Lakeland Industry & Community Association

Cold Lake Monitoring Site
Ambient Air Monitoring
Data Report
For
October 2011

Prepared By:

November 25, 2011

JOB #: 2833-11-10-01-C

Lakeland Industry & Community Association
Cold Lake Monitoring Site
Ambient Air Monitoring

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Introduction

The following Ambient Air Monitoring report was prepared for:

Mr. Mike Bisaga
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Monitoring Location: Cold Lake
Data Period: October 2011

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Craig Snider

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

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

Calibration Procedure

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

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

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

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

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

MONTHLY CONTINUOUS DATA SUMMARY
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Continuous Ambient Monitoring – October 2011

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION COLD LAKE SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO_2 (PPB)	172	48	0	0	0.03	1	VAR	VAR	VAR	VAR	0.3	30	100.0
TRS (PPB)	-	-	-	-	0.00	0	ALL	ALL	VAR	VAR	0.0	ALL	99.9
NO_2 (PPB)	159	-	0	-	3.99	21	28	7	1.7	129(SE)	7.8	19	99.9
NO (PPB)	-	-	-	-	1.31	63	26	7	3.2	133(SE)	6.5	26	99.9
NOx (PPB)	-	-	-	-	5.33	80	26	7	3.2	133(SE)	11.9	26	99.9
O_3 (PPB)	82	-	0	-	17.92	38	17	14, 15	9.2, 9.1	269(W), 259(WSW)	27.3	1	100.0
THC (PPM)	-	-	-	-	2.21	3.7	10	8	0.6	138(SE)	2.6	10	89.1
PM 2.5 (UG/M^3)	-	30	-	0	4.28	22.0	4	9	7.5	91(E)	11.1	4	99.9
TEMPERATURE (DEG C)	-	-	-	-	5.29	16.9	4	15	5.6	50(NE)	11.8	4	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	71.33	100	5	VAR	VAR	VAR	91.8	13	100.0
VECTOR WS (KPH)	-	-	-	-	5.54	17.6	22	13	-	276(W)	9.6	7	100.0
VECTOR WD (DEGREES)	-	-	-	-	262(W)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS NA: NOT AVAILABLE

Monthly Non-Continuous Data Summary
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Passive Ambient Monitoring Network – October 2011

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO_2	#27	1.1	0.29
H_2S	#27	0.79	0.17
NO_2	#28	4.3	1.6
O_3	#32	25.0	17.5

Note: The 10% duplicate sampling program starts running in October 2011.

Volatile Organics Data Summary
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – COLD LAKE

Xontech Model 910A – October 6, 2011

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

Xontech Model 910A – October 12, 2011

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

Xontech Model 910A – October 18, 2011

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

Xontech Model 910A – October 24, 2011

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

Xontech Model 910A – October 30, 2011

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

Polycyclic Aromatic Hydrocarbons (PAHs) Data Summary
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – COLD LAKE

PUF cartridge – October 6, 2011

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

PUF cartridge – October 12, 2011

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

PUF cartridge – October 18, 2011

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

PUF cartridge – October 24, 2011

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

PUF cartridge – October 30, 2011

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

General Monthly Summary - Cold Lake

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

AQM STATION – LICA – COLD LAKE

Sulphur Dioxide (PPB)
- Analyzer make / model – Thermo 43i, S/N: 806528242

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started. One hour of the maximum concentration was invalidated due to a small power outage on October 10th at hour 17. Data was corrected using daily zero information.

Total Reduced Sulphur (PPB)
- Analyzer make / model –TEI 450i, S/N: 812728560
- Converter - CD NOVA CDN 101, S/N: 250

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started. One hour of the maximum concentration was invalidated due to a small power outage on October 10th at hour 17.Data was corrected using daily zero information.

Ozone (PPB)
- Analyzer make / model –Thermo 49i, S/N: 700419951

No operational issue observed during the month. The inlet filter was changed before the monthly calibration was started. One hour of the maximum concentration was invalidated due to a small power outage on October 10th at hour 17.Data was corrected using daily zero information.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Total Hydrocarbon (PPM)

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

The span gas cylinder was replaced on October 7th. The analyzer spanned high on October 18th. Went to the site and noticed that the sample flow pressure was high on October 19th. On October 20th, troubleshooting was performed following the as found points check. It was noticed that the gas flow system part 81P674 was stuck. Cleaned the part and rebuilt the pump. The analyzer was allowed time to stabilized. A post-repair calibration was then performed. Data was invalidated back to the last valid daily calibration check, which was October 17th. 75 hours of data were invalidated. One hour of the maximum concentration was invalidated due to a small power outage on October 10th at hour 17. Data was corrected using daily zero information. The total operational time for the month was 89.1%.

Nitrogen Dioxide (PPB)

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

No operational issue observed during the month. The inlet filter was changed before the monthly calibration was started. One hour of the maximum concentration was invalidated due to a small power outage on October 10th at hour 17.Data was corrected using daily zero information.

Particulate Matter 2.5 (UG/M3)

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

No operational issue was observed this month. A routine Teom audit was performed on October 13th. Both the Teom filter and the FDMS filter were changed and the sample pump was rebuilt on October 13th. Data was corrected using Alberta air quality guideline. If the data was between 0 to –3, the data was corrected to 0. If the data was below –3, the data was invalidated. One hour of data was invalidated as the data was below –3 ug/m3.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

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

- System make / model –RM Young, S/N: 46553

The wind system is reported as vector wind speed and vector wind direction.
No operational issue was observed during the month. One hour of the WS maximum reading was invalidated due to a small power outage on October 10th at hour 17.

Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3

No operational issue was observed during the month.

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month.

Trailer Temperature (DEGC)

- System make / model - R&R 61

No operational issues observed during the month.

Datalogger

- System make / model - ESC 8832, S/N: 263
- Software make / version - ESC v 5.51a

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

Trailer

No issue was observed during this month. The manifold was cleaned on October 13th.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Air Quality Index (AQI)
The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. All AQI values were within the Good range. The highest hourly concentration of ozone was 38 ppb and an AQI value of 19 on various days in various hours. The highest hourly concentration of PM2.5 was 22.0 ug/m3 and an AQI value of 18 on October 4th, hour of 9.

Passive Network
All passive samples including SO2, NO2 and O3, for station #23 is missing.
The 10% duplicate sampling program starts running this month.

Volatile Organics (VOCs)
The volatile organics were sampled from October 6th to October 30th. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle. The values for the VOCs in this report were reported as ug/m3 in 3 significant figures.

Polycyclic Aromatic Hydrocarbons (PAHs)
The PAHs scheduled to be sampled from October 1st to October 31st. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle. The values for the PAHs in this report were reported as ng/m3.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Air Quality Index

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

AIR QUALITY INDEX (AQI)

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	13	13	13	13	12	12	12	13	14	15	15	15	15	15	15	14	11	-	8	14	18	16	15	18
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_
2	17	17	16	15	14	13	13	14	14	14	14	14	14	14	14	14	13	-	12	11	12	10	10	9	17
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_
3	7	7	5	4	5	4	5	5	6	6	7	7	7	7	7	6	-	7	7	7	7	7	7	7	7
	PM2	O3_	O3_	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2
4	7	6	7	7	18	11	9	13	9	**18**	11	11	16	13	11	-	9	9	12	11	9	7	5	7	18
	O3_	O3_	O3_	O3_	PM2	PM2	PM2	PM2	PM2	**PM2**	PM2	O3_	PM2	O3_	PM2	**NA**	O3_	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2
5	5	8	8	8	6	4	5	9	9	8	11	8	8	8	-	7	9	8	8	8	9	8	8	8	11
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	**NA**	O3_	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	PM2
6	7	7	6	6	5	5	5	5	5	5	5	5	5	-	5	6	6	6	6	6	5	5	4	4	7
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
7	4	4	3	3	3	2	1	2	3	6	11	13	-	14	14	15	14	13	12	13	12	12	12	12	15
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
8	13	12	11	11	9	9	8	9	10	12	14	-	16	17	17	17	17	15	10	6	6	5	5	8	17
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
9	12	13	14	13	14	13	13	12	11	12	-	13	13	13	13	13	11	10	6	6	2	3	8	4	14
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	O3_	PM2	PM2	O3_
10	3	3	6	6	5	5	5	7	5	-	7	14	15	16	17	17	16	-	6	8	5	3	4	7	17
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	PM2	PM2	PM2	PM2	PM2	O3_
11	6	3	3	4	3	2	5	9	-	10	13	13	14	15	15	15	14	11	6	8	6	2	5	10	15
	PM2	O3_	PM2	PM2	PM2	PM2	PM2	PM2	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	PM2	PM2	PM2	PM2	O3_
12	2	1	8	3	13	8	7	-	-	-	-	-	-	-	-	-	8	5	6	9	8	7	4	3	13
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	O3_	PM2	O3_	O3_	O3_	O3_	PM2	O3_	PM2
13	5	5	3	3	3	4	-	5	8	9	-	-	-	-	-	9	9	8	8	7	7	6	5	5	9
	PM2	PM2	O3_	O3_	O3_	PM2	**NA**	O3_	O3_	O3_	**NA**	**NA**	**NA**	**NA**	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
14	5	5	4	4	4	-	2	2	4	6	9	9	9	10	12	14	14	11	6	5	3	3	3	2	14
	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_	O3_	PM2	PM2	O3_
15	3	5	6	6	-	6	8	8	9	11	12	13	11	13	14	13	13	10	7	6	7	6	4	5	14
	PM2	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
16	5	5	4	-	3	3	4	6	7	10	13	13	15	16	18	18	17	15	13	13	9	6	6	4	18
	O3_	O3_	O3_	**NA**	O3_	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	O3_
17	3	3	-	3	2	4	5	7	5	8	12	13	16	18	19	19	18	17	15	9	8	8	8	5	19
	O3_	PM2	**NA**	PM2	PM2	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	PM2	O3_
18	5	-	5	7	7	7	8	8	7	10	12	16	18	19	19	19	18	15	17	17	17	16	16	15	19
	PM2	**NA**	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
19	-	14	14	11	12	8	4	6	11	14	15	15	17	17	15	13	11	8	8	6	5	9	5	-	17
	NA	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	PM2	**NA**	O3_
20	5	3	5	7	5	4	4	7	9	15	17	19	19	19	18	18	17	16	14	12	9	7	-	6	19
	PM2	O3_	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	PM2	O3_
21	4	6	5	7	8	8	7	6	5	9	13	14	16	18	19	19	17	12	9	13	14	-	15	14	19
	PM2	PM2	PM2	PM2	O3_	O3_	O3_	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_
22	13	12	11	9	8	7	9	10	9	13	16	17	18	18	18	18	18	18	17	14	-	8	6	4	18
	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_
23	6	6	3	3	2	2	2	2	4	7	11	14	16	18	17	17	17	17	16	-	13	12	8	10	18
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_
24	9	9	10	10	9	8	8	7	8	10	12	14	15	15	16	16	15	9	-	7	6	5	5	5	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	PM2	PM2	O3_
25	5	3	5	3	4	4	3	5	5	8	9	10	12	14	16	17	17	-	12	9	7	7	6	5	17
	PM2	O3_	PM2	O3_	PM2	PM2	PM2	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	PM2	O3_
26	5	5	3	5	1	5	9	9	10	11	13	15	16	16	16	16	-	16	15	14	14	15	13	11	16
	O3_	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
27	11	10	9	9	10	10	10	10	10	12	14	15	16	16	16	-	16	15	15	12	10	13	12	11	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
28	11	11	10	11	10	7	4	8	5	10	11	13	16	17	-	16	14	15	14	13	14	14	13	13	17
	O3_	O3_	O3_	O3_	O3_	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
29	12	11	11	13	10	10	10	9	7	8	9	11	14	-	16	16	15	13	12	11	12	11	10	9	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
30	10	8	4	4	4	3	6	6	7	10	12	13	-	13	14	14	12	12	7	7	5	8	8	8	14
	O3_	O3_	O3_	O3_	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	O3_	O3_	O3_	O3_
31	9	9	7	11	11	11	10	9	9	11	13	-	15	16	17	17	16	14	14	14	14	14	13	13	17
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
PEAK	17	17	16	15	18	13	13	14	14	18	17	19	19	19	19	19	18	18	17	17	17	18	16	15	
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	

STATUS FLAG CODES	NA - NOT APPLICABLE

V - VARIOUS

AQI CLASS	OZONE (O_3)					PARTICULATE MATTER 2.5 (PM2)					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)	546	73.4%	19	VAR	VAR	152	20.4%	18	9	4	0	0.0%	-	-	-	0	0.0%	-	-	-	698	93.8%
OVERALL	546	73.4%	-	-	-	152	20.4%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	698	93.8%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	6.2%

JOB #: 2833-11-10-01-C

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

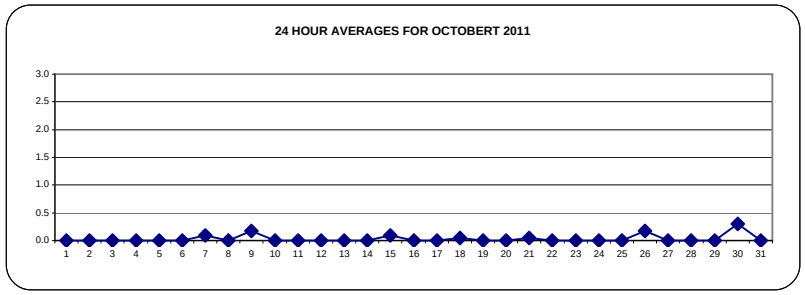
SULPHUR DIOXIDE (SO_2) hourly averages in ppb

MST

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

STATUS FLAG CODES

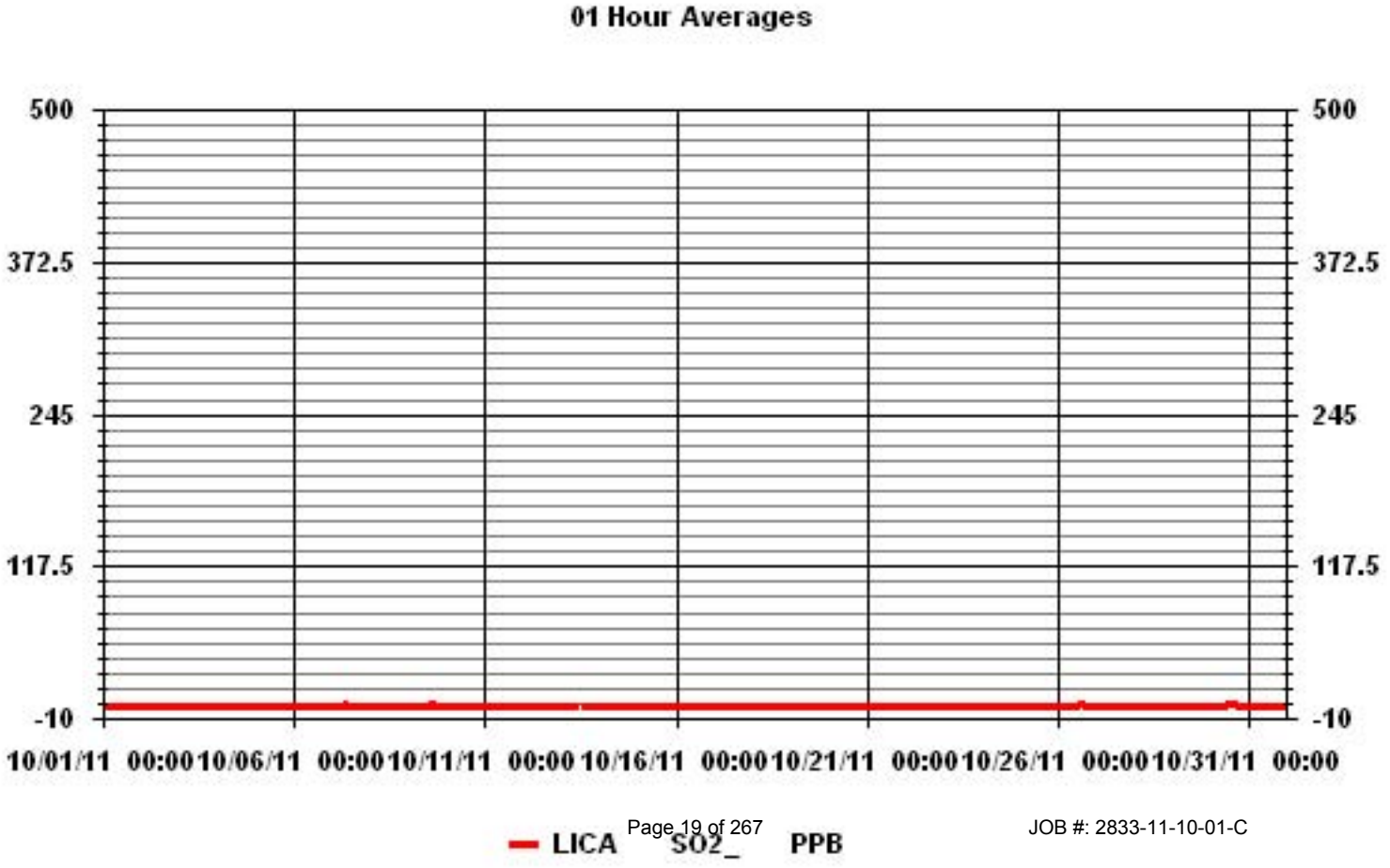
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	21					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.3	PPB			ON DAY(S)	30
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.17		MONTHLY AVERAGE:		0.03	PPB



JOB #: 2833-11-10-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

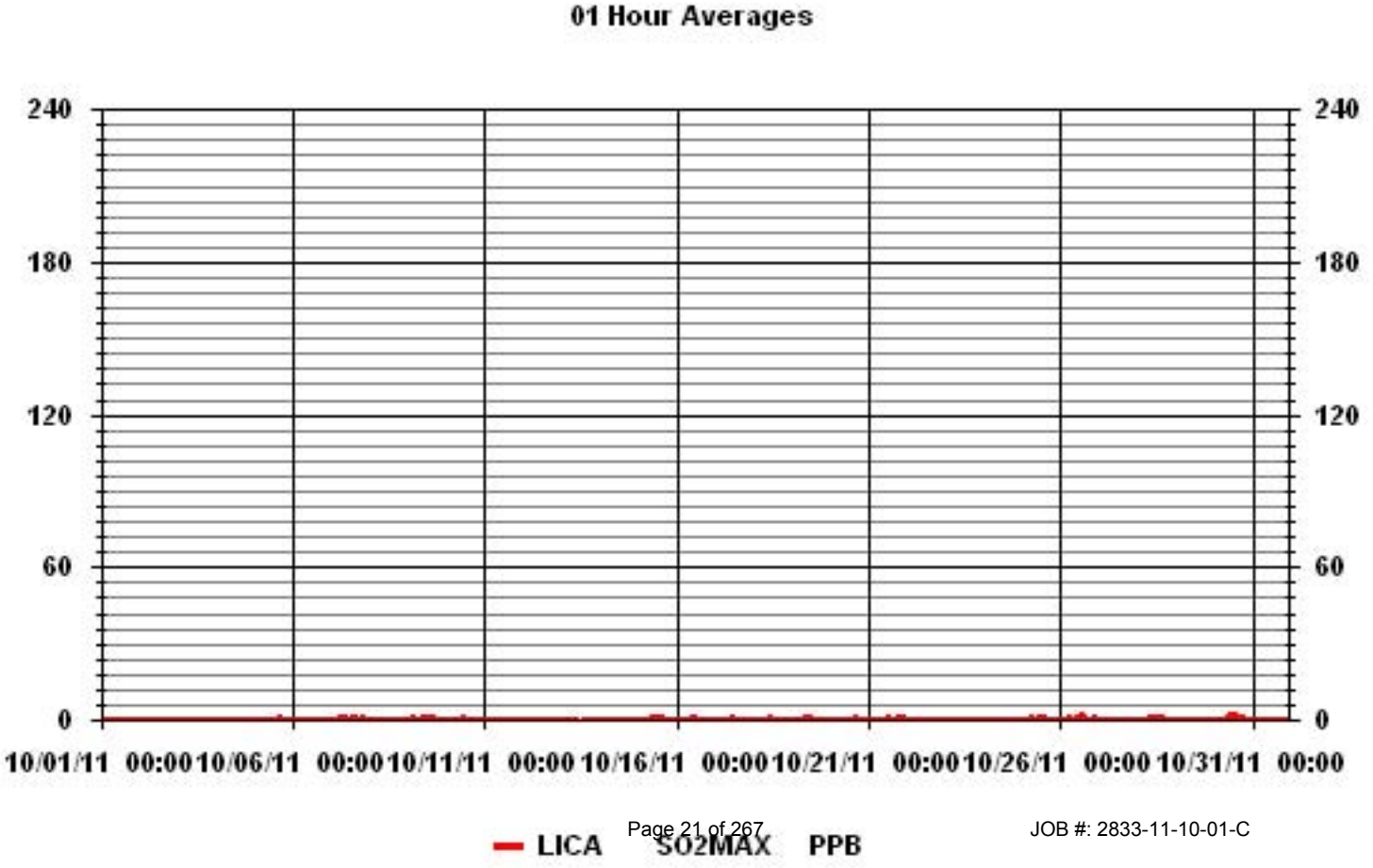
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00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

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	80					
MAXIMUM INSTANTANEOUS VALUE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)	26, 30
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.34					



JOB #: 2833-11-10-01-C

LICA
SO2_ / WDR Joint Frequency Distribution (Percent)

October 2011

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
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	1.69	6.08	2.40	3.25	8.34	3.81	8.91	2.40	2.54	2.97	13.01	19.51	15.55	4.24	4.52	.70	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	1.69	6.08	2.40	3.25	8.34	3.81	8.91	2.40	2.54	2.97	13.01	19.51	15.55	4.24	4.52	.70	

Calm : .00 %

Total # Operational Hours : 707

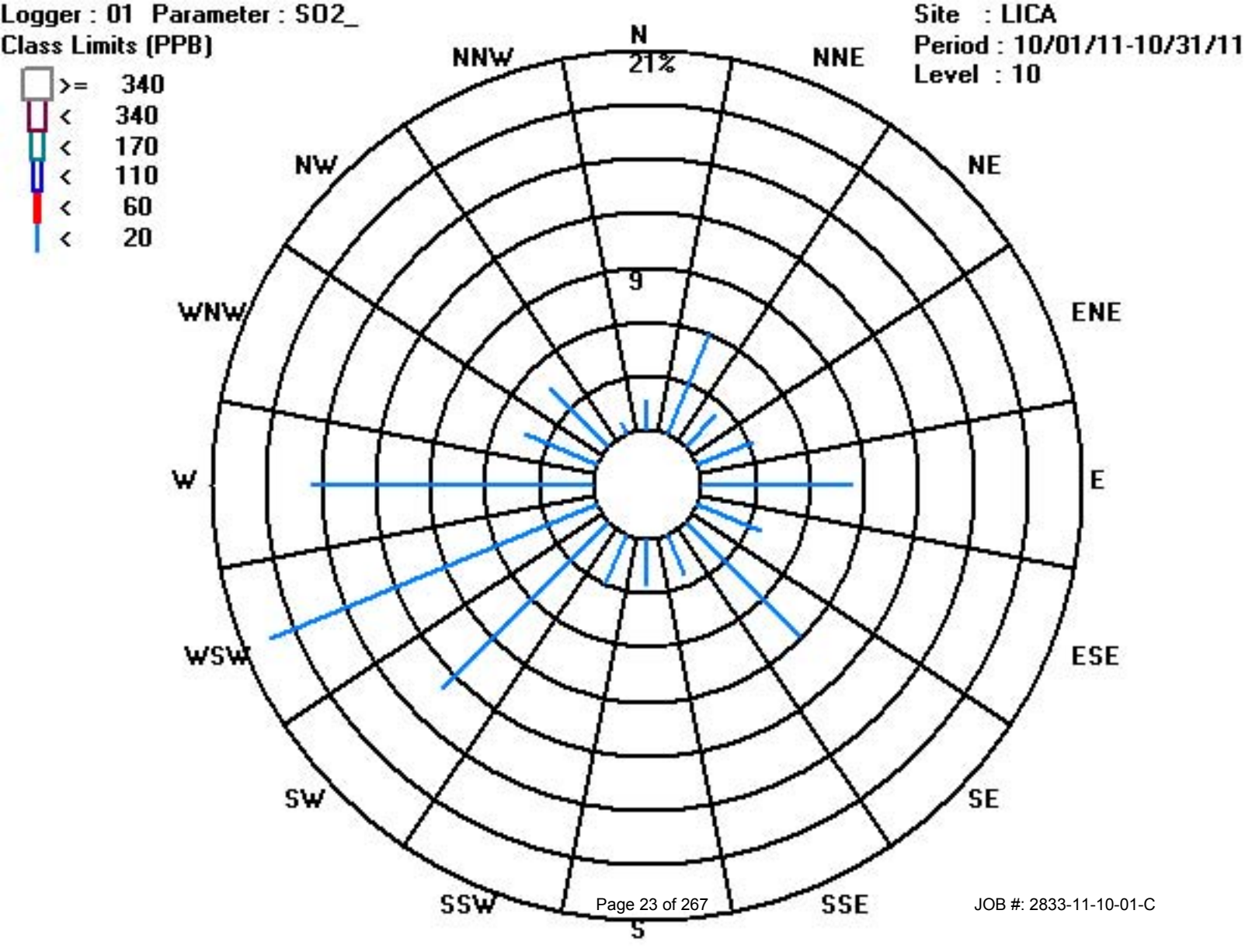
Distribution By Samples

Direction

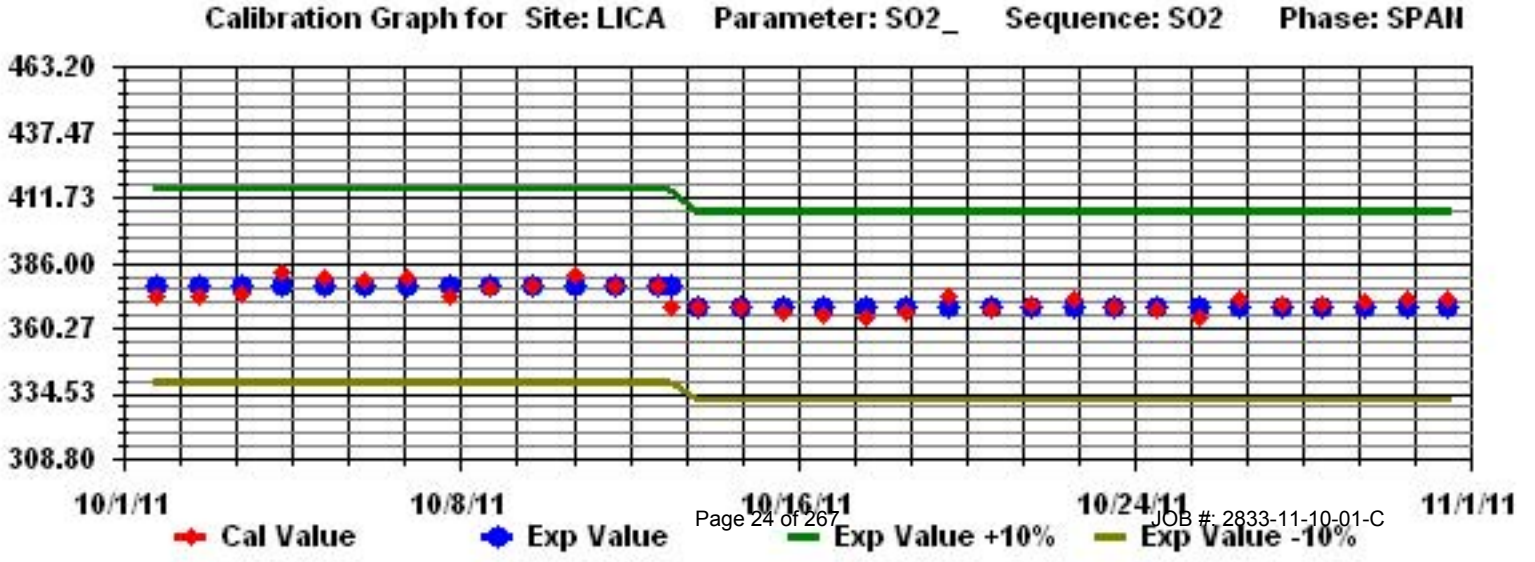
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	12	43	17	23	59	27	63	17	18	21	92	138	110	30	32	5	707
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	12	43	17	23	59	27	63	17	18	21	92	138	110	30	32	5	

Calm : .00 %

Total # Operational Hours : 707



JOB #: 2833-11-10-01-C


Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAN
463.20
437.47
411.73
386.00
360.27
334.53
308.80
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

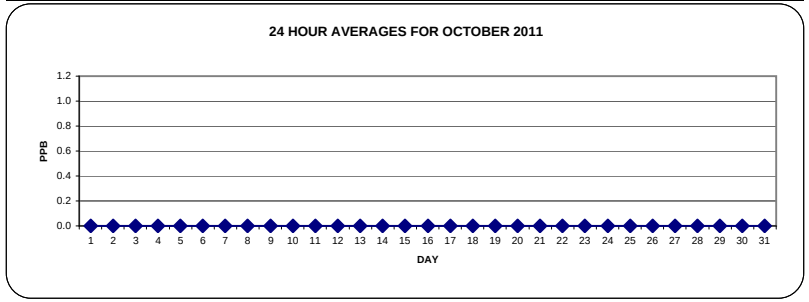
TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

MST

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

STATUS FLAG CODES

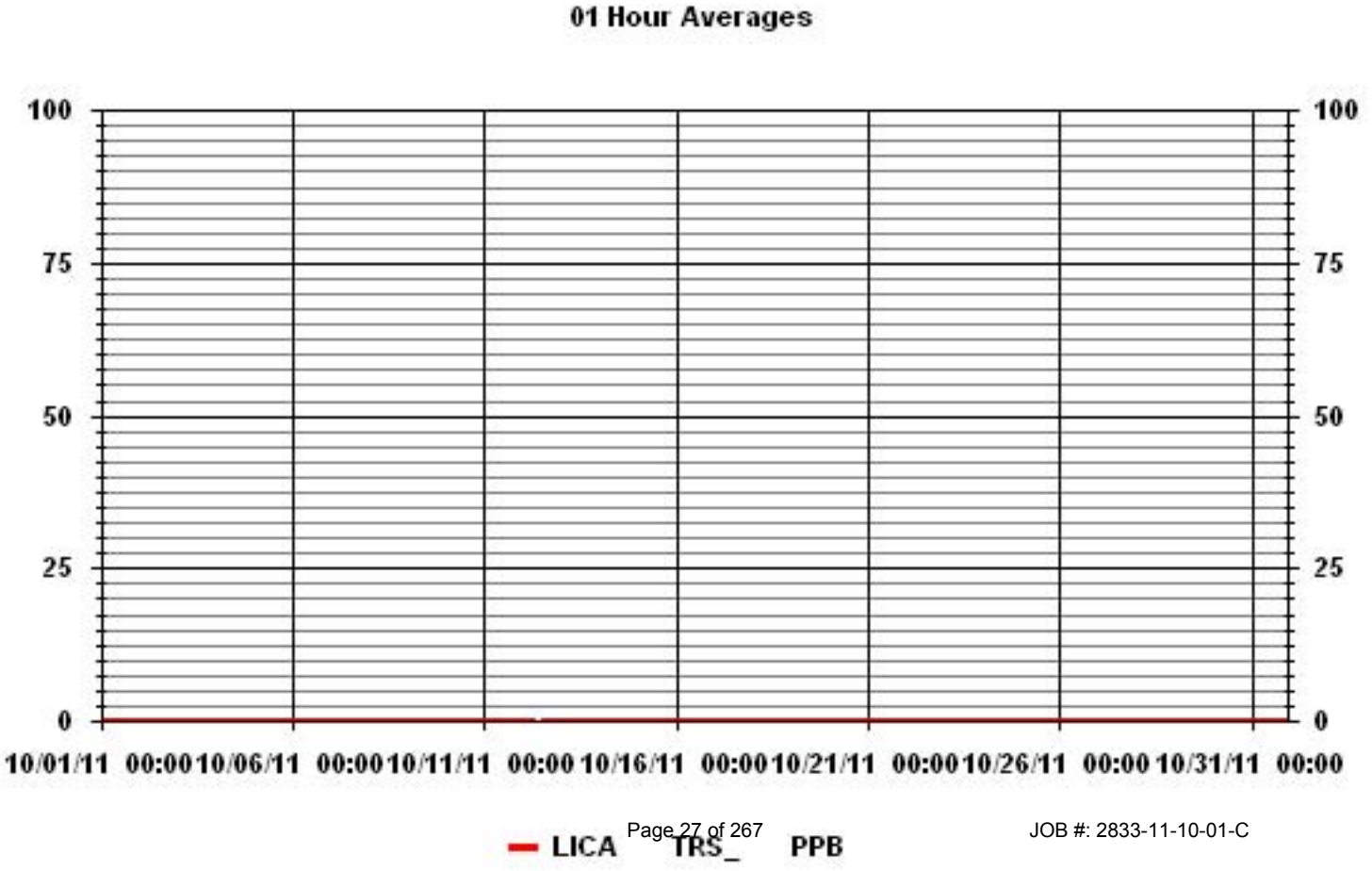
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF 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:	743	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:	0.00	PPB



JOB #: 2833-11-10-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

TOTAL REDUCED SULPHUR MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	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	IZS	0	0	0	0	0	0	0	0	0.0	24
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0.0	24
5	1	1	1	1	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0.2	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	0	0	0	0	0	0	0	0	0	0	0	IZS	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	IZS	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
10	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	P	0	0	0	0	0	0	0	0.0	23
11	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
12	0	0	0	0	0	0	0	IZS	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.0	24
13	0	0	0	0	0	0	IZS	0	0	0	0	0	0	M	M	0	0	0	0	0	0	0	0	0	0	0.0	22
14	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
15	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
16	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
17	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
18	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
19	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
20	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
21	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
22	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
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0.0	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24
26	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	1	0.0	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	0	0	0	0	1	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	0	0	0	0	0	0	1	0.0	24
31	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 7

MAXIMUM INSTANTANEOUS VALUE: 1 PPB @ HOUR(S) VAR ON DAY(S) 5

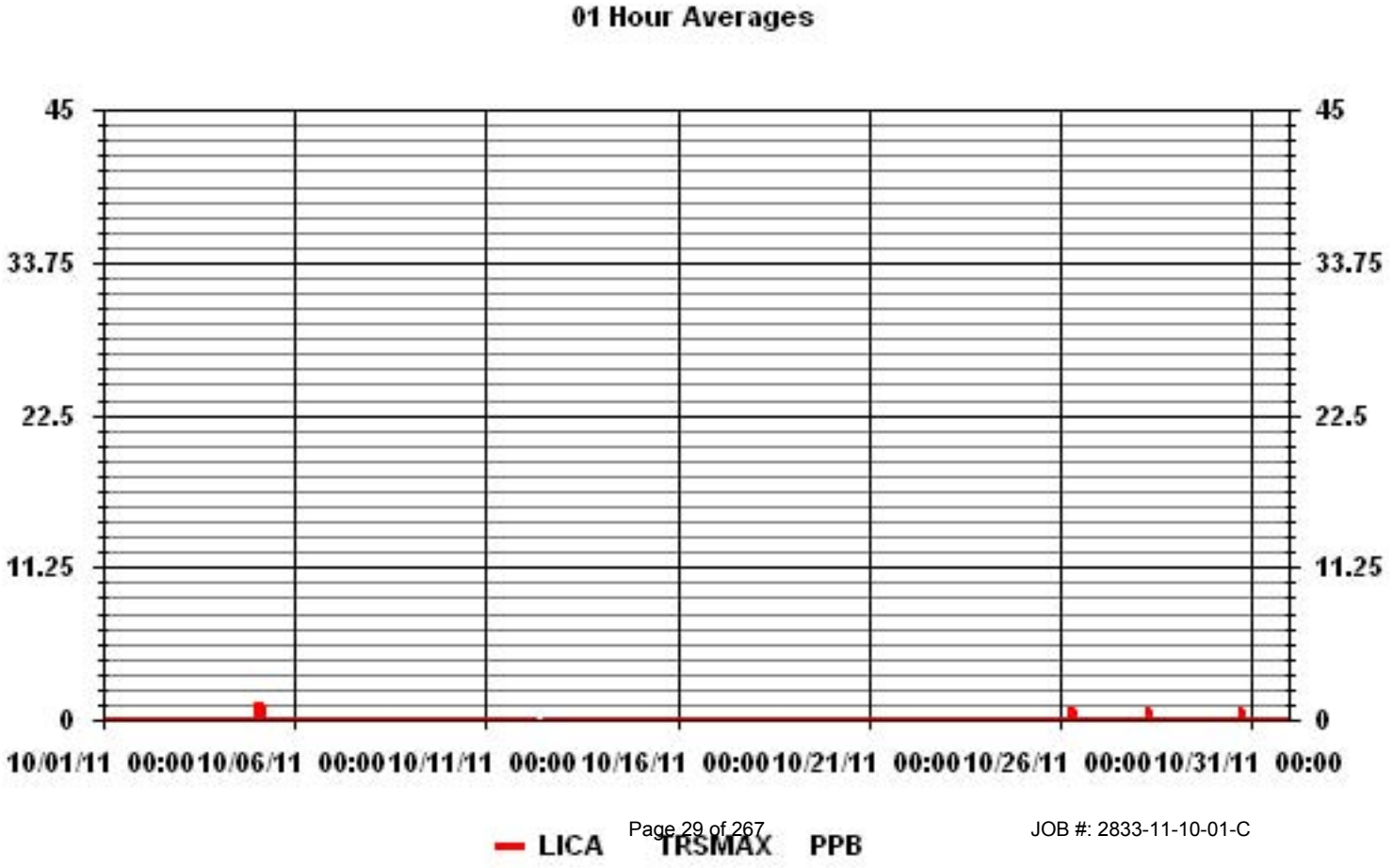
VAR - VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 0.10

JOB #: 2833-11-10-01-C



JOB #: 2833-11-10-01-C

LICA
TRS_ / WD Joint Frequency Distribution (Percent)

October 2011

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	1.70	6.09	2.41	3.26	8.08	3.68	8.51	2.41	2.55	2.97	13.04	19.57	15.88	4.39	4.68	.70	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	1.70	6.09	2.41	3.26	8.08	3.68	8.51	2.41	2.55	2.97	13.04	19.57	15.88	4.39	4.68	.70	

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
<	3	12	43	17	23	57	26	60	17	18	21	92	138	112	31	33	5	705
<	10																	
<	50																	
>=	50																	
	Totals	12	43	17	23	57	26	60	17	18	21	92	138	112	31	33	5	

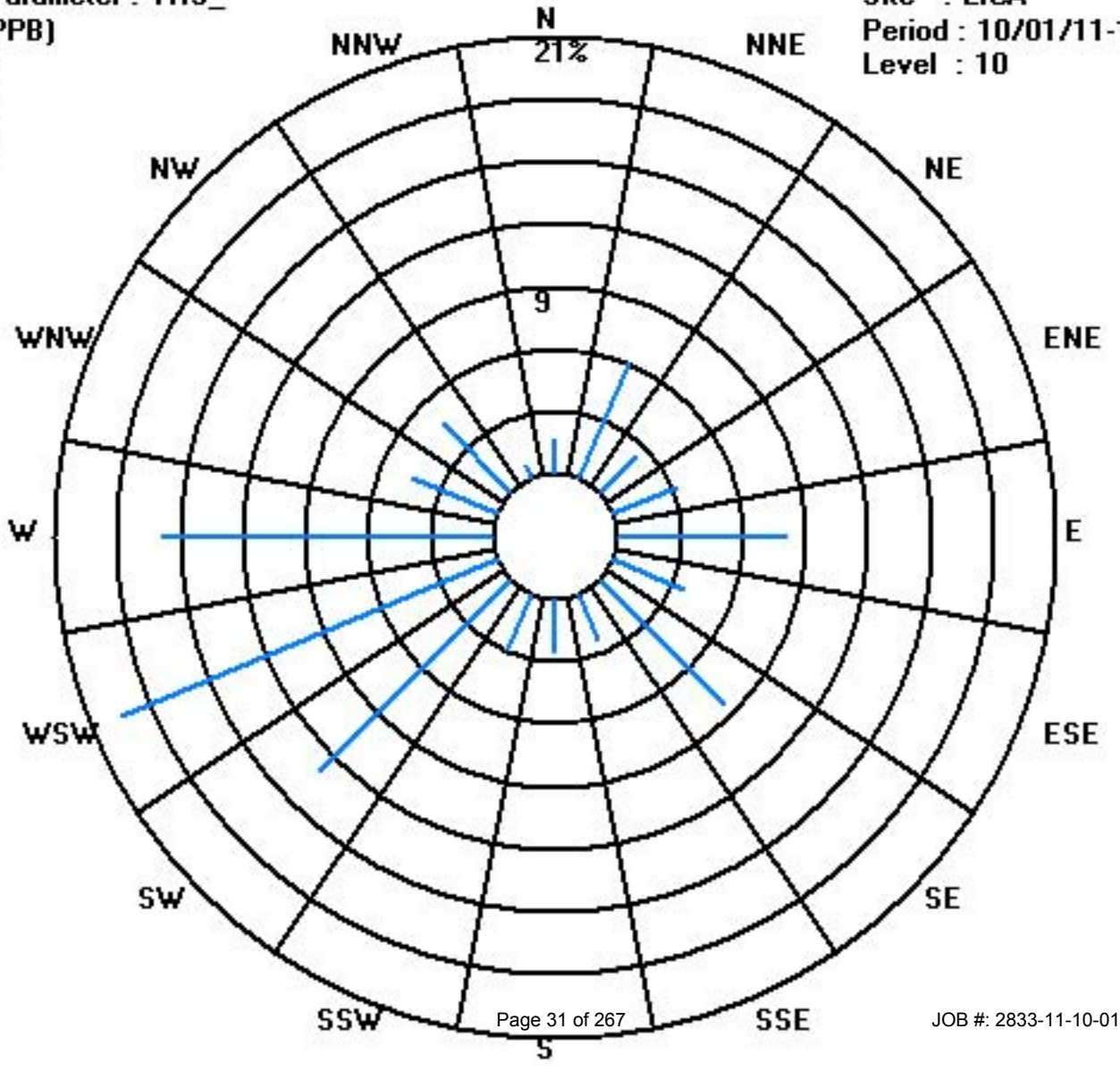
Calm : .00 %

Total # Operational Hours : 705

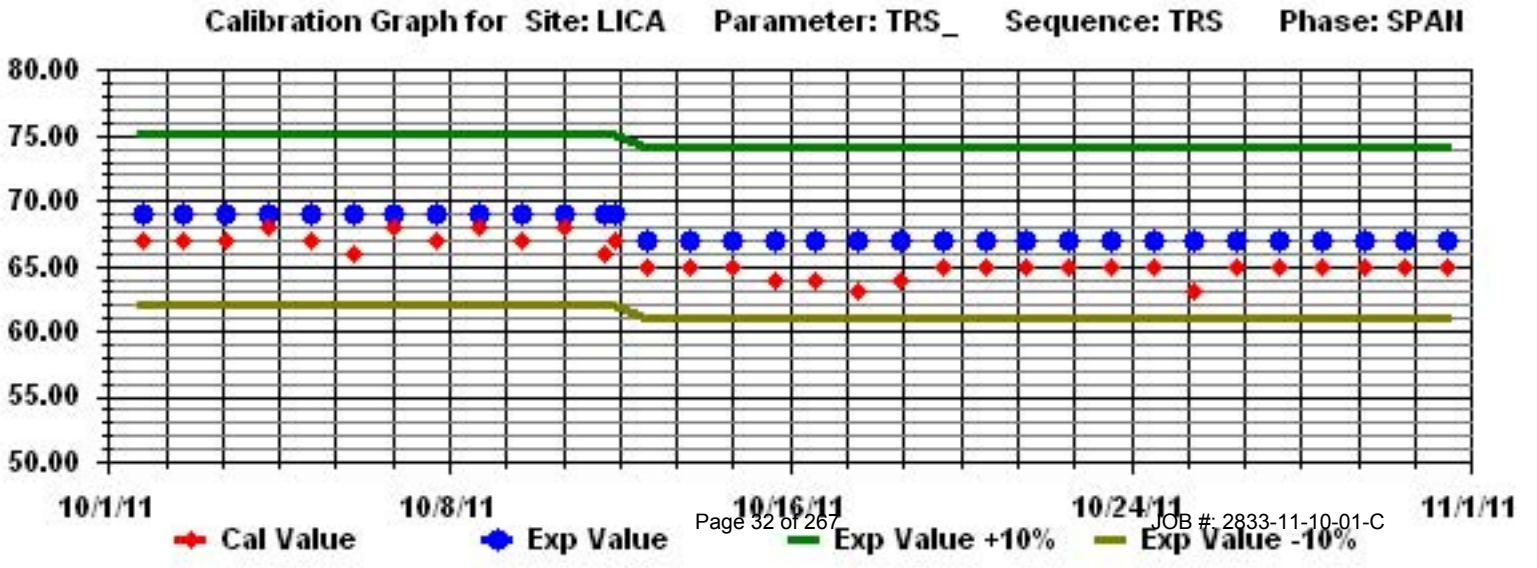
Logger : 01 Parameter : TRS_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-01-C


Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN
80.00
75.00
70.00
65.00
60.00
55.00
50.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

OCTOBER 2011

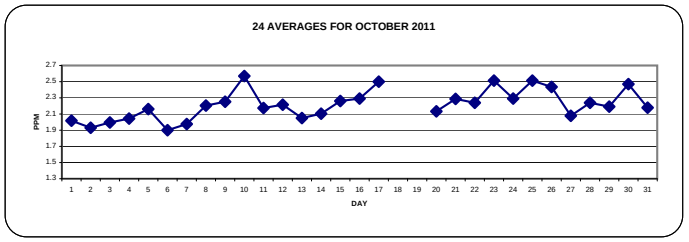
TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	2	2.1	2.2	2.2	2.2	2.2	2.1	2	2	1.9	1.9	1.9	1.9	2	2	2	2	**IZS**	2.1	2	1.9	1.9	1.9	2.2	2.0	24
2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	1.9	1.9	2	1.9	1.9	1.9	1.9	1.9	**IZS**	1.9	2	2	2	2	2	2.0	1.9	24
3	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	**IZS**	1.9	2	1.9	1.9	1.9	1.9	1.9	2.1	2.0	24
4	1.9	1.9	1.9	1.9	2	2	2	1.9	1.9	2	1.9	1.9	2	2	1.9	**IZS**	1.9	2	2.1	2.2	2.2	2.2	2.4	2.9	2.9	2.0	24
5	2.9	3	3	3	2.5	2.2	2.1	2	2	2	2	1.9	1.9	1.9	**IZS**	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	3.0	2.2	24
6	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	**IZS**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	24
7	1.9	1.9	2	2	2	2.1	2.1	2	2	2	1.9	1.9	**IZS**	1.9	1.9	1.9	**C**	**C**	2	2	2	2	2	2	2.1	2.0	24
8	2	2	2.1	2.2	2.3	2.4	2.3	2.2	2.2	2.1	2.1	**IZS**	1.9	1.9	1.9	1.9	2	2	2.1	2.2	2.2	2.7	3.4	2.6	3.4	2.2	24
9	2.3	2.4	2.3	2.5	2.5	2.6	2.4	2.4	2.3	2.2	**IZS**	2.1	2.1	2	2	2.1	2.1	2	2.1	2.1	2.2	2.3	2.3	2.5	2.6	2.3	24
10	2.9	3.2	3.3	3.3	3.5	3.4	3.6	3.4	**3.7**	**IZS**	2.4	2	1.9	1.9	1.9	1.9	1.9	2	2.1	2.2	2.1	2.2	2.1	2.2	**3.7**	**2.6**	24
11	2.3	2.3	2.2	2.4	2.4	2.6	2.8	2.9	**IZS**	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.2	2.2	2.1	2.1	2.2	2.9	2.2	24
12	2.2	2.4	2.4	2.5	2.5	2.7	2.9	**IZS**	2.2	2	2	2	2	**C**	**C**	**C**	1.9	2	2.1	2.1	2.1	2.1	2.1	2.1	2.9	2.2	24
13	2.1	2.2	2.2	2.4	2.3	2.2	**IZS**	2.1	2	1.9	2	2	2	1.9	**M**	1.9	1.9	2	2	2	2	2	2	2	2.4	2.1	23
14	2	2	2.1	2.1	2	**IZS**	2.1	2.2	2.1	2.1	2.1	2	2	2	2	1.9	1.9	2	2.1	2.1	2.2	2.3	2.5	2.6	2.6	2.1	24
15	2.7	2.7	2.6	2.6	**IZS**	2.7	2.5	2.2	2.4	2.2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.1	2.5	2.6	2.6	2.3	2.7	2.3	24
16	2.4	2.4	2.5	**IZS**	2.6	2.8	2.7	2.8	2.7	2.4	2.1	2.1	2.2	2.2	2	2	2	2.1	2.1	2	2.1	2.1	2.2	2.2	2.8	2.3	24
17	2.4	2.6	**IZS**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	2.6	2.5	3
18	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**			0
19	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**M**	**M**	**M**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**			0
20	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**C**	**M**	**M**	**C**	**C**	**C**	**C**	2	2	2	2	2.4	**IZS**	2.4	2.4	2.1	13
21	2.5	2.8	2.9	2.8	2.4	2.4	2.4	2.5	2.6	2.3	2.1	2.1	2	2	2	2	2	2.1	2.1	2.1	2.1	**IZS**	2.2	2.2	2.9	2.3	24
22	2.2	2.4	2.4	2.3	2.8	3	2.3	2.2	2.2	2.1	2.1	2	2	2	2	2	2	2.1	2.1	2.2	**IZS**	2.4	2.3	2.4	3.0	2.2	24
23	2.5	3.2	3	2.9	3.1	3.1	2.9	3	3.2	2.9	2.4	2.1	2.1	2	2	2	2	2.1	2.1	**IZS**	2.2	2.3	2.4	2.3	3.2	2.5	24
24	2.2	2.3	2.2	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2	2	2	2.1	**IZS**	2.2	2.4	2.8	2.9	2.8	2.9	2.3	24
25	2.8	2.9	3	3	3.1	3	3	2.6	2.5	2.5	2.4	2.4	2.3	2.1	2.1	2.1	2.1	**IZS**	2	2	2.1	2.4	2.7	2.7	3.1	2.5	24
26	2.8	2.7	2.8	2.8	2.9	3.1	3.4	3.4	2.5	2.4	2.2	2.1	2.1	2.2	2	2	**IZS**	2.1	2.1	2.1	2.1	2.1	2	2.1	3.4	2.4	24
27	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2.1	2.1	2	2	2	2	**IZS**	2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	24
28	2.2	2.2	2.3	2.4	2.3	2.4	2.4	2.6	2.4	2.5	2.4	2.3	2.1	2.1	**IZS**	2.2	2.4	2.2	2.1	2	2	2	2	2	2.6	2.2	24
29	2	2	2	2.1	2.2	2.1	2.1	2.2	2.4	2.5	2.4	2.3	2.1	**IZS**	2	2	2	2.2	2.2	2.3	2.2	2.3	2.4	2.4	2.5	2.2	24
30	2.4	2.6	2.6	2.5	2.6	2.9	2.7	2.6	2.6	2.5	2.4	2.3	**IZS**	2.4	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.5	2.5	2.7	2.9	2.5	24
31	2.4	2.5	2.5	2.4	2.4	2.3	2.2	2.2	2.1	2.1	2.1	**IZS**	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.5	2.2	24
HOURLY MAX	2.9	3.2	3.3	3.3	3.5	3.4	3.6	3.4	3.7	2.9	2.4	2.4	2.3	2.4	2.3	2.2	2.4	2.3	2.3	2.3	2.5	2.8	3.4	2.9			
HOURLY AVG	2.3	2.4	2.4	2.4	2.4	2.5	2.4	2.4	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.3	2.3			

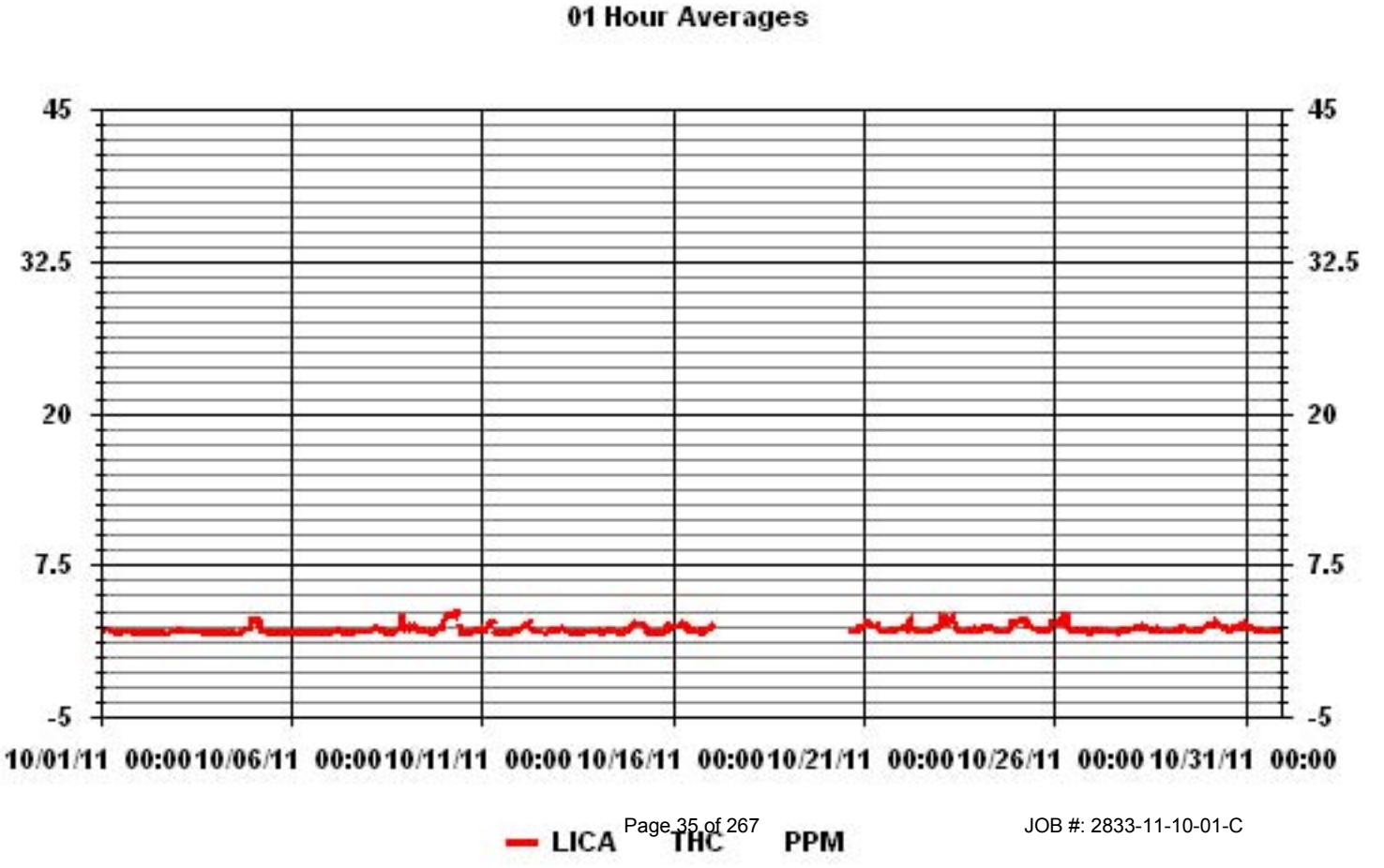
STATUS FLAG IZSODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	623					
MAXIMUM 1-HR AVERAGE:	3.7	PPM	@ HOUR(S)	8	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:	2.6	PPM			ON DAY(S)	10
IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:		663	HRS
MONTHLY CALIBRATION TIME:	29	HRS	AMD OPERATION UPTIME:		89.1	%
STANDARD DEVIATION:	0.33		MONTHLY AVERAGE:		2.21	PPM



JOB #: 2833-11-10-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

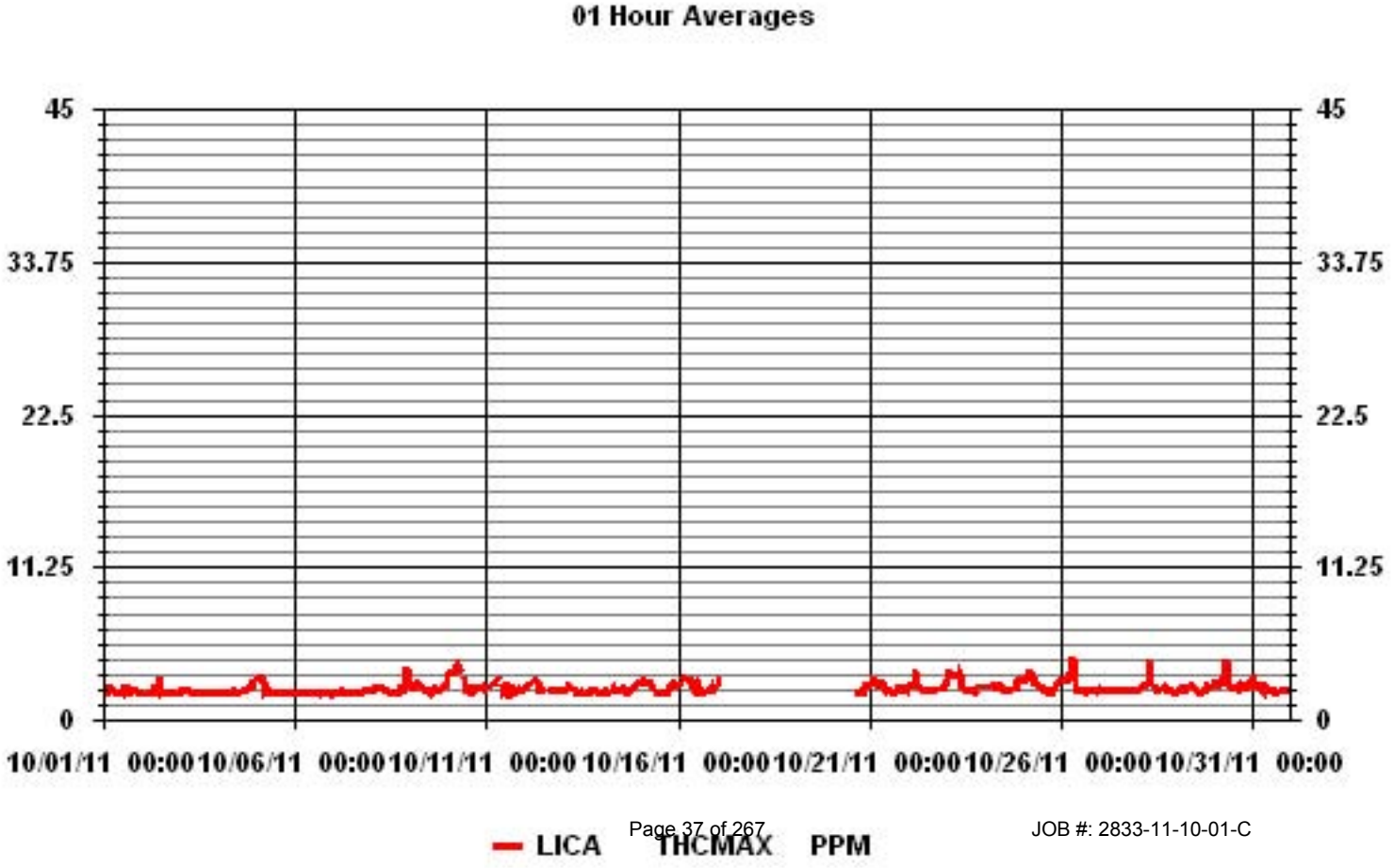
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	2.2	2.1	2.3	2.3	2.3	2.2	2.2	2.1	2	2	2	2	2.5	2.1	2.3	2	2	**IZS**	2.3	2.2	2	2	2	2.5	2.1	24
2	1.9	1.9	1.9	2	2	2	2	2	2.5	2.1	2.1	3.1	2	2.1	2	2	2	**IZS**	2	2	2	2	2	2	3.1	2.1	24
3	2.2	2.2	2.1	2.1	2.3	2.2	2.1	2.1	2	2	2	2	2	2	2	2.1	**IZS**	2	2	2	2	2	2	2	2.3	2.1	24
4	2	2	2	2	2	2	2	2	2	2.1	2.1	2	2	2	2.1	**IZS**	2.1	2.1	2.2	2.3	2.3	2.4	2.8	3	3	2.2	24
5	3	3.1	3.1	3.1	2.9	2.2	2.4	2.2	2	2	2	2	2	2	**IZS**	2	2	2	2	2	2	2	2	2	3.1	2.3	24
6	2	2	2	2	2	2	2	2.1	2	2	2	2	2	**IZS**	2.1	2	1.9	2	2	2	2	2	2	1.9	2.1	2.0	24
7	2	2	2	2	2.1	2.2	2.1	2.1	2	2	2	2	**IZS**	1.9	1.9	1.9	**C**	**C**	2	2.1	2.1	2.1	2.1	2.1	2.2	2.0	24
8	2.1	2.1	2.3	2.3	2.4	2.5	2.4	2.3	2.3	2.2	2.2	**IZS**	2	2	2	2	2	2	2.4	2.5	2.4	3.3	3.8	3.4	3.8	2.4	24
9	2.5	2.5	2.4	2.6	2.7	2.7	2.6	2.4	2.4	2.2	**IZS**	2.2	2.2	2	2.2	2.3	2.3	2.1	2.1	2.2	2.4	2.5	2.5	2.7	2.7	2.4	24
10	3.4	3.5	3.6	3.5	3.8	3.8	4	3.7	3.8	**IZS**	2.9	2	2.3	2.4	1.9	1.9	2	**P**	2.3	2.3	2.3	2.5	2.2	2.3	4	2.8	23
11	2.4	2.4	2.5	2.6	2.6	2.8	2.9	3.1	**IZS**	2.4	1.9	2	1.9	2.7	2	1.9	2	2	2.4	2.3	2.4	2.2	2.2	2.3	3.1	2.3	24
12	2.3	2.5	2.5	2.6	2.7	2.9	3.1	**IZS**	2.7	2.1	2.1	2.2	**C**	**C**	**C**	**C**	**C**	2.2	2.2	2.2	2.2	2.2	2.2	2.2	3.1	2.4	24
13	2.3	2.2	2.3	2.5	2.5	2.3	**IZS**	2.2	2	2	2	2.2	2	**M**	**M**	2.1	2	2.1	2.1	2.1	2.1	2.1	2.1	2	2.5	2.2	22
14	2	2.1	2.2	2.2	2.1	**IZS**	2.2	2.4	2.2	2.2	2.2	2.1	2.2	2.3	2	2.1	2	2.1	2.1	2.3	2.4	2.6	2.6	2.7	2.7	2.2	24
15	2.8	2.9	2.6	2.6	**IZS**	2.7	2.7	2.3	2.6	2.4	2.1	2	2	2	2	2.1	2	2	2.1	2.5	2.6	2.7	2.7	2.5	2.9	2.4	24
16	2.5	2.6	2.6	**IZS**	3.1	3	3	2.9	2.9	2.6	2.3	2.6	2.3	2.5	2	2	2	2.1	2.2	2.1	2.1	2.5	2.3	2.5	3.1	2.5	24
17	2.6	3	**IZS**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	3	2.8	3
18	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**			0
19	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**M**	**M**	**M**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**			0
20	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**C**	**M**	**M**	**C**	**C**	**C**	**C**	**C**	2	2	2	2.3	2.6	**IZS**	2.5	2.6	2.2	13
21	2.6	3.1	3	3	2.7	2.5	2.5	2.7	2.7	2.5	2.1	2.2	2.2	2.2	2	2	2.1	2.2	2.6	2.2	2.2	**IZS**	2.4	2.2	3.1	2.4	24
22	2.4	2.5	2.5	2.5	3.4	3.4	2.5	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	**IZS**	2.4	2.6	2.5	3.4	2.4	24
23	2.9	3.5	3.5	3.2	3.2	3.2	3.2	3.4	3.7	3.5	2.5	2.4	2.2	2.1	2.2	2.1	2.1	2.2	2.1	**IZS**	2.4	2.4	2.4	2.4	3.7	2.7	24
24	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.4	2.5	2.5	2.5	2.3	2.2	2.2	2.3	2.1	2.1	2.2	**IZS**	2.4	2.8	3	3	2.9	3	2.5	24
25	2.9	3.1	3.1	3.1	3.7	3.2	3.3	2.8	2.7	2.6	2.6	2.5	2.4	2.2	2.1	2.1	2.1	**IZS**	2	2.2	2.3	2.7	2.8	2.9	3.7	2.7	24
26	2.9	2.9	2.9	2.9	3.1	3.4	4	**4.6**	3	2.5	2.3	2.2	2.2	2.3	2.2	2.1	**IZS**	2.2	2.2	2.2	2.2	2.3	2.1	2.2	**4.6**	2.6	24
27	2.4	2.3	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	**IZS**	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.4	2.2	24
28	2.2	2.3	2.4	2.5	2.5	2.7	2.5	4.4	2.6	2.6	2.6	2.5	2.3	2.2	**IZS**	2.3	2.5	2.3	2.1	2.1	2.1	2.1	2.1	2	4.4	2.4	24
29	2	2.1	2.1	2.3	2.3	2.2	2.2	2.4	2.5	2.6	2.4	2.4	2.2	**IZS**	2.1	2	2.1	2.3	2.5	2.5	2.3	2.4	2.4	2.5	2.6	2.3	24
30	2.7	2.7	2.7	2.6	2.8	3.2	3.1	4.5	2.8	2.7	2.5	2.4	**IZS**	2.5	2.4	2.3	2.6	2.4	2.5	2.5	2.4	2.7	2.9	3	4.5	2.7	24
31	2.5	2.6	2.6	2.5	2.5	2.4	2.2	2.8	2.3	2.3	2.2	**IZS**	2.1	2.1	2.1	2	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.3	2.8	2.3	24
HOURLY MAX	3	4	4	4	4	4	4	5	4	4	3	3	2	3	2	2	3	2	3	3	3	3	4	3			
HOURLY AVG	2.4	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.5	2.3	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.4	2.4	2.4			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	619						
MAXIMUM INSTANTANEOUS VALUE:	4.6	PPM	@ HOUR(S)	7	ON DAY(S)	26	
IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:			661	HRS
MONTHLY CALIBRATION TIME:	13	HRS					
STANDARD DEVIATION:	0.41						



JOB #: 2833-11-10-01-C

LICA
THC / WD Joint Frequency Distribution (Percent)

October 2011

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	1.44	6.57	2.40	3.52	7.85	3.36	7.37	2.40	2.08	2.72	12.50	18.75	15.22	3.84	4.80	.80	95.67
<	10.0	.16	.00	.00	.00	.80	.16	.48	.00	.16	.32	.80	.80	.48	.16	.00	.00	4.32
<	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	1.60	6.57	2.40	3.52	8.65	3.52	7.85	2.40	2.24	3.04	13.30	19.55	15.70	4.00	4.80	.80	

Calm : .00 %

Total # Operational Hours : 624

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	9	41	15	22	49	21	46	15	13	17	78	117	95	24	30	5	597
<	10.0	1				5	1	3		1	2	5	5	3	1			27
<	50.0																	
>=	50.0																	
	Totals	10	41	15	22	54	22	49	15	14	19	83	122	98	25	30	5	

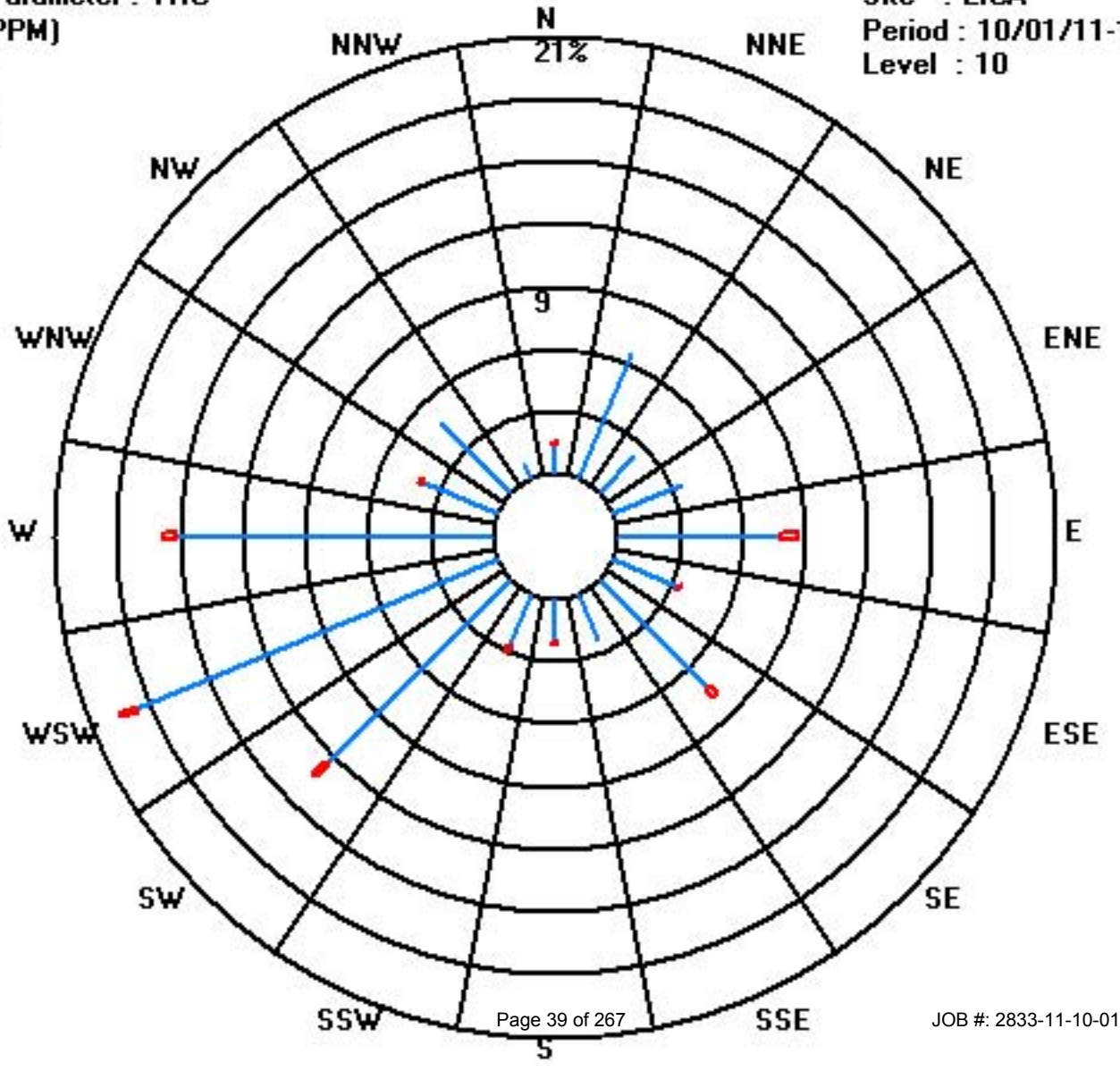
Calm : .00 %

Total # Operational Hours : 624

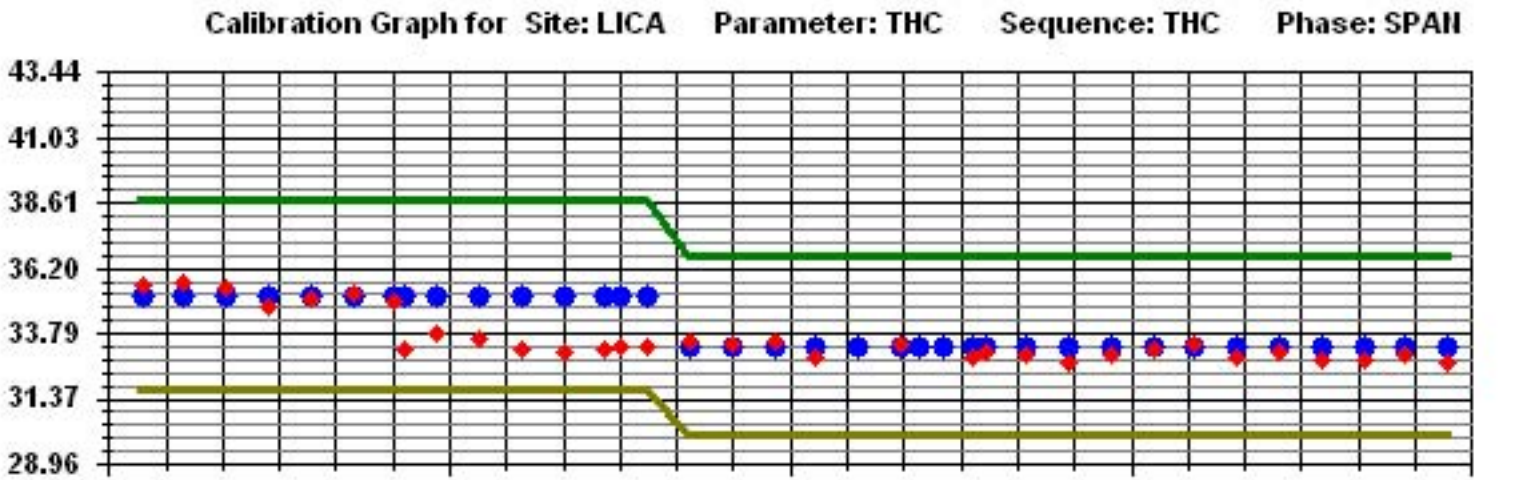
Logger : 01 Parameter : THC
Class Limits (PPM)

>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-01-C


Calibration Graph for Site: LICA Parameter: THC Sequence: THC Phase: SPAN
43.44
41.03
38.61
36.20
33.79
31.37
28.96
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

PARTICULATE MATTER 2.5 (PM2.5) hourly averages in ug/m^3

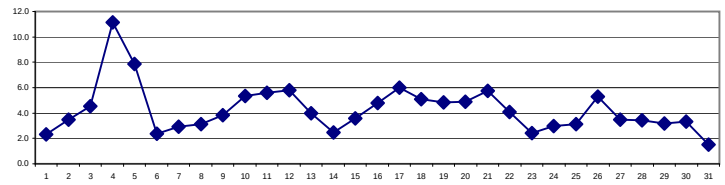
MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	5	2.5	6	4.4	2.5	4	2.5	5.5	0	2.9	0	1.4	4.4	0	0.4	1.4	3.4	4.4	0	5	0.4	0	0	0	6.0	2.3	24
2	0	0	0	1	1	2.9	2.5	1.4	1	1.4	1	0.4	4.4	5.5	3.4	6.5	4.4	1.9	4.4	7.9	6.9	9.4	9.9	6.5	9.9	3.5	24
3	8.4	1.9	5.5	5	6	1.9	4	0	2.9	2.5	5.5	2.5	7.9	7.5	5	5.5	2.5	5	6.5	4	5.5	1.9	6.5	5	8.4	4.5	24
4	6	4.4	2.5	6.5	21.5	13.5	11	16	10.5	**22**	13	9	19.5	10.5	13.5	6.5	9.9	10.9	14	13	10.5	8.4	6	8.4	**22.0**	**11.1**	24
5	6.5	9.9	9	9.4	7.5	4.4	5.5	10.5	10.5	9.9	13	9.4	9	4.4	6	8.4	10.5	9.9	6.5	7.5	4.4	5.5	5.5	5.5	13.0	7.9	24
6	5	0.4	4	1	4	4.4	4	2.5	1.4	4	1.4	1.4	1	0	1.4	1.9	1.4	3.4	4.4	1.9	1.9	2.9	1.9	1	5.0	2.4	24
7	0	1.9	1.4	0	2.9	0	0	2	1.9	1.4	4	4	0	2.5	4.4	6.5	5.5	5	4.4	5.5	6.9	4	0	5.5	6.9	2.9	24
8	2.5	7.5	4.4	3.4	1.9	2.5	3.4	4.4	2.5	1	2	1.4	4	1.9	5.5	1.9	2.9	2.5	2.9	2.5	1.9	2.9	3.4	5.5	7.5	3.1	24
9	2.9	1.4	2.5	1	3.4	4	4.4	1.4	4	0.4	2.9	2.9	4.4	5.5	5.5	4	6.4	5.5	4	6.9	2.9	1.9	9.9	4.4	9.9	3.9	24
10	4	4	7	7.5	5.5	6	6.5	7.9	5.5	5	7.9	4	3.4	3.4	4.4	4.4	2.9	**N**	1.4	9.4	6.5	4	4.4	7.9	9.4	5.3	23
11	7	0	4	5	4	1.9	5.9	10.5	6.9	9.9	0	3.4	5	5.5	5	4	5	7.5	6.9	9.4	6.9	2.9	6	12	12.0	5.6	24
12	2.5	1.4	9.9	3.4	15	9	7.9	12	9.9	3.4	4.4	1.4	6.9	3.4	5	6.5	5	6	4.4	4	3.4	6.4	4.4	3.4	15.0	5.8	24
13	5.5	6	0.4	0.4	3.4	5	5.5	5.5	3.4	6	5.5	**C**	**C**	0	1	2.5	6.9	6.9	8.4	5.5	6	0.4	2.5	1.4	8.4	4.0	24
14	0	0	4	0.4	1.9	0	0	1.9	3.4	4	6	5	1.4	2.9	2.9	0.4	1	2.9	5	6.5	1.4	2.9	3.4	2.5	6.5	2.5	24
15	4	5.5	3.4	2.5	1.4	4	5	1.4	0	4	7.9	5.5	4	5.5	4	4	0.4	4.4	3.4	3.4	2.9	3.4	1.4	5	7.9	3.6	24
16	4.4	1.9	4.4	2.5	2.9	3.4	4.4	7	8.4	4	2.9	2.9	4.4	6.5	4.4	4.4	4.4	6.5	4	6	5.5	7	7.5	5	8.4	4.8	24
17	2.9	3.4	1	3.4	2.9	5	5.5	7.9	6	7	9.9	2.9	7.5	6.9	6	6.5	9	6	6	7.9	6	9	9.4	6	9.9	6.0	24
18	6.5	6.9	6.5	7.9	7.9	8.4	9.4	9	8.4	10.5	6	3.4	5	3.4	3.4	0.4	0	0.4	2.5	4.4	2.9	0	3.4	6	10.5	5.1	24
19	2.5	5	4	4.4	1.9	5	4.4	7.5	4	2.9	5.5	4	1.4	6.9	2.9	1.9	5.5	6	6.9	6.5	6.5	10.5	6.5	3.4	10.5	4.8	24
20	5.5	0.4	6.5	7.9	5.5	3.4	4	2.9	1.9	1.9	3.4	8.4	1.4	5.5	5	6	5.5	4.4	7.5	6.5	4	5.5	6.9	7.5	8.4	4.9	24
21	5	7	5.5	8.4	4.4	6	4.4	7.5	5.5	7.9	7.9	5	5	4	3.4	5.5	4.4	5.5	9.9	6.9	4.4	1.4	4	9.4	9.9	5.8	24
22	2.9	5.5	1.9	4.4	4	7.5	10.5	12.5	10.9	7.9	2.9	2.5	0.4	0.4	1	3.4	1.9	2.9	5	1.4	0	1.4	5.5	1.4	12.5	4.1	24
23	2.9	7	2.9	1	0	1	0	2.9	3.4	1.4	1	5	0.4	2.9	1.9	5	1.4	5	2.5	0	1.9	1.4	3.4	3.4	7.0	2.4	24
24	2.9	0.5	0.5	1.4	2.5	4	0	1	4	5.4	5.9	1.4	2.9	4	3.4	1	1	3.4	2.9	2.5	4.4	5	5.5	5.5	5.9	3.0	24
25	6	0	5.5	2.9	5	5	3.4	2.5	6	5.5	3.4	1	2.9	1	0	0	3.4	0	1	2.5	1.4	6	4	6.5	6.5	3.1	24
26	1.9	6.5	4	5.5	1.4	6.5	10.9	10.9	6	4.4	7.5	2.9	4	4	0	2.9	1.9	5.5	6.5	6.5	6.5	9.4	4	7.5	10.9	5.3	24
27	6.9	6.9	6.9	6.5	3.4	5	1.4	2.5	2.9	3.4	2.9	4	3.4	3.4	1.9	0	2.5	3.4	3.4	3.4	3.4	2.9	0	2.9	6.9	3.5	24
28	0	0	4	0	3.4	8.4	5	9	6.5	0.5	4.4	0	2.5	2.5	1	4	5	2.9	4	4	4.4	4.4	5	1	9.0	3.4	24
29	1	2.9	4.4	1.4	3.4	3.4	4	7.5	4	9	9.9	2.5	5	1.4	1	3.4	1.9	1.4	1.9	2.5	0	3.4	0	1.4	9.9	3.2	24
30	1	2.5	3.4	1.9	5	4	1.9	5	4.4	0.4	4.4	2.5	0	2.5	1	2.5	4	5.5	2.9	7.9	6	2.9	2.9	5.5	7.9	3.3	24
31	1.9	1	1.9	1.4	1	1.4	0.4	1	1.9	2.5	1.4	2.9	2.9	1	1.4	0	0	2.5	2.9	2.5	1.4	1	0	1.4	2.9	1.5	24
HOURLY MAX	8	10	10	9	22	14	11	16	11	22	13	9	20	11	14	8	11	11	14	13	11	11	10	12			
HOURLY AVG	3.7	3.4	4.1	3.6	4.4	4.5	4.4	5.8	4.8	4.9	5.0	3.4	4.1	3.7	3.4	3.6	3.9	4.6	4.7	5.3	4.1	4.1	4.3	4.8			

STATUS FLAG CODES

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

24 HOUR AVERAGES FOR OCTOBER 2011

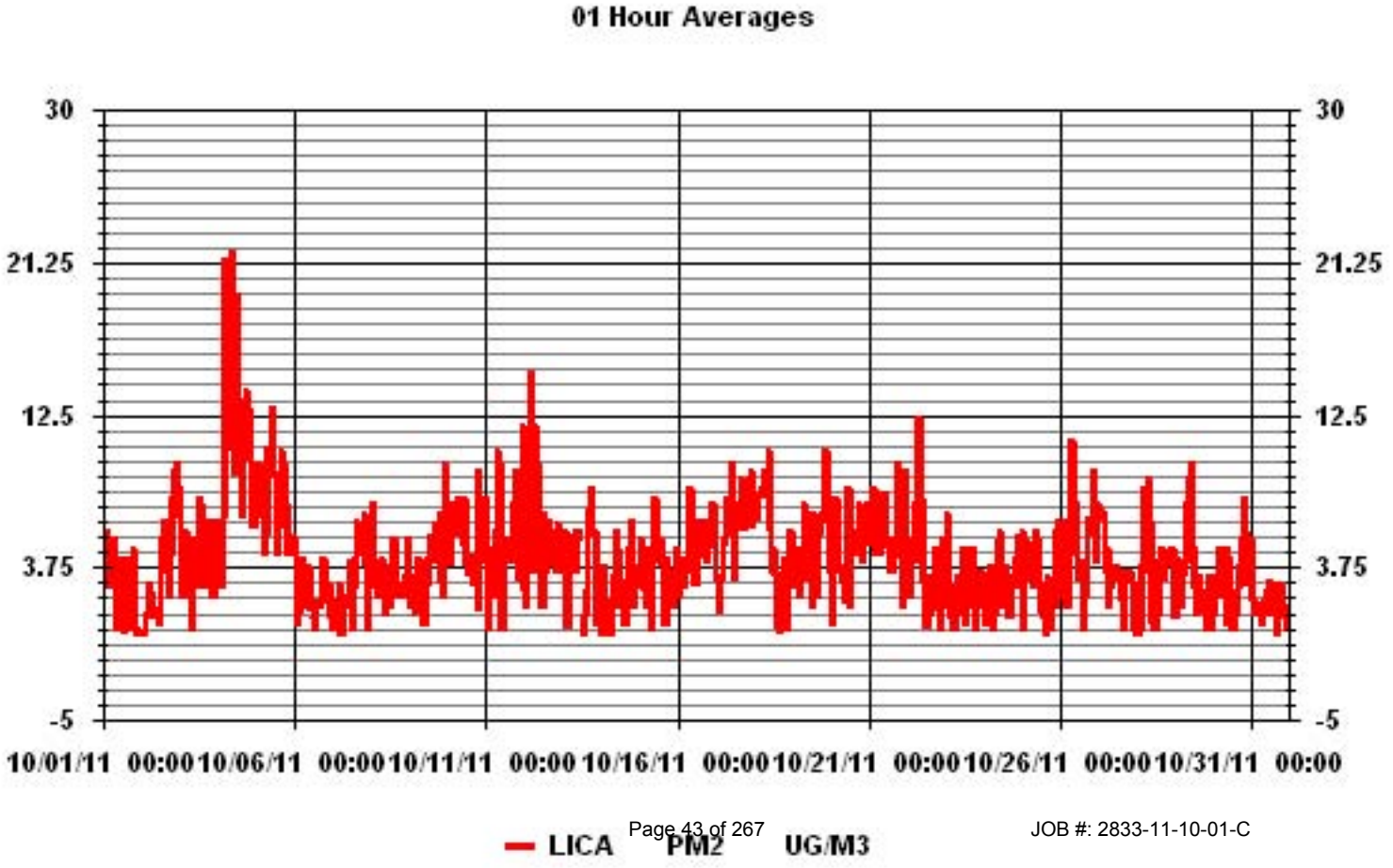


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR - ug/m3 | 24-HR 30 ug/m3

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-					
NUMBER OF 24-HR EXCEEDENCES:	0	PROPOSED CANADA WIDE GUIDELINE				
NUMBER OF NON-ZERO READINGS:	691					
MAXIMUM 1-HR AVERAGE:	22.0	UG/M^3	@ HOUR(S)	9	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	11.1	UG/M^3			ON DAY(S)	4
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	2	HRS	AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	3.03		MONTHLY AVERAGE:		4.28	UG/M^3

JOB #: 2833-11-10-01-C



JOB #: 2833-11-10-01-C

LICA
PM2 / WD Joint Frequency Distribution (Percent)

October 2011

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	1.61	6.07	2.42	3.10	8.09	3.64	9.17	2.56	2.96	2.96	12.68	19.29	16.05	4.04	4.58	.67	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	1.61	6.07	2.42	3.10	8.09	3.64	9.17	2.56	2.96	2.96	12.68	19.29	16.05	4.04	4.58	.67	

Calm : .00 %

Total # Operational Hours : 741

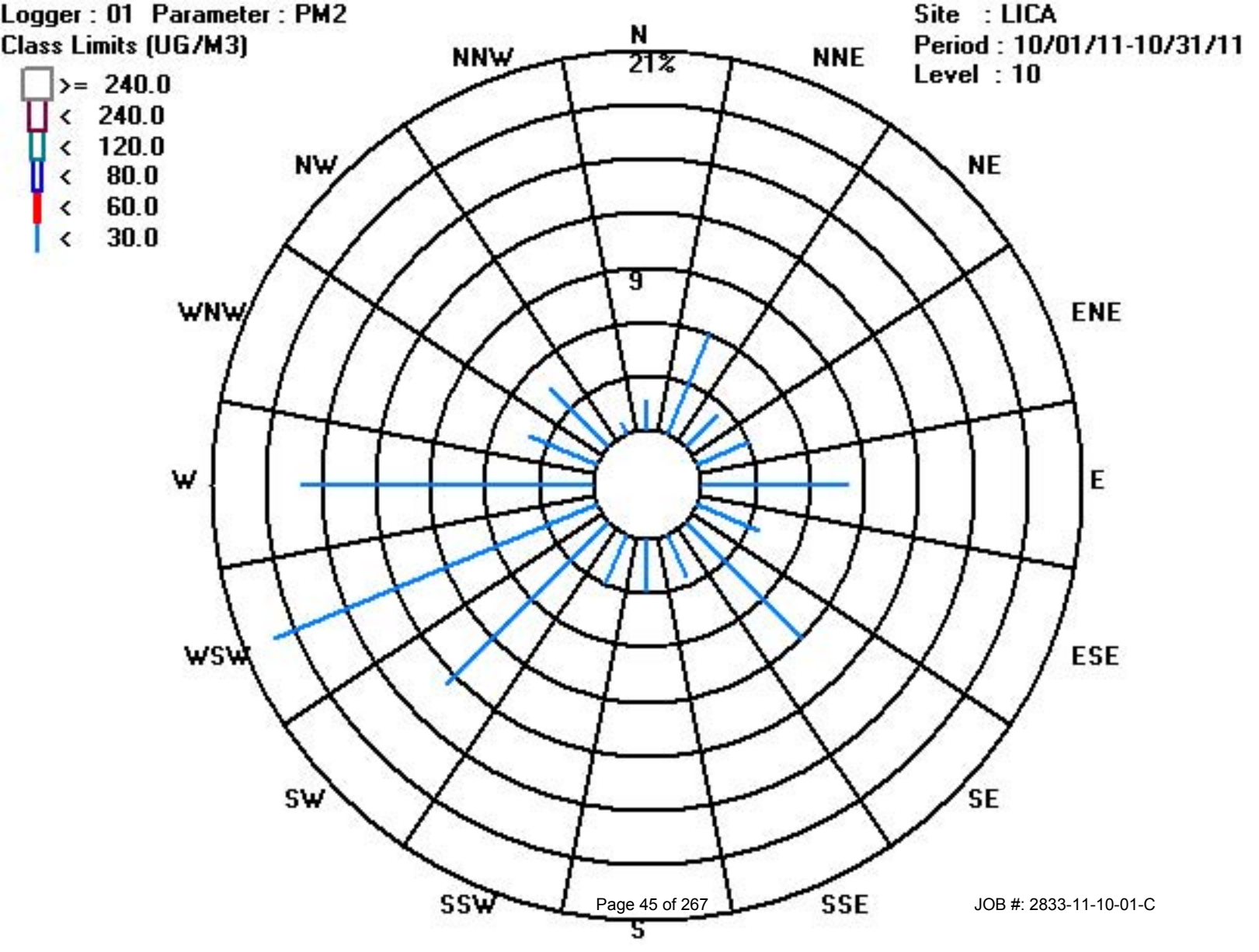
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	12	45	18	23	60	27	68	19	22	22	94	143	119	30	34	5	741
<	60.0																	
<	80.0																	
<	120.0																	
<	240.0																	
>=	240.0																	
	Totals	12	45	18	23	60	27	68	19	22	22	94	143	119	30	34	5	

Calm : .00 %

Total # Operational Hours : 741



JOB #: 2833-11-10-01-C

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

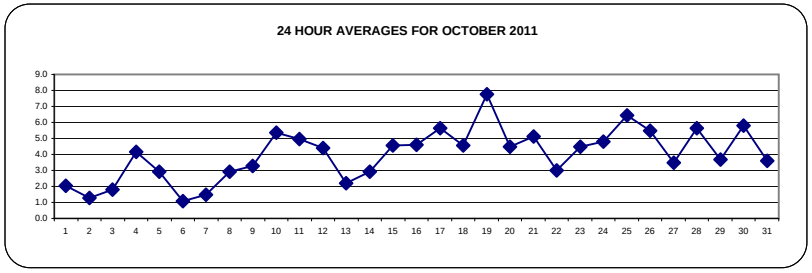
NITROGEN DIOXIDE hourly averages in ppb

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	2	3	2	2	3	3	3	3	3	1	1	1	0	1	1	1	2	4	**IZS**	4	3	1	2	1	4	2.0	24
2	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	3	4	2	2	2	2	4	1.3	24
3	2	2	2	2	4	6	3	2	1	1	1	1	1	1	2	1	**IZS**	2	2	1	1	1	1	1	6	1.8	24
4	1	1	1	1	2	4	2	2	2	2	2	1	3	3	4	**IZS**	4	8	16	10	9	7	5	6	16	4.2	24
5	7	8	8	7	4	5	4	3	3	2	1	1	1	1	**IZS**	2	2	2	1	1	1	1	1	1	8	2.9	24
6	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	2	2	2	2	1	1	1	0	0	2	1.1	24
7	0	0	1	1	1	2	4	5	3	2	1	1	**IZS**	2	1	1	1	1	1	1	2	1	1	1	5	1.5	24
8	1	1	1	2	3	3	4	3	2	1	1	**IZS**	1	1	1	1	1	2	4	7	6	8	8	5	8	2.9	24
9	3	3	2	2	2	2	2	2	2	1	**IZS**	1	2	1	2	2	7	3	6	6	9	5	5	5	9	3.3	24
10	5	6	5	4	4	5	5	5	7	**IZS**	5	2	2	2	2	2	3	9	13	12	7	8	6	4	13	5.3	24
11	6	5	3	2	2	4	7	7	**IZS**	6	2	1	1	1	1	1	3	5	11	13	10	9	8	6	13	5.0	24
12	5	4	4	3	3	4	5	**IZS**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	6	9	7	2	2	4	4	4	9	4.4	24
13	2	2	2	5	4	5	**IZS**	3	1	1	1	2	2	2	**M**	1	2	2	3	2	2	2	1	1	5	2.2	23
14	1	1	2	2	1	**IZS**	4	6	2	2	2	1	1	1	1	1	2	4	7	6	5	5	5	5	7	2.9	24
15	6	7	7	7	**IZS**	7	7	5	5	4	3	1	2	1	2	2	2	4	5	4	5	6	5	8	8	4.6	24
16	7	6	5	**IZS**	4	8	7	6	7	4	5	5	4	3	1	1	1	3	5	4	7	6	3	4	8	4.6	24
17	5	4	**IZS**	3	4	9	13	10	10	9	6	5	4	3	2	2	2	3	3	7	7	6	7	6	13	5.7	24
18	4	**IZS**	4	5	6	8	10	8	10	12	8	3	1	1	1	1	2	6	3	2	2	2	3	3	12	4.6	24
19	**IZS**	2	2	5	3	10	18	20	6	3	3	3	2	2	5	7	10	13	10	10	12	14	11	**IZS**	20	**7.8**	24
20	6	5	5	5	7	9	11	8	7	2	1	1	1	1	1	1	2	1	4	5	6	9	**IZS**	5	11	4.5	24
21	4	4	6	4	4	5	7	12	9	7	3	3	2	2	1	1	2	10	14	7	6	**IZS**	2	3	14	5.1	24
22	3	3	2	2	4	4	4	4	3	2	1	1	1	1	1	1	1	1	2	5	**IZS**	8	7	8	8	3.0	24
23	5	5	6	7	10	10	11	9	7	3	3	2	1	1	1	1	1	1	2	**IZS**	5	4	4	4	11	4.5	24
24	4	4	4	3	4	6	7	8	7	5	3	2	2	1	1	1	2	9	**IZS**	5	6	9	9	8	9	4.8	24
25	7	5	6	9	10	10	13	12	12	7	5	4	3	2	1	1	1	**IZS**	6	6	7	7	8	6	13	6.4	24
26	5	4	7	8	12	12	19	17	5	4	3	2	2	2	2	2	**IZS**	2	4	2	2	4	3	3	19	5.5	24
27	3	3	3	3	4	5	6	6	8	4	2	1	1	1	1	**IZS**	2	3	2	4	6	3	4	5	8	3.5	24
28	4	4	5	3	5	11	15	**21**	15	6	5	3	2	2	**IZS**	3	4	3	3	4	3	3	3	3	**21**	5.7	24
29	3	2	2	2	4	4	4	4	6	4	4	3	2	**IZS**	1	1	2	4	5	7	4	5	5	7	7	3.7	24
30	5	4	4	4	5	11	8	7	7	4	4	4	**IZS**	4	4	3	6	5	10	8	8	7	5	6	11	5.8	24
31	5	6	6	3	4	4	6	6	7	5	3	**IZS**	2	1	1	1	2	4	3	3	2	3	3	3	7	3.6	24
HOURLY MAX	7	8	8	9	12	12	19	21	15	12	8	5	4	4	5	7	10	13	16	13	12	14	11	8			
HOURLY AVG	3.7	3.5	3.6	3.6	4.2	5.9	7.0	6.9	5.5	3.7	2.8	2.0	1.7	1.6	1.6	1.6	2.7	4.3	5.4	5.1	4.9	5.0	4.4	4.1			

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



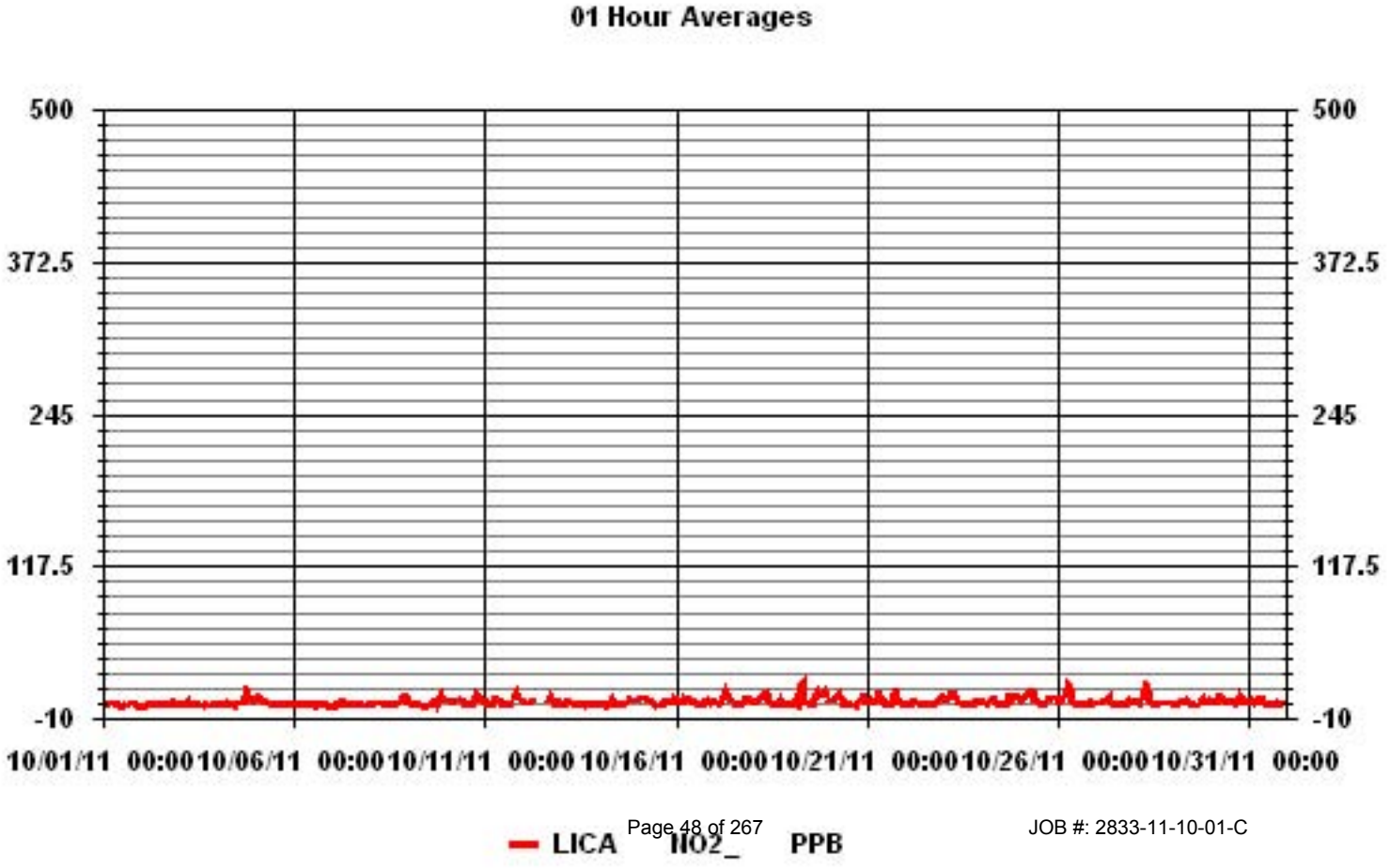
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 159 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	695					
MAXIMUM 1-HR AVERAGE:	21	PPB	@ HOUR(S)	7	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	7.8	PPB			ON DAY(S)	19

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	3.17		MONTHLY AVERAGE:	3.99	PPB

JOB #: 2833-11-10-01-C



JOB #: 2833-11-10-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

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	2	7	4	4	4	5	4	5	5	2	1	1	1	1	2	2	4	5	**IZS**	7	8	2	24	2	24	4.4	24
2	1	1	1	1	2	3	2	2	2	2	4	7	2	2	1	7	3	**IZS**	4	7	4	8	3	3	8	3.1	24
3	5	4	3	4	8	14	5	4	2	2	4	12	2	5	3	5	**IZS**	3	4	3	2	1	2	2	14	4.3	24
4	2	2	2	2	4	8	4	4	3	3	4	2	6	8	14	**IZS**	7	13	22	14	15	15	7	8	22	7.3	24
5	10	9	9	8	6	6	8	7	4	3	8	4	3	3	**IZS**	4	4	3	2	2	1	1	1	1	10	4.7	24
6	1	1	1	1	1	1	3	6	5	8	2	2	2	**IZS**	3	3	3	4	5	2	4	1	1	1	8	2.7	24
7	1	1	1	1	1	3	5	6	4	3	2	1	**IZS**	6	3	2	1	2	1	1	2	2	2	1	6	2.3	24
8	1	1	3	3	5	5	6	4	4	2	2	**IZS**	1	1	1	1	2	6	6	17	18	18	10	9	18	5.5	24
9	6	5	3	3	3	3	3	3	2	2	**IZS**	3	5	2	3	3	**105**	7	10	10	16	7	7	7	**105**	9.5	24
10	8	8	6	6	5	11	9	31	10	**IZS**	9	5	10	4	5	5	10	**P**	20	19	10	15	13	6	31	10.2	23
11	11	8	5	2	5	5	10	13	**IZS**	19	14	3	4	5	7	4	8	10	21	19	15	13	9	8	21	9.5	24
12	7	6	6	5	4	11	6	**IZS**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	33	14	15	18	6	6	5	7	33	9.9	24
13	3	4	4	7	5	8	**IZS**	5	2	1	2	3	3	**M**	**M**	2	6	3	4	3	3	2	2	2	8	3.5	22
14	3	3	4	3	2	**IZS**	8	19	3	4	2	2	4	4	2	2	3	13	10	9	7	7	7	9	19	5.7	24
15	9	10	9	9	**IZS**	9	8	11	7	6	5	3	4	2	3	2	2	14	16	5	6	7	7	10	16	7.1	24
16	8	8	8	**IZS**	6	18	9	10	10	5	5	6	4	6	2	2	4	5	8	6	9	15	6	8	18	7.3	24
17	7	6	**IZS**	4	8	14	18	15	14	13	7	8	5	5	3	3	4	5	4	16	10	7	9	9	18	8.4	24
18	6	**IZS**	7	7	16	15	19	13	13	14	12	6	2	2	3	2	7	17	6	4	3	8	11	5	19	8.6	24
19	**IZS**	3	4	9	9	20	29	30	14	12	6	10	9	3	10	9	13	20	12	15	17	17	16	**IZS**	30	13.0	24
20	9	8	7	7	8	12	15	12	9	4	2	1	1	1	1	1	2	2	17	7	8	11	**IZS**	8	17	6.7	24
21	5	5	11	6	6	7	9	20	13	13	4	4	3	7	2	3	3	17	22	16	14	**IZS**	4	4	22	8.6	24
22	4	5	3	3	6	5	5	7	4	3	2	1	1	1	1	1	2	2	3	8	**IZS**	13	22	14	22	5.0	24
23	8	7	12	10	12	15	14	14	10	6	4	3	2	1	1	2	7	3	4	**IZS**	7	6	6	5	15	6.9	24
24	6	5	6	5	5	9	10	11	9	7	4	3	2	2	2	2	4	21	**IZS**	6	9	10	12	11	21	7.0	24
25	9	7	9	17	15	15	16	20	15	9	7	4	4	3	2	2	2	**IZS**	14	8	10	8	10	8	20	9.3	24
26	8	7	10	12	16	19	27	30	16	5	5	3	2	8	5	4	**IZS**	4	11	3	5	6	5	4	30	9.3	24
27	3	4	5	4	5	10	11	10	12	7	2	2	1	3	2	**IZS**	3	4	3	8	10	5	6	6	12	5.5	24
28	5	5	7	5	8	21	18	40	20	9	6	8	3	8	**IZS**	6	7	4	5	5	7	4	5	4	40	9.1	24
29	4	4	4	3	7	5	6	7	8	5	5	4	3	**IZS**	2	1	3	6	7	10	8	7	8	9	10	5.5	24
30	8	6	9	6	10	15	12	17	10	5	5	5	**IZS**	10	7	4	17	9	14	12	14	10	7	8	17	9.6	24
31	9	9	8	5	7	5	8	10	9	7	4	**IZS**	2	3	9	2	2	7	6	5	3	3	5	4	10	5.7	24
HOURLY MAX	11	10	12	17	16	21	29	40	20	19	14	12	10	10	14	9	105	21	22	19	18	18	24	14			
HOURLY AVG	5.6	5.3	5.7	5.4	6.6	9.9	10.2	12.9	8.2	6.2	4.8	4.1	3.3	3.9	3.7	3.1	9.3	8.0	9.5	8.8	8.4	7.8	7.7	6.1			

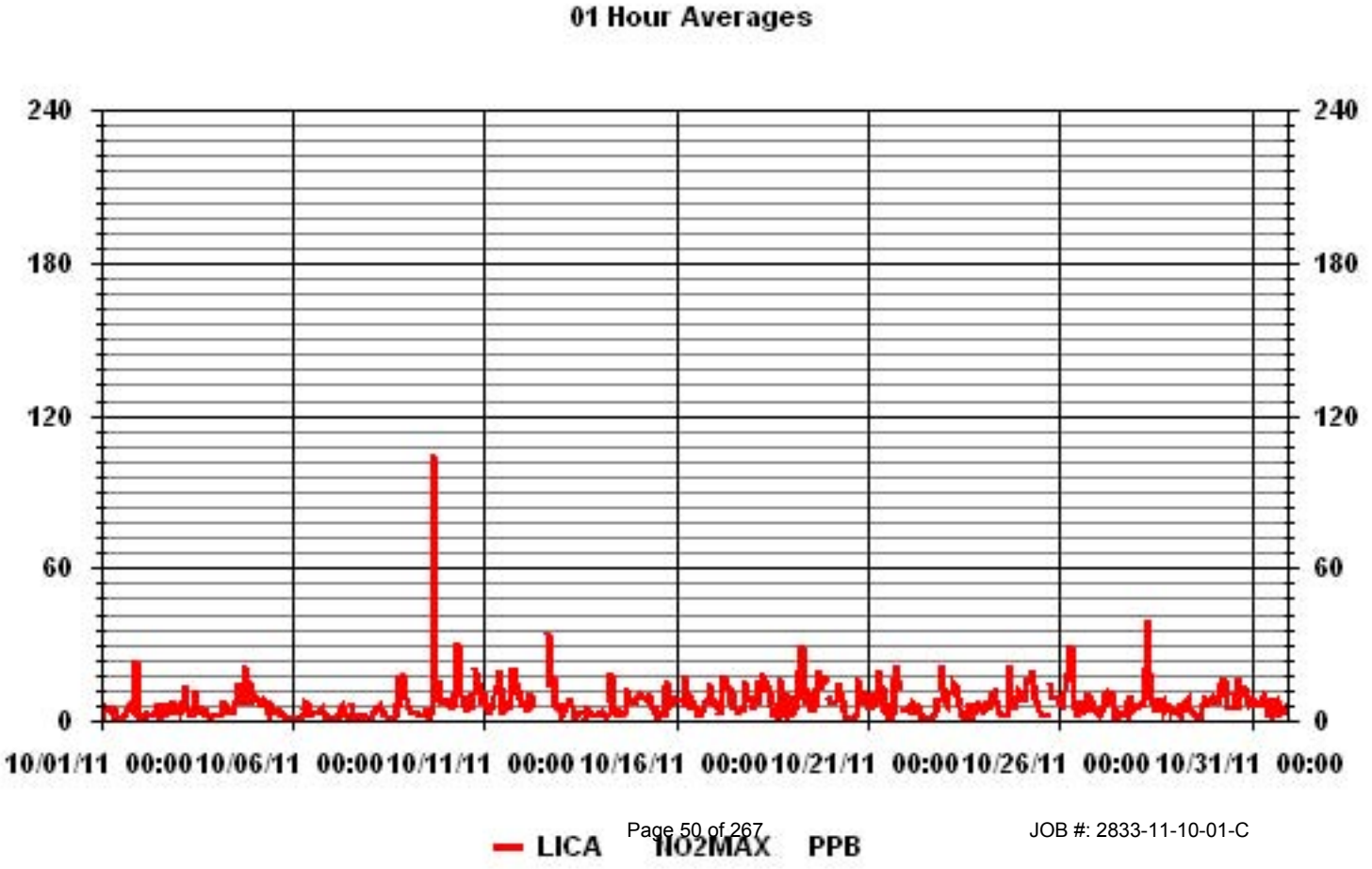
STATUS FLAG CODES

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:	701					
MAXIMUM INSTANTANEOUS VALUE:	105	PPB	@ HOUR(S)	16	ON DAY(S)	9
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		741	HRS
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION	6.45					

JOB #: 2833-11-10-01-C



JOB #: 2833-11-10-01-C

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

October 2011

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	1.70	6.11	2.41	3.27	7.82	3.69	8.53	2.41	2.56	2.98	13.08	19.63	15.93	4.40	4.69	.71	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.70	6.11	2.41	3.27	7.82	3.69	8.53	2.41	2.56	2.98	13.08	19.63	15.93	4.40	4.69	.71	

Calm : .00 %

Total # Operational Hours : 703

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	12	43	17	23	55	26	60	17	18	21	92	138	112	31	33	5	703
<	110																	
<	210																	
>=	210																	
	Totals	12	43	17	23	55	26	60	17	18	21	92	138	112	31	33	5	

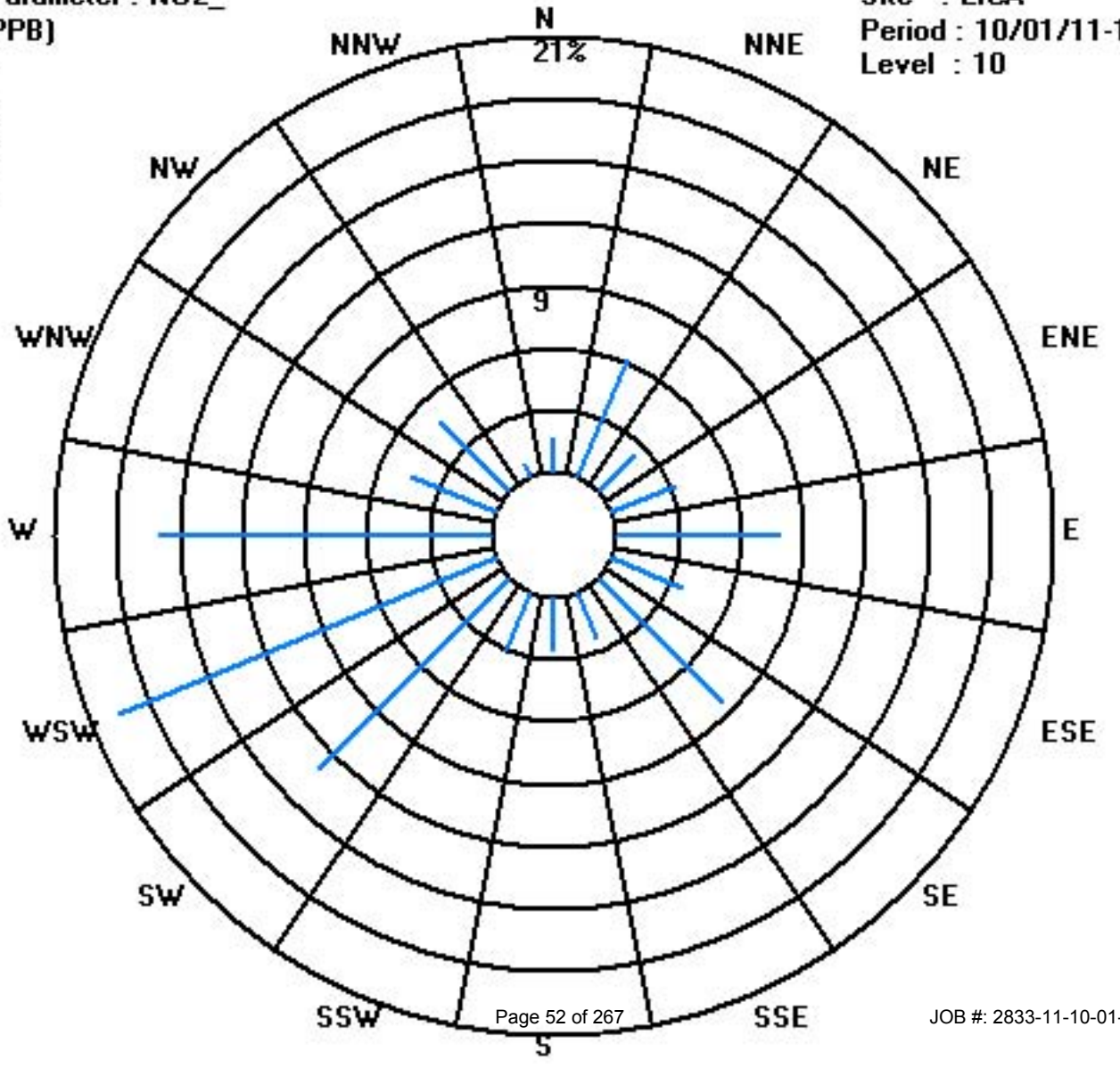
Calm : .00 %

Total # Operational Hours : 703

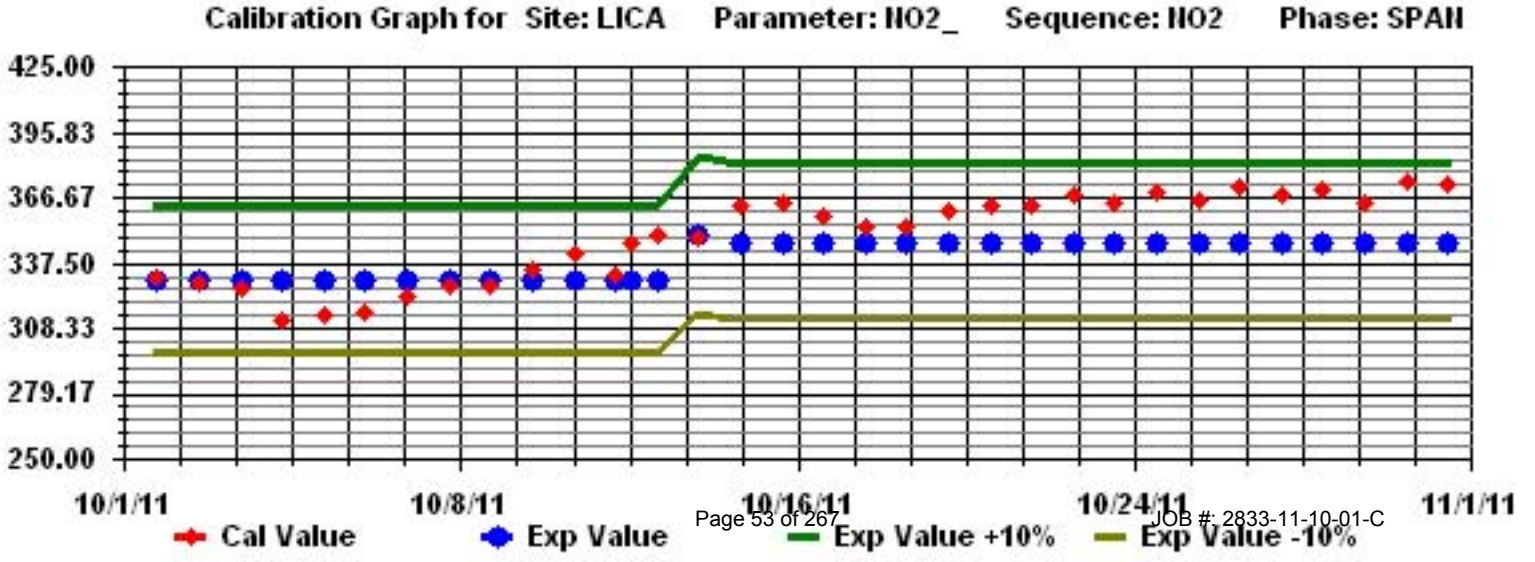
Logger : 01 Parameter : NO2_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-01-C


Calibration Graph for Site: LICA Parameter: NO2_ Sequence: NO2 Phase: SPAN
425.00
395.83
366.67
337.50
308.33
279.17
250.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

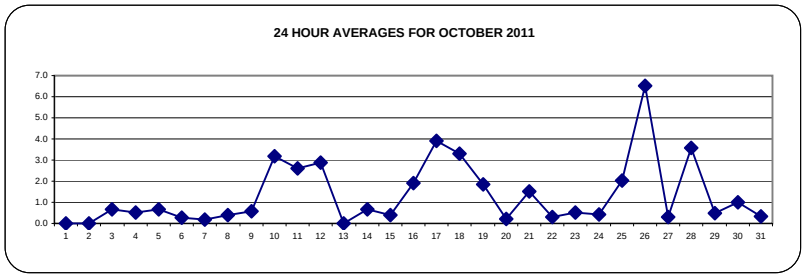
NITRIC OXIDE hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	1	2	1	2	1	1	1	1	1	1	1	1	**IZS**	1	0	0	0	0	0	0	2	0.7	24
4	0	0	0	0	0	1	0	1	1	1	1	0	1	0	2	**IZS**	1	1	2	0	0	0	0	0	2	0.5	24
5	2	2	3	3	0	0	1	1	1	0	0	0	1	0	**IZS**	1	0	0	0	0	0	0	0	0	3	0.7	24
6	0	0	0	0	0	0	0	1	1	3	0	0	0	**IZS**	0	0	1	0	0	0	0	0	0	0	3	0.3	24
7	0	0	0	0	0	0	0	1	1	1	0	0	**IZS**	1	0	0	0	0	0	0	0	0	0	0	1	0.2	24
8	0	0	0	0	0	0	0	1	1	1	1	**IZS**	0	0	0	0	0	0	0	3	1	1	0	0	3	0.4	24
9	1	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	0	2	0	0	1	3	0	0	2	3	0.6	24
10	2	1	1	3	3	9	11	12	17	**IZS**	5	1	1	1	0	0	0	1	1	1	0	2	1	0	17	3.2	24
11	1	0	0	0	0	1	6	19	**IZS**	8	1	1	1	1	1	0	1	0	2	3	5	2	4	3	19	2.6	24
12	1	2	4	2	2	9	15	**IZS**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	1	2	0	0	0	1	15	2.9	24
13	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	**M**	0	0	0	0	0	0	0	0	0	0	0.0	23
14	0	0	0	0	0	**IZS**	1	6	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0	1	6	0.7	24
15	1	0	0	0	**IZS**	0	0	1	2	2	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0.4	24
16	0	0	0	**IZS**	1	8	4	9	9	2	2	2	2	1	0	0	0	0	0	0	0	4	0	0	9	1.9	24
17	0	0	**IZS**	0	1	10	26	28	12	6	3	2	1	1	0	0	0	0	0	0	0	0	0	0	28	3.9	24
18	0	**IZS**	0	0	2	4	17	23	17	6	4	1	0	0	0	0	0	1	0	0	0	0	1	0	23	3.3	24
19	**IZS**	0	0	0	0	1	4	23	3	1	1	1	1	0	1	1	1	0	0	0	1	1	1	**IZS**	23	1.9	24
20	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	1	0.2	24
21	0	0	0	0	0	0	0	15	8	4	1	1	1	1	0	0	0	0	1	2	0	**IZS**	1	0	15	1.5	24
22	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	**IZS**	0	4	0	4	0.3	24
23	0	0	1	0	2	1	1	1	1	2	2	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	2	0.5	24
24	0	0	0	0	0	0	0	1	2	3	2	1	1	0	0	0	0	0	**IZS**	0	0	0	0	0	3	0.4	24
25	0	0	0	2	3	7	18	2	5	3	2	2	2	1	0	0	0	**IZS**	0	0	0	0	0	0	18	2.0	24
26	0	0	0	1	4	20	52	**63**	3	1	1	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	**63**	**6.5**	24
27	0	0	0	0	0	0	0	1	2	1	1	1	0	0	0	**IZS**	0	0	0	1	0	0	0	0	2	0.3	24
28	0	0	0	0	0	3	2	46	23	2	2	2	1	1	**IZS**	0	0	0	0	0	0	0	0	0	46	3.6	24
29	0	0	0	0	0	0	0	0	2	3	3	2	1	**IZS**	0	0	0	0	0	0	0	0	0	0	3	0.5	24
30	0	0	0	0	3	6	1	3	1	1	2	1	**IZS**	1	1	1	2	0	0	0	0	0	0	0	6	1.0	24
31	0	0	0	0	0	0	0	1	1	2	1	**IZS**	1	1	1	0	0	0	0	0	0	0	0	0	2	0.3	24
HOURLY MAX	2	2	4	3	4	20	52	63	23	8	5	2	2	1	2	1	2	2	2	3	5	4	4	3			
HOURLY AVG	0.3	0.2	0.3	0.4	0.7	2.7	5.4	8.8	4.0	2.0	1.3	0.8	0.7	0.5	0.4	0.2	0.3	0.2	0.2	0.4	0.4	0.3	0.4	0.2			

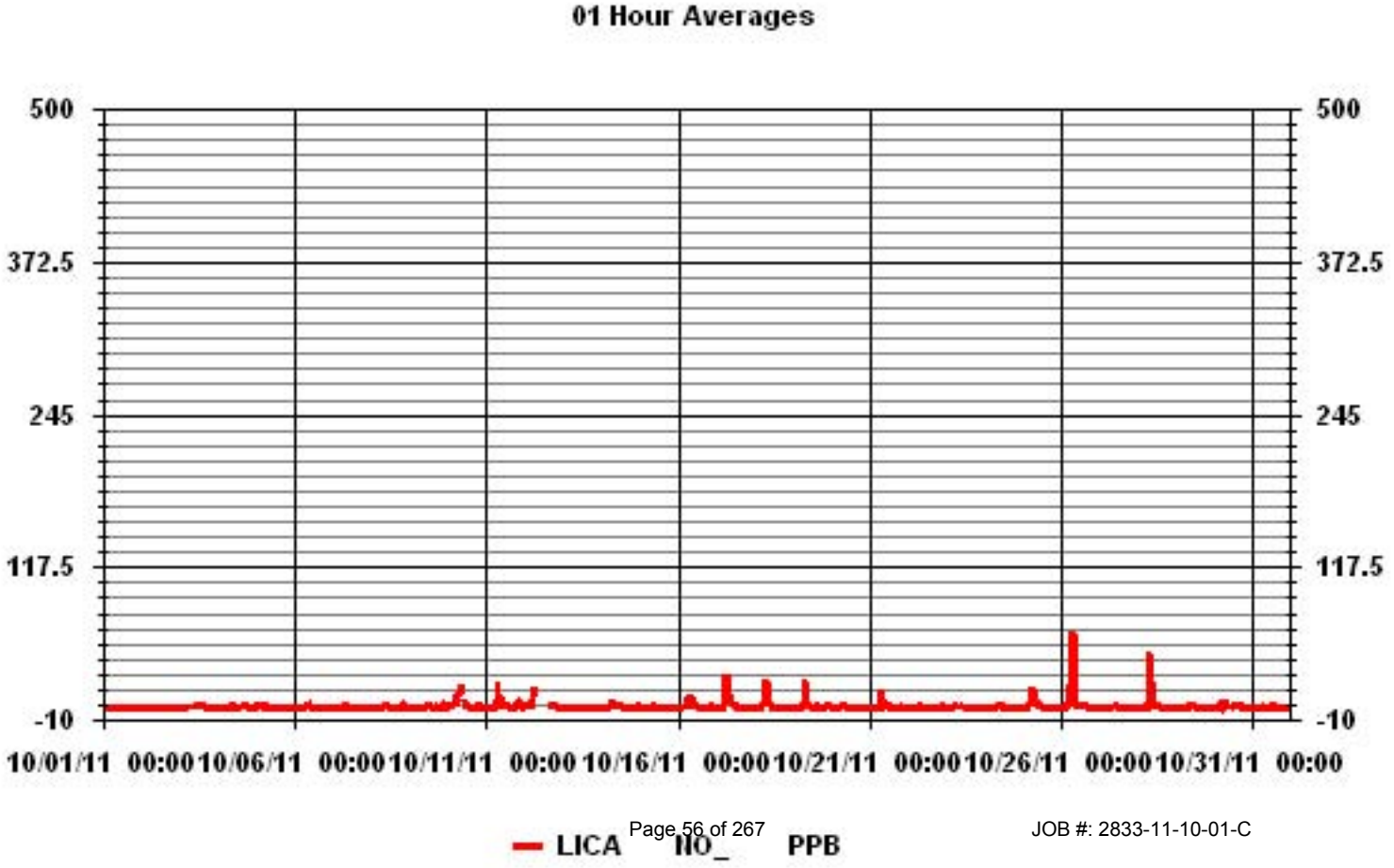
STATUS FLAG CODES

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:		262					
MAXIMUM 1-HR AVERAGE:		63	PPB	@ HOUR(S)	7	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:		6.5	PPB			ON DAY(S)	26
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			743	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	4.62		MONTHLY AVERAGE:			1.31	PPB



JOB #: 2833-11-10-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

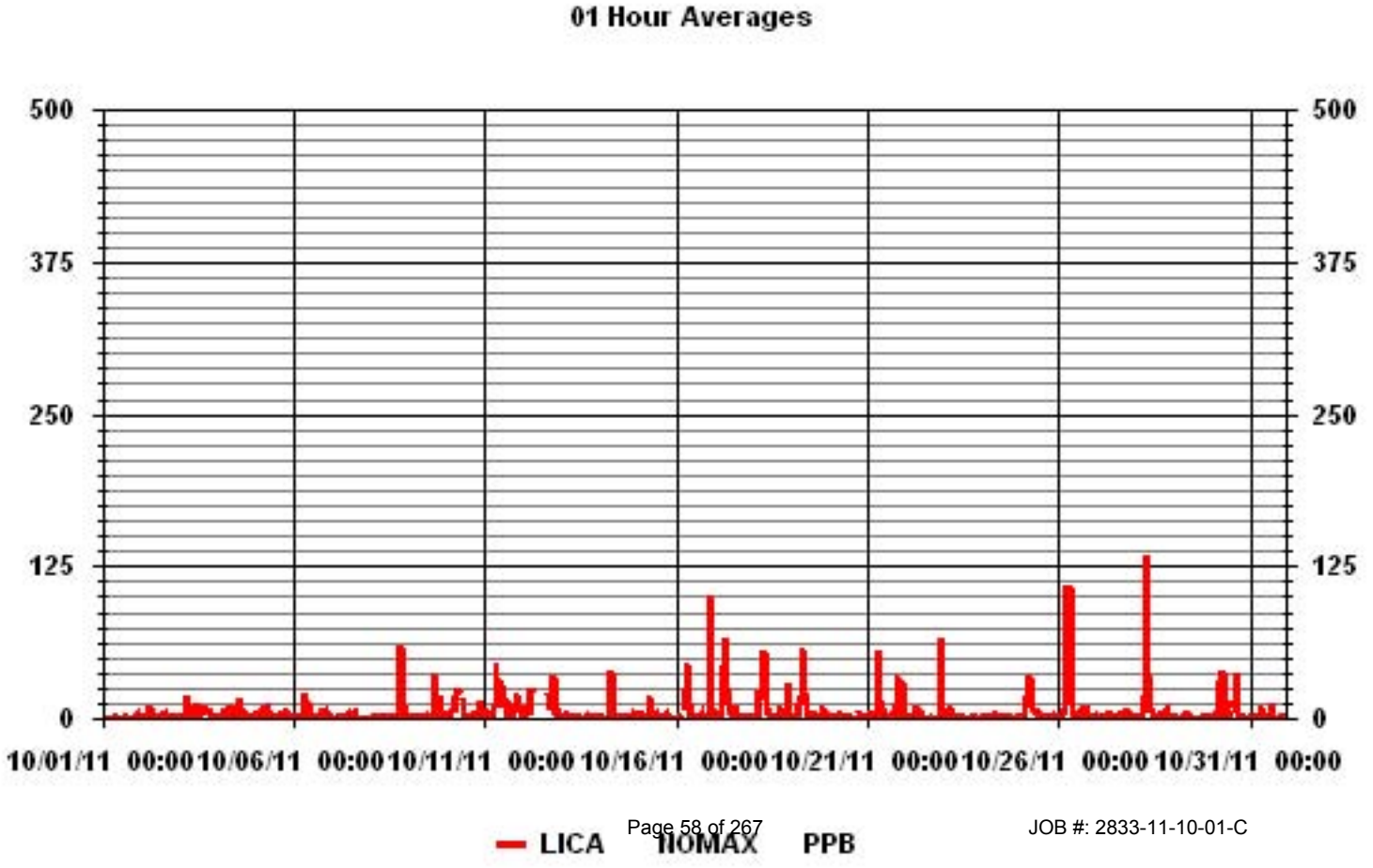
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	1	0	**IZS**	0	1	1	4	1	4	0.6	24
2	1	1	1	1	2	1	10	1	1	1	2	2	2	3	3	5	3	**IZS**	2	3	2	3	2	1	10	2.3	24
3	2	1	1	2	4	19	3	11	2	5	5	9	9	2	6	9	**IZS**	4	4	7	1	1	1	1	19	4.7	24
4	1	1	1	2	1	7	2	9	2	6	8	8	4	3	14	**IZS**	3	6	5	2	2	2	2	1	14	4.0	24
5	4	5	6	5	4	1	8	9	1	2	1	4	3	1	**IZS**	4	2	3	1	7	2	1	1	1	9	3.3	24
6	1	1	1	0	1	1	4	21	5	15	2	2	2	**IZS**	2	3	2	1	8	2	5	1	1	0	21	3.5	24
7	1	1	0	1	1	0	2	2	2	2	4	1	**IZS**	5	6	1	0	0	0	0	0	0	0	0	6	1.3	24
8	0	1	2	1	2	2	2	2	3	2	1	**IZS**	1	1	1	1	0	0	0	59	21	13	1	3	59	5.2	24
9	2	1	1	2	1	0	1	1	1	1	**IZS**	1	3	1	1	1	38	1	2	8	19	2	2	4	38	4.1	24
10	5	2	2	8	5	18	23	22	23	**IZS**	14	2	3	1	2	1	4	**P**	4	5	3	14	8	2	23	7.8	23
11	8	2	1	1	3	3	13	43	**IZS**	31	9	27	16	15	4	3	13	1	8	13	20	5	8	5	43	11.0	24
12	2	9	6	8	3	23	24	**IZS**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	18	10	10	34	3	5	1	4	34	10.7	24
13	1	2	2	3	3	2	**IZS**	2	0	1	1	2	1	**M**	**M**	1	3	1	2	1	2	2	2	2	3	1.7	22
14	3	1	2	2	1	**IZS**	5	40	2	3	2	1	1	2	1	1	1	1	1	3	2	5	3	3	40	3.7	24
15	4	5	2	2	**IZS**	1	2	18	4	4	3	2	4	1	2	1	1	3	5	1	0	0	0	0	18	2.8	24
16	1	0	2	**IZS**	9	25	11	46	15	4	3	3	2	3	1	1	4	0	0	0	1	102	1	7	102	10.5	24
17	1	2	**IZS**	1	6	22	43	66	27	12	4	4	3	11	2	1	1	0	0	4	0	0	1	1	66	9.2	24
18	1	**IZS**	1	2	22	14	43	55	48	8	6	3	1	1	1	1	1	10	1	1	4	4	28	1	55	11.2	24
19	**IZS**	1	1	1	2	12	18	58	17	18	4	2	4	2	2	4	3	2	1	1	9	4	4	**IZS**	58	7.7	24
20	2	1	1	2	2	3	4	2	2	2	1	1	1	1	1	0	0	0	1	6	0	2	**IZS**	1	6	1.6	24
21	1	2	6	1	1	1	2	56	16	10	2	4	2	2	1	4	4	1	12	35	4	**IZS**	28	1	56	8.5	24
22	3	1	0	1	1	1	1	10	1	1	1	3	0	0	1	0	2	0	0	1	**IZS**	1	65	5	65	4.3	24
23	2	1	8	3	10	3	4	3	1	3	2	3	1	0	0	0	0	1	1	**IZS**	1	1	0	1	10	2.1	24
24	2	3	1	1	1	2	3	2	4	4	2	2	2	1	1	1	1	2	**IZS**	0	0	0	3	2	4	1.7	24
25	1	1	1	12	10	32	32	14	8	5	3	7	2	2	1	1	0	**IZS**	1	1	3	1	1	1	32	6.1	24
26	1	2	1	8	11	109	87	110	23	2	3	5	1	2	6	9	**IZS**	1	4	0	1	1	1	3	110	17.0	24
27	1	1	2	1	1	1	3	3	3	3	1	2	1	2	1	**IZS**	5	0	0	8	2	2	1	1	8	2.0	24
28	0	1	1	2	1	19	7	**133**	37	5	8	6	3	2	**IZS**	3	4	5	6	5	7	2	2	2	**133**	11.3	24
29	1	1	1	0	1	0	1	2	4	4	4	3	2	**IZS**	1	0	1	0	1	1	1	1	1	1	4	1.4	24
30	1	3	5	1	30	17	3	39	4	2	8	1	**IZS**	11	11	4	37	1	1	2	1	1	1	2	39	8.1	24
31	1	2	1	2	2	1	1	10	3	3	2	**IZS**	1	6	12	0	1	0	1	1	1	1	2	1	12	2.4	24
HOURLY MAX	8	9	8	12	30	109	87	133	48	31	14	27	16	15	14	9	38	10	12	59	21	102	65	7			
HOURLY AVG	1.8	1.8	2.0	2.5	4.7	11.3	12.1	26.4	9.0	5.5	3.7	3.9	2.7	3.0	3.1	2.2	5.3	1.9	2.8	7.0	3.9	5.9	5.8	1.9			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	629					
MAXIMUM INSTANTANEOUS VALUE:	133	PPB	@ HOUR(S)	7	ON DAY(S)	28
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		741	HRS
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION	12.34					



JOB #: 2833-11-10-01-C

LICA
NO_ / WD Joint Frequency Distribution (Percent)

October 2011

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	1.70	6.11	2.41	3.27	7.68	3.69	8.39	2.41	2.56	2.98	13.08	19.63	15.93	4.40	4.69	.71	99.71
<	110	.00	.00	.00	.00	.14	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.28
<	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	1.70	6.11	2.41	3.27	7.82	3.69	8.53	2.41	2.56	2.98	13.08	19.63	15.93	4.40	4.69	.71	

Calm : .00 %

Total # Operational Hours : 703

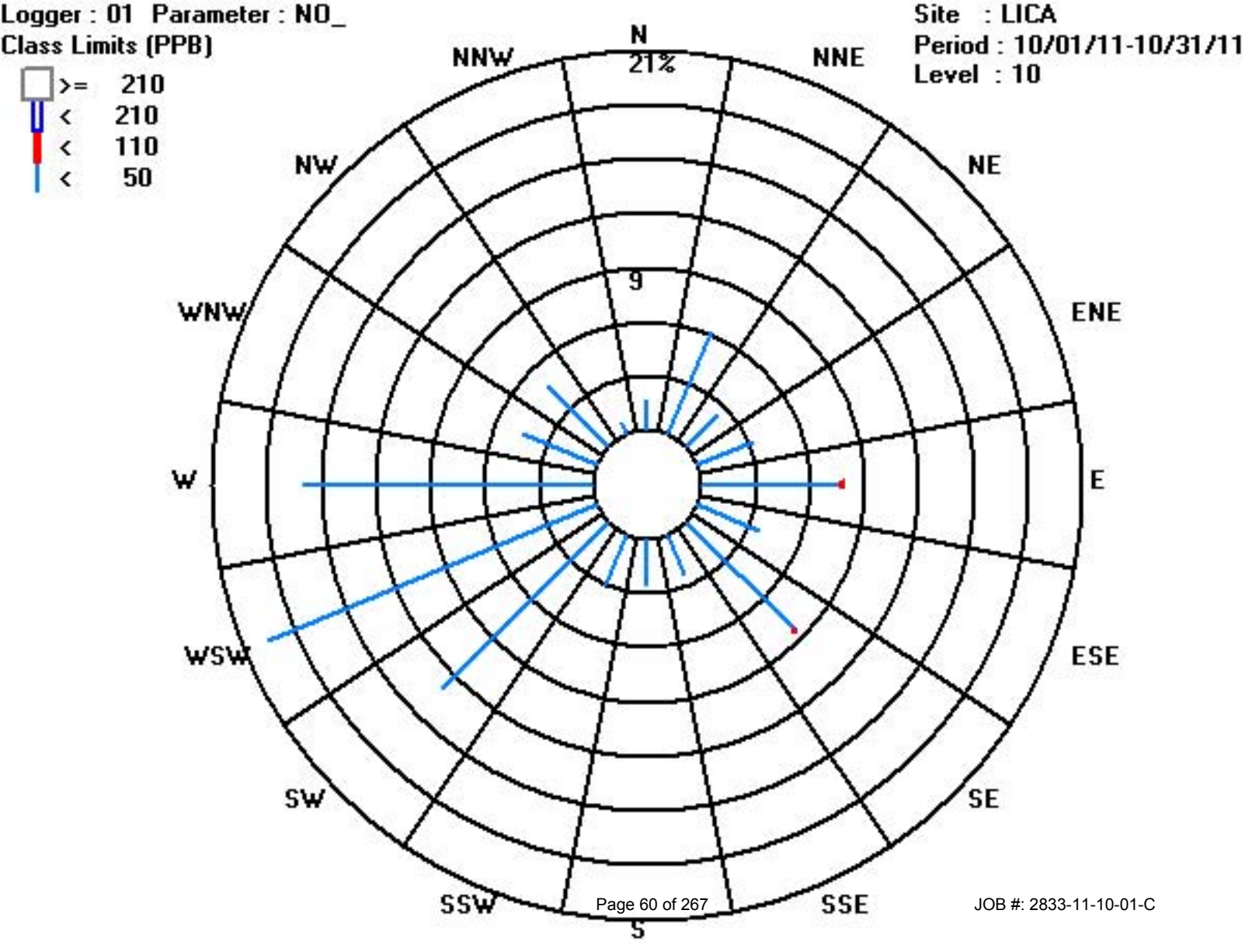
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	12	43	17	23	54	26	59	17	18	21	92	138	112	31	33	5	701
<	110					1		1										2
<	210																	
>=	210																	
	Totals	12	43	17	23	55	26	60	17	18	21	92	138	112	31	33	5	

Calm : .00 %

Total # Operational Hours : 703



JOB #: 2833-11-10-01-C

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

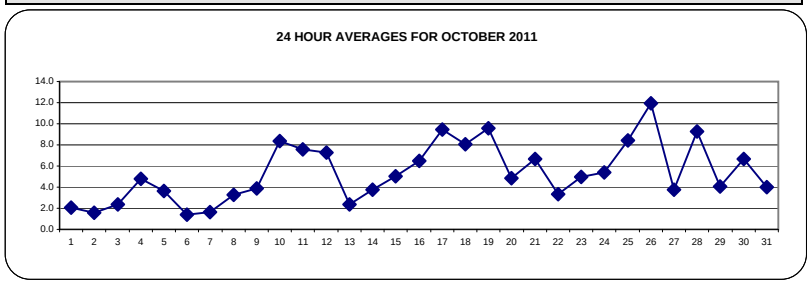
OXIDES OF NITROGEN hourly averages in ppb

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	2	3	2	2	3	3	3	4	3	1	1	1	0	1	1	1	2	4	**IZS**	4	3	1	2	1	4	2.1	24
2	0	0	1	1	1	2	1	1	1	2	2	1	1	1	1	2	2	**IZS**	3	4	2	3	2	2	4	1.6	24
3	2	2	2	2	5	7	4	4	2	2	2	2	2	2	3	2	**IZS**	2	2	2	1	1	1	1	7	2.4	24
4	1	1	1	2	2	5	3	3	2	2	3	2	3	3	6	**IZS**	5	9	17	10	9	8	6	7	17	4.8	24
5	9	10	11	9	4	5	6	4	3	2	2	2	2	1	**IZS**	3	3	2	1	1	1	1	1	1	11	3.7	24
6	1	1	1	1	1	1	1	2	2	4	1	1	1	**IZS**	2	2	3	2	2	1	1	1	0	0	4	1.4	24
7	0	0	1	1	1	2	4	6	4	3	1	1	**IZS**	2	1	1	1	1	1	1	2	1	1	1	6	1.6	24
8	1	1	1	2	3	3	4	3	3	2	2	**IZS**	1	1	1	1	1	2	4	9	7	9	8	6	9	3.3	24
9	3	4	2	3	2	2	2	2	2	2	**IZS**	2	2	2	2	3	9	3	6	7	12	5	5	7	12	3.9	24
10	7	7	6	8	7	13	16	17	24	**IZS**	10	3	2	2	2	2	3	10	13	13	7	9	7	5	24	8.4	24
11	7	5	3	2	2	5	13	25	**IZS**	14	3	2	2	2	2	1	4	5	13	16	15	11	12	10	25	7.6	24
12	6	7	8	6	4	13	20	**IZS**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	8	10	8	4	2	4	4	5	20	7.3	24
13	2	2	2	5	4	6	**IZS**	4	1	1	2	2	2	2	**M**	2	2	2	3	2	2	2	1	1	6	2.4	23
14	2	2	2	2	1	**IZS**	6	11	4	3	3	2	2	2	2	2	2	4	7	6	5	5	5	6	11	3.7	24
15	7	8	7	7	**IZS**	7	7	6	7	5	4	2	3	2	2	2	2	4	6	4	5	6	5	8	8	5.0	24
16	7	6	5	**IZS**	4	16	11	14	16	7	7	7	5	4	1	1	2	3	5	4	7	9	3	5	16	6.5	24
17	5	5	**IZS**	3	5	19	39	37	23	14	9	7	5	3	2	2	2	3	3	7	6	6	7	6	39	9.5	24
18	4	**IZS**	4	5	9	12	27	31	28	18	12	4	2	1	1	1	2	7	3	2	2	3	4	3	31	8.0	24
19	**IZS**	2	2	5	3	11	22	42	9	5	4	3	3	3	6	8	11	13	10	10	13	14	12	**IZS**	42	9.6	24
20	7	5	5	5	7	10	12	9	8	3	2	1	1	1	1	1	2	1	4	5	6	9	**IZS**	6	12	4.8	24
21	4	4	6	4	5	5	8	27	16	10	4	4	3	2	2	1	2	10	15	9	6	**IZS**	3	3	27	6.7	24
22	3	3	2	2	4	4	4	5	4	3	2	1	1	1	1	1	1	1	2	5	**IZS**	8	10	8	10	3.3	24
23	5	5	7	7	12	11	12	10	8	5	4	3	1	1	1	1	1	1	2	**IZS**	5	4	4	4	12	5.0	24
24	4	4	4	4	4	6	7	9	10	8	5	3	2	2	1	2	2	9	**IZS**	5	6	9	9	9	10	5.4	24
25	7	5	7	11	12	17	31	15	16	10	7	6	5	2	1	1	1	**IZS**	6	6	7	7	8	6	31	8.4	24
26	5	4	7	9	16	32	71	**80**	8	5	4	3	2	3	3	2	**IZS**	2	4	2	2	4	3	3	**80**	**11.9**	24
27	3	3	3	3	4	5	7	6	10	5	2	2	1	1	1	**IZS**	2	3	2	5	6	3	4	5	10	3.7	24
28	4	4	5	4	5	15	17	66	38	8	7	5	2	2	**IZS**	3	4	3	4	4	4	3	3	3	66	9.3	24
29	3	2	2	2	4	4	4	4	7	7	7	5	2	**IZS**	1	1	2	4	5	7	4	5	5	7	7	4.1	24
30	5	4	5	4	8	16	9	9	8	5	5	5	**IZS**	5	4	3	8	5	10	9	9	7	5	6	16	6.7	24
31	6	6	6	3	5	4	6	7	8	6	4	**IZS**	2	2	2	2	2	4	3	3	2	3	3	3	8	4.0	24
HOURLY MAX	9	10	11	11	16	32	71	80	38	18	12	7	5	5	6	8	11	13	17	16	15	14	12	10			
HOURLY AVG	4.1	3.8	4.0	4.1	4.9	8.7	12.6	15.4	9.5	5.6	4.2	2.9	2.1	2.0	2.0	1.9	3.1	4.4	5.7	5.6	5.3	5.4	4.8	4.6			

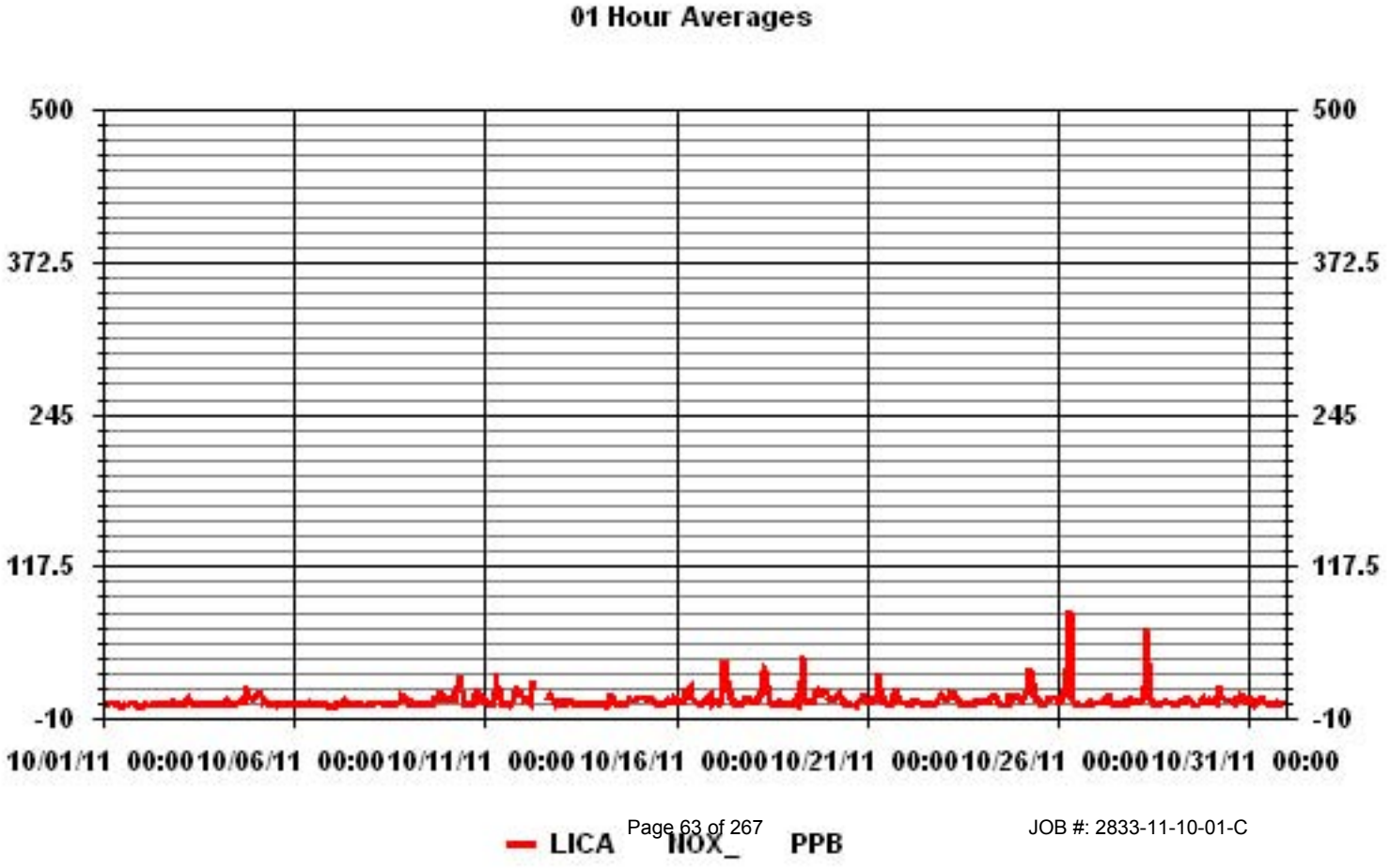
STATUS FLAG CODES

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:		696					
MAXIMUM 1-HR AVERAGE:		80	PPB	@ HOUR(S)	7	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:		11.9	PPB			ON DAY(S)	26
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			743	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	6.77		MONTHLY AVERAGE:			5.33	PPB



JOB #: 2833-11-10-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

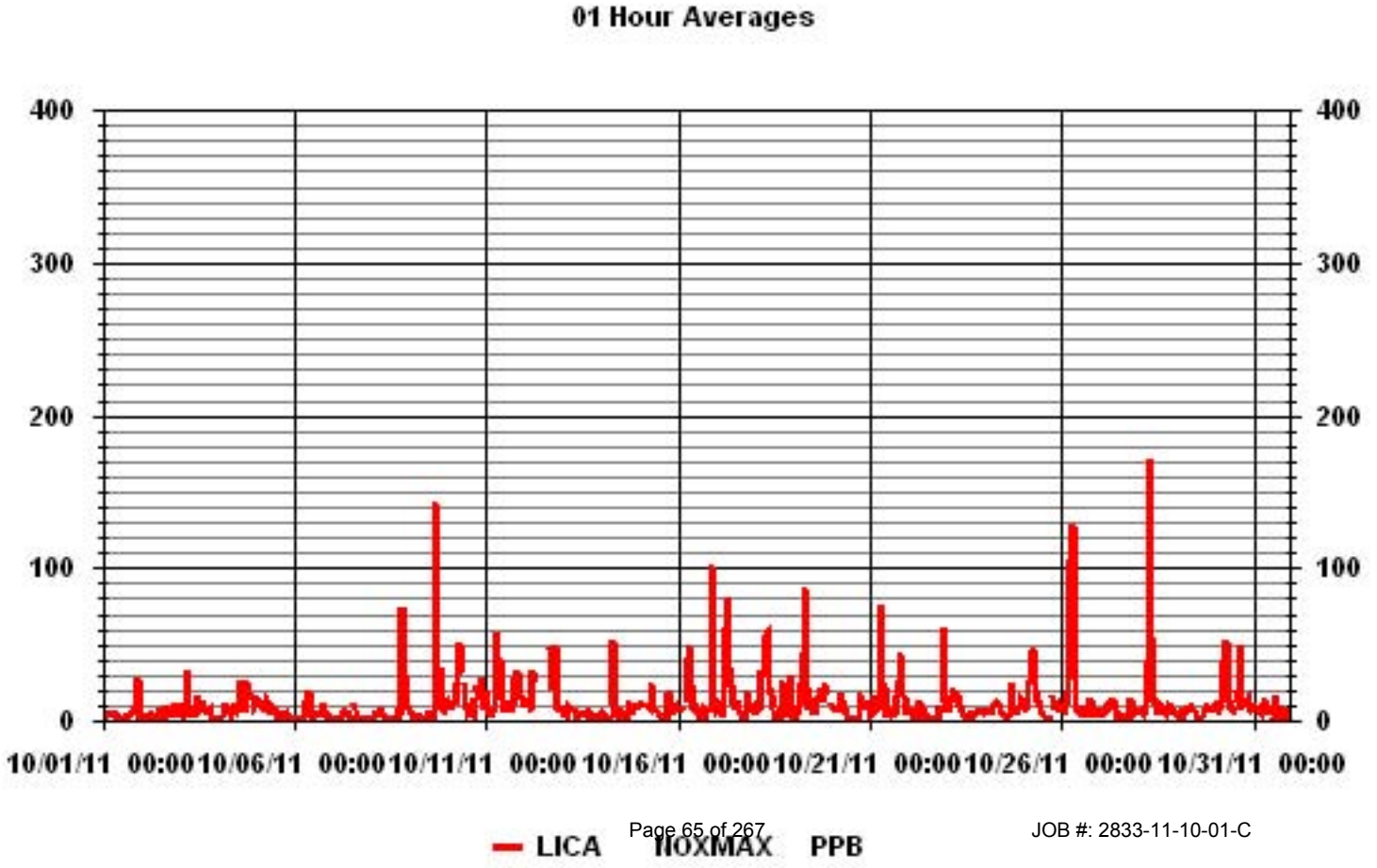
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	7	4	4	4	5	4	5	5	3	1	1	1	1	3	3	4	5	**IZS**	7	9	3	28	2	28	4.8	24
2	1	2	2	1	3	4	5	2	2	3	5	8	2	4	3	9	4	**IZS**	4	9	6	11	4	4	11	4.3	24
3	7	5	4	6	11	33	7	8	4	4	7	17	6	7	7	11	**IZS**	5	5	7	3	2	2	2	33	7.4	24
4	2	2	2	3	5	12	4	9	4	6	10	10	8	11	25	**IZS**	8	18	26	16	16	16	8	9	26	10.0	24
5	13	15	14	12	9	6	15	14	5	5	9	8	6	3	**IZS**	6	5	5	3	5	3	2	1	1	15	7.2	24
6	1	1	2	1	1	1	5	13	10	20	4	3	3	**IZS**	4	4	4	5	11	3	7	2	1	0	20	4.6	24
7	1	1	1	2	2	3	6	7	6	4	5	1	**IZS**	11	8	2	1	2	2	1	2	2	2	1	11	3.2	24
8	1	2	4	4	6	5	7	5	5	3	2	**IZS**	2	1	1	1	2	6	6	75	37	31	10	10	75	9.8	24
9	8	6	3	4	3	3	3	3	3	2	**IZS**	4	7	2	4	3	143	7	10	17	35	8	7	10	143	12.8	24
10	12	9	7	13	10	25	30	51	33	**IZS**	22	7	12	5	6	5	13	**P**	21	21	13	28	21	7	51	16.9	23
11	20	10	5	2	7	8	22	56	**IZS**	39	15	6	10	11	9	5	13	10	27	31	31	18	16	12	56	16.7	24
12	9	15	12	12	6	33	28	**IZS**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	46	21	24	50	9	9	5	10	50	19.3	24
13	3	6	4	9	7	8	**IZS**	7	2	2	3	4	4	**M**	**M**	2	8	4	4	3	4	3	3	3	9	4.4	22
14	5	3	5	4	3	**IZS**	13	52	5	6	4	3	6	6	3	3	3	13	10	9	8	11	8	11	52	8.4	24
15	12	10	10	10	**IZS**	10	9	24	9	8	7	5	5	3	4	3	2	17	20	6	6	7	7	10	24	8.9	24
16	8	8	9	**IZS**	14	42	19	50	24	9	8	9	6	8	2	2	7	5	8	5	9	103	6	14	103	16.3	24
17	7	8	**IZS**	4	13	32	61	80	36	24	10	13	7	13	5	3	4	5	4	19	10	8	9	10	80	16.7	24
18	6	**IZS**	7	8	33	29	56	58	59	22	18	8	3	2	3	3	8	26	7	4	4	12	30	5	59	17.9	24
19	**IZS**	3	5	9	11	25	44	87	31	23	8	11	12	4	11	12	16	21	12	15	24	19	20	**IZS**	87	19.2	24
20	11	9	7	7	10	14	18	14	10	5	3	1	1	2	2	1	2	2	18	12	8	12	**IZS**	10	18	7.8	24
21	5	7	16	6	7	8	10	76	25	23	6	7	5	8	3	6	4	17	27	45	17	**IZS**	14	5	76	15.1	24
22	5	6	3	3	6	6	5	13	6	3	2	4	1	1	2	2	2	2	2	8	**IZS**	14	61	16	61	7.5	24
23	8	8	16	12	21	18	18	17	11	7	5	4	2	2	1	2	7	4	5	**IZS**	7	6	6	5	21	8.3	24
24	7	6	6	6	6	9	11	13	12	11	6	5	3	3	2	3	4	22	**IZS**	6	9	10	14	12	22	8.1	24
25	9	8	10	27	23	46	48	33	21	14	10	8	6	4	2	2	2	**IZS**	15	8	10	9	11	8	48	14.5	24
26	8	7	11	20	26	106	113	129	32	7	6	6	3	10	8	5	**IZS**	6	14	3	5	6	5	6	129	23.6	24
27	4	4	6	5	6	11	13	12	15	9	3	3	2	4	3	**IZS**	3	4	3	15	10	5	6	6	15	6.6	24
28	5	5	7	5	8	39	23	**172**	56	14	10	14	4	10	**IZS**	8	8	6	10	9	11	4	6	6	**172**	19.1	24
29	5	4	4	3	8	5	6	9	10	8	8	7	4	**IZS**	2	1	3	6	7	11	8	8	9	10	11	6.3	24
30	9	8	13	7	39	28	14	52	14	7	9	6	**IZS**	18	13	7	49	9	15	13	15	10	7	8	52	16.1	24
31	9	9	8	6	8	6	9	14	11	9	6	**IZS**	3	9	16	2	3	7	7	6	3	4	6	5	16	7.2	24
HOURLY MAX	20	15	16	27	39	106	113	172	59	39	22	17	12	18	25	12	143	26	27	75	37	103	61	16			
HOURLY AVG	6.8	6.5	6.9	7.2	10.5	19.3	20.9	36.2	16.1	10.3	7.3	6.5	4.8	6.0	5.6	4.1	13.0	9.3	11.3	14.6	11.3	12.8	11.1	7.3			

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:	700					
MAXIMUM INSTANTANEOUS VALUE:	172	PPB	@ HOUR(S)	7	ON DAY(S)	28
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		741	HRS
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION	15.75					



JOB #: 2833-11-10-01-C

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

October 2011

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	6.11	2.41	3.27	7.68	3.69	8.25	2.41	2.56	2.98	13.08	19.63	15.93	4.40	4.69	.71	99.57
<	110	.00	.00	.00	.00	.14	.00	.28	.00	.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
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.70	6.11	2.41	3.27	7.82	3.69	8.53	2.41	2.56	2.98	13.08	19.63	15.93	4.40	4.69	.71	

Calm : .00 %

Total # Operational Hours : 703

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	12	43	17	23	54	26	58	17	18	21	92	138	112	31	33	5	700
<	110					1		2										3
<	210																	
>=	210																	
	Totals	12	43	17	23	55	26	60	17	18	21	92	138	112	31	33	5	

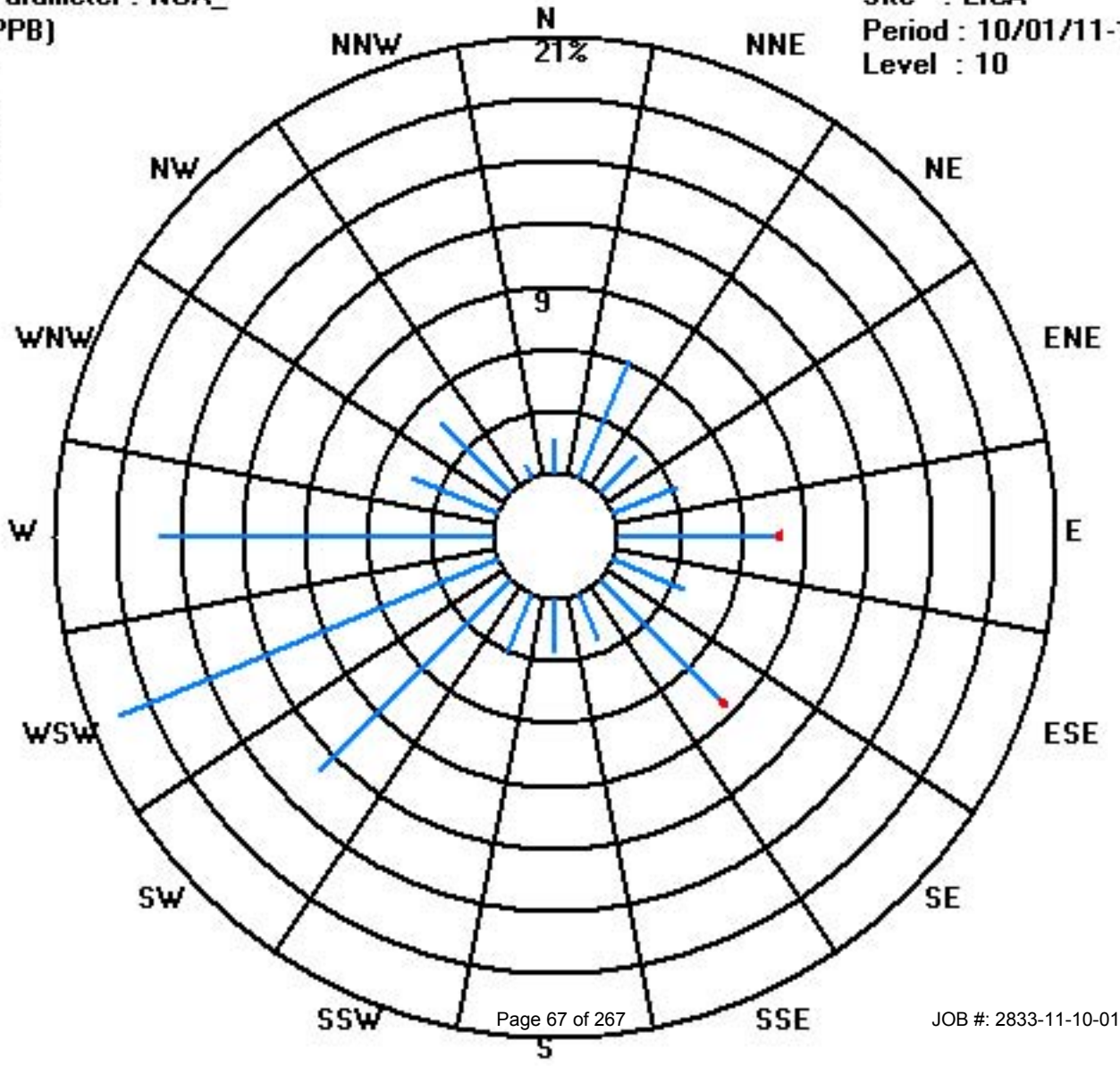
Calm : .00 %

Total # Operational Hours : 703

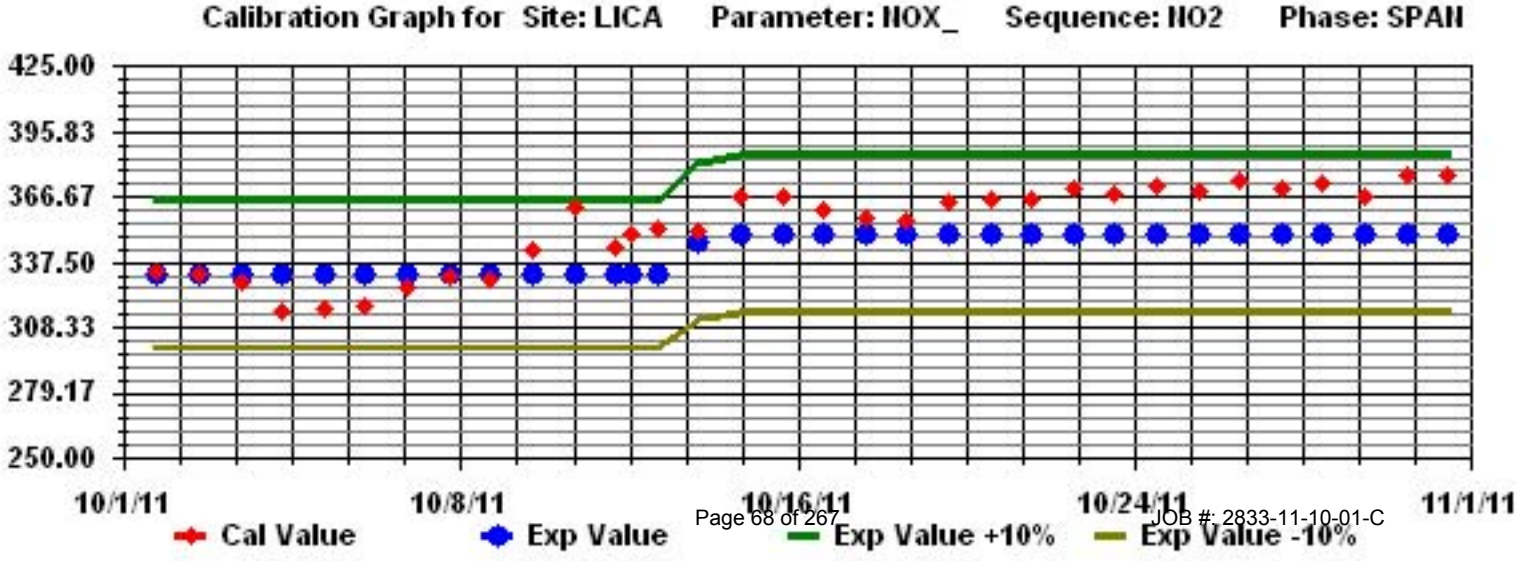
Logger : 01 Parameter : NOX_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-01-C


Calibration Graph for Site: LICA Parameter: NOX_ Sequence: NO2 Phase: SPAN
425.00
395.83
366.67
337.50
308.33
279.17
250.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

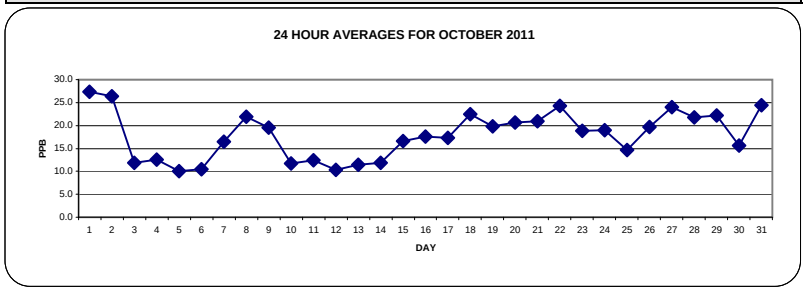
OZONE (O_3) hourly averages in ppb

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	29	26	26	26	25	24	24	24	25	28	30	30	30	30	30	30	28	22	**IZS**	16	28	36	32	29	36	**27.3**	24
2	34	34	32	30	27	26	26	27	27	27	27	28	28	28	28	27	26	**IZS**	24	21	23	20	20	17	34	26.4	24
3	8	13	10	8	7	8	10	10	12	12	13	14	14	14	13	12	**IZS**	13	13	13	14	14	14	13	14	11.8	24
4	13	12	13	13	12	10	13	12	12	12	15	21	21	25	17	**IZS**	18	15	6	7	7	5	6	4	25	12.6	24
5	1	1	0	0	3	2	5	8	11	10	12	12	13	15	**IZS**	14	14	15	15	16	17	16	16	15	17	10.0	24
6	14	13	12	11	10	10	10	9	9	9	10	10	10	**IZS**	10	12	12	11	11	11	10	10	8	8	14	10.4	24
7	8	7	6	5	5	3	2	2	6	11	21	25	**IZS**	27	28	29	28	25	24	25	23	23	23	24	29	16.5	24
8	26	24	22	21	18	18	16	17	19	23	27	**IZS**	31	33	34	34	34	30	20	12	12	9	9	16	34	22.0	24
9	24	25	27	26	27	26	25	23	22	23	**IZS**	25	25	26	25	25	22	20	12	9	4	5	3	1	27	19.6	24
10	1	1	1	0	1	0	1	1	3	**IZS**	14	27	30	31	33	34	31	21	12	6	8	5	5	5	34	11.8	24
11	4	5	6	5	5	3	1	2	**IZS**	20	26	26	28	29	29	29	28	22	10	3	2	2	1	1	29	12.5	24
12	1	1	1	1	1	1	1	**IZS**	12	16	16	17	17	18	19	18	16	10	12	17	16	13	7	6	19	10.3	24
13	9	8	6	6	6	5	**IZS**	10	15	17	**C**	**C**	**C**	**C**	**C**	18	17	16	15	14	13	11	10	9	18	11.4	24
14	9	9	7	7	7	**IZS**	4	3	8	11	17	18	18	20	23	27	28	21	12	6	5	6	5	2	28	11.9	24
15	2	10	12	12	**IZS**	12	16	16	18	21	24	26	22	26	27	26	26	19	13	12	13	11	8	9	27	16.6	24
16	9	10	8	**IZS**	6	1	1	2	6	19	25	26	29	32	36	35	33	29	26	25	17	10	11	8	36	17.6	24
17	6	4	**IZS**	3	3	1	1	1	7	16	23	26	32	36	**38**	**38**	36	33	29	18	16	13	10	8	**38**	17.3	24
18	10	**IZS**	7	7	4	2	1	1	7	19	24	31	36	37	37	37	36	29	33	34	33	31	31	30	37	22.5	24
19	**IZS**	28	27	22	24	16	8	3	21	28	29	30	33	34	29	25	21	15	16	12	6	5	3	**IZS**	34	19.8	24
20	2	6	6	7	9	8	8	14	17	29	33	37	37	37	36	35	34	32	27	23	18	14	**IZS**	7	37	20.7	24
21	5	7	8	10	16	16	13	4	7	17	26	27	31	35	37	37	34	24	17	26	28	**IZS**	29	27	37	20.9	24
22	25	24	21	17	15	14	15	13	16	26	31	34	36	36	36	35	35	35	33	28	**IZS**	16	11	8	36	24.3	24
23	11	12	6	5	3	4	3	4	7	13	21	28	32	35	34	34	34	33	31	**IZS**	26	23	16	19	35	18.9	24
24	18	18	19	19	18	15	16	13	16	19	23	27	29	30	31	31	30	18	**IZS**	14	11	10	7	4	31	19.0	24
25	4	5	8	5	2	2	2	9	10	15	18	20	23	28	32	33	33	**IZS**	24	17	13	14	11	10	33	14.7	24
26	9	9	5	3	1	1	1	4	19	22	26	30	32	32	32	32	**IZS**	32	29	28	28	29	26	22	32	19.7	24
27	21	19	18	18	19	19	19	20	19	24	27	30	31	32	32	**IZS**	31	30	30	24	20	25	23	22	32	24.0	24
28	22	21	20	21	19	9	5	2	5	19	21	25	31	33	**IZS**	32	28	29	27	26	27	27	26	26	33	21.8	24
29	24	21	21	25	20	19	19	17	14	15	17	22	28	**IZS**	31	32	30	26	24	21	24	22	20	17	32	22.1	24
30	19	15	7	7	3	2	12	11	14	20	23	25	**IZS**	26	27	27	23	23	13	9	7	15	15	15	27	15.6	24
31	17	18	14	21	21	21	19	18	18	21	25	**IZS**	30	32	33	33	31	28	27	28	28	27	26	25	33	24.4	24
HOURLY MAX	34	34	32	30	27	26	26	27	27	29	33	37	37	37	38	38	36	35	33	34	33	36	32	30			
HOURLY AVG	12.8	13.5	12.5	12.0	11.2	9.9	9.9	10.0	13.4	18.7	22.2	24.9	27.0	29.2	29.2	28.7	27.5	23.3	20.2	17.4	16.6	15.6	14.4	13.6			

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

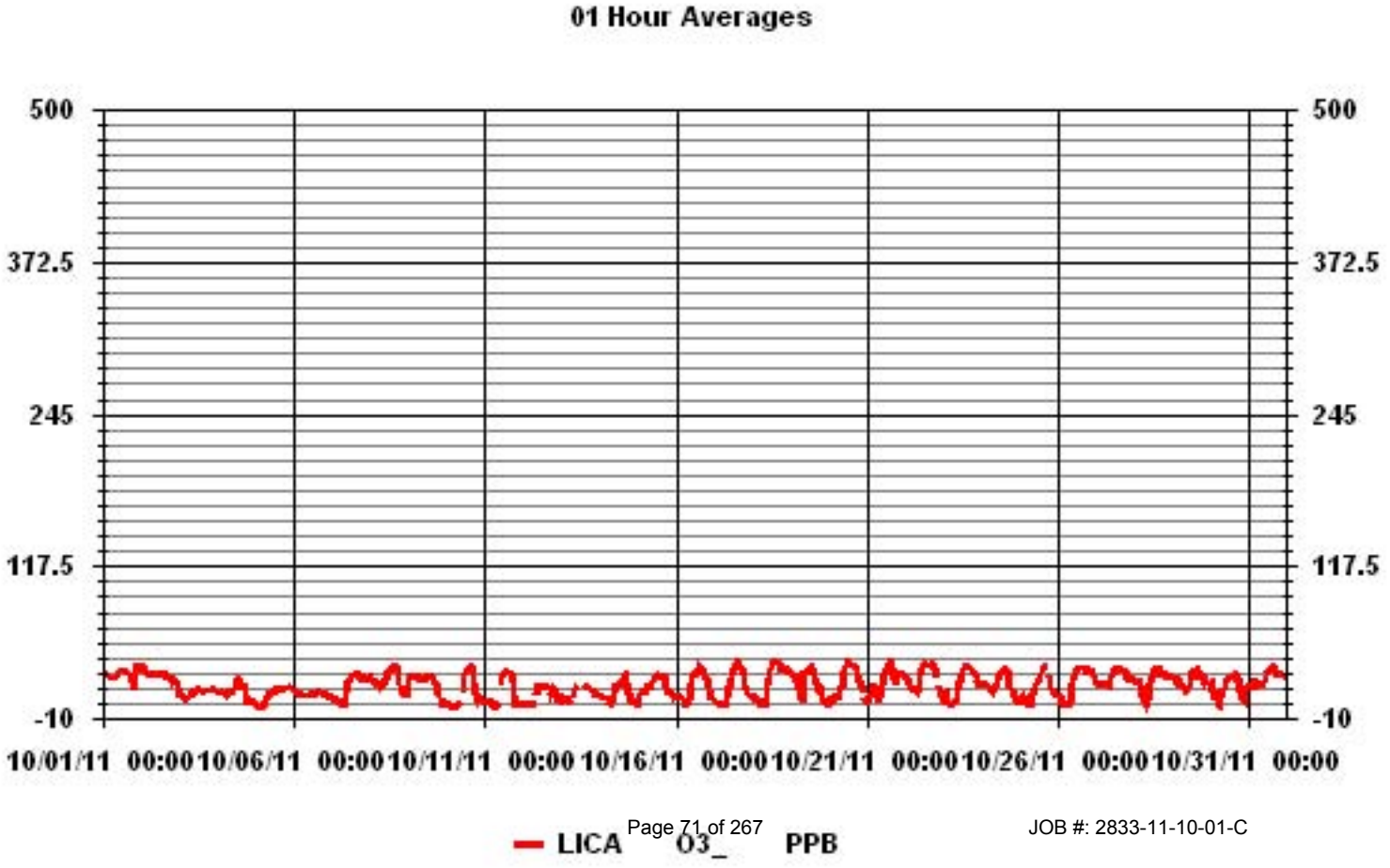


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	703					
MAXIMUM 1-HR AVERAGE:	38	PPB	@ HOUR(S)	14, 15	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	27.3	PPB			ON DAY(S)	1
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME		100.0	%
STANDARD DEVIATION	10.14		MONTHLY AVERAGE		17.92	PPB

JOB #: 2833-11-10-01-C



JOB #: 2833-11-10-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

OZONE MAX instantaneous maximum in ppb

MST

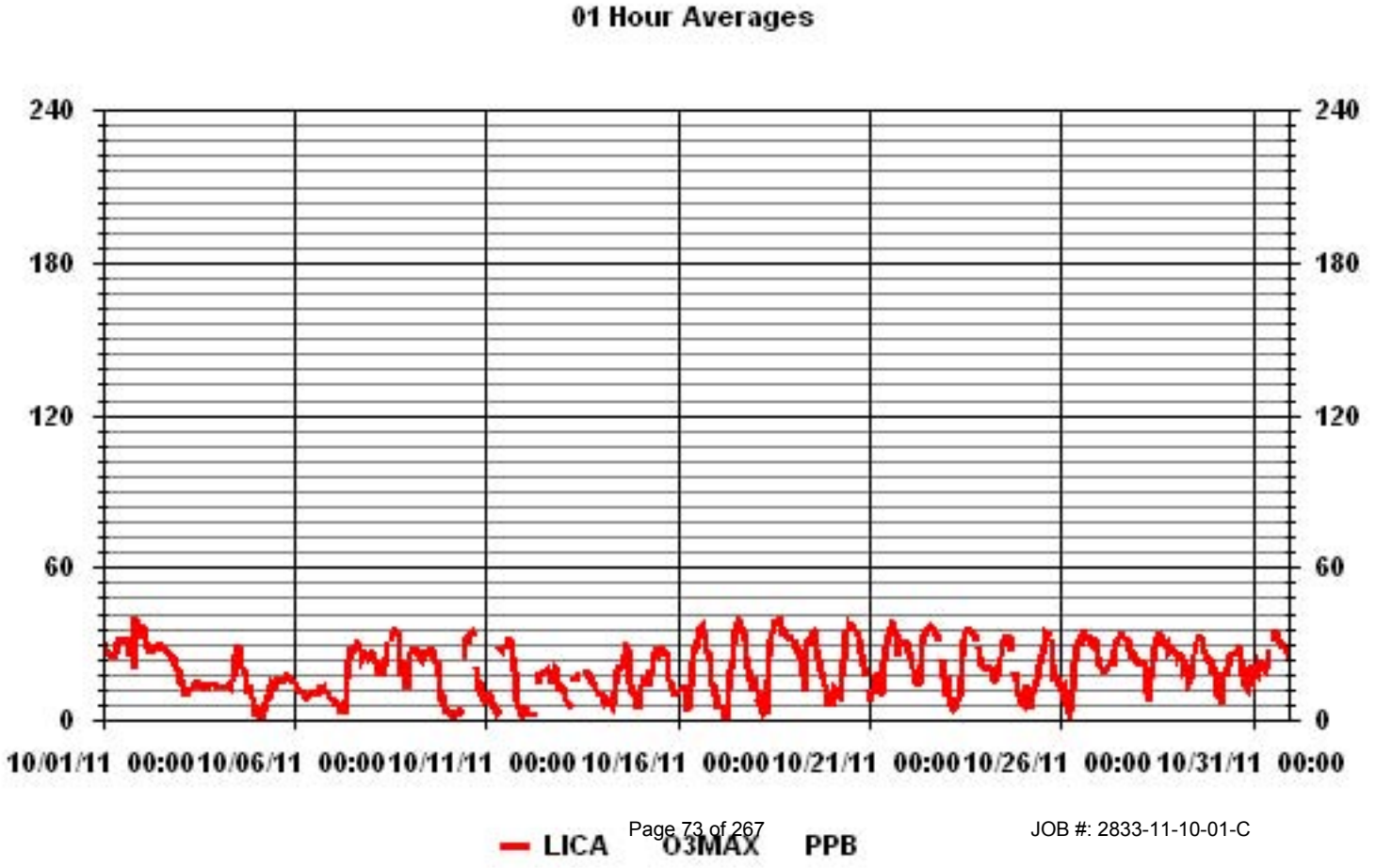
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	30	30	28	27	26	25	25	25	26	30	31	31	31	31	31	31	31	26	**IZS**	21	39	39	34	32	39	29.6	24
2	36	36	33	31	29	27	27	28	28	28	28	29	29	29	28	28	27	**IZS**	26	24	24	22	21	20	36	27.7	24
3	14	16	14	12	9	12	12	12	13	13	14	15	15	15	14	13	**IZS**	14	13	14	14	14	14	14	16	13.5	24
4	13	13	13	13	13	13	14	14	13	15	17	24	24	30	21	**IZS**	20	19	11	11	14	9	9	7	30	15.2	24
5	3	2	2	1	4	4	7	10	12	11	14	13	14	16	**IZS**	15	15	16	16	18	18	17	16	16	18	11.3	24
6	15	13	13	12	11	11	11	10	9	10	10	11	11	**IZS**	11	13	13	12	13	11	11	11	9	9	15	11.3	24
7	8	8	7	6	6	4	3	3	8	16	24	28	**IZS**	28	29	30	30	28	24	25	26	25	24	25	30	18.0	24
8	26	26	23	22	22	19	18	18	21	25	30	**IZS**	32	34	35	35	35	34	25	18	18	14	12	23	35	24.6	24
9	26	27	27	27	27	27	26	24	23	24	**IZS**	26	26	27	27	25	24	23	18	13	7	11	6	3	27	21.5	24
10	3	3	3	2	3	2	2	3	4	**IZS**	25	31	31	33	34	35	34	**P**	20	11	16	10	8	9	35	14.6	23
11	8	9	10	8	7	5	3	4	**IZS**	28	27	28	29	31	31	31	29	26	20	8	6	5	2	3	31	15.6	24
12	6	4	3	3	2	2	2	**IZS**	15	18	18	18	19	19	20	19	19	14	16	20	19	16	11	13	20	12.9	24
13	13	11	8	7	7	6	**IZS**	16	16	18	**C**	**C**	**C**	**C**	**C**	19	19	17	15	15	14	12	11	10	19	13.0	24
14	10	10	7	8	7	**IZS**	7	6	11	14	19	20	20	21	26	29	29	28	15	11	9	11	9	4	29	14.4	24
15	9	14	16	15	**IZS**	14	19	19	19	24	26	28	26	27	28	27	27	26	16	15	15	13	9	11	28	19.3	24
16	11	12	12	**IZS**	13	4	5	4	13	23	26	28	31	35	36	37	35	33	28	27	24	15	14	10	37	20.7	24
17	10	6	**IZS**	5	5	2	1	2	12	20	24	30	35	38	39	39	37	35	32	26	21	16	14	11	**39**	20.0	24
18	16	**IZS**	9	12	6	3	4	2	16	25	31	34	38	38	38	39	39	33	34	35	34	33	32	32	**39**	25.3	24
19	**IZS**	31	29	27	27	25	18	11	27	30	30	32	34	35	34	28	25	20	19	17	14	12	6	**IZS**	35	24.1	24
20	7	9	12	11	11	10	13	17	24	34	35	38	37	37	37	36	35	34	32	27	22	18	**IZS**	11	38	23.8	24
21	7	10	12	17	18	18	15	11	10	23	28	30	33	36	38	38	36	34	25	29	30	**IZS**	30	30	38	24.3	24
22	27	25	25	21	17	16	15	14	22	30	33	35	36	37	36	36	36	35	34	32	**IZS**	23	17	13	37	26.7	24
23	14	15	10	6	5	6	4	7	9	17	25	31	34	35	35	35	35	34	32	**IZS**	28	25	22	21	35	21.1	24
24	21	20	20	20	20	18	17	16	17	22	25	30	30	32	32	32	32	28	**IZS**	18	16	12	10	8	32	21.6	24
25	7	11	13	13	6	4	10	12	13	16	21	22	26	30	34	33	34	**IZS**	30	23	15	17	17	14	34	18.3	24
26	12	13	8	6	4	2	3	12	22	23	29	31	33	32	34	34	**IZS**	33	32	30	29	32	30	25	34	22.1	24
27	22	21	19	19	20	21	22	22	22	27	29	31	32	33	33	**IZS**	32	31	31	28	24	26	25	23	33	25.8	24
28	23	23	22	22	22	19	11	7	16	21	23	29	32	34	**IZS**	33	30	29	30	27	28	27	27	27	34	24.4	24
29	26	24	25	25	24	20	21	20	15	16	18	26	30	**IZS**	32	32	32	28	27	23	25	23	23	18	32	24.0	24
30	20	19	10	9	6	13	19	17	20	21	25	26	**IZS**	27	28	28	27	25	18	14	13	18	17	16	28	19.0	24
31	20	20	19	23	22	22	21	21	20	23	27	**IZS**	32	34	34	34	32	31	29	29	29	27	27	25	34	26.1	24
HOURLY MAX	36	36	33	31	29	27	27	28	28	34	35	38	38	38	39	39	39	35	34	35	39	39	34	32			
HOURLY AVG	15.4	16.0	15.1	14.3	13.3	12.5	12.5	12.9	16.5	21.5	24.6	27.0	28.6	30.5	30.5	29.8	29.3	26.6	23.5	20.7	20.1	18.4	16.9	16.1			

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:	706					
MAXIMUM INSTANTANEOUS VALUE:	39	PPB	@ HOUR(S)	VAR	ON DAY(S)	17, 18
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION	9.74					



JOB #: 2833-11-10-01-C

LICA
O3_ / WD Joint Frequency Distribution (Percent)

October 2011

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	1.69	6.08	2.40	3.25	8.34	3.81	8.91	2.40	2.54	2.97	13.01	19.51	15.55	4.24	4.52	.70	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	1.69	6.08	2.40	3.25	8.34	3.81	8.91	2.40	2.54	2.97	13.01	19.51	15.55	4.24	4.52	.70	

Calm : .00 %

Total # Operational Hours : 707

Distribution By Samples

Direction

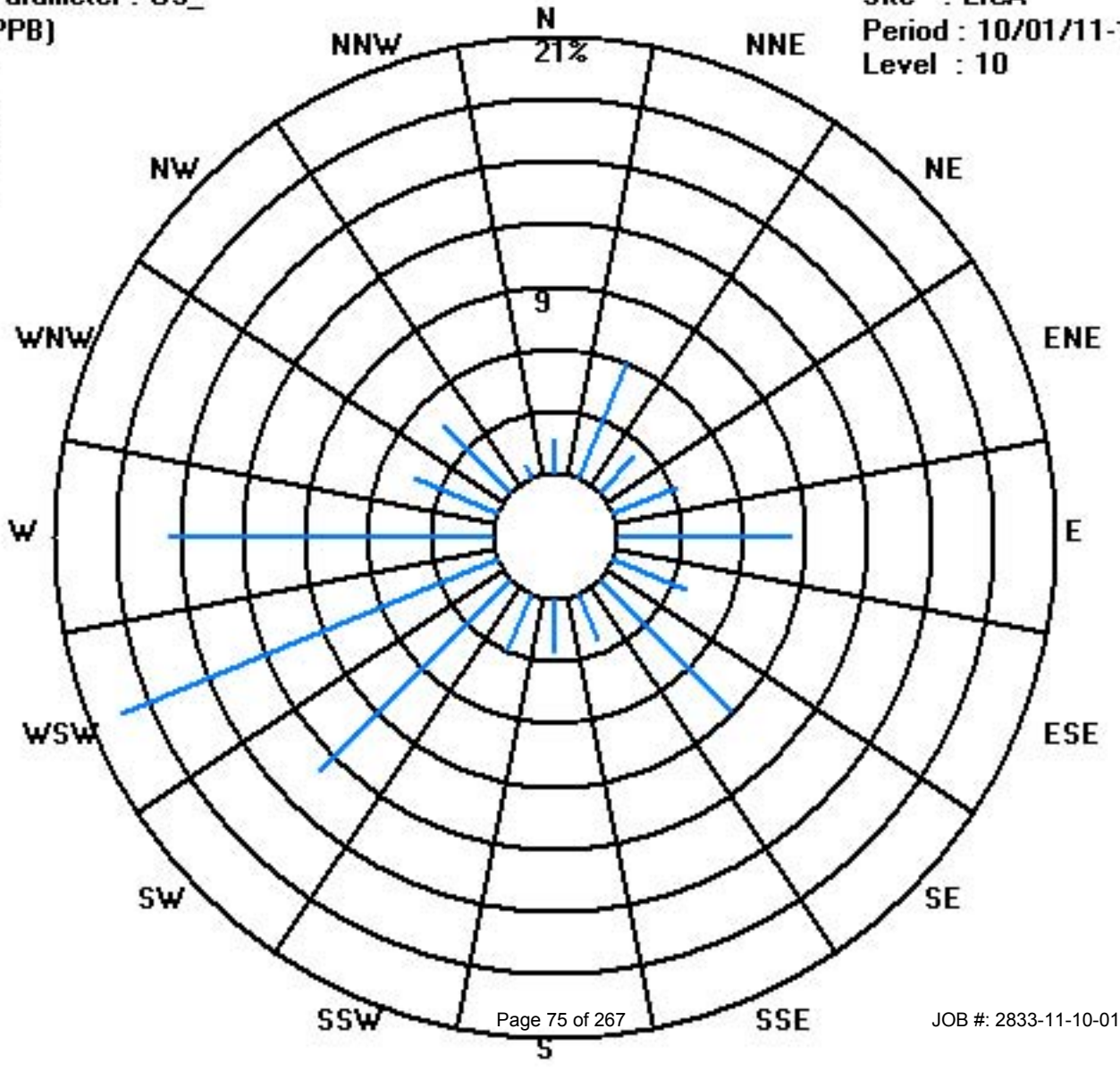
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	12	43	17	23	59	27	63	17	18	21	92	138	110	30	32	5	707
<	110																	
<	210																	
>=	210																	
	Totals	12	43	17	23	59	27	63	17	18	21	92	138	110	30	32	5	

Calm : .00 %

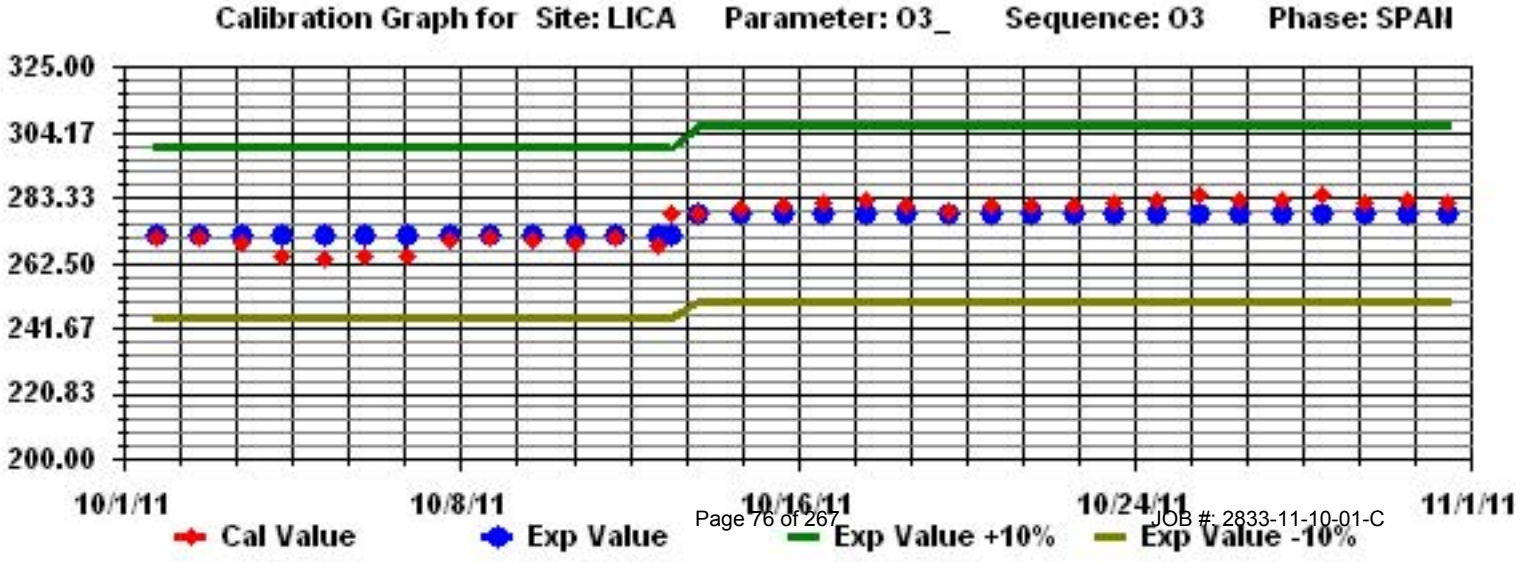
Total # Operational Hours : 707

Logger : 01 Parameter : 03_
Class Limits (PPB)
>= 210
< 210
< 110
< 50

Site : LICA
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-01-C


Calibration Graph for Site: LICA Parameter: O3_ Sequence: O3 Phase: SPAN
325.00
304.17
283.33
262.50
241.67
220.83
200.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

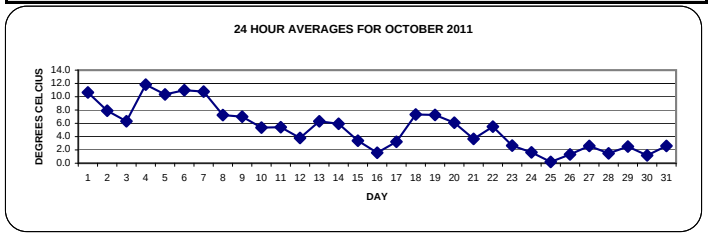
AMBIENT TEMPERATURE hourly averages (Degrees C)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	10.5	9.6	9.5	9.2	9.3	9.5	9.8	9.9	10.5	12.2	12.9	12.9	12.8	12.9	13	12.9	12.8	11.4	10	9.2	10.6	9.6	7.8	6.7	13.0	10.6	24
2	6.1	6.2	6.2	6.2	6	6.2	6.4	6.5	6.7	7	7.8	9.5	10.5	11.7	11.6	11	11	10.3	9.1	8.2	7.4	6.2	6.2	5.5	11.7	7.9	24
3	3.2	3.8	2.9	2.7	3	4.3	5.1	5.7	6.5	6.8	7	7.2	7.4	7.7	8	8	8	8.1	7.7	7.8	7.9	7.7	7.5	7.5	8.1	6.3	24
4	7.5	7.5	8.1	8.6	9.3	9.6	10.3	9.9	10.3	11.1	13	15.9	15.9	15.7	15.8	**16.9**	16.3	14.5	13.3	12.5	11.6	10.4	10.2	9.5	**16.9**	**11.8**	24
5	8.5	8.9	8.5	7.7	7.8	7.9	8.3	9.5	10.2	10.6	11.3	11.7	11.9	12.1	12.2	12	11.8	11.4	11.2	11.1	11.1	10.8	10.9	11	12.2	10.4	24
6	11.1	11	10.8	10.8	10.8	10.6	10.5	10.5	10.5	10.7	11	11.4	11.8	12	12	11.9	11.6	11.3	11	10.7	10.6	10.6	10.3	10	12.0	11.0	24
7	9.8	9.8	9.7	9.6	9.4	9.1	9	9.2	9.5	10.3	11.4	11.9	12.8	13.6	13.7	13.9	13.1	12	10.9	11.2	10.9	10.2	9.2	8.4	13.9	10.8	24
8	7.9	6.9	5.6	4.7	3.6	2.9	2.5	3.1	5.4	7.8	10.1	12	13	13.7	13.9	13.8	13	10.3	5.9	4.3	3.5	3.4	3	3.5	13.9	7.2	24
9	4	4.7	4.5	4.3	4.4	4	3.6	3.7	6.2	9.2	11.2	12.4	13.1	14.1	14.3	14.4	13	11	7	4.2	2.7	1.6	0.5	-0.2	14.4	7.0	24
10	-0.8	-1.4	-1.7	-2.1	-2.4	-2.7	-2.8	-2.6	1.2	6.2	10.3	13.1	14.3	14.5	14.6	14.7	14.1	12.2	9.6	7.5	5.2	3.5	2.3	1.7	14.7	5.4	24
11	1.7	1	0.6	-0.1	-0.1	-1.1	-1.5	-0.7	5.1	9.5	10.8	12.1	13	13.5	13.4	13.1	13.1	10.8	6.4	4.3	2.7	1.6	0.7	0	13.5	5.4	24
12	-0.5	-0.4	0.3	-0.1	-0.7	-1	-1.5	0.1	2.3	2.7	3.3	4.9	6.8	8.4	8.8	8.7	8.6	7.2	6	6.2	6.3	5.7	4.6	4.4	8.8	3.8	24
13	4.7	4.7	4.6	4.9	5.2	5.6	6	6.1	6.1	6.9	7.2	7.7	7.7	7.2	7.3	7.5	6.8	6.6	6.3	6.3	6.3	6.5	6.5	6.5	7.7	6.3	24
14	6.5	6.3	6.1	5.9	5.9	5.9	5.2	4.4	5.6	6.4	8.1	9	9.9	9.8	11	11.3	10.7	8.1	4	1.7	0.2	0	0.2	0.3	11.3	5.9	24
15	0.6	2	2.1	1.9	1.9	1.5	2.5	2.4	3.8	5	6.3	7.6	6.6	7.2	8.1	8.1	7.3	5.3	2.1	0.7	0.8	0	-1.4	-1.1	8.1	3.4	24
16	-1.7	-1.6	-2.5	-3	-3.9	-5	-5.3	-5	-0.1	2.6	5.1	6.6	8.2	9.2	9.9	9.3	8.1	5.9	4	2.7	1	-1.4	-2.4	-3	9.9	1.6	24
17	-3.6	-4.1	-4.5	-4.8	-5.1	-5.2	-5.3	-5	-0.9	2.4	5.3	8.1	10.2	11.2	11.5	11.2	10	9.1	8.1	6.9	6.4	5.8	5.4	4.4	11.5	3.2	24
18	3.7	3.1	3.1	2.7	3	1.4	-0.3	-0.7	3.7	7.2	9.6	11.5	12.9	13.5	13.8	14.1	13	11.1	10.2	9.4	8.1	7.1	7.4	7.3	14.1	7.3	24
19	5.9	5.7	5.1	3.8	3.8	3.2	2.3	1.7	5.2	8.6	9.8	12	13.9	14	13.9	11.6	11	9.8	8.5	6.6	5.4	5.2	4	3.3	14.0	7.3	24
20	3.5	3.7	3.6	3.2	4.3	4.5	4.3	4.9	5.8	8.5	10.5	11.4	12	12.2	11.8	11.2	9.5	7.8	6.6	4.5	2.7	1.8	-0.3	-1.7	12.2	6.1	24
21	-2.6	-2.7	-2.4	-2.8	-1.5	-1.5	-1.7	-2.7	0	2.5	5.1	7	8.6	9.8	10.7	10.7	9.6	6.9	5.8	6	6	6.1	5.9	5.1	10.7	3.7	24
22	4.8	4.2	3.7	3.3	2.8	3.3	3.6	2.5	4.3	7.1	8.8	9.6	10.1	10.8	10.6	10.5	9.9	8.7	7.2	5.6	3.5	0.7	-1.3	-2.3	10.8	5.5	24
23	-3	-3.2	-3.6	-3.2	-2.2	-1.5	-1.2	-0.6	0.2	1.2	4.2	7	8.3	9.2	9.1	8.8	8.6	8.3	7.2	5.4	3.5	1.8	-0.2	-0.5	9.2	2.7	24
24	-0.9	-1	-0.1	0	-0.9	-1.8	-1.8	-2.2	-0.1	2.2	4.8	6.8	7.8	8.3	8.8	8.9	7.8	4	0.6	-1	-1.9	-2.4	-3	-3.8	8.9	1.6	24
25	-4.4	-4.8	-4.4	-4.7	-5.7	-6.1	-5.5	-2.5	-1.6	0.9	2.6	5.1	6.7	8.2	8.9	8.6	6.7	4.7	3.3	-0.2	-1.8	-2.2	-3.1	-4	8.9	0.2	24
26	-4.7	-5.4	-6	-6.6	-7.1	-7.5	**-7.8**	-6.8	-1.4	1.3	4.9	6.7	7.8	8.1	8.5	8.2	7.1	6.7	5.8	5.4	5.5	4.6	2.4	2	8.5	1.3	24
27	1.8	1.7	1.3	0.6	-0.3	-0.9	-1.2	-1.2	0	2.1	4	5.6	6.7	7.7	8.1	7.8	6.8	5.3	4.2	1.5	0.1	0.6	0.3	-0.3	8.1	2.6	24
28	-0.7	-1.2	**-2**	-2.2	-2.7	-4.1	-5	-5.5	-2.8	0.5	2.7	4.7	6.3	7.1	7.3	6.5	5.3	4.5	3.9	3.3	2.8	2.3	2.3	2.3	7.3	1.5	24
29	2.1	1.8	1.7	0.2	0.2	0.2	0.3	0.4	0.3	1.3	2.2	4	5.6	6.4	7.1	7.5	6.5	4.5	3	2.7	2.2	1	-0.1	-0.9	7.5	2.5	24
30	-1	-2.3	-3.5	-4.3	-5	-4.3	-2.2	-1.6	-0.4	1.5	3.9	4.4	5.1	5.7	6	7.6	6.2	4.7	1.6	-0.3	0.5	2.1	2.1	1.8	7.6	1.2	24
31	1.4	1	0.1	0	-0.3	-1	-1.3	-1.3	-0.6	1	3.1	5.1	6.5	7.5	8	7.8	6.1	4.3	2.9	3.1	2.8	2.6	2	1.5	8.0	2.6	24
HOURLY MAX	11.1	11.0	10.8	10.8	10.8	10.6	10.5	10.5	10.5	12.2	13.0	15.9	15.9	15.7	15.8	16.9	16.3	14.5	13.3	12.5	11.6	10.8	10.9	11.0			
HOURLY AVG	2.6	2.4	2.2	1.8	1.7	1.5	1.5	1.7	3.6	5.6	7.4	8.9	9.8	10.4	10.7	10.6	9.8	8.3	6.6	5.4	4.7	4.0	3.2	2.7			

STATUS FLAG CODES

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

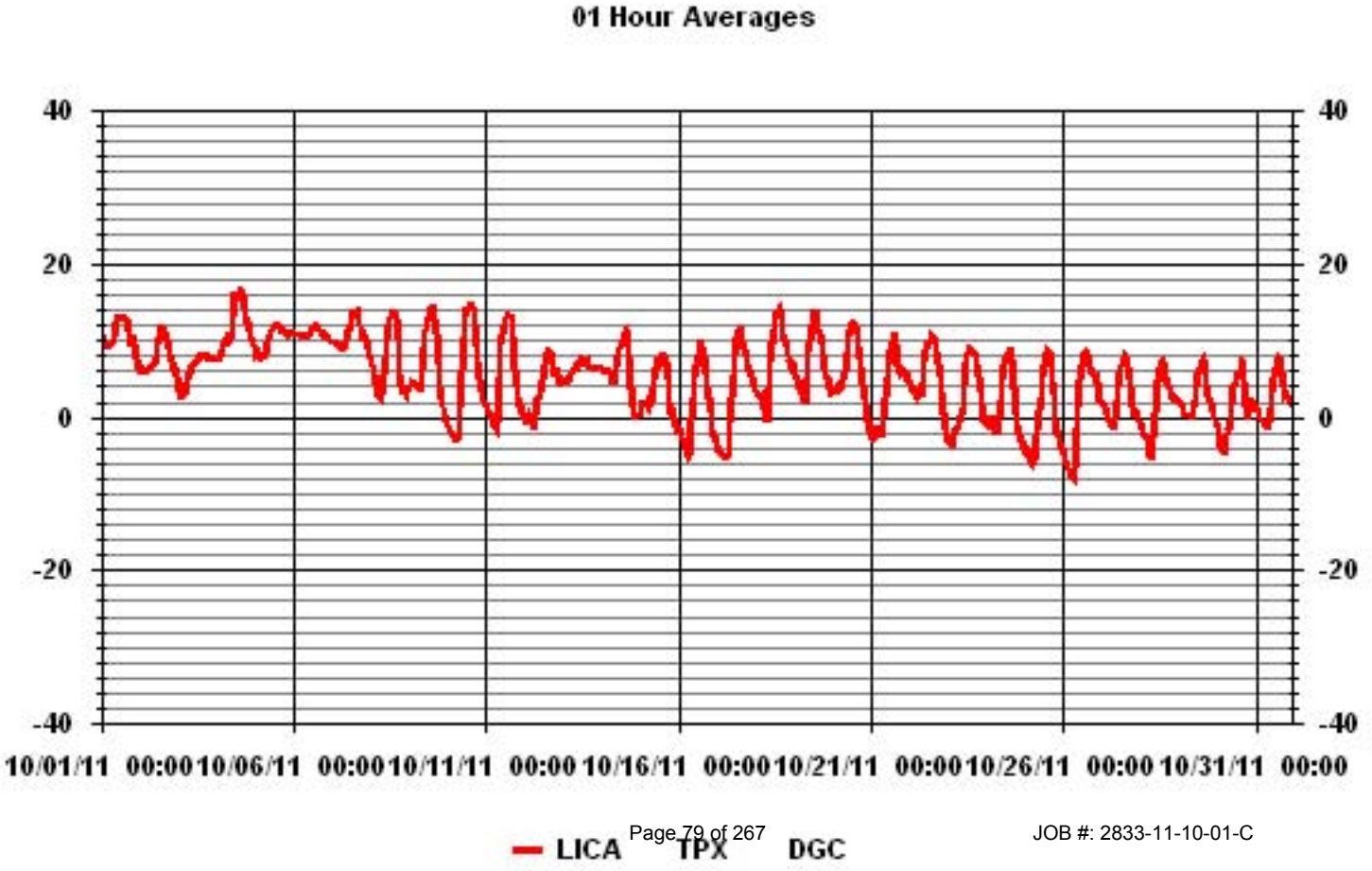


MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-7.8	^{O}C	@ HOUR(S)	6	ON DAY(S)	26
MAXIMUM 1-HR AVERAGE:	16.9	^{O}C	@ HOUR(S)	15	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	11.8	^{O}C			ON DAY(S)	4
					VAR-VARIOUS	

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	5.08		MONTHLY AVERAGE:	5.29	^{O}C

*** Outside detection limits of sensor.**



JOB #: 2833-11-10-01-C

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

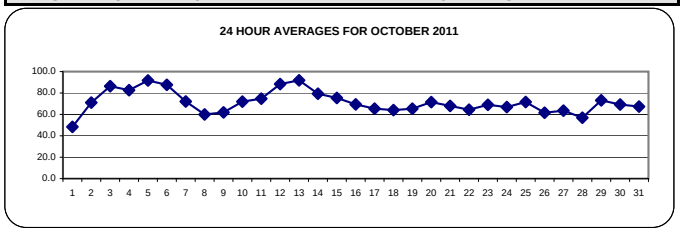
RELATIVE HUMIDITY hourly averages (%)

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	48	49	49	49	50	52	50	50	49	44	38	37	36	35	35	36	39	48	55	60	42	52	73	84	84	48.3	24
2	87	85	84	84	85	84	82	78	76	75	70	60	54	50	48	52	52	55	63	68	72	78	80	83	87	71.0	24
3	90	91	93	94	94	94	93	91	87	86	85	83	82	81	80	80	80	80	82	83	84	85	87	88	94	86.4	24
4	88	89	87	87	88	92	89	88	86	84	78	67	71	72	73	67	70	76	82	84	88	91	92	94	94	82.6	24
5	96	97	97	99	100	100	100	100	98	94	89	87	85	83	82	82	84	86	88	89	89	93	92	91	**100**	91.7	24
6	90	90	92	91	90	90	90	89	90	88	87	85	82	81	82	83	84	86	87	88	88	89	90	91	92	87.6	24
7	91	90	89	89	90	90	91	89	85	80	71	66	60	55	53	49	52	57	63	61	63	64	66	66	91	72.1	24
8	64	69	76	76	79	82	83	81	73	62	52	44	39	34	31	29	31	40	58	63	67	69	71	66	83	60.0	24
9	61	57	57	58	59	61	65	69	65	58	51	47	46	43	43	43	49	56	71	79	82	87	89	89	89	61.9	24
10	89	91	90	90	90	90	90	90	83	79	70	53	46	46	42	38	40	49	61	70	78	83	83	85	91	71.9	24
11	84	86	88	90	90	92	91	87	74	70	66	59	54	49	49	50	49	59	75	81	84	88	89	89	92	74.7	24
12	90	89	89	91	91	92	92	95	98	99	99	95	82	76	75	75	77	83	87	86	87	89	91	92	99	88.3	24
13	93	93	95	96	98	98	98	97	92	89	88	87	89	92	90	85	88	90	92	91	92	91	91	89	98	**91.8**	24
14	88	90	90	90	90	91	93	94	87	83	71	69	66	65	58	51	49	61	78	85	89	89	88	89	94	79.3	24
15	88	82	80	79	77	80	78	79	74	69	65	63	70	64	57	56	57	68	81	85	86	88	92	91	92	75.4	24
16	92	90	91	91	89	88	89	88	79	70	56	50	44	41	38	40	44	51	57	62	69	79	83	84	92	69.4	24
17	86	87	87	89	89	87	88	88	81	67	56	47	41	38	37	37	41	45	51	58	61	66	69	73	89	65.4	24
18	75	77	78	81	80	86	89	88	73	61	53	49	44	44	43	43	47	54	55	58	63	66	65	65	89	64.0	24
19	70	68	69	74	72	74	77	80	65	52	49	43	37	37	43	58	61	64	70	75	79	80	85	86	86	65.3	24
20	86	86	86	87	82	80	81	83	85	76	65	46	45	44	43	48	55	61	66	73	80	82	87	89	89	71.5	24
21	89	91	91	92	93	92	92	91	85	80	68	58	50	43	39	39	43	51	56	54	55	56	56	67	93	68.0	24
22	69	76	82	85	88	88	86	88	80	66	56	50	45	40	40	39	41	42	46	52	60	70	77	80	88	64.4	24
23	84	85	84	85	86	86	86	89	93	91	82	66	55	47	44	45	43	43	45	50	57	63	72	74	93	69.0	24
24	75	77	75	73	75	77	77	78	70	64	55	51	47	45	43	42	45	59	70	75	80	82	84	86	86	66.9	24
25	87	86	86	87	87	89	89	87	85	78	73	62	55	47	41	40	44	52	57	70	75	78	81	82	89	71.6	24
26	83	86	85	86	86	86	85	85	75	67	53	42	36	36	33	33	36	34	37	40	40	57	87	90	90	61.6	24
27	91	90	86	82	81	80	78	77	72	64	56	50	46	42	41	41	43	47	49	59	63	61	61	64	91	63.5	24
28	65	67	70	72	73	77	80	82	72	62	57	50	40	36	34	37	42	46	48	50	51	52	51	52	82	56.9	24
29	54	58	59	90	95	96	97	97	96	90	84	77	69	62	55	51	53	60	64	64	66	70	73	75	97	73.1	24
30	76	82	87	88	89	88	78	79	73	63	53	49	47	45	46	42	47	52	66	75	74	84	89	90	90	69.3	24
31	90	90	91	86	83	84	84	83	79	75	67	60	53	48	44	44	49	54	58	55	57	58	60	63	91	67.3	24
HOURLY MAX	96	97	97	99	100	100	100	100	98	99	99	95	89	92	90	85	88	90	92	91	92	93	92	94			
HOURLY AVG	81.3	82.1	82.7	84.2	84.5	85.4	85.2	85.2	80.0	73.7	66.5	59.7	55.4	52.3	50.4	50.2	52.7	58.4	65.1	69.1	71.6	75.5	79.2	80.9			

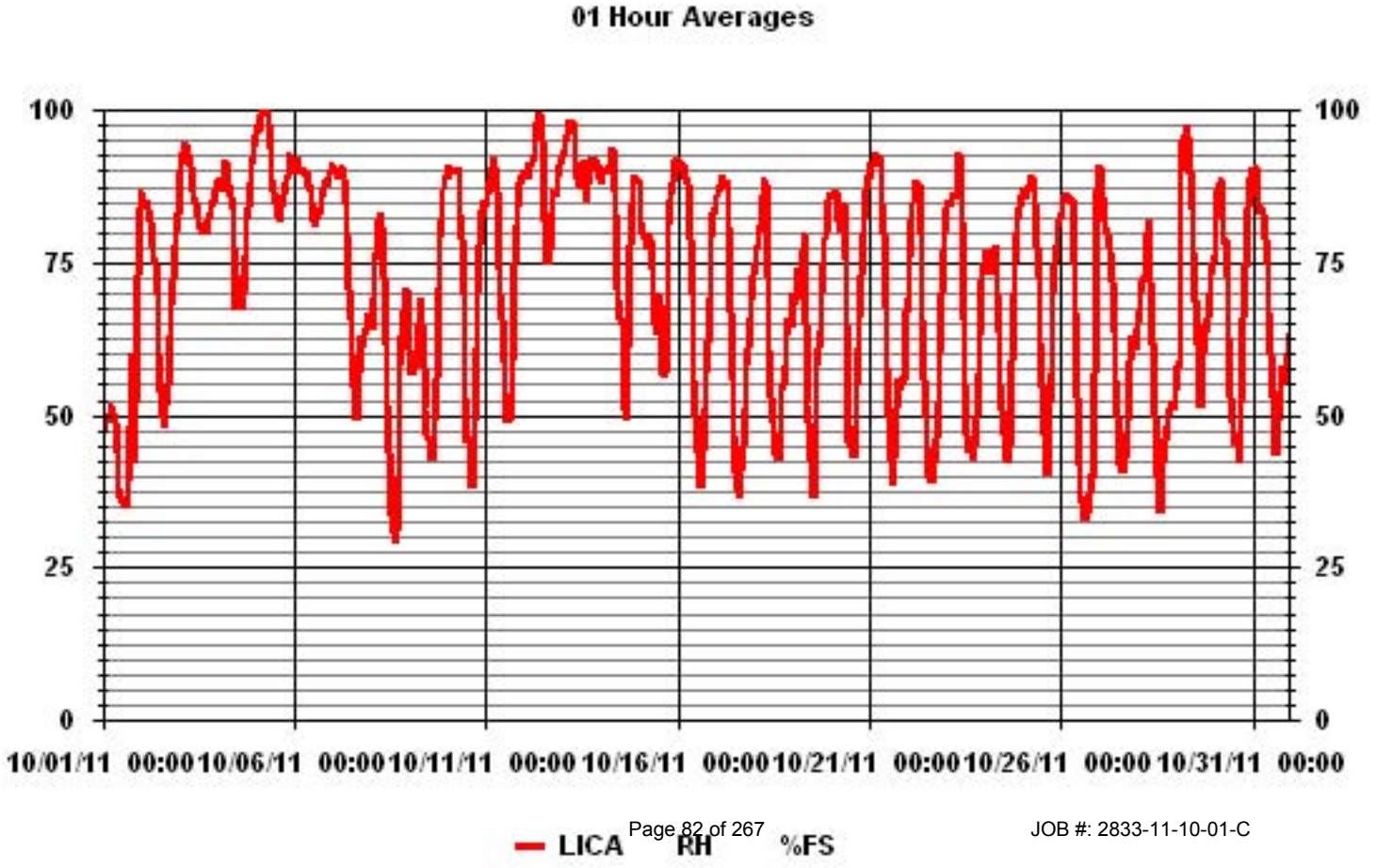
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	100	%	@ HOUR(S)	VAR	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	91.8	%			ON DAY(S)	13
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		744	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	18.01		MONTHLY AVERAGE:		71.30	%



JOB #: 2833-11-10-01-C

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

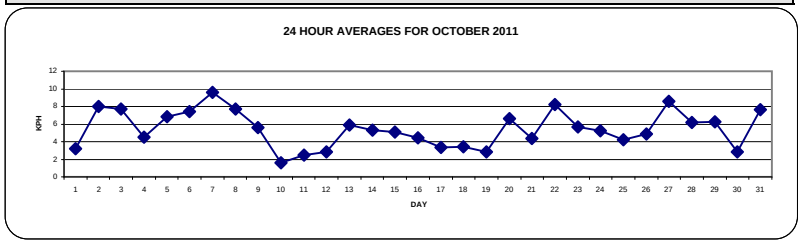
VECTOR WIND SPEED (WS) hourly averages (km/hr)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	5	5.2	4.1	6	6.8	5.9	5.4	4.7	5.5	7.8	9.3	9	7.4	5.6	3.2	1.7	1.5	0.3	0.5	0.5	5.6	6.6	4.6	6.1	9.3	3.2	24
2	9.3	11.3	12.7	10.4	8.7	8	6.9	8	8.1	9.9	11	11.2	12.8	13	10.2	9.5	8.3	7.7	4.5	3.6	4.6	3.6	4.7	2.1	13	8	24
3	1.1	3.4	2.1	1.7	2.3	3.4	6.3	6.9	8.1	7.7	9.2	9.4	9.3	9.9	10.6	12	12.3	10.5	8.7	9.9	10.9	11.6	10.4	9.6	12.3	7.7	24
4	9.9	8.5	9.9	6	1.3	6.4	8.7	10.7	9.2	7.5	8.9	8.3	5.8	6.3	2.5	5.6	4.6	2.7	2.3	2.1	1.3	2.1	3.4	1.7	10.7	4.5	24
5	3.9	4.2	5	7.6	7.3	5.2	1.8	4.5	5.1	5.5	7.6	7.5	8.2	9.3	9.1	8.9	8.3	9.2	9.1	8.3	7.4	6.6	6.4	8.1	9.3	6.8	24
6	7.3	7	8.1	8.2	7.2	8.5	7.5	8.9	7.7	7.8	10.3	9.4	10.2	9	6.7	6.3	7.2	6.9	6.6	5.7	5.8	3.7	4.8	7.1	10.3	7.4	24
7	5.3	5.7	3	3.4	5.1	3.9	4.9	5.4	9.2	13.8	13.1	12	9.8	13.1	12.3	14.6	13.3	10.7	7.1	11.3	13	15.1	13.1	11.8	15.1	**9.6**	24
8	11.1	8.1	7.5	7.5	8.2	7.8	8.3	9.4	10.5	11.4	10.8	11.6	13.7	14.1	13	11.6	8.4	2.8	1.4	0.8	1.2	1.3	1.6	3.2	14.1	7.7	24
9	4.7	7.3	9.3	9.9	9.1	12.4	10.6	8.7	9.3	6.7	6.4	6	5	5.6	6.2	5.5	4.5	2.1	0.8	0.7	0.5	1.2	1.5	0.8	12.4	5.6	24
10	1	0.5	0.4	0.6	1.3	0.3	0.7	1	0.6	0.5	1.4	2.7	4.2	5.7	6.2	3.4	2.7	1	1.3	0.5	1.1	0.8	0.4	0.1	6.2	1.6	24
11	1.2	0.6	1.3	1.1	1.2	1.2	0.2	0.4	0.1	4.4	6.7	6.4	7.6	8	6.6	4.8	3.2	0.6	0.5	0.7	0.6	0.6	0.3	1	8.0	2.5	24
12	0.3	0.8	1.1	0.6	0.7	0.6	1.7	2.5	5.8	6.2	4.3	5	4	5.5	5.2	4.2	2.6	2.6	3	4.3	2.1	1.9	0.2	2	6.2	2.8	24
13	2.4	0.4	1.4	1.9	3.6	3.6	2.7	6	7	6.1	5.3	4.4	6.7	9.5	9	10.7	10.2	8	8.1	8.1	7.5	7	6	6	10.7	5.9	24
14	4.6	5.3	6.4	5.6	5.2	5.1	3.8	5.1	8.2	8.6	9	10.3	10.6	7.8	6.1	9.1	7.3	2.4	1.4	0.5	1.9	2.7	0.4	0.4	10.6	5.3	24
15	0.8	3.1	3.8	3.5	3.9	4.8	5.8	3.7	6.3	8.2	5.4	7.4	6.3	10.1	8.4	10.7	5.3	2.8	2.2	3.7	4.3	3.4	3.3	4.7	10.7	5.1	24
16	4.4	4.6	2.7	4.1	1.9	1	0.2	0.7	0.3	6.3	7.5	7.5	8.7	9	9.3	9.9	8.6	6.1	4.5	4.3	2	0.9	0.7	0.7	9.9	4.4	24
17	0.9	0.5	0.7	0.9	1.9	0.5	0.7	0.9	3	5.1	4.9	5.1	7.9	8.8	9.2	9.1	6.8	5	2.9	1.7	0.5	0.4	1.5	1.2	9.2	3.3	24
18	0.4	0.2	0.5	1.9	0.2	0.4	0.8	0.8	1.6	3.6	4.2	4.4	7	6.1	6.4	5	3.7	2.4	6	7.3	6.3	4.2	4.9	3.1	7.3	3.4	24
19	2.9	6	4.1	2.3	4.5	2.4	2.6	1.3	6.3	4.5	4	3.7	4.5	4.5	1.9	4.3	2.8	1.6	0.7	0.4	0.9	0.9	0.5	0.4	6.3	2.8	24
20	1.9	2.3	1.7	3.4	4.2	6.1	4.8	7.6	7.1	8.8	10.2	15.8	12.7	11.8	13.4	11.7	10	6	3.5	3.5	3.8	4.1	2.5	1.6	15.8	6.6	24
21	0.7	3	2.2	4.2	5.4	5.4	4.5	0.5	1.2	4.6	6.1	6	6.9	6.6	5.2	5.3	3.1	2.4	3	5.5	4.1	6.3	7.5	4.7	7.5	4.4	24
22	3.5	4.1	1.8	2.3	3.8	7.4	9.5	7.1	7.4	11.6	15.4	17.2	17.2	**17.6**	14.8	13.7	13.5	10.2	6.2	6.1	3.6	1.9	0.7	0.7	**17.6**	8.2	24
23	3.3	3.4	0.6	0.9	0.3	1.3	0.4	2.6	2.5	2.8	7	10.5	13.5	14.6	13.1	10.3	9.1	7.2	7.4	6.9	5.9	4.9	3.1	4.8	14.6	5.7	24
24	3.8	4.7	4.9	5.1	4.8	5.1	6	4.7	4.5	5.7	6.8	9.4	10.5	10.7	9.9	7.8	5	2.5	2.8	1.6	2.2	3.4	1.1	2.2	10.7	5.2	24
25	2	2.5	3.4	0.7	0.9	1.2	2.1	4.3	4.9	4.5	4.9	7	7.4	9	8.1	8.7	7.7	4.2	2.7	2.3	3.1	5	3.1	2.2	9.0	4.2	24
26	1.6	1.1	0.5	0.5	0.7	0.6	1	3.2	5.8	7	6.6	7.9	10.9	12.6	10.7	9	5.8	3.9	2.7	2.5	6	9.4	2.5	4.7	12.6	4.9	24
27	5.9	7.1	7.2	6.7	6.8	6.4	6.8	7.7	9.3	9.4	12.6	14.3	14.5	13.2	12.6	13.2	11	9.5	7.1	2	5	6.6	6.1	5.5	14.5	8.6	24
28	5.6	4.6	6	7.8	4.3	1.6	1.5	1.7	1	3.6	3.3	5.3	7.6	12.6	13.6	11.7	11.5	9	6.1	5.9	6.8	5.3	5.7	6.1	13.6	6.2	24
29	2.2	1.3	2.2	5.3	4.2	6.1	5.4	5.1	5.6	4.8	8	8.5	10.1	12.2	11.9	10.3	6.5	5.5	5.1	6.5	6.9	6.1	5.3	5.2	12.2	6.3	24
30	5.1	3.3	1	0.5	0.4	1.5	1.5	1.2	3.3	3.4	3.8	4.1	3.3	3.5	3.4	3.4	2.6	2.7	1.1	0.8	2.2	4.4	4.9	6.2	6.2	2.8	24
31	6.2	6.6	3.8	5.8	7.7	6.2	5.5	7.1	4	5.8	8.1	9.5	11.6	13.6	14.3	10.8	8.4	7	6.3	7.9	6.2	8.4	6.3	5.5	14.3	7.6	24
HOURLY MAX	11.1	11.3	12.7	10.4	9.1	12.4	10.6	10.7	10.5	13.8	15.4	17.2	17.2	17.6	14.8	14.6	13.5	10.7	9.1	11.3	13.0	15.1	13.1	11.8			
HOURLY AVG	3.8	4.1	3.9	4.1	4.0	4.2	4.1	4.6	5.4	6.6	7.5	8.3	8.9	9.6	8.8	8.5	7.0	5.0	4.1	4.1	4.3	4.5	3.8	3.9			

STATUS FLAG CODES

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

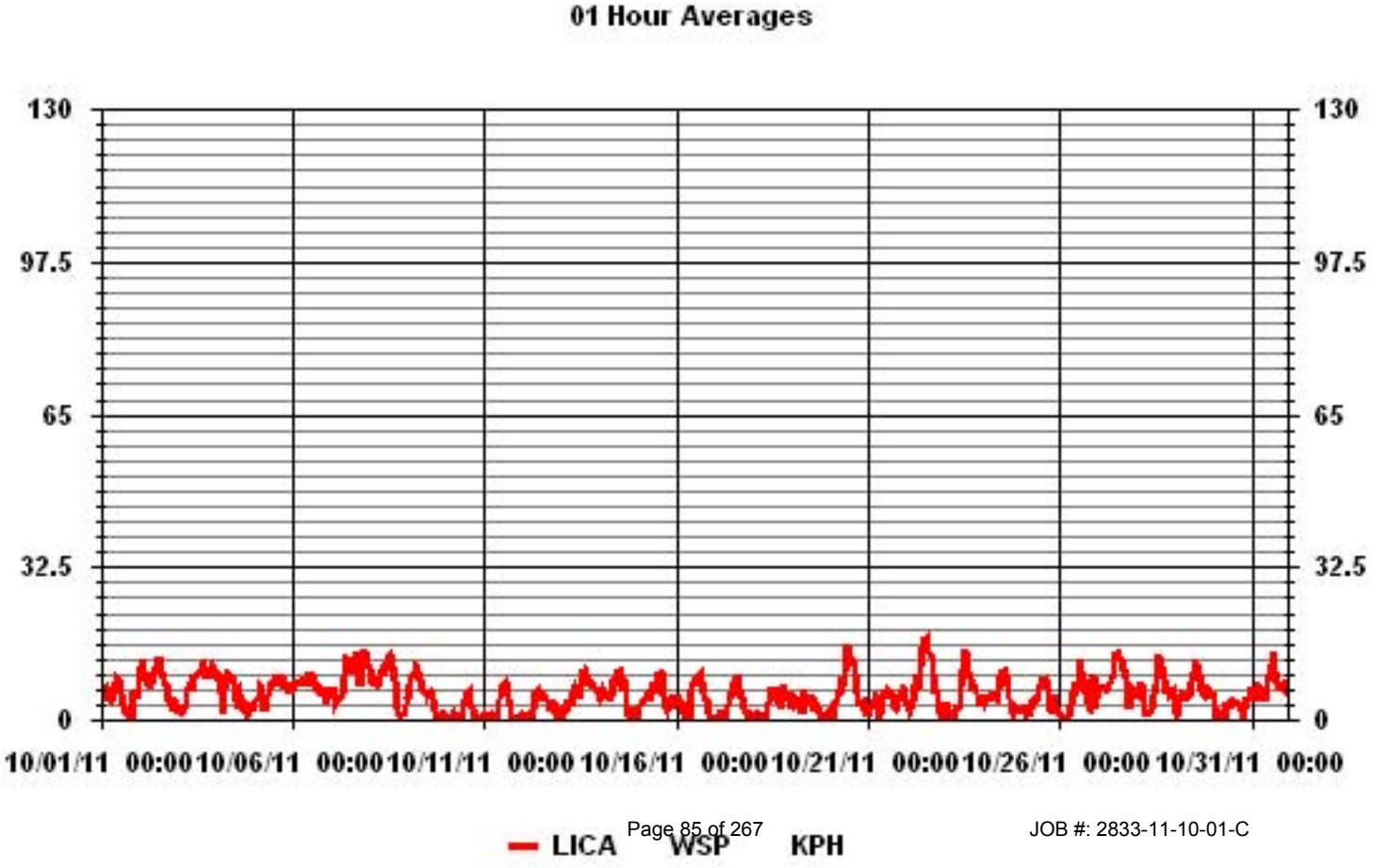


LAST CALIBRATION: November 23, 2010

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	17.6	KPH	@ HOUR(S)	13	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	9.6	KPH			ON DAY(S)	7

CALMS (≤ 0 KPH)	1.75	%	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	100.0	%
STANDARD DEVIATION:	3.65		MONTHLY AVERAGE:	5.54	KPH



JOB #: 2833-11-10-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

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	8.5	8.4	6.4	8.8	11.7	8.5	8.1	7.9	9.6	13	17.3	13	14.1	10.1	6.8	5.3	4.3	2	1.7	2.9	12.6	18.4	9	13.1	18.4
2	14.4	18.9	19.9	16.2	13.9	12	10.9	12.6	15.8	15.4	17	16.1	19.5	18.9	18.6	17.8	12.1	14	12.1	6.4	8.7	6.5	8.3	6.9	19.9
3	4	5.9	6.2	3.8	4	7.1	10.8	11.1	15.4	15.1	15.5	15	15.4	15.6	15.6	18.4	17.1	17.7	12.4	16.6	15.7	16.8	17.1	13.9	18.4
4	14.2	12.4	15.9	10.3	15.5	10.7	13.5	14.9	15.2	15.8	16.4	19.4	12.5	15.6	14.6	9.5	7.7	4.7	3.9	6.7	7.8	6.2	7.6	6.7	19.4
5	6	10.2	8.6	11	13.3	9	5.7	7.7	8.5	9.6	11.7	12.5	12.4	17	13.4	14.7	12.2	14.5	14.4	14.3	13.1	11	10.9	11.7	17
6	12.4	12.5	12.3	12.3	11.2	14.5	12.7	13.8	12	12.1	16.7	16.2	17.4	15.2	12	11.8	10.7	11	10.3	9.1	10.8	7.5	7.7	10.4	17.4
7	9.1	8.4	4.7	5.6	7.9	8.1	8	10.8	15.3	20.8	19.5	18.8	16.1	23.3	19.3	23.8	19.8	21.7	12.8	16.3	18.5	23.8	21.1	18.9	23.8
8	16.9	13.5	10.6	10.6	10.9	9.7	11.6	12.8	17.1	16	16.8	17.2	21.1	22.5	18.3	16.8	13.5	6.2	3.2	1.7	2.8	2.8	3.3	4.3	22.5
9	8	9.3	12	12.2	13.6	15.5	17.2	13.7	14.2	12.9	14.5	16.5	9.7	13.1	10.3	9.1	8.9	8.1	2.5	3.4	2.2	6	4.1	2.4	17.2
10	4.1	2.9	2.2	4.1	3.4	4.1	3.7	5.2	3	2.7	6.3	6.3	9.1	9	9.7	5.4	4.5	0	3.6	1.6	2.6	2.6	1.6	2.8	9.7
11	3	3.2	3.3	3.5	3.6	4.5	2.5	1.6	1.6	10.4	9.6	9.7	13.5	11.7	11.5	8	5	3.8	1.7	3.5	2.2	2.4	3.8	3.1	13.5
12	2.6	2.2	3.4	2.6	3.2	2.9	4.1	8.2	9.9	10.4	8.1	9.2	7.7	9.3	9.3	6.9	6	4.3	6.2	9.1	4.8	3.9	2.8	4.3	10.4
13	10.4	3.9	3.9	6.6	5.3	5	4.4	10.2	11.4	9.2	8.2	7.8	12.1	14.5	14.2	16	16.2	12.5	12.4	11.8	12.2	9.7	8.7	10.2	16.2
14	9.4	10.2	11.7	9.3	10.3	10.6	7.3	7.8	13.3	13.8	13.5	16.3	16.7	15.3	10.5	14.4	11.7	5.3	2.9	1.6	4	4.7	4.8	3.5	16.7
15	8.4	6	7.8	8.2	8.3	9	10.7	6.8	10.2	12.2	11.1	16.6	12.7	14.2	14.7	15.7	8.7	8.3	4.6	4.8	5.4	6.9	6.8	6.7	16.6
16	6.1	6.2	5.3	5.7	4.4	4.4	2.3	2.2	4.8	11.2	13.4	12.1	13.7	13.8	14.1	16.1	15.3	8.2	5.6	5.7	4.6	2.9	3.1	3.3	16.1
17	3.4	1.9	3.5	2.7	4.4	1.9	2.5	3	4.8	8.1	8.4	9.6	14.2	13.7	13.4	14.2	10.5	6.6	4.9	3.6	1.8	2.1	3.5	3.5	14.2
18	5.6	3.6	3.8	4.5	1.8	2.9	2.4	3	4	7.8	8.8	8.9	11.7	11.4	11.4	9.9	9.1	5.4	8.5	8.7	9.6	6.8	7.1	5.6	11.7
19	4.7	7.6	7.1	3.9	6.6	4.1	5.3	5.2	9.3	8.7	7.1	11.3	9.9	9.1	7.3	9.1	4.9	3.5	4	3.1	3.4	3.2	2.7	4.2	11.3
20	4.7	3.9	4.8	7.1	8.7	9.6	7.7	11.6	11	13.4	19.7	24.3	20.5	18	20.7	20.4	18.5	8.4	8	4.5	5.3	5.8	3.8	3.3	24.3
21	2	4.7	4	7.2	7.4	8	7.6	3.5	3.9	8.9	9.3	9.3	11.5	12.5	10.8	12.9	6.9	4.3	4.5	8.7	8.1	11.2	9.9	8.6	12.9
22	6.2	7.7	6	5.4	6.9	11.4	16.1	10	14.8	20.2	21.9	25.2	23.1	**28.8**	22.3	23.6	23.3	15.9	8.7	8.7	4.6	4.8	3.1	6.4	**28.8**
23	5.4	6.6	3.5	3.9	4.5	5.7	2.3	5.8	5.8	6.8	12.9	18.7	20.9	20.9	21.4	17.7	15.4	13.8	10.5	10.3	8.1	6.7	6.1	6.8	21.4
24	6.3	8.9	8.1	8.1	6.9	7.2	8.2	6.5	7.8	11.9	11.7	14.1	16.5	16	17.2	12.9	11.2	3.6	5.1	3.8	4.4	4.6	2.6	5.2	17.2
25	4.9	6.4	6	5.3	3.8	2.9	7.8	10.9	10.2	9.3	10	11.9	11.9	14.5	15.2	15.9	14.3	5.8	4.6	4.7	4.6	7.2	5.2	5	15.9
26	4	4.2	2.9	2.6	2	1.8	2.1	5.3	8.6	10.5	11.4	13.7	19.5	22.3	18.4	14.5	11.3	7.7	4.2	5.7	11.9	15.4	7.2	8.4	22.3
27	9.2	12.2	9.7	10.5	9.7	10.3	10.9	11.2	13.6	16.1	21.6	21.4	19.8	19.4	19.7	20.5	15.7	13.3	11.6	4.5	7.7	9.8	9	8	21.6
28	7.9	7.1	9.1	10.4	8.8	4.3	5.2	3.2	3	5.8	8	8.5	16.2	22.5	20	16.6	18.4	13.4	10.3	11.1	10.3	8.2	9	10.8	22.5
29	5.6	2.9	8.3	9.2	7	10	9.9	9.9	9.3	7.5	12.2	16.3	15.1	17.8	18	18	11.5	7	7.1	8.4	9.1	8.3	7.7	8.8	18
30	7.5	5.5	2.2	1.8	2.7	3.2	4.2	3	6.5	6.2	7.9	7.9	6.9	8	6	7	7.2	7.4	4.9	3.1	7.7	10.2	7.2	9.1	10.2
31	7.8	8.5	7.6	7.5	9.9	9.4	7.6	11.3	7	11.8	12.9	15.1	19.4	19	22.7	18.3	12.3	9.3	9.1	10.3	9	12	9	9.6	22.7
PEAK	16.9	18.9	19.9	16.2	15.5	15.5	17.2	14.9	17.1	20.8	21.9	25.2	23.1	28.8	22.7	23.8	23.3	21.7	14.4	16.6	18.5	23.8	21.1	18.9	

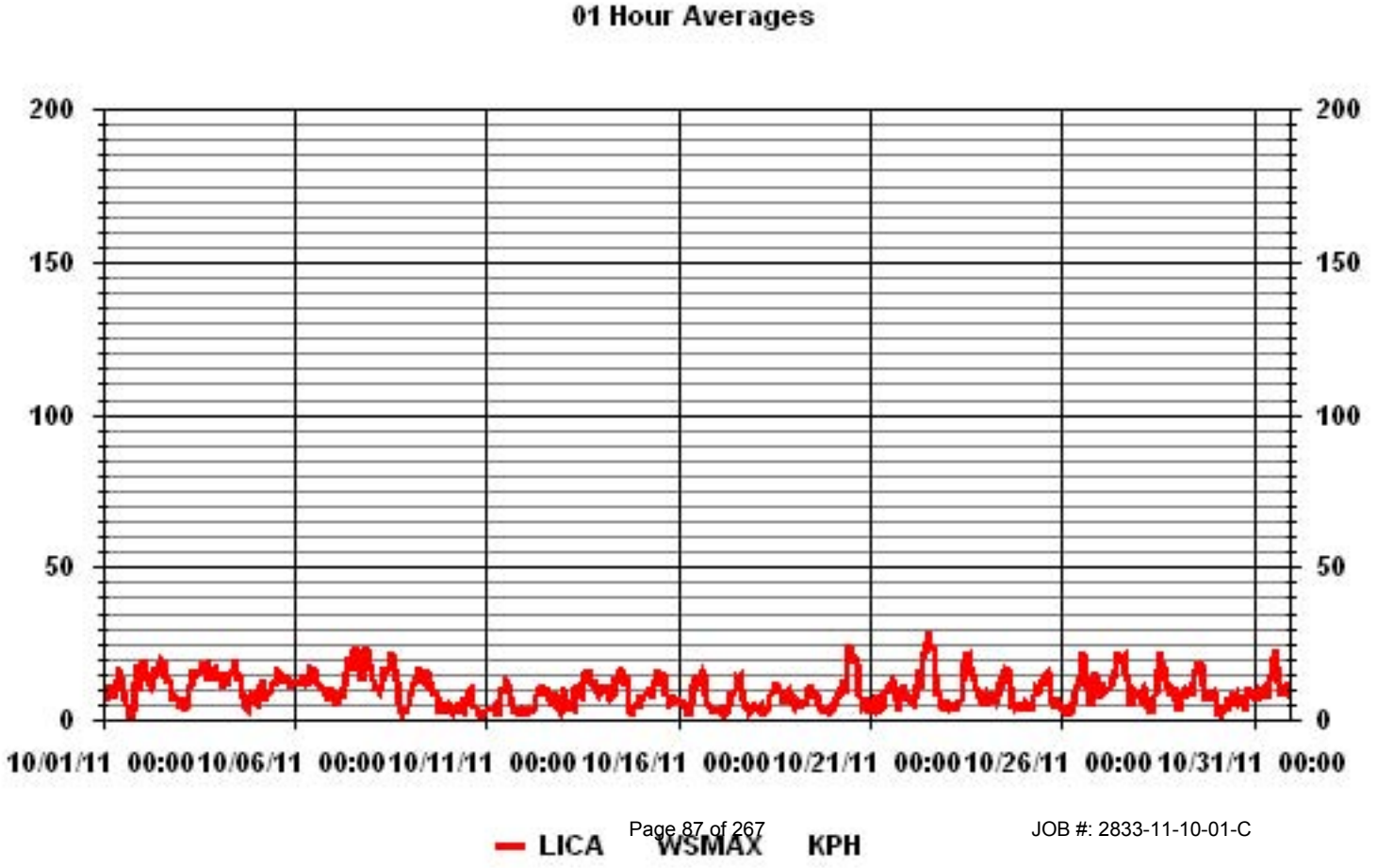
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	28.8	KPH	@ HOUR(S)	13
			ON DAY(S)	22

JOB #: 2833-11-10-01-C



JOB #: 2833-11-10-01-C

LICA
WSP / WD Joint Frequency Distribution (Percent)

October 2011

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	.80	1.74	1.07	1.88	4.16	2.55	5.37	1.88	2.82	2.55	10.34	11.69	4.16	1.74	1.47	.40	54.70
<	12.0	.67	4.30	1.20	1.07	3.62	.80	3.09	.53	.13	.13	2.01	7.25	8.87	2.01	1.74	.13	37.63
<	20.0	.00	.00	.13	.13	.40	.00	.53	.00	.00	.00	.00	.13	2.82	.40	1.34	.00	5.91
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.47	6.04	2.41	3.09	8.19	3.36	9.00	2.41	2.95	2.68	12.36	19.08	15.86	4.16	4.56	.53	

Calm : 1.74 %

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	6	13	8	14	31	19	40	14	21	19	77	87	31	13	11	3	407
<	12.0	5	32	9	8	27	6	23	4	1	1	15	54	66	15	13	1	280
<	20.0			1	1	3		4					1	21	3	10		44
<	29.0																	
<	39.0																	
>=	39.0																	
	Totals	11	45	18	23	61	25	67	18	22	20	92	142	118	31	34	4	

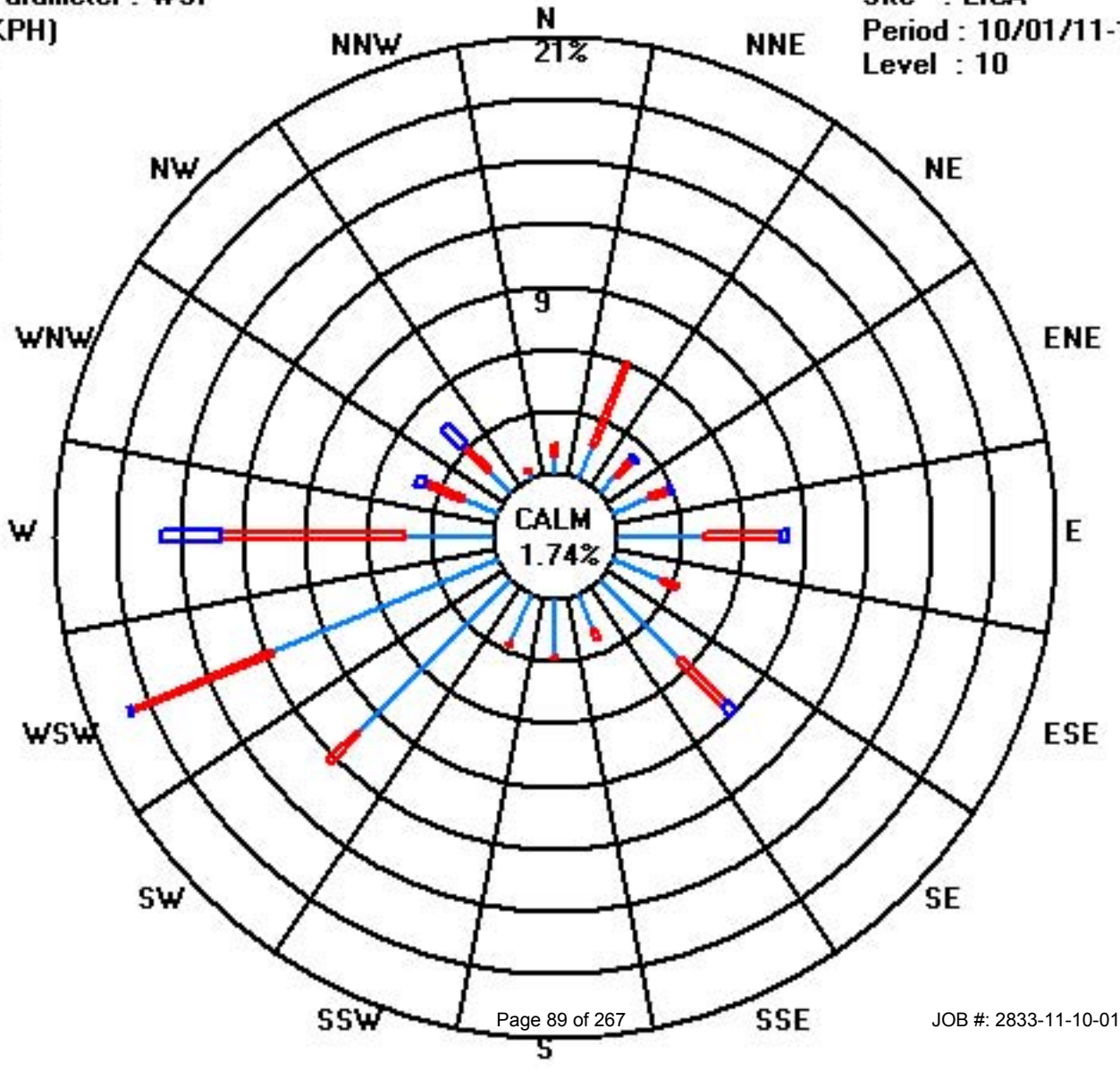
Calm : 1.74 %

Total # Operational Hours : 744

Logger : 01 Parameter : WSP
Class Limits (KPH)

>= 39.0
< 39.0
< 29.0
< 20.0
< 12.0
< 6.0

Site : LICA
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-01-C

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

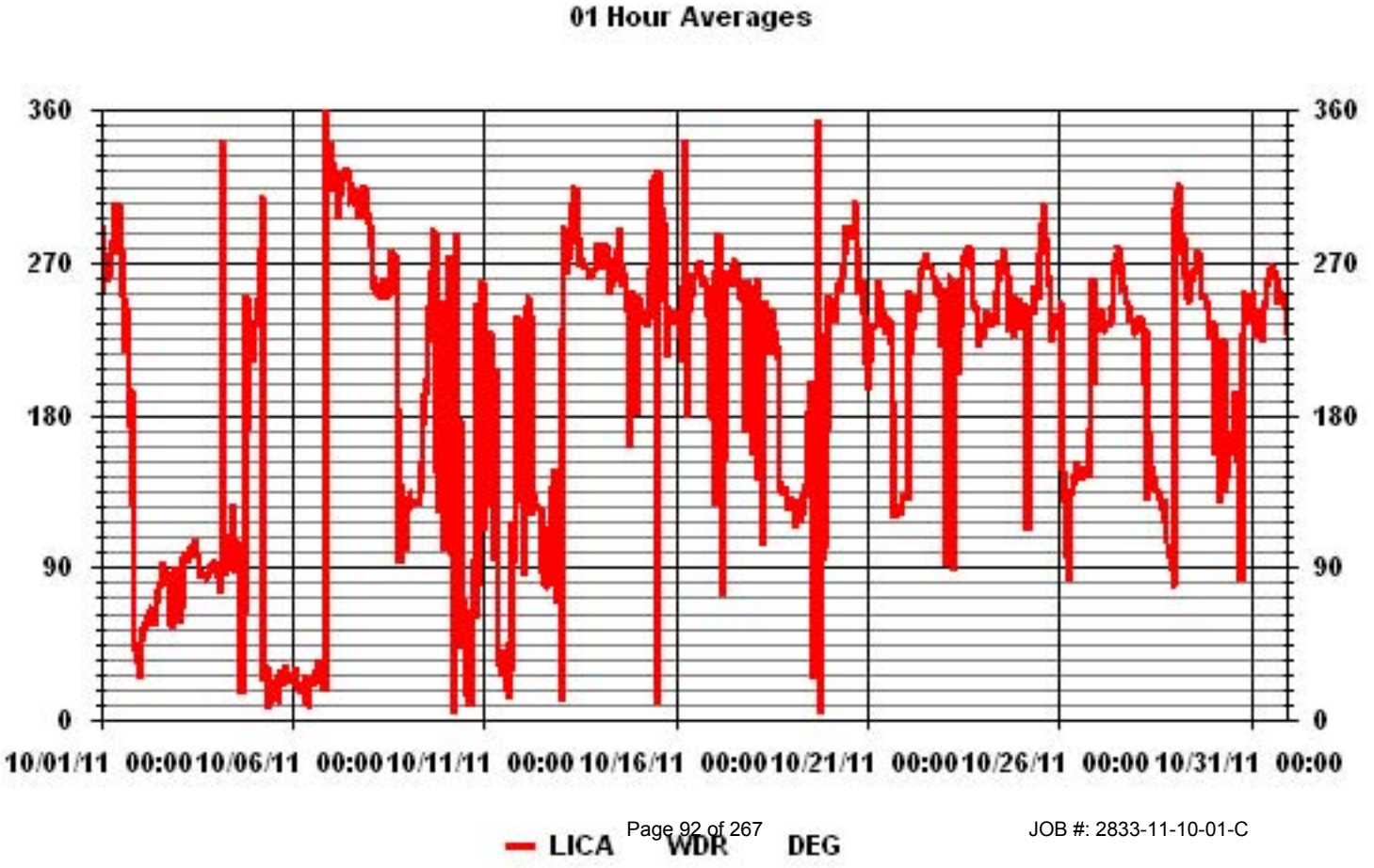
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	291	251	266	258	276	261	272	280	279	305	297	305	292	279	250	216	244	226	172	196	128	41	46	34	287	SE	24
2	24	46	55	52	57	61	62	66	65	55	58	69	77	81	91	93	86	89	81	73	57	54	69	91	66	SSE	24
3	66	69	57	66	96	99	92	100	99	104	99	107	98	96	86	83	86	85	83	84	86	91	92	93	91	NNE	24
4	91	87	88	75	342	85	99	109	106	91	92	127	86	106	87	50	15	47	63	251	170	211	233	211	93	ENE	24
5	232	236	232	249	279	310	23	26	32	7	10	11	24	15	14	27	30	26	20	25	32	22	26	25	9	WSW	24
6	24	28	31	24	18	15	20	18	27	12	11	21	24	23	29	21	35	30	30	30	16	360	326	330	19	SW	24
7	341	330	312	325	322	295	308	319	323	317	326	323	319	307	308	314	305	305	295	303	311	315	306	300	313	ENE	24
8	294	280	259	260	251	254	251	248	257	260	254	248	250	259	277	264	276	252	186	92	140	114	100	124	259	WSW	24
9	130	132	129	127	128	128	128	128	134	152	173	192	201	223	244	265	290	288	146	193	121	242	247	99	152	SE	24
10	143	197	274	97	229	3	138	288	138	178	42	73	67	15	9	9	17	95	83	60	246	79	247	259	41	S	24
11	112	126	223	225	229	220	108	93	208	32	35	25	39	41	18	12	46	29	117	92	127	238	195	230	34	WSW	24
12	215	85	245	159	251	120	239	135	128	126	123	126	87	81	81	79	80	114	111	138	148	68	116	101	112	WSW	24
13	231	11	292	282	263	272	280	306	316	310	311	286	268	273	271	267	267	261	261	262	267	265	273	281	275	W	24
14	277	271	265	274	282	274	251	256	260	258	272	277	264	291	271	256	264	241	248	160	231	254	244	180	266	ESE	24
15	226	250	243	233	236	239	231	236	267	290	318	322	9	324	316	303	295	247	214	239	241	238	241	237	276	W	24
16	233	235	225	241	257	211	342	178	249	240	250	264	261	268	261	271	263	255	260	258	239	186	180	179	253	WSW	24
17	265	126	246	288	261	73	153	243	266	263	264	255	269	272	269	259	259	249	247	215	169	260	258	197	259	SW	24
18	186	156	159	261	141	186	102	238	247	232	238	215	243	231	230	222	214	142	136	135	133	138	132	124	191	SW	24
19	126	131	127	113	131	117	117	120	133	131	139	183	174	200	25	29	51	355	3	34	93	101	229	171	128	W	24
20	250	244	246	234	243	254	258	252	261	269	275	292	288	289	285	285	307	291	280	251	256	257	240	210	274	WSW	24
21	195	234	211	234	232	233	233	260	255	237	242	230	227	237	236	222	190	119	123	128	121	126	134	130	203	WSW	24
22	133	129	253	215	230	241	250	241	245	260	266	271	273	276	268	268	268	264	261	251	260	250	220	234	260	E	24
23	240	255	91	227	261	260	87	235	203	209	232	261	274	272	275	275	280	267	248	245	242	227	220	228	257	ENE	24
24	225	234	237	241	236	232	239	237	233	253	258	271	263	278	269	267	264	228	235	225	246	251	240	249	252	ENE	24
25	242	230	246	219	112	184	239	245	239	257	250	250	275	294	306	286	281	263	257	222	239	235	240	230	262	N	24
26	232	248	148	129	118	96	82	133	136	138	145	153	148	143	143	150	145	148	142	172	218	261	197	237	158	NNW	24
27	228	241	241	235	233	231	232	233	235	244	262	271	275	280	268	271	253	256	248	246	235	238	231	232	252	WNW	24
28	229	230	231	239	234	198	232	129	172	135	150	145	143	135	135	131	127	128	118	105	99	100	97	89	142	SSW	24
29	78	303	313	317	274	287	286	263	249	246	254	259	265	266	270	277	264	253	248	252	249	244	233	225	263	SSW	24
30	230	236	156	197	170	127	141	225	133	143	170	168	156	164	194	167	151	192	81	228	253	236	237	240	193	SE	24
31	249	250	226	239	243	239	231	223	243	247	256	260	267	269	262	266	262	246	248	253	247	250	243	229	251	SSE	24
HOURLY AVG	341	330	313	325	342	310	342	319	323	317	326	323	319	324	316	314	307	355	295	303	311	360	326	330			

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 23, 2010
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
STANDARD DEVIATION	87.41		AMD OPERATION UPTIME	100.0	%
			MONTHLY AVERAGE	262	DEG



JOB #: 2833-11-10-01-C

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2011

STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

MST

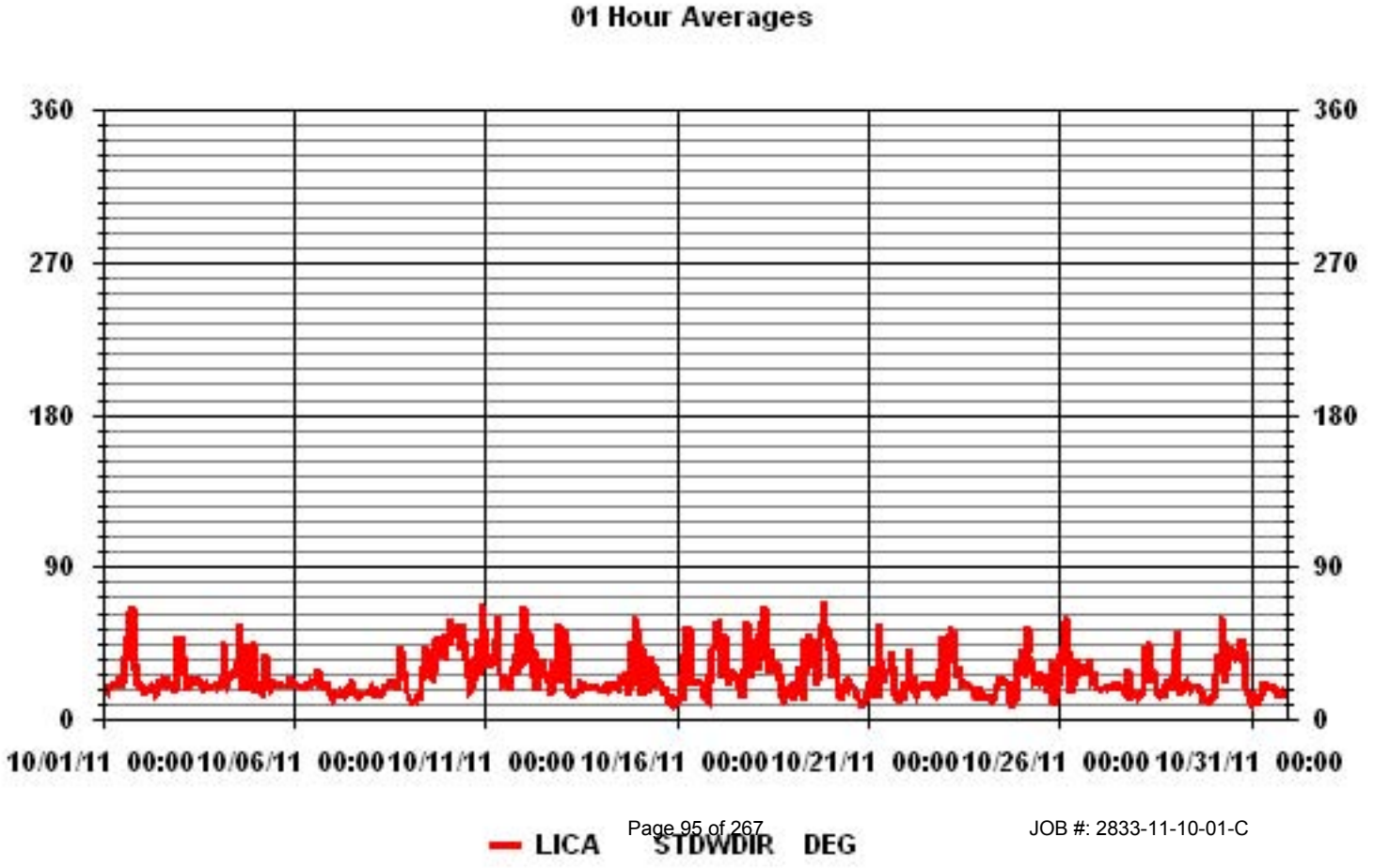
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	17	15	18	16	18	20	20	21	20	20	25	19	22	22	37	49	34	63	55	66	29	34	21	20
2	21	19	17	16	18	18	20	21	20	16	17	23	22	22	24	23	24	20	21	20	18	18	16	50
3	48	28	49	39	27	19	19	22	23	24	22	23	23	22	21	18	20	21	19	19	19	20	21	20
4	18	19	19	26	46	23	21	24	26	28	24	29	33	34	56	20	17	20	17	44	41	35	33	46
5	16	18	17	16	21	20	39	24	22	18	19	22	21	21	20	20	21	21	20	20	21	19	25	19
6	22	21	21	20	19	19	20	19	20	21	18	22	21	21	22	29	21	20	20	19	19	22	16	14
7	18	13	15	14	14	17	17	15	17	15	16	20	24	19	16	16	14	13	14	14	16	15	15	16
8	17	19	16	17	15	14	14	15	18	20	20	23	22	22	23	21	20	17	43	42	36	25	26	16
9	12	10	11	11	13	12	14	14	23	31	42	42	41	34	26	25	27	47	50	35	47	38	38	49
10	50	43	60	57	47	53	51	48	57	41	57	47	36	26	17	18	19	22	37	48	44	26	68	54
11	51	41	31	39	31	37	46	47	61	28	22	24	26	22	20	18	18	30	26	39	26	51	35	31
12	66	40	41	32	51	38	24	42	17	21	29	25	36	26	23	23	29	16	17	35	33	35	57	20
13	41	43	53	45	17	16	17	15	15	16	18	24	21	19	20	19	19	18	18	19	19	18	19	19
14	18	18	18	19	21	21	17	18	19	21	21	20	23	24	25	21	21	13	18	46	25	20	61	52
15	52	44	13	42	19	18	18	38	20	18	30	30	25	18	23	16	13	19	13	11	10	13	13	9
16	11	11	26	10	39	46	54	52	55	20	22	22	22	22	22	22	18	15	13	12	26	21	41	42
17	41	57	57	44	24	42	50	39	20	24	29	29	23	27	21	21	18	12	29	30	58	40	24	44
18	47	39	43	29	50	58	54	67	35	28	37	42	27	32	27	34	23	28	14	12	13	17	17	19
19	20	12	14	17	14	30	28	47	11	27	30	51	41	40	48	20	23	34	56	53	70	55	47	55
20	42	24	47	35	36	12	14	14	17	19	22	19	23	21	19	19	15	15	13	9	9	9	11	17
21	22	15	32	14	14	14	12	56	36	24	24	28	28	30	36	41	32	15	13	10	16	15	14	23
22	19	16	42	24	24	18	15	17	18	19	19	21	22	20	21	20	20	18	16	13	14	30	49	46
23	14	18	47	50	54	32	52	24	27	31	21	22	20	20	20	21	20	19	14	14	13	13	19	12
24	15	14	13	14	13	11	13	13	18	21	25	22	21	23	23	22	18	11	7	22	19	10	34	27
25	41	28	27	47	55	39	36	29	23	25	23	28	24	21	25	24	18	17	27	36	11	9	13	20
26	38	44	32	57	61	47	42	16	17	20	27	35	30	28	28	30	30	33	26	36	23	24	28	19
27	18	18	18	18	18	19	18	19	19	20	19	20	21	20	21	20	16	15	17	29	12	14	16	15
28	15	12	13	15	18	36	43	23	46	20	30	27	28	19	16	14	15	15	20	23	21	23	17	20
29	28	42	52	13	17	17	21	22	17	22	18	19	20	19	20	20	17	12	12	13	11	11	13	14
30	12	13	27	38	37	27	61	48	20	28	41	42	38	39	37	39	38	37	48	43	41	20	15	13
31	10	13	17	13	13	12	15	17	22	18	20	20	19	19	19	19	17	13	13	14	17	15	16	16

STATUS FLAG CODES

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

LAST CALIBRATION: November 8, 2010

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 744 HRS



JOB #: 2833-11-10-01-C

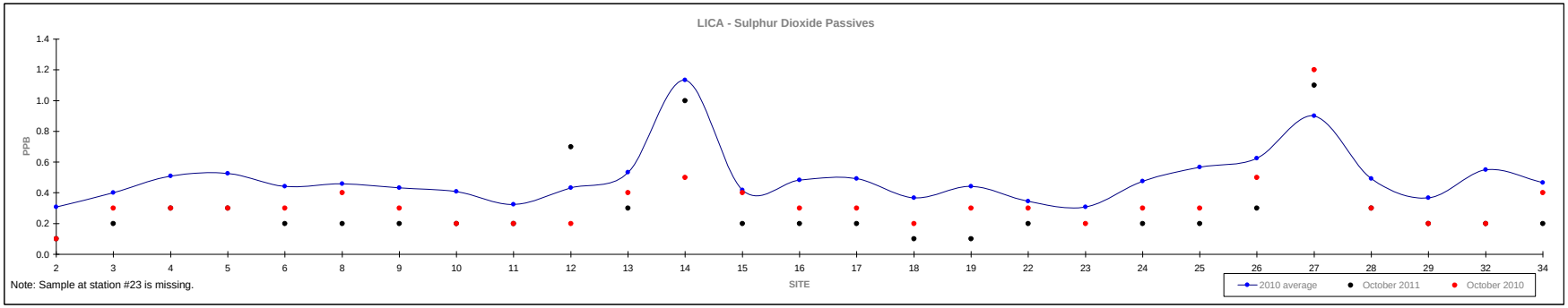
Non-Continuous Monitoring

Passive Summary Results for October 2011

Lakeland Industry & Community Association

Sulphur Dioxide
ppb

	2010																									October 2011	
	2	**3**	**4**	**5**	**6**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**32**	**34**	**Reading**	**Site**
Mean	0.3	0.4	0.5	0.5	0.4	0.5	0.4	0.4	0.3	0.4	0.5	1.1	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.5	0.6	0.6	0.9	0.5	0.4	0.6	0.5	0.3	-
Minimum	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.2	0.2	0.1	0.1	<0.1	#2
Maximum	0.7	0.8	1.2	1.1	1.1	0.9	0.8	0.8	0.8	1.0	1.0	2.3	0.9	1.0	1.3	0.9	1.0	0.7	0.7	1.1	1.1	1.3	1.5	0.8	0.7	1.2	1.0	1.1	#27



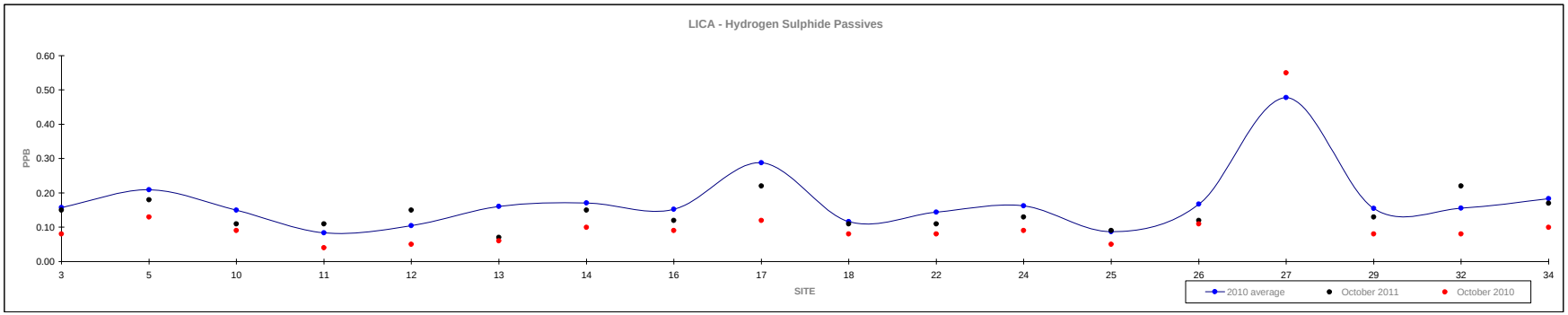
Note: Sample at station #23 is missing.

Passive Summary Results for October 2011

Lakeland Industry & Community Association

Hydrogen Sulphide
ppb

	2010																	October 2011	
	3	**5**	**10**	**11**	**12**	**13**	**14**	**16**	**17**	**18**	**22**	**24**	**25**	**26**	**27**	**29**	**32**	**34**	**Reading**	**Site**
Mean	0.13	0.26	0.15	0.08	0.10	0.09	0.14	0.13	0.17	0.11	0.11	0.14	0.08	0.12	0.21	0.13	0.14	0.15	0.17	-
Minimum	0.05	0.10	0.08	0.03	0.05	0.03	0.08	0.04	0.09	0.04	0.02	0.07	0.05	0.07	0.07	0.06	0.08	0.10	0.07	#13
Maximum	0.21	0.47	0.22	0.18	0.24	0.16	0.20	0.24	0.27	0.20	0.19	0.23	0.16	0.20	0.55	0.20	0.19	0.21	0.79	#27

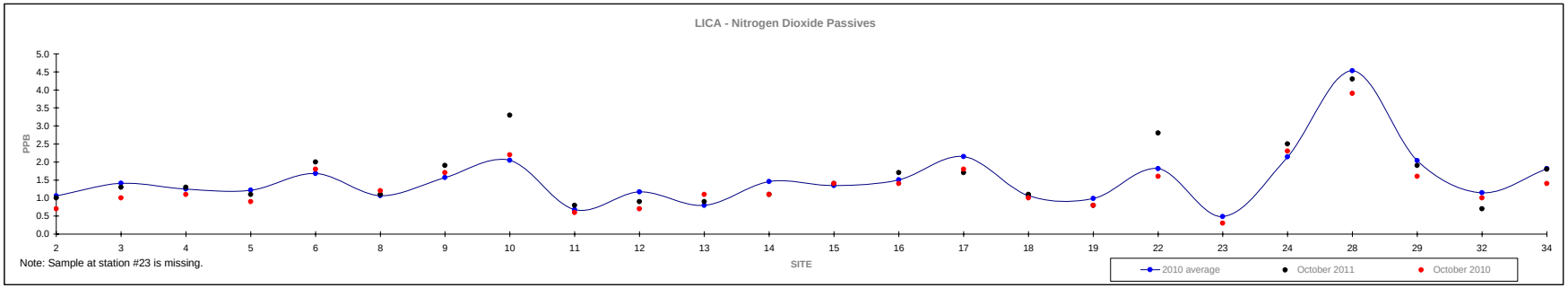


Passive Summary Results for October 2011

Lakeland Industry & Community Association

Nitrogen Dioxide
ppb

	2010																							October 2011	
	2	**3**	**4**	**5**	**6**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**28**	**29**	**32**	**34**	**Reading**	**Site**
Mean	1.1	1.4	1.3	1.2	1.7	1.1	1.6	2.1	0.7	1.2	0.8	1.5	1.3	1.5	2.2	1.1	1.0	1.8	0.5	2.1	4.5	2.0	1.2	1.8	1.6	-
Minimum	0.3	0.5	0.4	0.3	0.7	0.3	0.6	0.7	0.2	0.4	0.2	0.4	0.4	0.4	0.9	0.3	0.3	0.5	0.1	0.6	1.6	0.5	0.3	0.6	0.7	#32
Maximum	2.8	3.5	3.1	2.8	3.4	2.8	3.7	3.9	1.5	2.8	1.7	3.4	2.6	3.2	4.5	2.3	2.3	4.4	1.1	4.5	9.6	6.0	3.0	4.6	1.6	#28



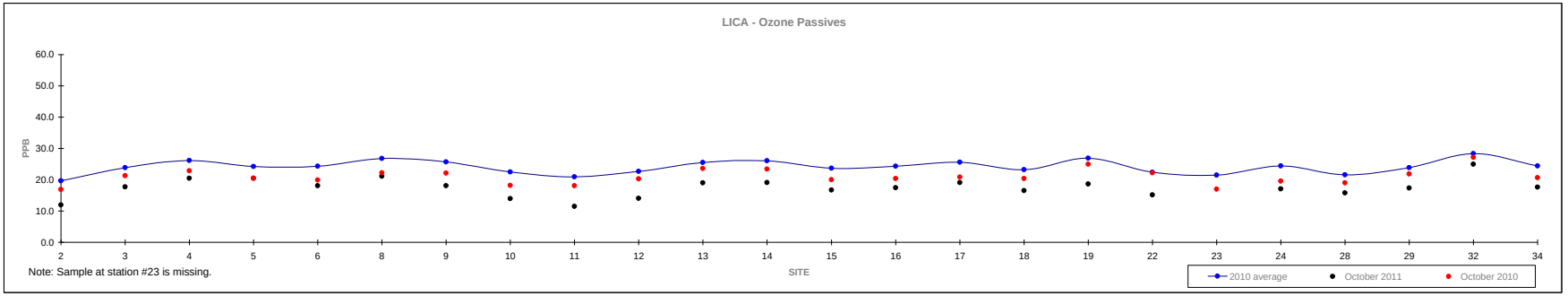
Note: Sample at station #23 is missing.

Passive Summary Results for October 2011

Lakeland Industry & Community Association

Ozone
ppb

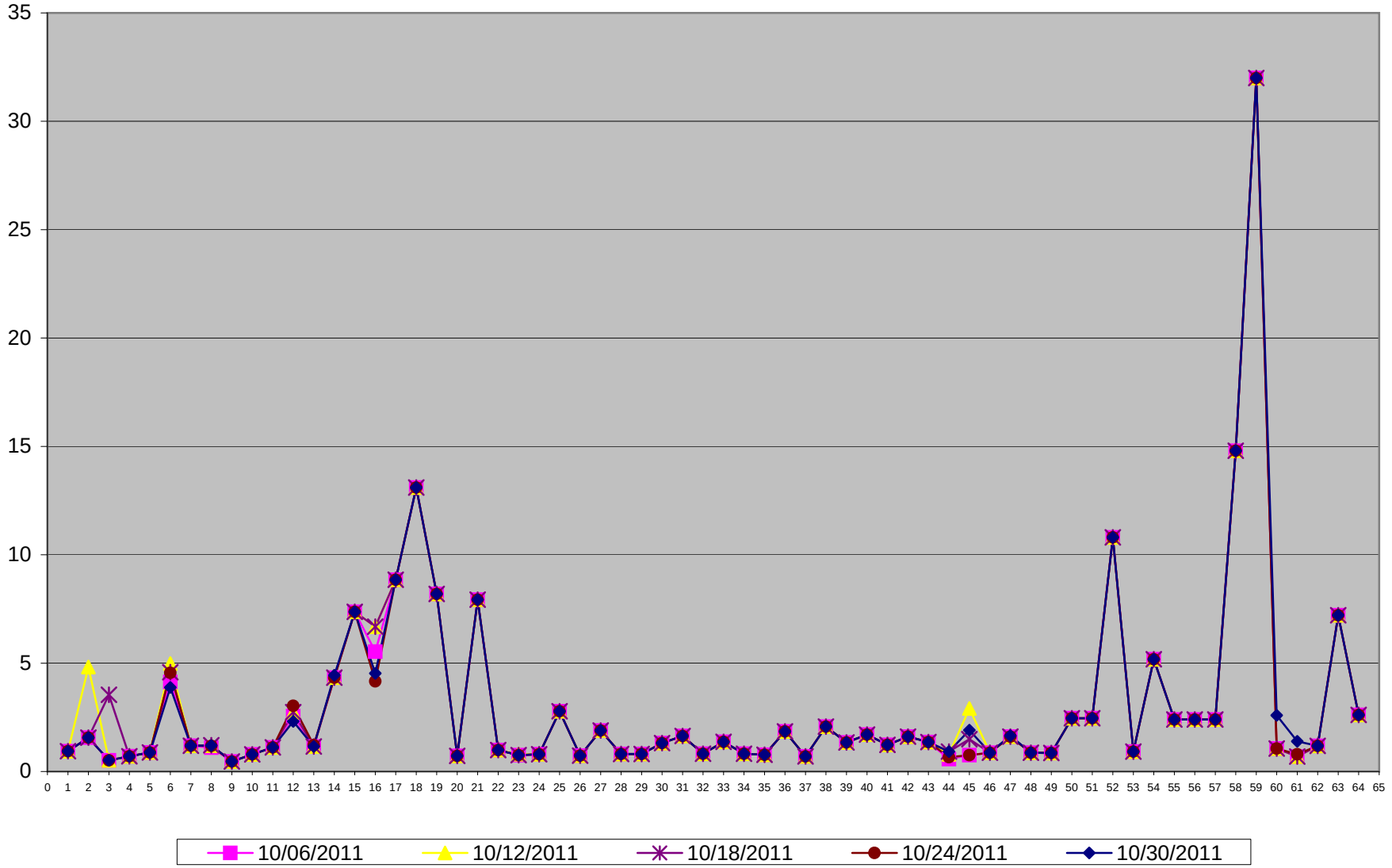
	2010																							October 2011	
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	28	29	32	34	Reading	Site
Mean	19.7	23.8	26.2	24.3	24.3	26.8	25.7	22.4	20.9	22.7	25.5	26.0	23.7	24.3	25.6	23.2	26.8	22.3	21.5	24.4	21.5	23.9	28.4	24.4	17.5	-
Minimum	12.1	15.3	17.1	15.6	15.2	16.5	15.6	13.6	12.6	13.7	16.4	18.1	14.7	17.4	16.5	14.5	18.1	15.3	12.8	16.2	14.9	16.9	20.5	17.3	11.5	#11
Maximum	31.3	35.5	41.0	36.8	38.2	40.4	39.3	34.7	33.3	34.6	39.4	35.6	35.2	37.3	39.7	34.8	37.5	33.7	35.1	39.3	31.1	36.6	39.2	34.7	25.0	#32



Note: Sample at station #23 is missing.

Volatile Organics

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



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

Polycyclic Aromatic Hydrocarbons

Polycyclic Aromatic Hydrocarbons (PAHs) Results for October 2011

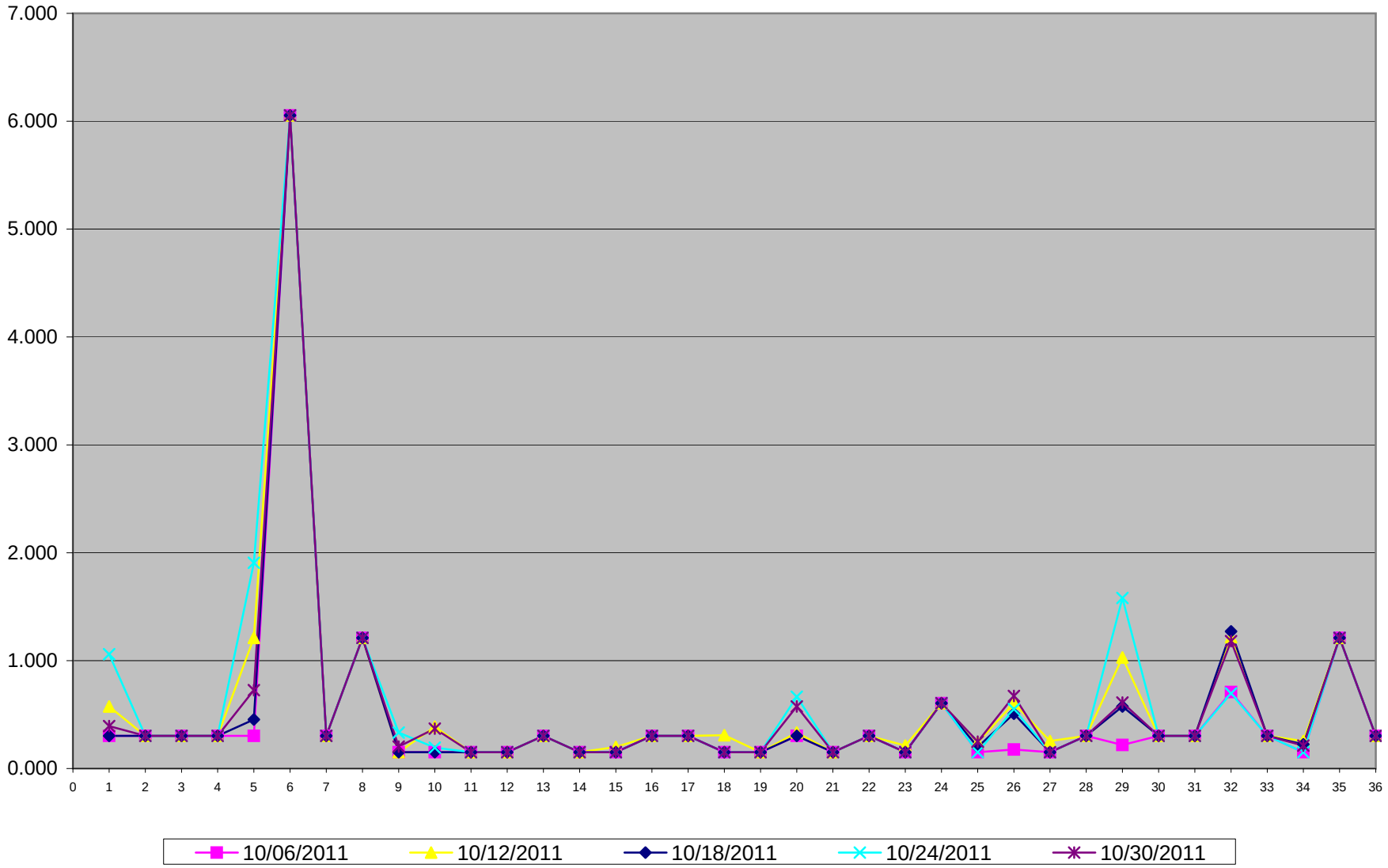
LICA- Cold Lake South Site

Unit: ng/m3

	PAHs	10/06/2011	10/12/2011	10/18/2011	10/24/2011	10/30/2011
	Sample Volume (unit: m3)	330.33	330.37	330.34	330.35	330.36
1	1-Methylnaphthalene	0.303	0.575	0.303	1.059	0.394
2	1-Methylphenanthrene	0.303	0.303	0.303	0.303	0.303
3	2-Chloronaphthalene	0.303	0.303	0.303	0.303	0.303
4	2-Methlyanthracene	0.303	0.303	0.303	0.303	0.303
5	2-Methylnaphthalene	0.303	1.211	0.454	1.907	0.726
6	3-Methylcholanthrene	6.054	6.054	6.054	6.054	6.054
7	7,12-Dimethylbenzo(a)anthracene	0.303	0.303	0.303	0.303	0.303
8	9,10-Dimethylanthracene	1.211	1.211	1.211	1.211	1.211
9	Acenaphthene	0.151	0.151	0.151	0.333	0.203
10	Acenaphthylene	0.151	0.387	0.151	0.194	0.369
11	Anthracene	0.151	0.151	0.151	0.151	0.151
12	Benzo(a)anthracene	0.151	0.151	0.151	0.151	0.151
13	Benzo(a)fluorene	0.303	0.303	0.303	0.303	0.303
14	Benzo(a)pyrene	0.151	0.151	0.151	0.151	0.151
15	Benzo(b)fluoranthene	0.151	0.200	0.151	0.151	0.151
16	Benzo(b)fluorene	0.303	0.303	0.303	0.303	0.303
17	Benzo(e)pyrene	0.303	0.303	0.303	0.303	0.303
18	Benzo(g,h,I)perylene	0.151	0.309	0.151	0.151	0.151
19	Benzo(k)fluoranthene	0.151	0.151	0.151	0.151	0.151
20	Biphenyl	0.303	0.333	0.303	0.666	0.575
21	Chrysene	0.151	0.151	0.151	0.151	0.151
22	Coronene	0.303	0.303	0.303	0.303	0.303
23	Dibenz(a,h)anthracene	0.151	0.212	0.151	0.151	0.151
24	Dibenzo(a,e)pyrene	0.605	0.605	0.605	0.605	0.605
25	Fluoranthene	0.151	0.242	0.200	0.151	0.248
26	Fluorene	0.176	0.605	0.509	0.551	0.672
27	Indeno(1,2,3-cd)pyrene	0.151	0.254	0.151	0.151	0.151
28	m-Terphenyl	0.303	0.303	0.303	0.303	0.303
29	Naphthalene	0.218	1.029	0.575	1.580	0.611
30	o-Terphenyl	0.303	0.303	0.303	0.303	0.303
31	Perylene	0.303	0.303	0.303	0.303	0.303
32	Phenanthrene	0.708	1.217	1.271	0.696	1.181
33	p-Terphenyl	0.303	0.303	0.303	0.303	0.303
34	Pyrene	0.151	0.254	0.224	0.151	0.212
35	Quinoline	1.211	1.211	1.211	1.211	1.211
36	Tetralin	0.303	0.303	0.303	0.303	0.303

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

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



JOB #: 2833-11-10-01-C

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,I)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	October 13, 2011		Previous Calibration	September 15, 2011	
Company	Lakeland Community and Industry Association				
Plant / Location	LICA 1 - Cold Lake South				
Start Time (MST)	10:41		End Time (MST)	14:22	
Reason:			Monthly Calibration		
Barometric Pressure	0.931	atm	Station Temperature	23	Deg C
Cal Gas	48.3 ppm	Gas Cyl. #	LL103831	Cal Gas Expiry date	February 4, 2013
DAS Output Voltage	0 - 10	Volts	Chart Rec. Output	NA	Volts

Equipment Information

Analyzer Make / Model:	Thermo 43i	S/N :	806528242	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range			0 - 1000	ppb				
Sample Flow / Box Temp	447	ccm	30.2	Deg C	448	ccm	30.7	Deg C
HVPS / Lamp Setting	-632		743		-632		742	
PMT / RxCell Temp	OK	Deg C	45.3	Deg C	OK	Deg C	45.1	Deg C
Converter / IZS Temp	NA	Deg C	45	Deg C	NA	Deg C	45.0	Deg C
Offset / Slope	6		1.021		5.9		1.003	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4998	0	0	0	N/A
	No Zero Adj			
4954	41.4	400	405	0.9884
4954	41.4	400	401	0.9982
4977	23.3	225	227	0.9915
4986	12.9	125	127	0.9814
4995	0	0	0	N/A
			Sum of Least Squares	0.9955
			New Correction Factor	0.9982

	Before Calibration	After Calibration
Auto Zero	0.0	-0.1
Auto Span	377.0	369.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9982
Percent Change:	0.2%

Notes: **N/A : Not applicable**

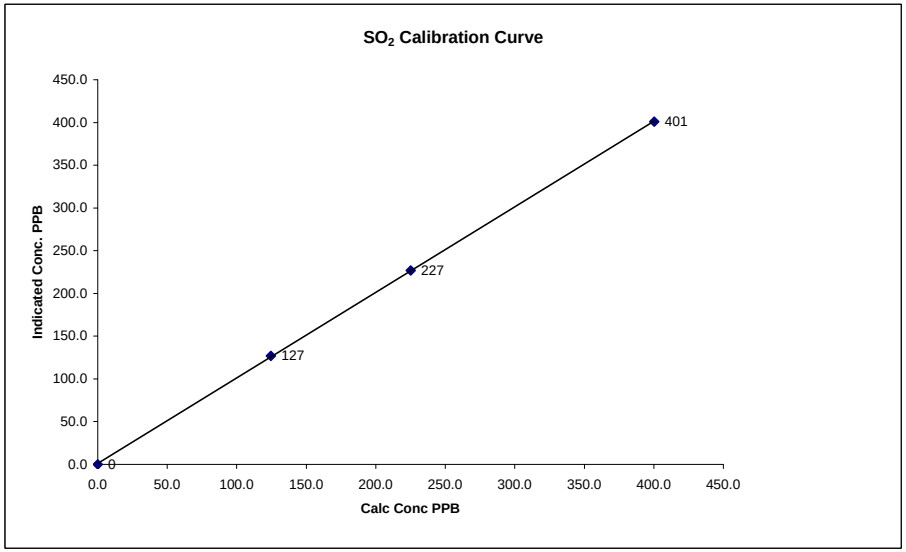
Calibration Performed by: Ting Xu

SO_2 Calibration Curve

Calibration Date	October 13, 2011		
Company	Lakeland Community and Industry Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	10:41	End Time (MST)	14:22

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
125	127	0.9814
225	227	0.9915
400	401	0.9982

Correlation Coefficient	(≥ 0.995)	0.999959
Slope	(0.85 to 1.15)	1.000875
Intercept	(± 3% F.S.)	1.086441



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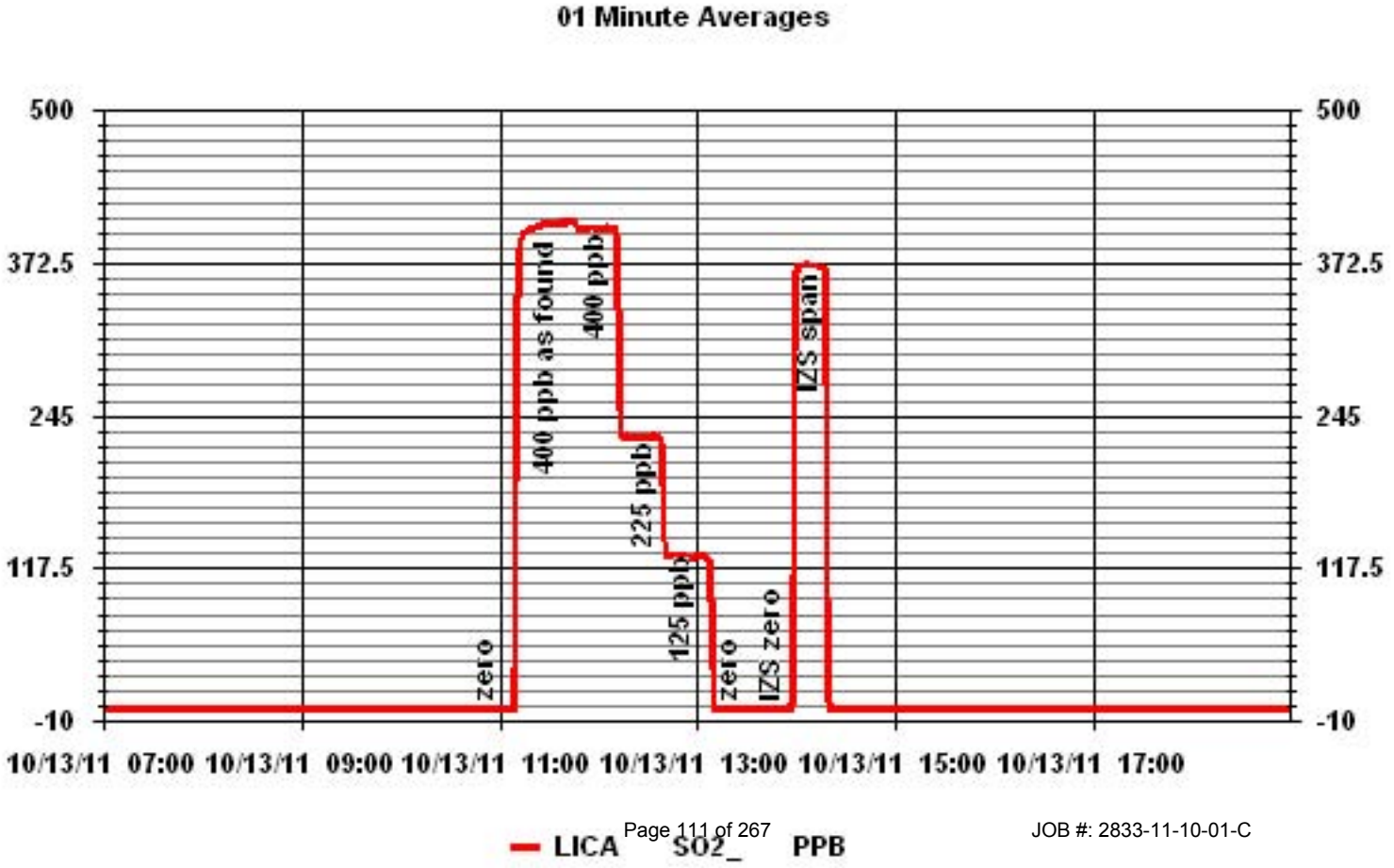


JOB #: 2833-11-10-01-C

Total Reduced Sulphur

TRS Calibration Report

Station Information

Calibration Date	October 12, 2011		Previous Calibration	September 14, 2011	
Company	**Lakeland Industry & Community Association**				
Plant / Location	**LICA 1 - Cold Lake South**				
Start Time (MST)	8:18		End Time (MST)	9:38	
Reason:	As Found Check				
Barometric Pressure	0.932	atm	Station Temperature	22	Deg C
Cal Gas	10.2 ppm	Gas Cyl. #	BLM000804	Cal Gas Expiry date	February 2, 2012
DAS Output Voltage	0 - 10	Volts	Chart Rec. Output	NA	Volts

Equipment Information

Analyzer Make / Model:	Thermo 450i	S/N :	812728560	Method:	Fluorescent
Converter Make / Model:	CDN 101	S/N :	250		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range			0 - 100	ppb				
Sample Flow / Box Temp	352	ccm	31.4	Deg C	353	ccm	32.3	Deg C
HVPS / Lamp Setting	-623.1		751		-623.1		750	
PMT / RxCell Temp	OK	Deg C	44.9	Deg C	OK	Deg C	44.9	Deg C
Converter / IZS Temp	810	Deg C	45	Deg C	810	Deg C	45.0	Deg C
Offset / Slope	13.2		1.279		13.2		1.279	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4996	0	0	0	N/A
	No Zero Adj			
4959	39.2	80	81	0.9876
			Sum of Least Squares	
			New Correction Factor	

	Before Calibration	After Calibration
Auto Zero	-0.3	-
Auto Span	66.0	-
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9876
Percent Change:	1.3%

Notes: **N/A : Not applicable**

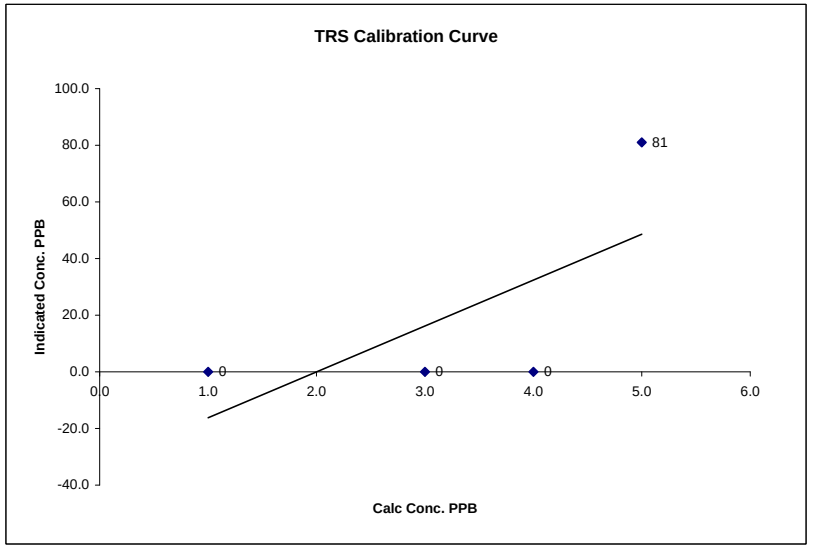
Following the as found points, the charcoal in the zero air supply system was replaced. After that, a post repair calibration was performed.

Calibration Performed by: Ting Xu

TRS Calibration Curve

Calibration Date	October 12, 2011		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	8:18	End Time (MST)	9:38

Calculated Conc. ppb	Indicated Response ppb	Correction Factor			
	0	n/a	Correlation Coefficient	(≥ 0.995)	#DIV/0!
	0	#DIV/0!	Slope	(0.85 to 1.15)	#DIV/0!
	0	#VALUE!	Intercept	(± 3% F.S.)	#DIV/0!
80	81	#VALUE!			



Notes:

TRS Calibration Report

Station Information

Calibration Date	October 12, 2011		Previous Calibration	September 14, 2011	
Company	**Lakeland Industry & Community Association**				
Plant / Location	**LICA 1 - Cold Lake South**				
Start Time (MST)	9:49		End Time (MST)	13:24	
Reason:	Post Repair Calibration				
Barometric Pressure	0.932	atm	Station Temperature	23	Deg C
Cal Gas	10.2 ppm	Gas Cyl. #	BLM000804	Cal Gas Expiry date	February 2, 2012
DAS Output Voltage	0 - 10	Volts	Chart Rec. Output	NA	Volts

Equipment Information

Analyzer Make / Model:	Thermo 450i	S/N :	812728560	Method:	Fluorescent
Converter Make / Model:	CDN 101	S/N :	250		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 - 100 ppb							
Sample Flow / Box Temp	353	ccm	32.3	Deg C	352	ccm	32.9	Deg C
HVPS / Lamp Setting	-623.1		750		-623.1		749	
PMT / RxCell Temp	OK	Deg C	44.9	Deg C	OK	Deg C	45.1	Deg C
Converter / IZS Temp	810	Deg C	45	Deg C	810	Deg C	45.0	Deg C
Offset / Slope	13.2		1.279		12.9		1.251	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4996	0	0	0	N/A
	No Zero Adj			
4959	39.2	80	82	0.9756
4959	39.2	80	81	0.9876
4980	19.6	40	41	0.9753
4986	11.2	23	24	0.9525
4996	0.0	0	0	N/A
			Sum of Least Squares	0.9831
			New Correction Factor	0.9876

	Before Calibration	After Calibration
Auto Zero	-0.3	-0.3
Auto Span	65.7	67.4
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	-
Current Correction Factor Before Span Adjust:	0.9756
Percent Change:	#VALUE!

Notes: **N/A : Not applicable**

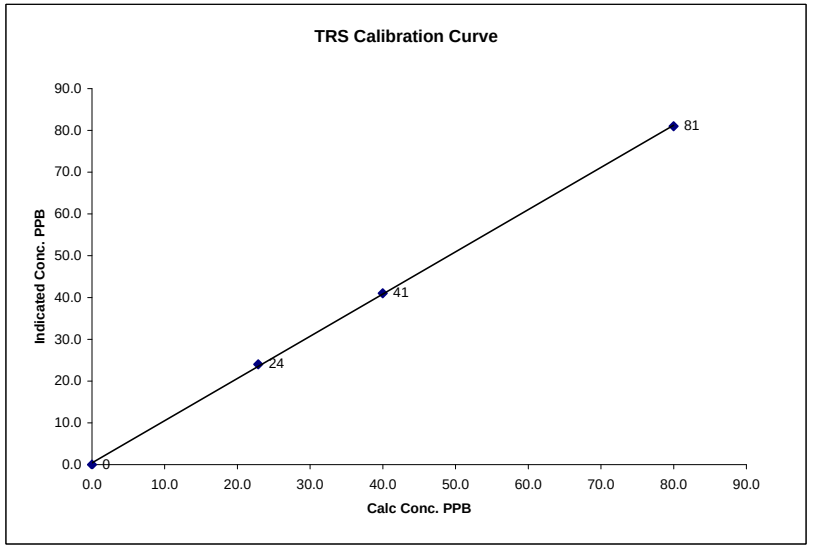
Calibration Performed by: Ting Xu

TRS Calibration Curve

Calibration Date	October 12, 2011		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	9:49	End Time (MST)	13:24

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
23	24	0.0000
40	41	0.5576
80	81	0.4937

Correlation Coefficient	(≥ 0.995)	0.999856
Slope	(0.85 to 1.15)	1.009977
Intercept	(± 3% F.S.)	0.432526



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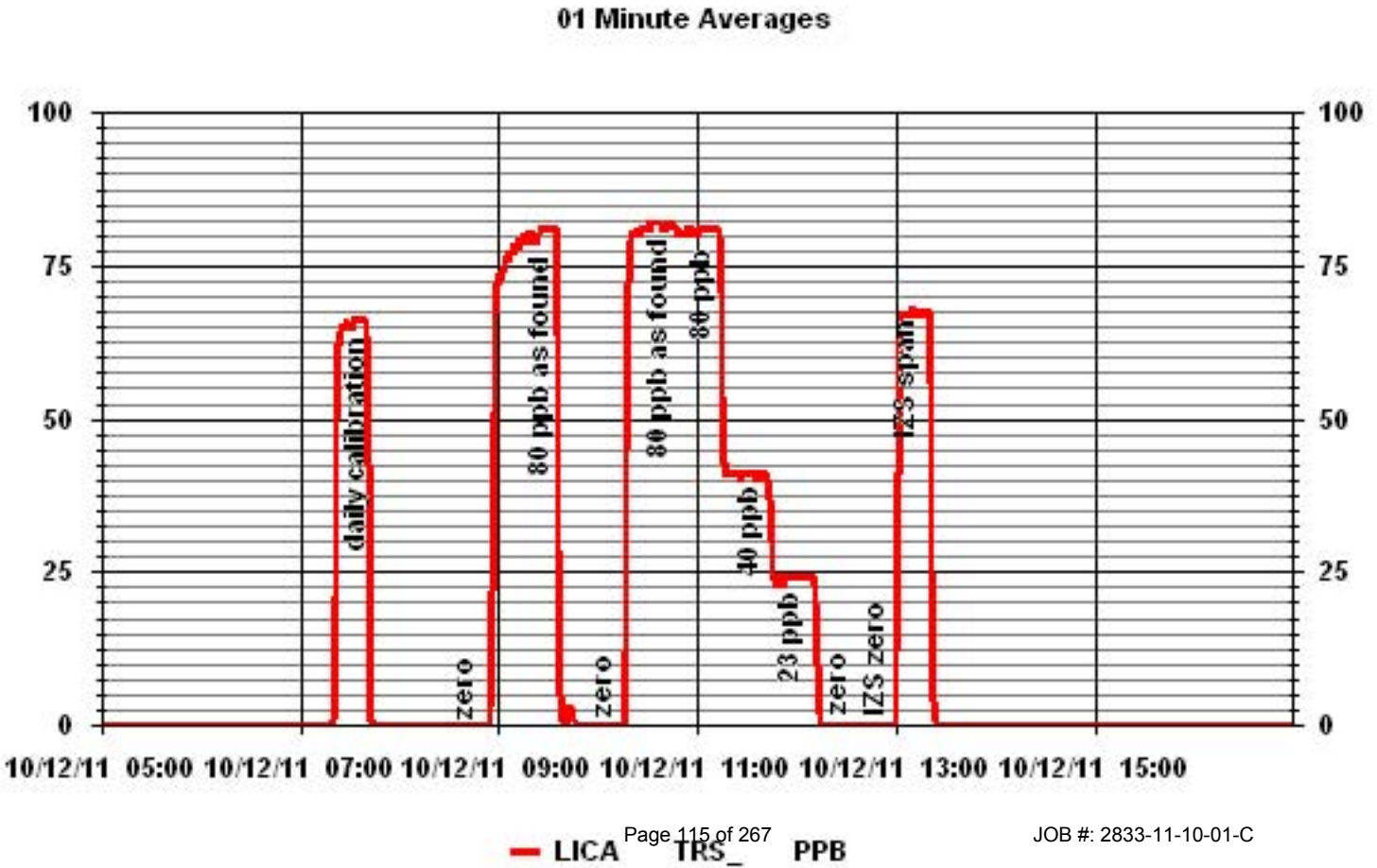


JOB #: 2833-11-10-01-C

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	October 12, 2011		Previous Calibration	September 21, 2011	
Company:	Lakeland Industry and Community Association				
Plant / Location:	LICA1/Cold Lake				
Start Time (MST)	12:45		End Time (MST)	16:05	
Reason:	Monthly Calibration				
Barometric Pressure:	0.932	atm	Station Temperature:	23	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 980	PPM	C3H8 304	PPM	
	TOTAL CH4 1816.0	PPM	Gas Cyl. # LL84144	Cal Gas Expiry Date:	December 3, 2013
DAS make & Model:	ESC 8832		S/N :	3485	
Chart Recorder:	NA		S/N:	NA	
Output Voltage Range:	0 - 10	VDC	Chart Speed:	NA	mm/hr

Analyzer Information

Make / Model	TEI 51C-LT	S/N :	427408718	Method	Flame Ionization

Analyzer Settings

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

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
3000	0.0	0.0	0.0	NA
	No Zero Adj			
3000	70.0	41.4	41.9	0.9882
3000	70.0	41.4	41.5	0.9978
3000	34.9	20.9	20.7	1.0088
3000	20.0	12.0	11.8	1.0192
3000	0.0	0.0	0.0	NA
			New Correction Factor:	0.9978

Percent Change

Previous Calibration Correction Factor:	0.9978
Current Correction Factor Before Span Adjust:	0.9882
Percent Change:	1.0%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	-0.1
Auto Span	33.2	33.3
Sample Lines Connected		**YES**

Cylinder Pressures

Span 800 psi Hydrogen 300 psi Zero Air 32 psi

Notes: **NA : Not Applicable**

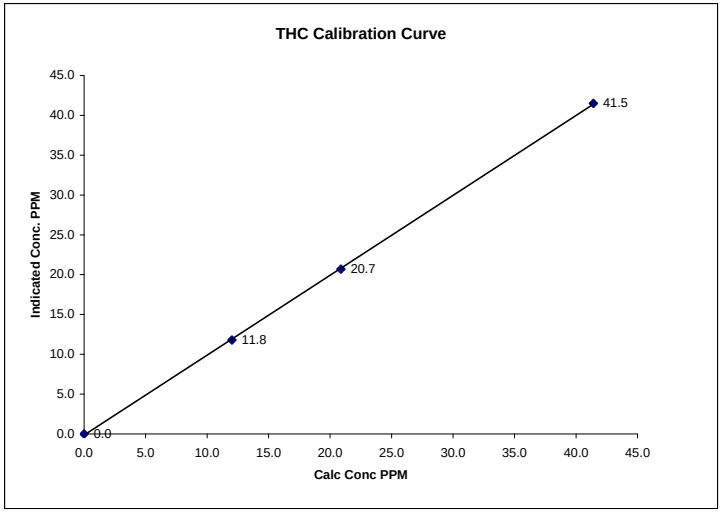
Calibration Performed by: Ting Xu

THC Calibration Curve

Calibration Date	October 12, 2011			
Company	Lakeland Industry and Community Association			
Plant / Location	LICA1/Cold Lake			
Start Time (MST)	12:45	End Time (MST)	16:05	

Calculated Conc. ppm	Indicated Response ppm	Correction Factor
0.0	0.0	NA
12.0	11.8	1.0192
20.9	20.7	1.0088
41.4	41.5	0.9978

Correlation Coefficient	(≥ 0.995)	0.999938
Slope	(0.85 to 1.15)	1.003479
Intercept	(± 3% F.S.)	-0.14384



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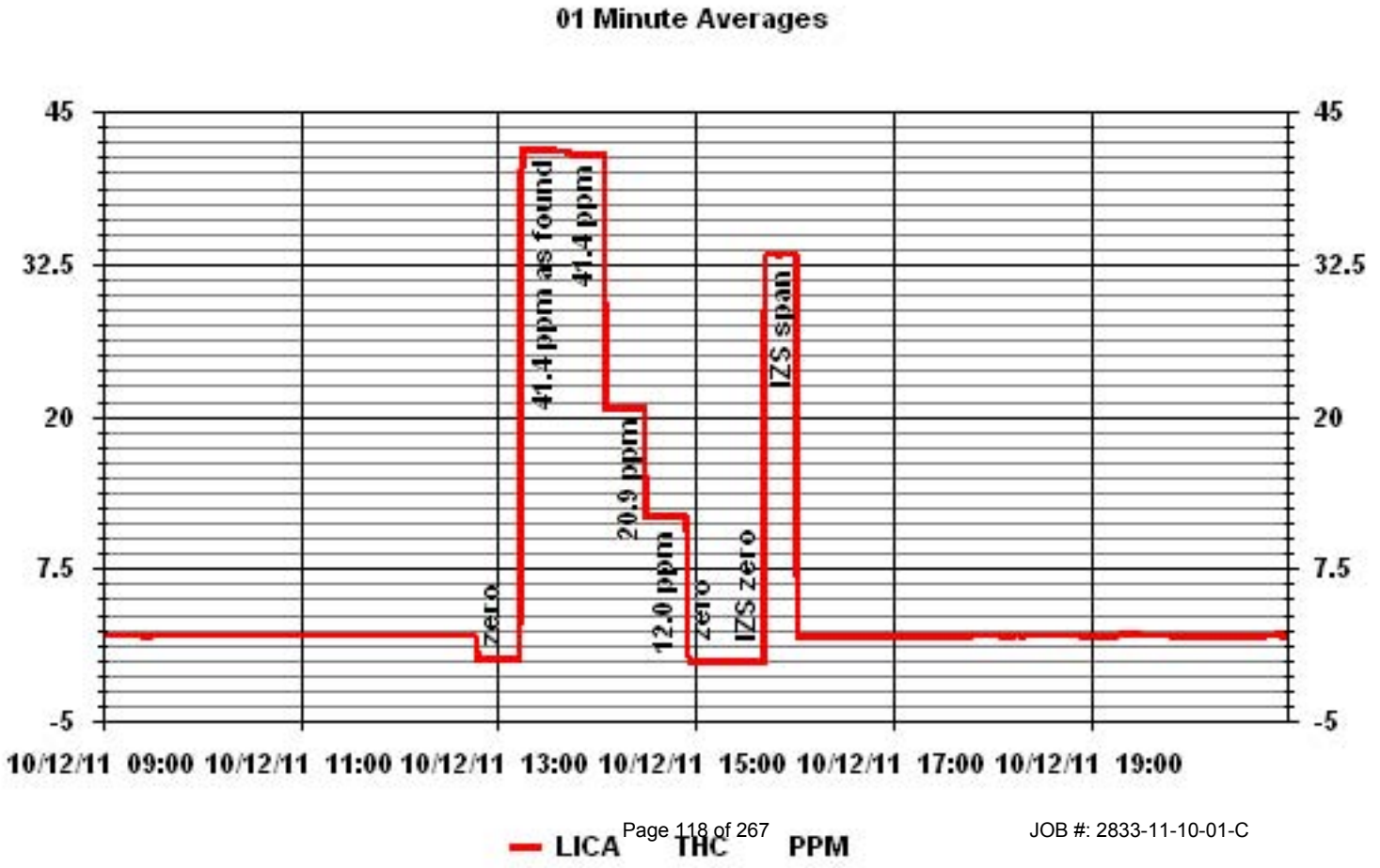


JOB #: 2833-11-10-01-C

THC Calibration Report

Station Information

Calibration Date:	October 20, 2011		Previous Calibration	October 12, 2011	
Company:	Lakeland Industry and Community Association				
Plant / Location:	LICA1/Cold Lake				
Start Time (MST)	9:52		End Time (MST)	-	
Reason:	As Found Check				
Barometric Pressure:	0.931	atm	Station Temperature:	22	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 980 PPM		C3H8	304 PPM	
	TOTAL CH4 1816.0 PPM		Gas Cyl. #	LL84144	Cal Gas Expiry Date: December 3, 2013
DAS make & Model:	ESC 8832		S/N :	3485	
Chart Recorder:	NA		S/N:	NA	
Output Voltage Range:	0 - 10	VDC	Chart Speed:	NA	mm/hr

Analyzer Information

Make / Model	TEI 51C-LT	S/N :	427408718	Method	Flame Ionization

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 50	ppm	0 - 50	ppm
Sample Pressure	14	psi	14.2	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
3000	0.0	0.0	0.0	NA
	No Zero Adj			
3000	70.0	41.4	29.7	1.3942
			New Correction Factor:	1.3942

Percent Change

Previous Calibration Correction Factor:	0.9978
Current Correction Factor Before Span Adjust:	1.3942
Percent Change:	-28.4%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.6	-
Auto Span	25.2	-
Sample Lines Connected		YES

Cylinder Pressures

Span 700 psi Hydrogen 1200 psi Zero Air 32 psi

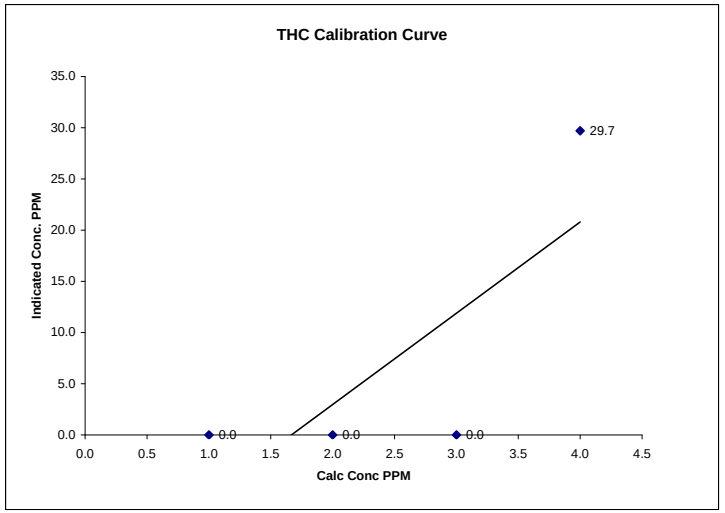
Notes: **NA : Not Applicable**

Calibration Performed by: Ting Xu

THC Calibration Curve

Calibration Date	October 20, 2011		
Company	Lakeland Industry and Community Association		
Plant / Location	LICA1/Cold Lake		
Start Time (MST)	9:52	End Time (MST)	-

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	#DIV/0!
			Slope (0.85 to 1.15)	#DIV/0!
	0.0	NA	Intercept (± 3% F.S.)	#DIV/0!
	0.0	#VALUE!		
	0.0	#VALUE!		
41.4	29.7	1.3942		



Notes:

THC Calibration Report

Station Information

Calibration Date:	October 20, 2011		Previous Calibration	September 21, 2011	
Company:	Lakeland Industry and Community Association				
Plant / Location:	LICA1/Cold Lake				
Start Time (MST)	13:30		End Time (MST)	16:51	
Reason:	Post Repair Calibration				
Barometric Pressure:	0.931	atm	Station Temperature:	22	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 980 PPM		C3H8	304 PPM	
	TOTAL CH4 1816.0 PPM		Gas Cyl. #	LL84144	Cal Gas Expiry Date: December 3, 2013
DAS make & Model:	ESC 8832		S/N :	3485	
Chart Recorder:	NA		S/N:	NA	
Output Voltage Range:	0 - 10	VDC	Chart Speed:	NA	mm/hr

Analyzer Information

Make / Model	TEI 51C-LT	S/N :	427408718	Method	Flame Ionization

Analyzer Settings

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

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
3000	0.0	0.0	0.0	NA
	No Zero Adj			
3000	70.0	41.4	41.6	0.9954
	No Span Adj.			
3000	35.0	20.9	20.7	1.0117
3000	20.0	12.0	11.8	1.0192
3000	0.0	0.0	-0.1	NA
			New Correction Factor:	0.9954

Percent Change

Previous Calibration Correction Factor:	-
Current Correction Factor Before Span Adjust:	0.9954
Percent Change:	#VALUE!

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.6	-0.3
Auto Span	25.2	32.9
Sample Lines Connected		**YES**

Cylinder Pressures

Span 700 psi Hydrogen 1200 psi Zero Air 32 psi

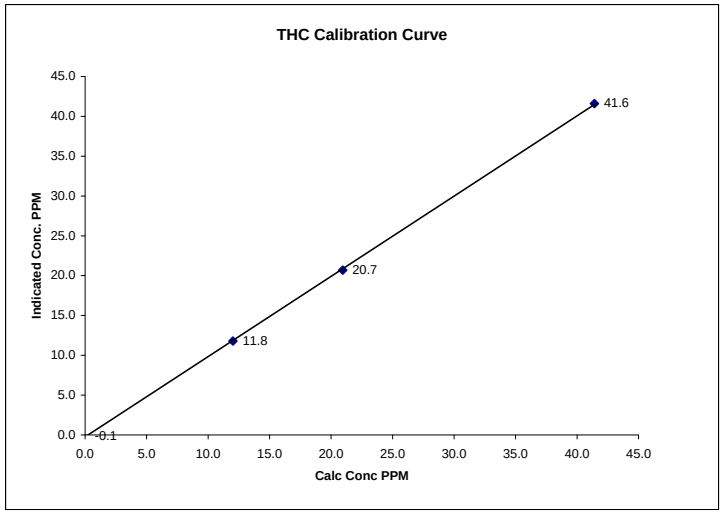
Notes: **NA : Not Applicable**

Calibration Performed by: Ting Xu

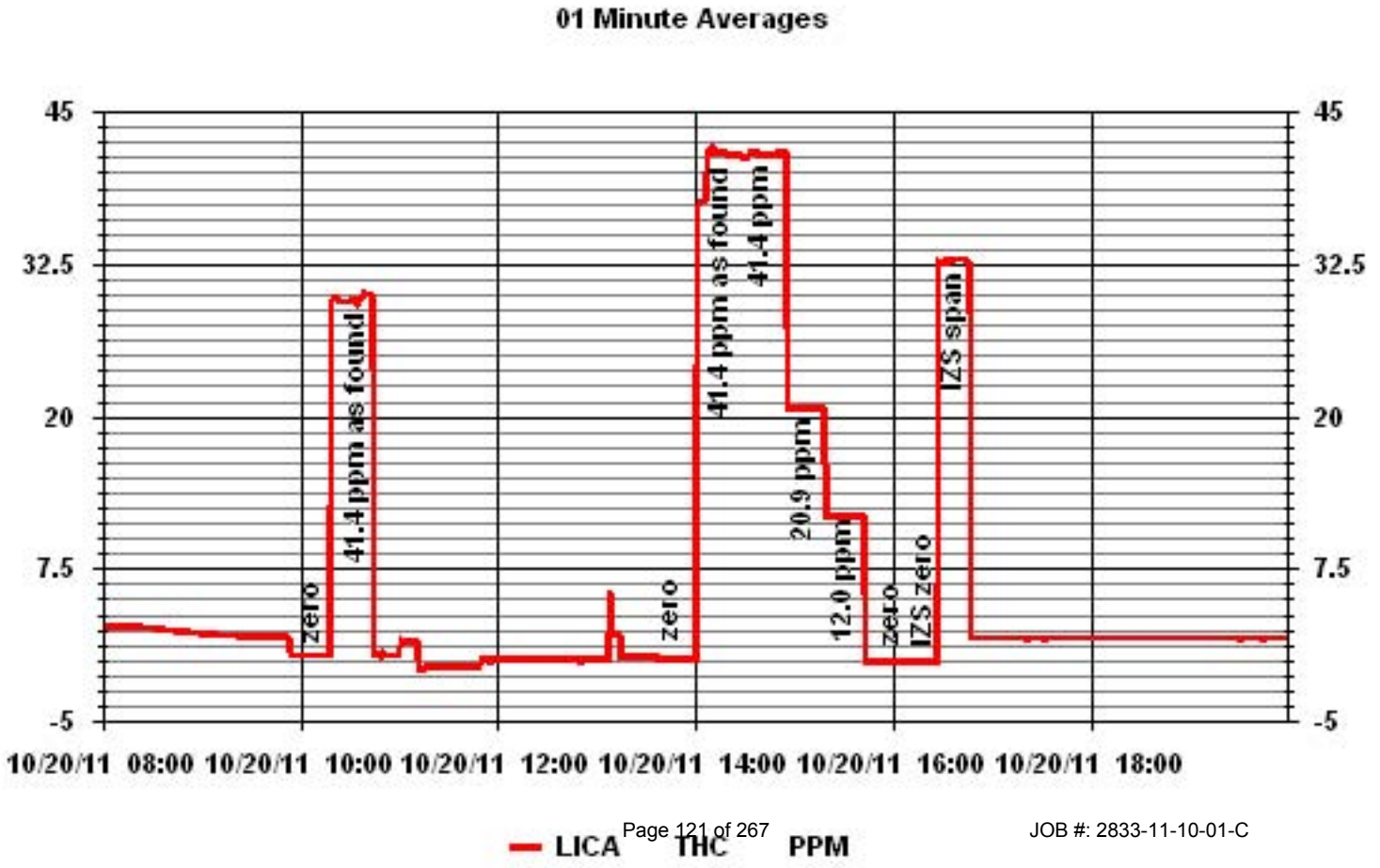
THC Calibration Curve

Calibration Date	October 20, 2011				
Company	Lakeland Industry and Community Association				
Plant / Location	LICA1/Cold Lake				
Start Time (MST)	13:30	End Time	(MST)	16:51	

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999929
			Slope (0.85 to 1.15)	1.007845
0.0	-0.1	NA	Intercept (± 3% F.S.)	-0.23987
12.0	11.8	1.0192		
20.9	20.7	1.0117		
41.4	41.6	0.9954		



Notes:



JOB #: 2833-11-10-01-C

Particulate Matter 2.5

TEOM 1405F Audit

Station		Audit Transfer Standard	
Date:	October 13, 2011	Make/Model:	Streamline FTS
Station Name:	LICA 1	Serial Number:	Hi 091001
Location:	Cold Lake South	Cell s/n:	Lo 091099
Operator:	LICA	Thermometer s/n:	VWR90758398

Sampler		Set-up and current Sampler readings	
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 (%)	31.5%
Firmware Ver.	1.52	K_o Factor	14578.0
Parameter	PM 2.5 (with FDMS)	Temp (^oC)	7.8
		Press (ATM)	0.934

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 **<0.10*u* g**	0.005	Warnings	None
0.36	0.33		

Temperature/Pressure

Measured Temp **(± 2 °C)**	8.0	**Δ °C**	-0.2
Measured Press **(± 0.01atm)**	0.935	**DATM**	-0.001

Flow Audit

Indicated Main Flow (l/min)	3.00	Main Flow Drift **(±10.0%)**	0.69%
Measured Main Flow (l/min)	2.99	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift **(±10.0%)**	0.40%
Measured Bypass Flow (l/min)	13.65	Flow Adjusted to Measured?	Yes

Leak Check

Main **(< 0.15 l/min)**	NA
Aux **(< 0.6 l/min)**	NA

Instrument Setup

Flow Control = Active

Report Conditions = Actual

K_o Factor

Measured	NA
K_o Difference **(± 2.5%)**	NA

Start Time: 11:50 **Finish Time:** 13:54

Sample Inlet Cleaned: Yes **New Filters Installed:** YES

New Filter Loading %: 27.2%

Comments:

Auditor/s: Ting Xu

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	October 12, 2011		Previous Calibration	September 14, 2011	
Company	LICA		Plant/Location	Cold Lake South	
Start Time (MST)	8:18		End Time (MST)	10:04	
Reason:	As Found Check				
Barometric Pressure	0.932 atm	Station Temperature	22 Deg C	MFCF	0
Cal Gas Concentration	NOx 49.7 ppm	NO 49.4 ppm	Cal Gas Expiry date	February 28, 2013	
Cal Gas Cylinder #	LL103831				
DAS Output Voltage	0 - 10 Volts		Chart Rec. Output	NA Volts	

Equipment Information

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

Analyzer Settings

	Before Calibration					After Calibration			
Concentration Range					0 - 500		ppb		
Sample Flow/Conv. Temp	735	ccm	317	Deg C		740	ccm	317	Deg C
Ozone Flow / Vacuum	OK	ccm	173.0	"Hg-A		OK	ccm	173.6	"Hg-A
HVPS / A ZERO	-821	Volts	NA	MV		-821	Volts	NA	MV
Rx/ Temp / PMT Temp	49.8	Deg C	-2.4	Deg C		49.6	Deg C	-2.5	Deg C
Box Temp / IZS Temp	25.9	Deg C	OK	Deg C		28.6	Deg C	OK	Deg C
Offset	3.5	NOx	3.1	NO		3.5	NOx	3.1	NO
Slope	1.025	NOx	0.810	NO		1.025	NOx	0.810	NO
NO_2 COEF / Conv Efficency	0.998	NO2	NA			0.998	NO2	NA	

Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4995	0.0	NA	0	0	NA	0	0	0	NA	NA
	No Zero Adj									
4954	40.4	NA	402	400	NA	381	372	9	1.0552	1.0742

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO_2 Correction Factor	NO2 Conv Efficency
			NOx	NO	NO2	NOx	NO	NO2		
4954	40.4	NA	402	400	NA	381	372	9	NA	NA
	No Adj Required									
4954	40.4	350	402	NA	307	380	74	307	1.0000	100.00%

Linearity			Sum of Least Squares	NOx= #VALUE!	NO= #VALUE!	NO2=		
OK?	Yes	No	Correction Factors:	NOx= 1.0552	NO= 1.0742	NO2= 1.0000		
				Average Converter Efficiency=				

	Before Calibration					After Calibration			
Auto Zero	0.1	NOx	0.2	NO2		-	NOx	-	NO2
Auto Span	344	NOx	332	NO2		-	NOx	-	NO2
					Sample Lines Connected	YES			
Percent Change from Previous Calibration					NOx -5.5%	NO	-7.2%	NO2	0.0%

Notes

NA : Not Applicable

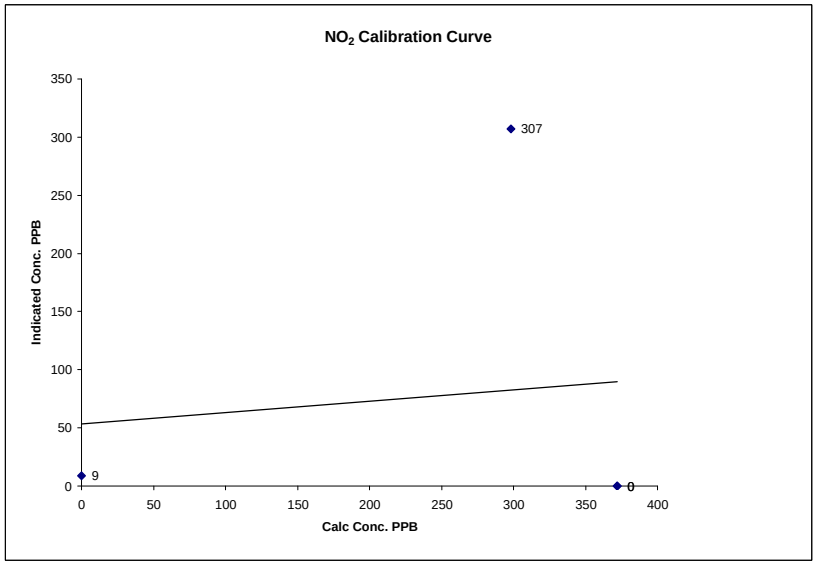
Following as found point, changed the scrubber material of the exhausting line.

Calibration Performed by: Ting Xu

NO_2 Calibration Curve

Calibration Date	October 12, 2011		
Company	LICA		
Plant / Location	Cold Lake South		
Start Time (MST)	8:18	End Time (MST)	10:04

Calculated Conc. ppb	Indicated Response ppb	Correction Factor		
0	9	N/A	Correlation Coefficient (≥ 0.995)	0.012873
372	0	#DIV/0!	Slope (0.85 to 1.15)	0.097396
372	0	#DIV/0!	Intercept (± 3% F.S.)	53.62829
298	307	0.9707		



Notes:

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	October 12, 2011		Previous Calibration	September 14, 2011	
Company	LICA		Plant/Location	Cold Lake South	
Start Time (MST)	10:19		End Time (MST)	15:56	
Reason:	Post Repair Calibration				
Barometric Pressure	0.933 atm	Station Temperature	23 Deg C	MFCF	0
Cal Gas Concentration	NOx 49.7 ppm	NO 49.4 ppm	Cal Gas Expiry date	February 28, 2013	
Cal Gas Cylinder #	LL103831				
DAS Output Voltage	0 - 10 Volts		Chart Rec. Output	NA Volts	

Equipment Information

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

Analyzer Settings

	Before Calibration					After Calibration			
Concentration Range					0 - 500 ppb				
Sample Flow/Conv. Temp	740	ccm	317	Deg C		732	ccm	317	Deg C
Ozone Flow / Vacuum	OK	ccm	174.0	"Hg-A		OK	ccm	170.7	"Hg-A
HVPS / A ZERO	-821	Volts	NA	MV		-821	Volts	NA	MV
Rx/ Temp / PMT Temp	49.6	Deg C	-2.5	Deg C		49.8	Deg C	-2.5	Deg C
Box Temp / IZS Temp	28.6	Deg C	OK	Deg C		29.8	Deg C	OK	Deg C
Offset	3.5	NOx	3.1	NO		3.7	NOx	3.4	NO
Slope	1.025	NOx	0.810	NO		1.008	NOx	0.879	NO
NO_2 COEF / Conv Efficency	0.998	NO2	NA			0.998	NO2	NA	

Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4995	0.0	NA	0	0	NA	0	0	0	NA	NA
	No Zero Adj									
4955	40.4	NA	402	400	NA	375	368	7	1.0719	1.0857
4955	40.4	NA	402	400	NA	402	400	2	1.0000	1.0000
4974	20.2	NA	201	200	NA	202	201	1	0.9952	0.9941
4985	10.1	NA	100	100	NA	102	101	1	0.9852	0.9890
4996	0.0	NA	0	0	NA	0	0	0	NA	NA

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO_2 Correction Factor	NO2 Conv Efficency
			NOx	NO	NO2	NOx	NO	NO2		
4954	40.4	NA	402	400	NA	402	400	2	NA	NA
	No Adj Required									
4954	40.4	350	402	NA	320	403	82	321	0.9969	100.31%
4954	40.4	150	402	NA	140	404	262	141	0.9929	100.72%
4954	40.4	75	402	NA	70	403	332	71	0.9859	101.47%

Linearity			Sum of Least Squares	NOx= 0.998	NO= 0.997	NO2= 0.996		
OK?	Yes	No	Correction Factors:	NOx= 1.0000	NO= 1.0000	NO2= 0.9969		
					Average Converter Efficiency= 100.84%			

	Before Calibration					After Calibration			
Auto Zero	0.1	NOx	0.2	NO2		0.1	NOx	0.2	NO2
Auto Span	344	NOx	332	NO2		350	NOx	347	NO2
					Sample Lines Connected	YES			
Percent Change from Previous Calibration					NOx -	NO -		NO2 -	

Notes

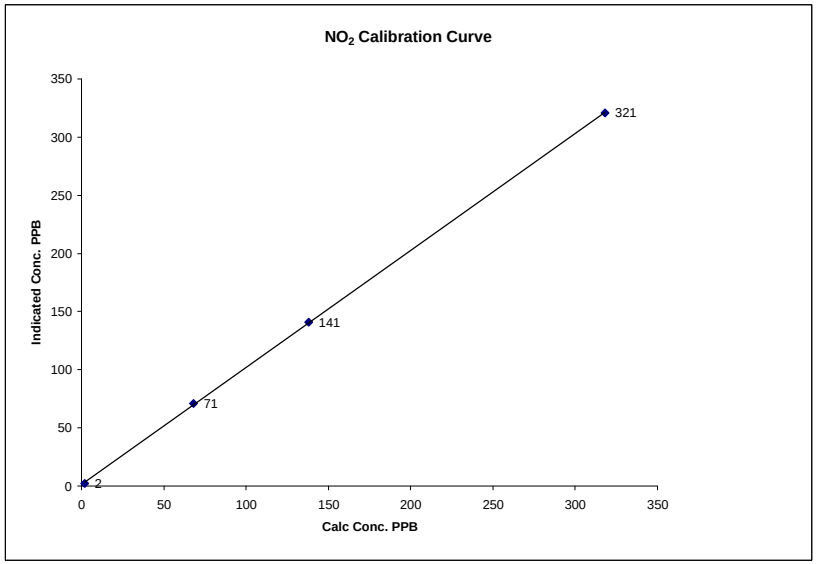
NA : Not Applicable

Calibration Performed by: Ting Xu

NO_2 Calibration Curve

Calibration Date	October 12, 2011		
Company	LICA		
Plant / Location	Cold Lake South		
Start Time (MST)	10:19	End Time (MST)	15:56

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999928
			Slope (0.85 to 1.15)	1.006984
2	2	N/A	Intercept (± 3% F.S.)	1.33160
68	71	0.9577		
138	141	0.9787		
318	321	0.9907		

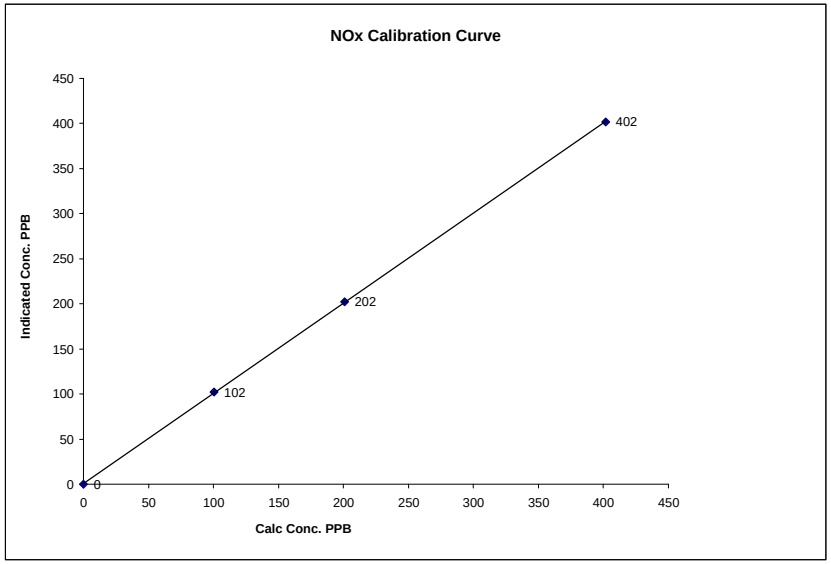


Notes:

NOx Calibration Curve

Calibration Date	October 12, 2011				
Company	LICA				
Plant / Location	Cold Lake South				
Start Time (MST)	10:19	End Time (MST)	15:56		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999982
			Slope	(0.85 to 1.15)	0.999131
0	0	N/A	Intercept	(± 3% F.S.)	0.78789
100	102	0.9852			
201	202	0.9952			
402	402	0.9999			

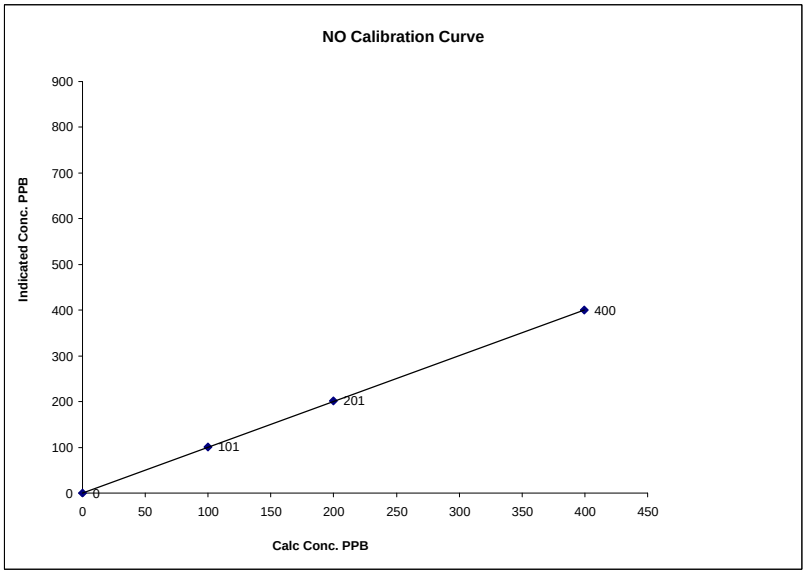


Notes:

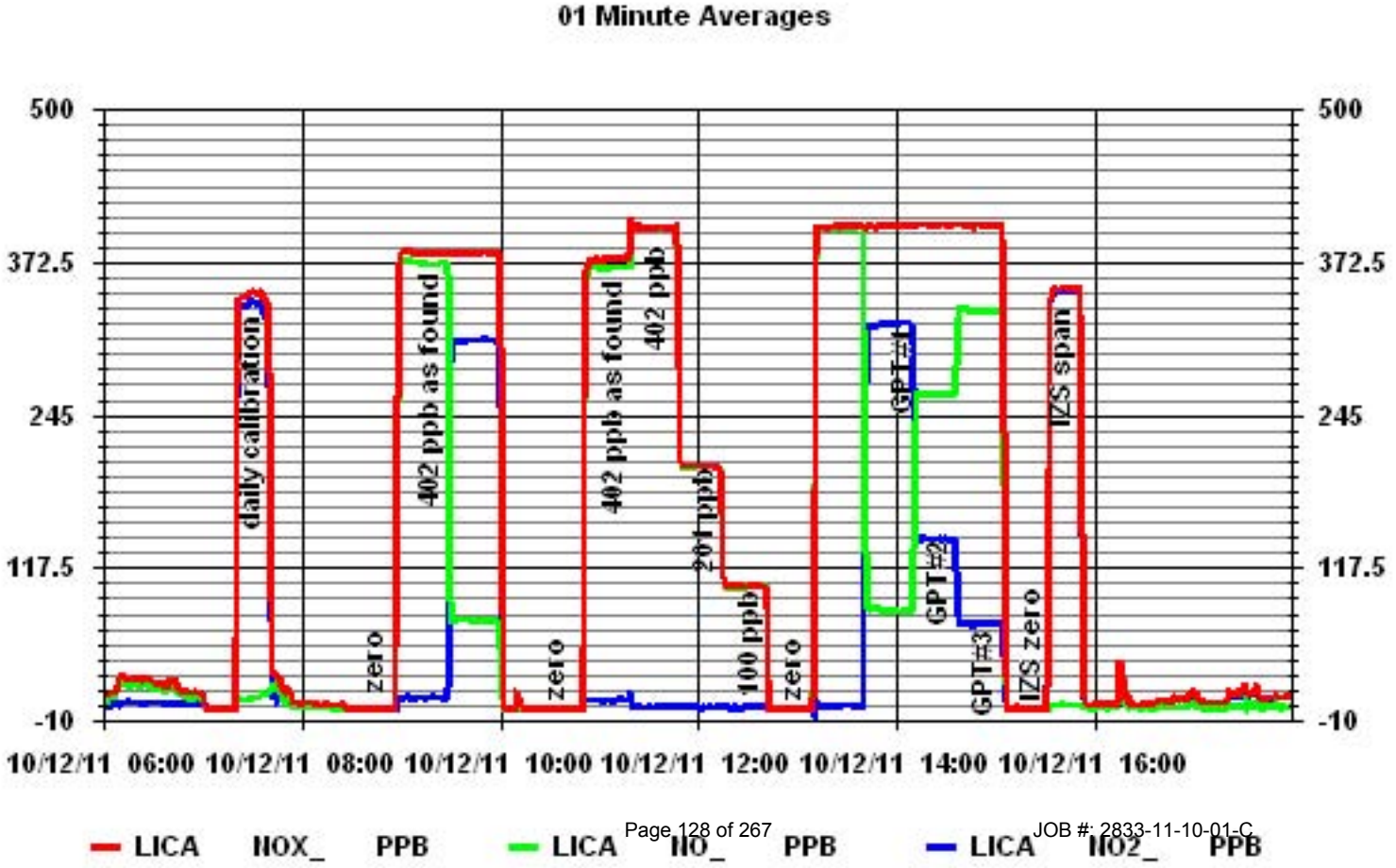
NO Calibration Curve

Calibration Date	October 12, 2011				
Company	LICA				
Plant / Location	Cold Lake South				
Start Time (MST)	10:19	End Time (MST)	15:56		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999989
			Slope	(0.85 to 1.15)	0.997678
0	0	N/A	Intercept	(± 3% F.S.)	1.9043
100	101	0.9890			
200	201	0.9941			
400	400	0.9988			



Notes:


01 Minute Averages
500
372.5
245
117.5
-10
daily calibration
zero
402 ppb as found
zero
402 ppb as found
402 ppb
201 ppb
100 ppb
zero
GPT#1
GPT#2
GPT#3
IZS zero
IZS span
10/12/11 06:00
10/12/11 08:00
10/12/11 10:00
10/12/11 12:00
10/12/11 14:00
10/12/11 16:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	October 13, 2011	Previous Calibration	September 15, 2011
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	10:41	End Time (MST)	14:22
Reason:		Monthly Calibration	
Barometric Pressure	0.931 atm	Station Temperature	23 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	700419951	Method:	Photometric
Calibrator Make / Model:	Environics 6100		4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	3485		

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 -500 ppb			
Cell A Flow / Cell B Flow	703 ccm	747 ccm	709 ccm	751 ccm
Pressure	696 mmHg		703 mmHg	
Bench Lamp	53.5 Deg C		53.5 DegC	
O3 Lamp / Box Temp	67.6 Deg C	29 Deg C	67.6 Deg C	28.9 Deg C
Offset / Slope	0.1	0.993	0.1	1.027

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4495	0	0	0	NA
	No Zero Adj Required			
4994	350	318	307	1.0358
4994	350	318	318	1.0000
4996	150	138	137	1.0073
4996	75	68	67	1.0149
4996	0	0	0	NA
			Sum of Least Squares	1.0017
			New Correction Factor	1.0000

	Before Calibration	After Calibration
Auto Zero	-0.2	-0.2
Auto Span	268.0	278.0
Sample Lines Connected		YES
Previous Calibration Correction Factor:		1.0031
Current Correctio Factor Before Span Adjust:		1.0000
Percent Change:		0.3%

Note: **NA : Not Applicable**

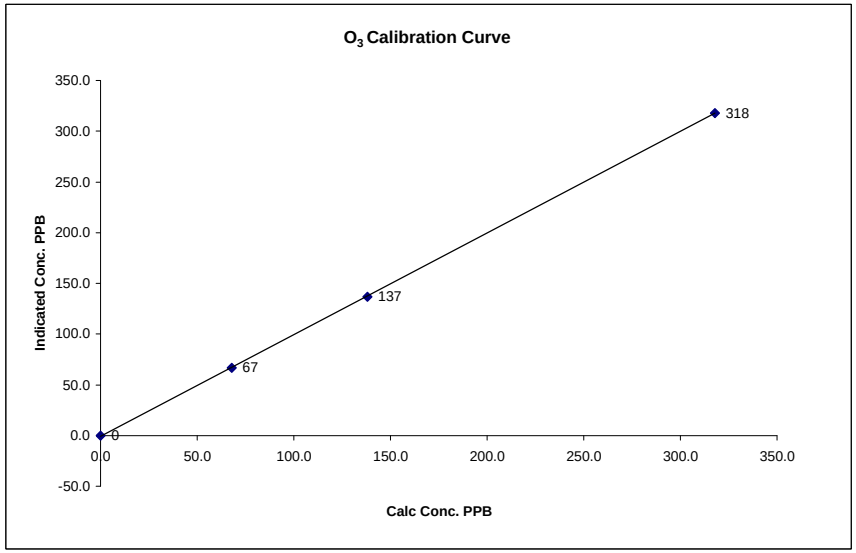
Calibration Performed by: Ting Xu

O_3 Calibration Curve

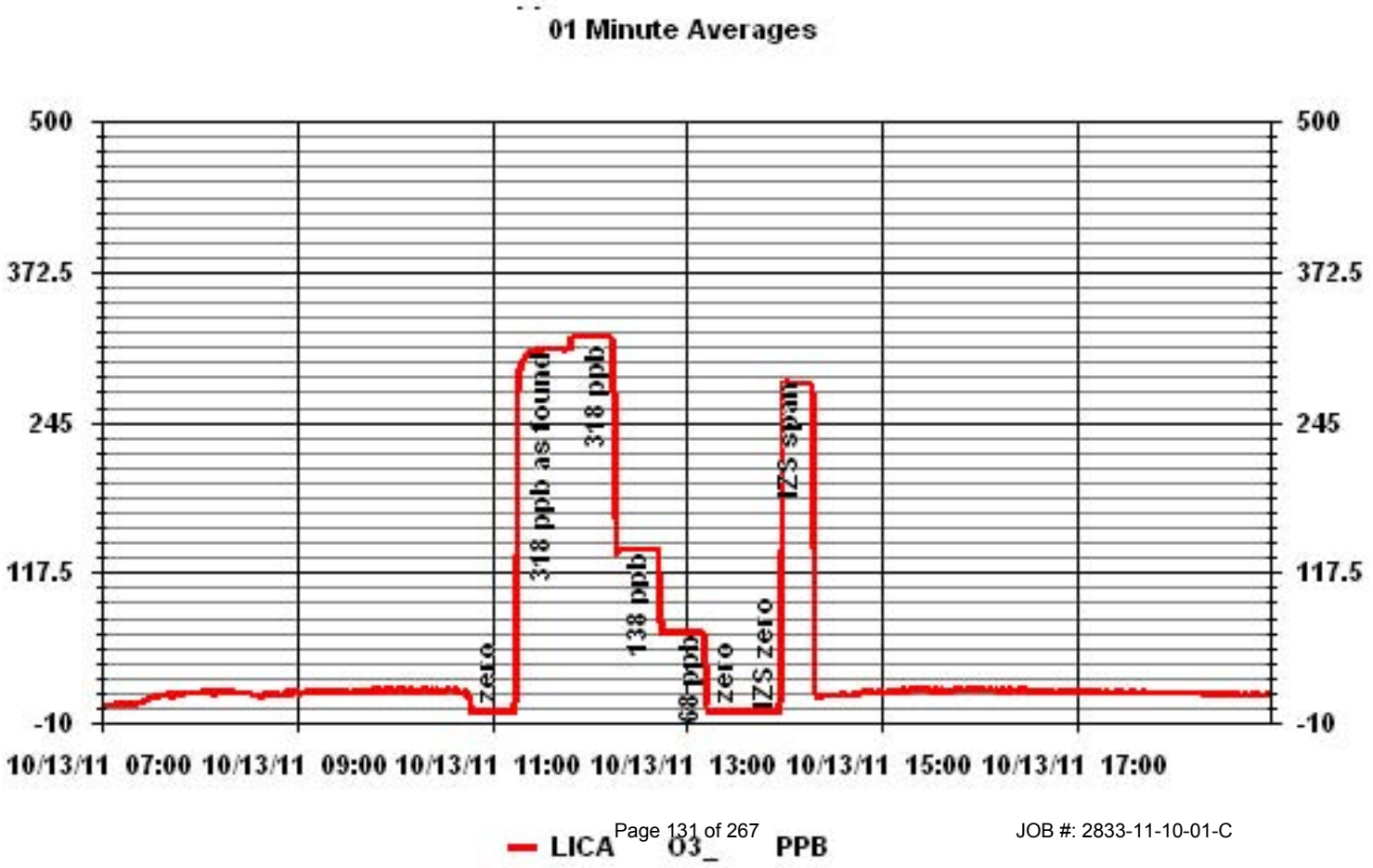
Calibration Date	October 13, 2011		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	10:41	End Time (MST)	14:22

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
68	67	1.0149
138	137	1.0073
318	318	1.0000

Correlation Coefficient	(≥ 0.995)	0.999983
Slope	(0.85 to 1.15)	1.000997
Intercept	(± 3% F.S.)	-0.630655



Notes:



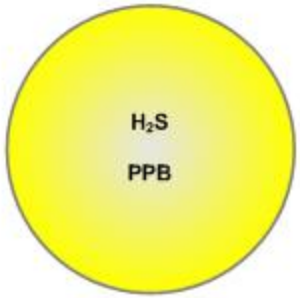
JOB #: 2833-11-10-01-C

Passive Bubble Maps

Lakeland Industry & Community Association
H_2S Passive Bubble Map

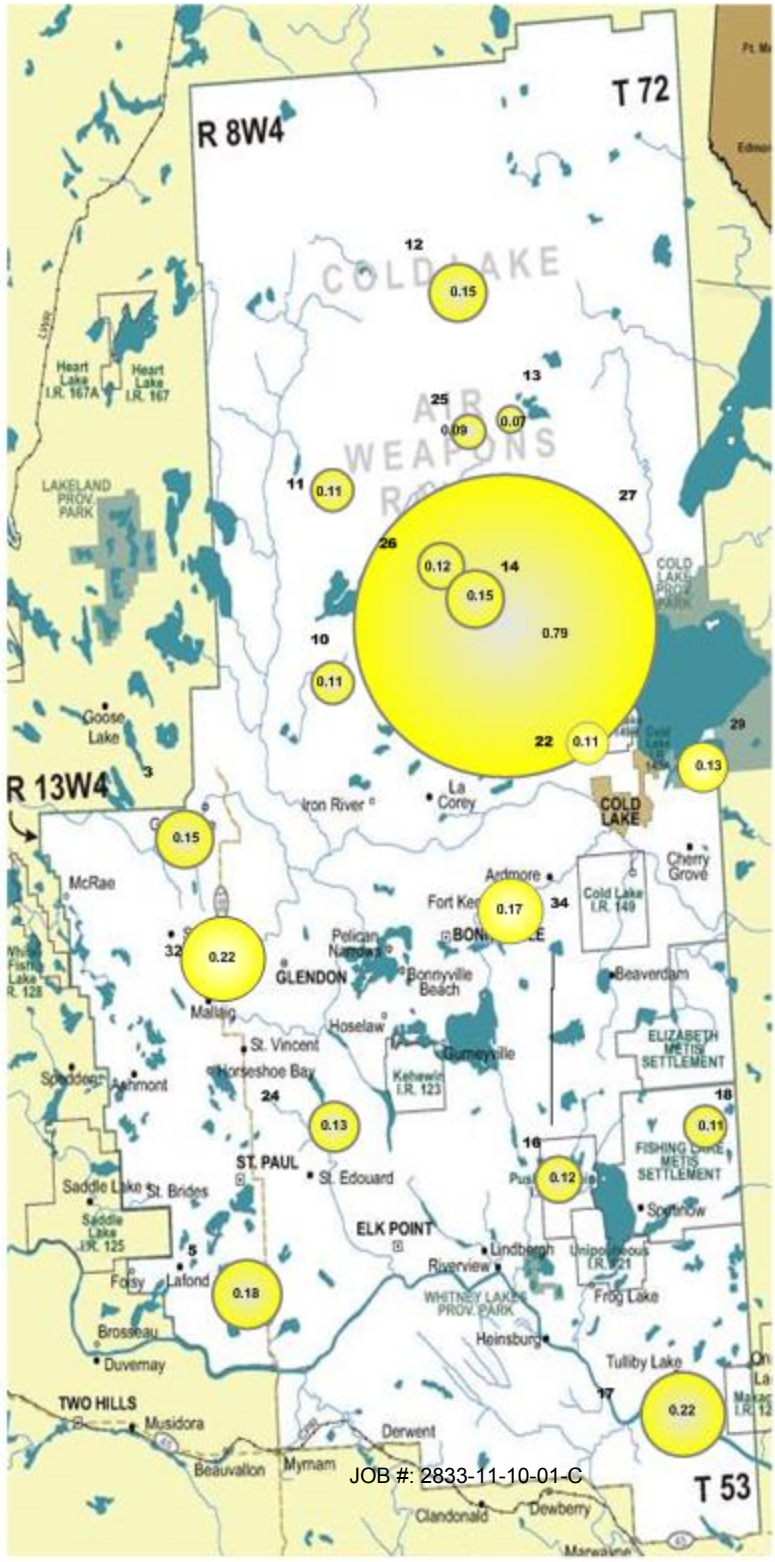
OCTOBER 2011

PASSIVE STATIONS		DUPLICATE
3 – Therien	0.16 PPB	0.13 PPB
5 – Lake Eliza	0.17 PPB	0.19 PPB
10 – La Corey	0.11 PPB	NA
11 – Wolf Lake	0.11 PPB	NA
12 – Foster Creek	0.15 PPB	NA
13 – Primrose	0.07 PPB	NA
14 – Maskwa	0.15 PPB	NA
16 – Frog Lake	0.12 PPB	NA
17 – Clear Range	0.22 PPB	NA
18 – Fishing Lake	0.11 PPB	NA
22 – Cold Lake South	0.11 PPB	NA
24 – Fort George	0.13 PPB	NA
25 – Burnt Lake	0.09 PPB	NA
26 – Mahihkan	0.12 PPB	NA
27 – Mahkeses	0.79 PPB	NA
29 – Cold Lake South 2	0.13 PPB	NA
32 – St. Lina	0.22 PPB	NA
34 – Portable	0.17 PPB	NA



Summary

Minimum : 0.07 PPB – Primrose
Maximum: 0.79 PPB – Mahkeses
Average: 0.17 PPB *Includes Duplicates

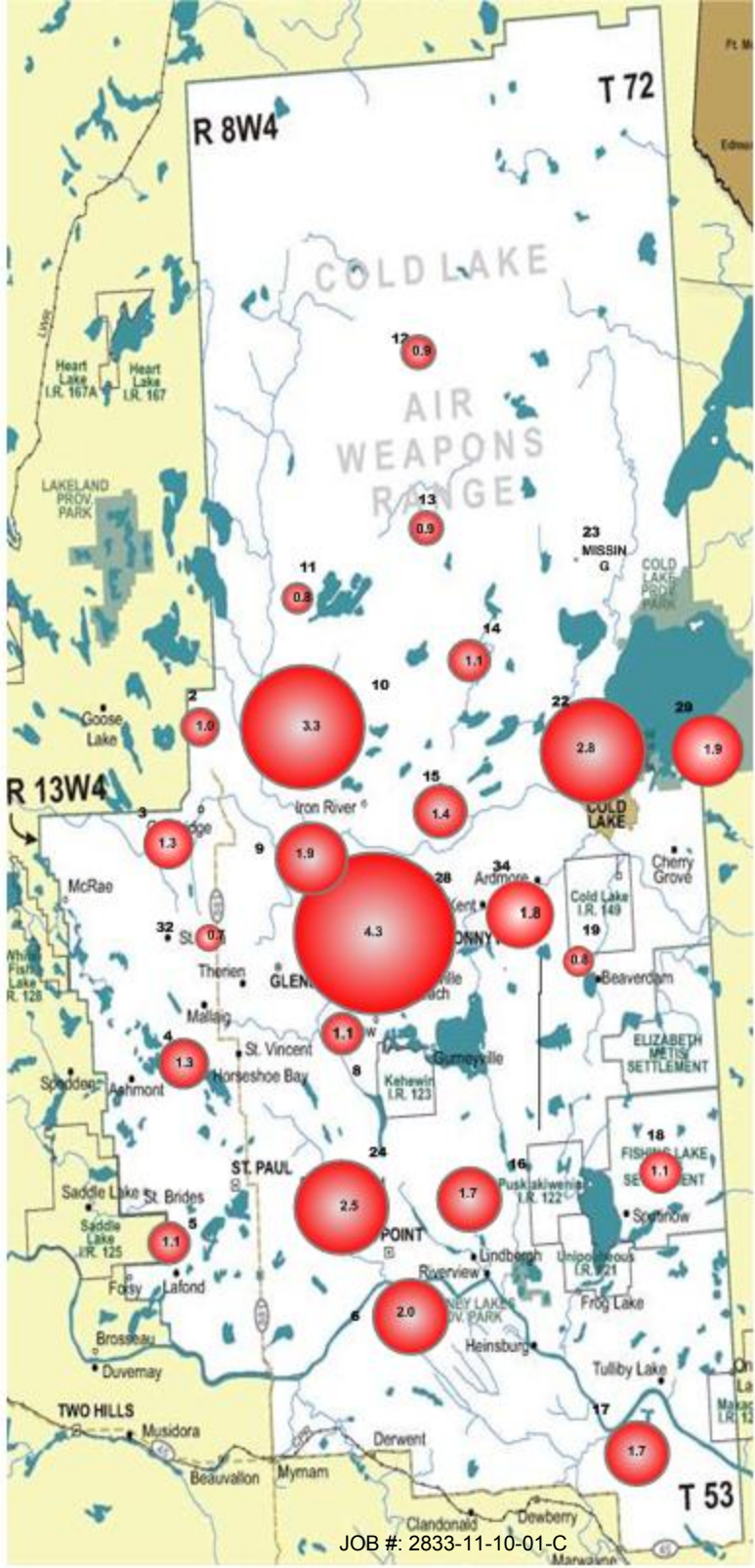


JOB #: 2833-11-10-01-C

Lakeland Industry & Community Association
NO_2 Passive Bubble Map

OCTOBER 2011

PASSIVE STATIONS		DUPLICATE
2 – Sand River	1.0 PPB	1.0 PPB
3 – Therien	1.2 PPB	1.3 PPB
4 – Flat Lake	1.3 PPB	NA
5 – Lake Eliza	1.1 PPB	NA
6 – Telegraph Creek	2.0 PPB	NA
8 – Muriel-Kehewin	1.1 PPB	NA
9 – Dupre	1.9 PPB	NA
10 – La Corey	3.3 PPB	NA
11 – Wolf Lake	0.8 PPB	NA
12 – Foster Creek	0.9 PPB	NA
13 – Primrose	0.9 PPB	NA
14 – Maskwa	1.1 PPB	NA
15 – Ardmore	1.4 PPB	NA
16 – Frog Lake	1.7PPB	NA
17 – Clear Range	1.7 PPB	NA
18 – Fishing Lake	1.1 PPB	NA
19 – Beaverdam	0.8 PPB	NA
22 – Cold Lake South	2.8 PPB	NA
23 – Medley-Martineau	MISSING	NA
24 – Fort George	2.5 PPB	NA
28 – Town of Bonnyville	4.3 PPB	NA
29 – Cold Lake South 2	1.9 PPB	NA
32 – St. Lina	0.7 PPB	NA
34 – Portable	1.8 PPB	NA



Summary

Minimum : 0.7 PPB – St. Lina
Maximum: 4.3 PPB – Town of Bonnyville
Average: 1.6 PPB *Includes Duplicates

Lakeland Industry & Community Association
O_3 Passive Bubble Map

OCTOBER 2011

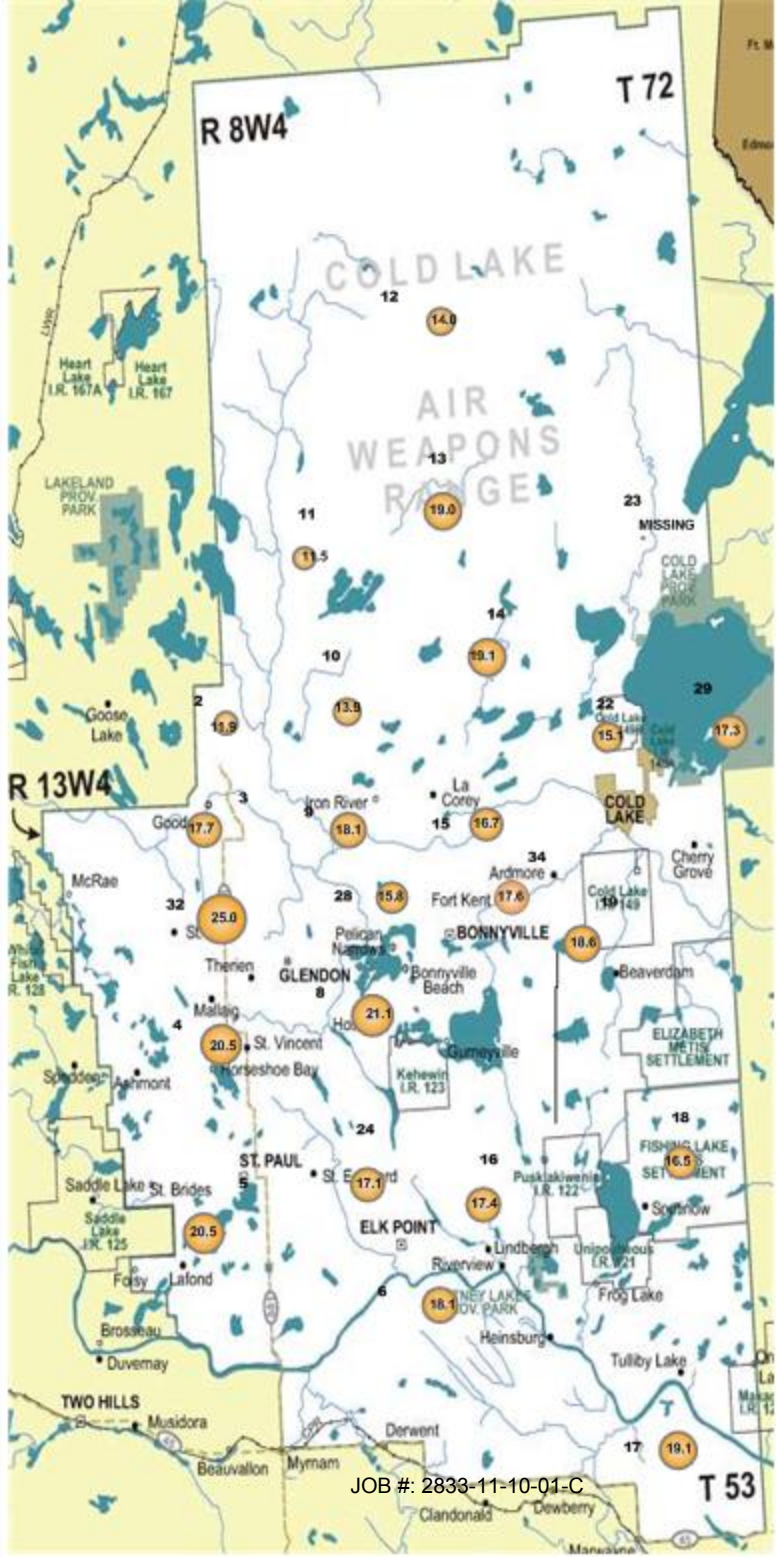
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	11.6 PPB	12.1 PPB
3 – Therien	17.9 PPB	17.5 PPB
4 – Flat Lake	20.5 PPB	NA
5 – Lake Eliza	20.5 PPB	NA
6 – Telegraph Creek	18.1 PPB	NA
8 – Muriel-Kehewin	21.1 PPB	NA
9 – Dupre	18.1 PPB	NA
10 – La Corey	13.9 PPB	NA
11 – Wolf Lake	11.5 PPB	NA
12 – Foster Creek	14.0 PPB	NA
13 – Primrose	19.0 PPB	NA
14 – Maskwa	19.1 PPB	NA
15 – Ardmore	16.7 PPB	NA
16 – Frog Lake	17.4 PPB	NA
17 – Clear Range	19.1 PPB	NA
18 – Fishing Lake	16.5 PPB	NA
19 – Beaverdam	18.6 PPB	NA
22 – Cold Lake South	15.1 PPB	NA
23 – Medley-Martineau	MISSING	NA
24 – Fort George	17.1 PPB	NA
28 – Town of Bonnyville	15.8 PPB	NA
29 – Cold Lake South 2	17.3 PPB	NA
32 – St. Lina	25.0 PPB	NA
34 – Portable	17.6 PPB	NA

O_3 PPB

Summary

Minimum : 11.5 PPB – Wolf Lake
Maximum: 25.0 PPB –St. Lina
Average: 17.5 PPB *Includes Duplicates



JOB #: 2833-11-10-01-C

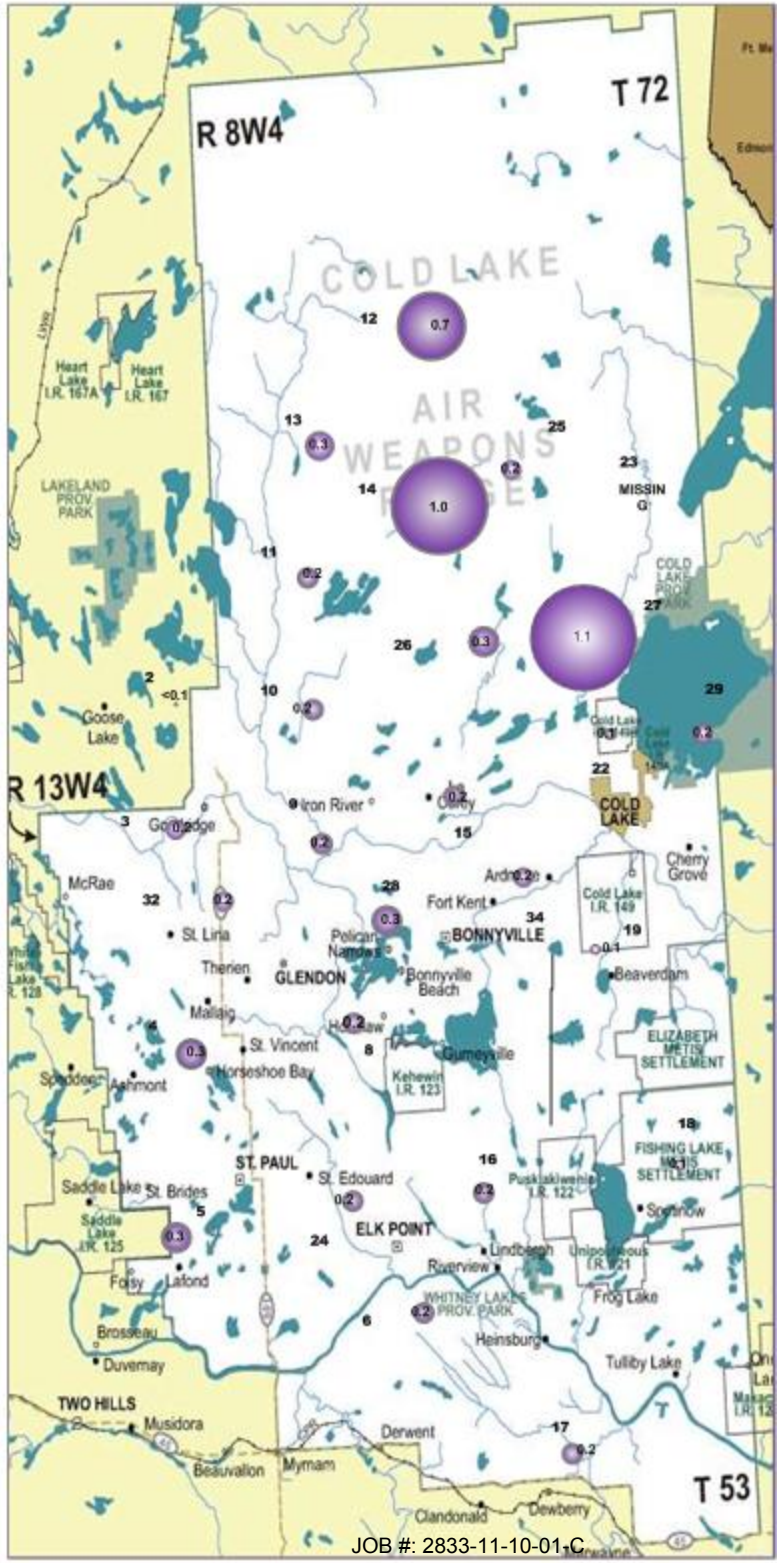
Lakeland Industry & Community Association
SO_2 Passive Bubble Map

OCTOBER 2011

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

Summary

Minimum : <0.1PPB –Sand River
Maximum: 1.1 PPB –Mahkeses
Average: 0.29 PPB *Includes Duplicates



JOB #: 2833-11-10-01-C

Passive Field Data

Field Notes

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
2	$SO_2/NO_2/O_3$	09/29/11	16:33	10/27/11	13:30	
3	$H_2S/SO_2/NO_2/O_3$	09/29/11	15:54	10/27/11	14:11	
4	$SO_2/NO_2/O_3$	29/29/11	13:53	10/28/11	13:55	
5	$H_2S/SO_2/NO_2/O_3$	09/29/11	13:15	10/28/11	13:13	
6	$SO_2/NO_2/O_3$	09/29/11	11:40	10/28/11	11:54	
8	$SO_2/NO_2/O_3$	09/30/11	12:26	10/28/11	15:02	
9	$SO_2/NO_2/O_3$	09/28/11	11:14	10/26/11	12:05	
10	$H_2S/SO_2/NO_2/O_3$	09/30/11	11:36	10/26/11	13:38	
11	$H_2S/SO_2/NO_2/O_3$	09/30/11	10:59	10/26/11	14:20	
12	$H_2S/SO_2/NO_2/O_3$	09/30/11	09:45	10/26/11	15:39	
13	$H_2S/SO_2/NO_2/O_3$	09/28/11	14:30	10/27/11	10:07	
14	$H_2S/SO_2/NO_2/O_3$	09//28/11	15;26	10/27/11	09:02	
15	$SO_2/NO_2/O_3$	09/28/11	13:43	10/26/11	09:56	
16	$H_2S/SO_2/NO_2/O_3$	09/29/11	09:58	10/28/11	10:12	
17	$H_2S/SO_2/NO_2/O_3$	09//29/11	10:50	10/28/11	11:02	
18	$H_2S/SO_2/NO_2/O_3$	09/29/11	9:16	10/28/11	09:35	
19	$SO_2/NO_2/O_3$	09/29/11	8:10	10/28/11	08:27	
22	$H_2S/SO_2/NO_2/O_3$	09/28/11	9:20	10/28/11	17:20	
23	$SO_2/NO_2/O_3$	09/29/11	19:30			All samples are missing.
24	$H_2S/SO_2/NO_2/O_3$	09/29/11	12:18	10/28/11	12:25	
25	H_2S/SO_2	09/30/11	08:34	10/26/11	16:44	
26	H_2S/SO_2	09/28/11	15:05	10/27/11	10:34	
27	H_2S/SO_2	09/28/11	15:45	10/27/11	08:40	
28	$SO_2/NO_2/O_3$	09/28/11	11:35	10/26/11	12:38	
29	$H_2S/SO_2/NO_2/O_3$	09/28/11	09:30	10/28/11	17:27	
32	$H_2S/SO_2/NO_2/O_3$	09/29/11	15:07	10/27/11	15:06	
34	$H_2S/SO_2/NO_2/O_3$	09/28/11	10:44	10/26/11	11:43	

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
Duplicate # 2	SO_2	09/29/11	16:33	10/27/11	13:30	
Duplicate # 3	SO_2	09/29/11	15:54	10/27/11	1411	
Duplicate # 4	SO_2	09/29/11	13:53	10/28/11	13:55	
Duplicate # 3	H_2S	09/29/11	15:54	10/27/11	14:11	
Duplicate # 5	H_2S	09/29/11	13:15	10/28/11	13:13	
Duplicate # 2	NO_2	09/29/11	16:33	10/27/11	13:30	
Duplicate # 3	NO_2	09/29/11	15:54	10/27/11	14:11	
Duplicate # 2	O_3	09/29/11	16:33	10/27/11	13:30	
Duplicate # 3	O_3	09/29/11	15:54	10/27/11	14:11	

Passive Network Laboratory Analysis

Maxxam

Your Project #: 2011/09/29 - 2011/10/27
Site Location: LICA

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

Report Date: 2011/11/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1A5945
Received: 2011/11/02, 09:59

Sample Matrix: Air
Samples Received: 31

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	20	2011/11/04	2011/11/14	EINDSOP-00150	Tang.Passive H2S in
NO2 Passive Analysis (1)	26	2011/11/13	2011/11/14	EINDSOP-00148	Tang Passive NO2 in
O3 Passive Analysis (1)	26	2011/11/07	2011/11/14	EINDSOP-00197	EPA 300 R2.1
SO2 Passive Analysis (1)	30	2011/11/13	2011/11/14	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, Customer Service
Email: LManchak@maxxam.ca
Phone# (780) 378-8500

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

Total cover pages: 1

Maxxam Job #: B1A5945
Report Date: 2011/11/14

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2011/09/29 - 2011/10/27
Site Location: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		BZ9809	BZ9810	BZ9812	BZ9813	BZ9815		
Sampling Date		2011/09/29 16:33	2011/09/29 15:54	2011/09/29 13:53	2011/09/29 13:15	2011/09/29 11:40		
	Units	**2**	**3**	**4**	**5**	**6**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb		0.16		0.17		0.02	5332583
Calculated NO2	ppb	1.0	1.2	1.3	1.1	2.0	0.1	5357937
Calculated O3	ppb	11.6	17.9	20.5	20.5	18.1	0.1	5337981
Calculated SO2	ppb	<0.1	0.1	0.2	0.3	0.2	0.1	5357941

RDL = Reportable Detection Limit

Maxxam ID		BZ9816	BZ9818	BZ9819	BZ9821	BZ9822		
Sampling Date		2011/09/30 12:26	2011/09/28 11:14	2011/09/30 11:36	2011/09/30 10:59	2011/09/30 09:45		
	Units	**8**	**9**	**10**	**11**	**12**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb			0.11	0.11	0.15	0.02	5332583
Calculated NO2	ppb	1.1	1.9	3.3	0.8	0.9	0.1	5357937
Calculated O3	ppb	21.1	18.1	13.9	11.5	14.0	0.1	5337981
Calculated SO2	ppb	0.2	0.2	0.2	0.2	0.7	0.1	5357941

RDL = Reportable Detection Limit

Maxxam ID		BZ9824	BZ9825	BZ9827	BZ9828		
Sampling Date		2011/09/28 14:30	2011/09/28 15:26	2011/09/28 13:43	2011/09/29 09:58		
	Units	**13**	**14**	**15**	**16**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb	0.07	0.15		0.12	0.02	5332583
Calculated NO2	ppb	0.9	1.1	1.4	1.7	0.1	5357937
Calculated O3	ppb	19.0	19.1	16.7	17.4	0.1	5337981
Calculated SO2	ppb	0.3	1.0	0.2	0.2	0.1	5357941

RDL = Reportable Detection Limit

Maxxam

Maxxam Job #: B1A5945
Report Date: 2011/11/14

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2011/09/29 - 2011/10/27
Site Location: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		BZ9830		BZ9832	BZ9834	BZ9835		
Sampling Date		2011/09/29 10:50		2011/09/29 09:16	2011/09/29 08:10	2011/09/28 09:20		
	Units	**17**	**QC Batch**	**18**	**19**	**22**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb	0.22	5332583	0.11		0.11	0.02	5332583
Calculated NO2	ppb	1.7	5357938	1.1	0.8	2.8	0.1	5357938
Calculated O3	ppb	19.1	5337971	16.5	18.6	15.1	0.1	5337971
Calculated SO2	ppb	0.2	5357941	0.1	0.1	0.2	0.1	5357943

RDL = Reportable Detection Limit

Maxxam ID		BZ9836	BZ9838	BZ9840	BZ9842	BZ9844		
Sampling Date		2011/09/30 19:30	2011/09/29 12:18	2011/09/30 08:34	2011/09/28 15:05	2011/09/28 15:45		
	Units	**23**	**24**	**25**	**26**	**27**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb		0.13	0.09	0.12	0.79	0.02	5332583
Calculated NO2	ppb	MISSING	2.5				0.1	5357938
Calculated O3	ppb	MISSING	17.1				0.1	5337971
Calculated SO2	ppb	MISSING	0.2	0.2	0.3	1.1	0.1	5357943

RDL = Reportable Detection Limit

Maxxam ID		BZ9846	BZ9848	BZ9850	BZ9851		
Sampling Date		2011/09/28 11:35	2011/09/28 09:30	2011/09/29 15:07	2011/09/28 10:44		
	Units	**28**	**29**	**32**	**34**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb		0.13	0.22	0.17	0.02	5332583
Calculated NO2	ppb	4.3	1.9	0.7	1.8	0.1	5357938
Calculated O3	ppb	15.8	17.3	25.0	17.6	0.1	5337971
Calculated SO2	ppb	0.3	0.2	0.2	0.2	0.1	5357943

RDL = Reportable Detection Limit

Maxxam Job #: B1A5945
Report Date: 2011/11/14

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2011/09/29 - 2011/10/27
Site Location: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		BZ9899	BZ9900	BZ9901	BZ9902		
Sampling Date		2011/09/29 16:33	2011/09/29 15:54	2011/09/29 13:53	2011/09/29 13:15		
	Units	**2 DUP**	**3 DUP**	**4 DUP**	**5 DUP**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb		0.13		0.19	0.02	5332583
Calculated NO2	ppb	1.0	1.3			0.1	5357938
Calculated O3	ppb	12.1	17.5			0.1	5337981
Calculated SO2	ppb	<0.1	0.2	0.3		0.1	5357943

RDL = Reportable Detection Limit

General Comments

Sample BZ9836 (#23) for O3 parameter was not returned to the lab. - OZ

Results relate only to the items tested.

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Attention: MICHAEL BISAGA
Client Project #: 2011/09/29 - 2011/10/27
P.O. #:
Site Location: LICA

Quality Assurance Report

Maxxam Job Number: PB1A5945

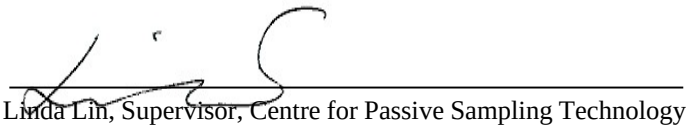
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
5332583	SS6	Calibration Check	Calculated H2S	2011/11/04		100	%	80 - 120
		Spiked Blank	Calculated H2S	2011/11/04		99	%	N/A
5337971	OZ	Calibration Check	Calculated O3	2011/11/07		100	%	91 - 107
		Spiked Blank	Calculated O3	2011/11/07		98	%	N/A
		Method Blank	Calculated O3	2011/11/07	<0.1		ppb	
5337981	OZ	Calibration Check	Calculated O3	2011/11/07		101	%	91 - 107
		Spiked Blank	Calculated O3	2011/11/07		99	%	N/A
		Method Blank	Calculated O3	2011/11/07	<0.1		ppb	
5357937	DF4	Calibration Check	Calculated NO2	2011/11/13		100	%	76 - 118
		Spiked Blank	Calculated NO2	2011/11/13		101	%	N/A
		Method Blank	Calculated NO2	2011/11/13	<0.1		ppb	
5357938	DF4	Calibration Check	Calculated NO2	2011/11/13		97	%	76 - 118
		Spiked Blank	Calculated NO2	2011/11/13		102	%	N/A
		Method Blank	Calculated NO2	2011/11/13	<0.1		ppb	
5357941	DF4	Calibration Check	Calculated SO2	2011/11/13		99	%	95 - 105
		Spiked Blank	Calculated SO2	2011/11/13		96	%	N/A
		Method Blank	Calculated SO2	2011/11/13	<0.1		ppb	
5357943	DF4	Calibration Check	Calculated SO2	2011/11/13		101	%	95 - 105
		Spiked Blank	Calculated SO2	2011/11/13		97	%	N/A
		Method Blank	Calculated SO2	2011/11/13	<0.1		ppb	

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

Validation Signature Page

Maxxam Job #: B1A5945

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



Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Volatile Organics Laboratory Analysis

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: Cold Lake South
Station ID: Lica 1
Field Sample ID: LICA VOC/ CLS /Oct 06,11

Sampler s/n: 6167
Canister ID: 7796
Canister Installation Date/Time: Oct 05, 2011@ 15:02 mst
Canister Removal Date/Time: Oct 07, 2011@ 6:56 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
06-Oct-11	10/06/2011 0:00	10/07/2011 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	650	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	24

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

Comments: System leak check prior to sampling. COC # 05861

Technician Signiture: Ting Xu

JOB #: 2833-11-10-01-C

Success Through Science®

Your C.O.C. #: 05861

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

Report Date: 2011/10/26

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G0651
Received: 2011/10/13, 10:40

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2011/10/21	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2011/10/21	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

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Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1G0651
Report Date: 2011/10/26

RESULTS OF ANALYSES OF AIR

Maxxam ID		LG5124	LG7606	
Sampling Date		2011/10/06	2011/10/06	
COC Number		05861	05861	
	Units	**LICAVOC/CLS/OCT 06,11 - 7796**	**LICAVOC/PORT/OCT 06,11 - 7867**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	22	22	2658740

QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5124				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/CLS/OCT 06,11 - 7796**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2658735
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2658735
Propene	ppbv	<0.30	0.30	<0.516	0.516	2658735
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2658735
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2658735
Dichlorodifluoromethane (FREON 12)	ppbv	0.84	0.20	4.13	0.989	2658735
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2658735
Chloromethane	ppbv	0.53	0.30	1.10	0.620	2658735
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2658735
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2658735
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2658735
Trichlorofluoromethane (FREON 11)	ppbv	0.46	0.20	2.56	1.12	2658735
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2658735
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2658735
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2658735
2-Propanone	ppbv	2.33	0.80	5.53	1.90	2658735
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2658735
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2658735
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2658735
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2658735
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2658735
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2658735
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2658735
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2658735
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2658735
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2658735
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2658735
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2658735
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2658735
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2658735

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Analytics

Maxxam Job #: B1G0651
Report Date: 2011/10/26

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5124				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/CLS/OCT 06,11 - 7796**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2658735
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2658735
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2658735
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2658735
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2658735
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2658735
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2658735
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2658735
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2658735
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2658735
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2658735
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2658735
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2658735
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2658735
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2658735
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2658735
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2658735
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2658735
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2658735
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2658735
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2658735
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2658735
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2658735
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2658735
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2658735
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2658735
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2658735
Surrogate Recovery (%)						
Bromochloromethane	%	70		N/A	N/A	2658735

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

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Maxxam Analytics

Maxxam Job #: B1G0651
Report Date: 2011/10/26

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5124				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/CLS/OCT 06,11 - 7796**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	69		N/A	N/A	2658735
Difluorobenzene	%	72		N/A	N/A	2658735

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG7606				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/PORT/OCT 06,11 - 7867**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2658735
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2658735
Propene	ppbv	<0.30	0.30	<0.516	0.516	2658735
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2658735
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2658735
Dichlorodifluoromethane (FREON 12)	ppbv	0.46	0.20	2.26	0.989	2658735
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2658735
Chloromethane	ppbv	<0.30	0.30	<0.620	0.620	2658735
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2658735
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2658735
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2658735
Trichlorofluoromethane (FREON 11)	ppbv	0.23	0.20	1.32	1.12	2658735
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2658735
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2658735
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2658735
2-Propanone	ppbv	1.26	0.80	2.99	1.90	2658735
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2658735
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2658735
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2658735
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2658735
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2658735
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2658735
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2658735
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2658735
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2658735
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2658735
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2658735
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2658735
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2658735
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2658735

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG7606				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/PORT/OCT 06,11 - 7867**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2658735
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2658735
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2658735
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2658735
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2658735
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2658735
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2658735
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2658735
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2658735
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2658735
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2658735
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2658735
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2658735
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2658735
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2658735
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2658735
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2658735
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2658735
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2658735
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2658735
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2658735
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2658735
Hexane	ppbv	0.36	0.30	1.25	1.06	2658735
Cyclohexane	ppbv	0.38	0.20	1.32	0.688	2658735
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2658735
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2658735
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2658735
Surrogate Recovery (%)						
Bromochloromethane	%	71		N/A	N/A	2658735

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

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Maxxam Analytics

Maxxam Job #: B1G0651
Report Date: 2011/10/26

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG7606				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/PORT/OCT 06,11 - 7867**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	70		N/A	N/A	2658735
Difluorobenzene	%	73		N/A	N/A	2658735

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

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Test Summary

Maxxam ID LG5124 **Collected** 2011/10/06
Sample ID LICAVOC/CLS/OCT 06,11 - 7796 **Shipped**
Matrix AIR **Received** 2011/10/13

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2658740	N/A	2011/10/21	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2658735	N/A	2011/10/21	MELANIE MABINI

Maxxam ID LG7606 **Collected** 2011/10/06
Sample ID LICAVOC/PORT/OCT 06,11 - 7867 **Shipped**
Matrix AIR **Received** 2011/10/13

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2658740	N/A	2011/10/21	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2658735	N/A	2011/10/21	MELANIE MABINI

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Maxxam Analytics

Maxxam Job #: B1G0651
Report Date: 2011/10/26

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G0651

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Spiked Blank	Bromochloromethane	2011/10/21		104	%	60 - 140
			D5-Chlorobenzene	2011/10/21		100	%	60 - 140
			Difluorobenzene	2011/10/21		105	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/21		90	%	70 - 130
			Carbon Disulfide	2011/10/21		97	%	70 - 130
			Propene	2011/10/21		90	%	70 - 130
			Vinyl Acetate	2011/10/21		90	%	70 - 130
			Vinyl Bromide	2011/10/21		98	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/10/21		84	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/10/21		110	%	70 - 130
			Chloromethane	2011/10/21		97	%	70 - 130
			Vinyl Chloride	2011/10/21		100	%	70 - 130
			Chloroethane	2011/10/21		98	%	70 - 130
			1,3-Butadiene	2011/10/21		96	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/10/21		90	%	70 - 130
			Trichlorotrifluoroethane	2011/10/21		95	%	70 - 130
			Ethanol	2011/10/21		70	%	70 - 130
			2-propanol	2011/10/21		90	%	70 - 130
			2-Propanone	2011/10/21		84	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21		96	%	70 - 130
			Methyl Isobutyl Ketone	2011/10/21		86	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21		90	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/10/21		94	%	70 - 130
			Ethyl Acetate	2011/10/21		90	%	70 - 130
			1,1-Dichloroethylene	2011/10/21		99	%	70 - 130
			cis-1,2-Dichloroethylene	2011/10/21		96	%	70 - 130
			trans-1,2-Dichloroethylene	2011/10/21		96	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/10/21		74	%	70 - 130
			Chloroform	2011/10/21		93	%	70 - 130
			Carbon Tetrachloride	2011/10/21		99	%	70 - 130
			1,1-Dichloroethane	2011/10/21		88	%	70 - 130
			1,2-Dichloroethane	2011/10/21		93	%	70 - 130
			Ethylene Dibromide	2011/10/21		100	%	70 - 130
			1,1,1-Trichloroethane	2011/10/21		96	%	70 - 130
			1,1,2-Trichloroethane	2011/10/21		100	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/10/21		94	%	70 - 130
			cis-1,3-Dichloropropene	2011/10/21		101	%	70 - 130
			trans-1,3-Dichloropropene	2011/10/21		104	%	70 - 130
			1,2-Dichloropropane	2011/10/21		93	%	70 - 130
			Bromomethane	2011/10/21		97	%	70 - 130
			Bromoform	2011/10/21		101	%	70 - 130
			Bromodichloromethane	2011/10/21		93	%	70 - 130
			Dibromochloromethane	2011/10/21		99	%	70 - 130
			Heptane	2011/10/21		84	%	70 - 130
			Trichloroethylene	2011/10/21		101	%	70 - 130
			Tetrachloroethylene	2011/10/21		105	%	70 - 130
			Benzene	2011/10/21		96	%	70 - 130
			Toluene	2011/10/21		97	%	70 - 130
			Ethylbenzene	2011/10/21		96	%	70 - 130
			p+m-Xylene	2011/10/21		92	%	70 - 130
			o-Xylene	2011/10/21		91	%	70 - 130
			Styrene	2011/10/21		95	%	70 - 130
			1,3,5-Trimethylbenzene	2011/10/21		91	%	70 - 130
			1,2,4-Trimethylbenzene	2011/10/21		92	%	70 - 130
			4-ethyltoluene	2011/10/21		90	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0651

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Spiked Blank	Chlorobenzene	2011/10/21		98	%	70 - 130
			Benzyl chloride	2011/10/21		96	%	70 - 130
			1,3-Dichlorobenzene	2011/10/21		100	%	70 - 130
			1,4-Dichlorobenzene	2011/10/21		96	%	70 - 130
			1,2-Dichlorobenzene	2011/10/21		95	%	70 - 130
			1,2,4-Trichlorobenzene	2011/10/21		80	%	70 - 130
			Hexachlorobutadiene	2011/10/21		83	%	70 - 130
			Hexane	2011/10/21		84	%	70 - 130
			Cyclohexane	2011/10/21		95	%	70 - 130
			Tetrahydrofuran	2011/10/21		97	%	70 - 130
			1,4-Dioxane	2011/10/21		72	%	70 - 130
		Method Blank	Bromochloromethane	2011/10/21		99	%	60 - 140
			D5-Chlorobenzene	2011/10/21		94	%	60 - 140
			Difluorobenzene	2011/10/21		100	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/21	<0.20		ppbv	
			Carbon Disulfide	2011/10/21	<0.50		ppbv	
			Propene	2011/10/21	<0.30		ppbv	
			Vinyl Acetate	2011/10/21	<0.20		ppbv	
			Vinyl Bromide	2011/10/21	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2011/10/21	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2011/10/21	<0.17		ppbv	
			Chloromethane	2011/10/21	<0.30		ppbv	
			Vinyl Chloride	2011/10/21	<0.18		ppbv	
			Chloroethane	2011/10/21	<0.30		ppbv	
			1,3-Butadiene	2011/10/21	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2011/10/21	<0.20		ppbv	
			Trichlorotrifluoroethane	2011/10/21	<0.15		ppbv	
			Ethanol	2011/10/21	<2.3		ppbv	
			2-propanol	2011/10/21	<3.0		ppbv	
			2-Propanone	2011/10/21	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21	<3.0		ppbv	
			Methyl Isobutyl Ketone	2011/10/21	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2011/10/21	<0.20		ppbv	
			Ethyl Acetate	2011/10/21	<2.2		ppbv	
			1,1-Dichloroethylene	2011/10/21	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2011/10/21	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2011/10/21	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2011/10/21	<0.80		ppbv	
			Chloroform	2011/10/21	<0.15		ppbv	
			Carbon Tetrachloride	2011/10/21	<0.30		ppbv	
			1,1-Dichloroethane	2011/10/21	<0.20		ppbv	
			1,2-Dichloroethane	2011/10/21	<0.20		ppbv	
			Ethylene Dibromide	2011/10/21	<0.17		ppbv	
			1,1,1-Trichloroethane	2011/10/21	<0.30		ppbv	
			1,1,2-Trichloroethane	2011/10/21	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2011/10/21	<0.20		ppbv	
			cis-1,3-Dichloropropene	2011/10/21	<0.18		ppbv	
			trans-1,3-Dichloropropene	2011/10/21	<0.17		ppbv	
			1,2-Dichloropropane	2011/10/21	<0.40		ppbv	
			Bromomethane	2011/10/21	<0.18		ppbv	
			Bromoform	2011/10/21	<0.20		ppbv	
			Bromodichloromethane	2011/10/21	<0.20		ppbv	
			Dibromochloromethane	2011/10/21	<0.20		ppbv	
			Heptane	2011/10/21	<0.30		ppbv	

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Maxxam Analytics
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Client Project #:
P.O. #:
Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0651

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Method Blank	Trichloroethylene	2011/10/21	<0.30		ppbv	
			Tetrachloroethylene	2011/10/21	<0.20		ppbv	
			Benzene	2011/10/21	<0.18		ppbv	
			Toluene	2011/10/21	<0.20		ppbv	
			Ethylbenzene	2011/10/21	<0.20		ppbv	
			p+m-Xylene	2011/10/21	<0.37		ppbv	
			o-Xylene	2011/10/21	<0.20		ppbv	
			Styrene	2011/10/21	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/10/21	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/10/21	<0.50		ppbv	
			4-ethyltoluene	2011/10/21	<2.2		ppbv	
			Chlorobenzene	2011/10/21	<0.20		ppbv	
			Benzyl chloride	2011/10/21	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/10/21	<2.0		ppbv	
			Hexachlorobutadiene	2011/10/21	<3.0		ppbv	
			Hexane	2011/10/21	<0.30		ppbv	
			Cyclohexane	2011/10/21	<0.20		ppbv	
			Tetrahydrofuran	2011/10/21	<0.40		ppbv	
			1,4-Dioxane	2011/10/21	<2.0		ppbv	
			Xylene (Total)	2011/10/21	<0.60		ppbv	
		RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2011/10/21	NC		%	25
			Carbon Disulfide	2011/10/21	NC		%	25
			Propene	2011/10/21	NC		%	25
			Vinyl Acetate	2011/10/21	NC		%	25
			Vinyl Bromide	2011/10/21	NC		%	25
			Dichlorodifluoromethane (FREON 12)	2011/10/21	NC		%	25
			1,2-Dichlorotetrafluoroethane	2011/10/21	NC		%	25
			Chloromethane	2011/10/21	NC		%	25
			Vinyl Chloride	2011/10/21	NC		%	25
			Chloroethane	2011/10/21	NC		%	25
			1,3-Butadiene	2011/10/21	NC		%	25
			Trichlorofluoromethane (FREON 11)	2011/10/21	NC		%	25
			Trichlorotrifluoroethane	2011/10/21	NC		%	25
			Ethanol	2011/10/21	11.0		%	25
			2-propanol	2011/10/21	NC		%	25
			2-Propanone	2011/10/21	11.1		%	25
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21	NC		%	25
			Methyl Isobutyl Ketone	2011/10/21	NC		%	25
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21	NC		%	25
			Methyl t-butyl ether (MTBE)	2011/10/21	NC		%	25
			Ethyl Acetate	2011/10/21	NC		%	25
			1,1-Dichloroethylene	2011/10/21	NC		%	25
			cis-1,2-Dichloroethylene	2011/10/21	NC		%	25
			trans-1,2-Dichloroethylene	2011/10/21	NC		%	25
			Methylene Chloride(Dichloromethane)	2011/10/21	NC		%	25
			Chloroform	2011/10/21	NC		%	25
			Carbon Tetrachloride	2011/10/21	NC		%	25
			1,1-Dichloroethane	2011/10/21	NC		%	25
			1,2-Dichloroethane	2011/10/21	NC		%	25
			Ethylene Dibromide	2011/10/21	NC		%	25

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0651

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2011/10/21	NC		%	25
			1,1,2-Trichloroethane	2011/10/21	NC		%	25
			1,1,2,2-Tetrachloroethane	2011/10/21	NC		%	25
			cis-1,3-Dichloropropene	2011/10/21	NC		%	25
			trans-1,3-Dichloropropene	2011/10/21	NC		%	25
			1,2-Dichloropropane	2011/10/21	NC		%	25
			Bromomethane	2011/10/21	NC		%	25
			Bromoform	2011/10/21	NC		%	25
			Bromodichloromethane	2011/10/21	NC		%	25
			Dibromochloromethane	2011/10/21	NC		%	25
			Heptane	2011/10/21	4.3		%	25
			Trichloroethylene	2011/10/21	NC		%	25
			Tetrachloroethylene	2011/10/21	4.2		%	25
			Benzene	2011/10/21	NC		%	25
			Toluene	2011/10/21	6.4		%	25
			Ethylbenzene	2011/10/21	NC		%	25
			p+m-Xylene	2011/10/21	3.1		%	25
			o-Xylene	2011/10/21	NC		%	25
			Styrene	2011/10/21	NC		%	25
			1,3,5-Trimethylbenzene	2011/10/21	NC		%	25
			1,2,4-Trimethylbenzene	2011/10/21	NC		%	25
			4-ethyltoluene	2011/10/21	NC		%	25
			Chlorobenzene	2011/10/21	NC		%	25
			Benzyl chloride	2011/10/21	NC		%	25
			1,3-Dichlorobenzene	2011/10/21	NC		%	25
			1,4-Dichlorobenzene	2011/10/21	NC		%	25
			1,2-Dichlorobenzene	2011/10/21	NC		%	25
			1,2,4-Trichlorobenzene	2011/10/21	NC		%	25
			Hexachlorobutadiene	2011/10/21	NC		%	25
			Hexane	2011/10/21	8.7		%	25
			Cyclohexane	2011/10/21	4.8		%	25
			Tetrahydrofuran	2011/10/21	NC		%	25
			1,4-Dioxane	2011/10/21	NC		%	25
			Xylene (Total)	2011/10/21	2.7		%	25

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

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MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: Cold Lake South
Station ID: Lica 1
Field Sample ID: LICA VOC/ CLS /Oct 12,11

Sampler s/n: 6167
Canister ID: 7866
Canister Installation Date/Time: Oct 11, 2011@ 07:37 mst
Canister Removal Date/Time: Oct 13, 2011@ 10:15 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
12-Oct-11	10/12/2011 0:00	10/13/2011 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	648	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	24

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

Comments: System leak check prior to sampling. COC # 08114

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 08114

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

Report Date: 2011/10/26

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G0791
Received: 2011/10/15, 10:25

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2011/10/21	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2011/10/21	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1G0791
Report Date: 2011/10/26

RESULTS OF ANALYSES OF AIR

Maxxam ID		LG5889	LG5890	
Sampling Date		2011/10/12	2011/10/12	
COC Number		08114	08114	
	Units	**LICAVOC/CLS/OCT 12,11 - 7866**	**LICAVOC/PORT/OCT 12,11 - 7816**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	22	22	2658740

QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5889				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/CLS/OCT 12,11 - 7866**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2658735
Carbon Disulfide	ppbv	1.55	0.50	4.82	1.56	2658735
Propene	ppbv	<0.30	0.30	<0.516	0.516	2658735
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2658735
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2658735
Dichlorodifluoromethane (FREON 12)	ppbv	1.01	0.20	4.98	0.989	2658735
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2658735
Chloromethane	ppbv	0.58	0.30	1.19	0.620	2658735
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2658735
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2658735
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2658735
Trichlorofluoromethane (FREON 11)	ppbv	0.49	0.20	2.73	1.12	2658735
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2658735
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2658735
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2658735
2-Propanone	ppbv	2.81	0.80	6.68	1.90	2658735
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2658735
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2658735
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2658735
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2658735
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2658735
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2658735
cis-1,2-Dichloroethylene	ppbv	0.20	0.19	0.802	0.753	2658735
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2658735
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2658735
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2658735
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2658735
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2658735
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2658735
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2658735

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G0791
Report Date: 2011/10/26

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5889				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/CLS/OCT 12,11 - 7866**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2658735
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2658735
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2658735
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2658735
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2658735
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2658735
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2658735
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2658735
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2658735
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2658735
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2658735
Benzene	ppbv	0.25	0.18	0.788	0.575	2658735
Toluene	ppbv	0.77	0.20	2.91	0.753	2658735
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2658735
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2658735
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2658735
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2658735
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2658735
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2658735
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2658735
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2658735
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2658735
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2658735
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2658735
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2658735
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2658735
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2658735
Surrogate Recovery (%)						
Bromochloromethane	%	70		N/A	N/A	2658735

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

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Maxxam Analytics

Maxxam Job #: B1G0791
Report Date: 2011/10/26

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5889				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/CLS/OCT 12,11 - 7866**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	68		N/A	N/A	2658735
Difluorobenzene	%	71		N/A	N/A	2658735

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5890				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/PORT/OCT 12,11 - 7816**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2658735
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2658735
Propene	ppbv	<0.30	0.30	<0.516	0.516	2658735
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2658735
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2658735
Dichlorodifluoromethane (FREON 12)	ppbv	0.82	0.20	4.06	0.989	2658735
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2658735
Chloromethane	ppbv	0.49	0.30	1.01	0.620	2658735
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2658735
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2658735
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2658735
Trichlorofluoromethane (FREON 11)	ppbv	0.45	0.20	2.53	1.12	2658735
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2658735
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2658735
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2658735
2-Propanone	ppbv	2.31	0.80	5.50	1.90	2658735
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2658735
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2658735
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2658735
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2658735
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2658735
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2658735
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2658735
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2658735
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2658735
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2658735
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2658735
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2658735
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2658735
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2658735

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5890				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/PORT/OCT 12,11 - 7816**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2658735
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2658735
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2658735
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2658735
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2658735
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2658735
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2658735
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2658735
Heptane	ppbv	0.64	0.30	2.64	1.23	2658735
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2658735
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2658735
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2658735
Toluene	ppbv	0.27	0.20	1.02	0.753	2658735
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2658735
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2658735
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2658735
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2658735
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2658735
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2658735
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2658735
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2658735
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2658735
Hexane	ppbv	1.52	0.30	5.37	1.06	2658735
Cyclohexane	ppbv	1.75	0.20	6.02	0.688	2658735
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2658735
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2658735
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2658735
Surrogate Recovery (%)						
Bromochloromethane	%	68		N/A	N/A	2658735

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

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Maxxam Analytics

Maxxam Job #: B1G0791
Report Date: 2011/10/26

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5890				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/PORT/OCT 12,11 - 7816**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	67		N/A	N/A	2658735
Difluorobenzene	%	70		N/A	N/A	2658735

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

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Maxxam Analytics

Maxxam Job #: B1G0791
Report Date: 2011/10/26

Test Summary

Maxxam ID LG5889 **Collected** 2011/10/12
Sample ID LICAVOC/CLS/OCT 12,11 - 7866 **Shipped**
Matrix AIR **Received** 2011/10/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2658740	N/A	2011/10/21	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2658735	N/A	2011/10/21	MELANIE MABINI

Maxxam ID LG5890 **Collected** 2011/10/12
Sample ID LICAVOC/PORT/OCT 12,11 - 7816 **Shipped**
Matrix AIR **Received** 2011/10/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2658740	N/A	2011/10/21	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2658735	N/A	2011/10/21	MELANIE MABINI

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Maxxam Analytics

Maxxam Job #: B1G0791
Report Date: 2011/10/26

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G0791

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Spiked Blank	Bromochloromethane	2011/10/21		104	%	60 - 140
			D5-Chlorobenzene	2011/10/21		100	%	60 - 140
			Difluorobenzene	2011/10/21		105	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/21		90	%	70 - 130
			Carbon Disulfide	2011/10/21		97	%	70 - 130
			Propene	2011/10/21		90	%	70 - 130
			Vinyl Acetate	2011/10/21		90	%	70 - 130
			Vinyl Bromide	2011/10/21		98	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/10/21		84	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/10/21		110	%	70 - 130
			Chloromethane	2011/10/21		97	%	70 - 130
			Vinyl Chloride	2011/10/21		100	%	70 - 130
			Chloroethane	2011/10/21		98	%	70 - 130
			1,3-Butadiene	2011/10/21		96	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/10/21		90	%	70 - 130
			Trichlorotrifluoroethane	2011/10/21		95	%	70 - 130
			Ethanol	2011/10/21		70	%	70 - 130
			2-propanol	2011/10/21		90	%	70 - 130
			2-Propanone	2011/10/21		84	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21		96	%	70 - 130
			Methyl Isobutyl Ketone	2011/10/21		86	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21		90	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/10/21		94	%	70 - 130
			Ethyl Acetate	2011/10/21		90	%	70 - 130
			1,1-Dichloroethylene	2011/10/21		99	%	70 - 130
			cis-1,2-Dichloroethylene	2011/10/21		96	%	70 - 130
			trans-1,2-Dichloroethylene	2011/10/21		96	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/10/21		74	%	70 - 130
			Chloroform	2011/10/21		93	%	70 - 130
			Carbon Tetrachloride	2011/10/21		99	%	70 - 130
			1,1-Dichloroethane	2011/10/21		88	%	70 - 130
			1,2-Dichloroethane	2011/10/21		93	%	70 - 130
			Ethylene Dibromide	2011/10/21		100	%	70 - 130
			1,1,1-Trichloroethane	2011/10/21		96	%	70 - 130
			1,1,2-Trichloroethane	2011/10/21		100	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/10/21		94	%	70 - 130
			cis-1,3-Dichloropropene	2011/10/21		101	%	70 - 130
			trans-1,3-Dichloropropene	2011/10/21		104	%	70 - 130
			1,2-Dichloropropane	2011/10/21		93	%	70 - 130
			Bromomethane	2011/10/21		97	%	70 - 130
			Bromoform	2011/10/21		101	%	70 - 130
			Bromodichloromethane	2011/10/21		93	%	70 - 130
			Dibromochloromethane	2011/10/21		99	%	70 - 130
			Heptane	2011/10/21		84	%	70 - 130
			Trichloroethylene	2011/10/21		101	%	70 - 130
			Tetrachloroethylene	2011/10/21		105	%	70 - 130
			Benzene	2011/10/21		96	%	70 - 130
			Toluene	2011/10/21		97	%	70 - 130
			Ethylbenzene	2011/10/21		96	%	70 - 130
			p+m-Xylene	2011/10/21		92	%	70 - 130
			o-Xylene	2011/10/21		91	%	70 - 130
			Styrene	2011/10/21		95	%	70 - 130
			1,3,5-Trimethylbenzene	2011/10/21		91	%	70 - 130
			1,2,4-Trimethylbenzene	2011/10/21		92	%	70 - 130
			4-ethyltoluene	2011/10/21		90	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0791

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Spiked Blank	Chlorobenzene	2011/10/21		98	%	70 - 130
			Benzyl chloride	2011/10/21		96	%	70 - 130
			1,3-Dichlorobenzene	2011/10/21		100	%	70 - 130
			1,4-Dichlorobenzene	2011/10/21		96	%	70 - 130
			1,2-Dichlorobenzene	2011/10/21		95	%	70 - 130
			1,2,4-Trichlorobenzene	2011/10/21		80	%	70 - 130
			Hexachlorobutadiene	2011/10/21		83	%	70 - 130
			Hexane	2011/10/21		84	%	70 - 130
			Cyclohexane	2011/10/21		95	%	70 - 130
			Tetrahydrofuran	2011/10/21		97	%	70 - 130
			1,4-Dioxane	2011/10/21		72	%	70 - 130
		Method Blank	Bromochloromethane	2011/10/21		99	%	60 - 140
			D5-Chlorobenzene	2011/10/21		94	%	60 - 140
			Difluorobenzene	2011/10/21		100	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/21	<0.20		ppbv	
			Carbon Disulfide	2011/10/21	<0.50		ppbv	
			Propene	2011/10/21	<0.30		ppbv	
			Vinyl Acetate	2011/10/21	<0.20		ppbv	
			Vinyl Bromide	2011/10/21	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2011/10/21	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2011/10/21	<0.17		ppbv	
			Chloromethane	2011/10/21	<0.30		ppbv	
			Vinyl Chloride	2011/10/21	<0.18		ppbv	
			Chloroethane	2011/10/21	<0.30		ppbv	
			1,3-Butadiene	2011/10/21	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2011/10/21	<0.20		ppbv	
			Trichlorotrifluoroethane	2011/10/21	<0.15		ppbv	
			Ethanol	2011/10/21	<2.3		ppbv	
			2-propanol	2011/10/21	<3.0		ppbv	
			2-Propanone	2011/10/21	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21	<3.0		ppbv	
			Methyl Isobutyl Ketone	2011/10/21	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2011/10/21	<0.20		ppbv	
			Ethyl Acetate	2011/10/21	<2.2		ppbv	
			1,1-Dichloroethylene	2011/10/21	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2011/10/21	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2011/10/21	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2011/10/21	<0.80		ppbv	
			Chloroform	2011/10/21	<0.15		ppbv	
			Carbon Tetrachloride	2011/10/21	<0.30		ppbv	
			1,1-Dichloroethane	2011/10/21	<0.20		ppbv	
			1,2-Dichloroethane	2011/10/21	<0.20		ppbv	
			Ethylene Dibromide	2011/10/21	<0.17		ppbv	
			1,1,1-Trichloroethane	2011/10/21	<0.30		ppbv	
			1,1,2-Trichloroethane	2011/10/21	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2011/10/21	<0.20		ppbv	
			cis-1,3-Dichloropropene	2011/10/21	<0.18		ppbv	
			trans-1,3-Dichloropropene	2011/10/21	<0.17		ppbv	
			1,2-Dichloropropane	2011/10/21	<0.40		ppbv	
			Bromomethane	2011/10/21	<0.18		ppbv	
			Bromoform	2011/10/21	<0.20		ppbv	
			Bromodichloromethane	2011/10/21	<0.20		ppbv	
			Dibromochloromethane	2011/10/21	<0.20		ppbv	
			Heptane	2011/10/21	<0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0791

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Method Blank	Trichloroethylene	2011/10/21	<0.30		ppbv	
			Tetrachloroethylene	2011/10/21	<0.20		ppbv	
			Benzene	2011/10/21	<0.18		ppbv	
			Toluene	2011/10/21	<0.20		ppbv	
			Ethylbenzene	2011/10/21	<0.20		ppbv	
			p+m-Xylene	2011/10/21	<0.37		ppbv	
			o-Xylene	2011/10/21	<0.20		ppbv	
			Styrene	2011/10/21	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/10/21	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/10/21	<0.50		ppbv	
			4-ethyltoluene	2011/10/21	<2.2		ppbv	
			Chlorobenzene	2011/10/21	<0.20		ppbv	
			Benzyl chloride	2011/10/21	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/10/21	<2.0		ppbv	
			Hexachlorobutadiene	2011/10/21	<3.0		ppbv	
			Hexane	2011/10/21	<0.30		ppbv	
			Cyclohexane	2011/10/21	<0.20		ppbv	
			Tetrahydrofuran	2011/10/21	<0.40		ppbv	
			1,4-Dioxane	2011/10/21	<2.0		ppbv	
			Xylene (Total)	2011/10/21	<0.60		ppbv	
		RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2011/10/21	NC		%	25
			Carbon Disulfide	2011/10/21	NC		%	25
			Propene	2011/10/21	NC		%	25
			Vinyl Acetate	2011/10/21	NC		%	25
			Vinyl Bromide	2011/10/21	NC		%	25
			Dichlorodifluoromethane (FREON 12)	2011/10/21	NC		%	25
			1,2-Dichlorotetrafluoroethane	2011/10/21	NC		%	25
			Chloromethane	2011/10/21	NC		%	25
			Vinyl Chloride	2011/10/21	NC		%	25
			Chloroethane	2011/10/21	NC		%	25
			1,3-Butadiene	2011/10/21	NC		%	25
			Trichlorofluoromethane (FREON 11)	2011/10/21	NC		%	25
			Trichlorotrifluoroethane	2011/10/21	NC		%	25
			Ethanol	2011/10/21	11.0		%	25
			2-propanol	2011/10/21	NC		%	25
			2-Propanone	2011/10/21	11.1		%	25
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21	NC		%	25
			Methyl Isobutyl Ketone	2011/10/21	NC		%	25
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21	NC		%	25
			Methyl t-butyl ether (MTBE)	2011/10/21	NC		%	25
			Ethyl Acetate	2011/10/21	NC		%	25
			1,1-Dichloroethylene	2011/10/21	NC		%	25
			cis-1,2-Dichloroethylene	2011/10/21	NC		%	25
			trans-1,2-Dichloroethylene	2011/10/21	NC		%	25
			Methylene Chloride(Dichloromethane)	2011/10/21	NC		%	25
			Chloroform	2011/10/21	NC		%	25
			Carbon Tetrachloride	2011/10/21	NC		%	25
			1,1-Dichloroethane	2011/10/21	NC		%	25
			1,2-Dichloroethane	2011/10/21	NC		%	25
			Ethylene Dibromide	2011/10/21	NC		%	25

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0791

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2011/10/21	NC		%	25
			1,1,2-Trichloroethane	2011/10/21	NC		%	25
			1,1,2,2-Tetrachloroethane	2011/10/21	NC		%	25
			cis-1,3-Dichloropropene	2011/10/21	NC		%	25
			trans-1,3-Dichloropropene	2011/10/21	NC		%	25
			1,2-Dichloropropane	2011/10/21	NC		%	25
			Bromomethane	2011/10/21	NC		%	25
			Bromoform	2011/10/21	NC		%	25
			Bromodichloromethane	2011/10/21	NC		%	25
			Dibromochloromethane	2011/10/21	NC		%	25
			Heptane	2011/10/21	4.3		%	25
			Trichloroethylene	2011/10/21	NC		%	25
			Tetrachloroethylene	2011/10/21	4.2		%	25
			Benzene	2011/10/21	NC		%	25
			Toluene	2011/10/21	6.4		%	25
			Ethylbenzene	2011/10/21	NC		%	25
			p+m-Xylene	2011/10/21	3.1		%	25
			o-Xylene	2011/10/21	NC		%	25
			Styrene	2011/10/21	NC		%	25
			1,3,5-Trimethylbenzene	2011/10/21	NC		%	25
			1,2,4-Trimethylbenzene	2011/10/21	NC		%	25
			4-ethyltoluene	2011/10/21	NC		%	25
			Chlorobenzene	2011/10/21	NC		%	25
			Benzyl chloride	2011/10/21	NC		%	25
			1,3-Dichlorobenzene	2011/10/21	NC		%	25
			1,4-Dichlorobenzene	2011/10/21	NC		%	25
			1,2-Dichlorobenzene	2011/10/21	NC		%	25
			1,2,4-Trichlorobenzene	2011/10/21	NC		%	25
			Hexachlorobutadiene	2011/10/21	NC		%	25
			Hexane	2011/10/21	8.7		%	25
			Cyclohexane	2011/10/21	4.8		%	25
			Tetrahydrofuran	2011/10/21	NC		%	25
			1,4-Dioxane	2011/10/21	NC		%	25
			Xylene (Total)	2011/10/21	2.7		%	25

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

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MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: Cold Lake South
Station ID: Lica 1
Field Sample ID: LICA VOC/ CLS /Oct 18,11

Sampler s/n: 6167
Canister ID: 7857
Canister Installation Date/Time: Oct 17, 2011@ 10:24 mst
Canister Removal Date/Time: Oct 19, 2011@ 10:12 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
18-Oct-11	10/18/2011 0:00	10/19/2011 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	648	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	24

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

Comments: System leak check prior to sampling. COC # 07928

Technician Signiture: Ting Xu

JOB #: 2833-11-10-01-C

Success Through Science®

Your C.O.C. #: 07928

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

Report Date: 2011/10/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G4503
Received: 2011/10/21, 11:47

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2011/10/25	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2011/10/25	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1G4503
Report Date: 2011/10/27

RESULTS OF ANALYSES OF AIR

Maxxam ID		LI3296	LI3297	
Sampling Date		2011/10/18	2011/10/18	
COC Number		07928	07928	
	Units	**LICAVOC/CLS/OCT18,11-7857**	**LICAVOC/PORT/OCT18,11-7834**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	22	22	2660298

QC Batch = Quality Control Batch

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Maxxam Job #: B1G4503
Report Date: 2011/10/27

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3296				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/CLS/OCT18,11-7857**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2660297
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2660297
Propene	ppbv	2.06	0.30	3.54	0.516	2660297
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2660297
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2660297
Dichlorodifluoromethane (FREON 12)	ppbv	0.93	0.20	4.58	0.989	2660297
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2660297
Chloromethane	ppbv	0.58	0.30	1.21	0.620	2660297
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2660297
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2660297
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2660297
Trichlorofluoromethane (FREON 11)	ppbv	0.49	0.20	2.74	1.12	2660297
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2660297
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2660297
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2660297
2-Propanone	ppbv	2.81	0.80	6.68	1.90	2660297
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2660297
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2660297
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2660297
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2660297
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2660297
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2660297
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2660297
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2660297
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2660297
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2660297
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2660297
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2660297
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2660297
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2660297
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2660297
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2660297

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3296				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/CLS/OCT18,11-7857**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2660297
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2660297
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2660297
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2660297
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2660297
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2660297
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2660297
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2660297
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2660297
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2660297
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2660297
Benzene	ppbv	0.29	0.18	0.920	0.575	2660297
Toluene	ppbv	0.40	0.20	1.49	0.753	2660297
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2660297
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2660297
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2660297
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2660297
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2660297
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2660297
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2660297
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2660297
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2660297
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2660297
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2660297
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2660297
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2660297
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2660297
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2660297
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2660297
Surrogate Recovery (%)						
Bromochloromethane	%	73		N/A	N/A	2660297

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

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Maxxam Analytics

Maxxam Job #: B1G4503
Report Date: 2011/10/27

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3296				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/CLS/OCT18,11-7857**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	73		N/A	N/A	2660297
Difluorobenzene	%	75		N/A	N/A	2660297

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3297				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/PORT/OCT18,11-7834**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2660297
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2660297
Propene	ppbv	<0.30	0.30	<0.516	0.516	2660297
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2660297
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2660297
Dichlorodifluoromethane (FREON 12)	ppbv	0.92	0.20	4.55	0.989	2660297
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2660297
Chloromethane	ppbv	0.57	0.30	1.17	0.620	2660297
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2660297
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2660297
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2660297
Trichlorofluoromethane (FREON 11)	ppbv	0.50	0.20	2.79	1.12	2660297
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2660297
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2660297
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2660297
2-Propanone	ppbv	2.74	0.80	6.51	1.90	2660297
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2660297
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2660297
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2660297
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2660297
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2660297
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2660297
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2660297
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2660297
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2660297
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2660297
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2660297
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2660297
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2660297
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2660297
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2660297
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2660297

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3297				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/PORT/OCT18,11-7834**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2660297
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2660297
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2660297
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2660297
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2660297
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2660297
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2660297
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2660297
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2660297
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2660297
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2660297
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2660297
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2660297
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2660297
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2660297
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2660297
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2660297
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2660297
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2660297
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2660297
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2660297
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2660297
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2660297
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2660297
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2660297
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2660297
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2660297
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2660297
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2660297
Surrogate Recovery (%)						
Bromochloromethane	%	69		N/A	N/A	2660297

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

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Maxxam Analytics

Maxxam Job #: B1G4503
Report Date: 2011/10/27

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3297				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/PORT/OCT18,11-7834**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	70		N/A	N/A	2660297
Difluorobenzene	%	71		N/A	N/A	2660297

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

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Maxxam Analytics

Maxxam Job #: B1G4503
Report Date: 2011/10/27

Test Summary

Maxxam ID LI3296 **Collected** 2011/10/18
Sample ID LICAVOC/CLS/OCT18,11- 7857 **Shipped**
Matrix AIR **Received** 2011/10/21

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2660298	N/A	2011/10/25	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2660297	N/A	2011/10/25	MELANIE MABINI

Maxxam ID LI3297 **Collected** 2011/10/18
Sample ID LICAVOC/PORT/OCT18,11- 7834 **Shipped**
Matrix AIR **Received** 2011/10/21

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2660298	N/A	2011/10/25	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2660297	N/A	2011/10/25	MELANIE MABINI

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Maxxam Analytics

Maxxam Job #: B1G4503
Report Date: 2011/10/27

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G4503

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2660297	MM2	Spiked Blank	Bromochloromethane	2011/10/25		111	%	60 - 140
			D5-Chlorobenzene	2011/10/25		113	%	60 - 140
			Difluorobenzene	2011/10/25		114	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/25		101	%	70 - 130
			Carbon Disulfide	2011/10/25		121	%	70 - 130
			Propene	2011/10/25		99	%	70 - 130
			Vinyl Acetate	2011/10/25		105	%	70 - 130
			Vinyl Bromide	2011/10/25		109	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/10/25		124	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/10/25		123	%	70 - 130
			Chloromethane	2011/10/25		109	%	70 - 130
			Vinyl Chloride	2011/10/25		110	%	70 - 130
			Chloroethane	2011/10/25		109	%	70 - 130
			1,3-Butadiene	2011/10/25		110	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/10/25		105	%	70 - 130
			Trichlorotrifluoroethane	2011/10/25		108	%	70 - 130
			Ethanol	2011/10/25		74	%	70 - 130
			2-propanol	2011/10/25		99	%	70 - 130
			2-Propanone	2011/10/25		97	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/10/25		110	%	70 - 130
			Methyl Isobutyl Ketone	2011/10/25		98	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/10/25		102	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/10/25		106	%	70 - 130
			Ethyl Acetate	2011/10/25		102	%	70 - 130
			1,1-Dichloroethylene	2011/10/25		109	%	70 - 130
			cis-1,2-Dichloroethylene	2011/10/25		107	%	70 - 130
			trans-1,2-Dichloroethylene	2011/10/25		105	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/10/25		130	%	70 - 130
			Chloroform	2011/10/25		104	%	70 - 130
			Carbon Tetrachloride	2011/10/25		107	%	70 - 130
			1,1-Dichloroethane	2011/10/25		100	%	70 - 130
			1,2-Dichloroethane	2011/10/25		107	%	70 - 130
			Ethylene Dibromide	2011/10/25		108	%	70 - 130
			1,1,1-Trichloroethane	2011/10/25		106	%	70 - 130
			1,1,2-Trichloroethane	2011/10/25		107	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/10/25		105	%	70 - 130
			cis-1,3-Dichloropropene	2011/10/25		108	%	70 - 130
			trans-1,3-Dichloropropene	2011/10/25		113	%	70 - 130
			1,2-Dichloropropane	2011/10/25		101	%	70 - 130
			Bromomethane	2011/10/25		107	%	70 - 130
			Bromoform	2011/10/25		112	%	70 - 130
			Bromodichloromethane	2011/10/25		104	%	70 - 130
			Dibromochloromethane	2011/10/25		108	%	70 - 130
			Heptane	2011/10/25		94	%	70 - 130
			Trichloroethylene	2011/10/25		103	%	70 - 130
			Tetrachloroethylene	2011/10/25		107	%	70 - 130
			Benzene	2011/10/25		104	%	70 - 130
			Toluene	2011/10/25		105	%	70 - 130
			Ethylbenzene	2011/10/25		105	%	70 - 130
			p+m-Xylene	2011/10/25		101	%	70 - 130
			o-Xylene	2011/10/25		102	%	70 - 130
			Styrene	2011/10/25		103	%	70 - 130
			1,3,5-Trimethylbenzene	2011/10/25		105	%	70 - 130
			1,2,4-Trimethylbenzene	2011/10/25		108	%	70 - 130
			4-ethyltoluene	2011/10/25		103	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G4503

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2660297	MM2	Spiked Blank	Chlorobenzene	2011/10/25		103	%	70 - 130
			Benzyl chloride	2011/10/25		118	%	70 - 130
			1,3-Dichlorobenzene	2011/10/25		113	%	70 - 130
			1,4-Dichlorobenzene	2011/10/25		109	%	70 - 130
			1,2-Dichlorobenzene	2011/10/25		112	%	70 - 130
			1,2,4-Trichlorobenzene	2011/10/25		96	%	70 - 130
			Hexachlorobutadiene	2011/10/25		102	%	70 - 130
			Hexane	2011/10/25		94	%	70 - 130
			Cyclohexane	2011/10/25		98	%	70 - 130
			Tetrahydrofuran	2011/10/25		104	%	70 - 130
			1,4-Dioxane	2011/10/25		73	%	70 - 130
		Method Blank	Bromochloromethane	2011/10/25		94	%	60 - 140
			D5-Chlorobenzene	2011/10/25		90	%	60 - 140
			Difluorobenzene	2011/10/25		95	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/25	<0.20		ppbv	
			Carbon Disulfide	2011/10/25	<0.50		ppbv	
			Propene	2011/10/25	<0.30		ppbv	
			Vinyl Acetate	2011/10/25	<0.20		ppbv	
			Vinyl Bromide	2011/10/25	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2011/10/25	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2011/10/25	<0.17		ppbv	
			Chloromethane	2011/10/25	<0.30		ppbv	
			Vinyl Chloride	2011/10/25	<0.18		ppbv	
			Chloroethane	2011/10/25	<0.30		ppbv	
			1,3-Butadiene	2011/10/25	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2011/10/25	<0.20		ppbv	
			Trichlorotrifluoroethane	2011/10/25	<0.15		ppbv	
			Ethanol	2011/10/25	<2.3		ppbv	
			2-propanol	2011/10/25	<3.0		ppbv	
			2-Propanone	2011/10/25	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2011/10/25	<3.0		ppbv	
			Methyl Isobutyl Ketone	2011/10/25	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2011/10/25	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2011/10/25	<0.20		ppbv	
			Ethyl Acetate	2011/10/25	<2.2		ppbv	
			1,1-Dichloroethylene	2011/10/25	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2011/10/25	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2011/10/25	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2011/10/25	<0.80		ppbv	
			Chloroform	2011/10/25	<0.15		ppbv	
			Carbon Tetrachloride	2011/10/25	<0.30		ppbv	
			1,1-Dichloroethane	2011/10/25	<0.20		ppbv	
			1,2-Dichloroethane	2011/10/25	<0.20		ppbv	
			Ethylene Dibromide	2011/10/25	<0.17		ppbv	
			1,1,1-Trichloroethane	2011/10/25	<0.30		ppbv	
			1,1,2-Trichloroethane	2011/10/25	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2011/10/25	<0.20		ppbv	
			cis-1,3-Dichloropropene	2011/10/25	<0.18		ppbv	
			trans-1,3-Dichloropropene	2011/10/25	<0.17		ppbv	
			1,2-Dichloropropane	2011/10/25	<0.40		ppbv	
			Bromomethane	2011/10/25	<0.18		ppbv	
			Bromoform	2011/10/25	<0.20		ppbv	
			Bromodichloromethane	2011/10/25	<0.20		ppbv	
			Dibromochloromethane	2011/10/25	<0.20		ppbv	
			Heptane	2011/10/25	<0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G4503

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2660297	MM2	Method Blank	Trichloroethylene	2011/10/25	<0.30		ppbv	
			Tetrachloroethylene	2011/10/25	<0.20		ppbv	
			Benzene	2011/10/25	<0.18		ppbv	
			Toluene	2011/10/25	<0.20		ppbv	
			Ethylbenzene	2011/10/25	<0.20		ppbv	
			p+m-Xylene	2011/10/25	<0.37		ppbv	
			o-Xylene	2011/10/25	<0.20		ppbv	
			Styrene	2011/10/25	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/10/25	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/10/25	<0.50		ppbv	
			4-ethyltoluene	2011/10/25	<2.2		ppbv	
			Chlorobenzene	2011/10/25	<0.20		ppbv	
			Benzyl chloride	2011/10/25	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/10/25	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/10/25	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/10/25	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/10/25	<2.0		ppbv	
			Hexachlorobutadiene	2011/10/25	<3.0		ppbv	
			Hexane	2011/10/25	<0.30		ppbv	
			Cyclohexane	2011/10/25	<0.20		ppbv	
			Tetrahydrofuran	2011/10/25	<0.40		ppbv	
			1,4-Dioxane	2011/10/25	<2.0		ppbv	
			Xylene (Total)	2011/10/25	<0.60		ppbv	
		RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2011/10/25	NC		%	25
			Carbon Disulfide	2011/10/25	NC		%	25
			Propene	2011/10/25	7.4		%	25
			Vinyl Acetate	2011/10/25	NC		%	25
			Vinyl Bromide	2011/10/25	NC		%	25
			Dichlorodifluoromethane (FREON 12)	2011/10/25	NC		%	25
			1,2-Dichlorotetrafluoroethane	2011/10/25	NC		%	25
			Chloromethane	2011/10/25	NC		%	25
			Vinyl Chloride	2011/10/25	NC		%	25
			Chloroethane	2011/10/25	NC		%	25
			1,3-Butadiene	2011/10/25	NC		%	25
			Trichlorofluoromethane (FREON 11)	2011/10/25	NC		%	25
			Trichlorotrifluoroethane	2011/10/25	NC		%	25
			Ethanol	2011/10/25	8.1		%	25
			2-propanol	2011/10/25	NC		%	25
			2-Propanone	2011/10/25	NC		%	25
			Methyl Ethyl Ketone (2-Butanone)	2011/10/25	NC		%	25
			Methyl Isobutyl Ketone	2011/10/25	NC		%	25
			Methyl Butyl Ketone (2-Hexanone)	2011/10/25	NC		%	25
			Methyl t-butyl ether (MTBE)	2011/10/25	NC		%	25
			Ethyl Acetate	2011/10/25	NC		%	25
			1,1-Dichloroethylene	2011/10/25	NC		%	25
			cis-1,2-Dichloroethylene	2011/10/25	NC		%	25
			trans-1,2-Dichloroethylene	2011/10/25	NC		%	25
			Methylene Chloride(Dichloromethane)	2011/10/25	NC		%	25
			Chloroform	2011/10/25	NC		%	25
			Carbon Tetrachloride	2011/10/25	NC		%	25
			1,1-Dichloroethane	2011/10/25	NC		%	25
			1,2-Dichloroethane	2011/10/25	NC		%	25
			Ethylene Dibromide	2011/10/25	NC		%	25

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G4503

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2660297	MM2	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2011/10/25	NC		%	25
			1,1,2-Trichloroethane	2011/10/25	NC		%	25
			1,1,2,2-Tetrachloroethane	2011/10/25	NC		%	25
			cis-1,3-Dichloropropene	2011/10/25	NC		%	25
			trans-1,3-Dichloropropene	2011/10/25	NC		%	25
			1,2-Dichloropropane	2011/10/25	NC		%	25
			Bromomethane	2011/10/25	NC		%	25
			Bromoform	2011/10/25	NC		%	25
			Bromodichloromethane	2011/10/25	NC		%	25
			Dibromochloromethane	2011/10/25	NC		%	25
			Heptane	2011/10/25	NC		%	25
			Trichloroethylene	2011/10/25	NC		%	25
			Tetrachloroethylene	2011/10/25	NC		%	25
			Benzene	2011/10/25	NC		%	25
			Toluene	2011/10/25	5.3		%	25
			Ethylbenzene	2011/10/25	NC		%	25
			p+m-Xylene	2011/10/25	NC		%	25
			o-Xylene	2011/10/25	NC		%	25
			Styrene	2011/10/25	NC		%	25
			1,3,5-Trimethylbenzene	2011/10/25	NC		%	25
			1,2,4-Trimethylbenzene	2011/10/25	NC		%	25
			4-ethyltoluene	2011/10/25	NC		%	25
			Chlorobenzene	2011/10/25	NC		%	25
			Benzyl chloride	2011/10/25	NC		%	25
			1,3-Dichlorobenzene	2011/10/25	NC		%	25
			1,4-Dichlorobenzene	2011/10/25	NC		%	25
			1,2-Dichlorobenzene	2011/10/25	NC		%	25
			1,2,4-Trichlorobenzene	2011/10/25	NC		%	25
			Hexachlorobutadiene	2011/10/25	NC		%	25
			Hexane	2011/10/25	NC		%	25
			Cyclohexane	2011/10/25	NC		%	25
			Tetrahydrofuran	2011/10/25	NC		%	25
			1,4-Dioxane	2011/10/25	NC		%	25
			Xylene (Total)	2011/10/25	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.

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MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: Cold Lake South
Station ID: Lica 1
Field Sample ID: LICA VOC/ CLS /Oct 24,11

Sampler s/n: 6167
Canister ID: 7841
Canister Installation Date/Time: Oct 21, 2011@ 08:10 mst
Canister Removal Date/Time: Oct 26, 2011@ 07:43 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
24-Oct-11	10/24/2011 0:00	10/25/2011 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	648	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	24

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

Comments: System leak check prior to sampling. COC # 08231

Technician Signiture: Ting Xu

JOB #: 2833-11-10-01-C

Success Through Science®

Your C.O.C. #: 08231

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

Report Date: 2011/11/08

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G9029
Received: 2011/10/28, 10:50

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	1	N/A	2011/11/01	BRL SOP-00304	EPA TO-15
Canister Pressure (TO-15)	1	N/A	2011/11/02	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2011/11/01	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2011/11/02	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

RESULTS OF ANALYSES OF AIR

Maxxam ID		LK5707		LK5708	
Sampling Date		2011/10/24		2011/10/24	
COC Number		08231		08231	
	Units	**LICA VOC/CLS/OCT 24,11**	**QC Batch**	**LICA VOC/ PORT/OCT 24,11**	**QC Batch**
Volatile Organics					
Pressure on Receipt	psig	23	2669588	22	2671077

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5707				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/CLS/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2669587
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2669587
Propene	ppbv	<0.30	0.30	<0.516	0.516	2669587
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2669587
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2669587
Dichlorodifluoromethane (FREON 12)	ppbv	0.92	0.20	4.55	0.989	2669587
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2669587
Chloromethane	ppbv	0.57	0.30	1.18	0.620	2669587
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2669587
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2669587
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2669587
Trichlorofluoromethane (FREON 11)	ppbv	0.54	0.20	3.03	1.12	2669587
Trichlorotrifluoroethane	ppbv	0.16	0.15	1.22	1.15	2669587
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2669587
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2669587
2-Propanone	ppbv	1.75	0.80	4.16	1.90	2669587
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2669587
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2669587
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2669587
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2669587
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2669587
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2669587
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2669587
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2669587
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2669587
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2669587
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2669587
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2669587
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2669587
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2669587
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2669587

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5707				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/CLS/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2669587
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2669587
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2669587
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2669587
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2669587
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2669587
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2669587
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2669587
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2669587
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2669587
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2669587
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2669587
Benzene	ppbv	0.21	0.18	0.662	0.575	2669587
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2669587
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2669587
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2669587
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2669587
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2669587
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2669587
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2669587
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2669587
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2669587
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2669587
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2669587
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2669587
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2669587
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2669587
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2669587
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2669587
Cyclohexane	ppbv	0.23	0.20	0.796	0.688	2669587
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2669587
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2669587
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2669587

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5707				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/CLS/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)						
Bromochloromethane	%	66		N/A	N/A	2669587
D5-Chlorobenzene	%	67		N/A	N/A	2669587
Difluorobenzene	%	67		N/A	N/A	2669587

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

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5708				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/ PORT/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2671075
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2671075
Propene	ppbv	<0.30	0.30	<0.516	0.516	2671075
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2671075
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2671075
Dichlorodifluoromethane (FREON 12)	ppbv	1.11	0.20	5.48	0.989	2671075
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2671075
Chloromethane	ppbv	0.58	0.30	1.19	0.620	2671075
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2671075
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2671075
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2671075
Trichlorofluoromethane (FREON 11)	ppbv	0.47	0.20	2.64	1.12	2671075
Trichlorotrifluoroethane	ppbv	0.15	0.15	1.18	1.15	2671075
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2671075
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2671075
2-Propanone	ppbv	1.79	0.80	4.25	1.90	2671075
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2671075
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2671075
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2671075
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2671075
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2671075
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2671075
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2671075
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2671075
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2671075
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2671075
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2671075
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2671075
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2671075
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2671075
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2671075

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5708				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/ PORT/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2671075
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2671075
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2671075
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2671075
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2671075
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2671075
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2671075
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2671075
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2671075
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2671075
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2671075
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2671075
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2671075
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2671075
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2671075
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2671075
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2671075
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2671075
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2671075
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2671075
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2671075
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2671075
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2671075
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2671075
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2671075
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2671075
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2671075
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2671075
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2671075
Cyclohexane	ppbv	0.25	0.20	0.869	0.688	2671075
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2671075
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2671075
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2671075

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5708				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/ PORT/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)						
Bromochloromethane	%	95		N/A	N/A	2671075
D5-Chlorobenzene	%	85		N/A	N/A	2671075
Difluorobenzene	%	94		N/A	N/A	2671075

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

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

Test Summary

Maxxam ID LK5707 **Collected** 2011/10/24
Sample ID LICA VOC/CLS/OCT 24,11 **Shipped**
Matrix AIR **Received** 2011/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2669588	N/A	2011/11/01	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2669587	N/A	2011/11/01	MELANIE MABINI

Maxxam ID LK5708 **Collected** 2011/10/24
Sample ID LICA VOC/ PORT/OCT 24,11 **Shipped**
Matrix AIR **Received** 2011/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2671077	N/A	2011/11/02	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2671075	N/A	2011/11/02	MELANIE MABINI

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Maxxam Analytics

Maxxam Job #: B1G9029
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GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G9029

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2669587	MM2	Spiked Blank	Bromochloromethane	2011/11/01		95	%	60 - 140
			D5-Chlorobenzene	2011/11/01		98	%	60 - 140
			Difluorobenzene	2011/11/01		98	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/01		90	%	70 - 130
			Carbon Disulfide	2011/11/01		84	%	70 - 130
			Propene	2011/11/01		83	%	70 - 130
			Vinyl Acetate	2011/11/01		92	%	70 - 130
			Vinyl Bromide	2011/11/01		113	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/11/01		81	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/11/01		119	%	70 - 130
			Chloromethane	2011/11/01		104	%	70 - 130
			Vinyl Chloride	2011/11/01		114	%	70 - 130
			Chloroethane	2011/11/01		124	%	70 - 130
			1,3-Butadiene	2011/11/01		109	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/11/01		101	%	70 - 130
			Trichlorotrifluoroethane	2011/11/01		115	%	70 - 130
			Ethanol	2011/11/01		112	%	70 - 130
			2-propanol	2011/11/01		118	%	70 - 130
			2-Propanone	2011/11/01		94	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/11/01		95	%	70 - 130
			Methyl Isobutyl Ketone	2011/11/01		87	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/11/01		90	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/11/01		100	%	70 - 130
			Ethyl Acetate	2011/11/01		89	%	70 - 130
			1,1-Dichloroethylene	2011/11/01		126	%	70 - 130
			cis-1,2-Dichloroethylene	2011/11/01		99	%	70 - 130
			trans-1,2-Dichloroethylene	2011/11/01		101	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/11/01		96	%	70 - 130
			Chloroform	2011/11/01		99	%	70 - 130
			Carbon Tetrachloride	2011/11/01		105	%	70 - 130
			1,1-Dichloroethane	2011/11/01		96	%	70 - 130
			1,2-Dichloroethane	2011/11/01		98	%	70 - 130
			Ethylene Dibromide	2011/11/01		108	%	70 - 130
			1,1,1-Trichloroethane	2011/11/01		103	%	70 - 130
			1,1,2-Trichloroethane	2011/11/01		108	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/11/01		97	%	70 - 130
			cis-1,3-Dichloropropene	2011/11/01		106	%	70 - 130
			trans-1,3-Dichloropropene	2011/11/01		108	%	70 - 130
			1,2-Dichloropropane	2011/11/01		100	%	70 - 130
			Bromomethane	2011/11/01		119	%	70 - 130
			Bromoform	2011/11/01		103	%	70 - 130
			Bromodichloromethane	2011/11/01		94	%	70 - 130
			Dibromochloromethane	2011/11/01		104	%	70 - 130
			Heptane	2011/11/01		86	%	70 - 130
			Trichloroethylene	2011/11/01		113	%	70 - 130
			Tetrachloroethylene	2011/11/01		117	%	70 - 130
			Benzene	2011/11/01		106	%	70 - 130
			Toluene	2011/11/01		107	%	70 - 130
			Ethylbenzene	2011/11/01		103	%	70 - 130
			p+m-Xylene	2011/11/01		101	%	70 - 130
			o-Xylene	2011/11/01		101	%	70 - 130
			Styrene	2011/11/01		101	%	70 - 130
			1,3,5-Trimethylbenzene	2011/11/01		101	%	70 - 130
			1,2,4-Trimethylbenzene	2011/11/01		100	%	70 - 130
			4-ethyltoluene	2011/11/01		96	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G9029

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2669587	MM2	Spiked Blank	Chlorobenzene	2011/11/01		107	%	70 - 130
			Benzyl chloride	2011/11/01		100	%	70 - 130
			1,3-Dichlorobenzene	2011/11/01		106	%	70 - 130
			1,4-Dichlorobenzene	2011/11/01		104	%	70 - 130
			1,2-Dichlorobenzene	2011/11/01		102	%	70 - 130
			1,2,4-Trichlorobenzene	2011/11/01		72	%	70 - 130
			Hexachlorobutadiene	2011/11/01		74	%	70 - 130
			Hexane	2011/11/01		89	%	70 - 130
			Cyclohexane	2011/11/01		99	%	70 - 130
			Tetrahydrofuran	2011/11/01		99	%	70 - 130
			1,4-Dioxane	2011/11/01		105	%	70 - 130
		Method Blank	Bromochloromethane	2011/11/01		90	%	60 - 140
			D5-Chlorobenzene	2011/11/01		91	%	60 - 140
			Difluorobenzene	2011/11/01		93	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/01	<0.20		ppbv	
			Carbon Disulfide	2011/11/01	<0.50		ppbv	
			Propene	2011/11/01	<0.30		ppbv	
			Vinyl Acetate	2011/11/01	<0.20		ppbv	
			Vinyl Bromide	2011/11/01	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2011/11/01	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2011/11/01	<0.17		ppbv	
			Chloromethane	2011/11/01	<0.30		ppbv	
			Vinyl Chloride	2011/11/01	<0.18		ppbv	
			Chloroethane	2011/11/01	<0.30		ppbv	
			1,3-Butadiene	2011/11/01	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2011/11/01	<0.20		ppbv	
			Trichlorotrifluoroethane	2011/11/01	<0.15		ppbv	
			Ethanol	2011/11/01	<2.3		ppbv	
			2-propanol	2011/11/01	<3.0		ppbv	
			2-Propanone	2011/11/01	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2011/11/01	<3.0		ppbv	
			Methyl Isobutyl Ketone	2011/11/01	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2011/11/01	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2011/11/01	<0.20		ppbv	
			Ethyl Acetate	2011/11/01	<2.2		ppbv	
			1,1-Dichloroethylene	2011/11/01	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2011/11/01	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2011/11/01	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2011/11/01	<0.80		ppbv	
			Chloroform	2011/11/01	<0.15		ppbv	
			Carbon Tetrachloride	2011/11/01	<0.30		ppbv	
			1,1-Dichloroethane	2011/11/01	<0.20		ppbv	
			1,2-Dichloroethane	2011/11/01	<0.20		ppbv	
			Ethylene Dibromide	2011/11/01	<0.17		ppbv	
			1,1,1-Trichloroethane	2011/11/01	<0.30		ppbv	
			1,1,2-Trichloroethane	2011/11/01	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2011/11/01	<0.20		ppbv	
			cis-1,3-Dichloropropene	2011/11/01	<0.18		ppbv	
			trans-1,3-Dichloropropene	2011/11/01	<0.17		ppbv	
			1,2-Dichloropropane	2011/11/01	<0.40		ppbv	
			Bromomethane	2011/11/01	<0.18		ppbv	
			Bromoform	2011/11/01	<0.20		ppbv	
			Bromodichloromethane	2011/11/01	<0.20		ppbv	
			Dibromochloromethane	2011/11/01	<0.20		ppbv	
			Heptane	2011/11/01	<0.30		ppbv	

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Quality Assurance Report (Continued)

Maxxam Job Number: GB1G9029

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2669587	MM2	Method Blank	Trichloroethylene	2011/11/01	<0.30		ppbv	
			Tetrachloroethylene	2011/11/01	<0.20		ppbv	
			Benzene	2011/11/01	<0.18		ppbv	
			Toluene	2011/11/01	<0.20		ppbv	
			Ethylbenzene	2011/11/01	<0.20		ppbv	
			p+m-Xylene	2011/11/01	<0.37		ppbv	
			o-Xylene	2011/11/01	<0.20		ppbv	
			Styrene	2011/11/01	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/11/01	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/11/01	<0.50		ppbv	
			4-ethyltoluene	2011/11/01	<2.2		ppbv	
			Chlorobenzene	2011/11/01	<0.20		ppbv	
			Benzyl chloride	2011/11/01	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/11/01	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/11/01	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/11/01	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/11/01	<2.0		ppbv	
			Hexachlorobutadiene	2011/11/01	<3.0		ppbv	
			Hexane	2011/11/01	<0.30		ppbv	
			Cyclohexane	2011/11/01	<0.20		ppbv	
			Tetrahydrofuran	2011/11/01	<0.40		ppbv	
			1,4-Dioxane	2011/11/01	<2.0		ppbv	
			Xylene (Total)	2011/11/01	<0.60		ppbv	
2671075	MM2	Spiked Blank	Bromochloromethane	2011/11/02		123	%	60 - 140
			D5-Chlorobenzene	2011/11/02		117	%	60 - 140
			Difluorobenzene	2011/11/02		123	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/02		90	%	70 - 130
			Carbon Disulfide	2011/11/02		120	%	70 - 130
			Propene	2011/11/02		88	%	70 - 130
			Vinyl Acetate	2011/11/02		95	%	70 - 130
			Vinyl Bromide	2011/11/02		111	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/11/02		113	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/11/02		128	%	70 - 130
			Chloromethane	2011/11/02		112	%	70 - 130
			Vinyl Chloride	2011/11/02		116	%	70 - 130
			Chloroethane	2011/11/02		113	%	70 - 130
			1,3-Butadiene	2011/11/02		108	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/11/02		109	%	70 - 130
			Trichlorotrifluoroethane	2011/11/02		117	%	70 - 130
			Ethanol	2011/11/02		91	%	70 - 130
			2-propanol	2011/11/02		107	%	70 - 130
			2-Propanone	2011/11/02		97	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/11/02		100	%	70 - 130
			Methyl Isobutyl Ketone	2011/11/02		92	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/11/02		95	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/11/02		106	%	70 - 130
			Ethyl Acetate	2011/11/02		94	%	70 - 130
			1,1-Dichloroethylene	2011/11/02		120	%	70 - 130
			cis-1,2-Dichloroethylene	2011/11/02		106	%	70 - 130
			trans-1,2-Dichloroethylene	2011/11/02		105	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/11/02		106	%	70 - 130
			Chloroform	2011/11/02		105	%	70 - 130
			Carbon Tetrachloride	2011/11/02		112	%	70 - 130
			1,1-Dichloroethane	2011/11/02		98	%	70 - 130
			1,2-Dichloroethane	2011/11/02		109	%	70 - 130

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Maxxam Analytics
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Quality Assurance Report (Continued)

Maxxam Job Number: GB1G9029

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2671075	MM2	Spiked Blank	Ethylene Dibromide	2011/11/02		109	%	70 - 130
			1,1,1-Trichloroethane	2011/11/02		109	%	70 - 130
			1,1,2-Trichloroethane	2011/11/02		106	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/11/02		96	%	70 - 130
			cis-1,3-Dichloropropene	2011/11/02		107	%	70 - 130
			trans-1,3-Dichloropropene	2011/11/02		113	%	70 - 130
			1,2-Dichloropropane	2011/11/02		98	%	70 - 130
			Bromomethane	2011/11/02		116	%	70 - 130
			Bromoform	2011/11/02		106	%	70 - 130
			Bromodichloromethane	2011/11/02		102	%	70 - 130
			Dibromochloromethane	2011/11/02		108	%	70 - 130
			Heptane	2011/11/02		90	%	70 - 130
			Trichloroethylene	2011/11/02		108	%	70 - 130
			Tetrachloroethylene	2011/11/02		111	%	70 - 130
			Benzene	2011/11/02		103	%	70 - 130
			Toluene	2011/11/02		105	%	70 - 130
			Ethylbenzene	2011/11/02		104	%	70 - 130
			p+m-Xylene	2011/11/02		101	%	70 - 130
			o-Xylene	2011/11/02		100	%	70 - 130
			Styrene	2011/11/02		98	%	70 - 130
			1,3,5-Trimethylbenzene	2011/11/02		99	%	70 - 130
			1,2,4-Trimethylbenzene	2011/11/02		100	%	70 - 130
			4-ethyltoluene	2011/11/02		96	%	70 - 130
			Chlorobenzene	2011/11/02		101	%	70 - 130
			Benzyl chloride	2011/11/02		100	%	70 - 130
			1,3-Dichlorobenzene	2011/11/02		103	%	70 - 130
			1,4-Dichlorobenzene	2011/11/02		98	%	70 - 130
			1,2-Dichlorobenzene	2011/11/02		98	%	70 - 130
			1,2,4-Trichlorobenzene	2011/11/02		82	%	70 - 130
			Hexachlorobutadiene	2011/11/02		88	%	70 - 130
			Hexane	2011/11/02		90	%	70 - 130
			Cyclohexane	2011/11/02		97	%	70 - 130
			Tetrahydrofuran	2011/11/02		97	%	70 - 130
			1,4-Dioxane	2011/11/02		80	%	70 - 130
		Method Blank	Bromochloromethane	2011/11/02		118	%	60 - 140
			D5-Chlorobenzene	2011/11/02		108	%	60 - 140
			Difluorobenzene	2011/11/02		117	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/02	<0.20		ppbv	
			Carbon Disulfide	2011/11/02	<0.50		ppbv	
			Propene	2011/11/02	<0.30		ppbv	
			Vinyl Acetate	2011/11/02	<0.20		ppbv	
			Vinyl Bromide	2011/11/02	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2011/11/02	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2011/11/02	<0.17		ppbv	
			Chloromethane	2011/11/02	<0.30		ppbv	
			Vinyl Chloride	2011/11/02	<0.18		ppbv	
			Chloroethane	2011/11/02	<0.30		ppbv	
			1,3-Butadiene	2011/11/02	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2011/11/02	<0.20		ppbv	
			Trichlorotrifluoroethane	2011/11/02	<0.15		ppbv	
			Ethanol	2011/11/02	<2.3		ppbv	
			2-propanol	2011/11/02	<3.0		ppbv	
			2-Propanone	2011/11/02	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2011/11/02	<3.0		ppbv	
			Methyl Isobutyl Ketone	2011/11/02	<3.2		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G9029

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2671075	MM2	Method Blank	Methyl Butyl Ketone (2-Hexanone)	2011/11/02	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2011/11/02	<0.20		ppbv	
			Ethyl Acetate	2011/11/02	<2.2		ppbv	
			1,1-Dichloroethylene	2011/11/02	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2011/11/02	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2011/11/02	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2011/11/02	<0.80		ppbv	
			Chloroform	2011/11/02	<0.15		ppbv	
			Carbon Tetrachloride	2011/11/02	<0.30		ppbv	
			1,1-Dichloroethane	2011/11/02	<0.20		ppbv	
			1,2-Dichloroethane	2011/11/02	<0.20		ppbv	
			Ethylene Dibromide	2011/11/02	<0.17		ppbv	
			1,1,1-Trichloroethane	2011/11/02	<0.30		ppbv	
			1,1,2-Trichloroethane	2011/11/02	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2011/11/02	<0.20		ppbv	
			cis-1,3-Dichloropropene	2011/11/02	<0.18		ppbv	
			trans-1,3-Dichloropropene	2011/11/02	<0.17		ppbv	
			1,2-Dichloropropane	2011/11/02	<0.40		ppbv	
			Bromomethane	2011/11/02	<0.18		ppbv	
			Bromoform	2011/11/02	<0.20		ppbv	
			Bromodichloromethane	2011/11/02	<0.20		ppbv	
			Dibromochloromethane	2011/11/02	<0.20		ppbv	
			Heptane	2011/11/02	<0.30		ppbv	
			Trichloroethylene	2011/11/02	<0.30		ppbv	
			Tetrachloroethylene	2011/11/02	<0.20		ppbv	
			Benzene	2011/11/02	<0.18		ppbv	
			Toluene	2011/11/02	<0.20		ppbv	
			Ethylbenzene	2011/11/02	<0.20		ppbv	
			p+m-Xylene	2011/11/02	<0.37		ppbv	
			o-Xylene	2011/11/02	<0.20		ppbv	
			Styrene	2011/11/02	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/11/02	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/11/02	<0.50		ppbv	
			4-ethyltoluene	2011/11/02	<2.2		ppbv	
			Chlorobenzene	2011/11/02	<0.20		ppbv	
			Benzyl chloride	2011/11/02	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/11/02	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/11/02	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/11/02	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/11/02	<2.0		ppbv	
			Hexachlorobutadiene	2011/11/02	<3.0		ppbv	
			Hexane	2011/11/02	<0.30		ppbv	
			Cyclohexane	2011/11/02	<0.20		ppbv	
			Tetrahydrofuran	2011/11/02	<0.40		ppbv	
			1,4-Dioxane	2011/11/02	<2.0		ppbv	
			Xylene (Total)	2011/11/02	<0.60		ppbv	

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

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: Cold Lake South
Station ID: Lica 1
Field Sample ID: LICA VOC/ CLS /Oct 30,11

Sampler s/n: 6167
Canister ID: 139
Canister Installation Date/Time: Oct 28, 2011@ 16:01 mst
Canister Removal Date/Time: Oct 31, 2011@ 09:26 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
30-Oct-11	10/30/2011 0:00	10/31/2011 0:00	24.00

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	646	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-28	24

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

Comments: System leak check prior to sampling. COC # 08006

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 08006

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

Report Date: 2011/11/15

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1H1673
Received: 2011/11/02, 10:00

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	1	N/A	2011/11/04	BRL SOP-00304	EPA TO-15
Canister Pressure (TO-15)	1	N/A	2011/11/11	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2011/11/04	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2011/11/11	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1H1673
Report Date: 2011/11/15

RESULTS OF ANALYSES OF AIR

Maxxam ID		LM0376		LM0377	
Sampling Date		2011/10/30 00:00		2011/10/30 00:00	
COC Number		08006		08006	
	Units	**LICAVOC/CLS/OCT30,2011/139**	**QC Batch**	**LICAVOC/PORT/OCT30,2011/140**	**QC Batch**
Volatile Organics					
Pressure on Receipt	psig	24	2674512	22	2680649

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1H1673
Report Date: 2011/11/15

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0376				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/CLS/OCT30,2011/139**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2674511
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2674511
Propene	ppbv	<0.30	0.30	<0.516	0.516	2674511
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2674511
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2674511
Dichlorodifluoromethane (FREON 12)	ppbv	0.78	0.20	3.88	0.989	2674511
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2674511
Chloromethane	ppbv	0.58	0.30	1.20	0.620	2674511
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2674511
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2674511
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2674511
Trichlorofluoromethane (FREON 11)	ppbv	0.41	0.20	2.31	1.12	2674511
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2674511
Ethanol	ppbv	2.4	2.3	4.44	4.33	2674511
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2674511
2-Propanone	ppbv	1.91	0.80	4.53	1.90	2674511
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2674511
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2674511
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2674511
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2674511
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2674511
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2674511
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2674511
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2674511
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2674511
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2674511
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2674511
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2674511
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2674511
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2674511
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2674511
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2674511

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0376				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/CLS/OCT30,2011/139**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2674511
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2674511
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2674511
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2674511
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2674511
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2674511
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2674511
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2674511
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2674511
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2674511
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2674511
Benzene	ppbv	0.29	0.18	0.917	0.575	2674511
Toluene	ppbv	0.51	0.20	1.91	0.753	2674511
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2674511
p+m-Xylene	ppbv	0.38	0.37	1.65	1.61	2674511
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2674511
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2674511
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2674511
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2674511
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2674511
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2674511
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2674511
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2674511
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2674511
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2674511
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2674511
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2674511
Hexane	ppbv	0.73	0.30	2.59	1.06	2674511
Cyclohexane	ppbv	0.40	0.20	1.39	0.688	2674511
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2674511
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2674511
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2674511
Surrogate Recovery (%)						
Bromochloromethane	%	81		N/A	N/A	2674511

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

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Maxxam Analytics

Maxxam Job #: B1H1673
Report Date: 2011/11/15

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0376				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/CLS/OCT30,2011/139**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	79		N/A	N/A	2674511
Difluorobenzene	%	83		N/A	N/A	2674511

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0377				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/PORT/OCT30,2011/140**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2680646
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2680646
Propene	ppbv	<1.2	1.2	<2.07	2.07	2680646
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2680646
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2680646
Dichlorodifluoromethane (FREON 12)	ppbv	0.79	0.20	3.93	0.989	2680646
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2680646
Chloromethane	ppbv	0.60	0.30	1.24	0.620	2680646
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2680646
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2680646
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2680646
Trichlorofluoromethane (FREON 11)	ppbv	0.36	0.20	2.04	1.12	2680646
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2680646
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2680646
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2680646
2-Propanone	ppbv	1.12	0.80	2.65	1.90	2680646
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2680646
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2680646
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2680646
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2680646
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2680646
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2680646
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2680646
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2680646
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2680646
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2680646
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2680646
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2680646
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2680646
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2680646
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2680646
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2680646

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0377				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/PORT/OCT30,2011/140**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2680646
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2680646
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2680646
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2680646
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2680646
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2680646
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2680646
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2680646
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2680646
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2680646
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2680646
Benzene	ppbv	0.19	0.18	0.611	0.575	2680646
Toluene	ppbv	0.37	0.20	1.38	0.753	2680646
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2680646
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2680646
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2680646
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2680646
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2680646
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2680646
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2680646
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2680646
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2680646
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2680646
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2680646
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2680646
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2680646
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2680646
Hexane	ppbv	0.34	0.30	1.21	1.06	2680646
Cyclohexane	ppbv	0.29	0.20	0.996	0.688	2680646
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2680646
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2680646
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2680646
Surrogate Recovery (%)						
Bromochloromethane	%	84		N/A	N/A	2680646

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

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Maxxam Analytics

Maxxam Job #: B1H1673
Report Date: 2011/11/15

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0377				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/PORT/OCT30,2011/140**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	83		N/A	N/A	2680646
Difluorobenzene	%	86		N/A	N/A	2680646

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

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Maxxam Job #: B1H1673
Report Date: 2011/11/15

Test Summary

Maxxam ID LM0376 **Collected** 2011/10/30
Sample ID LICAVOC/CLS/OCT30,2011/139 **Shipped**
Matrix AIR **Received** 2011/11/02

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2674512	N/A	2011/11/04	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2674511	N/A	2011/11/04	MELANIE MABINI

Maxxam ID LM0377 **Collected** 2011/10/30
Sample ID LICAVOC/PORT/OCT30,2011/140 **Shipped**
Matrix AIR **Received** 2011/11/02

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2680649	N/A	2011/11/11	VALERIE RANDALL
Volatile Organics in Air (TO-15)	GC/MS	2680646	N/A	2011/11/11	VALERIE RANDALL

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Maxxam Analytics

Maxxam Job #: B1H1673
Report Date: 2011/11/15

GENERAL COMMENTS

Sample LM0377-01: VOCTO15M-A
DL raised for Propene due to matrix interference on a possible positive.

Results relate only to the items tested.

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Attention: Michael Bisaga
Client Project #:
P.O. #:
Site Location:

Quality Assurance Report

Maxxam Job Number: GB1H1673

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2674511	MM2	Spiked Blank	Bromochloromethane	2011/11/04		101	%	60 - 140
			D5-Chlorobenzene	2011/11/04		103	%	60 - 140
			Difluorobenzene	2011/11/04		102	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/04		78	%	70 - 130
			Carbon Disulfide	2011/11/04		103	%	70 - 130
			Propene	2011/11/04		68 (1)	%	70 - 130
			Vinyl Acetate	2011/11/04		79	%	70 - 130
			Vinyl Bromide	2011/11/04		96	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/11/04		71	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/11/04		108	%	70 - 130
			Chloromethane	2011/11/04		92	%	70 - 130
			Vinyl Chloride	2011/11/04		102	%	70 - 130
			Chloroethane	2011/11/04		101	%	70 - 130
			1,3-Butadiene	2011/11/04		96	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/11/04		90	%	70 - 130
			Trichlorotrifluoroethane	2011/11/04		99	%	70 - 130
			Ethanol	2011/11/04		92	%	70 - 130
			2-propanol	2011/11/04		92	%	70 - 130
			2-Propanone	2011/11/04		78	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/11/04		81	%	70 - 130
			Methyl Isobutyl Ketone	2011/11/04		76	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/11/04		79	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/11/04		88	%	70 - 130
			Ethyl Acetate	2011/11/04		76	%	70 - 130
			1,1-Dichloroethylene	2011/11/04		106	%	70 - 130
			cis-1,2-Dichloroethylene	2011/11/04		87	%	70 - 130
			trans-1,2-Dichloroethylene	2011/11/04		87	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/11/04		105	%	70 - 130
			Chloroform	2011/11/04		89	%	70 - 130
			Carbon Tetrachloride	2011/11/04		98	%	70 - 130
			1,1-Dichloroethane	2011/11/04		84	%	70 - 130
			1,2-Dichloroethane	2011/11/04		88	%	70 - 130
			Ethylene Dibromide	2011/11/04		98	%	70 - 130
			1,1,1-Trichloroethane	2011/11/04		93	%	70 - 130
			1,1,2-Trichloroethane	2011/11/04		94	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/11/04		84	%	70 - 130
			cis-1,3-Dichloropropene	2011/11/04		95	%	70 - 130
			trans-1,3-Dichloropropene	2011/11/04		98	%	70 - 130
			1,2-Dichloropropane	2011/11/04		87	%	70 - 130
			Bromomethane	2011/11/04		101	%	70 - 130
			Bromoform	2011/11/04		95	%	70 - 130
			Bromodichloromethane	2011/11/04		87	%	70 - 130
			Dibromochloromethane	2011/11/04		95	%	70 - 130
			Heptane	2011/11/04		77	%	70 - 130
			Trichloroethylene	2011/11/04		101	%	70 - 130
			Tetrachloroethylene	2011/11/04		105	%	70 - 130
			Benzene	2011/11/04		92	%	70 - 130
			Toluene	2011/11/04		94	%	70 - 130
			Ethylbenzene	2011/11/04		91	%	70 - 130
			p+m-Xylene	2011/11/04		88	%	70 - 130
			o-Xylene	2011/11/04		88	%	70 - 130
			Styrene	2011/11/04		89	%	70 - 130
			1,3,5-Trimethylbenzene	2011/11/04		92	%	70 - 130
			1,2,4-Trimethylbenzene	2011/11/04		92	%	70 - 130
			4-ethyltoluene	2011/11/04		86	%	70 - 130

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Maxxam Analytics
Attention: Michael Bisaga
Client Project #:
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Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: GB1H1673

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2674511	MM2	Spiked Blank	Chlorobenzene	2011/11/04		94	%	70 - 130
			Benzyl chloride	2011/11/04		94	%	70 - 130
			1,3-Dichlorobenzene	2011/11/04		100	%	70 - 130
			1,4-Dichlorobenzene	2011/11/04		97	%	70 - 130
			1,2-Dichlorobenzene	2011/11/04		96	%	70 - 130
			1,2,4-Trichlorobenzene	2011/11/04		80	%	70 - 130
			Hexachlorobutadiene	2011/11/04		82	%	70 - 130
			Hexane	2011/11/04		76	%	70 - 130
			Cyclohexane	2011/11/04		87	%	70 - 130
			Tetrahydrofuran	2011/11/04		85	%	70 - 130
			1,4-Dioxane	2011/11/04		100	%	70 - 130
		Method Blank	Bromochloromethane	2011/11/04		92	%	60 - 140
			D5-Chlorobenzene	2011/11/04		91	%	60 - 140
			Difluorobenzene	2011/11/04		93	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/04	<0.20		ppbv	
			Carbon Disulfide	2011/11/04	<0.50		ppbv	
			Propene	2011/11/04	<0.30		ppbv	
			Vinyl Acetate	2011/11/04	<0.20		ppbv	
			Vinyl Bromide	2011/11/04	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2011/11/04	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2011/11/04	<0.17		ppbv	
			Chloromethane	2011/11/04	<0.30		ppbv	
			Vinyl Chloride	2011/11/04	<0.18		ppbv	
			Chloroethane	2011/11/04	<0.30		ppbv	
			1,3-Butadiene	2011/11/04	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2011/11/04	<0.20		ppbv	
			Trichlorotrifluoroethane	2011/11/04	<0.15		ppbv	
			Ethanol	2011/11/04	<2.3		ppbv	
			2-propanol	2011/11/04	<3.0		ppbv	
			2-Propanone	2011/11/04	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2011/11/04	<3.0		ppbv	
			Methyl Isobutyl Ketone	2011/11/04	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2011/11/04	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2011/11/04	<0.20		ppbv	
			Ethyl Acetate	2011/11/04	<2.2		ppbv	
			1,1-Dichloroethylene	2011/11/04	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2011/11/04	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2011/11/04	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2011/11/04	<0.80		ppbv	
			Chloroform	2011/11/04	<0.15		ppbv	
			Carbon Tetrachloride	2011/11/04	<0.30		ppbv	
			1,1-Dichloroethane	2011/11/04	<0.20		ppbv	
			1,2-Dichloroethane	2011/11/04	<0.20		ppbv	
			Ethylene Dibromide	2011/11/04	<0.17		ppbv	
			1,1,1-Trichloroethane	2011/11/04	<0.30		ppbv	
			1,1,2-Trichloroethane	2011/11/04	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2011/11/04	<0.20		ppbv	
			cis-1,3-Dichloropropene	2011/11/04	<0.18		ppbv	
			trans-1,3-Dichloropropene	2011/11/04	<0.17		ppbv	
			1,2-Dichloropropane	2011/11/04	<0.40		ppbv	
			Bromomethane	2011/11/04	<0.18		ppbv	
			Bromoform	2011/11/04	<0.20		ppbv	
			Bromodichloromethane	2011/11/04	<0.20		ppbv	
			Dibromochloromethane	2011/11/04	<0.20		ppbv	
			Heptane	2011/11/04	<0.30		ppbv	

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Quality Assurance Report (Continued)

Maxxam Job Number: GB1H1673

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2674511	MM2	Method Blank	Trichloroethylene	2011/11/04	<0.30		ppbv	
			Tetrachloroethylene	2011/11/04	<0.20		ppbv	
			Benzene	2011/11/04	<0.18		ppbv	
			Toluene	2011/11/04	<0.20		ppbv	
			Ethylbenzene	2011/11/04	<0.20		ppbv	
			p+m-Xylene	2011/11/04	<0.37		ppbv	
			o-Xylene	2011/11/04	<0.20		ppbv	
			Styrene	2011/11/04	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/11/04	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/11/04	<0.50		ppbv	
			4-ethyltoluene	2011/11/04	<2.2		ppbv	
			Chlorobenzene	2011/11/04	<0.20		ppbv	
			Benzyl chloride	2011/11/04	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/11/04	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/11/04	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/11/04	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/11/04	<2.0		ppbv	
			Hexachlorobutadiene	2011/11/04	<3.0		ppbv	
			Hexane	2011/11/04	<0.30		ppbv	
			Cyclohexane	2011/11/04	<0.20		ppbv	
			Tetrahydrofuran	2011/11/04	<0.40		ppbv	
			1,4-Dioxane	2011/11/04	<2.0		ppbv	
			Xylene (Total)	2011/11/04	<0.60		ppbv	
2680646	VEA	Spiked Blank	Bromochloromethane	2011/11/11		98	%	60 - 140
			D5-Chlorobenzene	2011/11/11		101	%	60 - 140
			Difluorobenzene	2011/11/11		100	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/11		116	%	70 - 130
			Carbon Disulfide	2011/11/11		107	%	70 - 130
			Propene	2011/11/11		105	%	70 - 130
			Vinyl Acetate	2011/11/11		113	%	70 - 130
			Vinyl Bromide	2011/11/11		120	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/11/11		92	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/11/11		131 (1)	%	70 - 130
			Chloromethane	2011/11/11		117	%	70 - 130
			Vinyl Chloride	2011/11/11		113	%	70 - 130
			Chloroethane	2011/11/11		115	%	70 - 130
			1,3-Butadiene	2011/11/11		113	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/11/11		116	%	70 - 130
			Trichlorotrifluoroethane	2011/11/11		114	%	70 - 130
			Ethanol	2011/11/11		98	%	70 - 130
			2-propanol	2011/11/11		106	%	70 - 130
			2-Propanone	2011/11/11		120	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/11/11		116	%	70 - 130
			Methyl Isobutyl Ketone	2011/11/11		117	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/11/11		117	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/11/11		109	%	70 - 130
			Ethyl Acetate	2011/11/11		113	%	70 - 130
			1,1-Dichloroethylene	2011/11/11		112	%	70 - 130
			cis-1,2-Dichloroethylene	2011/11/11		111	%	70 - 130
			trans-1,2-Dichloroethylene	2011/11/11		115	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/11/11		102	%	70 - 130
			Chloroform	2011/11/11		110	%	70 - 130
			Carbon Tetrachloride	2011/11/11		108	%	70 - 130
			1,1-Dichloroethane	2011/11/11		110	%	70 - 130
			1,2-Dichloroethane	2011/11/11		113	%	70 - 130

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Quality Assurance Report (Continued)

Maxxam Job Number: GB1H1673

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2680646 VEA	Spiked Blank	Ethylene Dibromide	2011/11/11		114	%	70 - 130
		1,1,1-Trichloroethane	2011/11/11		109	%	70 - 130
		1,1,2-Trichloroethane	2011/11/11		114	%	70 - 130
		1,1,2,2-Tetrachloroethane	2011/11/11		108	%	70 - 130
		cis-1,3-Dichloropropene	2011/11/11		108	%	70 - 130
		trans-1,3-Dichloropropene	2011/11/11		105	%	70 - 130
		1,2-Dichloropropane	2011/11/11		111	%	70 - 130
		Bromomethane	2011/11/11		119	%	70 - 130
		Bromoform	2011/11/11		126	%	70 - 130
		Bromodichloromethane	2011/11/11		120	%	70 - 130
		Dibromochloromethane	2011/11/11		125	%	70 - 130
		Heptane	2011/11/11		118	%	70 - 130
		Trichloroethylene	2011/11/11		112	%	70 - 130
		Tetrachloroethylene	2011/11/11		118	%	70 - 130
		Benzene	2011/11/11		111	%	70 - 130
		Toluene	2011/11/11		113	%	70 - 130
		Ethylbenzene	2011/11/11		111	%	70 - 130
		p+m-Xylene	2011/11/11		108	%	70 - 130
		o-Xylene	2011/11/11		109	%	70 - 130
		Styrene	2011/11/11		98	%	70 - 130
		1,3,5-Trimethylbenzene	2011/11/11		108	%	70 - 130
		1,2,4-Trimethylbenzene	2011/11/11		107	%	70 - 130
		4-ethyltoluene	2011/11/11		118	%	70 - 130
		Chlorobenzene	2011/11/11		109	%	70 - 130
		Benzyl chloride	2011/11/11		93	%	70 - 130
		1,3-Dichlorobenzene	2011/11/11		110	%	70 - 130
		1,4-Dichlorobenzene	2011/11/11		109	%	70 - 130
		1,2-Dichlorobenzene	2011/11/11		106	%	70 - 130
		1,2,4-Trichlorobenzene	2011/11/11		83	%	70 - 130
		Hexachlorobutadiene	2011/11/11		100	%	70 - 130
		Hexane	2011/11/11		114	%	70 - 130
		Cyclohexane	2011/11/11		114	%	70 - 130
		Tetrahydrofuran	2011/11/11		112	%	70 - 130
		1,4-Dioxane	2011/11/11		110	%	70 - 130
	Method Blank	Bromochloromethane	2011/11/11		84	%	60 - 140
		D5-Chlorobenzene	2011/11/11		74	%	60 - 140
		Difluorobenzene	2011/11/11		86	%	60 - 140
		2,2,4-Trimethylpentane	2011/11/11	<0.20		ppbv	
		Carbon Disulfide	2011/11/11	<0.50		ppbv	
		Propene	2011/11/11	<0.30		ppbv	
		Vinyl Acetate	2011/11/11	<0.20		ppbv	
		Vinyl Bromide	2011/11/11	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2011/11/11	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2011/11/11	<0.17		ppbv	
		Chloromethane	2011/11/11	<0.30		ppbv	
		Vinyl Chloride	2011/11/11	<0.18		ppbv	
		Chloroethane	2011/11/11	<0.30		ppbv	
		1,3-Butadiene	2011/11/11	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2011/11/11	<0.20		ppbv	
		Trichlorotrifluoroethane	2011/11/11	<0.15		ppbv	
		Ethanol	2011/11/11	<2.3		ppbv	
		2-propanol	2011/11/11	<3.0		ppbv	
		2-Propanone	2011/11/11	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2011/11/11	<3.0		ppbv	
		Methyl Isobutyl Ketone	2011/11/11	<3.2		ppbv	

Maxxam Analytics
Attention: Michael Bisaga
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Quality Assurance Report (Continued)

Maxxam Job Number: GB1H1673

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2680646 VEA	Method Blank	Methyl Butyl Ketone (2-Hexanone)	2011/11/11	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2011/11/11	<0.20		ppbv	
		Ethyl Acetate	2011/11/11	<2.2		ppbv	
		1,1-Dichloroethylene	2011/11/11	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2011/11/11	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2011/11/11	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2011/11/11	<0.80		ppbv	
		Chloroform	2011/11/11	<0.15		ppbv	
		Carbon Tetrachloride	2011/11/11	<0.30		ppbv	
		1,1-Dichloroethane	2011/11/11	<0.20		ppbv	
		1,2-Dichloroethane	2011/11/11	<0.20		ppbv	
		Ethylene Dibromide	2011/11/11	<0.17		ppbv	
		1,1,1-Trichloroethane	2011/11/11	<0.30		ppbv	
		1,1,2-Trichloroethane	2011/11/11	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2011/11/11	<0.20		ppbv	
		cis-1,3-Dichloropropene	2011/11/11	<0.18		ppbv	
		trans-1,3-Dichloropropene	2011/11/11	<0.17		ppbv	
		1,2-Dichloropropane	2011/11/11	<0.40		ppbv	
		Bromomethane	2011/11/11	<0.18		ppbv	
		Bromoform	2011/11/11	<0.20		ppbv	
		Bromodichloromethane	2011/11/11	<0.20		ppbv	
		Dibromochloromethane	2011/11/11	<0.20		ppbv	
		Heptane	2011/11/11	<0.30		ppbv	
		Trichloroethylene	2011/11/11	<0.30		ppbv	
		Tetrachloroethylene	2011/11/11	<0.20		ppbv	
		Benzene	2011/11/11	<0.18		ppbv	
		Toluene	2011/11/11	<0.20		ppbv	
		Ethylbenzene	2011/11/11	<0.20		ppbv	
		p+m-Xylene	2011/11/11	<0.37		ppbv	
		o-Xylene	2011/11/11	<0.20		ppbv	
		Styrene	2011/11/11	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2011/11/11	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2011/11/11	<0.50		ppbv	
		4-ethyltoluene	2011/11/11	<2.2		ppbv	
		Chlorobenzene	2011/11/11	<0.20		ppbv	
		Benzyl chloride	2011/11/11	<1.0		ppbv	
		1,3-Dichlorobenzene	2011/11/11	<0.40		ppbv	
		1,4-Dichlorobenzene	2011/11/11	<0.40		ppbv	
		1,2-Dichlorobenzene	2011/11/11	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2011/11/11	<2.0		ppbv	
		Hexachlorobutadiene	2011/11/11	<3.0		ppbv	
		Hexane	2011/11/11	<0.30		ppbv	
		Cyclohexane	2011/11/11	<0.20		ppbv	
		Tetrahydrofuran	2011/11/11	<0.40		ppbv	
		1,4-Dioxane	2011/11/11	<2.0		ppbv	
		Xylene (Total)	2011/11/11	<0.60		ppbv	
	RPD - Sample/Sample Dup	Carbon Disulfide	2011/11/11	1.2		%	25
		Dichlorodifluoromethane (FREON 12)	2011/11/11	NC		%	25
		1,2-Dichlorotetrafluoroethane	2011/11/11	NC		%	25
		Chloromethane	2011/11/11	NC		%	25
		Vinyl Chloride	2011/11/11	NC		%	25
		Chloroethane	2011/11/11	NC		%	25
		Trichlorofluoromethane (FREON 11)	2011/11/11	NC		%	25

Maxxam Analytics
Attention: Michael Bisaga
Client Project #:
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Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: GB1H1673

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2680646	VEA	RPD - Sample/Sample Dup	Trichlorotrifluoroethane	2011/11/11	NC		%	25
			Ethanol	2011/11/11	NC		%	25
			2-propanol	2011/11/11	NC		%	25
			2-Propanone	2011/11/11	NC		%	25
			Methyl Ethyl Ketone (2-Butanone)	2011/11/11	NC		%	25
			Methyl Isobutyl Ketone	2011/11/11	NC		%	25
			Methyl t-butyl ether (MTBE)	2011/11/11	NC		%	25
			Ethyl Acetate	2011/11/11	NC		%	25
			1,1-Dichloroethylene	2011/11/11	NC		%	25
			cis-1,2-Dichloroethylene	2011/11/11	NC		%	25
			trans-1,2-Dichloroethylene	2011/11/11	NC		%	25
			Methylene Chloride(Dichloromethane)	2011/11/11	NC		%	25
			Chloroform	2011/11/11	NC		%	25
			Carbon Tetrachloride	2011/11/11	NC		%	25
			1,1-Dichloroethane	2011/11/11	NC		%	25
			1,2-Dichloroethane	2011/11/11	NC		%	25
			Ethylene Dibromide	2011/11/11	NC		%	25
			1,1,1-Trichloroethane	2011/11/11	NC		%	25
			1,1,2-Trichloroethane	2011/11/11	NC		%	25
			1,1,2,2-Tetrachloroethane	2011/11/11	NC		%	25
			cis-1,3-Dichloropropene	2011/11/11	NC		%	25
			trans-1,3-Dichloropropene	2011/11/11	NC		%	25
			1,2-Dichloropropane	2011/11/11	NC		%	25
			Bromomethane	2011/11/11	NC		%	25
			Bromoform	2011/11/11	NC		%	25
			Heptane	2011/11/11	NC		%	25
			Trichloroethylene	2011/11/11	NC		%	25
			Tetrachloroethylene	2011/11/11	2.3		%	25
			Benzene	2011/11/11	NC		%	25
			Toluene	2011/11/11	NC		%	25
			Ethylbenzene	2011/11/11	NC		%	25
			p+m-Xylene	2011/11/11	NC		%	25
			o-Xylene	2011/11/11	NC		%	25
			Styrene	2011/11/11	NC		%	25
			1,3,5-Trimethylbenzene	2011/11/11	NC		%	25
			1,2,4-Trimethylbenzene	2011/11/11	NC		%	25
			Chlorobenzene	2011/11/11	NC		%	25
			1,4-Dichlorobenzene	2011/11/11	NC		%	25
			1,2-Dichlorobenzene	2011/11/11	NC		%	25
			1,2,4-Trichlorobenzene	2011/11/11	NC		%	25
			Hexachlorobutadiene	2011/11/11	NC		%	25
			Hexane	2011/11/11	NC		%	25
			Cyclohexane	2011/11/11	NC		%	25
			Tetrahydrofuran	2011/11/11	NC		%	25
			1,4-Dioxane	2011/11/11	NC		%	25
			Xylene (Total)	2011/11/11	NC		%	25

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

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Polycyclic Aromatic Hydrocarbons Laboratory Analysis

MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: Cold Lake South
Station ID: Lica1
Field Sample ID: LICA PUF/CLS/Oct 06,11

Puf+ s/n: 100-1020
Motor s/n: 1138
Installation Date/Time: Oct 05, 2011 @ 15:15 mst
Removal Date/Time: Oct 07, 2011 @ 7:01 mst

Date and Time Information			
Sample Date	Start Time (MST)	Finish Time (MST)	Elapsed Time (Hours)
06-Oct-11	10/06/2011 0:00	10/07/2011 0:00	24.000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
30-Sep-11	10-Oct-11	11-Oct-11	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 25-May-11

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Tempurature (C)	Volume (Vstd m^3)
707	229	12.2	330.33

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

Comments: COC# 08061
GB1E8087 PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Oct 06, 11

Technician Signiture: Ting Xu

Maxxam

Success Through Science®

Your C.O.C. #: 08061

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

Report Date: 2011/10/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1F9131
Received: 2011/10/13, 09:30

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2011/10/14	2011/10/18	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

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

Maxxam ID		LF7922	LF7923		
Sampling Date		2011/10/06	2011/10/06		
COC Number		08061	08061		
	Units	**LICA PUFF+QFF/CLS/OCT 06,11**	**LICA PUFF+QFF/PORT/OCT 06,11**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2647224
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2647224
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2647224
2-Methylanthracene	ug	<0.10	<0.10	0.10	2647224
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2647224
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2647224
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2647224
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2647224
Acenaphthene	ug	<0.050	<0.050	0.050	2647224
Acenaphthylene	ug	<0.050	<0.050	0.050	2647224
Anthracene	ug	<0.050	<0.050	0.050	2647224
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2647224
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2647224
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2647224
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2647224
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2647224
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2647224
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2647224
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2647224
Biphenyl	ug	<0.10	<0.10	0.10	2647224
Chrysene	ug	<0.050	<0.050	0.050	2647224
Coronene	ug	<0.10	<0.10	0.10	2647224
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2647224
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2647224
Fluoranthene	ug	<0.050	<0.050	0.050	2647224
Fluorene	ug	0.058	0.052	0.050	2647224
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2647224
m-Terphenyl	ug	<0.10	<0.10	0.10	2647224
Naphthalene	ug	<0.072	<0.072	0.072	2647224
o-Terphenyl	ug	<0.10	<0.10	0.10	2647224
Perylene	ug	<0.10	<0.10	0.10	2647224

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Maxxam ID		LF7922	LF7923		
Sampling Date		2011/10/06	2011/10/06		
COC Number		08061	08061		
	Units	**LICA PUFF+QFF/CLS/OCT 06,11**	**LICA PUFF+QFF/PORT/OCT 06,11**	**RDL**	**QC Batch**
Phenanthrene	ug	0.234	0.138	0.050	2647224
p-Terphenyl	ug	<0.10	<0.10	0.10	2647224
Pyrene	ug	0.050	<0.050	0.050	2647224
Quinoline	ug	<0.40	<0.40	0.40	2647224
Tetralin	ug	<0.10	<0.10	0.10	2647224
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	64	82		2647224
D10-Fluoranthene	%	96	92		2647224
D10-Fluorene (FS)	%	4.8 (1)	5.2 (1)		2647224
D10-Phenanthrene	%	80	86		2647224
D12-Benzo(a)anthracene	%	88	86		2647224
D12-Benzo(a)pyrene	%	94	92		2647224
D12-Benzo(b)fluoranthene	%	82	82		2647224
D12-Benzo(ghi)perylene	%	94	96		2647224
D12-Benzo(k)fluoranthene	%	86	92		2647224
D12-Chrysene	%	84	86		2647224
D12-Indeno(1,2,3-cd)pyrene	%	96	98		2647224
D12-Perylene	%	102	96		2647224
D14-Dibenzo(a,h)anthracene	%	94	96		2647224
D14-Terphenyl (FS)	%	89	93		2647224
D8-Acenaphthylene	%	78	94		2647224
D8-Naphthalene	%	66	84		2647224

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

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Maxxam Analytics

Maxxam Job #: B1F9131
Report Date: 2011/10/19

Test Summary

Maxxam ID	LF7922	**Collected**	2011/10/06
Sample ID	LICA PUFF+QFF/CLS/OCT 06,11	**Shipped**	
Matrix	PUF AND FILTER	**Received**	2011/10/13

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2647224	2011/10/14	2011/10/18	WENDY ZHAO

Maxxam ID	LF7923	**Collected**	2011/10/06
Sample ID	LICA PUFF+QFF/PORT/OCT 06,11	**Shipped**	
Matrix	PUF AND FILTER	**Received**	2011/10/13

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2647224	2011/10/14	2011/10/18	WENDY ZHAO

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Maxxam Analytics

Maxxam Job #: B1F9131
Report Date: 2011/10/19

GENERAL COMMENTS

PAHMS-F
9.10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in initial calibation. No positives found for these 2 compounds.

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

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 Chysene. 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 LF7922-01: PAHMS-F

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

Sample LF7923-01: PAHMS-F

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

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1F9131

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2647224	WZ	Spiked Blank	D10-2-Methylnaphthalene	2011/10/18		76	%	50 - 150
			D10-Fluoranthene	2011/10/18		92	%	50 - 150
			D10-Phenanthrene	2011/10/18		82	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/18		84	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/18		90	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/18		80	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/18		90	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/18		84	%	50 - 150
			D12-Chrysene	2011/10/18		82	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2011/10/18		94	%	50 - 150
			D12-Perylene	2011/10/18		96	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/18		92	%	50 - 150
			D8-Acenaphthylene	2011/10/18		88	%	50 - 150
			D8-Naphthalene	2011/10/18		78	%	50 - 150
			Acenaphthene	2011/10/18		76	%	60 - 130
		RPD	Acenaphthene	2011/10/18	0.3		%	50
		Spiked Blank	Acenaphthylene	2011/10/18		84	%	60 - 130
		RPD	Acenaphthylene	2011/10/18	0.9		%	50
		Spiked Blank	Anthracene	2011/10/18		82	%	60 - 130
		RPD	Anthracene	2011/10/18	8.9		%	50
		Spiked Blank	Benzo(a)anthracene	2011/10/18		79	%	60 - 130
		RPD	Benzo(a)anthracene	2011/10/18	11.7		%	50
		Spiked Blank	Benzo(a)pyrene	2011/10/18		75	%	60 - 130
		RPD	Benzo(a)pyrene	2011/10/18	9.8		%	50
		Spiked Blank	Benzo(b)fluoranthene	2011/10/18		78	%	60 - 130
		RPD	Benzo(b)fluoranthene	2011/10/18	9.0		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2011/10/18		79	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2011/10/18	8.6		%	50
		Spiked Blank	Benzo(k)fluoranthene	2011/10/18		89	%	60 - 130
		RPD	Benzo(k)fluoranthene	2011/10/18	9.4		%	50
		Spiked Blank	Chrysene	2011/10/18		82	%	60 - 130
		RPD	Chrysene	2011/10/18	7.0		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2011/10/18		82	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2011/10/18	7.6		%	50
		Spiked Blank	Fluoranthene	2011/10/18		90	%	60 - 130
		RPD	Fluoranthene	2011/10/18	10.8		%	50
		Spiked Blank	Fluorene	2011/10/18		79	%	60 - 130
		RPD	Fluorene	2011/10/18	1		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2011/10/18		85	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2011/10/18	9.3		%	50
		Spiked Blank	Naphthalene	2011/10/18		82	%	60 - 130
		RPD	Naphthalene	2011/10/18	1.5		%	50
		Spiked Blank	Phenanthrene	2011/10/18		76	%	60 - 130
		RPD	Phenanthrene	2011/10/18	3.3		%	50
		Spiked Blank	Pyrene	2011/10/18		90	%	60 - 130
		RPD	Pyrene	2011/10/18	12.7		%	50
		Method Blank	D10-2-Methylnaphthalene	2011/10/18		82	%	50 - 150
			D10-Fluoranthene	2011/10/18		92	%	50 - 150
			D10-Phenanthrene	2011/10/18		84	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/18		86	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/18		94	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/18		84	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/18		90	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/18		88	%	50 - 150
			D12-Chrysene	2011/10/18		86	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1F9131

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2647224	WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2011/10/18		94	%	50 - 150
			D12-Perylene	2011/10/18		100	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/18		92	%	50 - 150
			D8-Acenaphthylene	2011/10/18		94	%	50 - 150
			D8-Naphthalene	2011/10/18		84	%	50 - 150
			1-Methylnaphthalene	2011/10/18	<0.10		ug	
			1-Methylphenanthrene	2011/10/18	<0.10		ug	
			2-Chloronaphthalene	2011/10/18	<0.10		ug	
			2-Methylanthracene	2011/10/18	<0.10		ug	
			2-Methylnaphthalene	2011/10/18	<0.10		ug	
			3-Methylcholanthrene	2011/10/18	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2011/10/18	<0.10		ug	
			9,10-Dimethylanthracene	2011/10/18	<0.40		ug	
			Acenaphthene	2011/10/18	<0.050		ug	
			Acenaphthylene	2011/10/18	<0.050		ug	
			Anthracene	2011/10/18	<0.050		ug	
			Benzo(a)anthracene	2011/10/18	<0.050		ug	
			Benzo(a)fluorene	2011/10/18	<0.10		ug	
			Benzo(a)pyrene	2011/10/18	<0.050		ug	
			Benzo(b)fluoranthene	2011/10/18	<0.050		ug	
			Benzo(b)fluorene	2011/10/18	<0.10		ug	
			Benzo(e)pyrene	2011/10/18	<0.10		ug	
			Benzo(g,h,i)perylene	2011/10/18	<0.050		ug	
			Benzo(k)fluoranthene	2011/10/18	<0.050		ug	
			Biphenyl	2011/10/18	<0.10		ug	
			Chrysene	2011/10/18	<0.050		ug	
			Coronene	2011/10/18	<0.10		ug	
			Dibenz(a,h)anthracene	2011/10/18	<0.050		ug	
			Dibenzo(a,e)pyrene	2011/10/18	<0.20		ug	
			Fluoranthene	2011/10/18	<0.050		ug	
			Fluorene	2011/10/18	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2011/10/18	<0.050		ug	
			m-Terphenyl	2011/10/18	<0.10		ug	
			Naphthalene	2011/10/18	0.104, RDL=0.072		ug	
			o-Terphenyl	2011/10/18	<0.10		ug	
			Perylene	2011/10/18	<0.10		ug	
			Phenanthrene	2011/10/18	<0.050		ug	
			p-Terphenyl	2011/10/18	<0.10		ug	
			Pyrene	2011/10/18	<0.050		ug	
			Quinoline	2011/10/18	<0.40		ug	
			Tetralin	2011/10/18	<0.10		ug	

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

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MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: Cold Lake South
Station ID: Lica1
Field Sample ID: LICA PUF/CLS/Oct 12,11

Puf+ s/n: 100-1020
Motor s/n: 1138
Installation Date/Time: Oct 11, 2011 @ 7:55 mst
Removal Date/Time: Oct 13, 2011 @ 10:20 mst

Date and Time Information			
Sample Date	Start Time (MST)	Finish Time (MST)	Elapsed Time (Hours)
12-Oct-11	10/12/2011 0:00	10/13/2011 0:00	24.000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
06-Oct-11	13-Oct-11	17-Oct-11	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 25-May-11

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Tempurature (C)	Volume (Vstd m^3)
708	229	5.4	330.37

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

Comments: COC# 08115
GB1E8090 PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Oct 12, 11

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 08115

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

Report Date: 2011/10/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G0748
Received: 2011/10/15, 09:40

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2011/10/19	2011/10/25	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

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

Maxxam ID		LG5706	LG5707		
Sampling Date		2011/10/12	2011/10/12		
COC Number		08115	08115		
	Units	**LICA PUFF+QFF/CLS/OCT 12,11**	**LICA PUFF+QFF/PORT/OCT 12,11**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	0.19	0.13	0.10	2652932
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2652932
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2652932
2-Methylanthracene	ug	<0.10	<0.10	0.10	2652932
2-Methylnaphthalene	ug	0.40	0.22	0.10	2652932
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2652932
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2652932
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2652932
Acenaphthene	ug	<0.050	<0.050	0.050	2652932
Acenaphthylene	ug	0.128	0.274	0.050	2652932
Anthracene	ug	<0.050	<0.050	0.050	2652932
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2652932
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2652932
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2652932
Benzo(b)fluoranthene	ug	0.066	<0.050	0.050	2652932
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2652932
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2652932
Benzo(g,h,i)perylene	ug	0.102	0.092	0.050	2652932
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2652932
Biphenyl	ug	0.11	<0.10	0.10	2652932
Chrysene	ug	<0.050	<0.050	0.050	2652932
Coronene	ug	<0.10	<0.10	0.10	2652932
Dibenz(a,h)anthracene	ug	0.070	<0.050	0.050	2652932
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2652932
Fluoranthene	ug	0.080	0.066	0.050	2652932
Fluorene	ug	0.200	0.100	0.050	2652932
Indeno(1,2,3-cd)pyrene	ug	0.084	0.054	0.050	2652932
m-Terphenyl	ug	<0.10	<0.10	0.10	2652932
Naphthalene	ug	0.340	0.184	0.072	2652932
o-Terphenyl	ug	<0.10	<0.10	0.10	2652932
Perylene	ug	<0.10	<0.10	0.10	2652932

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G0748
Report Date: 2011/10/27

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

Maxxam ID		LG5706	LG5707		
Sampling Date		2011/10/12	2011/10/12		
COC Number		08115	08115		
	Units	**LICA PUFF+QFF/CLS/OCT 12,11**	**LICA PUFF+QFF/PORT/OCT 12,11**	**RDL**	**QC Batch**
Phenanthrene	ug	0.402	0.204	0.050	2652932
p-Terphenyl	ug	<0.10	<0.10	0.10	2652932
Pyrene	ug	0.084	0.104	0.050	2652932
Quinoline	ug	<0.40	<0.40	0.40	2652932
Tetralin	ug	<0.10	<0.10	0.10	2652932
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	92	90		2652932
D10-Fluoranthene	%	88	90		2652932
D10-Fluorene (FS)	%	14 (1)	12 (1)		2652932
D10-Phenanthrene	%	90	92		2652932
D12-Benzo(a)anthracene	%	102	102		2652932
D12-Benzo(a)pyrene	%	92	94		2652932
D12-Benzo(b)fluoranthene	%	90	92		2652932
D12-Benzo(ghi)perylene	%	100	102		2652932
D12-Benzo(k)fluoranthene	%	86	84		2652932
D12-Chrysene	%	84	82		2652932
D12-Indeno(1,2,3-cd)pyrene	%	98	98		2652932
D12-Perylene	%	88	88		2652932
D14-Dibenzo(a,h)anthracene	%	96	98		2652932
D14-Terphenyl (FS)	%	80	67		2652932
D8-Acenaphthylene	%	96	98		2652932
D8-Naphthalene	%	96	92		2652932

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

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Maxxam Analytics

Maxxam Job #: B1G0748
Report Date: 2011/10/27

Test Summary

Maxxam ID LG5706 **Collected** 2011/10/12
Sample ID LICA PUFF+QFF/CLS/OCT 12,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2652932	2011/10/19	2011/10/25	JIE WU

Maxxam ID LG5707 **Collected** 2011/10/12
Sample ID LICA PUFF+QFF/PORT/OCT 12,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2652932	2011/10/19	2011/10/25	JIE WU

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Maxxam Analytics

Maxxam Job #: B1G0748
Report Date: 2011/10/27

GENERAL COMMENTS

PAHMS-F
9.10-Dimethylanthracene and 7,12-dimethylbenzo(a)anthracene are above 25% RSD in initial and continuing calibrations. No positives found for these 2 compounds.

Pyrene is statistically out of control at 71% recovery in the spike:dup. Spike recovery is in control. Acceptance criteria met for both spike and dup. Data reported and flagged.

Not calibrated for benzo(b)anthracene, picene, dibenzo(a,c)anthracene and triphenylene. An estimated mdl for each of these compounds is 0.1ug.

Since dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene and triphenylene with chrysene each would have a value below estimated mdl.

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

Sample LG5706-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

Sample LG5707-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G0748

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2652932	JIW	Spiked Blank	D10-2-Methylnaphthalene	2011/10/25		88	%	50 - 150
			D10-Fluoranthene	2011/10/25		80	%	50 - 150
			D10-Phenanthrene	2011/10/25		82	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/25		88	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/25		84	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/25		88	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/25		96	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/25		80	%	50 - 150
			D12-Chrysene	2011/10/25		82	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2011/10/25		94	%	50 - 150
			D12-Perylene	2011/10/25		80	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/25		94	%	50 - 150
			D8-Acenaphthylene	2011/10/25		86	%	50 - 150
			D8-Naphthalene	2011/10/25		94	%	50 - 150
			Acenaphthene	2011/10/25		83	%	60 - 130
		RPD	Acenaphthene	2011/10/25	3.0		%	50
		Spiked Blank	Acenaphthylene	2011/10/25		86	%	60 - 130
		RPD	Acenaphthylene	2011/10/25	2.3		%	50
		Spiked Blank	Anthracene	2011/10/25		75	%	60 - 130
		RPD	Anthracene	2011/10/25	0.3		%	50
		Spiked Blank	Benzo(a)anthracene	2011/10/25		82	%	60 - 130
		RPD	Benzo(a)anthracene	2011/10/25	1.5		%	50
		Spiked Blank	Benzo(a)pyrene	2011/10/25		72	%	60 - 130
		RPD	Benzo(a)pyrene	2011/10/25	6.5		%	50
		Spiked Blank	Benzo(b)fluoranthene	2011/10/25		83	%	60 - 130
		RPD	Benzo(b)fluoranthene	2011/10/25	2.4		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2011/10/25		90	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2011/10/25	1.4		%	50
		Spiked Blank	Benzo(k)fluoranthene	2011/10/25		86	%	60 - 130
		RPD	Benzo(k)fluoranthene	2011/10/25	5.1		%	50
		Spiked Blank	Chrysene	2011/10/25		83	%	60 - 130
		RPD	Chrysene	2011/10/25	6.1		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2011/10/25		88	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2011/10/25	0.6		%	50
		Spiked Blank	Fluoranthene	2011/10/25		81	%	60 - 130
		RPD	Fluoranthene	2011/10/25	2.8		%	50
		Spiked Blank	Fluorene	2011/10/25		83	%	60 - 130
		RPD	Fluorene	2011/10/25	1.2		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2011/10/25		88	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2011/10/25	0.3		%	50
		Spiked Blank	Naphthalene	2011/10/25		104	%	60 - 130
		RPD	Naphthalene	2011/10/25	6.5		%	50
		Spiked Blank	Phenanthrene	2011/10/25		83	%	60 - 130
		RPD	Phenanthrene	2011/10/25	0		%	50
		Spiked Blank	Pyrene	2011/10/25		72	%	60 - 130
		RPD	Pyrene	2011/10/25	1.8		%	50
		Method Blank	D10-2-Methylnaphthalene	2011/10/26		88	%	50 - 150
			D10-Fluoranthene	2011/10/26		86	%	50 - 150
			D10-Phenanthrene	2011/10/26		86	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/26		96	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/26		90	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/26		92	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/26		108	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/26		82	%	50 - 150
			D12-Chrysene	2011/10/26		82	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0748

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2652932	JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2011/10/26		104	%	50 - 150
			D12-Perylene	2011/10/26		88	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/26		102	%	50 - 150
			D14-Terphenyl (FS)	2011/10/26		0.00 (1)	%	50 - 150
			D8-Acenaphthylene	2011/10/26		90	%	50 - 150
			D8-Naphthalene	2011/10/26		92	%	50 - 150
			1-Methylnaphthalene	2011/10/26	<0.10		ug	
			1-Methylphenanthrene	2011/10/26	<0.10		ug	
			2-Chloronaphthalene	2011/10/26	<0.10		ug	
			2-Methylanthracene	2011/10/26	<0.10		ug	
			2-Methylnaphthalene	2011/10/26	<0.10		ug	
			3-Methylcholanthrene	2011/10/26	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2011/10/26	<0.10		ug	
			9,10-Dimethylanthracene	2011/10/26	<0.40		ug	
			Acenaphthene	2011/10/26	<0.050		ug	
			Acenaphthylene	2011/10/26	<0.050		ug	
			Anthracene	2011/10/26	<0.050		ug	
			Benzo(a)anthracene	2011/10/26	<0.050		ug	
			Benzo(a)fluorene	2011/10/26	<0.10		ug	
			Benzo(a)pyrene	2011/10/26	<0.050		ug	
			Benzo(b)fluoranthene	2011/10/26	<0.050		ug	
			Benzo(b)fluorene	2011/10/26	<0.10		ug	
			Benzo(e)pyrene	2011/10/26	<0.10		ug	
			Benzo(g,h,i)perylene	2011/10/26	<0.050		ug	
			Benzo(k)fluoranthene	2011/10/26	<0.050		ug	
			Biphenyl	2011/10/26	<0.10		ug	
			Chrysene	2011/10/26	<0.050		ug	
			Coronene	2011/10/26	<0.10		ug	
			Dibenz(a,h)anthracene	2011/10/26	<0.050		ug	
			Dibenzo(a,e)pyrene	2011/10/26	<0.20		ug	
			Fluoranthene	2011/10/26	<0.050		ug	
			Fluorene	2011/10/26	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2011/10/26	<0.050		ug	
			m-Terphenyl	2011/10/26	<0.10		ug	
			Naphthalene	2011/10/26	<0.072		ug	
			o-Terphenyl	2011/10/26	<0.10		ug	
			Perylene	2011/10/26	<0.10		ug	
			Phenanthrene	2011/10/26	<0.050		ug	
			p-Terphenyl	2011/10/26	<0.10		ug	
			Pyrene	2011/10/26	<0.050		ug	
			Quinoline	2011/10/26	<0.40		ug	
			Tetralin	2011/10/26	<0.10		ug	

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

MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: Cold Lake South
Station ID: Lica1
Field Sample ID: LICA PUF/CLS/Oct 18,11

Puf+ s/n: 100-1020
Motor s/n: 1138
Installation Date/Time: Oct 17, 2011 @ 10:35 mst
Removal Date/Time: Oct 19, 2011 @ 10:38 mst

Date and Time Information			
Sample Date	Start Time (MST)	Finish Time (MST)	Elapsed Time (Hours)
18-Oct-11	10/18/2011 0:00	10/19/2011 0:00	24.000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
13-Oct-11	19-Oct-11	20-Oct-11	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 25-May-11

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Tempurature (C)	Volume (Vstd m^3)
715	229	9.1	330.34

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

Comments: COC# 07929
GB1F5089 PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Oct 18, 11

Technician Signiture: Ting Xu

Maxxam

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ACCREDITED IN ACCORDANCE WITH nelac

Your C.O.C. #: 07929

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

Report Date: 2011/10/28

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G5008
Received: 2011/10/21, 09:20

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2011/10/24	2011/10/26	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

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

Maxxam ID		LI5860		LI5861		
Sampling Date		2011/10/18		2011/10/18		
COC Number		07929		07929		
	Units	**LICA PUFF+QFF/CLS/OCT 18,11**	**RDL**	**LICA PUFF+QFF/PORT/OCT 18,11**	**RDL**	**QC Batch**
Semivolatile Organics						
1-Methylnaphthalene	ug	<0.10	0.10	<0.10	0.10	2657301
1-Methylphenanthrene	ug	<0.10	0.10	<0.10	0.10	2657301
2-Chloronaphthalene	ug	<0.10	0.10	<0.10	0.10	2657301
2-Methylanthracene	ug	<0.10	0.10	<0.10	0.10	2657301
2-Methylnaphthalene	ug	0.15	0.10	0.11	0.10	2657301
3-Methylcholanthrene	ug	<2.0	2.0	<2.0	2.0	2657301
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	0.10	<0.10	0.10	2657301
9,10-Dimethylanthracene	ug	<0.40	0.40	<0.40	0.40	2657301
Acenaphthene	ug	<0.050	0.050	<0.050	0.050	2657301
Acenaphthylene	ug	<0.050	0.050	<0.050	0.050	2657301
Anthracene	ug	<0.050	0.050	<0.050	0.050	2657301
Benzo(a)anthracene	ug	<0.050	0.050	<0.050	0.050	2657301
Benzo(a)fluorene	ug	<0.10	0.10	<0.10	0.10	2657301
Benzo(a)pyrene	ug	<0.050	0.050	<0.050	0.050	2657301
Benzo(b)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2657301
Benzo(b)fluorene	ug	<0.10	0.10	<0.10	0.10	2657301
Benzo(e)pyrene	ug	<0.10	0.10	<0.10	0.10	2657301
Benzo(g,h,i)perylene	ug	<0.050	0.050	<0.050	0.050	2657301
Benzo(k)fluoranthene	ug	<0.050	0.050	<0.24	0.24	2657301
Biphenyl	ug	<0.10	0.10	<0.10	0.10	2657301
Chrysene	ug	<0.050	0.050	<0.050	0.050	2657301
Coronene	ug	<0.10	0.10	<0.10	0.10	2657301
Dibenz(a,h)anthracene	ug	<0.050	0.050	<0.050	0.050	2657301
Dibenzo(a,e)pyrene	ug	<0.20	0.20	<0.20	0.20	2657301
Fluoranthene	ug	0.066	0.050	0.050	0.050	2657301
Fluorene	ug	0.168	0.050	0.096	0.050	2657301
Indeno(1,2,3-cd)pyrene	ug	<0.050	0.050	<0.050	0.050	2657301
m-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2657301
Naphthalene	ug	0.190	0.072	0.100	0.072	2657301
o-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2657301
Perylene	ug	<0.10	0.10	<0.10	0.10	2657301

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Analytics

Maxxam Job #: B1G5008
Report Date: 2011/10/28

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

Maxxam ID		LI5860		LI5861		
Sampling Date		2011/10/18		2011/10/18		
COC Number		07929		07929		
	Units	**LICA PUFF+QFF/CLS/OCT 18,11**	**RDL**	**LICA PUFF+QFF/PORT/OCT 18,11**	**RDL**	**QC Batch**
Phenanthrene	ug	0.420	0.050	0.218	0.050	2657301
p-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2657301
Pyrene	ug	0.074	0.050	<0.050	0.050	2657301
Quinoline	ug	<0.40	0.40	<0.40	0.40	2657301
Tetralin	ug	<0.10	0.10	<0.10	0.10	2657301
Surrogate Recovery (%)						
D10-2-Methylnaphthalene	%	84		90		2657301
D10-Fluoranthene	%	90		96		2657301
D10-Fluorene (FS)	%	8.6 (1)		10 (1)		2657301
D10-Phenanthrene	%	88		92		2657301
D12-Benzo(a)anthracene	%	94		96		2657301
D12-Benzo(a)pyrene	%	88		96		2657301
D12-Benzo(b)fluoranthene	%	86		88		2657301
D12-Benzo(ghi)perylene	%	96		108		2657301
D12-Benzo(k)fluoranthene	%	88		92		2657301
D12-Chrysene	%	82		84		2657301
D12-Indeno(1,2,3-cd)pyrene	%	92		108		2657301
D12-Perylene	%	84		92		2657301
D14-Dibenzo(a,h)anthracene	%	90		106		2657301
D14-Terphenyl (FS)	%	84		90		2657301
D8-Acenaphthylene	%	88		96		2657301
D8-Naphthalene	%	86		92		2657301

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

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Maxxam Analytics

Maxxam Job #: B1G5008
Report Date: 2011/10/28

Test Summary

Maxxam ID LI5860 **Collected** 2011/10/18
Sample ID LICA PUFF+QFF/CLS/OCT 18,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/21

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2657301	2011/10/24	2011/10/26	WENDY ZHAO

Maxxam ID LI5861 **Collected** 2011/10/18
Sample ID LICA PUFF+QFF/PORT/OCT 18,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/21

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2657301	2011/10/24	2011/10/26	WENDY ZHAO

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Maxxam Analytics

Maxxam Job #: B1G5008
Report Date: 2011/10/28

GENERAL COMMENTS

PAHMS-F
9.10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in initial calibation. No positives found for these 2 compounds.

Pyrene is statistically out of control at 81.3% and 80.8% recovery in the spike and spike:dup. 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.

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 Chysene. 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 LI5860-01: PAHMS-F

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

Sample LI5861-01: PAHMS-F

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

Mdl was raised for Benzo(k)fluoranthene due to sample matrix interference on a possible possitive.

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G5008

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2657301	WZ	Spiked Blank	D10-2-Methylnaphthalene	2011/10/26		90	%	50 - 150
			D10-Fluoranthene	2011/10/26		90	%	50 - 150
			D10-Phenanthrene	2011/10/26		86	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/26		98	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/26		86	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/26		88	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/26		96	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/26		88	%	50 - 150
			D12-Chrysene	2011/10/26		88	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2011/10/26		90	%	50 - 150
			D12-Perylene	2011/10/26		84	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/26		86	%	50 - 150
			D8-Acenaphthylene	2011/10/26		94	%	50 - 150
			D8-Naphthalene	2011/10/26		94	%	50 - 150
			Acenaphthene	2011/10/26		89	%	60 - 130
		RPD	Acenaphthene	2011/10/26	2.0		%	50
		Spiked Blank	Acenaphthylene	2011/10/26		92	%	60 - 130
		RPD	Acenaphthylene	2011/10/26	2.2		%	50
		Spiked Blank	Anthracene	2011/10/26		81	%	60 - 130
		RPD	Anthracene	2011/10/26	2.1		%	50
		Spiked Blank	Benzo(a)anthracene	2011/10/26		88	%	60 - 130
		RPD	Benzo(a)anthracene	2011/10/26	3.9		%	50
		Spiked Blank	Benzo(a)pyrene	2011/10/26		73	%	60 - 130
		RPD	Benzo(a)pyrene	2011/10/26	0.3		%	50
		Spiked Blank	Benzo(b)fluoranthene	2011/10/26		82	%	60 - 130
		RPD	Benzo(b)fluoranthene	2011/10/26	0.6		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2011/10/26		84	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2011/10/26	2.1		%	50
		Spiked Blank	Benzo(k)fluoranthene	2011/10/26		88	%	60 - 130
		RPD	Benzo(k)fluoranthene	2011/10/26	0.9		%	50
		Spiked Blank	Chrysene	2011/10/26		88	%	60 - 130
		RPD	Chrysene	2011/10/26	2.2		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2011/10/26		78	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2011/10/26	3.2		%	50
		Spiked Blank	Fluoranthene	2011/10/26		89	%	60 - 130
		RPD	Fluoranthene	2011/10/26	0.3		%	50
		Spiked Blank	Fluorene	2011/10/26		88	%	60 - 130
		RPD	Fluorene	2011/10/26	2.0		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2011/10/26		81	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2011/10/26	1.5		%	50
		Spiked Blank	Naphthalene	2011/10/26		110	%	60 - 130
		RPD	Naphthalene	2011/10/26	0.2		%	50
		Spiked Blank	Phenanthrene	2011/10/26		86	%	60 - 130
		RPD	Phenanthrene	2011/10/26	2.0		%	50
		Spiked Blank	Pyrene	2011/10/26		81	%	60 - 130
		RPD	Pyrene	2011/10/26	0.6		%	50
		Method Blank	D10-2-Methylnaphthalene	2011/10/26		94	%	50 - 150
			D10-Fluoranthene	2011/10/26		94	%	50 - 150
			D10-Phenanthrene	2011/10/26		90	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/26		104	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/26		90	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/26		94	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/26		100	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/26		90	%	50 - 150
			D12-Chrysene	2011/10/26		92	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G5008

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2657301	WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2011/10/26		94	%	50 - 150
			D12-Perylene	2011/10/26		88	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/26		92	%	50 - 150
			D8-Acenaphthylene	2011/10/26		96	%	50 - 150
			D8-Naphthalene	2011/10/26		98	%	50 - 150
			1-Methylnaphthalene	2011/10/26	<0.10		ug	
			1-Methylphenanthrene	2011/10/26	<0.10		ug	
			2-Chloronaphthalene	2011/10/26	<0.10		ug	
			2-Methylanthracene	2011/10/26	<0.10		ug	
			2-Methylnaphthalene	2011/10/26	<0.10		ug	
			3-Methylcholanthrene	2011/10/26	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2011/10/26	<0.10		ug	
			9,10-Dimethylanthracene	2011/10/26	<0.40		ug	
			Acenaphthene	2011/10/26	<0.050		ug	
			Acenaphthylene	2011/10/26	<0.050		ug	
			Anthracene	2011/10/26	<0.050		ug	
			Benzo(a)anthracene	2011/10/26	<0.050		ug	
			Benzo(a)fluorene	2011/10/26	<0.10		ug	
			Benzo(a)pyrene	2011/10/26	<0.050		ug	
			Benzo(b)fluoranthene	2011/10/26	<0.050		ug	
			Benzo(b)fluorene	2011/10/26	<0.10		ug	
			Benzo(e)pyrene	2011/10/26	<0.10		ug	
			Benzo(g,h,i)perylene	2011/10/26	<0.050		ug	
			Benzo(k)fluoranthene	2011/10/26	<0.050		ug	
			Biphenyl	2011/10/26	<0.10		ug	
			Chrysene	2011/10/26	<0.050		ug	
			Coronene	2011/10/26	<0.10		ug	
			Dibenz(a,h)anthracene	2011/10/26	<0.050		ug	
			Dibenzo(a,e)pyrene	2011/10/26	<0.20		ug	
			Fluoranthene	2011/10/26	<0.050		ug	
			Fluorene	2011/10/26	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2011/10/26	<0.050		ug	
			m-Terphenyl	2011/10/26	<0.10		ug	
			Naphthalene	2011/10/26	0.150, RDL=0.072		ug	
			o-Terphenyl	2011/10/26	<0.10		ug	
			Perylene	2011/10/26	<0.10		ug	
			Phenanthrene	2011/10/26	<0.050		ug	
			p-Terphenyl	2011/10/26	<0.10		ug	
			Pyrene	2011/10/26	<0.050		ug	
			Quinoline	2011/10/26	<0.40		ug	
			Tetralin	2011/10/26	<0.10		ug	

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

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MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: Cold Lake South
Station ID: Lica1
Field Sample ID: LICA PUF/CLS/Oct 24,11

Puf+ s/n: 100-1020
Motor s/n: 1138
Installation Date/Time: Oct 21, 2011 @ 08:20 mst
Removal Date/Time: Oct 26, 2011 @ 07:50 mst

Date and Time Information			
Sample Date	Start Time (MST)	Finish Time (MST)	Elapsed Time (Hours)
24-Oct-11	10/24/2011 0:00	10/25/2011 0:00	24.000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
19-Oct-11	26-Oct-11	31-Oct-11	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 25-May-11

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Tempurature (C)	Volume (Vstd m^3)
711	229	2.9	330.35

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

Comments: COC# 08232
GB1F5090 PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Oct 24, 11

Technician Signiture: Ting Xu

Maxxam

Success Through Science®

Your C.O.C. #: 08232

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

Report Date: 2011/11/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G9333
Received: 2011/10/28, 09:30

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2011/10/31	2011/11/07	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

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

Maxxam ID		LK6928		LK6929		
Sampling Date		2011/10/24		2011/10/24		
COC Number		08232		08232		
	Units	**LICA PUFF+QFF/CLS/OCT 24,11**	**RDL**	**LICA PUFF+QFF/PORT/OCT 24,11**	**RDL**	**QC Batch**
Semivolatile Organics						
1-Methylnaphthalene	ug	0.35	0.10	<0.10	0.10	2665982
1-Methylphenanthrene	ug	<0.10	0.10	<0.10	0.10	2665982
2-Chloronaphthalene	ug	<0.10	0.10	<0.10	0.10	2665982
2-Methylanthracene	ug	<0.10	0.10	<0.10	0.10	2665982
2-Methylnaphthalene	ug	0.63	0.10	0.15	0.10	2665982
3-Methylcholanthrene	ug	<2.0	2.0	<2.0	2.0	2665982
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	0.10	<0.10	0.10	2665982
9,10-Dimethylanthracene	ug	<0.40	0.40	<0.40	0.40	2665982
Acenaphthene	ug	<0.11	0.11	<0.050	0.050	2665982
Acenaphthylene	ug	0.064	0.050	<0.050	0.050	2665982
Anthracene	ug	<0.050	0.050	<0.050	0.050	2665982
Benzo(a)anthracene	ug	<0.050	0.050	<0.050	0.050	2665982
Benzo(a)fluorene	ug	<0.10	0.10	<0.10	0.10	2665982
Benzo(a)pyrene	ug	<0.050	0.050	<0.050	0.050	2665982
Benzo(b)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2665982
Benzo(b)fluorene	ug	<0.10	0.10	<0.10	0.10	2665982
Benzo(e)pyrene	ug	<0.10	0.10	<0.10	0.10	2665982
Benzo(g,h,i)perylene	ug	<0.050	0.050	<0.050	0.050	2665982
Benzo(k)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2665982
Biphenyl	ug	0.22	0.10	0.15	0.10	2665982
Chrysene	ug	<0.050	0.050	<0.050	0.050	2665982
Coronene	ug	<0.10	0.10	<0.10	0.10	2665982
Dibenz(a,h)anthracene	ug	<0.050	0.050	<0.050	0.050	2665982
Dibenzo(a,e)pyrene	ug	<0.20	0.20	<0.20	0.20	2665982
Fluoranthene	ug	<0.050	0.050	<0.050	0.050	2665982
Fluorene	ug	0.182	0.050	0.088	0.050	2665982
Indeno(1,2,3-cd)pyrene	ug	<0.050	0.050	<0.050	0.050	2665982
m-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2665982
Naphthalene	ug	0.522	0.072	0.186	0.072	2665982
o-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2665982
Perylene	ug	<0.10	0.10	<0.10	0.10	2665982

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Maxxam ID		LK6928		LK6929		
Sampling Date		2011/10/24		2011/10/24		
COC Number		08232		08232		
	Units	**LICA PUFF+QFF/CLS/OCT 24,11**	**RDL**	**LICA PUFF+QFF/PORT/OCT 24,11**	**RDL**	**QC Batch**
Phenanthrene	ug	0.230	0.050	0.162	0.050	2665982
p-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2665982
Pyrene	ug	<0.050	0.050	<0.050	0.050	2665982
Quinoline	ug	<0.40	0.40	<0.40	0.40	2665982
Tetralin	ug	<0.10	0.10	<0.10	0.10	2665982
Surrogate Recovery (%)						
D10-2-Methylnaphthalene	%	78		84		2665982
D10-Fluoranthene	%	92		92		2665982
D10-Fluorene (FS)	%	31 (1)		24 (1)		2665982
D10-Phenanthrene	%	90		92		2665982
D12-Benzo(a)anthracene	%	98		98		2665982
D12-Benzo(a)pyrene	%	90		90		2665982
D12-Benzo(b)fluoranthene	%	86		92		2665982
D12-Benzo(ghi)perylene	%	88		90		2665982
D12-Benzo(k)fluoranthene	%	86		86		2665982
D12-Chrysene	%	82		82		2665982
D12-Indeno(1,2,3-cd)pyrene	%	88		90		2665982
D12-Perylene	%	86		86		2665982
D14-Dibenzo(a,h)anthracene	%	88		90		2665982
D14-Terphenyl (FS)	%	87		89		2665982
D8-Acenaphthylene	%	90		94		2665982
D8-Naphthalene	%	80		86		2665982

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

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Maxxam Analytics

Maxxam Job #: B1G9333
Report Date: 2011/11/11

Test Summary

Maxxam ID LK6928 **Collected** 2011/10/24
Sample ID LICA PUFF+QFF/CLS/OCT 24,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2665982	2011/10/31	2011/11/07	JIE WU

Maxxam ID LK6929 **Collected** 2011/10/24
Sample ID LICA PUFF+QFF/PORT/OCT 24,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2665982	2011/10/31	2011/11/07	JIE WU

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Maxxam Analytics

Maxxam Job #: B1G9333
Report Date: 2011/11/11

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.

7,12-dimethylbenzo(a)anthracene and 3-methylcholanthrene are above 25% RSD in continuing calibration.

Pyrene is statistically out of control at 75% recovery in spike and 79% recovery in spike:dup. Reran both vials with similar results. Orignial run reported. Acceptance criteria met for both spike and dup. Data reported and flagged.

Indeno(1,2,3-cd)pyrene positive found in blank. Samples should be considered to be possibly contaminated to the level found in the blank.

Not calibrated for benzo(b)anthracene, picene, dibenzo(a,c)anthracene and triphenylene. An estimated mdl for each of these compounds is 0.1ug.

Since dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene and triphenylene with chrysene each would have a value below estimated mdl.

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

Sample LK6928-01: Mdl raised further for acenaphthene due to matrix interference on a possible positive.

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

Sample LK6929-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G9333

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2665982	JIW	Spiked Blank	D10-2-Methylnaphthalene	2011/11/07		84	%	50 - 150
			D10-Fluoranthene	2011/11/07		84	%	50 - 150
			D10-Phenanthrene	2011/11/07		84	%	50 - 150
			D12-Benzo(a)anthracene	2011/11/07		96	%	50 - 150
			D12-Benzo(a)pyrene	2011/11/07		88	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/11/07		90	%	50 - 150
			D12-Benzo(ghi)perylene	2011/11/07		88	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/11/07		84	%	50 - 150
			D12-Chrysene	2011/11/07		84	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2011/11/07		86	%	50 - 150
			D12-Perylene	2011/11/07		84	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/11/07		88	%	50 - 150
			D8-Acenaphthylene	2011/11/07		90	%	50 - 150
			D8-Naphthalene	2011/11/07		88	%	50 - 150
			Acenaphthene	2011/11/07		84	%	60 - 130
		RPD	Acenaphthene	2011/11/07	1.5		%	50
		Spiked Blank	Acenaphthylene	2011/11/07		89	%	60 - 130
		RPD	Acenaphthylene	2011/11/07	3.9		%	50
		Spiked Blank	Anthracene	2011/11/07		80	%	60 - 130
		RPD	Anthracene	2011/11/07	3.4		%	50
		Spiked Blank	Benzo(a)anthracene	2011/11/07		84	%	60 - 130
		RPD	Benzo(a)anthracene	2011/11/07	7.7		%	50
		Spiked Blank	Benzo(a)pyrene	2011/11/07		75	%	60 - 130
		RPD	Benzo(a)pyrene	2011/11/07	1		%	50
		Spiked Blank	Benzo(b)fluoranthene	2011/11/07		81	%	60 - 130
		RPD	Benzo(b)fluoranthene	2011/11/07	1.8		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2011/11/07		78	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2011/11/07	2.9		%	50
		Spiked Blank	Benzo(k)fluoranthene	2011/11/07		87	%	60 - 130
		RPD	Benzo(k)fluoranthene	2011/11/07	2.3		%	50
		Spiked Blank	Chrysene	2011/11/07		83	%	60 - 130
		RPD	Chrysene	2011/11/07	3.2		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2011/11/07		78	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2011/11/07	3.5		%	50
		Spiked Blank	Fluoranthene	2011/11/07		83	%	60 - 130
		RPD	Fluoranthene	2011/11/07	5.3		%	50
		Spiked Blank	Fluorene	2011/11/07		83	%	60 - 130
		RPD	Fluorene	2011/11/07	3.0		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2011/11/07		79	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2011/11/07	4.1		%	50
		Spiked Blank	Naphthalene	2011/11/07		92	%	60 - 130
		RPD	Naphthalene	2011/11/07	0.3		%	50
		Spiked Blank	Phenanthrene	2011/11/07		80	%	60 - 130
		RPD	Phenanthrene	2011/11/07	4.6		%	50
		Spiked Blank	Pyrene	2011/11/07		75	%	60 - 130
		RPD	Pyrene	2011/11/07	6.2		%	50
		Method Blank	D10-2-Methylnaphthalene	2011/11/07		84	%	50 - 150
			D10-Fluoranthene	2011/11/07		86	%	50 - 150
			D10-Phenanthrene	2011/11/07		86	%	50 - 150
			D12-Benzo(a)anthracene	2011/11/07		98	%	50 - 150
			D12-Benzo(a)pyrene	2011/11/07		88	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/11/07		90	%	50 - 150
			D12-Benzo(ghi)perylene	2011/11/07		90	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/11/07		84	%	50 - 150
			D12-Chrysene	2011/11/07		82	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G9333

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2665982	JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2011/11/07		88	%	50 - 150
			D12-Perylene	2011/11/07		86	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/11/07		88	%	50 - 150
			D8-Acenaphthylene	2011/11/07		92	%	50 - 150
			D8-Naphthalene	2011/11/07		88	%	50 - 150
			1-Methylnaphthalene	2011/11/07	<0.10		ug	
			1-Methylphenanthrene	2011/11/07	<0.10		ug	
			2-Chloronaphthalene	2011/11/07	<0.10		ug	
			2-Methylanthracene	2011/11/07	<0.10		ug	
			2-Methylnaphthalene	2011/11/07	<0.10		ug	
			3-Methylcholanthrene	2011/11/07	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2011/11/07	<0.10		ug	
			9,10-Dimethylanthracene	2011/11/07	<0.40		ug	
			Acenaphthene	2011/11/07	<0.050		ug	
			Acenaphthylene	2011/11/07	<0.050		ug	
			Anthracene	2011/11/07	<0.050		ug	
			Benzo(a)anthracene	2011/11/07	<0.050		ug	
			Benzo(a)fluorene	2011/11/07	<0.10		ug	
			Benzo(a)pyrene	2011/11/07	<0.050		ug	
			Benzo(b)fluoranthene	2011/11/07	<0.050		ug	
			Benzo(b)fluorene	2011/11/07	<0.10		ug	
			Benzo(e)pyrene	2011/11/07	<0.10		ug	
			Benzo(g,h,i)perylene	2011/11/07	<0.050		ug	
			Benzo(k)fluoranthene	2011/11/07	<0.050		ug	
			Biphenyl	2011/11/07	<0.10		ug	
			Chrysene	2011/11/07	<0.050		ug	
			Coronene	2011/11/07	<0.10		ug	
			Dibenz(a,h)anthracene	2011/11/07	<0.050		ug	
			Dibenzo(a,e)pyrene	2011/11/07	<0.20		ug	
			Fluoranthene	2011/11/07	<0.050		ug	
			Fluorene	2011/11/07	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2011/11/07	0.052, RDL=0.050		ug	
			m-Terphenyl	2011/11/07	<0.10		ug	
			Naphthalene	2011/11/07	<0.072		ug	
			o-Terphenyl	2011/11/07	<0.10		ug	
			Perylene	2011/11/07	<0.10		ug	
			Phenanthrene	2011/11/07	<0.050		ug	
			p-Terphenyl	2011/11/07	<0.10		ug	
			Pyrene	2011/11/07	<0.050		ug	
			Quinoline	2011/11/07	<0.40		ug	
			Tetralin	2011/11/07	<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.

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MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: Cold Lake South
Station ID: Lica1
Field Sample ID: LICA PUF/CLS/Oct 30,11

Puf+ s/n: 100-1020
Motor s/n: 1138
Installation Date/Time: Oct 28, 2011 @ 16:-08 mst
Removal Date/Time: Oct 31, 2011 @ 09: 45 mst

Date and Time Information			
Sample Date	Start Time (MST)	Finish Time (MST)	Elapsed Time (Hours)
30-Oct-11	10/30/2011 0:00	10/31/2011 0:00	24.000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
25-Oct-11	31-Oct-11	03-Nov-11	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 22-Sep-11

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Tempurature (C)	Volume (Vstd m^3)
706	229	2.5	330.36

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

Comments: COC# 08007
GB1F5091 PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Oct 30, 11

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 08007

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

Report Date: 2011/11/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1H2035
Received: 2011/11/02, 09:56

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2011/11/04	2011/11/08	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

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

Maxxam ID		LM1809		LM1810		
Sampling Date		2011/10/30		2011/10/30		
COC Number		08007		08007		
	Units	**LICA PUFF&QFF/CLS/OCT 30,11**	**RDL**	**LICA PUFF&QFF/PORT/OCT 30,11**	**RDL**	**QC Batch**
Semivolatile Organics						
1-Methylnaphthalene	ug	0.13	0.10	<0.10	0.10	2670963
1-Methylphenanthrene	ug	<0.10	0.10	<0.10	0.10	2670963
2-Chloronaphthalene	ug	<0.10	0.10	<0.10	0.10	2670963
2-Methylanthracene	ug	<0.10	0.10	<0.10	0.10	2670963
2-Methylnaphthalene	ug	0.24	0.10	0.15	0.10	2670963
3-Methylcholanthrene	ug	<2.0	2.0	<2.0	2.0	2670963
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	0.10	<0.10	0.10	2670963
9,10-Dimethylanthracene	ug	<0.40	0.40	<0.40	0.40	2670963
Acenaphthene	ug	<0.067	0.067	<0.050	0.050	2670963
Acenaphthylene	ug	0.122	0.050	<0.050	0.050	2670963
Anthracene	ug	<0.050	0.050	<0.050	0.050	2670963
Benzo(a)anthracene	ug	<0.050	0.050	<0.050	0.050	2670963
Benzo(a)fluorene	ug	<0.10	0.10	<0.10	0.10	2670963
Benzo(a)pyrene	ug	<0.050	0.050	<0.050	0.050	2670963
Benzo(b)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2670963
Benzo(b)fluorene	ug	<0.10	0.10	<0.10	0.10	2670963
Benzo(e)pyrene	ug	<0.10	0.10	<0.10	0.10	2670963
Benzo(g,h,i)perylene	ug	<0.050	0.050	<0.050	0.050	2670963
Benzo(k)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2670963
Biphenyl	ug	0.19	0.10	0.24	0.10	2670963
Chrysene	ug	<0.050	0.050	<0.050	0.050	2670963
Coronene	ug	<0.10	0.10	<0.10	0.10	2670963
Dibenz(a,h)anthracene	ug	<0.050	0.050	<0.050	0.050	2670963
Dibenzo(a,e)pyrene	ug	<0.20	0.20	<0.20	0.20	2670963
Fluoranthene	ug	0.082	0.050	<0.050	0.050	2670963
Fluorene	ug	0.222	0.050	0.132	0.050	2670963
Indeno(1,2,3-cd)pyrene	ug	<0.050	0.050	<0.050	0.050	2670963
m-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2670963
Naphthalene	ug	0.202	0.072	0.142	0.072	2670963
o-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2670963
Perylene	ug	<0.10	0.10	<0.10	0.10	2670963

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Maxxam ID		LM1809		LM1810		
Sampling Date		2011/10/30		2011/10/30		
COC Number		08007		08007		
	Units	**LICA PUFF&QFF/CLS/OCT 30,11**	**RDL**	**LICA PUFF&QFF/PORT/OCT 30,11**	**RDL**	**QC Batch**
Phenanthrene	ug	0.390	0.050	0.204	0.050	2670963
p-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2670963
Pyrene	ug	0.070	0.050	<0.050	0.050	2670963
Quinoline	ug	<0.40	0.40	<0.40	0.40	2670963
Tetralin	ug	<0.10	0.10	<0.10	0.10	2670963
Surrogate Recovery (%)						
D10-2-Methylnaphthalene	%	78		86		2670963
D10-Fluoranthene	%	98		90		2670963
D10-Fluorene (FS)	%	25 (1)		26 (1)		2670963
D10-Phenanthrene	%	92		88		2670963
D12-Benzo(a)anthracene	%	110		108		2670963
D12-Benzo(a)pyrene	%	88		92		2670963
D12-Benzo(b)fluoranthene	%	88		88		2670963
D12-Benzo(ghi)perylene	%	94		96		2670963
D12-Benzo(k)fluoranthene	%	86		88		2670963
D12-Chrysene	%	86		86		2670963
D12-Indeno(1,2,3-cd)pyrene	%	94		94		2670963
D12-Perylene	%	86		88		2670963
D14-Dibenzo(a,h)anthracene	%	94		92		2670963
D14-Terphenyl (FS)	%	92		87		2670963
D8-Acenaphthylene	%	86		90		2670963
D8-Naphthalene	%	76		88		2670963

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

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Maxxam Analytics

Maxxam Job #: B1H2035
Report Date: 2011/11/14

Test Summary

Maxxam ID LM1809 **Collected** 2011/10/30
Sample ID LICA PUFF&QFF/CLS/OCT 30,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/11/02

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2670963	2011/11/04	2011/11/08	JIE WU

Maxxam ID LM1810 **Collected** 2011/10/30
Sample ID LICA PUFF&QFF/PORT/OCT 30,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/11/02

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2670963	2011/11/04	2011/11/08	JIE WU

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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.

Pyrene is statistically out of control at 76% recovery in spike and 77.5% recovery in spike:dup. 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.

Not calibrated for benzo(b)anthracene, picene, dibenzo(a,c)anthracene and triphenylene. An estimated mdl for each of these compounds is 0.1ug.

Since dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene and triphenylene with chrysene each would have a value below estimated mdl.

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

Sample LM1809-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

Internal Std area response criteria was high in smaple. The vial was rerun with similar results. Original run reported.

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

Sample LM1810-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1H2035

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2670963	JIW	Spiked Blank	D10-2-Methylnaphthalene	2011/11/08		86	%	50 - 150
			D10-Fluoranthene	2011/11/08		82	%	50 - 150
			D10-Phenanthrene	2011/11/08		84	%	50 - 150
			D12-Benzo(a)anthracene	2011/11/08		112	%	50 - 150
			D12-Benzo(a)pyrene	2011/11/08		86	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/11/08		86	%	50 - 150
			D12-Benzo(ghi)perylene	2011/11/08		94	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/11/08		88	%	50 - 150
			D12-Chrysene	2011/11/08		94	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2011/11/08		90	%	50 - 150
			D12-Perylene	2011/11/08		84	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/11/08		90	%	50 - 150
			D8-Acenaphthylene	2011/11/08		88	%	50 - 150
			D8-Naphthalene	2011/11/08		90	%	50 - 150
			Acenaphthene	2011/11/08		83	%	60 - 130
		RPD	Acenaphthene	2011/11/08	7.2		%	50
		Spiked Blank	Acenaphthylene	2011/11/08		86	%	60 - 130
		RPD	Acenaphthylene	2011/11/08	5.4		%	50
		Spiked Blank	Anthracene	2011/11/08		75	%	60 - 130
		RPD	Anthracene	2011/11/08	5.5		%	50
		Spiked Blank	Benzo(a)anthracene	2011/11/08		95	%	60 - 130
		RPD	Benzo(a)anthracene	2011/11/08	3.2		%	50
		Spiked Blank	Benzo(a)pyrene	2011/11/08		73	%	60 - 130
		RPD	Benzo(a)pyrene	2011/11/08	2.4		%	50
		Spiked Blank	Benzo(b)fluoranthene	2011/11/08		86	%	60 - 130
		RPD	Benzo(b)fluoranthene	2011/11/08	0.3		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2011/11/08		83	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2011/11/08	0.6		%	50
		Spiked Blank	Benzo(k)fluoranthene	2011/11/08		87	%	60 - 130
		RPD	Benzo(k)fluoranthene	2011/11/08	0.3		%	50
		Spiked Blank	Chrysene	2011/11/08		93	%	60 - 130
		RPD	Chrysene	2011/11/08	1.4		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2011/11/08		83	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2011/11/08	2.1		%	50
		Spiked Blank	Fluoranthene	2011/11/08		83	%	60 - 130
		RPD	Fluoranthene	2011/11/08	3.5		%	50
		Spiked Blank	Fluorene	2011/11/08		82	%	60 - 130
		RPD	Fluorene	2011/11/08	5.3		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2011/11/08		83	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2011/11/08	1.8		%	50
		Spiked Blank	Naphthalene	2011/11/08		100	%	60 - 130
		RPD	Naphthalene	2011/11/08	2.5		%	50
		Spiked Blank	Phenanthrene	2011/11/08		81	%	60 - 130
		RPD	Phenanthrene	2011/11/08	5.1		%	50
		Spiked Blank	Pyrene	2011/11/08		76	%	60 - 130
		RPD	Pyrene	2011/11/08	2.0		%	50
		Method Blank	D10-2-Methylnaphthalene	2011/11/08		90	%	50 - 150
			D10-Fluoranthene	2011/11/08		90	%	50 - 150
			D10-Phenanthrene	2011/11/08		90	%	50 - 150
			D12-Benzo(a)anthracene	2011/11/08		92	%	50 - 150
			D12-Benzo(a)pyrene	2011/11/08		88	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/11/08		90	%	50 - 150
			D12-Benzo(ghi)perylene	2011/11/08		92	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/11/08		82	%	50 - 150
			D12-Chrysene	2011/11/08		86	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1H2035

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2670963	JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2011/11/08		88	%	50 - 150
			D12-Perylene	2011/11/08		84	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/11/08		86	%	50 - 150
			D8-Acenaphthylene	2011/11/08		94	%	50 - 150
			D8-Naphthalene	2011/11/08		96	%	50 - 150
			1-Methylnaphthalene	2011/11/08	<0.10		ug	
			1-Methylphenanthrene	2011/11/08	<0.10		ug	
			2-Chloronaphthalene	2011/11/08	<0.10		ug	
			2-Methylanthracene	2011/11/08	<0.10		ug	
			2-Methylnaphthalene	2011/11/08	<0.10		ug	
			3-Methylcholanthrene	2011/11/08	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2011/11/08	<0.10		ug	
			9,10-Dimethylanthracene	2011/11/08	<0.40		ug	
			Acenaphthene	2011/11/08	<0.050		ug	
			Acenaphthylene	2011/11/08	<0.050		ug	
			Anthracene	2011/11/08	<0.050		ug	
			Benzo(a)anthracene	2011/11/08	<0.050		ug	
			Benzo(a)fluorene	2011/11/08	<0.10		ug	
			Benzo(a)pyrene	2011/11/08	<0.050		ug	
			Benzo(b)fluoranthene	2011/11/08	<0.050		ug	
			Benzo(b)fluorene	2011/11/08	<0.10		ug	
			Benzo(e)pyrene	2011/11/08	<0.10		ug	
			Benzo(g,h,i)perylene	2011/11/08	<0.050		ug	
			Benzo(k)fluoranthene	2011/11/08	<0.050		ug	
			Biphenyl	2011/11/08	<0.10		ug	
			Chrysene	2011/11/08	<0.050		ug	
			Coronene	2011/11/08	<0.10		ug	
			Dibenz(a,h)anthracene	2011/11/08	<0.050		ug	
			Dibenzo(a,e)pyrene	2011/11/08	<0.20		ug	
			Fluoranthene	2011/11/08	<0.050		ug	
			Fluorene	2011/11/08	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2011/11/08	<0.050		ug	
			m-Terphenyl	2011/11/08	<0.10		ug	
			Naphthalene	2011/11/08	0.094, RDL=0.072		ug	
			o-Terphenyl	2011/11/08	<0.10		ug	
			Perylene	2011/11/08	<0.10		ug	
			Phenanthrene	2011/11/08	<0.050		ug	
			p-Terphenyl	2011/11/08	<0.10		ug	
			Pyrene	2011/11/08	<0.050		ug	
			Quinoline	2011/11/08	<0.40		ug	
			Tetralin	2011/11/08	<0.10		ug	

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

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Lakeland Industry & Community Association

Maskwa Monitoring Site
Ambient Air Monitoring
Data Report
For
October 2011

Prepared By:

November 23, 2011

Lakeland Industry & Community Association
Ambient Air Monitoring
Maskwa

Table of Contents

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: October 2011

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Craig Snider

Calibration Procedure

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

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

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

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

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

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

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

MONTHLY CONTINUOUS DATA SUMMARY
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – MASKWA

Continuous Ambient Monitoring – October 2011

LICA MASKWA SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO2 (PPB)	172	48	0	0	0.47	18	7	23	9.9	304(WNW)	2.5	7	100.0
H2S (PPB)	10	3	0	0	0.14	3	12, 28	15, 19	3.6, 8.1	92(E), 122(ESE)	0.8	12	100.0
THC (PPM)	-	-	-	-	2.13	3.3	17	6	3.8	218(SW)	2.4	19, 31	100.0
NOx (PPB)	-	-	-	-	3.22	35	7	23	9.9	304(WNW)	7.8	17	100.0
NO (PPB)	-	-	-	-	0.67	16	7	23	9.9	304(WNW)	2.5	7	100.0
NO_2 (PPB)	159	-	0	-	2.45	21	1	0	5.7	302(WNW)	5.6	20	100.0
VECTOR WS (KPH)	-	-	-	-	5.28	13.9	22	11	-	288(WNW)	7.7	2	100.0
VECTOR WD (DEGREES)	-	-	-	-	262(W)	-	-	-	-	-	-	-	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	70.85	93	5	VAR	VAR	VAR	88.9	5	100.0
TEMPERATURE (DEG C)	-	-	-	-	5.12	16.2	4	15	4.7	71(ENE)	10.7	4	100.0
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	938	951	18	10	2.6	226(SW)	947.5	18	100.0
PRECIPITATION (MM)	-	-	-	-	0.04	4.6	13	2	0.6	6(N)	11.3	13	100.0

NA-NOT APPLICABLE VAR-VARIOUS

General Monthly Summary

Equipment Operation

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

AQM STATION – LICA – Maskwa

Sulphur Dioxide (PPB)

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

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

Hydrogen Sulphide (PPB)

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

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

Total HydroCarbon (PPM)

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

No operational issue was observed during the month. The inlet filter was changed before the monthly calibration was started. Following the as found points check on October 27th, the hydrogen gas cylinder was replaced. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – Maskwa

Nitrogen Dioxide (PPB)

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

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

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

- System make / model - MetOne 50.5 Sonic, S/N: H10703

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

Relative Humidity (PERCENT)

- System make / model - Met One 083

No operational issues observed during the month.

Precipitation (MM)

- System make / model - Met One 387

No operational issues observed during this month.

General Monthly Summary

AQM STATION – LICA – Maskwa

Barometric Pressure (MILLIBAR)

- System make / model - Met One 092

No operation issue was observed during the month.

Ambient Temperature (DEGC)

- System make / model - Met One 060

No operational issue was observed during the month.

Trailer Temperature (DEG C)

- System make / model – R&R 61

No operational issue was observed during the month.

Standard Deviation Wind Direction (DEG)

- System make / model –Met One 50.5H

No operational issue was observed during the month.

General Monthly Summary

AQM STATION – LICA – Maskwa

Datalogger

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

No operational issue was observed during the month.

Trailer

The manifold was cleaned on October 5th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

OCTOBER 2011

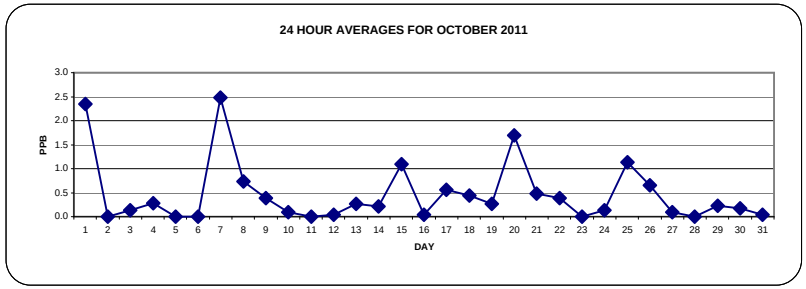
SULPHUR DIOXIDE (SO_2) hourly averages in ppb

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	17	3	0	0	0	**IZS**	1	5	8	9	5	5	1	0	0	0	0	0	0	0	0	0	0	0	17	2.3	24
2	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
3	0	0	0	**IZS**	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.1	24
4	0	1	**IZS**	0	0	0	1	1	1	1	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	1	0.3	24
5	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
6	**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
7	0	0	0	0	0	0	0	0	0	0	0	0	3	2	1	4	5	2	11	8	0	3	**IZS**	**18**	**18**	**2.5**	24
8	11	3	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	**IZS**	0	0	11	0.7	24
9	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	**IZS**	0	0	0	1	0.4	24
10	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	**IZS**	0	0	0	0	2	0.1	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0.0	24
12	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**IZS**	0	0	0	0	0	0	1	0.0	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	3	3	3	0.3	24
14	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	2	0.2	24
15	1	1	0	0	0	0	3	5	7	1	2	2	1	2	**IZS**	0	0	0	0	0	0	0	0	0	7	1.1	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	1	0	0	0	0	0	0	0	1	0.0	24
17	0	0	0	0	0	0	0	0	0	6	5	1	**IZS**	0	1	0	0	0	0	0	0	0	0	0	6	0.6	24
18	0	0	0	0	0	0	0	0	0	4	6	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	6	0.4	24
19	0	0	0	1	1	1	0	0	1	1	**IZS**	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.3	24
20	0	0	0	4	6	6	1	0	0	**IZS**	0	0	1	2	4	3	3	7	0	0	0	1	1	0	7	1.7	24
21	0	0	0	0	0	0	0	0	**IZS**	0	0	1	1	1	0	1	1	1	0	1	1	1	1	1	1	0.5	24
22	1	1	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0.4	24
23	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	2	0.1	24
25	0	0	0	0	**IZS**	1	1	1	1	2	5	4	3	2	3	1	0	1	0	1	0	0	0	0	5	1.1	24
26	0	0	0	**IZS**	0	0	0	0	0	1	1	2	1	1	1	1	1	1	1	0	1	1	1	1	2	0.7	24
27	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
28	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	**IZS**	0	0	0	0	1	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	**IZS**	3	0.2	24
30	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	**IZS**	0	1	0.2	24
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	1	1	0.0	24
HOURLY MAX	17	3	1	4	6	6	3	5	8	9	6	5	3	2	4	4	5	7	11	8	1	3	3	18			
HOURLY AVG	1.1	0.4	0.1	0.2	0.3	0.4	0.3	0.4	0.6	0.8	0.9	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.1	0.2	0.2	0.8			

STATUS FLAG CODES

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

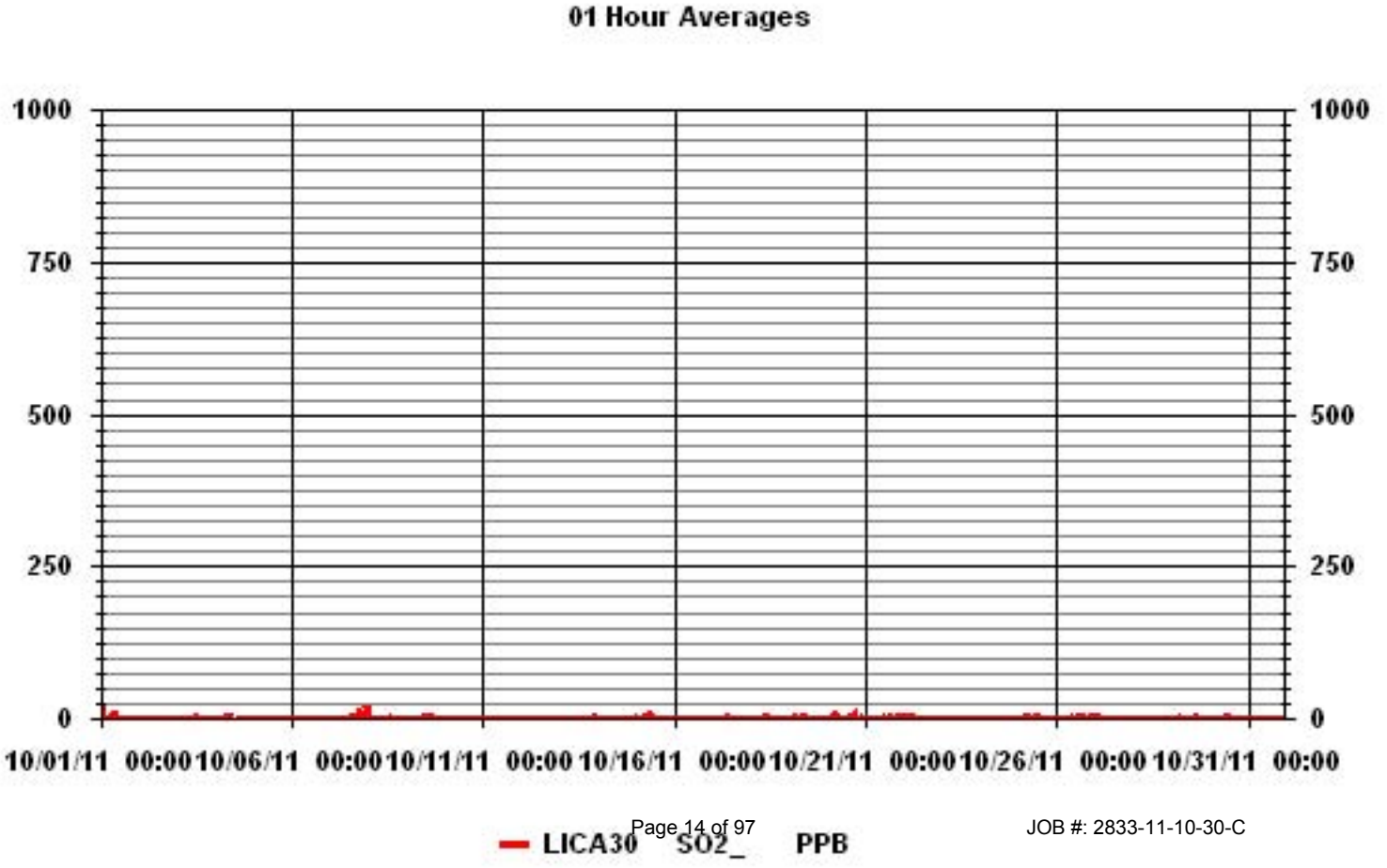


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	142					
MAXIMUM 1-HR AVERAGE:	18	PPB	@ HOUR(S)	23	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	2.5	PPB			ON DAY(S)	7

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	1.53		MONTHLY AVERAGE:	0.47	PPB



JOB #: 2833-11-10-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

OCTOBER 2011

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

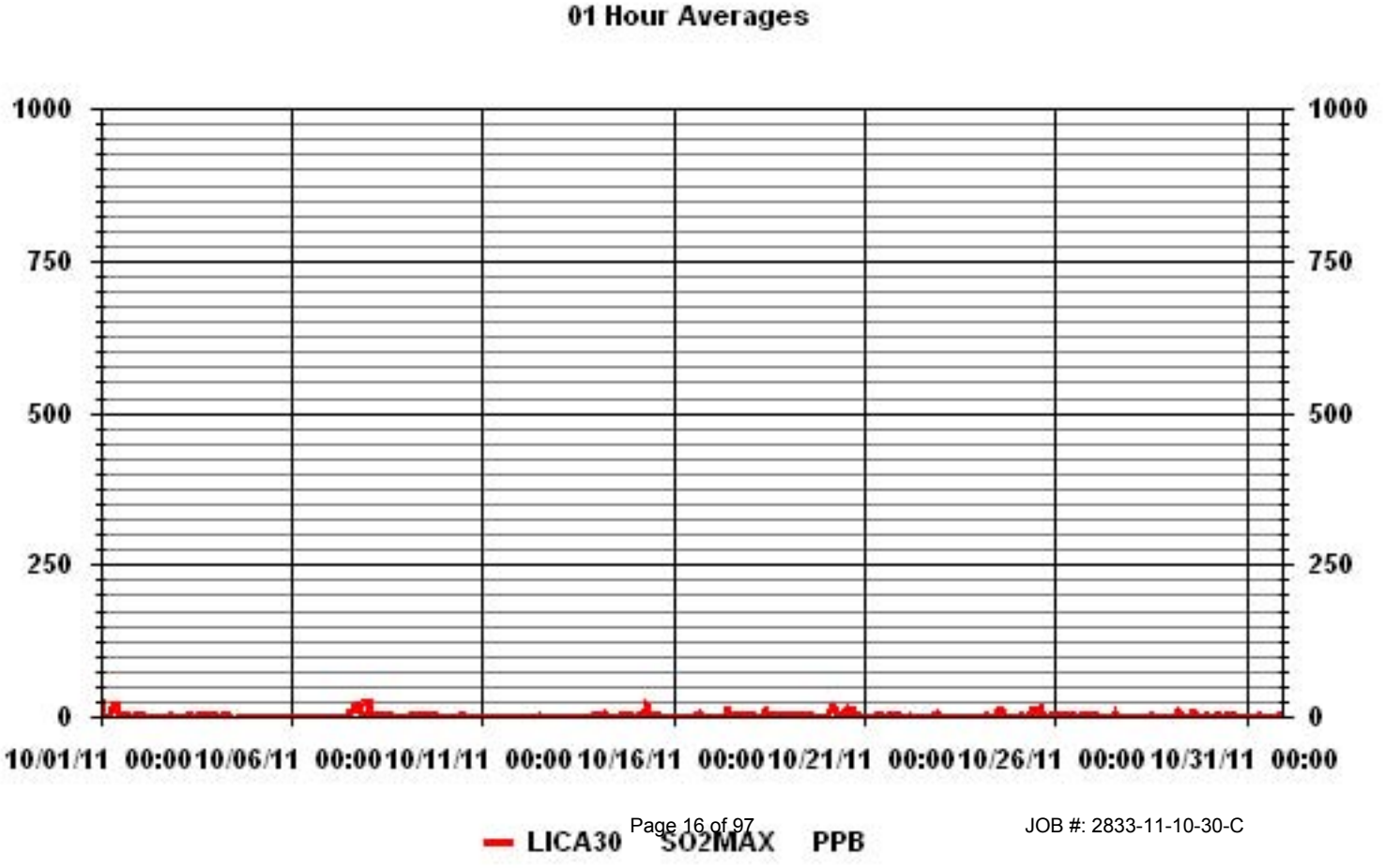
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**28**	20	1	0	0	**IZS**	3	16	19	19	21	10	3	2	1	1	1	1	1	1	0	1	1	1	**28**	6.6	24
2	1	1	1	1	**IZS**	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	1	0.4	24
3	0	0	0	**IZS**	0	1	0	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	2	0.9	24
4	1	1	**IZS**	0	1	1	2	2	2	3	**C**	**C**	**C**	**C**	**C**	2	0	0	0	1	0	0	0	0	3	0.9	24
5	0	**IZS**	0	1	3	0	0	0	0	0	0	0	0	**M**	**M**	0	0	0	0	0	0	0	0	0	3	0.2	22
6	**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
7	0	0	0	0	0	0	0	0	0	0	0	0	8	6	7	13	19	7	24	14	2	7	**IZS**	24	24	5.7	24
8	25	5	3	1	1	1	1	1	1	1	0	1	1	1	3	3	1	0	1	0	0	**IZS**	0	0	25	2.2	24
9	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	0	0	0	2	0.9	24
10	0	0	0	0	0	0	0	0	0	0	0	3	5	3	2	1	0	0	0	**IZS**	0	0	0	0	5	0.6	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**IZS**	0	0	0	0	0	1	0.0	24
12	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	2	1	**IZS**	0	0	0	0	0	0	3	0.3	24
13	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**IZS**	0	0	0	0	1	6	5	6	0.6	24
14	3	5	4	1	1	6	2	1	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	6	1.3	24
15	2	1	1	1	1	1	12	21	17	1	3	3	2	7	**IZS**	5	1	1	0	0	0	0	0	0	21	3.5	24
16	0	0	0	0	0	1	0	0	0	2	1	0	1	**IZS**	3	1	6	2	0	0	0	0	0	0	6	0.7	24
17	0	0	0	0	0	0	0	0	4	13	14	3	**IZS**	2	3	1	1	1	1	1	1	1	1	1	14	2.1	24
18	1	1	1	1	1	0	0	0	2	11	15	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	15	2.0	24
19	1	1	1	1	1	1	1	1	2	2	**IZS**	1	1	1	1	1	1	0	0	1	0	0	0	0	2	0.8	24
20	0	0	5	12	19	16	10	1	3	**IZS**	2	3	10	7	13	10	8	17	2	0	4	4	3	1	19	6.5	24
21	0	0	0	0	0	0	0	0	**IZS**	1	1	1	2	2	1	1	1	1	1	1	1	2	2	2	2	0.9	24
22	1	2	1	1	2	2	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	4	1	6	1	6	1.0	24
23	0	0	0	0	0	0	**IZS**	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
24	0	0	0	1	0	**IZS**	1	1	0	0	0	0	10	9	16	4	0	0	0	0	0	0	0	0	16	1.8	24
25	0	0	1	1	**IZS**	2	1	2	2	4	13	15	12	14	16	2	2	3	2	3	1	1	1	1	16	4.3	24
26	1	1	1	**IZS**	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	2	1.2	24
27	2	2	**IZS**	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6	0.4	24
28	0	**IZS**	0	0	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	1	0	0	1	2	0.3	24
29	**IZS**	0	2	0	3	8	4	1	1	1	0	0	0	0	3	13	4	0	0	0	0	0	0	**IZS**	13	1.8	24
30	1	1	0	0	0	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0	2	1	**IZS**	0	2	0.9	24
31	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	0.2	24
HOURLY MAX	28	20	5	12	19	16	12	21	19	19	21	15	12	14	16	13	19	17	24	14	4	7	6	24			
HOURLY AVG	2.3	1.5	0.8	0.8	1.2	1.5	1.4	1.7	2.0	2.1	2.7	1.6	2.3	2.4	2.7	2.2	1.7	1.3	1.3	1.0	0.7	0.8	0.9	1.4			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	354					
MAXIMUM INSTANTANEOUS VALUE:	28	PPB	@ HOUR(S)	0	ON DAY(S)	1
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		742	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	3.71					



JOB #: 2833-11-10-30-C

LICA30
SO2_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.12	5.80	6.65	5.09	4.81	2.69	3.11	3.11	5.80	9.34	12.32	7.36	11.75	11.18	5.66	3.11	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	2.12	5.80	6.65	5.09	4.81	2.69	3.11	3.11	5.80	9.34	12.32	7.36	11.75	11.18	5.66	3.11	

Calm : .00 %

Total # Operational Hours : 706

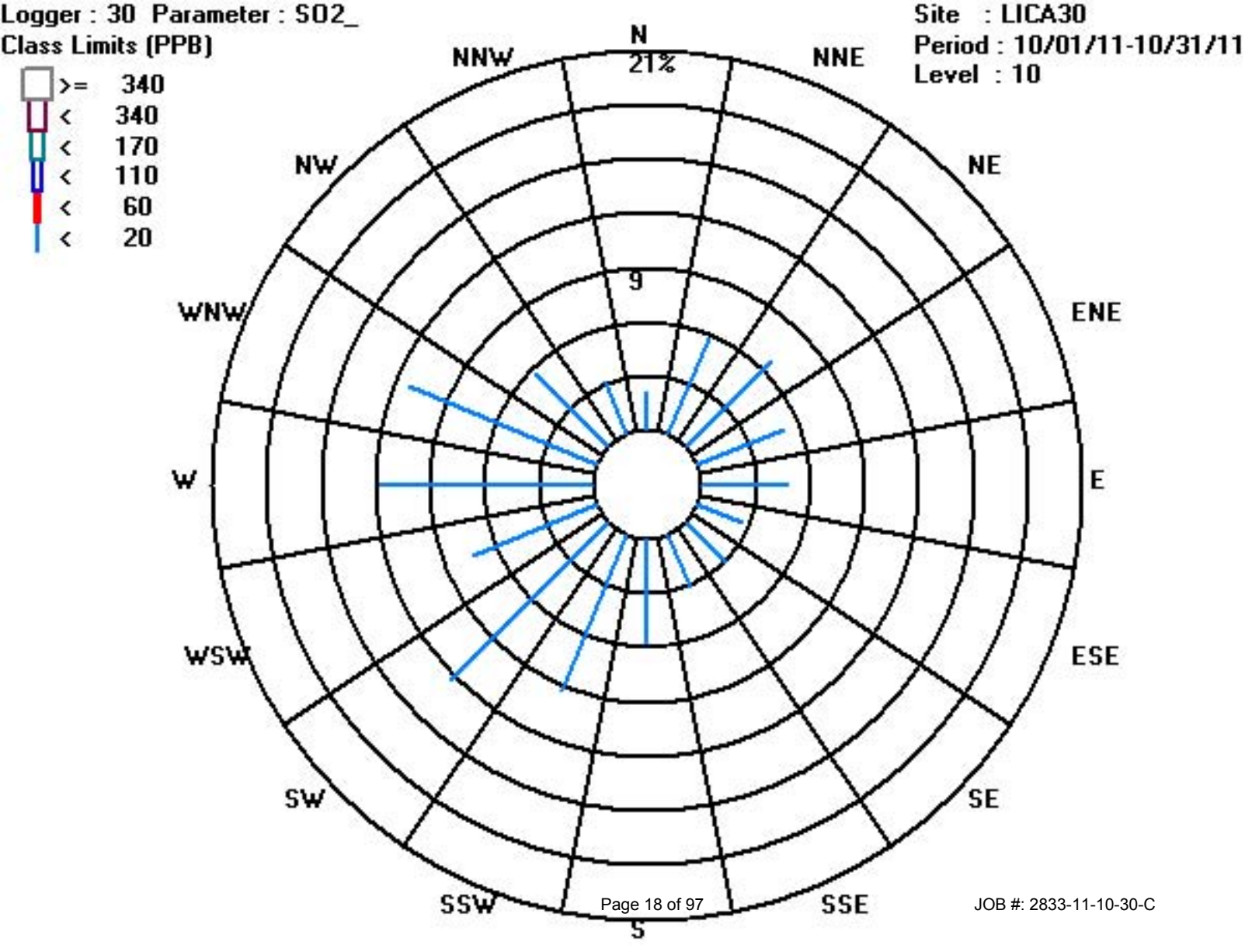
Distribution By Samples

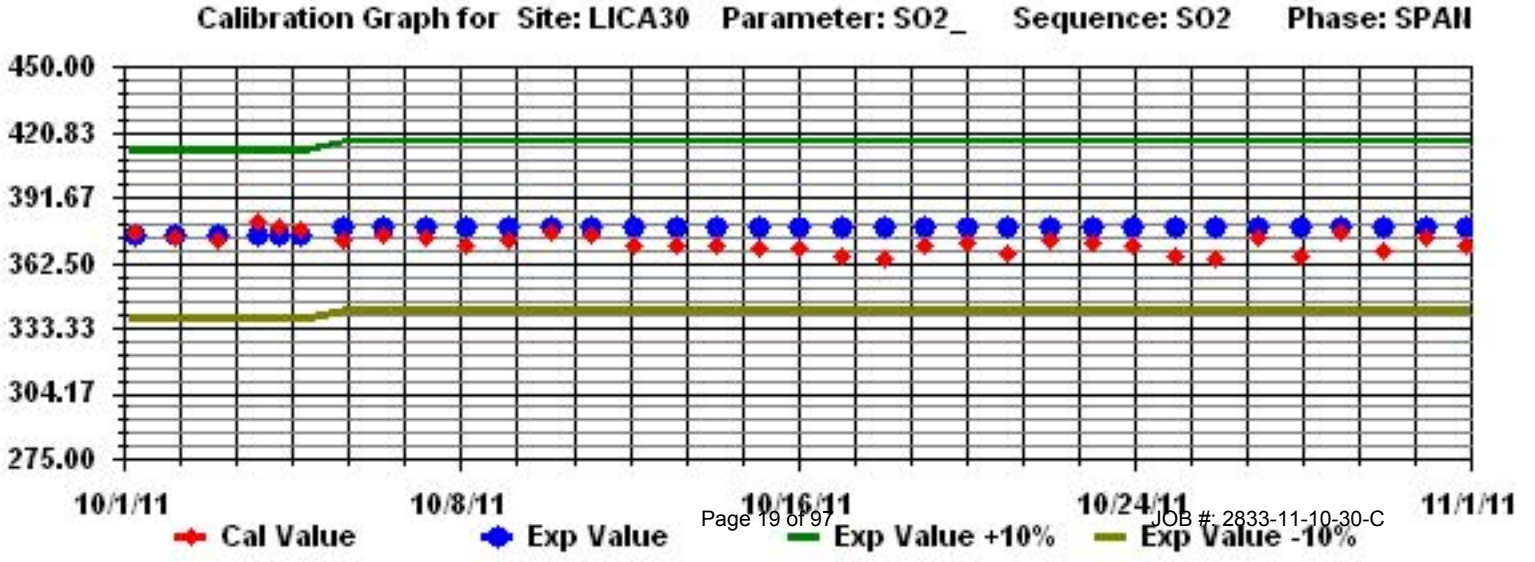
Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	15	41	47	36	34	19	22	22	41	66	87	52	83	79	40	22	706
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	15	41	47	36	34	19	22	22	41	66	87	52	83	79	40	22	

Calm : .00 %

Total # Operational Hours : 706


Logger : 30 Parameter : SO2_
Class Limits (PPB)
>= 340
< 340
< 170
< 110
< 60
< 20
Site : LICA30
Period : 10/01/11-10/31/11
Level : 10
N
21%
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
9


Calibration Graph for Site: LICA30 Parameter: SO2_ Sequence: SO2 Phase: SPAN
450.00
420.83
391.67
362.50
333.33
304.17
275.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

OCTOBER 2011

HYDROGEN SULPHIDE (H_2S) hourly averages in ppb

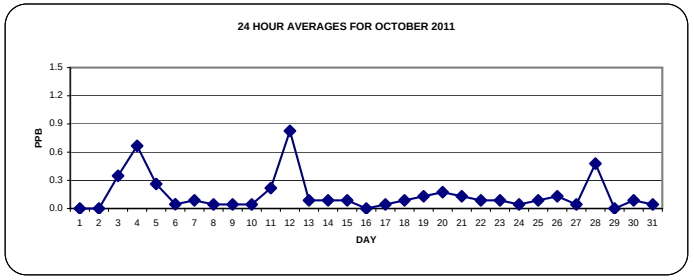
MST

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

STATUS FLAG CODES

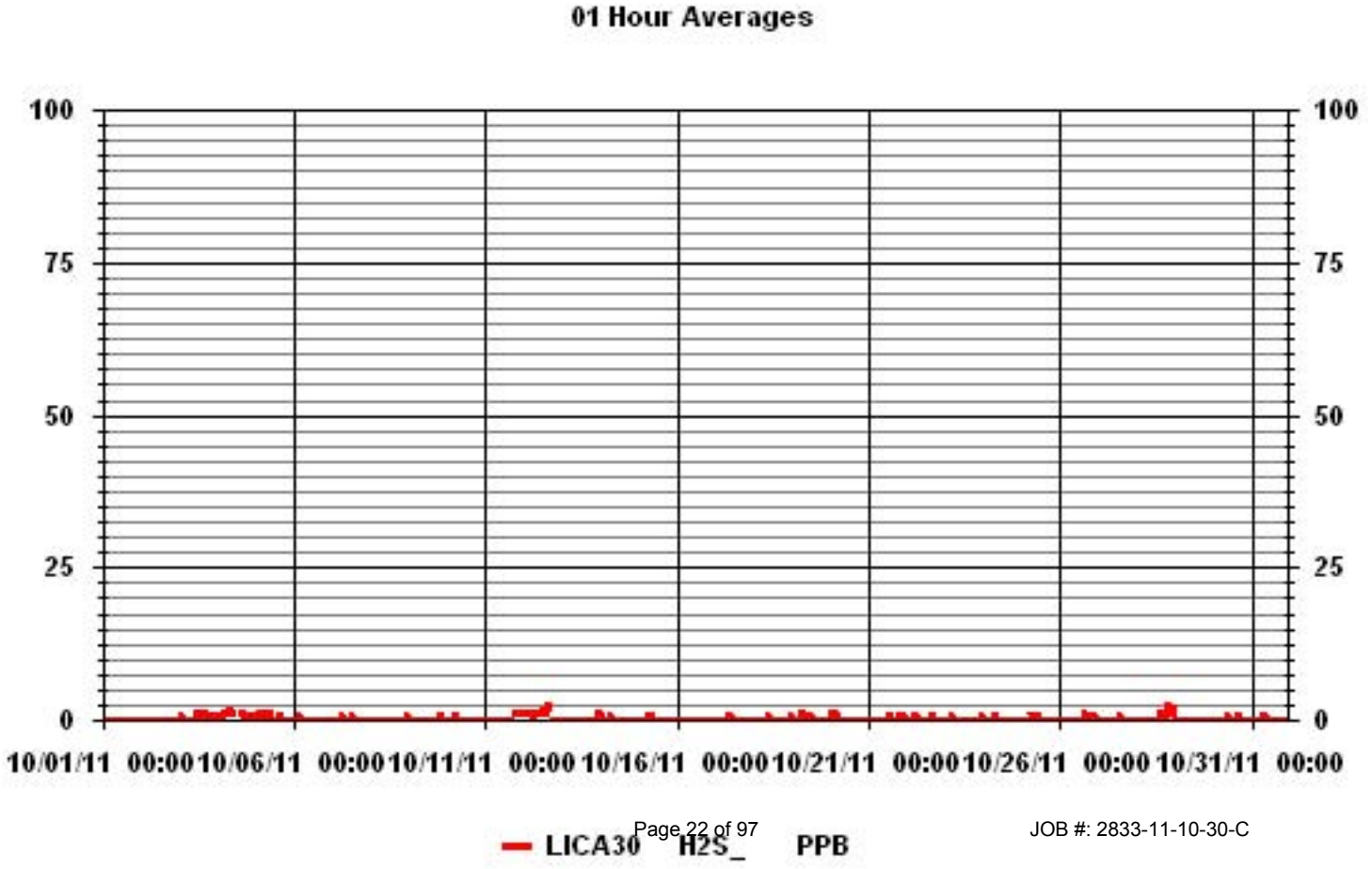
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

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:	91					
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	15, 19	ON DAY(S)	12, 28
MAXIMUM 24-HR AVERAGE:	0.8	PPB			ON DAY(S)	12
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.39		MONTHLY AVERAGE:		0.14	PPB



JOB #: 2833-11-10-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

OCTOBER 2011

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

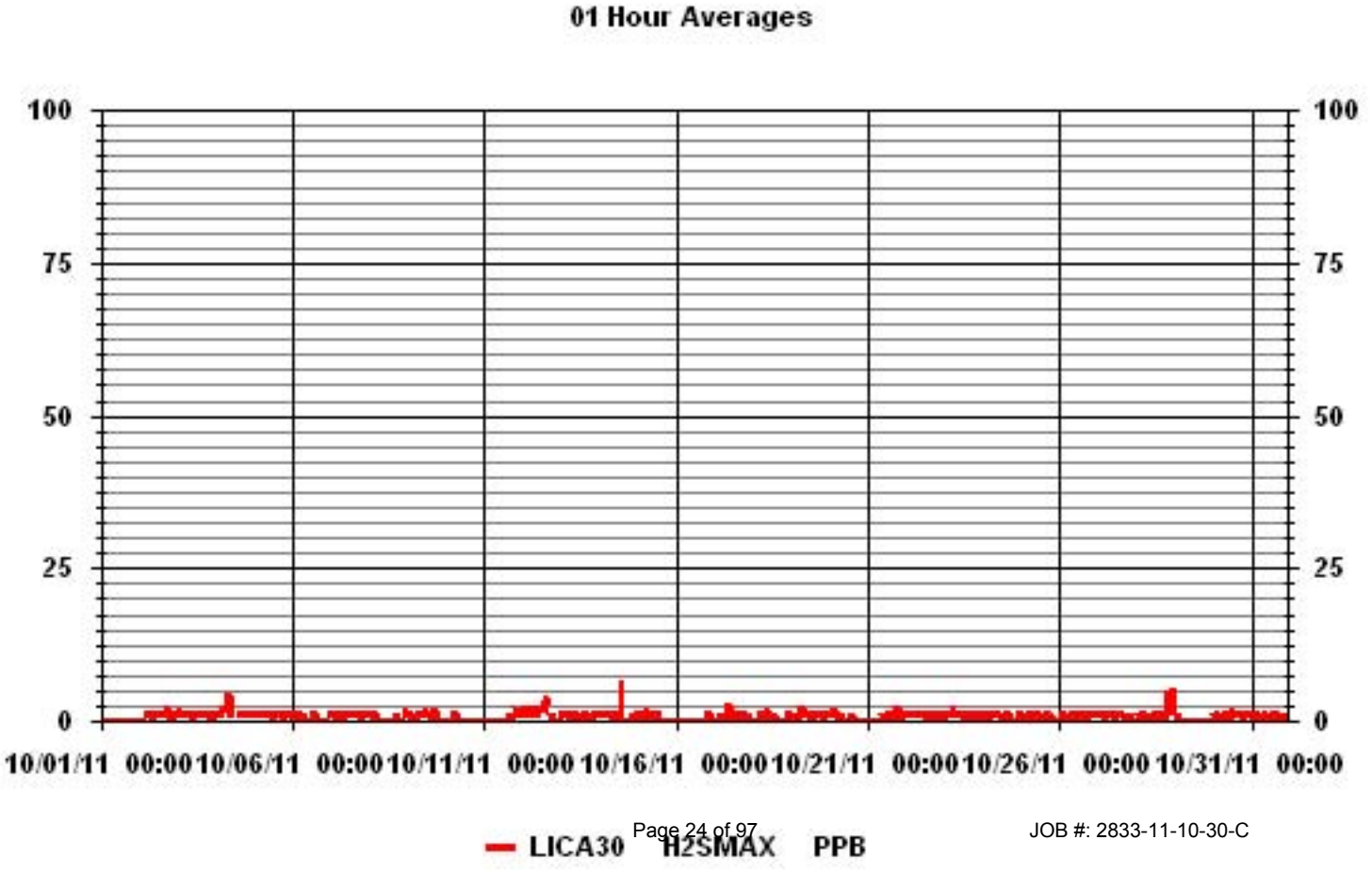
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	**IZS**	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	**IZS**	1	1	1	0	1	1	1	1	1	1	1	1	2	2	1	0	1	1	1	2	0.8	24
3	1	2	1	**IZS**	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	2	1.0	24
4	1	1	**IZS**	1	2	2	2	4	4	1	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1	1	4	1.5	24
5	1	**IZS**	1	1	1	1	1	1	1	1	1	1	0	**M**	**M**	1	1	0	0	1	1	1	1	1	1	0.9	22
6	**IZS**	0	0	1	1	1	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	**IZS**	1	0.3	24
7	1	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	**IZS**	1	1	0.8	24
8	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**IZS**	1	2	2	0.3	24
9	1	1	1	0	1	0	1	1	1	1	1	2	1	1	0	0	0	2	1	1	**IZS**	0	0	0	2	0.7	24
10	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	1	0.1	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**IZS**	2	1	1	2	1	2	0.3	24
12	1	2	2	2	1	1	2	2	1	1	2	2	2	2	3	4	3	**IZS**	1	0	0	0	0	0	4	1.5	24
13	1	1	1	1	1	1	0	1	1	1	0	1	0	0	1	1	**IZS**	1	0	0	1	1	1	1	1	0.7	24
14	1	1	1	1	1	1	1	1	0	1	1	0	0	0	**6**	**IZS**	0	0	0	0	0	1	0	0	**6**	0.7	24
15	1	1	1	0	0	1	2	1	1	0	1	0	1	1	**IZS**	0	0	0	0	0	0	0	0	0	2	0.5	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	1	1	0	0	1	0.1	24
17	0	0	0	1	0	1	0	1	0	3	1	0	**IZS**	1	1	0	0	0	1	1	0	1	0	0	3	0.5	24
18	0	0	0	0	1	1	1	0	1	2	1	**IZS**	1	0	1	0	0	0	0	0	0	1	1	1	2	0.5	24
19	1	0	0	0	0	1	2	2	1	1	**IZS**	1	1	0	1	1	1	1	1	1	0	1	1	1	2	0.8	24
20	1	1	1	2	1	1	0	0	1	**IZS**	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0.4	24
21	0	0	0	0	0	0	0	0	**IZS**	1	0	0	1	1	1	0	0	0	2	2	0	1	1	1	2	0.5	24
22	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	0	0	1	1	1	0	1	1	1	1	1	1	0.9	24
23	0	1	1	1	1	2	**IZS**	1	1	1	1	1	0	1	1	1	0	1	1	1	0	0	1	1	2	0.8	24
24	0	1	1	0	1	**IZS**	1	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0.5	24
25	1	0	0	1	**IZS**	1	1	0	0	1	1	1	0	0	0	1	1	1	0	1	0	0	0	0	1	0.5	24
26	0	1	1	**IZS**	0	1	0	1	1	0	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0.7	24
27	1	1	**IZS**	1	0	1	1	1	1	1	0	0	1	1	1	1	0	0	0	0	1	0	0	0	1	0.6	24
28	0	**IZS**	1	0	1	1	0	0	0	1	0	1	1	0	1	1	1	0	0	5	4	3	1	5	5	1.2	24
29	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0.0	24
30	1	0	1	1	0	0	0	1	1	1	1	0	2	1	1	1	1	1	1	0	1	1	**IZS**	1	2	0.8	24
31	1	0	0	1	1	0	1	0	1	1	0	0	0	1	1	1	1	0	0	0	1	**IZS**	0	0	1	0.5	24
HOURLY MAX	1	2	2	2	2	2	2	4	4	3	2	2	2	2	6	4	3	2	2	5	4	3	2	5			
HOURLY AVG	0.6	0.6	0.6	0.6	0.6	0.8	0.7	0.8	0.7	0.8	0.6	0.5	0.6	0.5	0.9	0.7	0.6	0.5	0.5	0.7	0.5	0.6	0.5	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:	377					
MAXIMUM INSTANTANEOUS VALUE:	6	PPB	@ HOUR(S)	14	ON DAY(S)	14
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		742	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.72					



JOB #: 2833-11-10-30-C

LICA30
H2S_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.12	5.80	6.65	5.09	4.67	2.54	3.11	3.11	5.80	9.34	12.32	7.36	11.75	11.18	5.66	3.11	99.71
<	10	.00	.00	.00	.00	.14	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.28
<	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.12	5.80	6.65	5.09	4.81	2.69	3.11	3.11	5.80	9.34	12.32	7.36	11.75	11.18	5.66	3.11	

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
<	3	15	41	47	36	33	18	22	22	41	66	87	52	83	79	40	22	704
<	10					1	1											2
<	50																	
>=	50																	
	Totals	15	41	47	36	34	19	22	22	41	66	87	52	83	79	40	22	

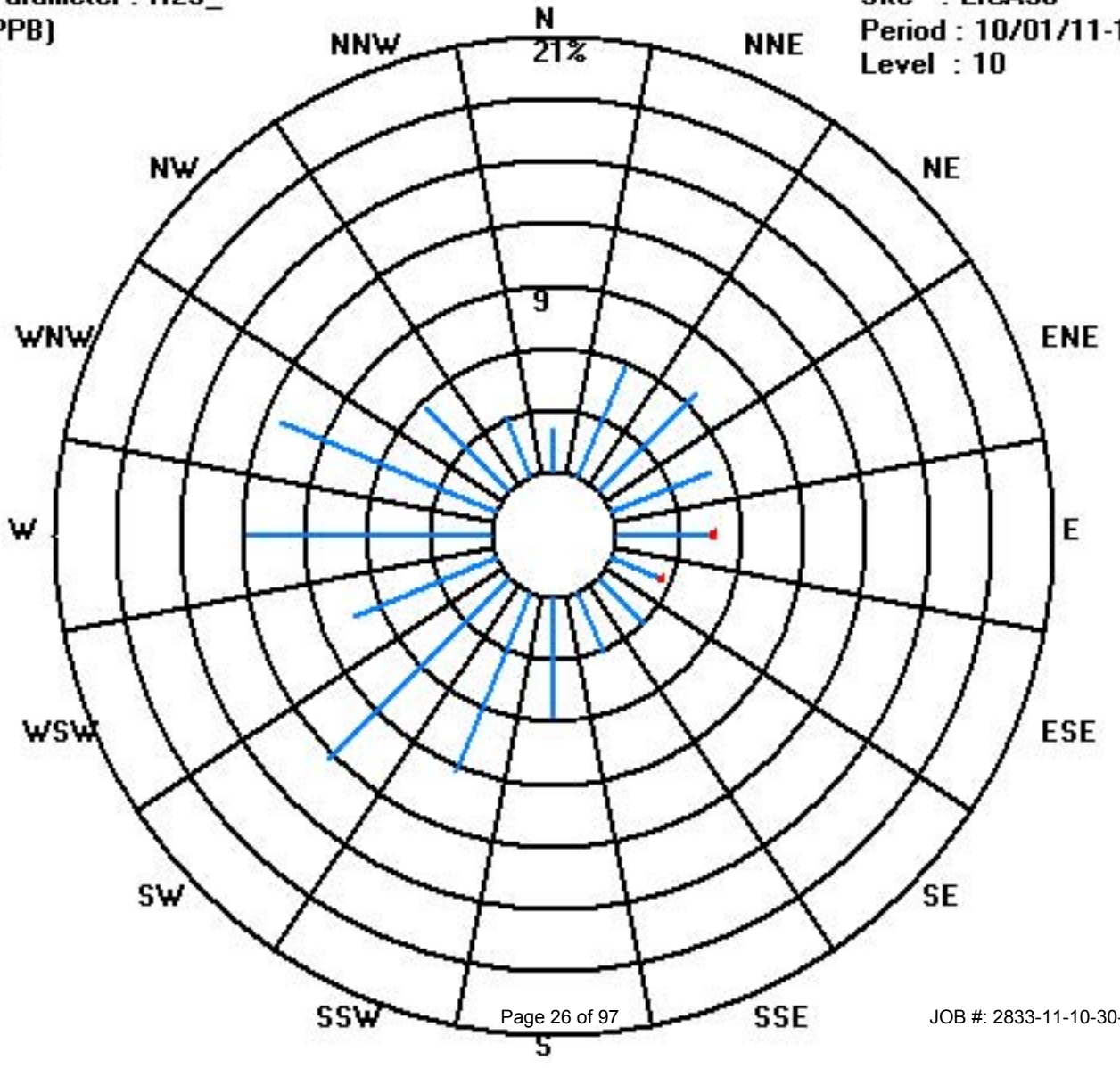
Calm : .00 %

Total # Operational Hours : 706

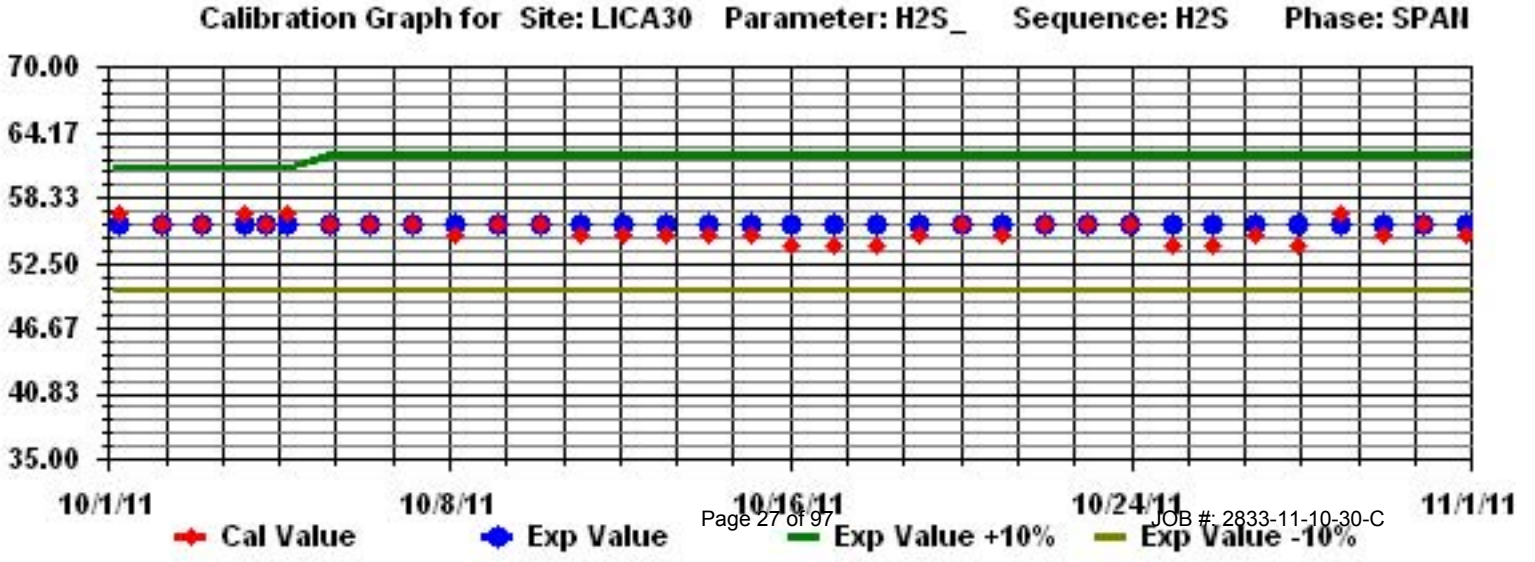
Logger : 30 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA30
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-30-C


Calibration Graph for Site: LICA30 Parameter: H2S_ Sequence: H2S Phase: SPAN
70.00
64.17
58.33
52.50
46.67
40.83
35.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

OCTOBER 2011

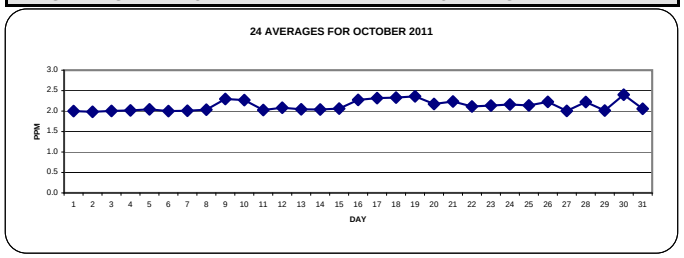
TOTAL HYDROCARBONS hourly averages in ppm

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

STATUS FLAG CODES

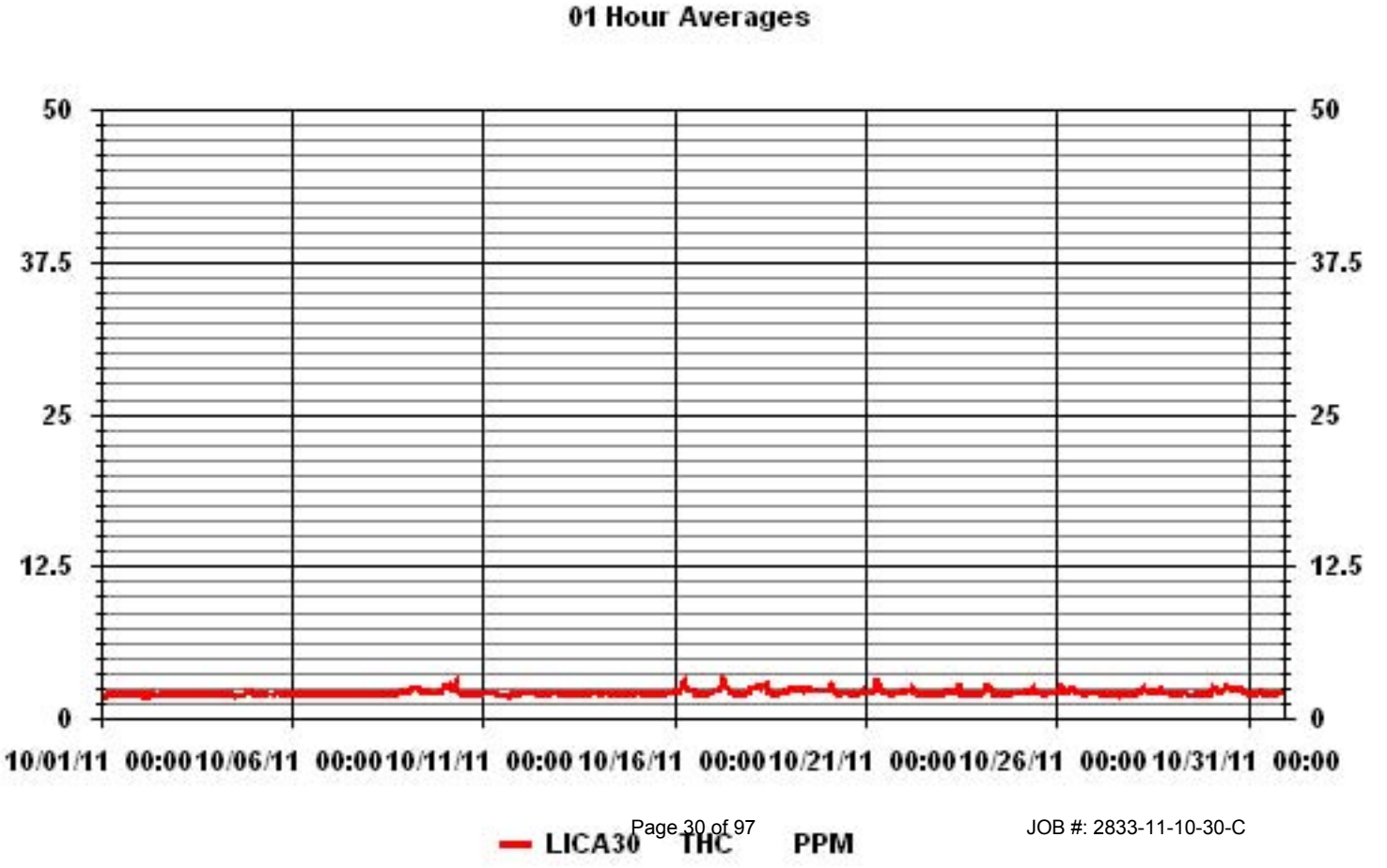
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	706					
MAXIMUM 1-HR AVERAGE:	3.3	PPM	@ HOUR(S)	6	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	2.4	PPM			ON DAY(S)	19, 31
					VAR- VARIOUS	

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.20		MONTHLY AVERAGE:	2.13	PPM



JOB #: 2833-11-10-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

OCTOBER 2011

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

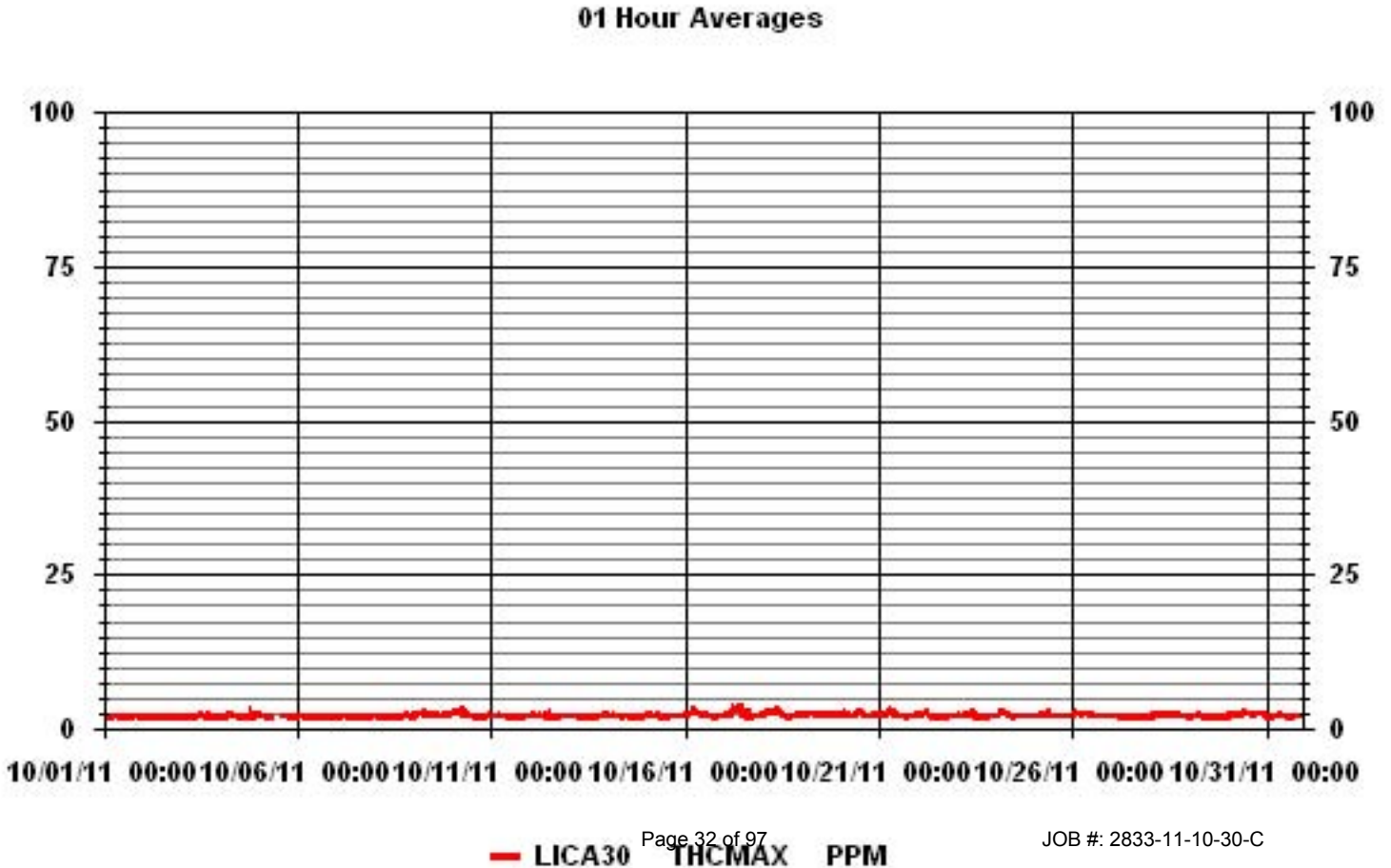
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.2	2.1	2	2	2	**IZS**	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2	2	2.2	2.0	24
2	2.2	2	2	2	**IZS**	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2	2	2	2	2	2.2	2.0	24
3	2.1	2.1	2.1	**IZS**	2	2	2	2	2	2.2	2.4	2.2	2.2	2.2	2.1	2	2	2.3	2	2	2	2	2	2	2.4	2.1	24
4	2	2.1	**IZS**	2	2.2	2.5	2.5	2.2	2.2	2.2	2.1	2.1	2	2.2	2.1	2.2	1.9	1.9	2	2.8	2.3	2.1	2.3	2.2	2.8	2.2	24
5	2.2	**IZS**	2.1	2.1	2.1	2	2	2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2.2	2.1	24
6	**IZS**	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	**IZS**	2.1	2.0	24
7	2	2	2	2	2.1	2.1	2.1	2	2.1	2	2	2	2	2	2	2	2	2	2.1	2	2	2	**IZS**	2.1	2.1	2.0	24
8	2.1	2.1	2.1	2	2	2	2	2	2	2.1	2	2	2	2	2.1	2.1	2	2	2.1	2.2	2.3	**IZS**	2.2	2.5	2.5	2.1	24
9	2.5	2.2	2.4	2.5	2.5	2.6	2.6	2.6	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	**IZS**	2.5	2.4	2.6	2.6	2.4	24
10	2.7	2.7	2.7	2.8	3	2.7	3.3	3.1	2.9	2.2	2.1	2.1	2.1	2.1	2	2.1	2	2	2	**IZS**	2	2.1	2.1	2.2	3.3	2.4	24
11	2.2	2.4	2.2	2.2	2.1	2.2	2.2	2.4	2.2	2.1	2	1.9	1.9	1.9	2	2	1.9	2	**IZS**	2	2.1	2.1	2.1	2.1	2.4	2.1	24
12	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.3	2.2	2.1	2.5	2	2.1	2.2	2.1	**IZS**	2.1	2.2	2.1	2.1	2.2	2.1	2.5	2.2	24
13	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2.1	2.1	2.1	2	2	2	**IZS**	2	2	2.1	2.1	2.2	2.3	2.2	2.3	2.1	24
14	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2	2.1	2.1	2.1	2.1	2	**IZS**	2	2	2	2	2	2	2.1	2.1	2.2	2.1	24
15	2.4	2.2	2.2	2.2	2.1	2.1	2.3	2.2	2.2	2	2.1	2	2	2.1	**IZS**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.1	24
16	2.2	2.2	2.2	2.4	2.6	3.1	3.1	3	2.7	2.4	2.4	2.4	2.4	**IZS**	2.1	2.1	2.1	2.1	2	2	2	2.1	2.1	2.1	3.1	2.3	24
17	2.2	2.2	2.3	2.4	2.4	3	3.6	3.4	3.2	3.6	**4.2**	2.3	**IZS**	2.7	2.9	2	2	2	2.1	2.1	2.1	2.1	2.1	2.4	**4.2**	2.6	24
18	2.7	2.5	2.6	2.6	2.7	2.7	2.7	2.7	2.9	3.8	2.7	**IZS**	2.5	2.2	2.1	2.1	2	2	2.1	2.1	2.1	2.2	2.3	2.4	3.8	2.5	24
19	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.4	**IZS**	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.4	24
20	2.3	2.5	2.8	2.7	2.4	2.3	2.2	2.1	2.1	**IZS**	2.6	2.9	2.6	2.7	2.8	2.1	2.1	2.1	2.1	2.1	2.4	2.5	2.7	2.5	2.9	2.4	24
21	2.2	2.2	2.1	2.2	2.3	2.4	2.9	3.2	**IZS**	2.9	2.6	2.4	2.4	2.2	2.1	2.1	2.1	2	2.1	2.1	2.1	2.1	2.2	2.2	3.2	2.3	24
22	2.2	2.3	2.4	2.4	2.5	2.6	2.6	**IZS**	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.6	2.2	24
23	2.1	2.2	2.2	2.2	2.4	2.4	**IZS**	2.3	2.2	2.5	2.7	2.8	2.1	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.8	2.2	24
24	2.1	2.1	2.4	2.8	2.8	**IZS**	2.7	2.6	2.5	2.2	2.1	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	2.8	2.2	24
25	2.1	2.1	2.1	2.2	**IZS**	2.3	2.3	2.2	2.4	2.7	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.7	2.2	24
26	2.2	2.5	2.9	**IZS**	2.6	2.4	2.3	2.4	2.5	2.6	2.5	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.9	2.3	24
27	2.1	2.1	**IZS**	2.2	2.1	2	2	2	**C**	**C**	2	2	2	2	2	2	2	2.2	2	2	2	2	2	2	2.2	2.0	24
28	2.1	**IZS**	2.2	2.2	2.2	2.6	2.7	2.5	2.5	2.3	2.3	2.4	2.4	2.2	2.2	2.3	2.4	2.5	2.2	2.1	2.1	2.1	2.1	2.1	2.7	2.3	24
29	**IZS**	2	2	2.1	2.1	2.1	2.2	2.3	2.1	2.1	2	2	2	1.9	2	2	2	2	2	2	2	2	2	**IZS**	2.3	2.0	24
30	2.2	2.6	2.7	2.5	2.6	2.4	2.4	2.2	2.3	2.5	2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.5	2.5	2.5	2.5	2.5	**IZS**	2.5	2.7	2.5	24
31	2.1	2	2	2	2	2.1	2.1	2.2	2.2	2.3	2.1	2.1	2.1	2.1	2	2	2	2.1	2.1	2.1	2.1	**IZS**	2.1	2.1	2.3	2.1	24
HOURLY MAX	3	3	3	3	3	3	4	3	3	4	4	3	3	3	3	3	2	3	3	3	3	3	3	3			
HOURLY AVG	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	702						
MAXIMUM INSTANTANEOUS VALUE:	4.2	PPM	@ HOUR(S)	10	ON DAY(S)	17	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	744	HRS		
MONTHLY CALIBRATION TIME:	9	HRS					
STANDARD DEVIATION:	0.27						



JOB #: 2833-11-10-30-C

LICA30
THC / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.12	5.24	6.65	5.24	5.24	2.69	3.11	3.11	5.80	9.06	12.03	7.22	11.75	11.18	5.66	3.11	99.29
<	10.0	.00	.00	.00	.00	.00	.14	.00	.00	.00	.28	.28	.00	.00	.00	.00	.00	.70
<	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.12	5.24	6.65	5.24	5.24	2.83	3.11	3.11	5.80	9.34	12.32	7.22	11.75	11.18	5.66	3.11	

Calm : .00 %

Total # Operational Hours : 706

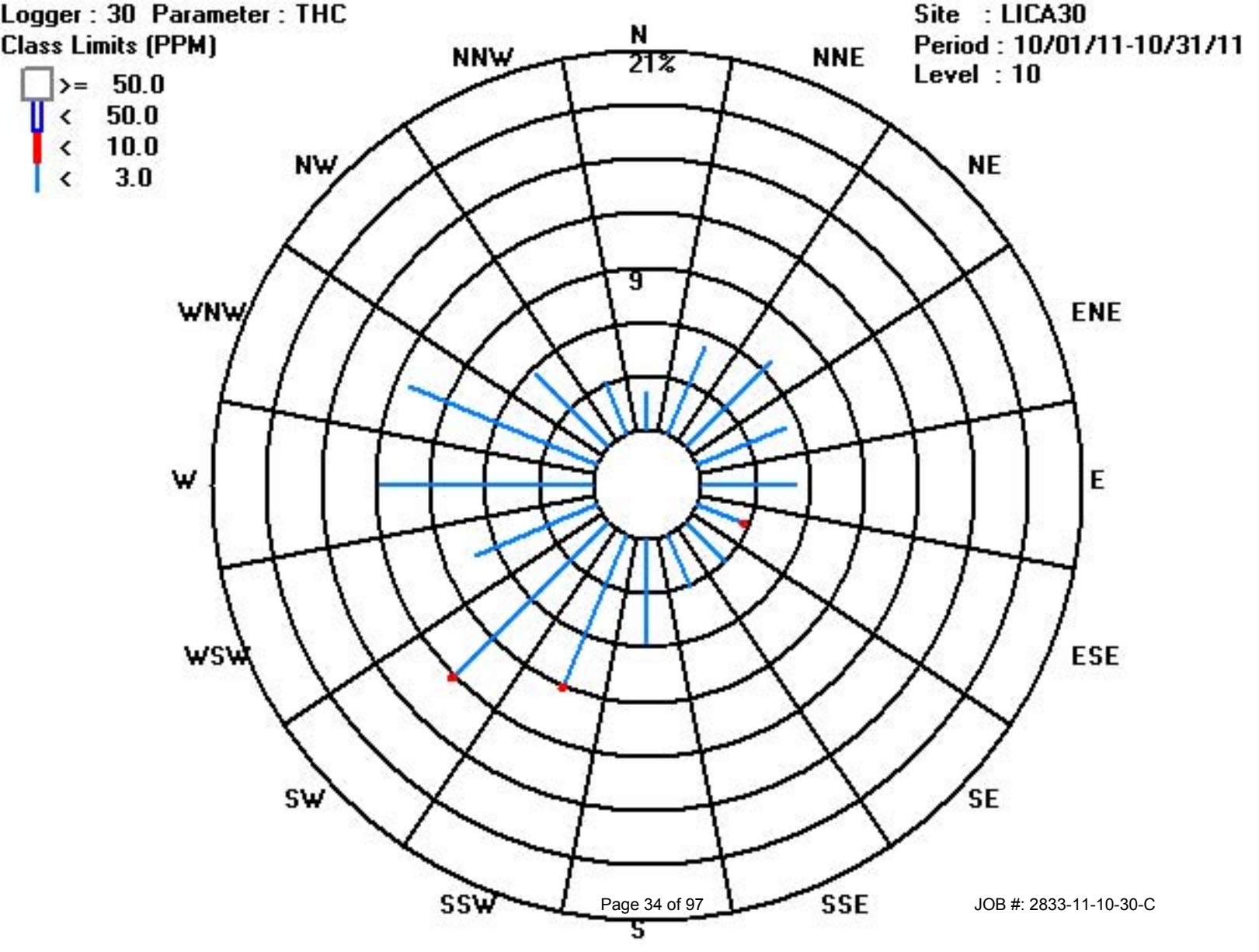
Distribution By Samples

Direction

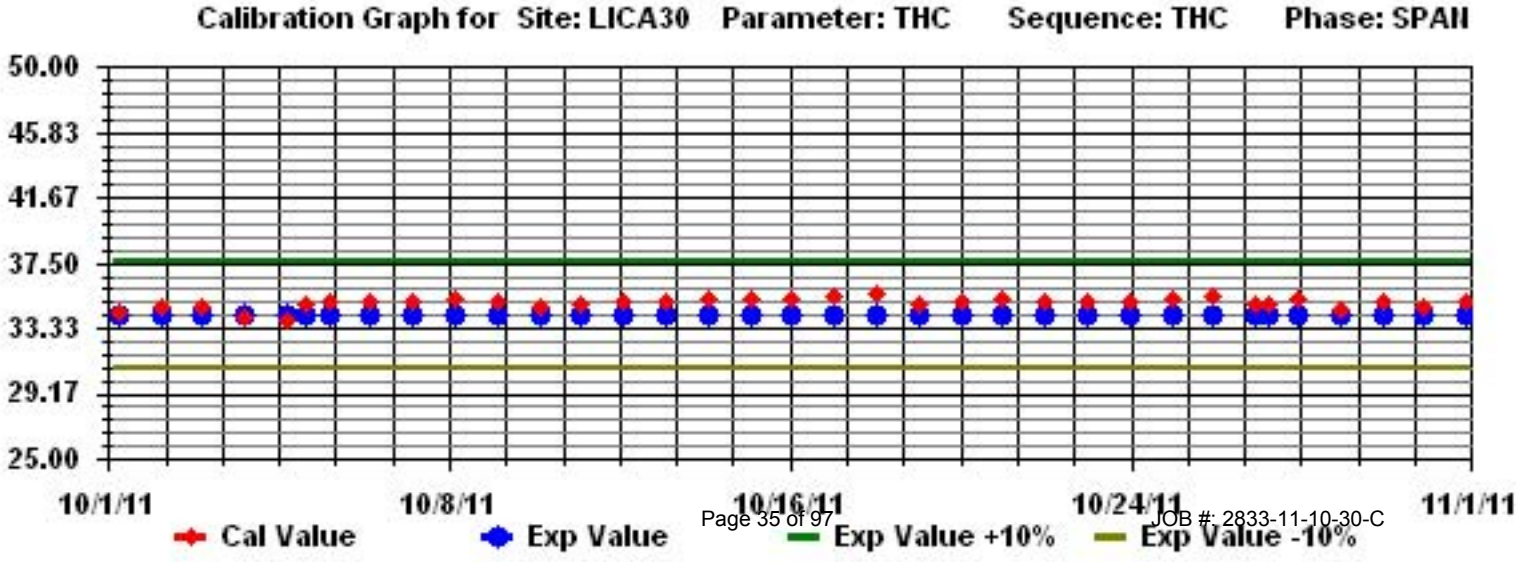
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	15	37	47	37	37	19	22	22	41	64	85	51	83	79	40	22	701
<	10.0						1				2	2						5
<	50.0																	
>=	50.0																	
	Totals	15	37	47	37	37	20	22	22	41	66	87	51	83	79	40	22	

Calm : .00 %

Total # Operational Hours : 706



JOB #: 2833-11-10-30-C


Calibration Graph for Site: LICA30 Parameter: THC Sequence: THC Phase: SPAN
50.00
45.83
41.67
37.50
33.33
29.17
25.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

OCTOBER 2011

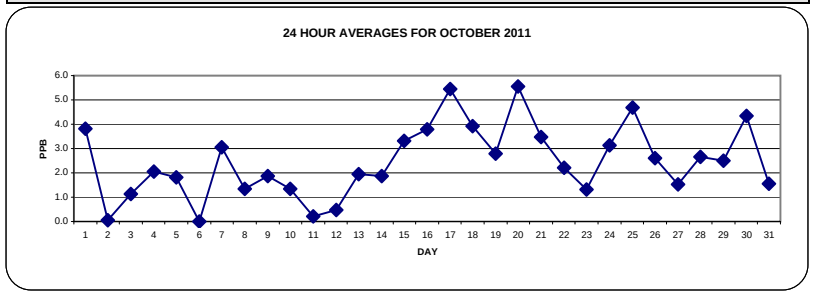
NITROGEN DIOXIDE hourly averages in ppb

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	**21**	7	1	0	0	**IZS**	9	11	11	9	5	6	2	1	1	1	1	1	0	0	0	0	0	1	**21**	3.8	24
2	1	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
3	0	0	0	**IZS**	0	0	1	1	1	1	2	2	4	4	1	1	1	1	1	1	1	1	1	1	4	1.1	24
4	1	2	**IZS**	0	1	3	7	5	5	4	4	2	2	1	1	1	0	0	0	1	1	0	2	4	7	2.0	24
5	3	**IZS**	2	2	2	3	2	2	**C**	**C**	**C**	**C**	**C**	**C**	2	2	2	2	2	1	1	1	1	1	3	1.8	24
6	**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
7	0	0	0	0	0	2	1	1	0	1	1	0	4	3	2	5	4	2	12	8	0	5	**IZS**	19	19	3.0	24
8	12	9	5	0	0	0	1	1	0	0	0	0	0	0	1	2	0	0	0	0	0	**IZS**	0	0	12	1.3	24
9	1	2	2	2	2	1	2	2	2	1	1	2	2	1	2	2	2	2	3	2	**IZS**	2	2	3	3	1.9	24
10	3	2	1	1	2	2	3	3	3	1	1	2	4	1	1	1	0	0	0	**IZS**	0	0	0	0	4	1.3	24
11	0	0	0	0	0	0	1	2	2	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	2	0.2	24
12	0	0	0	0	0	0	0	0	0	0	3	1	3	0	0	2	2	**IZS**	0	0	0	0	0	0	3	0.5	24
13	0	0	0	1	2	1	1	1	1	0	2	3	1	0	1	0	**IZS**	0	0	4	7	6	7	7	7	2.0	24
14	4	6	2	4	5	4	4	3	2	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	2	6	1.9	24
15	3	4	4	2	1	2	9	13	10	3	3	2	2	3	**IZS**	2	5	4	0	0	1	1	1	1	13	3.3	24
16	2	2	2	4	9	13	13	9	5	6	6	4	5	**IZS**	2	1	3	1	0	0	0	0	0	0	13	3.8	24
17	2	5	4	4	5	12	20	18	10	13	10	8	**IZS**	1	5	1	0	1	0	0	1	1	1	3	20	5.4	24
18	5	5	4	3	5	8	6	5	6	14	12	**IZS**	3	1	1	1	1	1	1	1	1	2	2	2	14	3.9	24
19	2	2	2	2	2	3	2	4	3	3	**IZS**	2	3	4	4	3	3	3	4	3	3	3	2	2	4	2.8	24
20	1	2	6	12	10	9	7	5	6	**IZS**	2	2	2	4	6	5	6	11	4	2	5	9	9	3	12	**5.6**	24
21	6	3	0	1	5	7	9	13	**IZS**	6	5	3	4	2	1	2	2	1	1	1	2	2	2	2	13	3.5	24
22	2	4	4	3	2	7	5	**IZS**	2	2	1	0	0	0	0	0	0	0	0	0	5	2	8	4	8	2.2	24
23	2	2	2	1	2	3	**IZS**	1	2	2	3	4	0	0	1	0	0	0	0	1	1	1	1	1	4	1.3	24
24	2	2	4	10	8	**IZS**	11	11	7	2	1	0	1	2	3	1	0	1	1	1	1	1	1	1	11	3.1	24
25	1	2	5	9	**IZS**	15	9	13	9	9	9	5	3	2	5	1	2	2	1	4	1	0	0	1	15	4.7	24
26	1	5	10	**IZS**	4	4	3	4	3	3	2	2	2	2	1	1	1	1	1	2	2	2	2	2	10	2.6	24
27	4	6	**IZS**	3	1	2	3	3	3	2	1	1	1	2	1	0	0	0	0	0	0	0	1	1	6	1.5	24
28	2	**IZS**	1	3	3	7	7	6	7	3	2	2	3	1	1	2	2	2	1	2	1	1	1	1	7	2.7	24
29	**IZS**	1	3	2	3	6	7	6	2	3	3	1	1	0	2	7	5	1	0	0	1	0	1	**IZS**	7	2.5	24
30	4	6	8	3	4	5	5	3	4	4	5	5	5	5	5	4	4	3	3	3	4	5	**IZS**	3	8	4.3	24
31	1	1	0	0	0	1	4	5	6	5	1	1	1	1	1	1	1	1	1	1	0	**IZS**	1	2	6	1.6	24
HOURLY MAX	21	9	10	12	10	15	20	18	11	14	12	8	5	5	6	7	6	11	12	8	7	9	9	19			
HOURLY AVG	3.0	2.8	2.5	2.5	2.7	4.1	5.1	5.0	3.9	3.3	2.9	2.1	2.0	1.4	1.7	1.6	1.6	1.4	1.2	1.3	1.3	1.6	1.6	2.3			

STATUS FLAG CODES

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



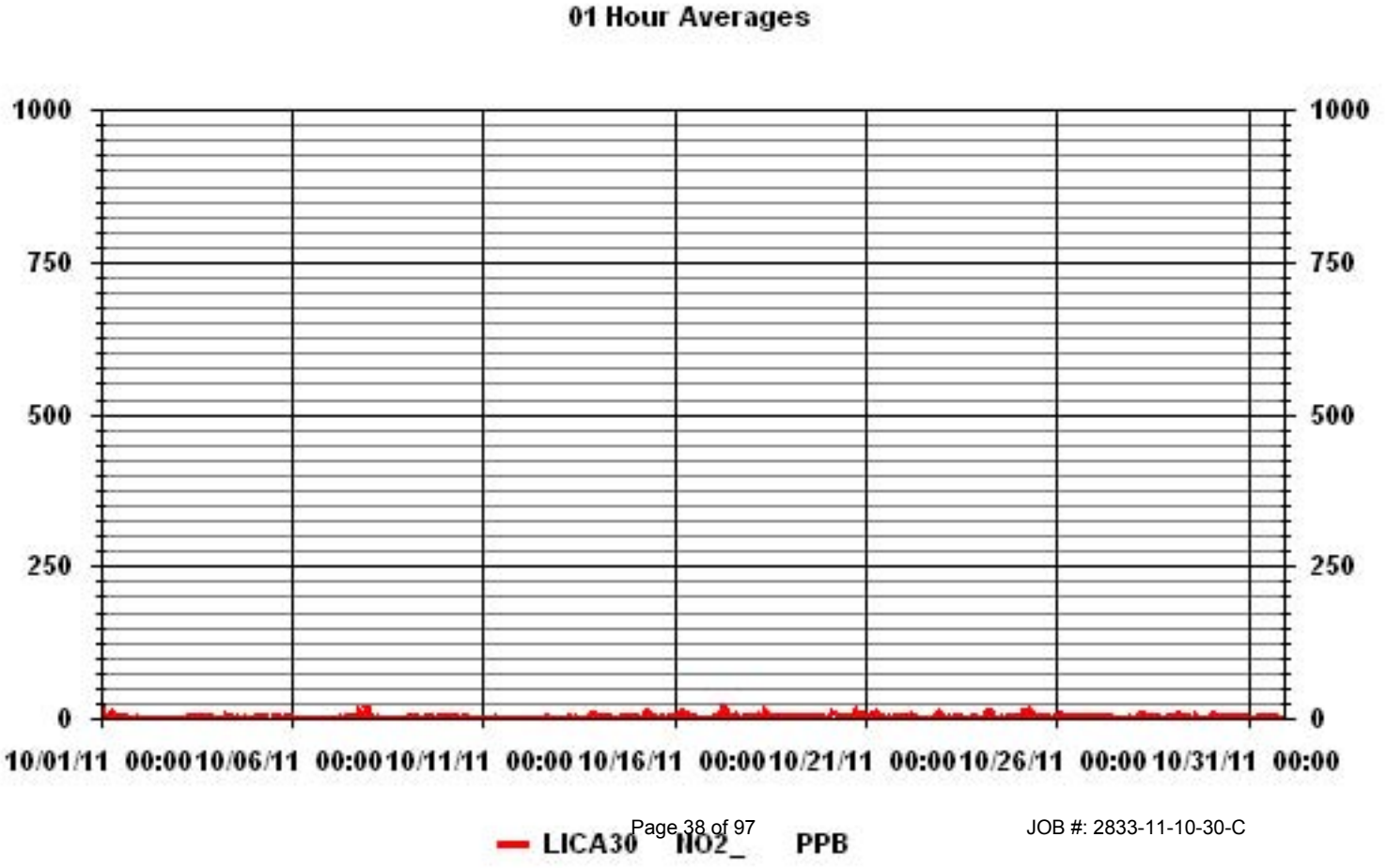
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 159 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0						
NUMBER OF NON-ZERO READINGS:	515						
MAXIMUM 1-HR AVERAGE:	21	PPB	@ HOUR(S)	0	ON DAY(S)	1	
MAXIMUM 24-HR AVERAGE:	5.6	PPB			ON DAY(S)	20	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		744	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	3.04		MONTHLY AVERAGE:		2.45	PPB	

JOB #: 2833-11-10-30-C



JOB #: 2833-11-10-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

OCTOBER 2011

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	28	25	4	1	4	**IZS**	14	19	20	18	18	11	5	4	4	3	2	1	1	1	1	1	2	2	28	8.2	24
2	9	0	0	0	**IZS**	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	9	0.5	24
3	0	0	0	**IZS**	1	1	2	2	1	2	4	4	7	8	3	1	1	5	2	3	1	2	1	2	8	2.3	24
4	2	4	**IZS**	3	7	11	12	8	11	9	8	6	5	8	4	4	1	0	0	3	2	1	4	5	12	5.1	24
5	4	**IZS**	3	5	6	5	3	3	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	3	3	3	2	2	2	1	1	6	3.0	24
6	**IZS**	0	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	0	0	1	1	**IZS**	2	0.9	24
7	0	1	1	0	2	3	2	1	1	2	2	1	10	9	10	11	16	10	22	14	1	10	**IZS**	23	23	6.6	24
8	22	17	18	1	0	1	2	4	1	1	1	0	1	1	3	4	3	1	1	1	0	**IZS**	1	1	22	3.7	24
9	3	4	3	2	2	2	2	2	2	2	2	11	2	2	2	3	3	4	3	3	**IZS**	3	3	4	11	3.0	24
10	4	3	2	2	3	4	5	5	4	2	3	6	9	5	4	3	1	0	1	**IZS**	1	1	1	1	9	3.0	24
11	1	0	1	0	0	1	3	5	7	4	1	0	0	0	1	2	0	0	**IZS**	0	0	0	0	0	7	1.1	24
12	1	1	0	0	0	0	1	1	1	3	7	1	7	1	1	4	4	**IZS**	1	1	1	1	0	1	7	1.7	24
13	1	0	1	3	3	2	1	2	2	1	6	7	3	1	2	3	**IZS**	1	1	10	10	8	9	10	10	3.8	24
14	7	8	7	6	6	6	9	6	4	0	2	1	1	1	2	**IZS**	2	2	2	2	2	2	2	2	9	3.6	24
15	6	7	6	3	2	4	20	22	19	4	4	5	3	8	**IZS**	4	9	8	1	1	1	2	1	2	22	6.2	24
16	3	3	3	6	12	16	21	10	7	8	8	5	6	**IZS**	6	4	10	6	1	1	1	1	1	1	21	6.1	24
17	5	6	5	5	6	19	22	**37**	14	15	15	18	**IZS**	13	29	13	1	1	2	1	1	1	2	5	**37**	10.3	24
18	6	6	5	4	10	13	10	7	14	17	18	**IZS**	5	2	3	2	2	2	2	2	2	2	2	3	18	6.0	24
19	3	3	2	3	3	5	4	12	4	3	**IZS**	5	3	5	7	4	3	4	5	4	4	4	3	2	12	4.1	24
20	2	4	11	19	18	19	14	11	15	**IZS**	7	6	13	10	16	14	13	22	12	5	13	13	12	8	22	12.0	24
21	8	6	1	3	10	13	23	16	**IZS**	7	6	5	5	5	2	3	4	2	2	2	2	2	3	3	23	5.8	24
22	3	5	5	4	4	8	7	**IZS**	4	3	2	1	1	1	1	2	1	2	1	1	12	4	14	6	14	4.0	24
23	5	5	3	2	7	6	**IZS**	2	4	2	6	7	2	1	20	2	1	1	1	1	2	1	2	2	20	3.7	24
24	3	2	7	13	10	**IZS**	14	14	12	5	11	1	9	11	14	7	1	2	1	1	4	2	2	2	14	6.4	24
25	2	7	10	16	**IZS**	20	13	16	15	12	14	11	9	13	17	3	6	7	5	9	3	2	1	3	20	9.3	24
26	2	8	13	**IZS**	5	6	4	9	4	3	4	3	3	3	2	2	2	1	2	2	3	3	3	3	13	3.9	24
27	7	8	**IZS**	6	2	4	13	6	5	4	2	14	3	9	10	9	1	1	1	1	1	2	1	2	14	4.9	24
28	2	**IZS**	2	4	5	9	9	17	13	4	3	3	3	2	2	3	2	3	2	4	4	2	1	3	17	4.4	24
29	**IZS**	1	5	3	8	18	14	9	4	4	5	2	3	1	6	15	11	2	1	1	2	1	2	**IZS**	18	5.4	24
30	7	8	10	5	6	7	7	4	4	5	6	6	6	6	5	5	5	4	4	4	7	7	**IZS**	7	10	5.9	24
31	2	1	1	1	1	3	8	11	7	7	3	6	2	2	2	2	1	2	2	3	1	**IZS**	4	4	11	3.3	24
HOURLY MAX	28	25	18	19	18	20	23	37	20	18	18	18	13	13	29	15	16	22	22	14	13	13	14	23			
HOURLY AVG	5.1	4.9	4.5	4.2	5.0	7.1	8.7	8.7	6.9	5.1	5.9	5.1	4.4	4.6	6.2	4.5	3.7	3.3	2.8	2.8	2.8	2.8	2.7	3.7			

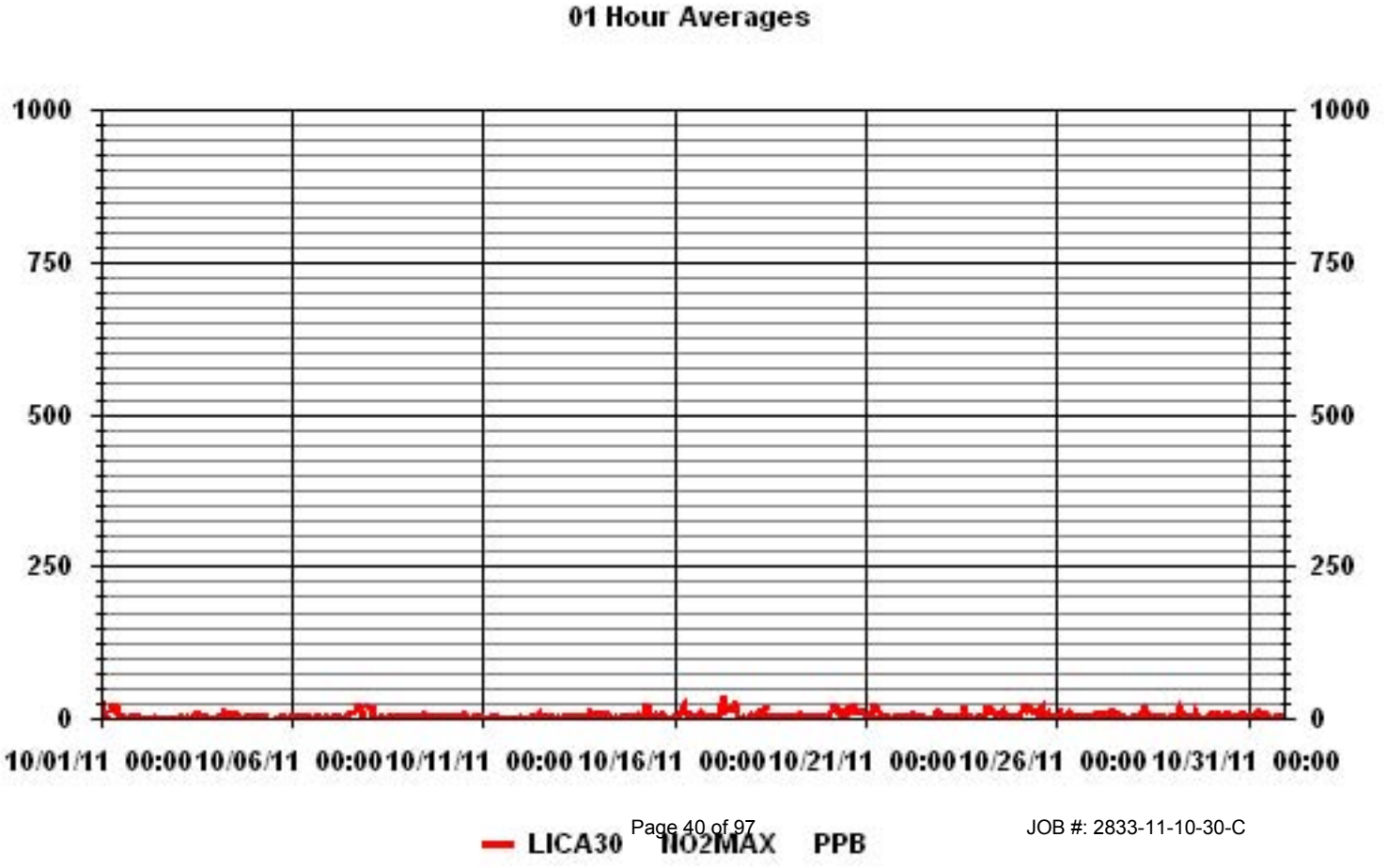
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	650					
MAXIMUM INSTANTANEOUS VALUE:	37	PPB	@ HOUR(S)	7	ON DAY(S)	17
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION	5.13					

JOB #: 2833-11-10-30-C



JOB #: 2833-11-10-30-C

LICA30
NO2_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.12	4.96	6.66	5.24	5.24	2.83	3.12	3.12	5.81	9.36	12.34	7.37	11.77	11.20	5.67	3.12	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.12	4.96	6.66	5.24	5.24	2.83	3.12	3.12	5.81	9.36	12.34	7.37	11.77	11.20	5.67	3.12	

Calm : .00 %

Total # Operational Hours : 705

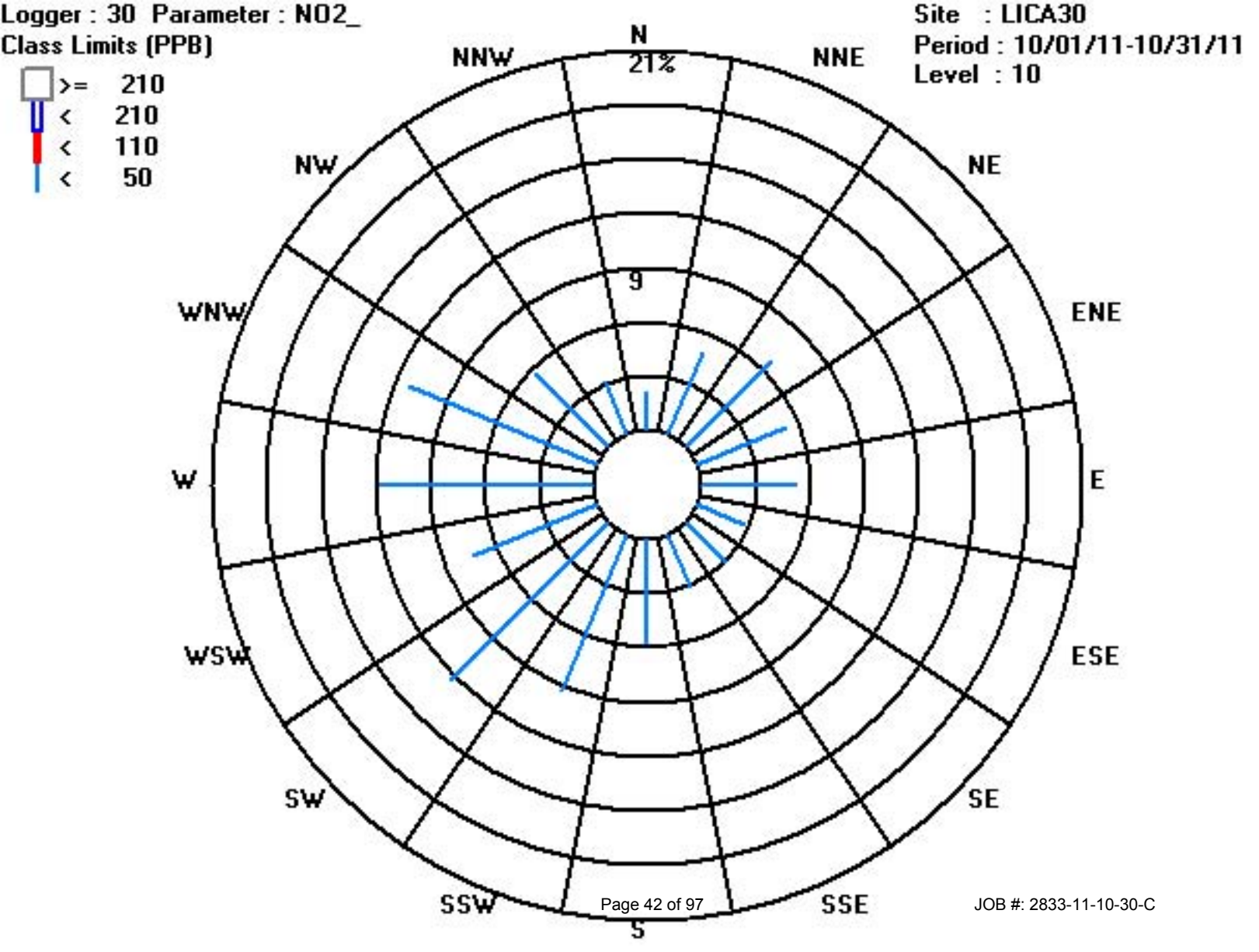
Distribution By Samples

Direction

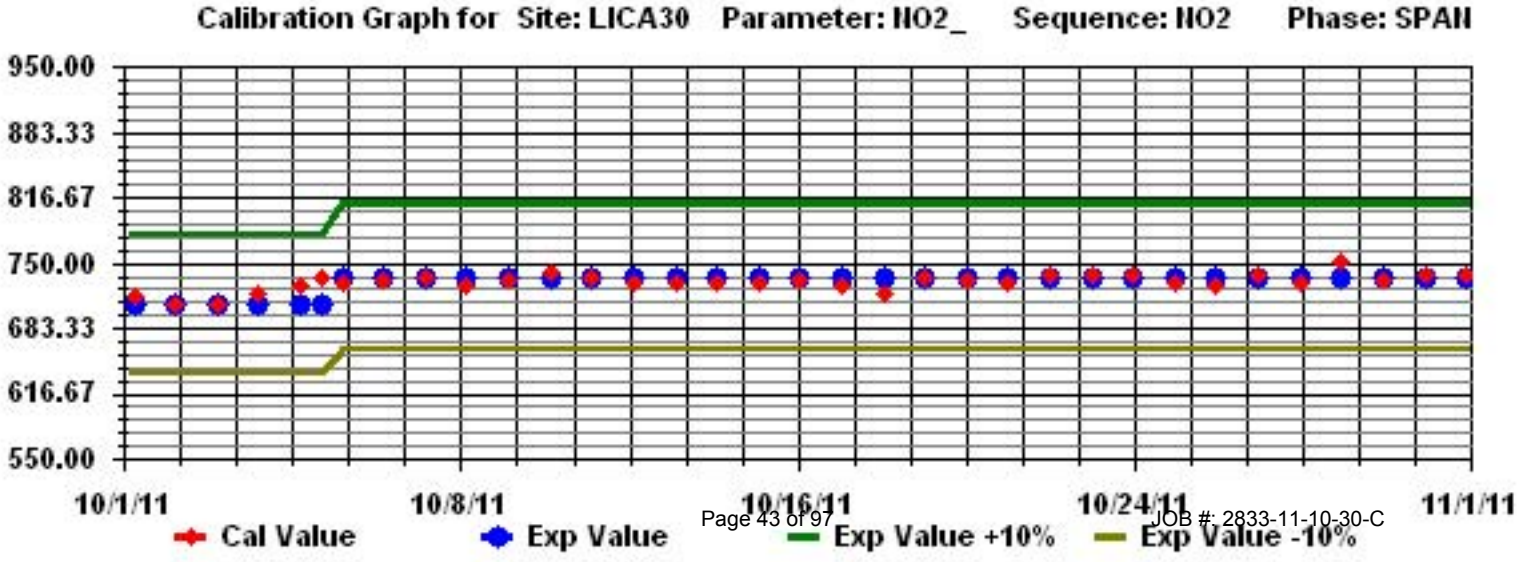
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	15	35	47	37	37	20	22	22	41	66	87	52	83	79	40	22	705
<	110																	
<	210																	
>=	210																	
	Totals	15	35	47	37	37	20	22	22	41	66	87	52	83	79	40	22	

Calm : .00 %

Total # Operational Hours : 705



JOB #: 2833-11-10-30-C


Calibration Graph for Site: LICA30 Parameter: NO2_ Sequence: NO2 Phase: SPAN
950.00
883.33
816.67
750.00
683.33
616.67
550.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSCOICATION - MASKWA

OCTOBER 2011

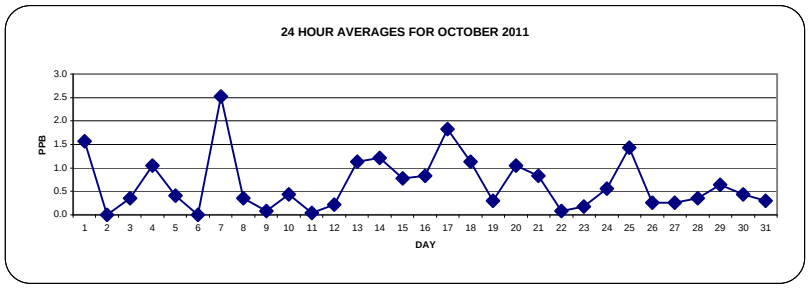
NITRIC OXIDE hourly averages in ppb

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	9	1	0	0	0	**IZS**	1	3	5	7	4	3	1	1	1	0	0	0	0	0	0	0	0	0	9	1.6	24
2	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
3	0	0	0	**IZS**	0	0	1	0	0	0	1	1	3	2	0	0	0	0	0	0	0	0	0	0	3	0.3	24
4	0	1	**IZS**	1	1	2	5	4	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	5	1.0	24
5	0	**IZS**	1	1	3	0	0	1	**C**	**C**	**C**	**C**	**C**	**C**	1	0	0	0	0	0	0	0	0	0	3	0.4	24
6	**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
7	1	1	1	1	1	1	1	1	1	1	1	1	4	2	2	3	3	1	7	4	1	3	**IZS**	**16**	**16**	**2.5**	24
8	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	7	0.3	24
9	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	**IZS**	0	0	0	1	0.1	24
10	0	0	0	0	0	1	1	3	2	0	0	1	2	0	0	0	0	0	0	**IZS**	0	0	0	0	3	0.4	24
11	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	1	0.0	24
12	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	0	**IZS**	0	0	0	0	0	0	2	0.2	24
13	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	**IZS**	0	0	0	1	2	12	9	12	1.1	24
14	3	5	1	1	2	7	5	2	2	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	7	1.2	24
15	0	0	0	0	0	0	2	5	6	0	1	1	0	1	**IZS**	1	1	0	0	0	0	0	0	0	6	0.8	24
16	0	0	0	0	0	0	3	1	2	4	4	2	2	**IZS**	1	0	0	0	0	0	0	0	0	0	4	0.8	24
17	0	0	0	0	0	1	4	6	4	11	6	4	**IZS**	1	5	0	0	0	0	0	0	0	0	0	11	1.8	24
18	0	0	0	0	0	0	0	1	3	12	8	**IZS**	2	0	0	0	0	0	0	0	0	0	0	0	12	1.1	24
19	0	0	0	0	0	0	0	1	1	1	**IZS**	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.3	24
20	0	0	0	3	5	3	0	0	1	**IZS**	1	1	1	2	3	1	1	2	0	0	0	0	0	0	5	1.0	24
21	0	0	0	0	0	1	2	3	**IZS**	5	3	2	2	1	0	0	0	0	0	0	0	0	0	0	5	0.8	24
22	0	0	0	0	0	0	0	**IZS**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
23	0	0	0	0	1	0	**IZS**	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24
24	0	0	0	0	0	**IZS**	1	2	3	1	1	0	1	1	2	1	0	0	0	0	0	0	0	0	3	0.6	24
25	0	0	0	1	**IZS**	2	1	4	4	4	7	4	2	1	3	0	0	0	0	0	0	0	0	0	7	1.4	24
26	0	0	0	**IZS**	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.3	24
27	0	0	**IZS**	0	0	0	1	0	1	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0.3	24
28	0	**IZS**	0	0	0	0	0	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	2	0.3	24
29	**IZS**	0	0	0	0	1	1	1	1	2	2	0	1	0	1	3	1	0	0	0	0	0	0	**IZS**	3	0.6	24
30	0	0	0	0	0	0	0	0	1	1	2	2	1	1	1	1	0	0	0	0	0	0	**IZS**	0	2	0.4	24
31	0	0	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	2	0.3	24
HOURLY MAX	9	5	1	3	5	7	5	6	6	12	8	4	4	2	5	3	3	2	7	4	1	3	12	16			
HOURLY AVG	0.7	0.3	0.1	0.3	0.4	0.7	1.0	1.3	1.6	2.0	1.7	1.1	1.0	0.6	0.7	0.4	0.2	0.1	0.2	0.1	0.1	0.2	0.4	0.9			

STATUS FLAG CODES

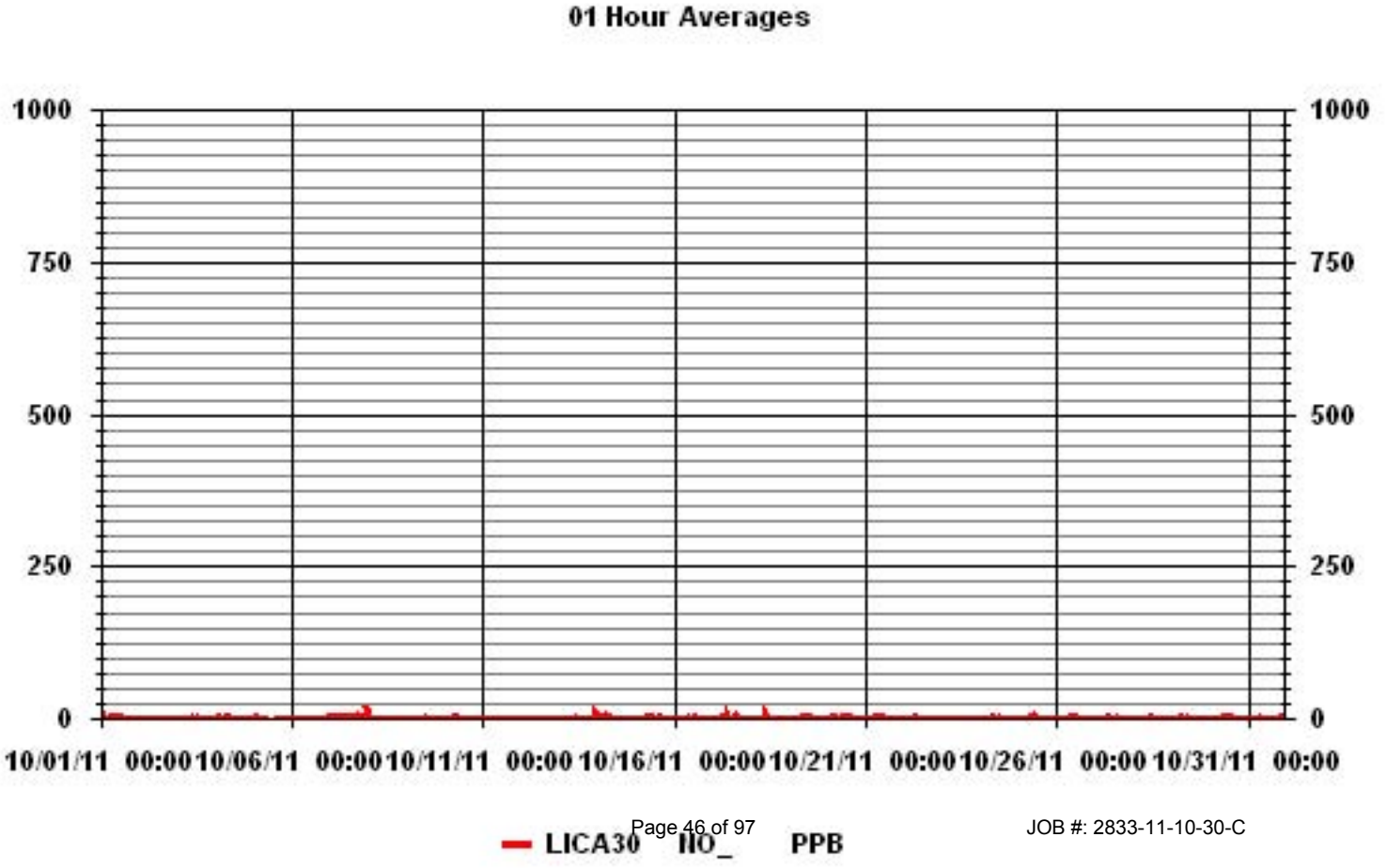
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	208						
MAXIMUM 1-HR AVERAGE:	16	PPB	@ HOUR(S)	23	ON DAY(S)	7	
MAXIMUM 24-HR AVERAGE:	2.5	PPB			ON DAY(S)	7	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		744	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	1.59		MONTHLY AVERAGE:		0.67	PPB	

JOB #: 2833-11-10-30-C



JOB #: 2833-11-10-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

OCTOBER 2011

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

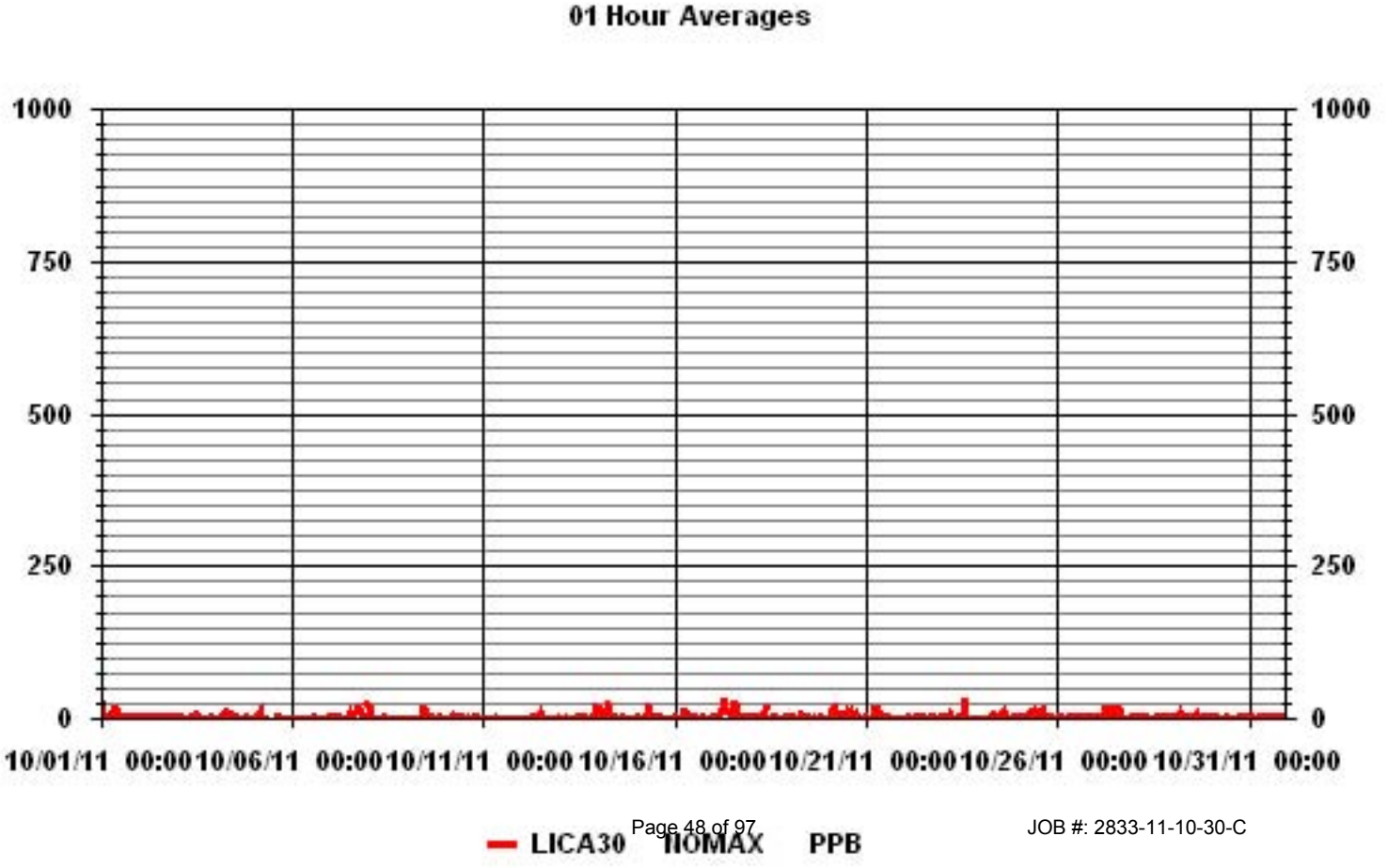
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	27	12	1	1	1	**IZS**	3	9	15	16	16	6	2	2	2	1	1	1	1	1	1	1	1	1	27	5.3	24
2	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
3	1	1	1	**IZS**	1	1	3	1	1	1	3	3	6	7	2	1	1	2	1	2	1	1	1	1	7	1.9	24
4	1	2	**IZS**	2	4	9	12	7	10	8	7	4	2	3	2	2	0	0	0	1	1	1	0	1	12	3.4	24
5	2	**IZS**	2	8	13	1	1	2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	0	0	0	0	0	0	13	2.0	24
6	**IZS**	1	0	0	0	0	0	2	1	0	0	1	2	4	0	0	0	1	0	1	0	0	0	**IZS**	4	0.6	24
7	1	1	1	1	1	2	2	2	1	2	1	2	10	5	6	8	13	4	18	9	1	6	**IZS**	24	24	5.3	24
8	22	1	2	0	0	0	1	2	1	1	1	1	2	0	1	2	0	0	0	0	0	**IZS**	0	1	22	1.7	24
9	0	0	0	0	0	0	0	0	1	1	1	19	2	1	1	1	1	1	0	0	**IZS**	1	1	0	19	1.3	24
10	1	0	0	1	0	6	3	5	4	1	1	3	4	2	1	1	0	0	0	**IZS**	1	1	0	0	6	1.5	24
11	0	0	0	1	0	0	0	1	4	2	0	0	0	0	0	1	0	1	**IZS**	1	0	0	0	0	4	0.5	24
12	0	0	0	0	0	0	1	1	1	2	6	1	8	1	0	2	1	**IZS**	1	0	1	0	0	1	8	1.2	24
13	1	0	1	0	1	1	0	0	0	0	4	4	1	1	2	3	**IZS**	1	1	2	2	5	19	16	19	2.8	24
14	9	13	9	2	3	14	29	6	5	1	2	2	0	1	2	**IZS**	1	1	0	1	0	1	0	0	29	4.4	24
15	1	1	1	0	1	1	8	22	16	1	2	2	1	5	**IZS**	3	1	1	0	1	0	1	0	1	22	3.0	24
16	1	1	0	0	1	2	17	3	4	6	6	4	4	**IZS**	2	2	1	1	1	1	0	1	0	1	17	2.6	24
17	1	1	1	1	0	10	10	**33**	8	16	13	9	**IZS**	4	27	10	1	0	1	1	1	1	1	1	**33**	6.6	24
18	1	1	1	1	1	1	1	2	10	17	20	**IZS**	3	1	1	1	1	1	0	1	0	1	1	1	20	3.0	24
19	1	1	1	1	1	0	1	10	1	2	**IZS**	4	1	1	3	1	1	0	0	1	1	1	0	0	10	1.4	24
20	0	0	3	14	17	11	5	1	9	**IZS**	3	4	11	4	10	4	2	8	1	1	2	2	1	1	17	5.0	24
21	1	1	0	1	1	4	22	7	**IZS**	6	6	3	3	3	1	1	1	0	0	0	0	1	0	0	22	2.7	24
22	0	1	1	1	1	0	0	**IZS**	2	2	2	1	1	1	1	2	1	1	1	1	1	0	1	1	2	1.0	24
23	1	1	1	0	7	3	**IZS**	0	2	1	3	4	0	0	32	0	0	0	0	0	0	0	0	0	32	2.4	24
24	0	0	0	0	0	**IZS**	3	5	7	2	4	2	8	7	12	4	0	0	0	1	1	1	1	1	12	2.6	24
25	1	1	1	4	**IZS**	8	4	12	10	7	14	11	8	10	13	2	1	1	1	1	1	1	1	0	14	4.9	24
26	1	1	1	**IZS**	1	2	1	2	2	2	2	3	1	1	1	1	1	0	1	1	1	1	1	1	3	1.3	24
27	1	2	**IZS**	1	1	1	19	2	4	4	2	22	2	9	14	22	1	1	1	0	0	1	1	1	22	4.9	24
28	1	**IZS**	1	1	1	1	1	7	6	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	7	1.6	24
29	**IZS**	1	1	1	2	10	4	3	2	3	3	2	3	1	3	9	3	1	1	1	1	1	1	**IZS**	10	2.6	24
30	1	1	1	1	1	1	2	1	1	2	3	3	2	1	1	2	1	1	1	1	1	1	**IZS**	1	3	1.3	24
31	1	1	1	1	0	1	2	3	3	3	2	5	1	1	1	1	1	1	1	1	1	**IZS**	2	2	5	1.6	24
HOURLY MAX	27	13	9	14	17	14	29	33	16	17	20	22	11	10	32	22	13	8	18	9	2	6	19	24			
HOURLY AVG	2.7	1.6	1.1	1.6	2.1	3.1	5.2	5.1	4.6	3.9	4.5	4.4	3.1	2.7	4.9	3.0	1.3	1.1	1.1	1.1	0.7	1.1	1.2	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:	558					
MAXIMUM INSTANTANEOUS VALUE:	33	PPB	@ HOUR(S)	7	ON DAY(S)	17
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION	4.49					



JOB #: 2833-11-10-30-C

LICA30
NO_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.12	4.96	6.66	5.24	5.24	2.83	3.12	3.12	5.81	9.36	12.34	7.37	11.77	11.20	5.67	3.12	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.12	4.96	6.66	5.24	5.24	2.83	3.12	3.12	5.81	9.36	12.34	7.37	11.77	11.20	5.67	3.12	

Calm : .00 %

Total # Operational Hours : 705

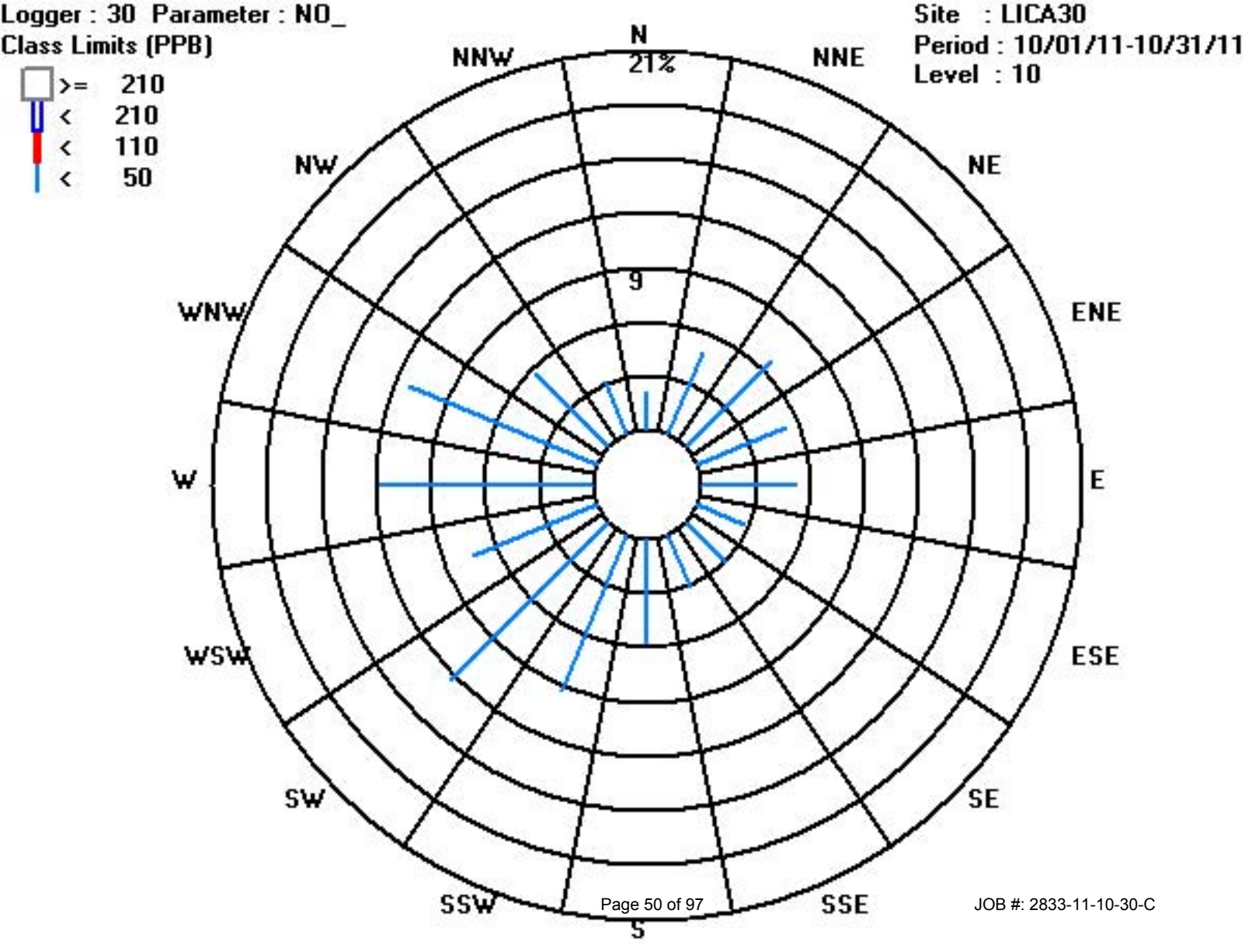
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	15	35	47	37	37	20	22	22	41	66	87	52	83	79	40	22	705
<	110																	
<	210																	
>=	210																	
	Totals	15	35	47	37	37	20	22	22	41	66	87	52	83	79	40	22	

Calm : .00 %

Total # Operational Hours : 705



JOB #: 2833-11-10-30-C

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

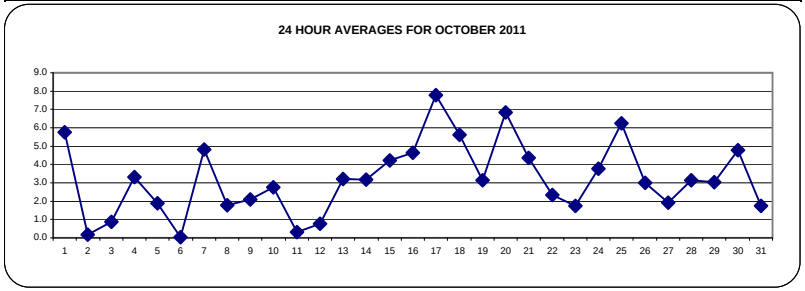
OCTOBER 2011

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	31	8	1	0	1	**IZS**	10	15	16	17	9	9	3	1	2	2	1	1	1	1	1	0	1	1	31	5.7	24
2	2	0	0	0	**IZS**	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24
3	0	0	0	**IZS**	0	0	1	0	0	0	2	3	6	5	1	0	0	1	0	1	0	0	0	0	6	0.9	24
4	0	2	**IZS**	1	2	5	13	9	10	8	6	4	3	2	1	1	0	0	0	1	1	1	2	4	13	3.3	24
5	4	**IZS**	3	4	5	3	3	3	**C**	**C**	**C**	**C**	**C**	**C**	2	1	2	1	1	0	0	0	0	0	5	1.9	24
6	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**IZS**	1	0.0	24
7	0	0	0	0	0	2	1	1	0	1	1	1	7	4	3	8	7	3	18	12	0	7	**IZS**	**35**	**35**	4.8	24
8	20	10	5	0	0	0	1	1	0	0	0	0	0	0	1	3	0	0	0	0	0	**IZS**	0	0	20	1.8	24
9	1	2	2	2	1	1	1	2	2	2	2	3	2	2	2	2	2	2	3	2	**IZS**	3	3	4	4	2.1	24
10	3	3	2	2	3	4	6	8	6	3	3	4	7	2	2	2	1	1	1	**IZS**	0	0	0	0	8	2.7	24
11	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	3	0.3	24
12	0	0	0	0	0	0	0	0	0	1	5	1	5	1	0	3	2	**IZS**	0	0	0	0	0	0	5	0.8	24
13	0	0	0	1	2	1	1	1	1	0	3	4	1	1	1	1	**IZS**	0	0	4	8	8	20	16	20	3.2	24
14	8	10	3	5	7	11	9	6	4	0	1	0	0	0	1	**IZS**	1	1	1	1	1	1	1	1	11	3.2	24
15	3	4	4	2	2	2	11	19	16	3	4	3	2	5	**IZS**	3	6	4	0	0	1	1	1	1	19	4.2	24
16	2	2	2	3	9	14	16	10	8	10	9	6	7	**IZS**	3	1	4	1	0	0	0	0	0	0	16	4.7	24
17	2	5	4	4	5	13	23	24	14	24	16	12	**IZS**	3	11	2	2	2	2	1	2	2	2	4	24	**7.8**	24
18	6	6	5	4	7	9	8	7	9	28	21	**IZS**	4	2	1	1	1	1	1	2	1	1	2	2	28	5.6	24
19	2	2	2	2	2	3	2	6	4	4	**IZS**	4	3	5	5	3	3	3	4	3	3	3	2	2	6	3.1	24
20	1	2	7	16	15	12	7	5	8	**IZS**	3	3	3	6	9	7	6	13	4	2	6	9	10	3	16	6.8	24
21	6	3	0	1	5	8	11	16	**IZS**	11	8	5	6	3	2	2	2	1	1	1	2	2	2	2	16	4.3	24
22	2	4	4	3	3	7	5	**IZS**	3	2	1	0	0	0	0	1	0	0	0	0	5	2	8	4	8	2.3	24
23	2	3	2	1	2	3	**IZS**	1	4	2	5	7	1	0	2	0	0	0	0	1	1	1	1	1	7	1.7	24
24	2	2	4	10	8	**IZS**	12	14	10	4	2	0	2	4	5	2	0	1	0	1	1	1	1	1	14	3.8	24
25	1	2	5	10	**IZS**	17	11	16	13	13	16	8	6	4	8	1	2	2	1	4	1	1	1	1	17	6.3	24
26	1	5	10	**IZS**	4	4	3	5	4	4	4	3	2	2	2	2	1	1	1	2	2	2	3	2	10	3.0	24
27	4	6	**IZS**	3	1	3	4	3	4	3	1	2	1	3	2	1	1	0	0	0	0	0	1	1	6	1.9	24
28	2	**IZS**	1	3	4	7	7	8	9	4	3	2	4	2	2	2	2	2	1	2	1	1	1	2	9	3.1	24
29	**IZS**	1	3	2	3	7	9	6	3	4	4	1	2	0	3	10	6	1	0	0	1	0	1	**IZS**	10	3.0	24
30	4	6	8	3	4	5	5	4	4	5	7	6	6	5	5	5	4	3	4	4	5	5	**IZS**	3	8	4.8	24
31	1	0	0	0	0	1	4	6	7	7	2	1	0	1	1	1	1	1	1	1	0	**IZS**	2	2	7	1.7	24
HOURLY MAX	31	10	10	16	15	17	23	24	16	28	21	12	7	6	11	10	7	13	18	12	8	9	20	35			
HOURLY AVG	3.8	3.0	2.7	2.8	3.3	4.9	6.2	6.6	5.6	5.5	4.8	3.2	2.9	2.2	2.6	2.2	1.9	1.5	1.5	1.5	1.4	1.8	2.2	3.2			

STATUS FLAG CODES

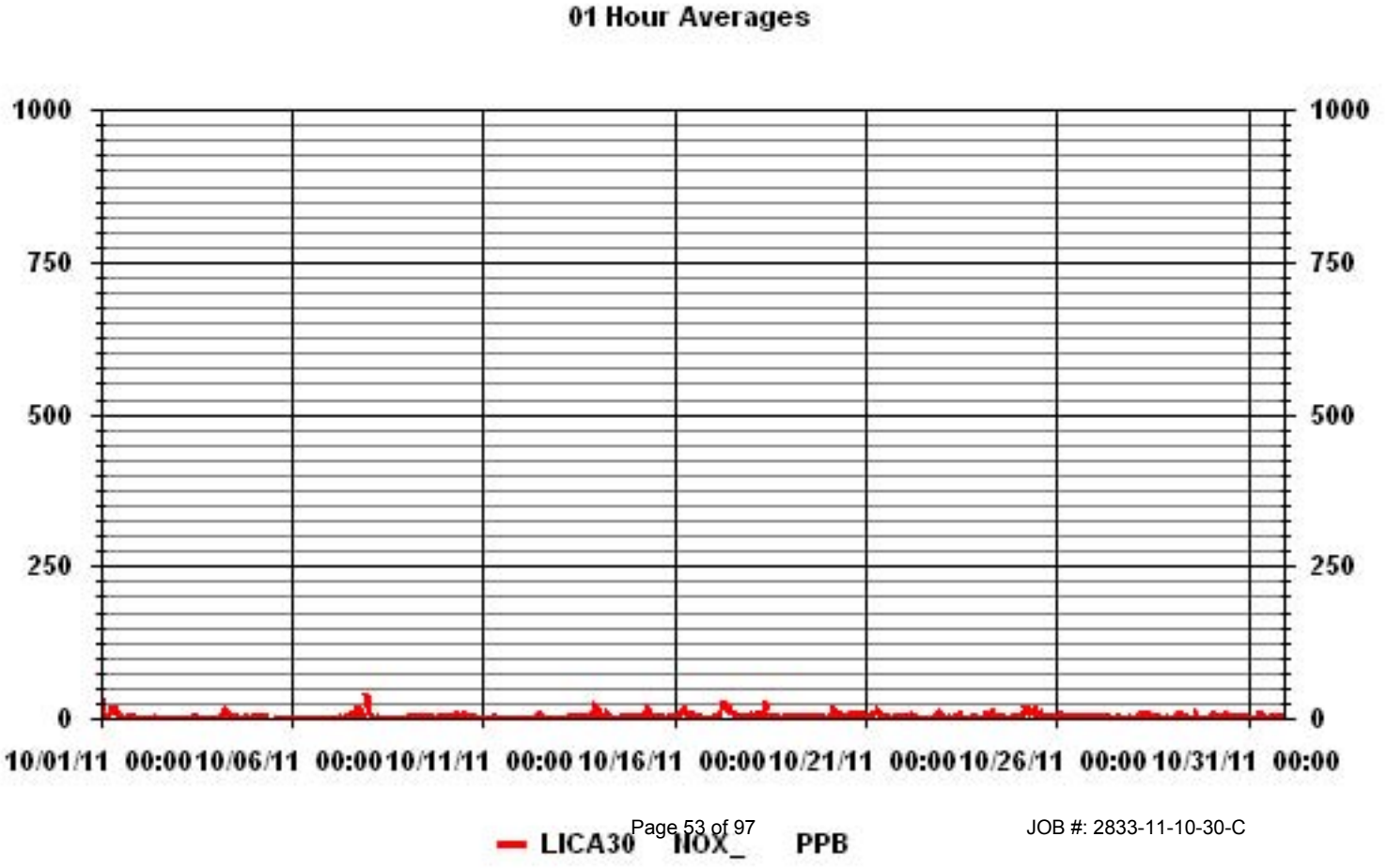
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	525					
MAXIMUM 1-HR AVERAGE:	35	PPB	@ HOUR(S)	23	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	7.8	PPB			ON DAY(S)	17

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	4.34		MONTHLY AVERAGE:	3.22	PPB



JOB #: 2833-11-10-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

OCTOBER 2011

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

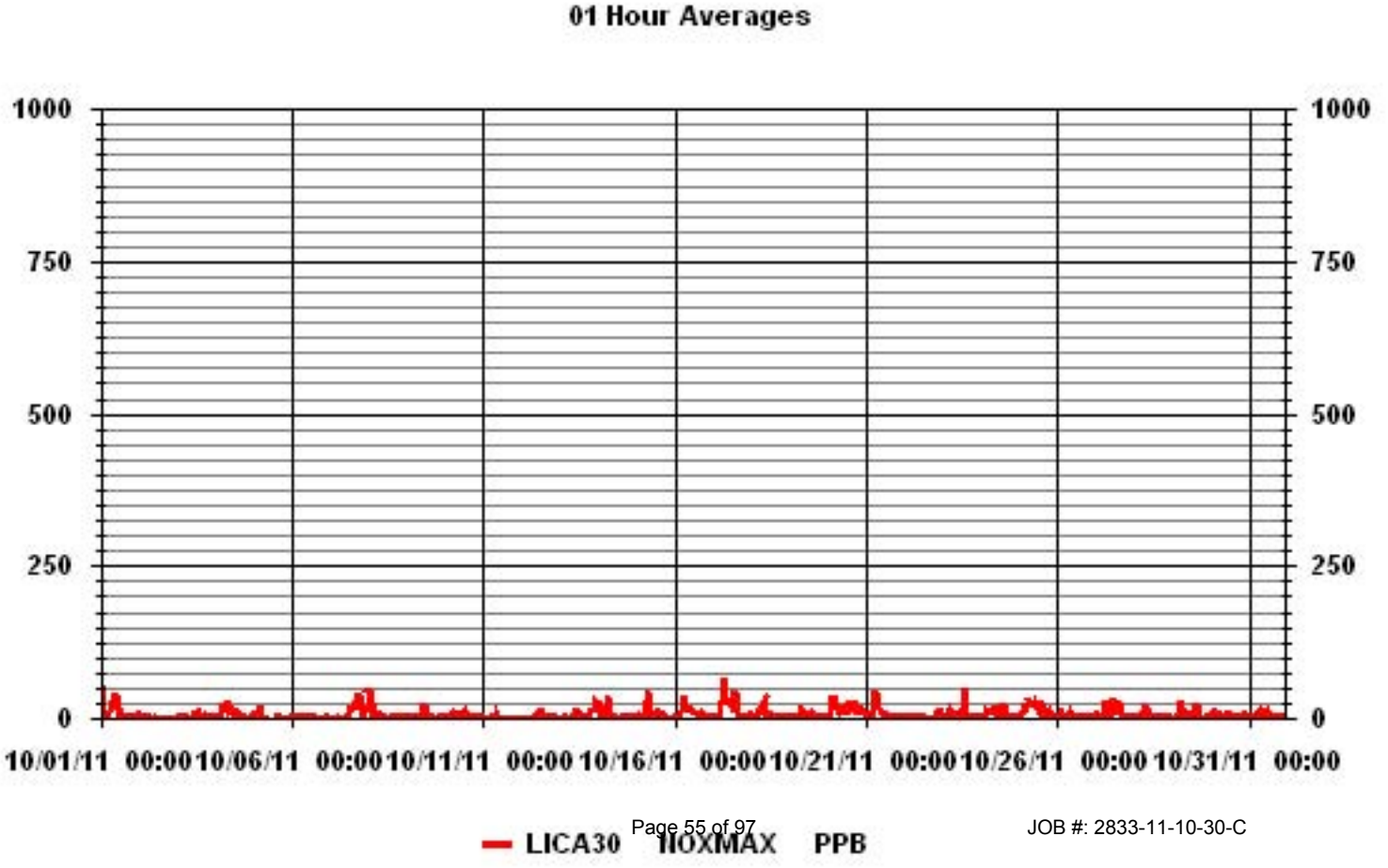
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	52	37	4	1	5	**IZS**	16	29	34	34	34	18	7	5	6	3	2	2	1	1	1	1	2	2	52	12.9	24
2	10	0	1	0	**IZS**	1	1	1	0	1	2	2	1	0	1	0	0	0	0	0	1	0	1	0	10	1.0	24
3	1	1	1	**IZS**	1	1	4	1	1	2	6	6	11	13	4	1	1	6	1	4	1	1	1	1	13	3.0	24
4	2	5	**IZS**	5	11	21	24	16	21	16	16	11	8	12	7	6	1	1	1	5	2	1	4	6	24	8.8	24
5	6	**IZS**	5	11	19	6	4	3	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	2	2	1	0	1	0	0	19	4.0	24
6	**IZS**	1	1	1	1	1	1	3	2	1	1	1	4	6	1	0	1	0	0	0	0	1	1	**IZS**	6	1.3	24
7	0	0	1	0	2	4	2	1	1	2	2	1	20	13	16	19	29	13	40	22	1	15	**IZS**	47	47	10.9	24
8	45	18	20	1	1	0	3	6	1	1	1	1	3	0	5	6	3	1	1	1	0	**IZS**	1	1	45	5.2	24
9	3	4	3	2	2	2	2	2	3	2	3	26	4	3	4	3	3	3	4	3	**IZS**	4	4	5	26	4.1	24
10	5	4	3	3	4	12	9	9	9	4	5	11	14	8	5	4	1	1	1	**IZS**	1	1	1	1	14	5.0	24
11	1	0	0	0	0	1	3	5	11	6	0	0	0	0	1	3	0	0	**IZS**	1	0	0	0	0	11	1.4	24
12	0	1	0	0	0	0	2	1	1	4	13	2	15	2	2	6	5	**IZS**	1	1	1	1	1	1	15	2.6	24
13	0	0	1	3	3	3	1	2	2	1	10	10	4	2	4	5	**IZS**	1	1	11	12	12	28	25	28	6.1	24
14	16	21	16	7	9	20	35	12	8	1	3	2	1	2	4	**IZS**	3	2	2	2	2	2	2	2	35	7.6	24
15	6	7	6	3	2	4	28	44	34	5	5	7	3	12	**IZS**	7	10	9	1	1	1	2	1	2	44	8.7	24
16	3	3	3	6	12	18	38	12	12	14	14	9	9	**IZS**	8	6	11	6	1	1	1	1	1	1	38	8.3	24
17	5	6	5	5	7	28	33	**65**	22	31	28	24	**IZS**	16	45	24	3	2	3	2	2	2	3	6	**65**	16.0	24
18	7	8	6	5	12	15	12	10	26	35	38	**IZS**	8	3	4	2	2	2	2	2	2	2	2	3	38	9.0	24
19	3	3	3	3	3	5	4	22	5	4	**IZS**	8	4	6	10	5	4	4	5	4	4	4	3	2	22	5.1	24
20	2	4	15	33	34	29	19	12	18	**IZS**	10	10	23	15	26	18	15	29	12	5	15	15	13	8	34	16.5	24
21	8	6	1	3	10	17	44	20	**IZS**	13	12	7	8	8	3	3	5	2	2	2	2	2	3	3	44	8.0	24
22	3	5	5	4	5	8	7	**IZS**	5	4	3	1	1	1	1	3	1	2	1	1	13	4	15	6	15	4.3	24
23	5	6	4	2	14	9	**IZS**	2	6	3	9	11	2	1	50	2	1	1	1	1	2	2	2	2	50	6.0	24
24	2	2	7	13	10	**IZS**	16	18	19	7	13	3	17	18	25	11	1	2	1	1	4	2	2	2	25	8.5	24
25	2	7	11	20	**IZS**	28	16	27	24	18	28	23	16	23	29	6	7	7	5	10	3	2	1	3	29	13.7	24
26	2	8	13	**IZS**	5	7	4	11	5	5	6	5	3	3	2	2	2	1	2	2	3	3	3	3	13	4.3	24
27	7	9	**IZS**	6	2	5	29	8	9	8	3	34	4	18	17	28	1	1	1	1	1	1	1	2	34	8.5	24
28	2	**IZS**	2	4	5	9	9	23	18	5	4	3	5	3	2	3	3	3	2	4	3	2	2	3	23	5.2	24
29	**IZS**	2	5	3	9	27	17	10	5	7	8	3	5	1	10	24	14	1	1	1	2	2	1	**IZS**	27	7.2	24
30	7	8	11	6	7	8	8	5	5	6	8	8	7	6	6	5	5	4	5	5	7	7	**IZS**	7	11	6.6	24
31	2	1	1	1	1	3	9	14	10	9	4	10	1	2	3	2	1	2	2	2	1	**IZS**	4	4	14	3.9	24
HOURLY MAX	52	37	20	33	34	29	44	65	34	35	38	34	23	23	50	28	29	29	40	22	15	15	28	47			
HOURLY AVG	7.1	6.1	5.3	5.2	6.8	10.1	13.3	13.1	10.9	8.6	10.0	8.9	7.2	7.0	10.4	7.0	4.6	3.7	3.4	3.2	2.9	3.2	3.6	5.1			

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:	658					
MAXIMUM INSTANTANEOUS VALUE:	65	PPB	@ HOUR(S)	7	ON DAY(S)	17
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION	8.91					



JOB #: 2833-11-10-30-C

LICA30
NOX_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.12	4.96	6.66	5.24	5.24	2.83	3.12	3.12	5.81	9.36	12.34	7.37	11.77	11.20	5.67	3.12	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.12	4.96	6.66	5.24	5.24	2.83	3.12	3.12	5.81	9.36	12.34	7.37	11.77	11.20	5.67	3.12	

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	15	35	47	37	37	20	22	22	41	66	87	52	83	79	40	22	705
<	110																	
<	210																	
>=	210																	
	Totals	15	35	47	37	37	20	22	22	41	66	87	52	83	79	40	22	

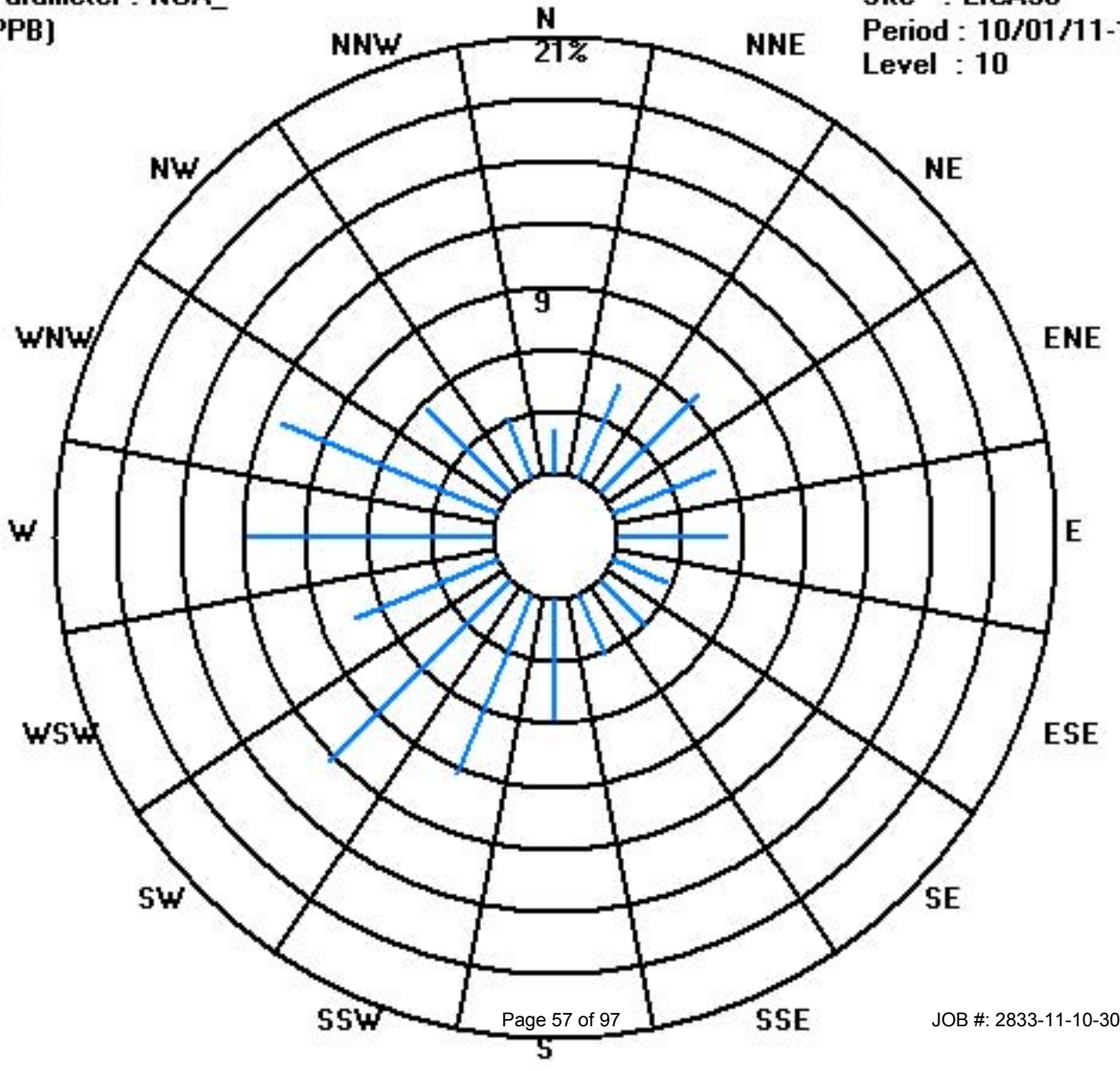
Calm : .00 %

Total # Operational Hours : 705

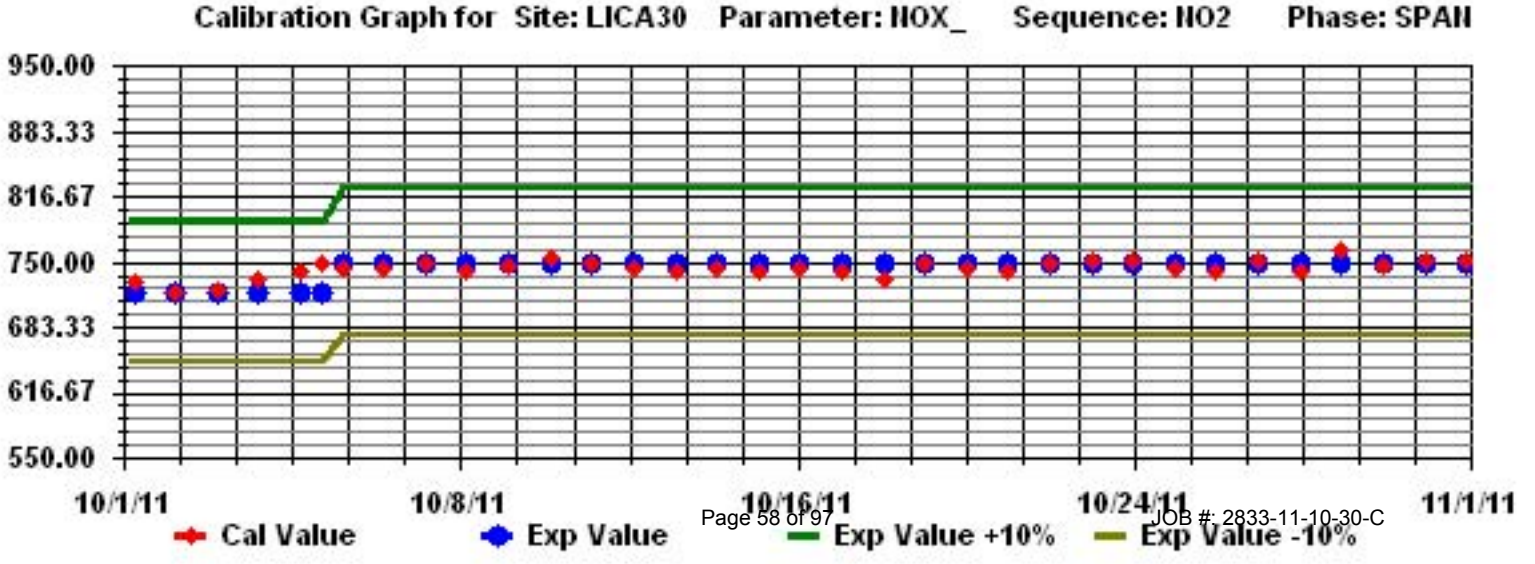
Logger : 30 Parameter : NOX_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA30
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-30-C


Calibration Graph for Site: LICA30 Parameter: NOX_ Sequence: NO2 Phase: SPAN
950.00
883.33
816.67
750.00
683.33
616.67
550.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

OCTOBER 2011

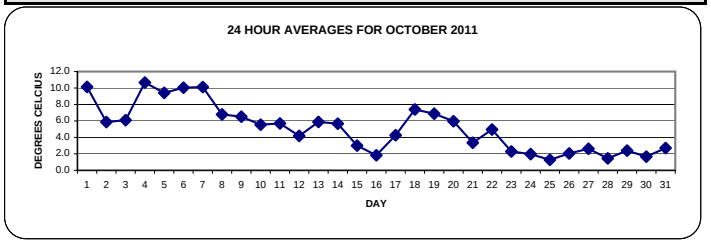
AMBIENT TEMPERATURE hourly averages (Degrees C)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	10.1	9.5	10	10	10	10.2	10	9.9	10.2	11.6	12.9	12.4	12.7	12.7	12.6	12.1	11.5	9.8	8.2	7.8	7.4	8.6	7.5	5.5	12.9	10.1	24
2	4.7	4.3	4.2	4.4	4.5	4.4	4.4	4.4	4.7	5.4	5.7	7.2	8	8.2	9	9.3	9.3	8.1	6.8	6.1	5.2	4.8	4.3	3.4	9.3	5.9	24
3	1.9	1.6	1.9	3.9	4.4	4.5	4.9	5.3	6	6.4	7.1	7.5	8.2	7.3	7.4	7.5	7.7	7.6	7.2	7.5	7.6	7.7	7.7	7.4	8.2	6.1	24
4	7.2	7.4	7.7	8	8.4	9	9.8	10	10.3	10.9	11.5	13	13	12.9	15	**16.2**	15.1	13.1	11.5	11.1	9.6	8.7	8.9	7.7	**16.2**	**10.7**	24
5	7.6	7.2	6.4	6.8	7.6	8.1	7.9	8.4	9.5	10.2	10.7	11	11.2	11.1	11.1	10.9	10.7	10.5	10.2	9.8	9.7	9.6	9.7	9.9	11.2	9.4	24
6	9.8	9.5	9.5	9.4	9.3	9.2	9.1	9.3	9.7	10.2	10.6	11.2	11.6	11.5	11.4	11.1	10.8	10.4	10.1	9.9	9.6	9.4	9.3	9.1	11.6	10.0	24
7	8.9	8.7	8.5	8.3	8.3	8.3	8.2	8.3	8.8	9.6	10	12.8	13.5	14.5	13.8	13.2	12.6	11.1	10.7	10.5	9.7	8.9	8.1	7.5	14.5	10.1	24
8	6.9	6.1	4.7	4	3.5	3.2	2.7	3.7	7	9	11.4	13	13.7	14.3	13.9	13.6	11.7	8	4.1	3.2	2.3	1.8	0.9	0.4	14.3	6.8	24
9	1.8	5.9	5.9	6.3	5.8	5	4.2	4.7	7	9	10.1	11.2	11.9	11.7	12.3	12.2	11.5	8.5	4.7	3.1	2.2	1.2	0.4	-0.2	12.3	6.5	24
10	-0.6	-1.1	-1.7	-2.3	-2.4	-2.6	-2.2	-0.3	5	9	10.8	12.8	15.3	15.8	14.9	14.6	13.2	11.1	9	6.1	4.3	2.2	1.3	0.9	15.8	5.5	24
11	0.4	0.4	0.4	0.3	0.6	-0.3	-1.3	-0.1	4.5	8	11.6	13	14.4	14.8	15.2	15	13	9	6	3.9	2.7	2.1	1.7	1.4	15.2	5.7	24
12	0.5	1	1.7	1.1	0.8	1.2	0.8	1	2	3.7	5.5	7.9	11	11.7	9.6	10	8.7	5.7	3.7	3.1	2.6	1.8	2.2	3.1	11.7	4.2	24
13	3.8	4.6	4.8	5.1	5.5	5.7	5.6	5.3	5.7	6.3	6.7	7.1	7	6.8	7	6.8	6.1	5.9	5.8	5.8	5.9	5.9	6	5.8	7.1	5.9	24
14	5.6	5.4	5	4.8	5	4.5	3.4	3.8	5.1	7.3	9.1	8.7	9.2	9.9	10.9	11.5	9.4	6.2	3.1	2.3	2.1	1.5	1.1	1.1	11.5	5.7	24
15	1.2	1.4	1.5	0.9	1.1	2.3	2.7	2.7	3.9	4.7	6.2	6.6	6.1	7.3	7.8	7.5	4.8	3.2	1.8	1.2	0.3	-0.2	-1.1	-1.8	7.8	3.0	24
16	-1.4	-1.7	-2.2	-2.1	-2.1	-2.4	-2.9	-2.1	0.6	2.4	5.4	8.1	9.1	9.9	10	9.5	7.5	4.3	2.3	0.7	-1	-2.2	-2.6	-3.2	10.0	1.8	24
17	-2.3	-2.6	-3.3	-3	-3.3	-3	-2.9	-1.6	1.7	4.8	8.5	10.6	11.9	12.1	11.9	10.2	8.9	7.7	7.4	6.7	6.1	5.6	5.4	4.9	12.1	4.3	24
18	4.3	4	3.1	3	2.3	0	-1	-0.8	4.8	9	11.5	11.9	12.7	13.1	12.9	13.2	11.4	10	9.5	9.3	8.7	7.9	8.4	8.3	13.2	7.4	24
19	7.7	7.5	7.2	6.9	6.4	4.4	1	0.4	5.5	9.1	10.2	10.9	10.6	11	11.5	10.9	9.7	7.4	5.5	5.4	5	4.1	3.5	3.3	11.5	6.9	24
20	3.1	3.2	3.2	4	5.9	5.6	5.3	5.5	7.3	8.5	10.8	10.8	11.5	11.8	11.1	10.2	8	6.7	4.8	3.1	2.2	1.2	-0.1	-0.5	11.8	6.0	24
21	-1.4	-1.9	-2.7	-2.1	-1.5	-1.5	-1.6	-1.9	0.1	2.9	6.3	7.9	8.6	9.3	9.7	8.7	7.6	4.4	2.9	4.2	5.4	6.1	6.2	4.7	9.7	3.4	24
22	4.4	4.1	3.5	3.3	2.7	2.9	2.2	2.4	5.1	7.4	9.1	9.2	10.4	9.5	10.1	9.1	8.4	6.9	5.2	3.3	1.9	0.7	-0.6	-2.2	10.4	5.0	24
23	-2.7	-2.7	-2.9	-3.1	-2.2	-1.4	-1.3	-0.5	0.4	1.5	4.2	7	9.3	8.1	7.6	7.5	7.2	6.5	5	3.5	2.2	1.5	0.8	-0.5	9.3	2.3	24
24	-1	-1.9	-1	-1.1	-2.1	-2.4	-2.2	-2.3	0.9	4.3	7	8.1	8.8	8.9	9.1	8.6	6	3.5	0.4	-0.7	-0.5	-0.5	-1.2	-1.4	9.1	2.0	24
25	-2.3	-2.8	-2.2	-2.7	-3.4	-3.5	-2.4	-1.3	-0.2	1.8	5.1	7.3	8.2	8.4	8.3	8.6	5.7	4.4	1.8	-0.1	-1.7	-1.8	-2.2	-2.3	8.6	1.3	24
26	-3.6	-2.8	-3	-2.9	-2.9	-3.1	-2.8	-2.5	0.2	1.8	3.4	6.2	7.2	7.7	7.9	7.3	6.2	6	5.3	4.8	4.7	2	1.1	1.1	7.9	2.1	24
27	1.1	0.8	0.4	-0.4	-0.8	-1.2	-1.3	-1.4	0.6	3	5.1	6.3	7.2	7.7	8	7.7	5.6	4.1	3.3	2.5	1.9	1.4	1.1	0.1	8.0	2.6	24
28	-0.6	**-1.4**	-2	-2.4	-3.2	-3.1	-3.6	**-4.8**	-2.6	0.7	2.9	4.4	5.8	7.1	6.6	5.8	4.7	3.9	3.4	2.8	2.5	2.7	2.7	2.6	7.1	1.5	24
29	2.5	1.9	1.1	0	-0.1	-0.1	-0.1	-0.2	-0.4	2.4	4.7	5.8	6.5	7	7.6	7.5	5.3	2.7	1.5	1.1	0.6	0.7	0.1	-0.6	7.6	2.4	24
30	-0.8	-1.1	-1.4	-1.5	-1.4	-0.8	-0.4	0.1	0.7	2.3	3	3.3	3.8	4.4	4.7	5.7	4.1	3.5	0.8	1.4	3.6	3.1	1.4	1.4	5.7	1.7	24
31	1.6	1.6	0.9	0	-0.4	-0.7	-1.1	-1.9	-0.4	2.1	5.4	7.2	7.9	8.5	8.5	6.9	4.5	3.3	2.6	1.7	1.7	1.4	1.7	1.9	8.5	2.7	24
HOURLY MAX	10.1	9.5	10.0	10.0	10.0	10.2	10.0	10.0	10.3	11.6	12.9	13.0	15.3	15.8	15.2	16.2	15.1	13.1	11.5	11.1	9.7	9.6	9.7	9.9			
HOURLY AVG	2.5	2.5	2.2	2.2	2.1	2.0	1.8	2.0	4.0	6.0	7.8	9.0	9.9	10.2	10.2	10.0	8.6	6.9	5.3	4.6	4.0	3.5	3.0	2.5			

STATUS FLAG CODES

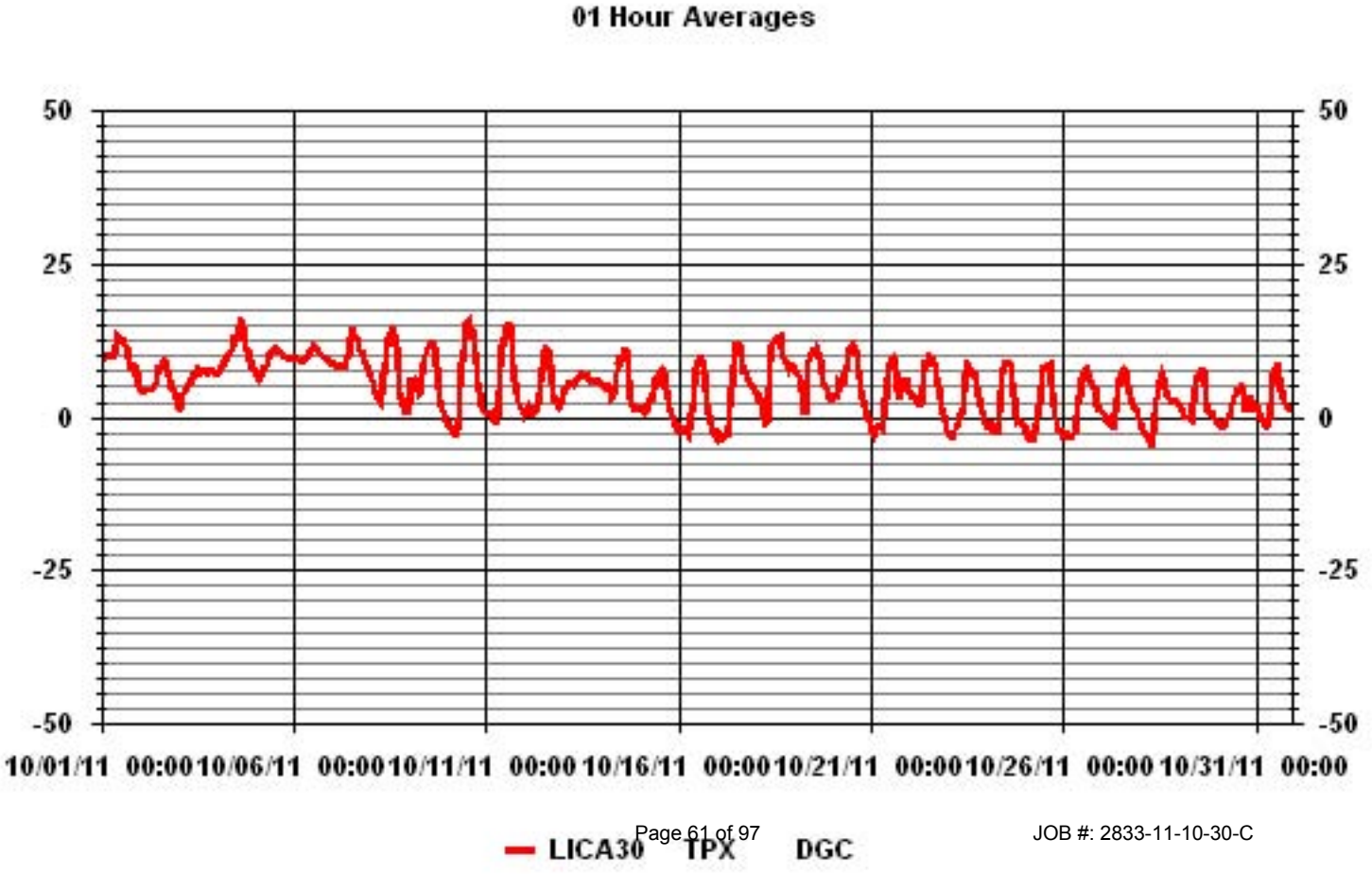
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-4.8	^{O}C	@ HOUR(S)	7	ON DAY(S)	28
MAXIMUM 1-HR AVERAGE:	16.2	^{O}C	@ HOUR(S)	15	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	10.7	^{O}C			ON DAY(S)	4

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	4.60		MONTHLY AVERAGE:	5.12	^{O}C



JOB #: 2833-11-10-30-C

Precipitation

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

OCTOBER 2011

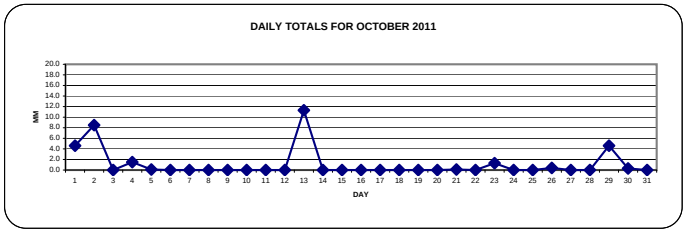
PRECIPITATION hourly averages (mm)

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	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.	TOTAL	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	4.1	4.1	4.6	24
2	3.9	2.9	1	0.6	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.9	8.5	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	0.6	0.6	0.1	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0.6	1.5	24
5	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24
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	1.2	**4.6**	3.8	1.3	0.2	0.1	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	**4.6**	**11.3**	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0.1	0.1	0.1	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
23	0	0	0	0	0	0	0	0	0.2	0.1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	1.3	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	0.4	0	0	0.4	0.4	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	0.1	0.6	1.9	1.7	0.3	0	0	0	0	0	0	0	0	0	1.9	4.6	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.1	0	0	0.2	0.3	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	3.9	2.9	4.6	3.8	1.3	0.6	0.1	0.0	0.2	0.1	1.0	0.6	1.9	1.7	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.5	4.1			

STATUS FLAG CODES

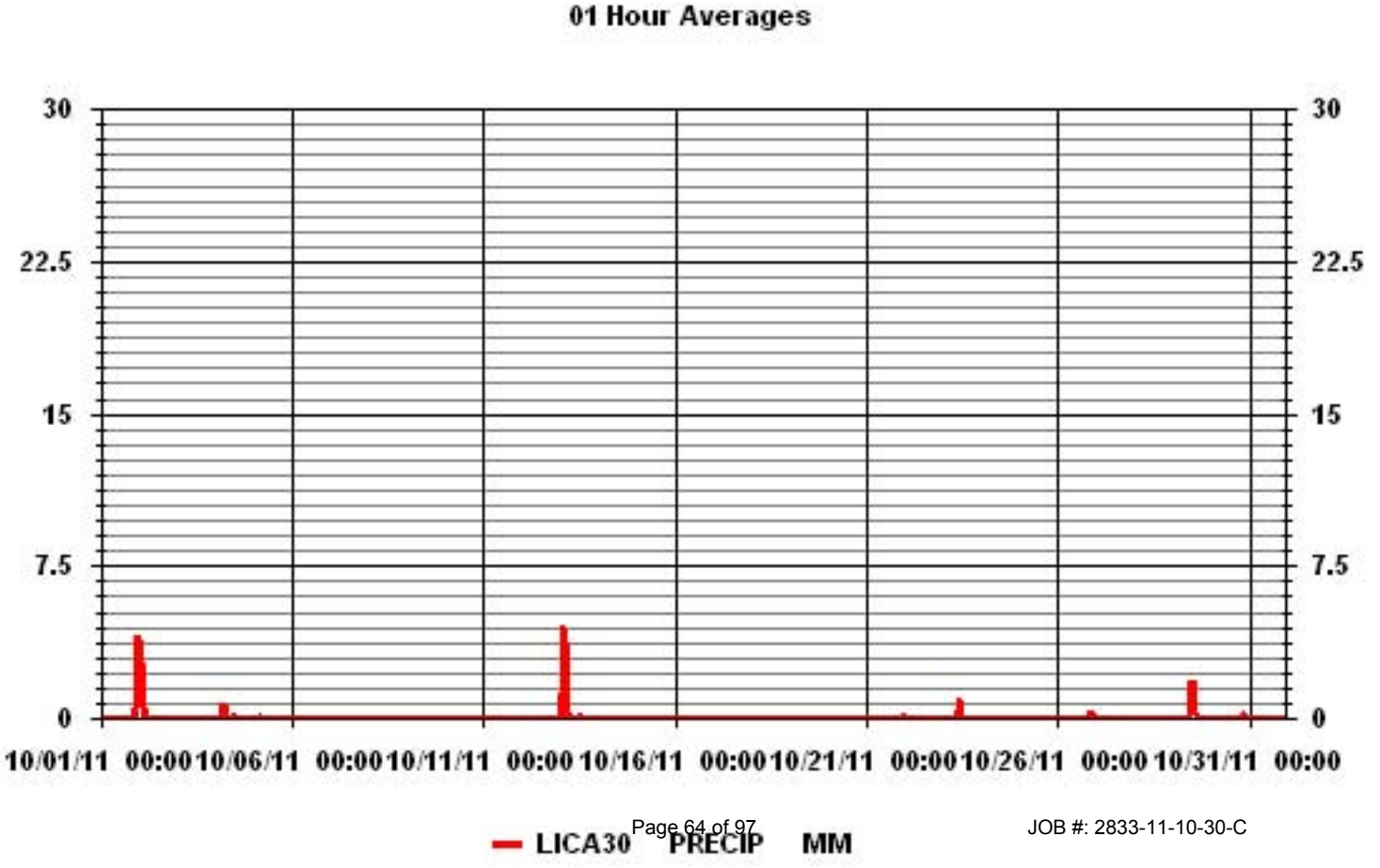
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	MD	-MISSING DATA



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	4.6	MM	HOUR(S)	2	ON DAY(S)	13
MAXIMUM DAILY TOTAL	11.3	MM			ON DAY(S)	13
MONTHLY TOTAL	32.7	MM				

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.34		MONTHLY AVERAGE:	0.04	MM



JOB #: 2833-11-10-30-C

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

OCTOBER 2011

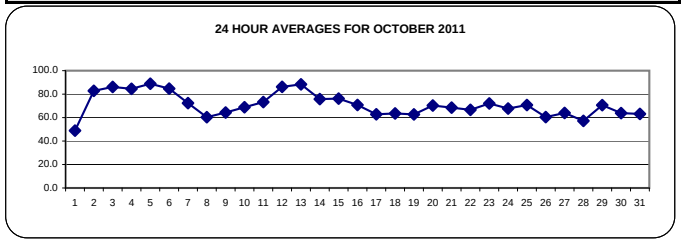
RELATIVE HUMIDITY hourly averages (%)

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	49	48	46	47	48	46	45	46	48	43	38	39	37	37	37	37	42	52	59	62	64	53	65	85	85	48.9	24
2	88	90	90	90	90	89	89	89	88	86	85	79	76	75	72	70	69	74	77	80	83	85	86	88	90	82.8	24
3	90	91	91	92	91	91	91	91	89	86	84	82	79	81	82	82	81	82	84	84	85	85	86	87	92	86.1	24
4	88	88	87	88	89	90	89	88	86	84	83	78	79	82	72	68	72	79	86	87	90	92	92	92	92	84.5	24
5	92	92	93	93	93	93	93	93	93	90	87	85	83	83	83	83	84	85	87	89	90	91	90	88	**93**	**88.9**	24
6	88	88	88	88	87	87	87	87	85	84	82	80	78	79	80	81	82	84	85	86	86	87	87	87	88	84.7	24
7	88	88	87	88	89	88	88	87	84	78	74	60	58	54	52	54	56	62	63	64	67	68	70	69	89	72.3	24
8	68	69	73	75	75	75	76	73	63	59	49	43	39	35	34	34	34	44	58	63	71	77	80	81	81	60.3	24
9	72	52	53	52	54	58	63	65	62	60	57	54	53	52	51	52	54	64	78	83	87	88	90	90	90	64.3	24
10	91	91	91	90	90	90	90	90	81	67	59	52	39	34	34	35	43	45	52	64	75	82	84	83	91	68.8	24
11	85	86	87	86	83	85	88	86	71	65	58	55	51	46	43	45	51	66	77	84	88	90	91	91	91	73.3	24
12	91	91	92	91	91	91	91	91	92	92	92	87	71	64	71	69	74	84	89	91	91	91	91	91	92	86.2	24
13	91	90	91	91	92	91	90	89	88	87	86	85	87	88	86	86	87	88	88	89	88	88	87	87	92	88.3	24
14	88	86	86	87	87	88	90	90	85	77	69	71	68	64	59	54	52	62	74	76	74	74	78	80	90	75.8	24
15	82	80	81	82	80	77	76	76	69	69	67	68	68	64	60	59	70	76	83	85	88	89	89	90	90	76.2	24
16	90	90	89	88	87	87	88	85	74	69	58	50	47	41	41	42	46	57	64	71	78	83	86	87	90	70.8	24
17	85	85	87	85	85	84	84	78	68	61	50	42	37	35	34	42	47	51	54	59	61	64	65	64	87	62.8	24
18	67	70	75	79	80	85	88	89	72	59	51	49	47	47	48	48	53	57	58	59	60	63	61	60	89	63.5	24
19	61	59	58	57	58	64	78	80	63	51	49	48	49	49	49	54	58	66	72	72	74	77	79	80	80	62.7	24
20	81	82	80	78	72	75	78	81	77	73	59	53	51	45	50	54	61	66	71	77	79	79	83	82	83	70.3	24
21	85	87	88	89	87	88	88	89	83	75	64	57	51	45	43	46	47	58	67	61	57	58	58	73	89	68.5	24
22	77	76	79	79	83	84	86	84	74	65	57	52	47	46	45	47	46	50	54	61	68	74	80	85	86	66.6	24
23	87	88	88	88	87	86	87	87	89	87	78	68	56	55	54	52	51	52	55	59	63	67	70	75	89	72.0	24
24	77	80	76	76	79	80	79	79	70	62	55	51	48	46	44	45	53	61	73	78	77	77	79	80	80	67.7	24
25	83	86	85	86	88	88	88	86	82	77	65	55	48	43	42	40	47	58	68	74	79	77	77	75	88	70.7	24
26	80	78	79	77	75	76	77	74	65	61	58	45	40	39	36	36	39	37	39	41	46	78	87	87	87	60.4	24
27	88	88	86	83	81	81	78	77	70	62	56	51	47	45	44	44	49	52	54	57	59	60	60	63	88	64.0	24
28	65	69	70	71	73	73	75	78	73	62	55	50	47	39	39	40	44	47	49	52	52	51	50	49	78	57.2	24
29	51	55	71	88	88	89	89	89	88	79	73	70	64	59	52	49	55	62	67	68	70	71	73	75	89	70.6	24
30	73	74	75	75	73	71	67	64	60	54	53	54	53	51	51	49	54	57	66	65	60	76	77	80	80	63.8	24
31	80	76	74	74	73	74	77	81	75	67	57	50	47	45	43	47	54	57	58	61	60	62	62	61	81	63.1	24
HOURLY MAX	92	92	93	93	93	93	93	93	93	92	92	87	87	88	86	86	87	88	89	91	91	92	92	92			
HOURLY AVG	80.0	79.8	80.5	81.1	80.9	81.4	82.4	82.0	76.4	70.7	64.8	60.1	56.3	53.8	52.6	53.0	56.6	62.4	68.0	71.0	73.2	76.0	77.8	79.5			

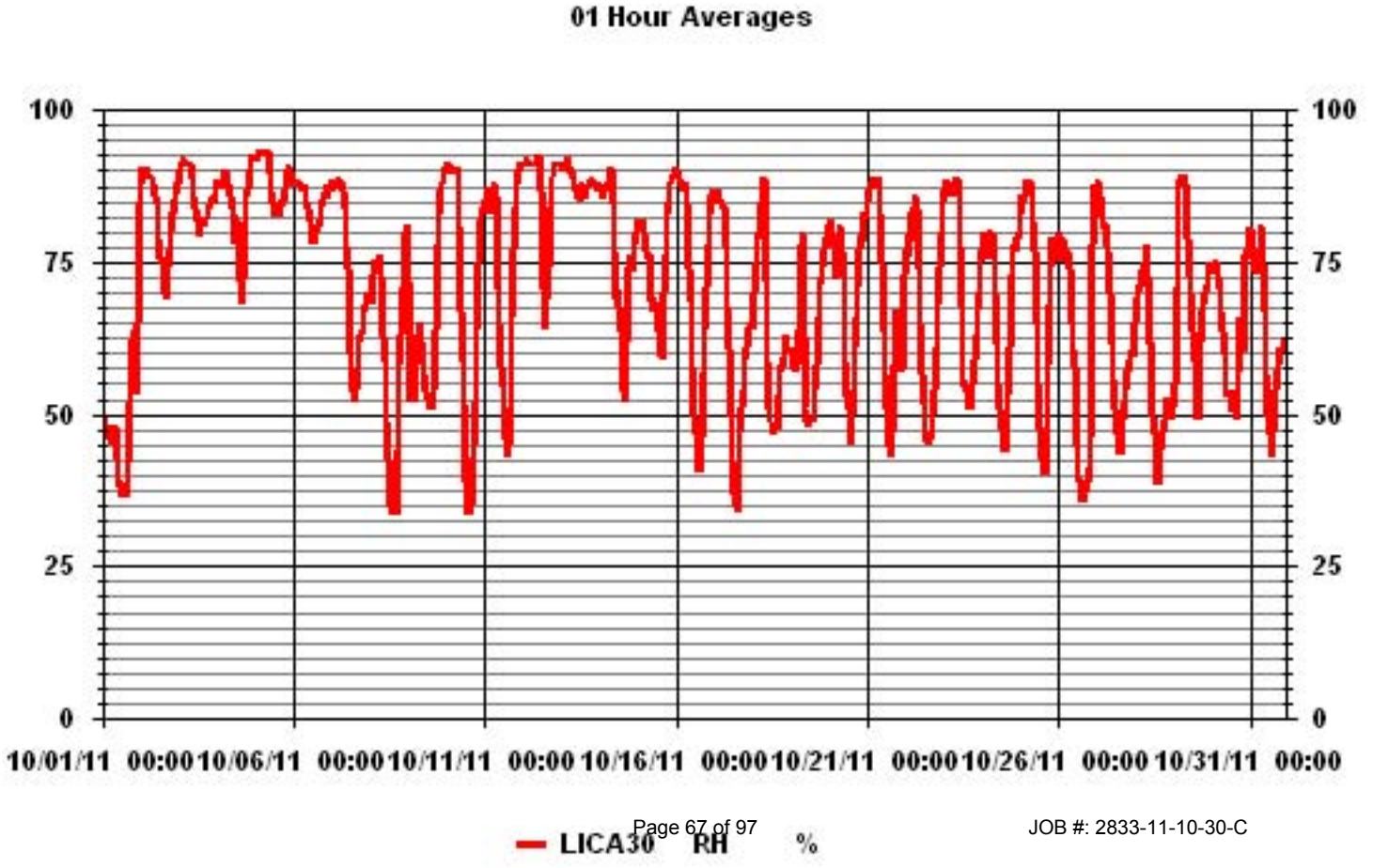
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:		93	%	@ HOUR(S)	VAR	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:		88.9	%			ON DAY(S)	5
					VAR-VARIOUS		
CALIBRATION TIME:	0	HRS		OPERATIONAL TIME:		744	HRS
				AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	16.28			MONTHLY AVERAGE:		70.85	%



JOB #: 2833-11-10-30-C

Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

OCTOBER 2011

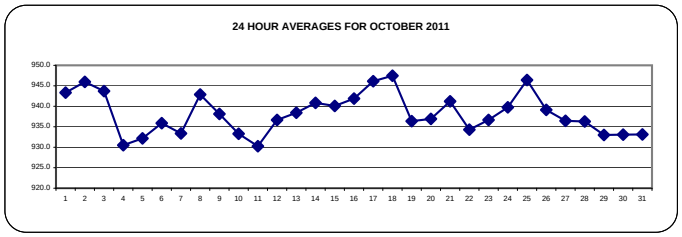
BAROMETRIC PRESSURE hourly averages (millibar)

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	937	938	939	940	940	941	942	943	943	944	945	945	945	945	945	945	945	944	944	945	945	946	947	947	947	943.3	24
2	947	947	946	946	946	946	946	946	946	946	946	946	946	945	945	945	946	946	946	946	946	946	946	946	947	946.0	24
3	947	946	946	946	947	947	947	946	947	947	946	946	945	944	944	943	942	941	940	940	939	938	938	937	947	943.7	24
4	936	935	935	934	935	934	932	932	931	931	931	931	930	929	929	929	928	928	927	927	927	927	927	927	936	930.5	24
5	928	928	928	929	930	930	930	931	932	932	932	933	933	933	933	933	934	934	934	935	935	935	935	935	935	932.2	24
6	935	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	935	935	936	935.9	24
7	934	934	934	934	933	933	933	933	933	933	933	933	932	932	931	931	932	932	933	934	935	936	936	937	937	933.4	24
8	937	938	939	940	941	941	942	943	944	945	945	945	945	945	945	945	945	944	944	944	944	943	943	942	945	942.9	24
9	942	942	942	941	940	939	939	938	938	938	938	938	938	937	937	937	938	937	936	936	936	936	936	936	942	938.1	24
10	936	936	935	935	935	935	935	935	935	936	935	935	934	934	933	933	932	932	931	931	930	929	929	928	936	933.3	24
11	928	928	928	928	928	928	928	928	929	929	930	930	931	931	931	931	932	932	932	932	932	933	933	934	934	930.3	24
12	934	935	935	935	936	936	936	937	937	938	938	938	939	938	938	938	938	937	937	936	936	936	936	936	939	936.7	24
13	936	936	937	937	937	936	937	938	938	938	938	938	938	939	939	939	939	940	940	940	940	940	941	941	941	938.4	24
14	941	941	941	941	942	942	941	942	942	942	943	942	942	942	941	941	941	940	939	939	939	938	939	939	943	940.8	24
15	938	938	938	938	938	938	938	938	939	940	940	941	941	941	942	942	942	941	941	941	942	942	941	942	942	940.1	24
16	942	942	942	942	942	941	941	941	941	941	942	942	942	942	942	942	942	942	942	942	942	942	943	943	943	941.9	24
17	943	943	944	944	944	944	944	944	945	946	947	947	947	947	947	948	947	948	948	948	948	948	948	948	948	946.1	24
18	948	948	948	949	949	949	949	949	950	950	**951**	950	950	949	949	948	947	946	945	944	944	943	942	942	**951**	**947.5**	24
19	941	941	940	939	939	939	938	937	937	938	937	937	937	936	936	935	935	935	934	933	933	932	932	932	941	936.4	24
20	932	932	932	933	933	934	934	935	936	936	937	937	937	938	938	939	939	940	940	940	941	941	941	941	941	936.9	24
21	942	942	942	942	943	943	943	943	943	944	944	944	944	943	943	942	941	940	939	938	937	936	936	935	944	941.2	24
22	934	934	934	934	934	934	934	934	935	935	935	935	935	935	935	934	934	934	934	934	934	934	934	934	935	934.3	24
23	934	935	935	935	935	936	936	936	936	936	937	937	937	937	937	937	938	938	938	938	938	938	938	938	938	936.7	24
24	938	938	938	937	938	937	938	938	939	940	940	940	940	940	940	941	941	941	941	941	942	942	942	942	942	939.8	24
25	942	943	943	944	944	944	945	945	946	947	947	948	948	948	948	948	948	948	948	948	948	948	948	948	948	946.4	24
26	947	947	947	946	946	945	944	944	943	942	942	940	939	937	936	935	934	933	933	932	932	932	931	932	947	939.1	24
27	932	932	932	932	932	933	933	934	934	936	936	937	937	938	938	939	939	939	939	940	940	941	941	941	941	936.5	24
28	942	942	942	942	941	941	941	940	940	940	940	939	938	937	936	934	933	932	931	930	929	928	927	926	942	936.3	24
29	926	927	927	928	928	929	930	930	931	931	933	933	934	935	935	936	937	937	937	937	937	938	938	938	938	933.0	24
30	938	938	938	937	937	936	936	935	935	934	934	933	932	931	931	930	930	930	930	929	930	930	930	930	938	933.1	24
31	931	931	931	931	931	931	931	931	932	933	933	933	933	933	934	934	934	934	935	935	935	936	936	937	937	933.1	24
HOURLY MAX	948	948	948	949	949	949	949	949	950	950	951	950	950	949	949	948	948	948	948	948	948	948	948	948			
HOURLY AVG	938	938	938	938	938	938	938	938	938	939	939	939	939	939	939	938	938	938	938	938	938	938	938	938			

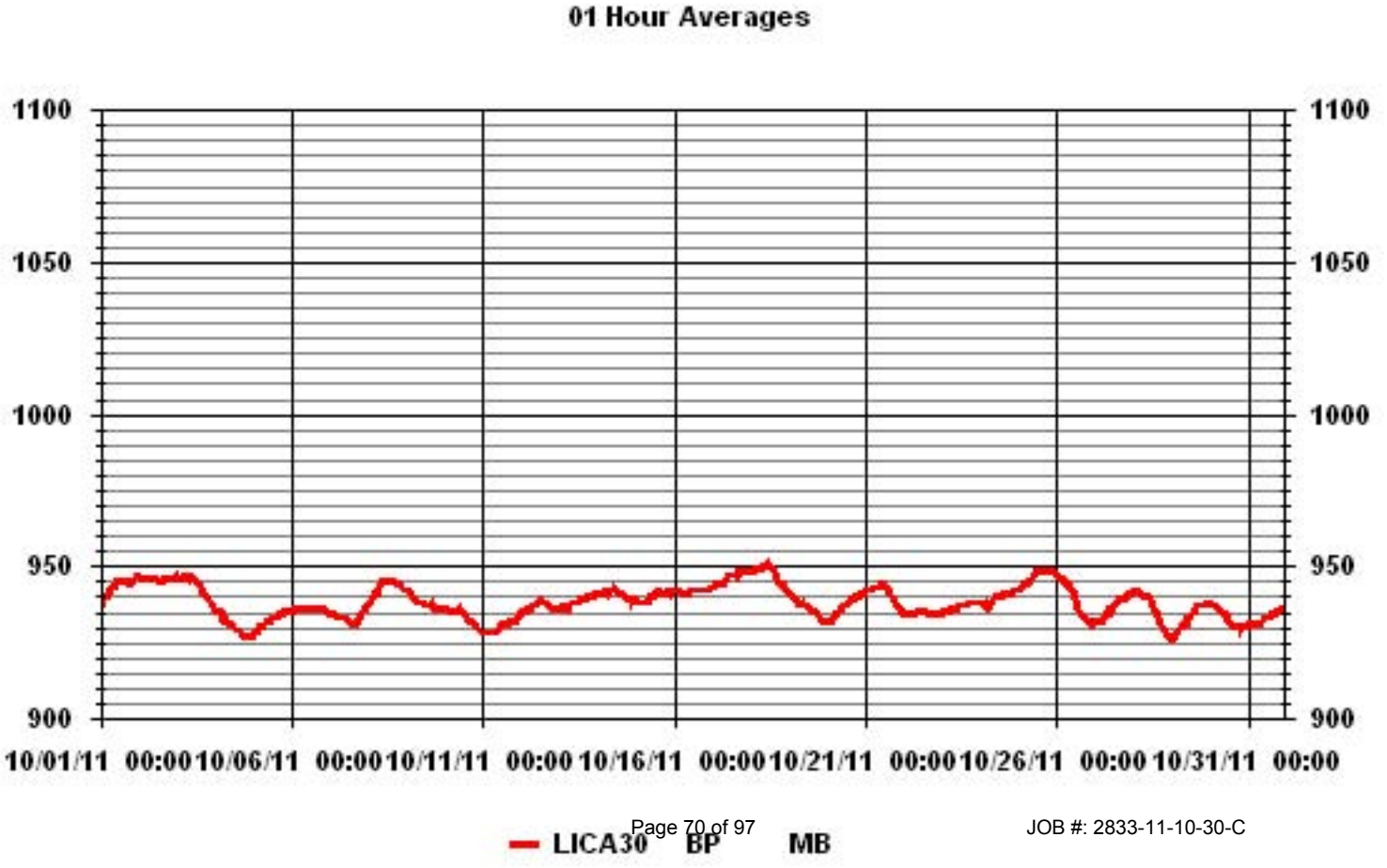
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	951	MB	@ HOUR(S)	10	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	947.5	MB			ON DAY(S)	18
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		744	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	5.45		MONTHLY AVERAGE:		938	MB



JOB #: 2833-11-10-30-C

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

OCTOBER 2011

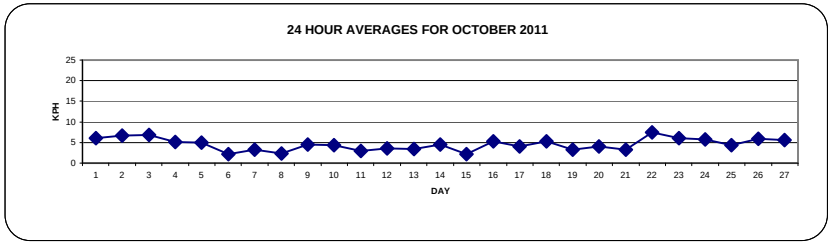
WIND SPEED hourly averages (km/hr)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	5.7	4.1	5	4.6	5.5	8.2	7.6	7.3	8.3	8.6	7.3	5.7	4.9	3.2	2.9	1.7	1.5	0.5	2.1	1.5	1.5	3.7	3.1	3.5	8.6	3	24
2	6.4	8.9	8.3	7.9	6.9	8.3	7.9	7.7	7.2	8.9	10.4	12.1	10.8	10.2	11	9.7	8.7	6.3	5	5.1	4.6	4.9	4.9	3.1	12.1	**7.7**	24
3	1.8	3	3.1	4.9	5.1	3	2.7	4.7	5.8	6.9	7.6	6.9	9.4	8.8	8.2	9.3	10.4	8.2	8.4	8.5	8.2	8.1	8.3	7.9	10.4	6.3	24
4	7	7	6.6	4.6	3.6	6.2	9.1	7.8	7.9	9.4	8	6.4	6.4	6.1	5.1	4.7	4.4	2.9	2.2	1.9	1.3	0.8	1.9	1.6	9.4	4.2	24
5	1.9	2.1	1.7	4.2	4.7	4	2.4	2	4.3	8.5	7.2	7	7.5	10.3	9.7	11.3	10.9	9.4	11	9	9.7	5.8	6.8	7.8	11.3	6	24
6	6.8	6.7	6.5	6.4	5.8	7.2	7.2	5.5	6.8	7	9.5	11.4	11.2	9.1	6.7	6.8	6	4.5	5.7	6.8	5.2	4	3	3.4	11.4	6.6	24
7	4.1	3.6	2.9	1.5	2.8	5.2	5.1	6.1	6.6	6.4	6.6	7.1	8.6	8.9	10	10.4	10.2	7	7.9	10.2	8.5	9.8	10.4	9.9	10.4	6.8	24
8	9.7	10.7	8	7.9	7.8	8.1	6.9	4.1	5.3	6	6.3	7.1	7.9	8.1	10.2	9.3	6.4	2.8	1.6	2.2	2.2	1.1	1	0.9	10.7	5.2	24
9	3.4	7.8	9	10.3	11.1	11.6	9.8	9	6.5	7.1	9.3	8	7.2	6.6	4.8	3	3	2.1	1.3	1.5	1.8	1	2	1.5	11.6	5	24
10	1.8	1.5	0.9	1	0.6	0.7	0.9	1.5	2.4	4.2	4.6	5	4.3	5.6	3.3	1.6	3.6	3	3.1	2.7	0.9	1.1	2.2	3	5.6	2.1	24
11	2.7	2.3	1.5	2.4	0.8	1.6	2.4	2.5	2.7	6	6.4	7.8	5.7	6.3	6.2	3.5	4.5	2.4	2.4	3.3	2.9	1.6	2.5	2.5	7.8	3.2	24
12	1.7	3.3	2.3	2.8	3.3	3.1	3.2	4.4	3.8	3.7	3.2	1.9	4.1	3.4	5.6	3.6	3.6	2.6	0.7	0.4	0.7	1.3	2.2	2.2	5.6	2.3	24
13	1.6	1.1	0.6	2.3	3.7	4.4	5.2	4.5	3.3	3.5	3.8	4.6	5.7	6.5	7.3	7.2	7.4	5.8	6.4	7.6	6.6	8	6.8	5.5	8	4.5	24
14	6.7	5.9	5	5.1	6	5.2	3.3	3.9	4.1	5.5	6.3	7.2	7.3	5.7	5.4	5.9	5.4	3.2	1.8	2.3	3.2	2.5	1.9	0.8	7.3	4.3	24
15	1.2	2	2.6	2	3.5	4.6	5.6	6	6.8	5.7	5.2	7.2	6	6.6	7.3	4.4	2.3	3.2	3.7	3.5	2.7	2.5	2	2.4	7.3	3	24
16	3.5	3.1	2.7	4.3	4.5	4.4	4.2	4.4	5.2	6.1	4.5	4.1	5.1	8.3	6.8	6.6	5.2	4.2	3.8	2.6	2	2.2	1.9	1.3	8.3	3.5	24
17	3.8	1.4	1.5	3.5	3.5	3.8	3.8	4.6	3.4	5.1	4.4	6	6.7	7.8	7.8	8.5	4.5	3.3	3	0.5	1.4	2	2.7	4.1	8.5	3.4	24
18	3.9	2.5	1	1.9	1.3	1.1	1.5	2.3	0.5	1.8	2.6	6.4	6.6	6.7	7.1	7	5.8	5.6	7.9	9	8.4	7.8	9.7	8.4	9.7	4.5	24
19	7.5	8.1	6.9	5.8	4.9	2.1	1.6	1.2	3.1	7.7	5.3	6	5.4	3	1.3	4.2	2.8	1.4	1.4	2.8	2.7	2.1	2.1	1.9	8.1	2.2	24
20	0.6	1.4	2.3	3.1	4.9	5	3.2	6	8.5	8.6	9.9	11	10.5	10.2	9.4	7.6	5.1	5.6	3.8	2.8	3.4	3	2.1	2.3	11	5.3	24
21	2.3	1.9	2.2	4.4	5.3	5.1	6.9	6.4	3.4	3.7	3.5	6.3	8.8	8.1	5.6	4.1	4	2.8	3.2	5.3	6.2	6.7	7	5.5	8.8	4.1	24
22	2.2	2.3	2.5	3.5	5.1	4.5	3.8	4.9	6.2	7.2	9.7	**13.9**	13.3	12.7	10	9.6	10.4	6.6	4.8	2.8	3	2.3	1.8	0.9	**13.9**	5.3	24
23	2	2.6	1	0.3	1.4	0.3	3	1.1	5.6	7.3	7.6	5.8	7.3	8.4	8.7	8.1	5.4	4.2	3.2	3.2	3.6	3.5	3.9	3.1	8.7	3.2	24
24	2.8	2.9	5.5	6.1	3.6	3.2	6.7	4.4	2.7	4.6	5	8	7.2	9.7	8.1	8.3	6.4	3	2.5	2.4	2.8	2.9	2.7	2.9	9.7	4	24
25	1.6	2.3	3.3	2	1.8	1.4	2.2	3	2.8	3	3.6	6.1	7.1	6.2	7.6	8.4	8.3	6.1	2.9	2.1	2.3	2.6	3	2.8	8.4	3.3	24
26	3.4	5	6	6	6.5	7.4	6.6	6	8.2	10	9.7	12.8	12.9	13.3	13.9	11.7	8.9	9.2	7	7	5.2	2.4	4.7	6	13.9	7.5	24
27	5.7	5.6	5.5	4.8	6.4	4.5	5.5	5.1	4.8	5.4	6.6	11.8	12.5	12.2	10.8	8.9	6.4	5.9	6	5.5	4.7	4.7	4.8	4.2	12.5	6	24
28	4	3.5	4.1	4.8	5.2	6.5	6.5	3.3	3.9	4.6	4.4	7.1	9.1	9.4	10.3	10.9	10.4	10.3	11.4	8.1	10	10.3	7.2	5.7	11.4	5.8	24
29	3.1	0.5	1.7	2.4	3.5	3.7	2.3	1.6	4	4.3	8	8.2	10.7	10.8	12.4	11	7.1	6.3	4.3	3.2	3.3	4.1	4	3.9	12.4	4.4	24
30	5	4.9	6.2	6.9	7.9	7.5	10.7	8.7	7.8	8.1	8.7	8.6	5.9	4.3	5.3	5.8	5.3	6.3	0.5	4.5	6.2	5.4	4.9	4.7	10.7	5.9	24
31	6.6	3.8	4.6	4.3	3.1	4.8	4.7	4.6	6.7	6.4	5.9	9.5	10.6	8.7	9.6	10.7	7.4	4.1	4.5	3.9	3	4.6	5.8	7.4	10.7	5.6	24
HOURLY MAX	9.7	10.7	9.0	10.3	11.1	11.6	10.7	9.0	8.5	10.0	10.4	13.9	13.3	13.3	13.9	11.7	10.9	10.3	11.4	10.2	10.0	10.3	10.4	9.9			
HOURLY AVG	3.9	3.9	3.9	4.3	4.5	4.7	4.9	4.7	5.1	6.2	6.5	7.6	8.0	7.9	7.7	7.2	6.2	4.8	4.3	4.3	4.1	4.0	4.1	3.9			

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

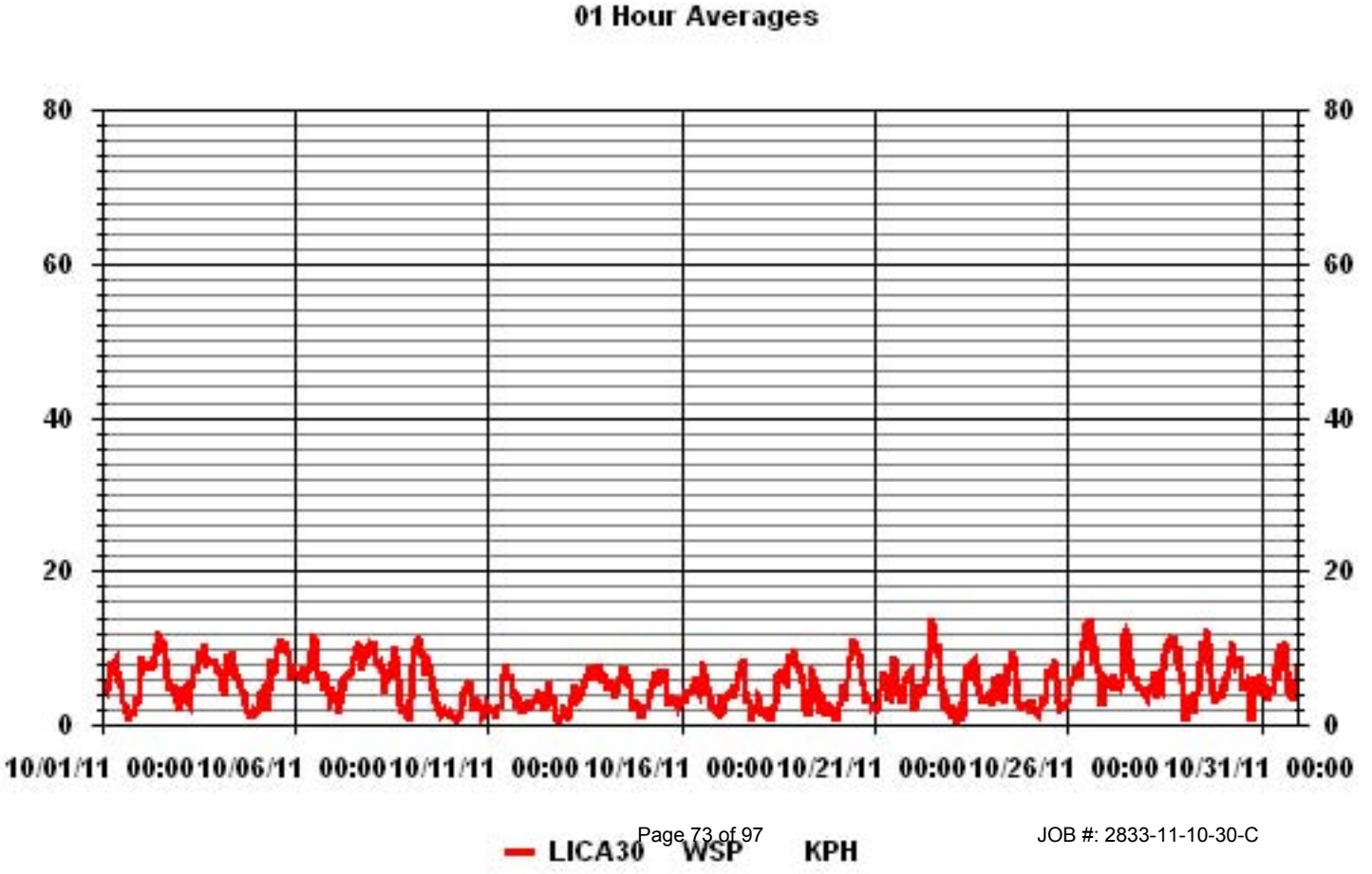


LAST CALIBRATION: September 27, 2011

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:		13.9	KPH	@ HOUR(S)	11	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:		7.7	KPH			ON DAY(S)	2
CALMS (≤ 1 KPH)	2.28	%		OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	0	HRS		AMD OPERATION UPTIME		100.0	%
STANDARD DEVIATION	2.85			MONTHLY AVERAGE		5.28	KPH

JOB #: 2833-11-10-30-C



JOB #: 2833-11-10-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

OCTOBER 2011

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

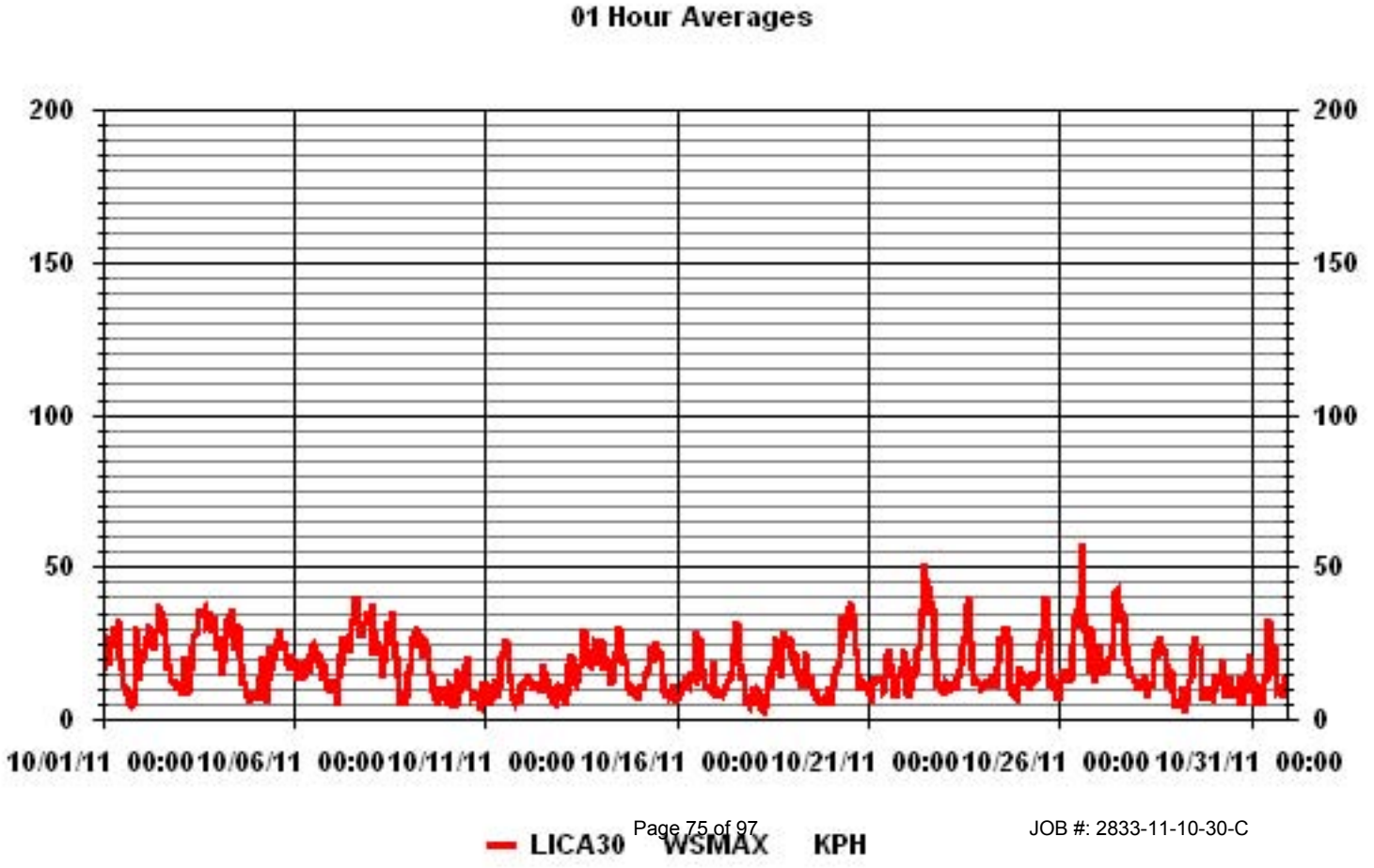
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	19.6	15.7	28.1	17.4	20.1	26.2	26	23.3	30.1	24.9	33	20.7	16.8	11.5	11.1	8.7	5.2	4.7	4.2	4.6	8.9	30.1	15.5	12.8	33
2	22.9	21.4	22.7	27.5	26.2	31	29	24	22.3	29.9	28.2	38.1	35.5	34.1	27.7	33.2	24.4	15.7	18.1	12.8	12.2	12.4	13.5	9.5	38.1
3	10.9	11.5	8	15.8	20.2	7.7	8.5	16.1	24.2	27.3	27.9	29.1	36.3	34.8	35.6	35.8	36.5	31.2	31.9	35.4	33	27.8	33.7	26.9	36.5
4	22.3	23.8	27.3	14.1	18.3	26.2	33.2	27.9	34.1	35.8	29.3	22.7	28.6	31.4	21.1	18.5	11.1	12.4	6.5	9.1	5.4	9.1	6.6	7.7	35.8
5	8.7	9.1	6.3	13.9	20.3	16.6	9.1	4.9	12.8	23.8	16.1	19.2	21.6	25.3	26.2	29.9	23.8	22.7	25.3	18.8	18.8	17.5	15.8	21.1	29.9
6	17.4	19.4	13.7	13.9	13.9	17.2	19	13	17.9	17.4	21.6	24	24.9	23.8	20.9	21.8	17.6	14.1	13.9	19	13.8	10.5	10.1	9.8	24.9
7	13.3	11.5	10.9	4.5	13.1	21.4	17.7	27.3	23.1	25.5	21.6	27.9	31	33.2	40	36	40.2	29.7	26.2	31.2	31.5	32.2	35.7	32.3	40.2
8	31.2	38.3	20.9	28.4	26	21.1	23.6	13.5	18.8	20.1	24.2	31.9	30.8	29.2	35.6	26.2	21	14.5	4.8	6.7	6	4.3	9.3	7.3	38.3
9	15.5	17.9	25.8	25.3	28.6	29.9	27.3	27.5	20.2	26.7	26.5	24.4	20.9	15.9	15	8.4	11.3	6.5	4.7	6.7	10.2	10	10.9	6.1	29.9
10	10	3.9	11.4	10.7	3.7	9.8	16.4	4.6	8.1	10.7	12	11.5	18.1	20.3	10.9	7.3	8	7.6	8.1	7.4	3.9	3.6	9.8	12.2	20.3
11	10.9	12	4.4	11.4	10.5	6	12.4	12.4	6.9	10.3	20.6	21.9	23.8	25.8	23.2	15.1	12.6	7.1	5.8	7.2	7.4	5.5	11	11.6	25.8
12	11.2	12.8	11.8	14.6	12.6	12.4	10.2	10.2	11.8	9.8	11.7	8.3	18	16.2	12.7	12.9	9.4	8	6.7	6	10.2	11.1	10.4	11.3	18
13	7.1	7.1	4.5	7.8	17.4	17.1	21.2	16.2	12.2	11.5	14.8	16.8	18.1	20.3	29.5	25.1	22.9	18.8	18.3	22.7	20.5	25.2	24.5	17.7	29.5
14	19.3	26.5	17.2	17	20.1	19.6	10.9	12.4	13.1	19.2	21.4	21.6	30.8	18.2	21.9	19	18.4	10.7	9.9	8.1	10.9	10.2	6.5	9.1	30.8
15	6.3	9.8	11.7	9.8	13.1	15.1	17.5	20.8	23.9	18.2	20.7	25.3	20.9	23.3	20.1	15.7	9.5	6.5	8.7	9.1	7.1	7.6	11.2	5	25.3
16	7.9	7.1	7.8	11.5	11.1	12.7	12	11.2	14	15.5	12.9	12.7	28.7	21.9	26.9	21.8	16.9	13.1	10.3	10.1	10.5	9.6	9.1	19.2	28.7
17	10.9	9.3	8.9	7.1	9.8	8.5	9.8	10.9	12.4	13.1	15.5	17.6	24.2	24.7	32.3	24	18.5	12.6	15.2	4.9	6.1	5	7.1	8	32.3
18	10.2	9	4.4	9.5	8.9	3.9	3.2	5.4	3.6	12.4	12	17.2	19	18.5	27.5	17.4	16.6	13.3	25.3	28.9	24.9	23	25.6	27.1	28.9
19	20.5	17.7	22.5	15.5	13.7	13.9	11.3	10.2	16.6	22	15.7	13.9	14.8	10.8	9.1	9.3	7	6.4	4.7	6.5	7.3	5.8	5.2	5.4	22.5
20	10.6	4.3	10.2	14.8	17.2	18.1	16.6	21.2	34	26.7	28.9	34.8	36.9	38.5	31.7	32.3	20.7	22.9	15.5	9.5	11.5	12.2	11.7	10.6	38.5
21	12	11.8	5.5	11.3	13.7	12	13.5	13.3	13.5	8.9	9.5	19.9	21	23.2	18.8	14.2	11.6	6.7	9.1	13.5	14.4	17.2	23.1	20.1	23.2
22	8.7	8.9	7.3	9.3	13.5	17.3	15.1	22.7	24	29.5	36	50.9	46.1	45.5	44.6	34.3	38.5	37.2	20.5	10	11.7	11.3	10.1	11.2	50.9
23	7.8	11.8	11.1	8.9	10.6	11.1	12.6	9.5	13.8	16.4	17.3	23.6	24.9	27.5	37.4	40	26.4	16.6	11.1	13.5	10.9	12.2	10	10.2	40
24	11.4	12.1	12.8	12.6	10.2	11.3	14.8	12.2	9.8	16.8	18.3	27.4	25.2	29.8	30	25.5	28.2	9.8	7.8	11.5	8.2	7.6	10.9	17	30
25	11.8	15.5	14.2	12.6	11.5	9.8	14.8	14.8	12.4	12.8	13.9	21.6	25.8	28.2	28.2	40.7	29.6	30.6	11.5	11.1	13.7	12	10.9	6.3	40.7
26	8.5	12.5	16.7	13.5	13.7	14.8	13.1	13.3	24.7	33.4	29.7	35.8	39.3	40.7	**58**	35.4	29.5	28.6	23.6	14.8	30.4	23.8	12.1	16.6	**58**
27	17	24.9	15.7	15.9	19.9	15.5	16.4	20.7	19.1	24.3	35.4	41.7	42.4	38.7	31.4	36.3	34.7	22.7	23.1	18.1	13.3	14.8	12.9	13	42.4
28	10.7	11.1	13.3	10.9	11.1	14.6	11.8	7	11.3	10.7	10.7	21.9	22	21.6	25.6	27.1	24.3	21.4	22.6	18.8	10.5	14.2	16.2	9.6	27.1
29	6.6	3.3	5.5	4.1	6.6	10.7	6.6	2.2	4.8	12.3	12.3	13.3	23.9	27.1	20.8	21.7	22.3	6.3	7	7.4	10.7	9.6	7.6	7.2	27.1
30	10.1	9.8	14.4	11.8	13.3	12.7	19.4	12.2	8.1	8.1	13.1	13.3	10.5	7.9	7	10.7	9.4	13.6	4.6	12	13.8	12.7	8.5	21.4	21.4
31	14.9	10.7	12.9	5	5	9.4	6.8	4.6	11.8	13.6	13.6	32.9	22.5	14	21.4	24.9	9.2	9.8	10.3	11.1	7	13.8	11.6	12.9	32.9
PEAK	31.2	38.3	28.1	28.4	28.6	31.0	33.2	27.9	34.1	35.8	36.0	50.9	46.1	45.5	58.0	40.7	40.2	37.2	31.9	35.4	33.0	32.2	35.7	32.3	

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	58	KPH	@ HOUR(S)	14
			ON DAY(S)	26



JOB #: 2833-11-10-30-C

LICA30
WSP / WDR Joint Frequency Distribution (Percent)

October 2011

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	1.74	2.01	4.56	4.16	2.41	1.47	1.88	1.61	2.28	5.10	11.15	6.72	7.66	2.82	2.55	2.01	60.21
<	12.0	.40	3.62	1.88	1.07	2.82	1.20	1.34	1.47	2.82	4.30	1.20	.40	3.76	7.93	3.09	.94	38.30
<	20.0	.00	.00	.00	.13	.00	.00	.00	.00	.53	.00	.00	.00	.13	.67	.00	.00	1.47
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.15	5.64	6.45	5.37	5.24	2.68	3.22	3.09	5.64	9.40	12.36	7.12	11.55	11.42	5.64	2.95	

Calm : .00 %

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	13	15	34	31	18	11	14	12	17	38	83	50	57	21	19	15	448
<	12.0	3	27	14	8	21	9	10	11	21	32	9	3	28	59	23	7	285
<	20.0				1					4				1	5			11
<	29.0																	
<	39.0																	
>=	39.0																	
	Totals	16	42	48	40	39	20	24	23	42	70	92	53	86	85	42	22	

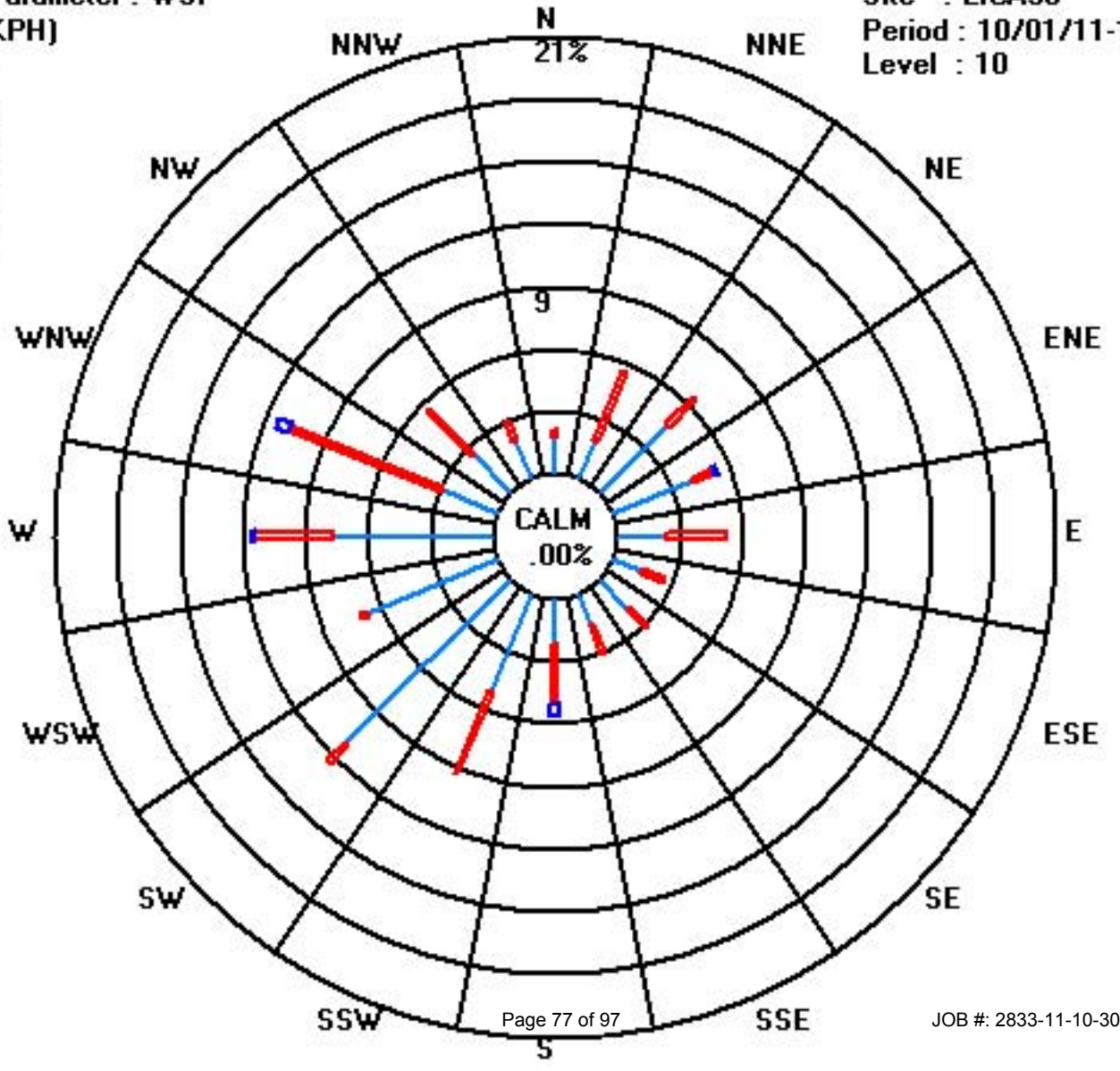
Calm : .00 %

Total # Operational Hours : 744

Logger : 30 Parameter : WSP
Class Limits (KPH)

>= 39.0
< 39.0
< 29.0
< 20.0
< 12.0
< 6.0

Site : LICA30
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-30-C

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

OCTOBER 2011

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 AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	302	260	273	268	276	285	290	296	300	311	313	311	285	258	229	215	212	154	144	206	173	71	120	96	285	WNW	24
2	69	40	41	47	59	60	58	55	59	55	52	57	58	51	44	52	46	43	52	45	55	49	55	58	52	NE	24
3	52	46	37	48	77	57	38	46	81	84	95	95	106	103	88	89	89	90	94	90	84	87	87	88	84	E	24
4	94	88	84	65	97	89	102	100	102	102	97	99	70	88	117	71	47	33	349	318	332	245	244	263	88	E	24
5	269	282	217	288	333	348	2	43	13	27	17	20	17	24	22	29	27	28	29	28	29	27	34	31	20	NNE	24
6	22	26	26	27	25	21	31	23	17	14	21	21	20	13	7	8	7	7	16	21	21	9	2	357	18	NNE	24
7	358	352	7	29	327	327	332	339	340	346	344	342	317	317	319	315	318	324	312	316	332	316	310	304	326	NW	24
8	300	295	284	282	282	284	283	272	254	249	271	261	265	271	296	294	278	246	173	165	162	154	107	49	277	W	24
9	148	148	149	149	140	147	152	144	148	179	191	197	206	211	213	236	225	227	226	213	189	133	219	195	171	S	24
10	129	141	144	51	91	97	212	109	47	36	36	40	90	76	109	90	36	48	60	60	45	90	85	74	68	ENE	24
11	64	76	42	67	112	29	89	73	38	32	49	49	73	77	106	97	92	65	78	50	55	46	75	65	66	ENE	24
12	63	80	70	68	60	47	26	33	37	42	145	138	126	93	44	92	109	128	102	322	109	82	74	75	75	ENE	24
13	314	17	6	9	335	333	333	348	345	339	320	278	279	281	282	284	280	279	278	285	285	293	308	308	300	WNW	24
14	298	301	273	278	284	305	285	266	265	271	280	283	288	296	268	302	283	273	250	252	272	238	227	185	281	W	24
15	272	236	222	229	270	278	291	292	307	338	347	323	341	308	316	287	271	215	216	226	232	230	213	213	287	WNW	24
16	215	222	217	218	215	213	210	213	214	214	233	224	233	293	285	283	297	278	272	258	218	213	206	197	241	WSW	24
17	223	233	244	215	214	217	218	225	271	292	296	285	287	288	294	286	277	256	271	318	224	199	203	215	260	WSW	24
18	214	221	177	230	215	180	172	193	273	296	226	199	205	199	197	189	190	175	160	168	171	179	176	181	187	S	24
19	188	185	183	176	162	138	75	74	148	195	192	196	167	155	335	29	46	14	59	89	69	52	72	58	160	SSE	24
20	277	256	291	298	311	310	311	278	288	287	293	293	291	306	310	316	322	303	275	278	276	280	275	262	296	WNW	24
21	248	253	214	218	212	217	206	205	209	209	219	201	204	218	213	213	186	134	108	130	134	140	153	164	191	S	24
22	179	146	229	214	215	248	246	257	257	261	271	288	287	281	278	276	283	279	272	278	317	316	259	4	271	W	24
23	207	231	206	246	33	39	97	149	204	204	215	253	283	286	283	286	276	257	246	240	234	257	222	223	248	WSW	24
24	240	198	207	210	222	232	212	216	234	269	273	278	284	296	298	292	283	255	227	241	232	228	236	262	255	WSW	24
25	251	248	254	254	272	205	236	260	249	274	306	298	323	326	300	286	286	279	274	248	241	245	225	218	278	W	24
26	212	210	208	210	208	200	193	189	178	186	177	178	175	171	175	175	173	178	183	191	252	241	214	215	188	S	24
27	220	226	228	243	228	**238**	235	240	237	248	271	287	292	289	285	277	266	261	269	272	270	251	233	237	261	W	24
28	225	226	226	214	201	209	209	198	197	193	197	186	156	165	144	137	135	135	123	122	126	118	133	121	158	SSE	24
29	131	304	302	5	321	322	325	269	249	258	277	274	287	288	282	296	295	303	275	233	255	262	228	216	281	W	24
30	213	216	214	206	202	195	197	202	203	201	203	196	187	190	178	177	176	185	153	204	224	216	224	283	202	SSW	24
31	285	249	272	278	284	235	228	226	229	216	238	274	294	276	272	270	248	231	242	269	251	261	266	279	260	WSW	24
HOURLY AVG	358	352	302	298	335	348	333	348	345	346	347	342	341	326	335	316	322	324	349	322	332	316	310	357			

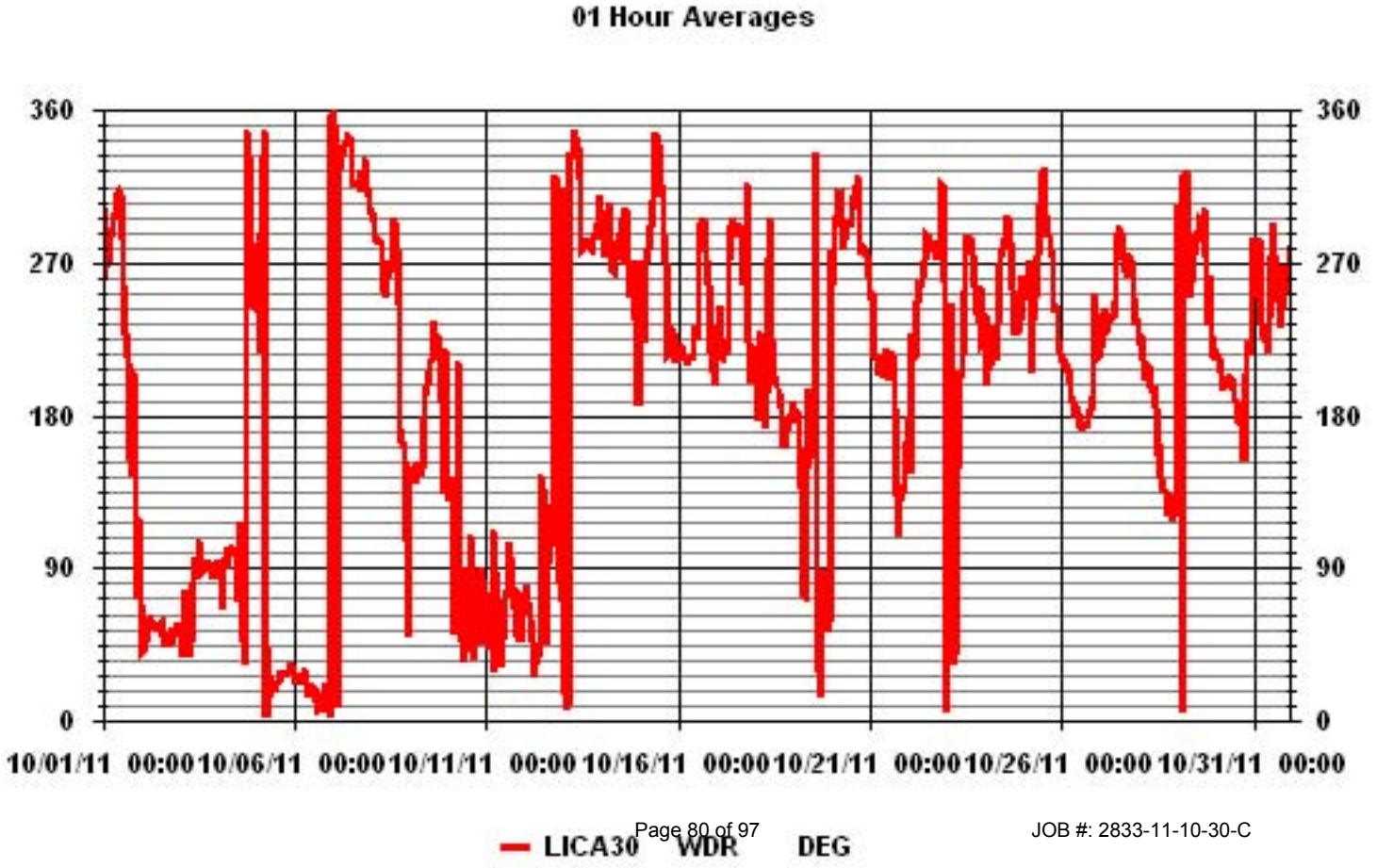
STATUS FLAG CODES

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 27, 2011
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
STANDARD DEVIATION	95.36		AMD OPERATION UPTIME	100.0	%
			MONTHLY AVERAGE	262	DEG

JOB #: 2833-11-10-30-C



JOB #: 2833-11-10-30-C

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

OCTOBER 2011

STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

MST

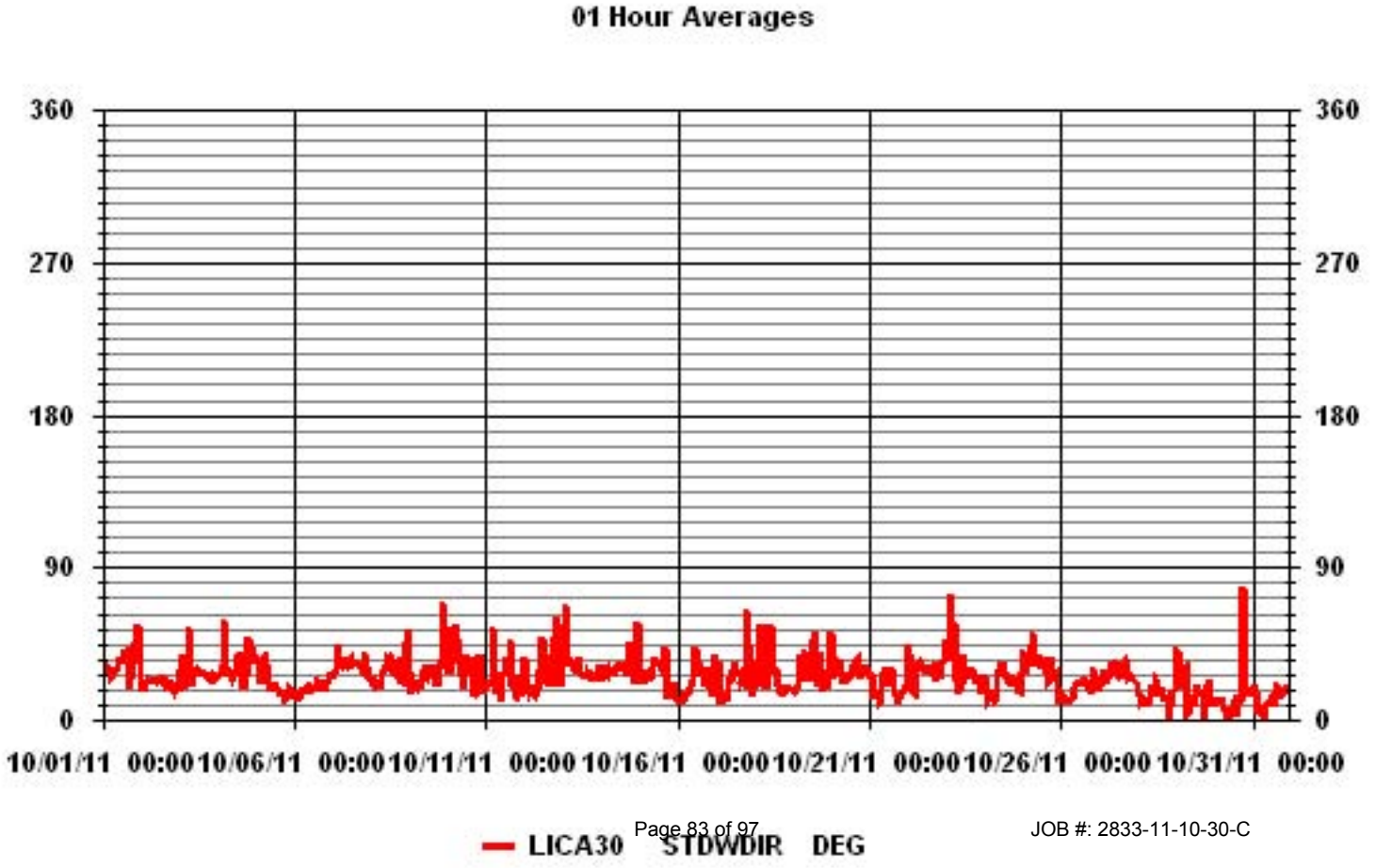
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY									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

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: September 27, 2011

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 744 HRS



JOB #: 2833-11-10-30-C

Calibration Reports

Sulphur Dioxide

SO2 Calibration Report

Station Information

Calibration Date	October 4, 2011		Previous Calibration	September 7, 2011	
Company	Lakeland Industry & Community Association				
Plant / Location	Cold Lake - Maskwa				
Start Time (MST)	10:35		End Time (MST)	14:42	
Reason:			Monthly Calibration		
Barometric Pressure	931	mmHg	Station Temperature	23	Deg C
Cal Gas	48.3 ppm	Gas Cyl. #	LL103831	Cal Gas Expiry date	February 28, 2013
DAS Output Voltage	0 - 1	Volts	Chart Rec. Output	NA	Volts

Equipment Information

Analyzer Make / Model:	API 100E	S/N :	508	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	Environics 6100	S/N :	4760	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	Environics 6100	S/N :	4760		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 - 1000 ppb							
Sample Flow / Box Temp	596	ccm	31.4	Deg C	591	ccm	33.3	Deg C
HVPS / Lamp Setting	494		2783		494		2778	
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	45.0	Deg C
Offset / Slope	39.9		1.12		42.2		1.102	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4997	0	0	2	N/A
4997	0	0	0	N/A
4917	77.4	749	761	0.9836
4917	77.4	749	750	0.9980
4954	41.3	399	396	1.0084
4978	17.5	169	168	1.0072
4997	0	0	0	N/A
			Sum of Least Squares	1.0006
			New Correction Factor	0.9980

	Before Calibration	After Calibration
Auto Zero	1.8	0.7
Auto Span	381.0	379.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0010
Current Correction Factor Before Span Adjust:	0.9836
Percent Change:	1.8%

Notes: **N/A : Not applicable**

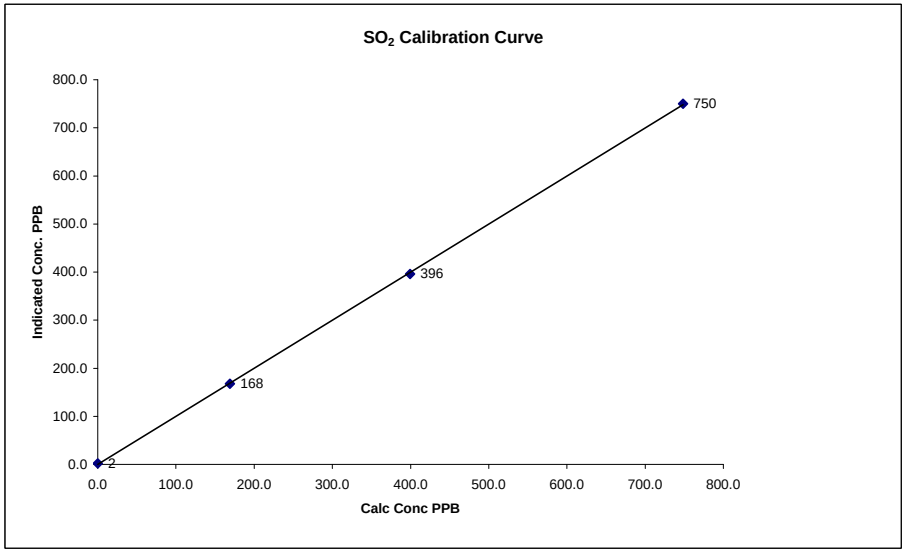
Calibration Performed by: Ting Xu

SO_2 Calibration Curve

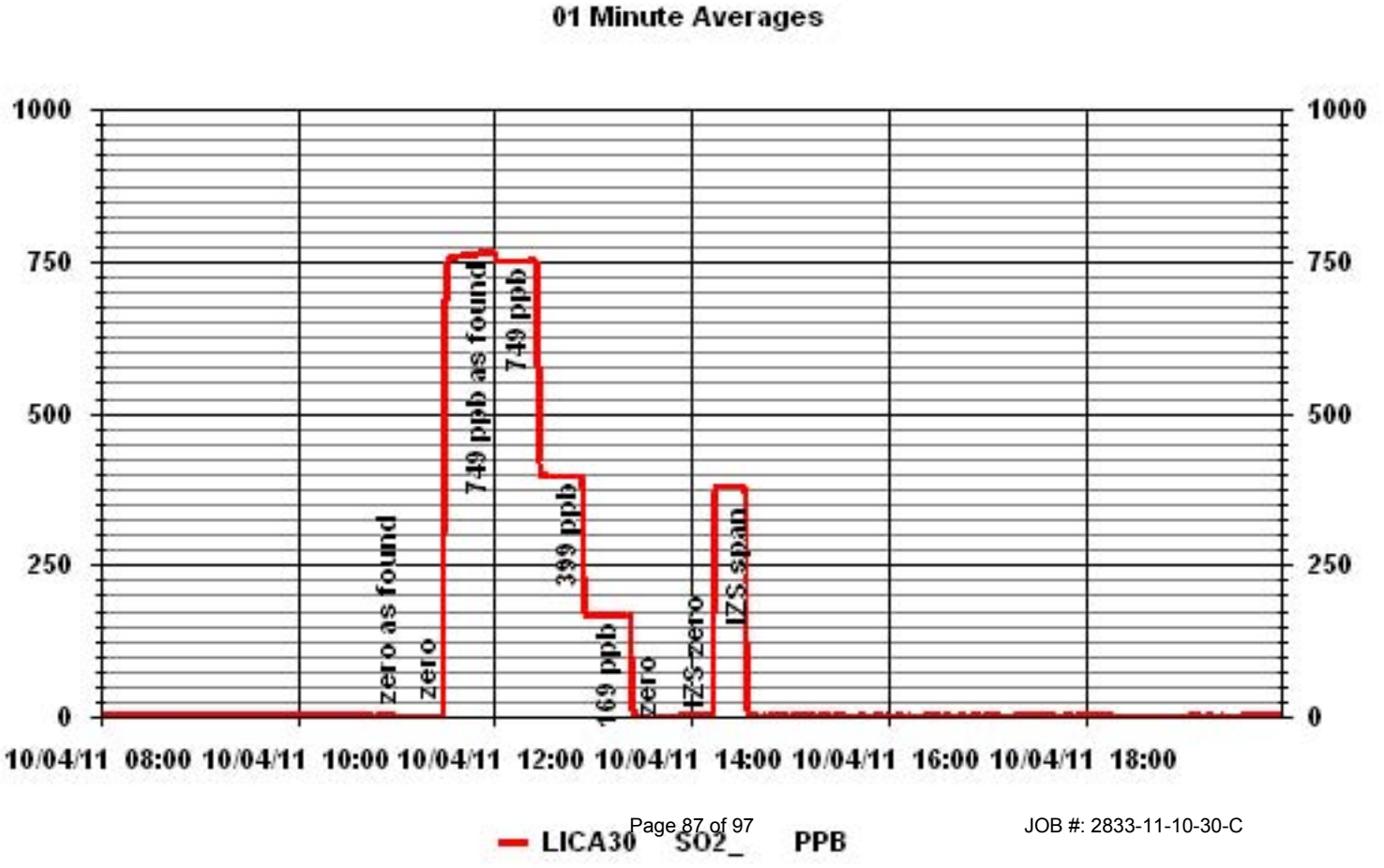
Calibration Date	October 4, 2011		
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	10:35	End Time (MST)	14:42

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	2	n/a
169	168	1.0072
399	396	1.0084
749	750	0.9980

Correlation Coefficient	(≥ 0.995)	0.999941
Slope	(0.85 to 1.15)	0.999745
Intercept	(± 3% F.S.)	-0.180661



Notes:



JOB #: 2833-11-10-30-C

Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	October 4, 2011		Previous Calibration	September 6, 2011	
Company	Lakelnad Industry & Community Association				
Plant / Location	Cold Lake - Maskwa				
Start Time (MST)	10:35		End Time (MST)	14:42	
Reason:	Monthly Calibration				
Barometric Pressure	931	mBar	Station Temperature	23	Deg C
Cal Gas	10.2 ppm		Gas Cyl. #	BLM00080	Cal Gas Expiry date: February 22, 2012
DAS Output Voltage	0 - 1	Volts	Chart Rec. Output	NA	Volts

Equipment Information

Analyzer Make / Model:	API 101E	S/N :	511	Method:	Fluorescent
Converter Make / Model:	Internal	S/N :	NA		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Chart Recorder Make / Model:	Not in use	S/N:	NA		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range			0 - 100	ppb				
Sample Flow / Box Temp	522	ccm	31.5	Deg C	513	ccm	33.4	Deg C
HVPS / Lamp Setting	552		2054		552		2049	
PMT / RxCell Temp	7.9	Deg C	50	Deg C	7.9	Deg C	50	Deg C
Converter / IZS Temp	315.1	Deg C	45	Deg C	314.9	Deg C	45.0	Deg C
Offset / Slope	29.2		1.035		9.9		1.016	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4996	0	0	1	NA
4996	0	0	0	NA
4960	39.2	80	81	0.9874
4960	39.2	80	80	1.0000
4976	19.6	40	40	1.0000
4988	11.2	23	23	1.0000
4996	0	0	0	NA
			Sum of Least Squares	0.9995
			New Correction Factor	1.0000

	Before Calibration	After Calibration
Auto Zero	0.2	0.2
Auto Span	57.3	56.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9874
Percent Change:	1.3%

Notes: **NA : Not Applicable**

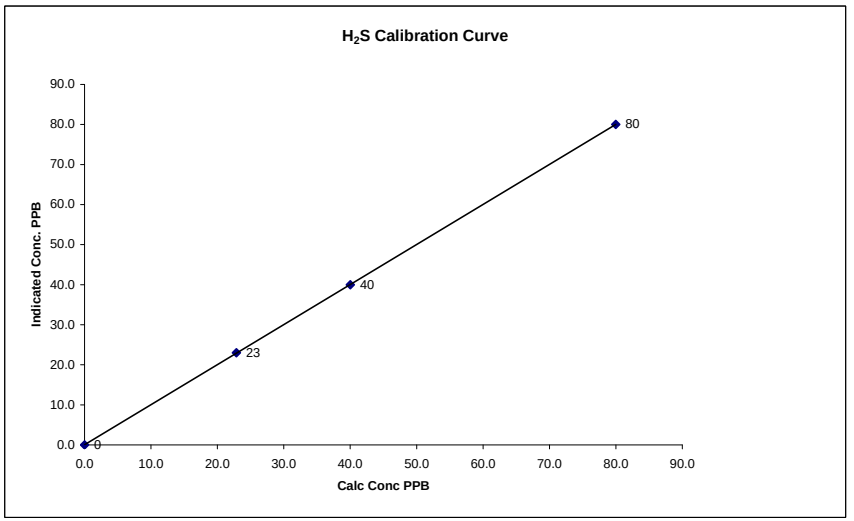
Calibration Performed by: Ting Xu

H_2S Calibration Curve

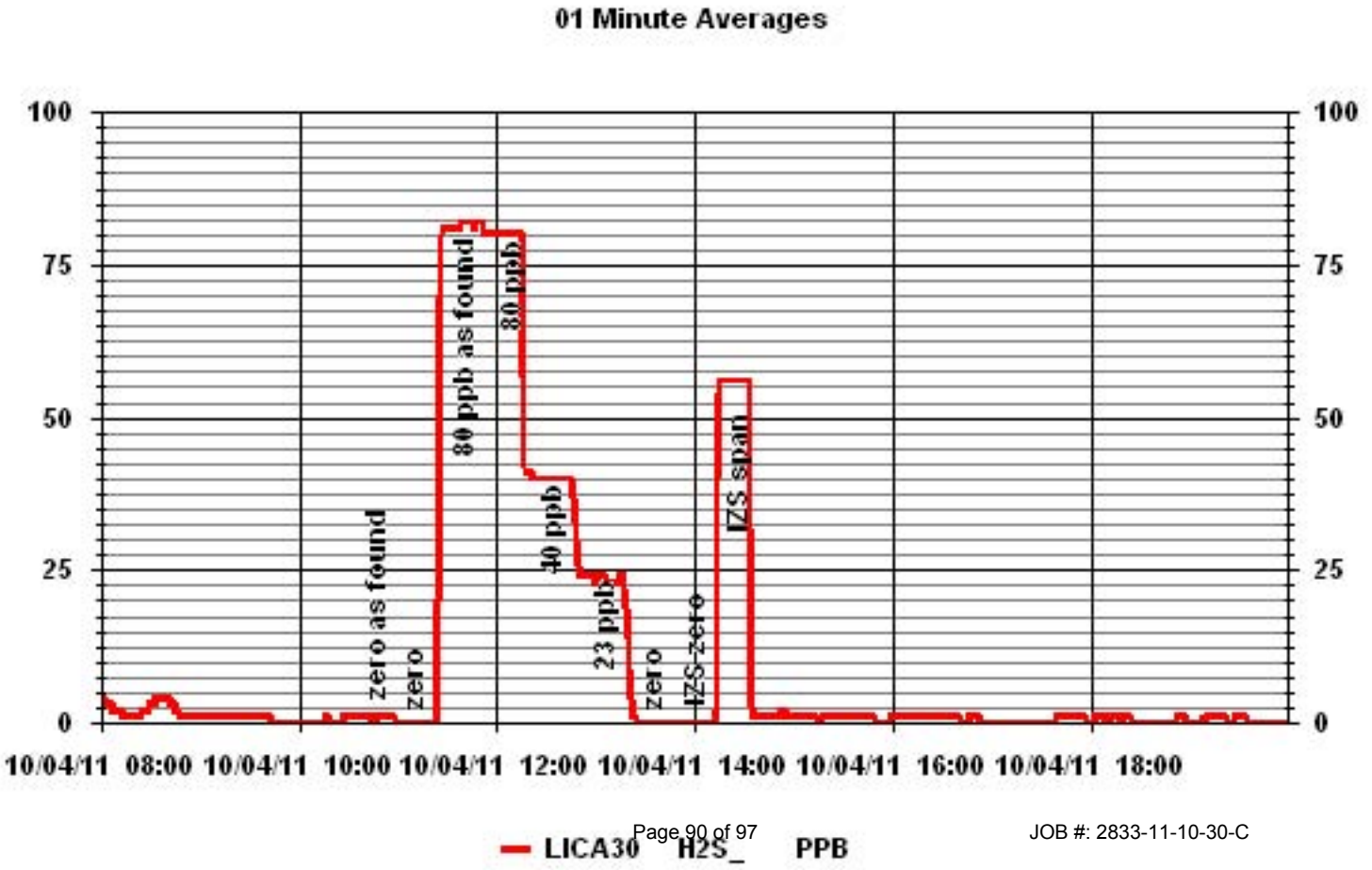
Calibration Date	October 4, 2011		
Company	Lakelnad Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	10:35	End Time (MST)	14:42

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	
23	23	0.9936
40	40	1.0005
80	80	0.9998

Correlation Coefficient	(≥ 0.995)	0.999995
Slope	(0.85 to 1.15)	0.999666
Intercept	(± 3% F.S.)	0.048996



Notes:



JOB #: 2833-11-10-30-C

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	October 5, 2011		Previous Calibration	September 23, 2011	
Company:	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location:	Maskwa				
Start Time (MST)	8:47		End Time (MST)	12:15	
Reason:	Monthly Calibration				
Barometric Pressure:	932	mmHg	Station Temperature:	23	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 980 PPM		C3H8	304 PPM	
	TOTAL CH4 1816.0 PPM		Gas Cyl. #	LL84144	Cal Gas Expiry Date: December 3, 2013
DAS make & Model:	ESC 8832		S/N :	AO 791	
Chart Recorder:	NA		S/N:	NA	
Output Voltage Range:	0 - 1	VDC	Chart Speed:	NA	mm/hr

Analyzer Information

Make / Model	Thermo 51C-LT	S/N :	436609738	Method	Flame Ionization

Analyzer Settings

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

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2999	0.0	0.0	0.0	NA
	No Zero Adj Needed			
2999	70.0	41.4	40.8	1.0152
2999	70.0	41.4	41.7	0.9933
2999	35.0	20.9	21.0	0.9976
2999	20.0	12.0	12.1	0.9943
2999	0.0	0.0	0.0	NA
			New Correction Factor:	0.9933

Percent Change

Previous Calibration Correction Factor:	0.9915
Current Correction Factor Before Span Adjust:	1.0152
Percent Change:	-2.3%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	33.9	34.9
Sample Lines Connected		**YES**

Cylinder Pressures

Span 1500 psi Hydrogen 400 psi Zero Air 32 psi

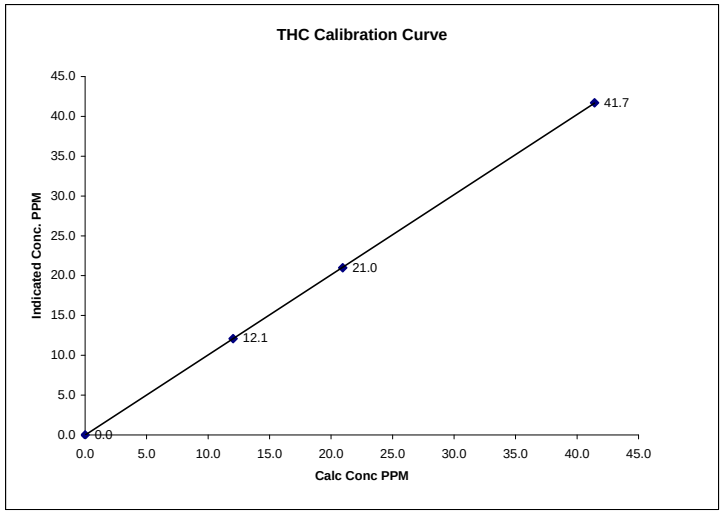
Notes: **NA : Not Applicable**

Calibration Performed by: Ting Xu

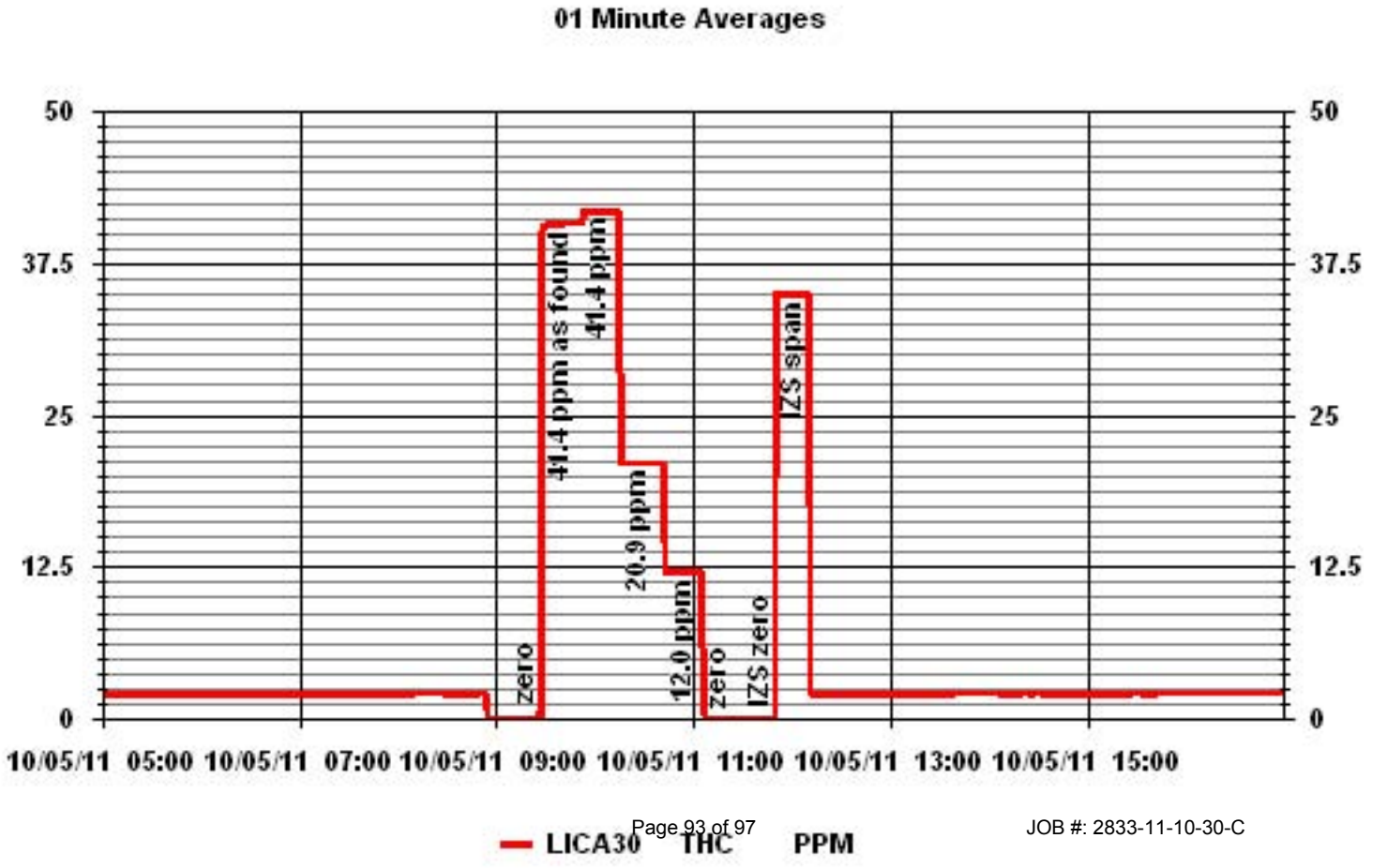
THC Calibration Curve

Calibration Date	October 5, 2011				
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	Maskwa				
Start Time (MST)	8:47	End Time	(MST)	12:15	

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999994
			Slope (0.85 to 1.15)	1.006595
0.0	0.0	NA	Intercept (± 3% F.S.)	-0.02276
12.0	12.1	0.9943		
20.9	21.0	0.9976		
41.4	41.7	0.9933		



Notes:



JOB #: 2833-11-10-30-C

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	October 5, 2011		Previous Calibration	September 6, 2011	
Company	LICA		Plant/Location	Maskwa	
Start Time (MST)	8:21		End Time (MST)	14:07	
Reason:	Monthly Calibration				
Barometric Pressure	932 mBar	Station Temperature	23 Deg C	MFCF	1
Cal Gas Concentration	NOx 49.7 ppm	NO 49.4 ppm	Cal Gas Expiry date	February 28, 2013	
Cal Gas Cylinder #	LL103831				
DAS Output Voltage	0 - 1 Volts		Chart Rec. Output	NA Volts	

Equipment Information

Analyzer Make / Model:	API 200E	S/N :	594	Method:	Chemiluminescent
Calibrator Make / Model:	Environics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Chart Recorder Make / Model:	Not in use	S/N:	NA		
Flow Meter:	ESC 8832	S/N :	4760		

Analyzer Settings

	Before Calibration					After Calibration			
Concentration Range				0 - 1000			ppb		
Sample Flow/Conv. Temp	451	ccm	314	Deg C		456	ccm	314	Deg C
Ozone Flow / Vacuum	78	ccm	5.3	"Hg-A		79	ccm	5.2	"Hg-A
HVPS / A ZERO	767	Volts	17.0	MV		767	Volts	17	MV
Rx/ Temp / PMT Temp	50.0	Deg C	6.5	Deg C		50.0	Deg C	6.6	Deg C
Box Temp / IZS Temp	31.1	Deg C	45.0	Deg C		30.8	Deg C	45.1	Deg C
Offset	-0.1	NOx	-0.6	NO		0.6	NOx	0.3	NO
Slope	1.163	NOx	1.136	NO		1.186	NOx	1.177	NO
NO_2 COEF / Conv Efficency	NA	NO2	0.994			NA	NO2	0.994	

Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4994	0.0	NA	0	0	NA	1	1	1	NA	NA
4994	0.0	NA	0	0	NA	0	0	0	NA	NA
4919	75.7	NA	753	749	NA	738	725	13	1.0221	1.0341
4919	75.7	NA	753	749	NA	753	749	4	1.0000	1.0000
4959	35.3	NA	351	349	NA	351	348	3	1.0000	1.0062
4975	20.2	NA	201	200	NA	200	199	2	1.0100	1.0089
4995	0.0	NA	0	0	NA	0	0	0	NA	NA

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO_2 Correction Factor	NO2 Conv Efficency
			NOx	NO	NO2	NOx	NO	NO2		
4921	75.7	NA	753	748	NA	753	749	4	NA	NA
No Adj needed										
4921	75.7	600	753	NA	513	752	240	512	1.0020	99.80%
4921	75.7	250	753	NA	219	753	534	219	1.0000	100.00%
4921	75.7	140	753	NA	123	753	630	124	0.9919	100.84%

Linearity			Sum of Least Squares	NOx= 1.001	NO= 1.000	NO2= 1.001
OK?	Yes	No	Correction Factors:	NOx= 1.0000	NO= 1.0000	NO2= 1.0020
				Average Converter Efficiency= 100.21%		

	Before Calibration					After Calibration			
Auto Zero	1.3	NOx	0.8	NO2		0.6	NOx	0.3	NO2
Auto Span	740	NOx	727	NO2		750	NOx	736	NO2
					Sample Lines Connected	YES			
Percent Change from Previous Calibration				NOx -2.2%	NO	-3.5%	NO2	0.0%	

Notes

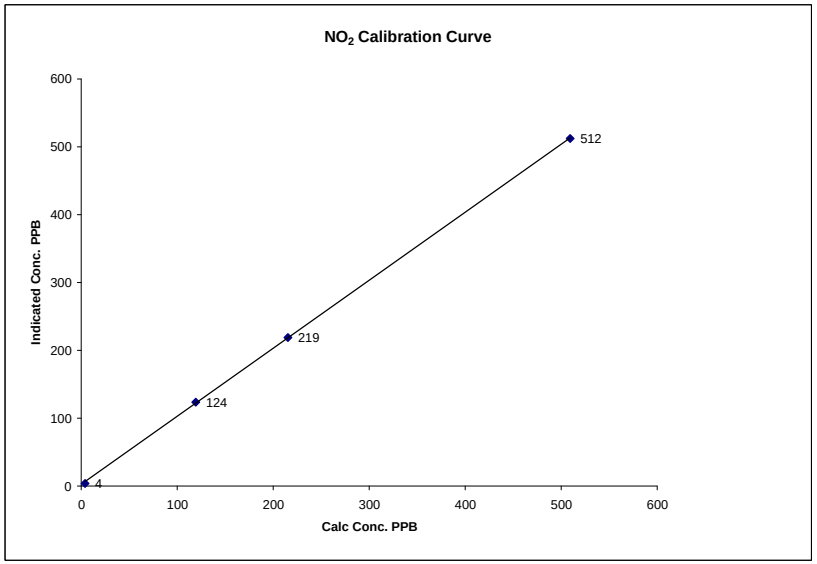
NA : Not Applicable

Calibration Performed by: Ting Xu.

NO_2 Calibration Curve

Calibration Date	October 5, 2011		
Company	LICA		
Plant / Location	Maskwa		
Start Time (MST)	8:21	End Time (MST)	14:07

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999911
			Slope (0.85 to 1.15)	1.003147
4	4	N/A	Intercept (± 3% F.S.)	2.33361
119	124	0.9597		
215	219	0.9817		
509	512	0.9941		

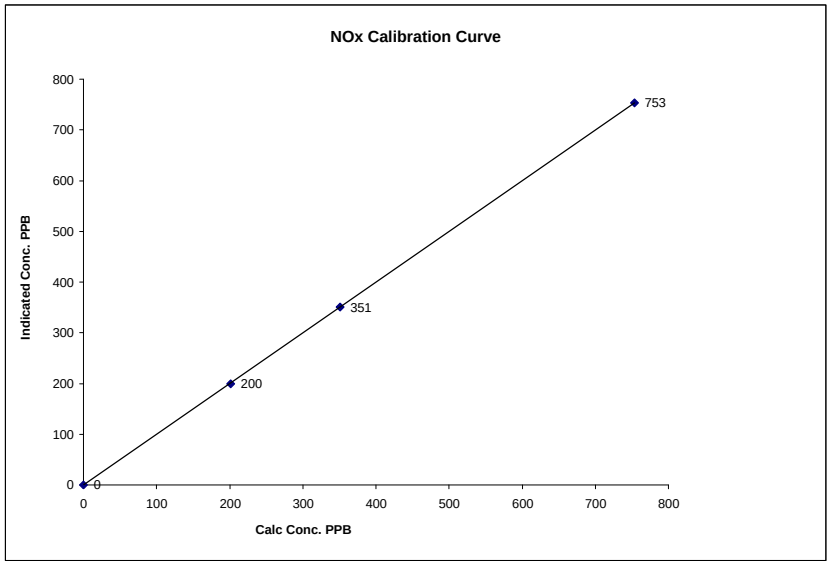


Notes:

NOx Calibration Curve

Calibration Date	October 5, 2011				
Company	LICA				
Plant / Location	Maskwa				
Start Time (MST)	8:21	End Time (MST)	14:07		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999998
			Slope	(0.85 to 1.15)	1.000021
0	0	N/A	Intercept	(± 3% F.S.)	-0.38692
201	200	1.0049			
351	351	1.0008			
753	753	1.0003			

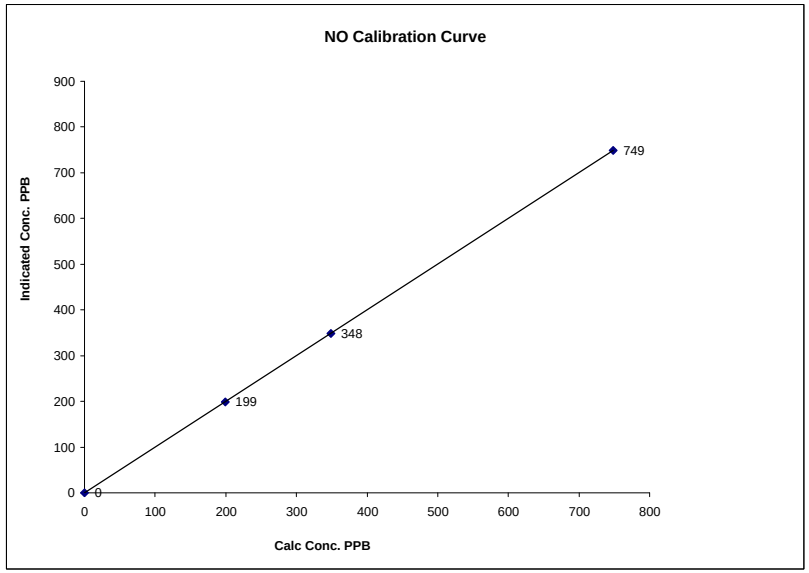


Notes:

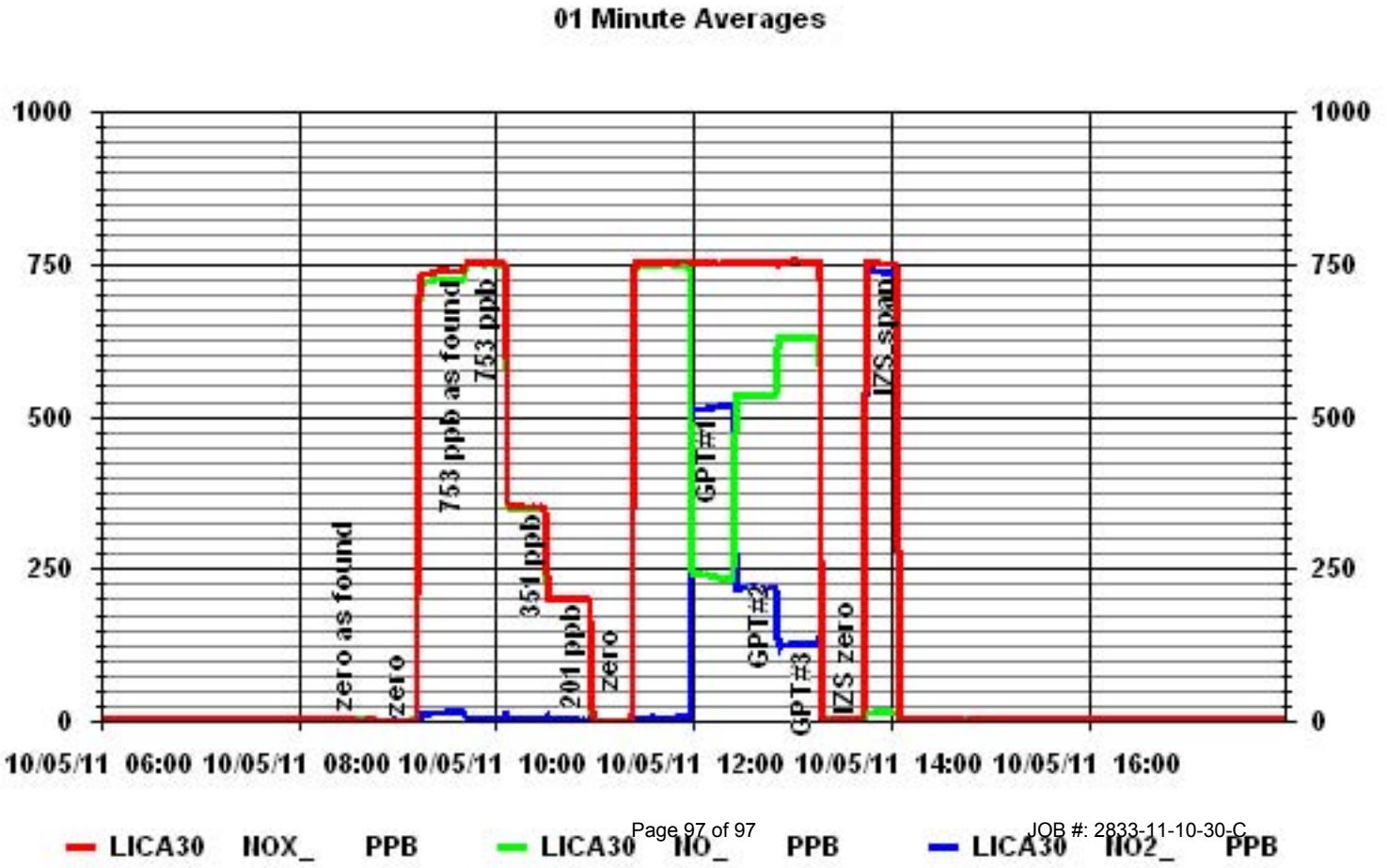
NO Calibration Curve

Calibration Date	October 5, 2011				
Company	LICA				
Plant / Location	Maskwa				
Start Time (MST)	8:21	End Time (MST)	14:07		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999996
			Slope	(0.85 to 1.15)	1.002281
0	0	N/A	Intercept	(± 3% F.S.)	-2.4313
200	199	1.0039			
349	348	1.0033			
749	749	0.9996			



Notes:


01 Minute Averages
1000
750
500
250
0
zero as found
zero
753 ppb as found
753 ppb
351 ppb
201 ppb
zero
GPT#1
GPT#2
GPT#3
IZS zero
IZS span
10/05/11 06:00
10/05/11 08:00
10/05/11 10:00
10/05/11 12:00
10/05/11 14:00
10/05/11 16:00
LICA30 NOX_ PPB
LICA30 NO_ PPB
LICA30 NO2_ PPB

Lakeland Industry & Community Association

Portable / Devon Wellsite 13-16-62-5 W4M Monitoring Site
Ambient Air Monitoring Data Report
For
October 2011

Prepared By:

November 25, 2011

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

Table of Contents

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: October 2011

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 – October 2011

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PORTABEL / DEVON WELLSITE 13-16-62-5 W4M SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO_2 (PPB)	172	48	0	0	0.08	3	30	12	6.7	161(SSE)	0.5	21	100.0
H_2S (PPB)	10	3	0	0	0.06	2	18	8	5.3	218(SW)	0.6	4	99.9
THC (PPM)	-	-	-	-	2.49	11.2	12	6	2.4	17(NNE)	4.2	10	99.9
NO_2 (PPB)	159	-	0	-	3.53	17	24	19	7.8	235(SW)	6.5	19	99.9
NO (PPB)	-	-	-	-	0.73	24	10	8	2.1	43(NE)	4.2	10	99.9
NOx (PPB)	-	-	-	-	4.38	31	10	8	2.1	43(NE)	9.7	10	99.9
O_3 (PPB)	82	-	0	-	17.69	36	20, 21	VAR	VAR	VAR	24.7	1	100.0
PM 2.5 (UG/M^3)	-	30	-	0	3.39	18.8	23	5	2	291(WNW)	8.1	4	96.0
VECTOR WS (KPH)	-	-	-	-	9.20	27.4	26	13	-	166(SSE)	14.4	27	100.0
VECTOR WD (DEGREES)	-	-	-	-	271(W)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

Volatile Organics Data Summary
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE

Xontech Model 910A – October 6, 2011

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

Xontech Model 910A – October 12, 2011

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

Xontech Model 910A – October 18, 2011

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

Xontech Model 910A – October 24, 2011

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

Xontech Model 910A – October 30, 2011

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

Polycyclic Aromatic Hydrocarbons (PAHs) Data Summary
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

PUF cartridge – October 6, 2011

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

PUF cartridge – October 12, 2011

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

PUF cartridge – October 18, 2011

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

PUF cartridge – October 24, 2011

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

PUF cartridge – October 30, 2011

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

General Monthly Summary

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

AQM STATION – LICA – PORTABLE

Sulphur Dioxide (PPB)
- Analyzer make / model – API 100E, S/N: 467

No operational issue observed during this month. The inlet filter was replaced before the monthly calibration was performed on October 19th. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)
- Analyzer make / model –API 101E, S/N: 509
- Converter - Internal

No operational issue observed during this month. The inlet filter was replaced before the monthly calibration was performed on October 18th. Data was corrected using daily zero information.
One-minute data for calibration performed on October 18th is missing. The calibration graph was run using 5-minute data average.

Nitrogen Dioxide (PPB)
- Analyzer make / model – API 200E, S/N: 593

No operational issue observed during this month. The inlet filter was replaced before the monthly calibration was performed on October 18th. Data was corrected using daily zero information.
One-minute data for calibration performed on October 18th is missing. The calibration graph was run using 5-minute data average.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Ozone (PPB)

- Analyzer make / model –Thermo 49i, S/N: 1002240372

No operational issue observed during this month. The inlet filter was replaced before the monthly calibration was performed on October 19th. Data was corrected using daily zero information.

THC (PPM)

- Analyzer make / model – TECO 51C, S/N: 04366-09739

No operational issue observed during this month. The span gas cylinder was replaced on October 3rd, and the H2 gas cylinder was replaced on October 11th. Zero/span check was performed after the cylinder replacements. The inlet filter was replaced before the monthly calibration was performed on October 19th. Maximum concentration recorded on October 8th at hour 18 went above the full scale. The actual concentration for that hour is likely higher than the recorded value. Data was corrected using daily zero information.
One-minute data for calibration performed on October 18th is missing. The calibration graph was run using 5-minute data average.

Particulate Matter 2.5 (ug/m^3)

- Analyzer make / model –TEOM 1405F, S/N: 1405A207691003

No operational issues observed during the month. A routine Teom audit was performed on October 18th. The Teom filter and FDMS filter were replaced on October 18th. Data was corrected using Alberta air quality guideline for PM2.5 analyzer. If the data was between 0 to –3, the data was corrected to 0. If the data was below –3, the data was invalidated. 30 hours of data were invalidated as they were below –3.0 ug/m^3. T

General Monthly Summary

AQM STATION – LICA – PORTABLE

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

- System make / model – RM Young 5103VK, S/N: 41334

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

Datalogger

- System make / model - ESC 8832, S/N: AO717
- Software make / version - ESC v 5.51a

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

Trailer

No issue was observed this month.
The manifold was cleaned on October 19th.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Air Quality Index (AQI)
The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. All AQI values were within the Good range. The highest hourly concentration of ozone was 36 ppb and an AQI value of 18 on October 20th and 21st, in various hours. The highest hourly concentration of PM2.5 was 18.8 ug/m3 and an AQI value of 16 on October 23th, hour of 5.

Volatile Organics (VOCs)
The volatile organics were sampled from October 6th to October 30th. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle. The values for the VOCs in this report were reported as ug/m3 in 3 significant figures.

Polycyclic Aromatic Hydrocarbons (PAHs)
The PAHs scheduled to be sampled from October 6thto October 30th. The sampler was programmed to run for 24 hours, and, every 6 days per sample cycle. The values for the PAHs in this report were reported as ng/m3.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Air Quality Index

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLESITE*

OCTOBER 2011

AIR QUALITY INDEX (AQI)

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	12	11	12	12	13	13	14	14	13	14	14	14	15	15	15	14	13	11	8	-	8	-	-	13	15
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	**NA**	**NA**	O3_	O3_
2	14	14	14	13	12	11	11	10	11	12	13	13	13	12	11	12	12	9	9	5	-	-	6	5	14
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	**NA**	O3_	O3_	O3_
3	5	6	4	6	5	5	-	5	5	7	6	6	7	7	7	7	6	-	6	-	6	6	6	5	7
	O3_	O3_	PM2	PM2	O3_	O3_	**NA**	O3_	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	**NA**	O3_	O3_	O3_	O3_	PM2
4	5	6	5	9	5	7	6	8	9	6	13	8	15	11	12	13	9	7	-	8	6	5	3	6	15
	O3_	PM2	O3_	PM2	O3_	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	PM2	**NA**	PM2	PM2	PM2	PM2	PM2	PM2
5	7	6	4	5	7	6	6	7	4	8	8	9	6	6	7	6	6	-	9	8	7	6	5	5	9
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	PM2	O3_	PM2	**NA**	PM2	PM2	PM2	O3_	O3_	PM2	PM2
6	4	2	3	3	2	3	4	3	3	4	4	4	5	5	5	5	-	5	3	3	3	3	2	2	5
	O3_	O3_	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_
7	3	2	2	3	2	1	1	2	-	7	10	12	12	13	13	-	13	12	11	12	12	12	11	11	13
	PM2	PM2	O3_	PM2	PM2	PM2	PM2	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
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10	3	3	4	4	4	5	6	5	5	4	8	12	-	14	16	16	12	11	11	9	11	10	7	10	16
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11	10	6	5	3	2	2	4	2	7	11	12	-	14	15	15	15	14	11	9	7	9	5	5	5	15
	O3_	O3_	O3_	PM2	O3_	O3_	PM2	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_	PM2	PM2	O3_
12	7	12	6	4	1	1	4	5	7	-	-	8	8	8	8	8	8	6	3	5	4	4	-	5	12
	PM2	PM2	PM2	PM2	PM2	O3_	PM2	PM2	O3_	**NA**	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_	PM2	PM2	**NA**	PM2	PM2
13	8	2	1	5	5	5	8	3	5	-	7	8	9	9	9	9	9	8	8	7	7	6	6	5	9
	PM2	PM2	O3_	PM2	O3_	PM2	PM2	O3_	PM2	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_	O3_	O3_
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	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
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16	8	6	8	8	8	6	-	5	5	10	12	13	15	16	16	16	15	13	11	10	6	7	7	6	16
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	O3_	O3_	O3_	O3_	O3_	**NA**	PM2	PM2	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	PM2	O3_	O3_	O3_	O3_	PM2	O3_
18	7	9	9	8	-	9	6	7	12	-	-	-	-	-	-	17	14	11	11	11	12	13	14	14	17
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19	12	12	12	-	9	7	7	8	10	12	12	13	13	-	-	-	-	9	8	6	8	5	7	2	13
	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	**NA**	**NA**	**NA**	O3_	O3_	O3_	PM2	PM2	PM2	O3_	O3_
20	1	5	-	7	5	5	6	10	12	13	16	17	18	18	17	17	16	14	13	12	11	10	10	9	18
	O3_	PM2	**NA**	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
21	8	-	7	9	9	8	5	11	5	9	11	12	15	17	18	18	16	11	10	9	9	9	11	8	18
	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
22	-	6	6	6	8	7	8	8	11	13	15	17	-	17	18	17	17	16	14	14	13	12	10	-	18
	NA	O3_	O3_	O3_	O3_	PM2	PM2	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_
23	6	5	4	3	7	**16**	11	6	5	8	13	16	17	17	17	17	16	15	14	13	12	10	-	10	17
	O3_	O3_	PM2	O3_	PM2	**PM2**	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_
24	10	10	11	9	8	8	-	9	9	10	12	13	15	15	16	-	14	13	8	6	9	-	11	10	16
	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_
25	10	10	8	9	9	7	6	6	8	9	10	-	13	15	-	15	-	14	12	12	-	12	9	11	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	**NA**	O3_	**NA**	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_
26	-	9	-	7	-	10	6	7	8	10	11	13	14	16	16	16	16	14	13	-	14	13	10	10	16
	NA	O3_	**NA**	O3_	**NA**	O3_	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_
27	9	8	10	-	11	11	10	10	12	12	13	14	15	16	16	16	15	-	-	-	13	12	12	12	16
	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	**NA**	**NA**	O3_	O3_	O3_	O3_	O3_
28	12	-	-	10	10	8	4	5	6	9	10	13	15	15	14	14	13	-	10	11	-	10	9	11	15
	O3_	**NA**	**NA**	O3_	O3_	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	**NA**	O3_	O3_	O3_	O3_
29	9	9	9	8	8	9	7	6	7	9	12	14	-	-	15	15	-	-	13	13	12	11	11	9	15
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	**NA**	O3_	O3_	**NA**	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_
30	10	10	9	8	6	8	9	9	9	7	9	-	11	12	12	-	10	7	8	5	9	9	7	11	12
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	PM2	PM2	O3_	O3_	O3_	O3_
31	12	12	11	12	12	10	8	9	10	11	12	15	-	16	-	16	-	13	14	14	13	12	13	14	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
PEAK	14	14	14	13	13	16	14	14	13	14	16	17	18	18	18	18	17	16	14	14	14	13	14	14	
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	

STATUS FLAG CODES	NA - NOT APPLICABLE

V - VARIOUS

AQI CLASS	OZONE (O_3)					PARTICULATE MATTER 2.5 (PM2)					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)	562	75.5%	18	VAR	20, 21	110	14.8%	16	5	23	0	0.0%	-	-	-	0	0.0%	-	-	-	672	90.3%
OVERALL	562	75.5%	-	-	-	110	14.8%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	672	90.3%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	9.7%

JOB #: 2833-11-10-33-C

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

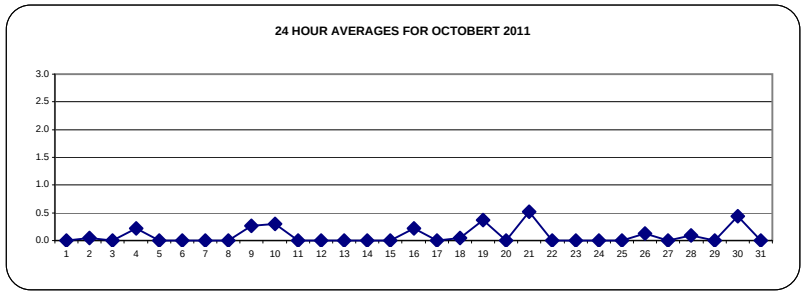
SULPHUR DIOXIDE (SO_2) hourly averages in ppb

MST

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

STATUS FLAG CODES

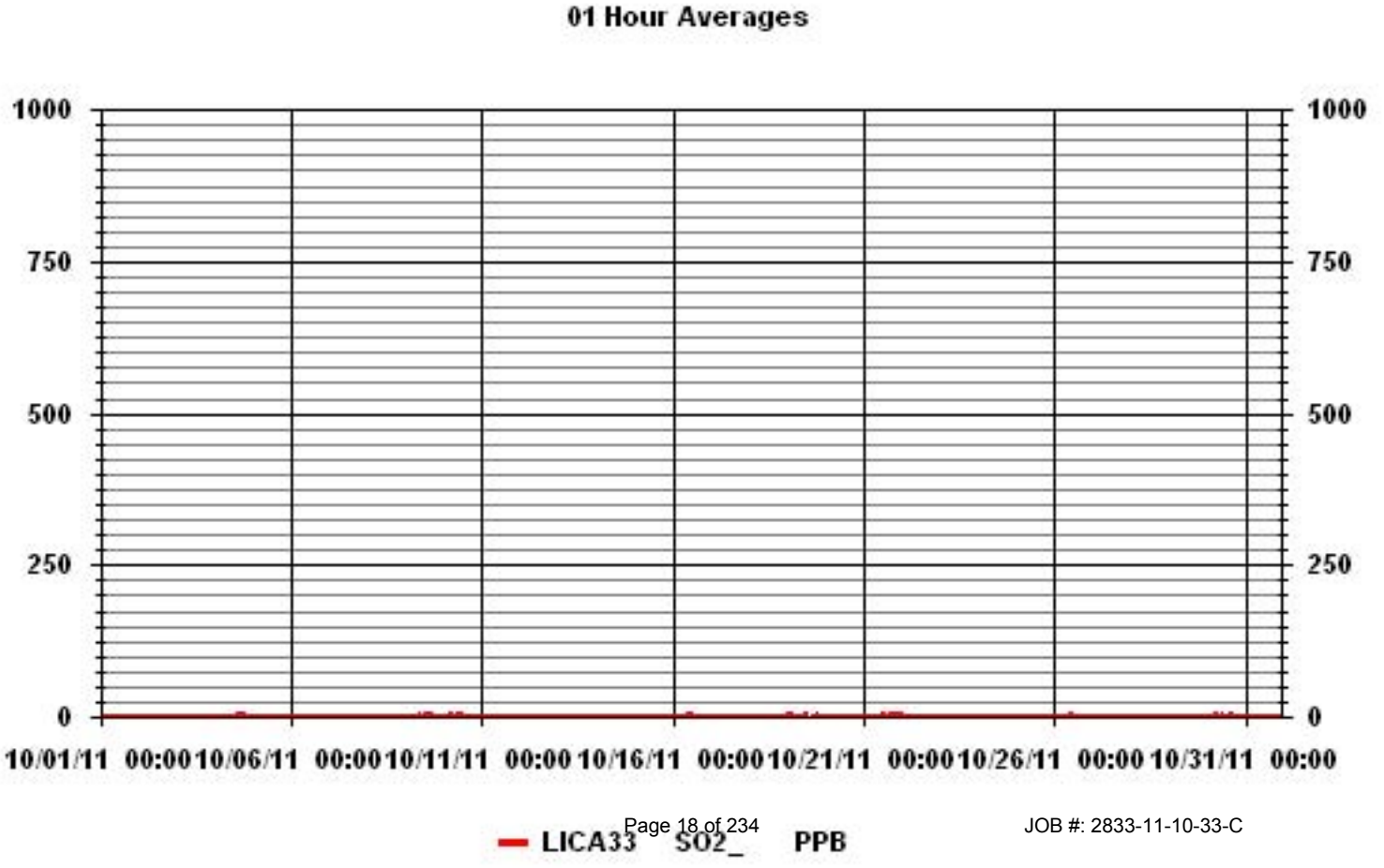
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	57					
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	12	ON DAY(S)	30
MAXIMUM 24-HR AVERAGE:	0.5	PPB			ON DAY(S)	21
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.29		MONTHLY AVERAGE:		0.08	PPB



JOB #: 2833-11-10-33-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

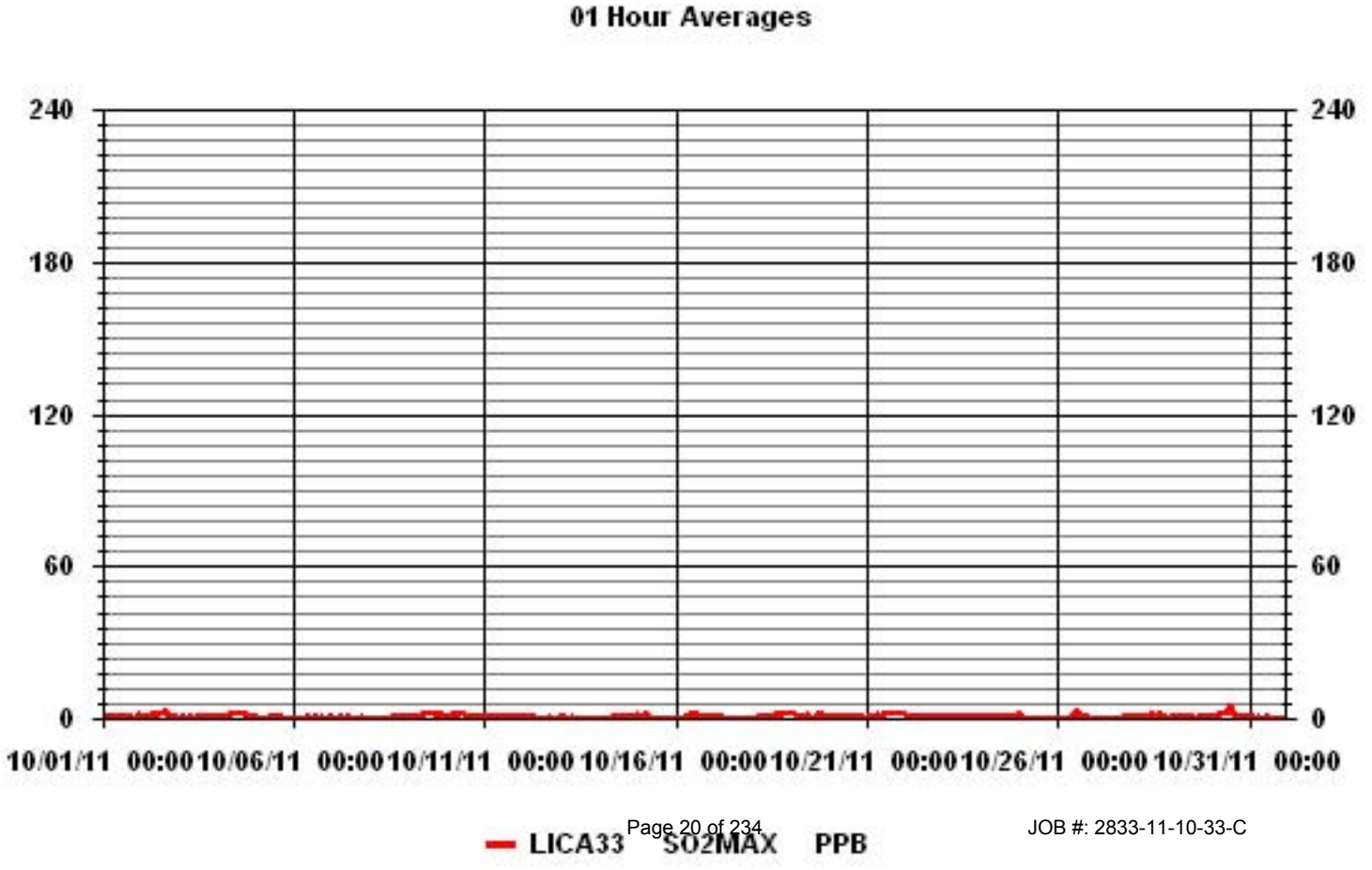
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	1	1	1	0	0	1	1	1	0	0	1	1	1	0	0	1	0	0	**IZS**	1	2	2	0.7	24
2	1	1	1	1	1	1	1	1	2	2	1	2	2	2	2	2	4	1	1	1	**IZS**	0	1	0	4	1.3	24
3	0	0	1	1	0	0	0	1	0	0	0	0	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	0.6	24
4	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	**IZS**	1	1	1	1	1	2	1.4	24
5	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	1	1	**IZS**	0	0	0	0	0	0	1	0.3	24
6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	**IZS**	0	1	0	0	0	0	1	1	0.2	24
7	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	**IZS**	0	0	0	1	0	0	0	0	1	0.2	24
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	1	0.4	24
9	1	1	1	1	1	1	1	1	1	2	2	2	2	**IZS**	2	2	2	2	2	1	2	1	1	1	2	1.4	24
10	1	1	1	1	2	2	2	1	2	2	2	2	**IZS**	1	1	1	1	1	1	1	1	1	1	1	2	1.3	24
11	1	1	1	1	1	1	1	1	1	1	1	**IZS**	0	1	1	0	1	1	1	1	1	1	1	1	1	0.9	24
12	0	0	1	1	1	1	1	1	0	0	**IZS**	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.3	24
13	1	0	1	0	0	0	0	1	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
14	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
15	2	1	1	1	1	1	2	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4	24
16	0	0	0	0	0	0	**IZS**	1	1	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	2	0.9	24
17	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
18	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	2	1.2	24
19	2	2	2	**IZS**	1	1	1	1	1	1	1	2	**C**	**C**	**C**	**C**	**C**	1	2	2	2	1	1	1	2	1.4	24
20	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0.9	24
21	0	**IZS**	1	1	1	1	1	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.6	24
22	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1.0	24
23	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
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	0	0	1	0.9	24
25	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	3	0.2	24
26	0	0	0	0	0	0	0	0	1	1	2	2	3	2	1	1	1	1	1	**IZS**	0	0	0	0	3	0.7	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	0.2	24
28	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	2	2	**IZS**	0	1	1	0	0	0	2	1.0	24
29	1	1	1	0	1	1	1	0	1	1	0	0	1	0	0	0	**IZS**	1	1	1	1	1	1	1	1	0.7	24
30	1	1	1	1	1	2	2	2	2	2	2	4	**6**	2	2	**IZS**	1	1	1	1	1	1	1	1	**6**	1.7	24
31	1	1	1	0	0	0	1	0	0	0	0	1	1	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0.3	24
HOURLY MAX	3	2	2	1	2	2	2	2	2	2	2	4	6	2	2	2	4	2	2	2	2	2	2	2			
HOURLY AVG	0.8	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.9	0.9	1.0	1.0	0.8	0.9	0.9	1.0	0.8	0.8	0.8	0.8	0.7	0.6	0.7			

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:	446					
MAXIMUM INSTANTANEOUS VALUE:	6	PPB	@ HOUR(S)	12	ON DAY(S)	30
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.71					



JOB #: 2833-11-10-33-C

LICA33
SO2_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.40	2.54	3.24	4.94	6.63	4.80	2.82	4.94	2.25	1.69	10.45	13.70	17.51	13.55	4.37	4.09	100.00
<	60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.40	2.54	3.24	4.94	6.63	4.80	2.82	4.94	2.25	1.69	10.45	13.70	17.51	13.55	4.37	4.09	

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
<	20	17	18	23	35	47	34	20	35	16	12	74	97	124	96	31	29	708
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	17	18	23	35	47	34	20	35	16	12	74	97	124	96	31	29	

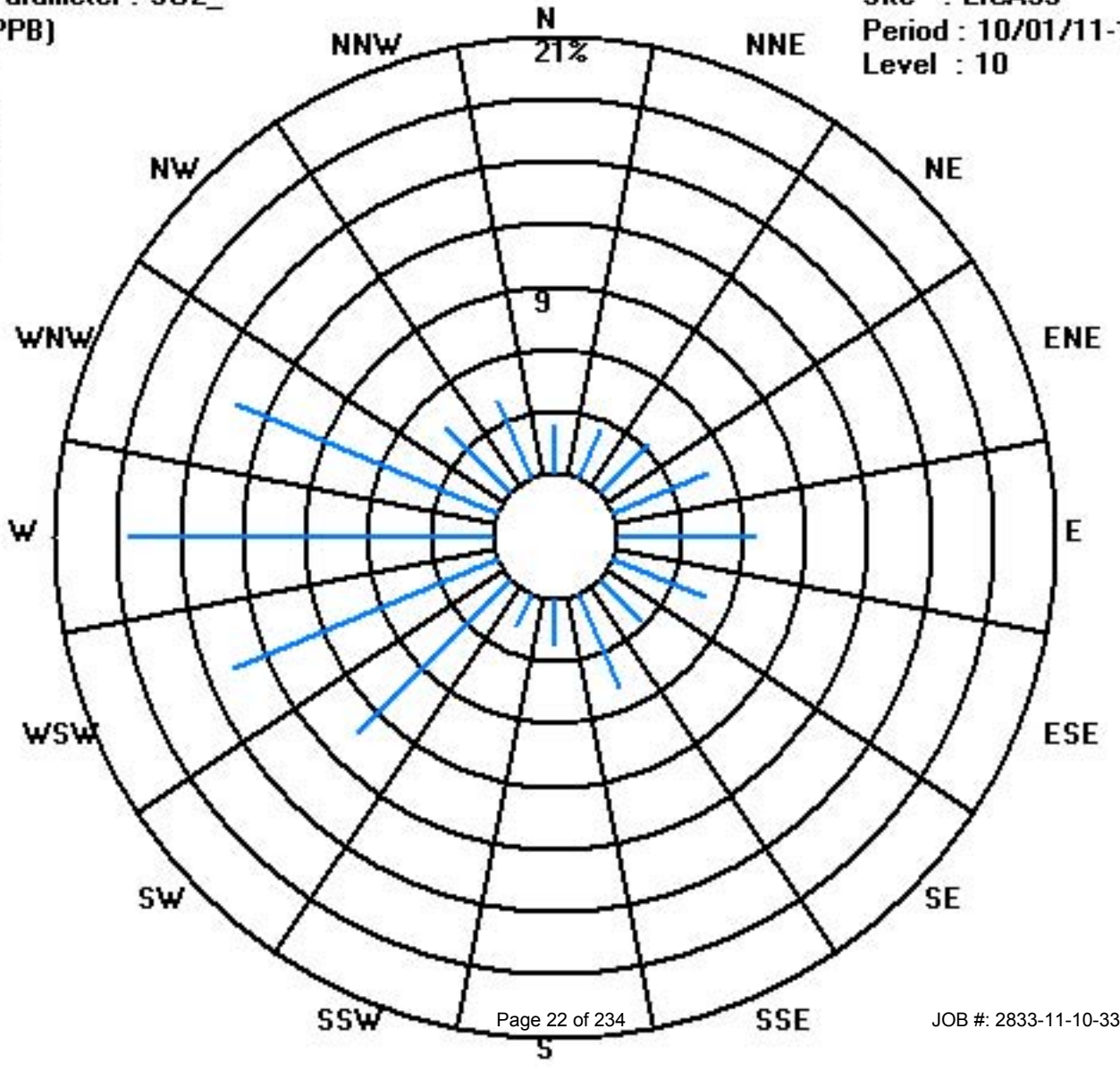
Calm : .00 %

Total # Operational Hours : 708

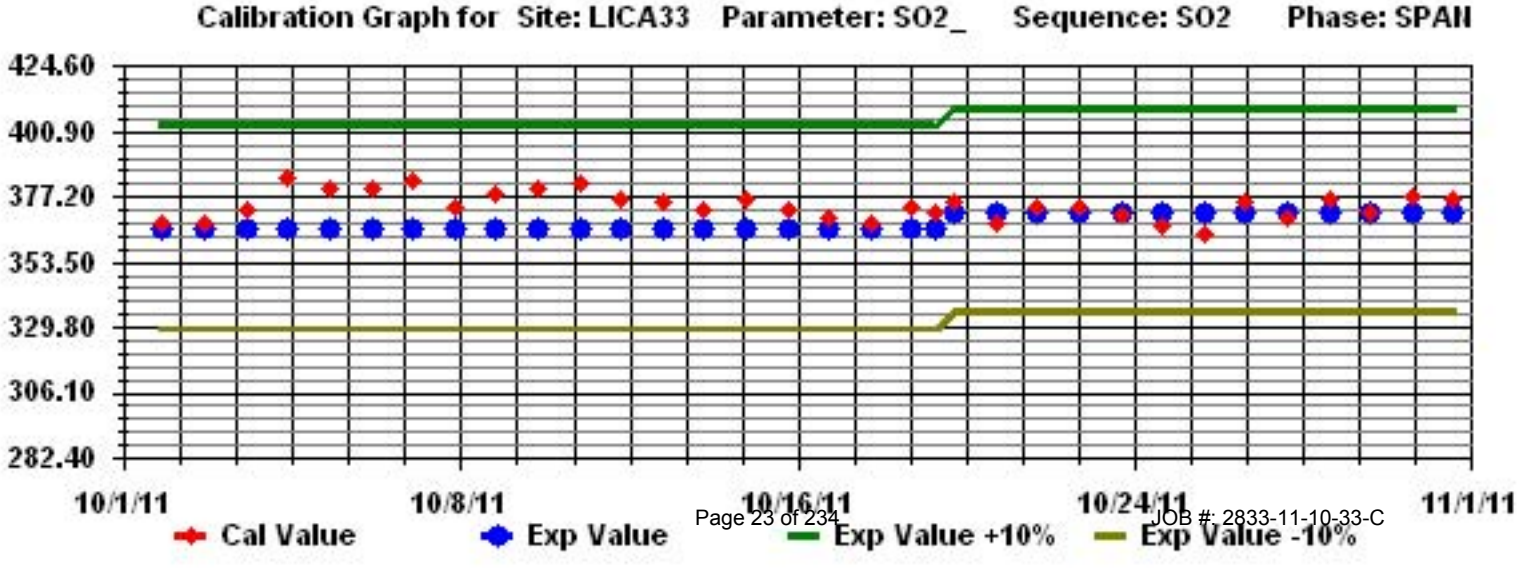
Logger : 33 Parameter : SO2_
Class Limits (PPB)

>= 340
< 340
< 170
< 110
< 60
< 20

Site : LICA33
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-33-C


Calibration Graph for Site: LICA33 Parameter: SO2_ Sequence: SO2 Phase: SPAN
424.60
400.90
377.20
353.50
329.80
306.10
282.40
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

HYDROGEN SULPHIDE (H2S) hourly averages in ppb

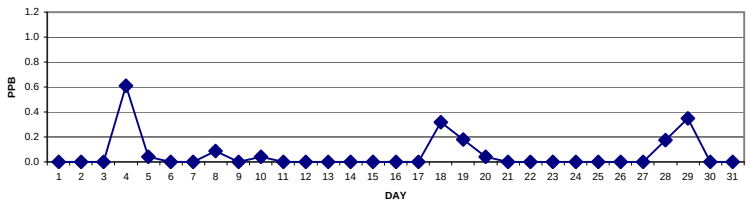
MST

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	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
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0.0	24
3	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
4	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	0	0	1	1	0	1	**0.6**	24
5	1	0	0	0	0	0	0	0	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	0	**IZS**	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	**IZS**	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	**IZS**	0	0	0	0	0	1	0	1	0	1	0.1	24
9	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
10	0	0	0	1	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
11	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
12	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
13	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
14	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
15	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
16	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
17	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
18	0	0	0	0	**IZS**	0	0	0	**2**	**C**	**C**	**C**	**C**	0	0	0	0	1	1	0	1	0	0	1	**2**	0.3	24
19	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	**M**	0	0	0	0	0	0	1	1	0.2	23
20	1	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
21	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
22	**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
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0.0	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	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	**IZS**	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	**IZS**	0	0	0	0	0	0.0	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	1	1	1	1	1	0.2	24
29	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	1	0.3	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	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	**IZS**	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1			
HOURLY AVG	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1			

STATUS FLAG CODES

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

24 HOUR AVERAGES FOR OCTOBER 2011

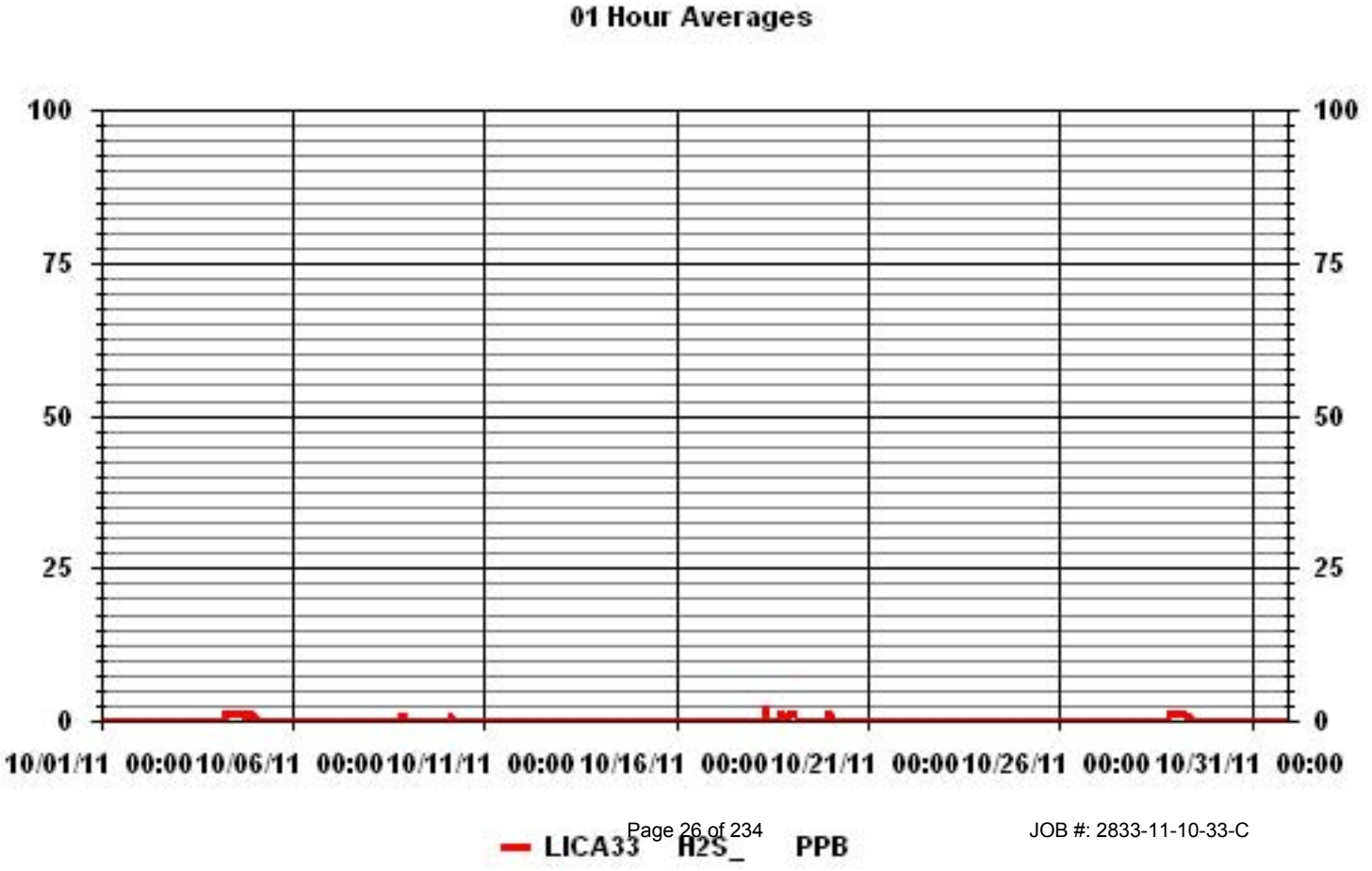


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 57 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	40					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	8	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	0.6	PPB			ON DAY(S)	4
					VAR-VARIOUS	

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.24		MONTHLY AVERAGE:	0.06	PPB



JOB #: 2833-11-10-33-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0.0	24
4	0	0	1	1	1	1	1	1	1	1	1	1	1	2	**3**	1	2	2	**IZS**	1	1	2	1	2	**3**	1.2	24
5	1	1	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	2	0.2	24
6	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
7	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	1	0.0	24
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	2	1	1	1	2	0.2	24
9	1	1	1	0	1	1	1	1	1	1	1	0	1	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0.5	24
10	0	0	0	1	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
11	0	0	0	0	0	0	2	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
12	0	0	0	0	0	0	0	0	0	0	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	1	1	1	1	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0.3	24
17	0	0	0	0	0	**IZS**	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
18	0	0	0	0	**IZS**	0	0	1	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
19	1	1	1	**IZS**	0	0	0	0	0	0	1	0	0	1	1	1	**M**	0	1	1	1	1	1	1	1	0.6	23
20	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
21	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0.1	24
22	**IZS**	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**IZS**	1	0.1	24
23	0	0	1	0	0	0	2	1	1	1	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	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0.0	24
25	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	1	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	**IZS**	0	0	0	0	1	0.1	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0.0	24
28	0	0	2	0	0	0	0	1	0	1	0	0	0	0	1	1	1	**IZS**	1	1	1	1	1	1	2	0.6	24
29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	**IZS**	0	0	0	0	0	0	0	1	0.7	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0.0	24
31	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0.0	24
HOURLY MAX	1	1	2	1	1	2	2	1	1	1	1	1	1	2	3	1	2	2	1	1	2	2	1	2			
HOURLY AVG	0.2	0.2	0.3	0.2	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 121

MAXIMUM INSTANTANEOUS VALUE: 3 PPB @ HOUR(S) 14 ON DAY(S) 4

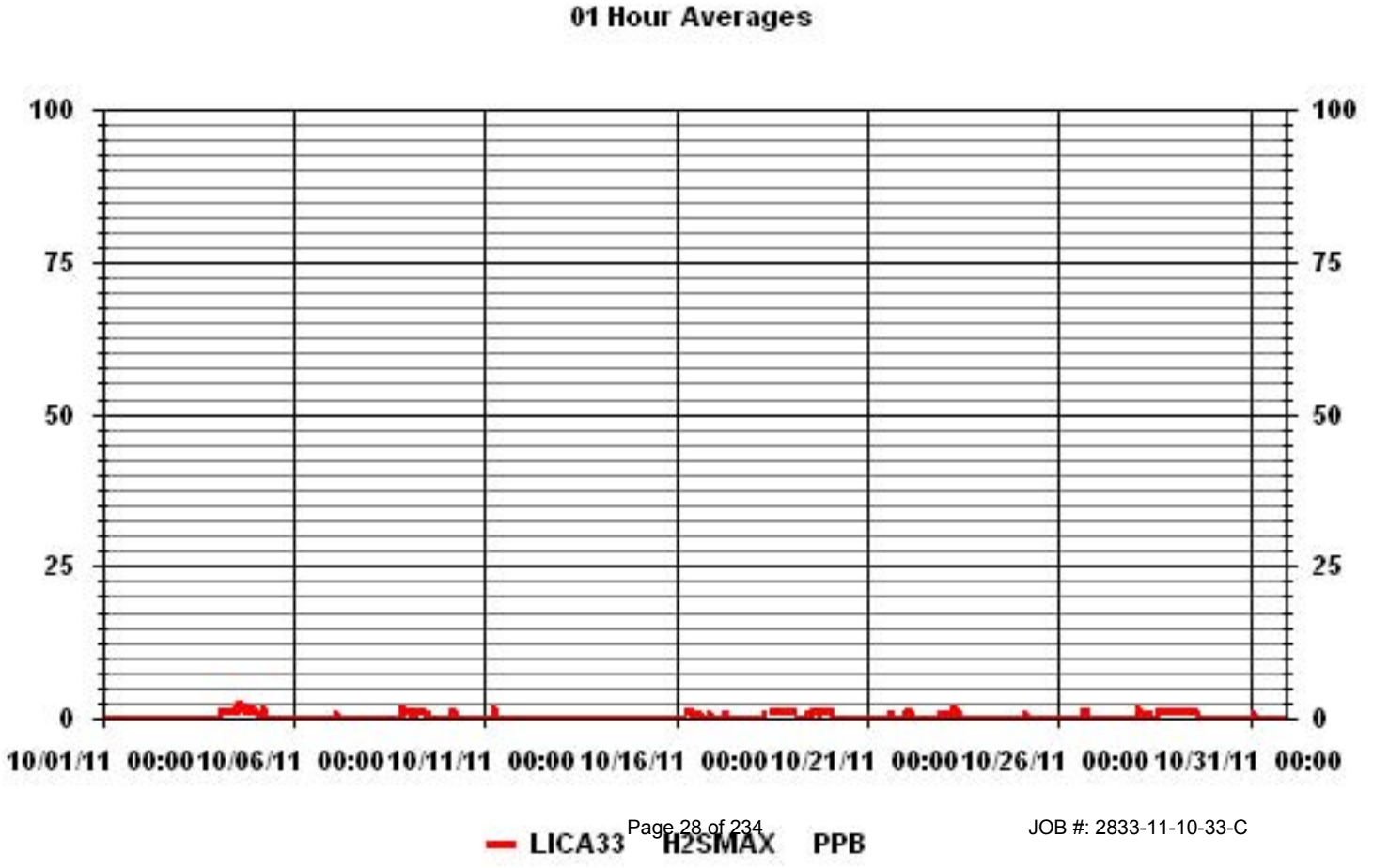
VAR - VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 743 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.44

JOB #: 2833-11-10-33-C



JOB #: 2833-11-10-33-C

LICA33
H2S_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.54	2.54	3.25	5.09	6.64	4.80	2.82	5.09	2.26	1.55	10.18	13.57	17.53	13.57	4.38	4.10	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.54	2.54	3.25	5.09	6.64	4.80	2.82	5.09	2.26	1.55	10.18	13.57	17.53	13.57	4.38	4.10	

Calm : .00 %

Total # Operational Hours : 707

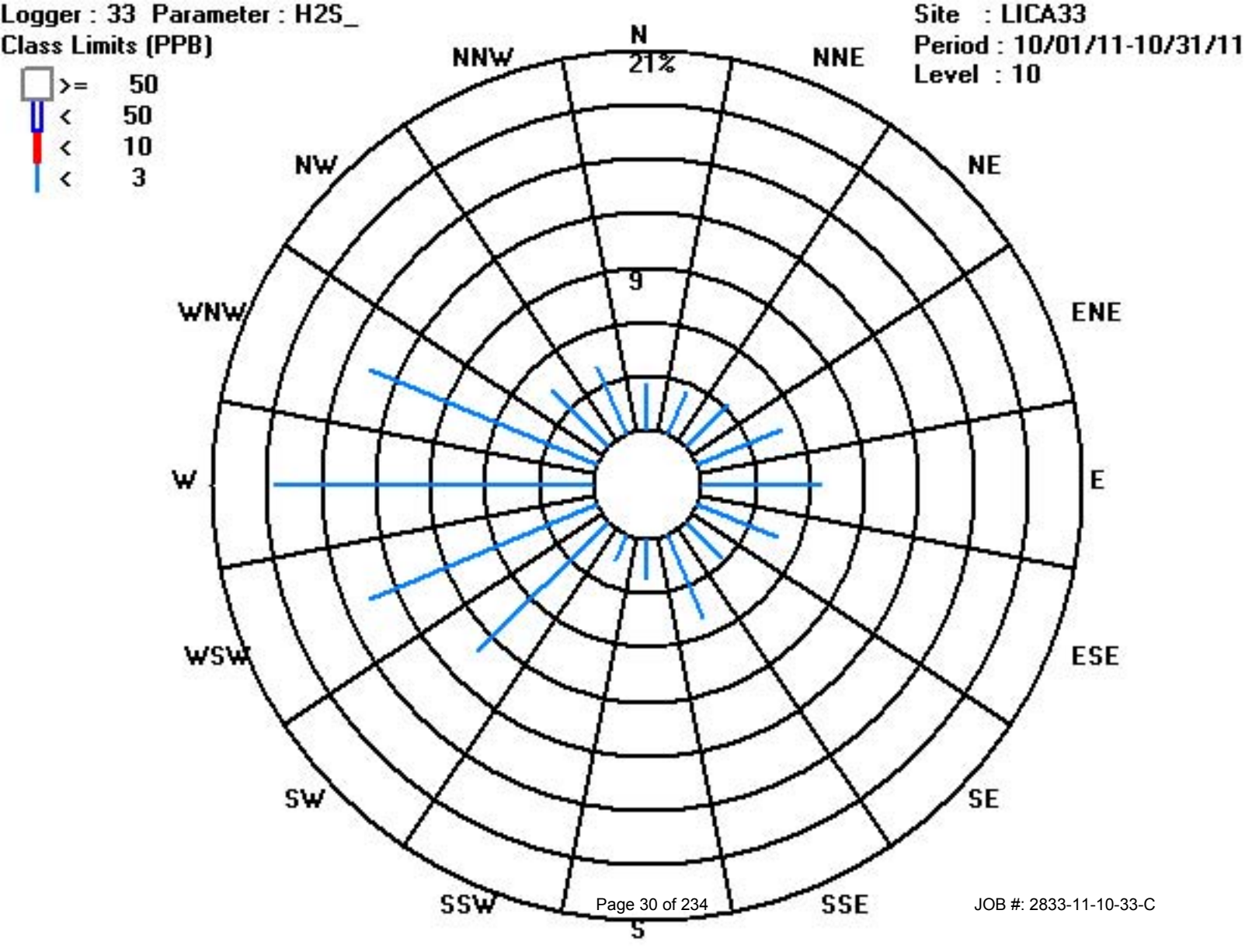
Distribution By Samples

Direction

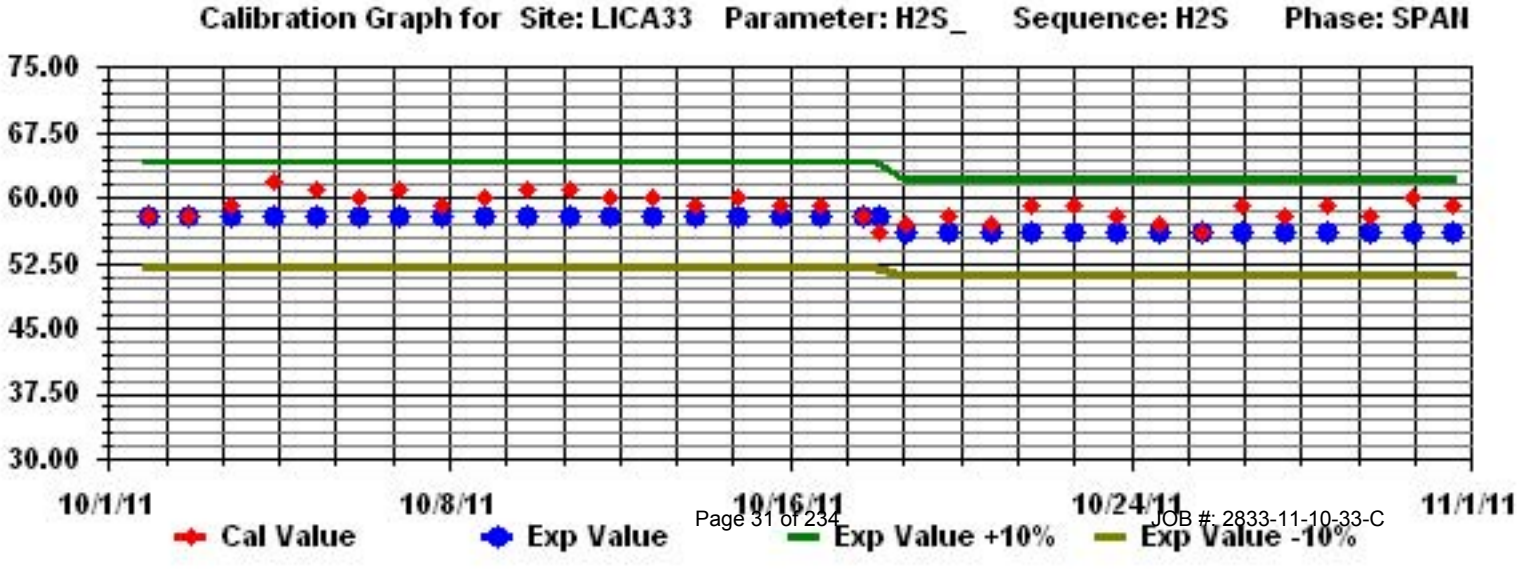
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	18	18	23	36	47	34	20	36	16	11	72	96	124	96	31	29	707
< 10																	
< 50																	
>= 50																	
Totals	18	18	23	36	47	34	20	36	16	11	72	96	124	96	31	29	

Calm : .00 %

Total # Operational Hours : 707



JOB #: 2833-11-10-33-C


Calibration Graph for Site: LICA33 Parameter: H2S_ Sequence: H2S Phase: SPAN
75.00
67.50
60.00
52.50
45.00
37.50
30.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

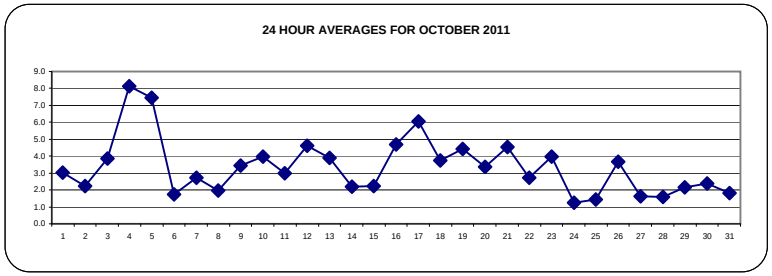
PARTICULATE MATTER 2.5 (PM2.5) hourly averages in ug/m^3

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	6.9	3.3	1.3	5.3	0.8	0.9	0.3	1.8	2.8	1.9	0.8	1.8	8.4	3.3	1.3	3.3	3.8	0.9	4.9	**N**	7.3	2.4	**N**	2.8	8.4	3.0	22
2	1.8	2.8	1.3	0.8	0	1.3	0	0	0	3.8	0.3	0.8	6.3	4.8	0	0	5.8	2.8	0.8	5.8	3.8	**N**	6.3	2.3	6.3	2.2	23
3	4.8	5.3	4.3	7.3	1.3	5.3	**N**	0.8	0	8.8	5.3	2.3	5.3	2.8	5.3	5.3	6.3	**N**	1.3	0.8	6.8	0.9	0	4.8	8.8	3.9	22
4	2.8	7.3	4.3	10.8	1.8	8.3	6.8	9.3	10.3	6.8	15.3	9.8	17.8	7.4	7.4	12.8	6.3	7.8	7.8	9.8	7.3	6.3	3.3	7.3	17.8	**8.1**	24
5	8.3	6.8	4.3	6.3	8.8	6.8	6.8	8.3	5.3	9.3	9.3	10.8	6.8	6.8	8.8	6.3	7.3	8.8	10.8	9.8	7.8	3.3	4.8	6.3	10.8	7.4	24
6	3.3	0	3.3	3.8	0.8	2.8	3.3	1.3	2.8	0	1.3	1.8	0.8	0.3	1.3	1.3	0.3	3.8	0.8	2.8	1.8	1.8	0.3	2.3	3.8	1.8	24
7	3.3	2.8	0.3	3.3	1.8	0.8	1.3	0.3	**N**	1.8	0	6.9	1.9	2.8	5.3	1.8	3.8	7.8	3.3	4.8	3.3	1.8	0	3.8	7.8	2.7	23
8	7.8	4.8	3.3	1.3	1.3	2.3	4.3	0	2.3	0.3	0.3	1.8	1.3	4.4	0	2.4	2.8	0	1.3	0	5.3	0	0.3	0	7.8	2.0	24
9	2.8	0	5.3	0.8	1.3	1.8	4.3	1.3	0.8	0.8	1.9	2.4	3.8	5.8	2.8	3.8	7.4	3.3	4.3	4.8	2.8	8.8	4.8	6.8	8.8	3.4	24
10	3.8	3.8	5.3	4.3	5.3	6.3	7.3	6.3	5.8	1.8	4.8	0.9	0.3	4.3	0.3	2.4	0.8	0.8	0	2.8	12.8	6.8	2.4	6.3	12.8	4.0	24
11	1.8	0.8	1.3	3.3	0	1.8	5.3	0	0	2.8	2.3	2.3	0.3	5.3	4.8	0	1.8	1.8	6.3	6.8	10.3	1.3	5.8	5.8	10.3	3.0	24
12	7.8	14.8	6.8	4.8	1.3	0	4.3	5.8	1.3	**N**	0	0	5.3	3.8	6.8	5.3	7.4	3.8	3.8	2.8	4.3	5.3	**N**	6.3	14.8	4.6	22
13	9.8	2.4	0	6.3	0.3	5.8	9.3	0	5.8	6.3	2.3	1.3	0	4.3	6.3	4.3	8.8	4.8	0	1.8	0	7.3	3.3	2.8	9.8	3.9	24
14	0.3	0.3	0	0	0	3.3	0	2.8	1.8	1.8	2.8	0.9	4.3	0	0	0	2.8	0	2.3	6.8	6.8	4.3	4.8	6.3	6.8	2.2	24
15	2.3	4.8	1.3	3.3	2.4	4.8	2.8	3.8	1.3	0	1.3	0	0	0	2.8	3.8	0	0	6.3	0	0	7.8	2.8	1.9	7.8	2.2	24
16	0	5.8	0	4.3	3.8	5.3	5.3	6.3	5.3	7.3	5.8	6.3	2.8	0.9	8.8	3.3	5.3	5.3	2.4	6.3	7.3	7.8	3.8	3.3	8.8	4.7	24
17	2.4	1.3	5.3	3.3	3.3	6.3	7.3	7.8	1.3	7.3	6.3	5.8	9.8	6.8	6.4	5.3	5.8	8.8	16.3	2.3	1.3	10.3	5.8	8.3	16.3	6.0	24
18	7.3	5.8	6.8	2.8	0	1.3	5.3	7.8	14.3	3.3	3.3	0.3	**C**	0	3.8	1.3	0	8.8	4.3	0.8	0	0.3	2.3	6.3	14.3	3.7	24
19	8.8	11.8	5.8	1.3	4.8	4.3	1.3	3.3	0.3	2.8	4.3	1.8	4.8	2.3	2.4	5.8	1.8	4.8	4.8	3.8	9.3	6.3	8.4	1.3	11.8	4.4	24
20	0.3	5.8	2.3	8.4	4.3	4.3	1.8	0	3.8	1.3	4.8	4.3	0.3	2.4	1.8	3.8	6.8	5.3	2.3	3.3	2.8	6.3	2.8	1.8	8.4	3.4	24
21	1.8	2.3	4.8	4.3	4.8	4.8	0.3	13.3	3.3	0	10.3	7.3	6.3	0	0.3	0	5.3	5.3	5.3	5.3	8.8	7.8	2.3	4.8	13.3	4.5	24
22	0	5.8	0.8	3.3	2.8	7.8	9.3	2.8	1.8	3.3	0	1.8	**N**	0	1.3	0	0.3	2.3	4.8	2.8	0	1.8	1.8	7.8	9.3	2.7	23
23	2.8	2.3	4.3	2.3	7.8	**18.8**	12.8	6.8	3.8	4.3	0.8	2.3	3.8	1.3	0	5.8	0	2.8	0	2.8	2.8	2.8	**N**	0	**18.8**	4.0	23
24	0	0.3	0.8	1.8	1.3	1.3	**N**	0.3	3.8	6.3	1.3	2.3	2.8	0.3	0	**N**	0.3	0	1.3	0	1.3	1.8	0	0	6.3	1.2	22
25	1.8	0	0	0	2.3	0.8	3.8	1.3	1.8	1.3	2.8	**N**	0.8	0	**N**	0	**N**	5.8	2.8	0	0.3	1.8	2.8	0	5.8	1.4	21
26	**N**	2.8	**N**	2.3	**N**	2.8	0	8.8	4.3	1.3	7.8	1.3	5.3	0	5.3	1.3	4.8	6.3	3.8	6.3	0.8	3.8	1.8	5.8	8.8	3.7	21
27	2.3	7.8	1.3	**N**	0	0	3.3	0	3.3	0	3.8	1.3	0	0.3	0.3	0	0	**N**	3.3	**N**	0	2.3	4.3	0.8	7.8	1.6	21
28	0	**N**	**N**	0	0	0.3	5.3	0	1.3	2.3	0.3	0	3.3	0.8	2.3	1.8	0	0	2.8	3.8	**N**	5.3	2.3	1.8	5.3	1.6	21
29	0	0	0.8	0.3	2.3	3.8	5.8	5.8	5.8	8.3	6.8	0.3	**N**	**N**	0	0.8	4.3	**N**	0	0	0	0.3	0	0	8.3	2.2	21
30	0.3	2.8	0.8	2.8	5.8	1.8	4.3	2.4	3.8	2.3	0.3	**N**	3.3	0	0	0	4.3	0.3	0.3	6.3	10.3	1.8	0.8	0	10.3	2.4	23
31	3.3	2.3	0	2.8	0.3	0.8	0	2.3	0	0.8	4.8	7.3	**N**	2.8	2.3	0	**N**	0	0	3.8	0	4.3	0.3	1.8	7.3	1.8	22
HOURLY MAX	10	15	7	11	9	19	13	13	14	9	15	11	18	7	9	13	9	9	16	10	13	10	8	8			
HOURLY AVG	3.3	3.9	2.6	3.4	2.4	3.8	4.2	3.6	3.3	3.3	3.6	3.0	3.9	2.5	2.9	2.7	3.6	3.7	3.5	3.7	4.2	4.1	2.8	3.5			

STATUS FLAG CODES

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

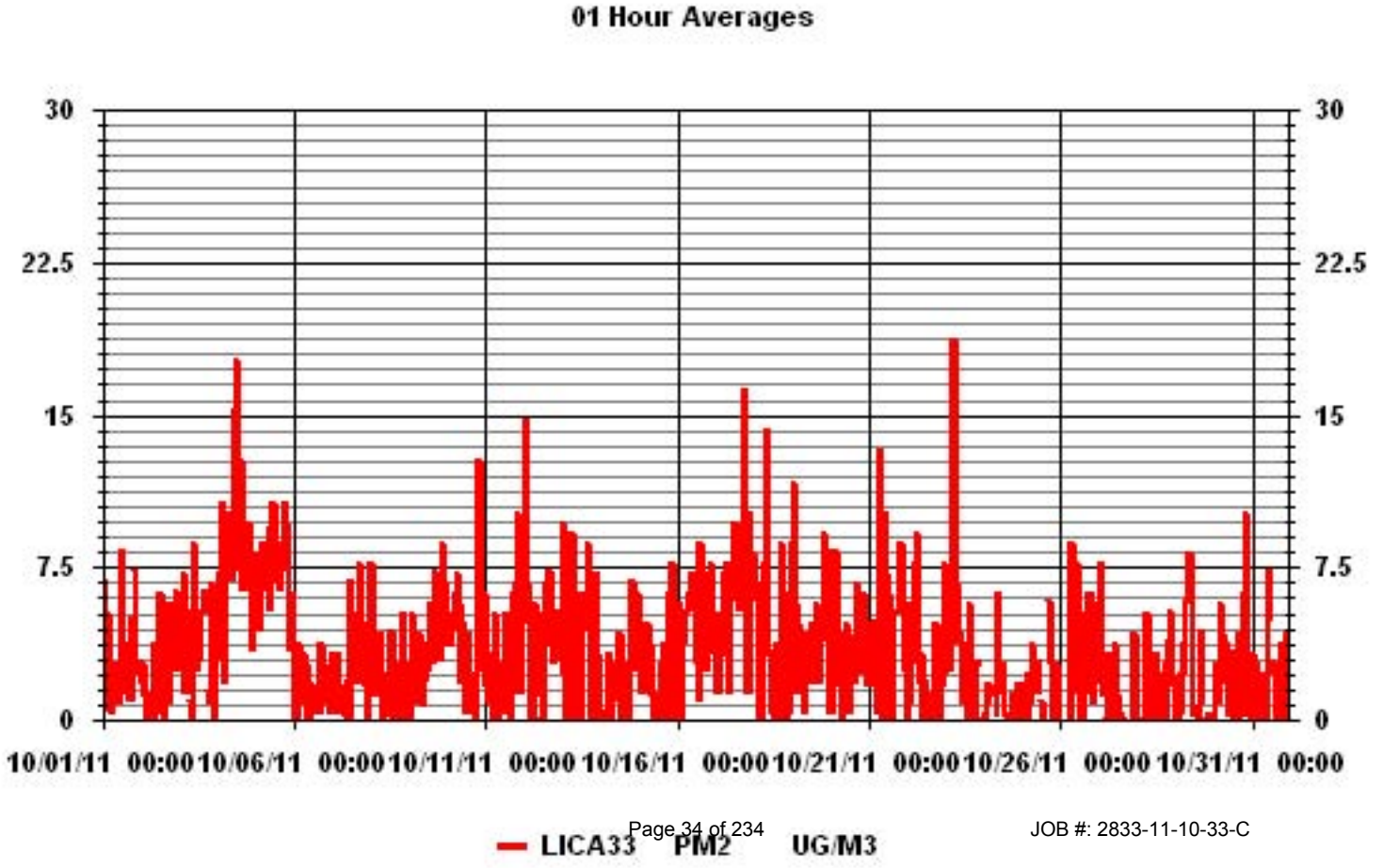


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR - PPB | 24-HR 30 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-					
NUMBER OF 24-HR EXCEEDENCES:	0	PROPOSED CANADA WIDE GUIDELINE				
NUMBER OF NON-ZERO READINGS:	597					
MAXIMUM 1-HR AVERAGE:	18.8	UG/M^3	@ HOUR(S)	5	ON DAY(S)	23
MAXIMUM 24-HR AVERAGE:	8.1	UG/M^3			ON DAY(S)	4

IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	714	HRS
MONTHLY CALIBRATION TIME:	1	HRS	AMD OPERATION UPTIME:	96.0	%
STANDARD DEVIATION:	3.06		MONTHLY AVERAGE:	3.39	UG/M^3



JOB #: 2833-11-10-33-C

LICA33
PM2 / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.52	2.52	3.50	5.18	6.30	5.04	2.80	5.18	2.24	1.68	10.22	13.86	17.08	13.30	4.06	4.48	100.00
<	60.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	80.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	120.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.52	2.52	3.50	5.18	6.30	5.04	2.80	5.18	2.24	1.68	10.22	13.86	17.08	13.30	4.06	4.48	

Calm : .00 %

Total # Operational Hours : 714

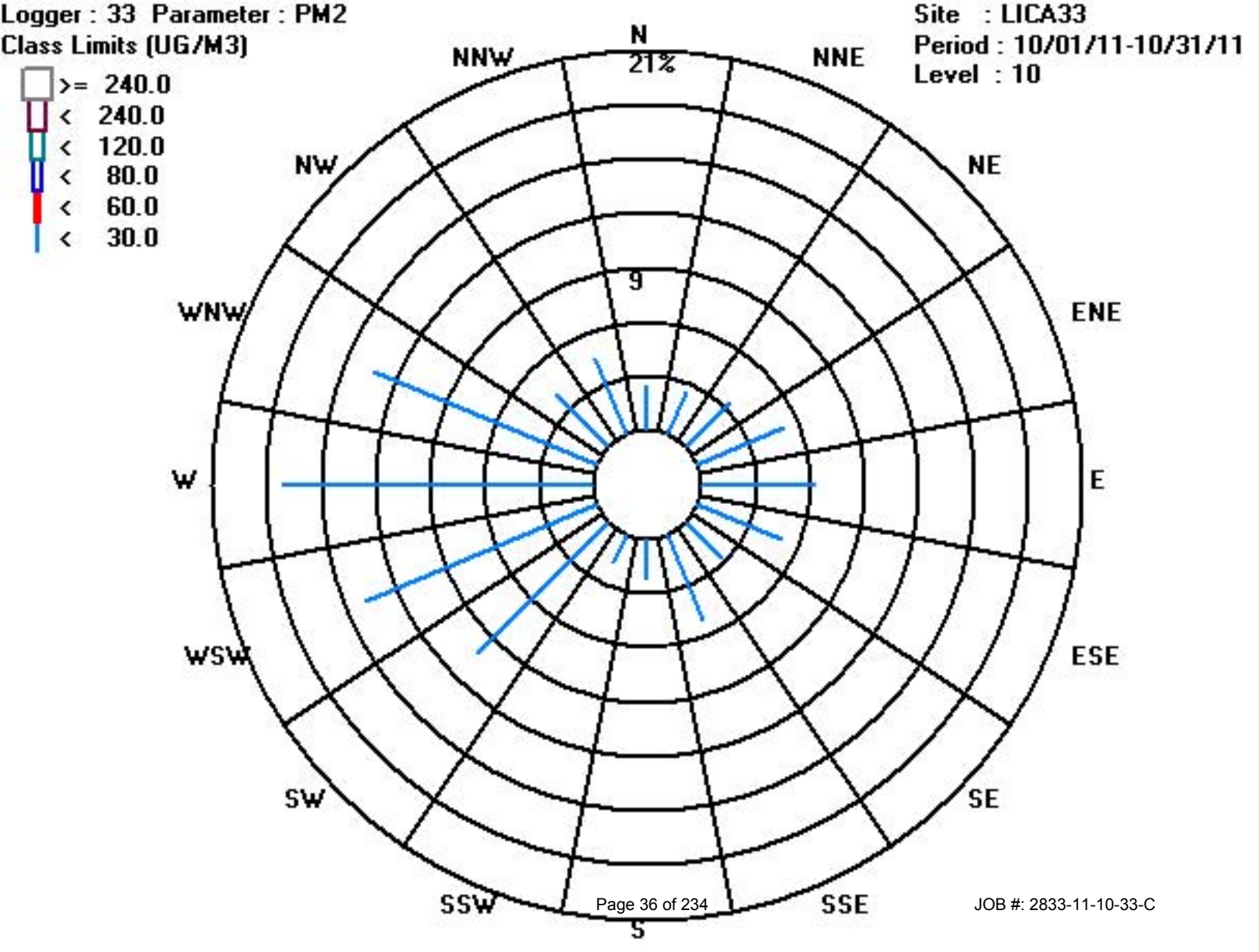
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	18	18	25	37	45	36	20	37	16	12	73	99	122	95	29	32	714
<	60.0																	
<	80.0																	
<	120.0																	
<	240.0																	
>=	240.0																	
	Totals	18	18	25	37	45	36	20	37	16	12	73	99	122	95	29	32	

Calm : .00 %

Total # Operational Hours : 714


Logger : 33 Parameter : PM2
Class Limits (UG/M3)
>= 240.0
< 240.0
< 120.0
< 80.0
< 60.0
< 30.0
Site : LICA33
Period : 10/01/11-10/31/11
Level : 10
N
21%
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
9

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

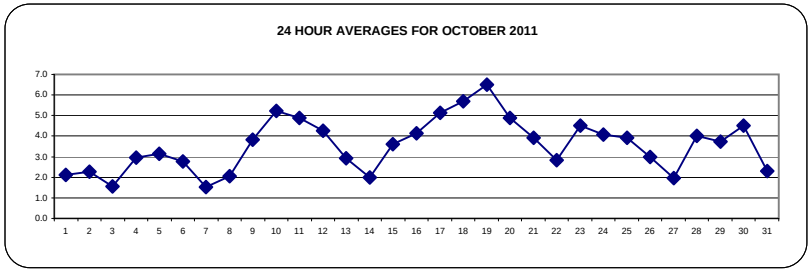
NITROGEN DIOXIDE hourly averages in ppb

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	3	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	2	3	3	3	8	**IZS**	2	2	8	2.1	24
2	2	1	1	1	3	1	1	2	2	1	1	1	0	0	1	1	2	6	2	11	**IZS**	3	5	4	11	2.3	24
3	3	3	7	5	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	**IZS**	1	1	1	1	7	1.6	24
4	1	1	1	2	2	1	2	1	1	1	2	2	2	2	2	2	4	5	**IZS**	6	7	6	7	8	8	3.0	24
5	5	4	2	2	3	4	4	4	3	3	3	3	3	2	3	3	3	**IZS**	4	3	3	2	3	3	5	3.1	24
6	4	4	4	3	4	4	4	4	3	2	2	1	1	1	2	2	**IZS**	3	4	3	3	2	2	2	4	2.8	24
7	3	3	1	2	2	3	3	3	1	1	1	1	1	1	1	**IZS**	0	1	2	1	1	1	1	1	3	1.5	24
8	1	1	2	2	2	3	3	2	1	1	1	1	1	0	**IZS**	1	0	3	4	4	4	4	3	3	4	2.0	24
9	3	3	3	3	3	4	2	3	2	1	2	2	2	**IZS**	2	2	3	3	3	4	7	11	12	8	12	3.8	24
10	9	7	6	6	6	5	5	4	7	5	3	2	**IZS**	3	1	2	7	10	4	6	6	3	9	4	10	5.2	24
11	4	5	5	10	7	9	9	10	8	3	2	**IZS**	0	1	1	0	1	3	6	3	4	5	7	9	10	4.9	24
12	6	6	5	5	7	7	6	5	2	2	**IZS**	1	2	2	2	2	2	3	10	5	4	4	4	6	10	4.3	24
13	5	9	11	9	5	4	3	3	2	**IZS**	1	1	1	1	1	1	2	2	1	1	1	1	1	1	11	2.9	24
14	1	1	1	2	1	1	2	2	**IZS**	1	1	1	1	1	1	1	1	2	4	4	8	3	3	3	8	2.0	24
15	3	7	3	4	4	3	3	**IZS**	2	2	2	1	1	1	1	1	1	6	9	7	5	7	5	5	9	3.6	24
16	3	9	3	2	4	6	**IZS**	9	9	4	4	3	2	1	1	1	1	2	4	5	6	9	4	3	9	4.1	24
17	3	2	2	5	1	**IZS**	7	13	8	5	3	3	2	1	2	2	3	6	10	8	9	7	5	11	13	5.1	24
18	6	5	8	7	**IZS**	5	10	15	8	**C**	**C**	**C**	**C**	**C**	**C**	2	4	6	5	4	3	3	3	3	15	5.7	24
19	3	3	3	**IZS**	3	7	4	5	4	4	3	3	5	4	3	7	**M**	10	9	12	16	14	10	11	16	**6.5**	23
20	15	16	**IZS**	10	10	8	7	5	3	2	1	1	1	1	1	1	1	3	4	4	4	5	4	5	16	4.9	24
21	7	**IZS**	7	2	2	3	4	9	8	3	3	3	3	2	1	1	2	3	4	4	5	7	3	4	9	3.9	24
22	**IZS**	6	4	5	3	3	4	4	2	2	2	1	0	1	0	1	1	1	3	3	4	4	8	**IZS**	8	2.8	24
23	7	6	7	5	8	11	11	15	8	4	2	1	1	1	0	0	1	1	2	2	3	4	**IZS**	4	15	4.5	24
24	5	2	1	3	5	5	5	5	5	4	3	2	1	1	1	1	1	3	13	**17**	7	**IZS**	2	2	**17**	4.1	24
25	3	2	6	5	4	6	9	9	6	5	3	2	2	1	1	1	1	4	3	3	**IZS**	4	8	2	9	3.9	24
26	2	2	2	2	3	4	6	7	5	4	4	3	2	2	1	1	1	3	4	**IZS**	3	3	2	3	7	3.0	24
27	3	5	3	1	2	2	3	4	2	2	3	3	1	1	0	1	2	2	**IZS**	1	1	1	1	1	5	2.0	24
28	1	1	3	3	2	5	11	10	6	5	4	4	3	2	3	3	3	**IZS**	4	3	3	4	6	3	11	4.0	24
29	7	5	6	7	6	5	6	6	5	4	3	1	1	1	1	1	**IZS**	2	3	3	2	2	3	6	7	3.7	24
30	2	1	2	3	4	6	5	5	5	4	5	5	5	4	3	**IZS**	4	5	5	9	7	4	7	4	9	4.5	24
31	3	3	3	1	2	3	6	4	3	2	2	1	1	1	**IZS**	1	2	3	1	1	1	3	4	2	6	2.3	24
HOURLY MAX	15	16	11	10	10	11	11	15	9	5	5	5	5	4	3	7	7	10	13	17	16	14	12	11			
HOURLY AVG	4.1	4.2	3.8	4.0	3.7	4.4	4.9	5.7	4.1	2.7	2.3	1.9	1.6	1.4	1.4	1.5	2.0	3.6	4.5	4.8	4.7	4.4	4.5	4.1			

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

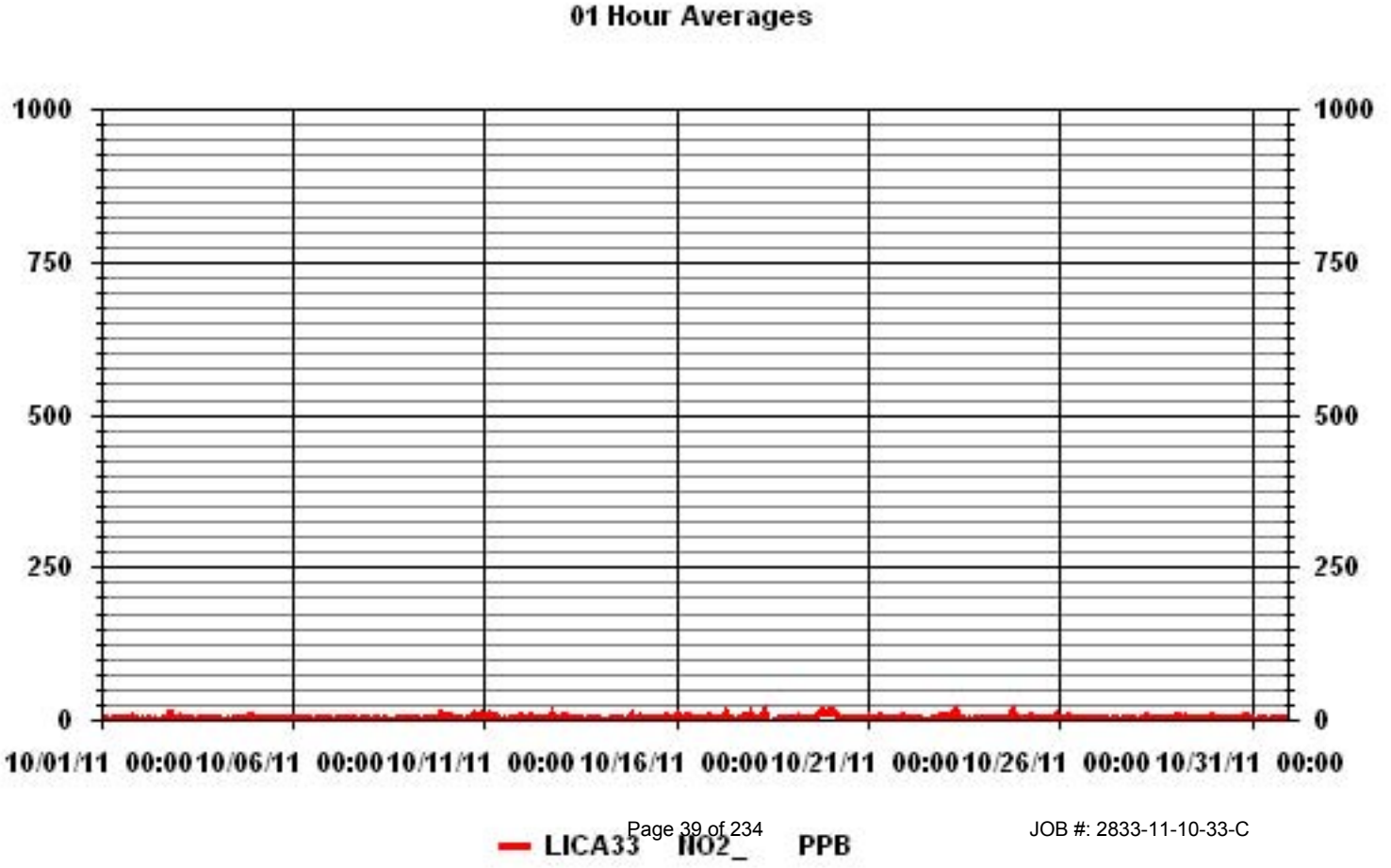


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 159 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	692					
MAXIMUM 1-HR AVERAGE:	17	PPB	@ HOUR(S)	19	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	6.5	PPB			ON DAY(S)	19

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	2.76		MONTHLY AVERAGE:	3.53	PPB



JOB #: 2833-11-10-33-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

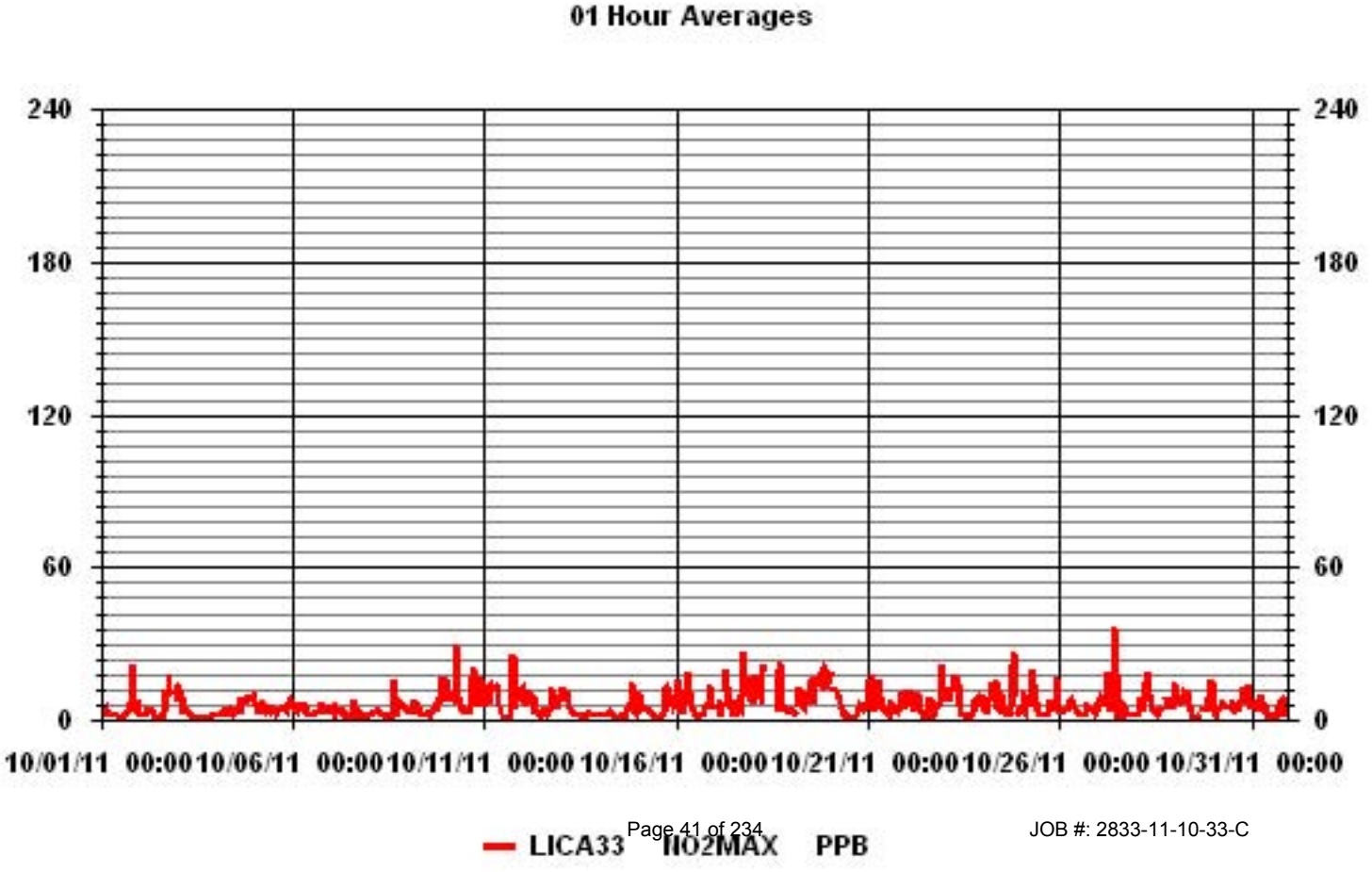
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	4	5	4	5	2	2	2	2	2	2	2	2	1	1	1	2	3	5	4	4	21	**IZS**	7	4	21	3.8	24
2	3	2	2	2	4	3	3	4	4	2	2	1	1	1	1	2	3	12	9	17	**IZS**	11	11	12	17	4.9	24
3	8	8	11	10	3	4	4	2	2	2	1	1	1	1	1	1	1	1	1	**IZS**	1	2	2	2	11	3.0	24
4	2	2	2	3	3	3	5	2	2	2	4	3	4	3	3	3	8	8	**IZS**	8	10	8	8	9	10	4.6	24
5	7	6	3	3	6	8	6	6	4	5	4	5	5	3	4	4	4	**IZS**	5	5	4	6	7	4	8	5.0	24
6	6	5	5	4	6	6	5	6	6	3	3	2	2	2	3	3	**IZS**	4	6	6	6	5	2	4	6	4.3	24
7	4	5	2	3	4	4	4	4	2	3	2	2	2	1	7	**IZS**	1	1	3	2	2	2	1	2	7	2.7	24
8	2	2	3	3	3	4	4	3	2	2	2	1	2	1	**IZS**	15	1	6	5	7	6	6	4	4	15	3.8	24
9	4	3	3	5	7	7	2	5	2	2	2	2	3	**IZS**	2	3	4	4	6	7	9	16	16	11	16	5.4	24
10	17	8	8	9	8	8	30	6	10	7	5	4	**IZS**	3	3	5	17	21	10	15	11	5	17	9	30	10.3	24
11	5	8	6	13	14	12	12	13	12	6	4	**IZS**	1	1	1	1	2	6	26	4	12	7	11	12	26	8.2	24
12	9	8	7	8	12	9	9	9	3	4	**IZS**	2	3	4	4	3	4	5	13	11	5	5	6	8	13	6.6	24
13	8	13	11	11	10	5	4	4	3	**IZS**	2	2	2	2	1	2	2	3	2	2	2	2	2	2	13	4.2	24
14	2	2	2	2	2	2	3	4	**IZS**	2	2	1	1	2	2	1	2	4	5	7	15	5	4	3	15	3.3	24
15	4	11	5	5	5	4	4	**IZS**	3	3	2	2	1	1	1	2	3	12	13	11	8	10	6	7	13	5.3	24
16	4	16	5	2	6	11	**IZS**	18	12	7	5	4	3	2	1	2	2	3	5	6	7	14	6	4	18	6.3	24
17	6	4	6	8	3	**IZS**	12	20	14	6	4	6	3	2	8	6	5	10	27	13	13	10	7	17	27	9.1	24
18	7	8	18	13	**IZS**	7	20	20	**C**	**C**	**C**	**C**	**C**	**C**	**C**	4	20	23	7	6	4	4	4	3	23	10.5	24
19	3	4	3	**IZS**	6	13	6	6	5	6	10	11	16	6	17	10	**M**	16	15	19	21	20	13	14	21	10.9	23
20	18	18	**IZS**	12	12	10	9	7	5	2	2	1	2	1	1	1	2	4	4	6	5	7	5	6	18	6.1	24
21	15	**IZS**	17	4	5	9	9	16	10	5	4	4	4	3	8	2	4	4	5	4	6	11	4	8	17	7.0	24
22	**IZS**	11	5	11	4	4	5	11	4	3	3	1	1	1	1	9	1	2	4	6	6	7	21	**IZS**	21	5.5	24
23	10	10	13	7	12	15	14	18	15	6	3	2	2	2	1	1	2	2	3	8	9	7	**IZS**	9	18	7.4	24
24	7	4	2	7	9	7	15	8	16	5	4	11	2	4	2	2	2	5	22	27	10	**IZS**	3	4	27	7.7	24
25	5	4	9	8	5	9	20	18	15	8	4	2	2	2	2	2	2	8	7	5	**IZS**	5	17	4	20	7.1	24
26	3	3	3	4	4	5	7	8	6	5	5	4	3	2	2	2	2	7	5	**IZS**	4	4	3	4	8	4.1	24
27	7	9	8	7	5	8	19	7	5	4	**37**	19	1	2	1	1	5	4	**IZS**	2	2	2	2	2	**37**	6.9	24
28	2	2	9	5	3	13	15	19	11	8	5	4	4	3	4	4	4	**IZS**	8	4	6	7	9	4	19	6.7	24
29	15	9	8	10	8	6	10	9	12	7	4	2	1	1	1	2	**IZS**	4	4	4	5	8	8	16	16	6.7	24
30	4	2	3	4	5	7	7	6	6	5	5	6	8	5	4	**IZS**	5	7	7	13	12	6	14	8	14	6.5	24
31	4	7	7	5	3	8	10	6	6	4	3	2	1	2	**IZS**	2	5	6	2	2	3	7	6	3	10	4.5	24
HOURLY MAX	18	18	18	13	14	15	30	20	16	8	37	19	16	6	17	15	20	23	27	27	21	20	21	17			
HOURLY AVG	6.5	6.6	6.3	6.4	6.0	7.1	9.2	8.9	6.9	4.3	4.7	3.8	2.8	2.2	3.1	3.3	4.1	6.8	8.0	8.0	7.8	7.2	7.5	6.6			

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:	37	PPB	@ HOUR(S)	10	ON DAY(S)	27
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION	4.90					



JOB #: 2833-11-10-33-C

LICA33
NO2_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.55	2.55	3.26	5.10	6.66	4.82	2.83	5.10	2.26	1.56	9.92	13.61	17.58	13.61	4.39	4.11	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.55	2.55	3.26	5.10	6.66	4.82	2.83	5.10	2.26	1.56	9.92	13.61	17.58	13.61	4.39	4.11	

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	18	18	23	36	47	34	20	36	16	11	70	96	124	96	31	29	705
<	110																	
<	210																	
>=	210																	
	Totals	18	18	23	36	47	34	20	36	16	11	70	96	124	96	31	29	

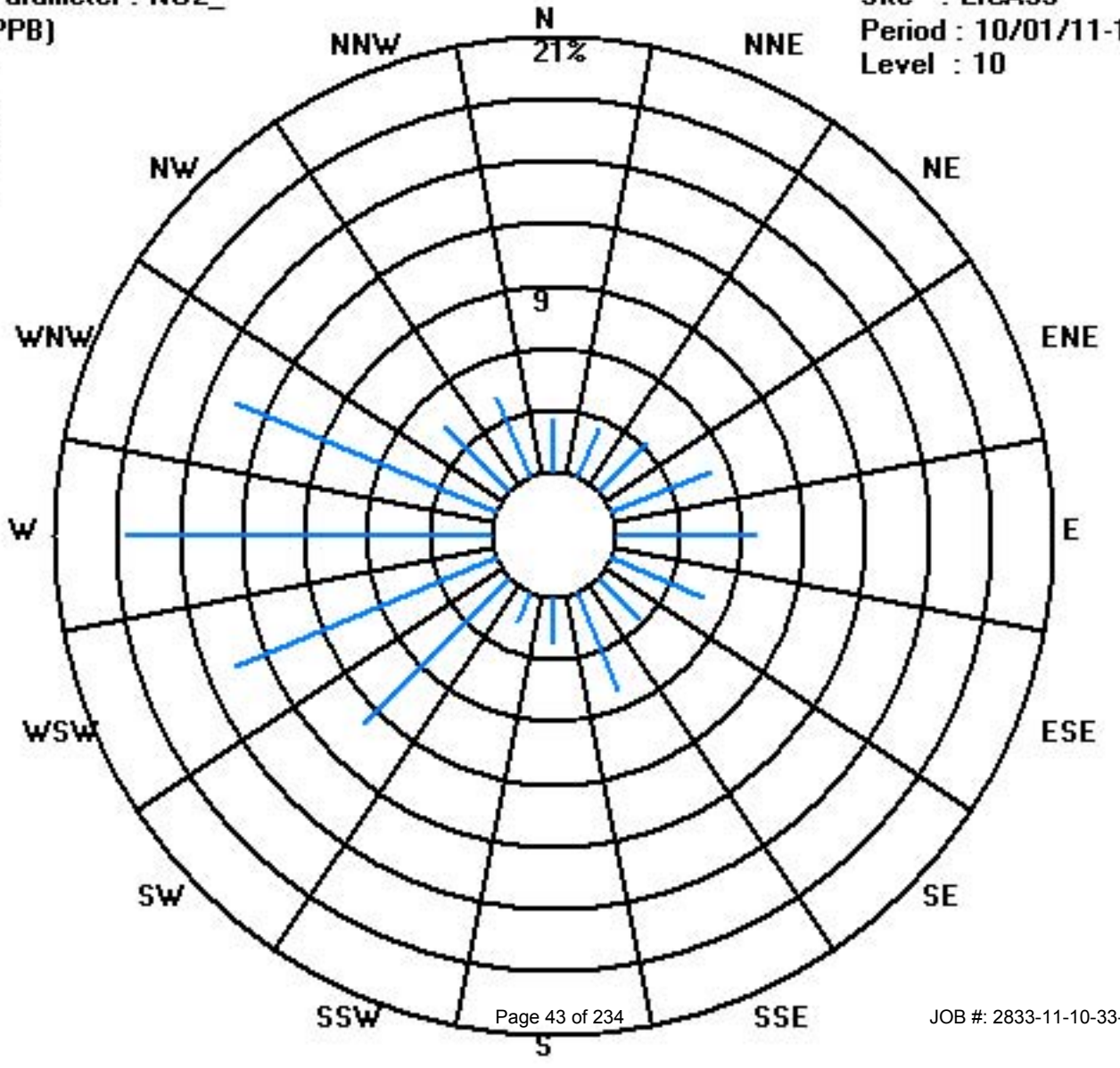
Calm : .00 %

Total # Operational Hours : 705

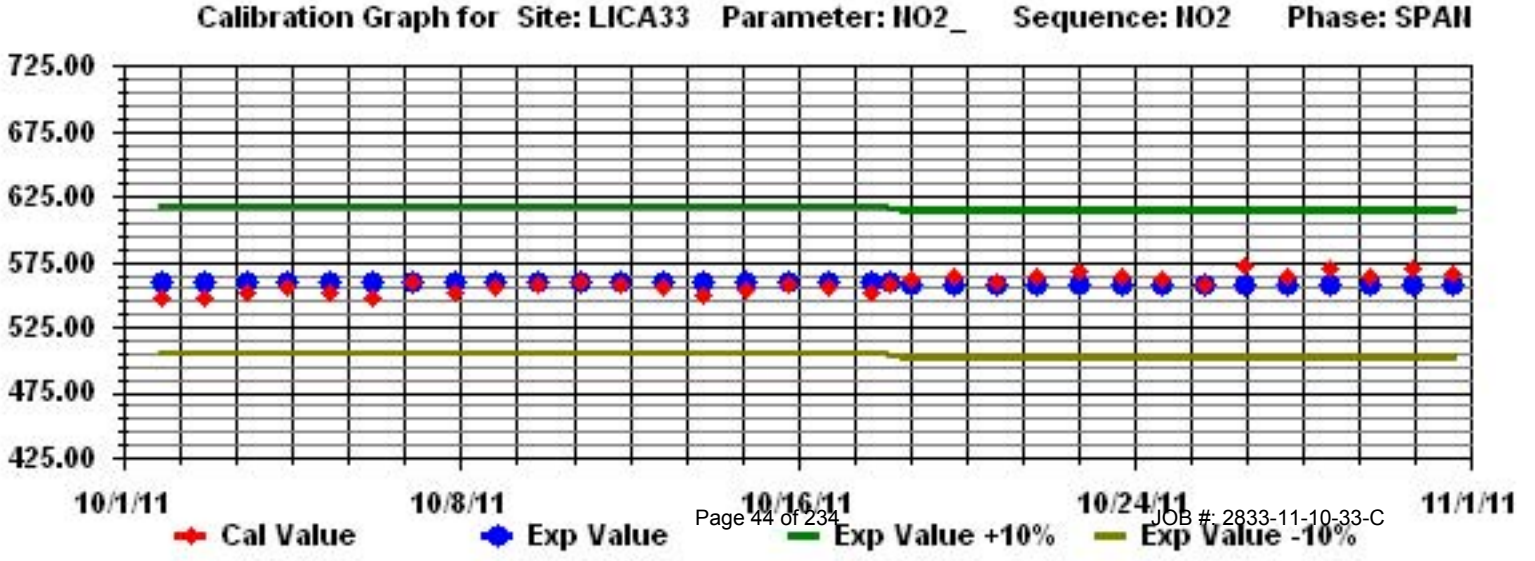
Logger : 33 Parameter : NO2_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA33
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-33-C


Calibration Graph for Site: LICA33 Parameter: NO2_ Sequence: NO2 Phase: SPAN
725.00
675.00
625.00
575.00
525.00
475.00
425.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

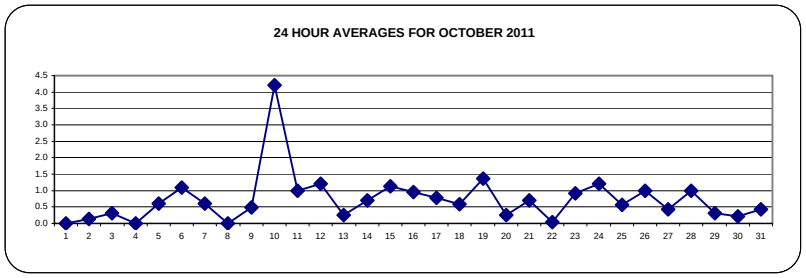
NITRIC OXIDE hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	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	1	**IZS**	1	0	1	1	0.1	24
3	0	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	5	0.3	24
4	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
5	0	0	0	0	0	0	1	2	3	2	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	3	0.6	24
6	1	1	1	1	2	1	1	1	2	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	2	1.1	24
7	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	1	0.6	24
8	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
9	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	2	1	2	0.5	24
10	3	1	1	2	7	16	14	17	**24**	7	3	1	**IZS**	1	0	0	0	0	0	0	0	0	0	0	**24**	**4.2**	24
11	0	0	0	1	0	0	4	7	6	1	1	**IZS**	0	0	0	0	0	0	3	0	0	0	0	0	7	1.0	24
12	0	0	0	1	0	0	10	11	0	0	**IZS**	1	1	1	1	0	0	0	1	0	0	0	0	1	11	1.2	24
13	2	1	2	1	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
14	0	0	0	0	0	0	0	0	**IZS**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	0.7	24
15	1	1	1	1	1	1	1	**IZS**	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24
16	1	1	1	1	1	1	**IZS**	5	6	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	6	1.0	24
17	0	0	0	0	0	**IZS**	1	5	3	3	1	1	1	0	1	0	0	0	1	0	0	0	0	1	5	0.8	24
18	0	0	0	0	**IZS**	0	1	4	3	**C**	**C**	**C**	**C**	**C**	**C**	0	1	1	0	0	0	0	0	0	4	0.6	24
19	0	0	0	**IZS**	1	1	1	1	2	2	2	2	3	2	1	2	**M**	1	1	1	3	2	1	1	3	1.4	23
20	1	5	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.3	24
21	0	**IZS**	0	0	0	0	0	6	6	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	6	0.7	24
22	**IZS**	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0.0	24
23	0	0	1	0	0	0	7	8	3	1	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	8	0.9	24
24	1	1	1	1	1	1	1	2	3	3	2	1	1	1	1	1	1	1	1	2	1	**IZS**	0	0	3	1.2	24
25	0	0	0	0	0	0	1	2	3	2	1	1	0	0	0	0	0	0	0	0	**IZS**	1	1	1	3	0.6	24
26	1	0	1	1	1	1	1	1	2	2	3	2	1	1	1	1	1	1	1	**IZS**	0	0	0	0	3	1.0	24
27	0	0	0	0	0	0	0	0	0	1	1	3	0	0	0	0	0	0	**IZS**	1	1	1	1	1	3	0.4	24
28	0	1	1	1	0	1	2	4	2	2	2	2	1	1	1	1	1	**IZS**	0	0	0	0	0	0	4	1.0	24
29	0	0	0	0	0	0	0	0	3	3	1	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	3	0.3	24
30	0	0	0	0	0	0	0	0	0	1	2	1	0	0	1	**IZS**	0	0	0	0	0	0	0	0	2	0.2	24
31	0	0	0	0	0	0	1	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	1	0.4	24
HOURLY MAX	3	5	5	2	7	16	14	17	24	7	3	3	3	2	1	2	1	1	3	2	3	2	2	1			
HOURLY AVG	0.4	0.4	0.5	0.5	0.5	0.8	1.6	2.6	2.5	1.3	0.9	0.7	0.4	0.4	0.4	0.3	0.3	0.3	0.5	0.4	0.4	0.4	0.3	0.4			

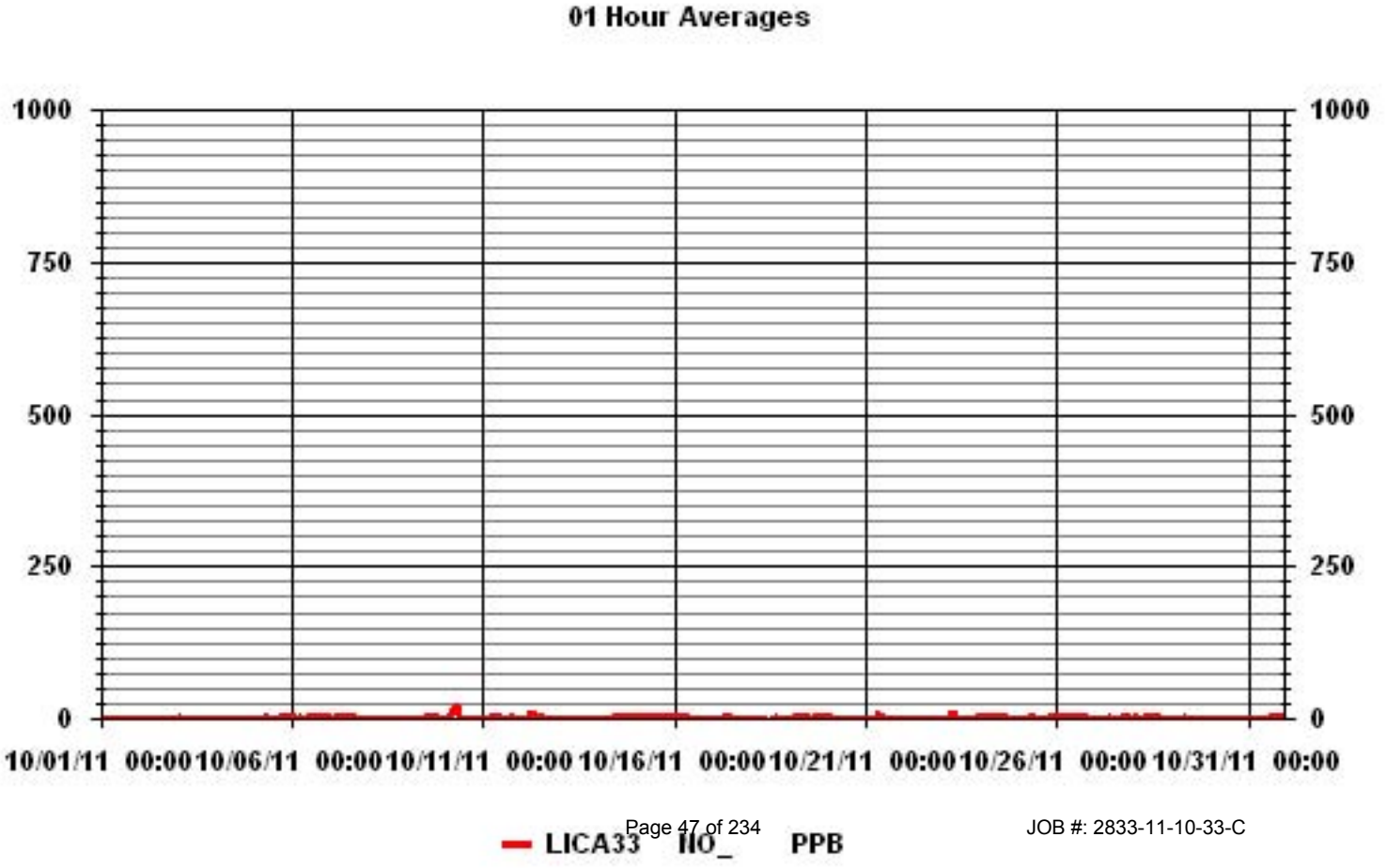
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:		281					
MAXIMUM 1-HR AVERAGE:		24	PPB	@ HOUR(S)	8	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:		4.2	PPB			ON DAY(S)	10
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			743	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	1.77		MONTHLY AVERAGE:			0.73	PPB



JOB #: 2833-11-10-33-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

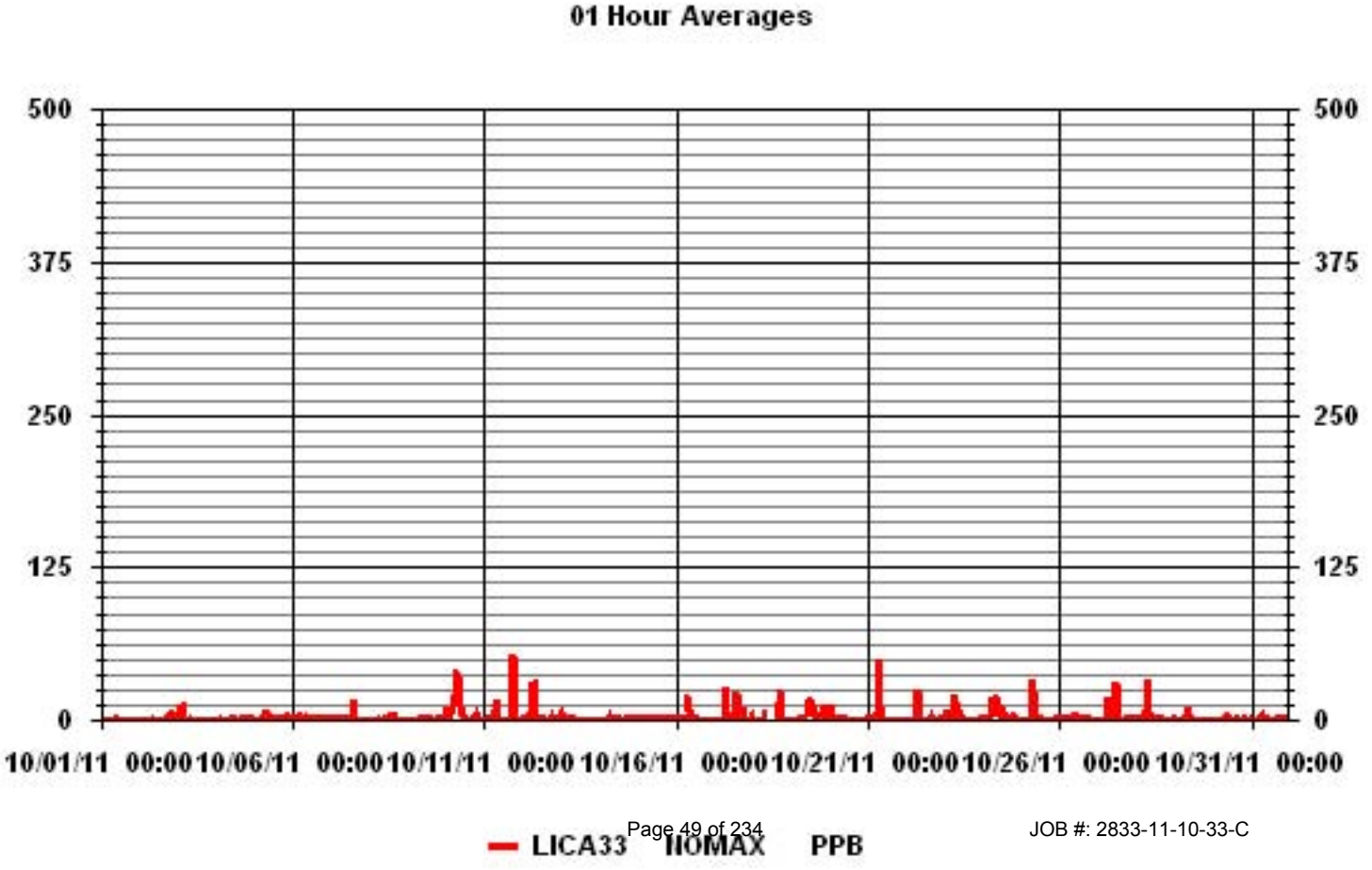
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	2	0.1	24
2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	5	**IZS**	6	1	6	6	1.0	24
3	2	2	10	11	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	**IZS**	1	0	0	0	11	1.2	24
4	0	0	0	1	1	0	0	0	0	1	1	1	1	0	0	0	2	1	**IZS**	1	1	0	1	1	2	0.6	24
5	1	0	0	0	1	3	5	5	6	4	1	2	1	1	1	1	1	**IZS**	2	2	1	3	3	1	6	2.0	24
6	2	2	2	2	3	3	2	2	3	3	2	2	2	2	2	2	**IZS**	2	2	2	1	1	1	2	3	2.0	24
7	2	3	1	1	2	2	1	2	1	2	1	1	1	1	14	**IZS**	1	0	0	0	0	0	0	0	14	1.6	24
8	0	0	0	0	0	0	2	2	1	1	1	1	1	0	**IZS**	4	0	2	0	0	0	0	0	0	4	0.7	24
9	0	0	0	0	0	0	0	1	1	1	1	1	1	**IZS**	2	2	2	1	3	2	2	2	3	2	3	1.2	24
10	11	2	2	5	11	20	41	25	38	12	5	2	**IZS**	2	1	0	2	2	0	4	1	0	1	0	41	8.1	24
11	0	0	0	2	1	0	7	11	16	3	2	**IZS**	1	0	0	0	0	0	**53**	1	0	0	1	0	**53**	4.3	24
12	1	1	1	4	1	1	29	30	1	2	**IZS**	2	2	2	2	1	0	0	3	0	0	0	0	4	30	3.8	24
13	6	3	4	3	1	1	1	2	1	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1.0	24
14	0	0	0	0	0	0	4	2	**IZS**	3	2	1	2	2	2	1	1	1	1	1	1	1	1	1	4	1.2	24
15	1	1	1	1	1	1	1	**IZS**	3	2	2	1	1	1	1	1	2	3	1	1	1	1	1	1	3	1.3	24
16	1	2	1	1	1	1	**IZS**	18	9	4	3	2	1	1	1	0	1	0	0	0	0	0	1	0	18	2.1	24
17	0	0	0	0	0	**IZS**	4	27	5	3	2	5	2	1	23	5	2	2	11	2	0	0	0	3	27	4.2	24
18	0	0	1	0	**IZS**	1	2	7	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	15	24	1	1	0	0	0	0	24	3.3	24
19	0	0	0	**IZS**	1	2	1	2	2	3	14	13	18	3	13	3	**M**	4	2	3	13	7	1	1	18	4.8	23
20	3	10	**IZS**	1	0	2	2	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1.0	24
21	3	**IZS**	1	0	0	6	0	49	13	3	2	2	1	0	1	0	0	0	0	0	0	0	0	0	49	3.5	24
22	**IZS**	1	0	1	0	0	1	24	2	1	1	0	0	0	0	3	0	0	0	0	0	0	2	**IZS**	24	1.6	24
23	0	0	8	0	2	3	21	16	9	2	1	1	1	0	0	0	0	0	1	0	0	0	**IZS**	1	21	2.9	24
24	1	1	1	1	1	4	18	4	20	4	4	12	2	5	3	2	1	1	2	6	1	**IZS**	0	0	20	4.1	24
25	0	0	0	0	0	0	20	32	24	4	3	1	2	1	1	0	0	0	0	0	**IZS**	1	2	1	32	4.0	24
26	1	1	1	1	1	1	1	2	3	3	4	3	2	2	1	1	1	1	1	**IZS**	0	0	0	0	4	1.3	24
27	0	0	0	0	0	0	19	1	2	2	28	28	1	1	0	0	0	0	**IZS**	1	1	1	1	1	28	3.8	24
28	1	1	1	1	1	1	9	32	8	3	3	2	2	2	1	1	1	**IZS**	1	0	0	0	0	0	32	3.1	24
29	2	0	0	0	0	0	2	1	11	5	2	1	1	0	0	1	**IZS**	0	0	0	0	0	0	0	11	1.1	24
30	0	0	0	0	0	0	1	1	1	3	3	2	2	1	1	**IZS**	1	0	0	1	1	1	1	2	3	1.0	24
31	0	0	1	0	0	0	2	4	1	1	1	1	0	1	**IZS**	1	2	1	1	1	1	1	2	1	4	1.0	24
HOURLY MAX	11	10	10	11	11	20	41	49	38	12	28	28	18	5	23	5	15	24	53	6	13	7	3	6			
HOURLY AVG	1.3	1.0	1.2	1.2	1.0	1.7	6.5	10.1	6.4	2.7	3.2	3.0	1.7	1.0	2.5	1.0	1.3	1.6	3.0	1.2	0.9	0.9	0.8	0.9			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	433					
MAXIMUM INSTANTANEOUS VALUE:	53	PPB	@ HOUR(S)	18	ON DAY(S)	11
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION	5.55					



JOB #: 2833-11-10-33-C

LICA33
NO_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.55	2.55	3.26	5.10	6.66	4.82	2.83	5.10	2.26	1.56	9.92	13.61	17.58	13.61	4.39	4.11	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.55	2.55	3.26	5.10	6.66	4.82	2.83	5.10	2.26	1.56	9.92	13.61	17.58	13.61	4.39	4.11	

Calm : .00 %

Total # Operational Hours : 705

Distribution By Samples

Direction

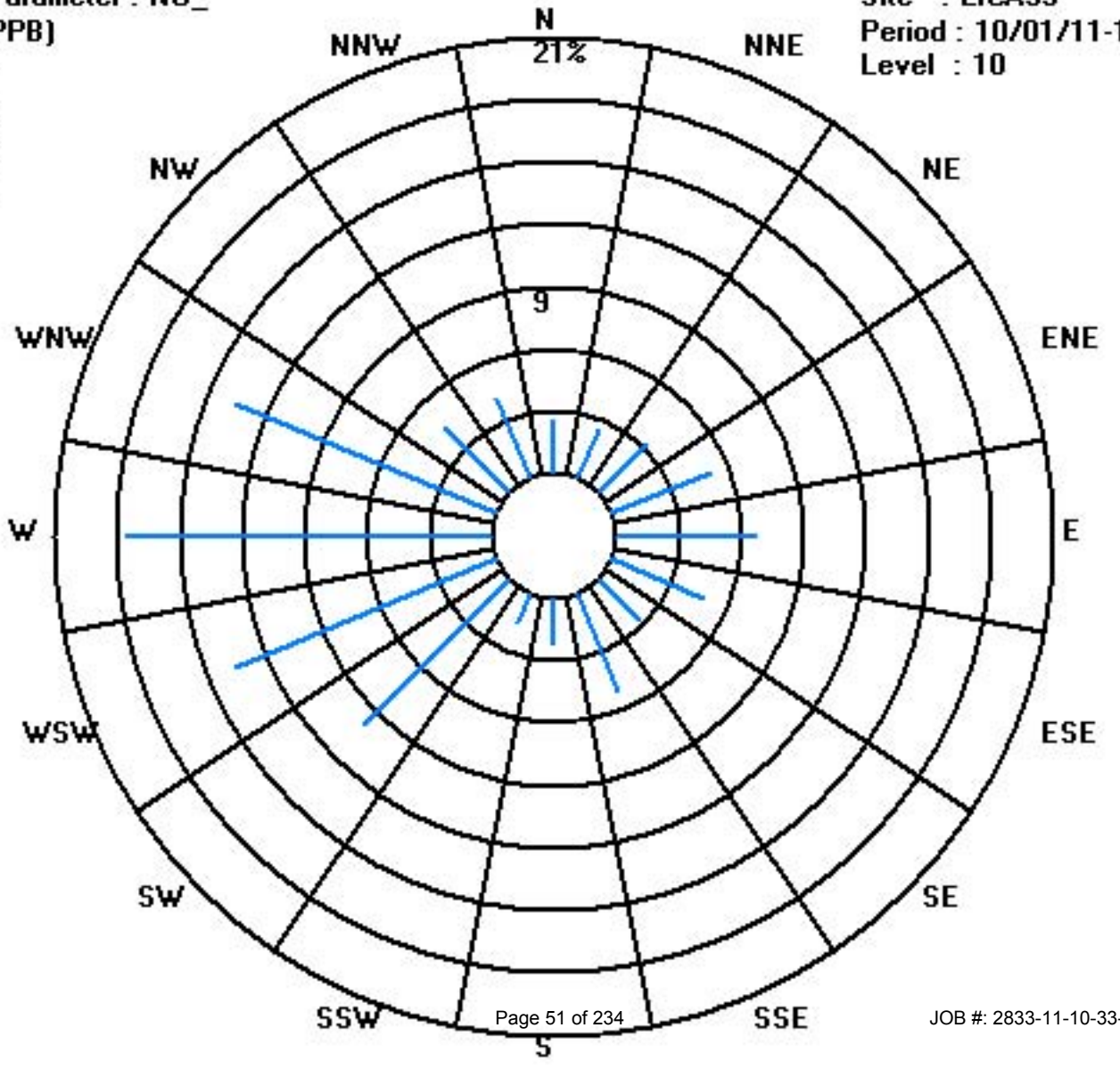
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	18	18	23	36	47	34	20	36	16	11	70	96	124	96	31	29	705
<	110																	
<	210																	
>=	210																	
	Totals	18	18	23	36	47	34	20	36	16	11	70	96	124	96	31	29	

Calm : .00 %

Total # Operational Hours : 705

Logger : 33 Parameter : NO_
Class Limits (PPB)
>= 210
< 210
< 110
< 50

Site : LICA33
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-33-C

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

OCTOBER 2011

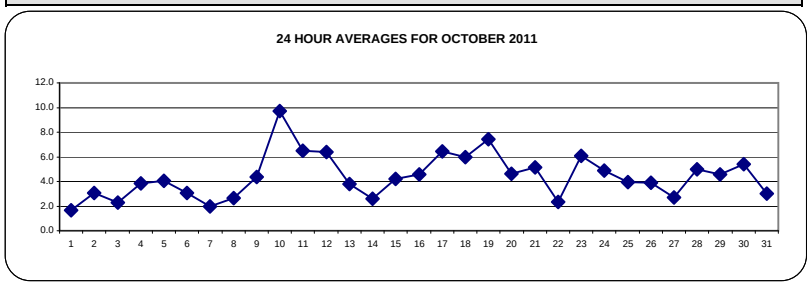
OXIDES OF NITROGEN hourly averages in ppb

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	2	3	2	2	1	1	1	1	1	1	1	0	0	0	0	1	1	3	2	2	7	**IZS**	3	3	7	1.7	24
2	3	2	1	1	3	2	2	3	3	2	2	1	1	1	1	1	2	7	3	13	**IZS**	5	6	6	13	3.1	24
3	4	4	13	7	2	1	2	2	2	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	2	2	13	2.3	24
4	2	2	1	3	2	2	3	2	2	2	3	3	3	3	3	3	5	6	**IZS**	7	8	6	8	9	9	3.8	24
5	6	5	3	3	3	5	6	7	7	6	4	4	4	3	3	4	4	**IZS**	4	3	2	2	3	2	7	4.0	24
6	4	3	4	3	5	4	3	4	4	2	2	2	1	2	2	2	**IZS**	3	5	4	4	3	2	3	5	3.1	24
7	4	5	2	2	3	3	3	4	2	2	1	1	1	1	1	**IZS**	1	1	2	2	1	1	1	1	5	2.0	24
8	1	2	3	3	3	3	3	3	2	2	2	1	1	1	**IZS**	2	1	4	4	4	4	5	3	4	5	2.7	24
9	3	3	3	3	4	4	2	4	3	2	3	3	3	**IZS**	3	3	3	3	4	4	7	12	13	8	13	4.3	24
10	12	8	7	8	13	21	19	21	**31**	12	6	4	**IZS**	4	2	3	8	11	4	7	6	3	9	4	**31**	**9.7**	24
11	4	5	5	11	8	10	14	18	15	6	4	**IZS**	1	1	1	1	1	3	10	3	5	5	8	10	18	6.5	24
12	7	7	6	7	8	8	16	18	3	3	**IZS**	3	4	4	4	3	3	4	12	6	4	4	4	9	18	6.4	24
13	8	11	14	11	5	5	4	4	3	**IZS**	2	2	1	1	1	2	2	2	2	2	2	1	1	1	14	3.8	24
14	2	2	2	2	2	2	3	3	**IZS**	2	2	2	1	1	1	1	1	2	4	5	9	4	4	3	9	2.6	24
15	3	8	4	4	4	3	4	**IZS**	4	3	3	1	1	1	1	2	2	7	10	8	6	8	5	5	10	4.2	24
16	4	9	4	2	4	6	**IZS**	14	15	6	6	4	2	1	0	0	0	1	3	4	5	9	4	2	15	4.6	24
17	2	2	1	4	1	**IZS**	9	20	12	9	6	5	3	2	3	3	3	7	12	9	10	7	5	13	20	6.4	24
18	6	6	8	7	**IZS**	5	10	19	12	**C**	**C**	**C**	**C**	**C**	**C**	2	5	6	4	3	2	2	3	2	19	6.0	24
19	2	2	2	**IZS**	4	8	5	6	5	5	5	5	8	5	4	8	**M**	11	9	13	19	15	11	12	19	7.5	23
20	16	21	**IZS**	10	9	7	7	5	2	1	1	0	0	0	0	0	1	2	3	4	4	4	4	5	21	4.6	24
21	6	**IZS**	8	3	3	4	4	16	14	5	5	5	4	3	2	2	2	4	4	4	5	7	3	5	16	5.1	24
22	**IZS**	6	4	4	2	3	4	4	2	3	2	0	0	0	0	0	0	0	2	2	3	3	7	**IZS**	7	2.3	24
23	8	7	9	6	9	12	19	24	11	6	3	2	1	1	1	1	1	2	2	2	4	5	**IZS**	4	24	6.1	24
24	5	2	1	4	6	5	6	6	8	6	5	3	2	2	2	1	2	3	13	19	7	**IZS**	2	2	19	4.9	24
25	2	2	5	5	3	5	9	10	9	7	4	2	2	1	0	1	0	3	3	3	**IZS**	4	8	3	10	4.0	24
26	3	2	2	3	4	4	6	8	7	7	7	5	4	2	2	2	2	4	4	**IZS**	3	3	3	3	8	3.9	24
27	3	5	3	2	2	3	4	5	3	4	5	7	1	1	1	1	2	3	**IZS**	2	1	1	2	1	7	2.7	24
28	1	2	4	3	2	6	13	13	8	8	6	5	4	3	4	4	3	**IZS**	5	4	4	4	6	3	13	5.0	24
29	8	6	6	7	7	5	7	7	9	8	5	2	2	1	1	1	**IZS**	2	4	3	3	2	3	6	9	4.6	24
30	3	2	2	4	4	6	6	5	5	6	7	7	7	5	5	**IZS**	5	6	5	10	8	4	7	5	10	5.4	24
31	4	3	4	2	2	4	8	5	4	3	3	2	1	2	**IZS**	2	3	3	2	1	2	3	4	2	8	3.0	24
HOURLY MAX	16	21	14	11	13	21	19	24	31	12	7	7	8	5	5	8	8	11	13	19	19	15	13	13			
HOURLY AVG	4.6	4.9	4.4	4.5	4.3	5.2	6.7	8.7	6.9	4.5	3.7	2.8	2.2	1.8	1.8	2.0	2.3	3.9	4.9	5.3	5.0	4.6	4.8	4.6			

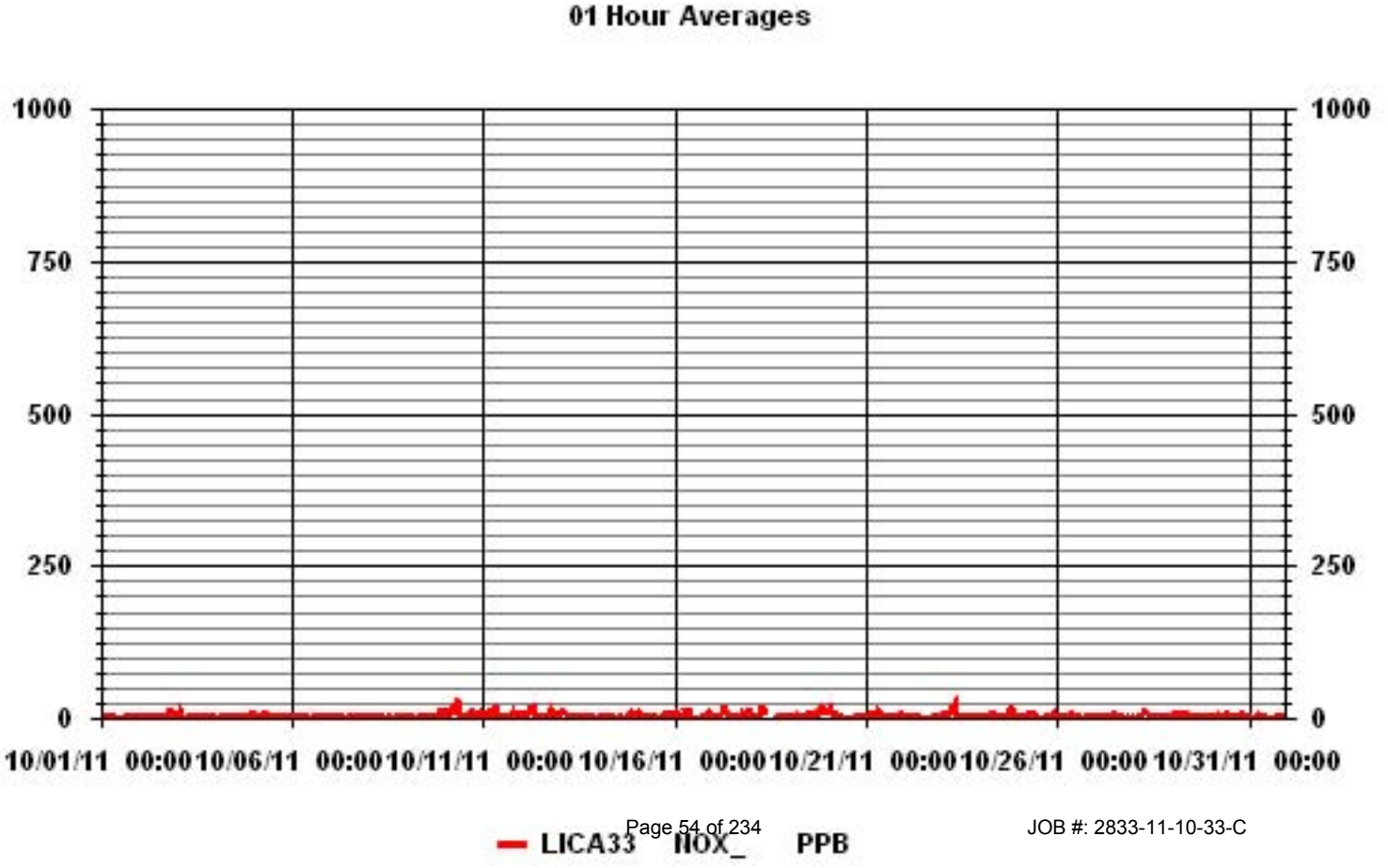
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	684						
MAXIMUM 1-HR AVERAGE:	31	PPB	@ HOUR(S)	8	ON DAY(S)	10	
MAXIMUM 24-HR AVERAGE:	9.7	PPB			ON DAY(S)	10	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		743	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		99.9	%	
STANDARD DEVIATION:	3.78		MONTHLY AVERAGE:		4.38	PPB	



JOB #: 2833-11-10-33-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

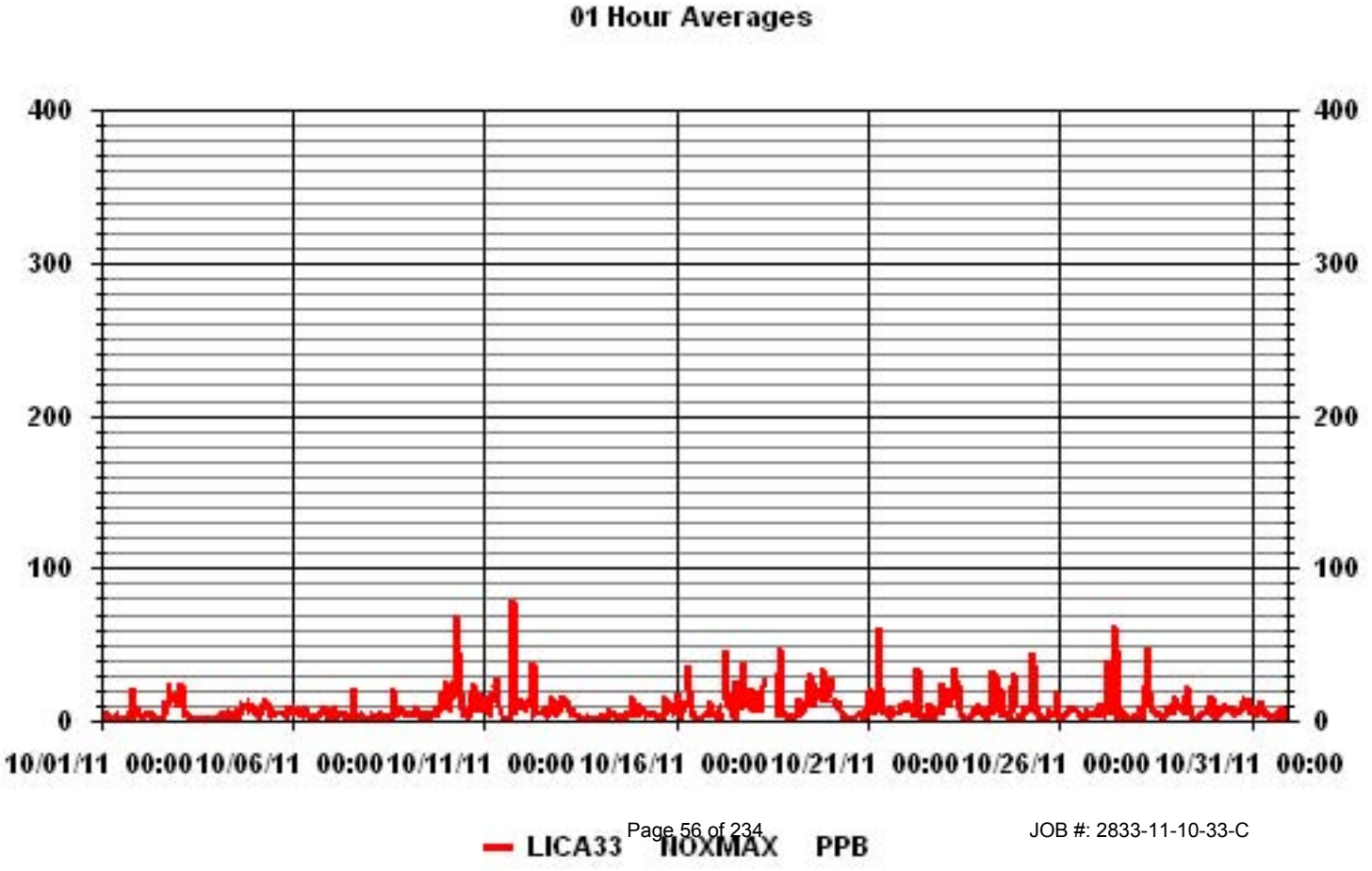
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	3	5	4	5	2	2	2	2	2	1	3	1	1	1	1	2	2	4	3	3	20	**IZS**	8	5	20	3.6	24
2	4	3	2	3	4	4	4	4	4	3	3	2	2	2	2	2	4	13	11	23	**IZS**	17	13	18	23	6.4	24
3	11	11	22	22	4	4	4	2	3	3	2	2	2	2	2	2	2	2	1	**IZS**	2	2	2	2	22	4.8	24
4	2	3	2	4	5	3	5	2	3	3	5	5	6	3	3	4	10	9	**IZS**	9	11	8	9	10	11	5.4	24
5	9	6	4	3	8	11	12	12	9	9	5	7	6	5	6	5	5	**IZS**	5	5	3	8	8	4	12	6.7	24
6	7	5	6	5	8	7	5	7	7	4	4	3	2	3	3	3	**IZS**	5	7	7	7	7	3	5	8	5.2	24
7	6	7	3	3	5	4	4	5	3	4	2	2	2	2	19	**IZS**	2	2	4	2	3	2	1	2	19	3.9	24
8	2	2	4	3	3	4	5	5	3	3	3	3	3	1	**IZS**	19	2	9	6	7	7	6	5	5	19	4.8	24
9	4	4	4	5	7	7	3	6	3	3	3	4	4	**IZS**	3	5	4	4	8	8	10	17	18	12	18	6.3	24
10	27	10	9	14	16	27	70	30	46	19	9	5	**IZS**	5	4	6	19	24	10	20	13	5	18	9	70	18.0	24
11	5	8	7	15	16	13	19	22	28	10	7	**IZS**	2	2	2	2	2	6	**79**	4	13	8	12	12	**79**	12.8	24
12	10	10	9	12	14	10	36	36	5	6	**IZS**	5	5	6	7	4	5	6	16	11	6	5	6	12	36	10.5	24
13	15	15	15	14	11	7	5	6	4	**IZS**	4	2	2	2	2	2	3	3	2	2	2	2	2	2	15	5.4	24
14	3	2	2	3	2	2	8	6	**IZS**	4	4	2	2	3	3	2	2	4	5	7	16	6	5	4	16	4.2	24
15	4	12	6	6	6	4	5	**IZS**	5	4	4	2	2	2	2	2	4	14	13	11	8	11	6	7	14	6.1	24
16	5	18	5	3	6	11	**IZS**	35	21	11	7	5	3	2	1	1	2	3	4	5	7	13	5	4	35	7.7	24
17	5	3	5	7	2	**IZS**	15	46	20	10	7	12	5	4	27	10	7	12	38	15	14	10	7	21	46	13.1	24
18	8	8	19	13	**IZS**	7	22	26	**C**	**C**	**C**	**C**	**C**	**C**	**C**	4	31	47	7	6	4	4	3	3	47	13.3	24
19	3	3	3	**IZS**	7	15	6	7	7	9	24	23	31	8	24	12	**M**	17	16	21	34	27	13	15	34	14.8	23
20	20	27	**IZS**	13	11	10	11	7	5	2	2	1	1	1	1	1	2	3	4	5	4	6	4	6	27	6.4	24
21	18	**IZS**	19	5	5	15	9	61	23	8	6	6	5	4	10	3	5	5	5	5	6	11	5	8	61	10.7	24
22	**IZS**	11	5	11	4	4	6	34	5	4	3	1	1	1	1	11	1	1	4	5	6	6	23	**IZS**	34	6.7	24
23	10	11	21	8	14	18	35	28	24	8	4	3	3	3	2	1	2	3	4	8	9	7	**IZS**	9	35	10.2	24
24	8	4	2	7	10	9	33	10	30	9	6	22	3	6	4	3	3	6	23	32	10	**IZS**	2	3	33	10.7	24
25	4	3	8	8	5	8	39	45	37	12	6	3	3	3	2	2	1	8	6	4	**IZS**	6	19	5	45	10.3	24
26	4	3	3	4	5	5	8	9	8	8	8	7	4	3	3	3	2	8	5	**IZS**	5	5	4	4	9	5.1	24
27	7	9	9	7	5	8	39	8	6	6	62	48	3	3	2	2	6	5	**IZS**	2	2	2	3	2	62	10.7	24
28	2	3	10	5	4	14	23	48	19	11	7	6	5	4	4	5	4	**IZS**	9	5	6	7	9	4	48	9.3	24
29	17	9	9	10	8	7	12	10	23	12	6	3	2	2	2	3	**IZS**	5	5	5	5	8	8	17	23	8.2	24
30	4	2	3	4	5	8	9	7	7	8	8	7	10	6	5	**IZS**	6	7	8	14	13	7	15	11	15	7.6	24
31	5	7	8	6	3	9	13	10	7	5	4	3	2	4	**IZS**	2	6	7	2	3	3	7	7	4	13	5.5	24
HOURLY MAX	27	27	22	22	16	27	70	61	46	19	62	48	31	8	27	19	31	47	79	32	34	27	23	21			
HOURLY AVG	7.7	7.5	7.6	7.6	6.8	8.6	15.6	17.9	12.7	6.9	7.5	6.7	4.2	3.2	5.3	4.2	5.1	8.3	10.7	8.8	8.6	7.9	8.1	7.5			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	704					
MAXIMUM INSTANTANEOUS VALUE:	79	PPB	@ HOUR(S)	18	ON DAY(S)	11
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION	8.89					



JOB #: 2833-11-10-33-C

LICA33
NOX_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.55	2.55	3.26	5.10	6.66	4.82	2.83	5.10	2.26	1.56	9.92	13.61	17.58	13.61	4.39	4.11	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.55	2.55	3.26	5.10	6.66	4.82	2.83	5.10	2.26	1.56	9.92	13.61	17.58	13.61	4.39	4.11	

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	18	18	23	36	47	34	20	36	16	11	70	96	124	96	31	29	705
<	110																	
<	210																	
>=	210																	
	Totals	18	18	23	36	47	34	20	36	16	11	70	96	124	96	31	29	

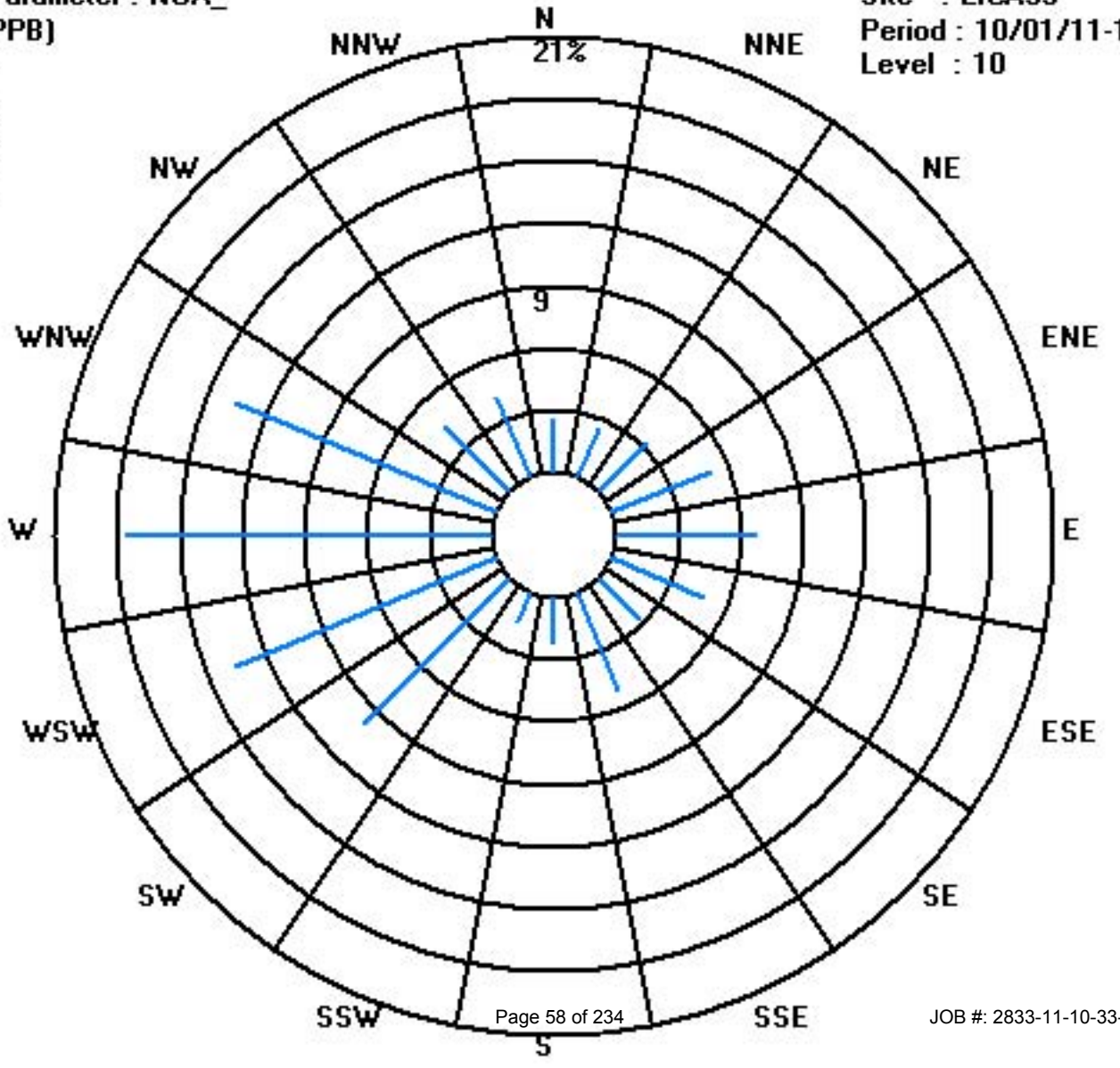
Calm : .00 %

Total # Operational Hours : 705

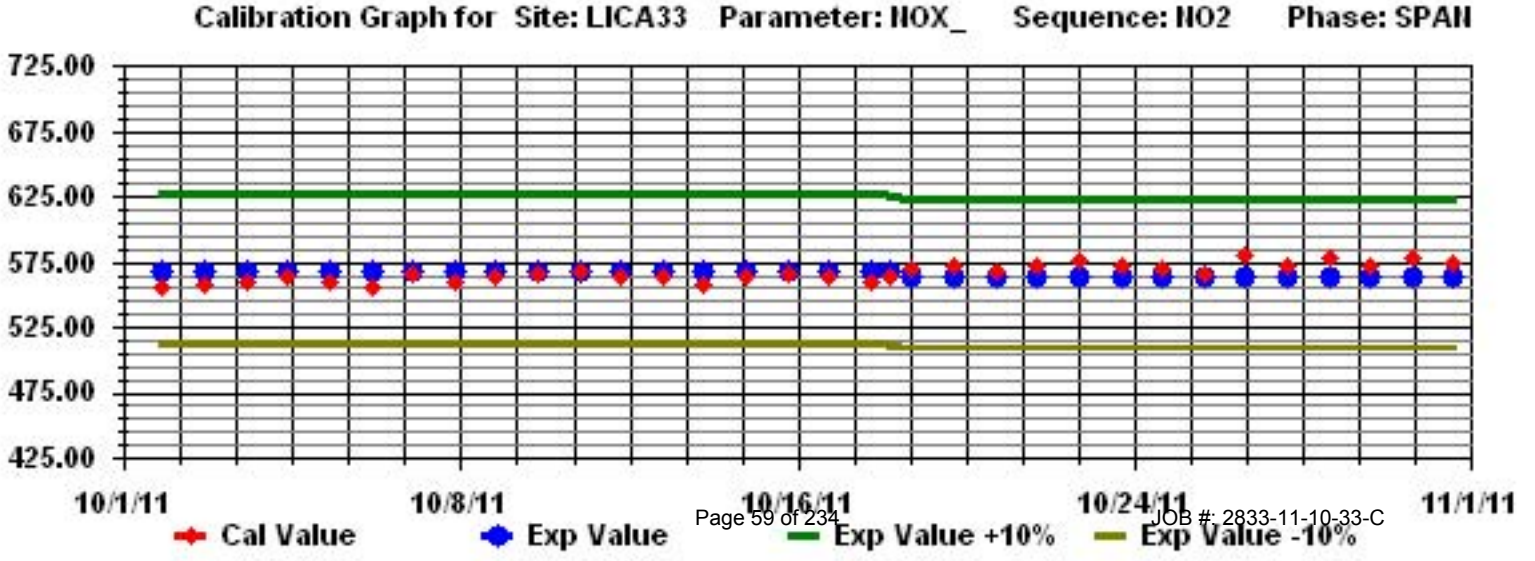
Logger : 33 Parameter : NOX_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA33
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-33-C


Calibration Graph for Site: LICA33 Parameter: NOX_ Sequence: NO2 Phase: SPAN
725.00
675.00
625.00
575.00
525.00
475.00
425.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

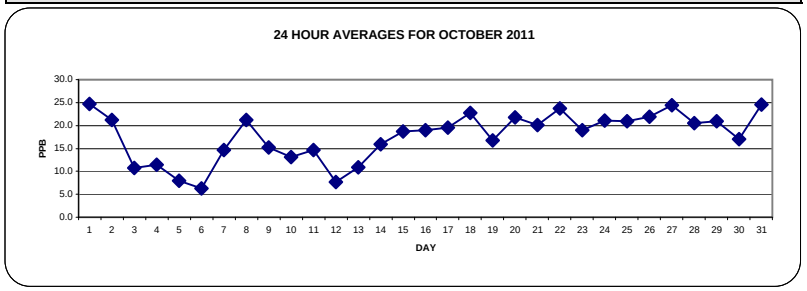
OZONE (O_3) hourly averages in ppb

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	24	22	24	23	25	25	27	27	26	27	27	28	29	29	29	28	26	21	15	15	16	**IZS**	30	26	30	**24.7**	24
2	27	28	27	25	23	22	22	20	22	24	25	25	26	24	22	23	23	17	17	10	**IZS**	14	11	10	28	21.2	24
3	9	11	5	8	9	10	10	9	10	11	11	12	14	13	13	13	12	11	11	**IZS**	12	12	11	10	14	10.7	24
4	10	9	9	9	9	9	9	12	11	11	11	13	15	21	23	25	18	12	**IZS**	11	7	5	3	2	25	11.5	24
5	2	4	5	7	7	4	3	3	3	6	10	10	10	12	12	12	11	**IZS**	10	11	11	11	10	10	12	8.0	24
6	7	4	5	6	4	5	7	6	6	7	7	8	9	9	9	9	**IZS**	9	6	6	5	5	4	3	9	6.3	24
7	2	2	3	2	1	1	2	3	8	14	19	24	24	25	26	**IZS**	25	23	21	24	23	23	21	21	26	14.7	24
8	21	21	19	19	19	18	17	18	21	24	25	28	29	31	**IZS**	32	31	25	21	18	12	9	15	16	32	21.3	24
9	13	15	14	16	15	17	21	16	19	20	19	20	21	**IZS**	23	21	21	18	16	11	5	3	3	2	23	15.2	24
10	1	2	1	1	0	0	0	1	3	8	15	23	**IZS**	28	32	31	24	21	22	18	18	19	13	20	32	13.1	24
11	19	11	9	3	3	3	1	4	13	21	23	**IZS**	27	29	29	29	27	22	17	14	14	10	5	5	29	14.7	24
12	2	2	1	1	1	1	0	5	13	14	**IZS**	16	16	16	16	16	15	11	4	10	7	6	3	1	16	7.7	24
13	1	1	1	2	10	5	7	6	7	**IZS**	14	16	18	18	18	17	17	16	15	14	13	12	11	10	18	10.8	24
14	9	9	9	9	9	9	7	7	**IZS**	13	15	17	20	23	26	27	26	23	22	20	17	20	17	12	27	15.9	24
15	13	15	17	18	19	18	19	**IZS**	21	22	23	25	26	26	25	24	22	16	11	14	15	13	14	13	26	18.7	24
16	15	11	15	15	15	12	**IZS**	4	10	20	23	26	30	32	31	31	30	26	22	20	12	11	14	12	32	19.0	24
17	9	10	9	14	10	**IZS**	11	9	15	18	24	27	32	34	34	32	30	24	21	18	16	21	22	10	34	19.6	24
18	13	18	17	16	**IZS**	18	12	9	16	23	25	28	31	33	34	33	28	22	22	22	24	25	27	27	34	22.7	24
19	23	23	23	**IZS**	18	13	14	16	19	24	24	25	25	**C**	**C**	**C**	**C**	17	16	12	8	8	6	4	25	16.7	24
20	2	1	**IZS**	8	9	10	12	19	24	26	31	34	36	36	33	33	31	27	25	23	22	20	20	18	**36**	21.7	24
21	16	**IZS**	14	18	17	15	10	4	9	18	21	23	29	34	36	35	32	21	19	18	18	18	21	16	**36**	20.1	24
22	**IZS**	12	11	11	15	13	12	16	21	25	30	33	34	34	35	34	33	31	28	27	25	23	19	**IZS**	35	23.7	24
23	12	10	4	6	4	5	1	1	10	16	26	31	33	33	34	34	32	29	28	26	24	20	**IZS**	19	34	19.0	24
24	19	20	21	18	15	16	15	17	18	20	23	26	29	30	31	30	28	26	15	11	18	**IZS**	21	19	31	21.1	24
25	20	19	15	17	17	13	11	12	15	18	20	24	25	29	31	30	31	27	24	23	**IZS**	23	17	22	31	21.0	24
26	20	18	20	13	15	19	12	9	15	20	22	26	28	31	31	31	31	27	25	**IZS**	28	25	20	19	31	22.0	24
27	18	15	19	21	21	21	20	20	23	24	26	28	30	31	31	31	30	28	**IZS**	26	26	24	24	24	31	24.4	24
28	23	23	20	19	19	16	7	10	12	17	20	26	29	30	28	27	25	**IZS**	20	22	21	19	18	21	30	20.5	24
29	17	17	17	15	15	17	14	12	13	17	23	27	29	29	30	30	**IZS**	26	25	25	24	22	21	17	30	21.0	24
30	19	19	18	16	11	15	18	18	17	13	18	20	22	23	24	**IZS**	19	14	15	8	11	17	13	22	24	17.0	24
31	23	23	22	24	24	19	16	17	20	22	24	29	31	31	**IZS**	31	29	25	27	27	26	24	25	27	31	24.6	24
HOURLY MAX	27	28	27	25	25	25	27	27	26	27	31	34	36	36	36	35	33	31	28	27	28	25	30	27			
HOURLY AVG	13.6	13.2	13.1	12.7	12.6	12.3	11.2	11.0	14.7	18.1	20.8	23.3	25.2	26.7	26.6	26.8	25.3	21.2	18.6	17.4	16.5	15.9	15.3	14.6			

STATUS FLAG CODES

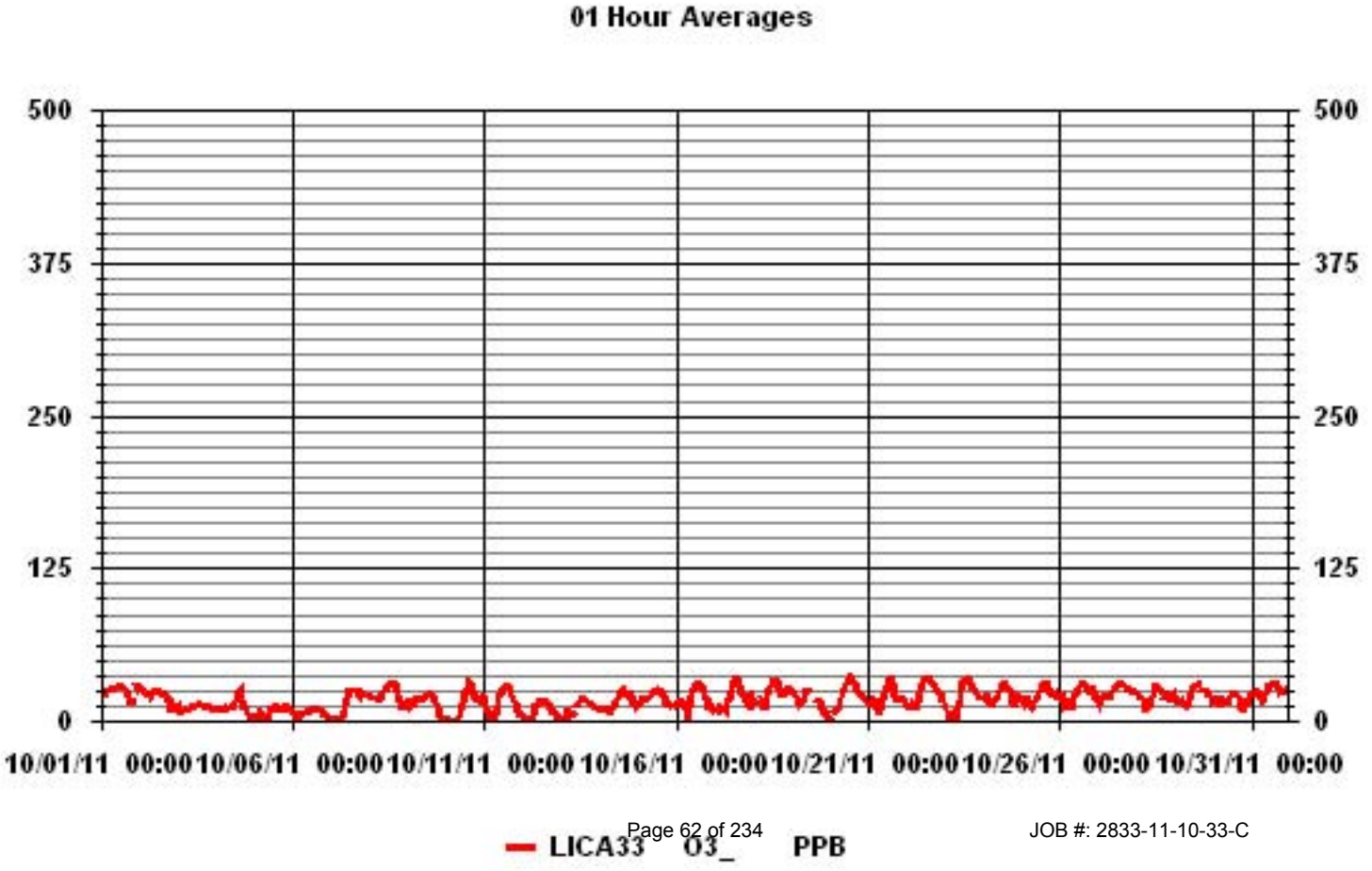
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	-MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	704					
MAXIMUM 1-HR AVERAGE:	36	PPB	@ HOUR(S)	VAR	ON DAY(S)	20, 21
MAXIMUM 24-HR AVERAGE:	24.7	PPB			ON DAY(S)	1
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME		100.0	%
STANDARD DEVIATION	8.58		MONTHLY AVERAGE		17.69	PPB



JOB #: 2833-11-10-33-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

OCTOBER 2011

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	26	25	25	25	26	26	28	28	28	28	28	29	30	30	30	29	29	26	21	20	33	**IZS**	36	29	36	27.6	24
2	30	29	29	28	25	24	24	21	24	25	26	26	27	26	23	26	25	21	19	17	**IZS**	17	16	14	30	23.6	24
3	13	13	11	11	11	12	11	10	10	12	13	14	15	16	14	13	12	12	12	**IZS**	12	12	12	11	16	12.3	24
4	11	10	10	11	10	11	13	13	12	12	12	15	18	23	26	27	27	19	**IZS**	17	13	9	4	3	27	14.2	24
5	4	10	6	12	13	11	5	9	4	12	12	16	13	14	13	14	14	**IZS**	14	17	17	17	14	16	17	12.0	24
6	13	9	6	10	13	9	12	13	10	8	9	9	9	10	10	10	**IZS**	13	13	7	7	5	5	4	13	9.3	24
7	3	3	3	3	2	2	2	5	13	19	22	25	24	27	27	**IZS**	25	24	24	25	24	24	22	22	27	16.1	24
8	22	23	20	20	20	20	18	20	22	24	27	29	31	32	**IZS**	33	32	30	25	23	20	11	17	18	33	23.3	24
9	16	19	18	20	20	22	22	20	20	20	20	21	22	**IZS**	25	24	23	21	19	18	11	6	5	4	25	18.1	24
10	3	4	1	2	2	1	1	1	6	11	21	25	**IZS**	30	34	33	32	31	30	25	24	23	20	24	34	16.7	24
11	23	16	16	6	6	8	3	7	19	23	25	**IZS**	28	30	30	29	29	24	23	18	22	18	8	8	30	18.2	24
12	6	4	2	2	2	2	1	13	16	17	**IZS**	17	17	17	17	17	16	14	9	12	11	9	6	2	17	10.0	24
13	3	3	1	5	12	6	8	6	9	**IZS**	17	18	19	19	19	18	19	18	16	15	13	13	12	11	19	12.2	24
14	10	10	10	10	10	10	9	10	**IZS**	15	17	20	22	24	27	27	27	26	23	23	22	22	22	17	27	18.0	24
15	19	20	19	24	23	19	20	**IZS**	22	23	25	26	27	27	26	25	24	21	13	17	17	16	16	15	27	21.0	24
16	17	16	17	17	17	15	**IZS**	8	19	21	25	30	32	33	32	32	31	29	25	22	20	20	21	17	33	22.4	24
17	16	16	14	18	21	**IZS**	16	15	19	22	35	30	35	36	35	34	32	28	28	26	23	28	29	18	36	25.0	24
18	19	21	21	21	**IZS**	20	16	14	21	25	29	32	33	34	35	34	31	25	24	24	26	26	28	28	35	25.5	24
19	26	26	26	**IZS**	21	17	17	20	23	25	25	26	**C**	**C**	**C**	**C**	**C**	21	20	17	11	14	8	6	26	19.4	24
20	3	2	**IZS**	10	10	11	18	21	25	29	34	35	37	37	35	34	32	30	26	25	23	22	23	20	**37**	23.6	24
21	20	**IZS**	20	19	19	18	18	9	17	22	23	26	32	36	37	36	36	26	20	19	20	21	23	20	**37**	23.3	24
22	**IZS**	15	15	16	16	16	13	18	24	27	33	34	35	35	35	35	34	33	30	30	27	24	24	**IZS**	35	25.9	24
23	16	16	7	9	8	10	4	3	13	21	30	33	34	34	34	34	34	32	29	28	27	24	**IZS**	21	34	21.8	24
24	22	22	22	21	18	17	15	18	20	22	25	30	30	31	32	31	30	28	24	19	20	**IZS**	22	21	32	23.5	24
25	22	21	18	19	19	17	14	14	18	20	23	24	27	33	33	32	32	30	26	25	**IZS**	24	22	24	33	23.3	24
26	24	22	23	19	20	22	17	12	18	21	24	28	30	32	32	32	32	30	27	**IZS**	31	29	24	22	32	24.8	24
27	21	19	22	22	23	23	22	22	24	25	29	30	31	31	32	32	32	30	**IZS**	27	26	25	25	25	32	26.0	24
28	24	24	23	21	21	20	11	14	18	19	23	28	30	31	29	29	27	**IZS**	22	23	24	22	22	23	31	23.0	24
29	22	21	22	16	18	18	16	15	16	20	27	28	30	30	31	31	**IZS**	29	26	27	27	25	23	21	31	23.4	24
30	21	21	20	18	16	17	20	21	21	17	19	25	24	24	25	**IZS**	21	17	17	12	17	20	19	26	26	19.9	24
31	24	25	24	26	25	24	21	19	22	23	27	31	32	32	**IZS**	33	31	27	28	28	28	28	29	30	33	26.8	24
HOURLY MAX	30	29	29	28	26	26	28	28	28	29	35	35	37	37	37	36	36	33	30	30	33	29	36	30			
HOURLY AVG	16.6	16.2	15.7	15.4	15.6	14.9	13.8	14.0	17.8	20.3	23.5	25.3	26.7	28.1	27.8	28.0	27.5	24.7	21.8	20.9	20.6	19.1	18.6	17.3			

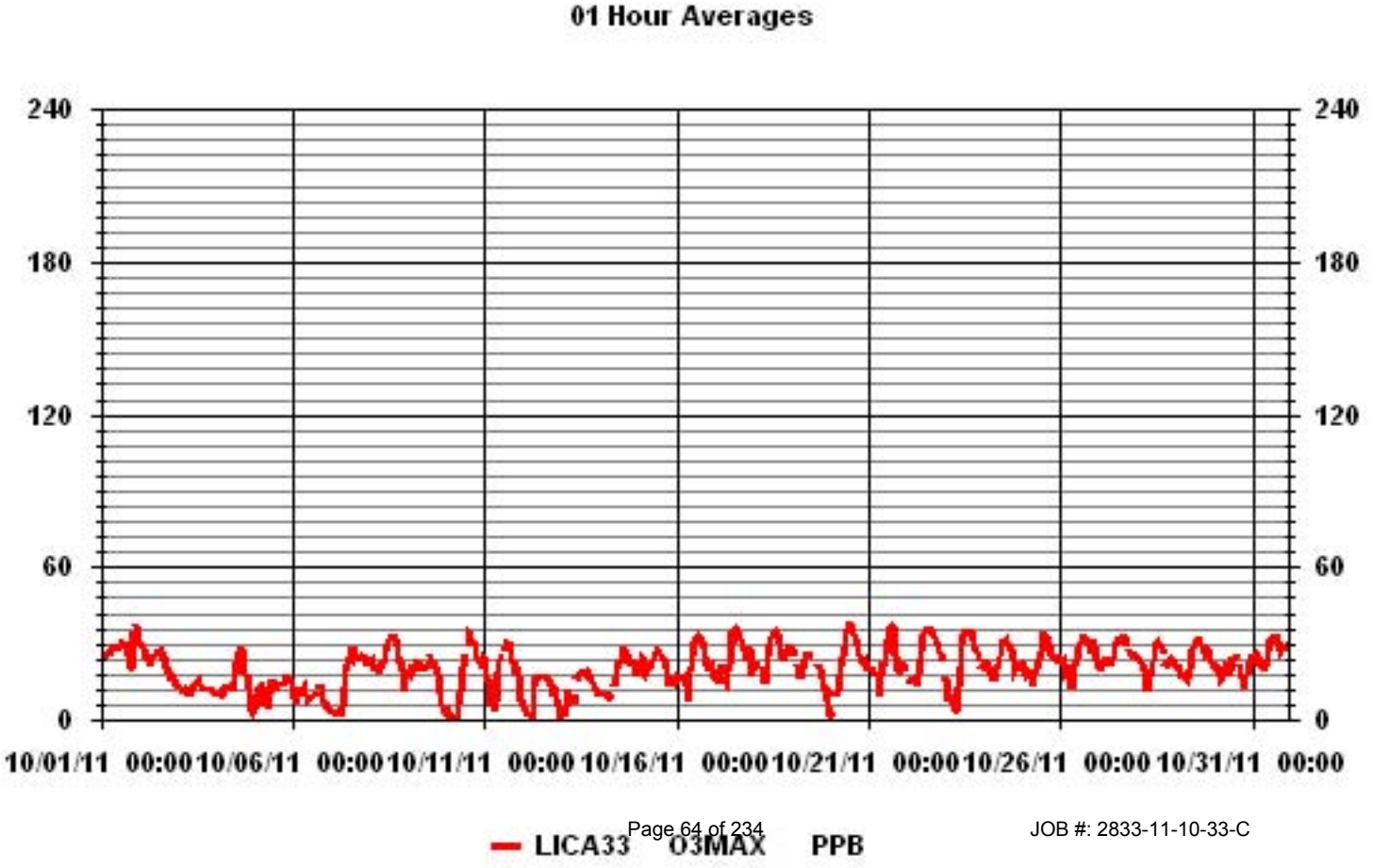
STATUS FLAG CODES

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:	707					
MAXIMUM INSTANTANEOUS VALUE:	37	PPB	@ HOUR(S)	VAR	ON DAY(S)	20, 21
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION	8.31					

JOB #: 2833-11-10-33-C



JOB #: 2833-11-10-33-C

LICA33
O3_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	2.40	2.54	3.24	4.94	6.63	4.80	2.82	4.94	2.25	1.69	10.45	13.70	17.51	13.55	4.37	4.09	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.40	2.54	3.24	4.94	6.63	4.80	2.82	4.94	2.25	1.69	10.45	13.70	17.51	13.55	4.37	4.09	

Calm : .00 %

Total # Operational Hours : 708

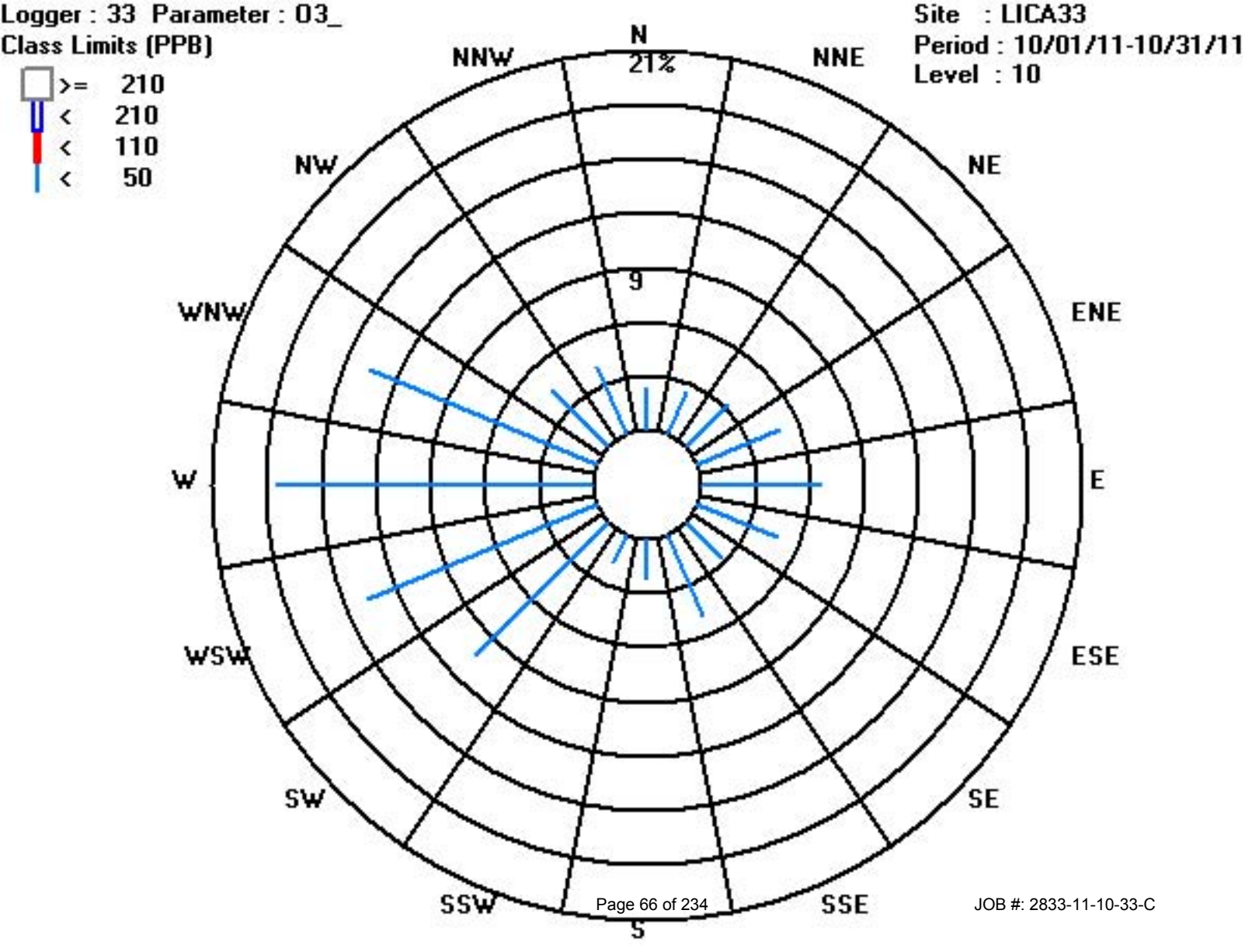
Distribution By Samples

Direction

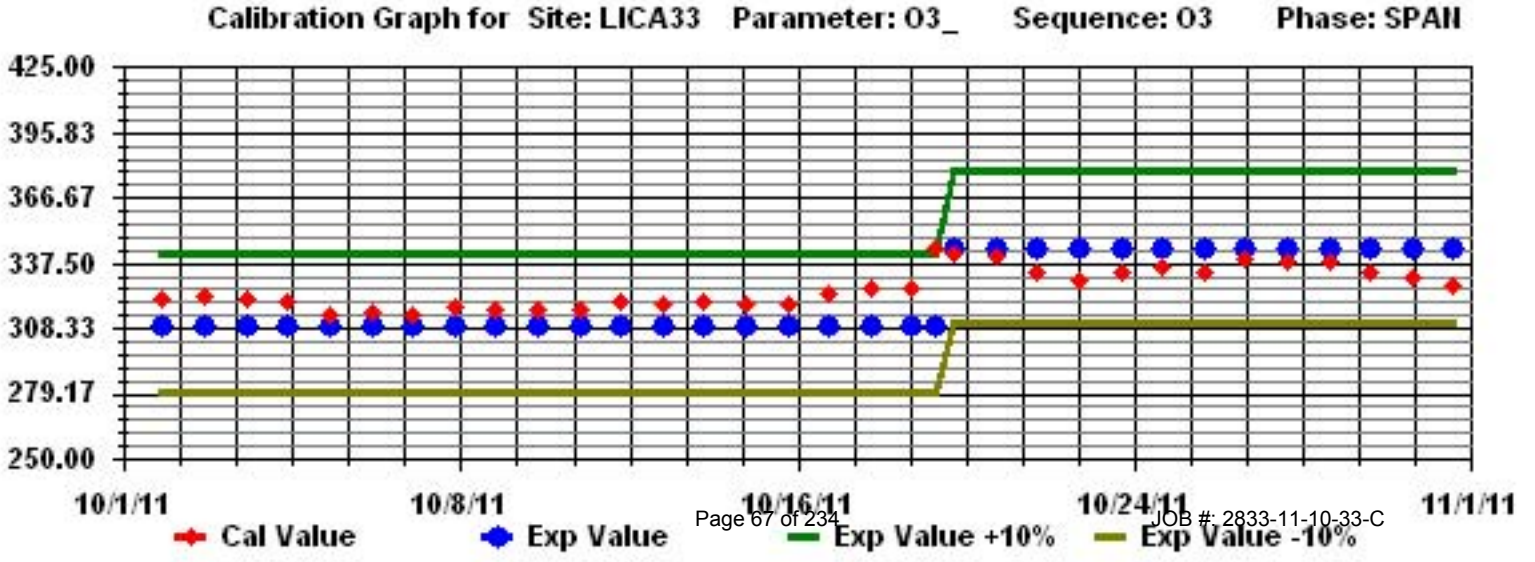
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	17	18	23	35	47	34	20	35	16	12	74	97	124	96	31	29	708
< 110																	
< 210																	
>= 210																	
Totals	17	18	23	35	47	34	20	35	16	12	74	97	124	96	31	29	

Calm : .00 %

Total # Operational Hours : 708



JOB #: 2833-11-10-33-C


Calibration Graph for Site: LICA33 Parameter: O3_ Sequence: O3 Phase: SPAN
425.00
395.83
366.67
337.50
308.33
279.17
250.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

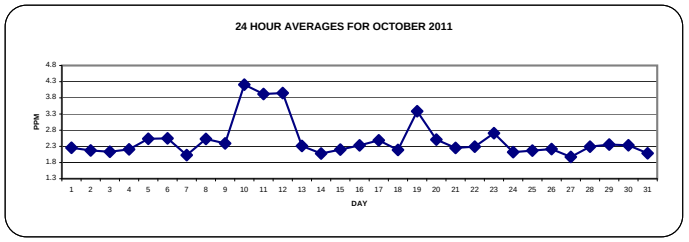
TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	2.5	3	2.1	2.1	2	2	2	2	1.9	1.9	2	1.9	1.9	1.9	1.9	2.1	3.1	3.5	2.6	2.7	**IZS**	2.5	2.3	3.5	2.3	24
2	2.2	2	2	2	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2	2	2	2	2	2.1	2.3	2.5	2.7	**IZS**	2.5	2.3	2.4	2.7	2.2	24
3	2.2	2.6	2.5	2.3	2.4	2.2	2.2	2.2	2.1	2.1	2.1	2.1	**C**	**C**	2	2	2	2	2	**IZS**	1.9	1.9	2	2	2.6	2.1	24
4	2	2	2	2.1	2.1	2.1	2.3	2.1	2.1	2	2	2	2.1	2	2	2.1	2.2	2.6	**IZS**	2.2	2.6	2.4	2.9	2.9	2.9	2.2	24
5	2.7	2.7	2.5	2.1	2.3	2.5	2.9	3.3	2.2	2.3	2.2	2.3	2.5	2.8	2.3	2.4	2.5	**IZS**	2.4	2.8	2.4	3.6	2.4	2.2	3.6	2.5	24
6	2.9	2.3	2.5	2.4	3	3.5	2.3	2.5	2.6	2.3	2.3	2.4	2.3	2.4	2.4	2.6	**IZS**	2.5	3.3	3	2.4	2.1	2.1	2.5	3.5	2.5	24
7	2.6	2.1	2	2.1	2.2	2.1	2	2.1	2	2.1	2	1.9	1.9	1.9	1.9	**IZS**	1.9	1.9	2	2	2	2	2	2	2.6	2.0	24
8	2	2.1	2.1	2.1	2.1	2.8	2.8	2.7	2.3	2.1	2.1	2.1	2	2	**IZS**	1.9	2	2.5	5.2	2.7	2.9	4	3	2.7	5.2	2.5	24
9	2.9	2.7	2.7	3	2.8	3	2.3	2.6	2.2	2	2	2	2	**IZS**	1.9	1.9	1.9	2	2.3	2.6	2.7	2.3	2.5	2.7	3.0	2.4	24
10	3.4	3	4	3.9	6.8	11.1	8.2	6.5	8.1	3.6	2.5	2.1	**IZS**	2.2	2.1	2.3	2.3	2.2	3.5	4	4.7	2.9	3.7	3.7	11.1	**4.2**	24
11	4.3	6.6	4.4	8.9	6.1	3.9	5.3	7.5	4.9	2.7	**C**	**IZS**	1.9	1.9	2	2.1	2.1	1.9	2.1	2.4	6.4	2.6	3.4	2.8	8.9	3.9	24
12	3.7	5.1	6.2	5.6	5.7	5.7	**11.2**	7.3	2.4	2.3	**IZS**	2.2	2.2	2.3	2.3	2.2	2.2	2.4	3.1	2.3	2.8	3.1	4.1	4.4	**11.2**	3.9	24
13	4	3.7	3.7	2.8	2.3	2.2	2.1	2.1	2.1	**IZS**	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	4.0	2.3	24
14	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.1	**IZS**	2	1.9	1.9	1.9	1.9	1.8	1.8	1.8	2.2	2	2.3	2.2	2	2.5	2.6	2.6	2.1	24
15	2.6	2.2	2.8	2.6	2.4	2.7	2.3	**IZS**	2.1	2.1	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.3	2.8	2.2	24
16	2.2	2.2	2.1	2.1	2.5	2.2	**IZS**	2.4	2.1	2	2	2.1	1.9	1.9	1.9	1.8	1.8	1.9	2	5	3.8	2.7	2.4	2.6	5.0	2.3	24
17	2.9	2.7	3.6	2.4	3	**IZS**	2	2.1	2.3	2.3	2.4	2.4	2	1.9	1.9	1.9	1.9	2.4	2.4	3.9	2.5	2.1	2.1	4.1	4.1	2.5	24
18	3	2.5	2.2	2.3	**IZS**	2.1	2.2	2.2	2.2	2.1	2	1.9	**C**	**C**	**C**	**C**	1.8	1.9	2.2	2.1	2.1	2.2	2.3	2.3	3.0	2.2	24
19	2.6	2.6	2.6	**IZS**	4.1	5.2	4.4	3.2	2.8	2.4	2.4	2.3	2.2	2.1	2.4	3.5	**M**	4	3.7	4.4	4.4	6	3.5	3.7	6.0	3.4	23
20	3.8	4.1	**IZS**	3.4	3.2	3.1	2.9	2.3	2.1	2	1.9	1.9	1.9	1.9	1.9	1.9	2	2.1	2.2	2.3	2.1	3.1	2.8	2.8	4.1	2.5	24
21	2.4	**IZS**	2.3	2.1	2.1	2.4	2.5	2.4	2.4	2.2	2.1	2.1	2	2	1.9	1.9	1.9	2.1	2.2	2.3	2.2	3.1	2.5	2.7	3.1	2.3	24
22	**IZS**	3.2	3.2	2.6	2.3	2.4	2.1	2.3	2.1	2.2	2	1.9	1.8	1.9	1.9	1.9	1.9	2	2.1	2.3	2.5	2.9	2.9	**IZS**	3.2	2.3	24
23	2.6	3.3	3.9	3.6	5.2	3.8	5.4	4.4	2.6	2.1	2	1.9	1.9	1.9	1.9	1.9	2	2	1.9	2	2	2	**IZS**	2	5.4	2.7	24
24	2	2	2	2	2.1	2.1	2	2.1	2.3	2.1	2.1	2.1	2	2	1.9	1.9	1.9	2.4	2.9	2.2	2.1	**IZS**	1.9	2.7	2.9	2.1	24
25	2.7	2.3	2.2	2.4	2.3	2.2	2.2	2.1	2.3	2.3	2.2	2	1.9	1.9	1.9	1.9	1.9	2.1	2.1	2.4	**IZS**	2.3	2.2	2.1	2.7	2.2	24
26	2.1	2.4	2.1	2.4	2.3	2.3	2.5	3.8	2.8	2.5	2.5	2.2	2	1.9	1.9	1.8	1.8	1.9	1.9	**IZS**	2	2.1	1.9	1.9	3.8	2.2	24
27	1.9	2	1.9	1.9	1.9	1.9	1.9	1.9	2	2.2	2	1.9	1.9	1.9	1.9	1.9	2.1	2.3	**IZS**	2	2	2	2	2	2.3	2.0	24
28	2	2.1	2.1	2	2.2	2.1	2.6	2.1	2.4	2.5	2.4	2.3	2.1	2.2	2.2	2.3	2.3	**IZS**	2.6	2.5	2.3	2.4	2.5	2.5	2.6	2.3	24
29	2.9	3.3	2.3	2.4	2.5	2.2	2.5	2.3	2.2	2.6	2	2	1.9	1.9	1.9	1.9	**IZS**	2.2	3.2	3.2	2.8	2	2	2	3.3	2.4	24
30	2	2	2	2.1	2.2	2.1	2.1	2.1	2.3	2.7	2.6	2.4	2.2	2.3	2.3	**IZS**	2.3	2.4	2.6	2.8	2.8	2.6	2.3	2.5	2.8	2.3	24
31	2.1	2.1	2.2	2	2	2.1	2.9	2	2	2.1	2.1	2	2	2	**IZS**	1.8	2	1.9	2	1.9	2	2.1	2.6	2.1	2.9	2.1	24
HOURLY MAX	4.3	6.6	6.2	8.9	6.8	11.1	11.2	7.5	8.1	3.6	2.6	2.4	2.5	2.8	2.4	3.5	2.5	4.0	5.2	5.0	6.4	6.0	4.1	4.4			
HOURLY AVG	2.6	2.8	2.7	2.7	2.9	2.9	3.1	2.9	2.5	2.3	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.2	2.6	2.7	2.7	2.6	2.5	2.6			

STATUS FLAG CODES

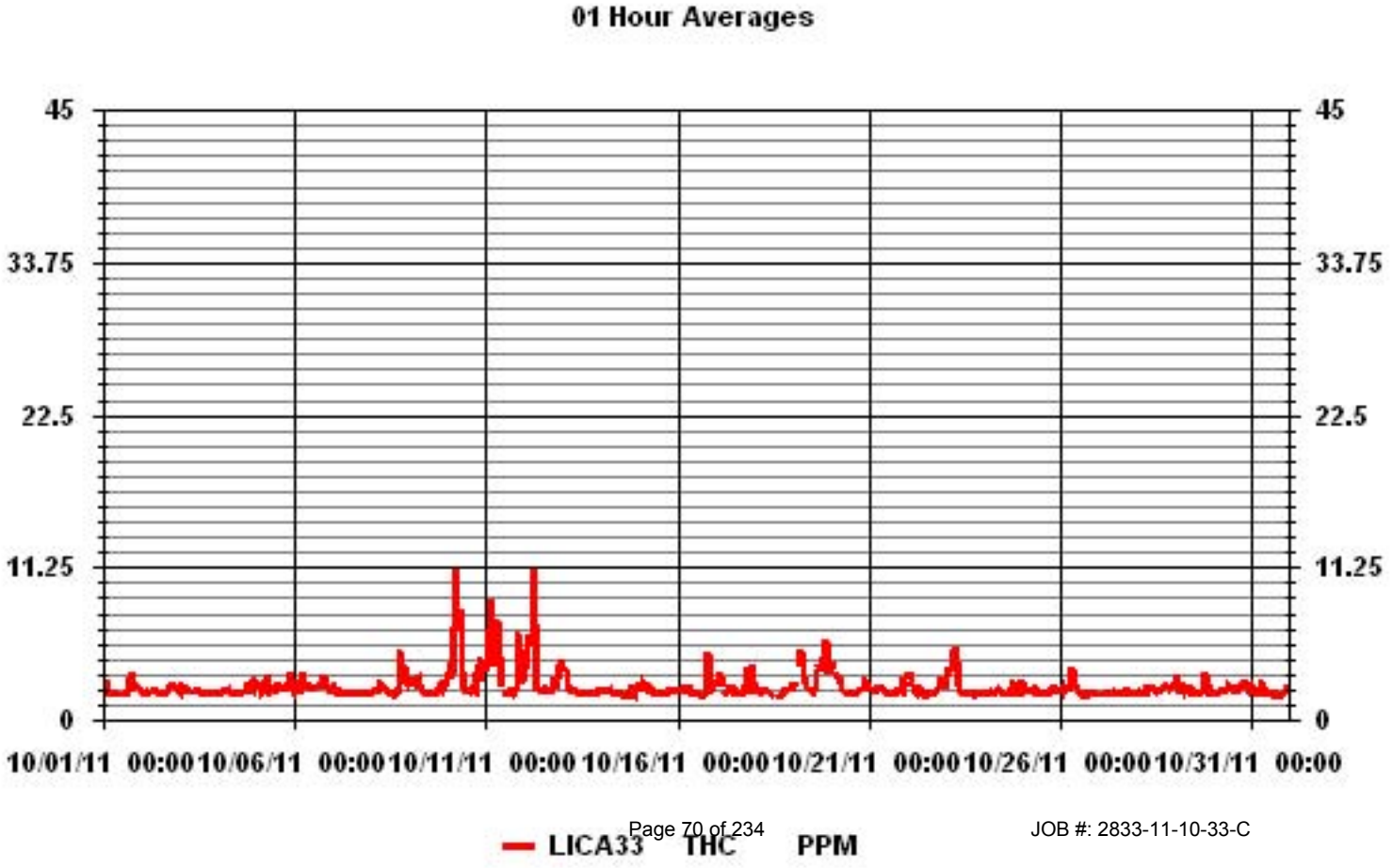
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE
BB	- BELOW BACKGROUND OF 1.5 PPM		



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	704					
MAXIMUM 1-HR AVERAGE:	11.2	PPM	@ HOUR(S)	6	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	4.2	PPM			ON DAY(S)	10

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.99		MONTHLY AVERAGE:	2.49	PPM



JOB #: 2833-11-10-33-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

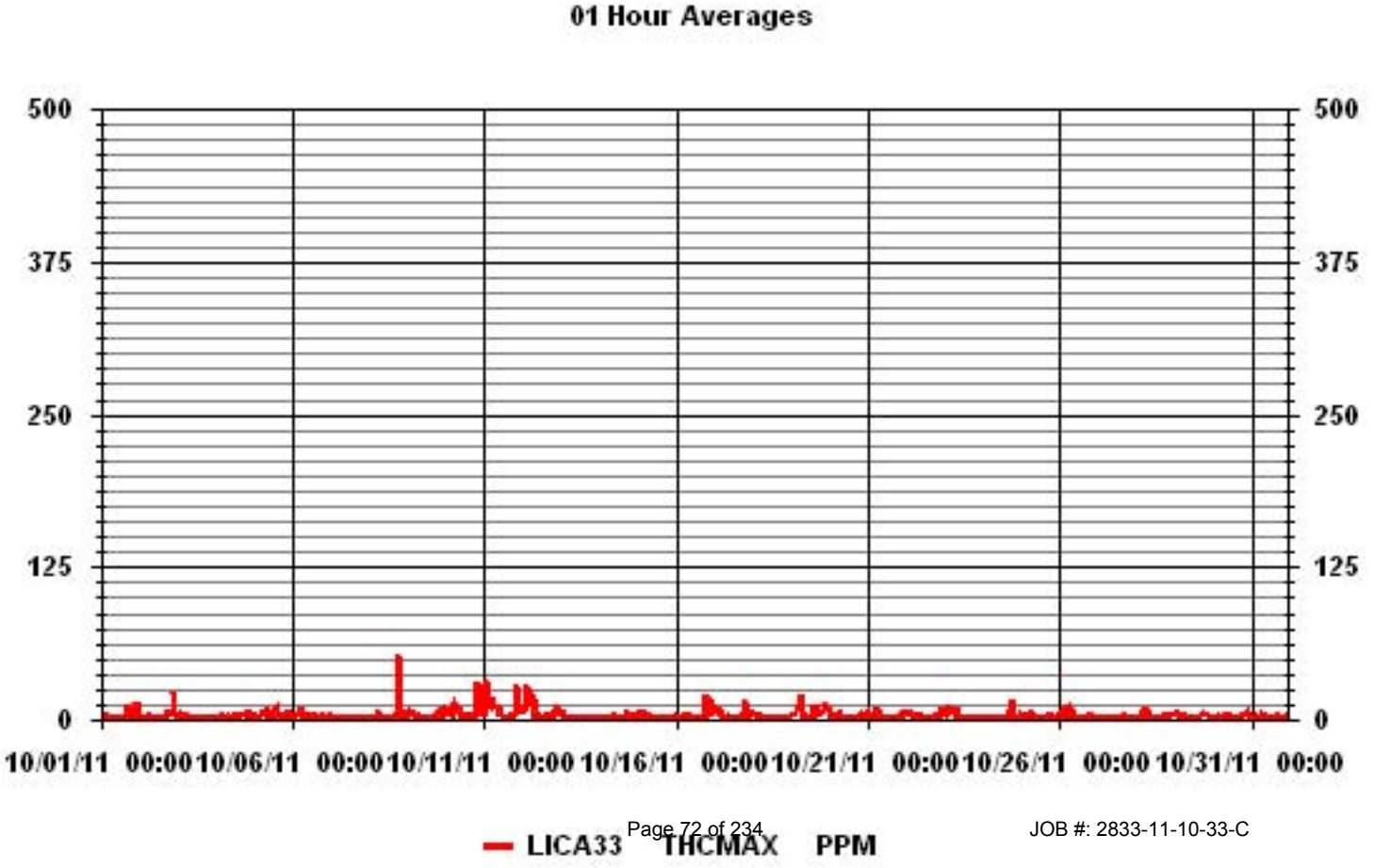
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.7	4.7	4.8	2.9	3.1	2.1	2	2	2.1	2	2	2.3	2	2.1	2	2	2.9	10.1	9.6	3.8	4.9	**IZS**	12.5	2.6	12.5	3.8	24
2	2.7	2.6	2.4	2.5	2.5	2.8	2.6	2.8	2.6	2.5	2.4	2.4	2.2	2.4	2.2	2.5	2.7	3.6	8.1	4.8	**IZS**	20.9	4.7	3.8	20.9	3.9	24
3	3.4	5.4	3.6	3.6	4.2	2.8	2.6	2.7	2.6	2.4	2.5	2.5	**C**	**C**	2.2	2.2	2.3	2.2	2.2	**IZS**	2.2	2.4	2.1	2.1	5.4	2.8	24
4	2.3	2.2	2.3	2.7	2.7	2.6	3	2.6	2.6	2.5	3.4	2.8	2.8	2.9	2.6	3.5	4.1	4.2	**IZS**	2.4	8.3	3.5	5.1	3.7	8.3	3.3	24
5	3.2	2.9	3.5	2.2	4	4.2	7.1	8.3	3.1	3	2.7	3.7	6.5	9	3.3	3.7	3.7	**IZS**	3.7	4.5	3.2	8.5	5	3.2	9	4.4	24
6	4	2.8	3.4	3.9	4.2	10.4	2.8	3.9	3.8	3	3	2.9	3.2	5.5	4.7	3.1	**IZS**	3.6	4.2	3.7	3	2.2	2.2	3.3	10.4	3.8	24
7	3.3	3	2.1	2.2	2.5	2.2	2.1	2.2	2.2	2.6	2.5	2.3	2.2	1.9	2	**IZS**	1.9	1.9	2.1	2.1	2.1	2.1	2	2.1	3.3	2.2	24
8	2.1	2.2	2.2	2.1	2.2	7.1	6.7	4.9	3	2.5	2.4	2.6	2.4	2.4	**IZS**	2.3	3	5.8	**54.1**	5.4	4.6	6.5	5.4	4.1	**54.1**	5.9	24
9	6.5	4.3	5.7	6.2	4.1	4.5	3.3	3.8	2.3	2.2	2	2.7	2.1	**IZS**	2.3	2.2	2.5	3.7	4.4	6.2	7.2	3.2	5.3	8.9	8.9	4.2	24
10	7.1	6.9	6.4	5	8.9	14	11.6	8.7	11.9	5.5	3.5	2.6	**IZS**	3.1	2.9	3.6	4	3.8	9.2	9	30.6	3.7	6.3	4.8	30.6	7.5	24
11	5.4	33.8	12	14.5	12.9	17.8	9	11.5	11.1	5.7	**C**	**IZS**	2.5	2.6	2.5	3.1	3.1	2.1	4.1	6	28.4	5.9	9.2	5.2	33.8	9.5	24
12	10.9	7	29.7	12.3	14.5	11.1	19.4	17.8	2.8	2.9	**IZS**	2.7	2.6	3.2	3.2	3	2.8	3.7	3.8	2.9	7.2	12.1	8.6	6.6	29.7	8.3	24
13	7.4	4.2	4	3.2	2.6	2.3	2.2	2.2	2.2	**IZS**	2.1	2	2	2	2	2	2.1	2	2	2	2.1	2	2.1	2.1	7.4	2.6	24
14	2.4	2.1	2.1	2.1	2.2	2.2	3.3	2.8	**IZS**	2.7	2.7	2.2	2.2	2.4	2.2	2.2	1.9	7.6	2.6	3.1	2.3	2.1	4.4	4.8	7.6	2.8	24
15	4.9	2.6	5.2	3.9	5	4.9	4.4	**IZS**	2.1	2.1	2.1	2	2.1	2.1	2.1	2.4	2.5	2.4	2.2	2.1	2.1	2.2	2.1	3.4	5.2	2.9	24
16	3.2	2.4	2.1	2.8	4.1	2.4	**IZS**	5.6	3.5	2.5	2.2	2.7	2	2.4	2.1	1.9	1.9	2	2	20.2	9.1	7.3	6.5	10.8	20.2	4.4	24
17	8.3	7.8	8.4	5	7.5	**IZS**	2.2	2.3	3.4	3.2	2.5	2.7	2.2	2.2	2.4	1.9	2	3.7	3.5	16.5	3.4	2.3	4.9	6.1	16.5	4.5	24
18	4.8	4.7	2.4	5.2	**IZS**	2.2	2.3	2.3	2.3	2.3	2.1	2	**C**	**C**	**C**	**C**	1.9	2	2.4	2.5	2.4	2.3	2.3	3.3	5.2	2.7	24
19	4.8	4.6	4.8	**IZS**	9.3	9	19.9	4.8	5.4	2.6	3	2.5	2.4	2.5	10	10.4	**M**	6.5	5.8	6.8	7.7	13.3	6.3	11.2	19.9	7.0	23
20	4.1	4.4	**IZS**	3.8	3.4	4.7	5.7	2.5	2.1	2.2	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.3	2.4	4.7	2.2	5.1	4.7	6.6	6.6	3.2	24
21	3.5	**IZS**	3.7	2.1	2.2	3.8	9.3	4.3	3.1	2.7	2.3	2.4	2	2	2	1.9	2.2	2.2	2.4	2.3	2.3	4.8	6.1	4.6	9.3	3.2	24
22	**IZS**	6.4	6.6	4.9	2.4	3.7	2.5	4.5	3.1	2.8	2.7	2	2.2	2.1	2	1.9	2	2.4	3.8	3.4	4.4	7	4.9	**IZS**	7	3.5	24
23	9.6	10.6	5.7	7.1	9	8.7	8.2	8.8	3.6	2.2	2.3	2.2	2.1	2.2	1.9	2.3	2.6	3.3	2	2.1	2.1	2.1	**IZS**	2.2	10.6	4.5	24
24	2.1	2.2	2	2.1	2.2	2.2	2.1	2.6	3.7	2.7	2.4	2.5	2	2.2	2	2	2	7.6	16.2	2.4	2.2	**IZS**	2	5	16.2	3.2	24
25	5	4.5	3.1	2.9	3.5	4.9	2.3	2.1	3.4	3.5	2.4	2.1	2	1.9	1.9	2.2	2	4	2.8	3.8	**IZS**	3.2	2.5	3.1	5	3.0	24
26	4.6	6.1	4.4	8.2	5.5	8.5	4.4	6.7	4.2	2.7	2.6	2.5	2	1.9	1.9	1.9	1.9	1.9	2.1	**IZS**	3	3.2	2.7	2	8.5	3.7	24
27	2	2.1	2	1.9	2	2.1	2	2	3	2.6	2.5	2.1	2	1.9	1.9	2	2.8	3	**IZS**	2	2	2	2.1	2.5	3	2.2	24
28	2	2.7	2.2	2.4	6.6	2.2	9.4	2.9	4.4	4	2.5	2.4	2.3	2.2	2.3	2.3	2.3	**IZS**	3.5	3.2	3.4	4.1	4	4.5	9.4	3.4	24
29	5.2	5.2	2.5	2.5	2.6	2.4	3.8	2.5	2.6	3.8	2.9	2.2	2	2	1.9	1.9	**IZS**	5.7	4.8	5.5	4.9	2.1	2.1	2.2	5.7	3.2	24
30	2.1	2.9	2.3	2.9	3.4	2.2	2.2	2.2	4.7	5.4	2.6	2.5	2.4	2.4	2.3	**IZS**	2.4	3.8	3.7	4.2	4.6	7	3.7	4.6	7	3.3	24
31	2.5	2.6	3.8	3.1	2.1	2.4	4.7	2.1	2.1	2.8	2.6	2.4	2.1	2.5	**IZS**	1.9	3.6	2.3	2.3	2	2.6	3.1	4.4	2.9	4.7	2.7	24
HOURLY MAX	11	34	30	15	15	18	20	18	12	6	4	4	7	9	10	10	4	10	54	20	31	21	13	11			
HOURLY AVG	4.4	5.2	4.8	4.2	4.7	5.1	5.4	4.5	3.6	3.0	2.5	2.4	2.4	2.6	2.6	2.7	2.5	3.8	5.9	4.8	5.7	5.0	4.5	4.4			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	704					
MAXIMUM INSTANTANEOUS VALUE:	54.1	PPB	@ HOUR(S)	18	ON DAY(S)	8
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION	3.91					



JOB #: 2833-11-10-33-C

LICA33
THC / WDR Joint Frequency Distribution (Percent)

October 2011

Distribution By % Of Samples

Logger Id : 33
Site Name : LICA33
Parameter : THC
Units : PPM

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	1.70	1.98	2.41	4.11	5.39	3.40	2.13	4.97	2.13	1.42	9.51	13.49	16.05	12.07	3.40	2.41	86.64
<	10.0	.85	.42	.71	.99	.99	1.42	.71	.14	.14	.14	.56	.28	1.56	1.56	.99	1.56	13.06
<	50.0	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.28
>=	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.55	2.55	3.12	5.11	6.39	4.82	2.84	5.11	2.27	1.56	10.08	13.77	17.61	13.63	4.40	4.11	

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
<	3.0	12	14	17	29	38	24	15	35	15	10	67	95	113	85	24	17	610
<	10.0	6	3	5	7	7	10	5	1	1	1	4	2	11	11	7	11	92
<	50.0		1														1	2
>=	50.0																	
	Totals	18	18	22	36	45	34	20	36	16	11	71	97	124	96	31	29	

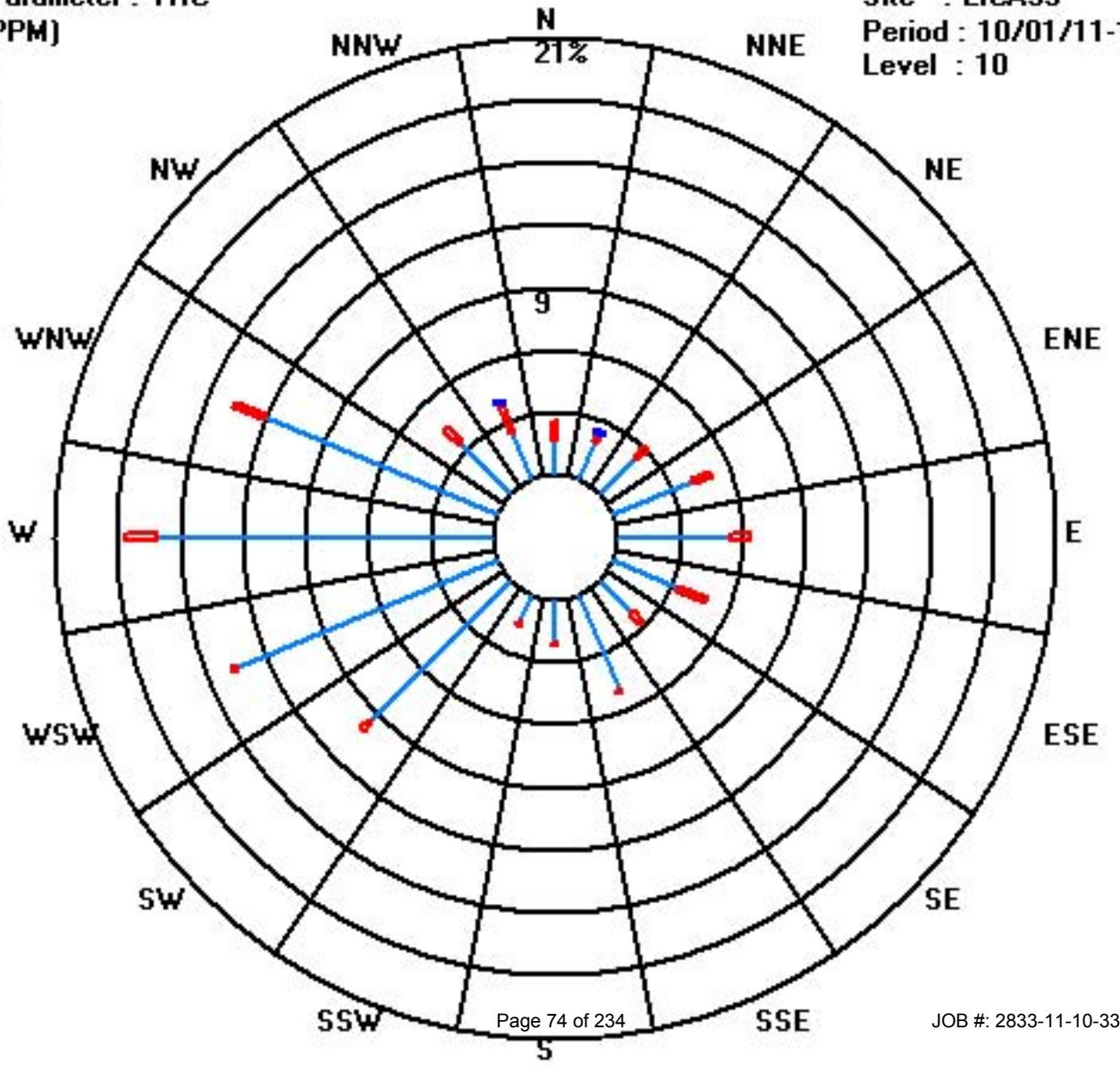
Calm : .00 %

Total # Operational Hours : 704

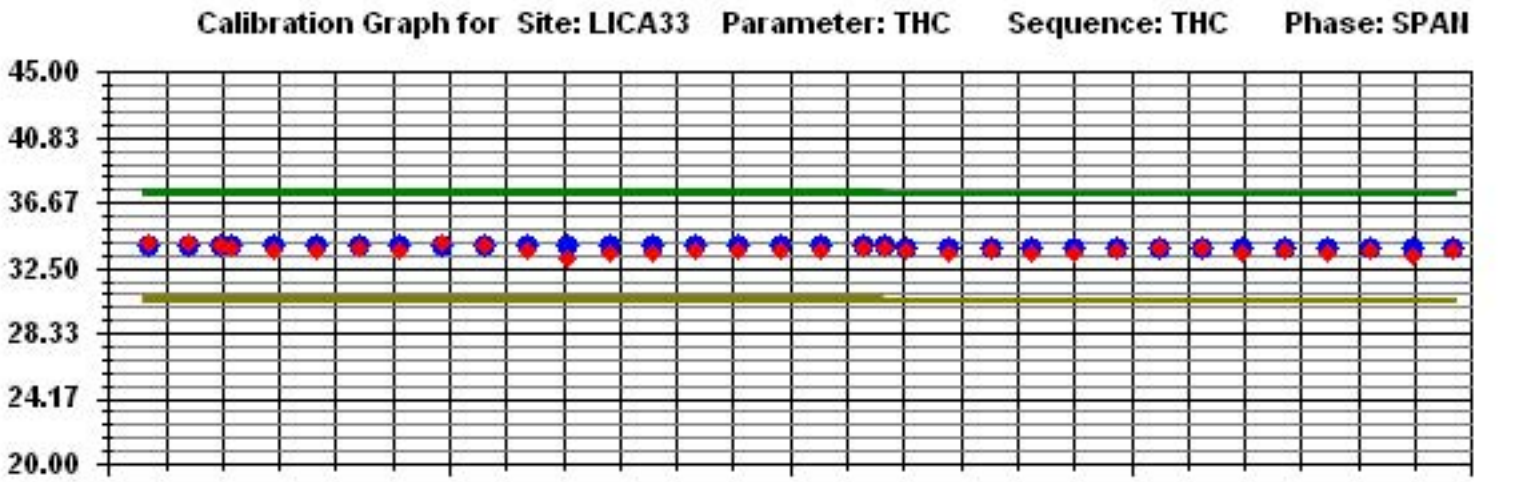
Logger : 33 Parameter : THC
Class Limits (PPM)

>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA33
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-33-C


Calibration Graph for Site: LICA33 Parameter: THC Sequence: THC Phase: SPAN
45.00
40.83
36.67
32.50
28.33
24.17
20.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

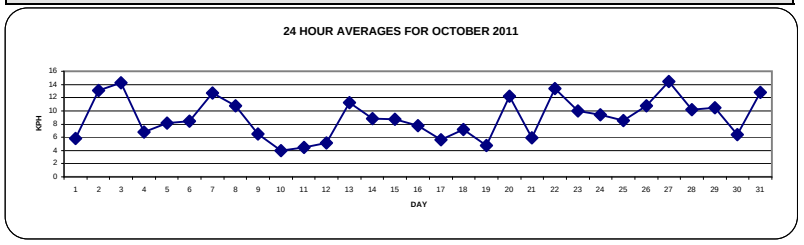
VECTOR WIND SPEED (WS) hourly averages (km/hr)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	8.8	8.7	8.1	9.5	10.6	10.2	13.2	10.4	12	14.9	12.5	8.2	10.4	8.4	6.2	3.9	2.7	1.7	1.6	0.7	4.3	4.6	9.8	10	14.9	5.8	24
2	14.9	16.9	16.4	13.3	15.4	15.3	13.6	12.5	14	17.7	18.3	18.5	20.3	19.4	16.5	14.5	13.3	8.5	7.2	7.5	6.9	9.1	7.5	5.7	20.3	13.1	24
3	7.3	7	7.6	7	6.1	11.5	11.2	10.4	14.9	15.6	17.4	18.8	18.2	17.5	18.3	19	21.4	16.8	17.1	17.8	17.6	16.4	17.6	16.9	21.4	14.3	24
4	16	15.8	15	11.2	10.2	15.2	17.6	16.3	14.4	16.2	12.5	6.1	8.8	8.1	7.6	7.5	7.6	6.4	8.1	7.6	5.5	6.4	5	5.9	17.6	6.8	24
5	7.2	8.7	6.9	10.8	6.3	7.1	4.6	4	4.9	7.9	8.5	8.3	8.9	10.5	9.8	11	11.4	9.2	9.4	10.5	7.7	7.5	6.9	6.8	11.4	8.1	24
6	5.5	5.7	8.6	7.4	7.6	8.1	7.8	6.9	7.5	9.3	11	11.9	12	12	11.5	9.6	9.1	8.3	7.2	6.6	7	6.7	7.5	7.3	12.0	8.4	24
7	5.7	6.4	5	2.9	8.3	9.5	9.9	9.4	12.3	11.2	11.9	12.7	14	18.2	23.2	19	20.2	11.1	10.9	15.2	16.6	17.3	16.5	17.9	23.2	12.7	24
8	17.5	15.6	13.1	12.8	13.2	12.1	10.9	11.6	11.3	14.4	11.4	14	15.1	16.9	15.5	12.2	7.2	4.8	1.1	2.8	4.9	6.7	7	7.1	17.5	10.8	24
9	6.9	8.3	8.6	6.4	11.4	7.9	11.4	9.9	13.8	10.6	10.3	7.4	7.3	7	5.3	2.9	3.3	1.5	2.8	2.2	0.9	4.3	3.2	1.6	13.8	6.5	24
10	2	1	4.2	3	1.9	2.9	3.5	0.6	2.1	3.5	5.3	2.9	2.7	6.7	9.4	7.7	6.5	5.8	4.1	3.5	3.5	4.6	3.2	4.5	9.4	4.0	24
11	1.9	1.5	2.9	3.2	4.1	3.2	3.2	2.8	4.1	6.3	5.6	9.8	10.3	9.5	7.1	6.2	7	4.1	2	1	2.6	3	3.1	2.8	10.3	4.5	24
12	1.6	1.3	1.1	1.8	2.1	0.4	2.4	7	10	8.4	10.3	9.3	9.3	7.3	7.4	8.4	8.8	6.4	5.8	5.1	3.2	2.2	1.6	1.1	10.3	5.1	24
13	2.1	5.5	7.8	8.3	8.6	8.8	9.8	8.5	9	9.1	11	13.2	16.3	16	14.9	14.6	13.5	14.1	14.3	14.1	13.3	13.6	12.9	11.4	16.3	11.3	24
14	11.7	11.7	9.7	10.7	11.3	10.7	6.7	7.5	9	10	9.6	11.3	11.5	10.9	11.7	10.9	8.5	6.1	6.2	6.1	8	6.8	3.1	2.3	11.7	8.8	24
15	3.8	6	5.8	6.4	7.4	7.9	9.3	12.3	13.1	15.2	12	12.9	12.5	11.1	10.7	8.1	6.6	6.3	8	7.1	8	8.7	7.1	2.9	15.2	8.7	24
16	6.3	6.5	5.9	4.9	5	4.5	3	2.4	3.9	8.6	11.2	11.1	16.8	15.8	15.7	13.7	10.1	8.4	8.4	5.5	3.7	5.7	4.5	4.5	16.8	7.8	24
17	3.3	4.5	3	3.9	2.6	4.2	5.9	6.6	7.4	7.3	7.7	7.4	10.6	13.5	12.1	9.2	4.7	3.4	3.8	0.8	4.3	5.8	2.9	0.5	13.5	5.6	24
18	3.2	4.5	5.3	4.1	4.9	6.4	7.2	7	5.3	5.5	3.5	5.5	7.9	8.8	11.1	6.2	8.4	8.4	9.3	11.1	10.3	12	11.6	5.8	12.0	7.2	24
19	4	4.8	4	5.1	4.2	4.7	4.4	1.7	8.1	7.9	5.8	4.8	5.6	6.6	0.4	3.1	5.8	6.7	6.9	3.6	3.2	2.7	5.3	4.7	8.1	4.8	24
20	5.1	6.4	9.9	10.5	11.3	7.1	7.4	14.6	13.4	16.3	21.6	21.6	21.2	19.6	19.5	15.8	12	10.6	9.5	9.8	10.7	7.3	6.3	5.8	21.6	12.2	24
21	5.7	5.3	5.8	7.3	7.3	2.8	3	0.9	2.9	6	5.6	2.2	7.1	9.3	9.7	6.1	5.6	6.5	7.4	7.7	8	7.8	6.4	5.4	9.7	5.9	24
22	5.2	4.4	3.2	7.3	12.8	11.5	12.2	14.5	16.2	17.4	21	26.2	25.4	25.3	24.6	22.3	15.3	12.1	9.1	9.7	7.6	7.2	5.2	6.5	26.2	13.4	24
23	4.1	2.5	1.6	1.2	2.9	2	0.6	4	6.3	7.6	13.4	18.7	19.6	19.5	25.7	19.8	16.6	10.7	9.9	10.6	11.1	12.3	11.2	8.8	25.7	10.0	24
24	8.5	9	11.1	9.5	5.6	7.8	9.7	9.9	7.4	9.3	8.5	11.9	15	13.3	12.7	11.4	8.4	5.9	6.5	7.8	9.5	9.1	9.5	7.5	15.0	9.4	24
25	6.2	7	5.7	5.4	6.2	4.2	6.7	7.3	6.6	9.8	11	10.9	13	11.6	12.1	13.1	13.9	9.1	9	7	8.4	7.4	6.6	6	13.9	8.5	24
26	5.6	5	4.8	2.9	3	3.5	5.8	5.4	5.9	15.2	17.7	22.2	23.9	**27.4**	22.3	17.3	16.4	7.6	7.3	6.1	15.2	4	4.2	10.3	**27.4**	10.8	24
27	10.9	10.1	12.6	13	12.9	11.6	11.4	12.1	12.8	12.1	14.9	23.3	21.6	24	22.3	20.1	15.7	12.3	11.8	13.9	12.8	9.7	11.2	12.7	24.0	**14.4**	24
28	11.6	10.4	10.1	6.1	4.7	4.7	2.2	4.3	3.2	5	5.7	13.3	17.9	19.2	17.4	19.4	13	11.6	12.5	14.5	12.2	9.9	8.2	7.6	19.4	10.2	24
29	3.9	3.4	6.4	3.7	9.6	8.6	6	7	8.3	10.8	15	16	18	19.4	19.2	18.1	17.4	9.4	11.8	10.4	7.7	8.2	7.7	4.7	19.4	10.4	24
30	5.5	6.7	7.5	4.8	3.7	4.2	3.8	4.8	3	4.4	7.2	6	6.7	9.3	9.1	9.8	10.1	7.3	3	1.3	8.4	6.3	8.7	12.2	12.2	6.4	24
31	11.8	11.6	8.9	11.4	10.9	6.8	8.2	6.1	12.5	12.3	9.6	18.8	19.3	17.5	19.7	21	12.9	10.8	13.1	13.5	10.7	11.1	13.2	15.9	21.0	12.8	24
HOURLY MAX	17.5	16.9	16.4	13.3	15.4	15.3	17.6	16.3	16.2	17.7	21.6	26.2	25.4	27.4	25.7	22.3	21.4	16.8	17.1	17.8	17.6	17.3	17.6	17.9			
HOURLY AVG	6.9	7.2	7.3	7.0	7.5	7.3	7.5	7.7	8.9	10.5	11.2	12.4	13.8	14.2	13.8	12.3	10.8	8.1	7.9	7.8	8.2	7.9	7.6	7.2			

STATUS FLAG CODES

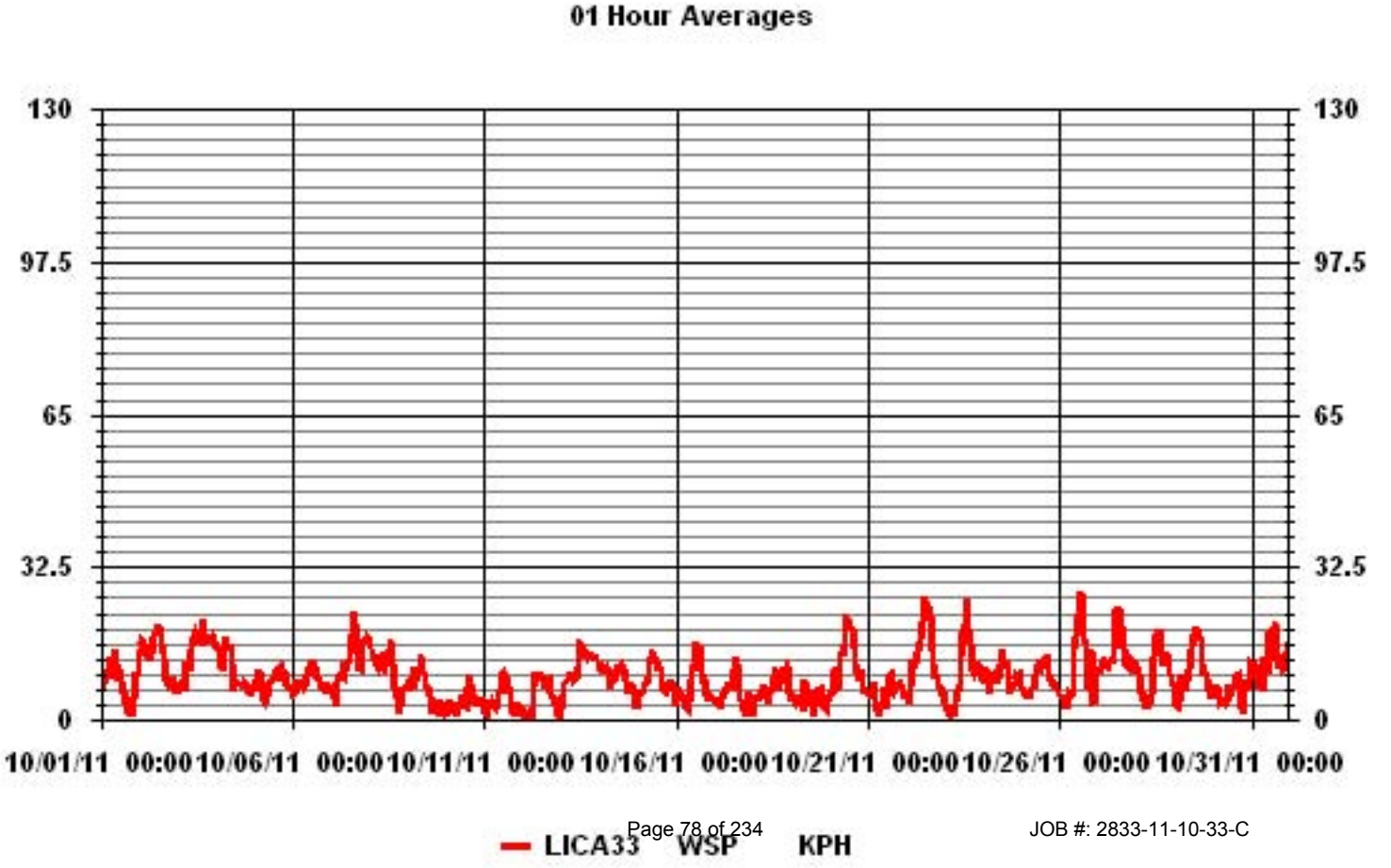
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	-MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



LAST CALIBRATION: September 24, 2009

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	27.4	KPH	@ HOUR(S)	13	ON DAY(S)	26	
MAXIMUM 24-HR AVERAGE:	14.4	KPH			ON DAY(S)	27	
CALMS (≤ 1 KPH)	0.00	%	OPERATIONAL TIME:		744	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME		100.0	%	
STANDARD DEVIATION:	5.07		MONTHLY AVERAGE:		9.20	KPH	



JOB #: 2833-11-10-33-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

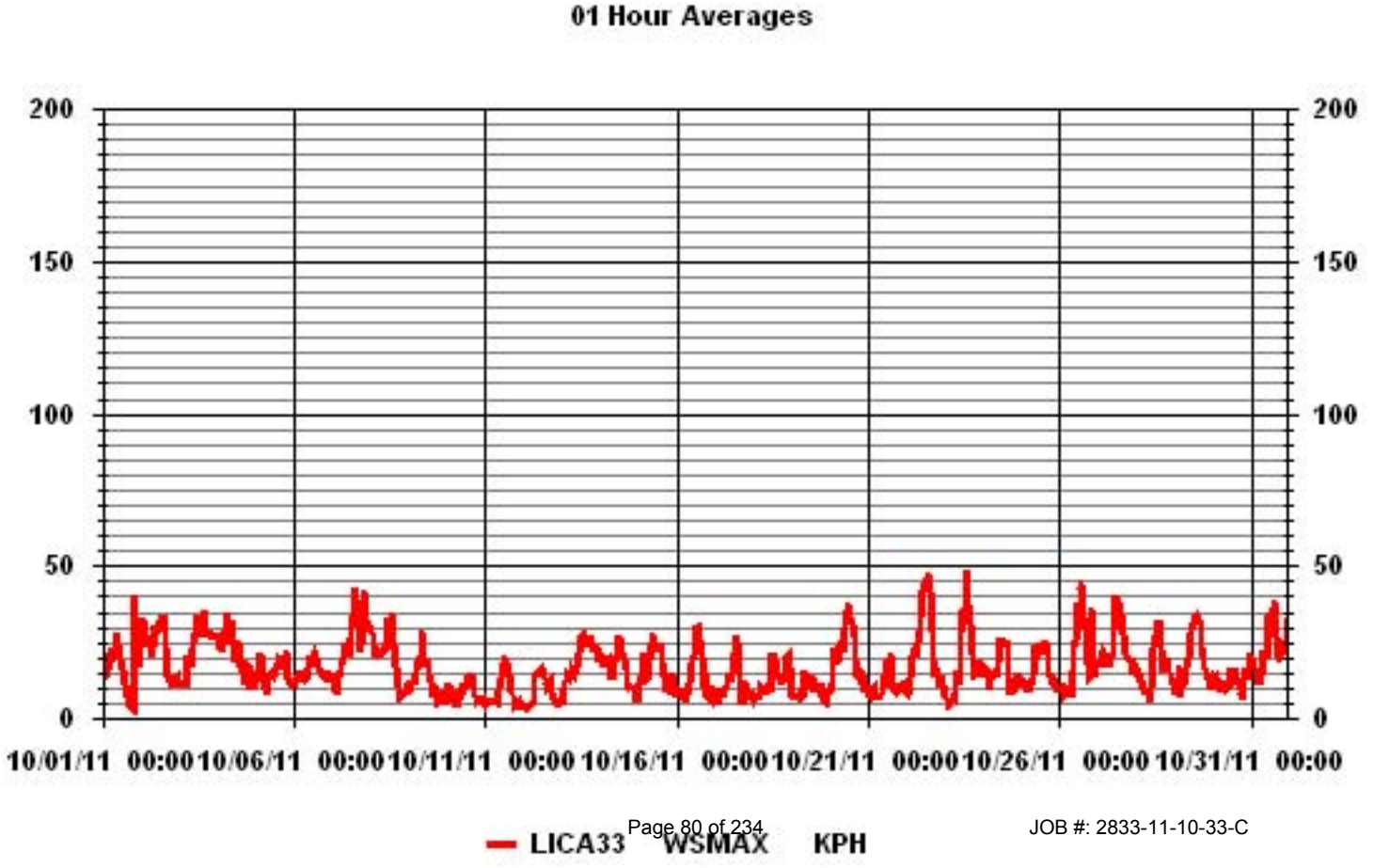
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	18.1	13.3	13.8	15.8	21	18.4	22.6	19.3	22.7	27.6	24.3	17.5	17.9	16.2	11.4	8	6.9	4.8	4	3.4	40.3	16.4	23.8	16.9	40.3
2	27.2	33.2	27.8	24.6	24.3	27.4	23.9	19.9	23.5	30.1	27.9	29.8	31.6	33.4	27.9	33.4	23.5	14.3	12.5	12.5	10.3	13	13.8	9.8	33.4
3	12.1	11.7	11.4	11.8	10.4	19.5	19.1	16.9	23.2	25.3	28.3	33.3	28.1	28	29.3	30.3	35.1	28.6	26.9	28.4	28.3	25.8	27.3	27.4	35.1
4	25.8	26	23.4	21.9	24.2	28.8	34.4	29.5	24	31.7	23.3	18.3	22.5	25.9	17.7	15	16.3	11.1	18.9	17.6	9.6	10.8	10.4	11	34.4
5	11.7	15.7	14	21.1	13.9	15.7	10	7.9	12.3	14.6	15.4	14.4	16.2	18.3	16	19.6	19	16.4	20.7	22.3	13.3	12	11.4	12.6	22.3
6	10.2	11.7	13.8	12.9	13	14.2	14.2	12.9	13.3	16.5	20.7	19.8	19.3	21.4	20.4	17.5	15.6	15.6	14.8	13.5	14	11.4	14.8	14.4	21.4
7	13.2	14.9	9.2	7.5	13.6	15.1	17.9	20.1	24.6	22.4	21.9	26.6	29.6	34	42.8	35.9	38.6	21.5	24.3	32.1	42.1	32.7	28.4	31	42.8
8	29.8	28.5	22.2	22.8	21.6	22.7	19.6	23.3	21.3	24.7	22.7	32.9	31.8	34.1	31.4	24.5	17.4	10.9	6.7	7	8.4	8.4	9.6	8.7	34.1
9	9	11.6	11.5	11.6	14.4	16.1	18.5	20.6	29.2	22.6	20.3	16.4	18.5	14.5	12.3	8.8	9.2	5	5.2	6.1	4.3	9.4	8.3	6.3	29.2
10	4.7	11.5	7	8.2	6.4	7.5	5.7	3.5	6.6	7.5	11.6	9.2	10.6	13.8	14.4	14.3	11	7.9	5.6	6	6.1	6.8	6.2	6.9	14.4
11	4.8	5.8	6.1	5.8	5.6	6	5.7	5.2	8.7	10.5	13.3	17.9	20.4	18.4	16.1	11.2	11.9	8.2	4.2	4.8	5.3	4.7	5.8	4.8	20.4
12	4.8	4	3.6	4.2	4.9	4.8	5.7	14.3	14.9	14.6	15.5	16.5	14.9	13.2	11.1	12.2	12.8	9.4	8.5	7.3	5.8	5.4	5.1	5.7	16.5
13	4.2	9.9	12.3	14.3	13.4	14.6	16.5	15.5	14.5	16.5	20.9	21.9	26.5	27.1	24.8	24.4	24.7	25.5	27.3	24.3	21.9	24	23.6	19.6	27.3
14	19.9	21.6	18	18.2	19.1	19.7	14.2	12.9	16.8	19.2	19.2	24.2	27.3	23.9	22	19.9	16.8	10.8	10.2	10.7	10.2	10.5	6.3	5.5	27.3
15	11.1	13.3	13.2	21.7	12.5	12.8	16.7	19.3	25	28	22.1	24.2	24.5	23.6	23.9	18.7	14	9.1	10	9.5	13.7	13.6	9.5	6.9	28
16	10.4	8.5	8.8	7.7	8.5	9.4	5.1	7.3	11.5	18.1	19.3	20.5	30.1	30.5	26.4	22.7	20.2	12.7	13.3	7.6	6.8	9.2	9.7	8.8	30.5
17	6.1	6.9	6.5	9.4	8.4	6.9	10.2	10.4	13.4	13.4	13	14.5	21.4	27	25	19.1	8.2	4.9	6.2	12.3	8.5	7.8	7.5	8.8	27
18	6.5	7.3	7.6	7.3	10.5	9.9	9.9	9.4	9	10.8	10.4	16.5	21.7	20.2	19.2	15	13.4	12.2	12.4	14.1	13.9	20.4	21.1	17.3	21.7
19	7.9	6.8	6.8	7.3	6.8	9	8.5	6.3	15.8	15	10.5	11.1	12.9	13.9	8.8	10	10.9	10.8	11	8.1	6.2	5.7	8.9	8.9	15.8
20	9.3	11.6	18.1	23.4	18.8	18	23.5	25.3	21.5	29.5	35.4	37.1	36.8	33.1	31.4	27.2	19.7	14.6	13.6	16.2	14.6	14.1	9	10.3	37.1
21	7.8	7.3	8.8	10	10.7	7.5	7.7	7.4	7.8	12.5	11.9	10	18.3	19.3	21.6	17.2	9.5	8.6	9.6	10.3	10.5	11	12.1	9.4	21.6
22	8.8	13.2	7.3	13.3	20.8	22.8	20	24.5	28.6	32.8	42.1	43.2	43.3	45.8	48.1	42.3	29.3	20	13.8	16.4	13	10	14.1	11.6	48.1
23	8.1	6.6	4.7	5.2	6.4	7.3	6.7	15.7	10.8	16	28.5	35.2	35.8	34.4	**48.6**	37.6	31.4	21.6	14.2	14.6	18	17.6	17.6	14.1	**48.6**
24	15.1	15.4	16.8	16.3	9.7	12.5	15.1	15.2	13.8	16.3	18	26.1	24.3	26.1	23.3	25.7	13.4	7.7	10.7	10.3	12.9	13.9	13.7	13	26.1
25	10	12.3	12.1	8.8	11.6	8.8	11.2	12.6	14.1	24	19.3	23	24.8	22.2	22.3	25.5	24	13.6	14.8	10.9	13.6	10.9	9.7	9.4	25.5
26	9.8	9.9	10.3	7.6	8.3	9.4	8	7.9	15.8	23.5	25.9	37.3	37.1	43.5	42.8	29.3	32.6	18.3	13.2	13.6	36.3	18	13.1	17.4	43.5
27	17.8	16.6	21.3	22.8	21.5	20.8	17.4	17.4	21.1	21.4	28.6	40.2	35.3	37.6	36.6	34.7	27.8	21.8	19.2	20.6	19	14.7	16.3	17.8	40.2
28	16.9	13.6	14.6	12.7	10.3	9.3	7.9	9.7	5.6	8.2	9.8	22.9	26.8	30	32.3	30.6	22.8	15.4	16.5	20	18.9	15.6	13.4	12	32.3
29	7.5	10	13.1	6.5	16.4	16.1	11.7	12.3	16.9	20	28.1	29.3	30.9	33	33.7	32.2	31.2	20	23.4	17	14.1	12.7	13.4	9.7	33.7
30	11.6	12.7	13.6	10.7	8.2	11	11	11.2	11.4	9.7	10.3	16.6	14.9	14	16.1	13.8	12.9	10.2	8.9	6.3	16.4	12.7	13.9	21.2	21.2
31	19.5	19.5	15.9	16.8	16.3	11.5	12.7	14.4	22.4	19.9	20.3	33	33.6	30.2	35.8	38.6	27.5	20.5	18.8	21.7	22.9	20.8	25.8	32.1	38.6
PEAK	29.8	33.2	27.8	24.6	24.3	28.8	34.4	29.5	29.2	32.8	42.1	43.2	43.3	45.8	48.6	42.3	38.6	28.6	27.3	32.1	42.1	32.7	28.4	32.1	

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	48.6	KPH	@ HOUR(S)	14
			ON DAY(S)	23



JOB #: 2833-11-10-33-C

LICA33
WSP / WDR Joint Frequency Distribution (Percent)

October 2011

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	.53	.67	1.07	1.20	1.07	2.41	1.61	1.47	.94	1.47	5.10	2.41	2.28	1.61	1.74	2.28	27.95
<	12.0	1.61	1.88	1.74	2.01	2.28	2.01	.80	2.28	.80	.26	5.10	8.60	8.46	4.97	1.47	2.01	46.37
<	20.0	.26	.00	.67	1.74	3.09	.40	.26	.94	.26	.00	.13	2.95	5.64	5.10	.94	.00	22.44
<	29.0	.00	.00	.00	.13	.13	.00	.00	.40	.13	.00	.00	.00	.67	1.74	.00	.00	3.22
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.41	2.55	3.49	5.10	6.58	4.83	2.68	5.10	2.15	1.74	10.34	13.97	17.06	13.44	4.16	4.30	

Calm : .00 %

Total # Operational Hours : 744

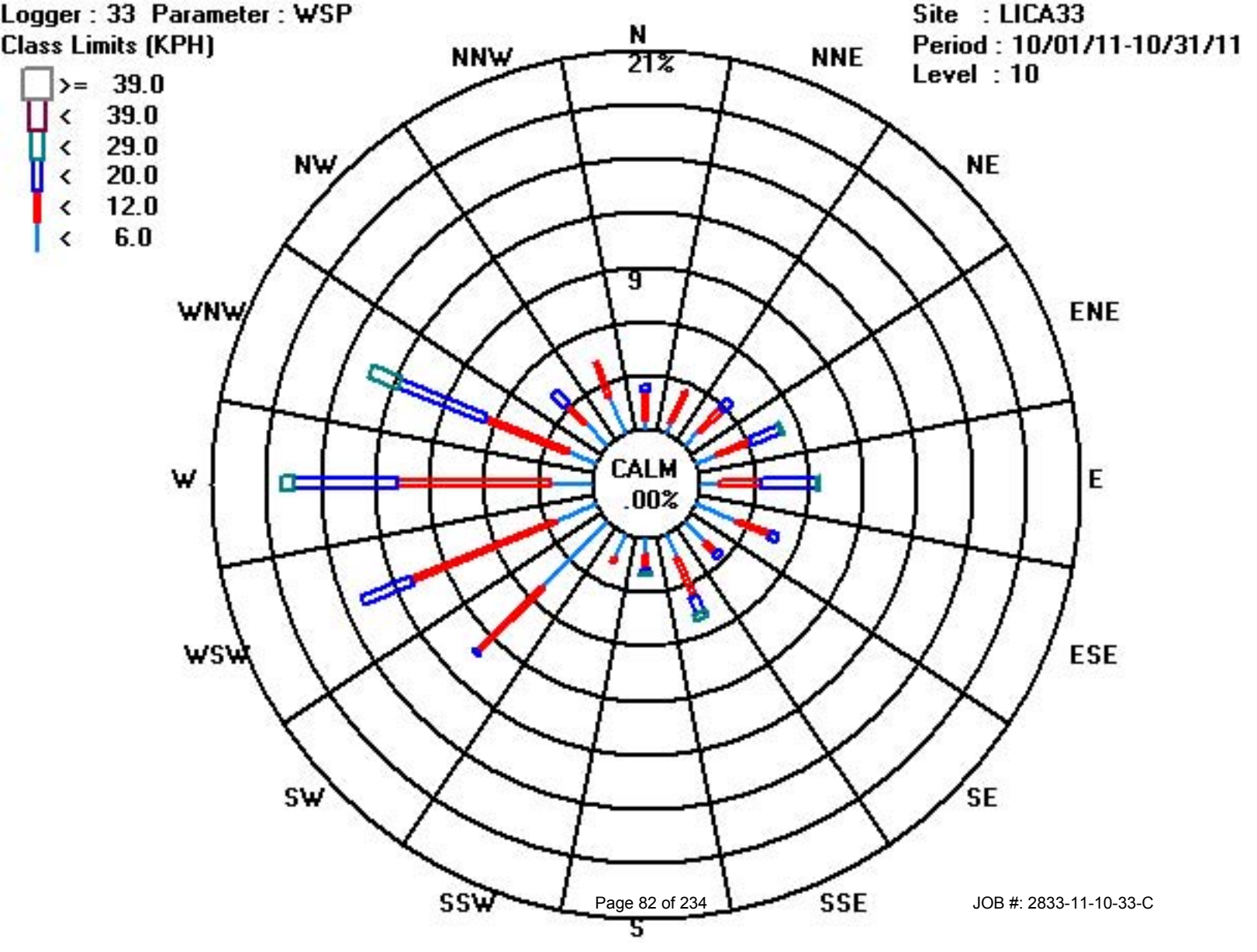
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	4	5	8	9	8	18	12	11	7	11	38	18	17	12	13	17	208
<	12.0	12	14	13	15	17	15	6	17	6	2	38	64	63	37	11	15	345
<	20.0	2		5	13	23	3	2	7	2		1	22	42	38	7		167
<	29.0				1	1			3	1				5	13			24
<	39.0																	
>=	39.0																	
	Totals	18	19	26	38	49	36	20	38	16	13	77	104	127	100	31	32	

Calm : .00 %

Total # Operational Hours : 744



JOB #: 2833-11-10-33-C

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

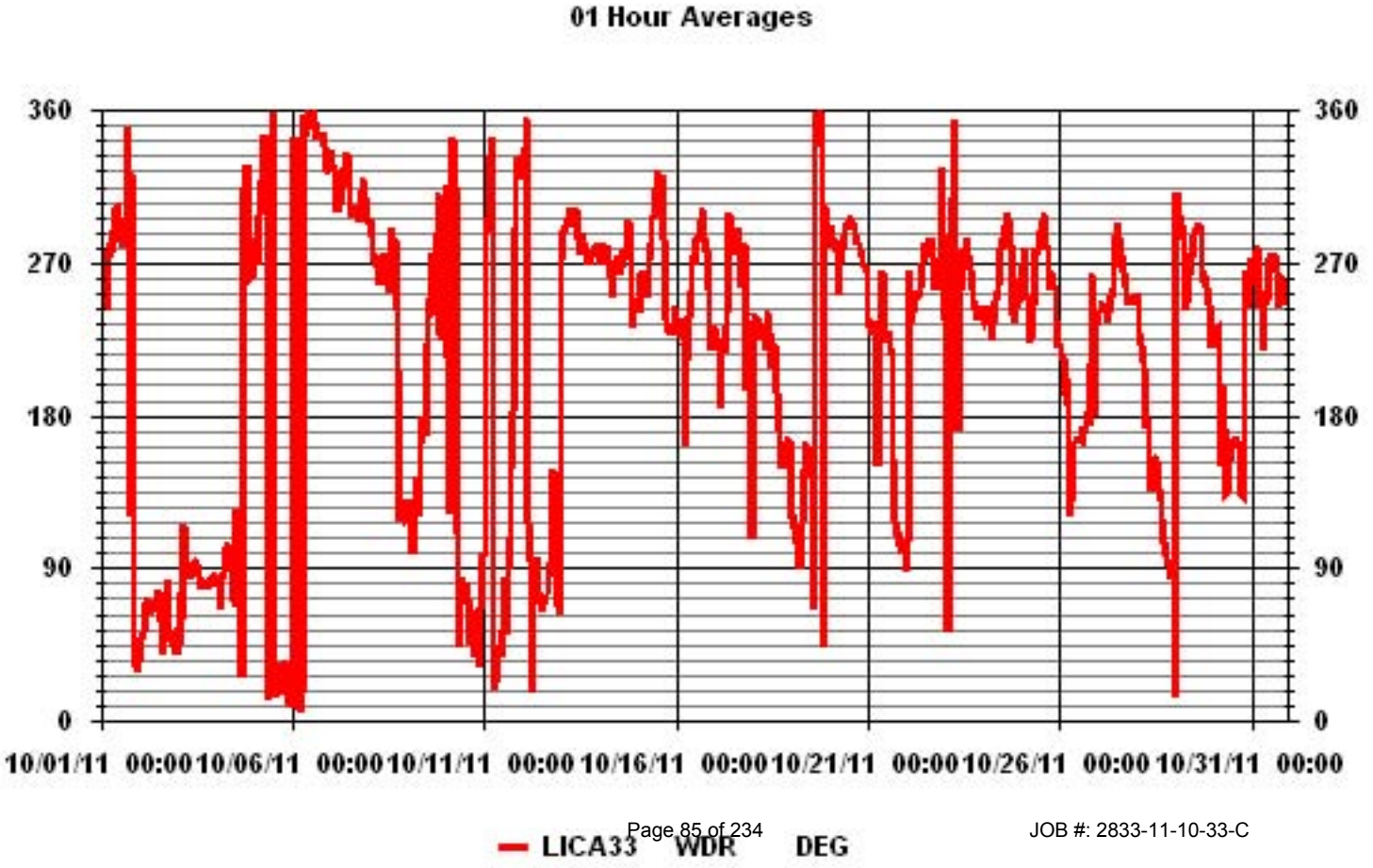
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	278	264	253	242	275	275	282	276	289	301	302	282	294	279	285	297	337	350	120	323	135	45	33	29	291	WNW	24
2	34	48	51	53	69	73	68	63	65	69	69	74	77	60	39	73	70	65	83	55	48	44	52	39	61	ENE	24
3	55	76	44	59	115	106	91	83	93	89	91	94	93	86	78	82	82	80	79	79	80	83	84	85	84	E	24
4	85	84	80	66	83	88	102	105	94	92	72	71	67	124	116	89	26	315	327	311	327	286	261	262	79	ENE	24
5	274	278	268	298	318	328	346	338	332	12	16	22	359	14	17	34	32	17	17	36	15	23	11	9	359	N	24
6	344	334	9	6	344	5	16	357	345	349	358	357	358	352	352	343	348	344	344	345	340	325	323	337	350	N	24
7	333	328	326	312	300	302	305	315	326	331	335	322	302	297	300	298	303	301	294	313	320	310	300	294	309	NW	24
8	294	287	272	272	276	269	259	259	262	275	261	263	253	275	290	277	284	243	208	118	130	127	130	119	268	W	24
9	120	130	117	98	118	124	144	120	164	179	173	168	223	237	249	276	263	239	288	311	229	224	267	234	163	SSE	24
10	316	215	121	155	344	328	316	111	43	68	84	82	78	79	72	45	58	57	37	65	66	31	66	98	62	ENE	24
11	100	297	290	333	288	344	19	22	40	44	37	53	84	54	52	89	108	148	182	291	323	332	319	324	42	NE	24
12	333	338	356	118	117	95	17	68	83	96	70	75	64	69	72	74	90	89	105	148	109	125	69	63	81	E	24
13	289	271	288	292	296	291	301	301	294	302	285	275	284	285	283	277	271	271	275	277	273	279	280	280	283	W	24
14	271	271	281	274	277	280	272	262	249	269	271	274	264	266	268	276	277	271	295	276	231	236	246	248	269	W	24
15	246	240	264	266	252	250	262	271	282	297	298	314	324	319	318	319	284	238	230	230	230	227	234	245	276	W	24
16	236	232	226	229	237	223	161	212	238	254	274	268	283	283	286	295	303	293	286	278	255	225	218	226	266	W	24
17	233	222	223	223	184	218	218	233	240	299	292	276	276	284	279	291	278	256	260	281	194	224	195	107	257	WSW	24
18	236	240	231	239	224	229	231	234	218	242	229	208	219	217	222	194	172	154	149	154	165	157	167	165	196	SSW	24
19	120	123	115	106	92	89	115	118	148	164	142	160	160	162	65	359	344	338	360	348	43	304	284	280	115	ESE	24
20	283	292	281	284	277	279	251	270	278	286	291	291	294	298	294	292	287	283	282	278	275	268	270	266	284	WNW	24
21	239	233	228	231	230	236	150	214	247	265	236	225	223	229	221	217	155	119	109	112	104	98	104	107	191	S	24
22	88	106	265	235	241	251	250	251	251	256	270	282	278	273	283	283	283	274	254	271	254	260	326	240	267	W	24
23	237	286	52	260	308	291	354	220	170	217	254	276	277	272	285	276	267	255	249	243	238	236	245	239	260	WSW	24
24	238	235	237	245	234	224	235	247	254	248	257	278	284	280	292	299	296	281	240	235	239	243	247	258	257	WSW	24
25	257	270	279	248	251	222	234	226	245	277	277	289	293	292	300	280	279	257	254	266	255	257	237	222	267	W	24
26	221	217	214	192	203	187	121	129	144	164	165	165	167	166	173	170	171	180	179	211	264	179	226	233	178	S	24
27	237	241	245	245	244	237	237	240	250	255	267	286	294	282	285	276	265	257	247	246	246	246	250	251	260	WSW	24
28	250	250	230	222	213	209	172	178	135	146	155	152	155	154	137	130	120	106	99	96	91	93	83	86	140	SE	24
29	13	312	309	300	284	292	263	243	246	262	275	273	286	290	291	291	288	266	259	263	257	247	246	221	276	W	24
30	221	231	232	221	150	197	197	173	134	135	153	165	161	165	168	161	165	154	134	133	265	250	244	273	192	S	24
31	268	270	256	277	280	243	253	218	245	249	247	272	274	274	271	275	265	243	247	245	253	246	259	258	261	W	24
HOURLY AVG	344	338	356	333	344	344	354	357	345	349	358	357	359	352	352	359	348	350	360	348	340	332	326	337			

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:	744	HRS
STANDARD DEVIATION	90.77		AMD OPERATION UPTIME	100.0	%
			MONTHLY AVERAGE	271	DEG



JOB #: 2833-11-10-33-C

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

OCTOBER 2011

STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

MST

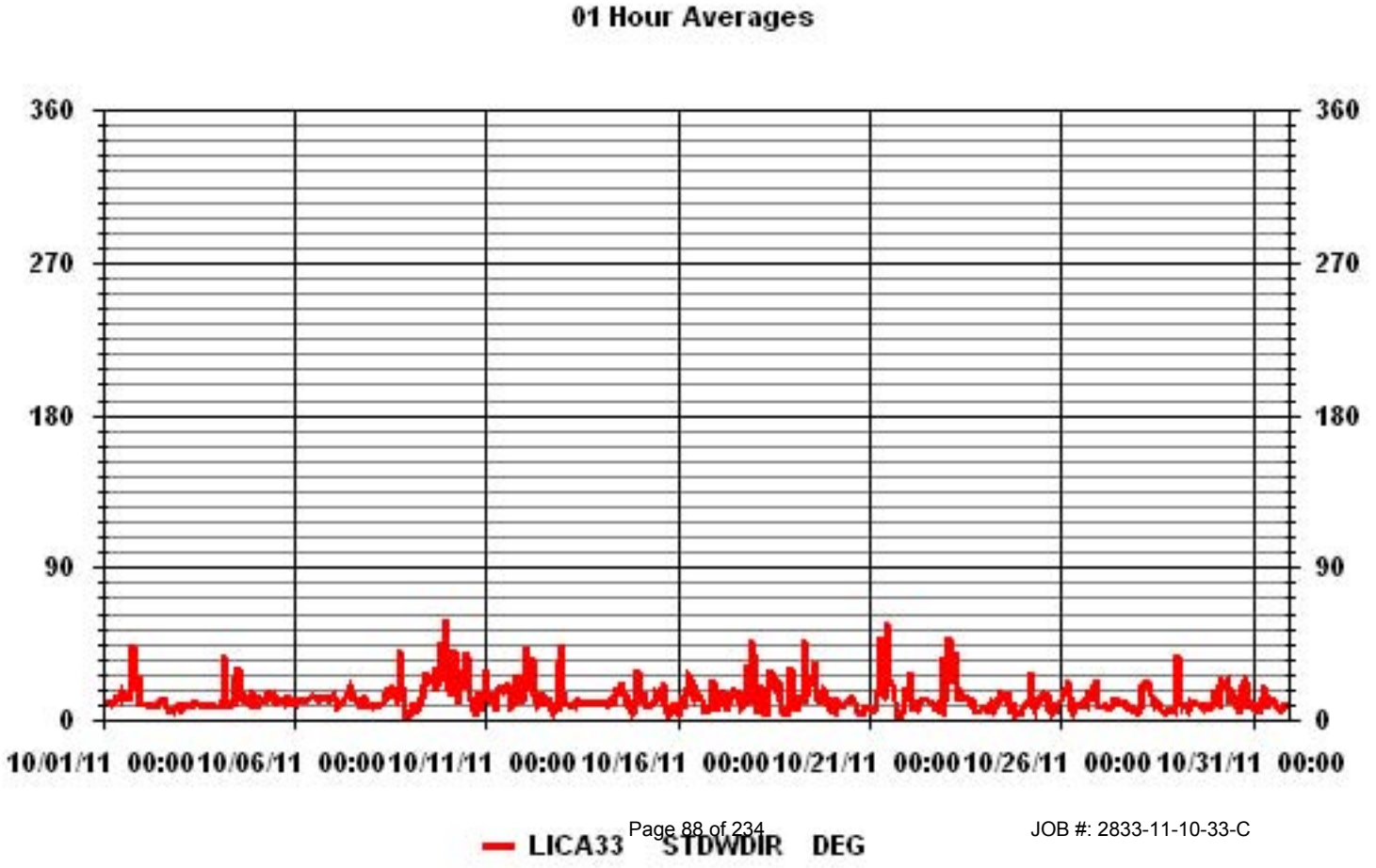
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	12	10	10	10	11	11	9	10	12	13	14	16	14	16	16	13	13	14	16	45	33	25	26	10
2	10	9	9	10	8	8	8	9	8	9	9	10	10	12	11	13	8	6	6	7	5	6	8	8
3	10	6	7	8	10	9	9	9	11	9	10	10	9	9	9	9	9	8	8	8	8	8	8	8
4	8	8	9	11	38	10	8	8	10	9	9	24	28	31	20	11	16	9	12	11	14	12	16	16
5	6	10	14	10	12	12	15	14	16	16	15	12	14	12	13	13	12	11	12	10	11	10	13	12
6	13	12	10	12	11	11	11	11	12	12	13	13	14	14	14	14	12	14	13	14	13	12	12	14
7	15	13	12	8	9	10	11	13	13	13	17	20	17	14	13	12	12	10	7	12	13	12	10	9
8	9	8	9	9	8	9	10	11	14	13	18	18	19	19	15	14	13	16	41	21	13	3	4	3
9	5	3	4	10	4	9	8	12	13	20	20	28	25	24	22	27	17	32	20	46	37	25	26	60
10	29	18	14	16	41	24	8	28	29	23	18	41	38	21	11	14	6	3	5	10	16	5	14	10
11	30	18	14	9	12	11	5	17	19	15	20	18	19	21	21	15	8	9	19	27	16	13	12	10
12	27	42	37	25	16	36	15	11	9	10	10	16	11	14	11	11	8	7	5	8	10	9	35	44
13	17	15	9	9	9	8	10	11	9	11	11	11	11	10	10	10	11	10	9	10	11	9	9	9
14	10	11	10	10	9	10	11	9	13	15	18	14	19	22	17	15	9	9	7	8	5	6	27	30
15	12	9	14	16	9	9	10	9	11	11	16	14	17	19	19	22	10	5	3	5	7	5	5	11
16	6	4	6	14	7	19	17	26	25	16	14	16	13	16	13	13	11	5	5	5	8	6	23	9
17	5	9	16	11	17	15	10	5	10	15	16	19	16	17	17	12	7	8	11	32	10	12	48	40
18	11	6	7	18	20	9	4	4	12	17	29	29	20	22	16	23	13	5	4	4	3	6	8	32
19	18	8	7	10	14	9	14	47	9	15	19	24	27	20	34	19	13	10	16	19	19	15	8	13
20	7	6	5	14	7	9	9	9	8	10	11	11	12	13	11	10	7	5	4	5	5	7	7	8
21	7	6	6	6	7	18	16	49	16	14	16	58	23	23	21	20	12	3	2	2	4	5	13	20
22	10	18	28	8	7	9	7	9	11	12	12	12	12	12	11	9	10	7	7	9	7	6	37	12
23	13	26	49	31	21	34	41	21	11	18	13	12	13	14	11	12	11	8	5	5	6	5	6	7
24	7	7	7	6	10	9	6	7	12	12	18	15	12	15	16	9	6	3	10	4	5	6	5	5
25	7	9	9	10	10	29	8	7	13	11	13	14	12	15	14	14	7	7	5	7	6	6	9	11
26	12	17	14	19	24	20	8	6	9	8	10	9	9	9	11	9	9	18	12	17	11	20	23	9
27	8	8	8	8	8	7	6	8	9	13	13	11	11	11	10	11	10	8	7	6	7	7	5	4
28	4	4	7	20	21	19	23	21	15	11	12	9	10	10	8	7	6	4	4	6	5	6	6	6
29	18	38	13	11	8	10	9	9	7	10	9	10	10	10	10	9	8	7	8	8	11	5	7	16
30	16	10	9	21	25	21	21	21	23	15	9	17	16	9	10	8	5	7	21	25	23	14	6	9
31	7	7	8	5	5	10	8	21	9	9	12	11	11	12	11	9	8	7	6	7	9	10	10	10

STATUS FLAG CODES

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

LAST CALIBRATION: September 24, 2009

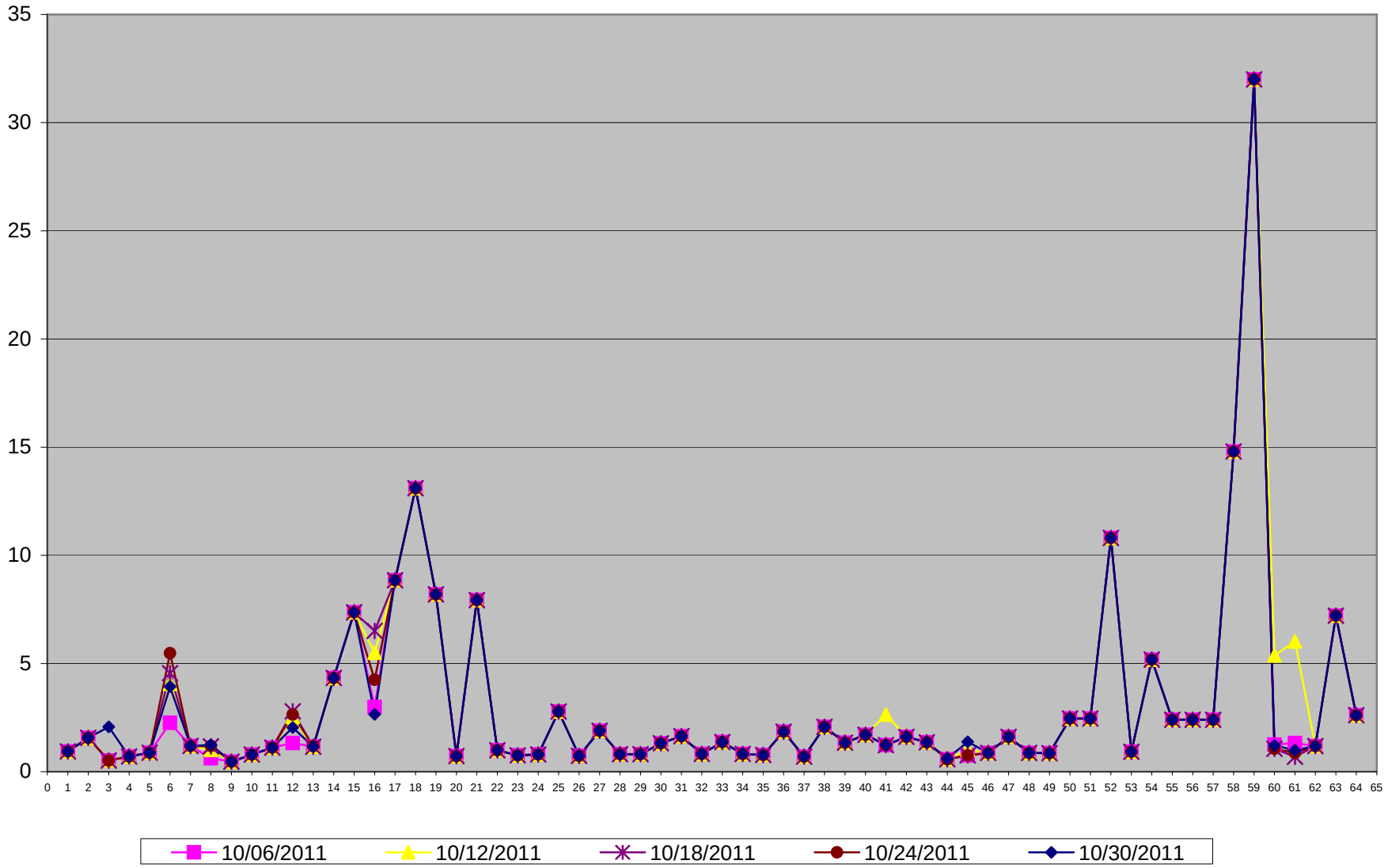
CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 744 HRS



JOB #: 2833-11-10-33-C

Volatile Organics

Volatile Organics in ug/m3 Site: LICA - Portable Site



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

Polycyclic Aromatic Hydrocarbons

Polycyclic Aromatic Hydrocarbons (PAHs) Results for October 2011

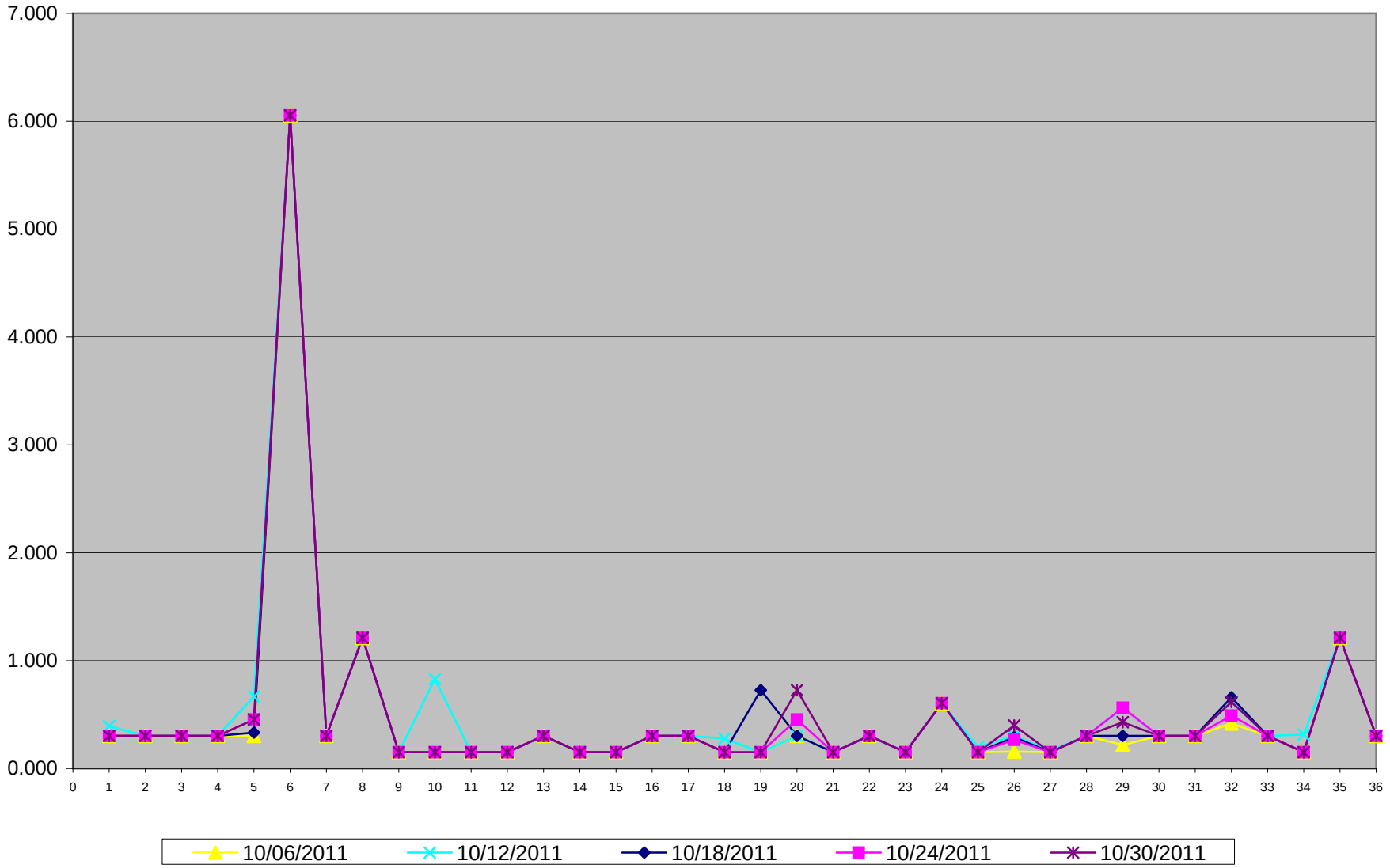
LICA- Portable Site

Unit: ng/m3

	PAHs	10/06/2011	10/12/2011	10/18/2011	10/24/2011	10/30/2011
	Sample Volume (unit: m3)	330.34	330.33	330.34	330.34	330.36
1	1-Methylnaphthalene	0.303	0.394	0.303	0.303	0.303
2	1-Methylphenanthrene	0.303	0.303	0.303	0.303	0.303
3	2-Chloronaphthalene	0.303	0.303	0.303	0.303	0.303
4	2-Methlyanthracene	0.303	0.303	0.303	0.303	0.303
5	2-Methylnaphthalene	0.303	0.666	0.333	0.454	0.454
6	3-Methylcholanthrene	6.054	6.055	6.055	6.054	6.054
7	7,12-Dimethylbenzo(a)anthracene	0.303	0.303	0.303	0.303	0.303
8	9,10-Dimethylanthracene	1.211	1.211	1.211	1.211	1.211
9	Acenaphthene	0.151	0.151	0.151	0.151	0.151
10	Acenaphthylene	0.151	0.829	0.151	0.151	0.151
11	Anthracene	0.151	0.151	0.151	0.151	0.151
12	Benzo(a)anthracene	0.151	0.151	0.151	0.151	0.151
13	Benzo(a)fluorene	0.303	0.303	0.303	0.303	0.303
14	Benzo(a)pyrene	0.151	0.151	0.151	0.151	0.151
15	Benzo(b)fluoranthene	0.151	0.151	0.151	0.151	0.151
16	Benzo(b)fluorene	0.303	0.303	0.303	0.303	0.303
17	Benzo(e)pyrene	0.303	0.303	0.303	0.303	0.303
18	Benzo(g,h,I)perylene	0.151	0.279	0.151	0.151	0.151
19	Benzo(k)fluoranthene	0.151	0.151	0.727	0.151	0.151
20	Biphenyl	0.303	0.303	0.303	0.454	0.726
21	Chrysene	0.151	0.151	0.151	0.151	0.151
22	Coronene	0.303	0.303	0.303	0.303	0.303
23	Dibenz(a,h)anthracene	0.151	0.151	0.151	0.151	0.151
24	Dibenzo(a,e)pyrene	0.605	0.605	0.605	0.605	0.605
25	Fluoranthene	0.151	0.200	0.151	0.151	0.151
26	Fluorene	0.157	0.303	0.291	0.266	0.400
27	Indeno(1,2,3-cd)pyrene	0.151	0.163	0.151	0.151	0.151
28	m-Terphenyl	0.303	0.303	0.303	0.303	0.303
29	Naphthalene	0.218	0.557	0.303	0.563	0.430
30	o-Terphenyl	0.303	0.303	0.303	0.303	0.303
31	Perylene	0.303	0.303	0.303	0.303	0.303
32	Phenanthrene	0.418	0.618	0.660	0.490	0.618
33	p-Terphenyl	0.303	0.303	0.303	0.303	0.303
34	Pyrene	0.151	0.315	0.151	0.151	0.151
35	Quinoline	1.211	1.211	1.211	1.211	1.211
36	Tetralin	0.303	0.303	0.303	0.303	0.303

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

PAHs in ng/m3 Site: LICA - Portable Site



1	1-Methylnaphthalene
2	1-Methylphenanthrene
3	2-Chloronaphthalene
4	2-Methlyanthracene
5	2-Methylnaphthalene
6	3-Methylcholanthrene
7	7,12-Dimethylbenzo(a)anthracene
8	9,10-Dimethylanthracene
9	Acenaphthene
10	Acenaphthylene
11	Anthracene
12	Benzo(a)anthracene
13	Benzo(a)fluorene
14	Benzo(a)pyrene
15	Benzo(b)fluoranthene
16	Benzo(b)fluorene
17	Benzo(e)pyrene
18	Benzo(g,h,I)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	October 19, 2011		Previous Calibration	September 20, 2011	
Company	**Lakeland Community and Industry Association**				
Plant / Location	**Portable / Devon Wellsite 13-16-62-5 W4M**				
Start Time (MST)	12:53		End Time (MST)	16:52	
Reason:			Monthly Calibration		
Barometric Pressure	0.931	atm	Station Temperature	24	Deg C
Cal Gas	48.3 ppm	Gas Cyl. #	LL103831	Cal Gas Expiry date	February 28, 2013
DAS Output Voltage	0 - 1	Volts	Chart Rec. Output	NA	Volts

Equipment Information

Analyzer Make / Model:	API 100E	S/N :	467	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 - 1000 ppb							
Sample Flow / Box Temp	576	ccm	33.2	Deg C	576	ccm	33.2	Deg C
HVPS / Lamp Setting	612		1953		612		1951	
PMT / RxCell Temp	8.1	Deg C	50	Deg C	8.1	Deg C	50	Deg C
Converter / IZS Temp	NA	Deg C	45	Deg C	NA	Deg C	45.0	Deg C
Offset / Slope	82.9		1.015		87.2		1.008	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	2	N/A
4995	0	0	0	N/A
4919	77.7	751	757	0.9922
4919	77.7	751	752	0.9988
4958	41.4	400	404	0.9900
4983	17.6	170	171	0.9941
4995	0	0	0	N/A
		Sum of Least Squares		0.9918
		New Correction Factor		0.9988

	Before Calibration	After Calibration
Auto Zero	3.0	0.7
Auto Span	374.0	372.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	0.9984
Current Correction Factor Before Span Adjust:	0.9922
Percent Change:	0.6%

Notes: **N/A : Not applicable**

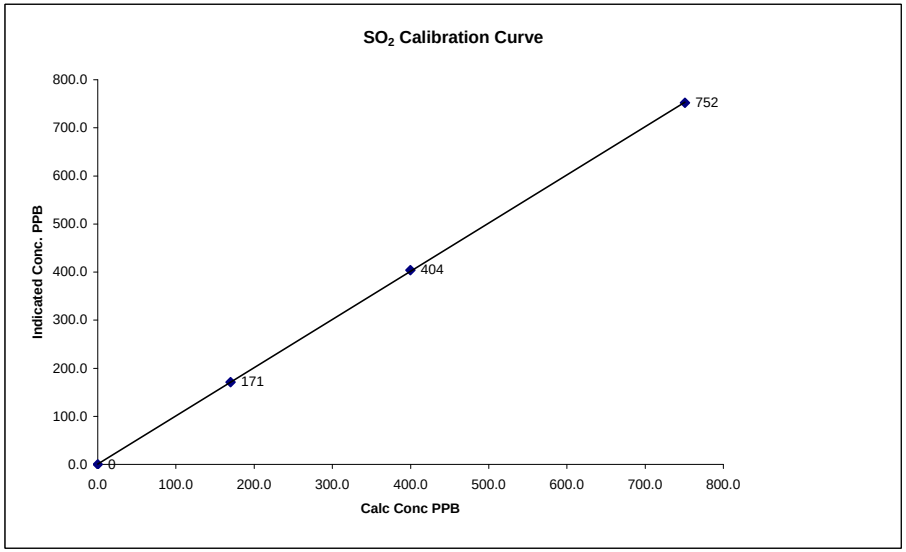
Calibration Performed by: Ting Xu

SO_2 Calibration Curve

Calibration Date	October 19, 2011		
Company	**Lakeland Community and Industry Association**		
Plant / Location	**Portable / Devon Wellsite 13-16-62-5 W4M**		
Start Time (MST)	12:53	End Time (MST)	16:52

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
170	171	0.9941
400	404	0.9900
751	752	0.9988

Correlation Coefficient	(≥ 0.995)	0.999974
Slope	(0.85 to 1.15)	1.001604
Intercept	(± 3% F.S.)	0.958991



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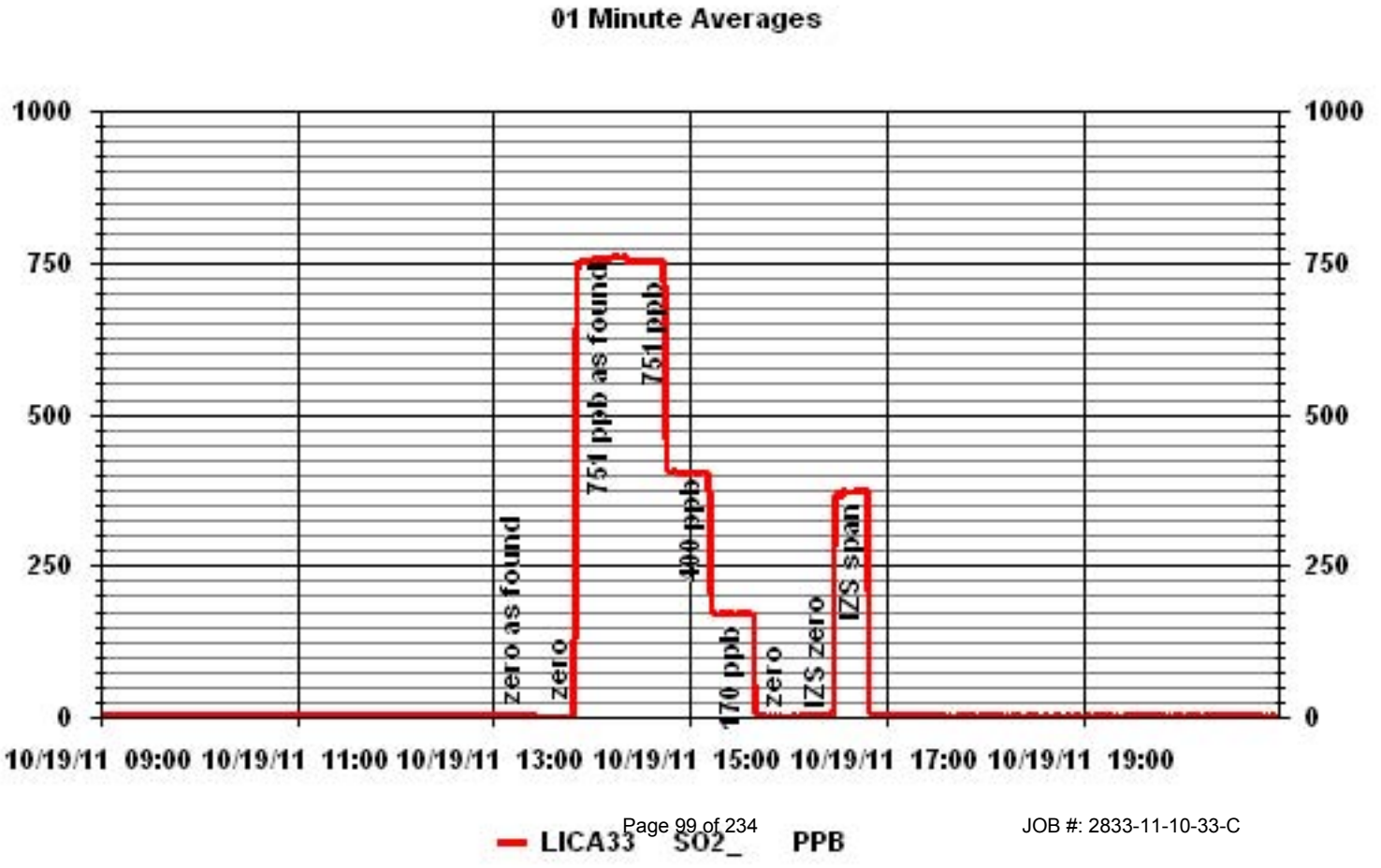


JOB #: 2833-11-10-33-C

Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	October 18, 2011		Previous Calibration	September 19, 2011	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	Portable/ Devon Wellsite 13-16-62-5-W4M				
Start Time (MST)	8:56		End Time (MST)	12:50	
Reason:			Monthly Calibration		
Barometric Pressure	0.944	atm	Station Temperature	22	Deg C
Cal Gas	10.2 ppm	Gas Cyl. #	blm000804	Cal Gas Expiry date	February 2, 2012
DAS Output Voltage	0 - 1	Volts	Chart Rec. Output	NA	Volts

Equipment Information

Analyzer Make / Model:	API 101E	S/N :	509	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range				0 - 100 ppb				
Sample Flow / Box Temp	531	ccm	32.4	Deg C	531	ccm	32.4	Deg C
HVPS / Lamp Setting	540		1923		540		1924	
PMT / RxCell Temp	7.9	Deg C	50	Deg C	7.9	Deg C	50	Deg C
Converter / IZS Temp	314.9	Deg C	45	Deg C	315.6	Deg C	45.0	Deg C
Offset / Slope	61.6		1.041		65		1.036	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	2	NA
4995	0	0	0	1.0000
4959	39.2	80	81	0.9876
4959	39.2	80	80	1.0000
4981	19.6	40	41	0.9751
4986	11.3	23	24	0.9610
4995	0	0	0	NA
			Sum of Least Squares	0.9927
			New Correction Factor	1.0000

	Before Calibration	After Calibration
Auto Zero	2.2	0.5
Auto Span	58.0	56.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9876
Percent Change:	1.3%

Notes: **NA : Not Applicable**

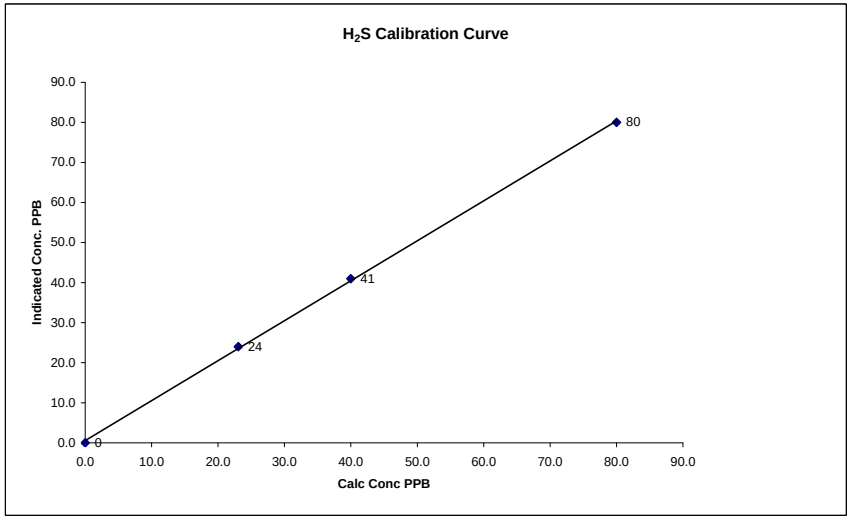
Calibration Performed by: Ting Xu

H_2S Calibration Curve

Calibration Date	October 18, 2011				
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	Portable/ Devon Wellsite 13-16-62-5-W4M				
Start Time (MST)	8:56		End Time (MST)	12:50	

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	
23	24	0.9610
40	41	0.9751
80	80	1.0000

Correlation Coefficient	(≥ 0.995)	0.999723
Slope	(0.85 to 1.15)	0.997824
Intercept	(± 3% F.S.)	0.567686



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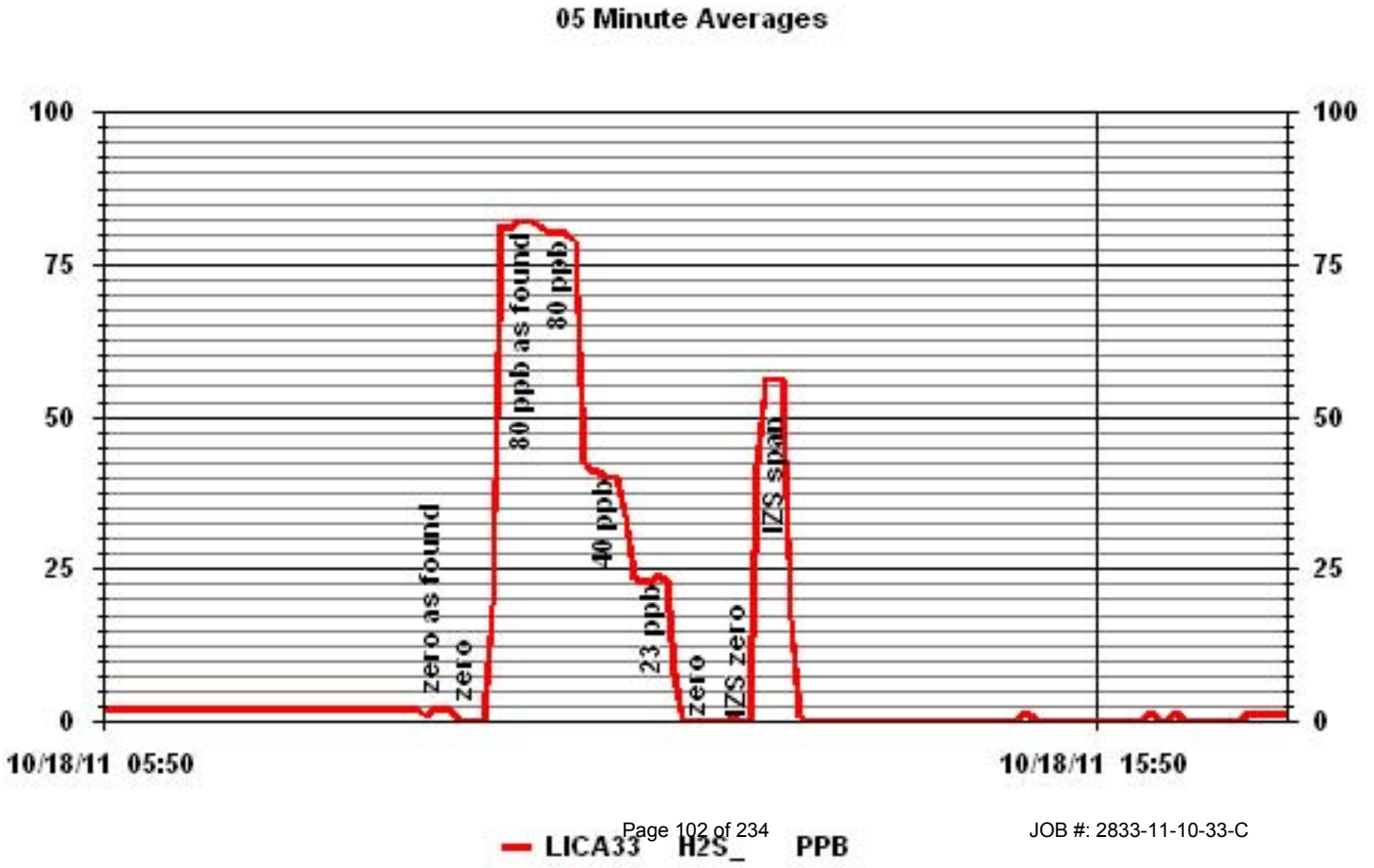


JOB #: 2833-11-10-33-C

Particulate Matter 2.5

TEOM 1405F Audit

Station		Audit Transfer Standard	
Date:	10/18/	Make/Model:	Streamline FTS
Station Name:	Lica Portable (CASA # 33)	Serial Number:	Hi 091001
Location:	Devon Wellsite 13-16-62-5 W4M	Cell s/n:	Lo 091099
Operator:	LICA	Thermometer s/n:	Fisher Brad 15-021B

Sampler		Set-up and current Sampler readings	
Make/Model	Thermo Scientific Series 1405F	F-Main Set Pt (l/min)	3.00
Unit #	NA	F-Aux Set Pt (l/min)	13.67
Unit s/n	1405A207691003	Filter Load (%)	28.2%
Firmware Ver.	1.51	K_o Factor	15634.0
Parameter	PM 2.5 (with FDMS)	Temp (^oC)	13.2
		Press (ATM)	0.943

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 **<0.10*u* g**	0.003	Warnings	None
Pump Vacuum **<0.40atm**	0.35	Pump Gauge (inHg)	-19

Temperature/Pressure

Measured Temp **(± 2 °C)**	14.2	**D °C**	-1.0
Measured Press **(± 0.01atm)**	0.944	**DATM**	-0.001

Flow Audit

Indicated Main Flow (l/min)	3.00	Main Flow Drift **(±10.0%)**	0.23%
Measured Main Flow (l/min)	3.01	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift **(±10.0%)**	0.54%
Measured Bypass Flow (l/min)	13.63	Flow Adjusted to Measured?	Yes

Leak Check

Main **(< 0.15 l/min)**	NA
Aux **(< 0.6 l/min)**	NA

Instrument Setup

Flow Control = Active

Report Conditions = Actual

K_o Factor

Measured	NA
K_o Difference **(± 2.5%)**	NA

Start Time: 12:44 **Finish Time:** 13:58

Sample Inlet Cleaned: Yes **New Filters Installed:** Yes

New Filter Loading %: 18.2%

Comments:

Auditor/s: Ting Xu

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	October 18, 2011		Previous Calibration	September 27, 2011	
Company	LICA		Plant/Location	**Portable/ 13-16-62-5W4M**	
Start Time (MST)	8:56		End Time (MST)	14:40	
Reason:	Post Repair Calibration				
Barometric Pressure	0.944 atm	Station Temperature	22 Deg C	MFCF	0
Cal Gas Concentration	NOx 49.7 ppm	NO 49.4 ppm	Cal Gas Expiry date	February 28, 2013	
Cal Gas Cylinder #	LL103831				
DAS Output Voltage	0 - 1 Volts		Chart Rec. Output	NA Volts	

Equipment Information

Analyzer Make / Model:	TAPI 200E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	Environics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	Environics 6100	S/N :	4760		

Analyzer Settings

	Before Calibration					After Calibration			
Concentration Range					0 - 1000		ppb		
Sample Flow/Conv. Temp	477	ccm	314.7	Deg C		482	ccm	315	Deg C
Ozone Flow / Vacuum	79	ccm	5.0	"Hg-A		78	ccm	5	"Hg-A
HVPS / A ZERO	646	Volts	6.1	MV		646	Volts	6.2	MV
Rx/ Temp / PMT Temp	50.0	Deg C	6.7	Deg C		50.0	Deg C	6.7	Deg C
Box Temp / IZS Temp	31.9	Deg C	45.2	Deg C		33.8	Deg C	45	Deg C
Offset	1.1	NOx	0.9	NO		1.1	NOx	0.9	NO
Slope	1.015	NOx	0.998	NO		1.015	NOx	0.998	NO
NO_2 COEF / Conv Efficency	NA	NO2	0.996			NA	NO2	0.996	

Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4994	0.0	NA	0	0	NA	-1	0	0	NA	NA
	No Zero Adj									
4918	75.7	NA	753	749	NA	754	749	5	0.9979	1.0000
	No Span Adj.									
4954	40.4	NA	402	400	NA	400	396	4	1.0026	1.0091
4974	20.2	NA	201	200	NA	200	198	2	1.0001	1.0091
4994	0.0	NA	0	0	NA	1	0	1	NA	NA

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO_2 Correction Factor	NO2 Conv Efficency
			NOx	NO	NO2	NOx	NO	NO2		
4918	75.7	NA	753	749	NA	752	746	6	NA	NA
	No Adj Required									
4918	75.7	600	753	NA	528	752	224	528	1.0000	100.00%
4918	75.7	250	753	NA	226	753	526	227	0.9956	100.45%
4918	75.7	140	753	NA	128	754	624	130	0.9846	101.64%

Linearity		Sum of Least Squares	NOx=	NO=	NO2=	0.999	
OK?	Yes	No	Correction Factors:	NOx= 0.9979	NO= 1.0000	NO2=	1.0000
				Average Converter Efficiency= 100.70%			

	Before Calibration					After Calibration			
Auto Zero	-0.2	NOx	0.1	NO2		-0.2	NOx	0.0	NO2
Auto Span	559	NOx	551	NO2		565	NOx	558	NO2
					Sample Lines Connected	YES			
Percent Change from Previous Calibration			NOx	-0.1%	NO	-0.3%	NO2	0.2%	

Notes

NA : Not Applicable

Additional GPT was done for O3 claibration. O3 set point 420, NOx=752, NO=378, NO2=374

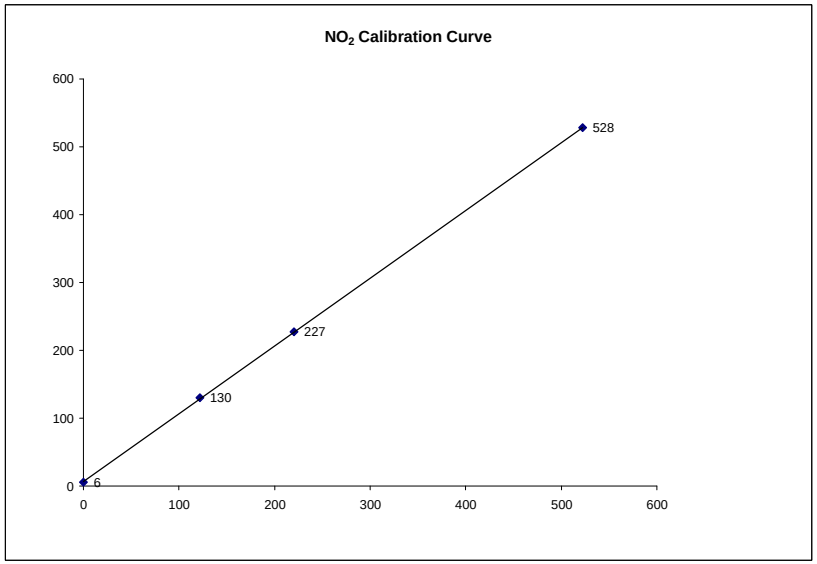
Calibration Performed by: Ting Xu

NO_2 Calibration Curve

Calibration Date	October 18, 2011		
Company	LICA		
Plant / Location	**Portable/ 13-16-62-5W4M**		
Start Time (MST)	8:56	End Time (MST)	14:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	6	N/A
122	130	0.9385
220	227	0.9692
522	528	0.9886

Correlation Coefficient	(≥ 0.995)	0.999983
Slope	(0.85 to 1.15)	0.998766
Intercept	(± 3% F.S.)	7.01648

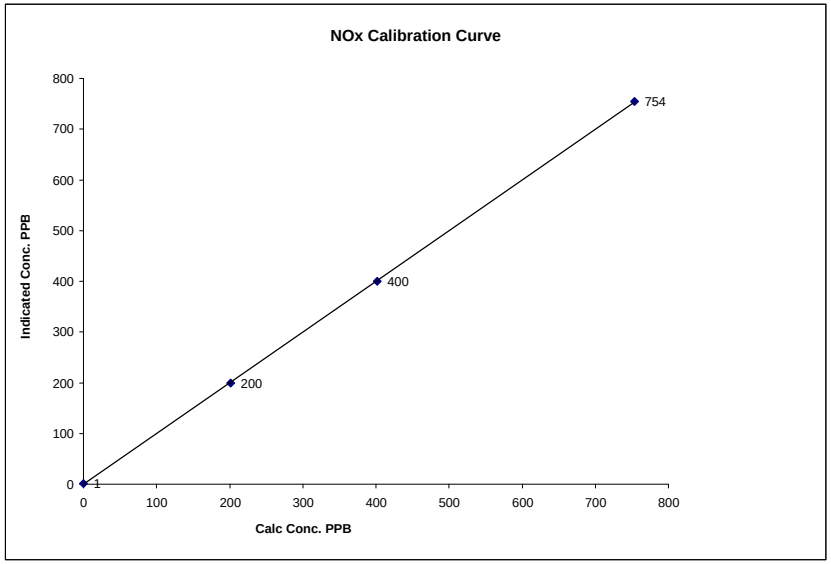


Notes:

NOx Calibration Curve

Calibration Date	October 18, 2011				
Company	LICA				
Plant / Location	Portable/ 13-16-62-5W4M				
Start Time (MST)	8:56	End Time (MST)	14:40		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999981
			Slope	(0.85 to 1.15)	0.999742
0	1	N/A	Intercept	(± 3% F.S.)	-0.27606
201	200	1.0051			
402	400	1.0051			
753	754	0.9992			

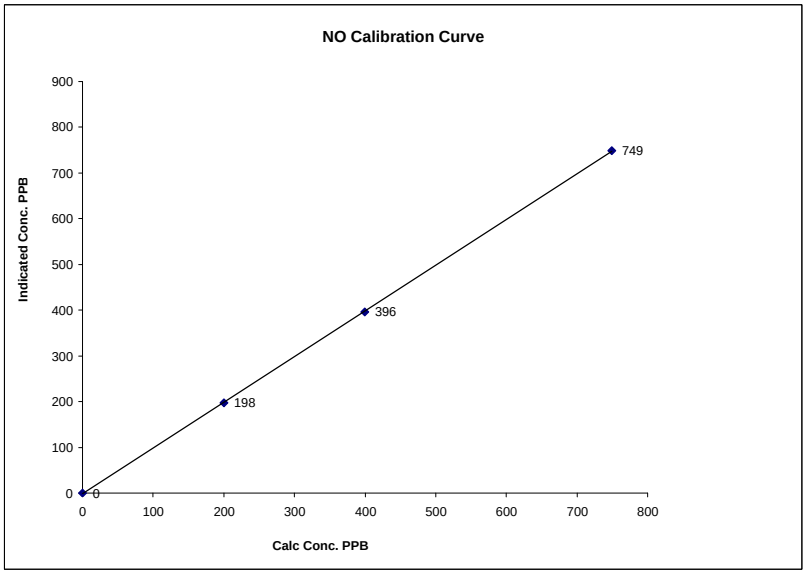


Notes:

NO Calibration Curve

Calibration Date	October 18, 2011				
Company	LICA				
Plant / Location	Portable/ 13-16-62-5W4M				
Start Time (MST)	8:56	End Time (MST)	14:40		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999970
			Slope	(0.85 to 1.15)	1.004355
0	0	N/A	Intercept	(± 3% F.S.)	-7.8786
200	198	1.0091			
400	396	1.0091			
749	749	0.9998			



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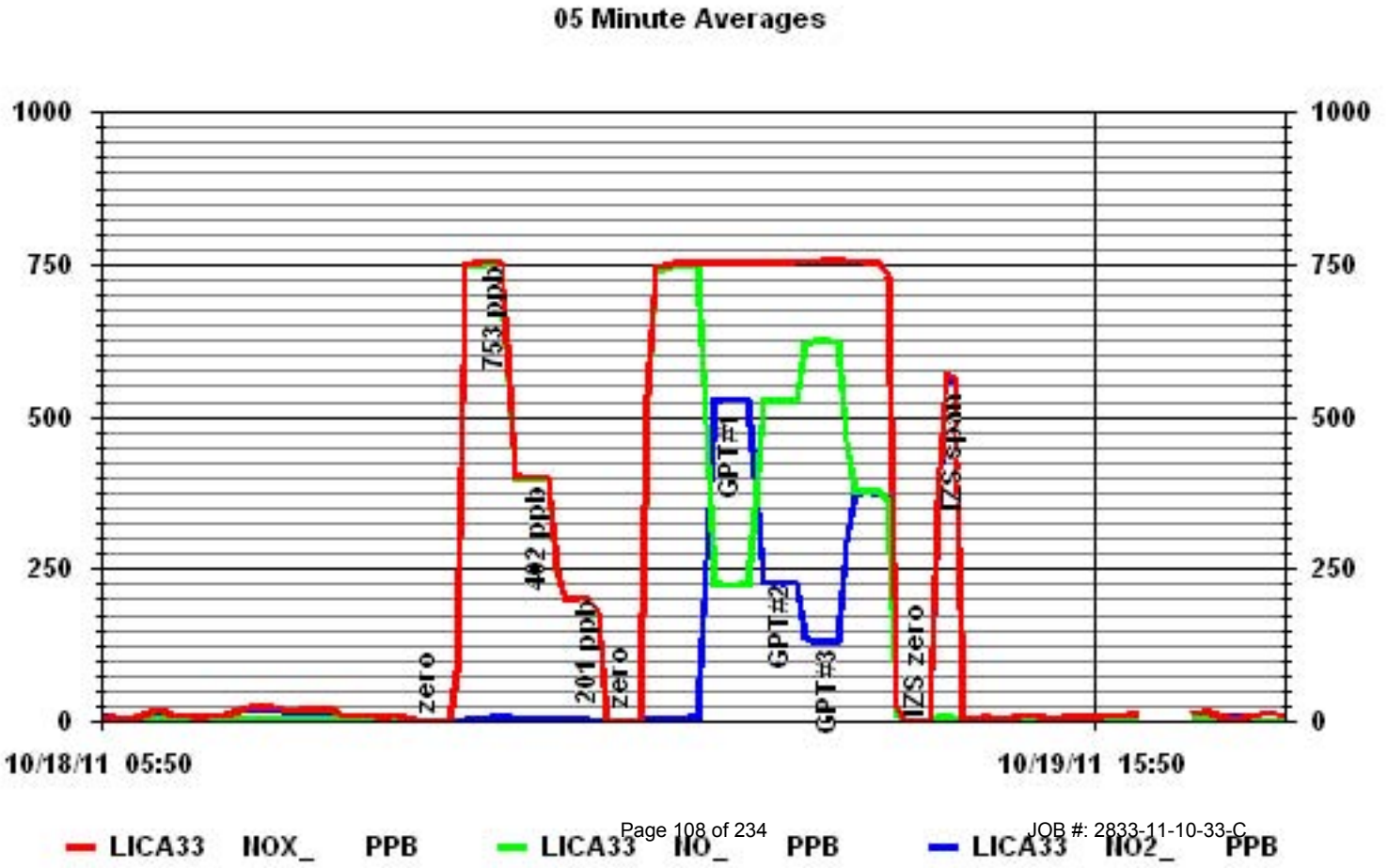

05 Minute Averages
1000
750
500
250
0
zero
753 ppb
402 ppb
201 ppb
zero
GPT #1
GPT #2
GPT #3
IZS zero
IZS span
10/18/11 05:50
10/19/11 15:50
LICA33 NOX_ PPB
LICA33 NO_ PPB
LICA33 NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	October 19, 2011	Previous Calibration	September 20, 2011
Company	**Lakeland Industry & Community Association**		
Plant / Location	**Portable / Devon Wellsite 13-16-62-5 W4M**		
Start Time (MST)	12:53	End Time (MST)	14:24
Reason:		Monthly Calibration	
Barometric Pressure	0.931 atm	Station Temperature	23 Deg C
DAS Output Voltage	0 - 1 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	1002240372	Method:	Photometric
Calibrator Make / Model:	Environics 2000		4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	AO 717		

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb			
Cell A Flow / Cell B Flow	751 ccm	757 ccm	756 ccm	762 ccm
Pressure	687 mmHg		694 mmHg	
Bench Lamp	54.1 Deg C		54.1 DegC	
O3 Lamp / Box Temp	68.2 Deg C	32.9 Deg C	68.2 Deg C	31.8 Deg C
Offset / Slope	0	0.926	0	0.976

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	NA
	No Zero Adj			
4995	420	368	348	1.0575
4995	420	368	368	1.0000
4995	250	220	220	1.0000
4995	140	122	123	0.9919
4995	0	0	0	NA
			Sum of Least Squares	0.9994
			New Correction Factor	1.0000

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	323.0	344.0
Sample Lines Connected		YES
Previous Calibration Correction Factor:		0.9973
Current Correctio Factor Before Span Adjust:		1.0000
Percent Change:		-0.3%

Note: **NA : Not Applicable**

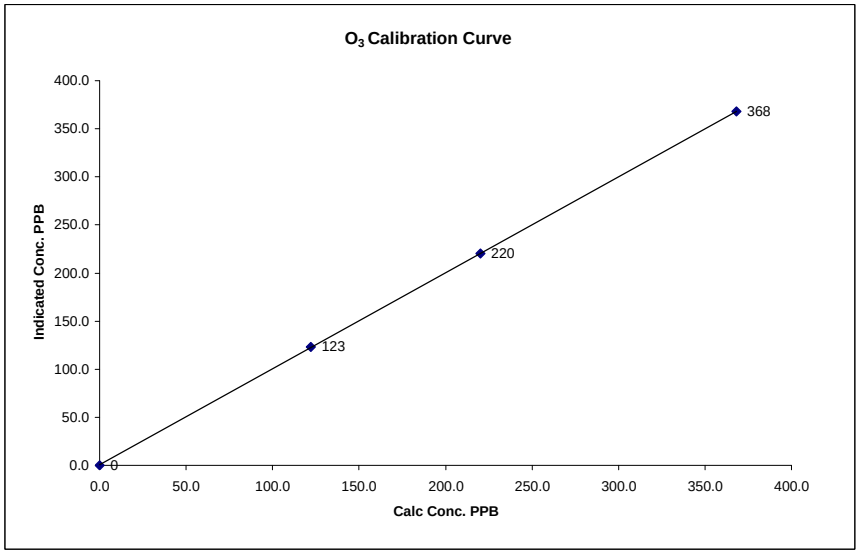
Calibration Performed by: Ting Xu

O_3 Calibration Curve

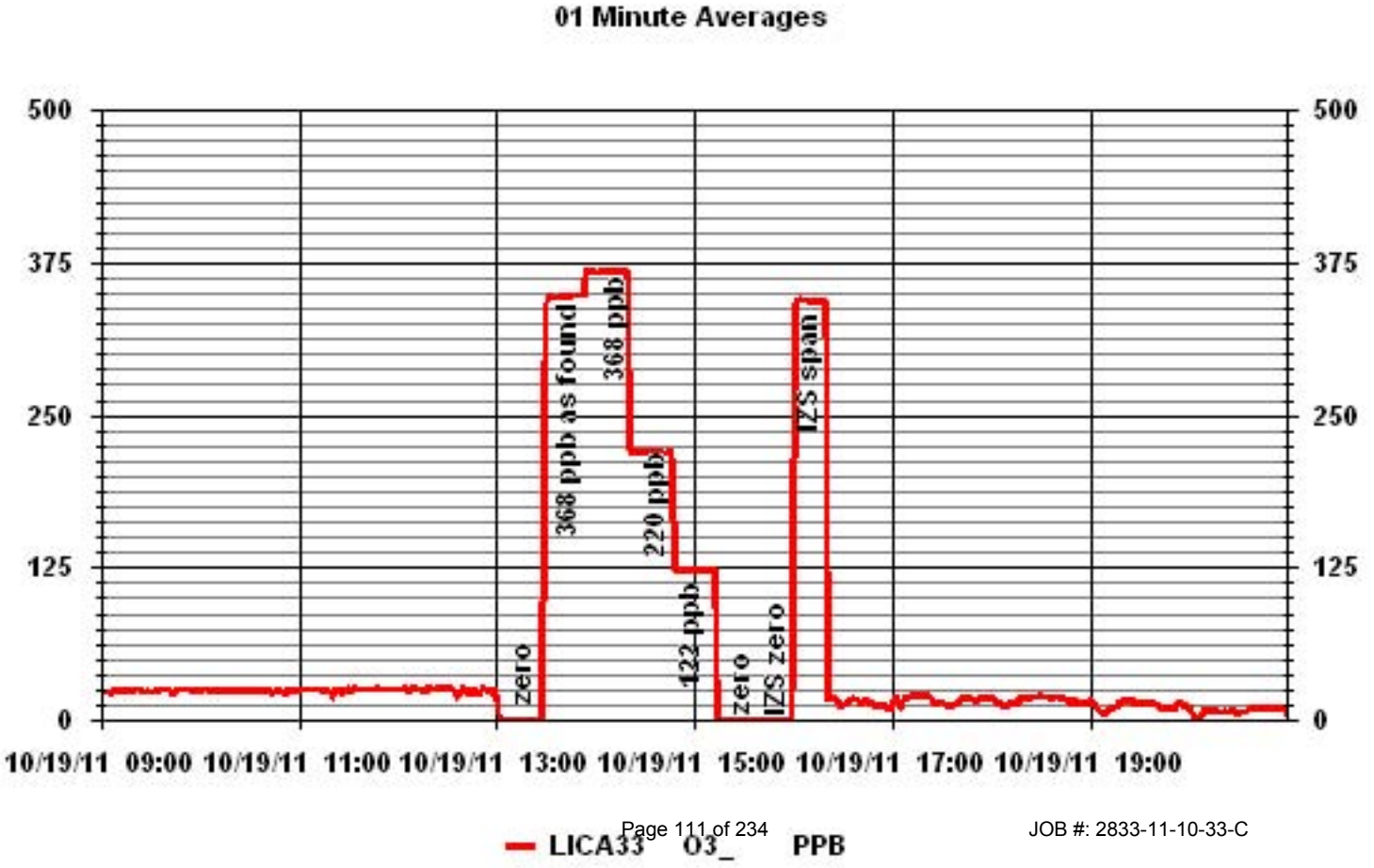
Calibration Date	October 19, 2011		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**Portable / Devon Wellsite 13-16-62-5 W4M**		
Start Time (MST)	12:53	End Time (MST)	14:24

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
122	123	0.9919
220	220	1.0000
368	368	1.0000

Correlation Coefficient	(≥ 0.995)	0.999990
Slope	(0.85 to 1.15)	0.999236
Intercept	(± 3% F.S.)	0.385537



Notes:



JOB #: 2833-11-10-33-C

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	October 18, 2011		Previous Calibration	September 19, 2011	
Company:	**Lakeland Industry and Community Association**				
Plant / Location:	**Portable Station Devon Wellsite 13-16-62-5W4M**				
Start Time (MST)	12:11		End Time (MST)	15:41	
Reason:	Monthly Calibration				
Barometric Pressure:	0.943	atm	Station Temperature:	24	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 980 PPM		C3H8	304 PPM	
	TOTAL CH4 1816.0 PPM		Gas Cyl. #	LL84144	Cal Gas Expiry Date: December 3, 2013
DAS make & Model:	ESC 8832		S/N :	AO 717	
Chart Recorder:	NA		S/N:	NA	
Output Voltage Range:	0 - 1	VDC	Chart Speed:	NA	mm/hr

Analyzer Information

Make / Model	Thermo 51C	S/N :	04366-09739	Method	Flame Ionization

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 50	ppm	0 - 50	ppm
Sample Pressure	6.8	psi	6.8	psi
Hydrogen Pressure	8	psi	8	psi
Air Pressure	21	psi	21	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
3000	0.0	0.0	-0.3	NA
3000	0.0	0.0	0.0	NA
3000	70.0	41.4	41.7	0.9930
	No Span Adj.			
3000	35.0	20.9	20.7	1.0117
3000	20.0	12.0	11.8	1.0192
3000	0.0	0.0	0.0	NA
			New Correction Factor:	0.9930

Percent Change

Previous Calibration Correction Factor:	0.9978
Current Correction Factor Before Span Adjust:	0.9930
Percent Change:	0.5%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	-0.3	0.0
Auto Span	33.8	33.8
Sample Lines Connected		**YES**

Cylinder Pressures

Span 1800 psi Hydrogen 1800 psi Zero Air 35 psi

Notes: **NA : Not Applicable**

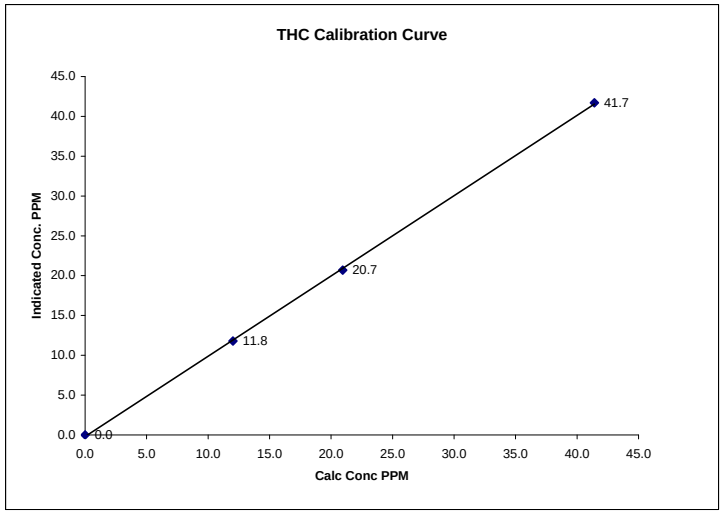
Calibration Performed by: Ting Xu

THC Calibration Curve

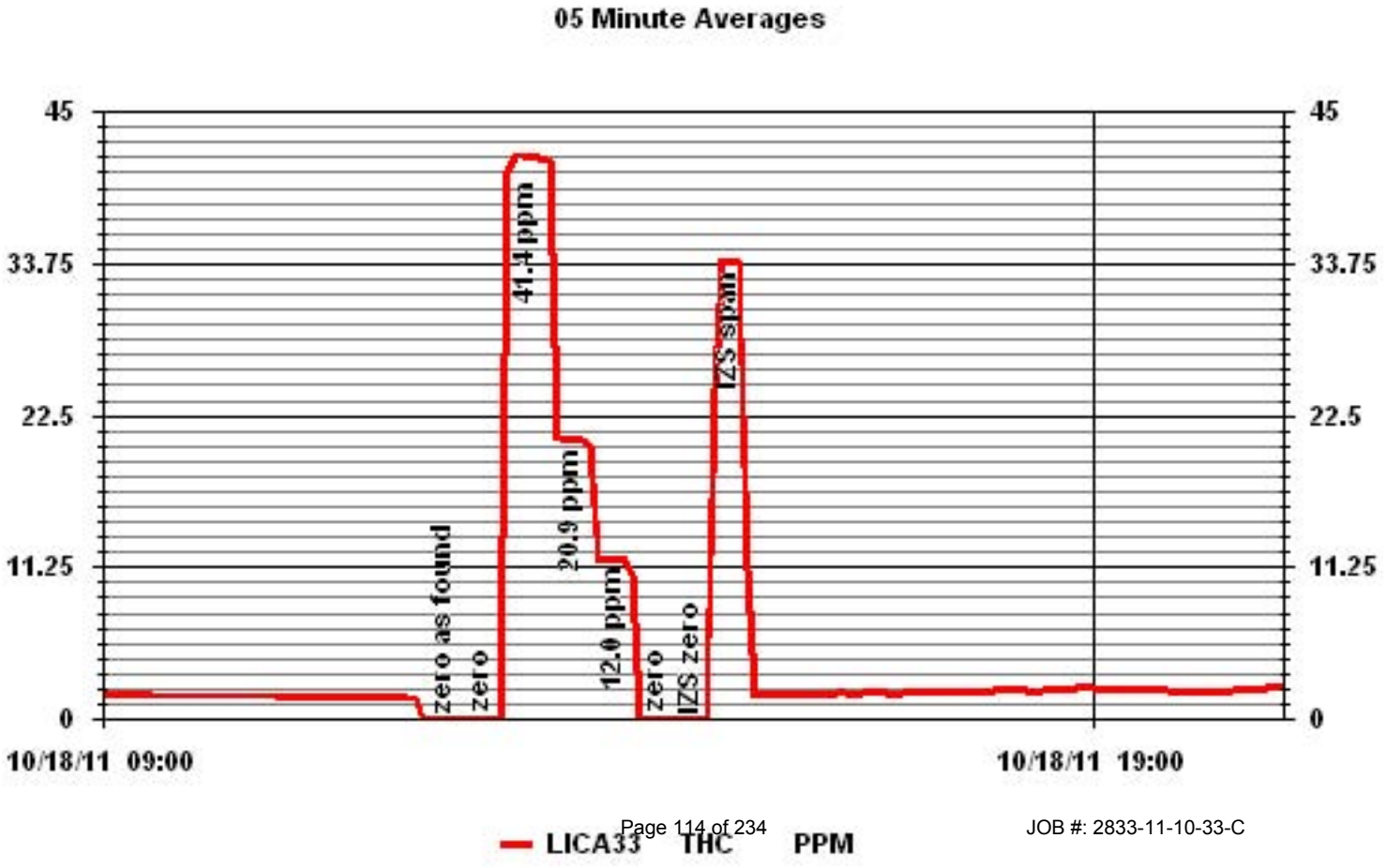
Calibration Date	October 18, 2011				
Company	**Lakeland Industry and Community Association**				
Plant / Location	**Portable Station Devon Wellsite 13-16-62-5W4M**				
Start Time (MST)	12:11	End Time	(MST)	15:41	

Calculated Conc. ppm	Indicated Response ppm	Correction Factor
0.0	0.0	NA
12.0	11.8	1.0192
20.9	20.7	1.0117
41.4	41.7	0.9930

Correlation Coefficient	(≥ 0.995)	0.999866
Slope	(0.85 to 1.15)	1.008306
Intercept	(± 3% F.S.)	-0.19845



Notes:



JOB #: 2833-11-10-33-C

Volatile Organics Laboratory Analysis

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: 13-16-62-5 W4M
Station ID: Lica 33 (Portable)
Field Sample ID: LICA VOC/PORT/ Oct 06, 11

Sampler s/n: 6200
Canister ID: 7867
Canister Installation Date/Time: Oct 05, 11 @16:05 mst
Canister Removal Date/Time: Oct 07, 11 @ 8:10mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
06-Oct-11	10/06/2011 0:00	10/07/2011 0:00	24.0000

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1496	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-29	22

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

Comments: System leak check prior to sampling. COC # 05861

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 05861

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

Report Date: 2011/10/26

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G0651
Received: 2011/10/13, 10:40

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2011/10/21	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2011/10/21	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1G0651
Report Date: 2011/10/26

RESULTS OF ANALYSES OF AIR

Maxxam ID		LG5124	LG7606	
Sampling Date		2011/10/06	2011/10/06	
COC Number		05861	05861	
	Units	**LICAVOC/CLS/OCT 06,11 - 7796**	**LICAVOC/PORT/OCT 06,11 - 7867**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	22	22	2658740

QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5124				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/CLS/OCT 06,11 - 7796**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2658735
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2658735
Propene	ppbv	<0.30	0.30	<0.516	0.516	2658735
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2658735
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2658735
Dichlorodifluoromethane (FREON 12)	ppbv	0.84	0.20	4.13	0.989	2658735
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2658735
Chloromethane	ppbv	0.53	0.30	1.10	0.620	2658735
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2658735
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2658735
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2658735
Trichlorofluoromethane (FREON 11)	ppbv	0.46	0.20	2.56	1.12	2658735
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2658735
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2658735
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2658735
2-Propanone	ppbv	2.33	0.80	5.53	1.90	2658735
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2658735
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2658735
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2658735
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2658735
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2658735
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2658735
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2658735
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2658735
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2658735
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2658735
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2658735
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2658735
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2658735
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2658735

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5124				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/CLS/OCT 06,11 - 7796**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2658735
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2658735
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2658735
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2658735
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2658735
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2658735
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2658735
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2658735
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2658735
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2658735
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2658735
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2658735
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2658735
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2658735
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2658735
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2658735
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2658735
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2658735
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2658735
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2658735
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2658735
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2658735
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2658735
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2658735
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2658735
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2658735
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2658735
Surrogate Recovery (%)						
Bromochloromethane	%	70		N/A	N/A	2658735

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

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Maxxam Analytics

Maxxam Job #: B1G0651
Report Date: 2011/10/26

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5124				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/CLS/OCT 06,11 - 7796**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	69		N/A	N/A	2658735
Difluorobenzene	%	72		N/A	N/A	2658735

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG7606				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/PORT/OCT 06,11 - 7867**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2658735
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2658735
Propene	ppbv	<0.30	0.30	<0.516	0.516	2658735
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2658735
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2658735
Dichlorodifluoromethane (FREON 12)	ppbv	0.46	0.20	2.26	0.989	2658735
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2658735
Chloromethane	ppbv	<0.30	0.30	<0.620	0.620	2658735
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2658735
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2658735
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2658735
Trichlorofluoromethane (FREON 11)	ppbv	0.23	0.20	1.32	1.12	2658735
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2658735
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2658735
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2658735
2-Propanone	ppbv	1.26	0.80	2.99	1.90	2658735
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2658735
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2658735
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2658735
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2658735
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2658735
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2658735
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2658735
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2658735
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2658735
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2658735
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2658735
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2658735
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2658735
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2658735

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG7606				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/PORT/OCT 06,11 - 7867**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2658735
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2658735
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2658735
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2658735
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2658735
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2658735
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2658735
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2658735
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2658735
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2658735
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2658735
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2658735
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2658735
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2658735
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2658735
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2658735
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2658735
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2658735
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2658735
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2658735
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2658735
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2658735
Hexane	ppbv	0.36	0.30	1.25	1.06	2658735
Cyclohexane	ppbv	0.38	0.20	1.32	0.688	2658735
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2658735
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2658735
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2658735
Surrogate Recovery (%)						
Bromochloromethane	%	71		N/A	N/A	2658735

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

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Maxxam Analytics

Maxxam Job #: B1G0651
Report Date: 2011/10/26

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG7606				
Sampling Date		2011/10/06				
COC Number		05861				
	Units	**LICAVOC/PORT/OCT 06,11 - 7867**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	70		N/A	N/A	2658735
Difluorobenzene	%	73		N/A	N/A	2658735

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

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Maxxam Analytics

Maxxam Job #: B1G0651
Report Date: 2011/10/26

Test Summary

Maxxam ID LG5124 **Collected** 2011/10/06
Sample ID LICAVOC/CLS/OCT 06,11 - 7796 **Shipped**
Matrix AIR **Received** 2011/10/13

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2658740	N/A	2011/10/21	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2658735	N/A	2011/10/21	MELANIE MABINI

Maxxam ID LG7606 **Collected** 2011/10/06
Sample ID LICAVOC/PORT/OCT 06,11 - 7867 **Shipped**
Matrix AIR **Received** 2011/10/13

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2658740	N/A	2011/10/21	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2658735	N/A	2011/10/21	MELANIE MABINI

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Maxxam Analytics

Maxxam Job #: B1G0651
Report Date: 2011/10/26

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

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

Quality Assurance Report

Maxxam Job Number: GB1G0651

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Spiked Blank	Bromochloromethane	2011/10/21		104	%	60 - 140
			D5-Chlorobenzene	2011/10/21		100	%	60 - 140
			Difluorobenzene	2011/10/21		105	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/21		90	%	70 - 130
			Carbon Disulfide	2011/10/21		97	%	70 - 130
			Propene	2011/10/21		90	%	70 - 130
			Vinyl Acetate	2011/10/21		90	%	70 - 130
			Vinyl Bromide	2011/10/21		98	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/10/21		84	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/10/21		110	%	70 - 130
			Chloromethane	2011/10/21		97	%	70 - 130
			Vinyl Chloride	2011/10/21		100	%	70 - 130
			Chloroethane	2011/10/21		98	%	70 - 130
			1,3-Butadiene	2011/10/21		96	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/10/21		90	%	70 - 130
			Trichlorotrifluoroethane	2011/10/21		95	%	70 - 130
			Ethanol	2011/10/21		70	%	70 - 130
			2-propanol	2011/10/21		90	%	70 - 130
			2-Propanone	2011/10/21		84	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21		96	%	70 - 130
			Methyl Isobutyl Ketone	2011/10/21		86	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21		90	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/10/21		94	%	70 - 130
			Ethyl Acetate	2011/10/21		90	%	70 - 130
			1,1-Dichloroethylene	2011/10/21		99	%	70 - 130
			cis-1,2-Dichloroethylene	2011/10/21		96	%	70 - 130
			trans-1,2-Dichloroethylene	2011/10/21		96	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/10/21		74	%	70 - 130
			Chloroform	2011/10/21		93	%	70 - 130
			Carbon Tetrachloride	2011/10/21		99	%	70 - 130
			1,1-Dichloroethane	2011/10/21		88	%	70 - 130
			1,2-Dichloroethane	2011/10/21		93	%	70 - 130
			Ethylene Dibromide	2011/10/21		100	%	70 - 130
			1,1,1-Trichloroethane	2011/10/21		96	%	70 - 130
			1,1,2-Trichloroethane	2011/10/21		100	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/10/21		94	%	70 - 130
			cis-1,3-Dichloropropene	2011/10/21		101	%	70 - 130
			trans-1,3-Dichloropropene	2011/10/21		104	%	70 - 130
			1,2-Dichloropropane	2011/10/21		93	%	70 - 130
			Bromomethane	2011/10/21		97	%	70 - 130
			Bromoform	2011/10/21		101	%	70 - 130
			Bromodichloromethane	2011/10/21		93	%	70 - 130
			Dibromochloromethane	2011/10/21		99	%	70 - 130
			Heptane	2011/10/21		84	%	70 - 130
			Trichloroethylene	2011/10/21		101	%	70 - 130
			Tetrachloroethylene	2011/10/21		105	%	70 - 130
			Benzene	2011/10/21		96	%	70 - 130
			Toluene	2011/10/21		97	%	70 - 130
			Ethylbenzene	2011/10/21		96	%	70 - 130
			p+m-Xylene	2011/10/21		92	%	70 - 130
			o-Xylene	2011/10/21		91	%	70 - 130
			Styrene	2011/10/21		95	%	70 - 130
			1,3,5-Trimethylbenzene	2011/10/21		91	%	70 - 130
			1,2,4-Trimethylbenzene	2011/10/21		92	%	70 - 130
			4-ethyltoluene	2011/10/21		90	%	70 - 130

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Maxxam Analytics
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Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0651

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Spiked Blank	Chlorobenzene	2011/10/21		98	%	70 - 130
			Benzyl chloride	2011/10/21		96	%	70 - 130
			1,3-Dichlorobenzene	2011/10/21		100	%	70 - 130
			1,4-Dichlorobenzene	2011/10/21		96	%	70 - 130
			1,2-Dichlorobenzene	2011/10/21		95	%	70 - 130
			1,2,4-Trichlorobenzene	2011/10/21		80	%	70 - 130
			Hexachlorobutadiene	2011/10/21		83	%	70 - 130
			Hexane	2011/10/21		84	%	70 - 130
			Cyclohexane	2011/10/21		95	%	70 - 130
			Tetrahydrofuran	2011/10/21		97	%	70 - 130
			1,4-Dioxane	2011/10/21		72	%	70 - 130
		Method Blank	Bromochloromethane	2011/10/21		99	%	60 - 140
			D5-Chlorobenzene	2011/10/21		94	%	60 - 140
			Difluorobenzene	2011/10/21		100	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/21	<0.20		ppbv	
			Carbon Disulfide	2011/10/21	<0.50		ppbv	
			Propene	2011/10/21	<0.30		ppbv	
			Vinyl Acetate	2011/10/21	<0.20		ppbv	
			Vinyl Bromide	2011/10/21	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2011/10/21	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2011/10/21	<0.17		ppbv	
			Chloromethane	2011/10/21	<0.30		ppbv	
			Vinyl Chloride	2011/10/21	<0.18		ppbv	
			Chloroethane	2011/10/21	<0.30		ppbv	
			1,3-Butadiene	2011/10/21	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2011/10/21	<0.20		ppbv	
			Trichlorotrifluoroethane	2011/10/21	<0.15		ppbv	
			Ethanol	2011/10/21	<2.3		ppbv	
			2-propanol	2011/10/21	<3.0		ppbv	
			2-Propanone	2011/10/21	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21	<3.0		ppbv	
			Methyl Isobutyl Ketone	2011/10/21	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2011/10/21	<0.20		ppbv	
			Ethyl Acetate	2011/10/21	<2.2		ppbv	
			1,1-Dichloroethylene	2011/10/21	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2011/10/21	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2011/10/21	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2011/10/21	<0.80		ppbv	
			Chloroform	2011/10/21	<0.15		ppbv	
			Carbon Tetrachloride	2011/10/21	<0.30		ppbv	
			1,1-Dichloroethane	2011/10/21	<0.20		ppbv	
			1,2-Dichloroethane	2011/10/21	<0.20		ppbv	
			Ethylene Dibromide	2011/10/21	<0.17		ppbv	
			1,1,1-Trichloroethane	2011/10/21	<0.30		ppbv	
			1,1,2-Trichloroethane	2011/10/21	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2011/10/21	<0.20		ppbv	
			cis-1,3-Dichloropropene	2011/10/21	<0.18		ppbv	
			trans-1,3-Dichloropropene	2011/10/21	<0.17		ppbv	
			1,2-Dichloropropane	2011/10/21	<0.40		ppbv	
			Bromomethane	2011/10/21	<0.18		ppbv	
			Bromoform	2011/10/21	<0.20		ppbv	
			Bromodichloromethane	2011/10/21	<0.20		ppbv	
			Dibromochloromethane	2011/10/21	<0.20		ppbv	
			Heptane	2011/10/21	<0.30		ppbv	

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Maxxam Analytics
Attention: Michael Bisaga
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Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0651

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Method Blank	Trichloroethylene	2011/10/21	<0.30		ppbv	
			Tetrachloroethylene	2011/10/21	<0.20		ppbv	
			Benzene	2011/10/21	<0.18		ppbv	
			Toluene	2011/10/21	<0.20		ppbv	
			Ethylbenzene	2011/10/21	<0.20		ppbv	
			p+m-Xylene	2011/10/21	<0.37		ppbv	
			o-Xylene	2011/10/21	<0.20		ppbv	
			Styrene	2011/10/21	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/10/21	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/10/21	<0.50		ppbv	
			4-ethyltoluene	2011/10/21	<2.2		ppbv	
			Chlorobenzene	2011/10/21	<0.20		ppbv	
			Benzyl chloride	2011/10/21	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/10/21	<2.0		ppbv	
			Hexachlorobutadiene	2011/10/21	<3.0		ppbv	
			Hexane	2011/10/21	<0.30		ppbv	
			Cyclohexane	2011/10/21	<0.20		ppbv	
			Tetrahydrofuran	2011/10/21	<0.40		ppbv	
			1,4-Dioxane	2011/10/21	<2.0		ppbv	
			Xylene (Total)	2011/10/21	<0.60		ppbv	
		RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2011/10/21	NC		%	25
			Carbon Disulfide	2011/10/21	NC		%	25
			Propene	2011/10/21	NC		%	25
			Vinyl Acetate	2011/10/21	NC		%	25
			Vinyl Bromide	2011/10/21	NC		%	25
			Dichlorodifluoromethane (FREON 12)	2011/10/21	NC		%	25
			1,2-Dichlorotetrafluoroethane	2011/10/21	NC		%	25
			Chloromethane	2011/10/21	NC		%	25
			Vinyl Chloride	2011/10/21	NC		%	25
			Chloroethane	2011/10/21	NC		%	25
			1,3-Butadiene	2011/10/21	NC		%	25
			Trichlorofluoromethane (FREON 11)	2011/10/21	NC		%	25
			Trichlorotrifluoroethane	2011/10/21	NC		%	25
			Ethanol	2011/10/21	11.0		%	25
			2-propanol	2011/10/21	NC		%	25
			2-Propanone	2011/10/21	11.1		%	25
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21	NC		%	25
			Methyl Isobutyl Ketone	2011/10/21	NC		%	25
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21	NC		%	25
			Methyl t-butyl ether (MTBE)	2011/10/21	NC		%	25
			Ethyl Acetate	2011/10/21	NC		%	25
			1,1-Dichloroethylene	2011/10/21	NC		%	25
			cis-1,2-Dichloroethylene	2011/10/21	NC		%	25
			trans-1,2-Dichloroethylene	2011/10/21	NC		%	25
			Methylene Chloride(Dichloromethane)	2011/10/21	NC		%	25
			Chloroform	2011/10/21	NC		%	25
			Carbon Tetrachloride	2011/10/21	NC		%	25
			1,1-Dichloroethane	2011/10/21	NC		%	25
			1,2-Dichloroethane	2011/10/21	NC		%	25
			Ethylene Dibromide	2011/10/21	NC		%	25

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Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0651

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2011/10/21	NC		%	25
			1,1,2-Trichloroethane	2011/10/21	NC		%	25
			1,1,2,2-Tetrachloroethane	2011/10/21	NC		%	25
			cis-1,3-Dichloropropene	2011/10/21	NC		%	25
			trans-1,3-Dichloropropene	2011/10/21	NC		%	25
			1,2-Dichloropropane	2011/10/21	NC		%	25
			Bromomethane	2011/10/21	NC		%	25
			Bromoform	2011/10/21	NC		%	25
			Bromodichloromethane	2011/10/21	NC		%	25
			Dibromochloromethane	2011/10/21	NC		%	25
			Heptane	2011/10/21	4.3		%	25
			Trichloroethylene	2011/10/21	NC		%	25
			Tetrachloroethylene	2011/10/21	4.2		%	25
			Benzene	2011/10/21	NC		%	25
			Toluene	2011/10/21	6.4		%	25
			Ethylbenzene	2011/10/21	NC		%	25
			p+m-Xylene	2011/10/21	3.1		%	25
			o-Xylene	2011/10/21	NC		%	25
			Styrene	2011/10/21	NC		%	25
			1,3,5-Trimethylbenzene	2011/10/21	NC		%	25
			1,2,4-Trimethylbenzene	2011/10/21	NC		%	25
			4-ethyltoluene	2011/10/21	NC		%	25
			Chlorobenzene	2011/10/21	NC		%	25
			Benzyl chloride	2011/10/21	NC		%	25
			1,3-Dichlorobenzene	2011/10/21	NC		%	25
			1,4-Dichlorobenzene	2011/10/21	NC		%	25
			1,2-Dichlorobenzene	2011/10/21	NC		%	25
			1,2,4-Trichlorobenzene	2011/10/21	NC		%	25
			Hexachlorobutadiene	2011/10/21	NC		%	25
			Hexane	2011/10/21	8.7		%	25
			Cyclohexane	2011/10/21	4.8		%	25
			Tetrahydrofuran	2011/10/21	NC		%	25
			1,4-Dioxane	2011/10/21	NC		%	25
			Xylene (Total)	2011/10/21	2.7		%	25

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

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MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: 13-16-62-5 W4M
Station ID: Lica 33 (Portable)
Field Sample ID: LICA VOC/PORT/ Oct 12, 11

Sampler s/n: 6200
Canister ID: 7816
Canister Installation Date/Time: Oct 11, 11 @10:14 mst
Canister Removal Date/Time: Oct 13, 11 @ 8:15 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
12-Oct-11	10/12/2011 0:00	10/13/2011 0:00	24.0000

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1496	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-29	22

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

Comments: System leak check prior to sampling. COC # 08114

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 08114

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

Report Date: 2011/10/26

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G0791
Received: 2011/10/15, 10:25

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2011/10/21	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2011/10/21	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1G0791
Report Date: 2011/10/26

RESULTS OF ANALYSES OF AIR

Maxxam ID		LG5889	LG5890	
Sampling Date		2011/10/12	2011/10/12	
COC Number		08114	08114	
	Units	**LICAVOC/CLS/OCT 12,11 - 7866**	**LICAVOC/PORT/OCT 12,11 - 7816**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	22	22	2658740

QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5889				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/CLS/OCT 12,11 - 7866**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2658735
Carbon Disulfide	ppbv	1.55	0.50	4.82	1.56	2658735
Propene	ppbv	<0.30	0.30	<0.516	0.516	2658735
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2658735
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2658735
Dichlorodifluoromethane (FREON 12)	ppbv	1.01	0.20	4.98	0.989	2658735
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2658735
Chloromethane	ppbv	0.58	0.30	1.19	0.620	2658735
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2658735
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2658735
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2658735
Trichlorofluoromethane (FREON 11)	ppbv	0.49	0.20	2.73	1.12	2658735
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2658735
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2658735
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2658735
2-Propanone	ppbv	2.81	0.80	6.68	1.90	2658735
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2658735
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2658735
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2658735
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2658735
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2658735
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2658735
cis-1,2-Dichloroethylene	ppbv	0.20	0.19	0.802	0.753	2658735
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2658735
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2658735
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2658735
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2658735
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2658735
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2658735
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2658735

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5889				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/CLS/OCT 12,11 - 7866**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2658735
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2658735
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2658735
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2658735
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2658735
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2658735
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2658735
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2658735
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2658735
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2658735
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2658735
Benzene	ppbv	0.25	0.18	0.788	0.575	2658735
Toluene	ppbv	0.77	0.20	2.91	0.753	2658735
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2658735
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2658735
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2658735
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2658735
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2658735
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2658735
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2658735
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2658735
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2658735
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2658735
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2658735
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2658735
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2658735
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2658735
Surrogate Recovery (%)						
Bromochloromethane	%	70		N/A	N/A	2658735

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

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Maxxam Analytics

Maxxam Job #: B1G0791
Report Date: 2011/10/26

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5889				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/CLS/OCT 12,11 - 7866**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	68		N/A	N/A	2658735
Difluorobenzene	%	71		N/A	N/A	2658735

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5890				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/PORT/OCT 12,11 - 7816**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2658735
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2658735
Propene	ppbv	<0.30	0.30	<0.516	0.516	2658735
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2658735
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2658735
Dichlorodifluoromethane (FREON 12)	ppbv	0.82	0.20	4.06	0.989	2658735
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2658735
Chloromethane	ppbv	0.49	0.30	1.01	0.620	2658735
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2658735
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2658735
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2658735
Trichlorofluoromethane (FREON 11)	ppbv	0.45	0.20	2.53	1.12	2658735
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2658735
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2658735
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2658735
2-Propanone	ppbv	2.31	0.80	5.50	1.90	2658735
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2658735
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2658735
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2658735
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2658735
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2658735
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2658735
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2658735
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2658735
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2658735
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2658735
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2658735
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2658735
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2658735
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2658735
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2658735

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5890				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/PORT/OCT 12,11 - 7816**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2658735
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2658735
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2658735
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2658735
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2658735
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2658735
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2658735
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2658735
Heptane	ppbv	0.64	0.30	2.64	1.23	2658735
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2658735
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2658735
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2658735
Toluene	ppbv	0.27	0.20	1.02	0.753	2658735
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2658735
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2658735
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2658735
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2658735
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2658735
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2658735
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2658735
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2658735
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2658735
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2658735
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2658735
Hexane	ppbv	1.52	0.30	5.37	1.06	2658735
Cyclohexane	ppbv	1.75	0.20	6.02	0.688	2658735
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2658735
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2658735
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2658735
Surrogate Recovery (%)						
Bromochloromethane	%	68		N/A	N/A	2658735

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

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Maxxam Analytics

Maxxam Job #: B1G0791
Report Date: 2011/10/26

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LG5890				
Sampling Date		2011/10/12				
COC Number		08114				
	Units	**LICAVOC/PORT/OCT 12,11 - 7816**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	67		N/A	N/A	2658735
Difluorobenzene	%	70		N/A	N/A	2658735

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

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Maxxam Analytics

Maxxam Job #: B1G0791
Report Date: 2011/10/26

Test Summary

Maxxam ID LG5889 **Collected** 2011/10/12
Sample ID LICAVOC/CLS/OCT 12,11 - 7866 **Shipped**
Matrix AIR **Received** 2011/10/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2658740	N/A	2011/10/21	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2658735	N/A	2011/10/21	MELANIE MABINI

Maxxam ID LG5890 **Collected** 2011/10/12
Sample ID LICAVOC/PORT/OCT 12,11 - 7816 **Shipped**
Matrix AIR **Received** 2011/10/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2658740	N/A	2011/10/21	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2658735	N/A	2011/10/21	MELANIE MABINI

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Maxxam Analytics

Maxxam Job #: B1G0791
Report Date: 2011/10/26

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G0791

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Spiked Blank	Bromochloromethane	2011/10/21		104	%	60 - 140
			D5-Chlorobenzene	2011/10/21		100	%	60 - 140
			Difluorobenzene	2011/10/21		105	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/21		90	%	70 - 130
			Carbon Disulfide	2011/10/21		97	%	70 - 130
			Propene	2011/10/21		90	%	70 - 130
			Vinyl Acetate	2011/10/21		90	%	70 - 130
			Vinyl Bromide	2011/10/21		98	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/10/21		84	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/10/21		110	%	70 - 130
			Chloromethane	2011/10/21		97	%	70 - 130
			Vinyl Chloride	2011/10/21		100	%	70 - 130
			Chloroethane	2011/10/21		98	%	70 - 130
			1,3-Butadiene	2011/10/21		96	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/10/21		90	%	70 - 130
			Trichlorotrifluoroethane	2011/10/21		95	%	70 - 130
			Ethanol	2011/10/21		70	%	70 - 130
			2-propanol	2011/10/21		90	%	70 - 130
			2-Propanone	2011/10/21		84	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21		96	%	70 - 130
			Methyl Isobutyl Ketone	2011/10/21		86	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21		90	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/10/21		94	%	70 - 130
			Ethyl Acetate	2011/10/21		90	%	70 - 130
			1,1-Dichloroethylene	2011/10/21		99	%	70 - 130
			cis-1,2-Dichloroethylene	2011/10/21		96	%	70 - 130
			trans-1,2-Dichloroethylene	2011/10/21		96	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/10/21		74	%	70 - 130
			Chloroform	2011/10/21		93	%	70 - 130
			Carbon Tetrachloride	2011/10/21		99	%	70 - 130
			1,1-Dichloroethane	2011/10/21		88	%	70 - 130
			1,2-Dichloroethane	2011/10/21		93	%	70 - 130
			Ethylene Dibromide	2011/10/21		100	%	70 - 130
			1,1,1-Trichloroethane	2011/10/21		96	%	70 - 130
			1,1,2-Trichloroethane	2011/10/21		100	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/10/21		94	%	70 - 130
			cis-1,3-Dichloropropene	2011/10/21		101	%	70 - 130
			trans-1,3-Dichloropropene	2011/10/21		104	%	70 - 130
			1,2-Dichloropropane	2011/10/21		93	%	70 - 130
			Bromomethane	2011/10/21		97	%	70 - 130
			Bromoform	2011/10/21		101	%	70 - 130
			Bromodichloromethane	2011/10/21		93	%	70 - 130
			Dibromochloromethane	2011/10/21		99	%	70 - 130
			Heptane	2011/10/21		84	%	70 - 130
			Trichloroethylene	2011/10/21		101	%	70 - 130
			Tetrachloroethylene	2011/10/21		105	%	70 - 130
			Benzene	2011/10/21		96	%	70 - 130
			Toluene	2011/10/21		97	%	70 - 130
			Ethylbenzene	2011/10/21		96	%	70 - 130
			p+m-Xylene	2011/10/21		92	%	70 - 130
			o-Xylene	2011/10/21		91	%	70 - 130
			Styrene	2011/10/21		95	%	70 - 130
			1,3,5-Trimethylbenzene	2011/10/21		91	%	70 - 130
			1,2,4-Trimethylbenzene	2011/10/21		92	%	70 - 130
			4-ethyltoluene	2011/10/21		90	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0791

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Spiked Blank	Chlorobenzene	2011/10/21		98	%	70 - 130
			Benzyl chloride	2011/10/21		96	%	70 - 130
			1,3-Dichlorobenzene	2011/10/21		100	%	70 - 130
			1,4-Dichlorobenzene	2011/10/21		96	%	70 - 130
			1,2-Dichlorobenzene	2011/10/21		95	%	70 - 130
			1,2,4-Trichlorobenzene	2011/10/21		80	%	70 - 130
			Hexachlorobutadiene	2011/10/21		83	%	70 - 130
			Hexane	2011/10/21		84	%	70 - 130
			Cyclohexane	2011/10/21		95	%	70 - 130
			Tetrahydrofuran	2011/10/21		97	%	70 - 130
			1,4-Dioxane	2011/10/21		72	%	70 - 130
		Method Blank	Bromochloromethane	2011/10/21		99	%	60 - 140
			D5-Chlorobenzene	2011/10/21		94	%	60 - 140
			Difluorobenzene	2011/10/21		100	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/21	<0.20		ppbv	
			Carbon Disulfide	2011/10/21	<0.50		ppbv	
			Propene	2011/10/21	<0.30		ppbv	
			Vinyl Acetate	2011/10/21	<0.20		ppbv	
			Vinyl Bromide	2011/10/21	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2011/10/21	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2011/10/21	<0.17		ppbv	
			Chloromethane	2011/10/21	<0.30		ppbv	
			Vinyl Chloride	2011/10/21	<0.18		ppbv	
			Chloroethane	2011/10/21	<0.30		ppbv	
			1,3-Butadiene	2011/10/21	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2011/10/21	<0.20		ppbv	
			Trichlorotrifluoroethane	2011/10/21	<0.15		ppbv	
			Ethanol	2011/10/21	<2.3		ppbv	
			2-propanol	2011/10/21	<3.0		ppbv	
			2-Propanone	2011/10/21	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21	<3.0		ppbv	
			Methyl Isobutyl Ketone	2011/10/21	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2011/10/21	<0.20		ppbv	
			Ethyl Acetate	2011/10/21	<2.2		ppbv	
			1,1-Dichloroethylene	2011/10/21	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2011/10/21	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2011/10/21	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2011/10/21	<0.80		ppbv	
			Chloroform	2011/10/21	<0.15		ppbv	
			Carbon Tetrachloride	2011/10/21	<0.30		ppbv	
			1,1-Dichloroethane	2011/10/21	<0.20		ppbv	
			1,2-Dichloroethane	2011/10/21	<0.20		ppbv	
			Ethylene Dibromide	2011/10/21	<0.17		ppbv	
			1,1,1-Trichloroethane	2011/10/21	<0.30		ppbv	
			1,1,2-Trichloroethane	2011/10/21	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2011/10/21	<0.20		ppbv	
			cis-1,3-Dichloropropene	2011/10/21	<0.18		ppbv	
			trans-1,3-Dichloropropene	2011/10/21	<0.17		ppbv	
			1,2-Dichloropropane	2011/10/21	<0.40		ppbv	
			Bromomethane	2011/10/21	<0.18		ppbv	
			Bromoform	2011/10/21	<0.20		ppbv	
			Bromodichloromethane	2011/10/21	<0.20		ppbv	
			Dibromochloromethane	2011/10/21	<0.20		ppbv	
			Heptane	2011/10/21	<0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0791

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	Method Blank	Trichloroethylene	2011/10/21	<0.30		ppbv	
			Tetrachloroethylene	2011/10/21	<0.20		ppbv	
			Benzene	2011/10/21	<0.18		ppbv	
			Toluene	2011/10/21	<0.20		ppbv	
			Ethylbenzene	2011/10/21	<0.20		ppbv	
			p+m-Xylene	2011/10/21	<0.37		ppbv	
			o-Xylene	2011/10/21	<0.20		ppbv	
			Styrene	2011/10/21	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/10/21	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/10/21	<0.50		ppbv	
			4-ethyltoluene	2011/10/21	<2.2		ppbv	
			Chlorobenzene	2011/10/21	<0.20		ppbv	
			Benzyl chloride	2011/10/21	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/10/21	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/10/21	<2.0		ppbv	
			Hexachlorobutadiene	2011/10/21	<3.0		ppbv	
			Hexane	2011/10/21	<0.30		ppbv	
			Cyclohexane	2011/10/21	<0.20		ppbv	
			Tetrahydrofuran	2011/10/21	<0.40		ppbv	
			1,4-Dioxane	2011/10/21	<2.0		ppbv	
			Xylene (Total)	2011/10/21	<0.60		ppbv	
		RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2011/10/21	NC		%	25
			Carbon Disulfide	2011/10/21	NC		%	25
			Propene	2011/10/21	NC		%	25
			Vinyl Acetate	2011/10/21	NC		%	25
			Vinyl Bromide	2011/10/21	NC		%	25
			Dichlorodifluoromethane (FREON 12)	2011/10/21	NC		%	25
			1,2-Dichlorotetrafluoroethane	2011/10/21	NC		%	25
			Chloromethane	2011/10/21	NC		%	25
			Vinyl Chloride	2011/10/21	NC		%	25
			Chloroethane	2011/10/21	NC		%	25
			1,3-Butadiene	2011/10/21	NC		%	25
			Trichlorofluoromethane (FREON 11)	2011/10/21	NC		%	25
			Trichlorotrifluoroethane	2011/10/21	NC		%	25
			Ethanol	2011/10/21	11.0		%	25
			2-propanol	2011/10/21	NC		%	25
			2-Propanone	2011/10/21	11.1		%	25
			Methyl Ethyl Ketone (2-Butanone)	2011/10/21	NC		%	25
			Methyl Isobutyl Ketone	2011/10/21	NC		%	25
			Methyl Butyl Ketone (2-Hexanone)	2011/10/21	NC		%	25
			Methyl t-butyl ether (MTBE)	2011/10/21	NC		%	25
			Ethyl Acetate	2011/10/21	NC		%	25
			1,1-Dichloroethylene	2011/10/21	NC		%	25
			cis-1,2-Dichloroethylene	2011/10/21	NC		%	25
			trans-1,2-Dichloroethylene	2011/10/21	NC		%	25
			Methylene Chloride(Dichloromethane)	2011/10/21	NC		%	25
			Chloroform	2011/10/21	NC		%	25
			Carbon Tetrachloride	2011/10/21	NC		%	25
			1,1-Dichloroethane	2011/10/21	NC		%	25
			1,2-Dichloroethane	2011/10/21	NC		%	25
			Ethylene Dibromide	2011/10/21	NC		%	25

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0791

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2658735	MM2	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2011/10/21	NC		%	25
			1,1,2-Trichloroethane	2011/10/21	NC		%	25
			1,1,2,2-Tetrachloroethane	2011/10/21	NC		%	25
			cis-1,3-Dichloropropene	2011/10/21	NC		%	25
			trans-1,3-Dichloropropene	2011/10/21	NC		%	25
			1,2-Dichloropropane	2011/10/21	NC		%	25
			Bromomethane	2011/10/21	NC		%	25
			Bromoform	2011/10/21	NC		%	25
			Bromodichloromethane	2011/10/21	NC		%	25
			Dibromochloromethane	2011/10/21	NC		%	25
			Heptane	2011/10/21	4.3		%	25
			Trichloroethylene	2011/10/21	NC		%	25
			Tetrachloroethylene	2011/10/21	4.2		%	25
			Benzene	2011/10/21	NC		%	25
			Toluene	2011/10/21	6.4		%	25
			Ethylbenzene	2011/10/21	NC		%	25
			p+m-Xylene	2011/10/21	3.1		%	25
			o-Xylene	2011/10/21	NC		%	25
			Styrene	2011/10/21	NC		%	25
			1,3,5-Trimethylbenzene	2011/10/21	NC		%	25
			1,2,4-Trimethylbenzene	2011/10/21	NC		%	25
			4-ethyltoluene	2011/10/21	NC		%	25
			Chlorobenzene	2011/10/21	NC		%	25
			Benzyl chloride	2011/10/21	NC		%	25
			1,3-Dichlorobenzene	2011/10/21	NC		%	25
			1,4-Dichlorobenzene	2011/10/21	NC		%	25
			1,2-Dichlorobenzene	2011/10/21	NC		%	25
			1,2,4-Trichlorobenzene	2011/10/21	NC		%	25
			Hexachlorobutadiene	2011/10/21	NC		%	25
			Hexane	2011/10/21	8.7		%	25
			Cyclohexane	2011/10/21	4.8		%	25
			Tetrahydrofuran	2011/10/21	NC		%	25
			1,4-Dioxane	2011/10/21	NC		%	25
			Xylene (Total)	2011/10/21	2.7		%	25

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

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MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: 13-16-62-5 W4M
Station ID: Lica 33 (Portable)
Field Sample ID: LICA VOC/PORT/ Oct 18, 11

Sampler s/n: 6200
Canister ID: 7834
Canister Installation Date/Time: Oct 17, 11 @11:32 mst
Canister Removal Date/Time: Oct 19, 11 @11:45 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
18-Oct-11	10/18/2011 0:00	10/19/2011 0:00	24.0000

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1496	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-29	22

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

Comments: System leak check prior to sampling. COC # 07928

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 07928

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

Report Date: 2011/10/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G4503
Received: 2011/10/21, 11:47

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2011/10/25	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2011/10/25	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1G4503
Report Date: 2011/10/27

RESULTS OF ANALYSES OF AIR

Maxxam ID		LI3296	LI3297	
Sampling Date		2011/10/18	2011/10/18	
COC Number		07928	07928	
	Units	**LICAVOC/CLS/OCT18,11-7857**	**LICAVOC/PORT/OCT18,11-7834**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	22	22	2660298

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G4503
Report Date: 2011/10/27

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3296				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/CLS/OCT18,11-7857**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2660297
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2660297
Propene	ppbv	2.06	0.30	3.54	0.516	2660297
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2660297
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2660297
Dichlorodifluoromethane (FREON 12)	ppbv	0.93	0.20	4.58	0.989	2660297
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2660297
Chloromethane	ppbv	0.58	0.30	1.21	0.620	2660297
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2660297
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2660297
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2660297
Trichlorofluoromethane (FREON 11)	ppbv	0.49	0.20	2.74	1.12	2660297
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2660297
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2660297
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2660297
2-Propanone	ppbv	2.81	0.80	6.68	1.90	2660297
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2660297
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2660297
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2660297
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2660297
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2660297
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2660297
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2660297
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2660297
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2660297
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2660297
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2660297
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2660297
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2660297
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2660297
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2660297
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2660297

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3296				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/CLS/OCT18,11-7857**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2660297
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2660297
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2660297
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2660297
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2660297
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2660297
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2660297
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2660297
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2660297
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2660297
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2660297
Benzene	ppbv	0.29	0.18	0.920	0.575	2660297
Toluene	ppbv	0.40	0.20	1.49	0.753	2660297
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2660297
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2660297
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2660297
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2660297
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2660297
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2660297
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2660297
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2660297
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2660297
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2660297
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2660297
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2660297
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2660297
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2660297
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2660297
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2660297
Surrogate Recovery (%)						
Bromochloromethane	%	73		N/A	N/A	2660297

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

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Maxxam Analytics

Maxxam Job #: B1G4503
Report Date: 2011/10/27

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3296				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/CLS/OCT18,11-7857**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	73		N/A	N/A	2660297
Difluorobenzene	%	75		N/A	N/A	2660297

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3297				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/PORT/OCT18,11-7834**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2660297
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2660297
Propene	ppbv	<0.30	0.30	<0.516	0.516	2660297
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2660297
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2660297
Dichlorodifluoromethane (FREON 12)	ppbv	0.92	0.20	4.55	0.989	2660297
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2660297
Chloromethane	ppbv	0.57	0.30	1.17	0.620	2660297
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2660297
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2660297
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2660297
Trichlorofluoromethane (FREON 11)	ppbv	0.50	0.20	2.79	1.12	2660297
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2660297
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2660297
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2660297
2-Propanone	ppbv	2.74	0.80	6.51	1.90	2660297
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2660297
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2660297
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2660297
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2660297
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2660297
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2660297
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2660297
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2660297
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2660297
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2660297
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2660297
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2660297
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2660297
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2660297
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2660297
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2660297

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3297				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/PORT/OCT18,11-7834**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2660297
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2660297
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2660297
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2660297
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2660297
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2660297
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2660297
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2660297
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2660297
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2660297
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2660297
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2660297
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2660297
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2660297
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2660297
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2660297
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2660297
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2660297
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2660297
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2660297
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2660297
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2660297
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2660297
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2660297
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2660297
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2660297
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2660297
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2660297
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2660297
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2660297
Surrogate Recovery (%)						
Bromochloromethane	%	69		N/A	N/A	2660297

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

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Maxxam Analytics

Maxxam Job #: B1G4503
Report Date: 2011/10/27

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LI3297				
Sampling Date		2011/10/18				
COC Number		07928				
	Units	**LICAVOC/PORT/OCT18,11-7834**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	70		N/A	N/A	2660297
Difluorobenzene	%	71		N/A	N/A	2660297

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

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Maxxam Job #: B1G4503
Report Date: 2011/10/27

Test Summary

Maxxam ID LI3296 **Collected** 2011/10/18
Sample ID LICAVOC/CLS/OCT18,11- 7857 **Shipped**
Matrix AIR **Received** 2011/10/21

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2660298	N/A	2011/10/25	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2660297	N/A	2011/10/25	MELANIE MABINI

Maxxam ID LI3297 **Collected** 2011/10/18
Sample ID LICAVOC/PORT/OCT18,11- 7834 **Shipped**
Matrix AIR **Received** 2011/10/21

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2660298	N/A	2011/10/25	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2660297	N/A	2011/10/25	MELANIE MABINI

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Maxxam Analytics

Maxxam Job #: B1G4503
Report Date: 2011/10/27

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G4503

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2660297	MM2	Spiked Blank	Bromochloromethane	2011/10/25		111	%	60 - 140
			D5-Chlorobenzene	2011/10/25		113	%	60 - 140
			Difluorobenzene	2011/10/25		114	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/25		101	%	70 - 130
			Carbon Disulfide	2011/10/25		121	%	70 - 130
			Propene	2011/10/25		99	%	70 - 130
			Vinyl Acetate	2011/10/25		105	%	70 - 130
			Vinyl Bromide	2011/10/25		109	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/10/25		124	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/10/25		123	%	70 - 130
			Chloromethane	2011/10/25		109	%	70 - 130
			Vinyl Chloride	2011/10/25		110	%	70 - 130
			Chloroethane	2011/10/25		109	%	70 - 130
			1,3-Butadiene	2011/10/25		110	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/10/25		105	%	70 - 130
			Trichlorotrifluoroethane	2011/10/25		108	%	70 - 130
			Ethanol	2011/10/25		74	%	70 - 130
			2-propanol	2011/10/25		99	%	70 - 130
			2-Propanone	2011/10/25		97	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/10/25		110	%	70 - 130
			Methyl Isobutyl Ketone	2011/10/25		98	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/10/25		102	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/10/25		106	%	70 - 130
			Ethyl Acetate	2011/10/25		102	%	70 - 130
			1,1-Dichloroethylene	2011/10/25		109	%	70 - 130
			cis-1,2-Dichloroethylene	2011/10/25		107	%	70 - 130
			trans-1,2-Dichloroethylene	2011/10/25		105	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/10/25		130	%	70 - 130
			Chloroform	2011/10/25		104	%	70 - 130
			Carbon Tetrachloride	2011/10/25		107	%	70 - 130
			1,1-Dichloroethane	2011/10/25		100	%	70 - 130
			1,2-Dichloroethane	2011/10/25		107	%	70 - 130
			Ethylene Dibromide	2011/10/25		108	%	70 - 130
			1,1,1-Trichloroethane	2011/10/25		106	%	70 - 130
			1,1,2-Trichloroethane	2011/10/25		107	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/10/25		105	%	70 - 130
			cis-1,3-Dichloropropene	2011/10/25		108	%	70 - 130
			trans-1,3-Dichloropropene	2011/10/25		113	%	70 - 130
			1,2-Dichloropropane	2011/10/25		101	%	70 - 130
			Bromomethane	2011/10/25		107	%	70 - 130
			Bromoform	2011/10/25		112	%	70 - 130
			Bromodichloromethane	2011/10/25		104	%	70 - 130
			Dibromochloromethane	2011/10/25		108	%	70 - 130
			Heptane	2011/10/25		94	%	70 - 130
			Trichloroethylene	2011/10/25		103	%	70 - 130
			Tetrachloroethylene	2011/10/25		107	%	70 - 130
			Benzene	2011/10/25		104	%	70 - 130
			Toluene	2011/10/25		105	%	70 - 130
			Ethylbenzene	2011/10/25		105	%	70 - 130
			p+m-Xylene	2011/10/25		101	%	70 - 130
			o-Xylene	2011/10/25		102	%	70 - 130
			Styrene	2011/10/25		103	%	70 - 130
			1,3,5-Trimethylbenzene	2011/10/25		105	%	70 - 130
			1,2,4-Trimethylbenzene	2011/10/25		108	%	70 - 130
			4-ethyltoluene	2011/10/25		103	%	70 - 130

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Quality Assurance Report (Continued)

Maxxam Job Number: GB1G4503

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2660297	MM2	Spiked Blank	Chlorobenzene	2011/10/25		103	%	70 - 130
			Benzyl chloride	2011/10/25		118	%	70 - 130
			1,3-Dichlorobenzene	2011/10/25		113	%	70 - 130
			1,4-Dichlorobenzene	2011/10/25		109	%	70 - 130
			1,2-Dichlorobenzene	2011/10/25		112	%	70 - 130
			1,2,4-Trichlorobenzene	2011/10/25		96	%	70 - 130
			Hexachlorobutadiene	2011/10/25		102	%	70 - 130
			Hexane	2011/10/25		94	%	70 - 130
			Cyclohexane	2011/10/25		98	%	70 - 130
			Tetrahydrofuran	2011/10/25		104	%	70 - 130
			1,4-Dioxane	2011/10/25		73	%	70 - 130
		Method Blank	Bromochloromethane	2011/10/25		94	%	60 - 140
			D5-Chlorobenzene	2011/10/25		90	%	60 - 140
			Difluorobenzene	2011/10/25		95	%	60 - 140
			2,2,4-Trimethylpentane	2011/10/25	<0.20		ppbv	
			Carbon Disulfide	2011/10/25	<0.50		ppbv	
			Propene	2011/10/25	<0.30		ppbv	
			Vinyl Acetate	2011/10/25	<0.20		ppbv	
			Vinyl Bromide	2011/10/25	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2011/10/25	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2011/10/25	<0.17		ppbv	
			Chloromethane	2011/10/25	<0.30		ppbv	
			Vinyl Chloride	2011/10/25	<0.18		ppbv	
			Chloroethane	2011/10/25	<0.30		ppbv	
			1,3-Butadiene	2011/10/25	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2011/10/25	<0.20		ppbv	
			Trichlorotrifluoroethane	2011/10/25	<0.15		ppbv	
			Ethanol	2011/10/25	<2.3		ppbv	
			2-propanol	2011/10/25	<3.0		ppbv	
			2-Propanone	2011/10/25	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2011/10/25	<3.0		ppbv	
			Methyl Isobutyl Ketone	2011/10/25	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2011/10/25	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2011/10/25	<0.20		ppbv	
			Ethyl Acetate	2011/10/25	<2.2		ppbv	
			1,1-Dichloroethylene	2011/10/25	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2011/10/25	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2011/10/25	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2011/10/25	<0.80		ppbv	
			Chloroform	2011/10/25	<0.15		ppbv	
			Carbon Tetrachloride	2011/10/25	<0.30		ppbv	
			1,1-Dichloroethane	2011/10/25	<0.20		ppbv	
			1,2-Dichloroethane	2011/10/25	<0.20		ppbv	
			Ethylene Dibromide	2011/10/25	<0.17		ppbv	
			1,1,1-Trichloroethane	2011/10/25	<0.30		ppbv	
			1,1,2-Trichloroethane	2011/10/25	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2011/10/25	<0.20		ppbv	
			cis-1,3-Dichloropropene	2011/10/25	<0.18		ppbv	
			trans-1,3-Dichloropropene	2011/10/25	<0.17		ppbv	
			1,2-Dichloropropane	2011/10/25	<0.40		ppbv	
			Bromomethane	2011/10/25	<0.18		ppbv	
			Bromoform	2011/10/25	<0.20		ppbv	
			Bromodichloromethane	2011/10/25	<0.20		ppbv	
			Dibromochloromethane	2011/10/25	<0.20		ppbv	
			Heptane	2011/10/25	<0.30		ppbv	

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Quality Assurance Report (Continued)

Maxxam Job Number: GB1G4503

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2660297	MM2	Method Blank	Trichloroethylene	2011/10/25	<0.30		ppbv	
			Tetrachloroethylene	2011/10/25	<0.20		ppbv	
			Benzene	2011/10/25	<0.18		ppbv	
			Toluene	2011/10/25	<0.20		ppbv	
			Ethylbenzene	2011/10/25	<0.20		ppbv	
			p+m-Xylene	2011/10/25	<0.37		ppbv	
			o-Xylene	2011/10/25	<0.20		ppbv	
			Styrene	2011/10/25	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/10/25	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/10/25	<0.50		ppbv	
			4-ethyltoluene	2011/10/25	<2.2		ppbv	
			Chlorobenzene	2011/10/25	<0.20		ppbv	
			Benzyl chloride	2011/10/25	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/10/25	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/10/25	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/10/25	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/10/25	<2.0		ppbv	
			Hexachlorobutadiene	2011/10/25	<3.0		ppbv	
			Hexane	2011/10/25	<0.30		ppbv	
			Cyclohexane	2011/10/25	<0.20		ppbv	
			Tetrahydrofuran	2011/10/25	<0.40		ppbv	
			1,4-Dioxane	2011/10/25	<2.0		ppbv	
			Xylene (Total)	2011/10/25	<0.60		ppbv	
		RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2011/10/25	NC		%	25
			Carbon Disulfide	2011/10/25	NC		%	25
			Propene	2011/10/25	7.4		%	25
			Vinyl Acetate	2011/10/25	NC		%	25
			Vinyl Bromide	2011/10/25	NC		%	25
			Dichlorodifluoromethane (FREON 12)	2011/10/25	NC		%	25
			1,2-Dichlorotetrafluoroethane	2011/10/25	NC		%	25
			Chloromethane	2011/10/25	NC		%	25
			Vinyl Chloride	2011/10/25	NC		%	25
			Chloroethane	2011/10/25	NC		%	25
			1,3-Butadiene	2011/10/25	NC		%	25
			Trichlorofluoromethane (FREON 11)	2011/10/25	NC		%	25
			Trichlorotrifluoroethane	2011/10/25	NC		%	25
			Ethanol	2011/10/25	8.1		%	25
			2-propanol	2011/10/25	NC		%	25
			2-Propanone	2011/10/25	NC		%	25
			Methyl Ethyl Ketone (2-Butanone)	2011/10/25	NC		%	25
			Methyl Isobutyl Ketone	2011/10/25	NC		%	25
			Methyl Butyl Ketone (2-Hexanone)	2011/10/25	NC		%	25
			Methyl t-butyl ether (MTBE)	2011/10/25	NC		%	25
			Ethyl Acetate	2011/10/25	NC		%	25
			1,1-Dichloroethylene	2011/10/25	NC		%	25
			cis-1,2-Dichloroethylene	2011/10/25	NC		%	25
			trans-1,2-Dichloroethylene	2011/10/25	NC		%	25
			Methylene Chloride(Dichloromethane)	2011/10/25	NC		%	25
			Chloroform	2011/10/25	NC		%	25
			Carbon Tetrachloride	2011/10/25	NC		%	25
			1,1-Dichloroethane	2011/10/25	NC		%	25
			1,2-Dichloroethane	2011/10/25	NC		%	25
			Ethylene Dibromide	2011/10/25	NC		%	25

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Quality Assurance Report (Continued)

Maxxam Job Number: GB1G4503

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2660297	MM2	RPD - Sample/Sample Dup	1,1,1-Trichloroethane	2011/10/25	NC		%	25
			1,1,2-Trichloroethane	2011/10/25	NC		%	25
			1,1,2,2-Tetrachloroethane	2011/10/25	NC		%	25
			cis-1,3-Dichloropropene	2011/10/25	NC		%	25
			trans-1,3-Dichloropropene	2011/10/25	NC		%	25
			1,2-Dichloropropane	2011/10/25	NC		%	25
			Bromomethane	2011/10/25	NC		%	25
			Bromoform	2011/10/25	NC		%	25
			Bromodichloromethane	2011/10/25	NC		%	25
			Dibromochloromethane	2011/10/25	NC		%	25
			Heptane	2011/10/25	NC		%	25
			Trichloroethylene	2011/10/25	NC		%	25
			Tetrachloroethylene	2011/10/25	NC		%	25
			Benzene	2011/10/25	NC		%	25
			Toluene	2011/10/25	5.3		%	25
			Ethylbenzene	2011/10/25	NC		%	25
			p+m-Xylene	2011/10/25	NC		%	25
			o-Xylene	2011/10/25	NC		%	25
			Styrene	2011/10/25	NC		%	25
			1,3,5-Trimethylbenzene	2011/10/25	NC		%	25
			1,2,4-Trimethylbenzene	2011/10/25	NC		%	25
			4-ethyltoluene	2011/10/25	NC		%	25
			Chlorobenzene	2011/10/25	NC		%	25
			Benzyl chloride	2011/10/25	NC		%	25
			1,3-Dichlorobenzene	2011/10/25	NC		%	25
			1,4-Dichlorobenzene	2011/10/25	NC		%	25
			1,2-Dichlorobenzene	2011/10/25	NC		%	25
			1,2,4-Trichlorobenzene	2011/10/25	NC		%	25
			Hexachlorobutadiene	2011/10/25	NC		%	25
			Hexane	2011/10/25	NC		%	25
			Cyclohexane	2011/10/25	NC		%	25
			Tetrahydrofuran	2011/10/25	NC		%	25
			1,4-Dioxane	2011/10/25	NC		%	25
			Xylene (Total)	2011/10/25	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.

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MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: 13-16-62-5 W4M
Station ID: Lica 33 (Portable)
Field Sample ID: LICA VOC/PORT/ Oct 24, 11

Sampler s/n: 6200
Canister ID: 143
Canister Installation Date/Time: Oct 21, 11 @09:55 mst
Canister Removal Date/Time: Oct 26, 11 @09:32 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
24-Oct-11	10/24/2011 0:00	10/25/2011 0:00	24.0000

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1496	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-29	22

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

Comments: System leak check prior to sampling. COC # 08231

Technician Signiture: Ting Xu

Your C.O.C. #: 08231

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

Report Date: 2011/11/08

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G9029
Received: 2011/10/28, 10:50

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	1	N/A	2011/11/01	BRL SOP-00304	EPA TO-15
Canister Pressure (TO-15)	1	N/A	2011/11/02	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2011/11/01	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2011/11/02	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

RESULTS OF ANALYSES OF AIR

Maxxam ID		LK5707		LK5708	
Sampling Date		2011/10/24		2011/10/24	
COC Number		08231		08231	
	Units	**LICA VOC/CLS/OCT 24,11**	**QC Batch**	**LICA VOC/ PORT/OCT 24,11**	**QC Batch**
Volatile Organics					
Pressure on Receipt	psig	23	2669588	22	2671077

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5707				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/CLS/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2669587
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2669587
Propene	ppbv	<0.30	0.30	<0.516	0.516	2669587
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2669587
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2669587
Dichlorodifluoromethane (FREON 12)	ppbv	0.92	0.20	4.55	0.989	2669587
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2669587
Chloromethane	ppbv	0.57	0.30	1.18	0.620	2669587
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2669587
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2669587
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2669587
Trichlorofluoromethane (FREON 11)	ppbv	0.54	0.20	3.03	1.12	2669587
Trichlorotrifluoroethane	ppbv	0.16	0.15	1.22	1.15	2669587
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2669587
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2669587
2-Propanone	ppbv	1.75	0.80	4.16	1.90	2669587
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2669587
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2669587
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2669587
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2669587
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2669587
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2669587
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2669587
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2669587
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2669587
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2669587
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2669587
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2669587
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2669587
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2669587
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2669587

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5707				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/CLS/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2669587
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2669587
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2669587
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2669587
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2669587
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2669587
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2669587
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2669587
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2669587
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2669587
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2669587
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2669587
Benzene	ppbv	0.21	0.18	0.662	0.575	2669587
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2669587
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2669587
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2669587
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2669587
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2669587
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2669587
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2669587
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2669587
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2669587
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2669587
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2669587
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2669587
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2669587
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2669587
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2669587
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2669587
Cyclohexane	ppbv	0.23	0.20	0.796	0.688	2669587
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2669587
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2669587
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2669587

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5707				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/CLS/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)						
Bromochloromethane	%	66		N/A	N/A	2669587
D5-Chlorobenzene	%	67		N/A	N/A	2669587
Difluorobenzene	%	67		N/A	N/A	2669587

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

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5708				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/ PORT/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2671075
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2671075
Propene	ppbv	<0.30	0.30	<0.516	0.516	2671075
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2671075
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2671075
Dichlorodifluoromethane (FREON 12)	ppbv	1.11	0.20	5.48	0.989	2671075
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2671075
Chloromethane	ppbv	0.58	0.30	1.19	0.620	2671075
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2671075
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2671075
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2671075
Trichlorofluoromethane (FREON 11)	ppbv	0.47	0.20	2.64	1.12	2671075
Trichlorotrifluoroethane	ppbv	0.15	0.15	1.18	1.15	2671075
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2671075
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2671075
2-Propanone	ppbv	1.79	0.80	4.25	1.90	2671075
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2671075
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2671075
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2671075
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2671075
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2671075
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2671075
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2671075
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2671075
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2671075
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2671075
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2671075
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2671075
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2671075
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2671075
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2671075

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5708				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/ PORT/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2671075
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2671075
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2671075
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2671075
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2671075
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2671075
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2671075
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2671075
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2671075
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2671075
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2671075
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2671075
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2671075
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2671075
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2671075
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2671075
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2671075
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2671075
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2671075
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2671075
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2671075
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2671075
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2671075
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2671075
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2671075
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2671075
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2671075
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2671075
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2671075
Cyclohexane	ppbv	0.25	0.20	0.869	0.688	2671075
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2671075
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2671075
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2671075

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LK5708				
Sampling Date		2011/10/24				
COC Number		08231				
	Units	**LICA VOC/ PORT/OCT 24,11**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)						
Bromochloromethane	%	95		N/A	N/A	2671075
D5-Chlorobenzene	%	85		N/A	N/A	2671075
Difluorobenzene	%	94		N/A	N/A	2671075

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

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

Test Summary

Maxxam ID LK5707 **Collected** 2011/10/24
Sample ID LICA VOC/CLS/OCT 24,11 **Shipped**
Matrix AIR **Received** 2011/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2669588	N/A	2011/11/01	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2669587	N/A	2011/11/01	MELANIE MABINI

Maxxam ID LK5708 **Collected** 2011/10/24
Sample ID LICA VOC/ PORT/OCT 24,11 **Shipped**
Matrix AIR **Received** 2011/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2671077	N/A	2011/11/02	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2671075	N/A	2011/11/02	MELANIE MABINI

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Maxxam Analytics

Maxxam Job #: B1G9029
Report Date: 2011/11/08

GENERAL COMMENTS

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G9029

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2669587	MM2	Spiked Blank	Bromochloromethane	2011/11/01		95	%	60 - 140
			D5-Chlorobenzene	2011/11/01		98	%	60 - 140
			Difluorobenzene	2011/11/01		98	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/01		90	%	70 - 130
			Carbon Disulfide	2011/11/01		84	%	70 - 130
			Propene	2011/11/01		83	%	70 - 130
			Vinyl Acetate	2011/11/01		92	%	70 - 130
			Vinyl Bromide	2011/11/01		113	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/11/01		81	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/11/01		119	%	70 - 130
			Chloromethane	2011/11/01		104	%	70 - 130
			Vinyl Chloride	2011/11/01		114	%	70 - 130
			Chloroethane	2011/11/01		124	%	70 - 130
			1,3-Butadiene	2011/11/01		109	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/11/01		101	%	70 - 130
			Trichlorotrifluoroethane	2011/11/01		115	%	70 - 130
			Ethanol	2011/11/01		112	%	70 - 130
			2-propanol	2011/11/01		118	%	70 - 130
			2-Propanone	2011/11/01		94	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/11/01		95	%	70 - 130
			Methyl Isobutyl Ketone	2011/11/01		87	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/11/01		90	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/11/01		100	%	70 - 130
			Ethyl Acetate	2011/11/01		89	%	70 - 130
			1,1-Dichloroethylene	2011/11/01		126	%	70 - 130
			cis-1,2-Dichloroethylene	2011/11/01		99	%	70 - 130
			trans-1,2-Dichloroethylene	2011/11/01		101	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/11/01		96	%	70 - 130
			Chloroform	2011/11/01		99	%	70 - 130
			Carbon Tetrachloride	2011/11/01		105	%	70 - 130
			1,1-Dichloroethane	2011/11/01		96	%	70 - 130
			1,2-Dichloroethane	2011/11/01		98	%	70 - 130
			Ethylene Dibromide	2011/11/01		108	%	70 - 130
			1,1,1-Trichloroethane	2011/11/01		103	%	70 - 130
			1,1,2-Trichloroethane	2011/11/01		108	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/11/01		97	%	70 - 130
			cis-1,3-Dichloropropene	2011/11/01		106	%	70 - 130
			trans-1,3-Dichloropropene	2011/11/01		108	%	70 - 130
			1,2-Dichloropropane	2011/11/01		100	%	70 - 130
			Bromomethane	2011/11/01		119	%	70 - 130
			Bromoform	2011/11/01		103	%	70 - 130
			Bromodichloromethane	2011/11/01		94	%	70 - 130
			Dibromochloromethane	2011/11/01		104	%	70 - 130
			Heptane	2011/11/01		86	%	70 - 130
			Trichloroethylene	2011/11/01		113	%	70 - 130
			Tetrachloroethylene	2011/11/01		117	%	70 - 130
			Benzene	2011/11/01		106	%	70 - 130
			Toluene	2011/11/01		107	%	70 - 130
			Ethylbenzene	2011/11/01		103	%	70 - 130
			p+m-Xylene	2011/11/01		101	%	70 - 130
			o-Xylene	2011/11/01		101	%	70 - 130
			Styrene	2011/11/01		101	%	70 - 130
			1,3,5-Trimethylbenzene	2011/11/01		101	%	70 - 130
			1,2,4-Trimethylbenzene	2011/11/01		100	%	70 - 130
			4-ethyltoluene	2011/11/01		96	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G9029

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2669587	MM2	Spiked Blank	Chlorobenzene	2011/11/01		107	%	70 - 130
			Benzyl chloride	2011/11/01		100	%	70 - 130
			1,3-Dichlorobenzene	2011/11/01		106	%	70 - 130
			1,4-Dichlorobenzene	2011/11/01		104	%	70 - 130
			1,2-Dichlorobenzene	2011/11/01		102	%	70 - 130
			1,2,4-Trichlorobenzene	2011/11/01		72	%	70 - 130
			Hexachlorobutadiene	2011/11/01		74	%	70 - 130
			Hexane	2011/11/01		89	%	70 - 130
			Cyclohexane	2011/11/01		99	%	70 - 130
			Tetrahydrofuran	2011/11/01		99	%	70 - 130
			1,4-Dioxane	2011/11/01		105	%	70 - 130
		Method Blank	Bromochloromethane	2011/11/01		90	%	60 - 140
			D5-Chlorobenzene	2011/11/01		91	%	60 - 140
			Difluorobenzene	2011/11/01		93	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/01	<0.20		ppbv	
			Carbon Disulfide	2011/11/01	<0.50		ppbv	
			Propene	2011/11/01	<0.30		ppbv	
			Vinyl Acetate	2011/11/01	<0.20		ppbv	
			Vinyl Bromide	2011/11/01	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2011/11/01	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2011/11/01	<0.17		ppbv	
			Chloromethane	2011/11/01	<0.30		ppbv	
			Vinyl Chloride	2011/11/01	<0.18		ppbv	
			Chloroethane	2011/11/01	<0.30		ppbv	
			1,3-Butadiene	2011/11/01	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2011/11/01	<0.20		ppbv	
			Trichlorotrifluoroethane	2011/11/01	<0.15		ppbv	
			Ethanol	2011/11/01	<2.3		ppbv	
			2-propanol	2011/11/01	<3.0		ppbv	
			2-Propanone	2011/11/01	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2011/11/01	<3.0		ppbv	
			Methyl Isobutyl Ketone	2011/11/01	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2011/11/01	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2011/11/01	<0.20		ppbv	
			Ethyl Acetate	2011/11/01	<2.2		ppbv	
			1,1-Dichloroethylene	2011/11/01	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2011/11/01	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2011/11/01	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2011/11/01	<0.80		ppbv	
			Chloroform	2011/11/01	<0.15		ppbv	
			Carbon Tetrachloride	2011/11/01	<0.30		ppbv	
			1,1-Dichloroethane	2011/11/01	<0.20		ppbv	
			1,2-Dichloroethane	2011/11/01	<0.20		ppbv	
			Ethylene Dibromide	2011/11/01	<0.17		ppbv	
			1,1,1-Trichloroethane	2011/11/01	<0.30		ppbv	
			1,1,2-Trichloroethane	2011/11/01	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2011/11/01	<0.20		ppbv	
			cis-1,3-Dichloropropene	2011/11/01	<0.18		ppbv	
			trans-1,3-Dichloropropene	2011/11/01	<0.17		ppbv	
			1,2-Dichloropropane	2011/11/01	<0.40		ppbv	
			Bromomethane	2011/11/01	<0.18		ppbv	
			Bromoform	2011/11/01	<0.20		ppbv	
			Bromodichloromethane	2011/11/01	<0.20		ppbv	
			Dibromochloromethane	2011/11/01	<0.20		ppbv	
			Heptane	2011/11/01	<0.30		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G9029

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2669587	MM2	Method Blank	Trichloroethylene	2011/11/01	<0.30		ppbv	
			Tetrachloroethylene	2011/11/01	<0.20		ppbv	
			Benzene	2011/11/01	<0.18		ppbv	
			Toluene	2011/11/01	<0.20		ppbv	
			Ethylbenzene	2011/11/01	<0.20		ppbv	
			p+m-Xylene	2011/11/01	<0.37		ppbv	
			o-Xylene	2011/11/01	<0.20		ppbv	
			Styrene	2011/11/01	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/11/01	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/11/01	<0.50		ppbv	
			4-ethyltoluene	2011/11/01	<2.2		ppbv	
			Chlorobenzene	2011/11/01	<0.20		ppbv	
			Benzyl chloride	2011/11/01	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/11/01	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/11/01	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/11/01	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/11/01	<2.0		ppbv	
			Hexachlorobutadiene	2011/11/01	<3.0		ppbv	
			Hexane	2011/11/01	<0.30		ppbv	
			Cyclohexane	2011/11/01	<0.20		ppbv	
			Tetrahydrofuran	2011/11/01	<0.40		ppbv	
			1,4-Dioxane	2011/11/01	<2.0		ppbv	
			Xylene (Total)	2011/11/01	<0.60		ppbv	
2671075	MM2	Spiked Blank	Bromochloromethane	2011/11/02		123	%	60 - 140
			D5-Chlorobenzene	2011/11/02		117	%	60 - 140
			Difluorobenzene	2011/11/02		123	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/02		90	%	70 - 130
			Carbon Disulfide	2011/11/02		120	%	70 - 130
			Propene	2011/11/02		88	%	70 - 130
			Vinyl Acetate	2011/11/02		95	%	70 - 130
			Vinyl Bromide	2011/11/02		111	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/11/02		113	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/11/02		128	%	70 - 130
			Chloromethane	2011/11/02		112	%	70 - 130
			Vinyl Chloride	2011/11/02		116	%	70 - 130
			Chloroethane	2011/11/02		113	%	70 - 130
			1,3-Butadiene	2011/11/02		108	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/11/02		109	%	70 - 130
			Trichlorotrifluoroethane	2011/11/02		117	%	70 - 130
			Ethanol	2011/11/02		91	%	70 - 130
			2-propanol	2011/11/02		107	%	70 - 130
			2-Propanone	2011/11/02		97	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/11/02		100	%	70 - 130
			Methyl Isobutyl Ketone	2011/11/02		92	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/11/02		95	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/11/02		106	%	70 - 130
			Ethyl Acetate	2011/11/02		94	%	70 - 130
			1,1-Dichloroethylene	2011/11/02		120	%	70 - 130
			cis-1,2-Dichloroethylene	2011/11/02		106	%	70 - 130
			trans-1,2-Dichloroethylene	2011/11/02		105	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/11/02		106	%	70 - 130
			Chloroform	2011/11/02		105	%	70 - 130
			Carbon Tetrachloride	2011/11/02		112	%	70 - 130
			1,1-Dichloroethane	2011/11/02		98	%	70 - 130
			1,2-Dichloroethane	2011/11/02		109	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G9029

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2671075	MM2	Spiked Blank	Ethylene Dibromide	2011/11/02		109	%	70 - 130
			1,1,1-Trichloroethane	2011/11/02		109	%	70 - 130
			1,1,2-Trichloroethane	2011/11/02		106	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/11/02		96	%	70 - 130
			cis-1,3-Dichloropropene	2011/11/02		107	%	70 - 130
			trans-1,3-Dichloropropene	2011/11/02		113	%	70 - 130
			1,2-Dichloropropane	2011/11/02		98	%	70 - 130
			Bromomethane	2011/11/02		116	%	70 - 130
			Bromoform	2011/11/02		106	%	70 - 130
			Bromodichloromethane	2011/11/02		102	%	70 - 130
			Dibromochloromethane	2011/11/02		108	%	70 - 130
			Heptane	2011/11/02		90	%	70 - 130
			Trichloroethylene	2011/11/02		108	%	70 - 130
			Tetrachloroethylene	2011/11/02		111	%	70 - 130
			Benzene	2011/11/02		103	%	70 - 130
			Toluene	2011/11/02		105	%	70 - 130
			Ethylbenzene	2011/11/02		104	%	70 - 130
			p+m-Xylene	2011/11/02		101	%	70 - 130
			o-Xylene	2011/11/02		100	%	70 - 130
			Styrene	2011/11/02		98	%	70 - 130
			1,3,5-Trimethylbenzene	2011/11/02		99	%	70 - 130
			1,2,4-Trimethylbenzene	2011/11/02		100	%	70 - 130
			4-ethyltoluene	2011/11/02		96	%	70 - 130
			Chlorobenzene	2011/11/02		101	%	70 - 130
			Benzyl chloride	2011/11/02		100	%	70 - 130
			1,3-Dichlorobenzene	2011/11/02		103	%	70 - 130
			1,4-Dichlorobenzene	2011/11/02		98	%	70 - 130
			1,2-Dichlorobenzene	2011/11/02		98	%	70 - 130
			1,2,4-Trichlorobenzene	2011/11/02		82	%	70 - 130
			Hexachlorobutadiene	2011/11/02		88	%	70 - 130
			Hexane	2011/11/02		90	%	70 - 130
			Cyclohexane	2011/11/02		97	%	70 - 130
			Tetrahydrofuran	2011/11/02		97	%	70 - 130
			1,4-Dioxane	2011/11/02		80	%	70 - 130
		Method Blank	Bromochloromethane	2011/11/02		118	%	60 - 140
			D5-Chlorobenzene	2011/11/02		108	%	60 - 140
			Difluorobenzene	2011/11/02		117	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/02	<0.20		ppbv	
			Carbon Disulfide	2011/11/02	<0.50		ppbv	
			Propene	2011/11/02	<0.30		ppbv	
			Vinyl Acetate	2011/11/02	<0.20		ppbv	
			Vinyl Bromide	2011/11/02	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2011/11/02	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2011/11/02	<0.17		ppbv	
			Chloromethane	2011/11/02	<0.30		ppbv	
			Vinyl Chloride	2011/11/02	<0.18		ppbv	
			Chloroethane	2011/11/02	<0.30		ppbv	
			1,3-Butadiene	2011/11/02	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2011/11/02	<0.20		ppbv	
			Trichlorotrifluoroethane	2011/11/02	<0.15		ppbv	
			Ethanol	2011/11/02	<2.3		ppbv	
			2-propanol	2011/11/02	<3.0		ppbv	
			2-Propanone	2011/11/02	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2011/11/02	<3.0		ppbv	
			Methyl Isobutyl Ketone	2011/11/02	<3.2		ppbv	

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Maxxam Analytics
Attention: Michael Bisaga
Client Project #:
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Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G9029

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2671075	MM2	Method Blank	Methyl Butyl Ketone (2-Hexanone)	2011/11/02	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2011/11/02	<0.20		ppbv	
			Ethyl Acetate	2011/11/02	<2.2		ppbv	
			1,1-Dichloroethylene	2011/11/02	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2011/11/02	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2011/11/02	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2011/11/02	<0.80		ppbv	
			Chloroform	2011/11/02	<0.15		ppbv	
			Carbon Tetrachloride	2011/11/02	<0.30		ppbv	
			1,1-Dichloroethane	2011/11/02	<0.20		ppbv	
			1,2-Dichloroethane	2011/11/02	<0.20		ppbv	
			Ethylene Dibromide	2011/11/02	<0.17		ppbv	
			1,1,1-Trichloroethane	2011/11/02	<0.30		ppbv	
			1,1,2-Trichloroethane	2011/11/02	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2011/11/02	<0.20		ppbv	
			cis-1,3-Dichloropropene	2011/11/02	<0.18		ppbv	
			trans-1,3-Dichloropropene	2011/11/02	<0.17		ppbv	
			1,2-Dichloropropane	2011/11/02	<0.40		ppbv	
			Bromomethane	2011/11/02	<0.18		ppbv	
			Bromoform	2011/11/02	<0.20		ppbv	
			Bromodichloromethane	2011/11/02	<0.20		ppbv	
			Dibromochloromethane	2011/11/02	<0.20		ppbv	
			Heptane	2011/11/02	<0.30		ppbv	
			Trichloroethylene	2011/11/02	<0.30		ppbv	
			Tetrachloroethylene	2011/11/02	<0.20		ppbv	
			Benzene	2011/11/02	<0.18		ppbv	
			Toluene	2011/11/02	<0.20		ppbv	
			Ethylbenzene	2011/11/02	<0.20		ppbv	
			p+m-Xylene	2011/11/02	<0.37		ppbv	
			o-Xylene	2011/11/02	<0.20		ppbv	
			Styrene	2011/11/02	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/11/02	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/11/02	<0.50		ppbv	
			4-ethyltoluene	2011/11/02	<2.2		ppbv	
			Chlorobenzene	2011/11/02	<0.20		ppbv	
			Benzyl chloride	2011/11/02	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/11/02	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/11/02	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/11/02	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/11/02	<2.0		ppbv	
			Hexachlorobutadiene	2011/11/02	<3.0		ppbv	
			Hexane	2011/11/02	<0.30		ppbv	
			Cyclohexane	2011/11/02	<0.20		ppbv	
			Tetrahydrofuran	2011/11/02	<0.40		ppbv	
			1,4-Dioxane	2011/11/02	<2.0		ppbv	
			Xylene (Total)	2011/11/02	<0.60		ppbv	

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

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: 13-16-62-5 W4M
Station ID: Lica 33 (Portable)
Field Sample ID: LICA VOC/PORT/ Oct 30, 11

Sampler s/n: 6200
Canister ID: 140
Canister Installation Date/Time: Oct 28, 11 @14:51 mst
Canister Removal Date/Time: Oct 31, 11 @11:18 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
30-Oct-11	10/30/2011 0:00	10/31/2011 0:00	24.0000

Flow Settings		
Meter Reading (sccm)	Pot Set Pt.	Pump Pressure Setting (psig)
10.0	1496	25

Canister Information	
Initial Canister Vacuum (inHg)	Final Canister Pressure (psig)
-29	22

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

Comments: System leak check prior to sampling. COC # 08006

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 08006

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

Report Date: 2011/11/15

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1H1673
Received: 2011/11/02, 10:00

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	1	N/A	2011/11/04	BRL SOP-00304	EPA TO-15
Canister Pressure (TO-15)	1	N/A	2011/11/11	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2011/11/04	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2011/11/11	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1H1673
Report Date: 2011/11/15

RESULTS OF ANALYSES OF AIR

Maxxam ID		LM0376		LM0377	
Sampling Date		2011/10/30 00:00		2011/10/30 00:00	
COC Number		08006		08006	
	Units	**LICAVOC/CLS/OCT30,2011/139**	**QC Batch**	**LICAVOC/PORT/OCT30,2011/140**	**QC Batch**
Volatile Organics					
Pressure on Receipt	psig	24	2674512	22	2680649

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1H1673
Report Date: 2011/11/15

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0376				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/CLS/OCT30,2011/139**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2674511
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2674511
Propene	ppbv	<0.30	0.30	<0.516	0.516	2674511
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2674511
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2674511
Dichlorodifluoromethane (FREON 12)	ppbv	0.78	0.20	3.88	0.989	2674511
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2674511
Chloromethane	ppbv	0.58	0.30	1.20	0.620	2674511
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2674511
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2674511
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2674511
Trichlorofluoromethane (FREON 11)	ppbv	0.41	0.20	2.31	1.12	2674511
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2674511
Ethanol	ppbv	2.4	2.3	4.44	4.33	2674511
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2674511
2-Propanone	ppbv	1.91	0.80	4.53	1.90	2674511
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2674511
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2674511
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2674511
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2674511
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2674511
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2674511
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2674511
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2674511
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2674511
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2674511
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2674511
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2674511
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2674511
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2674511
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2674511
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2674511

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0376				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/CLS/OCT30,2011/139**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2674511
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2674511
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2674511
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2674511
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2674511
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2674511
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2674511
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2674511
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2674511
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2674511
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2674511
Benzene	ppbv	0.29	0.18	0.917	0.575	2674511
Toluene	ppbv	0.51	0.20	1.91	0.753	2674511
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2674511
p+m-Xylene	ppbv	0.38	0.37	1.65	1.61	2674511
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2674511
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2674511
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2674511
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2674511
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2674511
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2674511
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2674511
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2674511
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2674511
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2674511
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2674511
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2674511
Hexane	ppbv	0.73	0.30	2.59	1.06	2674511
Cyclohexane	ppbv	0.40	0.20	1.39	0.688	2674511
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2674511
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2674511
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2674511
Surrogate Recovery (%)						
Bromochloromethane	%	81		N/A	N/A	2674511

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

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Maxxam Analytics

Maxxam Job #: B1H1673
Report Date: 2011/11/15

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0376				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/CLS/OCT30,2011/139**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	79		N/A	N/A	2674511
Difluorobenzene	%	83		N/A	N/A	2674511

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0377				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/PORT/OCT30,2011/140**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2680646
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2680646
Propene	ppbv	<1.2	1.2	<2.07	2.07	2680646
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2680646
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2680646
Dichlorodifluoromethane (FREON 12)	ppbv	0.79	0.20	3.93	0.989	2680646
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2680646
Chloromethane	ppbv	0.60	0.30	1.24	0.620	2680646
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2680646
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2680646
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2680646
Trichlorofluoromethane (FREON 11)	ppbv	0.36	0.20	2.04	1.12	2680646
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2680646
Ethanol	ppbv	<2.3	2.3	<4.33	4.33	2680646
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2680646
2-Propanone	ppbv	1.12	0.80	2.65	1.90	2680646
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2680646
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2680646
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2680646
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2680646
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2680646
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2680646
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2680646
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2680646
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2680646
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2680646
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2680646
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2680646
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2680646
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2680646
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2680646
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2680646

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0377				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/PORT/OCT30,2011/140**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2680646
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2680646
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2680646
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2680646
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2680646
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2680646
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2680646
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2680646
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2680646
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2680646
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2680646
Benzene	ppbv	0.19	0.18	0.611	0.575	2680646
Toluene	ppbv	0.37	0.20	1.38	0.753	2680646
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2680646
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2680646
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2680646
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2680646
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2680646
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2680646
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2680646
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2680646
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2680646
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2680646
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2680646
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2680646
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2680646
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2680646
Hexane	ppbv	0.34	0.30	1.21	1.06	2680646
Cyclohexane	ppbv	0.29	0.20	0.996	0.688	2680646
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2680646
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2680646
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2680646
Surrogate Recovery (%)						
Bromochloromethane	%	84		N/A	N/A	2680646

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

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Maxxam Analytics

Maxxam Job #: B1H1673
Report Date: 2011/11/15

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		LM0377				
Sampling Date		2011/10/30 00:00				
COC Number		08006				
	Units	**LICAVOC/PORT/OCT30,2011/140**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	83		N/A	N/A	2680646
Difluorobenzene	%	86		N/A	N/A	2680646

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

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Maxxam Analytics

Maxxam Job #: B1H1673
Report Date: 2011/11/15

Test Summary

Maxxam ID LM0376 **Collected** 2011/10/30
Sample ID LICAVOC/CLS/OCT30,2011/139 **Shipped**
Matrix AIR **Received** 2011/11/02

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2674512	N/A	2011/11/04	MELANIE MABINI
Volatile Organics in Air (TO-15)	GC/MS	2674511	N/A	2011/11/04	MELANIE MABINI

Maxxam ID LM0377 **Collected** 2011/10/30
Sample ID LICAVOC/PORT/OCT30,2011/140 **Shipped**
Matrix AIR **Received** 2011/11/02

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2680649	N/A	2011/11/11	VALERIE RANDALL
Volatile Organics in Air (TO-15)	GC/MS	2680646	N/A	2011/11/11	VALERIE RANDALL

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Maxxam Analytics

Maxxam Job #: B1H1673
Report Date: 2011/11/15

GENERAL COMMENTS

Sample LM0377-01: VOCTO15M-A
DL raised for Propene due to matrix interference on a possible positive.

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1H1673

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2674511	MM2	Spiked Blank	Bromochloromethane	2011/11/04		101	%	60 - 140
			D5-Chlorobenzene	2011/11/04		103	%	60 - 140
			Difluorobenzene	2011/11/04		102	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/04		78	%	70 - 130
			Carbon Disulfide	2011/11/04		103	%	70 - 130
			Propene	2011/11/04		68 (1)	%	70 - 130
			Vinyl Acetate	2011/11/04		79	%	70 - 130
			Vinyl Bromide	2011/11/04		96	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/11/04		71	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/11/04		108	%	70 - 130
			Chloromethane	2011/11/04		92	%	70 - 130
			Vinyl Chloride	2011/11/04		102	%	70 - 130
			Chloroethane	2011/11/04		101	%	70 - 130
			1,3-Butadiene	2011/11/04		96	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/11/04		90	%	70 - 130
			Trichlorotrifluoroethane	2011/11/04		99	%	70 - 130
			Ethanol	2011/11/04		92	%	70 - 130
			2-propanol	2011/11/04		92	%	70 - 130
			2-Propanone	2011/11/04		78	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/11/04		81	%	70 - 130
			Methyl Isobutyl Ketone	2011/11/04		76	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/11/04		79	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/11/04		88	%	70 - 130
			Ethyl Acetate	2011/11/04		76	%	70 - 130
			1,1-Dichloroethylene	2011/11/04		106	%	70 - 130
			cis-1,2-Dichloroethylene	2011/11/04		87	%	70 - 130
			trans-1,2-Dichloroethylene	2011/11/04		87	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/11/04		105	%	70 - 130
			Chloroform	2011/11/04		89	%	70 - 130
			Carbon Tetrachloride	2011/11/04		98	%	70 - 130
			1,1-Dichloroethane	2011/11/04		84	%	70 - 130
			1,2-Dichloroethane	2011/11/04		88	%	70 - 130
			Ethylene Dibromide	2011/11/04		98	%	70 - 130
			1,1,1-Trichloroethane	2011/11/04		93	%	70 - 130
			1,1,2-Trichloroethane	2011/11/04		94	%	70 - 130
			1,1,2,2-Tetrachloroethane	2011/11/04		84	%	70 - 130
			cis-1,3-Dichloropropene	2011/11/04		95	%	70 - 130
			trans-1,3-Dichloropropene	2011/11/04		98	%	70 - 130
			1,2-Dichloropropane	2011/11/04		87	%	70 - 130
			Bromomethane	2011/11/04		101	%	70 - 130
			Bromoform	2011/11/04		95	%	70 - 130
			Bromodichloromethane	2011/11/04		87	%	70 - 130
			Dibromochloromethane	2011/11/04		95	%	70 - 130
			Heptane	2011/11/04		77	%	70 - 130
			Trichloroethylene	2011/11/04		101	%	70 - 130
			Tetrachloroethylene	2011/11/04		105	%	70 - 130
			Benzene	2011/11/04		92	%	70 - 130
			Toluene	2011/11/04		94	%	70 - 130
			Ethylbenzene	2011/11/04		91	%	70 - 130
			p+m-Xylene	2011/11/04		88	%	70 - 130
			o-Xylene	2011/11/04		88	%	70 - 130
			Styrene	2011/11/04		89	%	70 - 130
			1,3,5-Trimethylbenzene	2011/11/04		92	%	70 - 130
			1,2,4-Trimethylbenzene	2011/11/04		92	%	70 - 130
			4-ethyltoluene	2011/11/04		86	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1H1673

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2674511 MM2	Spiked Blank	Chlorobenzene	2011/11/04		94	%	70 - 130
		Benzyl chloride	2011/11/04		94	%	70 - 130
		1,3-Dichlorobenzene	2011/11/04		100	%	70 - 130
		1,4-Dichlorobenzene	2011/11/04		97	%	70 - 130
		1,2-Dichlorobenzene	2011/11/04		96	%	70 - 130
		1,2,4-Trichlorobenzene	2011/11/04		80	%	70 - 130
		Hexachlorobutadiene	2011/11/04		82	%	70 - 130
		Hexane	2011/11/04		76	%	70 - 130
		Cyclohexane	2011/11/04		87	%	70 - 130
		Tetrahydrofuran	2011/11/04		85	%	70 - 130
		1,4-Dioxane	2011/11/04		100	%	70 - 130
	Method Blank	Bromochloromethane	2011/11/04		92	%	60 - 140
		D5-Chlorobenzene	2011/11/04		91	%	60 - 140
		Difluorobenzene	2011/11/04		93	%	60 - 140
		2,2,4-Trimethylpentane	2011/11/04	<0.20		ppbv	
		Carbon Disulfide	2011/11/04	<0.50		ppbv	
		Propene	2011/11/04	<0.30		ppbv	
		Vinyl Acetate	2011/11/04	<0.20		ppbv	
		Vinyl Bromide	2011/11/04	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2011/11/04	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2011/11/04	<0.17		ppbv	
		Chloromethane	2011/11/04	<0.30		ppbv	
		Vinyl Chloride	2011/11/04	<0.18		ppbv	
		Chloroethane	2011/11/04	<0.30		ppbv	
		1,3-Butadiene	2011/11/04	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2011/11/04	<0.20		ppbv	
		Trichlorotrifluoroethane	2011/11/04	<0.15		ppbv	
		Ethanol	2011/11/04	<2.3		ppbv	
		2-propanol	2011/11/04	<3.0		ppbv	
		2-Propanone	2011/11/04	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2011/11/04	<3.0		ppbv	
		Methyl Isobutyl Ketone	2011/11/04	<3.2		ppbv	
		Methyl Butyl Ketone (2-Hexanone)	2011/11/04	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2011/11/04	<0.20		ppbv	
		Ethyl Acetate	2011/11/04	<2.2		ppbv	
		1,1-Dichloroethylene	2011/11/04	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2011/11/04	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2011/11/04	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2011/11/04	<0.80		ppbv	
		Chloroform	2011/11/04	<0.15		ppbv	
		Carbon Tetrachloride	2011/11/04	<0.30		ppbv	
		1,1-Dichloroethane	2011/11/04	<0.20		ppbv	
		1,2-Dichloroethane	2011/11/04	<0.20		ppbv	
		Ethylene Dibromide	2011/11/04	<0.17		ppbv	
		1,1,1-Trichloroethane	2011/11/04	<0.30		ppbv	
		1,1,2-Trichloroethane	2011/11/04	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2011/11/04	<0.20		ppbv	
		cis-1,3-Dichloropropene	2011/11/04	<0.18		ppbv	
		trans-1,3-Dichloropropene	2011/11/04	<0.17		ppbv	
		1,2-Dichloropropane	2011/11/04	<0.40		ppbv	
		Bromomethane	2011/11/04	<0.18		ppbv	
		Bromoform	2011/11/04	<0.20		ppbv	
		Bromodichloromethane	2011/11/04	<0.20		ppbv	
		Dibromochloromethane	2011/11/04	<0.20		ppbv	
		Heptane	2011/11/04	<0.30		ppbv	

Maxxam Analytics
Attention: Michael Bisaga
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Quality Assurance Report (Continued)

Maxxam Job Number: GB1H1673

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2674511	MM2	Method Blank	Trichloroethylene	2011/11/04	<0.30		ppbv	
			Tetrachloroethylene	2011/11/04	<0.20		ppbv	
			Benzene	2011/11/04	<0.18		ppbv	
			Toluene	2011/11/04	<0.20		ppbv	
			Ethylbenzene	2011/11/04	<0.20		ppbv	
			p+m-Xylene	2011/11/04	<0.37		ppbv	
			o-Xylene	2011/11/04	<0.20		ppbv	
			Styrene	2011/11/04	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2011/11/04	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2011/11/04	<0.50		ppbv	
			4-ethyltoluene	2011/11/04	<2.2		ppbv	
			Chlorobenzene	2011/11/04	<0.20		ppbv	
			Benzyl chloride	2011/11/04	<1.0		ppbv	
			1,3-Dichlorobenzene	2011/11/04	<0.40		ppbv	
			1,4-Dichlorobenzene	2011/11/04	<0.40		ppbv	
			1,2-Dichlorobenzene	2011/11/04	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2011/11/04	<2.0		ppbv	
			Hexachlorobutadiene	2011/11/04	<3.0		ppbv	
			Hexane	2011/11/04	<0.30		ppbv	
			Cyclohexane	2011/11/04	<0.20		ppbv	
			Tetrahydrofuran	2011/11/04	<0.40		ppbv	
			1,4-Dioxane	2011/11/04	<2.0		ppbv	
			Xylene (Total)	2011/11/04	<0.60		ppbv	
2680646	VEA	Spiked Blank	Bromochloromethane	2011/11/11		98	%	60 - 140
			D5-Chlorobenzene	2011/11/11		101	%	60 - 140
			Difluorobenzene	2011/11/11		100	%	60 - 140
			2,2,4-Trimethylpentane	2011/11/11		116	%	70 - 130
			Carbon Disulfide	2011/11/11		107	%	70 - 130
			Propene	2011/11/11		105	%	70 - 130
			Vinyl Acetate	2011/11/11		113	%	70 - 130
			Vinyl Bromide	2011/11/11		120	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2011/11/11		92	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2011/11/11		131 (1)	%	70 - 130
			Chloromethane	2011/11/11		117	%	70 - 130
			Vinyl Chloride	2011/11/11		113	%	70 - 130
			Chloroethane	2011/11/11		115	%	70 - 130
			1,3-Butadiene	2011/11/11		113	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2011/11/11		116	%	70 - 130
			Trichlorotrifluoroethane	2011/11/11		114	%	70 - 130
			Ethanol	2011/11/11		98	%	70 - 130
			2-propanol	2011/11/11		106	%	70 - 130
			2-Propanone	2011/11/11		120	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2011/11/11		116	%	70 - 130
			Methyl Isobutyl Ketone	2011/11/11		117	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2011/11/11		117	%	70 - 130
			Methyl t-butyl ether (MTBE)	2011/11/11		109	%	70 - 130
			Ethyl Acetate	2011/11/11		113	%	70 - 130
			1,1-Dichloroethylene	2011/11/11		112	%	70 - 130
			cis-1,2-Dichloroethylene	2011/11/11		111	%	70 - 130
			trans-1,2-Dichloroethylene	2011/11/11		115	%	70 - 130
			Methylene Chloride(Dichloromethane)	2011/11/11		102	%	70 - 130
			Chloroform	2011/11/11		110	%	70 - 130
			Carbon Tetrachloride	2011/11/11		108	%	70 - 130
			1,1-Dichloroethane	2011/11/11		110	%	70 - 130
			1,2-Dichloroethane	2011/11/11		113	%	70 - 130

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1H1673

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2680646 VEA	Spiked Blank	Ethylene Dibromide	2011/11/11		114	%	70 - 130
		1,1,1-Trichloroethane	2011/11/11		109	%	70 - 130
		1,1,2-Trichloroethane	2011/11/11		114	%	70 - 130
		1,1,2,2-Tetrachloroethane	2011/11/11		108	%	70 - 130
		cis-1,3-Dichloropropene	2011/11/11		108	%	70 - 130
		trans-1,3-Dichloropropene	2011/11/11		105	%	70 - 130
		1,2-Dichloropropane	2011/11/11		111	%	70 - 130
		Bromomethane	2011/11/11		119	%	70 - 130
		Bromoform	2011/11/11		126	%	70 - 130
		Bromodichloromethane	2011/11/11		120	%	70 - 130
		Dibromochloromethane	2011/11/11		125	%	70 - 130
		Heptane	2011/11/11		118	%	70 - 130
		Trichloroethylene	2011/11/11		112	%	70 - 130
		Tetrachloroethylene	2011/11/11		118	%	70 - 130
		Benzene	2011/11/11		111	%	70 - 130
		Toluene	2011/11/11		113	%	70 - 130
		Ethylbenzene	2011/11/11		111	%	70 - 130
		p+m-Xylene	2011/11/11		108	%	70 - 130
		o-Xylene	2011/11/11		109	%	70 - 130
		Styrene	2011/11/11		98	%	70 - 130
		1,3,5-Trimethylbenzene	2011/11/11		108	%	70 - 130
		1,2,4-Trimethylbenzene	2011/11/11		107	%	70 - 130
		4-ethyltoluene	2011/11/11		118	%	70 - 130
		Chlorobenzene	2011/11/11		109	%	70 - 130
		Benzyl chloride	2011/11/11		93	%	70 - 130
		1,3-Dichlorobenzene	2011/11/11		110	%	70 - 130
		1,4-Dichlorobenzene	2011/11/11		109	%	70 - 130
		1,2-Dichlorobenzene	2011/11/11		106	%	70 - 130
		1,2,4-Trichlorobenzene	2011/11/11		83	%	70 - 130
		Hexachlorobutadiene	2011/11/11		100	%	70 - 130
		Hexane	2011/11/11		114	%	70 - 130
		Cyclohexane	2011/11/11		114	%	70 - 130
		Tetrahydrofuran	2011/11/11		112	%	70 - 130
		1,4-Dioxane	2011/11/11		110	%	70 - 130
	Method Blank	Bromochloromethane	2011/11/11		84	%	60 - 140
		D5-Chlorobenzene	2011/11/11		74	%	60 - 140
		Difluorobenzene	2011/11/11		86	%	60 - 140
		2,2,4-Trimethylpentane	2011/11/11	<0.20		ppbv	
		Carbon Disulfide	2011/11/11	<0.50		ppbv	
		Propene	2011/11/11	<0.30		ppbv	
		Vinyl Acetate	2011/11/11	<0.20		ppbv	
		Vinyl Bromide	2011/11/11	<0.20		ppbv	
		Dichlorodifluoromethane (FREON 12)	2011/11/11	<0.20		ppbv	
		1,2-Dichlorotetrafluoroethane	2011/11/11	<0.17		ppbv	
		Chloromethane	2011/11/11	<0.30		ppbv	
		Vinyl Chloride	2011/11/11	<0.18		ppbv	
		Chloroethane	2011/11/11	<0.30		ppbv	
		1,3-Butadiene	2011/11/11	<0.50		ppbv	
		Trichlorofluoromethane (FREON 11)	2011/11/11	<0.20		ppbv	
		Trichlorotrifluoroethane	2011/11/11	<0.15		ppbv	
		Ethanol	2011/11/11	<2.3		ppbv	
		2-propanol	2011/11/11	<3.0		ppbv	
		2-Propanone	2011/11/11	<0.80		ppbv	
		Methyl Ethyl Ketone (2-Butanone)	2011/11/11	<3.0		ppbv	
		Methyl Isobutyl Ketone	2011/11/11	<3.2		ppbv	

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Quality Assurance Report (Continued)

Maxxam Job Number: GB1H1673

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2680646 VEA	Method Blank	Methyl Butyl Ketone (2-Hexanone)	2011/11/11	<2.0		ppbv	
		Methyl t-butyl ether (MTBE)	2011/11/11	<0.20		ppbv	
		Ethyl Acetate	2011/11/11	<2.2		ppbv	
		1,1-Dichloroethylene	2011/11/11	<0.25		ppbv	
		cis-1,2-Dichloroethylene	2011/11/11	<0.19		ppbv	
		trans-1,2-Dichloroethylene	2011/11/11	<0.20		ppbv	
		Methylene Chloride(Dichloromethane)	2011/11/11	<0.80		ppbv	
		Chloroform	2011/11/11	<0.15		ppbv	
		Carbon Tetrachloride	2011/11/11	<0.30		ppbv	
		1,1-Dichloroethane	2011/11/11	<0.20		ppbv	
		1,2-Dichloroethane	2011/11/11	<0.20		ppbv	
		Ethylene Dibromide	2011/11/11	<0.17		ppbv	
		1,1,1-Trichloroethane	2011/11/11	<0.30		ppbv	
		1,1,2-Trichloroethane	2011/11/11	<0.15		ppbv	
		1,1,2,2-Tetrachloroethane	2011/11/11	<0.20		ppbv	
		cis-1,3-Dichloropropene	2011/11/11	<0.18		ppbv	
		trans-1,3-Dichloropropene	2011/11/11	<0.17		ppbv	
		1,2-Dichloropropane	2011/11/11	<0.40		ppbv	
		Bromomethane	2011/11/11	<0.18		ppbv	
		Bromoform	2011/11/11	<0.20		ppbv	
		Bromodichloromethane	2011/11/11	<0.20		ppbv	
		Dibromochloromethane	2011/11/11	<0.20		ppbv	
		Heptane	2011/11/11	<0.30		ppbv	
		Trichloroethylene	2011/11/11	<0.30		ppbv	
		Tetrachloroethylene	2011/11/11	<0.20		ppbv	
		Benzene	2011/11/11	<0.18		ppbv	
		Toluene	2011/11/11	<0.20		ppbv	
		Ethylbenzene	2011/11/11	<0.20		ppbv	
		p+m-Xylene	2011/11/11	<0.37		ppbv	
		o-Xylene	2011/11/11	<0.20		ppbv	
		Styrene	2011/11/11	<0.20		ppbv	
		1,3,5-Trimethylbenzene	2011/11/11	<0.50		ppbv	
		1,2,4-Trimethylbenzene	2011/11/11	<0.50		ppbv	
		4-ethyltoluene	2011/11/11	<2.2		ppbv	
		Chlorobenzene	2011/11/11	<0.20		ppbv	
		Benzyl chloride	2011/11/11	<1.0		ppbv	
		1,3-Dichlorobenzene	2011/11/11	<0.40		ppbv	
		1,4-Dichlorobenzene	2011/11/11	<0.40		ppbv	
		1,2-Dichlorobenzene	2011/11/11	<0.40		ppbv	
		1,2,4-Trichlorobenzene	2011/11/11	<2.0		ppbv	
		Hexachlorobutadiene	2011/11/11	<3.0		ppbv	
		Hexane	2011/11/11	<0.30		ppbv	
		Cyclohexane	2011/11/11	<0.20		ppbv	
		Tetrahydrofuran	2011/11/11	<0.40		ppbv	
		1,4-Dioxane	2011/11/11	<2.0		ppbv	
		Xylene (Total)	2011/11/11	<0.60		ppbv	
	RPD - Sample/Sample Dup	Carbon Disulfide	2011/11/11	1.2		%	25
		Dichlorodifluoromethane (FREON 12)	2011/11/11	NC		%	25
		1,2-Dichlorotetrafluoroethane	2011/11/11	NC		%	25
		Chloromethane	2011/11/11	NC		%	25
		Vinyl Chloride	2011/11/11	NC		%	25
		Chloroethane	2011/11/11	NC		%	25
		Trichlorofluoromethane (FREON 11)	2011/11/11	NC		%	25

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Quality Assurance Report (Continued)

Maxxam Job Number: GB1H1673

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2680646	VEA	RPD - Sample/Sample Dup	Trichlorotrifluoroethane	2011/11/11	NC		%	25
			Ethanol	2011/11/11	NC		%	25
			2-propanol	2011/11/11	NC		%	25
			2-Propanone	2011/11/11	NC		%	25
			Methyl Ethyl Ketone (2-Butanone)	2011/11/11	NC		%	25
			Methyl Isobutyl Ketone	2011/11/11	NC		%	25
			Methyl t-butyl ether (MTBE)	2011/11/11	NC		%	25
			Ethyl Acetate	2011/11/11	NC		%	25
			1,1-Dichloroethylene	2011/11/11	NC		%	25
			cis-1,2-Dichloroethylene	2011/11/11	NC		%	25
			trans-1,2-Dichloroethylene	2011/11/11	NC		%	25
			Methylene Chloride(Dichloromethane)	2011/11/11	NC		%	25
			Chloroform	2011/11/11	NC		%	25
			Carbon Tetrachloride	2011/11/11	NC		%	25
			1,1-Dichloroethane	2011/11/11	NC		%	25
			1,2-Dichloroethane	2011/11/11	NC		%	25
			Ethylene Dibromide	2011/11/11	NC		%	25
			1,1,1-Trichloroethane	2011/11/11	NC		%	25
			1,1,2-Trichloroethane	2011/11/11	NC		%	25
			1,1,2,2-Tetrachloroethane	2011/11/11	NC		%	25
			cis-1,3-Dichloropropene	2011/11/11	NC		%	25
			trans-1,3-Dichloropropene	2011/11/11	NC		%	25
			1,2-Dichloropropane	2011/11/11	NC		%	25
			Bromomethane	2011/11/11	NC		%	25
			Bromoform	2011/11/11	NC		%	25
			Heptane	2011/11/11	NC		%	25
			Trichloroethylene	2011/11/11	NC		%	25
			Tetrachloroethylene	2011/11/11	2.3		%	25
			Benzene	2011/11/11	NC		%	25
			Toluene	2011/11/11	NC		%	25
			Ethylbenzene	2011/11/11	NC		%	25
			p+m-Xylene	2011/11/11	NC		%	25
			o-Xylene	2011/11/11	NC		%	25
			Styrene	2011/11/11	NC		%	25
			1,3,5-Trimethylbenzene	2011/11/11	NC		%	25
			1,2,4-Trimethylbenzene	2011/11/11	NC		%	25
			Chlorobenzene	2011/11/11	NC		%	25
			1,4-Dichlorobenzene	2011/11/11	NC		%	25
			1,2-Dichlorobenzene	2011/11/11	NC		%	25
			1,2,4-Trichlorobenzene	2011/11/11	NC		%	25
			Hexachlorobutadiene	2011/11/11	NC		%	25
			Hexane	2011/11/11	NC		%	25
			Cyclohexane	2011/11/11	NC		%	25
			Tetrahydrofuran	2011/11/11	NC		%	25
			1,4-Dioxane	2011/11/11	NC		%	25
			Xylene (Total)	2011/11/11	NC		%	25

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

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/Oct 06, 11

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Oct 05, 2011 @ 16:15 mst
Removal Date/Time: Oct 07, 2011 @ 8:15 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
06-Oct-11	10/06/2011 0:00	10/07/2011 0:00	24.0000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
30-Sep-11	10-Oct-11	11-Oct-11	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 25-May-11

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Tempurature (C)	Volume (Vstd m^3)
707	229	10.6	330.34

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

Comments: COC# 08061
GB1E8087 Puff #2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Oct 06, 11

Technician Signiture: Ting Xu

JOB #: 2833-11-10-33-C

Success Through Science®

Your C.O.C. #: 08061

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

Report Date: 2011/10/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1F9131
Received: 2011/10/13, 09:30

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2011/10/14	2011/10/18	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

Maxxam Job #: B1F9131
Report Date: 2011/10/19

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

Maxxam ID		LF7922	LF7923		
Sampling Date		2011/10/06	2011/10/06		
COC Number		08061	08061		
	Units	**LICA PUFF+QFF/CLS/OCT 06,11**	**LICA PUFF+QFF/PORT/OCT 06,11**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2647224
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2647224
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2647224
2-Methylanthracene	ug	<0.10	<0.10	0.10	2647224
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2647224
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2647224
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2647224
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2647224
Acenaphthene	ug	<0.050	<0.050	0.050	2647224
Acenaphthylene	ug	<0.050	<0.050	0.050	2647224
Anthracene	ug	<0.050	<0.050	0.050	2647224
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2647224
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2647224
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2647224
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2647224
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2647224
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2647224
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2647224
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2647224
Biphenyl	ug	<0.10	<0.10	0.10	2647224
Chrysene	ug	<0.050	<0.050	0.050	2647224
Coronene	ug	<0.10	<0.10	0.10	2647224
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2647224
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2647224
Fluoranthene	ug	<0.050	<0.050	0.050	2647224
Fluorene	ug	0.058	0.052	0.050	2647224
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2647224
m-Terphenyl	ug	<0.10	<0.10	0.10	2647224
Naphthalene	ug	<0.072	<0.072	0.072	2647224
o-Terphenyl	ug	<0.10	<0.10	0.10	2647224
Perylene	ug	<0.10	<0.10	0.10	2647224

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

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

Maxxam ID		LF7922	LF7923		
Sampling Date		2011/10/06	2011/10/06		
COC Number		08061	08061		
	Units	**LICA PUFF+QFF/CLS/OCT 06,11**	**LICA PUFF+QFF/PORT/OCT 06,11**	**RDL**	**QC Batch**
Phenanthrene	ug	0.234	0.138	0.050	2647224
p-Terphenyl	ug	<0.10	<0.10	0.10	2647224
Pyrene	ug	0.050	<0.050	0.050	2647224
Quinoline	ug	<0.40	<0.40	0.40	2647224
Tetralin	ug	<0.10	<0.10	0.10	2647224
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	64	82		2647224
D10-Fluoranthene	%	96	92		2647224
D10-Fluorene (FS)	%	4.8 (1)	5.2 (1)		2647224
D10-Phenanthrene	%	80	86		2647224
D12-Benzo(a)anthracene	%	88	86		2647224
D12-Benzo(a)pyrene	%	94	92		2647224
D12-Benzo(b)fluoranthene	%	82	82		2647224
D12-Benzo(ghi)perylene	%	94	96		2647224
D12-Benzo(k)fluoranthene	%	86	92		2647224
D12-Chrysene	%	84	86		2647224
D12-Indeno(1,2,3-cd)pyrene	%	96	98		2647224
D12-Perylene	%	102	96		2647224
D14-Dibenzo(a,h)anthracene	%	94	96		2647224
D14-Terphenyl (FS)	%	89	93		2647224
D8-Acenaphthylene	%	78	94		2647224
D8-Naphthalene	%	66	84		2647224

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

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Maxxam Analytics

Maxxam Job #: B1F9131
Report Date: 2011/10/19

Test Summary

Maxxam ID	LF7922	**Collected**	2011/10/06
Sample ID	LICA PUFF+QFF/CLS/OCT 06,11	**Shipped**	
Matrix	PUF AND FILTER	**Received**	2011/10/13

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2647224	2011/10/14	2011/10/18	WENDY ZHAO

Maxxam ID	LF7923	**Collected**	2011/10/06
Sample ID	LICA PUFF+QFF/PORT/OCT 06,11	**Shipped**	
Matrix	PUF AND FILTER	**Received**	2011/10/13

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2647224	2011/10/14	2011/10/18	WENDY ZHAO

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GENERAL COMMENTS

PAHMS-F
9.10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in initial calibation. No positives found for these 2 compounds.

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

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 Chysene. 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 LF7922-01: PAHMS-F

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

Sample LF7923-01: PAHMS-F

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

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1F9131

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2647224	WZ	Spiked Blank	D10-2-Methylnaphthalene	2011/10/18		76	%	50 - 150
			D10-Fluoranthene	2011/10/18		92	%	50 - 150
			D10-Phenanthrene	2011/10/18		82	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/18		84	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/18		90	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/18		80	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/18		90	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/18		84	%	50 - 150
			D12-Chrysene	2011/10/18		82	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2011/10/18		94	%	50 - 150
			D12-Perylene	2011/10/18		96	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/18		92	%	50 - 150
			D8-Acenaphthylene	2011/10/18		88	%	50 - 150
			D8-Naphthalene	2011/10/18		78	%	50 - 150
			Acenaphthene	2011/10/18		76	%	60 - 130
		RPD	Acenaphthene	2011/10/18	0.3		%	50
		Spiked Blank	Acenaphthylene	2011/10/18		84	%	60 - 130
		RPD	Acenaphthylene	2011/10/18	0.9		%	50
		Spiked Blank	Anthracene	2011/10/18		82	%	60 - 130
		RPD	Anthracene	2011/10/18	8.9		%	50
		Spiked Blank	Benzo(a)anthracene	2011/10/18		79	%	60 - 130
		RPD	Benzo(a)anthracene	2011/10/18	11.7		%	50
		Spiked Blank	Benzo(a)pyrene	2011/10/18		75	%	60 - 130
		RPD	Benzo(a)pyrene	2011/10/18	9.8		%	50
		Spiked Blank	Benzo(b)fluoranthene	2011/10/18		78	%	60 - 130
		RPD	Benzo(b)fluoranthene	2011/10/18	9.0		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2011/10/18		79	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2011/10/18	8.6		%	50
		Spiked Blank	Benzo(k)fluoranthene	2011/10/18		89	%	60 - 130
		RPD	Benzo(k)fluoranthene	2011/10/18	9.4		%	50
		Spiked Blank	Chrysene	2011/10/18		82	%	60 - 130
		RPD	Chrysene	2011/10/18	7.0		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2011/10/18		82	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2011/10/18	7.6		%	50
		Spiked Blank	Fluoranthene	2011/10/18		90	%	60 - 130
		RPD	Fluoranthene	2011/10/18	10.8		%	50
		Spiked Blank	Fluorene	2011/10/18		79	%	60 - 130
		RPD	Fluorene	2011/10/18	1		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2011/10/18		85	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2011/10/18	9.3		%	50
		Spiked Blank	Naphthalene	2011/10/18		82	%	60 - 130
		RPD	Naphthalene	2011/10/18	1.5		%	50
		Spiked Blank	Phenanthrene	2011/10/18		76	%	60 - 130
		RPD	Phenanthrene	2011/10/18	3.3		%	50
		Spiked Blank	Pyrene	2011/10/18		90	%	60 - 130
		RPD	Pyrene	2011/10/18	12.7		%	50
		Method Blank	D10-2-Methylnaphthalene	2011/10/18		82	%	50 - 150
			D10-Fluoranthene	2011/10/18		92	%	50 - 150
			D10-Phenanthrene	2011/10/18		84	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/18		86	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/18		94	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/18		84	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/18		90	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/18		88	%	50 - 150
			D12-Chrysene	2011/10/18		86	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1F9131

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2647224	WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2011/10/18		94	%	50 - 150
			D12-Perylene	2011/10/18		100	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/18		92	%	50 - 150
			D8-Acenaphthylene	2011/10/18		94	%	50 - 150
			D8-Naphthalene	2011/10/18		84	%	50 - 150
			1-Methylnaphthalene	2011/10/18	<0.10		ug	
			1-Methylphenanthrene	2011/10/18	<0.10		ug	
			2-Chloronaphthalene	2011/10/18	<0.10		ug	
			2-Methylanthracene	2011/10/18	<0.10		ug	
			2-Methylnaphthalene	2011/10/18	<0.10		ug	
			3-Methylcholanthrene	2011/10/18	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2011/10/18	<0.10		ug	
			9,10-Dimethylanthracene	2011/10/18	<0.40		ug	
			Acenaphthene	2011/10/18	<0.050		ug	
			Acenaphthylene	2011/10/18	<0.050		ug	
			Anthracene	2011/10/18	<0.050		ug	
			Benzo(a)anthracene	2011/10/18	<0.050		ug	
			Benzo(a)fluorene	2011/10/18	<0.10		ug	
			Benzo(a)pyrene	2011/10/18	<0.050		ug	
			Benzo(b)fluoranthene	2011/10/18	<0.050		ug	
			Benzo(b)fluorene	2011/10/18	<0.10		ug	
			Benzo(e)pyrene	2011/10/18	<0.10		ug	
			Benzo(g,h,i)perylene	2011/10/18	<0.050		ug	
			Benzo(k)fluoranthene	2011/10/18	<0.050		ug	
			Biphenyl	2011/10/18	<0.10		ug	
			Chrysene	2011/10/18	<0.050		ug	
			Coronene	2011/10/18	<0.10		ug	
			Dibenz(a,h)anthracene	2011/10/18	<0.050		ug	
			Dibenzo(a,e)pyrene	2011/10/18	<0.20		ug	
			Fluoranthene	2011/10/18	<0.050		ug	
			Fluorene	2011/10/18	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2011/10/18	<0.050		ug	
			m-Terphenyl	2011/10/18	<0.10		ug	
			Naphthalene	2011/10/18	0.104, RDL=0.072		ug	
			o-Terphenyl	2011/10/18	<0.10		ug	
			Perylene	2011/10/18	<0.10		ug	
			Phenanthrene	2011/10/18	<0.050		ug	
			p-Terphenyl	2011/10/18	<0.10		ug	
			Pyrene	2011/10/18	<0.050		ug	
			Quinoline	2011/10/18	<0.40		ug	
			Tetralin	2011/10/18	<0.10		ug	

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

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MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: 13-16-62-5 W4M
Station ID: Lica 33 (Portable)
Field Sample ID: LICA PUF/PORT/Oct 12, 11

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Oct 11, 2011 @ 10:30 mst
Removal Date/Time: Oct 13, 2011 @ 08:20 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
12-Oct-11	10/12/2011 0:00	10/13/2011 0:00	24.0000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
07-Oct-11	13-Oct-11	17-Oct-11	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 25-May-11

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Tempurature (C)	Volume (Vstd m^3)
707	229	4.8	330.33

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

Comments: COC# 08115
GB1E8090 Puff #2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Oct 12, 11

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 08115

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

Report Date: 2011/10/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G0748
Received: 2011/10/15, 09:40

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2011/10/19	2011/10/25	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1G0748
Report Date: 2011/10/27

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

Maxxam ID		LG5706	LG5707		
Sampling Date		2011/10/12	2011/10/12		
COC Number		08115	08115		
	Units	**LICA PUFF+QFF/CLS/OCT 12,11**	**LICA PUFF+QFF/PORT/OCT 12,11**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	0.19	0.13	0.10	2652932
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2652932
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2652932
2-Methylanthracene	ug	<0.10	<0.10	0.10	2652932
2-Methylnaphthalene	ug	0.40	0.22	0.10	2652932
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2652932
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2652932
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2652932
Acenaphthene	ug	<0.050	<0.050	0.050	2652932
Acenaphthylene	ug	0.128	0.274	0.050	2652932
Anthracene	ug	<0.050	<0.050	0.050	2652932
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2652932
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2652932
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2652932
Benzo(b)fluoranthene	ug	0.066	<0.050	0.050	2652932
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2652932
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2652932
Benzo(g,h,i)perylene	ug	0.102	0.092	0.050	2652932
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2652932
Biphenyl	ug	0.11	<0.10	0.10	2652932
Chrysene	ug	<0.050	<0.050	0.050	2652932
Coronene	ug	<0.10	<0.10	0.10	2652932
Dibenz(a,h)anthracene	ug	0.070	<0.050	0.050	2652932
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2652932
Fluoranthene	ug	0.080	0.066	0.050	2652932
Fluorene	ug	0.200	0.100	0.050	2652932
Indeno(1,2,3-cd)pyrene	ug	0.084	0.054	0.050	2652932
m-Terphenyl	ug	<0.10	<0.10	0.10	2652932
Naphthalene	ug	0.340	0.184	0.072	2652932
o-Terphenyl	ug	<0.10	<0.10	0.10	2652932
Perylene	ug	<0.10	<0.10	0.10	2652932

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Maxxam ID		LG5706	LG5707		
Sampling Date		2011/10/12	2011/10/12		
COC Number		08115	08115		
	Units	**LICA PUFF+QFF/CLS/OCT 12,11**	**LICA PUFF+QFF/PORT/OCT 12,11**	**RDL**	**QC Batch**
Phenanthrene	ug	0.402	0.204	0.050	2652932
p-Terphenyl	ug	<0.10	<0.10	0.10	2652932
Pyrene	ug	0.084	0.104	0.050	2652932
Quinoline	ug	<0.40	<0.40	0.40	2652932
Tetralin	ug	<0.10	<0.10	0.10	2652932
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	92	90		2652932
D10-Fluoranthene	%	88	90		2652932
D10-Fluorene (FS)	%	14 (1)	12 (1)		2652932
D10-Phenanthrene	%	90	92		2652932
D12-Benzo(a)anthracene	%	102	102		2652932
D12-Benzo(a)pyrene	%	92	94		2652932
D12-Benzo(b)fluoranthene	%	90	92		2652932
D12-Benzo(ghi)perylene	%	100	102		2652932
D12-Benzo(k)fluoranthene	%	86	84		2652932
D12-Chrysene	%	84	82		2652932
D12-Indeno(1,2,3-cd)pyrene	%	98	98		2652932
D12-Perylene	%	88	88		2652932
D14-Dibenzo(a,h)anthracene	%	96	98		2652932
D14-Terphenyl (FS)	%	80	67		2652932
D8-Acenaphthylene	%	96	98		2652932
D8-Naphthalene	%	96	92		2652932

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

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Maxxam Analytics

Maxxam Job #: B1G0748
Report Date: 2011/10/27

Test Summary

Maxxam ID LG5706 **Collected** 2011/10/12
Sample ID LICA PUFF+QFF/CLS/OCT 12,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2652932	2011/10/19	2011/10/25	JIE WU

Maxxam ID LG5707 **Collected** 2011/10/12
Sample ID LICA PUFF+QFF/PORT/OCT 12,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2652932	2011/10/19	2011/10/25	JIE WU

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GENERAL COMMENTS

PAHMS-F
9.10-Dimethylanthracene and 7,12-dimethylbenzo(a)anthracene are above 25% RSD in initial and continuing calibrations. No positives found for these 2 compounds.

Pyrene is statistically out of control at 71% recovery in the spike:dup. Spike recovery is in control. Acceptance criteria met for both spike and dup. Data reported and flagged.

Not calibrated for benzo(b)anthracene, picene, dibenzo(a,c)anthracene and triphenylene. An estimated mdl for each of these compounds is 0.1ug.

Since dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene and triphenylene with chrysene each would have a value below estimated mdl.

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

Sample LG5706-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

Sample LG5707-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G0748

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2652932	JIW	Spiked Blank	D10-2-Methylnaphthalene	2011/10/25		88	%	50 - 150
			D10-Fluoranthene	2011/10/25		80	%	50 - 150
			D10-Phenanthrene	2011/10/25		82	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/25		88	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/25		84	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/25		88	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/25		96	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/25		80	%	50 - 150
			D12-Chrysene	2011/10/25		82	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2011/10/25		94	%	50 - 150
			D12-Perylene	2011/10/25		80	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/25		94	%	50 - 150
			D8-Acenaphthylene	2011/10/25		86	%	50 - 150
			D8-Naphthalene	2011/10/25		94	%	50 - 150
			Acenaphthene	2011/10/25		83	%	60 - 130
		RPD	Acenaphthene	2011/10/25	3.0		%	50
		Spiked Blank	Acenaphthylene	2011/10/25		86	%	60 - 130
		RPD	Acenaphthylene	2011/10/25	2.3		%	50
		Spiked Blank	Anthracene	2011/10/25		75	%	60 - 130
		RPD	Anthracene	2011/10/25	0.3		%	50
		Spiked Blank	Benzo(a)anthracene	2011/10/25		82	%	60 - 130
		RPD	Benzo(a)anthracene	2011/10/25	1.5		%	50
		Spiked Blank	Benzo(a)pyrene	2011/10/25		72	%	60 - 130
		RPD	Benzo(a)pyrene	2011/10/25	6.5		%	50
		Spiked Blank	Benzo(b)fluoranthene	2011/10/25		83	%	60 - 130
		RPD	Benzo(b)fluoranthene	2011/10/25	2.4		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2011/10/25		90	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2011/10/25	1.4		%	50
		Spiked Blank	Benzo(k)fluoranthene	2011/10/25		86	%	60 - 130
		RPD	Benzo(k)fluoranthene	2011/10/25	5.1		%	50
		Spiked Blank	Chrysene	2011/10/25		83	%	60 - 130
		RPD	Chrysene	2011/10/25	6.1		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2011/10/25		88	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2011/10/25	0.6		%	50
		Spiked Blank	Fluoranthene	2011/10/25		81	%	60 - 130
		RPD	Fluoranthene	2011/10/25	2.8		%	50
		Spiked Blank	Fluorene	2011/10/25		83	%	60 - 130
		RPD	Fluorene	2011/10/25	1.2		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2011/10/25		88	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2011/10/25	0.3		%	50
		Spiked Blank	Naphthalene	2011/10/25		104	%	60 - 130
		RPD	Naphthalene	2011/10/25	6.5		%	50
		Spiked Blank	Phenanthrene	2011/10/25		83	%	60 - 130
		RPD	Phenanthrene	2011/10/25	0		%	50
		Spiked Blank	Pyrene	2011/10/25		72	%	60 - 130
		RPD	Pyrene	2011/10/25	1.8		%	50
		Method Blank	D10-2-Methylnaphthalene	2011/10/26		88	%	50 - 150
			D10-Fluoranthene	2011/10/26		86	%	50 - 150
			D10-Phenanthrene	2011/10/26		86	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/26		96	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/26		90	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/26		92	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/26		108	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/26		82	%	50 - 150
			D12-Chrysene	2011/10/26		82	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G0748

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2652932	JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2011/10/26		104	%	50 - 150
			D12-Perylene	2011/10/26		88	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/26		102	%	50 - 150
			D14-Terphenyl (FS)	2011/10/26		0.00 (1)	%	50 - 150
			D8-Acenaphthylene	2011/10/26		90	%	50 - 150
			D8-Naphthalene	2011/10/26		92	%	50 - 150
			1-Methylnaphthalene	2011/10/26	<0.10		ug	
			1-Methylphenanthrene	2011/10/26	<0.10		ug	
			2-Chloronaphthalene	2011/10/26	<0.10		ug	
			2-Methylanthracene	2011/10/26	<0.10		ug	
			2-Methylnaphthalene	2011/10/26	<0.10		ug	
			3-Methylcholanthrene	2011/10/26	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2011/10/26	<0.10		ug	
			9,10-Dimethylanthracene	2011/10/26	<0.40		ug	
			Acenaphthene	2011/10/26	<0.050		ug	
			Acenaphthylene	2011/10/26	<0.050		ug	
			Anthracene	2011/10/26	<0.050		ug	
			Benzo(a)anthracene	2011/10/26	<0.050		ug	
			Benzo(a)fluorene	2011/10/26	<0.10		ug	
			Benzo(a)pyrene	2011/10/26	<0.050		ug	
			Benzo(b)fluoranthene	2011/10/26	<0.050		ug	
			Benzo(b)fluorene	2011/10/26	<0.10		ug	
			Benzo(e)pyrene	2011/10/26	<0.10		ug	
			Benzo(g,h,i)perylene	2011/10/26	<0.050		ug	
			Benzo(k)fluoranthene	2011/10/26	<0.050		ug	
			Biphenyl	2011/10/26	<0.10		ug	
			Chrysene	2011/10/26	<0.050		ug	
			Coronene	2011/10/26	<0.10		ug	
			Dibenz(a,h)anthracene	2011/10/26	<0.050		ug	
			Dibenzo(a,e)pyrene	2011/10/26	<0.20		ug	
			Fluoranthene	2011/10/26	<0.050		ug	
			Fluorene	2011/10/26	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2011/10/26	<0.050		ug	
			m-Terphenyl	2011/10/26	<0.10		ug	
			Naphthalene	2011/10/26	<0.072		ug	
			o-Terphenyl	2011/10/26	<0.10		ug	
			Perylene	2011/10/26	<0.10		ug	
			Phenanthrene	2011/10/26	<0.050		ug	
			p-Terphenyl	2011/10/26	<0.10		ug	
			Pyrene	2011/10/26	<0.050		ug	
			Quinoline	2011/10/26	<0.40		ug	
			Tetralin	2011/10/26	<0.10		ug	

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

MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: 13-16-62-5 W4M
Station ID: Lica 33 (Portable)
Field Sample ID: LICA PUF/PORT/Oct 18, 11

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Oct 17, 2011 @ 11:41 mst
Removal Date/Time: Oct 19, 2011 @ 11:49 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
18-Oct-11	10/18/2011 0:00	10/19/2011 0:00	24.0000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
13-Oct-11	19-Oct-11	20-Oct-11	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 25-May-11

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Tempurature (C)	Volume (Vstd m^3)
715	229	7.7	330.34

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

Comments: COC# 07929
GB1F5089 Puff #2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Oct 18, 11

Technician Signiture: Ting Xu

JOB #: 2833-11-10-33-C

Success Through Science®

Your C.O.C. #: 07929

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

Report Date: 2011/10/28

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G5008
Received: 2011/10/21, 09:20

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2011/10/24	2011/10/26	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

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

Maxxam ID		LI5860		LI5861		
Sampling Date		2011/10/18		2011/10/18		
COC Number		07929		07929		
	Units	**LICA PUFF+QFF/CLS/OCT 18,11**	**RDL**	**LICA PUFF+QFF/PORT/OCT 18,11**	**RDL**	**QC Batch**
Semivolatile Organics						
1-Methylnaphthalene	ug	<0.10	0.10	<0.10	0.10	2657301
1-Methylphenanthrene	ug	<0.10	0.10	<0.10	0.10	2657301
2-Chloronaphthalene	ug	<0.10	0.10	<0.10	0.10	2657301
2-Methylanthracene	ug	<0.10	0.10	<0.10	0.10	2657301
2-Methylnaphthalene	ug	0.15	0.10	0.11	0.10	2657301
3-Methylcholanthrene	ug	<2.0	2.0	<2.0	2.0	2657301
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	0.10	<0.10	0.10	2657301
9,10-Dimethylanthracene	ug	<0.40	0.40	<0.40	0.40	2657301
Acenaphthene	ug	<0.050	0.050	<0.050	0.050	2657301
Acenaphthylene	ug	<0.050	0.050	<0.050	0.050	2657301
Anthracene	ug	<0.050	0.050	<0.050	0.050	2657301
Benzo(a)anthracene	ug	<0.050	0.050	<0.050	0.050	2657301
Benzo(a)fluorene	ug	<0.10	0.10	<0.10	0.10	2657301
Benzo(a)pyrene	ug	<0.050	0.050	<0.050	0.050	2657301
Benzo(b)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2657301
Benzo(b)fluorene	ug	<0.10	0.10	<0.10	0.10	2657301
Benzo(e)pyrene	ug	<0.10	0.10	<0.10	0.10	2657301
Benzo(g,h,i)perylene	ug	<0.050	0.050	<0.050	0.050	2657301
Benzo(k)fluoranthene	ug	<0.050	0.050	<0.24	0.24	2657301
Biphenyl	ug	<0.10	0.10	<0.10	0.10	2657301
Chrysene	ug	<0.050	0.050	<0.050	0.050	2657301
Coronene	ug	<0.10	0.10	<0.10	0.10	2657301
Dibenz(a,h)anthracene	ug	<0.050	0.050	<0.050	0.050	2657301
Dibenzo(a,e)pyrene	ug	<0.20	0.20	<0.20	0.20	2657301
Fluoranthene	ug	0.066	0.050	0.050	0.050	2657301
Fluorene	ug	0.168	0.050	0.096	0.050	2657301
Indeno(1,2,3-cd)pyrene	ug	<0.050	0.050	<0.050	0.050	2657301
m-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2657301
Naphthalene	ug	0.190	0.072	0.100	0.072	2657301
o-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2657301
Perylene	ug	<0.10	0.10	<0.10	0.10	2657301

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Maxxam ID		LI5860		LI5861		
Sampling Date		2011/10/18		2011/10/18		
COC Number		07929		07929		
	Units	**LICA PUFF+QFF/CLS/OCT 18,11**	**RDL**	**LICA PUFF+QFF/PORT/OCT 18,11**	**RDL**	**QC Batch**
Phenanthrene	ug	0.420	0.050	0.218	0.050	2657301
p-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2657301
Pyrene	ug	0.074	0.050	<0.050	0.050	2657301
Quinoline	ug	<0.40	0.40	<0.40	0.40	2657301
Tetralin	ug	<0.10	0.10	<0.10	0.10	2657301
Surrogate Recovery (%)						
D10-2-Methylnaphthalene	%	84		90		2657301
D10-Fluoranthene	%	90		96		2657301
D10-Fluorene (FS)	%	8.6 (1)		10 (1)		2657301
D10-Phenanthrene	%	88		92		2657301
D12-Benzo(a)anthracene	%	94		96		2657301
D12-Benzo(a)pyrene	%	88		96		2657301
D12-Benzo(b)fluoranthene	%	86		88		2657301
D12-Benzo(ghi)perylene	%	96		108		2657301
D12-Benzo(k)fluoranthene	%	88		92		2657301
D12-Chrysene	%	82		84		2657301
D12-Indeno(1,2,3-cd)pyrene	%	92		108		2657301
D12-Perylene	%	84		92		2657301
D14-Dibenzo(a,h)anthracene	%	90		106		2657301
D14-Terphenyl (FS)	%	84		90		2657301
D8-Acenaphthylene	%	88		96		2657301
D8-Naphthalene	%	86		92		2657301

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

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Maxxam Analytics

Maxxam Job #: B1G5008
Report Date: 2011/10/28

Test Summary

Maxxam ID LI5860 **Collected** 2011/10/18
Sample ID LICA PUFF+QFF/CLS/OCT 18,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/21

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2657301	2011/10/24	2011/10/26	WENDY ZHAO

Maxxam ID LI5861 **Collected** 2011/10/18
Sample ID LICA PUFF+QFF/PORT/OCT 18,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/21

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2657301	2011/10/24	2011/10/26	WENDY ZHAO

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Maxxam Analytics

Maxxam Job #: B1G5008
Report Date: 2011/10/28

GENERAL COMMENTS

PAHMS-F
9.10-Dimethylanthracene and 7,12-Dimethylbenzo(a)anthracene are above 25% RSD in initial calibation. No positives found for these 2 compounds.

Pyrene is statistically out of control at 81.3% and 80.8% recovery in the spike and spike:dup. 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.

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 Chysene. 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 LI5860-01: PAHMS-F

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

Sample LI5861-01: PAHMS-F

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

Mdl was raised for Benzo(k)fluoranthene due to sample matrix interference on a possible possitive.

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G5008

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2657301	WZ	Spiked Blank	D10-2-Methylnaphthalene	2011/10/26		90	%	50 - 150
			D10-Fluoranthene	2011/10/26		90	%	50 - 150
			D10-Phenanthrene	2011/10/26		86	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/26		98	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/26		86	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/26		88	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/26		96	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/26		88	%	50 - 150
			D12-Chrysene	2011/10/26		88	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2011/10/26		90	%	50 - 150
			D12-Perylene	2011/10/26		84	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/26		86	%	50 - 150
			D8-Acenaphthylene	2011/10/26		94	%	50 - 150
			D8-Naphthalene	2011/10/26		94	%	50 - 150
			Acenaphthene	2011/10/26		89	%	60 - 130
		RPD	Acenaphthene	2011/10/26	2.0		%	50
		Spiked Blank	Acenaphthylene	2011/10/26		92	%	60 - 130
		RPD	Acenaphthylene	2011/10/26	2.2		%	50
		Spiked Blank	Anthracene	2011/10/26		81	%	60 - 130
		RPD	Anthracene	2011/10/26	2.1		%	50
		Spiked Blank	Benzo(a)anthracene	2011/10/26		88	%	60 - 130
		RPD	Benzo(a)anthracene	2011/10/26	3.9		%	50
		Spiked Blank	Benzo(a)pyrene	2011/10/26		73	%	60 - 130
		RPD	Benzo(a)pyrene	2011/10/26	0.3		%	50
		Spiked Blank	Benzo(b)fluoranthene	2011/10/26		82	%	60 - 130
		RPD	Benzo(b)fluoranthene	2011/10/26	0.6		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2011/10/26		84	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2011/10/26	2.1		%	50
		Spiked Blank	Benzo(k)fluoranthene	2011/10/26		88	%	60 - 130
		RPD	Benzo(k)fluoranthene	2011/10/26	0.9		%	50
		Spiked Blank	Chrysene	2011/10/26		88	%	60 - 130
		RPD	Chrysene	2011/10/26	2.2		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2011/10/26		78	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2011/10/26	3.2		%	50
		Spiked Blank	Fluoranthene	2011/10/26		89	%	60 - 130
		RPD	Fluoranthene	2011/10/26	0.3		%	50
		Spiked Blank	Fluorene	2011/10/26		88	%	60 - 130
		RPD	Fluorene	2011/10/26	2.0		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2011/10/26		81	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2011/10/26	1.5		%	50
		Spiked Blank	Naphthalene	2011/10/26		110	%	60 - 130
		RPD	Naphthalene	2011/10/26	0.2		%	50
		Spiked Blank	Phenanthrene	2011/10/26		86	%	60 - 130
		RPD	Phenanthrene	2011/10/26	2.0		%	50
		Spiked Blank	Pyrene	2011/10/26		81	%	60 - 130
		RPD	Pyrene	2011/10/26	0.6		%	50
		Method Blank	D10-2-Methylnaphthalene	2011/10/26		94	%	50 - 150
			D10-Fluoranthene	2011/10/26		94	%	50 - 150
			D10-Phenanthrene	2011/10/26		90	%	50 - 150
			D12-Benzo(a)anthracene	2011/10/26		104	%	50 - 150
			D12-Benzo(a)pyrene	2011/10/26		90	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/10/26		94	%	50 - 150
			D12-Benzo(ghi)perylene	2011/10/26		100	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/10/26		90	%	50 - 150
			D12-Chrysene	2011/10/26		92	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G5008

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2657301	WZ	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2011/10/26		94	%	50 - 150
			D12-Perylene	2011/10/26		88	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/10/26		92	%	50 - 150
			D8-Acenaphthylene	2011/10/26		96	%	50 - 150
			D8-Naphthalene	2011/10/26		98	%	50 - 150
			1-Methylnaphthalene	2011/10/26	<0.10		ug	
			1-Methylphenanthrene	2011/10/26	<0.10		ug	
			2-Chloronaphthalene	2011/10/26	<0.10		ug	
			2-Methylanthracene	2011/10/26	<0.10		ug	
			2-Methylnaphthalene	2011/10/26	<0.10		ug	
			3-Methylcholanthrene	2011/10/26	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2011/10/26	<0.10		ug	
			9,10-Dimethylanthracene	2011/10/26	<0.40		ug	
			Acenaphthene	2011/10/26	<0.050		ug	
			Acenaphthylene	2011/10/26	<0.050		ug	
			Anthracene	2011/10/26	<0.050		ug	
			Benzo(a)anthracene	2011/10/26	<0.050		ug	
			Benzo(a)fluorene	2011/10/26	<0.10		ug	
			Benzo(a)pyrene	2011/10/26	<0.050		ug	
			Benzo(b)fluoranthene	2011/10/26	<0.050		ug	
			Benzo(b)fluorene	2011/10/26	<0.10		ug	
			Benzo(e)pyrene	2011/10/26	<0.10		ug	
			Benzo(g,h,i)perylene	2011/10/26	<0.050		ug	
			Benzo(k)fluoranthene	2011/10/26	<0.050		ug	
			Biphenyl	2011/10/26	<0.10		ug	
			Chrysene	2011/10/26	<0.050		ug	
			Coronene	2011/10/26	<0.10		ug	
			Dibenz(a,h)anthracene	2011/10/26	<0.050		ug	
			Dibenzo(a,e)pyrene	2011/10/26	<0.20		ug	
			Fluoranthene	2011/10/26	<0.050		ug	
			Fluorene	2011/10/26	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2011/10/26	<0.050		ug	
			m-Terphenyl	2011/10/26	<0.10		ug	
			Naphthalene	2011/10/26	0.150, RDL=0.072		ug	
			o-Terphenyl	2011/10/26	<0.10		ug	
			Perylene	2011/10/26	<0.10		ug	
			Phenanthrene	2011/10/26	<0.050		ug	
			p-Terphenyl	2011/10/26	<0.10		ug	
			Pyrene	2011/10/26	<0.050		ug	
			Quinoline	2011/10/26	<0.40		ug	
			Tetralin	2011/10/26	<0.10		ug	

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

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MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: 13-16-62-5 W4M
Station ID: Lica 33 (Portable)
Field Sample ID: LICA PUF/PORT/Oct 24, 11

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Oct 21, 2011 @ 10:11 mst
Removal Date/Time: Oct 26, 2011 @ 09:35 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
24-Oct-11	10/24/2011 0:00	10/25/2011 0:00	24.0000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
19-Oct-11	26-Oct-11	31-Oct-11	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 25-May-11

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Tempurature (C)	Volume (Vstd m^3)
710	229	2.2	330.34

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

Comments: COC# 08232
GB1F5090 Puff #2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Oct 24, 11

Technician Signiture: Ting Xu

JOB #: 2833-11-10-33-C

Success Through Science®

Your C.O.C. #: 08232

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

Report Date: 2011/11/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1G9333
Received: 2011/10/28, 09:30

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2011/10/31	2011/11/07	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B1G9333
Report Date: 2011/11/11

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

Maxxam ID		LK6928		LK6929		
Sampling Date		2011/10/24		2011/10/24		
COC Number		08232		08232		
	Units	**LICA PUFF+QFF/CLS/OCT 24,11**	**RDL**	**LICA PUFF+QFF/PORT/OCT 24,11**	**RDL**	**QC Batch**
Semivolatile Organics						
1-Methylnaphthalene	ug	0.35	0.10	<0.10	0.10	2665982
1-Methylphenanthrene	ug	<0.10	0.10	<0.10	0.10	2665982
2-Chloronaphthalene	ug	<0.10	0.10	<0.10	0.10	2665982
2-Methylanthracene	ug	<0.10	0.10	<0.10	0.10	2665982
2-Methylnaphthalene	ug	0.63	0.10	0.15	0.10	2665982
3-Methylcholanthrene	ug	<2.0	2.0	<2.0	2.0	2665982
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	0.10	<0.10	0.10	2665982
9,10-Dimethylanthracene	ug	<0.40	0.40	<0.40	0.40	2665982
Acenaphthene	ug	<0.11	0.11	<0.050	0.050	2665982
Acenaphthylene	ug	0.064	0.050	<0.050	0.050	2665982
Anthracene	ug	<0.050	0.050	<0.050	0.050	2665982
Benzo(a)anthracene	ug	<0.050	0.050	<0.050	0.050	2665982
Benzo(a)fluorene	ug	<0.10	0.10	<0.10	0.10	2665982
Benzo(a)pyrene	ug	<0.050	0.050	<0.050	0.050	2665982
Benzo(b)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2665982
Benzo(b)fluorene	ug	<0.10	0.10	<0.10	0.10	2665982
Benzo(e)pyrene	ug	<0.10	0.10	<0.10	0.10	2665982
Benzo(g,h,i)perylene	ug	<0.050	0.050	<0.050	0.050	2665982
Benzo(k)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2665982
Biphenyl	ug	0.22	0.10	0.15	0.10	2665982
Chrysene	ug	<0.050	0.050	<0.050	0.050	2665982
Coronene	ug	<0.10	0.10	<0.10	0.10	2665982
Dibenz(a,h)anthracene	ug	<0.050	0.050	<0.050	0.050	2665982
Dibenzo(a,e)pyrene	ug	<0.20	0.20	<0.20	0.20	2665982
Fluoranthene	ug	<0.050	0.050	<0.050	0.050	2665982
Fluorene	ug	0.182	0.050	0.088	0.050	2665982
Indeno(1,2,3-cd)pyrene	ug	<0.050	0.050	<0.050	0.050	2665982
m-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2665982
Naphthalene	ug	0.522	0.072	0.186	0.072	2665982
o-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2665982
Perylene	ug	<0.10	0.10	<0.10	0.10	2665982

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B1G9333
Report Date: 2011/11/11

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

Maxxam ID		LK6928		LK6929		
Sampling Date		2011/10/24		2011/10/24		
COC Number		08232		08232		
	Units	**LICA PUFF+QFF/CLS/OCT 24,11**	**RDL**	**LICA PUFF+QFF/PORT/OCT 24,11**	**RDL**	**QC Batch**
Phenanthrene	ug	0.230	0.050	0.162	0.050	2665982
p-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2665982
Pyrene	ug	<0.050	0.050	<0.050	0.050	2665982
Quinoline	ug	<0.40	0.40	<0.40	0.40	2665982
Tetralin	ug	<0.10	0.10	<0.10	0.10	2665982
Surrogate Recovery (%)						
D10-2-Methylnaphthalene	%	78		84		2665982
D10-Fluoranthene	%	92		92		2665982
D10-Fluorene (FS)	%	31 (1)		24 (1)		2665982
D10-Phenanthrene	%	90		92		2665982
D12-Benzo(a)anthracene	%	98		98		2665982
D12-Benzo(a)pyrene	%	90		90		2665982
D12-Benzo(b)fluoranthene	%	86		92		2665982
D12-Benzo(ghi)perylene	%	88		90		2665982
D12-Benzo(k)fluoranthene	%	86		86		2665982
D12-Chrysene	%	82		82		2665982
D12-Indeno(1,2,3-cd)pyrene	%	88		90		2665982
D12-Perylene	%	86		86		2665982
D14-Dibenzo(a,h)anthracene	%	88		90		2665982
D14-Terphenyl (FS)	%	87		89		2665982
D8-Acenaphthylene	%	90		94		2665982
D8-Naphthalene	%	80		86		2665982

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

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Maxxam Analytics

Maxxam Job #: B1G9333
Report Date: 2011/11/11

Test Summary

Maxxam ID LK6928 **Collected** 2011/10/24
Sample ID LICA PUFF+QFF/CLS/OCT 24,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2665982	2011/10/31	2011/11/07	JIE WU

Maxxam ID LK6929 **Collected** 2011/10/24
Sample ID LICA PUFF+QFF/PORT/OCT 24,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/10/28

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2665982	2011/10/31	2011/11/07	JIE WU

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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.

7,12-dimethylbenzo(a)anthracene and 3-methylcholanthrene are above 25% RSD in continuing calibration.

Pyrene is statistically out of control at 75% recovery in spike and 79% recovery in spike:dup. Reran both vials with similar results. Orignial run reported. Acceptance criteria met for both spike and dup. Data reported and flagged.

Indeno(1,2,3-cd)pyrene positive found in blank. Samples should be considered to be possibly contaminated to the level found in the blank.

Not calibrated for benzo(b)anthracene, picene, dibenzo(a,c)anthracene and triphenylene. An estimated mdl for each of these compounds is 0.1ug.

Since dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene and triphenylene with chrysene each would have a value below estimated mdl.

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

Sample LK6928-01: Mdl raised further for acenaphthene due to matrix interference on a possible positive.

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

Sample LK6929-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1G9333

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2665982	JIW	Spiked Blank	D10-2-Methylnaphthalene	2011/11/07		84	%	50 - 150
			D10-Fluoranthene	2011/11/07		84	%	50 - 150
			D10-Phenanthrene	2011/11/07		84	%	50 - 150
			D12-Benzo(a)anthracene	2011/11/07		96	%	50 - 150
			D12-Benzo(a)pyrene	2011/11/07		88	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/11/07		90	%	50 - 150
			D12-Benzo(ghi)perylene	2011/11/07		88	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/11/07		84	%	50 - 150
			D12-Chrysene	2011/11/07		84	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2011/11/07		86	%	50 - 150
			D12-Perylene	2011/11/07		84	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/11/07		88	%	50 - 150
			D8-Acenaphthylene	2011/11/07		90	%	50 - 150
			D8-Naphthalene	2011/11/07		88	%	50 - 150
			Acenaphthene	2011/11/07		84	%	60 - 130
		RPD	Acenaphthene	2011/11/07	1.5		%	50
		Spiked Blank	Acenaphthylene	2011/11/07		89	%	60 - 130
		RPD	Acenaphthylene	2011/11/07	3.9		%	50
		Spiked Blank	Anthracene	2011/11/07		80	%	60 - 130
		RPD	Anthracene	2011/11/07	3.4		%	50
		Spiked Blank	Benzo(a)anthracene	2011/11/07		84	%	60 - 130
		RPD	Benzo(a)anthracene	2011/11/07	7.7		%	50
		Spiked Blank	Benzo(a)pyrene	2011/11/07		75	%	60 - 130
		RPD	Benzo(a)pyrene	2011/11/07	1		%	50
		Spiked Blank	Benzo(b)fluoranthene	2011/11/07		81	%	60 - 130
		RPD	Benzo(b)fluoranthene	2011/11/07	1.8		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2011/11/07		78	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2011/11/07	2.9		%	50
		Spiked Blank	Benzo(k)fluoranthene	2011/11/07		87	%	60 - 130
		RPD	Benzo(k)fluoranthene	2011/11/07	2.3		%	50
		Spiked Blank	Chrysene	2011/11/07		83	%	60 - 130
		RPD	Chrysene	2011/11/07	3.2		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2011/11/07		78	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2011/11/07	3.5		%	50
		Spiked Blank	Fluoranthene	2011/11/07		83	%	60 - 130
		RPD	Fluoranthene	2011/11/07	5.3		%	50
		Spiked Blank	Fluorene	2011/11/07		83	%	60 - 130
		RPD	Fluorene	2011/11/07	3.0		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2011/11/07		79	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2011/11/07	4.1		%	50
		Spiked Blank	Naphthalene	2011/11/07		92	%	60 - 130
		RPD	Naphthalene	2011/11/07	0.3		%	50
		Spiked Blank	Phenanthrene	2011/11/07		80	%	60 - 130
		RPD	Phenanthrene	2011/11/07	4.6		%	50
		Spiked Blank	Pyrene	2011/11/07		75	%	60 - 130
		RPD	Pyrene	2011/11/07	6.2		%	50
		Method Blank	D10-2-Methylnaphthalene	2011/11/07		84	%	50 - 150
			D10-Fluoranthene	2011/11/07		86	%	50 - 150
			D10-Phenanthrene	2011/11/07		86	%	50 - 150
			D12-Benzo(a)anthracene	2011/11/07		98	%	50 - 150
			D12-Benzo(a)pyrene	2011/11/07		88	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/11/07		90	%	50 - 150
			D12-Benzo(ghi)perylene	2011/11/07		90	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/11/07		84	%	50 - 150
			D12-Chrysene	2011/11/07		82	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1G9333

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2665982	JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2011/11/07		88	%	50 - 150
			D12-Perylene	2011/11/07		86	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/11/07		88	%	50 - 150
			D8-Acenaphthylene	2011/11/07		92	%	50 - 150
			D8-Naphthalene	2011/11/07		88	%	50 - 150
			1-Methylnaphthalene	2011/11/07	<0.10		ug	
			1-Methylphenanthrene	2011/11/07	<0.10		ug	
			2-Chloronaphthalene	2011/11/07	<0.10		ug	
			2-Methylanthracene	2011/11/07	<0.10		ug	
			2-Methylnaphthalene	2011/11/07	<0.10		ug	
			3-Methylcholanthrene	2011/11/07	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2011/11/07	<0.10		ug	
			9,10-Dimethylanthracene	2011/11/07	<0.40		ug	
			Acenaphthene	2011/11/07	<0.050		ug	
			Acenaphthylene	2011/11/07	<0.050		ug	
			Anthracene	2011/11/07	<0.050		ug	
			Benzo(a)anthracene	2011/11/07	<0.050		ug	
			Benzo(a)fluorene	2011/11/07	<0.10		ug	
			Benzo(a)pyrene	2011/11/07	<0.050		ug	
			Benzo(b)fluoranthene	2011/11/07	<0.050		ug	
			Benzo(b)fluorene	2011/11/07	<0.10		ug	
			Benzo(e)pyrene	2011/11/07	<0.10		ug	
			Benzo(g,h,i)perylene	2011/11/07	<0.050		ug	
			Benzo(k)fluoranthene	2011/11/07	<0.050		ug	
			Biphenyl	2011/11/07	<0.10		ug	
			Chrysene	2011/11/07	<0.050		ug	
			Coronene	2011/11/07	<0.10		ug	
			Dibenz(a,h)anthracene	2011/11/07	<0.050		ug	
			Dibenzo(a,e)pyrene	2011/11/07	<0.20		ug	
			Fluoranthene	2011/11/07	<0.050		ug	
			Fluorene	2011/11/07	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2011/11/07	0.052, RDL=0.050		ug	
			m-Terphenyl	2011/11/07	<0.10		ug	
			Naphthalene	2011/11/07	<0.072		ug	
			o-Terphenyl	2011/11/07	<0.10		ug	
			Perylene	2011/11/07	<0.10		ug	
			Phenanthrene	2011/11/07	<0.050		ug	
			p-Terphenyl	2011/11/07	<0.10		ug	
			Pyrene	2011/11/07	<0.050		ug	
			Quinoline	2011/11/07	<0.40		ug	
			Tetralin	2011/11/07	<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.

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MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: 13-16-62-5 W4M
Station ID: Lica 33 (Portable)
Field Sample ID: LICA PUF/PORT/Oct 30, 11

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Oct 28, 2011 @ 14:59 mst
Removal Date/Time: Oct 31, 2011 @ 11:30 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
30-Oct-11	10/30/2011 0:00	10/31/2011 0:00	24.0000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
25-Oct-11	31-Oct-11	03-Nov-11	????

Set Flow Rate (slpm): 230

Date of Last Calibration: 22-Sep-11

Sampling Data			
Average Pressure(mmHg)	AverageFlow (Qstd slpm)	Average Tempurature (C)	Volume (Vstd m^3)
706	229	1.5	330.36

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

Comments: COC# 08007
GB1F5091 Puff #2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Oct 30, 11

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 08007

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

Report Date: 2011/11/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1H2035
Received: 2011/11/02, 09:56

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2011/11/04	2011/11/08	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: TStephenson@maxxam.ca
Phone# (905) 817-5763

==========

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

Total cover pages: 1

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

Maxxam ID		LM1809		LM1810		
Sampling Date		2011/10/30		2011/10/30		
COC Number		08007		08007		
	Units	**LICA PUFF&QFF/CLS/OCT 30,11**	**RDL**	**LICA PUFF&QFF/PORT/OCT 30,11**	**RDL**	**QC Batch**
Semivolatile Organics						
1-Methylnaphthalene	ug	0.13	0.10	<0.10	0.10	2670963
1-Methylphenanthrene	ug	<0.10	0.10	<0.10	0.10	2670963
2-Chloronaphthalene	ug	<0.10	0.10	<0.10	0.10	2670963
2-Methylanthracene	ug	<0.10	0.10	<0.10	0.10	2670963
2-Methylnaphthalene	ug	0.24	0.10	0.15	0.10	2670963
3-Methylcholanthrene	ug	<2.0	2.0	<2.0	2.0	2670963
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	0.10	<0.10	0.10	2670963
9,10-Dimethylanthracene	ug	<0.40	0.40	<0.40	0.40	2670963
Acenaphthene	ug	<0.067	0.067	<0.050	0.050	2670963
Acenaphthylene	ug	0.122	0.050	<0.050	0.050	2670963
Anthracene	ug	<0.050	0.050	<0.050	0.050	2670963
Benzo(a)anthracene	ug	<0.050	0.050	<0.050	0.050	2670963
Benzo(a)fluorene	ug	<0.10	0.10	<0.10	0.10	2670963
Benzo(a)pyrene	ug	<0.050	0.050	<0.050	0.050	2670963
Benzo(b)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2670963
Benzo(b)fluorene	ug	<0.10	0.10	<0.10	0.10	2670963
Benzo(e)pyrene	ug	<0.10	0.10	<0.10	0.10	2670963
Benzo(g,h,i)perylene	ug	<0.050	0.050	<0.050	0.050	2670963
Benzo(k)fluoranthene	ug	<0.050	0.050	<0.050	0.050	2670963
Biphenyl	ug	0.19	0.10	0.24	0.10	2670963
Chrysene	ug	<0.050	0.050	<0.050	0.050	2670963
Coronene	ug	<0.10	0.10	<0.10	0.10	2670963
Dibenz(a,h)anthracene	ug	<0.050	0.050	<0.050	0.050	2670963
Dibenzo(a,e)pyrene	ug	<0.20	0.20	<0.20	0.20	2670963
Fluoranthene	ug	0.082	0.050	<0.050	0.050	2670963
Fluorene	ug	0.222	0.050	0.132	0.050	2670963
Indeno(1,2,3-cd)pyrene	ug	<0.050	0.050	<0.050	0.050	2670963
m-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2670963
Naphthalene	ug	0.202	0.072	0.142	0.072	2670963
o-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2670963
Perylene	ug	<0.10	0.10	<0.10	0.10	2670963

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Maxxam ID		LM1809		LM1810		
Sampling Date		2011/10/30		2011/10/30		
COC Number		08007		08007		
	Units	**LICA PUFF&QFF/CLS/OCT 30,11**	**RDL**	**LICA PUFF&QFF/PORT/OCT 30,11**	**RDL**	**QC Batch**
Phenanthrene	ug	0.390	0.050	0.204	0.050	2670963
p-Terphenyl	ug	<0.10	0.10	<0.10	0.10	2670963
Pyrene	ug	0.070	0.050	<0.050	0.050	2670963
Quinoline	ug	<0.40	0.40	<0.40	0.40	2670963
Tetralin	ug	<0.10	0.10	<0.10	0.10	2670963
Surrogate Recovery (%)						
D10-2-Methylnaphthalene	%	78		86		2670963
D10-Fluoranthene	%	98		90		2670963
D10-Fluorene (FS)	%	25 (1)		26 (1)		2670963
D10-Phenanthrene	%	92		88		2670963
D12-Benzo(a)anthracene	%	110		108		2670963
D12-Benzo(a)pyrene	%	88		92		2670963
D12-Benzo(b)fluoranthene	%	88		88		2670963
D12-Benzo(ghi)perylene	%	94		96		2670963
D12-Benzo(k)fluoranthene	%	86		88		2670963
D12-Chrysene	%	86		86		2670963
D12-Indeno(1,2,3-cd)pyrene	%	94		94		2670963
D12-Perylene	%	86		88		2670963
D14-Dibenzo(a,h)anthracene	%	94		92		2670963
D14-Terphenyl (FS)	%	92		87		2670963
D8-Acenaphthylene	%	86		90		2670963
D8-Naphthalene	%	76		88		2670963

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

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Maxxam Analytics

Maxxam Job #: B1H2035
Report Date: 2011/11/14

Test Summary

Maxxam ID LM1809 **Collected** 2011/10/30
Sample ID LICA PUFF&QFF/CLS/OCT 30,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/11/02

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2670963	2011/11/04	2011/11/08	JIE WU

Maxxam ID LM1810 **Collected** 2011/10/30
Sample ID LICA PUFF&QFF/PORT/OCT 30,11 **Shipped**
Matrix PUF AND FILTER **Received** 2011/11/02

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2670963	2011/11/04	2011/11/08	JIE WU

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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.

Pyrene is statistically out of control at 76% recovery in spike and 77.5% recovery in spike:dup. 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.

Not calibrated for benzo(b)anthracene, picene, dibenzo(a,c)anthracene and triphenylene. An estimated mdl for each of these compounds is 0.1ug.

Since dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene and triphenylene with chrysene each would have a value below estimated mdl.

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

Sample LM1809-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

Internal Std area response criteria was high in smaple. The vial was rerun with similar results. Original run reported.

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

Sample LM1810-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB1H2035

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2670963	JIW	Spiked Blank	D10-2-Methylnaphthalene	2011/11/08		86	%	50 - 150
			D10-Fluoranthene	2011/11/08		82	%	50 - 150
			D10-Phenanthrene	2011/11/08		84	%	50 - 150
			D12-Benzo(a)anthracene	2011/11/08		112	%	50 - 150
			D12-Benzo(a)pyrene	2011/11/08		86	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/11/08		86	%	50 - 150
			D12-Benzo(ghi)perylene	2011/11/08		94	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/11/08		88	%	50 - 150
			D12-Chrysene	2011/11/08		94	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2011/11/08		90	%	50 - 150
			D12-Perylene	2011/11/08		84	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/11/08		90	%	50 - 150
			D8-Acenaphthylene	2011/11/08		88	%	50 - 150
			D8-Naphthalene	2011/11/08		90	%	50 - 150
			Acenaphthene	2011/11/08		83	%	60 - 130
		RPD	Acenaphthene	2011/11/08	7.2		%	50
		Spiked Blank	Acenaphthylene	2011/11/08		86	%	60 - 130
		RPD	Acenaphthylene	2011/11/08	5.4		%	50
		Spiked Blank	Anthracene	2011/11/08		75	%	60 - 130
		RPD	Anthracene	2011/11/08	5.5		%	50
		Spiked Blank	Benzo(a)anthracene	2011/11/08		95	%	60 - 130
		RPD	Benzo(a)anthracene	2011/11/08	3.2		%	50
		Spiked Blank	Benzo(a)pyrene	2011/11/08		73	%	60 - 130
		RPD	Benzo(a)pyrene	2011/11/08	2.4		%	50
		Spiked Blank	Benzo(b)fluoranthene	2011/11/08		86	%	60 - 130
		RPD	Benzo(b)fluoranthene	2011/11/08	0.3		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2011/11/08		83	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2011/11/08	0.6		%	50
		Spiked Blank	Benzo(k)fluoranthene	2011/11/08		87	%	60 - 130
		RPD	Benzo(k)fluoranthene	2011/11/08	0.3		%	50
		Spiked Blank	Chrysene	2011/11/08		93	%	60 - 130
		RPD	Chrysene	2011/11/08	1.4		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2011/11/08		83	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2011/11/08	2.1		%	50
		Spiked Blank	Fluoranthene	2011/11/08		83	%	60 - 130
		RPD	Fluoranthene	2011/11/08	3.5		%	50
		Spiked Blank	Fluorene	2011/11/08		82	%	60 - 130
		RPD	Fluorene	2011/11/08	5.3		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2011/11/08		83	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2011/11/08	1.8		%	50
		Spiked Blank	Naphthalene	2011/11/08		100	%	60 - 130
		RPD	Naphthalene	2011/11/08	2.5		%	50
		Spiked Blank	Phenanthrene	2011/11/08		81	%	60 - 130
		RPD	Phenanthrene	2011/11/08	5.1		%	50
		Spiked Blank	Pyrene	2011/11/08		76	%	60 - 130
		RPD	Pyrene	2011/11/08	2.0		%	50
		Method Blank	D10-2-Methylnaphthalene	2011/11/08		90	%	50 - 150
			D10-Fluoranthene	2011/11/08		90	%	50 - 150
			D10-Phenanthrene	2011/11/08		90	%	50 - 150
			D12-Benzo(a)anthracene	2011/11/08		92	%	50 - 150
			D12-Benzo(a)pyrene	2011/11/08		88	%	50 - 150
			D12-Benzo(b)fluoranthene	2011/11/08		90	%	50 - 150
			D12-Benzo(ghi)perylene	2011/11/08		92	%	50 - 150
			D12-Benzo(k)fluoranthene	2011/11/08		82	%	50 - 150
			D12-Chrysene	2011/11/08		86	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB1H2035

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2670963	JIW	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2011/11/08		88	%	50 - 150
			D12-Perylene	2011/11/08		84	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2011/11/08		86	%	50 - 150
			D8-Acenaphthylene	2011/11/08		94	%	50 - 150
			D8-Naphthalene	2011/11/08		96	%	50 - 150
			1-Methylnaphthalene	2011/11/08	<0.10		ug	
			1-Methylphenanthrene	2011/11/08	<0.10		ug	
			2-Chloronaphthalene	2011/11/08	<0.10		ug	
			2-Methylanthracene	2011/11/08	<0.10		ug	
			2-Methylnaphthalene	2011/11/08	<0.10		ug	
			3-Methylcholanthrene	2011/11/08	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2011/11/08	<0.10		ug	
			9,10-Dimethylanthracene	2011/11/08	<0.40		ug	
			Acenaphthene	2011/11/08	<0.050		ug	
			Acenaphthylene	2011/11/08	<0.050		ug	
			Anthracene	2011/11/08	<0.050		ug	
			Benzo(a)anthracene	2011/11/08	<0.050		ug	
			Benzo(a)fluorene	2011/11/08	<0.10		ug	
			Benzo(a)pyrene	2011/11/08	<0.050		ug	
			Benzo(b)fluoranthene	2011/11/08	<0.050		ug	
			Benzo(b)fluorene	2011/11/08	<0.10		ug	
			Benzo(e)pyrene	2011/11/08	<0.10		ug	
			Benzo(g,h,i)perylene	2011/11/08	<0.050		ug	
			Benzo(k)fluoranthene	2011/11/08	<0.050		ug	
			Biphenyl	2011/11/08	<0.10		ug	
			Chrysene	2011/11/08	<0.050		ug	
			Coronene	2011/11/08	<0.10		ug	
			Dibenz(a,h)anthracene	2011/11/08	<0.050		ug	
			Dibenzo(a,e)pyrene	2011/11/08	<0.20		ug	
			Fluoranthene	2011/11/08	<0.050		ug	
			Fluorene	2011/11/08	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2011/11/08	<0.050		ug	
			m-Terphenyl	2011/11/08	<0.10		ug	
			Naphthalene	2011/11/08	0.094, RDL=0.072		ug	
			o-Terphenyl	2011/11/08	<0.10		ug	
			Perylene	2011/11/08	<0.10		ug	
			Phenanthrene	2011/11/08	<0.050		ug	
			p-Terphenyl	2011/11/08	<0.10		ug	
			Pyrene	2011/11/08	<0.050		ug	
			Quinoline	2011/11/08	<0.40		ug	
			Tetralin	2011/11/08	<0.10		ug	

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

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Lakeland Industry & Community Association

St. Lina Monitoring Site
Ambient Air Monitoring
Data Report
For
October 2011

Prepared By:

November 23, 2011

Lakeland Industry & Community Association
St. Lina
Ambient Air Monitoring

Table of Contents

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: October 2011

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Craig Snider

Calibration Procedure

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

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

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

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

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

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

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

MONTHLY CONTINUOUS DATA SUMMARY
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – ST. LINA

Continuous Ambient Monitoring – October 2011

LICA ST. LINA SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO2 (PPB)	172	48	0	0	0.12	2	27	10, 11	1.3, 5.3	166(SSE), 360(N)	0.9	30	99.9
H2S (PPB)	10	3	0	0	0.15	1	VAR	VAR	VAR	VAR	0.9	4	99.7
THC (PPM)	-	-	-	-	2.07	2.6	12	9	12.4	271(W)	2.3	12	99.7
OZONE (PPB)	82	-	0	-	23.3	39	18	16	9.5	193(S)	30.4	18	99.9
NOx (PPB)	-	-	-	-	1.79	9	11	7	11.6	301(WNW)	4.0	12	99.7
NO (PPB)	-	-	-	-	0.43	3	16, 17	9, 9	14.2, 14.5	319(NW), 345(NNW)	1.2	30	99.7
NO_2 (PPB)	159	-	0	-	1.48	8	11	7	11.6	301(WNW)	3.4	12	99.7
PM2.5 (ug/m3)	-	30	-	0	4.35	21.8	8	23	10.9	159(SSE)	11.4	4	99.7
TEMPERATURE (DEGREE C)	-	-	-	-	5.79	15.0	4	15	5.4	108(ESE)	10.7	4	100.0
BP (MILLIBAR)	-	-	-	-	927	939	18	VAR	VAR	VAR	936.5	18	100.0
RH (%)	-	-	-	-	64.76	92	5	VAR	VAR	VAR	91.0	5	100.0
PRECIPITATION (MM)	-	-	-	-	0.02	1.6	2	0	12.8	44(NE)	4.2	13	100.0
VECTOR WS (KPH)	-	-	-	-	9.42	21.2	29	14	-	294(WNW)	13.0	13	99.9
VECTOR WD (DEGREES)	-	-	-	-	260(WSW)	-	-	-	-	-	-	-	99.9

VAR-VARIOUS

General Monthly Summary

Equipment Operation

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

AQM STATION – LICA – St. Lina

Sulphur Dioxide (PPB)
Analyzer make / model - API 100E, S/N: 468
The analyzer was working well throughout the month. The inlet filter was changed before the monthly calibration was started. Four hours of maximum concentrations were invalidated due to small power outages this month. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)
Analyzer make / model - API 101E, S/N: 510
The analyzer was working well throughout the month. The inlet filter was changed before the monthly calibration was started. Four hours of maximum concentrations were invalidated due to small power outages this month. Data was corrected using daily zero information.

Total HydroCarbon (PPM)
Analyzer make / model –TECO 51C, S/N: 77021-384
The analyzer was working well throughout the month. The inlet filter was changed before the monthly calibration was started. Four hours of maximum concentrations were invalidated due to small power outages this month. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – St. Lina

Ozone (PPB)
Analyzer make / model –Thermo 49C, S/N: 49C-54926-302
The analyzer was working well throughout the month. The inlet filter was changed before the monthly calibration was started. Four hours of maximum concentrations were invalidated due to small power outages this month. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)
Analyzer make / model - API 200E, S/N: 592
The analyzer was working well throughout the month. The inlet filter was changed before the monthly calibration was started. Four hours of maximum concentrations were invalidated due to small power outages this month. Data was corrected using daily zero information.

Particulate Matter 2.5 (UG/M3)
Analyzer make / model – Thermo Scientific Series 1405F, S/N: 1405A208301003
No operational issue was observed this month. A routine Teom audit was performed on October 7th. Following the audit, the Teom filter and FDMS filter were replaced. Data was corrected using Alberta air quality guideline. If the data was between 0 to –3, the data was corrected to 0. If the data was below –3, the data was invalidated. Sixteen hours of data were invalidated as the data were above –3 ug/m3.

Temperature (Degree C)
Analyzer make / model – Met One 060
No operational issue was observed during the month.

General Monthly Summary

AQM STATION – LICA – St. Lina

Barometric Pressure (Millibar)
Analyzer make / model - Met One 092
No operational issue was observed during this month.

Relative Humidity (%)
Analyzer make / model - Met One 083
No operational issue was observed during this month.

Precipitation (MM)
Analyzer make / model - Met One 387
No operational issue was observed during this month.

Vector Wind Speed (KPH) & Vector Wind Direction (DEG)
System make / model – Met 50.5, S/N: H12635
The wind system is reported as vector wind speed and vector wind direction. Both wind speed and wind direction channels were put into the Maintenance mode for an hour for a new manifold installation on October 21st. Four hours of maximum WS readings were invalidated due to small power outages this month.

Datalogger
System make / model - ESC 8832, S/N: AO717
Software make/version - ESC v 5.51a
The station is connected to a modem to allow for daily polling of the station.

General Monthly Summary

AQM STATION – LICA – St. Lina

Trailer
No issue was observed this month. A new manifold was installed on October 21st.

Air Quality Index (AQI)
The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. All AQI values recorded in October 2011 were within the Good range. The highest hourly concentration of Ozone was 39 ppb and an AQI value of 20, on October 18th, hour of 16. The highest AQI value of PM2.5 was 14, in various hours and days.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Air Quality Index

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

OCTOBER 2011

AIR QUALITY INDEX (AQI)

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	16	15	15	15	15	15	15	-	14	14	15	15	15	15	15	14	13	12	13	13	15	16	14	13	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
2	13	13	13	13	12	12	-	11	11	11	12	13	13	13	13	11	11	10	9	7	7	7	8	8	13
	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
3	7	10	6	7	6	-	5	5	7	7	6	7	7	7	7	7	7	6	5	8	6	5	5	6	10
	O3_	PM2	O3_	PM2	PM2	**NA**	O3_	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	PM2	O3_	O3_	O3_	PM2
4	6	10	6	4	-	10	8	7	11	12	11	12	11	9	14	11	14	10	10	11	10	10	14	9	14
	PM2	PM2	PM2	O3_	**NA**	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2
5	10	12	9	-	6	5	7	5	6	8	8	8	8	7	7	7	9	9	10	14	9	5	6	8	14
	PM2	PM2	PM2	**NA**	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	PM2	PM2	PM2
6	5	5	-	9	5	5	5	5	5	-	-	-	-	-	-	-	5	5	5	5	4	4	4	4	9
	O3_	O3_	**NA**	PM2	O3_	O3_	O3_	PM2	PM2	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2
7	3	-	4	3	3	5	6	5	7	8	-	-	-	-	13	14	14	14	-	12	12	12	11	12	14
	O3_	**NA**	PM2	PM2	O3_	PM2	PM2	O3_	O3_	O3_	**NA**	**NA**	**NA**	**NA**	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_
8	-	-	12	12	12	12	11	10	10	-	12	-	14	16	-	-	17	17	17	16	16	-	16	-	18
	NA	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	**NA**	O3_	O3_	**NA**	**NA**	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	**NA**	PM2
9	15	14	14	14	13	-	10	10	9	8	-	-	9	11	12	12	12	11	11	11	11	11	-	11	15
	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	**NA**	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_
10	11	10	13	12	14	14	11	12	12	9	11	12	13	14	15	15	14	14	14	14	15	-	14	14	15
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_
11	15	15	13	12	13	12	11	9	10	11	12	13	15	16	16	16	16	16	15	15	-	14	15	14	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_
12	12	11	10	9	9	9	7	8	7	8	9	10	11	15	16	16	13	13	11	-	10	10	9	8	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	PM2	O3_	O3_	O3_
13	8	8	8	9	8	11	11	11	10	11	11	12	12	12	12	12	11	10	-	10	9	9	9	9	12
	O3_	O3_	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_
14	9	9	9	9	8	8	8	7	7	8	9	11	13	14	14	15	16	-	16	16	16	16	16	14	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_
15	14	14	14	14	13	13	13	13	13	13	13	13	14	13	14	14	-	14	14	13	13	13	12	13	14
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
16	10	9	10	10	8	8	8	8	8	10	13	15	16	17	17	-	17	16	16	16	16	16	15	14	17
	O3_	O3_	O3_	O3_	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
17	15	13	12	12	12	10	9	9	8	9	13	16	17	18	-	19	19	19	19	18	16	15	15	15	19
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
18	15	14	12	13	14	14	14	13	10	11	12	15	17	-	17	19	**20**	19	17	18	18	18	17	17	20
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	**O3_**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
19	17	17	16	16	16	15	14	13	12	12	12	12	-	12	12	12	12	10	10	11	10	11	12	13	17
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
20	11	10	10	9	13	15	11	13	14	16	17	-	18	17	17	16	16	15	15	14	14	14	14	14	18
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
21	13	13	11	10	9	9	9	8	7	7	-	13	-	16	16	15	17	17	17	16	16	15	14	12	17
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
22	11	10	10	10	9	8	11	12	13	-	16	-	17	17	17	17	17	17	17	17	17	16	16	14	17
	O3_	O3_	O3_	PM2	PM2	PM2	PM2	O3_	O3_	**NA**	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
23	16	16	13	14	12	12	12	11	-	14	16	17	17	17	17	17	17	16	16	16	15	14	14	13	17
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
24	12	12	11	10	12	10	10	-	9	11	12	14	15	15	16	16	15	15	15	14	-	14	13	13	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_
25	13	13	12	13	13	12	-	-	11	11	-	13	13	13	14	15	15	16	16	15	15	15	14	13	16
	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	**NA**	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
26	11	12	11	10	9	-	10	10	11	12	13	14	15	15	16	16	15	14	13	13	14	11	12	11	16
	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
27	12	13	13	14	-	13	13	13	13	13	14	15	15	16	16	16	16	15	15	14	13	14	14	14	16
	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
28	14	12	12	-	10	11	10	8	8	10	12	14	13	13	14	15	14	14	14	13	12	12	11	10	15
	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
29	10	9	-	10	10	9	9	9	12	13	14	15	15	15	16	16	16	15	15	-	14	13	12	12	16
	O3_	O3_	**NA**	O3_	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_
30	11	-	9	9	8	8	9	10	10	11	12	12	13	14	14	13	14	14	13	12	13	16	16	15	16
	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
31	-	14	14	13	12	13	12	12	12	13	14	15	16	16	16	16	16	16	15	15	15	15	16	-	16
	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_
PEAK	17	17	16	16	16	15	15	13	14	16	17	17	18	18	17	19	20	19	19	18	18	18	17	17	
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	

STATUS FLAG CODES	NA - NOT APPLICABLE

V - VARIOUS

AQI CLASS	OZONE (O_3)					PARTICULATE MATTER 2.5 (PM2)					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)	615	82.7%	20	16	18	69	9.3%	14	VAR	VAR	0	0.0%	-	-	-	0	0.0%	-	-	-	684	91.9%
OVERALL	615	82.7%	-	-	-	69	9.3%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	684	91.9%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	8.1%

JOB #: 2833-11-10-31-C

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

OCTOBER 2011

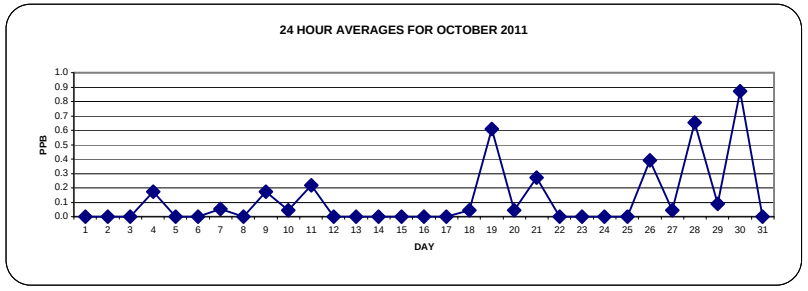
SULPHUR DIOXIDE (SO_2) hourly averages in ppb

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

STATUS FLAG CODES

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

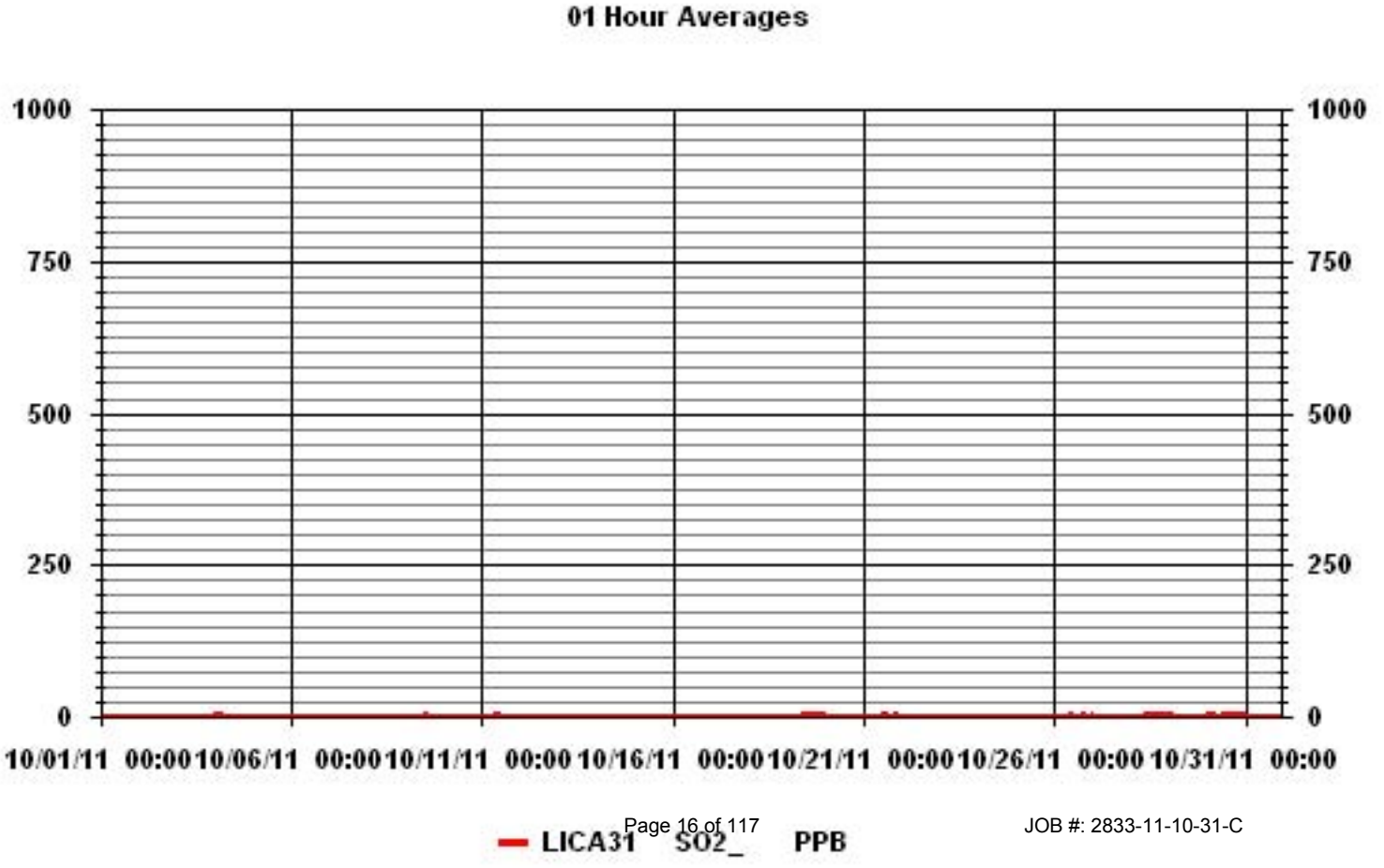


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0						
NUMBER OF 24-HR EXCEEDENCES:	0						
NUMBER OF NON-ZERO READINGS:	82						
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	10, 11	ON DAY(S)	27	
MAXIMUM 24-HR AVERAGE:	0.9	PPB			ON DAY(S)	30	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		743	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		99.9	%	
STANDARD DEVIATION:	0.33		MONTHLY AVERAGE:		0.12	PPB	

JOB #: 2833-11-10-31-C



JOB #: 2833-11-10-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

OCTOBER 2011

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

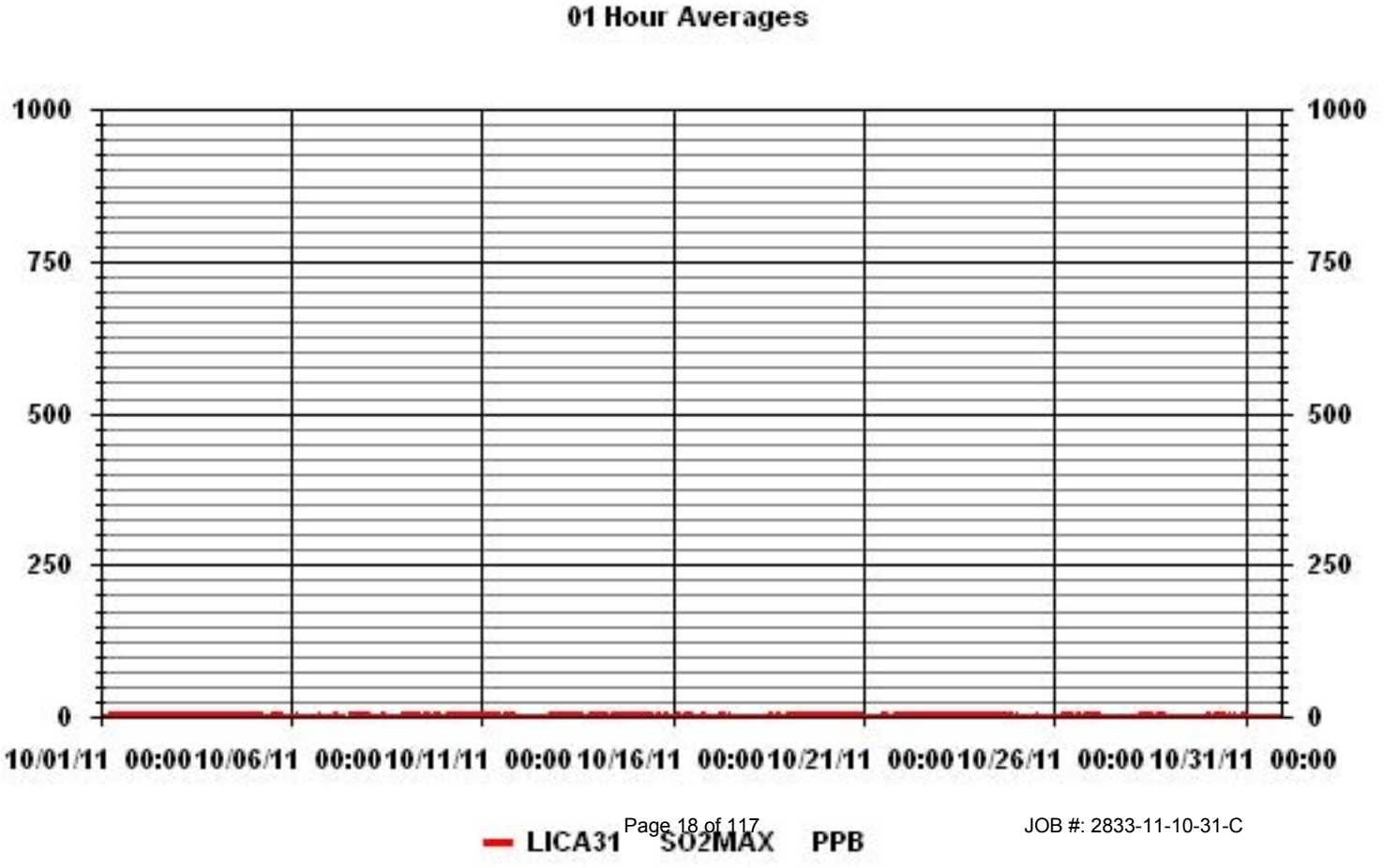
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
2	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	1.0	24
3	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
4	1	1	1	2	**IZS**	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
5	1	1	1	**IZS**	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0.7	24
6	0	0	**IZS**	0	1	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0.2	24
7	0	**IZS**	0	1	1	1	1	0	1	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1	1	1	1	0.8	24
8	**IZS**	1	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	1	**IZS**	1	0.4	24
9	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1	1	1	1	**IZS**	1	2	1.1	24
10	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	2	1.0	24
11	1	1	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	1	1	**IZS**	0	0	0	2	1.2	24
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	0.2	24
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	**IZS**	0	1	1	1	1	1	0.9	24
14	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1.0	24
15	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	**IZS**	0	0	1	1	1	0	1	1	0.8	24
16	0	0	1	1	1	1	0	0	1	1	1	1	1	1	0	**IZS**	0	0	0	1	1	0	0	0	1	0.5	24
17	1	0	0	0	1	0	1	1	1	1	0	1	1	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0.3	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	0	1	1	1	0	1	2	1	2	0.4	24
19	1	1	1	1	1	1	1	1	2	2	2	2	**IZS**	2	2	2	2	2	1	2	2	2	2	2	2	1.6	24
20	2	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
21	1	0	1	0	0	0	0	0	0	1	**IZS**	**P**	**M**	2	2	2	2	1	1	2	2	1	1	1	2	1.0	22
22	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	1.0	24
23	1	1	1	1	**P**	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	23
24	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	**P**	1	1	0	1	1.0	23
25	1	1	0	0	0	0	**IZS**	0	0	0	0	0	0	1	1	0	0	0	**P**	1	0	0	0	0	1	0.2	23
26	0	0	0	0	0	**IZS**	1	1	1	1	**5**	**5**	2	1	1	1	1	1	2	1	1	1	1	1	**5**	1.2	24
27	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
28	0	0	0	**IZS**	0	1	1	1	1	1	2	2	3	2	2	1	2	2	1	1	1	1	1	1	3	1.2	24
29	2	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
30	0	**IZS**	2	2	1	1	1	1	1	1	1	2	2	1	2	2	1	1	1	1	2	1	1	1	2	1.3	24
31	**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
HOURLY MAX	2	1	2	2	1	1	2	2	2	2	5	5	3	2	2	2	2	2	2	2	2	2	2	2			
HOURLY AVG	0.8	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.7	0.8	1.0	1.1	0.9	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	485					
MAXIMUM INSTANTANEOUS VALUE:	5	PPB	@ HOUR(S)	10, 11	ON DAY(S)	26
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		739	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.62					



JOB #: 2833-11-10-31-C

LICA31
SO2_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	5.09	3.25	3.68	3.25	4.53	5.66	3.54	4.81	6.94	6.09	6.51	7.93	13.17	15.15	6.23	4.10	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.09	3.25	3.68	3.25	4.53	5.66	3.54	4.81	6.94	6.09	6.51	7.93	13.17	15.15	6.23	4.10	

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
< 20	36	23	26	23	32	40	25	34	49	43	46	56	93	107	44	29	706
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	36	23	26	23	32	40	25	34	49	43	46	56	93	107	44	29	

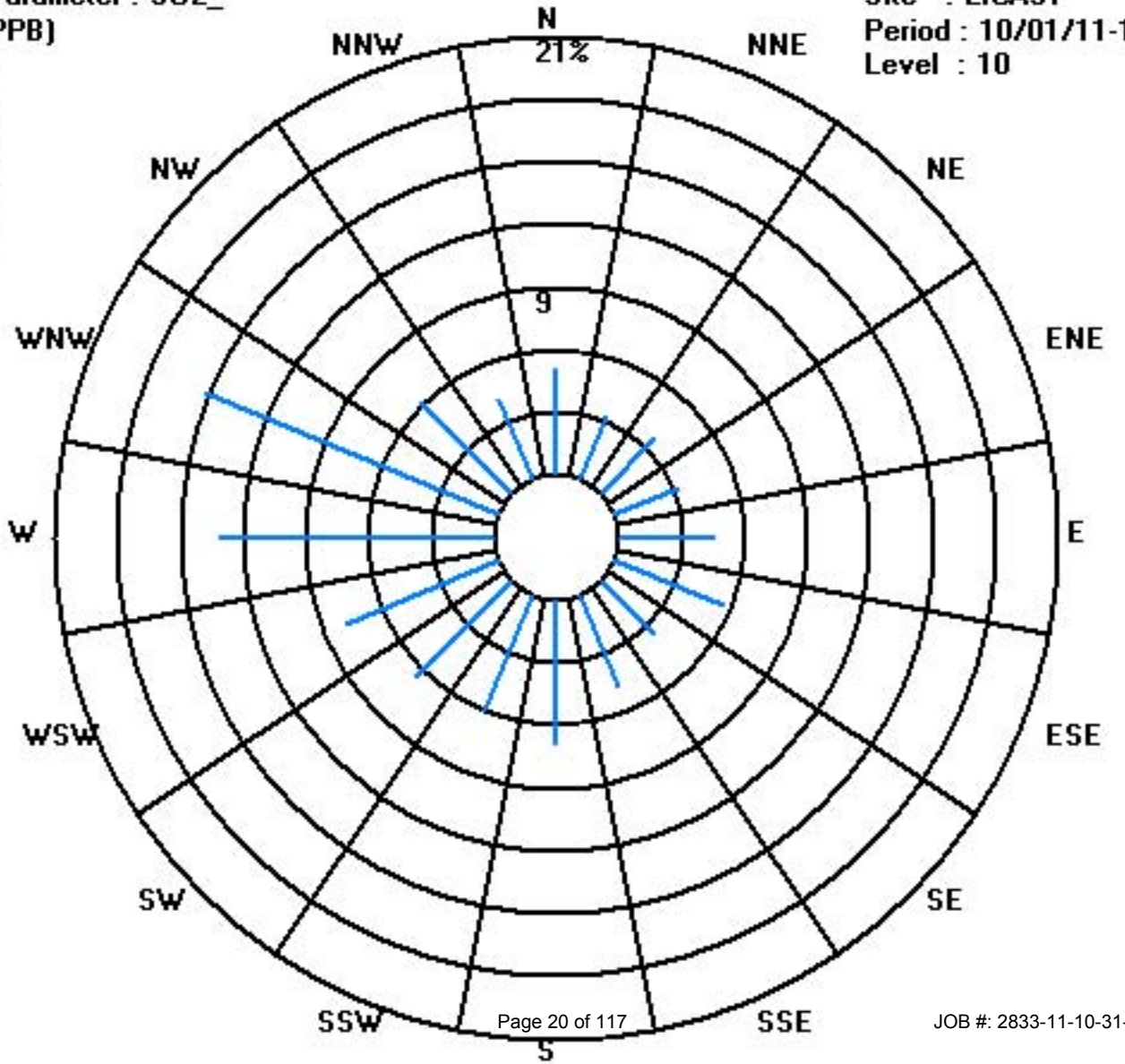
Calm : .00 %

Total # Operational Hours : 706

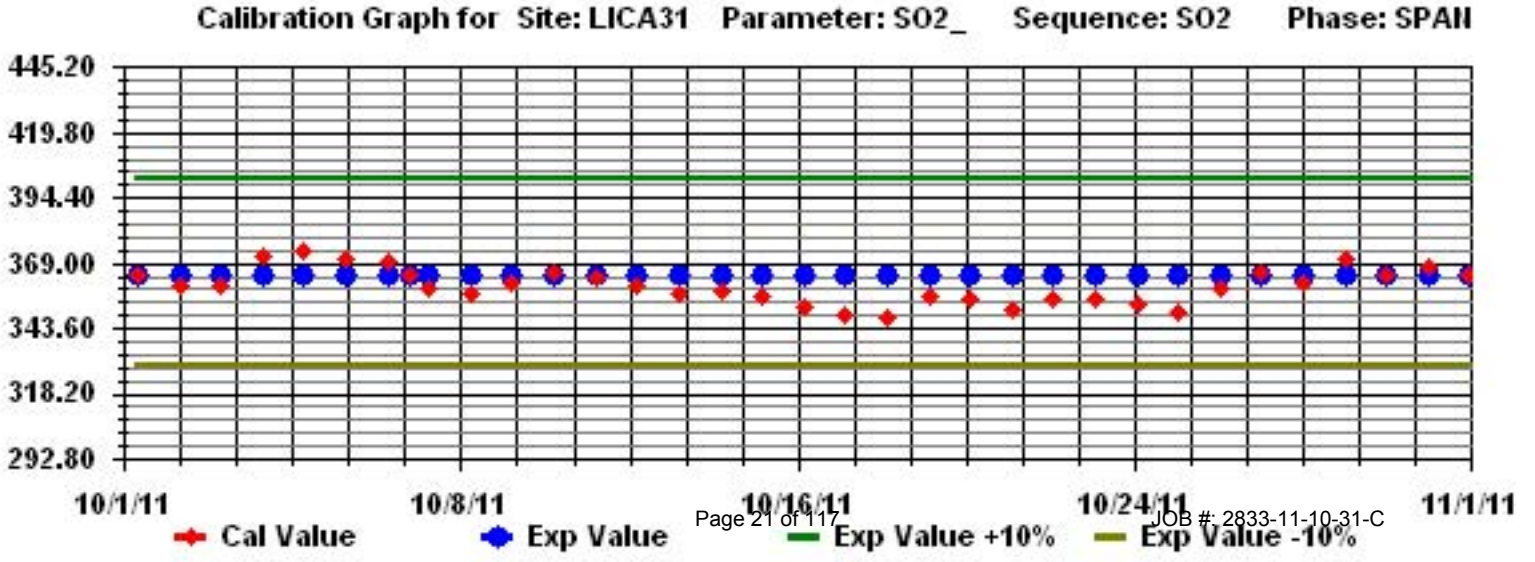
Logger : 31 Parameter : SO2_
Class Limits (PPB)

>= 340
< 340
< 170
< 110
< 60
< 20

Site : LICA31
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-31-C


Calibration Graph for Site: LICA31 Parameter: SO2_ Sequence: SO2 Phase: SPAN
445.20
419.80
394.40
369.00
343.60
318.20
292.80
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

OCTOBER 2011

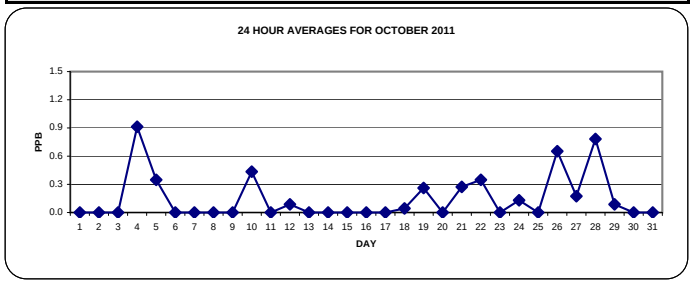
HYDROGEN SULPHIDE (H_2S) hourly averages in ppb

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

STATUS FLAG CODES

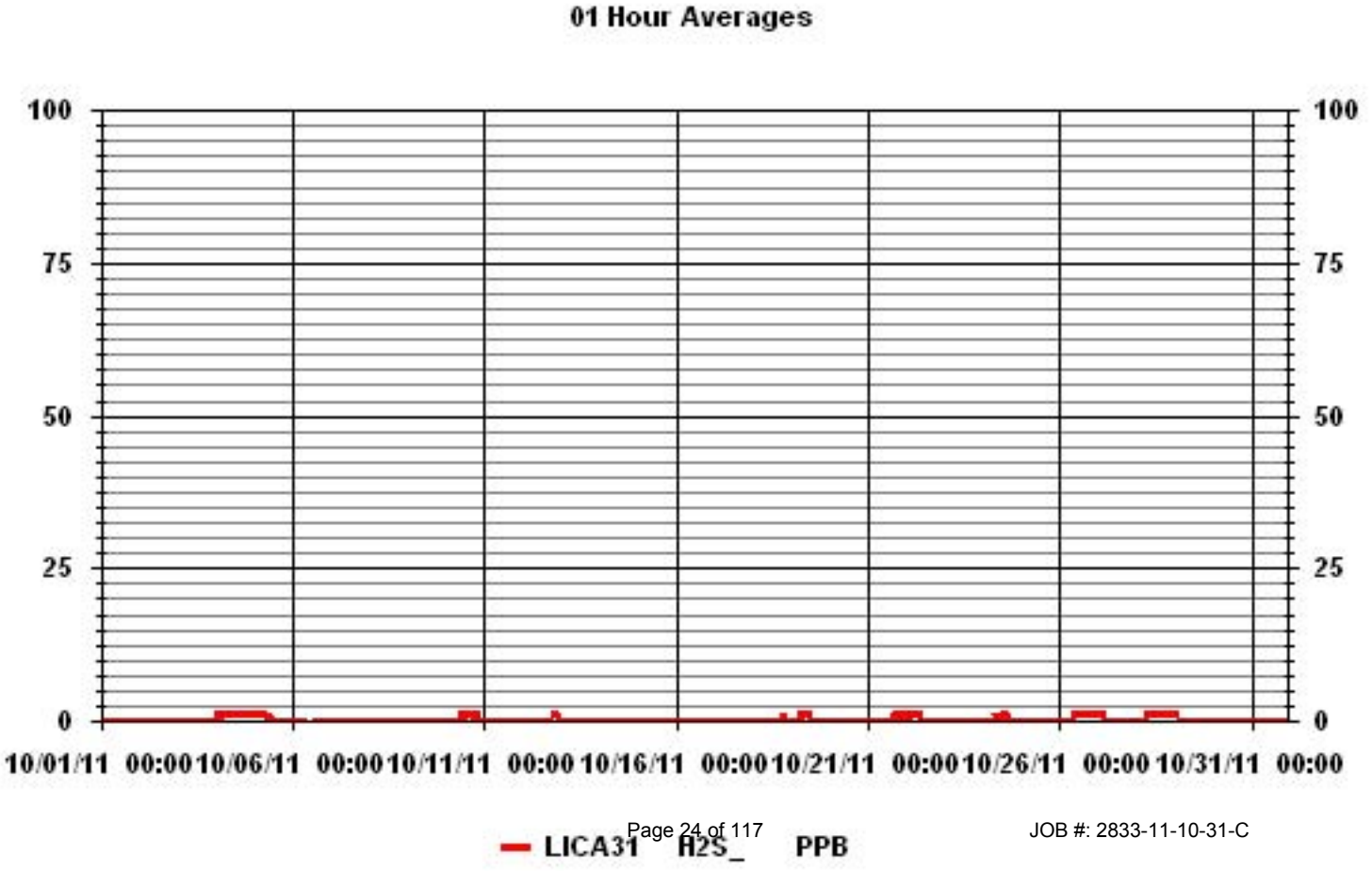
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 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:	104					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.9	PPB			ON DAY(S)	4
				VAR-VARIOUS		
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		742	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	0.35		MONTHLY AVERAGE:		0.15	PPB



JOB #: 2833-11-10-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST.LINA*

OCTOBER 2011

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

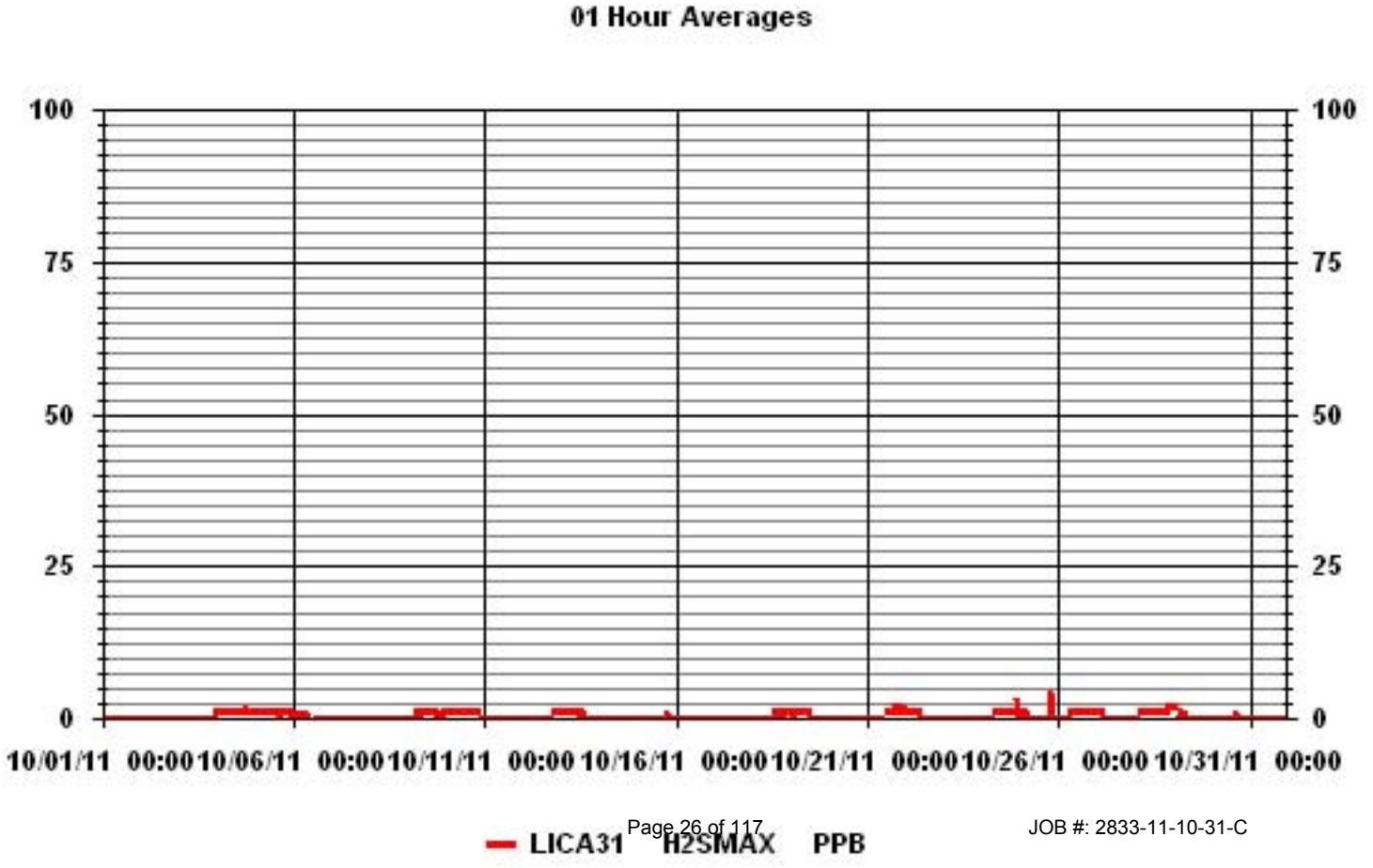
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.0	24
4	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1.0	24
5	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	0.9	24
6	0	0	**IZS**	1	0	0	0	1	0	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	0	1	0.1	24
7	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	**M**	0	0	0	0	0	0	0	0	0	0	0	0.0	23
8	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0.0	24
9	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	**IZS**	1	1	0.6	24
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	0	0	1	0.9	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0.0	24
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	0.2	24
13	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	0	**IZS**	0	0	0	0	0	1	0.6	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0.0	24
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	1	0	0	0	0	0	1	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0.0	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0.0	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	0	0	0	1	1	1	1	1	1	0.3	24
19	1	0	1	1	1	1	1	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	1	0.5	24
20	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	0	0	0	0	0	0	0	0	0	0	**IZS**	**P**	**M**	1	1	1	1	1	2	2	2	1	1	2	2	0.7	22
22	1	1	1	1	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	24
23	0	0	0	0	**P**	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23
24	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	**P**	3	0	0	3	0.7	23
25	0	1	1	1	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	**P**	**4**	0	0	0	0	**4**	0.3	23
26	0	0	0	0	0	**IZS**	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
27	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
28	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1.0	24
29	2	2	**IZS**	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
30	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.0	24
31	**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
HOURLY MAX	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	4	2	3	2	2			
HOURLY AVG	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	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	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	202					
MAXIMUM INSTANTANEOUS VALUE:	4	PPB	@ HOUR(S)	19	ON DAY(S)	25
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		738	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.52					



JOB #: 2833-11-10-31-C

LICA31
H2S_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	5.11	3.26	3.69	3.26	4.54	5.68	3.55	4.68	6.39	6.10	6.81	8.09	13.21	15.19	6.25	4.11	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.11	3.26	3.69	3.26	4.54	5.68	3.55	4.68	6.39	6.10	6.81	8.09	13.21	15.19	6.25	4.11	

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
< 3	36	23	26	23	32	40	25	33	45	43	48	57	93	107	44	29	704
< 10																	
< 50																	
>= 50																	
Totals	36	23	26	23	32	40	25	33	45	43	48	57	93	107	44	29	

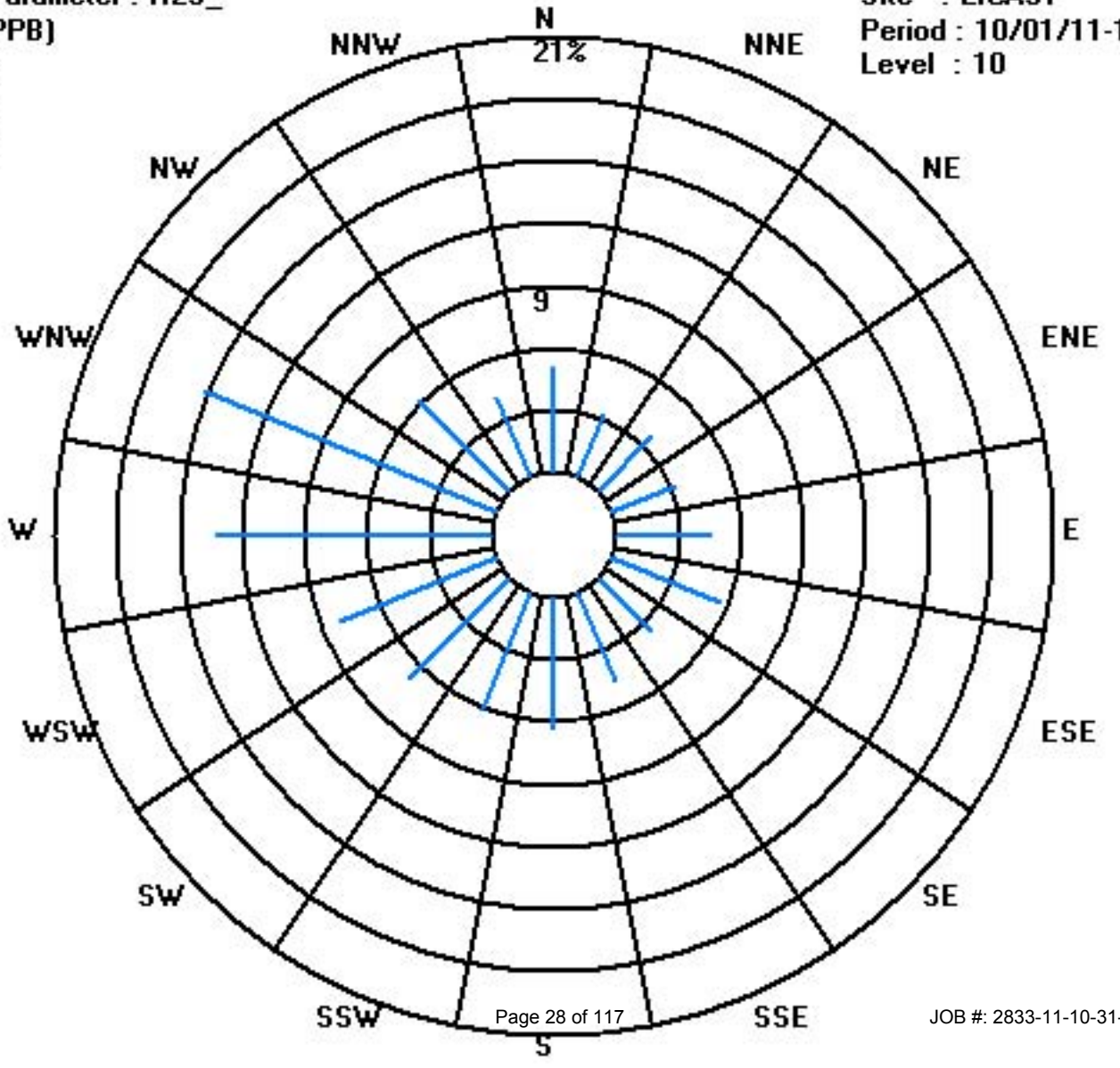
Calm : .00 %

Total # Operational Hours : 704

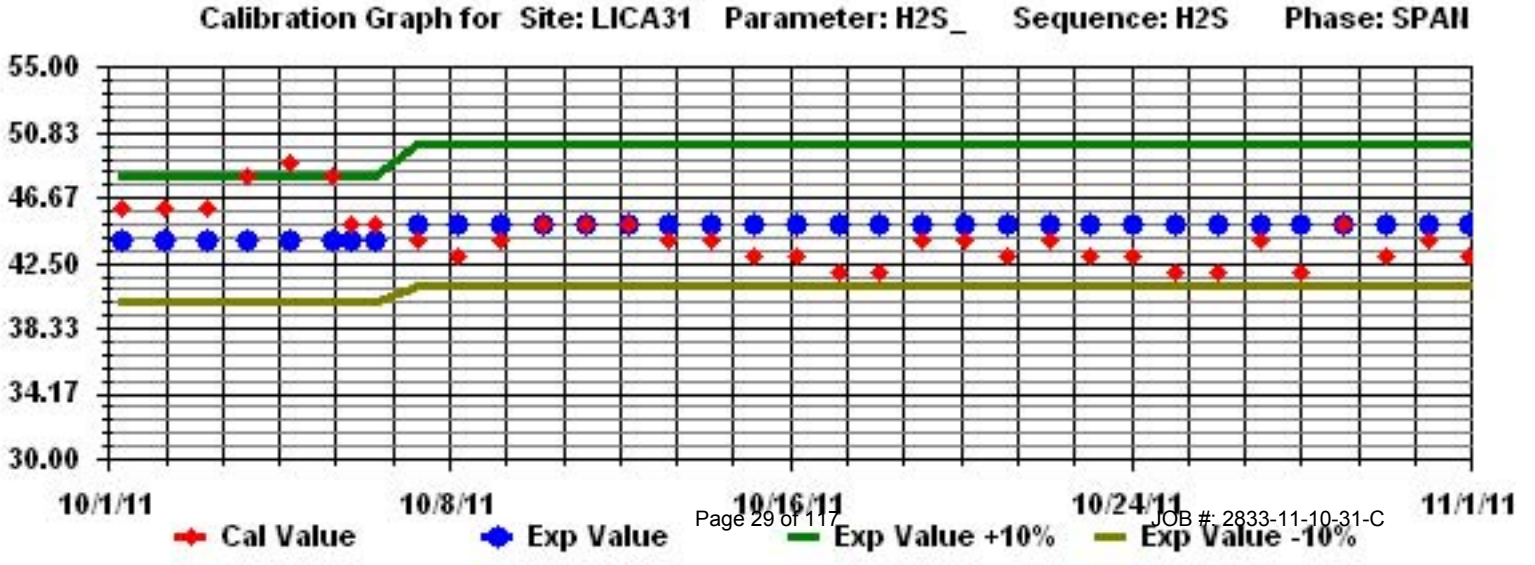
Logger : 31 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA31
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-31-C


Calibration Graph for Site: LICA31 Parameter: H2S_ Sequence: H2S Phase: SPAN
55.00
50.83
46.67
42.50
38.33
34.17
30.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST.LINA

OCTOBER 2011

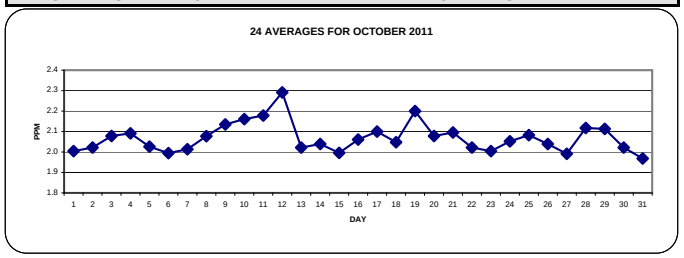
TOTAL HYDROCARBONS hourly averages in ppm

MST

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

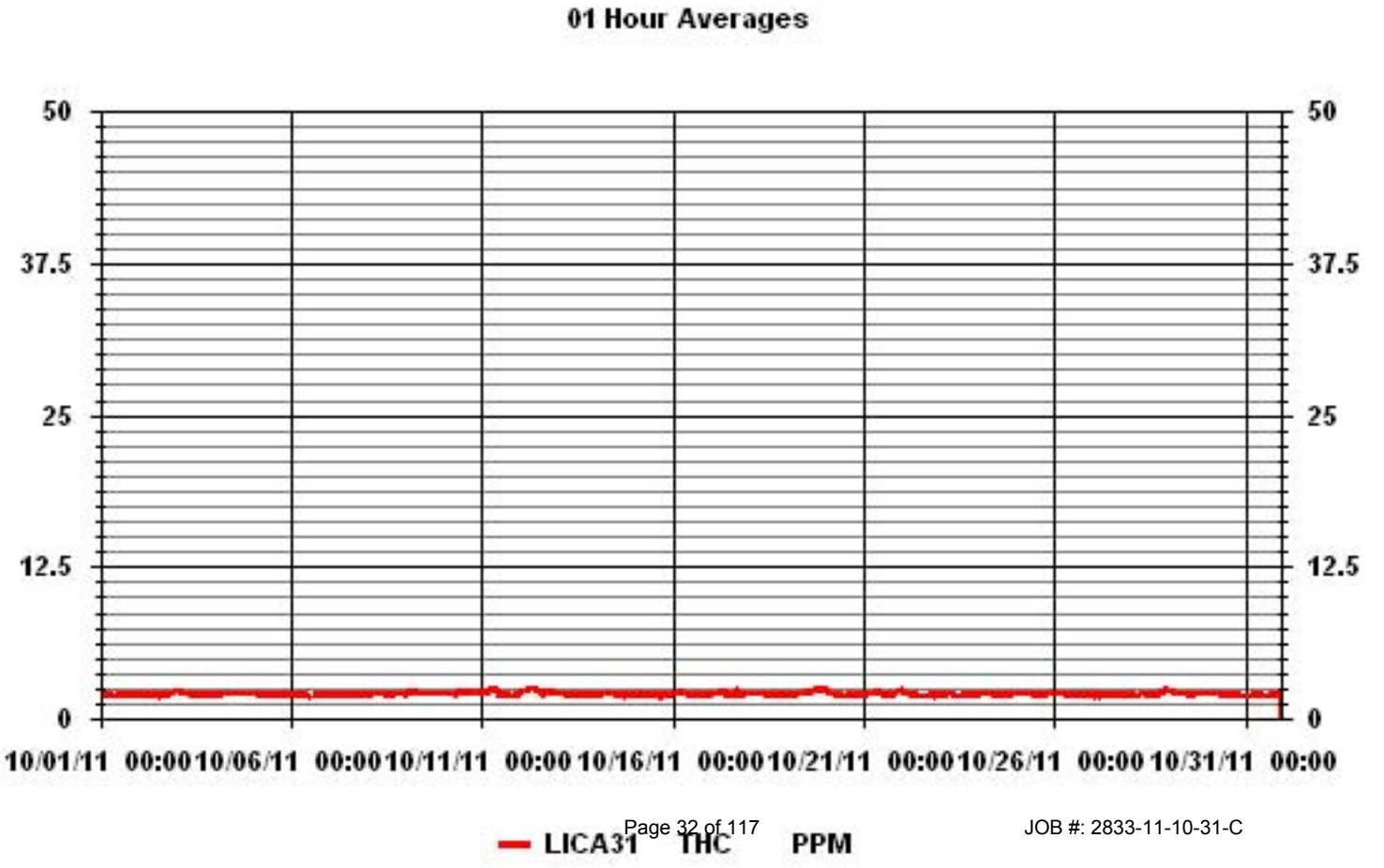
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	704						
MAXIMUM 1-HR AVERAGE:	2.6	PPM	@ HOUR(S)	9	ON DAY(S)	12	
MAXIMUM 24-HR AVERAGE:	2.3	PPM			ON DAY(S)	12	
					VAR- VARIOUS		
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		742	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		99.7	%	
STANDARD DEVIATION:	0.11		MONTHLY AVERAGE:		2.07	PPM	



JOB #: 2833-11-10-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

OCTOBER 2011

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

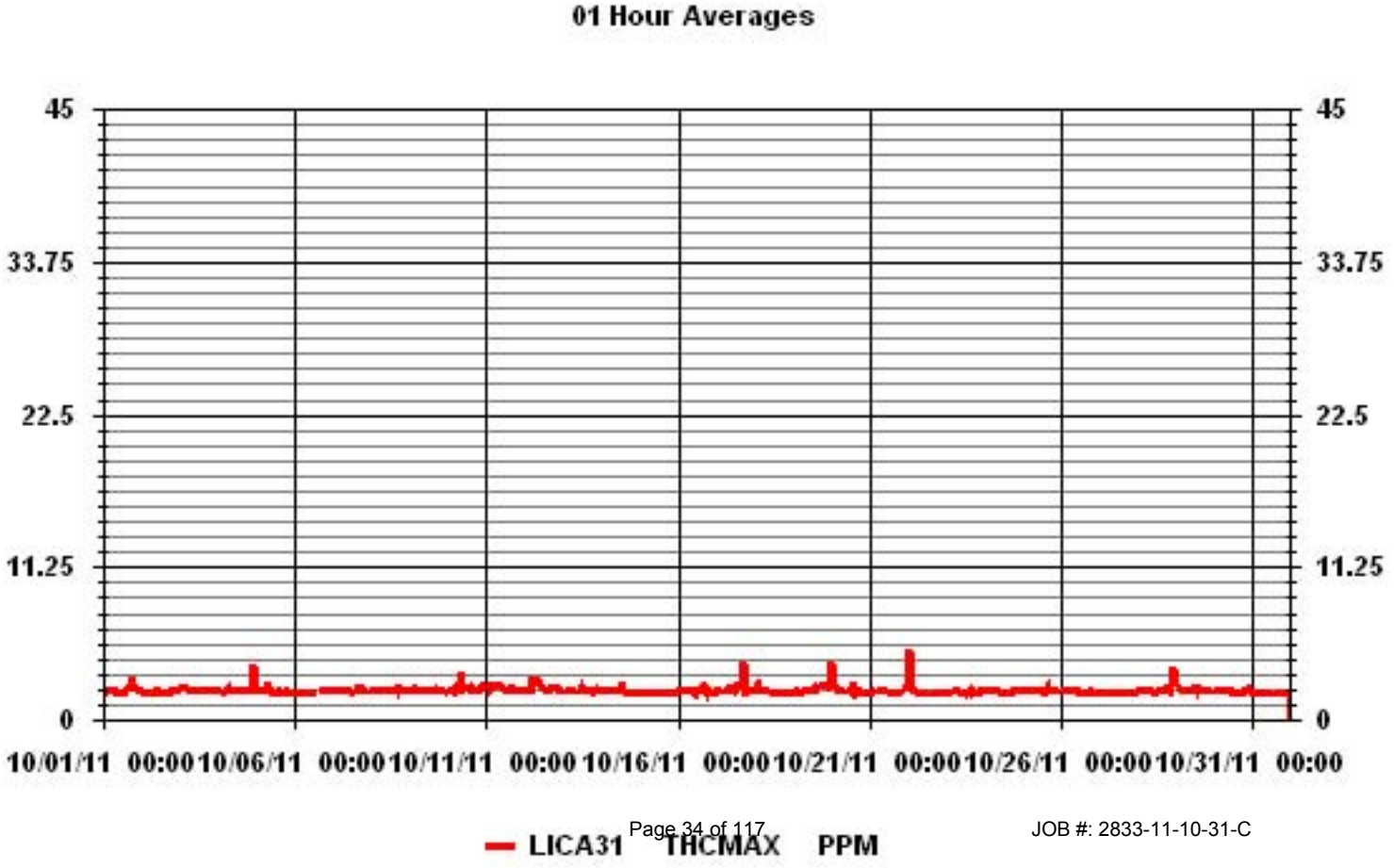
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	2	2.1	2.1	2.1	2.1	2.3	**IZS**	2	2	2	2	2	2	2.4	2.1	2.5	2.9	2.9	2.2	2.5	2.4	2.2	2.2	2.9	2.2	24
2	2.2	2.1	2	2	2	2.1	**IZS**	2.1	2	2.1	2.1	2.1	2	2	2	2	2	2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	24
3	2.3	2.3	2.3	2.3	2.3	**IZS**	2.2	2.2	2.3	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	24
4	2.2	2.2	2.2	2.1	**IZS**	2.3	2.5	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	4.1	3	4.1	2.3	24
5	2.2	2.1	2.1	**IZS**	2.1	2.1	2.1	2.7	2.2	2.1	2.1	2	2	2.1	2.1	2.1	2	2	2.1	2.1	2.1	2	2	2	2.7	2.1	24
6	2	2	**IZS**	2	2	2	2	2	2	2	2	2	**C**	**C**	**C**	**C**	**C**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	24
7	2.1	**IZS**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	**M**	2.1	2.5	2	2.4	2.4	2.1	2.1	2.1	2.1	2.2	2.5	2.1	23
8	**IZS**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.3	2.1	2.1	2.5	2.1	2.3	2.1	2.1	2.1	2.1	**IZS**	2.5	2.1	24
9	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.3	2.1	2.1	2.1	2.3	2.2	**IZS**	2.1	2.3	2.2	24
10	2.2	2.2	2.2	2.2	2.1	2.4	2.2	2.2	3.6	2.4	2.3	2.4	2.3	2.3	2.2	2.5	2.4	2.3	2.2	2.2	2.4	**IZS**	2.5	2.5	3.6	2.4	24
11	2.5	2.6	2.2	2.3	2.4	2.5	2.5	2.5	2.5	2.6	2.5	2.3	2.1	2.1	2.2	2.2	2.6	2.3	2.1	2.1	**IZS**	2.3	2.1	2.1	2.6	2.3	24
12	2.2	2.2	2.4	2.3	3.2	2.7	2.7	2.7	3	3	2.5	2.4	2.4	2.3	2.2	2.2	2.3	2.3	2.3	**IZS**	2.3	2.3	2.2	2.2	3.2	2.4	24
13	2.2	2.1	2.2	2.1	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.4	2.1	2.1	2.1	2.1	2.1	2.1	**IZS**	2.1	2.3	2.1	2.1	2.1	2.4	2.1	24
14	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	2.7	2.1	2	2.1	**IZS**	2	2	2	2	2	2	2.7	2.1	24
15	2	2	2.1	2	2	2	2	2	2	2	2	2	2	2.1	2	2	**IZS**	2	2	2	2.1	2	2	2.1	2.1	2.0	24
16	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2	2.4	2.1	2.1	**IZS**	2.6	2.4	2	2.2	2	2	2	2	2.6	2.2	24
17	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.4	2.2	2.4	2.7	**IZS**	3	4	4.2	2	2	2.1	2.1	2.1	2.1	4.2	2.4	24
18	2.1	2.6	2.7	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2	2	**IZS**	2	2	2	2	2	2	2	2	2	2	2.7	2.1	24
19	2	2	2.1	2.1	2	2	2.1	2.2	2.2	2.1	2.1	2.1	**IZS**	2.4	2.3	2.6	2.5	2.5	2.5	2.5	2.5	2.6	2.5	3.3	3.3	2.3	24
20	4.3	2.9	2.5	2.5	2.3	2.2	2.2	2.2	2.1	2.1	2.2	**IZS**	2.1	2	2.7	2	2.1	2.1	2.1	2	2	2	2.1	2	4.3	2.3	24
21	2	2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	**IZS**	**P**	**M**	2.1	2	2	2	2	2	2	2.1	2.2	2.5	2.6	2.6	2.1	22
22	2.6	**5.1**	2.3	2.2	2.1	2.1	2.1	2	2	**IZS**	1.9	1.9	1.9	1.9	2	2	2.1	2	2	2	2.1	2	2	2.1	2	**5.1**	2.2	24
23	2.1	2	2.1	2	**P**	2.2	2.1	2.1	**IZS**	2.1	2	2	1.9	2	2.2	2	2.3	2.1	2	2	2	2.1	2.1	2.1	2.3	2.1	23
24	2.1	2.1	2.1	2.1	2.1	2.1	2.2	**IZS**	2.2	2.1	2.1	2	2	2	2	2	2.2	2	2.1	2.1	**P**	2.2	2.1	2.1	2.2	2.1	23
25	2.1	2.1	2.1	2.1	2.1	2.1	**IZS**	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2	2.3	2.5	2.1	**P**	2.2	2.1	2.1	2.1	2.1	2.5	2.1	23
26	2.2	2.2	2.2	2.2	2.3	**IZS**	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2.4	2	2	2	2	2.4	2.1	24
27	2	2	2	2	**IZS**	2	2	2	2	2	2	2	2	2	2	2	2.1	2	2	2	2	2	2	2	2.1	2.0	24
28	2.1	2.1	2.1	**IZS**	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2	2.2	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.2	3.3	3.8	3.3	3.8	2.3	24
29	2.6	2.4	**IZS**	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.6	2.1	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.6	2.2	24
30	2.2	**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	2.3	2.4	2	2.4	2	2.4	2.1	24
31	**IZS**	1.9	1.9	2	2	2	2	2	2	2	2	2	2	1.9	1.9	2	2	2	2	2	2	2	2.3	**IZS**	2.3	2.0	24
HOURLY MAX	4	5	3	3	3	3	3	3	4	3	3	2	3	3	3	3	4	4	3	3	3	3	4	3			
HOURLY AVG	2.2	2.3	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.1	2.1	2.2	2.3	2.2			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	700						
MAXIMUM INSTANTANEOUS VALUE:	5.1	PPM	@ HOUR(S)	1	ON DAY(S)	22	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	738	HRS		
MONTHLY CALIBRATION TIME:	5	HRS					
STANDARD DEVIATION:	0.28						



JOB #: 2833-11-10-31-C

LICA31
THC / WDR Joint Frequency Distribution (Percent)

October 2011

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	5.11	3.26	3.69	3.26	4.54	5.68	3.55	4.82	6.67	5.68	6.81	8.09	13.21	15.19	6.25	4.11	100.00
<	10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.11	3.26	3.69	3.26	4.54	5.68	3.55	4.82	6.67	5.68	6.81	8.09	13.21	15.19	6.25	4.11	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

Direction

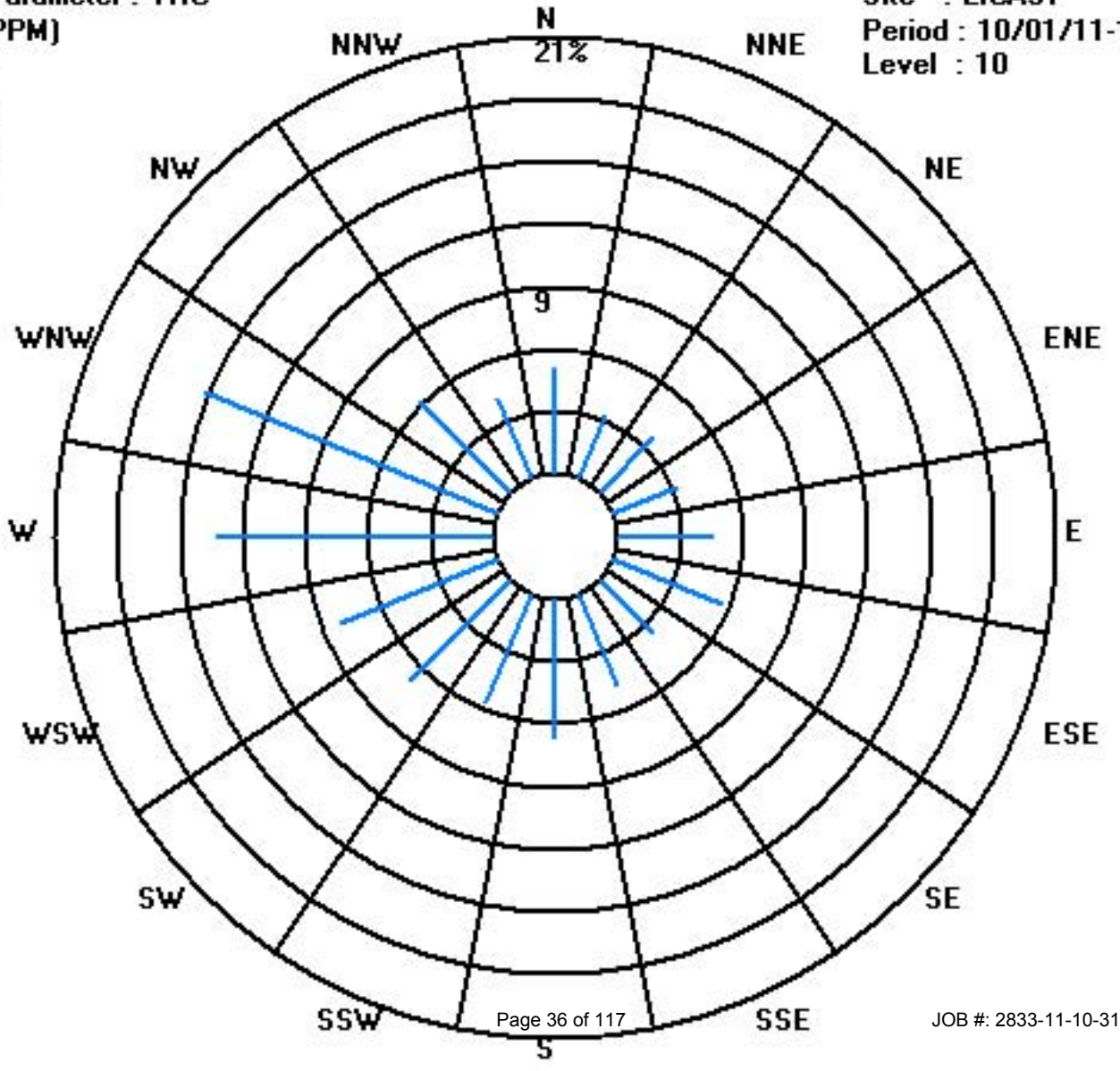
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	36	23	26	23	32	40	25	34	47	40	48	57	93	107	44	29	704
<	10.0																	
<	50.0																	
>=	50.0																	
	Totals	36	23	26	23	32	40	25	34	47	40	48	57	93	107	44	29	

Calm : .00 %

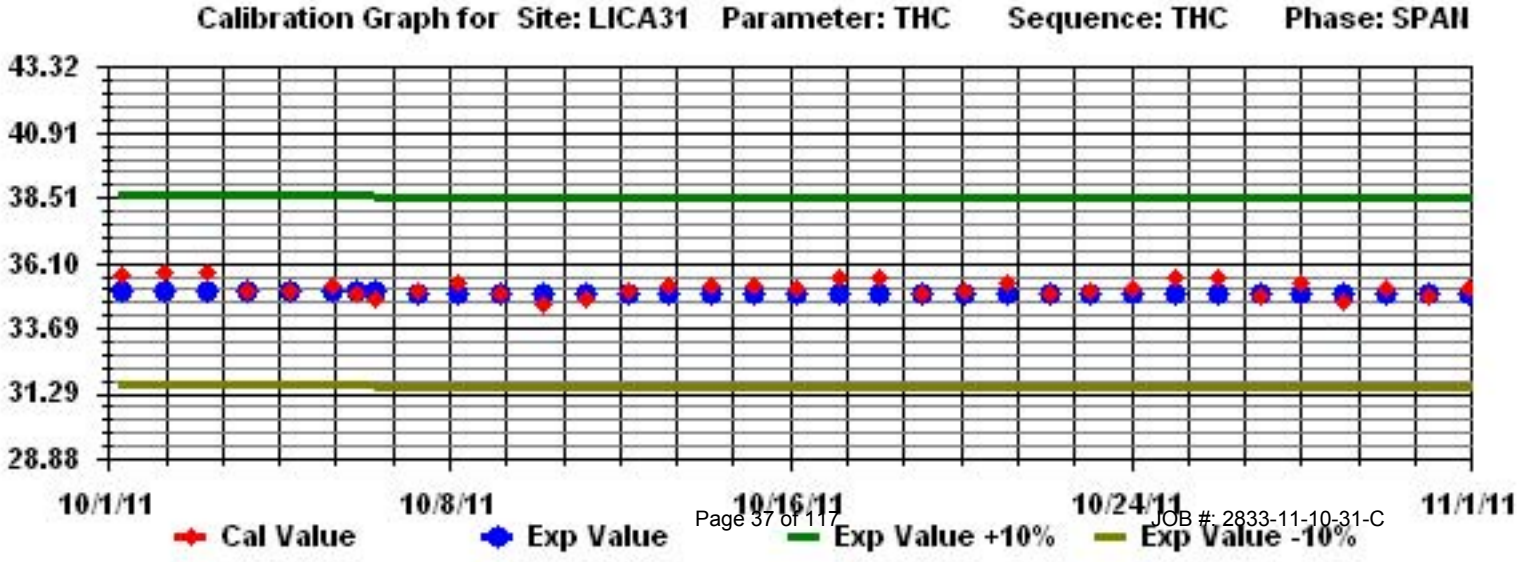
Total # Operational Hours : 704

Logger : 31 Parameter : THC
Class Limits (PPM)
>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA31
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-31-C


Calibration Graph for Site: LICA31 Parameter: THC Sequence: THC Phase: SPAN
43.32
40.91
38.51
36.10
33.69
31.29
28.88
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

OCTOBER 2011

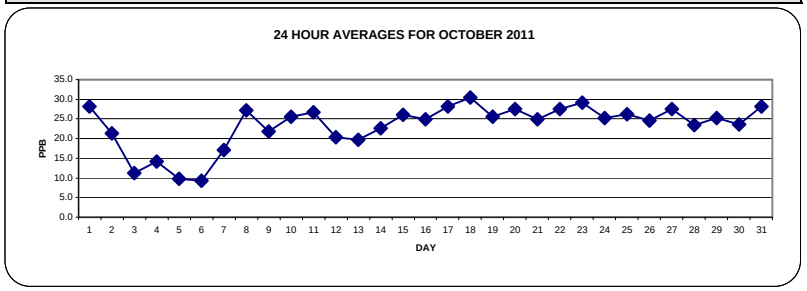
OZONE (O_3) hourly averages in ppb

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	32	30	29	29	29	29	29	**IZS**	28	28	29	29	29	29	29	27	26	23	25	25	30	31	28	26	32	28.2	24
2	26	26	26	25	24	23	**IZS**	22	22	22	23	25	26	26	25	22	21	19	17	14	14	14	15	15	26	21.4	24
3	13	12	11	11	11	**IZS**	10	9	9	10	12	13	14	14	13	13	13	11	10	10	10	10	10	11	14	11.3	24
4	11	10	9	8	**IZS**	12	9	11	13	14	14	13	16	16	20	21	20	18	18	18	17	16	12	8	21	14.1	24
5	5	4	5	**IZS**	11	9	6	5	5	9	11	12	13	13	12	12	13	13	12	12	12	10	10	10	13	9.7	24
6	10	10	**IZS**	9	9	9	9	9	8	8	8	10	11	12	13	12	10	10	9	9	8	7	7	7	13	9.3	24
7	6	**IZS**	6	5	5	6	7	9	13	15	**C**	**C**	**C**	**C**	26	27	28	28	26	24	24	24	22	23	28	17.1	24
8	**IZS**	23	23	23	23	23	22	19	19	21	23	26	28	32	33	33	34	33	33	32	32	31	31	**IZS**	34	27.1	24
9	29	28	28	27	25	23	20	19	17	15	15	16	18	21	23	24	23	22	22	22	21	21	**IZS**	21	29	21.7	24
10	21	19	26	23	28	27	22	24	24	18	22	24	26	28	29	30	28	28	28	27	30	**IZS**	28	28	30	25.6	24
11	29	30	26	24	26	24	22	18	20	21	23	25	29	31	31	32	31	31	29	29	**IZS**	28	29	27	32	26.7	24
12	24	22	19	18	17	18	13	15	14	12	17	19	22	30	31	31	26	25	21	**IZS**	20	19	18	16	31	20.3	24
13	16	16	15	15	16	21	22	22	20	21	21	23	24	24	24	23	22	20	**IZS**	19	18	18	17	17	24	19.7	24
14	17	17	17	17	16	15	15	14	13	15	18	22	25	27	28	30	31	**IZS**	31	31	32	32	31	28	32	22.7	24
15	27	27	27	27	26	26	26	25	25	25	25	26	27	26	27	28	**IZS**	28	27	25	26	25	24	25	28	26.1	24
16	19	17	19	19	15	15	15	15	16	20	25	29	32	33	33	**IZS**	33	32	32	32	32	32	30	28	33	24.9	24
17	30	25	24	23	23	20	18	17	16	18	26	32	34	35	**IZS**	37	38	37	37	36	32	30	29	30	38	28.1	24
18	30	28	24	26	27	28	27	25	20	21	24	30	34	**IZS**	34	37	**39**	37	34	35	36	35	34	34	**39**	**30.4**	24
19	34	33	32	31	31	29	27	26	24	24	24	24	**IZS**	24	24	24	23	20	20	21	20	22	24	25	34	25.5	24
20	21	19	19	17	26	29	22	25	28	31	34	**IZS**	35	34	33	32	31	30	29	28	28	28	28	27	35	27.6	24
21	26	25	21	19	17	17	18	16	13	14	**IZS**	25	**M**	32	32	30	33	34	33	32	31	29	27	24	34	24.9	23
22	21	19	19	17	15	15	18	23	26	**IZS**	31	33	34	34	34	34	34	33	33	34	33	32	31	28	34	27.4	24
23	32	31	26	27	24	24	23	22	**IZS**	27	31	33	33	33	33	33	33	32	31	31	30	28	27	25	33	29.1	24
24	24	24	21	20	23	20	19	**IZS**	17	21	24	27	29	30	31	31	30	29	29	28	27	27	25	25	31	25.3	24
25	26	25	24	25	25	23	**IZS**	22	21	21	24	25	26	26	28	30	30	31	30	29	29	30	28	25	31	26.2	24
26	22	23	21	20	17	**IZS**	19	20	21	23	26	27	29	30	31	31	30	28	26	26	27	22	23	22	31	24.5	24
27	23	25	25	27	**IZS**	26	26	26	26	25	27	29	30	31	31	32	31	30	29	27	26	27	27	28	32	27.6	24
28	28	24	23	**IZS**	20	22	19	15	16	19	23	27	26	26	28	29	28	27	27	25	24	23	21	20	29	23.5	24
29	20	18	**IZS**	20	19	18	17	18	24	26	28	30	30	30	31	31	31	30	30	29	27	25	24	23	31	25.2	24
30	22	**IZS**	17	18	16	16	17	19	20	22	24	23	25	27	28	26	28	27	26	24	26	31	31	29	31	23.6	24
31	**IZS**	28	27	26	24	25	24	23	24	25	28	29	31	31	32	31	32	31	30	29	29	29	31	**IZS**	32	28.1	24
HOURLY MAX	34	33	32	31	31	29	29	26	28	31	34	33	35	35	34	37	39	37	37	36	36	35	34	34			
HOURLY AVG	22.2	22.0	21.0	20.6	20.3	20.4	18.7	18.4	18.7	19.7	22.8	24.3	26.3	27.1	27.6	27.8	27.7	26.6	26.1	25.4	25.0	24.5	24.1	22.6			

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

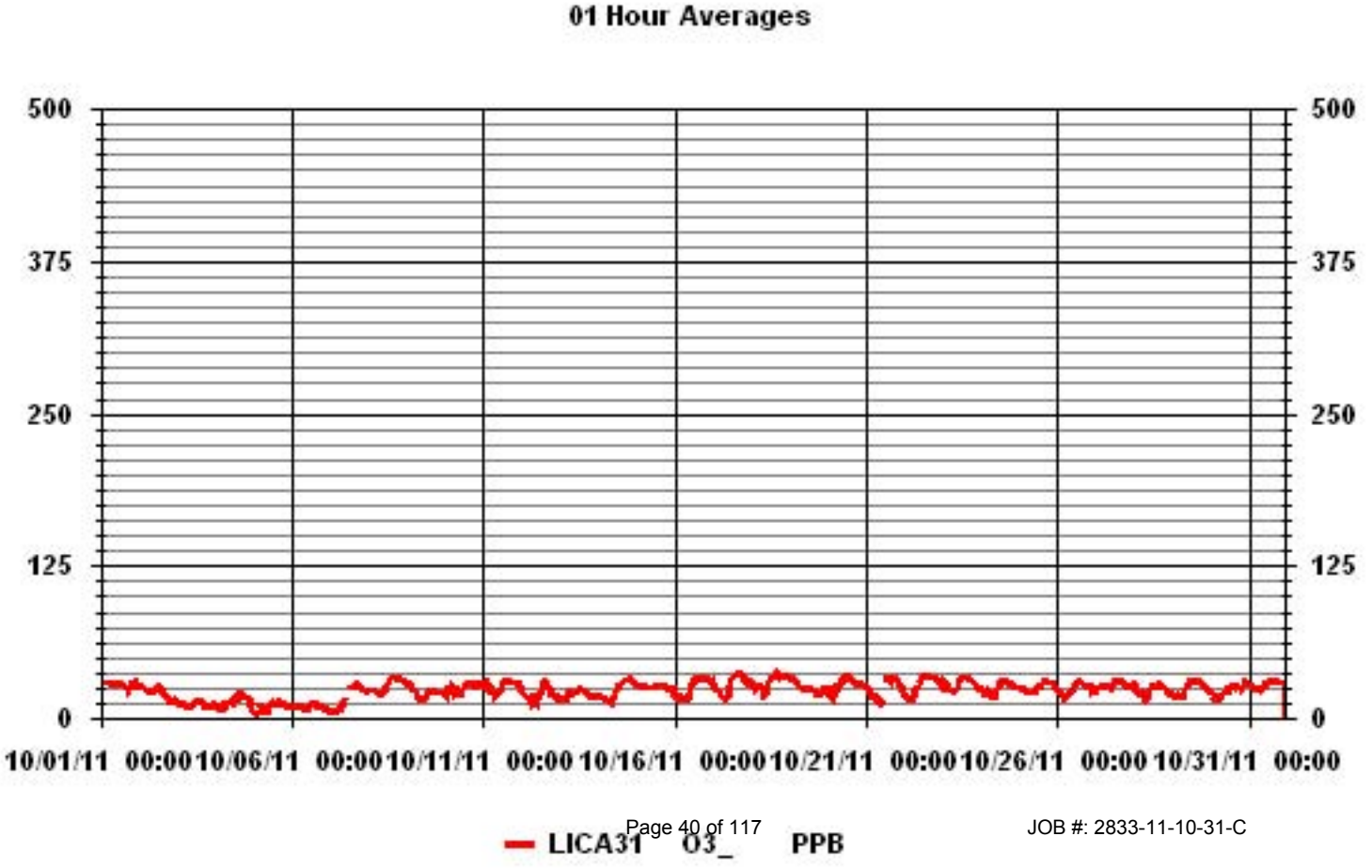


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	706					
MAXIMUM 1-HR AVERAGE:	39	PPB	@ HOUR(S)	16	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	30.4	PPB			ON DAY(S)	18
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME		99.9	%
STANDARD DEVIATION	7.25		MONTHLY AVERAGE		23.3	PPB

JOB #: 2833-11-10-31-C



JOB #: 2833-11-10-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

OCTOBER 2011

OZONE MAX instantaneous maximum in ppb

MST

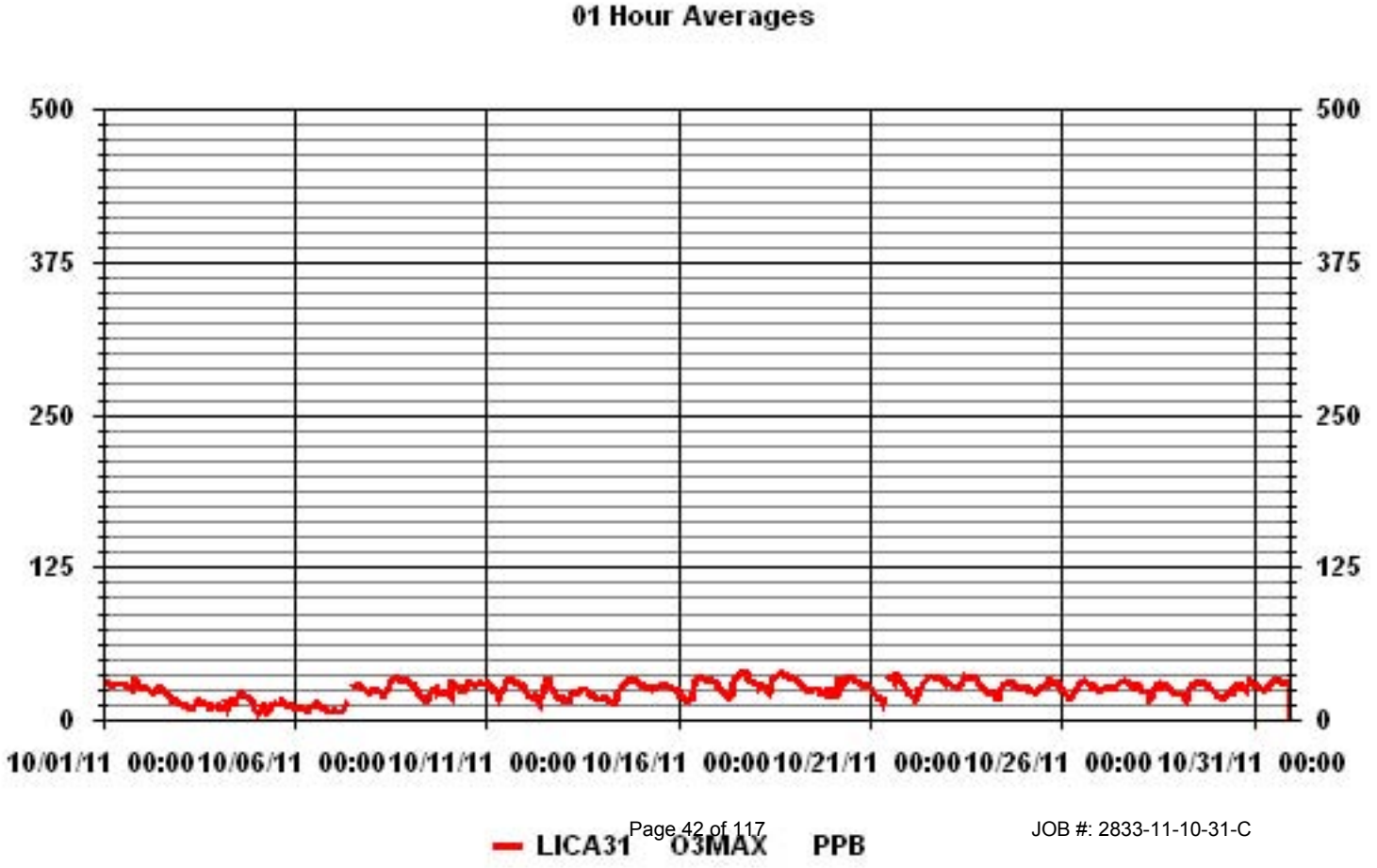
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	32	31	30	30	30	30	29	**IZS**	29	29	29	29	29	30	29	29	28	26	25	28	33	33	30	28	33	29.4	24
2	27	28	27	26	25	25	**IZS**	22	23	24	24	27	27	27	26	23	22	20	19	15	15	15	17	16	28	22.6	24
3	15	13	12	11	11	**IZS**	10	10	10	12	14	14	15	15	14	14	14	13	11	10	11	11	11	12	15	12.3	24
4	11	11	10	10	**IZS**	14	10	13	13	15	15	14	18	19	22	23	22	21	19	19	18	17	15	9	23	15.6	24
5	7	5	7	**IZS**	12	10	8	6	7	11	12	13	14	14	13	13	15	15	13	13	12	12	11	11	15	11.0	24
6	11	10	**IZS**	10	10	10	9	10	9	8	10	11	13	14	14	14	11	10	9	9	9	8	8	7	14	10.2	24
7	7	**IZS**	7	6	6	7	8	12	14	**C**	**C**	**C**	**C**	**C**	28	29	29	29	27	25	25	25	23	24	29	18.4	24
8	**IZS**	24	24	24	24	24	23	20	20	22	25	27	31	33	33	34	34	34	33	32	33	32	32	**IZS**	34	28.1	24
9	31	29	29	28	27	25	22	19	18	16	16	17	20	22	24	25	26	22	23	23	22	22	**IZS**	22	31	23.0	24
10	23	21	31	30	30	29	28	26	27	21	26	26	28	31	32	31	30	28	29	29	31	**IZS**	29	29	32	28.0	24
11	31	31	29	26	27	25	23	19	22	23	24	27	31	32	32	33	32	32	30	30	**IZS**	29	30	29	33	28.1	24
12	26	24	21	19	19	20	15	18	18	15	19	21	29	32	32	33	28	27	24	**IZS**	20	20	19	17	33	22.4	24
13	17	17	15	15	18	22	23	22	21	21	23	24	25	25	25	24	23	22	**IZS**	20	19	18	18	17	25	20.6	24
14	18	18	18	18	16	16	16	15	14	16	21	24	26	28	29	31	32	**IZS**	32	32	33	32	32	29	33	23.7	24
15	29	29	28	28	27	26	27	26	25	26	26	27	28	28	28	29	**IZS**	28	28	27	26	26	25	26	29	27.1	24
16	25	18	21	21	18	16	16	17	17	23	28	31	33	34	34	**IZS**	33	33	32	32	32	33	32	31	34	26.5	24
17	31	28	26	24	24	21	20	19	18	20	31	33	35	36	**IZS**	38	39	38	38	38	34	31	31	31	39	29.7	24
18	31	30	26	27	28	28	28	27	25	23	27	34	35	**IZS**	36	38	**40**	39	36	36	36	36	35	34	**40**	32.0	24
19	34	33	33	32	31	31	28	27	25	24	24	24	**IZS**	25	25	25	25	21	21	22	21	25	25	26	34	26.4	24
20	25	20	20	18	32	32	26	28	30	33	35	**IZS**	36	35	34	33	32	30	30	29	28	28	28	28	36	29.1	24
21	27	27	24	22	19	20	19	18	14	17	**IZS**	**M**	**P**	35	34	32	36	36	34	33	32	31	28	26	36	26.9	22
22	22	21	20	19	16	17	20	26	27	**IZS**	32	34	34	35	35	35	35	34	34	34	34	34	32	30	35	28.7	24
23	33	32	30	28	**P**	28	27	26	**IZS**	31	34	36	34	34	34	35	35	34	34	32	31	29	28	27	36	31.5	23
24	25	25	23	22	23	22	20	**IZS**	19	23	26	28	30	31	31	31	31	30	30	29	**P**	27	26	26	31	26.3	23
25	26	26	25	26	26	24	**IZS**	23	22	24	25	27	27	28	28	30	32	32	**P**	30	30	31	31	28	32	27.3	23
26	23	23	22	21	18	**IZS**	20	21	23	25	27	29	30	31	32	32	31	30	27	28	28	26	24	24	32	25.9	24
27	24	25	26	28	**IZS**	27	26	26	26	26	28	30	31	31	31	32	32	31	30	29	27	28	28	29	32	28.3	24
28	29	26	24	**IZS**	23	23	23	17	18	22	26	28	28	27	30	29	28	28	28	25	25	24	22	21	30	25.0	24
29	21	22	**IZS**	22	20	19	17	22	26	27	30	31	31	30	31	32	31	31	30	29	28	27	25	25	32	26.4	24
30	23	**IZS**	19	19	18	17	18	20	21	24	25	24	27	28	29	27	29	28	27	25	29	32	32	30	32	24.8	24
31	**IZS**	28	28	26	26	25	25	24	26	26	29	30	32	32	32	32	33	32	31	30	30	30	31	**IZS**	33	29.0	24
HOURLY MAX	34	33	33	32	32	32	29	28	30	33	35	36	36	36	36	38	40	39	38	38	36	36	35	34			
HOURLY AVG	23.6	23.3	22.6	21.9	21.6	21.8	20.1	20.0	20.2	21.6	24.5	25.7	27.8	28.3	28.6	28.9	28.9	27.8	27.0	26.4	25.9	25.7	25.3	23.9			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	701					
MAXIMUM INSTANTANEOUS VALUE:	40	PPB	@ HOUR(S)	16	ON DAY(S)	18
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		739	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION	7.24					



JOB #: 2833-11-10-31-C

LICA31
O3_ / WDR Joint Frequency Distribution (Percent)

October 2011

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : O3_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	5.09	3.25	3.68	3.25	4.53	5.66	3.54	4.81	6.94	6.09	6.51	7.93	13.17	15.15	6.23	4.10	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals		5.09	3.25	3.68	3.25	4.53	5.66	3.54	4.81	6.94	6.09	6.51	7.93	13.17	15.15	6.23	4.10	

Calm : .00 %

Total # Operational Hours : 706

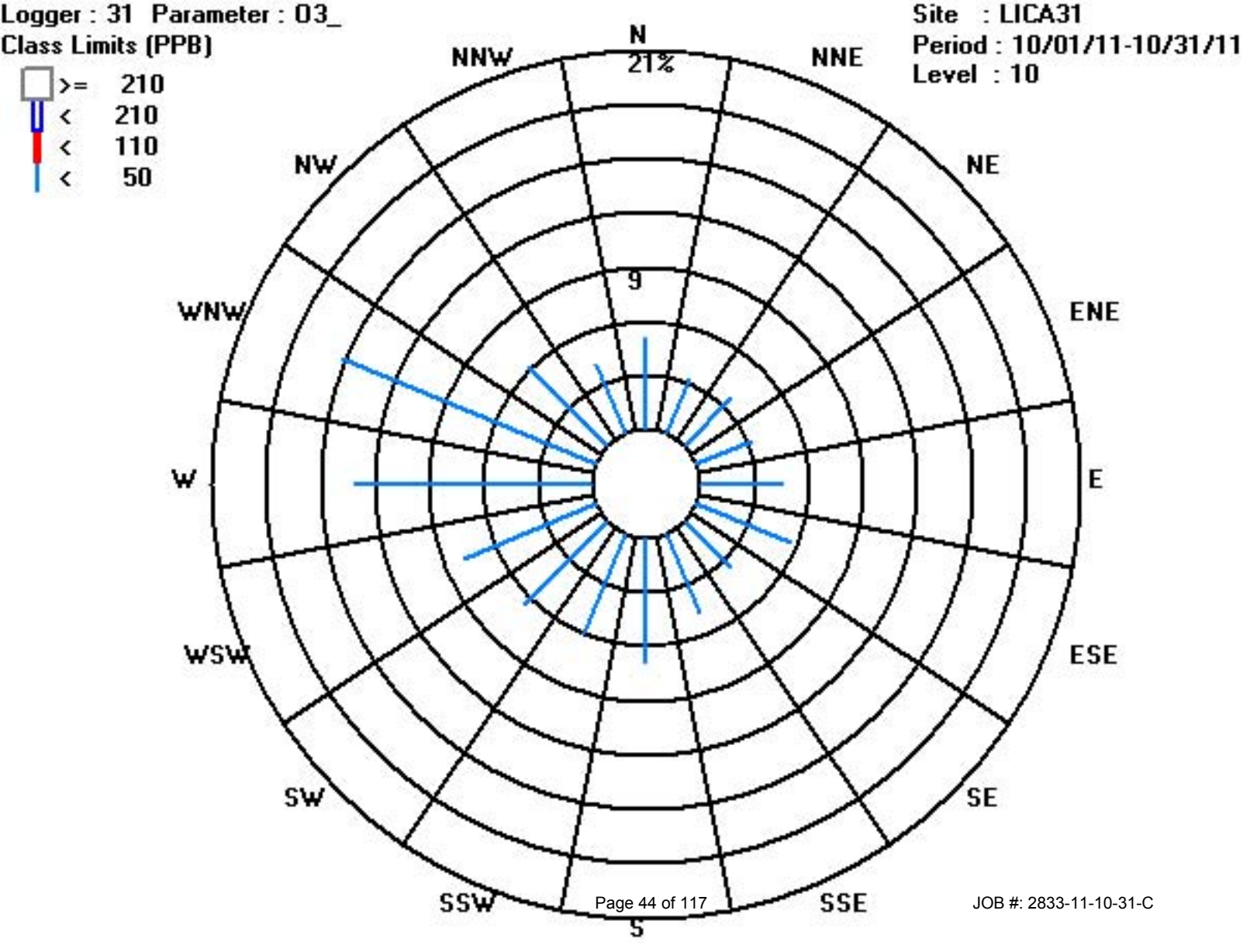
Distribution By Samples

Direction

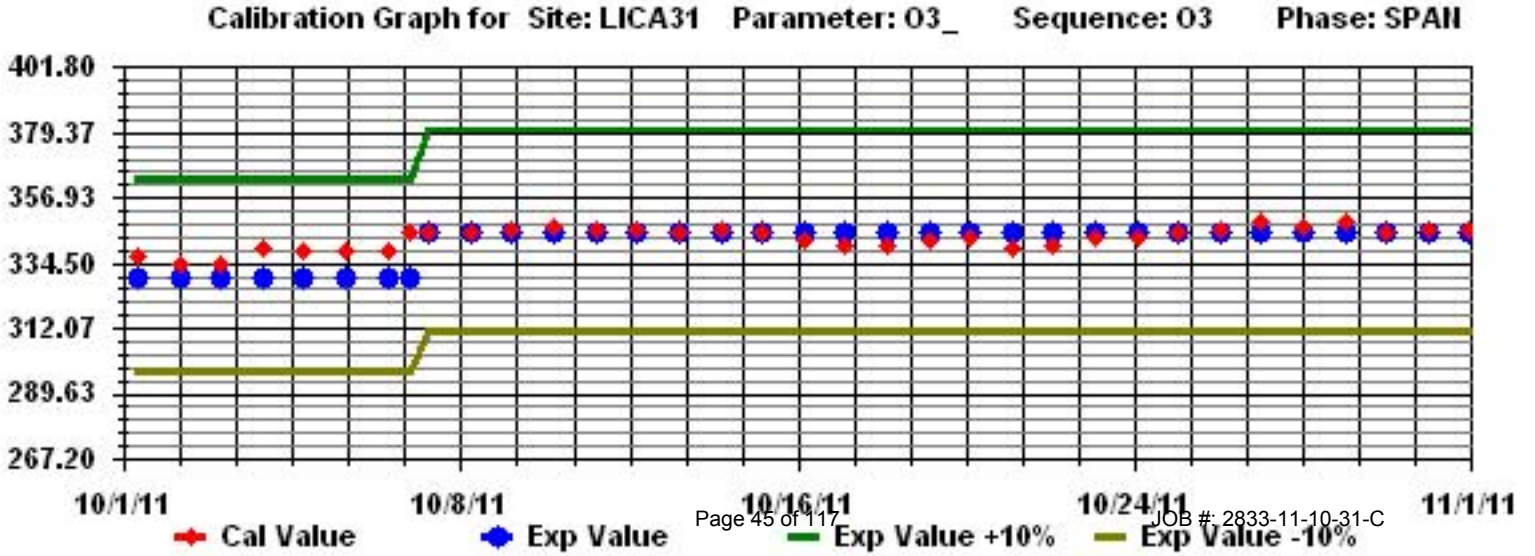
Limit		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	36	23	26	23	32	40	25	34	49	43	46	56	93	107	44	29	706
<	110																	
<	210																	
>=	210																	
Totals		36	23	26	23	32	40	25	34	49	43	46	56	93	107	44	29	

Calm : .00 %

Total # Operational Hours : 706



JOB #: 2833-11-10-31-C


Calibration Graph for Site: LICA31 Parameter: O3_ Sequence: O3 Phase: SPAN
401.80
379.37
356.93
334.50
312.07
289.63
267.20
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

OCTOBER 2011

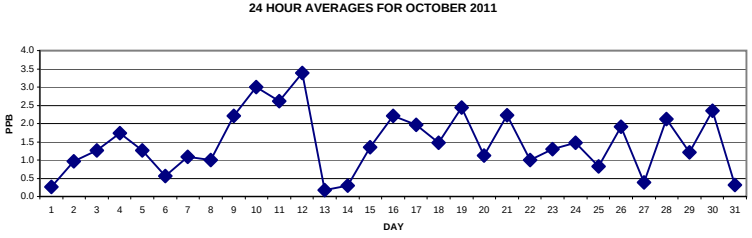
NITROGEN DIOXIDE hourly averages in ppb

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	0	1	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	3	1	1	0	0	0	0	3	0.3	24
2	1	1	1	1	1	1	**IZS**	0	1	0	1	0	0	0	0	0	1	1	2	2	2	2	2	2	2	1.0	24
3	3	2	3	2	2	**IZS**	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	3	1.3	24
4	1	1	1	1	**IZS**	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.7	24
5	2	2	2	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	2	1.3	24
6	1	0	**IZS**	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1	1	0.6	24
7	1	**IZS**	1	1	1	2	2	1	1	1	1	1	1	**M**	1	1	1	1	1	1	1	1	1	1	2	1.1	23
8	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1.0	24
9	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	**IZS**	3	3	2.2	24
10	4	5	3	3	2	2	3	3	3	2	2	3	3	3	2	2	3	3	3	6	3	**IZS**	3	3	6	3.0	24
11	3	2	3	5	3	4	4	**8**	6	4	3	2	1	1	1	1	1	1	2	2	**IZS**	1	1	1	**8**	2.6	24
12	3	4	5	5	4	4	6	5	4	5	4	3	3	2	2	2	3	3	4	**IZS**	2	2	2	1	6	**3.4**	24
13	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	1	0.2	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	2	2	0.3	24
15	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	2	1	2	2	2	2	1.3	24
16	3	3	3	4	6	5	4	4	4	4	3	2	2	1	1	**IZS**	0	0	0	0	0	0	1	1	6	2.2	24
17	2	2	2	2	2	3	3	5	5	4	2	1	1	0	**IZS**	0	0	0	0	1	2	3	3	2	5	2.0	24
18	2	2	3	2	2	1	1	2	3	2	2	1	0	**IZS**	1	1	1	1	2	1	1	1	1	1	3	1.5	24
19	1	2	1	1	1	1	1	2	2	2	2	2	**IZS**	2	2	2	3	4	4	4	5	5	4	3	5	2.4	24
20	3	3	3	4	2	1	2	1	0	0	0	**IZS**	0	0	0	0	0	1	1	1	1	1	1	1	4	1.1	24
21	1	1	2	2	3	3	2	3	4	4	**IZS**	3	**M**	1	2	3	2	1	2	2	2	2	2	2	4	2.2	23
22	2	2	2	2	3	3	2	2	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	1.0	24
23	1	1	2	2	2	1	1	1	**IZS**	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1.3	24
24	3	2	3	3	3	3	4	**IZS**	2	2	1	1	0	0	0	0	0	0	1	1	1	1	2	1	4	1.5	24
25	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	0	0	0	0	1	1	1	0	1	2	2	0.8	24
26	3	1	2	2	3	**IZS**	2	2	3	2	2	2	1	1	0	1	1	1	2	3	3	3	2	2	3	1.9	24
27	1	1	0	0	**IZS**	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0.4	24
28	0	1	1	**IZS**	2	1	2	4	5	4	2	2	2	3	2	1	2	2	2	2	2	2	2	3	5	2.1	24
29	3	3	**IZS**	2	3	3	3	3	1	1	1	0	0	0	0	0	0	1	0	0	1	1	1	1	3	1.2	24
30	2	**IZS**	5	5	3	3	3	2	2	2	2	2	2	2	2	3	3	2	3	3	2	1	0	0	5	2.3	24
31	**IZS**	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0.3	24
HOURLY MAX	4	5	5	5	6	5	6	8	6	5	4	3	3	3	2	3	3	4	4	6	5	5	4	3			
HOURLY AVG	1.8	1.7	1.9	1.9	1.9	1.7	1.8	2.0	1.9	1.8	1.3	1.2	0.9	0.9	0.9	0.9	1.0	1.2	1.5	1.5	1.4	1.4	1.4	1.5			

STATUS FLAG CODES

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



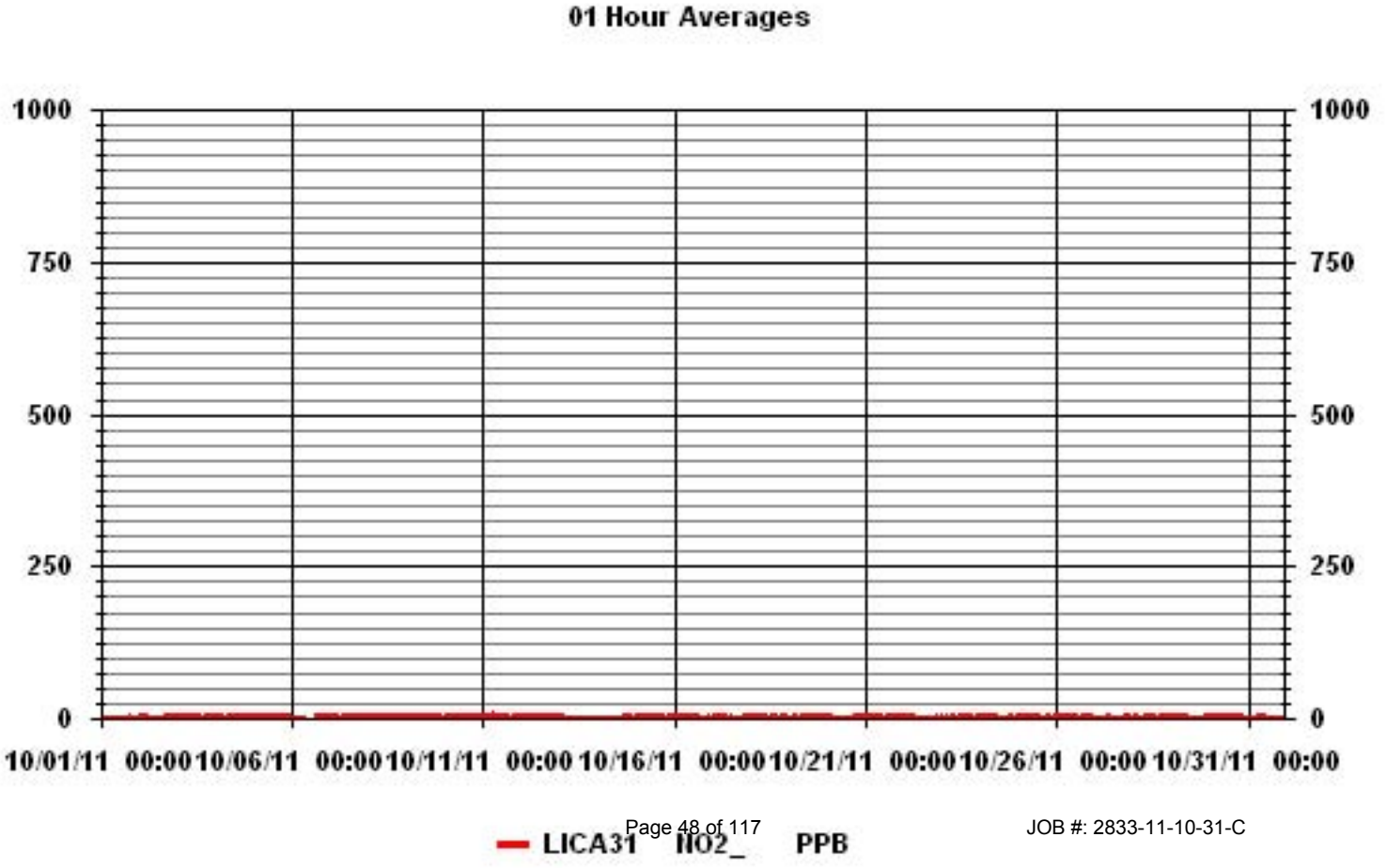
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 159 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	549					
MAXIMUM 1-HR AVERAGE:	8	PPB	@ HOUR(S)	7	ON DAY(S)	11
MAXIMUM 24-HR AVERAGE:	3.4	PPB			ON DAY(S)	12
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		742	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	1.24		MONTHLY AVERAGE:		1.48	PPB

JOB #: 2833-11-10-31-C



JOB #: 2833-11-10-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

OCTOBER 2011

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	**IZS**	0	1	1	1	1	1	1	1	1	8	2	2	2	1	1	1	8	1.4	24
2	2	2	2	2	2	2	**IZS**	1	2	1	2	1	1	1	1	1	1	2	3	3	3	3	3	3	3	1.9	24
3	4	3	4	3	3	**IZS**	1	1	2	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	4	1.7	24
4	2	2	1	2	**IZS**	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	2.3	24
5	3	3	3	**IZS**	2	2	2	2	2	2	2	2	1	1	1	2	2	2	3	3	3	2	2	1	3	2.1	24
6	1	1	**IZS**	1	1	1	1	1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	2	2	2	2	2	2	2	1.5	24
7	2	**IZS**	2	2	2	2	3	2	2	2	1	2	2	**M**	2	2	9	2	2	2	2	2	2	2	9	2.3	23
8	**IZS**	1	2	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	**IZS**	2	1.9	24
9	3	2	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	5	4	4	4	4	**IZS**	4	5	3.2	24
10	4	7	5	4	3	3	4	4	4	3	3	4	4	4	3	4	5	4	6	8	5	**IZS**	4	4	8	4.3	24
11	4	3	7	7	4	5	6	8	8	5	4	3	2	2	2	2	2	2	3	3	**IZS**	2	2	2	8	3.8	24
12	4	5	6	6	6	6	7	7	6	6	5	4	4	3	3	3	5	4	5	**IZS**	3	3	2	2	7	4.6	24
13	2	1	2	2	2	1	1	1	1	1	0	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	2	1.1	24
14	1	1	1	1	1	1	1	1	13	1	4	1	1	7	1	1	1	**IZS**	2	3	2	2	2	3	13	2.3	24
15	3	3	3	2	2	2	2	2	2	2	2	2	1	2	2	2	**IZS**	2	2	3	3	3	3	3	3	2.3	24
16	4	4	4	6	8	8	5	5	4	15	5	3	3	2	2	**IZS**	2	2	1	1	1	1	2	2	15	3.9	24
17	2	4	4	3	3	4	4	13	6	5	4	2	2	1	**IZS**	1	1	1	3	2	4	4	4	3	13	3.5	24
18	2	3	4	3	2	2	2	2	4	3	3	2	1	**IZS**	2	2	2	2	3	2	2	2	2	2	4	2.3	24
19	2	2	2	2	2	2	2	3	3	3	3	3	**IZS**	3	3	3	5	5	5	5	6	6	5	4	6	3.4	24
20	4	4	3	5	3	2	3	2	1	1	1	**IZS**	0	0	1	1	1	3	3	2	2	1	1	2	5	2.0	24
21	2	2	4	3	4	4	3	4	5	5	**IZS**	**P**	**M**	2	14	4	4	2	2	3	3	3	3	3	14	3.8	22
22	3	3	3	4	4	4	3	2	2	**IZS**	1	1	1	1	1	1	1	1	3	1	2	3	3	3	4	2.2	24
23	2	2	3	3	**P**	2	2	3	**IZS**	3	2	2	2	2	2	2	2	2	3	2	2	2	3	3	3	2.3	23
24	3	3	4	5	3	4	5	**IZS**	3	3	2	1	1	4	1	1	2	2	2	2	**P**	2	2	2	5	2.6	23
25	2	2	2	2	1	2	**IZS**	1	2	2	2	1	1	1	1	1	1	1	**P**	**40**	1	1	2	3	**40**	3.3	23
26	4	2	2	4	4	**IZS**	3	4	4	3	3	3	2	1	1	1	18	2	3	4	4	4	3	3	18	3.6	24
27	2	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	0	1	1	2	2	1	1	1	2	1.1	24
28	1	2	2	**IZS**	3	3	4	7	6	5	3	2	3	3	3	2	3	3	3	3	3	3	3	3	7	3.2	24
29	4	4	**IZS**	3	3	4	4	3	2	8	2	1	1	1	1	1	1	2	1	1	1	2	2	2	8	2.3	24
30	4	**IZS**	7	6	4	4	3	4	3	3	4	3	3	3	3	4	4	4	4	4	4	2	1	1	7	3.6	24
31	**IZS**	1	1	1	1	1	1	2	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	3	1.2	24
HOURLY MAX	4	7	7	7	8	8	7	13	13	15	5	4	4	7	14	4	18	8	6	40	6	6	5	4			
HOURLY AVG	2.7	2.6	3.0	3.0	2.8	2.8	2.8	3.2	3.3	3.3	2.4	2.0	1.7	2.0	2.1	1.9	2.9	2.5	2.7	3.8	2.6	2.3	2.3	2.4			

STATUS FLAG CODES

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

MONTHLY SUMMARY

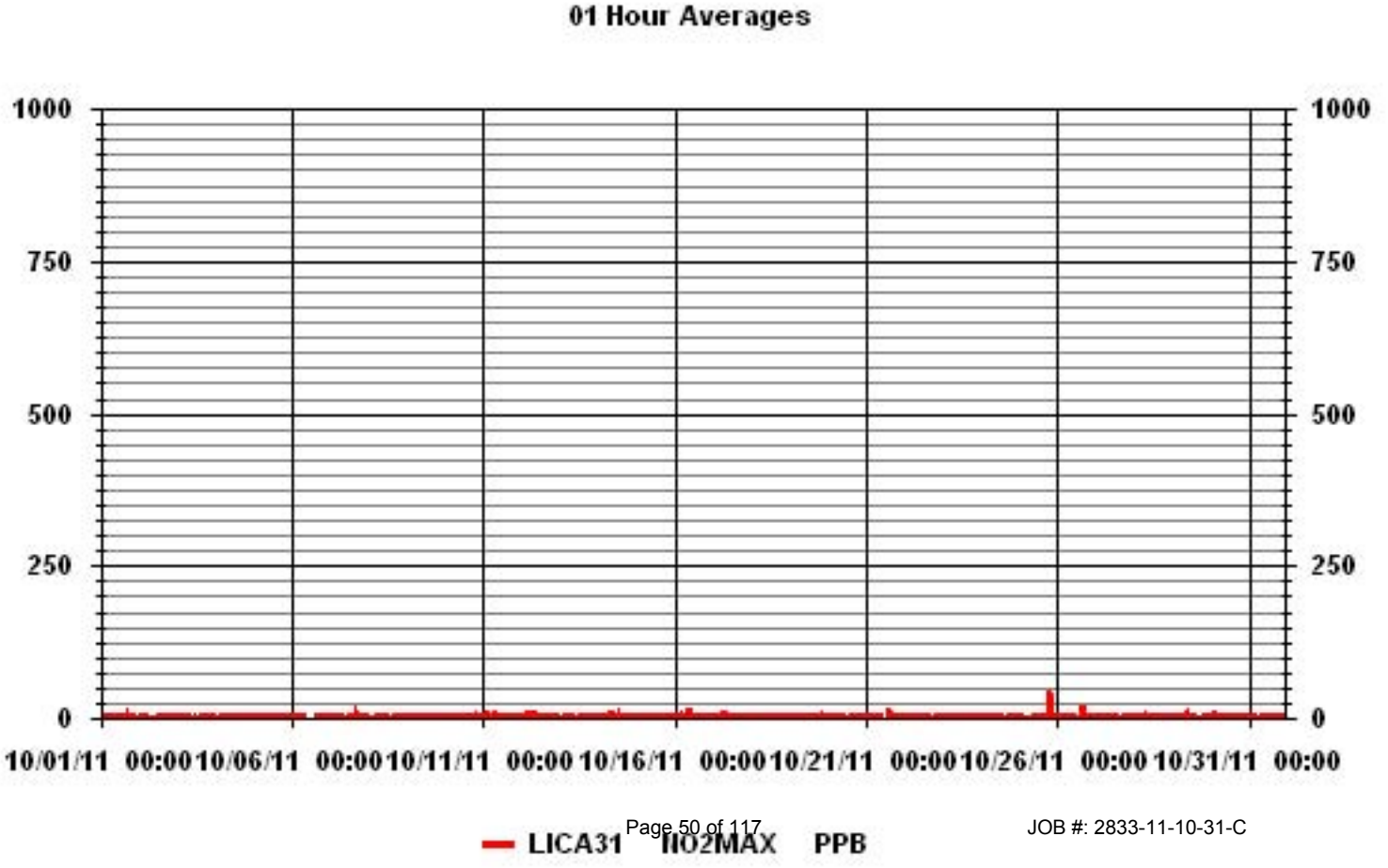
NUMBER OF NON-ZERO READINGS: 693

MAXIMUM INSTANTANEOUS VALUE: 40 PPB @ HOUR(S) 19 ON DAY(S) 25

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 738 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION 2.27



JOB #: 2833-11-10-31-C

LICA31
NO2_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	5.12	3.27	3.70	3.27	4.55	5.69	3.56	4.70	6.41	5.84	6.83	8.11	13.24	15.24	6.26	4.13	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.12	3.27	3.70	3.27	4.55	5.69	3.56	4.70	6.41	5.84	6.83	8.11	13.24	15.24	6.26	4.13	

Calm : .00 %

Total # Operational Hours : 702

Distribution By Samples

Direction

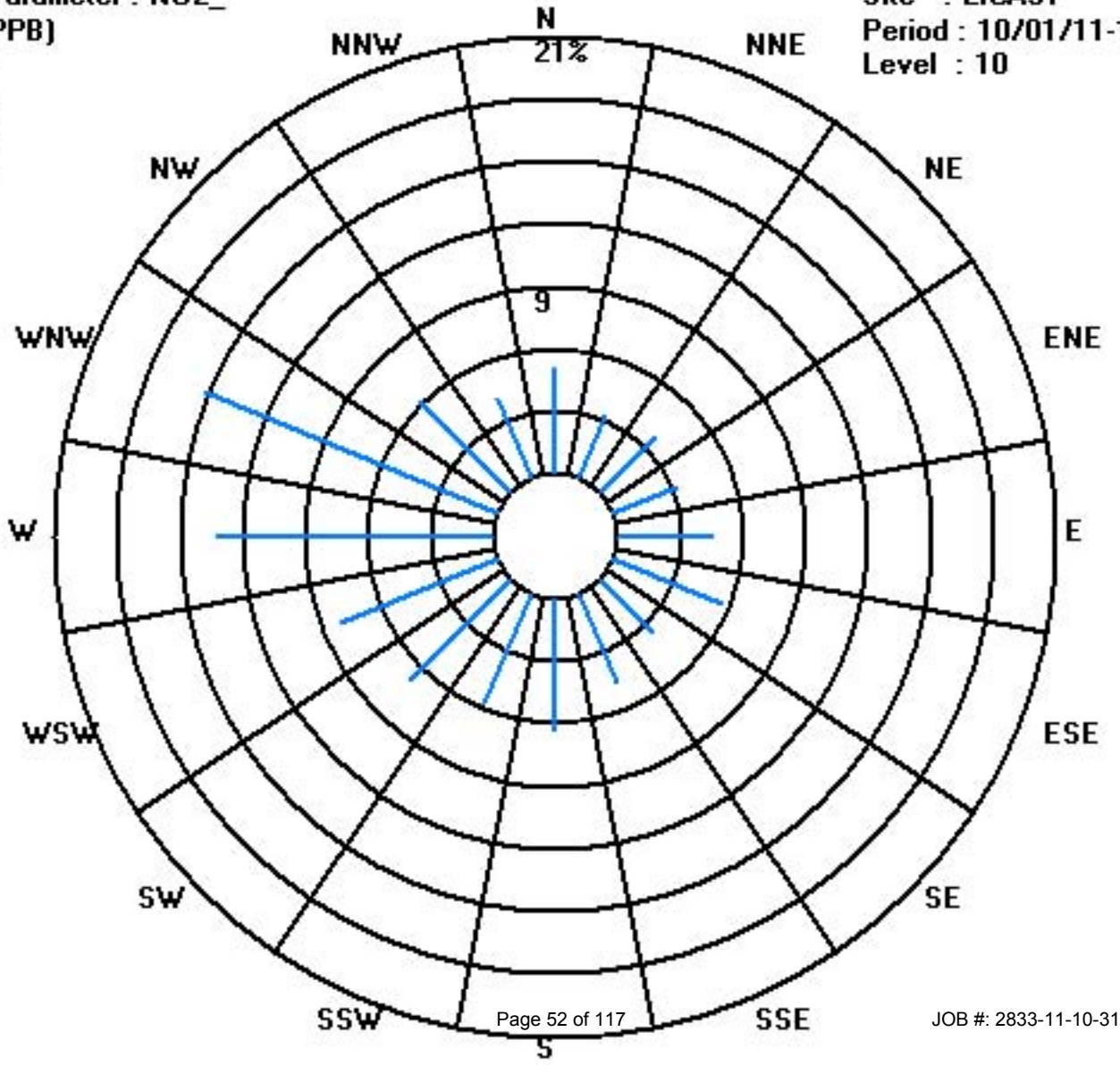
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	36	23	26	23	32	40	25	33	45	41	48	57	93	107	44	29	702
<	110																	
<	210																	
>=	210																	
	Totals	36	23	26	23	32	40	25	33	45	41	48	57	93	107	44	29	

Calm : .00 %

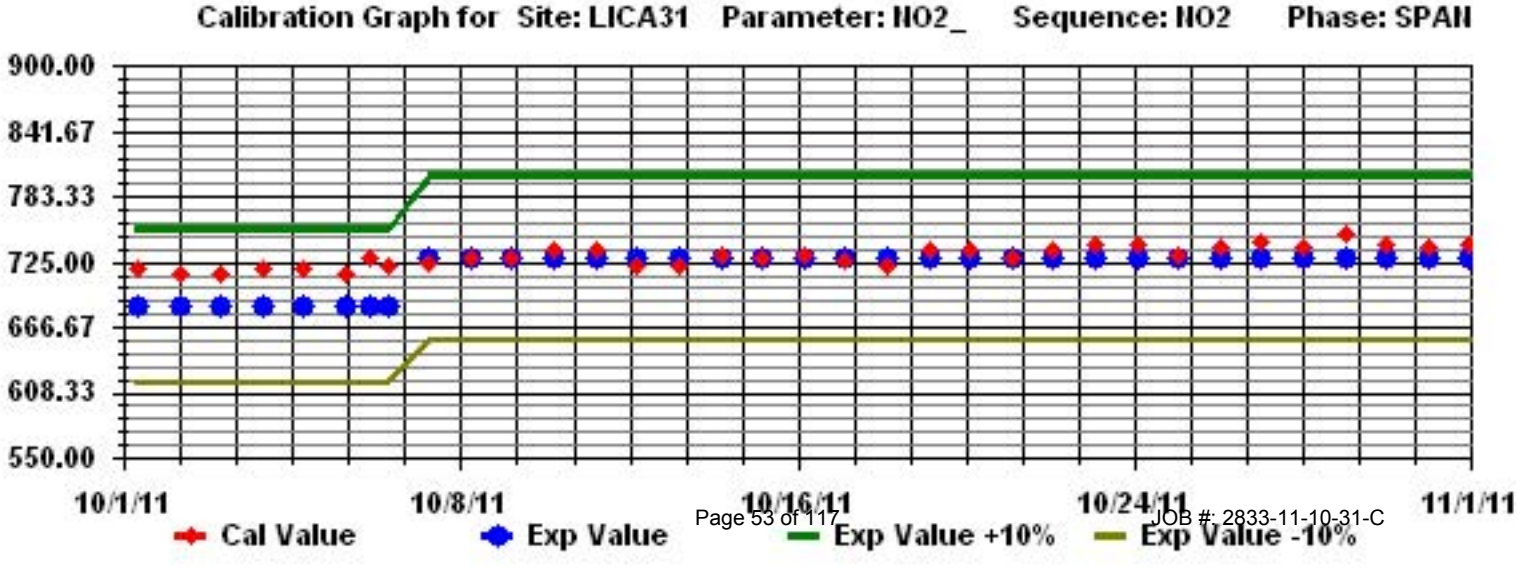
Total # Operational Hours : 702

Logger : 31 Parameter : NO2_
Class Limits (PPB)
>= 210
< 210
< 110
< 50

Site : LICA31
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-31-C


Calibration Graph for Site: LICA31 Parameter: NO2_ Sequence: NO2 Phase: SPAN
900.00
841.67
783.33
725.00
666.67
608.33
550.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSCOICATION - ST. LINA

OCTOBER 2011

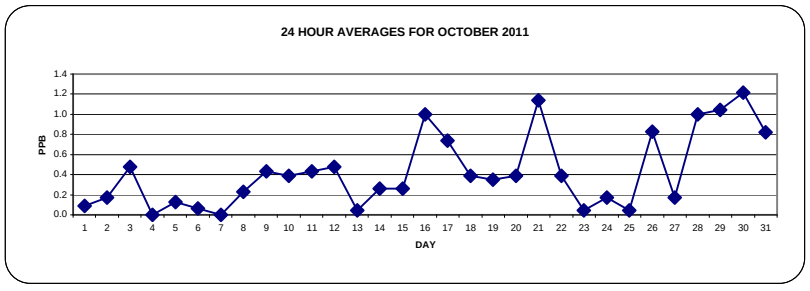
NITRIC OXIDE hourly averages in ppb

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

STATUS FLAG CODES

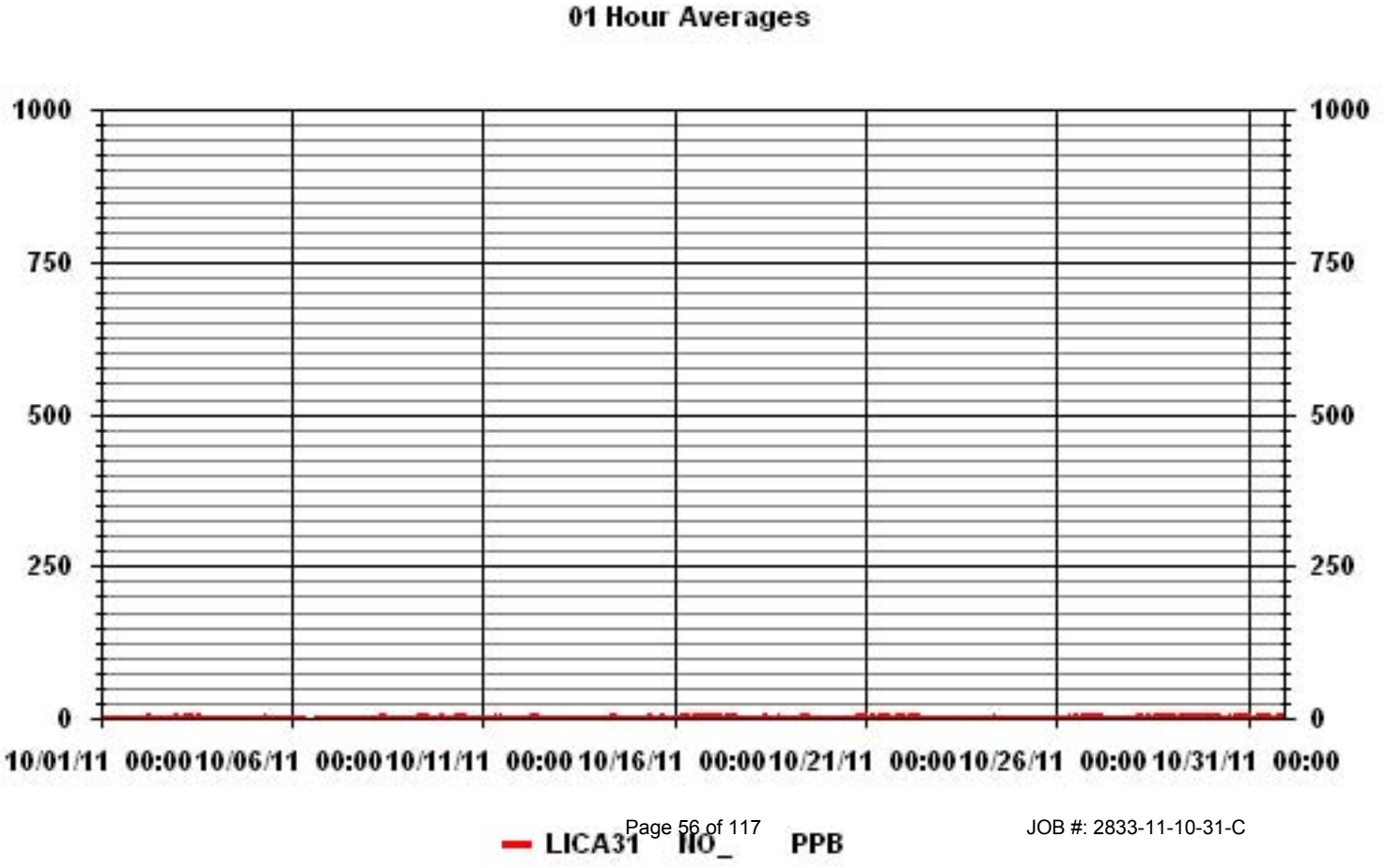
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	269						
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	9, 9	ON DAY(S)	16, 17	
MAXIMUM 24-HR AVERAGE:	1.2	PPB			ON DAY(S)	30	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		742	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		99.7	%	
STANDARD DEVIATION:	0.59		MONTHLY AVERAGE:		0.43	PPB	

JOB #: 2833-11-10-31-C



JOB #: 2833-11-10-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

OCTOBER 2011

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	1	1	1	1	**IZS**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
2	1	1	1	1	1	1	**IZS**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
3	1	1	1	1	1	**IZS**	2	1	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	24
4	1	1	1	1	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
5	0	0	0	**IZS**	2	1	1	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.1	24
6	1	1	**IZS**	1	1	1	1	1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	1	1	1	1	3	1	1	3	1.2	24
7	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	**M**	1	1	12	1	1	1	1	1	1	1	12	1.5	23
8	**IZS**	2	1	1	1	1	1	2	2	2	1	2	2	1	1	1	2	1	1	1	1	1	1	**IZS**	2	1.3	24
9	2	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	**IZS**	2	2	1.3	24
10	1	1	1	1	1	1	1	1	2	2	2	2	3	2	1	1	1	1	1	1	1	**IZS**	2	1	3	1.3	24
11	1	1	1	1	1	1	2	3	3	3	2	2	1	1	1	1	1	1	1	1	**IZS**	2	1	1	3	1.4	24
12	1	1	1	1	1	1	1	1	2	3	2	2	2	1	1	1	1	1	1	**IZS**	2	1	1	1	3	1.3	24
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	3	1	1	2	1	3	1.1	24
14	1	1	1	1	1	1	1	1	20	2	3	2	2	4	1	1	1	**IZS**	3	2	1	1	1	1	20	2.3	24
15	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	**IZS**	2	2	1	1	1	1	1	2	1.2	24
16	1	1	1	1	1	1	1	2	3	22	3	2	2	1	1	**IZS**	2	2	2	1	1	1	1	1	22	2.3	24
17	1	1	1	1	1	1	1	10	3	4	3	2	1	1	**IZS**	2	0	0	0	0	2	0	0	1	10	1.6	24
18	0	0	0	0	0	0	0	1	3	2	2	1	1	**IZS**	3	1	1	1	1	1	1	1	1	1	3	1.0	24
19	1	1	1	1	1	1	1	1	2	2	2	2	**IZS**	3	1	1	1	1	1	1	1	0	0	0	3	1.1	24
20	0	1	0	0	0	0	1	0	0	0	0	**IZS**	2	1	1	1	2	2	2	1	2	1	1	1	2	0.8	24
21	2	2	1	2	2	1	2	2	6	4	**IZS**	**P**	**M**	2	16	2	2	1	1	1	1	1	2	1	16	2.6	22
22	1	1	1	1	1	1	2	2	2	**IZS**	2	0	0	1	0	0	0	0	1	0	0	0	0	1	2	0.7	24
23	0	0	1	0	**P**	0	0	3	**IZS**	3	1	1	0	1	1	0	0	0	1	0	1	1	0	0	3	0.6	23
24	1	0	0	1	0	1	2	**IZS**	3	2	2	1	1	8	1	0	1	1	1	0	**P**	0	0	1	8	1.2	23
25	0	0	0	0	0	0	**IZS**	2	1	1	1	1	1	1	1	0	1	0	**P**	**32**	0	1	0	0	**32**	2.0	23
26	0	1	0	1	1	**IZS**	3	2	2	2	2	2	2	2	2	1	20	1	1	2	1	3	1	2	20	2.3	24
27	1	1	1	1	**IZS**	2	0	1	0	1	1	1	1	0	0	0	0	0	0	1	0	1	0	0	2	0.6	24
28	0	0	0	**IZS**	3	2	1	2	2	3	2	2	2	2	2	1	1	1	1	1	1	1	2	2	3	1.5	24
29	2	1	**IZS**	3	2	2	2	2	2	12	2	2	2	1	1	1	1	2	1	1	1	2	2	1	12	2.1	24
30	1	**IZS**	3	2	2	2	2	2	2	2	2	2	3	2	2	2	2	1	1	1	2	2	1	1	3	1.8	24
31	**IZS**	2	1	1	2	2	2	1	2	3	2	2	2	1	2	1	1	1	1	2	1	2	2	**IZS**	3	1.6	24
HOURLY MAX	2	2	3	3	3	2	3	10	20	22	3	2	3	8	16	2	20	2	3	32	2	3	2	2			
HOURLY AVG	0.9	0.9	0.8	1.0	1.1	1.0	1.2	1.8	2.6	2.9	1.6	1.5	1.4	1.6	1.6	0.9	2.0	0.9	1.1	2.0	1.0	1.1	0.9	0.9			

STATUS FLAG CODES

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

MONTHLY SUMMARY

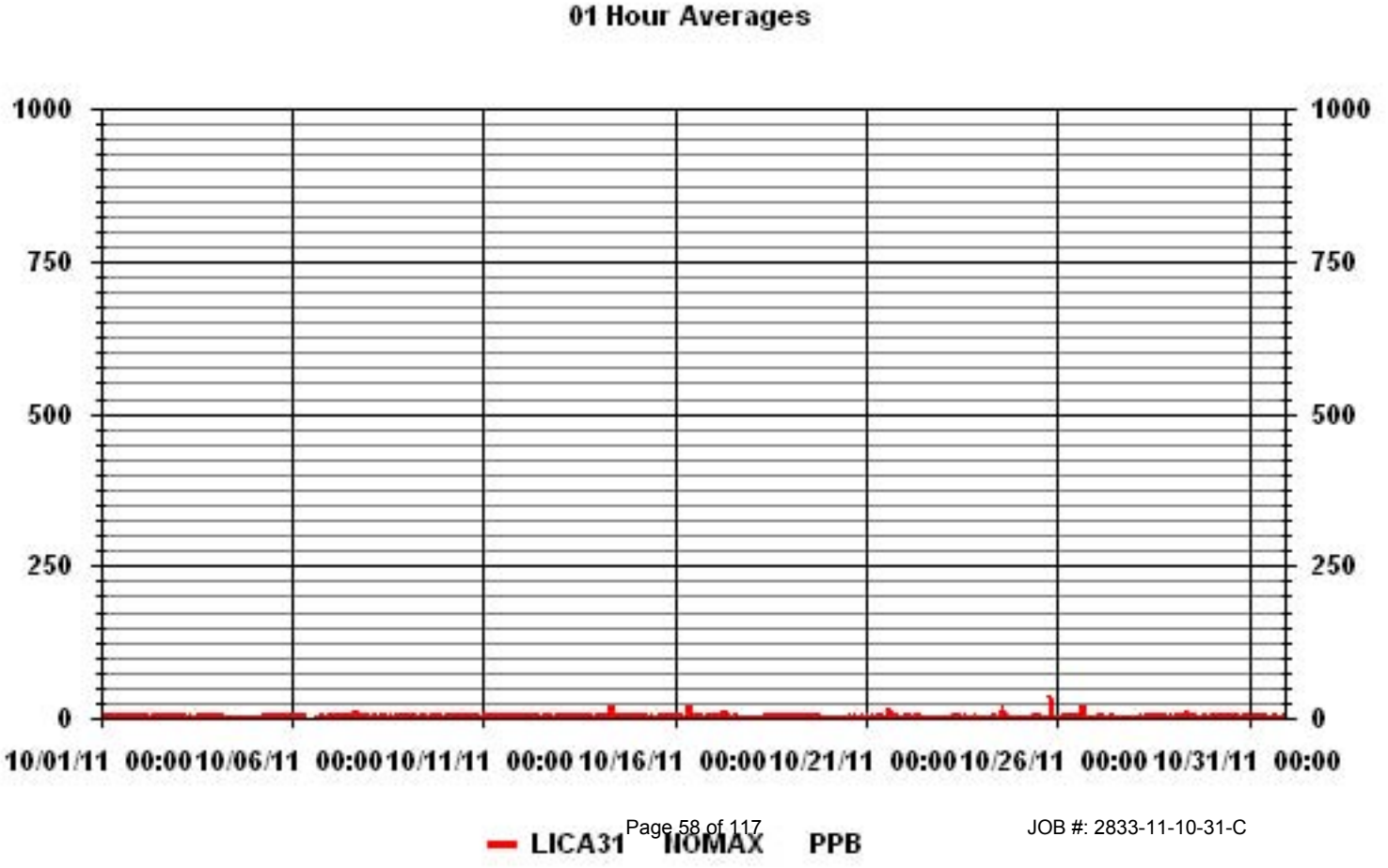
NUMBER OF NON-ZERO READINGS: 596

MAXIMUM INSTANTANEOUS VALUE: 32 PPB @ HOUR(S) 19 ON DAY(S) 25

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 738 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION 2.09



JOB #: 2833-11-10-31-C

LICA31
NO_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	5.12	3.27	3.70	3.27	4.55	5.69	3.56	4.70	6.41	5.84	6.83	8.11	13.24	15.24	6.26	4.13	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.12	3.27	3.70	3.27	4.55	5.69	3.56	4.70	6.41	5.84	6.83	8.11	13.24	15.24	6.26	4.13	

Calm : .00 %

Total # Operational Hours : 702

Distribution By Samples

Direction

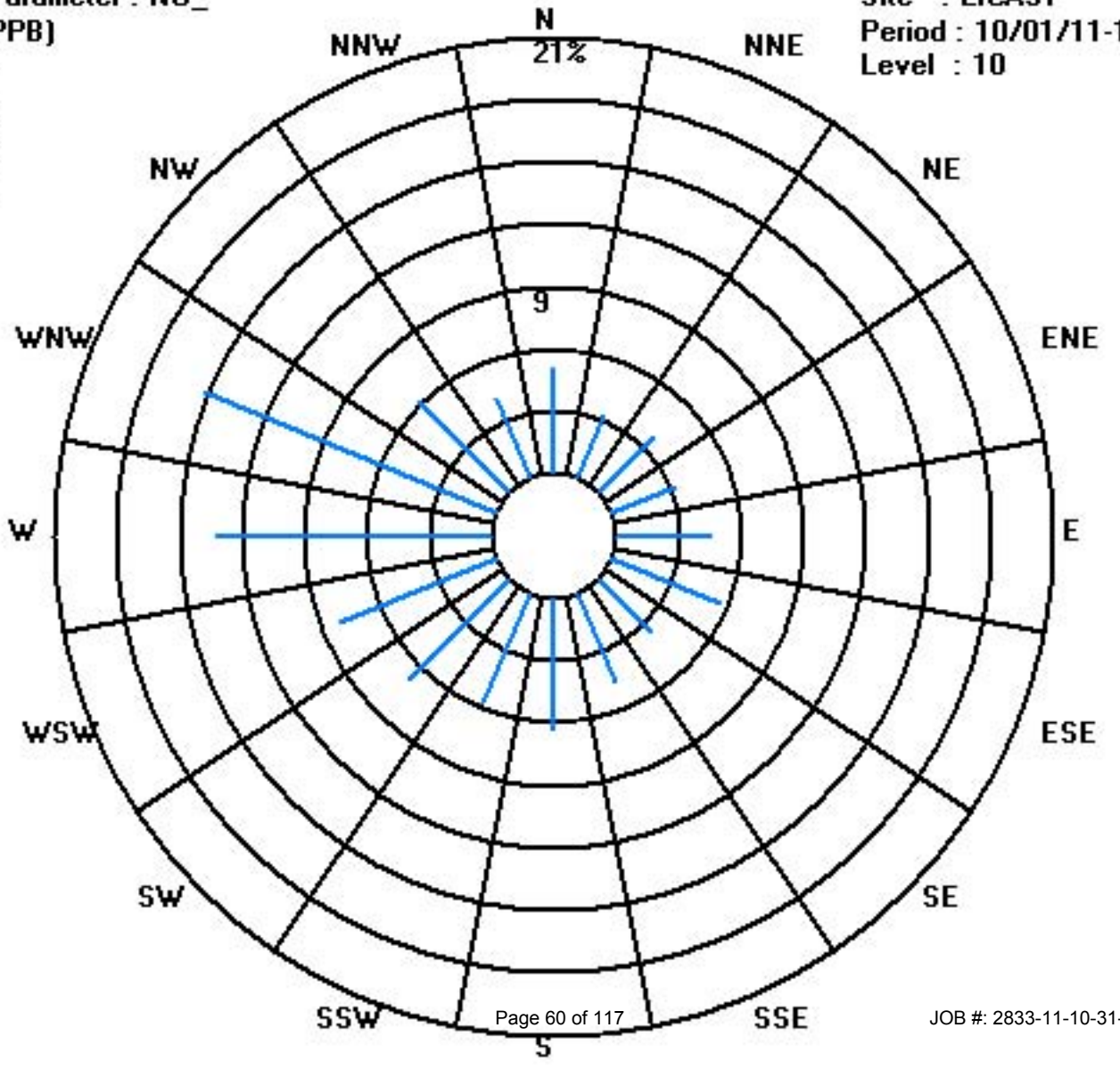
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	36	23	26	23	32	40	25	33	45	41	48	57	93	107	44	29	702
<	110																	
<	210																	
>=	210																	
	Totals	36	23	26	23	32	40	25	33	45	41	48	57	93	107	44	29	

Calm : .00 %

Total # Operational Hours : 702

Logger : 31 Parameter : NO_
Class Limits (PPB)
>= 210
< 210
< 110
< 50

Site : LICA31
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-31-C

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

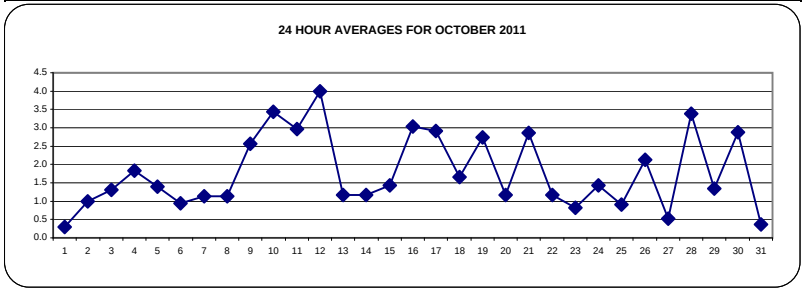
OCTOBER 2011

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	1	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	3	1	1	0	0	0	1	3	0.3	24
2	1	1	1	1	1	1	**IZS**	1	1	0	1	1	0	0	0	0	0	1	2	2	2	2	2	2	2	1.0	24
3	3	2	3	2	2	**IZS**	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	3	1.3	24
4	1	1	1	1	**IZS**	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.8	24
5	2	2	2	**IZS**	2	1	1	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	2	1.4	24
6	1	0	**IZS**	1	1	1	1	1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1	1	0.9	24
7	1	**IZS**	2	2	1	2	1	1	1	1	1	1	1	**M**	1	1	1	1	1	1	1	1	1	1	2	1.1	23
8	**IZS**	1	1	1	1	1	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	**IZS**	2	1.1	24
9	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2	2	3	3	3	3	3	**IZS**	4	4	2.6	24
10	4	5	3	3	2	2	3	4	4	3	3	3	4	4	3	3	4	3	3	6	3	**IZS**	4	3	6	3.4	24
11	3	2	4	5	3	4	4	**9**	8	5	4	3	1	1	1	1	1	1	2	2	**IZS**	2	1	1	**9**	3.0	24
12	3	4	5	5	5	5	6	5	6	7	5	4	4	2	2	2	3	3	4	**IZS**	4	3	3	2	7	**4.0**	24
13	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	2	1.2	24
14	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	**IZS**	2	1	1	1	1	2	2	1.2	24
15	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	2	1	2	2	2	2	2	2	1.4	24
16	3	3	3	4	7	6	5	4	5	6	5	3	2	1	1	**IZS**	2	2	1	1	1	1	2	2	7	3.0	24
17	2	3	3	3	3	4	4	7	7	8	5	3	2	2	**IZS**	0	0	0	0	1	2	3	3	2	8	2.9	24
18	2	2	3	2	2	1	1	2	4	3	3	1	1	**IZS**	2	1	0	1	2	1	1	1	1	1	4	1.7	24
19	1	1	1	1	1	1	1	2	3	3	3	3	**IZS**	4	3	3	4	4	4	4	5	5	3	3	5	2.7	24
20	3	3	3	4	2	1	2	1	0	0	0	**IZS**	0	0	0	0	1	1	1	1	1	1	1	1	4	1.2	24
21	1	1	1	3	3	3	3	4	6	7	**IZS**	5	**M**	2	3	4	3	1	2	2	2	2	3	2	7	2.9	23
22	2	2	2	3	3	3	3	2	2	**IZS**	1	0	0	0	0	0	0	0	0	0	0	1	1	2	3	1.2	24
23	1	1	2	2	2	1	1	2	**IZS**	2	1	0	0	0	0	0	0	0	0	0	0	1	1	2	2	0.8	24
24	2	1	2	3	2	2	3	**IZS**	4	3	2	1	0	0	0	0	0	1	1	1	1	1	2	1	4	1.4	24
25	1	1	1	1	1	1	**IZS**	2	2	2	1	1	1	1	1	0	0	0	1	1	0	0	0	2	2	0.9	24
26	3	2	2	2	3	**IZS**	3	3	3	3	3	2	1	1	0	0	2	1	2	3	3	3	2	2	3	2.1	24
27	1	1	1	0	**IZS**	1	0	1	1	1	1	1	0	0	0	0	0	0	0	1	1	0	1	0	1	0.5	24
28	0	1	1	**IZS**	3	3	3	6	7	6	4	3	4	4	3	3	3	3	3	3	3	4	4	4	7	3.4	24
29	4	4	**IZS**	3	3	3	3	3	1	1	1	0	0	0	0	0	0	1	0	0	1	1	1	1	4	1.3	24
30	2	**IZS**	7	5	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	1	0	0	7	2.9	24
31	**IZS**	0	0	0	0	1	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	2	0.4	24
HOURLY MAX	4	5	7	5	7	6	6	9	8	8	5	5	4	4	3	4	4	4	4	6	5	5	4	4			
HOURLY AVG	1.9	1.8	2.1	2.2	2.1	2.0	2.1	2.6	2.8	2.7	2.0	1.8	1.3	1.3	1.2	1.1	1.2	1.4	1.5	1.6	1.6	1.5	1.5	1.7			

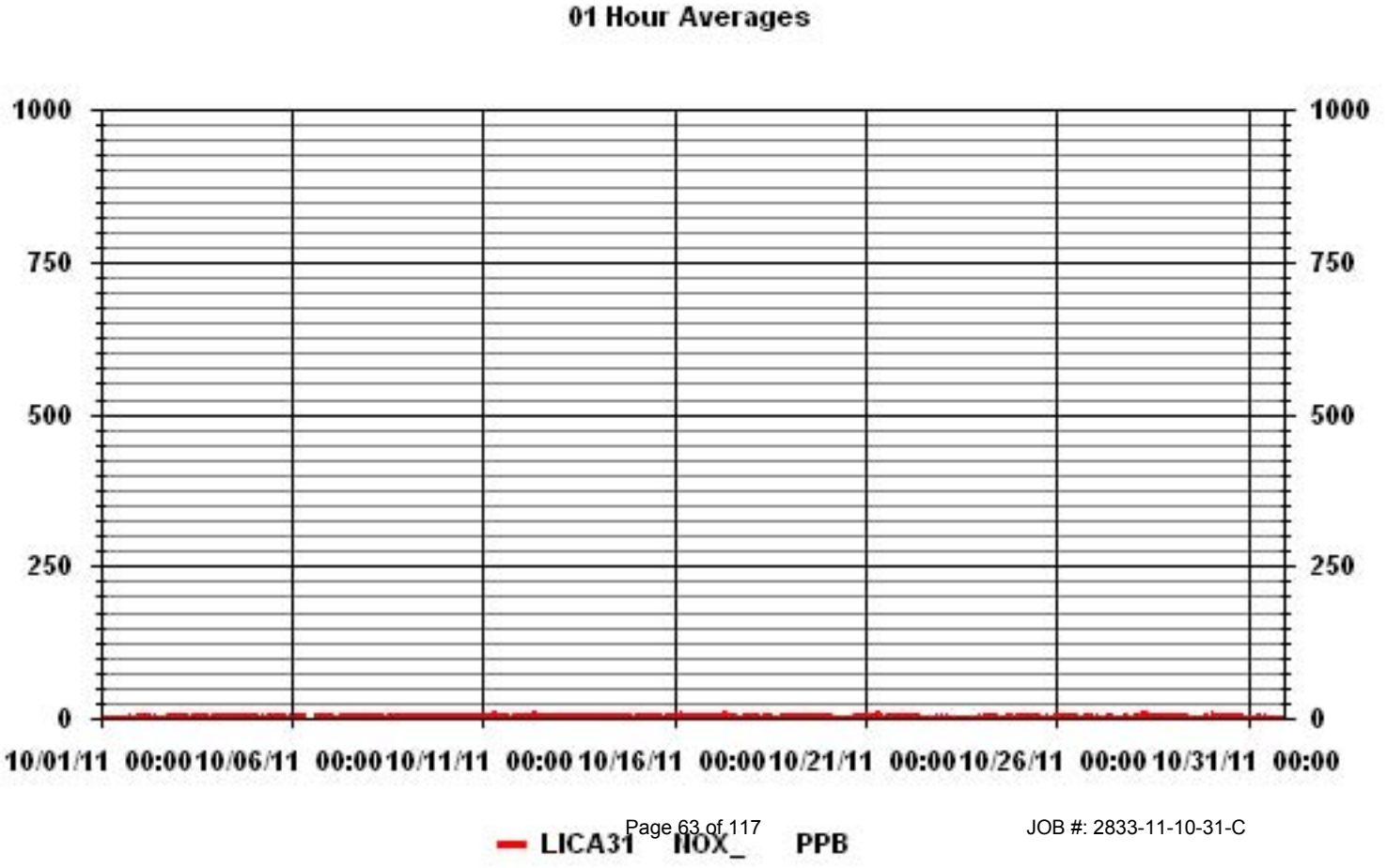
STATUS FLAG CODES

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:	594						
MAXIMUM 1-HR AVERAGE:	9	PPB	@ HOUR(S)	7	ON DAY(S)	11	
MAXIMUM 24-HR AVERAGE:	4.0	PPB			ON DAY(S)	12	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		742	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		99.7	%	
STANDARD DEVIATION:	1.47		MONTHLY AVERAGE:		1.79	PPB	



JOB #: 2833-11-10-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

OCTOBER 2011

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

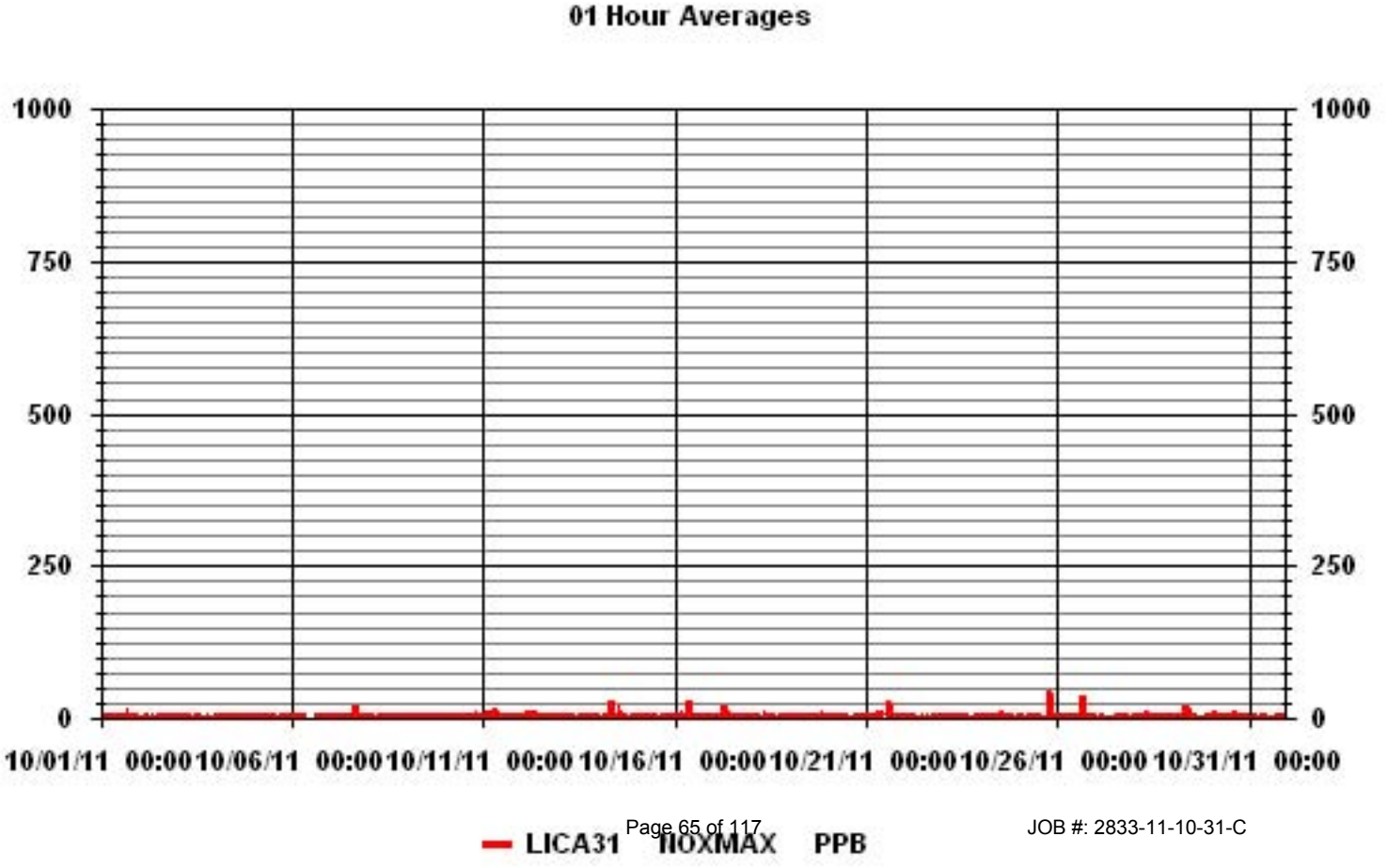
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	8	2	2	2	1	1	1	8	1.4	24
2	1	2	1	2	2	2	**IZS**	2	1	1	2	1	1	1	1	1	1	1	2	3	3	3	3	3	3	1.7	24
3	4	3	4	3	3	**IZS**	2	2	3	2	1	2	2	2	2	2	1	2	1	2	2	1	1	2	4	2.1	24
4	2	2	2	2	**IZS**	3	2	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.7	24
5	3	3	3	**IZS**	3	2	2	4	4	2	2	2	2	1	1	2	1	2	3	3	3	2	2	1	4	2.3	24
6	1	1	**IZS**	2	2	2	2	2	2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	2	2	3	3	2	2	3	2.0	24
7	2	**IZS**	2	2	2	3	2	2	3	2	2	2	2	**M**	2	2	20	2	3	3	2	2	2	2	20	3.0	23
8	**IZS**	2	2	2	2	1	2	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	**IZS**	3	2.2	24
9	3	3	3	3	2	3	3	3	3	4	4	4	4	4	3	3	3	5	4	4	4	4	**IZS**	5	5	3.5	24
10	5	7	5	4	3	3	4	5	5	3	3	5	6	5	4	4	5	4	6	8	4	**IZS**	5	4	8	4.7	24
11	5	3	7	7	4	5	7	10	10	7	5	5	2	2	2	2	2	2	3	3	**IZS**	3	2	2	10	4.3	24
12	4	5	6	6	6	6	7	7	8	8	6	5	5	3	4	3	5	4	5	**IZS**	5	4	3	3	8	5.1	24
13	3	2	3	3	2	2	2	2	2	2	1	2	2	2	2	2	2	2	**IZS**	3	2	2	3	2	3	2.2	24
14	2	2	1	2	2	2	2	3	30	2	8	2	3	9	2	2	2	**IZS**	3	4	2	2	2	2	30	4.0	24
15	2	3	2	3	2	2	2	2	3	2	2	2	2	2	1	2	**IZS**	3	3	3	3	3	3	3	3	2.4	24
16	4	3	4	6	8	8	6	5	6	30	7	4	3	2	2	**IZS**	4	4	3	2	2	2	3	3	30	5.3	24
17	3	5	5	3	4	5	5	21	8	9	7	4	3	3	**IZS**	1	1	2	3	2	5	4	4	4	21	4.8	24
18	2	3	4	3	3	2	2	3	7	4	5	3	2	**IZS**	4	2	1	3	3	2	2	2	2	2	7	2.9	24
19	2	2	2	2	2	2	2	3	4	4	5	4	**IZS**	5	4	4	5	5	5	5	6	6	5	4	6	3.8	24
20	4	4	4	4	3	2	3	2	1	1	1	**IZS**	1	1	2	1	2	4	4	2	2	1	1	2	4	2.3	24
21	2	2	3	3	4	4	4	5	10	8	**IZS**	**P**	**M**	4	28	5	5	2	2	3	3	3	3	3	28	5.0	22
22	3	3	3	4	4	4	4	3	2	**IZS**	2	1	1	2	1	1	2	1	4	1	2	2	3	3	4	2.4	24
23	2	2	3	4	**P**	2	2	6	**IZS**	4	1	1	1	1	1	1	1	1	3	1	2	2	2	2	6	2.0	23
24	3	2	3	4	3	3	6	**IZS**	6	4	3	3	1	12	1	1	2	2	2	2	**P**	2	3	2	12	3.2	23
25	2	3	2	2	1	2	**IZS**	3	3	3	2	2	2	2	2	1	2	1	**P**	**40**	1	1	2	3	**40**	3.7	23
26	4	2	2	4	5	**IZS**	4	4	4	4	4	4	2	2	1	1	36	2	3	4	4	6	3	3	36	4.7	24
27	2	2	1	1	**IZS**	2	1	2	1	2	1	2	1	1	1	1	1	1	1	2	2	2	1	1	2	1.4	24
28	1	2	2	**IZS**	4	4	5	8	8	7	5	4	5	5	5	3	4	4	4	4	4	4	5	5	8	4.4	24
29	5	5	**IZS**	3	4	4	4	4	3	19	3	1	1	1	1	1	1	2	1	2	1	3	3	2	19	3.2	24
30	4	**IZS**	7	6	4	4	4	4	4	5	4	4	4	4	4	6	6	4	5	4	4	1	1	1	7	4.1	24
31	**IZS**	2	1	1	2	2	1	2	2	4	2	2	2	1	2	1	0	1	1	1	1	1	1	**IZS**	4	1.5	24
HOURLY MAX	5	7	7	7	8	8	7	21	30	30	8	5	6	12	28	6	36	8	6	40	6	6	5	5			
HOURLY AVG	2.8	2.8	3.0	3.2	3.1	3.0	3.2	4.3	5.0	5.1	3.3	2.8	2.4	3.0	3.1	2.1	4.1	2.7	3.0	4.1	2.8	2.6	2.5	2.6			

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:	697					
MAXIMUM INSTANTANEOUS VALUE:	40	PPB	@ HOUR(S)	19	ON DAY(S)	25
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		738	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION	3.24					



JOB #: 2833-11-10-31-C

LICA31
NOX_ / WDR Joint Frequency Distribution (Percent)

October 2011

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	5.12	3.27	3.70	3.27	4.55	5.69	3.56	4.70	6.41	5.84	6.83	8.11	13.24	15.24	6.26	4.13	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.12	3.27	3.70	3.27	4.55	5.69	3.56	4.70	6.41	5.84	6.83	8.11	13.24	15.24	6.26	4.13	

Calm : .00 %

Total # Operational Hours : 702

Distribution By Samples

Direction

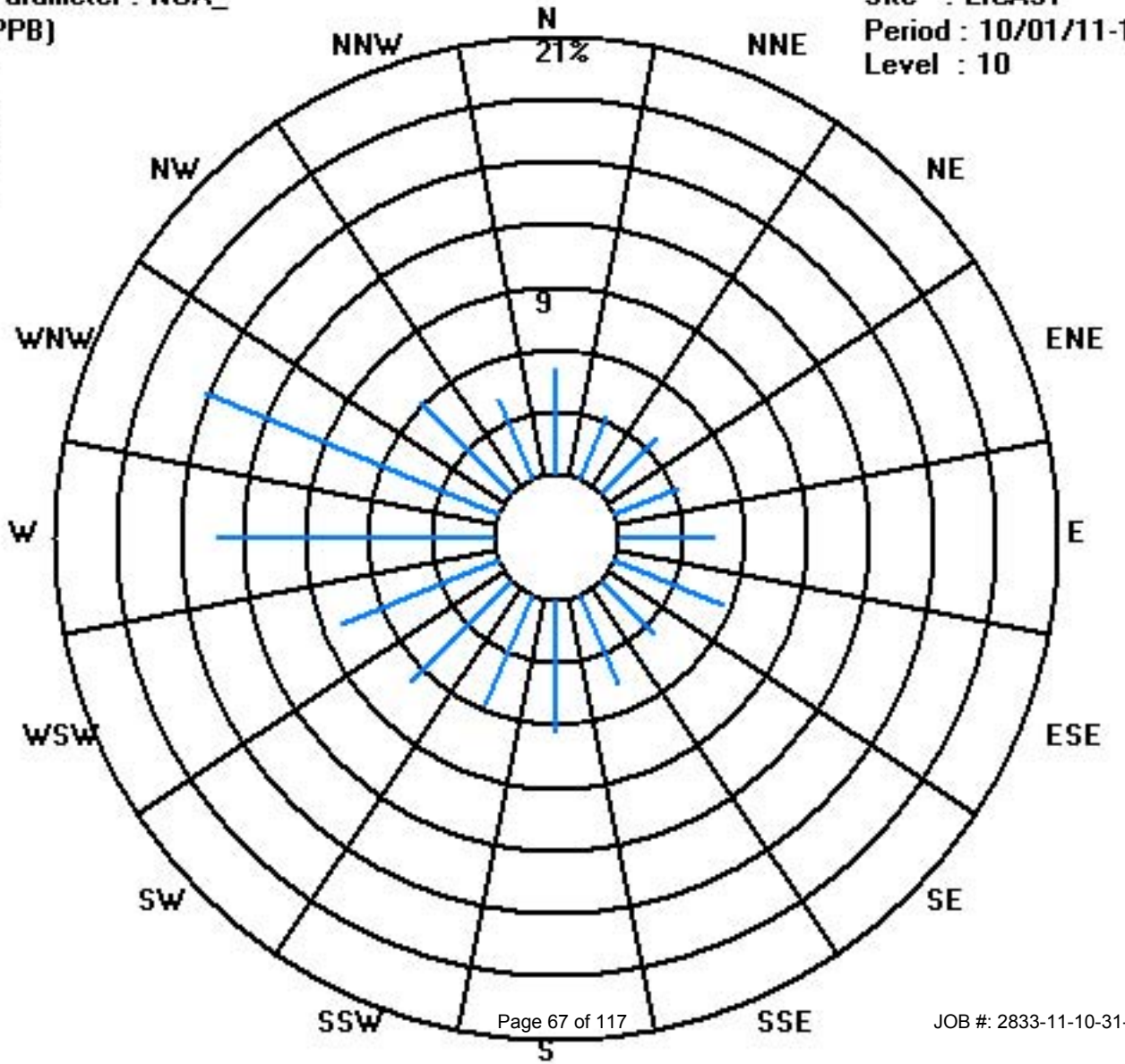
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	36	23	26	23	32	40	25	33	45	41	48	57	93	107	44	29	702
<	110																	
<	210																	
>=	210																	
	Totals	36	23	26	23	32	40	25	33	45	41	48	57	93	107	44	29	

Calm : .00 %

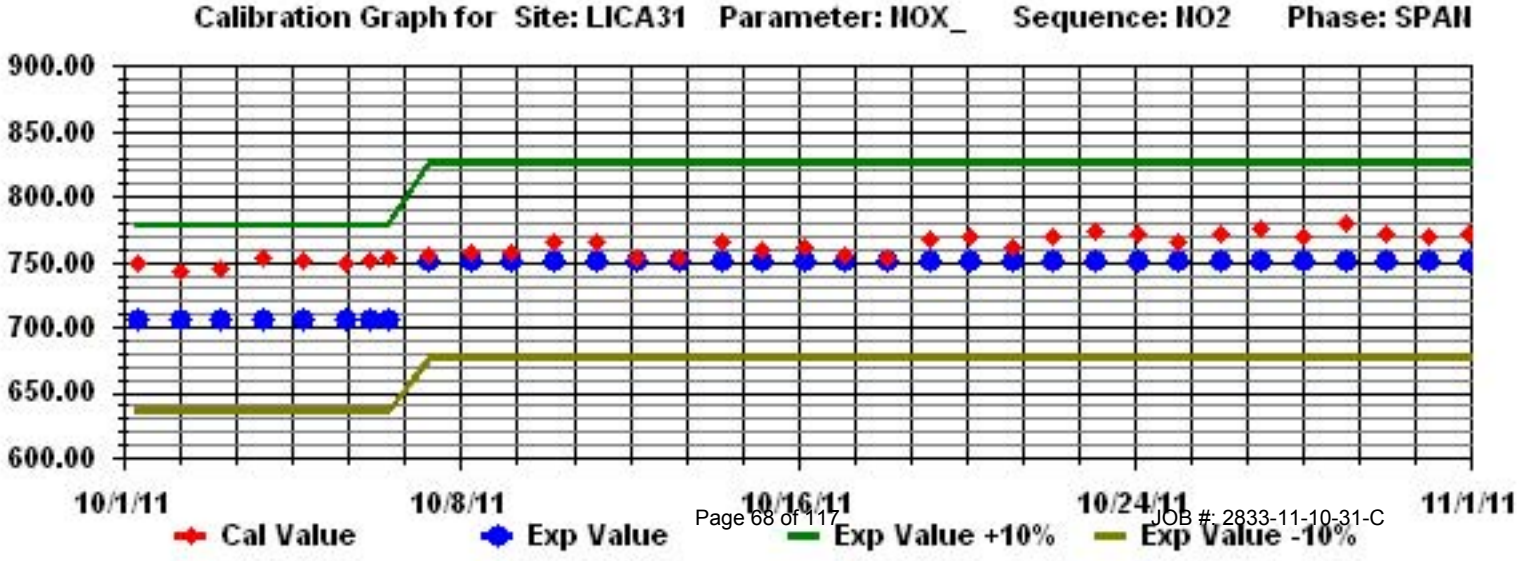
Total # Operational Hours : 702

Logger : 31 Parameter : NOX_
Class Limits (PPB)
>= 210
< 210
< 110
< 50

Site : LICA31
Period : 10/01/11-10/31/11
Level : 10



JOB #: 2833-11-10-31-C


Calibration Graph for Site: LICA31 Parameter: NOX_ Sequence: NO2 Phase: SPAN
900.00
850.00
800.00
750.00
700.00
650.00
600.00
10/1/11
10/8/11
10/16/11
10/24/11
11/1/11
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

OCTOBER 2011

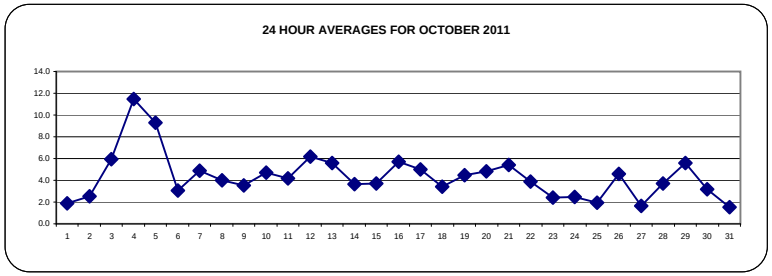
PARTICULATE MATTER 2.5 (PM2.5) hourly averages in ug/m^3

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	0.5	2.6	0.6	4.7	5	2.9	1.9	0	0.7	0.1	0	2.2	0.8	0	2.3	0.5	1.9	2.9	0.9	2.4	2.2	1.4	4.3	4.9	5.0	1.9	24
2	0	2.6	5.9	3.6	1.8	0	0.9	0.4	3.6	0.4	1.7	1	0	2.2	3.3	6	9.1	1.9	0.7	1.3	2.4	2.2	6.1	4.3	9.1	2.6	24
3	6.3	11.9	0	8.4	6.7	8.8	2.8	6.1	8.4	7.8	7.2	7.1	5.8	2	5.3	5.6	2.8	2.8	6.3	9.1	6.7	5.6	3.9	5.2	11.9	5.9	24
4	6.9	11.6	7.2	3.4	0.4	11.7	9.3	8.2	13.7	14.5	13.6	14.7	13.7	11.3	16.2	13.3	16.3	12.3	11.8	13.5	11.9	12.3	16.2	10.7	16.3	**11.4**	24
5	11.6	14.1	11	6	7.7	6.1	7.9	6.4	6.6	9	9.5	9.4	9.6	7.2	7.9	8.9	11.1	10.9	12.2	16.7	11.1	4.6	6.8	10.1	16.7	9.3	24
6	4.4	0	3	10.6	2.6	0	4.2	5.9	6	5.4	1.7	0.5	0.1	3.6	5.8	4.5	1.3	4	0	2	0	1.9	2.9	2.7	10.6	3.0	24
7	1.7	2.6	5	3.9	2.9	6.2	7.3	3	4	3.5	**C**	**C**	8.8	2.5	7.7	3.5	5.8	1.6	**N**	5.4	8	10.6	5.9	2.9	10.6	4.9	23
8	**N**	**N**	0	4.9	1	1.6	0.6	0	0	**N**	0	**N**	0.2	0	**N**	**N**	0	3.2	8.6	15.4	5.5	**N**	5.6	**21.8**	**21.8**	4.0	17
9	0.9	3.1	8.5	2.3	0	**N**	0	1.6	3.8	0	**N**	**N**	6	7	7.9	1.2	3.3	4.3	3.1	2.5	3.5	5.4	7.7	2	8.5	3.5	21
10	4.2	7.2	7.4	2.9	5	3	5.5	3.6	6.3	7.4	2.7	3.5	6.6	6.1	5.6	4	3.9	5.1	3.4	0.6	2	5.5	5.5	6.5	7.4	4.7	24
11	1.5	1.1	5.7	6.7	3.3	2.1	3.7	4.6	4.2	4.3	4.9	3.4	2.9	4.9	5.9	2.8	3.1	5.7	3.5	3.8	7.3	6.2	5.1	3.9	7.3	4.2	24
12	4.2	4.1	5.2	5.5	5.6	6.1	5.7	6.3	6.4	9.8	10.5	4.5	4.4	4	2.5	5.5	6.5	5.4	8.4	6.6	8.3	11.7	5.4	6.3	11.7	6.2	24
13	5.5	5.6	5.6	10.6	4.1	1.8	6.6	7.9	0.7	0	5.3	9.7	3.8	3.6	9.3	7.4	5.4	6	9.7	4.7	6.1	6.6	2	5.7	10.6	5.6	24
14	1.7	5.5	2.6	4.8	3.2	4.6	5.3	5.3	3	3.5	3.7	0	0	3.2	0.8	2.1	3.6	6.6	7.5	1.2	2.1	5.6	5	7.3	7.5	3.7	24
15	4	2.9	0.9	2.6	2	2.9	1.7	4	1	5.6	1.2	2.2	5	7.4	1.1	4.5	3.1	3.9	3.9	7.1	6.8	4.6	5.1	5.1	7.4	3.7	24
16	4.9	5	3.3	4	6.5	10.1	7.6	7.5	4.6	9.2	6	6.7	4.2	6.2	9.1	6.7	3.4	0.8	5.4	8.8	4.6	7.7	4.7	0	10.1	5.7	24
17	3.4	5.6	6.3	3.8	7.6	6.1	5.3	7.1	1.9	7.7	4.5	7.9	4.9	7.3	6.7	4.9	2.6	3.5	5.7	2.7	2.7	4.5	1.5	5.6	7.9	5.0	24
18	4.5	3.7	4.8	5.2	4.1	0.9	4.1	2.7	1.3	0.9	5	4	3.2	4.9	4.2	3	2.7	1.7	3.5	2.6	3.3	3.1	3.8	4.5	5.2	3.4	24
19	1.7	2.7	3.7	6.7	1.2	3.9	1.8	4.2	7.6	2.7	3.5	3.7	5.1	2.2	8	4.6	5.5	7.9	7.2	6.6	3.1	5.8	2.1	5.8	8.0	4.5	24
20	4	1.2	8	7.1	6.9	6.9	3.4	4.7	4.6	5.5	10.2	6.2	4.8	2.9	3.8	0.8	1.3	3.2	8	7.6	6	5.6	2.5	0	10.2	4.8	24
21	0	6.7	9.4	8.2	9.6	6.1	4.8	3	6.8	6.5	8.3	10.2	**M**	2.7	1.2	2.5	5.1	4.8	6.9	8.8	5.9	1.2	1.5	4.7	10.2	5.4	23
22	3.7	5.1	5.1	11.9	10.7	9	13.3	7.5	2.5	3.3	0.4	**N**	3.6	3	0.1	0	0	2	1	0.4	0	1.7	1.3	3.4	13.3	3.9	23
23	5.7	8.1	3.4	3.5	1.3	1	4.6	0	2.2	1.3	2	6.9	0.9	3	0	0.1	1	0	3.7	0.1	1.3	3.8	3	0.7	8.1	2.4	24
24	5.9	1.3	0.5	8.8	0	0	4.5	3.2	2.2	2.2	0	4	0.7	0	5.7	0.1	5.1	0	3.5	2	**N**	0	0.7	7	8.8	2.5	23
25	0	0	2.1	0	2.5	3.7	1	**N**	1	5	**N**	4.5	4.2	0	5.1	2.2	5.7	0.5	1	0	0	0	4.4	0	5.7	2.0	22
26	0	3.8	5.4	7.8	8.2	6.8	5.3	2.9	2.2	3.4	1.8	2.8	0	4.4	2.5	4.4	7.9	8.3	8.4	7	4.8	1.3	4.3	5.9	8.4	4.6	24
27	2.9	3.7	3.9	1.7	0.6	0.9	2.2	2.1	1.7	2.3	2.2	2.1	3.3	0.6	1.2	1.8	2.2	0.4	0	2.9	0	0.7	0	0	3.9	1.6	24
28	3.6	0	3.3	6.9	5	2.1	0.9	5.6	7.8	5	3.2	1.7	3.4	1.6	3.1	7.5	5.1	0.4	0	0	7.6	8.5	3	4.1	8.5	3.7	24
29	9.7	9.8	15.9	10.3	8.6	10.9	5.2	7.3	5	0	6.4	1.2	0	2.6	7.1	6.8	3.9	4.9	0	**N**	0.9	6.2	3.8	2.3	15.9	5.6	23
30	3.6	1.7	0	1.5	3	8.2	3.9	0	3.8	2.6	3.9	0	3.7	5.8	0.7	4.5	8.1	4.3	0	4.9	2.4	5.1	2.3	2.2	8.2	3.2	24
31	0	0.2	0	1	1.3	0	1.9	0	0.5	0	3.3	4	2.5	0	3.4	1.6	2.9	1.5	1.1	0	0.5	3.7	4.2	2.6	4.2	1.5	24
HOURLY MAX	12	14	16	12	11	12	13	8	14	15	14	15	14	11	16	13	16	12	12	17	12	12	16	22			
HOURLY AVG	3.6	4.5	4.6	5.5	4.1	4.5	4.3	4.0	4.0	4.3	4.4	4.6	3.7	3.6	4.8	4.0	4.5	3.9	4.5	4.9	4.2	4.8	4.2	4.8			

STATUS FLAG CODES

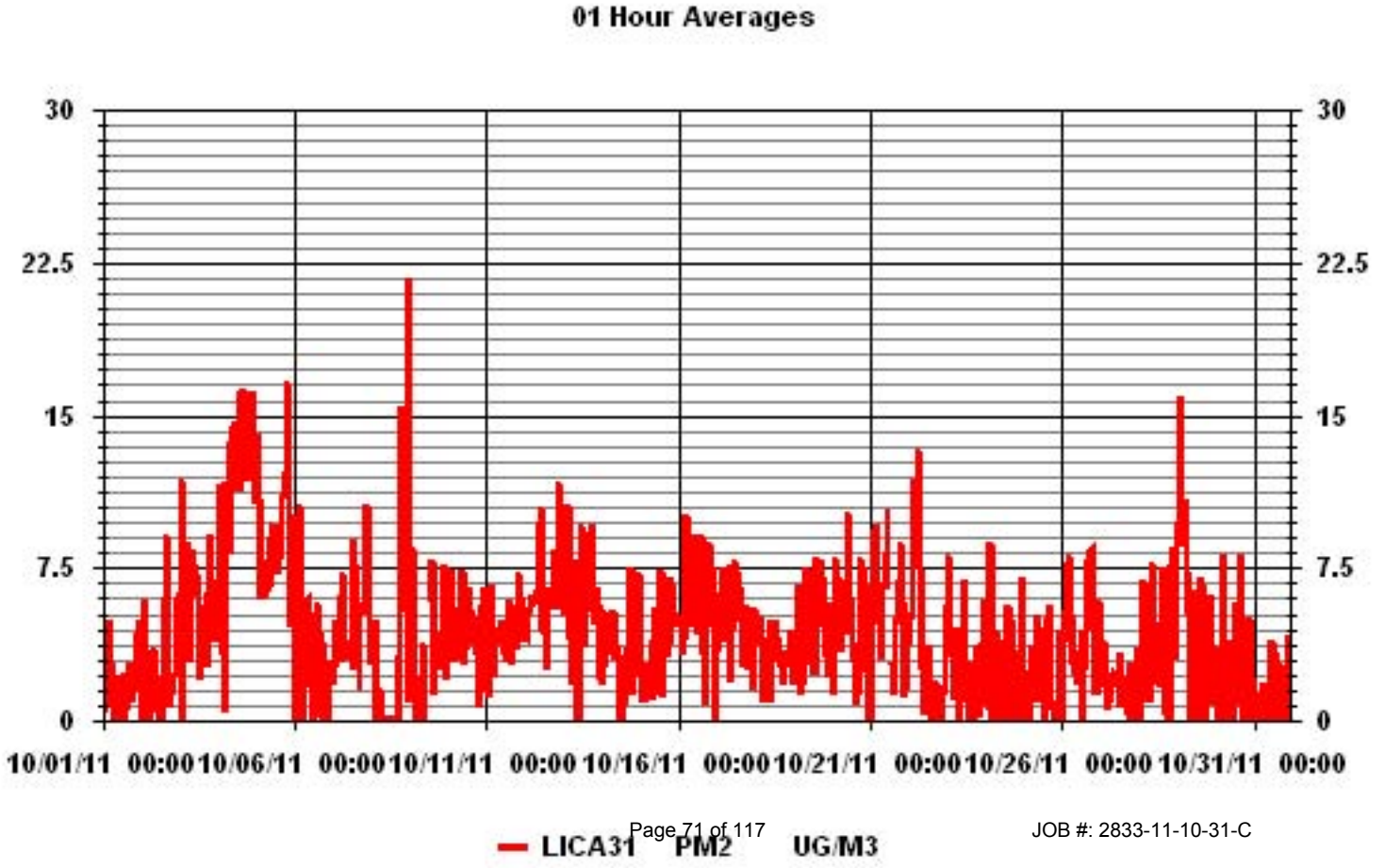
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR - ug/m3 | 24-HR 30 ug/m3

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-					
NUMBER OF 24-HR EXCEEDENCES:	0	PROPOSED CANADA WIDE GUIDELINE				
NUMBER OF NON-ZERO READINGS:	656					
MAXIMUM 1-HR AVERAGE:	21.8	UG/M^3	@ HOUR(S)	23	ON DAY(S)	8
MAXIMUM 24-HR AVERAGE:	11.4	UG/M^3			ON DAY(S)	4
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		727	HRS
MONTHLY CALIBRATION TIME:	2	HRS	AMD OPERATION UPTIME:		97.7	%
STANDARD DEVIATION:	3.32		MONTHLY AVERAGE:		4.35	UG/M^3



JOB #: 2833-11-10-31-C

LICA31
PM2 / WDR Joint Frequency Distribution (Percent)

October 2011

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : PM2
Units : UG/M3

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	4.96	3.31	3.58	3.58	4.41	5.65	3.44	4.96	6.48	6.34	6.75	7.72	13.10	15.86	6.20	3.58	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	4.96	3.31	3.58	3.58	4.41	5.65	3.44	4.96	6.48	6.34	6.75	7.72	13.10	15.86	6.20	3.58	

Calm : .00 %

Total # Operational Hours : 725

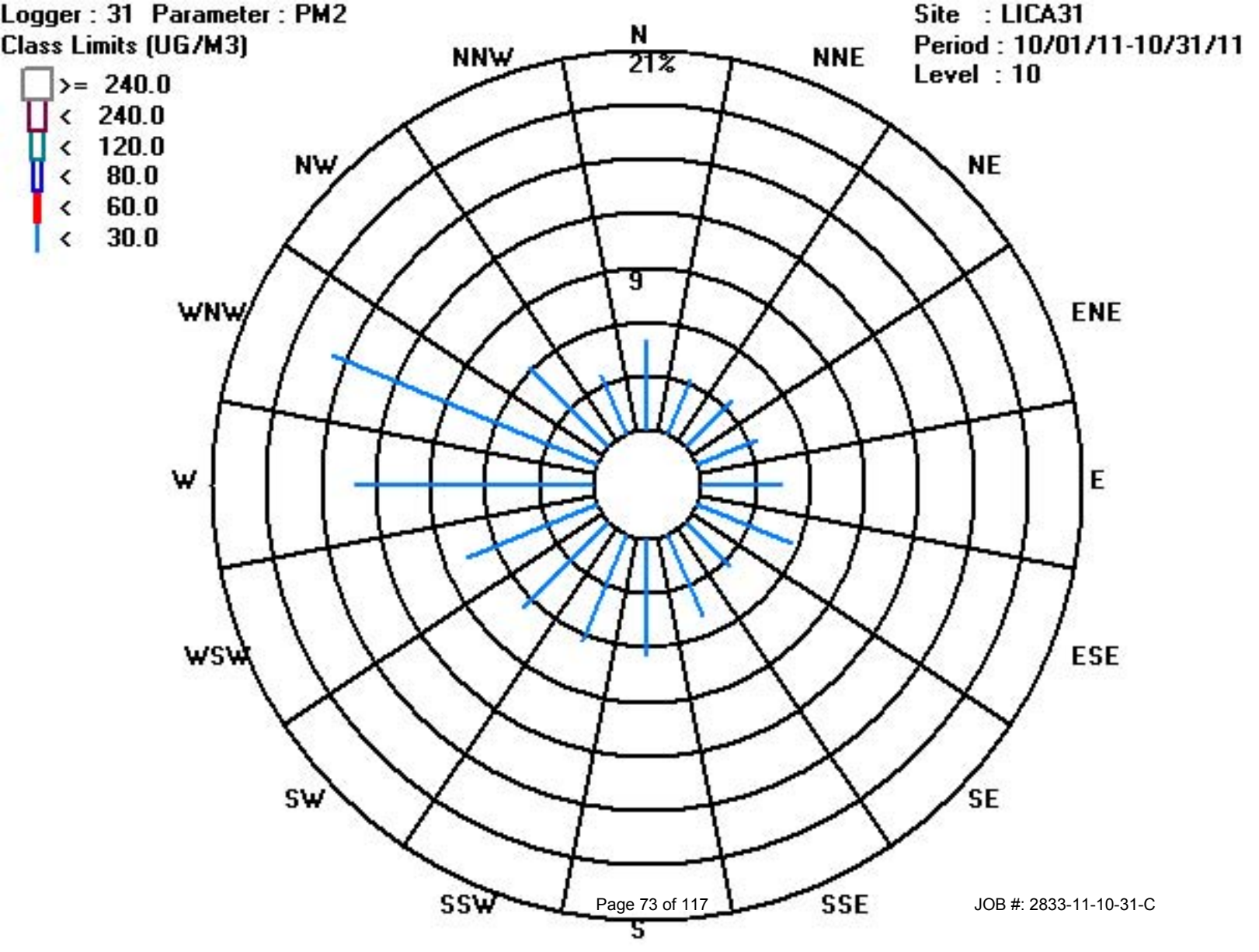
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	36	24	26	26	32	41	25	36	47	46	49	56	95	115	45	26	725
<	60.0																	
<	80.0																	
<	120.0																	
<	240.0																	
>=	240.0																	
	Totals	36	24	26	26	32	41	25	36	47	46	49	56	95	115	45	26	

Calm : .00 %

Total # Operational Hours : 725



JOB #: 2833-11-10-31-C

Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

OCTOBER 2011

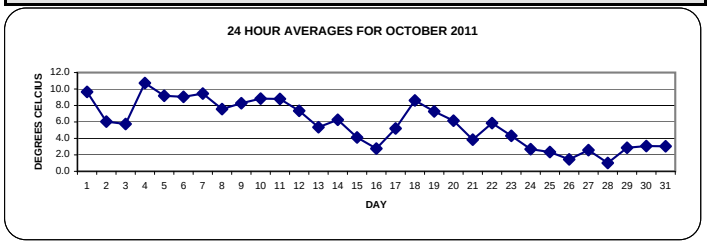
AMBIENT TEMPERATURE hourly averages (Degrees C)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	9.6	9.6	9.2	9.9	10.1	9.7	9.2	9	10.4	12.4	11.8	11.5	11.7	12.1	11.8	11.3	10.6	9.9	9.2	9.1	8.3	6.4	4.6	4.2	12.4	9.7	24
2	3.9	3.9	3.9	4	4.2	4.5	4.6	4.8	5.3	5.7	6.2	7.9	9.2	9.6	9.9	9.8	9	8.1	7.3	6.1	5.1	4.4	4	3.6	9.9	6.0	24
3	3	2.7	2.6	2.5	2.6	2.8	3	3.3	4.3	5.3	7.2	9	9.2	9.5	8.4	8.3	8.5	7.4	6.7	6.5	6.4	6.1	6	6.7	9.5	5.8	24
4	6.7	6.5	6.1	6.4	10	9.8	8.4	9.6	10.6	11.2	11.3	11.3	12.5	13.4	14.6	**15**	14.5	13.3	12.2	11.6	11.5	11.1	10	9.8	**15.0**	**10.7**	24
5	9.8	9.7	9.6	9.5	9.2	9.1	8.9	9	9.3	9.9	10	9.8	9.5	9.5	9.6	9.7	9.3	9	8.7	8.4	8.2	8.2	8.2	8.1	10.0	9.2	24
6	8.1	8	8	8.1	8	8.1	8.1	8.2	8.4	8.7	9.2	9.8	10.2	10.8	11	10.7	10.2	9.7	9.4	9.3	9.1	8.9	8.7	8.5	11.0	9.1	24
7	8.4	8.2	8	7.9	7.8	7.7	7.6	7.7	7.9	8.3	9.2	11	12.8	12.7	12.7	12.8	12.7	11.6	11	10	9.1	8.1	7.1	6.4	12.8	9.4	24
8	5.6	5.2	4.7	4	3.2	2.6	1.9	2.4	4.3	7.6	9.8	10.8	12.1	13	13.1	12.6	12	9.7	9	8.2	7.8	7.5	7.4	7	13.1	7.6	24
9	6.5	5.9	6	5	4.3	3.7	3.2	3.3	5	6	7.7	9.5	12.2	13.7	13.9	14.1	14.7	12	10.7	9.5	8.5	8.3	7.4	7.5	14.7	8.3	24
10	7.7	6.3	6.9	6	5.8	4.6	3.9	4.7	5.7	6.1	10	12.3	13.5	14.4	14.6	14.1	13.3	11.5	9.8	9.8	9.3	7.7	7.3	6.7	14.6	8.8	24
11	6.5	6.4	5.6	4.7	4	3.4	2.9	4.1	6.9	8.3	11	12.9	13.4	14	14.4	14.5	13.5	10.8	10	9.4	8.7	8.6	8.8	8.2	14.5	8.8	24
12	7.4	6.7	5.8	5.5	5.4	5.4	4.4	4.9	6.6	6.4	8.1	9.3	10.2	10.1	11.3	11.1	9.6	8.3	7.5	7	7.3	6.9	5.8	5.4	11.3	7.4	24
13	6	6.1	6	5.8	5.8	5.8	5.6	5.5	5.4	5.2	5.5	5.8	6	4.8	4.6	4.7	5.4	5.2	4.8	4.7	4.9	5	5	5	6.1	5.4	24
14	4.8	4.7	4.7	4.7	4.5	3.8	2.5	3.2	4.6	5.2	6.4	7.9	10.2	11.2	11.6	11.5	10.7	8.1	6.4	5.7	5	5	4.3	3.6	11.6	6.3	24
15	3.4	3.4	2.6	2.5	2	1.7	1.6	1.8	3.4	4.8	5.6	4.9	6.7	7	8.7	8.3	8.1	6	4.4	3.4	2.9	2.4	1.7	1.5	8.7	4.1	24
16	-0.1	-1.3	-1.3	-1.3	-2.1	-2.9	-3.6	-3.2	-1.5	1.7	5.2	7.3	8.6	9.4	9.7	9.6	8.2	5.7	4.4	4.1	3.2	2.7	2	1.8	9.7	2.8	24
17	2.3	0.5	-0.7	-1.1	-1.4	-1.7	-2	-1.7	-0.2	3.4	6.6	8.9	10	11.2	12	11.9	11	9.4	8.7	8.3	7.6	7.4	7.3	7.3	12.0	5.2	24
18	7.1	6.3	5.3	5.4	4.7	3.6	2.7	2.8	3.9	6.3	9.4	11.2	12.5	13.2	14.2	14.6	13.9	12.4	10.6	10.1	9.5	9	9	9	14.6	8.6	24
19	8.5	7.7	6.7	5.8	5.3	4.8	4	3.9	5.3	5.6	6.6	7.7	8.6	10.1	11	10.8	10.2	8.3	7.4	7.2	7	7.2	7.4	7.6	11.0	7.3	24
20	6.1	5.4	5.3	4.8	5.1	5.5	4.9	5.7	6.9	8.1	8.9	10	10.6	9.6	9.5	8.3	7.1	6	5.1	4.2	3.5	3	2.3	1.7	10.6	6.2	24
21	0.7	0	-1	-1.3	-1.7	-1.9	-2.3	-2.5	-0.8	1.4	4.4	9.5	8.7	9.5	9.8	9.7	8.5	7.1	6.5	6.2	6	6	5.3	4.5	9.8	3.8	24
22	4	3.4	3	2.8	3.2	3	2.4	3.3	5.6	6.9	8.8	9.4	10.3	10.8	10.7	11.1	10	7.3	5.8	5.7	4.9	3.8	2.6	1.8	11.1	5.9	24
23	2.7	2.2	0.8	1.2	1	0.7	1.1	0.8	1.8	4.8	7.2	8.4	9	9.7	9.8	9.5	8.4	6.3	5.1	4.1	3.1	2.5	2.1	1.2	9.8	4.3	24
24	0	-0.2	-1.3	-1.6	-0.8	-1.7	-2.5	-2.6	-1.1	1.5	5.1	7	8.2	8.7	9.1	8.8	6.7	4.9	3.7	3.1	3.2	3	2	1.4	9.1	2.7	24
25	1	0.3	-0.3	-0.6	-0.2	-0.4	-0.1	-0.3	0	2.2	4.2	5.4	7.1	6.3	7.9	7.4	6.3	4	2.7	2	1.1	1.1	0.2	-1.1	7.9	2.3	24
26	-2.2	-2.7	-2.9	-3.1	-4	-4.6	-3.9	-3.3	-1.7	1	3.4	5.5	6.8	7.5	7.4	7	6.3	5.4	4.8	3.6	1.2	0.8	1	1.6	7.5	1.5	24
27	1.9	1.4	0.4	0.2	-0.2	-0.7	-0.9	-0.6	1.1	1.6	4.2	5.7	6.8	7.5	7.9	7.6	6.4	4	2.6	2	1	0.8	0.5	0.7	7.9	2.6	24
28	0.2	-1.6	-1.8	-2	-3.5	-3.4	-4.4	**-4.8**	-3.5	-1.4	1.3	3.9	5.6	5.4	5.8	5.5	4.9	4.1	3.4	2.8	2.6	2.3	1.4	1.5	5.8	1.0	24
29	1.3	0.9	-0.2	-1	-0.7	-0.5	-0.5	-0.5	2.1	4	5.3	6	6.8	7.2	8	7.9	6.8	4.8	3.9	3.1	2	1.1	0.9	0	8.0	2.9	24
30	-0.3	-0.6	-0.5	-0.8	-2.1	-2.6	-2	-1.2	-0.7	1	2.8	3.2	6.1	8.3	9.3	9.4	8.8	7.1	6.2	5.2	4.8	4.6	4.6	3.2	9.4	3.1	24
31	2.5	1.7	1.2	0.7	-0.3	-0.8	-1.5	-1.5	-0.5	2.6	5.4	6.4	7.3	7.8	8	7.1	6.5	4.4	2.9	2.9	3.1	2.2	2.9	2	8.0	3.0	24
HOURLY MAX	9.8	9.7	9.6	9.9	10.1	9.8	9.2	9.6	10.6	12.4	11.8	12.9	13.5	14.4	14.6	15.0	14.7	13.3	12.2	11.6	11.5	11.1	10.0	9.8			
HOURLY AVG	4.3	3.8	3.3	3.1	2.9	2.6	2.2	2.4	3.7	5.2	7.0	8.4	9.4	9.9	10.3	10.2	9.4	7.8	6.8	6.2	5.7	5.2	4.8	4.4			

STATUS FLAG CODES

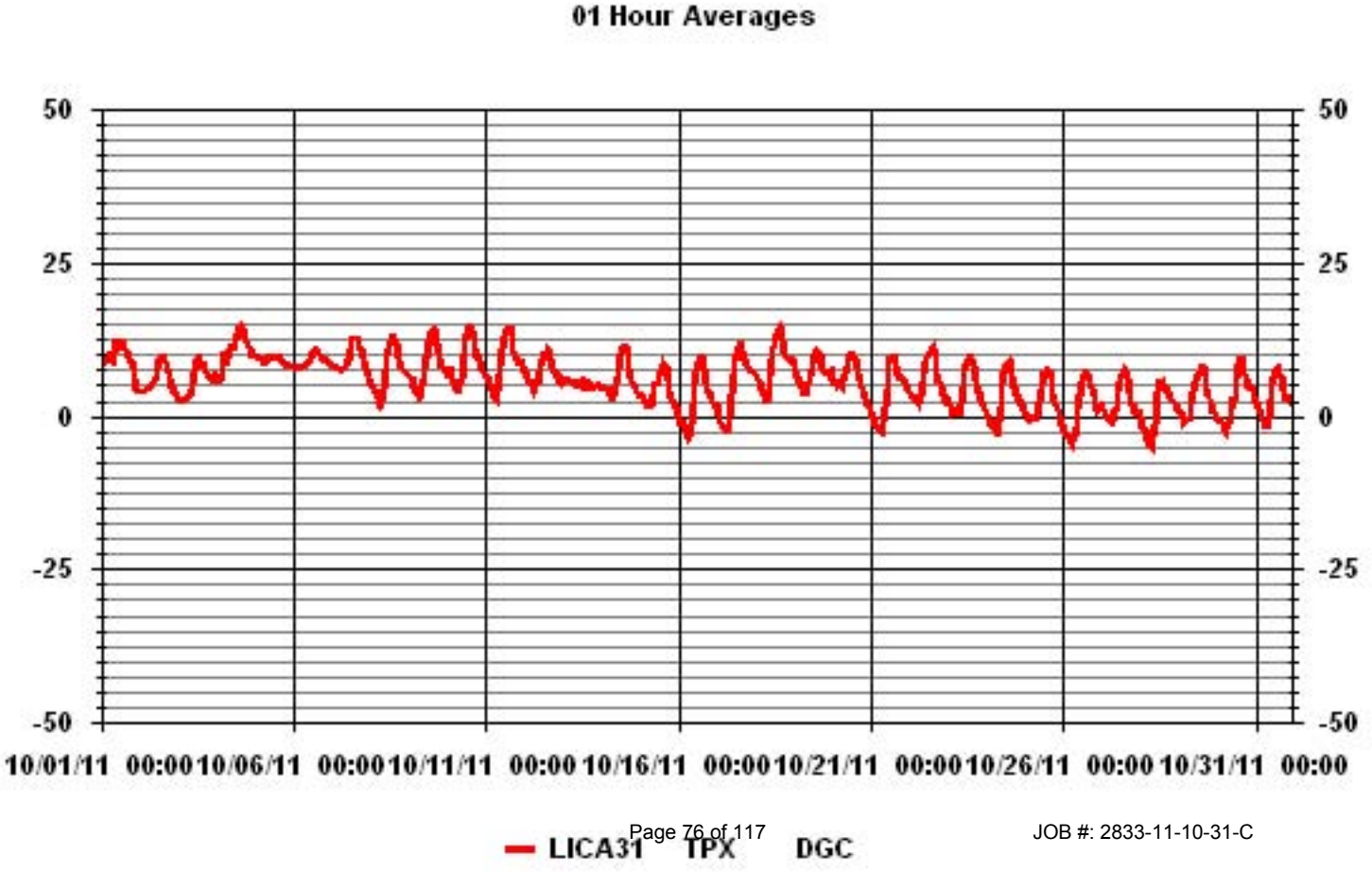
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-4.8	^{O}C	@ HOUR(S)	7	ON DAY(S)	28
MAXIMUM 1-HR AVERAGE:	15.0	^{O}C	@ HOUR(S)	15	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	10.7	^{O}C			ON DAY(S)	4

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	4.10		MONTHLY AVERAGE:	5.79	^{O}C



JOB #: 2833-11-10-31-C

Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

OCTOBER 2011

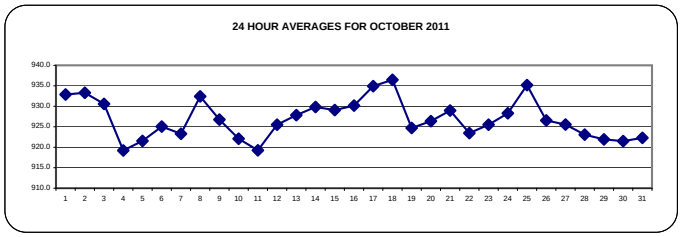
BAROMETRIC PRESSURE hourly averages (millibar)

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	927	929	929	930	931	931	932	932	933	934	935	935	935	935	935	934	934	934	933	934	934	935	934	934	935	932.9	24
2	934	933	933	933	932	932	933	933	933	933	933	933	933	933	933	934	934	934	934	934	934	933	934	934	934	933.3	24
3	934	934	933	933	934	934	933	933	934	934	934	933	933	932	931	929	929	928	927	926	925	924	924	923	934	930.6	24
4	922	922	921	921	921	921	920	920	920	919	920	919	918	919	918	919	918	918	918	917	917	917	918	918	922	919.2	24
5	918	918	919	919	919	920	920	921	921	921	922	922	922	922	922	922	923	923	923	924	924	924	924	924	924	921.5	24
6	924	924	924	925	925	925	925	925	925	925	925	925	925	926	926	926	926	926	925	925	925	925	925	924	926	925.0	24
7	924	923	923	923	923	922	922	922	922	922	922	922	922	922	922	922	923	923	924	925	926	926	927	927	927	923.3	24
8	928	929	929	930	931	931	931	932	933	933	934	935	935	935	935	935	935	934	933	933	933	932	931	931	935	932.4	24
9	930	929	929	928	927	926	925	925	925	926	926	926	927	927	927	928	928	927	927	926	926	926	926	925	930	926.8	24
10	925	925	924	924	924	924	923	923	923	923	924	924	923	923	923	922	921	921	920	919	919	918	918	917	925	922.1	24
11	917	917	917	916	916	916	916	916	917	918	919	919	920	920	921	921	922	921	921	922	922	922	923	923	923	919.3	24
12	923	924	924	924	924	924	924	925	925	926	927	927	927	927	927	927	927	926	926	926	926	926	925	925	927	925.5	24
13	926	926	926	926	926	926	927	927	927	927	928	928	928	928	928	928	929	929	929	929	930	930	930	930	930	927.8	24
14	930	930	931	931	931	930	930	930	930	931	931	931	931	931	931	930	930	929	929	928	928	928	928	927	931	929.8	24
15	927	927	927	927	927	927	927	927	928	928	929	930	930	931	931	931	931	931	931	930	931	930	930	930	931	929.1	24
16	930	930	930	929	929	929	928	928	928	929	930	931	931	931	931	931	931	931	931	931	931	931	931	932	932	930.2	24
17	932	932	932	932	932	932	932	932	933	934	935	936	937	937	937	937	937	937	937	937	937	937	937	937	937	934.9	24
18	938	937	938	938	938	938	938	938	938	938	939	939	939	939	938	937	937	936	934	933	932	932	931	930	**939**	**936.5**	24
19	930	929	928	927	926	926	925	925	925	925	925	925	925	925	925	924	924	923	923	922	922	922	921	921	930	924.7	24
20	921	921	922	922	923	923	924	925	925	926	927	927	927	928	928	928	929	929	929	929	930	930	930	930	930	926.4	24
21	930	930	930	930	931	931	930	930	931	931	932	931	932	932	931	930	929	928	927	925	925	924	923	922	932	929.0	24
22	921	922	922	922	923	923	923	923	924	924	925	925	925	925	925	925	924	924	924	923	923	923	923	922	925	923.5	24
23	922	923	923	923	924	923	924	924	924	925	926	927	927	927	927	927	927	927	927	927	927	927	927	927	927	925.5	24
24	926	926	926	926	926	926	926	926	926	927	928	929	929	929	929	930	930	930	930	930	931	931	931	931	931	928.3	24
25	932	932	932	932	932	933	933	934	934	935	936	937	937	937	937	937	937	937	937	937	937	937	936	936	937	935.2	24
26	935	935	934	933	932	931	931	930	929	928	928	927	926	925	924	923	922	922	921	921	920	920	920	920	935	926.5	24
27	921	921	921	921	921	921	922	922	923	924	925	926	927	927	928	928	929	929	929	929	929	930	930	930	930	925.5	24
28	930	930	930	929	929	928	928	926	926	926	926	925	925	924	922	920	920	919	917	916	915	915	914	914	930	923.1	24
29	914	914	915	916	916	917	918	918	920	921	922	923	923	924	925	926	926	927	927	927	927	927	927	926	927	921.9	24
30	926	926	926	925	924	924	923	923	922	921	921	921	920	920	920	919	919	919	919	919	920	919	920	920	926	921.5	24
31	920	920	920	920	920	920	920	920	920	921	922	922	922	923	923	924	924	924	924	924	925	925	926	926	926	922.3	24
HOURLY MAX	938	937	938	938	938	938	938	938	938	938	939	939	939	939	938	937	937	937	937	937	937	937	937	937			
HOURLY AVG	926	926	926	926	926	926	926	926	927	927	928	928	928	928	928	928	928	927	927	927	927	927	927	926			

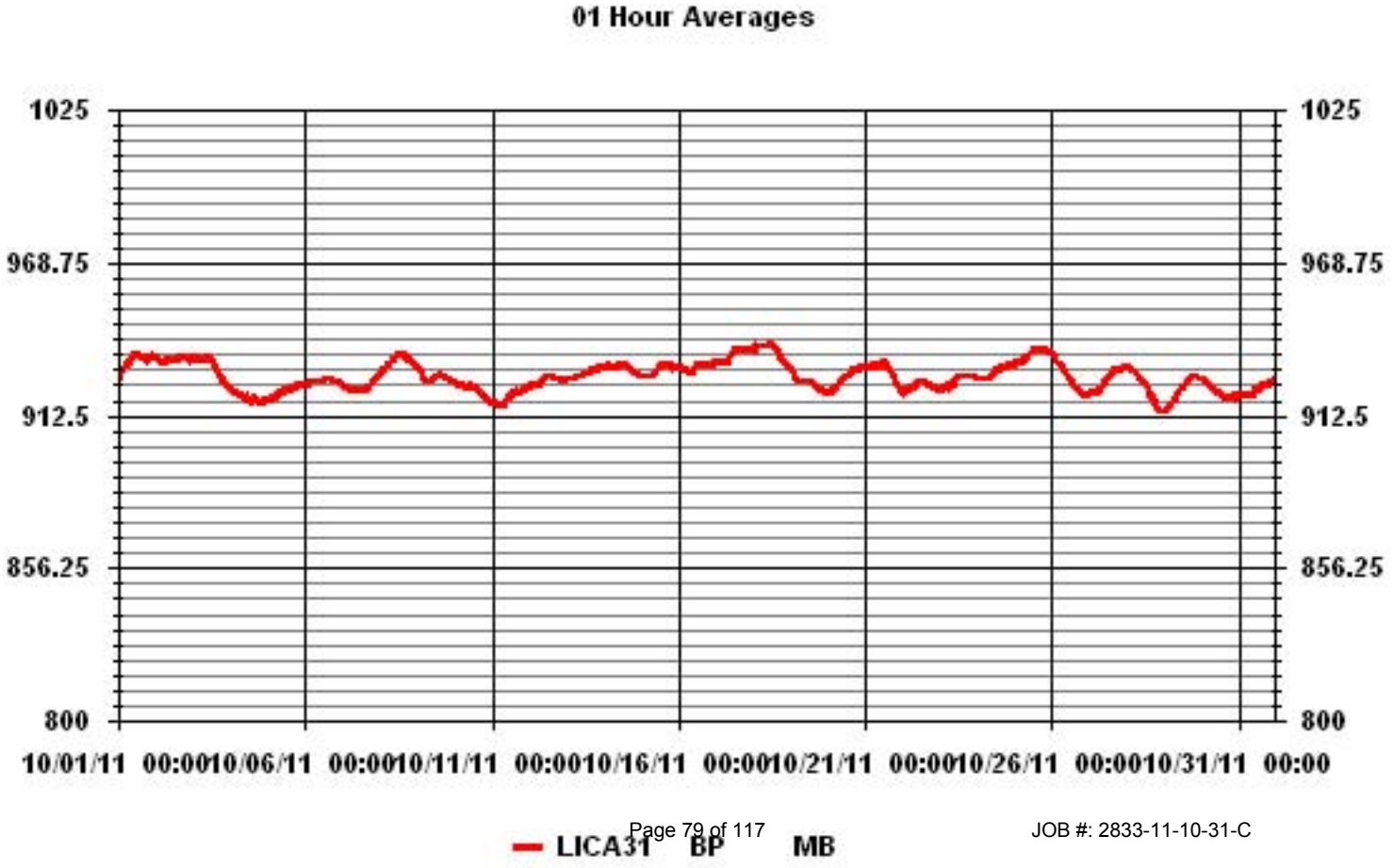
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	939	MB	@ HOUR(S)	VAR	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	936.5	MB			ON DAY(S)	18
				VAR-VARIOUS		
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		744	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	5.32		MONTHLY AVERAGE:		927	MB



JOB #: 2833-11-10-31-C

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

OCTOBER 2011

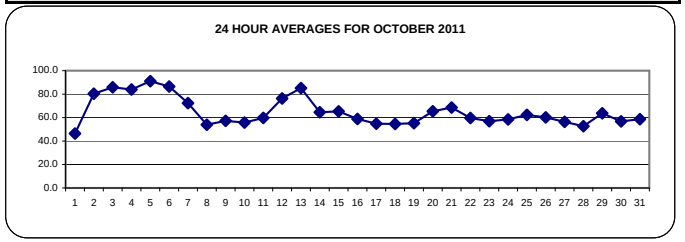
RELATIVE HUMIDITY hourly averages (%)

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	43	47	48	43	42	43	44	46	42	37	35	36	35	34	34	38	41	44	48	46	49	68	84	87	87	46.4	24
2	89	90	90	90	89	89	88	86	84	81	78	72	66	63	63	66	70	74	78	84	85	85	84	85	90	80.4	24
3	88	89	89	90	91	91	91	91	91	91	89	81	79	76	79	79	78	81	83	85	86	87	88	87	91	85.8	24
4	87	88	90	90	81	85	89	86	83	82	81	85	83	80	74	73	75	80	84	85	86	87	90	91	91	84.0	24
5	91	92	92	92	92	92	92	92	92	92	91	90	90	90	90	90	90	90	90	91	91	91	91	91	**92**	**91.0**	24
6	91	91	91	91	91	91	91	91	90	89	87	85	83	80	79	80	81	82	84	84	85	86	86	87	91	86.5	24
7	88	88	89	88	90	90	89	87	85	82	77	68	59	55	52	52	51	54	57	61	64	68	71	71	90	72.3	24
8	74	72	73	74	76	78	78	75	69	60	52	46	40	33	32	32	31	37	39	42	43	44	46	48	78	53.9	24
9	50	53	54	58	64	68	73	74	71	70	64	58	50	46	43	43	42	49	52	56	59	58	60	59	74	57.3	24
10	58	63	59	63	61	66	70	67	65	68	58	51	46	43	42	42	46	50	52	50	50	56	56	56	70	55.8	24
11	55	57	62	65	67	75	80	75	68	66	60	54	50	47	46	44	47	54	57	59	61	62	60	63	80	59.8	24
12	67	72	78	81	81	80	85	83	78	79	71	67	65	66	64	66	77	79	82	84	80	78	82	86	86	76.3	24
13	86	89	89	89	89	90	89	88	87	86	83	79	77	84	84	84	83	84	86	85	84	83	83	83	90	85.2	24
14	83	83	83	83	83	85	87	84	79	77	69	61	53	49	45	41	40	46	51	51	52	51	55	59	87	64.6	24
15	61	60	62	62	64	68	74	76	71	67	68	74	66	63	55	53	52	60	65	68	68	69	71	70	76	65.3	24
16	79	83	75	70	73	73	76	74	71	64	54	46	41	39	37	37	40	47	51	51	56	55	59	61	83	58.8	24
17	56	65	70	70	70	71	73	73	69	60	51	44	41	38	36	36	41	46	48	50	52	52	52	51	73	54.8	24
18	52	55	61	61	64	70	73	72	70	64	56	52	49	47	44	42	42	45	50	50	50	49	47	45	73	54.6	24
19	46	48	52	55	57	59	62	63	60	60	57	54	53	49	47	48	50	57	59	59	60	58	57	56	63	55.3	24
20	64	67	67	70	77	79	82	82	75	61	50	43	40	45	47	53	58	64	68	71	74	75	77	80	82	65.4	24
21	84	86	88	88	88	88	88	86	79	75	68	54	48	42	40	42	48	55	60	62	63	65	70	79	88	68.6	24
22	82	83	83	81	81	81	80	75	66	60	50	45	40	38	38	38	38	46	49	48	51	56	59	64	83	59.7	24
23	61	62	67	65	69	72	76	80	76	66	54	47	42	37	36	38	40	46	51	52	54	56	58	61	80	56.9	24
24	65	63	68	69	65	68	72	72	67	60	51	47	44	42	41	41	47	53	57	59	59	61	65	67	72	58.5	24
25	68	71	72	72	70	71	71	72	72	67	62	57	52	53	48	47	48	52	57	59	62	60	63	70	72	62.3	24
26	75	75	76	76	75	76	73	69	65	58	51	43	38	32	28	29	32	36	39	56	84	87	89	83	89	60.2	24
27	74	71	72	69	69	69	67	65	60	60	52	47	43	40	39	38	41	48	51	53	56	56	57	56	74	56.4	24
28	58	62	63	64	70	69	71	71	68	64	57	46	40	39	38	37	38	38	41	42	44	46	49	49	71	52.7	24
29	50	55	77	87	88	88	89	88	76	67	60	54	51	49	45	43	46	51	54	57	60	63	63	67	89	63.7	24
30	67	67	64	63	67	68	64	61	60	55	50	51	45	39	37	38	38	42	46	49	69	77	72	74	77	56.8	24
31	74	74	72	73	74	75	76	74	71	61	52	49	45	43	41	43	42	47	52	52	53	56	53	55	76	58.6	24
HOURLY MAX	91	92	92	92	92	92	92	92	92	92	91	90	90	90	90	90	90	90	90	91	91	91	91	91			
HOURLY AVG	69.9	71.6	73.4	73.9	74.8	76.4	77.8	76.7	72.9	68.7	62.5	57.6	53.4	51.0	49.2	49.5	51.4	56.0	59.4	61.3	64.2	66.0	67.6	69.1			

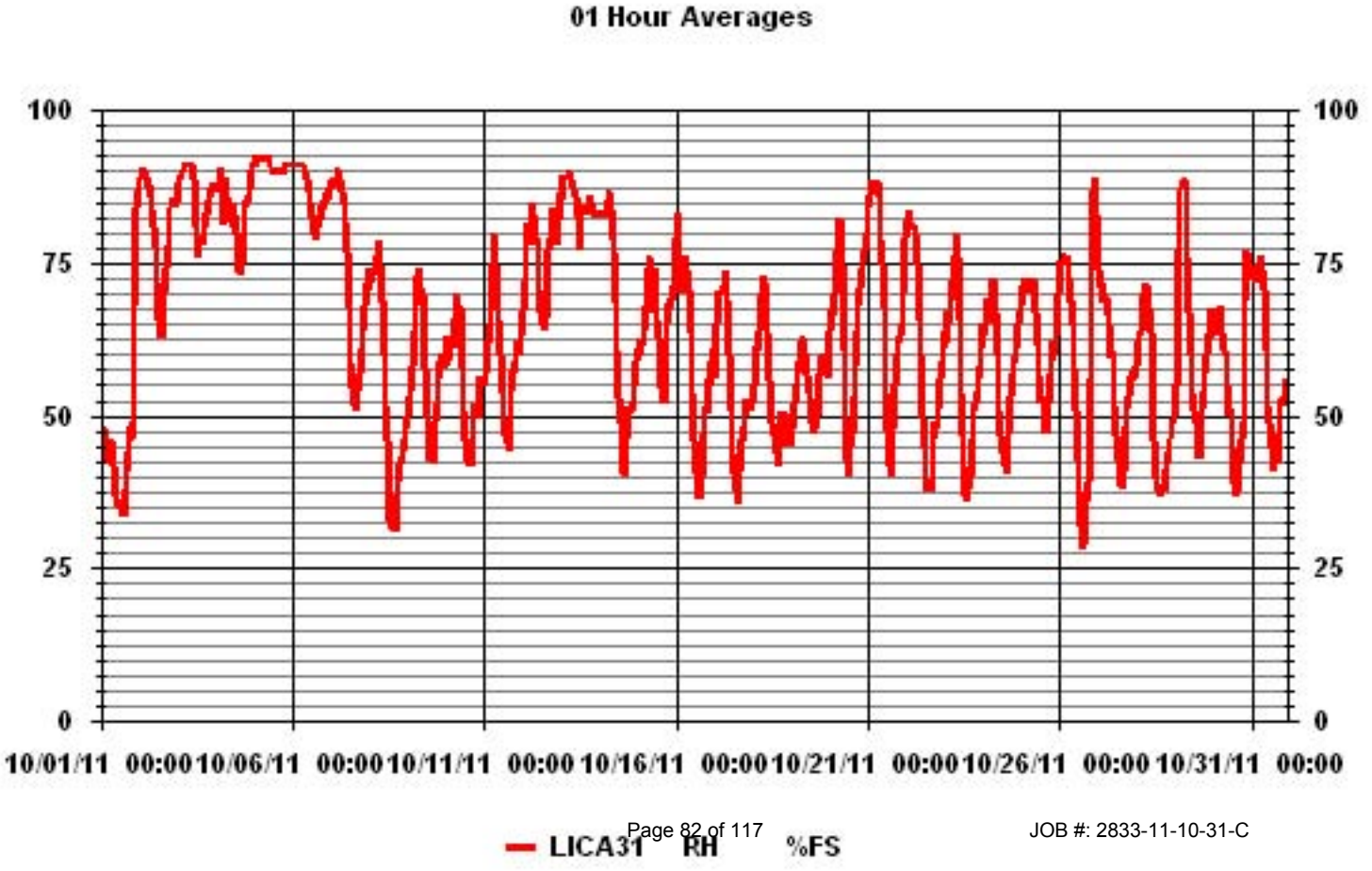
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:		92	%	@ HOUR(S)	VAR	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:		91.0	%			ON DAY(S)	5
						VAR-VARIOUS	
CALIBRATION TIME:	0	HRS		OPERATIONAL TIME:		744	HRS
				AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	16.53			MONTHLY AVERAGE:		64.76	%



JOB #: 2833-11-10-31-C

Precipitation

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

OCTOBER 2011

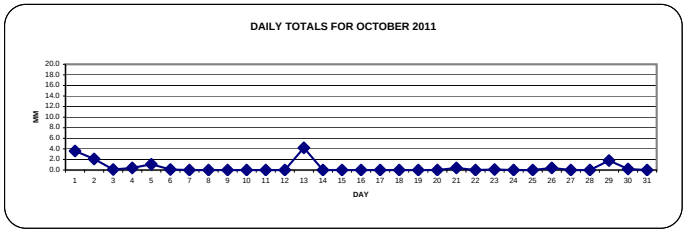
PRECIPITATION hourly averages (mm)

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	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.	TOTAL	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	1.5	1.4	1.5	3.6	24
2	**1.6**	0.2	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	**1.6**	2.1	24
3	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24
4	0	0	0	0	0.1	0	0	0	0	0	0.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4	24
5	0.1	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0.1	0	0.1	0.1	0.1	0.1	0.2	0.1	0	0.2	1.1	24
6	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
13	0	0.4	0.5	0.2	0.2	0.3	0.9	0.4	0.7	0.4	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0	0	0.9	**4.2**	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	0.0	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	0.2	0.2	0.2	0.4	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
23	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24
24	0	0	0	0	0	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	0.4	0	0	0	0.4	0.4	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	1.2	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	1.8	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0.2	0.2	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	1.6	0.4	0.5	0.2	0.2	0.3	0.9	0.4	0.7	1.2	0.6	0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.4	0.7	1.5	1.4			

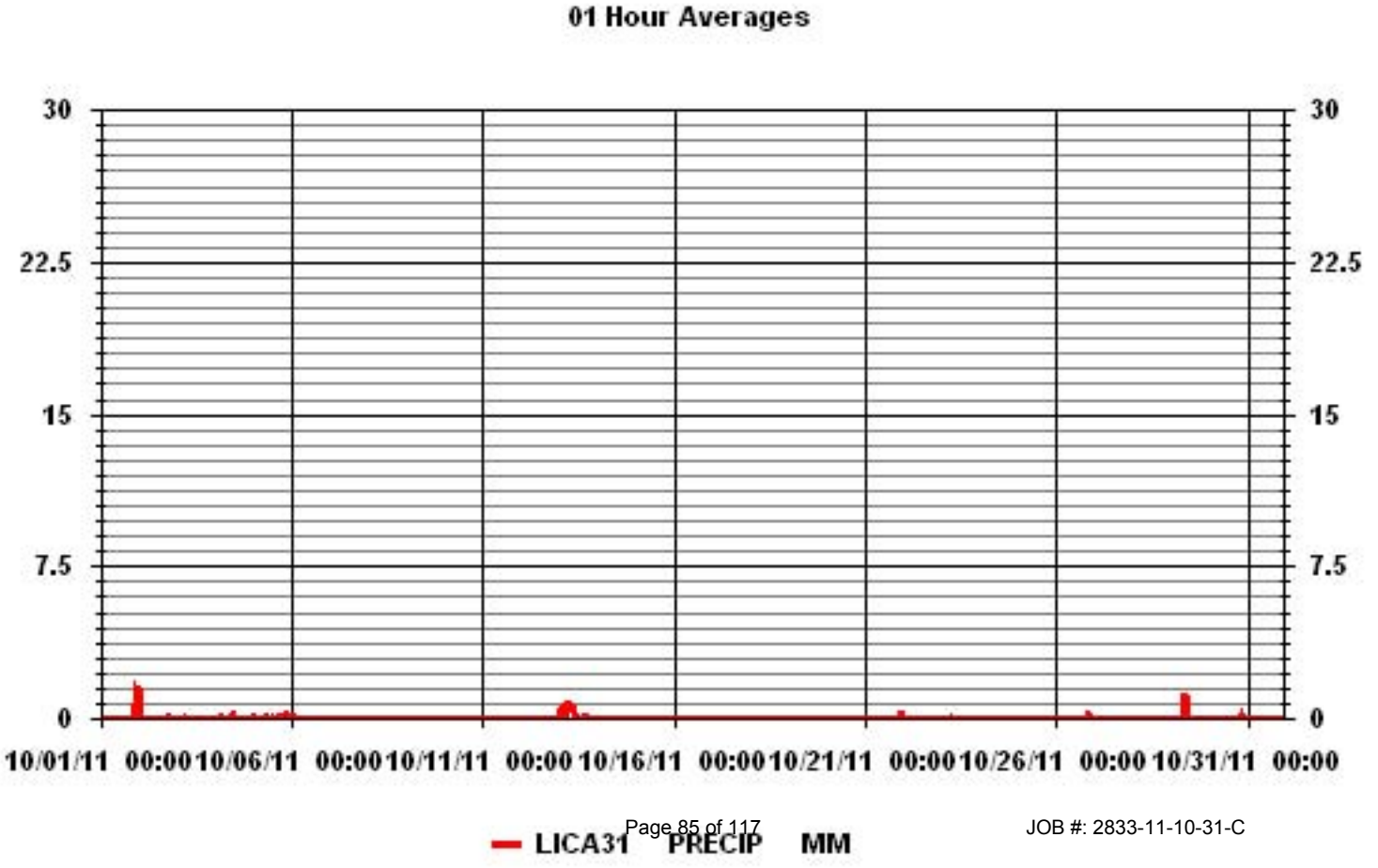
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	1.6	MM	HOUR(S)	0	ON DAY(S)	2
MAXIMUM DAILY TOTAL	4.2	MM			ON DAY(S)	13
MONTHLY TOTAL	14.5	MM				
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		744	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.12		MONTHLY AVERAGE:		0.02	MM



JOB #: 2833-11-10-31-C

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST.LINA

OCTOBER 2011

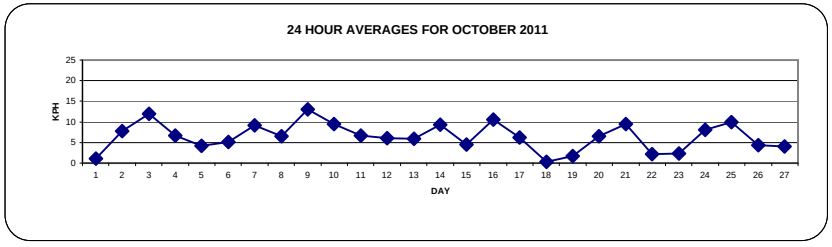
WIND SPEED hourly averages (km/hr)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	11.3	10.7	10.8	10.4	13.2	11.4	10.9	10.6	12.3	10.7	10.8	7.5	6.5	3.8	2.1	3.8	3.1	3.4	3.7	2.8	8.5	7.5	9.5	8.9	13.2	3.5	24
2	12.8	17.1	16.8	18.1	19.3	16.7	15.3	18.8	18.8	6.9	7.3	5.1	6.1	9.1	9.6	10.9	12.3	12.9	12.3	12.1	11.6	11.4	9.7	9.6	19.3	7.6	24
3	10.6	10.5	11.1	8.8	6.7	7.7	7	10.4	20.6	6.7	4.5	4.5	3.5	5.5	6.2	3.9	2.8	4.2	5.7	6.4	5.4	4.3	2.2	1.6	20.6	5.1	24
4	2.8	3.9	5	4.5	10.4	9.7	13.3	14.2	15.7	15.3	13.1	9.9	13.4	12.7	10.7	5.4	4.6	5.2	6.6	7.9	6.5	4.6	9.5	7.9	15.7	4.9	24
5	6.4	8.1	7.2	7.8	7.8	10.5	4.4	2.7	13.7	2.8	4.1	10.8	14.3	8	1.5	4.6	1.9	11.1	6.2	2.4	8.5	8.8	8	7.2	14.3	1.1	24
6	8.1	10.2	8.2	8.1	7	8.2	8.4	9	9	10.6	9.9	8.4	7.4	8.3	7.8	9.3	9.2	9.2	11.9	11.2	11.9	12.2	12.8	12.4	12.8	7.7	24
7	13.3	12.2	11.3	12.4	11.1	11.7	11.1	10.7	9.9	10.4	11.8	12.4	14	16	15.6	13.2	14.1	14.7	15.4	13	15.1	14.8	14.4	15.2	16	12	24
8	14.8	14.7	13.7	12.2	11.7	11.8	13.3	13.2	13.3	12.6	13.3	13.9	2.9	1.8	6.5	4.9	5.7	13.7	9.1	7.3	8.8	9.6	9.9	10.9	14.8	6.7	24
9	11.2	13.6	14.4	12	14.1	15.3	15.1	13.4	14.7	4.5	9.5	12.5	7.2	4.9	6.4	2.7	2.3	4	6	7.1	5.6	7.4	3.2	12.6	15.3	4.2	24
10	14.3	13.5	8.5	10.8	11.7	5.9	14.7	3.5	5.2	3.9	4.1	10.5	11.7	11	11.6	9.4	9.5	10.2	8.1	5.1	5.9	5.8	6.2	6.9	14.7	5.2	24
11	6.6	7.9	9	8.9	9.9	9.3	11.3	11.6	10	9.8	8.8	7.8	4.1	9	9.8	11.2	12.8	13.3	11.6	11.1	10.1	10.2	11.2	9.7	13.3	9.2	24
12	9.7	11.8	10.8	11.3	11.8	11.8	10.9	13.1	14	12.4	6.6	5.9	5.8	9	8.4	11.7	8.9	5.5	6.3	7.2	7.5	7.5	10.2	10.8	14	6.5	24
13	11.6	12	12.4	12.8	11.5	12.9	15.2	13.6	11.9	12.3	11.6	15.3	16.7	16.4	14.7	12.4	12.3	13.8	13.6	14	13.6	12.4	12.3	10.3	16.7	**13**	24
14	11.3	10.5	9.1	8.8	7.8	8	8.9	9.3	8.9	15.1	13.4	12.4	10.5	11	11.5	13.1	11.6	9.2	6.5	7.6	7.6	6.1	6.7	7.5	15.1	9.4	24
15	7.6	8.6	10.4	11.3	11.7	11.8	11.3	10.1	10.7	11.6	12.5	10	11.6	12.9	12.2	10.2	8.6	5.6	7.9	8.1	8.4	7.9	8.3	7.5	12.9	6.7	24
16	7.8	7.9	9.3	7.9	2.9	10.2	9.3	11.2	12.9	14.2	10.5	3.3	8.3	5.6	11.4	11.5	10.5	7.8	7.3	5.7	6.3	8.2	7.1	9.4	14.2	6	24
17	8	8.6	9	8.8	8.1	4.5	12.6	15	13.6	14.5	9.9	7.7	10.5	10.8	10.8	11.3	8	4.9	2.6	5.5	6.5	7.3	7.5	7.4	15	5.9	24
18	6.9	5.6	8.8	9.4	10.7	11.4	10.2	9.7	7.3	7.4	6.3	11.2	15.6	16.2	12.9	9.7	9.5	9.7	11.1	13	14.2	14.5	14.2	15.7	16.2	9.3	24
19	16	15.3	15	14.3	14.5	14.8	10	9.5	9.1	7	3.5	7	5.5	7.2	6.2	5.8	3.4	6.9	7.9	7.3	7.8	6.9	6.4	5.9	16	4.5	24
20	8	10	11.7	13.7	8.2	11.8	13.9	9.6	11	14.4	18.7	21	18.1	15.9	14.8	13.1	10.7	9.9	8.2	7.6	9.8	10.7	7.2	8.2	21	10.6	24
21	8.9	7.7	8.7	8.2	8.1	6.8	7.7	9.1	7.2	7.7	7.5	8.1	**M**	10.8	11.2	10	8.7	7.9	9.5	9.9	8.7	8.1	6.8	5.9	11.2	6.2	23
22	7.9	1.7	10.7	13	11.7	10.7	10.7	13.4	17.4	6.6	3.1	8.4	6.2	3.3	5.9	8.5	9	10.7	11.6	10.9	11	10.7	10.7	10.7	17.4	0.3	24
23	11.9	14	4	3.4	6.5	10.4	9.2	5.8	9.5	11.6	11.9	2.5	4.7	2.8	5	2.3	6.8	10.3	12.3	9.1	9.1	8.3	8.3	10.6	14	1.7	24
24	10.3	10	14.8	12.5	7.8	11.3	11.2	11.6	10.6	6.9	7.3	4.5	4	5.9	4.2	10	11.8	12.4	11.2	9.7	9.4	7.9	8	8.9	14.8	6.5	24
25	8.8	9.8	9.9	10.6	11.1	11	10.7	11.4	10.6	9.5	12.2	9.9	9.8	11.8	12	13.7	13.9	13.7	8.2	8.6	8.9	8.4	7.2	7.8	13.9	9.4	24
26	3.5	10.8	10.8	8.5	8	6.6	5.5	5.7	4.7	1.5	5.9	7.5	7.6	8.6	7.7	13.1	14.2	13	12.4	10.2	2.6	11.4	11.2	6.3	14.2	2.2	24
27	2	2.1	4.3	2.1	2.4	3.3	3.2	3	3.5	5	1.3	5.3	7.3	6	3.7	2.3	3.3	7.1	6	5.1	5.3	6.1	4.3	5	7.3	2.3	24
28	6	7.3	5.7	8.6	15.5	16.8	8.4	9.8	7.8	7.6	7.4	5.4	9.3	12.1	14.3	14.5	10.4	10.1	15	14.8	12.5	12.7	7.4	3.6	16.8	8.1	24
29	11.7	13.4	10.8	12	12.6	13	8.4	9.3	10.6	12.1	16.3	21.2	21	21.1	**21.2**	20.8	13.2	8.4	8.6	8	8.5	9.3	8.2	9.3	**21.2**	9.9	24
30	10.6	10.1	9.9	9.6	10.5	11	6.2	5.8	6.4	3.3	3.9	4	5.2	8	8.4	8.9	10.3	9.2	8.5	7.1	9.8	9.3	12.8	10.5	12.8	4.3	24
31	10.6	10.9	12.3	12.9	13.1	11.5	11.4	10.8	13	11.5	14.5	6.6	1.7	1.9	3.1	4.1	1	6.4	5.1	4.9	5.3	6.2	6	3.2	14.5	4	24
HOURLY MAX	16.0	17.1	16.8	18.1	19.3	16.8	15.3	18.8	20.6	15.3	18.7	21.2	21.0	21.1	21.2	20.8	14.2	14.7	15.4	14.8	15.1	14.8	14.4	15.7			
HOURLY AVG	9.4	10.0	10.1	10.1	10.2	10.6	10.3	10.2	11.1	9.2	9.1	9.0	9.0	9.3	9.3	9.2	8.5	9.2	8.9	8.4	8.7	8.9	8.6	8.6			

STATUS FLAG CODES

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

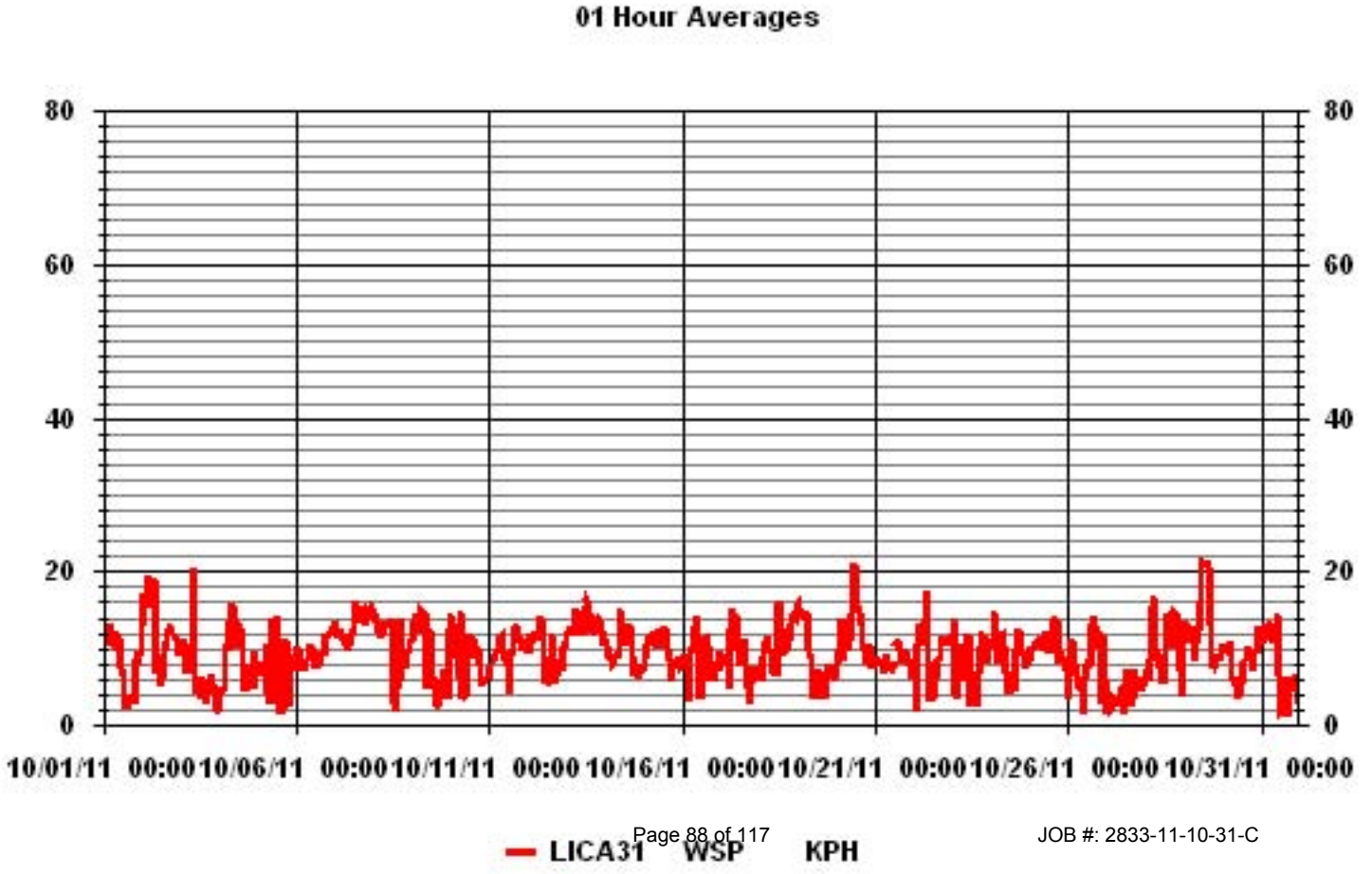


LAST CALIBRATION: June 17, 2010

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:		21.2	KPH	@ HOUR(S)	14	ON DAY(S)	29
MAXIMUM 24-HR AVERAGE:		13.0	KPH			ON DAY(S)	13
CALMS (≤ 0 KPH)	0.00	%		OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	0	HRS		AMD OPERATION UPTIME		99.9	%
STANDARD DEVIATION	3.68			MONTHLY AVERAGE		9.42	KPH

JOB #: 2833-11-10-31-C



JOB #: 2833-11-10-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

OCTOBER 2011

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

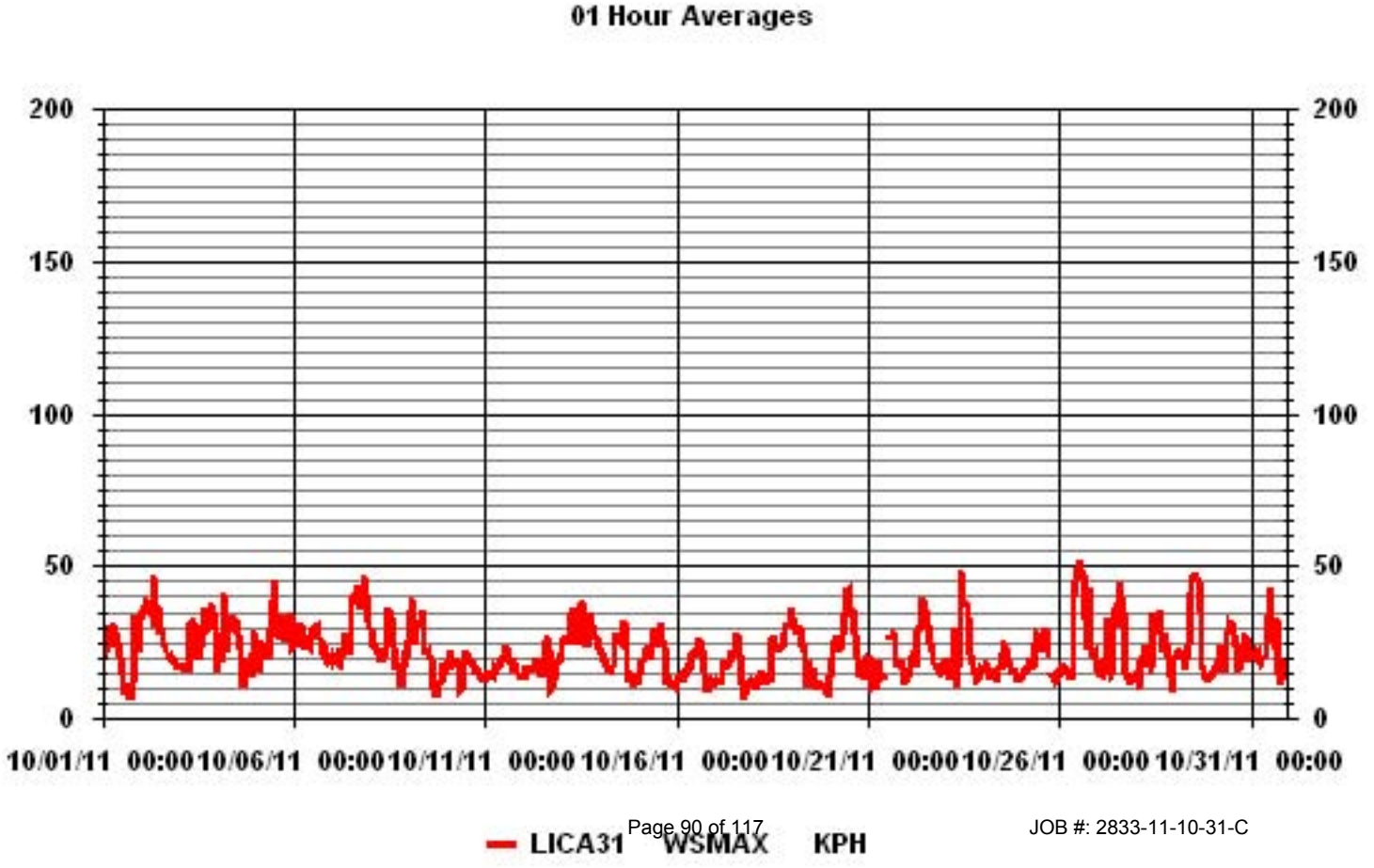
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	22.8	21.2	22.1	30	29.8	23.6	26.5	31.1	27.4	27	25.2	20.4	15.3	12.3	7.7	9.6	7.2	6.6	6.6	11.4	33.9	24.7	23	21.9	33.9
2	32	35.5	37.2	39.4	36.3	35.1	33.5	36.6	47.3	30.2	32.7	36.8	27.6	30	23.6	24.9	22.3	20.4	19.5	20.6	19.3	19.3	17.7	15.8	47.3
3	17.1	17.3	17.7	16.9	14.9	16.5	16.4	30.9	31.5	30.4	30.2	19.3	30.2	19.5	23	27.4	35.9	34.8	30	30.4	37.9	35.5	32.2	24.6	37.9
4	14.9	27.1	26.7	18.4	40.9	23.6	23.3	30	30.9	33.9	32	28.2	33.3	27.8	23.2	14.9	10.3	13.8	18.2	19.7	16.7	13.1	21.4	28.7	40.9
5	21.7	16.4	16.2	22.4	24.7	24.3	18.8	23.4	19.9	30	26.3	38.5	45.5	27.4	34.4	25.8	30.5	26.3	24.7	33.5	28	26.3	35	23.2	45.5
6	23.6	27.6	31.5	26.7	31.5	24.7	24.3	25.6	26.7	24.1	23.4	26	29.2	30	28.7	29.6	27.1	25.8	21.2	24.6	20.1	18.6	19.1	20.4	31.5
7	18.8	19.8	21.5	18.8	18.2	22.1	22.3	20.5	27.8	26.5	21	26	37.2	39.8	41.4	37.7	44	35.7	43.6	39	46.8	41.4	32	30.2	46.8
8	29.6	24.3	23.6	24.5	23.7	21.9	19.5	19.5	20.4	23.4	28.5	36.5	26.5	23.4	33.1	23.6	16.4	17.3	18.4	10.5	13.8	16.6	21	21	36.5
9	25.6	35.7	39.2	24.3	28.5	32	30.4	31.8	34.6	34.4	24.1	21.3	22.3	20.6	19.7	9.4	10.3	6.8	9.9	11.6	11.8	12.3	18.4	17.3	39.2
10	19.1	15.6	21.9	19.9	16.6	19.3	19.5	18.7	9.4	9.9	18.2	20.4	22.5	19.5	19.9	19.3	17.5	17.3	14.5	17.1	14.9	14	12.9	12.9	22.5
11	14.2	14.9	14	14.2	14.7	14	17.1	16.4	18.7	18.2	19.7	19.7	19.9	23.8	19.5	18.6	18.6	18.8	15.3	16.4	15.1	14.2	14.5	13.8	23.8
12	13.6	17.3	15.8	15.8	16.6	16.3	16.2	18.8	18.8	18.4	19.9	13.4	16	25.8	24.3	26.7	23.2	9.6	10.3	12.5	14.5	18	18.8	21.2	26.7
13	24.1	25.8	26.3	26.5	26	28.7	34.2	36.6	28	24.3	28.5	38.1	34.6	38.5	29.8	24.1	24.1	35	30.7	30.4	27.4	26.9	26.7	23.4	38.5
14	23	21.9	19.7	19.1	17.5	16	15.6	16.9	17.3	24.5	28	25.2	25	27.1	23	31.8	22.8	16.4	11.8	14.3	13.8	11.4	10.5	14.7	31.8
15	10.7	14.3	18.6	19.1	20.1	22.5	24.1	19.5	20.6	27.8	27.8	29.6	23.5	26.9	31.1	26.5	23.6	11.4	12.3	14	11.4	11.4	11.6	11	31.1
16	13.2	13.4	14.2	11.6	14.9	15.8	13.2	14.9	16.2	21.2	21.7	20.4	22.3	25.6	25.8	25.6	23	15.7	11.4	8.6	11.2	13.6	10.5	12.1	25.8
17	11.6	12.7	12.7	12.5	11.7	19.3	16	17.5	17.7	18.7	21.9	19.7	23	22.5	27.6	24.3	21.7	11.6	6.2	7.9	11.6	11.8	12.5	11.2	27.6
18	11.4	9.6	12.5	12.3	13.6	15.8	13.4	12.7	12.5	14.7	12	25.6	26	26.3	23.9	21.7	23.2	23.4	23.9	27.6	30.4	30.4	30.7	35.9	35.9
19	35.7	29.8	30.7	28	28	30.7	24.1	21.3	24.7	13.4	10.3	19.3	12.9	14.9	16.4	11	9.2	11.8	11.6	10	11.7	8.8	8.6	8.3	35.7
20	13.6	19.5	25.2	26.5	26.3	21.7	24.1	22.5	27.1	34.8	42	42.3	42.9	33.5	36.4	28.7	27.6	20.8	14.5	14.2	18.2	19.1	15.8	15.8	42.9
21	12.3	20.6	10.1	10.5	11	9.4	11.8	18.6	13.6	14.2	13.8	**M**	**P**	26.7	26.9	25.6	28.5	17.5	17.5	18.4	17.7	19.3	12.5	12.7	28.5
22	15.8	14.5	16	20.8	19.1	22.3	16.6	28.3	30.2	29.1	39.4	32.9	36.2	32	30.9	25.2	22.5	18.8	16.9	16.7	17.1	15.6	14.9	15.6	39.4
23	17.8	17.7	19.5	13.4	**P**	20.4	29.4	10.1	16.4	27.6	48.4	38.1	37.9	38.3	37.4	33.7	21.5	18.8	17.1	14.9	12.7	13.2	13.6	16.4	48.4
24	15.6	15.6	18.4	15.8	12.5	14.5	15.6	15.8	13.4	12.3	17.1	16.2	21.5	25.4	18.4	22.8	19.5	17.3	15.8	15.6	**P**	14.1	12.1	14.7	25.4
25	12.3	15.3	14.7	15.3	16.9	19.3	17.5	19.3	16.2	24.3	28.3	27.8	24.7	21.9	23	29.4	23.4	21.5	**P**	14.5	13.4	14.5	12.7	13.4	29.4
26	15.1	17.1	17.1	16.9	16.7	15.1	13.6	13.6	14.7	39.9	45.5	49.5	51	**51.2**	49	47.8	33.3	28.3	22.8	42.7	21	20.4	21.5	19.9	**51.2**
27	15.8	14.5	14.3	16.7	19.7	16.7	32.9	16.1	14.5	15.6	36.3	33.7	30	37.5	44.2	40.1	35.7	15.3	12.5	13.6	11.4	12.9	14	14.5	44.2
28	14.5	12.3	9.6	18.8	20.2	20.4	23.7	17.1	18	16.4	17.1	35	28.7	28.5	33.3	35.3	25.9	21.2	28	25.4	21.5	21	13.8	8.8	35.3
29	20.6	21.2	21.7	18.9	21.2	22.3	18	15.8	19.1	23.9	41.2	47.3	44.4	47.9	46.4	45.4	35.2	17.5	16.6	13.8	13.4	14	13.4	13.8	47.9
30	14.9	15.8	16.9	18.8	20.8	23.6	22.3	15.2	16	29.1	31.8	31.1	32.2	28.3	23.4	24.5	16.4	16.6	18.8	23.4	28.3	18.4	26.7	21.9	32.2
31	20.8	20.4	21.7	20.6	21.5	19.1	18	19.1	20.4	21	33.7	32.6	43.1	24.9	27.8	22.6	33.3	14.7	11	12.7	13.8	15.3	19.3	19.5	43.1
PEAK	35.7	35.7	39.2	39.4	40.9	35.1	34.2	36.6	47.3	39.9	48.4	49.5	51.0	51.2	49.0	47.8	44.0	35.7	43.6	42.7	46.8	41.4	35.0	35.9	

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	51.2	KPH	@ HOUR(S)	13
			ON DAY(S)	26



JOB #: 2833-11-10-31-C

LICA31
WSP / WDR Joint Frequency Distribution (Percent)

October 2011

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	1.61	1.61	.80	.94	1.74	1.34	1.07	1.48	.80	.80	.26	.67	.53	1.34	2.01	.94	18.03
<	12.0	3.09	1.61	1.61	1.21	2.01	3.09	2.01	2.82	3.36	4.17	4.57	4.71	10.09	9.55	2.96	1.88	58.81
<	20.0	.13	.00	1.07	1.34	.67	1.07	.40	.67	2.42	1.21	2.28	2.69	2.15	3.76	1.21	1.07	22.20
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.80	.00	.00	.94
<	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	4.84	3.23	3.49	3.49	4.44	5.51	3.49	4.97	6.59	6.19	7.13	8.07	12.92	15.47	6.19	3.90	

Calm : .00 %

Total # Operational Hours : 743

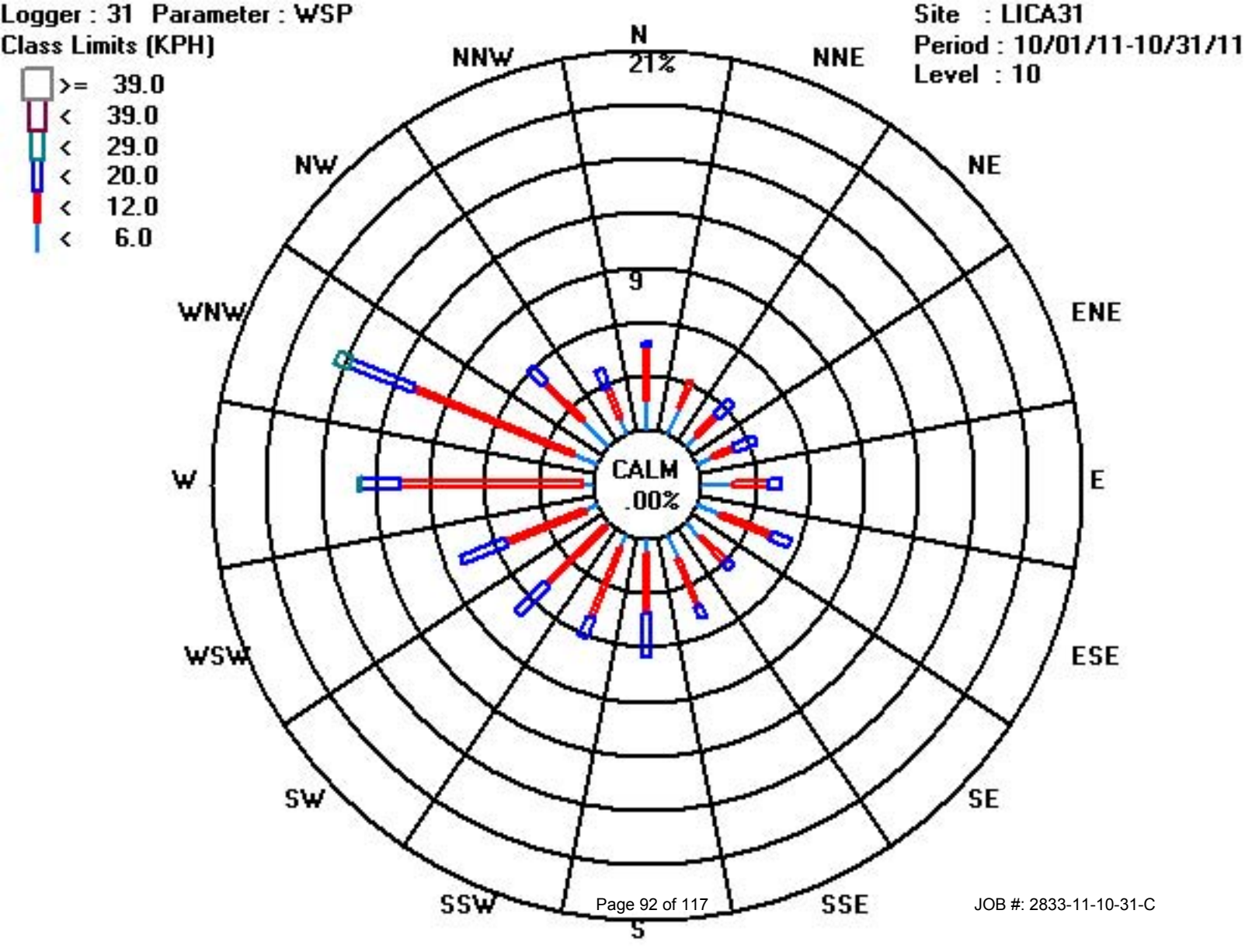
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	12	12	6	7	13	10	8	11	6	6	2	5	4	10	15	7	134
<	12.0	23	12	12	9	15	23	15	21	25	31	34	35	75	71	22	14	437
<	20.0	1		8	10	5	8	3	5	18	9	17	20	16	28	9	8	165
<	29.0													1	6			7
<	39.0																	
>=	39.0																	
	Totals	36	24	26	26	33	41	26	37	49	46	53	60	96	115	46	29	

Calm : .00 %

Total # Operational Hours : 743



JOB #: 2833-11-10-31-C

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

OCTOBER 2011

WIND DIRECTION hourly averages in degrees

MST

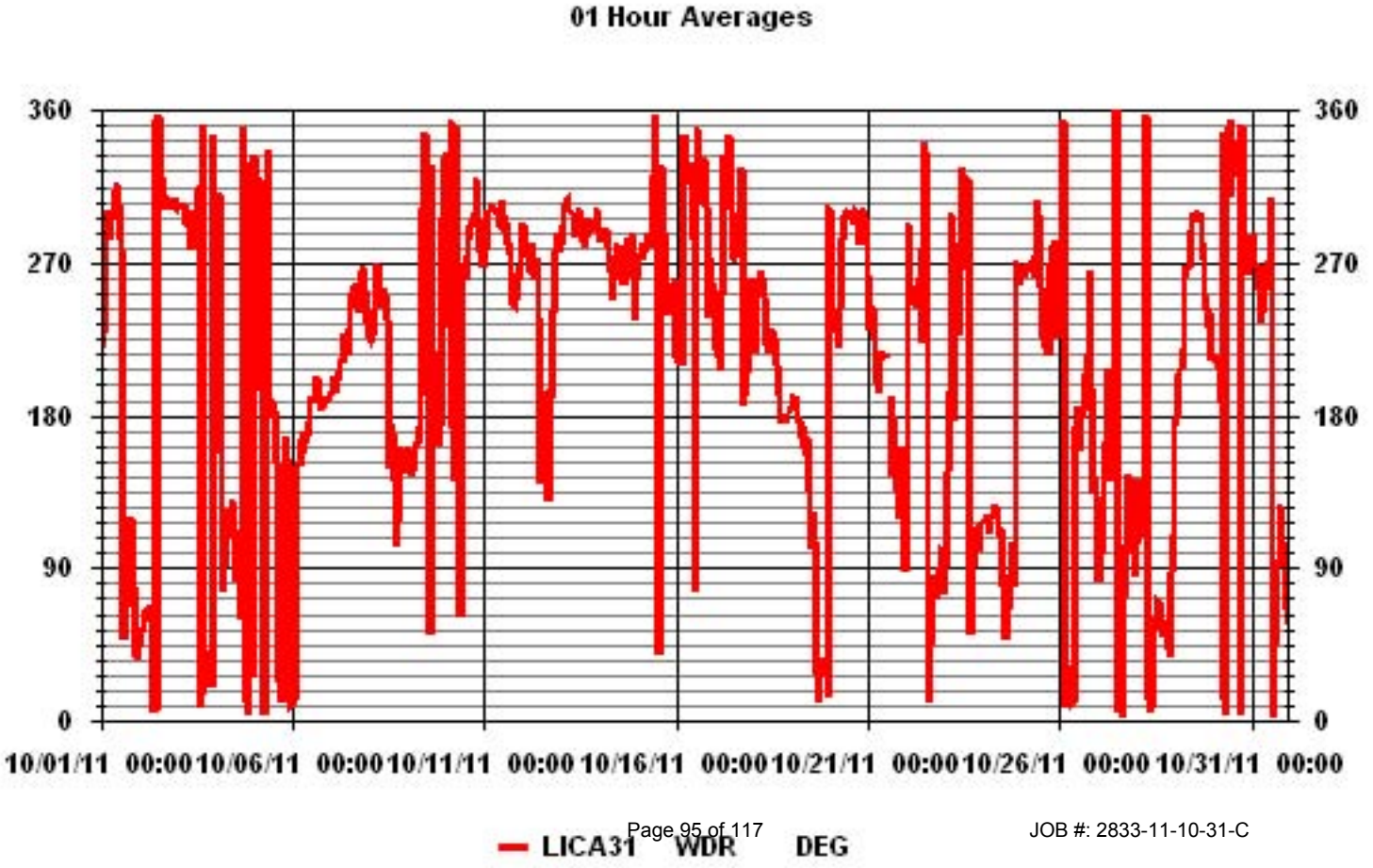
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	222	222	228	296	300	293	283	298	295	312	317	305	285	279	48	52	67	93	79	120	115	80	39	36	300	WNW	24
2	44	52	55	59	65	67	59	67	67	5	354	6	357	341	320	319	309	302	307	306	301	308	303	302	13	NNE	24
3	304	301	304	301	305	297	298	292	279	279	283	301	313	314	8	15	352	30	30	39	41	20	345	157	313	NW	24
4	282	302	311	274	76	104	91	125	119	110	130	109	82	102	112	108	59	350	11	17	3	329	294	25	85	E	24
5	334	311	296	320	196	186	3	257	190	337	178	189	186	183	153	23	72	11	21	96	167	155	23	9	206	SSW	24
6	10	12	149	152	150	163	162	170	164	168	177	190	190	188	200	203	199	192	183	185	189	190	188	193	179	S	24
7	193	203	196	193	201	206	212	212	229	220	215	231	244	252	255	256	253	240	251	265	268	255	236	236	233	SW	24
8	228	225	227	241	257	270	260	256	244	255	252	237	168	148	175	170	142	103	118	162	153	146	151	159	214	SSW	24
9	161	150	144	151	147	161	164	173	191	302	339	347	321	130	51	328	219	207	194	202	162	174	296	331	169	SSE	24
10	333	335	232	355	173	141	351	337	89	61	84	270	260	274	284	291	293	291	300	320	296	277	273	268	297	WNW	24
11	271	277	300	301	305	302	302	301	300	293	292	307	299	295	283	282	276	265	247	245	248	260	269	284	282	W	24
12	293	281	274	277	267	266	281	260	273	271	239	140	174	192	193	141	129	171	190	241	277	286	286	277	253	WSW	24
13	281	292	305	307	308	302	300	299	288	286	290	302	299	295	283	280	285	296	292	291	292	290	302	290	294	WNW	24
14	283	283	287	288	291	280	272	265	248	259	274	281	278	280	270	257	263	261	284	280	288	273	236	263	272	W	24
15	261	276	271	281	276	280	288	282	280	307	321	358	41	41	47	328	289	256	245	239	251	256	257	261	292	WNW	24
16	215	211	236	209	286	346	338	316	319	319	284	329	76	350	304	310	316	318	332	304	237	274	251	257	297	WNW	24
17	254	220	216	210	207	250	334	332	336	345	303	274	273	276	298	299	308	326	185	192	205	226	227	261	279	W	24
18	253	217	249	259	259	265	262	251	222	224	217	222	229	228	226	211	193	178	175	181	179	175	181	184	215	SSW	24
19	184	192	187	188	181	177	168	160	173	156	167	137	101	104	123	107	28	10	26	37	33	31	36	13	150	SSE	24
20	301	300	244	233	230	219	230	243	284	297	299	297	298	299	300	292	301	300	285	280	286	302	298	283	282	W	24
21	264	230	233	244	225	212	201	193	213	218	214	216	**M**	146	150	192	181	149	137	119	140	162	130	87	185	S	23
22	100	294	248	257	256	247	244	258	257	222	279	341	337	308	11	45	55	83	86	71	75	90	101	100	340	NNW	24
23	74	91	147	194	299	177	282	244	227	255	266	326	323	304	320	319	50	82	91	109	113	114	100	117	119	ESE	24
24	118	120	120	118	110	120	122	127	122	126	108	114	80	47	65	48	65	86	105	87	79	271	256	268	106	ESE	24
25	264	262	266	264	270	267	271	266	262	274	307	300	256	227	219	231	217	217	270	277	276	283	252	226	258	WSW	24
26	240	349	354	340	8	20	24	32	11	12	174	186	159	179	185	183	204	200	216	265	197	133	144	133	187	SSW	24
27	82	117	98	132	156	165	207	195	141	149	166	360	359	5	15	1	73	104	126	145	110	98	108	84	100	E	24
28	104	142	119	108	120	119	358	14	5	8	25	54	60	71	70	69	60	49	58	50	43	37	87	110	65	ENE	24
29	174	178	204	207	208	219	268	262	267	268	289	298	298	299	294	298	298	283	273	252	244	236	237	212	262	W	24
30	216	211	215	209	192	188	12	347	3	350	309	354	321	327	336	342	340	3	351	294	285	263	286	284	291	WNW	24
31	285	275	270	268	254	269	234	240	256	268	272	253	309	18	1	45	90	95	127	106	97	89	67	59	264	W	24
HOURLY AVG	334	349	354	355	308	346	358	347	336	350	354	360	359	350	336	342	352	350	351	320	301	329	345	331			

STATUS FLAG CODES

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

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

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	743	HRS
STANDARD DEVIATION	94.50		AMD OPERATION UPTIME	99.9	%
			MONTHLY AVERAGE	260	DEG



JOB #: 2833-11-10-31-C

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST.LINA

OCTOBER 2011

STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

MST

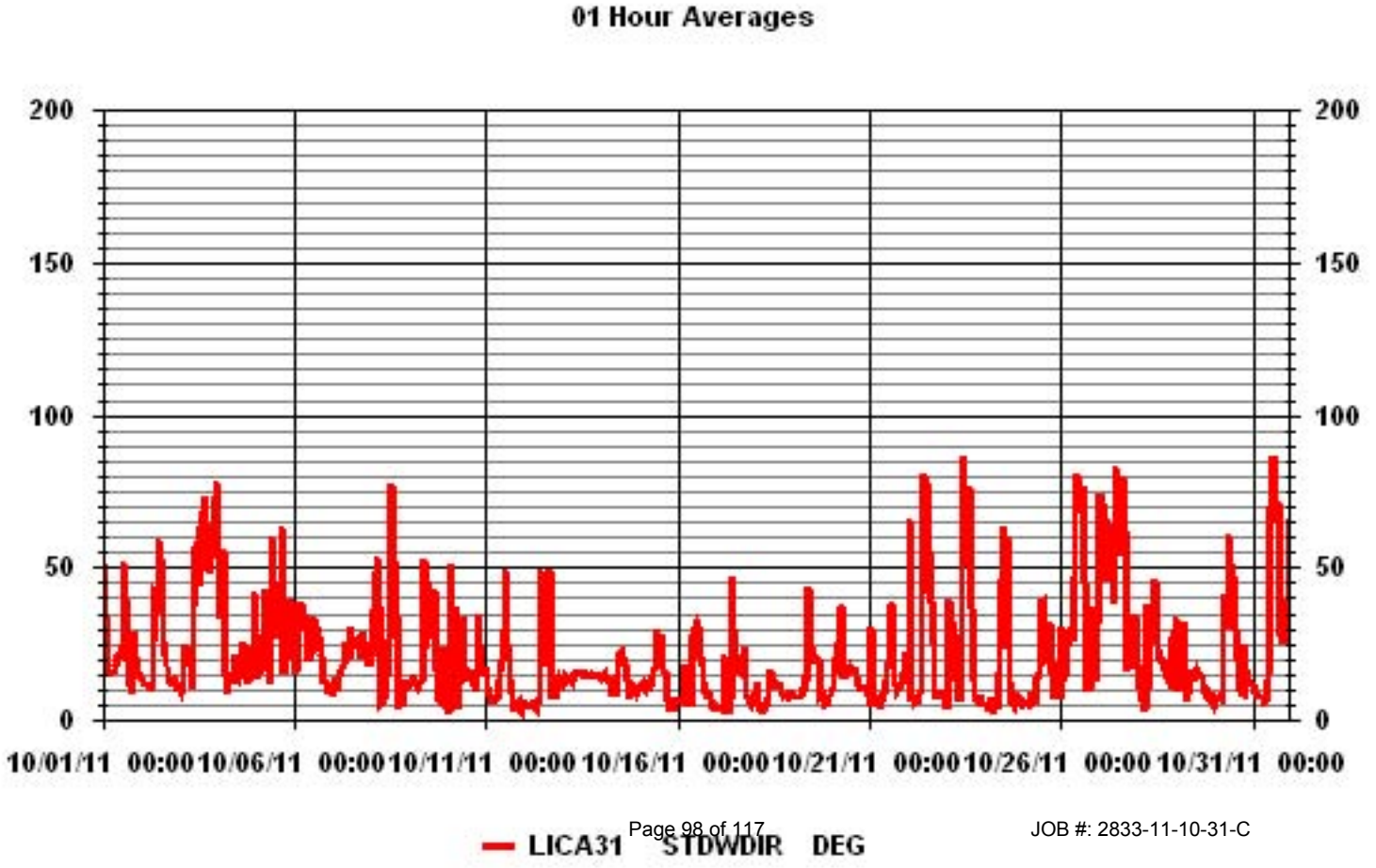
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	45	51	35	16	15	16	16	16	18	21	20	22	25	52	41	20	14	12	8	27	29	22	15	15
2	14	13	12	12	12	12	11	11	26	43	42	60	54	35	26	22	18	13	13	13	11	13	13	10
3	10	9	12	17	24	20	21	21	10	37	56	59	64	44	50	68	73	65	49	48	53	56	73	78
4	61	48	34	33	56	15	9	13	13	16	20	21	14	14	16	24	25	19	14	12	24	21	13	42
5	24	14	16	16	28	17	43	41	12	27	60	34	27	36	46	44	64	15	34	39	28	26	40	20
6	17	16	33	29	39	35	33	34	31	20	20	27	34	27	31	24	25	21	12	14	10	11	9	10
7	8	12	14	9	14	16	17	19	25	24	20	31	27	24	26	27	24	20	22	29	27	21	18	18
8	21	25	36	49	54	38	5	5	7	16	14	27	69	77	48	53	35	3	12	5	7	10	13	11
9	12	13	15	13	12	11	12	12	13	53	23	30	46	31	26	38	43	16	7	6	17	11	24	4
10	4	2	51	36	9	37	3	21	11	20	34	13	17	15	14	16	12	9	13	35	26	22	18	14
11	17	12	8	5	7	8	7	7	13	16	19	29	50	26	23	14	9	2	5	5	6	4	3	4
12	6	5	5	5	5	7	5	4	6	6	49	24	23	18	43	39	49	10	10	6	13	14	13	12
13	14	15	14	13	14	14	13	15	15	16	16	15	15	15	15	15	15	15	16	15	15	15	15	15
14	14	15	16	14	14	13	9	9	10	9	15	18	22	23	21	19	13	7	13	10	12	11	9	10
15	11	12	9	11	10	12	13	12	14	17	17	29	22	23	28	17	16	7	4	5	4	4	7	7
16	7	5	8	6	18	6	6	6	5	28	22	31	32	31	21	18	13	10	7	9	8	7	5	4
17	4	5	4	4	4	21	2	4	4	7	47	31	20	21	21	16	15	15	24	8	8	6	5	7
18	8	9	12	4	4	5	4	5	7	12	16	16	14	11	12	12	12	9	8	8	8	8	9	9
19	9	8	8	8	8	8	10	10	14	14	44	26	25	19	21	18	21	8	8	5	5	5	5	8
20	10	10	21	15	26	20	37	38	14	15	15	16	18	17	16	17	14	12	11	11	11	10	11	9
21	4	31	4	8	5	8	5	5	7	9	13	17	19	38	39	18	11	9	10	11	13	16	13	22
22	12	66	6	8	7	8	7	10	10	41	81	52	61	78	56	39	26	11	7	8	9	9	7	4
23	7	6	40	16	33	12	28	9	6	11	50	86	70	76	65	76	37	14	6	8	6	7	7	6
24	5	6	3	5	7	5	2	4	4	16	23	46	63	59	60	24	13	6	5	8	8	8	5	6
25	4	7	6	5	8	7	9	7	7	14	16	18	39	40	27	21	18	32	15	9	7	10	19	7
26	30	13	16	15	30	24	30	25	47	76	80	72	68	71	77	45	11	11	10	29	15	37	13	31
27	75	70	46	71	67	48	65	56	46	38	83	64	54	63	70	80	63	16	22	24	20	17	35	34
28	19	11	11	7	4	3	38	10	33	31	25	46	28	23	20	19	21	17	14	13	13	27	10	30
29	34	9	15	11	18	32	16	6	9	13	16	16	15	17	15	16	14	12	10	7	9	7	6	7
30	5	6	8	7	7	9	41	38	30	61	52	50	48	30	20	19	10	9	9	25	18	11	13	12
31	12	10	8	8	8	8	8	6	7	13	15	70	86	86	81	64	72	28	25	30	36	25	39	65

STATUS FLAG CODES

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

LAST CALIBRATION: June 17, 2010

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 744 HRS



JOB #: 2833-11-10-31-C

Calibration Reports

Sulphur Dioxide

SO2 Calibration Report

Station Information

Calibration Date	October 7, 2011	Previous Calibration	September 9, 2011
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	9:51	End Time (MST)	13:47
Reason:		Monthly Calibration	
Barometric Pressure	911 mBar	Station Temperature	23 Deg C
Cal Gas	48.3 ppm	Gas Cyl. #	LL103831
Cal Gas Expiry date	February 28, 2013		
DAS Output Voltage	0 - 1 Volts	Chart Rec. Output	NA Volts

Equipment Information

Analyzer Make / Model:	API 100E	S/N :	468	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 1000 ppb			
Sample Flow / Box Temp	529 ccm	32 Deg C	526 ccm	33.3 Deg C
HVPS / Lamp Setting	529	2358	529	2358
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	40.0 Deg C
Offset / Slope	70.9	1.112	73.5	1.102

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4996	0	0	1	N/A
4996	0	0	0	N/A
4917	77.7	751	758	0.9913
4917	77.7	751	753	0.9978
4953	41.4	400	404	0.9910
4980	17.6	170	172	0.9889
4997	0	0	0	N/A
		Sum of Least Squares		0.9911
		New Correction Factor		0.9978

	Before Calibration	After Calibration
Auto Zero	1.9	0.5
Auto Span	370.0	365.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	0.9986
Current Correction Factor Before Span Adjust:	0.9913
Percent Change:	0.7%

Notes: **N/A : Not applicable**

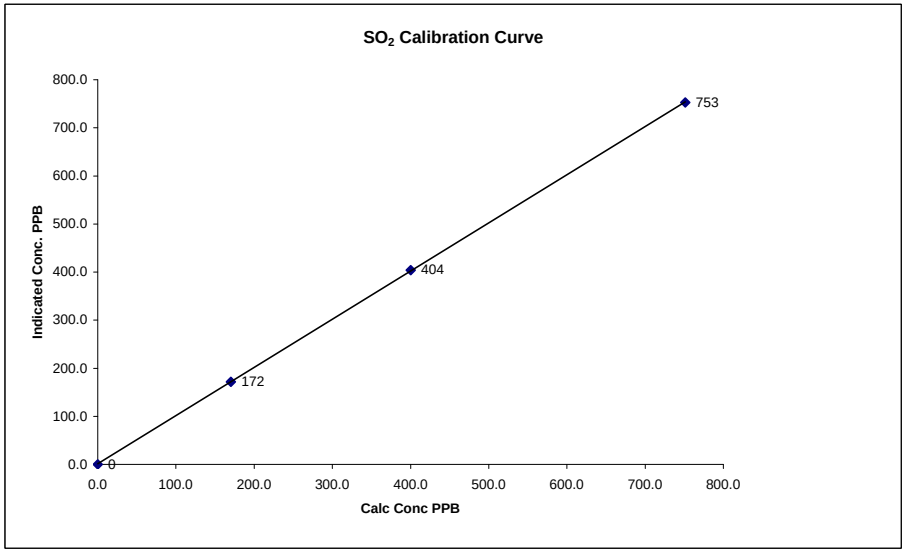
Calibration Performed by: Ting Xu

SO_2 Calibration Curve

Calibration Date	October 7, 2011		
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	9:51	End Time (MST)	13:47

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
170	172	0.9889
400	404	0.9910
751	753	0.9978

Correlation Coefficient	(≥ 0.995)	0.999983
Slope	(0.85 to 1.15)	1.001991
Intercept	(± 3% F.S.)	1.129960



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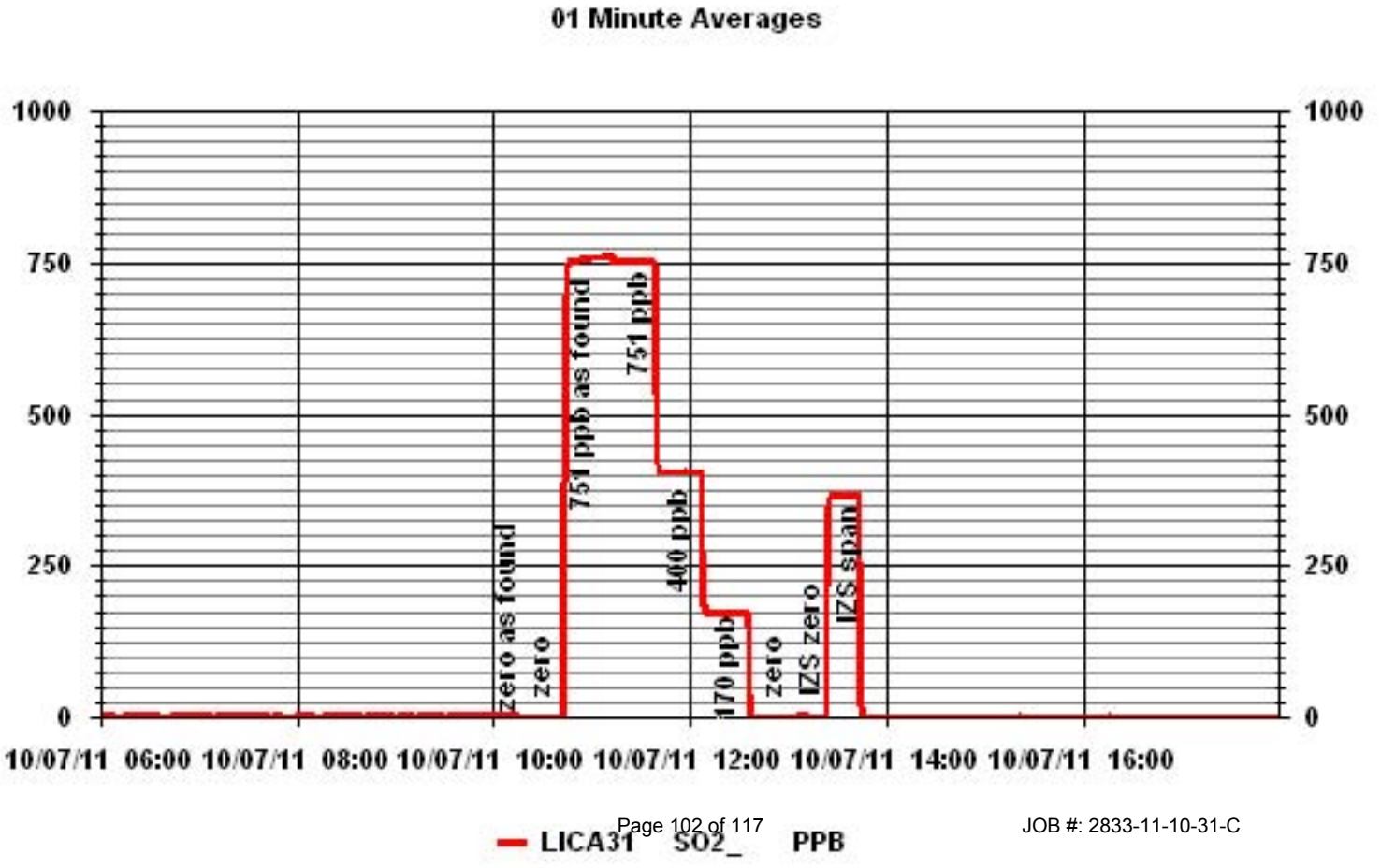


JOB #: 2833-11-10-31-C

Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	October 6, 2011		Previous Calibration	September 8, 2011	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST.LINA				
Start Time (MST)	9:28		End Time (MST)	13:18	
Reason:			Monthly Calibration		
Barometric Pressure	915	mmHg	Station Temperature	25	Deg C
Cal Gas	10.2 ppm	Gas Cyl. #	blm000804	Cal Gas Expiry date	February 2, 2012
DAS Output Voltage	0 - 1	Volts	Chart Rec. Output	NA	Volts

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range				0 - 100 ppb				
Sample Flow / Box Temp	544 ccm		34.6 Deg C		544 ccm		35.4 Deg C	
HVPS / Lamp Setting	518		2374		518		2364	
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		315.2 Deg C		45.0 Deg C	
Offset / Slope	67.3		1.054		70.8		1.028	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4996	0	0	2	NA
4996	0	0	0	1.0000
4959	39.2	80	84	0.9523
4959	39.2	80	80	1.0000
4980	19.6	40	41	0.9753
4986	11.2	23	24	0.9525
4996	0	0	1	NA
			Sum of Least Squares	0.9922
			New Correction Factor	1.0000

	Before Calibration	After Calibration
Auto Zero	2.3	0.8
Auto Span	48.0	44.8
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9523
Percent Change:	5.0%

Notes: **NA : Not Applicable**

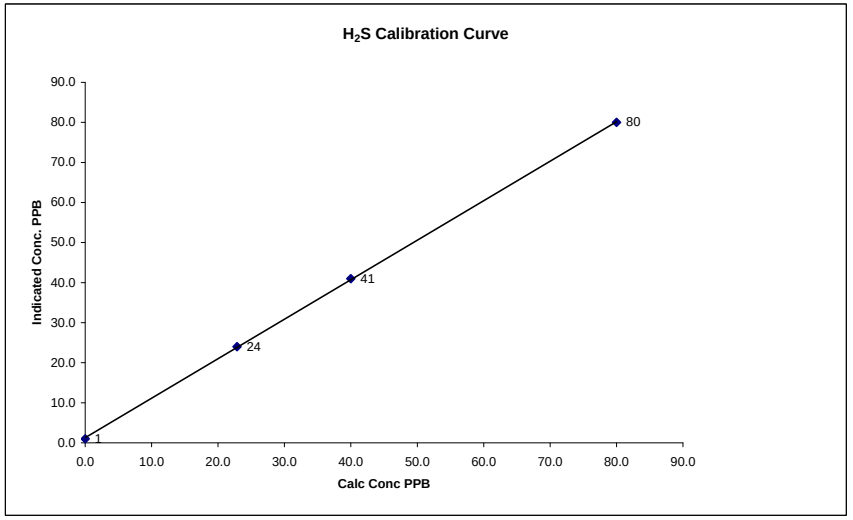
Calibration Performed by: Ting Xu

H_2S Calibration Curve

Calibration Date	October 6, 2011				
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST.LINA				
Start Time (MST)	9:28		End Time (MST)	13:18	

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	1	
23	24	0.9525
40	41	0.9753
80	80	1.0000

Correlation Coefficient	(≥ 0.995)	0.999934
Slope	(0.85 to 1.15)	0.986585
Intercept	(± 3% F.S.)	1.267862



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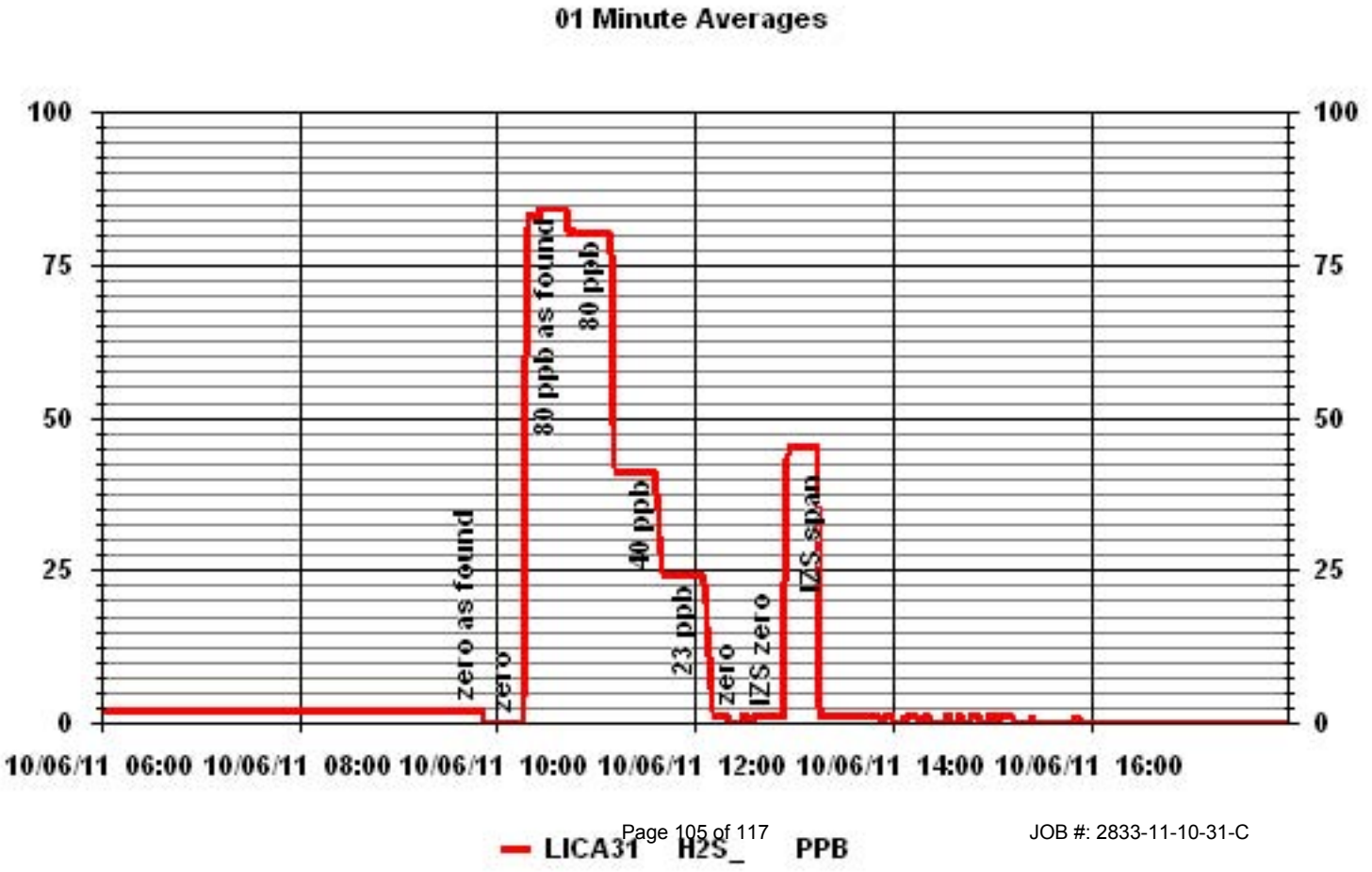


JOB #: 2833-11-10-31-C

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	October 6, 2011		Previous Calibration	September 8, 2011	
Company:	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location:	ST. LINA				
Start Time (MST)	12:38		End Time (MST)	16:18	
Reason:	Monthly Calibration				
Barometric Pressure:	922	mmHg	Station Temperature:	26	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 980 PPM		C3H8 304 PPM		
	TOTAL CH4 1816.0 PPM		Gas Cyl. # -	Cal Gas Expiry Date:	December 3, 2013
DAS make & Model:	ESC 8832		S/N :	AO 717	
Chart Recorder:	NA		S/N:	NA	
Output Voltage Range:	0 - 10	VDC	Chart Speed:	NA	mm/hr

Analyzer Information

Make / Model	TECO 51C	S/N :	77021-384	Method	Flame Ionization

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 50	ppm	0 - 50	ppm
Sample Pressure	6.9	psi	6.9	psi
Hydrogen Pressure	8	psi	8	psi
Air Pressure	21	psi	21	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
3000	0.0	0.0	0.8	NA
3000	0.0	0.0	0.0	1.0000
3000	70.0	41.4	42.1	0.9835
3000	70.0	41.4	41.8	0.9906
3000	35.0	20.9	21.0	0.9973
3000	20.0	12.0	12.0	1.0000
3000	0.0	0.0	0.0	NA
			New Correction Factor:	0.9906

Percent Change

Previous Calibration Correction Factor:	0.9954
Current Correction Factor Before Span Adjust:	0.9835
Percent Change:	1.2%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.8	0.0
Auto Span	35.3	35.0
Sample Lines Connected		YES

Cylinder Pressures

Span 1500 psi Hydrogen 1900 psi Zero Air 34 psi

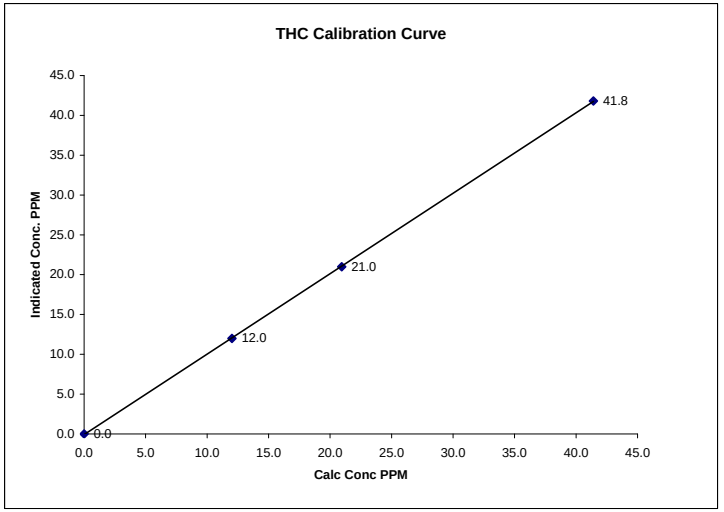
Notes: **NA : Not Applicable**

Calibration Performed by: Ting Xu

THC Calibration Curve

Calibration Date	October 6, 2011				
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST. LINA				
Start Time (MST)	12:38	End Time	(MST)	16:18	

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999979
			Slope (0.85 to 1.15)	1.010134
0.0	0.0	NA	Intercept (± 3% F.S.)	-0.08244
12.0	12.0	1.0022		
20.9	21.0	0.9973		
41.4	41.8	0.9906		



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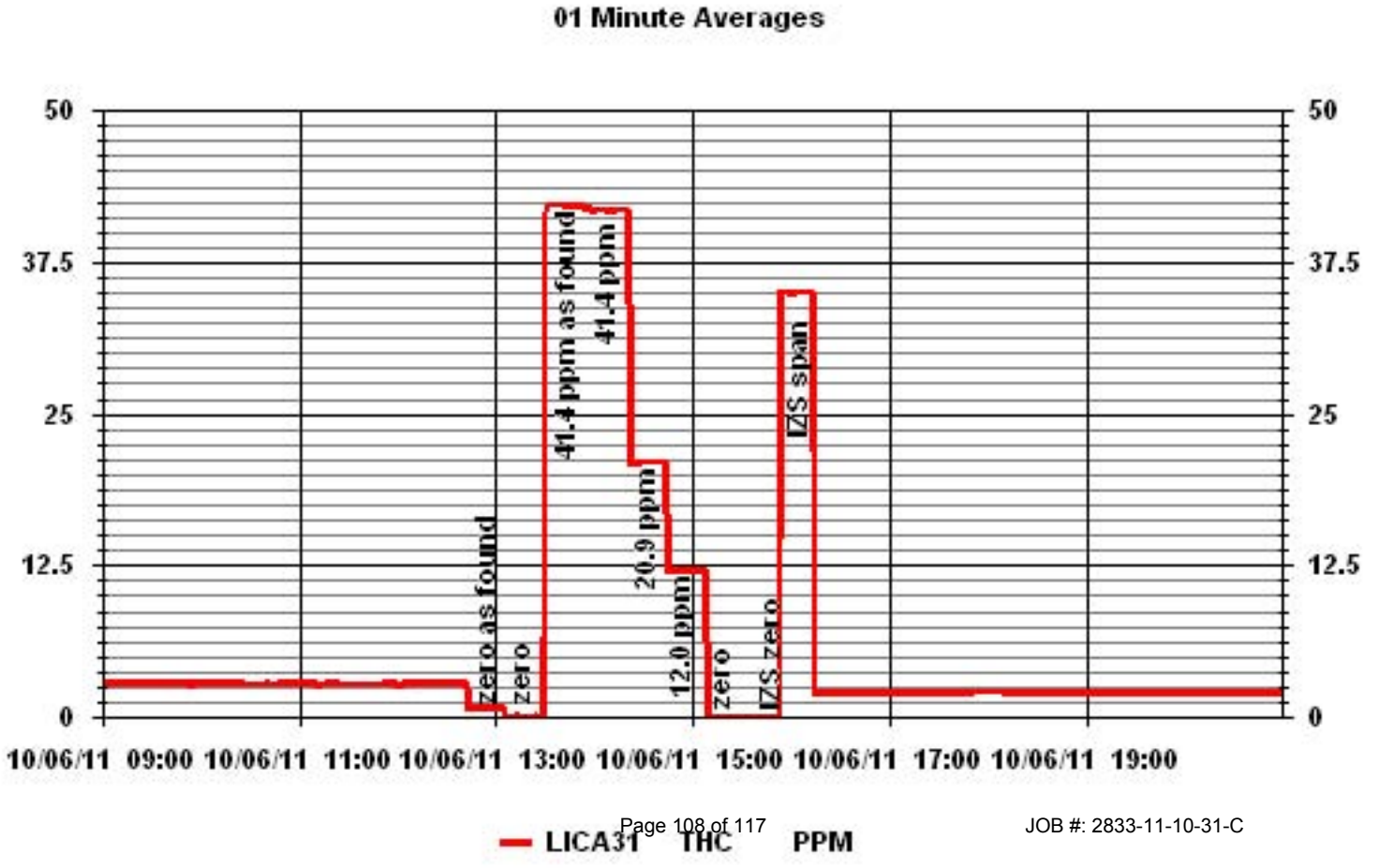


JOB #: 2833-11-10-31-C

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	October 6, 2011		Previous Calibration	September 8, 2011	
Company	LICA		Plant/Location	St. Lina	
Start Time (MST)	9:28		End Time (MST)	15:57	
Reason:	Monthly Calibration				
Barometric Pressure	915 mmHg	Station Temperature	25 Deg C	MFCF	1
Cal Gas Concentration	NOx 49.7 ppm	NO 49.4 ppm	Cal Gas Expiry date	February 28, 2013	
Cal Gas Cylinder #	LL103831				
DAS Output Voltage	0 - 1 Volts		Chart Rec. Output	NA Volts	

Equipment Information

Analyzer Make / Model:	TAPI 200E	S/N :	592	Method:	Chemiluminescent
Calibrator Make / Model:	Environics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	Environics 6100	S/N :	4760		

Analyzer Settings

	Before Calibration					After Calibration				
Concentration Range					0 - 1000			ppb		
Sample Flow/Conv. Temp	478	ccm	315.6	Deg C		469	ccm	315	Deg C	
Ozone Flow / Vacuum	73	ccm	5.5	"Hg-A		72	ccm	5.5	"Hg-A	
HVPS / A ZERO	662	Volts	21.2	MV		662	Volts	21.6	MV	
Rx/ Temp / PMT Temp	50.0	Deg C	6.9	Deg C		50.0	Deg C	6.9	Deg C	
Box Temp / IZS Temp	31.9	Deg C	45.2	Deg C		32.9	Deg C	45.1	Deg C	
Offset	3.7	NOx	0.4	NO		0.9	NOx	0.5	NO	
Slope	1.107	NOx	1.077	NO		1.116	NOx	1.105	NO	
NO_2 COEF / Conv Efficency	NA	NO2	0.993			NA	NO2	0.993		

Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4994	0.0	NA	0	0	NA	-1	0	-4	NA	NA
4994	0.0	NA	0	0	NA	0	0	0	NA	NA
4919	75.7	NA	753	749	NA	743	731	12	1.0124	1.0242
4919	75.7	NA	753	749	NA	755	751	4	0.9964	0.9970
4960	35.3	NA	351	349	NA	351	350	1	1.0000	0.9974
4977	17.2	NA	171	170	NA	171	170	1	1.0000	1.0000
4994	0.0	NA	0	0	NA	0	0	0	NA	NA

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO_2 Correction Factor	NO2 Conv Efficency
			NOx	NO	NO2	NOx	NO	NO2		
4919	75.7	NA	753	749	NA	755	751	4	NA	NA
No Adj Required										
4919	75.7	600	753	NA	506	757	249	508	0.9883	100.40%
4919	75.7	300	753	NA	259	755	496	259	0.9848	100.00%
4919	75.7	120	753	NA	106	756	649	106	0.9636	100.00%

Linearity			Sum of Least Squares	NOx= 0.998	NO= 0.997	NO2= 0.997		
OK?	Yes	No	Correction Factors:	NOx= 0.9964	NO= 0.9970	NO2= 0.9883		
					Average Converter Efficiency= 100.13%			

	Before Calibration					After Calibration			
Auto Zero	-1.6	NOx	-1.3	NO2		-0.1	NOx	0.2	NO2
Auto Span	749	NOx	714	NO2		751	NOx	728	NO2
					Sample Lines Connected	YES			

Percent Change from Previous Calibration	NOx	-1.1%	NO	-2.5%	NO2	0.4%

Notes

NA : Not Applicable

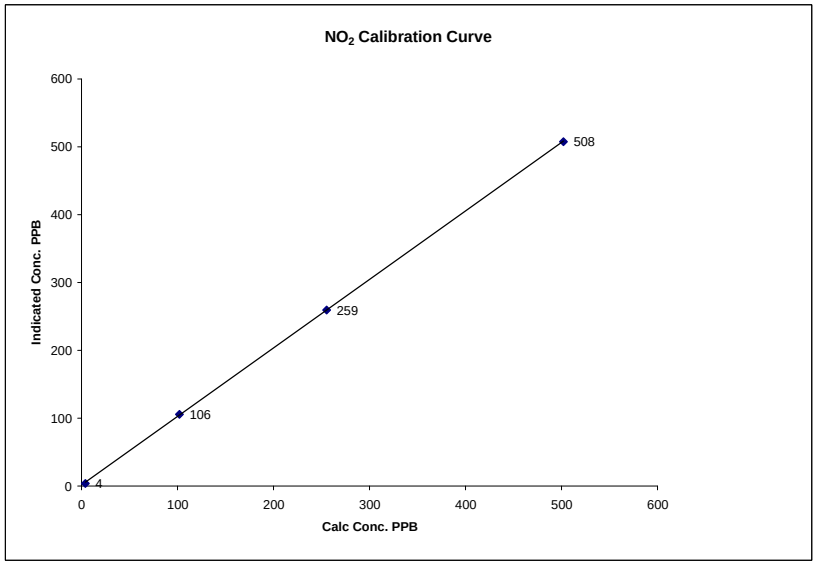
Additional GPT was done for O3 claibration. O3 set point 450, NO=35 NO2=389, NOx=757

Calibration Performed by: Ting Xu

NO_2 Calibration Curve

Calibration Date	October 6, 2011		
Company	LICA		
Plant / Location	St. Lina		
Start Time (MST)	9:28	End Time (MST)	15:57

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999967
			Slope (0.85 to 1.15)	1.010049
4	4	N/A	Intercept (± 3% F.S.)	1.33191
102	106	0.9623		
255	259	0.9846		
502	508	0.9882		



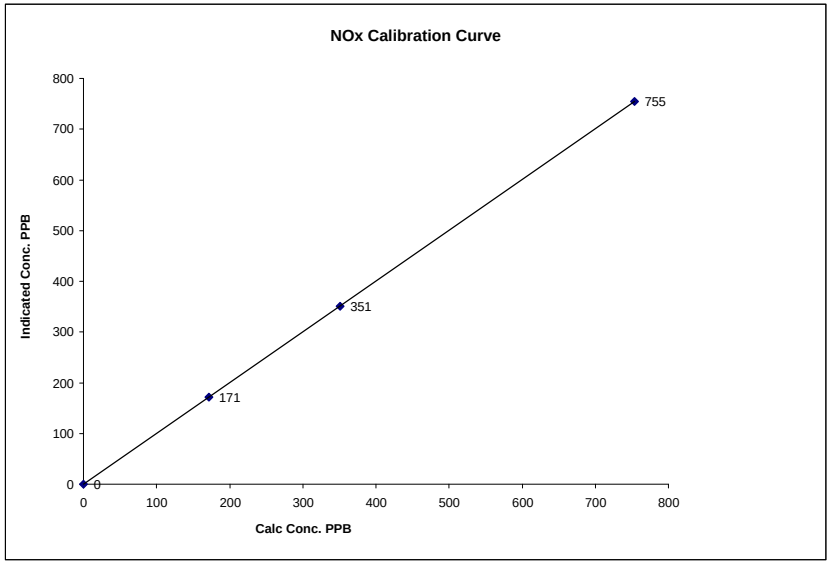
Notes:

NOx Calibration Curve

Calibration Date	October 6, 2011		
Company	LICA		
Plant / Location	St. Lina		
Start Time (MST)	9:28	End Time (MST)	15:57

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	N/A
171	171	1.0010
351	351	1.0006
753	755	0.9977

Correlation Coefficient	(≥ 0.995)	0.999998
Slope	(0.85 to 1.15)	1.002474
Intercept	(± 3% F.S.)	-0.44789



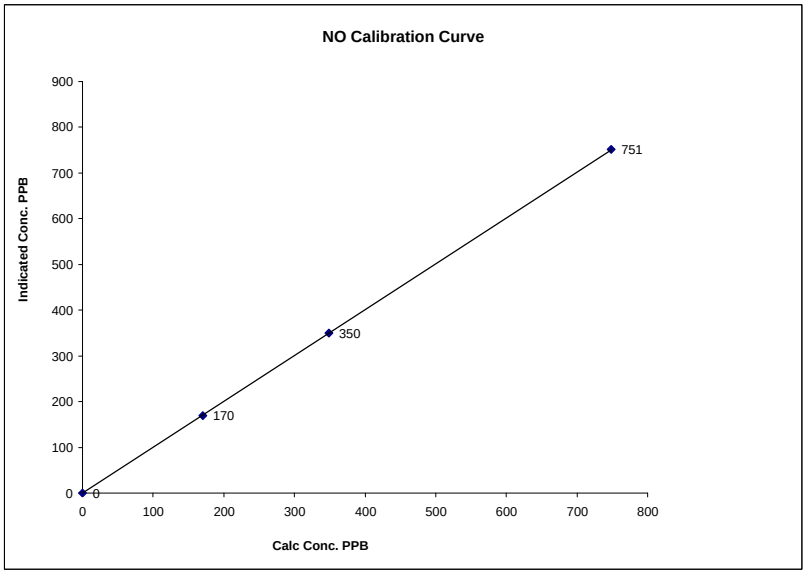
Notes:

NO Calibration Curve

Calibration Date	October 6, 2011		
Company	LICA		
Plant / Location	St. Lina		
Start Time (MST)	9:28	End Time (MST)	15:57

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	N/A
170	170	1.0008
349	350	0.9974
749	751	0.9970

Correlation Coefficient	(≥ 0.995)	0.999999
Slope	(0.85 to 1.15)	1.004067
Intercept	(± 3% F.S.)	-0.2999



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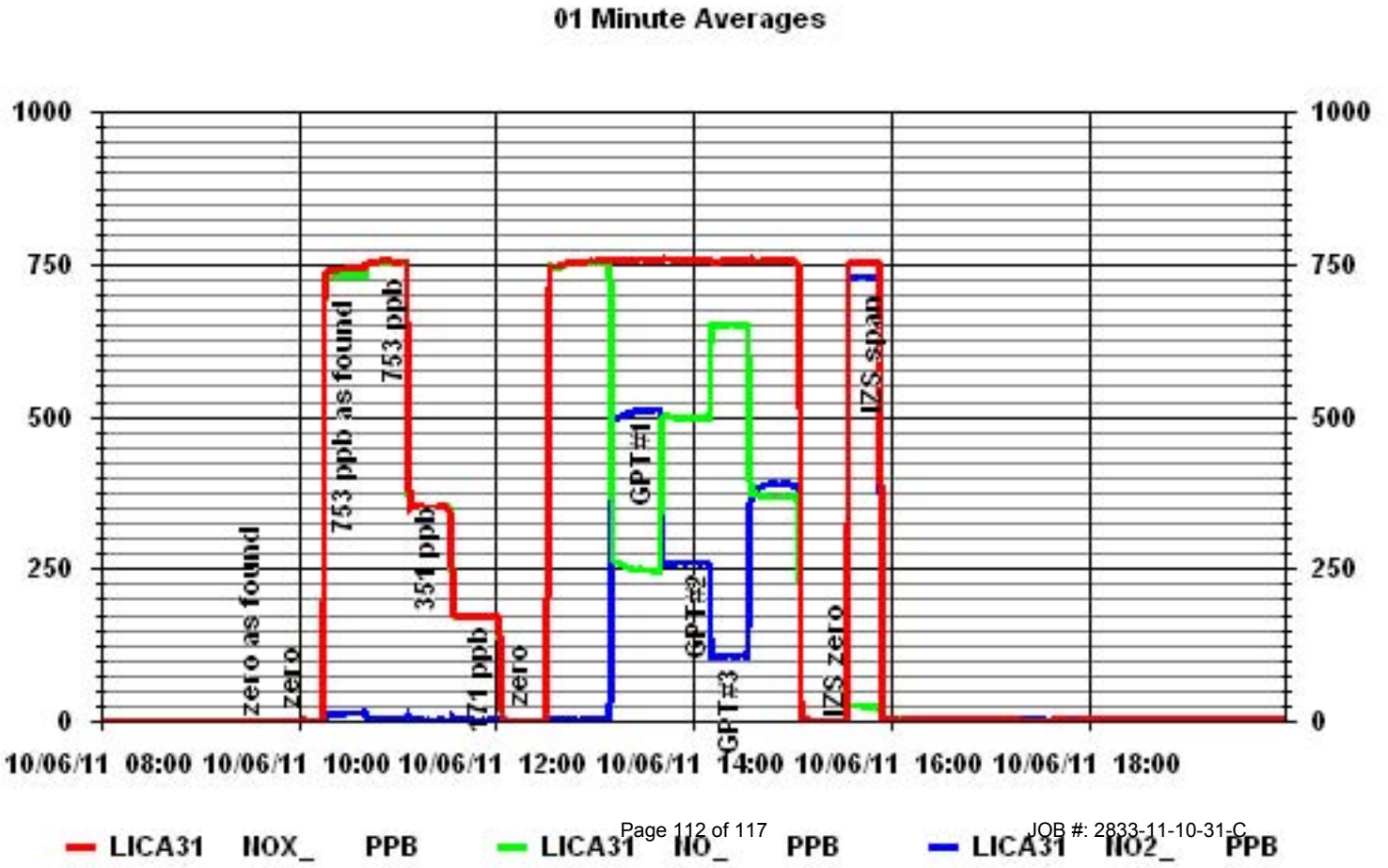

01 Minute Averages
1000
750
500
250
0
zero as found
zero
753 ppb as found
753 ppb
351 ppb
171 ppb
zero
GPT#1
GPT#2
GPT#3
IZS span
IZS zero
10/06/11 08:00
10/06/11 10:00
10/06/11 12:00
10/06/11 14:00
10/06/11 16:00
10/06/11 18:00
LICA31 NOX_ PPB
LICA31 NO_ PPB
LICA31 NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	October 7, 2011	Previous Calibration	September 9, 2011
Company	**Lakeland Industry & Community Association**		
Plant / Location	**St. Lina**		
Start Time (MST)	9:51	End Time (MST)	13:47
Reason:		Monthly Calibration	
Barometric Pressure	911 mm Hg	Station Temperature	23 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49C	S/N :	49C-54926-302	Method:	Fluorescent
Calibrator Make / Model:	Environics 6100	S/N :	4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	AO 717		

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb			
CellA Flow / Cell B Flow	717 ccm	736 ccm	716 ccm	735 ccm
Pressure	693.9 mmHg		694.1 mmHg	
Bench Temp	55.6 Deg C		55.7 Deg C	
O3 Lamp / Box Temp	80 Deg C	33.1 Deg C	80 Deg C	33.8 Deg C
Offset / Slope	0.1	0.962	0.2	0.979

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	NA
	No Zero Adj Needed			
4994	450	383	377	1.0159
4994	450	383	382	
4994	300	255	256	0.9961
4994	120	102	103	0.9903
4994	0	0	0	N/A
			Sum of Least Squares	N/A
			New Correction Factor	0.0000

	Before Calibration	After Calibration
Auto Zero	0.5	1.1
Auto Span	339	345
Sample Lines Connected		YES
Percent Change from Previous Calibration		-2.1%

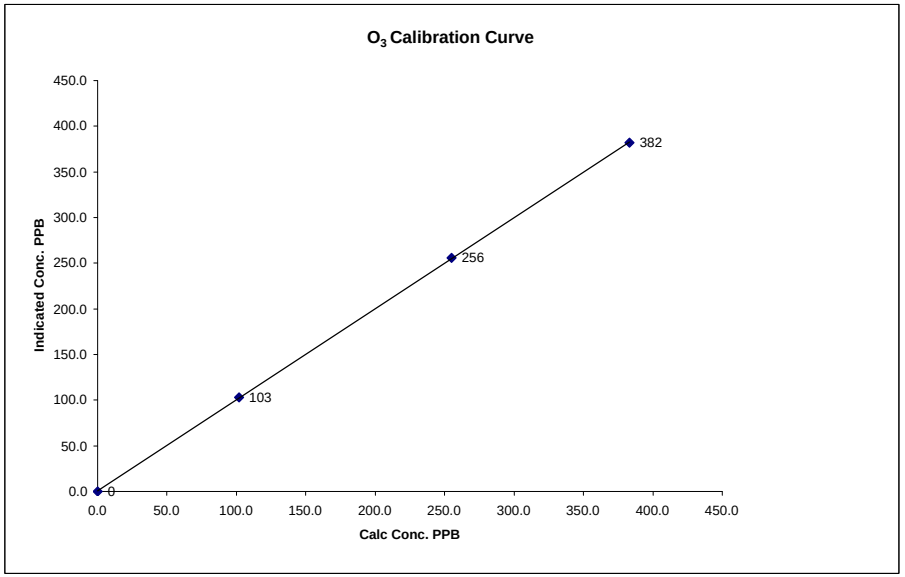
Calibration Performed by: Ting Xu

O_3 Calibration Curve

Calibration Date	October 7, 2011		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**St. Lina**		
Start Time (MST)	9:51	End Time (MST)	13:47

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
102	103	0.9903
255	256	0.9961
383	382	1.0026

Correlation Coefficient	(≥ 0.995)	0.999974
Slope	(0.85 to 1.15)	0.997524
Intercept	(± 3% F.S.)	0.708061



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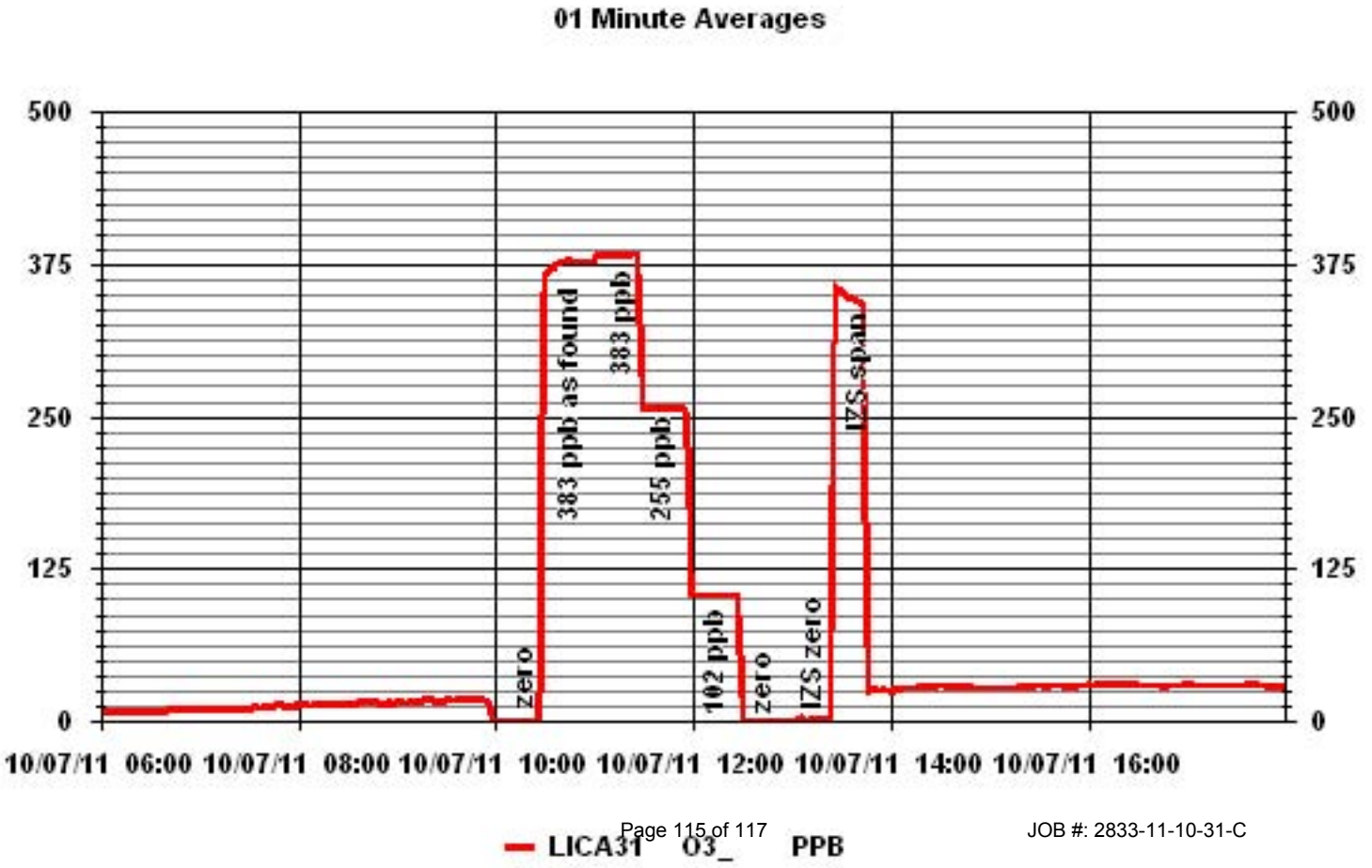

JOB #: 2833-11-10-31-C

Particulate Matter 2.5

TEOMÒ 1405F Audit

Station		Audit Transfer Standard	
Date:	10/07/201	Make/Model:	Streamline FTS
Station Name:	Lica St. Lina (CASA # 31)	Serial Number:	LO 091099, Hi 091001
Location:	St. Lina Station	Cell s/n:	NA
Operator:	LICA	Thermometer s/	Station Temp. Sensor

Sampler		Set-up and current Sampler readings	
Make/Model	Thermo Scientific Series 1405F	F-Main Set Pt (l/min)	3.00
Unit #	NA	F-Aux Set Pt (l/min)	13.67
Unit s/n	1405A208301003	Filter Load (%)	27.6%
Firmware Ver.	1.52	K_o Factor	13125.0
Parameter	PM 2.5 (with FDMS)	Temp (^oC)	8.8
		Press (ATM)	0.912

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 **<0.10*u* g**	0.003	Warnings	None
Pump Vacuum **<0.4atm**	0.32	Pump Gauge (inHg)	19

Temperature/Pressure

Measured Temp **(± 2 ^oC)**	8.7	**D ^oC**	0.1
Measured Press **(± 0.01atm)**	0.913	**DATM**	-0.001

Flow Audit

Indicated Main Flow (l/min)	3.00	Main Flow Drift **(±10.0%)**	0.23%
Measured Main Flow (l/min)	3.03	Flow Adjusted to Measured?	0.3%
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift **(±10.0%)**	1.69%
Measured Bypass Flow (l/min)	13.93	Flow Adjusted to Measured?	No

Leak Check

Main **(< 0.15 l/min)**	NA
Aux **(< 0.6 l/min)**	NA

Instrument Setup

Flow Control = Active

Report Conditions = Actual

K_o Factor

Measured	NA
K_o Difference **(± 2.5%)**	NA

Start Time: 10:07 **Finish Time:** 11:29

Sample Inlet Cleaned: Yes **New Filters Installed:** Yes

New Filter Loading %: 20.4%

Comments:

JOB #: 2833-11-10-31-C

Auditor/s: Ting Xu