12		78	%	60 - 130
	Spiked Blank	Acenaphthylene	2010/01/12	2.4		%	50
	RPD	Anthracene	2010/01/12		77	%	60 - 130
	Spiked Blank	Anthracene	2010/01/12	3.6		%	50
	RPD	Benzo(a)anthracene	2010/01/12		76	%	60 - 130
	Spiked Blank	Benzo(a)anthracene	2010/01/12	8.8		%	50
	RPD	Benzo(a)pyrene	2010/01/12		85	%	60 - 130
	Spiked Blank	Benzo(a)pyrene	2010/01/12	3.4		%	50
	RPD	Benzo(b)fluoranthene	2010/01/12		85	%	60 - 130
	Spiked Blank	Benzo(b)fluoranthene	2010/01/12	8.0		%	50
	RPD	Benzo(g,h,i)perylene	2010/01/12		87	%	60 - 130
	Spiked Blank	Benzo(g,h,i)perylene	2010/01/12	0.7		%	50
	RPD	Benzo(k)fluoranthene	2010/01/12		95	%	60 - 130
	Spiked Blank	Benzo(k)fluoranthene	2010/01/12	5.4		%	50
	RPD	Chrysene	2010/01/12		94	%	60 - 130
	Spiked Blank	Chrysene	2010/01/12	1.3		%	50
	RPD	Dibenz(a,h)anthracene	2010/01/12		88	%	60 - 130
	Spiked Blank	Dibenz(a,h)anthracene	2010/01/12	0.2		%	50
	RPD	Fluoranthene	2010/01/12		91	%	60 - 130
	Spiked Blank	Fluoranthene	2010/01/12	4.4		%	50
	RPD	Fluorene	2010/01/12		79	%	60 - 130
	Spiked Blank	Fluorene	2010/01/12	2.0		%	50
	RPD	Indeno(1,2,3-cd)pyrene	2010/01/12		88	%	60 - 130
	Spiked Blank	Indeno(1,2,3-cd)pyrene	2010/01/12	0.5		%	50
	RPD	Naphthalene	2010/01/12		84	%	60 - 130
	Spiked Blank	Naphthalene	2010/01/12	0.5		%	50
	RPD	Phenanthrene	2010/01/12		76	%	60 - 130
	Spiked Blank	Phenanthrene	2010/01/12	7.5		%	50
	RPD	Pyrene	2010/01/12		82	%	60 - 130
Spiked Blank	Pyrene	2010/01/12	3.7		%	50	
Method Blank	D10-2-Methylnaphthalene	2010/01/12			90	%	50 - 150
	D10-Fluoranthene	2010/01/12			109	%	50 - 150
	D10-Phenanthrene	2010/01/12			107	%	50 - 150
	D12-Benzo(a)anthracene	2010/01/12			101	%	50 - 150
	D12-Benzo(a)pyrene	2010/01/12			109	%	50 - 150
	D12-Benzo(b)fluoranthene	2010/01/12			106	%	50 - 150
	D12-Benzo(ghi)perylene	2010/01/12			105	%	50 - 150
	D12-Benzo(k)fluoranthene	2010/01/12			107	%	50 - 150
	D12-Chrysene	2010/01/12			110	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB000052

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2050878 WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2010/01/12		106	%	50 - 150
		D12-Perylene	2010/01/12		111	%	50 - 150
		D14-Dibenzo(a,h)anthracene	2010/01/12		105	%	50 - 150
		D8-Acenaphthylene	2010/01/12		91	%	50 - 150
		D8-Naphthalene	2010/01/12		92	%	50 - 150
		1-Methylnaphthalene	2010/01/12	ND, RDL=0.10		ug	
		1-Methylphenanthrene	2010/01/12	ND, RDL=0.10		ug	
		2-Chloronaphthalene	2010/01/12	ND, RDL=0.10		ug	
		2-Methylanthracene	2010/01/12	ND, RDL=0.10		ug	
		2-Methylnaphthalene	2010/01/12	ND, RDL=0.10		ug	
		3-Methylcholanthrene	2010/01/12	ND, RDL=2.0		ug	
		7,12-Dimethylbenzo(a)anthracene	2010/01/12	ND, RDL=0.10		ug	
		9,10-Dimethylanthracene	2010/01/12	ND, RDL=0.40		ug	
		Acenaphthene	2010/01/12	ND, RDL=0.050		ug	
		Acenaphthylene	2010/01/12	ND, RDL=0.050		ug	
		Anthracene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(a)anthracene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(a)fluorene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(a)pyrene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(b)fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(b)fluorene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(e)pyrene	2010/01/12	ND, RDL=0.10		ug	
		Benzo(g,h,i)perylene	2010/01/12	ND, RDL=0.050		ug	
		Benzo(k)fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Biphenyl	2010/01/12	ND, RDL=0.10		ug	
		Chrysene	2010/01/12	ND, RDL=0.050		ug	
		Coronene	2010/01/12	ND, RDL=0.10		ug	
		Dibenz(a,h)anthracene	2010/01/12	ND, RDL=0.050		ug	
		Dibenzo(a,e)pyrene	2010/01/12	ND, RDL=0.20		ug	
		Fluoranthene	2010/01/12	ND, RDL=0.050		ug	
		Fluorene	2010/01/12	ND, RDL=0.050		ug	
		Indeno(1,2,3-cd)pyrene	2010/01/12	ND, RDL=0.050		ug	
		m-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Naphthalene	2010/01/12	ND, RDL=0.072		ug	
		o-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Perylene	2010/01/12	ND, RDL=0.10		ug	
		Phenanthrene	2010/01/12	ND, RDL=0.050		ug	
		p-Terphenyl	2010/01/12	ND, RDL=0.10		ug	
		Pyrene	2010/01/12	ND, RDL=0.050		ug	
		Quinoline	2010/01/12	ND, RDL=0.40		ug	
		Tetralin	2010/01/12	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.