Lakeland Industry & Community Association

Maskwa Monitoring Site
Ambient Air Monitoring
Data Report
For
June 2012

Prepared By:

July 27, 2012

JOB #: 2833-12-06-30-C

Lakeland Industry & Community Association
Ambient Air Monitoring
Maskwa

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Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Maskwa
Data Period: June 2012

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 – June 2012

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	0.38	9	27	8	9.3	306(NW)	2.7	3	99.9
H2S (PPB)	10	3	0	0	0.17	5	16	19	6.2	123(ESE)	0.7	7	99.9
THC (PPM)	-	-	-	-	2.00	2.8	22	6	1	10(N)	2.2	22, 29	99.7
NOx (PPB)	-	-	-	-	2.22	37	27	7	10.6	308(NW)	9.6	3	99.9
NO (PPB)	-	-	-	-	0.43	18	27	7	10.6	308(NW)	2.4	3	99.9
NO_2 (PPB)	159	-	0	-	1.40	20	3	4	7.9	304(WNW)	6.7	3	99.9
VECTOR WS (KPH)	-	-	-	-	5.06	17.5	10	16	-	18(NNE)	10.4	6	99.9
VECTOR WD (DEGREES)	-	-	-	-	123(ESE)	-	-	-	-	-	-	-	99.9
RELATIVE HUMIDITY (%)	-	-	-	-	67.37	93	VAR	VAR	VAR	VAR	83.4	13	99.9
TEMPERATURE (DEG C)	-	-	-	-	15.40	26.9	25	16	4.5	174(S)	20.5	25	99.9
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	938	949	24	9	4.5	109(ESE)	946.6	24	99.9
PRECIPITATION (MM)	-	-	-	-	0.07	4.9	27	6	7.9	321(NW)	19.6	27	99.9

NA-NOT APPLICABLE VAR-VARIOUS

General Monthly Summary

Equipment Operation

The following summary outlines the analyzer performance. Any non-conformances, problems encountered 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 issues were observed during the month. The inlet filter was changed before the monthly calibration was started on June 11th. Hourly data on June 10th at hour 5 is missing. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

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

No operational issues were observed during the month. The inlet filter was changed before the monthly calibration was started on June 11th. Hourly data on June 10th at hour 5 is missing. Data was corrected using daily zero information.

Total Hydrocarbon (PPM)

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

No operational issues were observed during the month. The inlet filter was changed before the monthly calibration was started on June 11th. The H2 gas cylinder was replaced on June 11th. The CH4 gas cylinder was changed on June 25th. A daily calibration check was run following the CH4 gas cylinder replacement. Hourly data on June 10th at hour 5 is missing. 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 issues were observed during the month. The inlet filter was changed before the monthly calibration was started on June 11th. Hourly data on June 10th at hour 5 is missing. Data was corrected using daily zero information.

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

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

The wind system is reported as vector wind speed and vector wind direction.
No operational issues were observed this month. Hourly data on June 10th at hour 5 is missing.
WS maximum data on June 22nd at hour 22nd was invalidated as the reading went above the full scale.

Relative Humidity (PERCENT)

- System make / model - Met One 083

No operational issues were observed during the month. Hourly data on June 10th at hour 5 is missing.

Precipitation (MM)

- System make / model - Met One 387

No operational issues were observed during the month. Hourly data on June 10th at hour 5 is missing.

General Monthly Summary

AQM STATION – LICA – Maskwa

Barometric Pressure (MILLIBAR)

- System make / model - Met One 092

No operation issues were observed during the month. Hourly data on June 10th at hour 5 is missing.

Ambient Temperature (DEGC)

- System make / model - Met One 060

No operational issues were observed during the month. Hourly data on June 10th at hour 5 is missing.

Trailer Temperature (DEG C)

- System make / model – R&R 61

No operational issues were observed during the month. Hourly data on June 10th at hour 5 is missing.

Standard Deviation Wind Direction (DEG)

- System make / model –Met One 50.5H

No operational issues were observed during the month. Hourly data on June 10th at hour 5 is missing.

General Monthly Summary

AQM STATION – LICA – Maskwa

Datalogger

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

No operational issues were observed during the month.

Trailer

The manifold was cleaned on June 11th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2012

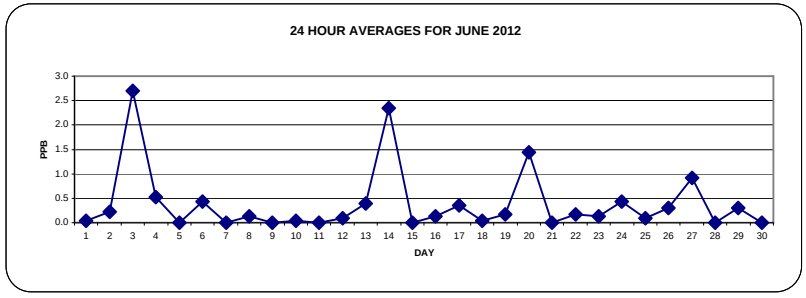
SULPHUR DIOXIDE (SO_2) hourly averages in ppb

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	**IZS**	1	0	0	0	0	0	0	0	0	1	0.0	24
2	0	0	0	0	0	0	0	0	2	2	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	1	2	0.2	24
3	2	3	7	6	8	1	1	0	0	0	3	6	**IZS**	4	6	0	5	4	4	1	1	0	0	0	8	**2.7**	24
4	0	0	1	0	1	1	1	4	2	0	2	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	4	0.5	24
5	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	2	4	2	1	1	0	4	0.4	24
7	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	0	0	0	0	0	**IZS**	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
9	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
10	1	0	0	0	0	**N**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	23
11	0	0	0	0	**IZS**	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	0	**C**	0	0	0	0	0	0	0	0	0.0	24
12	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0.1	24
13	0	0	**IZS**	0	0	0	0	0	0	0	0	2	0	0	1	1	1	0	1	0	0	0	2	1	2	0.4	24
14	0	**IZS**	1	2	0	5	6	3	4	1	4	3	5	5	5	1	3	3	0	2	1	0	0	0	6	2.3	24
15	**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
16	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**IZS**	0	1	0.1	24
17	0	0	0	0	0	0	0	0	1	0	1	1	0	1	1	1	1	0	1	0	0	**IZS**	0	0	1	0.3	24
18	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	1	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	**IZS**	0	0	0	0	2	0.2	24
20	0	0	0	2	6	7	4	5	4	1	0	0	0	2	2	0	0	0	**IZS**	0	0	0	0	0	7	1.4	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	1	0	0	2	0.2	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	1	2	0	2	0.1	24
24	0	0	0	0	0	0	0	0	0	2	1	1	1	1	**IZS**	0	0	0	0	0	0	2	2	0	2	0.4	24
25	0	0	1	0	0	0	0	1	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0.1	24
26	0	0	0	0	0	0	1	2	1	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	3	3	0.3	24
27	0	0	0	0	0	0	0	8	**9**	3	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	**9**	0.9	24
28	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	0	0	0	0	0	**IZS**	4	1	0	0	0	0	0	0	0	0	2	0	0	0	4	0.3	24
30	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	2	3	7	6	8	7	6	8	9	3	4	6	5	5	6	1	5	4	4	4	2	2	2	3			
HOURLY AVG	0.1	0.1	0.3	0.3	0.5	0.5	0.5	0.9	0.9	0.4	0.6	0.5	0.3	0.5	0.6	0.2	0.4	0.2	0.3	0.3	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

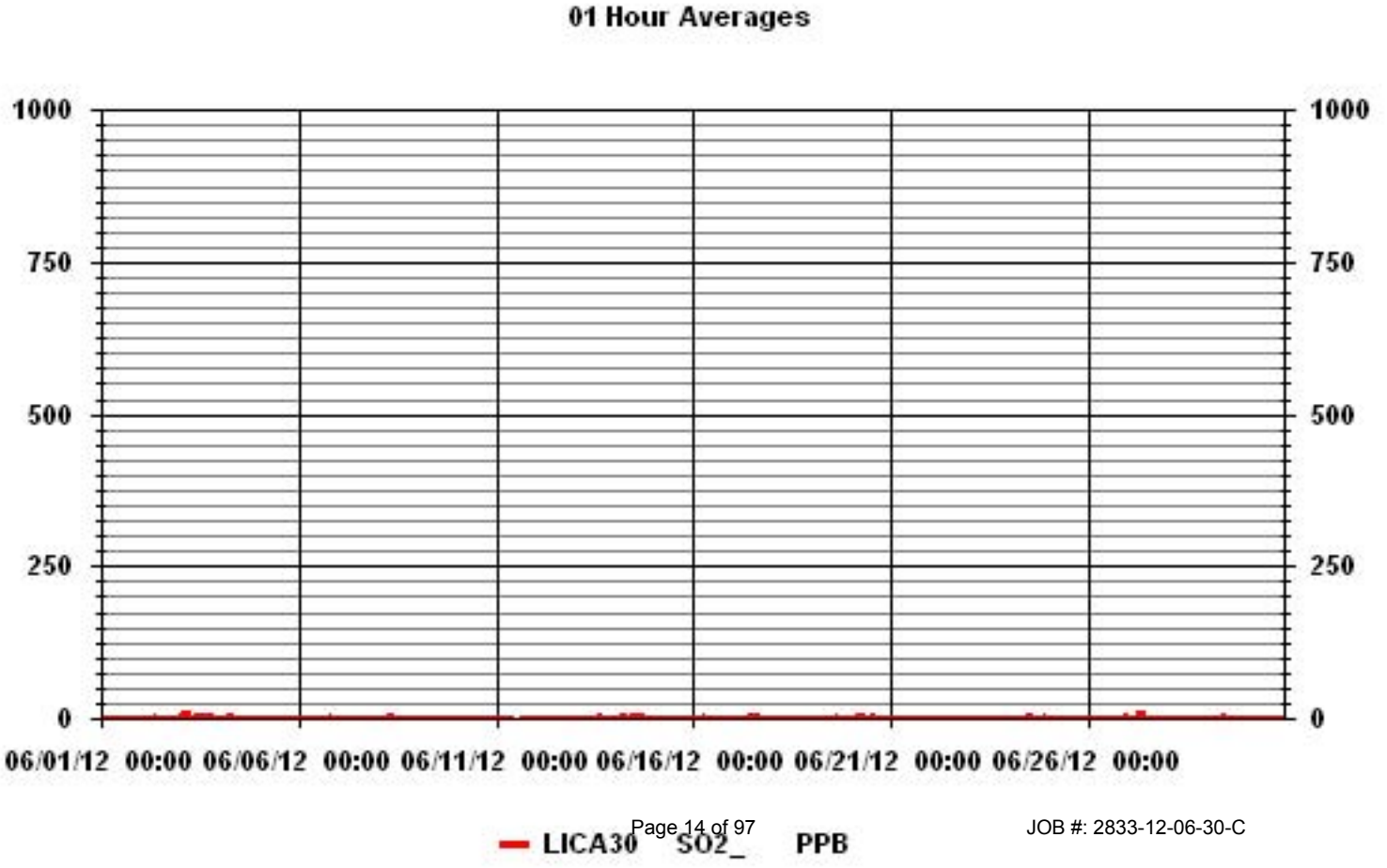


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	111					
MAXIMUM 1-HR AVERAGE:	9	PPB	@ HOUR(S)	8	ON DAY(S)	27
MAXIMUM 24-HR AVERAGE:	2.7	PPB			ON DAY(S)	3
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	1.16		MONTHLY AVERAGE:		0.38	PPB

JOB #: 2833-12-06-30-C



JOB #: 2833-12-06-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

JUNE 2012

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

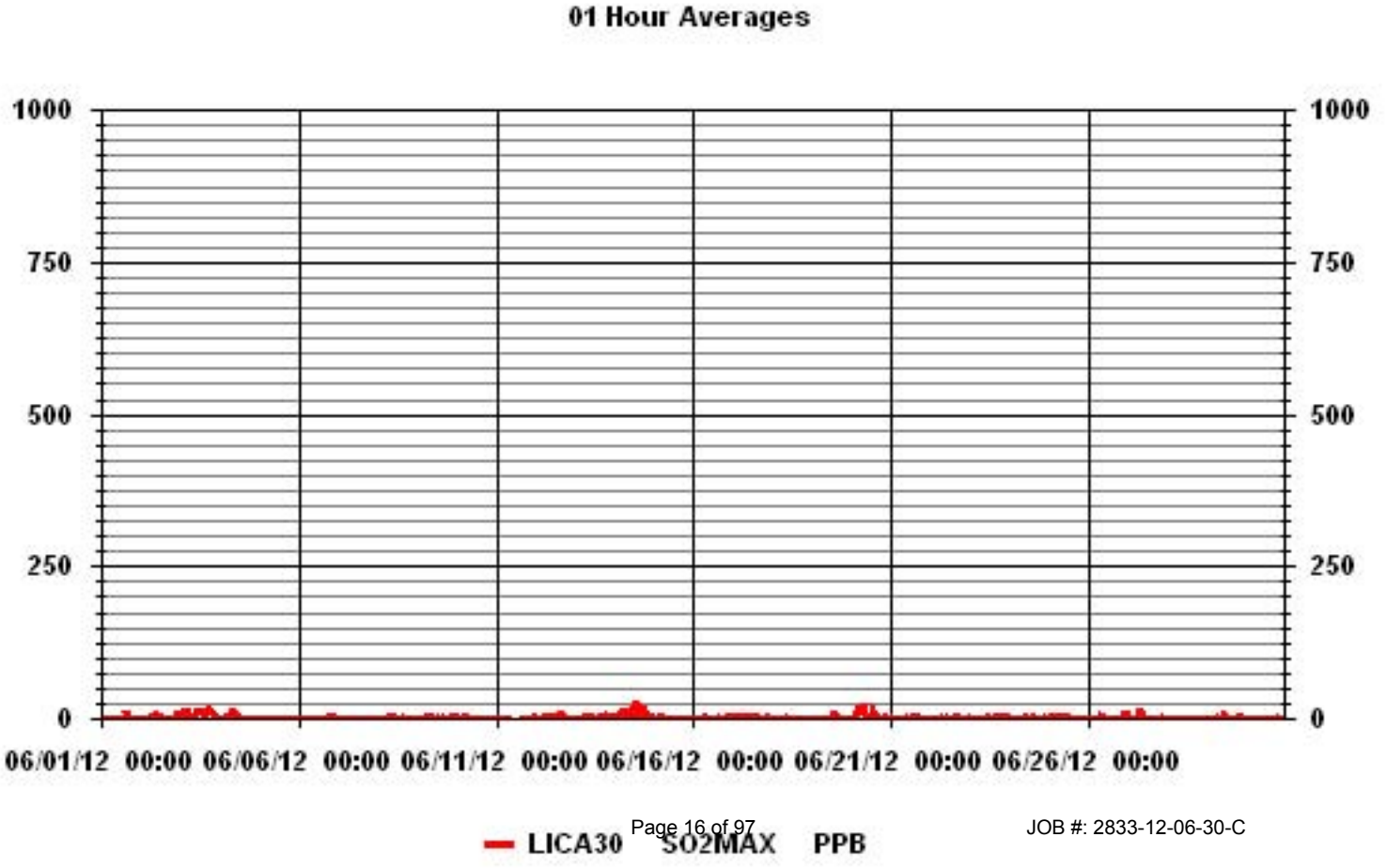
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	10	1	0	0	0	0	0	0	0	10	0.5	24
2	0	0	0	0	0	0	0	3	5	7	1	1	1	**IZS**	1	0	1	0	0	0	0	0	6	6	7	1.4	24
3	6	6	11	10	12	5	4	3	1	1	13	12	**IZS**	15	14	1	12	14	15	10	9	0	0	0	15	7.6	24
4	0	0	3	1	3	3	3	17	11	4	8	**IZS**	0	0	2	1	0	0	0	0	0	0	0	0	17	2.4	24
5	0	0	0	0	0	0	0	0	0	0	**IZS**	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
6	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	4	7	6	2	3	0	7	1.0	24
7	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	0	0	0	0	0	**IZS**	2	2	2	1	1	0	0	1	1	1	2	1	0	0	0	1	2	0.7	24
9	0	1	0	0	0	0	**IZS**	1	1	1	1	2	1	1	0	1	1	1	0	0	1	1	1	1	2	0.7	24
10	4	1	0	0	0	**N**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.3	23
11	0	0	0	0	**IZS**	0	1	0	0	**C**	**C**	**C**	**C**	**C**	**C**	0	**C**	0	0	0	0	0	0	1	1	0.1	24
12	1	0	0	**IZS**	0	1	1	1	1	1	1	1	3	5	4	3	12	0	0	0	0	0	0	0	12	1.5	24
13	0	0	**IZS**	0	0	1	1	1	1	1	1	3	2	1	3	3	3	0	5	1	1	0	6	7	7	1.8	24
14	1	**IZS**	3	8	1	11	13	9	11	7	13	10	13	**26**	18	3	19	17	0	8	2	1	1	1	**26**	8.5	24
15	**IZS**	1	0	1	1	1	1	0	0	0	1	0	0	0	0	0	0	2	1	0	0	1	0	**IZS**	2	0.5	24
16	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	1	1	2	1	3	1	1	**IZS**	1	3	0.7	24
17	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	2	1	1	**IZS**	0	0	2	1.0	24
18	0	0	0	0	0	0	0	1	4	3	0	1	0	0	0	0	0	0	0	0	**IZS**	0	0	0	4	0.4	24
19	0	0	0	0	0	0	0	0	0	0	0	0	7	3	8	7	0	0	0	**IZS**	0	0	0	0	8	1.1	24
20	0	0	2	11	16	18	19	20	11	6	5	2	1	12	7	0	4	0	**IZS**	0	1	1	1	0	20	6.0	24
21	1	1	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	**IZS**	0	0	0	0	0	0	1	0.4	24
22	0	0	0	0	0	0	1	4	2	1	1	1	2	0	1	1	**IZS**	1	1	2	1	2	0	1	4	1.0	24
23	1	0	0	0	0	0	0	0	1	0	0	2	2	1	2	**IZS**	2	2	1	1	0	5	6	0	6	1.1	24
24	0	0	0	0	0	0	0	0	1	4	3	2	3	2	**IZS**	1	1	0	0	0	1	4	4	2	4	1.2	24
25	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0.6	24
26	0	0	0	0	0	1	3	7	5	3	2	1	**IZS**	1	0	0	0	0	0	0	0	0	7	8	8	1.7	24
27	1	0	0	0	0	1	2	13	13	6	3	**IZS**	1	0	0	0	0	0	1	2	1	1	0	0	13	2.0	24
28	0	0	0	1	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.1	24
29	0	0	0	0	0	0	1	1	0	**IZS**	8	7	2	3	0	0	0	0	0	2	3	2	0	0	8	1.3	24
30	0	0	0	0	0	0	1	0	**IZS**	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	1	0.2	24
HOURLY MAX	6	6	11	11	16	18	19	20	13	7	13	12	13	26	18	10	19	17	15	10	9	5	7	8			
HOURLY AVG	0.6	0.4	0.7	1.2	1.2	1.5	2.0	3.0	2.6	1.9	2.5	1.9	1.6	2.7	2.3	1.2	2.1	1.4	1.1	1.3	1.0	0.8	1.2	1.0			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	296					
MAXIMUM INSTANTANEOUS VALUE:	26	PPB	@ HOUR(S)	13	ON DAY(S)	14
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	3.34					



JOB #: 2833-12-06-30-C

LICA30
SO2_ / WDR Joint Frequency Distribution (Percent)

June 2012

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	4.68	4.09	8.19	7.90	4.97	4.39	7.46	8.78	6.00	9.51	6.73	7.02	5.27	5.27	5.41	4.24	100.00
<	60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	4.68	4.09	8.19	7.90	4.97	4.39	7.46	8.78	6.00	9.51	6.73	7.02	5.27	5.27	5.41	4.24	

Calm : .00 %

Total # Operational Hours : 683

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	32	28	56	54	34	30	51	60	41	65	46	48	36	36	37	29	683
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	32	28	56	54	34	30	51	60	41	65	46	48	36	36	37	29	

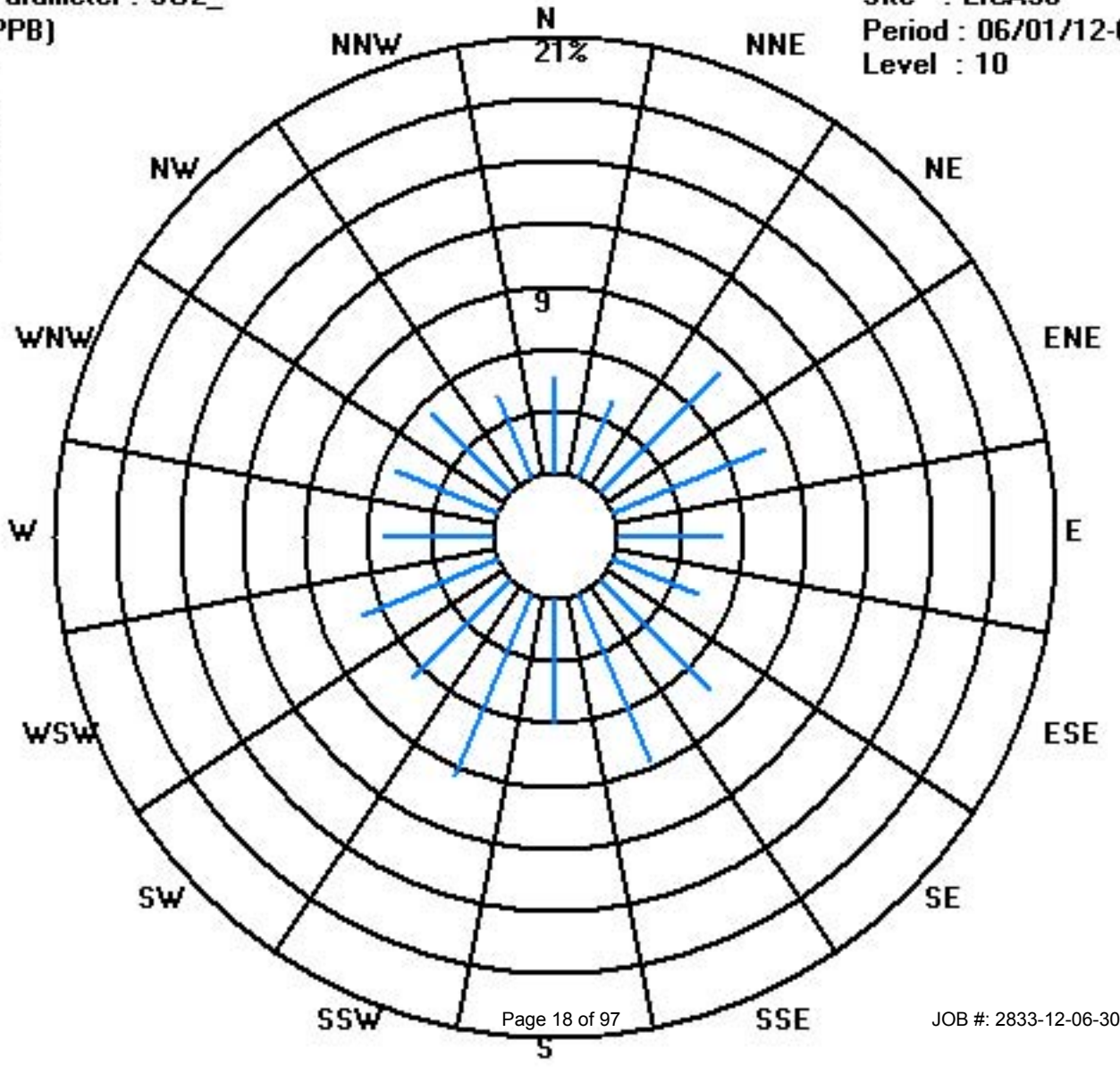
Calm : .00 %

Total # Operational Hours : 683

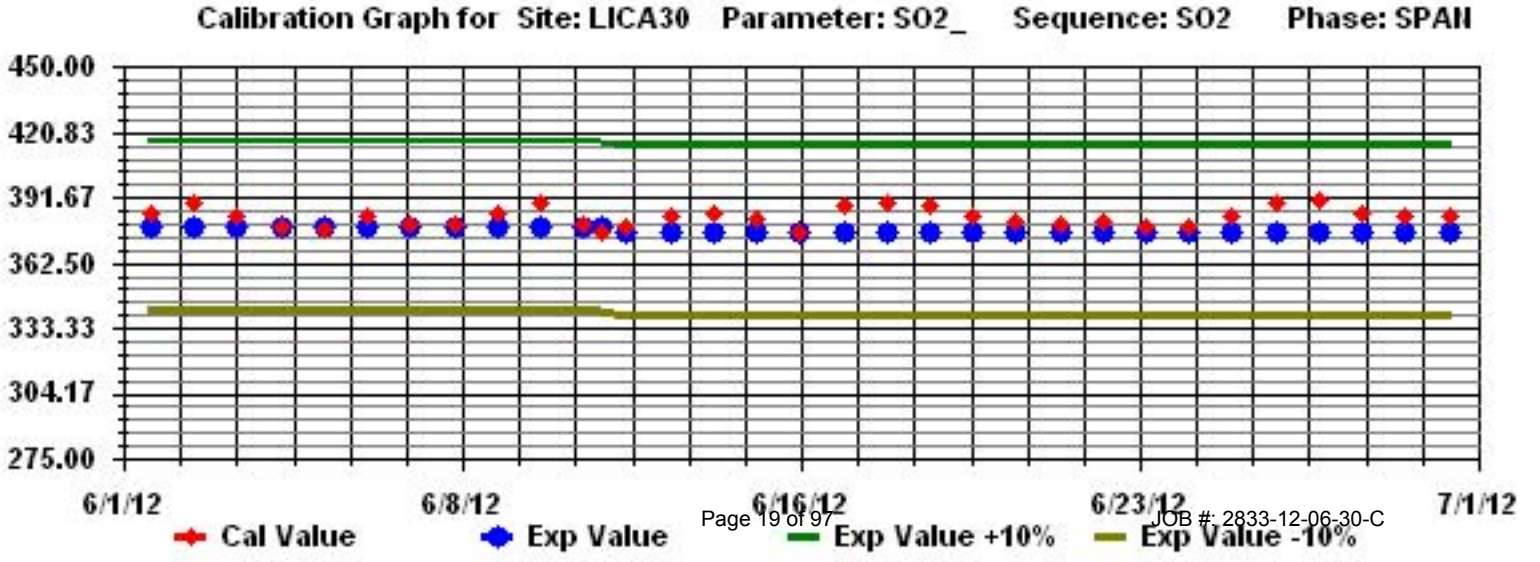
Logger : 30 Parameter : SO2_
Class Limits (PPB)

>= 340
< 340
< 170
< 110
< 60
< 20

Site : LICA30
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-30-C


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
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2012

HYDROGEN SULPHIDE (H_2S) hourly averages in ppb

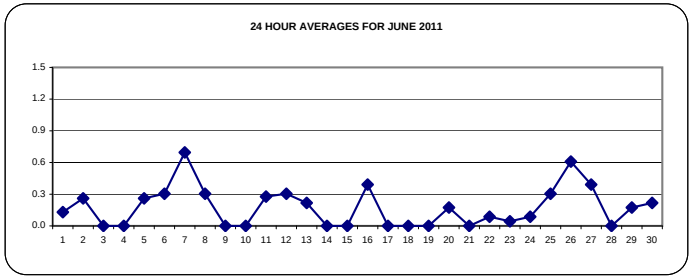
MST

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

STATUS FLAG CODES

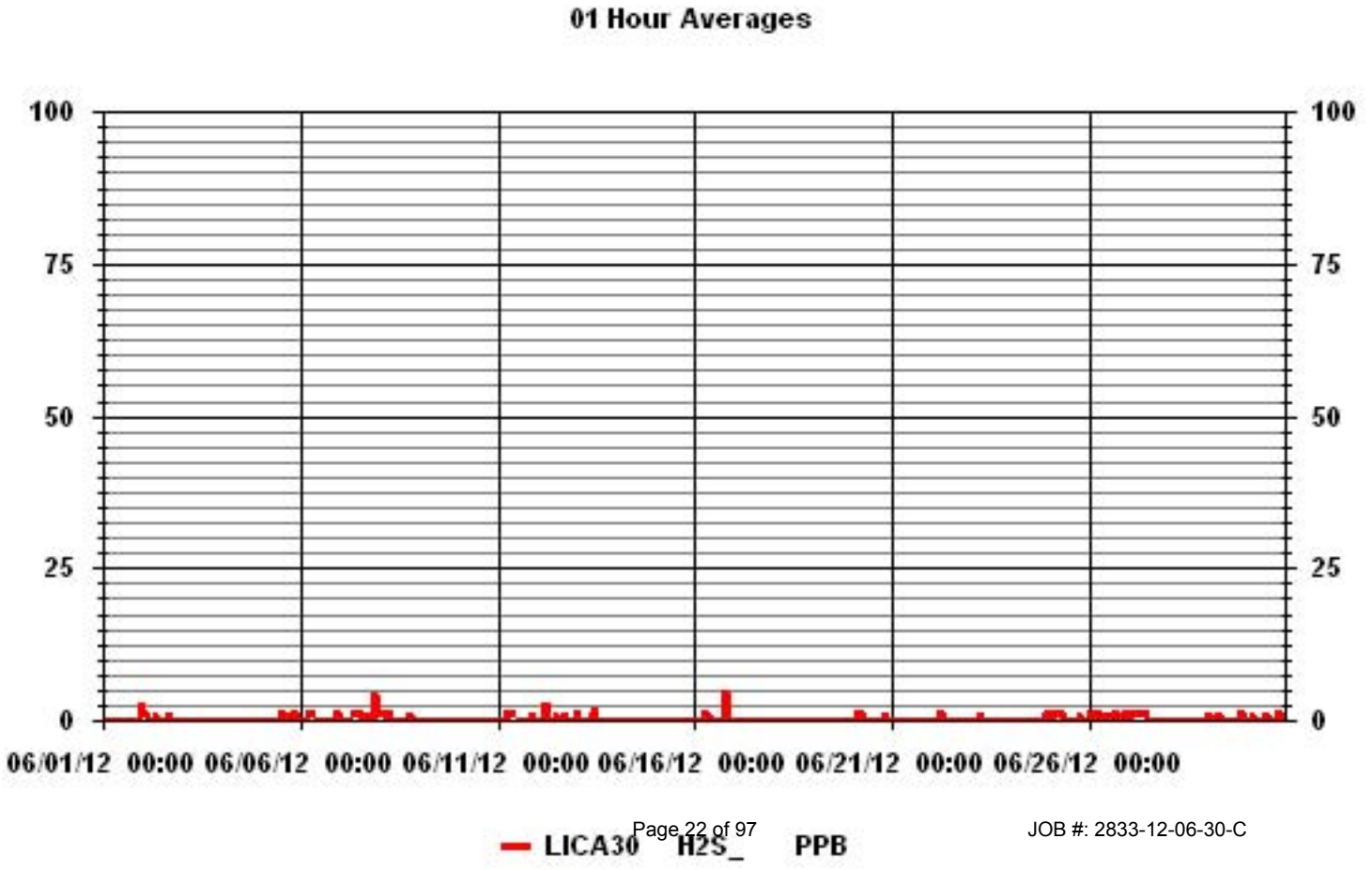
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 10 PPB 24-HR 3 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	102					
MAXIMUM 1-HR AVERAGE:	5	PPB	@ HOUR(S)	19	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	0.7	PPB			ON DAY(S)	7
					VAR-VARIOUS	
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	0.48		MONTHLY AVERAGE:		0.17	PPB



JOB #: 2833-12-06-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2012

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

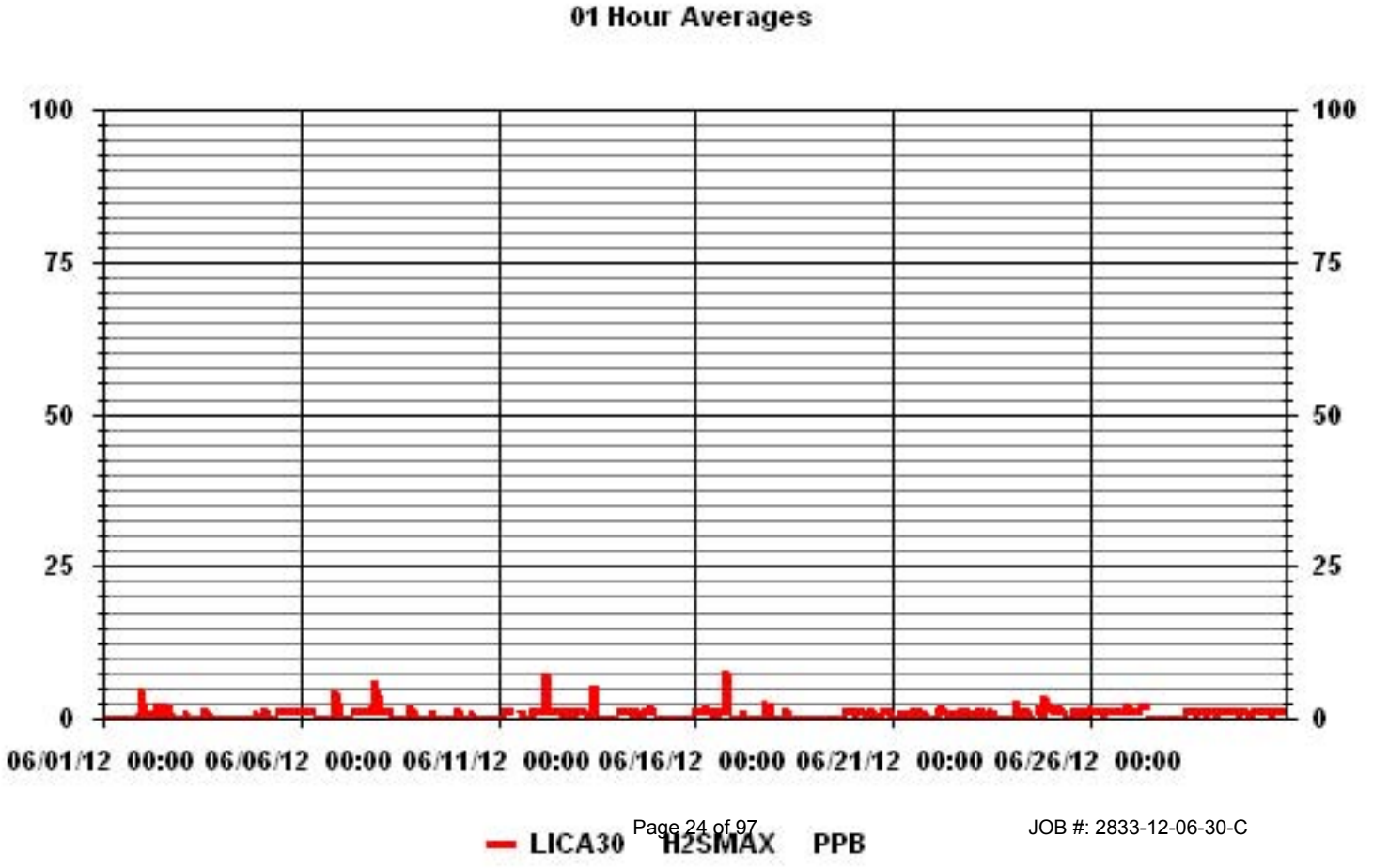
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	1	5	5	0.3	24
2	3	1	1	0	1	0	0	0	2	2	0	0	1	**IZS**	2	0	2	1	0	0	0	0	0	0	3	0.7	24
3	0	0	1	0	0	0	0	0	0	0	0	0	**IZS**	1	1	0	1	0	0	0	0	0	0	0	1	0.2	24
4	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0	0	1	0.0	24
5	0	0	1	1	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
6	1	1	1	1	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	2	4	4	3	4	1.0	24
7	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	1	1	2	6	5	4	6	1.2	24
8	1	1	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	2	0.5	24
9	0	0	0	0	0	0	**IZS**	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	24
10	1	1	0	0	0	**N**	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	23
11	0	0	0	0	**IZS**	1	1	1	1	**C**	**C**	**C**	**C**	**C**	1	0	**C**	0	0	0	0	1	1	1	1	0.5	24
12	1	1	1	**IZS**	1	7	7	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1	7	1.4	24
13	1	1	**IZS**	1	1	1	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	5	0.7	24
14	0	**IZS**	1	1	1	1	1	1	1	0	0	1	1	0	1	0	0	1	1	1	1	2	1	1	2	0.8	24
15	**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
16	1	1	1	1	1	1	2	1	1	1	1	0	1	1	0	1	1	1	3	**8**	1	1	**IZS**	0	**8**	1.3	24
17	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	**IZS**	2	0	3	0.3	24
18	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	1	0.1	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	0.2	24
20	1	0	1	1	1	1	1	0	0	0	1	1	0	1	0	0	0	0	**IZS**	1	1	1	1	0	1	0.6	24
21	0	0	0	0	0	1	0	0	0	1	0	0	1	1	0	1	1	**IZS**	0	0	1	0	0	0	1	0.3	24
22	0	0	0	0	1	1	2	1	1	0	0	0	0	1	0	1	**IZS**	1	1	0	1	1	0	0	2	0.5	24
23	0	0	1	0	1	1	1	0	1	0	0	1	1	0	1	**IZS**	0	0	0	0	0	0	0	0	1	0.3	24
24	0	0	0	3	1	1	1	0	0	1	1	0	0	0	**IZS**	1	2	1	0	0	3	3	1	2	3	0.9	24
25	2	1	1	1	1	2	1	1	1	0	0	0	0	**IZS**	1	1	0	1	1	1	0	0	1	1	2	0.8	24
26	2	1	1	1	1	1	1	1	0	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	2	2	2	1.1	24
27	1	1	1	1	1	1	1	2	2	2	2	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	2	0.7	24
28	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0.5	24
29	1	1	1	1	0	0	1	1	1	**IZS**	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0.9	24
30	0	1	0	1	1	1	1	1	**IZS**	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.9	24
HOURLY MAX	3	1	1	3	1	7	7	2	2	2	5	5	1	1	2	1	2	1	3	8	3	6	5	5			
HOURLY AVG	0.6	0.4	0.5	0.5	0.5	0.8	0.8	0.4	0.6	0.4	0.6	0.6	0.4	0.4	0.5	0.4	0.5	0.4	0.5	0.7	0.7	1.0	0.8	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:	308					
MAXIMUM INSTANTANEOUS VALUE:	8	PPB	@ HOUR(S)	19	ON DAY(S)	16
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	0.89					



JOB #: 2833-12-06-30-C

LICA30
H2S_ / WDR Joint Frequency Distribution (Percent)

June 2012

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	4.67	4.09	8.04	7.89	4.67	4.09	7.45	8.77	5.99	9.64	6.72	7.01	5.26	5.26	5.40	4.23	99.26
< 10	.00	.00	.14	.00	.29	.29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.73
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.67	4.09	8.18	7.89	4.97	4.38	7.45	8.77	5.99	9.64	6.72	7.01	5.26	5.26	5.40	4.23	

Calm : .00 %

Total # Operational Hours : 684

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	32	28	55	54	32	28	51	60	41	66	46	48	36	36	37	29	679
< 10			1		2	2											5
< 50																	
>= 50																	
Totals	32	28	56	54	34	30	51	60	41	66	46	48	36	36	37	29	

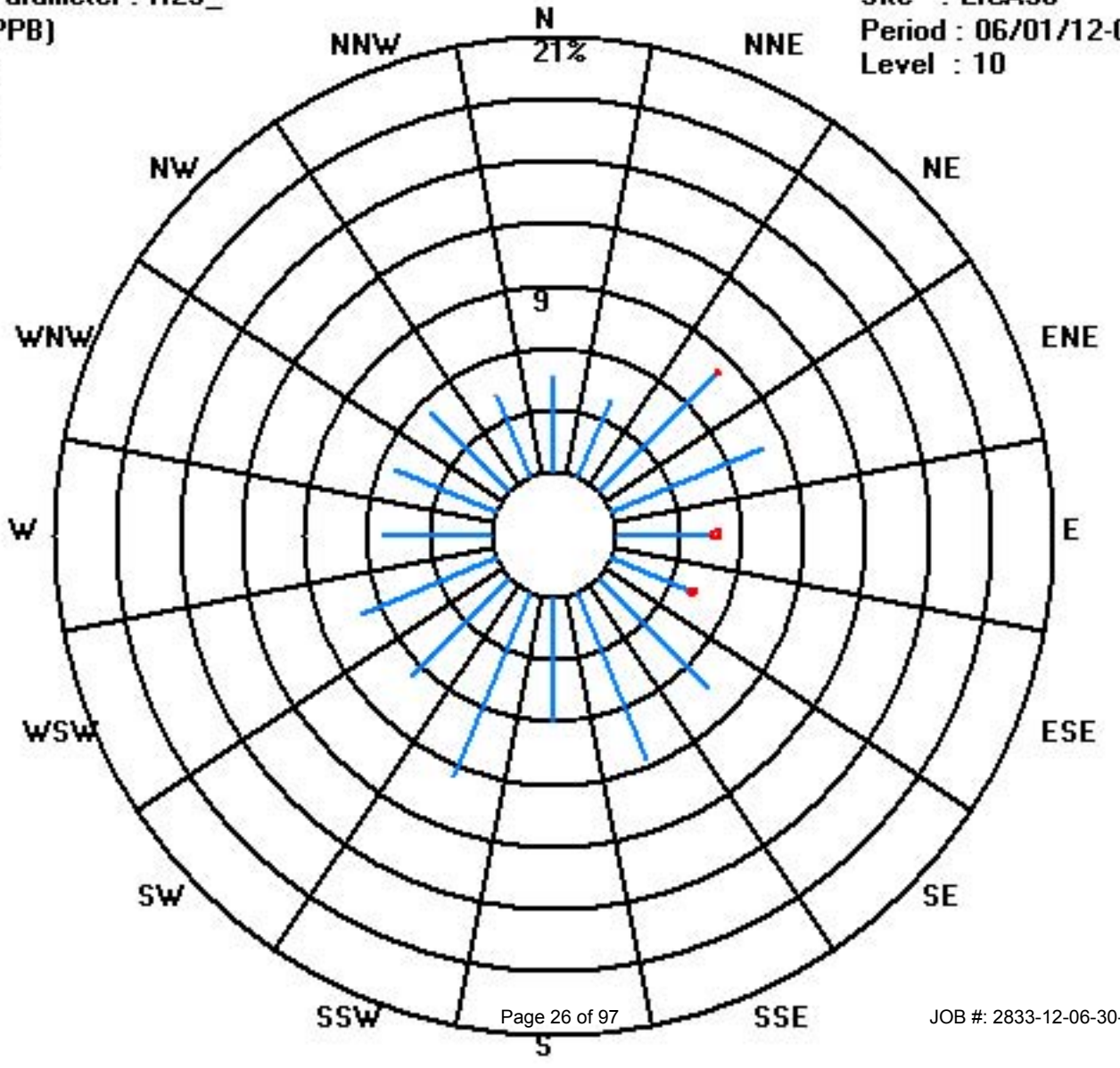
Calm : .00 %

Total # Operational Hours : 684

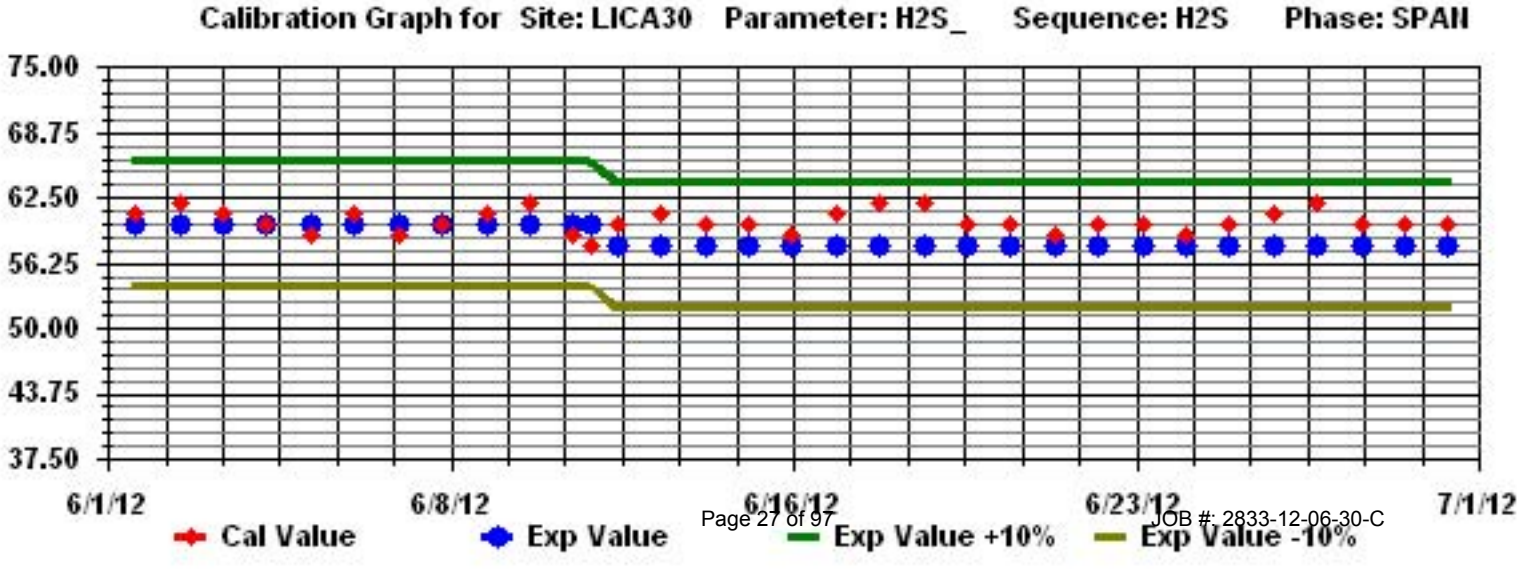
Logger : 30 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA30
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-30-C


Calibration Graph for Site: LICA30 Parameter: H2S_ Sequence: H2S Phase: SPAN
75.00
68.75
62.50
56.25
50.00
43.75
37.50
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

JUNE 2012

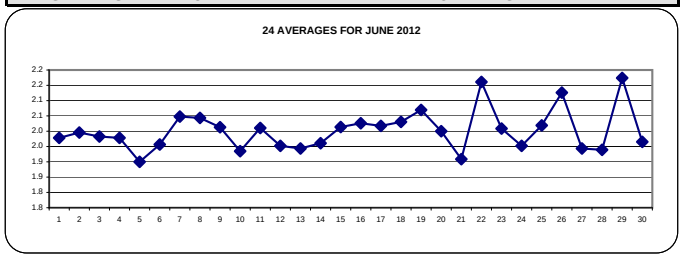
TOTAL HYDROCARBONS hourly averages in ppm

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

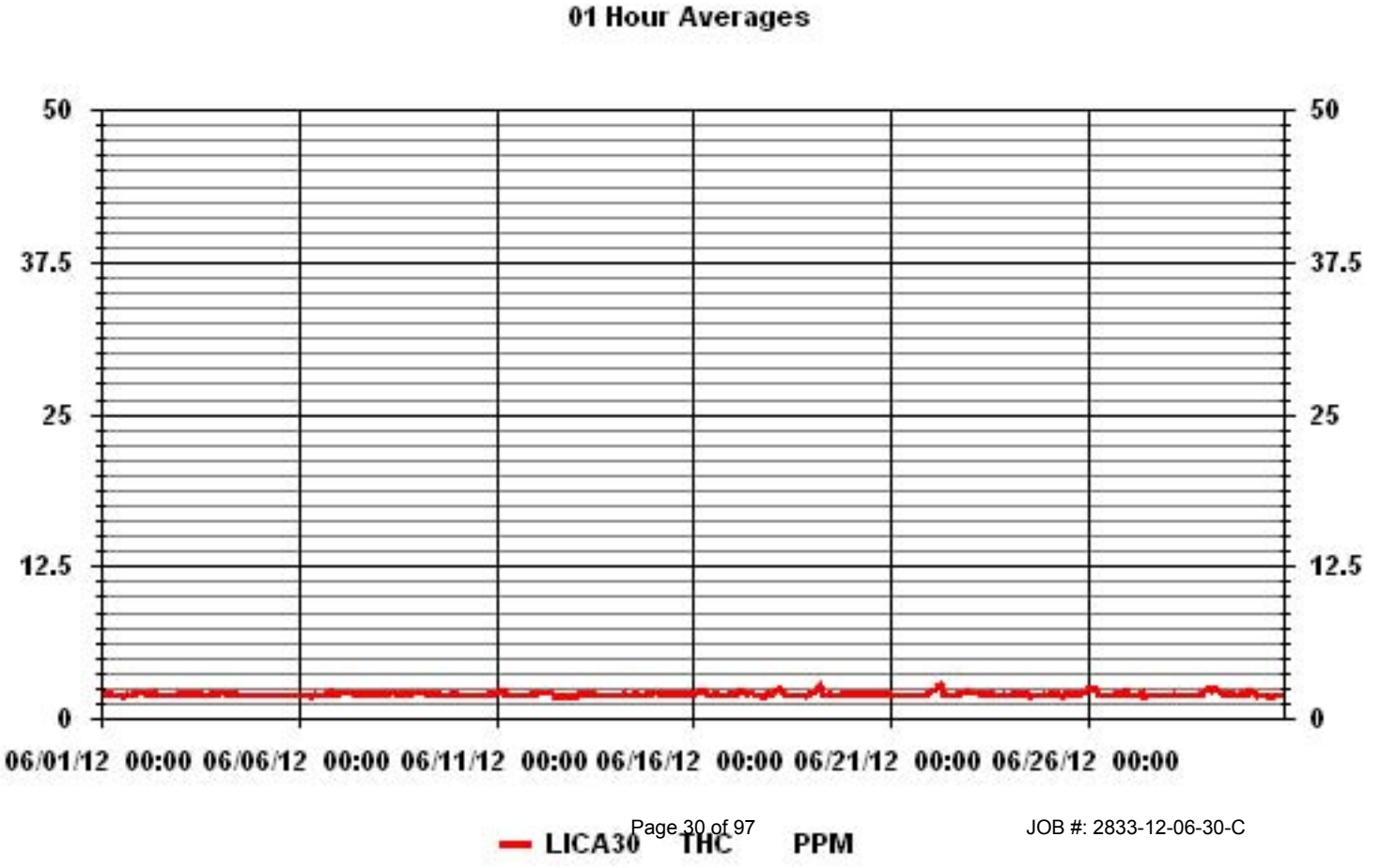
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	683					
MAXIMUM 1-HR AVERAGE:	2.8	PPM	@ HOUR(S)	6	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	2.2	PPM			ON DAY(S)	22, 29
						VAR- VARIOUS
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		718	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	0.13		MONTHLY AVERAGE:		2.00	PPM



JOB #: 2833-12-06-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2012

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

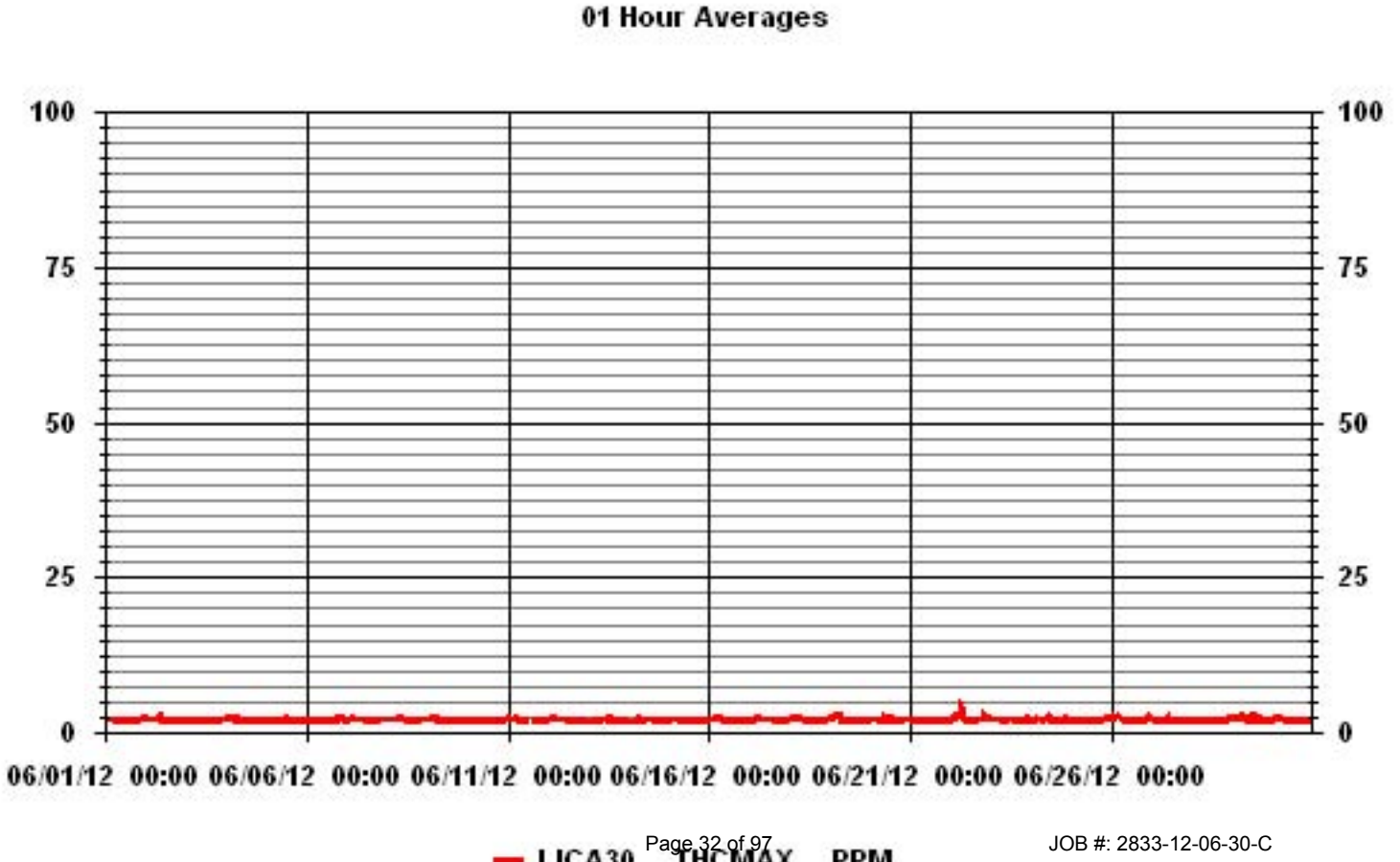
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2.1	1.9	2	2.1	2	**IZS**	2	2	2	2	2	2.1	2.2	2.2	2.1	2.2	2.1	24
2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.5	2.7	2	2	2	**IZS**	2.2	1.9	2	1.9	1.9	1.9	2	2	2.1	2	2.7	2.1	24
3	2.1	2.2	2	2	2.1	2.1	2.1	2	2	2.1	2.2	2.1	**IZS**	2.2	2	1.9	2	2	2	2	2	2	2.1	2.1	2.2	2.1	24
4	2.2	2.3	2.4	2.2	2.4	2.1	2.3	2.5	2.1	2	2	**IZS**	1.9	1.9	2.1	2	2	1.9	2	1.9	1.9	2	1.9	1.9	2.5	2.1	24
5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**IZS**	2.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.4	1.9	24
6	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	**IZS**	2	2	2.1	2	2	2.1	2	2	2.5	2.5	2.4	2.5	2.3	2	2.5	2.1	24
7	2	2.1	2.2	2.2	2.2	2.2	2.1	2.2	**IZS**	2.1	2.1	2.1	2	2.1	2	2	2	2	2	2	2.1	2.2	2.1	2.1	2.2	2.1	24
8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	**IZS**	2.2	2.2	2.2	2.1	2.2	2	2.1	2.1	2	2.1	2.1	2	2.1	2.1	2.1	2.1	2.2	2.1	24
9	2.1	2.1	2.2	2.2	2.2	2.2	**IZS**	2	2	2	2	2.2	2	2	2.1	2	1.9	2	2	2	1.9	2.1	2.1	2.1	2.2	2.1	24
10	2.1	2	2	1.9	1.9	**N**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2	2	2.1	2.1	2.1	2.0	23
11	2.3	2.3	2.4	2.3	**IZS**	2.5	2.2	2	1.9	2	2	2	**C**	**C**	**C**	**C**	**C**	1.9	1.9	1.9	2	2	2	2	2.5	2.1	24
12	2.1	2.2	2.2	**IZS**	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2.2	2.0	24
13	1.9	1.8	**IZS**	2	2	2.1	2.1	2	2	2.1	2.2	2.4	2.1	2	2.4	2.1	2	1.9	2	1.9	1.9	1.9	2.1	2.1	2.4	2.0	24
14	1.9	**IZS**	1.9	2	1.9	2.1	2.2	2.2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2.1	2	2	2.1	2.2	2.0	24
15	**IZS**	2.1	2.2	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2.1	2	2	2	2	2.1	**IZS**	2.2	2.0	24
16	2.1	2.1	2.1	2.3	2.3	2.3	2.4	2.6	2.2	2	2	2	2.1	2.1	2.1	2	2	1.9	2	2	1.9	1.9	**IZS**	2	2.6	2.1	24
17	2	2	2	2.2	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2	1.9	1.9	1.9	2	1.9	2	**IZS**	2.1	2	2.3	2.1	24
18	2.1	2.2	2.2	2.4	2.4	2.6	2.5	2.2	2.2	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**IZS**	2	2	2.1	2.6	2.1	24
19	2.2	2.2	2.4	2.5	2.7	2.9	2.8	2.1	2	2	2	2	2.1	1.9	2	1.9	2	2	2	**IZS**	2	2	2	2	2.9	2.2	24
20	2	2.1	2.1	2.1	2.1	2.1	2	2	2.7	2.4	2.4	2	2.2	2.2	2.2	2	2	2	**IZS**	1.9	2	2.1	2.1	2.2	2.7	2.1	24
21	2.1	2	1.9	1.9	2	2	2	1.9	1.9	2	1.9	1.9	2	1.9	1.9	1.9	1.9	**IZS**	1.9	1.9	1.9	2	2	2	2.1	1.9	24
22	2.2	2.4	2.4	2.7	2.7	2.7	**4.1**	3.6	2.3	2	2	2	2	2	2	2	**IZS**	2.1	2.1	2.1	3	2.7	2.2	2.3	**4.1**	2.4	24
23	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2	2.1	2	2	2.1	2.1	2.2	2.1	**IZS**	2.1	2	1.9	2	2	2.4	2.3	1.9	2.4	2.1	24
24	1.9	1.9	2	2.4	2.1	2.1	2.1	2	2.2	2.3	2.6	2.1	2.2	2.1	**IZS**	2	1.9	1.9	1.9	1.9	1.9	2.3	2.3	1.9	2.6	2.1	24
25	1.9	2	2	2.1	2.1	2.1	2	2	2.2	**M**	**C**	2	2	**IZS**	2	2	2.2	2.1	2	2.1	2.2	2.2	2.2	2.3	2.3	2.1	23
26	2.8	2.5	2.6	2.7	2.7	2.5	2.4	2.2	2	1.9	1.9	1.9	**IZS**	1.9	1.9	1.9	2	2	2	2	2.1	2.3	2.8	2.4	2.8	2.2	24
27	2.3	2.1	2	2	2	1.9	1.9	2	2.3	2.7	2	**IZS**	1.9	1.9	1.9	1.9	1.9	2.2	2	1.9	2	2	1.9	1.9	2.7	2.0	24
28	1.9	1.9	2	2	2	2	1.9	1.9	2.1	1.9	**IZS**	1.9	1.9	2	2.1	2	2	1.9	1.9	2	2	2.1	2.2	2.3	2.3	2.0	24
29	2.3	2.4	2.4	2.4	2.5	2.9	2.6	2.6	2.5	**IZS**	2.2	2.1	2.8	2.8	2.2	2	2.2	2.2	2	2	2	2	2.1	2.1	2.9	2.3	24
30	2	2.3	2.3	2.3	2.3	2.3	2.3	2	**IZS**	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	1.9	1.9	2	2.3	2.0	24
HOURLY MAX	3	3	3	3	3	3	4	4	3	3	3	2	3	3	2	2	2	2	3	3	3	3	3	2			
HOURLY AVG	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:		682					
MAXIMUM INSTANTANEOUS VALUE:		4.1	PPM	@ HOUR(S)	6	ON DAY(S)	22
IZS CALIBRATION TIME:	30	HRS		OPERATIONAL TIME:		718	HRS
MONTHLY CALIBRATION TIME:	6	HRS					
STANDARD DEVIATION:	0.21						



JOB #: 2833-12-06-30-C

LICA30
THC / WDR Joint Frequency Distribution (Percent)

June 2012

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	4.68	4.09	8.19	7.90	4.97	4.39	7.46	8.78	6.00	9.51	6.73	7.02	5.27	5.27	5.41	4.24	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	4.68	4.09	8.19	7.90	4.97	4.39	7.46	8.78	6.00	9.51	6.73	7.02	5.27	5.27	5.41	4.24	

Calm : .00 %

Total # Operational Hours : 683

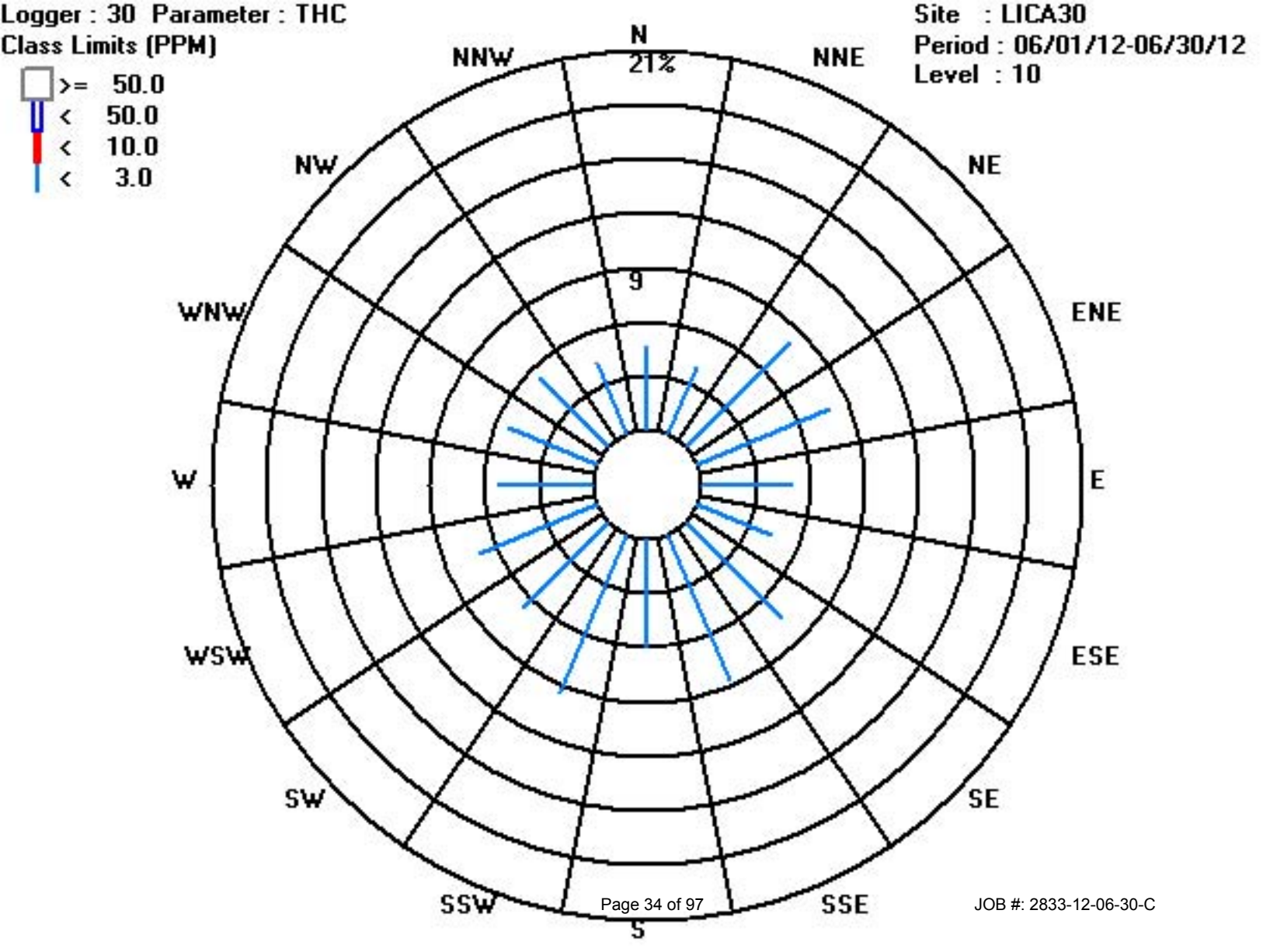
Distribution By Samples

Direction

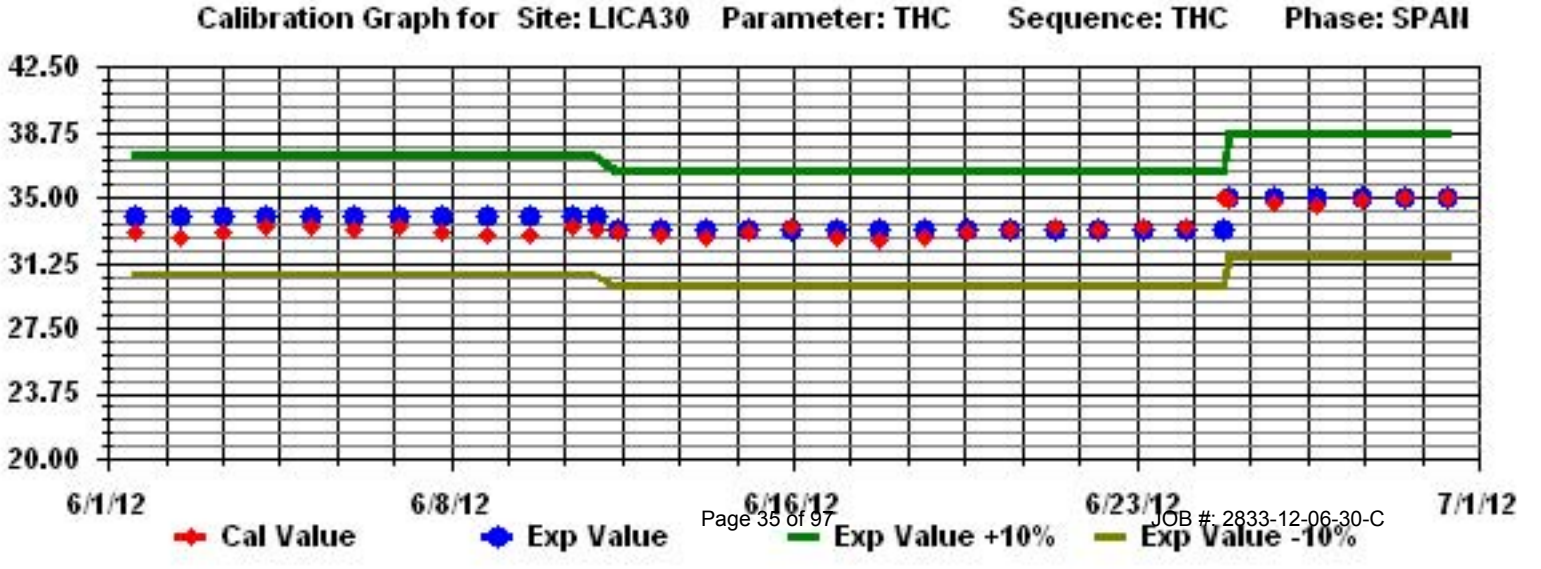
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	32	28	56	54	34	30	51	60	41	65	46	48	36	36	37	29	683
<	10.0																	
<	50.0																	
>=	50.0																	
	Totals	32	28	56	54	34	30	51	60	41	65	46	48	36	36	37	29	

Calm : .00 %

Total # Operational Hours : 683



JOB #: 2833-12-06-30-C


Calibration Graph for Site: LICA30 Parameter: THC Sequence: THC Phase: SPAN
42.50
38.75
35.00
31.25
27.50
23.75
20.00
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2012

NITROGEN DIOXIDE hourly averages in ppb

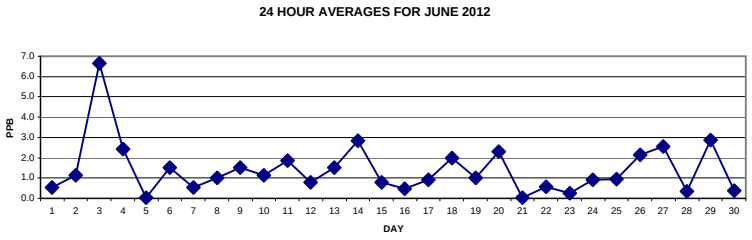
MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	0	0	1	2	3	1	0	0	0	0	0	0	**IZS**	2	0	0	0	0	0	0	0	1	3	0.5	24
2	1	1	0	0	0	0	1	2	4	3	0	0	1	**IZS**	2	1	2	0	0	0	0	1	3	4	4	1.1	24
3	12	10	17	15	**20**	4	7	5	5	5	8	9	**IZS**	6	6	0	6	5	5	1	2	1	1	3	**20**	**6.7**	24
4	3	7	7	6	6	6	5	7	3	1	3	**IZS**	0	0	1	1	0	0	0	0	0	0	0	0	7	2.4	24
5	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
6	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	5	11	5	6	7	1	11	1.5	24
7	1	1	1	1	1	1	1	1	**IZS**	0	0	0	0	1	0	0	0	0	1	0	0	1	1	0	1	0.5	24
8	1	1	0	0	1	0	0	**IZS**	2	2	3	1	1	0	1	0	1	1	1	0	0	1	2	4	4	1.0	24
9	3	4	3	3	3	2	**IZS**	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	2	4	1.5	24
10	6	1	0	0	0	**N**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	6	1.1	23
11	3	5	4	8	**IZS**	2	3	1	0	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	1	0	2	8	1.9	24
12	3	1	1	**IZS**	1	2	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	3	0.8	24
13	0	0	**IZS**	1	1	2	2	1	2	3	2	3	1	0	1	2	1	0	3	1	0	1	5	3	5	1.5	24
14	1	**IZS**	1	2	0	6	7	3	3	1	3	3	4	4	5	1	4	5	0	4	5	1	1	1	7	2.8	24
15	**IZS**	2	1	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	**IZS**	4	0.8	24
16	1	1	0	0	0	0	2	3	1	1	0	0	0	0	0	0	0	1	0	1	0	0	**IZS**	0	3	0.5	24
17	0	0	0	1	2	3	1	1	2	1	1	1	1	1	1	0	0	0	0	0	0	**IZS**	3	2	3	0.9	24
18	2	2	2	2	5	6	6	8	8	4	1	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	8	2.0	24
19	0	1	2	1	1	1	1	1	0	0	2	2	4	0	1	1	1	1	1	**IZS**	0	1	0	1	4	1.0	24
20	2	2	3	4	7	6	3	4	3	1	1	1	1	3	5	3	1	0	**IZS**	0	1	1	1	0	7	2.3	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**IZS**	0	0	0	0	0	0	1	0.0	24
22	0	0	0	0	0	0	1	4	2	1	0	0	1	0	0	0	**IZS**	0	0	0	0	2	1	1	4	0.6	24
23	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	3	2	0	3	0.3	24
24	0	0	0	0	0	0	0	0	1	3	2	1	1	1	**IZS**	0	0	0	0	0	0	6	5	1	6	0.9	24
25	0	1	2	1	1	2	2	2	1	1	1	1	1	**IZS**	1	1	1	0	1	0	0	0	1	1	2	1.0	24
26	1	2	1	1	2	4	4	5	2	1	3	1	**IZS**	1	1	1	1	1	0	1	0	1	2	13	13	2.1	24
27	4	1	1	1	0	1	3	19	16	6	4	**IZS**	1	0	0	0	0	0	0	0	1	1	0	0	19	2.6	24
28	0	0	0	2	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	2	3	3	0.3	24
29	3	3	3	2	2	1	5	6	3	**IZS**	8	4	1	2	1	1	1	1	0	2	8	4	3	2	8	2.9	24
30	1	1	1	0	0	1	3	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	3	0.4	24
HOURLY MAX	12	10	17	15	20	6	7	19	16	6	8	9	4	6	6	3	6	5	5	11	8	6	7	13			
HOURLY AVG	1.7	1.7	1.7	1.8	1.9	1.8	2.2	2.7	2.2	1.4	1.7	1.1	0.7	0.8	1.1	0.6	0.8	0.6	0.7	0.8	0.9	1.3	1.6	1.6			

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 159 PPB

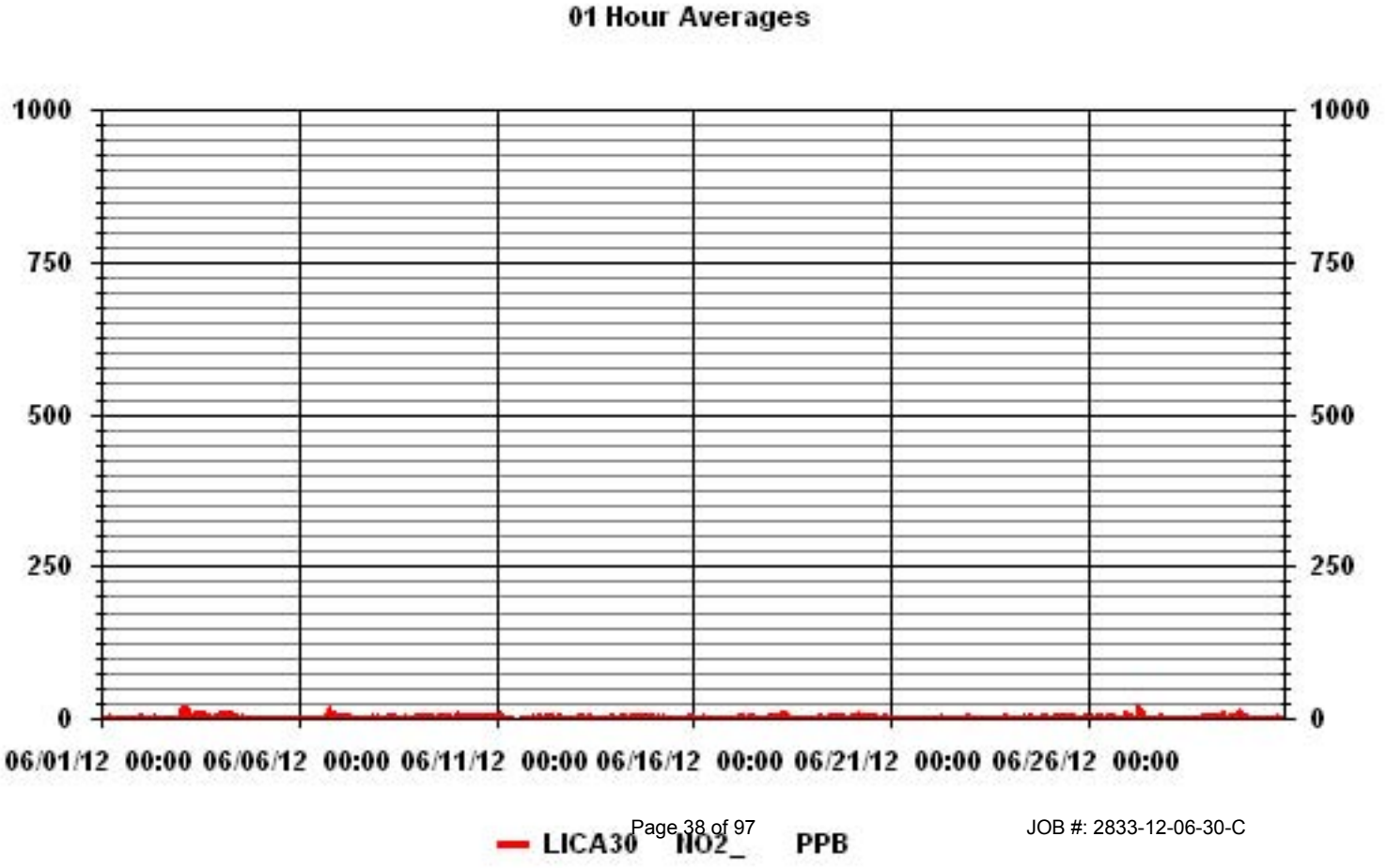


MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	381					
MAXIMUM 1-HR AVERAGE:	20	PPB	@ HOUR(S)	4	ON DAY(S)	3
MAXIMUM 24-HR AVERAGE:	6.7	PPB			ON DAY(S)	3

IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	719	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	2.33		MONTHLY AVERAGE:	1.40	PPB

JOB #: 2833-12-06-30-C



JOB #: 2833-12-06-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

JUNE 2012

NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

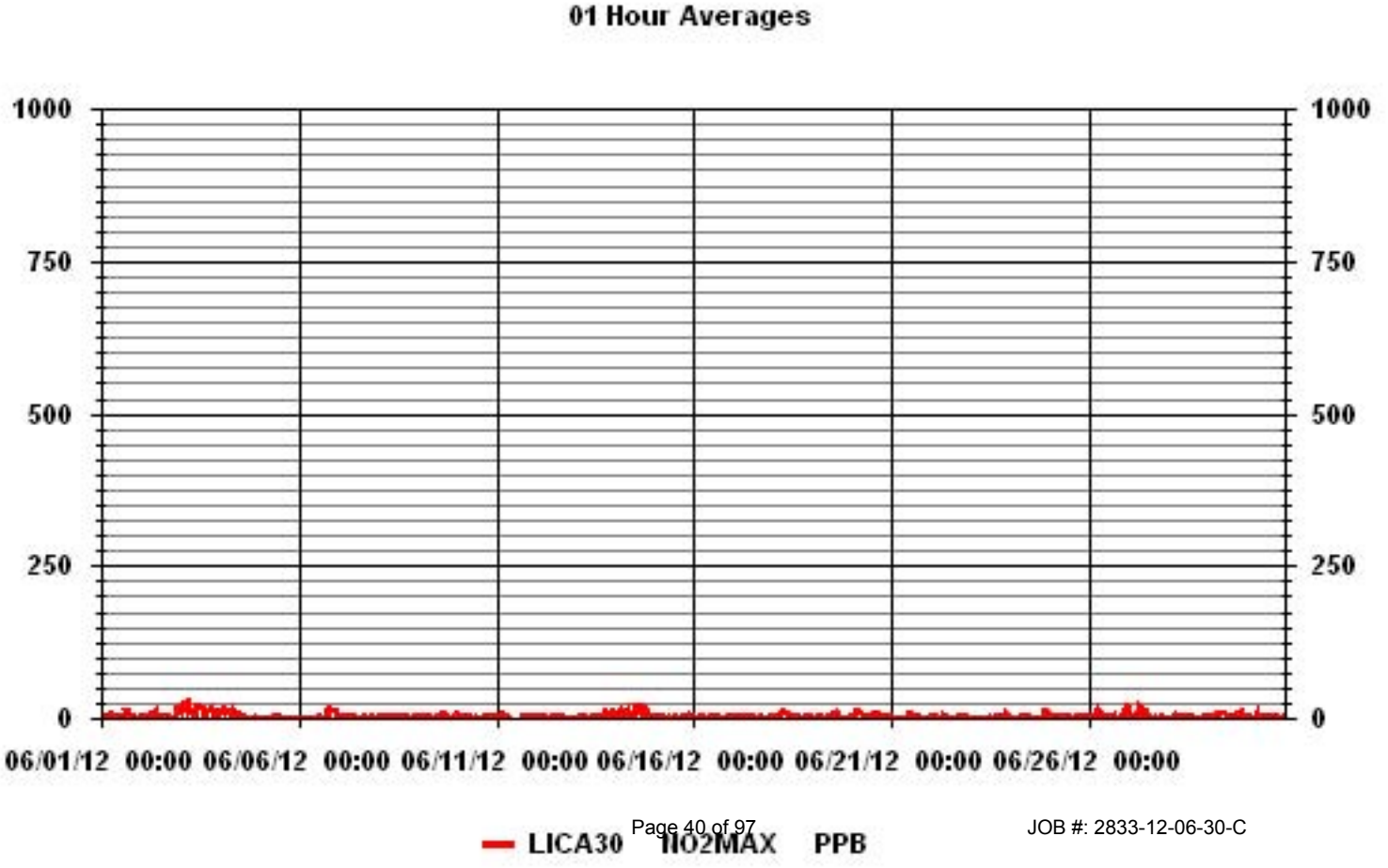
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	2	1	1	2	5	8	2	2	1	1	1	1	1	**IZS**	13	2	0	0	1	1	1	1	2	13	2.2	24
2	2	1	1	1	1	1	2	8	8	12	1	2	3	**IZS**	5	4	5	1	1	1	2	2	17	17	17	4.3	24
3	20	15	23	23	**26**	12	15	14	7	8	19	19	**IZS**	17	17	2	13	14	18	12	12	1	3	5	**26**	13.7	24
4	13	13	16	9	11	11	8	15	10	4	10	**IZS**	2	1	4	3	2	0	1	0	0	1	1	0	16	5.9	24
5	0	0	0	0	0	0	0	0	1	0	**IZS**	5	0	0	0	0	0	0	0	1	0	0	0	0	5	0.3	24
6	0	0	0	0	0	0	0	0	0	**IZS**	0	1	1	1	0	1	0	0	13	16	12	12	13	1	16	3.1	24
7	2	2	2	2	2	2	2	2	**IZS**	1	1	1	1	3	1	1	1	1	2	1	1	2	2	1	3	1.6	24
8	1	1	1	1	1	1	1	**IZS**	2	3	4	2	2	2	2	1	2	3	3	1	1	2	3	5	5	2.0	24
9	4	4	4	4	4	3	**IZS**	2	2	2	1	4	2	2	2	2	13	2	1	1	1	2	2	4	13	3.0	24
10	11	2	2	1	1	**N**	1	1	1	1	2	1	1	1	2	1	1	1	1	2	2	2	2	3	11	1.9	23
11	5	6	7	11	**IZS**	3	5	2	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	3	11	3.3	24
12	5	2	2	**IZS**	2	3	3	2	1	2	2	1	4	5	6	5	6	0	0	0	0	1	0	0	6	2.3	24
13	0	0	**IZS**	4	2	3	3	2	2	4	3	6	3	1	4	5	5	1	15	1	2	4	13	12	15	4.1	24
14	2	**IZS**	5	10	1	13	12	8	14	4	7	7	8	23	16	5	23	14	2	12	8	2	3	2	23	8.7	24
15	**IZS**	2	2	3	2	2	2	2	1	1	0	1	1	1	1	0	1	2	2	1	1	7	5	**IZS**	7	1.8	24
16	2	2	1	1	1	1	5	5	2	1	1	1	1	1	1	1	1	2	1	2	1	1	**IZS**	1	5	1.6	24
17	1	1	1	4	4	4	3	2	3	2	3	2	2	2	2	1	1	1	1	0	1	**IZS**	5	3	5	2.1	24
18	3	3	4	4	6	8	10	11	12	10	7	1	0	1	1	1	1	0	0	0	**IZS**	1	1	1	12	3.7	24
19	1	1	3	2	3	3	2	2	1	2	5	3	7	5	9	5	2	2	1	**IZS**	1	2	1	2	9	2.8	24
20	3	3	6	11	12	12	8	8	6	5	5	5	4	9	8	6	6	0	**IZS**	0	3	2	1	1	12	5.4	24
21	1	1	0	0	0	0	1	0	0	1	1	10	1	2	1	1	1	**IZS**	0	0	0	1	0	1	10	1.0	24
22	1	1	1	1	1	1	2	7	4	2	1	1	3	1	2	1	**IZS**	1	1	3	2	3	1	1	7	1.8	24
23	2	1	0	0	0	0	0	0	1	0	0	1	1	1	2	**IZS**	2	2	1	1	0	11	8	0	11	1.5	24
24	0	0	0	0	0	0	0	2	2	5	4	2	5	2	**IZS**	2	1	0	0	1	3	10	10	5	10	2.3	24
25	1	3	3	1	2	2	3	4	2	2	2	2	2	**IZS**	2	3	2	2	5	1	1	1	2	2	5	2.2	24
26	2	3	2	2	6	14	9	10	6	4	8	7	**IZS**	2	2	6	2	2	1	2	2	2	17	23	23	5.8	24
27	10	2	2	2	1	6	6	23	20	11	11	**IZS**	4	1	0	2	1	1	2	4	4	4	0	0	23	5.1	24
28	0	0	2	6	0	2	1	1	1	0	**IZS**	1	1	1	1	1	1	0	0	2	0	3	3	4	6	1.3	24
29	3	3	4	3	3	3	9	8	10	**IZS**	11	10	4	6	2	1	1	2	1	9	11	7	4	4	11	5.2	24
30	2	2	1	1	1	4	10	3	**IZS**	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	10	1.8	24
HOURLY MAX	20	15	23	23	26	14	15	23	20	12	19	19	8	23	17	13	23	14	18	16	12	12	17	23			
HOURLY AVG	3.4	2.6	3.3	3.7	3.3	4.1	4.5	5.0	4.4	3.3	4.1	3.6	2.4	3.4	3.5	2.7	3.5	1.9	2.6	2.7	2.6	3.1	4.1	3.6			

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:	586					
MAXIMUM INSTANTANEOUS VALUE:	26	PPB	@ HOUR(S)	4	ON DAY(S)	3
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	4.35					



JOB #: 2833-12-06-30-C

LICA30
NO2_ / WDR Joint Frequency Distribution (Percent)

June 2012

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	4.69	4.10	8.21	7.91	4.98	4.39	7.47	8.79	6.01	9.38	6.74	7.03	5.27	5.27	5.42	4.25	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	4.69	4.10	8.21	7.91	4.98	4.39	7.47	8.79	6.01	9.38	6.74	7.03	5.27	5.27	5.42	4.25	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	32	28	56	54	34	30	51	60	41	64	46	48	36	36	37	29	682
<	110																	
<	210																	
>=	210																	
	Totals	32	28	56	54	34	30	51	60	41	64	46	48	36	36	37	29	

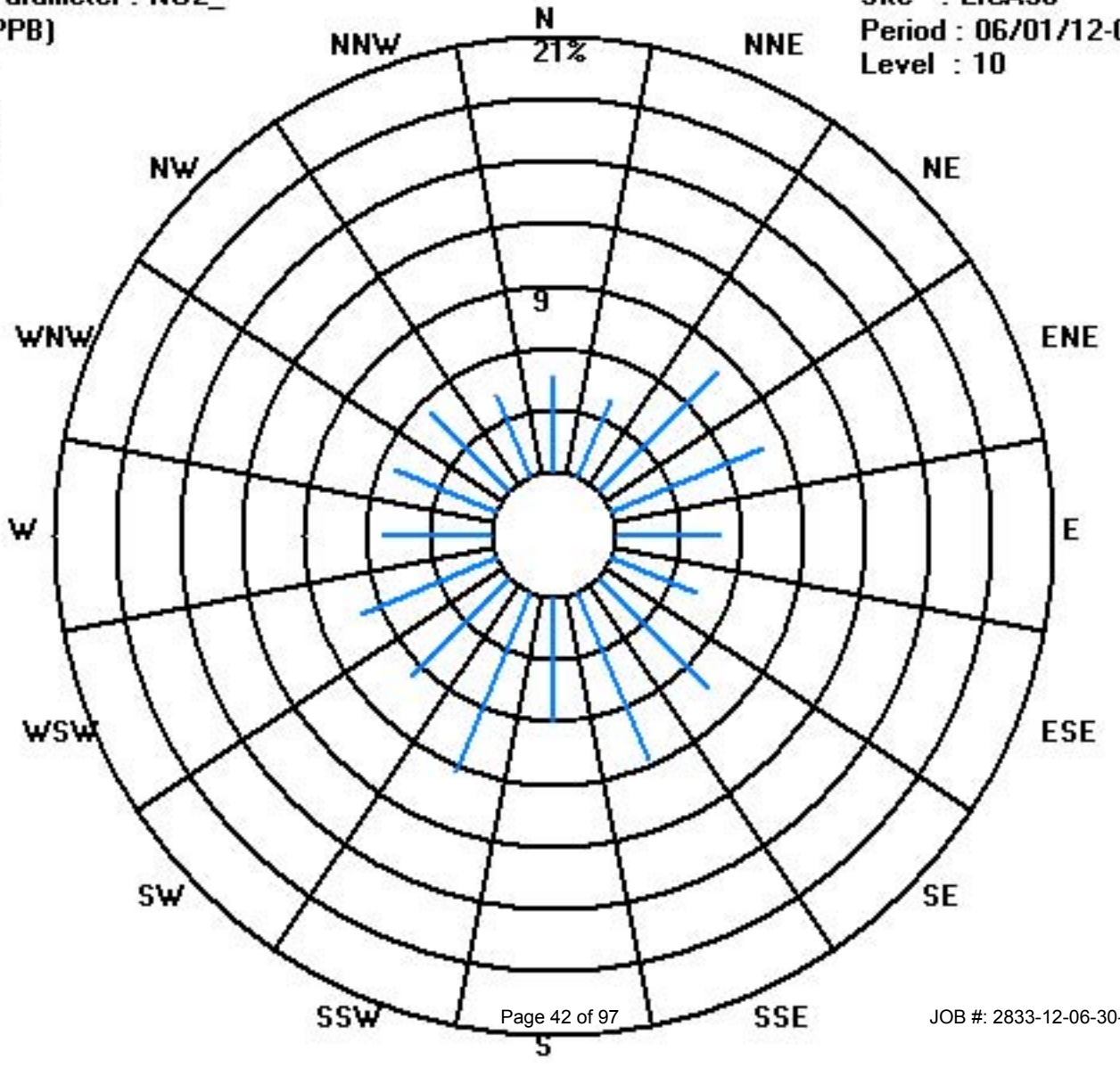
Calm : .00 %

Total # Operational Hours : 682

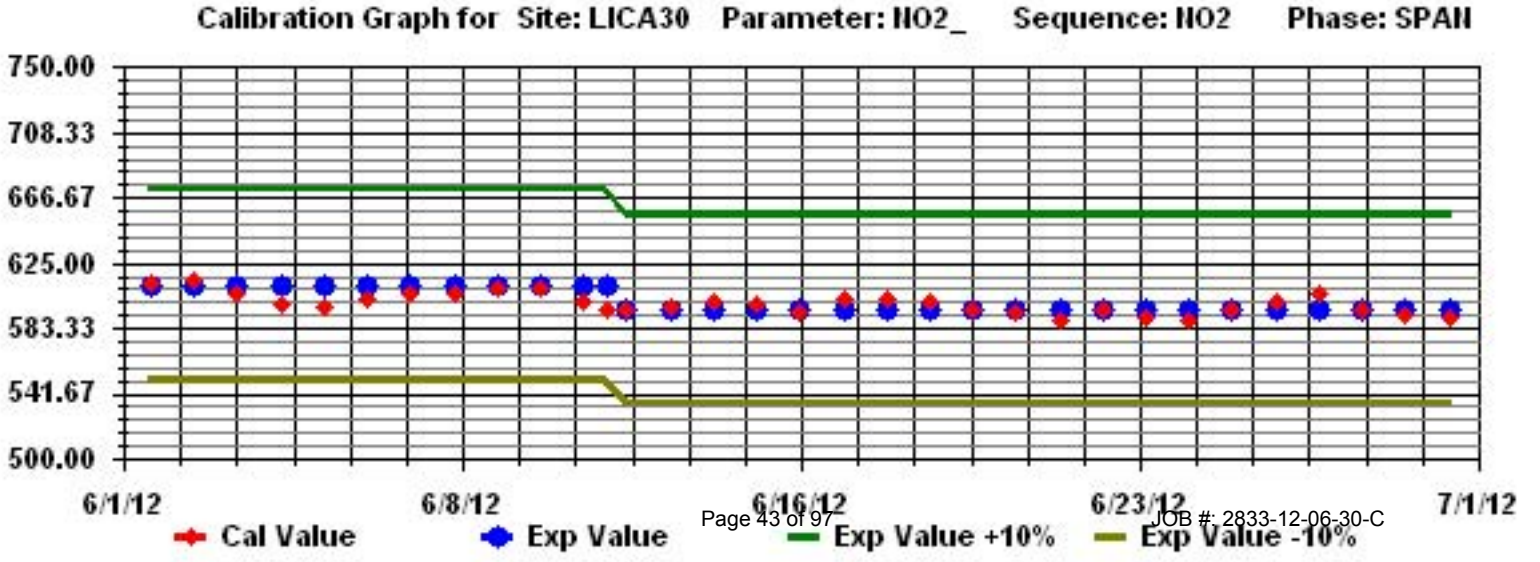
Logger : 30 Parameter : NO2_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA30
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-30-C


Calibration Graph for Site: LICA30 Parameter: NO2_ Sequence: NO2 Phase: SPAN
750.00
708.33
666.67
625.00
583.33
541.67
500.00
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSCOICATION - MASKWA

JUNE 2012

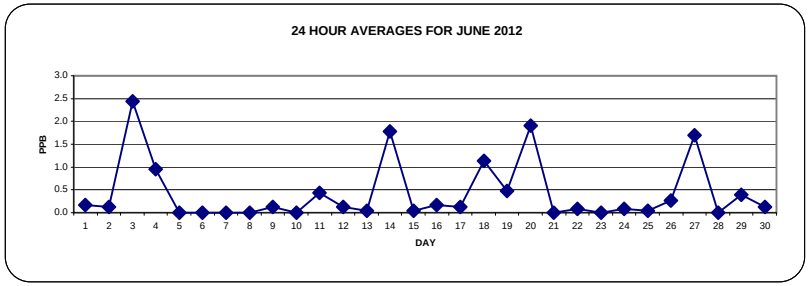
NITRIC OXIDE hourly averages in ppb

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	1	1	1	0	0	0	0	0	0	**IZS**	1	0	0	0	0	0	0	0	0	1	0.2	24
2	0	0	0	0	0	0	0	1	1	1	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0.1	24
3	2	2	7	8	11	1	1	1	1	2	4	4	**IZS**	3	3	0	3	2	1	0	0	0	0	0	11	**2.4**	24
4	1	1	2	1	2	2	4	5	2	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	5	1.0	24
5	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	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
7	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
9	0	0	0	0	0	0	**IZS**	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1	24
10	0	0	0	0	0	**N**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23
11	0	0	0	1	**IZS**	2	2	1	0	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	2	0.4	24
12	0	0	0	**IZS**	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1	24
13	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0	24
14	0	**IZS**	1	2	0	6	8	3	4	1	2	2	2	3	3	0	2	2	0	0	0	0	0	0	8	1.8	24
15	**IZS**	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0.0	24
16	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	2	0.2	24
17	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	1	0.1	24
18	0	0	0	0	0	2	4	6	10	4	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	10	1.1	24
19	0	0	0	0	1	2	2	1	0	0	0	0	3	0	1	1	0	0	0	**IZS**	0	0	0	0	3	0.5	24
20	0	0	1	5	10	8	4	4	4	1	1	0	1	1	3	1	0	0	**IZS**	0	0	0	0	0	10	1.9	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	2	0.1	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	0	0	0	0	1	1	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0.1	24
25	0	0	0	0	0	0	0	1	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0.0	24
26	0	0	0	0	1	2	2	1	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
27	0	0	0	0	0	0	0	**18**	17	3	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	**18**	1.7	24
28	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	0	0	2	2	1	**IZS**	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0.4	24
30	0	0	0	0	0	1	2	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
HOURLY MAX	2	2	7	8	11	8	8	18	17	4	4	4	3	3	3	1	3	2	1	0	0	0	1	0			
HOURLY AVG	0.1	0.1	0.4	0.6	0.9	1.0	1.2	1.8	1.5	0.6	0.5	0.3	0.2	0.3	0.4	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0			

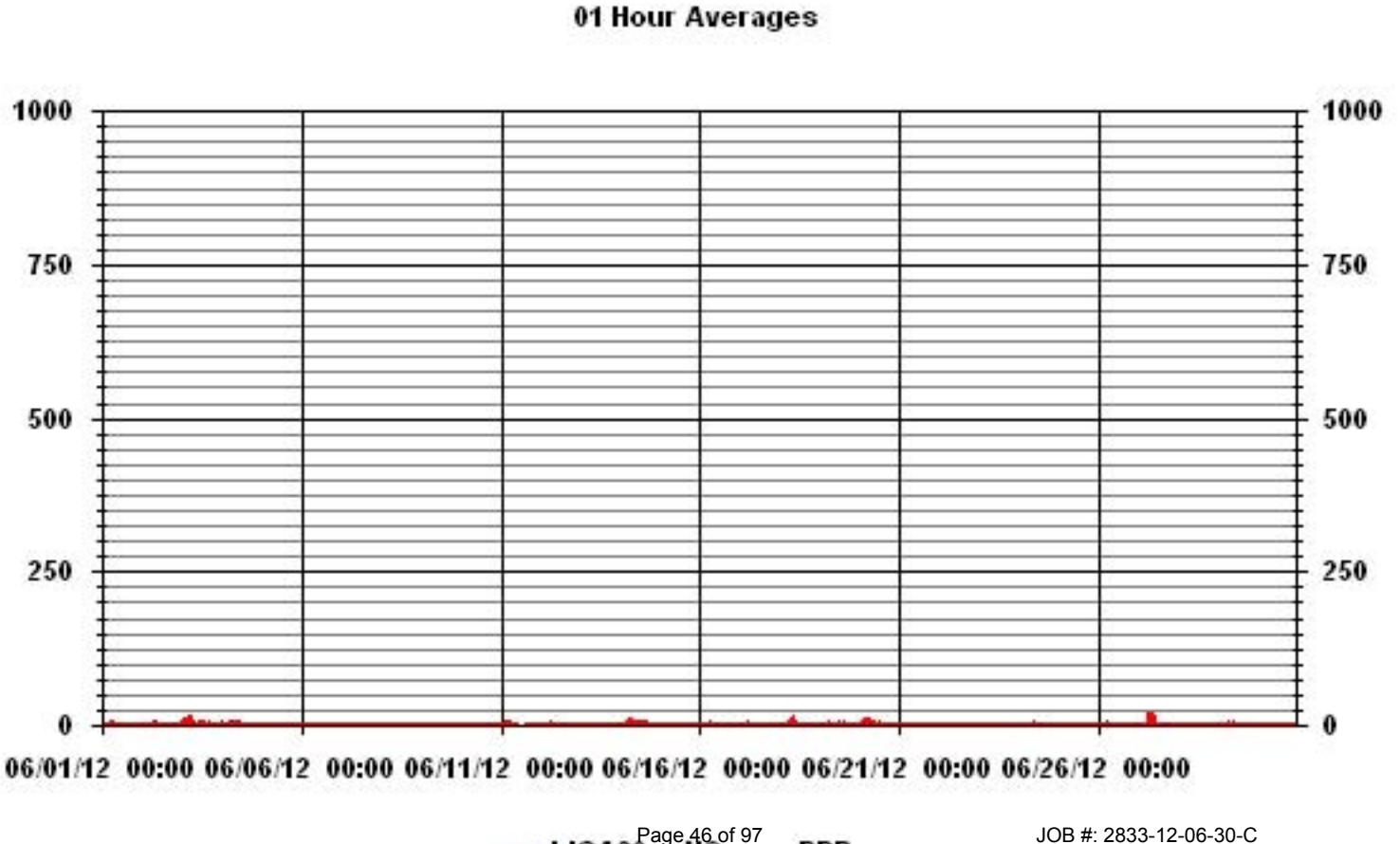
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	111						
MAXIMUM 1-HR AVERAGE:	18	PPB	@ HOUR(S)	7	ON DAY(S)	27	
MAXIMUM 24-HR AVERAGE:	2.4	PPB			ON DAY(S)	3	
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		719	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		99.9	%	
STANDARD DEVIATION:	1.52		MONTHLY AVERAGE:		0.43	PPB	



JOB #: 2833-12-06-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

JUNE 2012

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	4	5	2	1	1	1	0	1	1	**IZS**	5	1	1	1	0	1	1	1	1	5	1.4	24
2	1	1	1	1	1	1	1	2	2	4	0	1	1	**IZS**	1	1	1	0	1	0	1	1	4	2	4	1.3	24
3	6	5	14	15	16	4	5	5	2	3	14	9	**IZS**	11	11	1	7	8	6	3	2	1	1	1	16	6.5	24
4	5	5	8	2	5	5	8	16	7	2	3	**IZS**	1	1	1	2	1	0	1	0	1	1	1	1	16	3.3	24
5	1	1	1	1	1	1	1	1	1	1	**IZS**	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0.5	24
6	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	0	1	1	1	1	2	1	1	1	1	0	2	0.6	24
7	1	0	1	1	1	1	1	1	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
8	0	0	0	0	0	0	0	**IZS**	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
9	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	5	1	1	1	1	1	0	1	5	0.9	24
10	2	1	1	1	1	**N**	1	1	0	0	1	0	1	1	1	1	1	1	0	1	1	1	1	1	2	0.9	23
11	1	1	1	3	**IZS**	3	4	2	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	4	1.5	24
12	1	1	1	**IZS**	1	1	1	1	2	2	1	1	3	4	4	4	4	0	0	0	1	0	0	1	4	1.5	24
13	1	0	**IZS**	0	0	0	1	0	0	1	0	2	0	0	2	1	1	0	5	0	0	0	7	8	8	1.3	24
14	0	**IZS**	3	11	1	19	16	11	29	5	6	6	5	19	12	2	13	5	0	2	0	0	0	1	29	7.2	24
15	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0	1	**IZS**	1	0.7	24
16	1	1	1	1	1	1	4	4	1	1	1	0	1	0	0	0	1	0	1	0	1	1	**IZS**	1	4	1.0	24
17	1	1	0	0	1	1	3	1	1	1	2	2	1	1	1	0	0	0	0	1	0	**IZS**	1	1	3	0.9	24
18	1	1	1	1	1	4	7	10	15	12	12	1	1	0	1	1	0	1	0	1	**IZS**	1	0	1	15	3.2	24
19	1	1	1	1	2	10	4	2	1	0	1	2	10	3	7	4	1	1	1	**IZS**	1	0	1	1	10	2.4	24
20	1	1	3	20	24	25	15	16	10	5	4	2	10	5	5	4	2	0	**IZS**	0	1	1	0	1	25	6.7	24
21	1	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	0	**IZS**	1	1	1	0	1	1	10	1.3	24
22	1	1	1	1	1	1	1	4	2	1	0	1	1	1	1	1	**IZS**	0	1	0	1	0	1	0	4	1.0	24
23	0	0	1	0	1	1	1	0	1	0	0	1	0	1	1	**IZS**	1	1	1	1	0	1	1	1	1	0.7	24
24	1	1	1	1	1	0	1	2	1	3	2	1	2	1	**IZS**	1	0	0	0	0	0	1	1	1	3	1.0	24
25	0	0	1	0	0	1	1	2	1	1	0	0	1	**IZS**	1	1	1	1	0	0	0	0	0	1	2	0.6	24
26	0	1	1	1	3	27	4	4	2	1	2	8	**IZS**	1	1	1	0	0	0	0	0	0	2	2	27	2.7	24
27	0	1	0	1	0	1	2	**29**	25	5	5	**IZS**	3	1	1	1	0	1	2	1	0	0	0	0	**29**	3.4	24
28	0	0	1	1	1	2	1	1	1	1	**IZS**	1	1	1	1	1	0	0	0	1	1	1	1	1	2	0.8	24
29	1	1	1	1	1	1	8	5	6	**IZS**	5	4	2	2	1	0	1	1	1	1	1	0	1	1	8	2.0	24
30	1	0	1	0	1	3	6	2	**IZS**	1	1	1	1	1	1	0	1	0	1	1	1	0	0	0	6	1.0	24
HOURLY MAX	6	5	14	20	24	27	16	29	29	12	14	10	10	19	12	5	13	8	6	3	2	1	7	8			
HOURLY AVG	1.0	1.0	1.7	2.3	2.3	4.1	3.6	4.4	4.1	2.0	2.4	2.1	1.9	2.1	2.1	1.3	1.5	0.8	1.0	0.6	0.6	0.5	1.0	1.1			

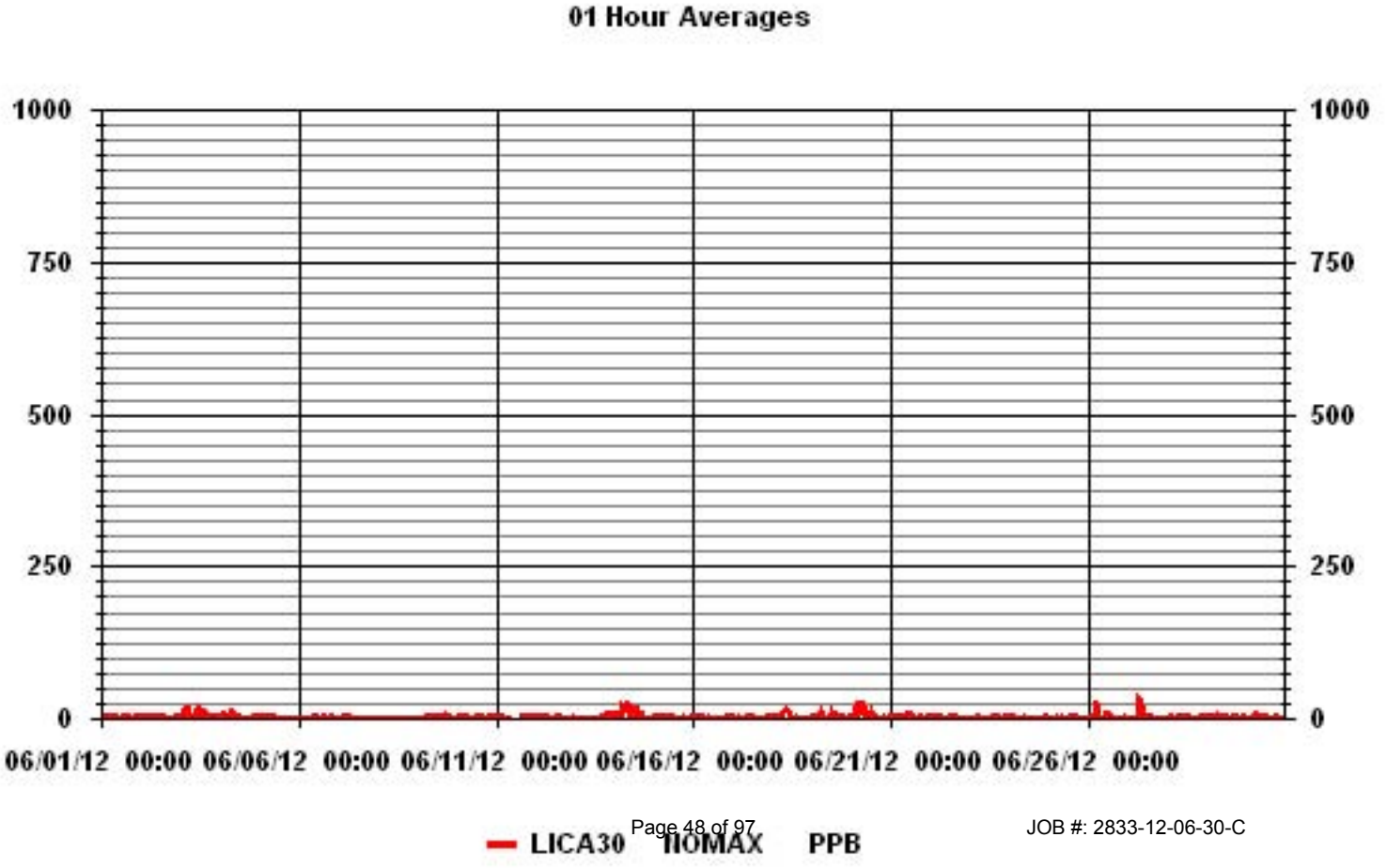
STATUS FLAG CODES

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:	493					
MAXIMUM INSTANTANEOUS VALUE:	29	PPB	@ HOUR(S)	7	ON DAY(S)	27
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	3.65					

JOB #: 2833-12-06-30-C



JOB #: 2833-12-06-30-C

LICA30
NO_ / WDR Joint Frequency Distribution (Percent)

June 2012

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	4.69	4.10	8.21	7.91	4.98	4.39	7.47	8.79	6.01	9.38	6.74	7.03	5.27	5.27	5.42	4.25	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.69	4.10	8.21	7.91	4.98	4.39	7.47	8.79	6.01	9.38	6.74	7.03	5.27	5.27	5.42	4.25	

Calm : .00 %

Total # Operational Hours : 682

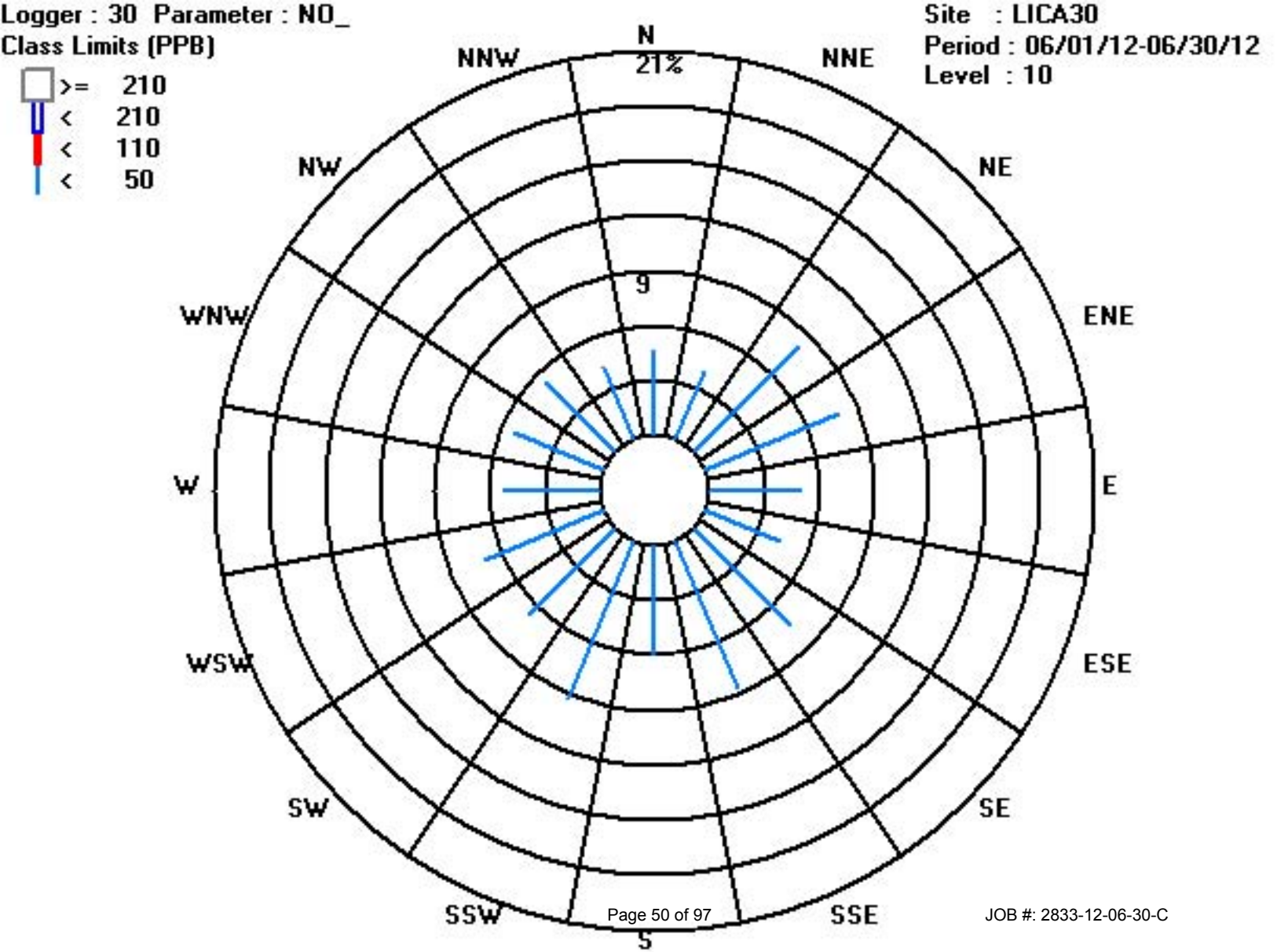
Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	32	28	56	54	34	30	51	60	41	64	46	48	36	36	37	29	682
< 110																	
< 210																	
>= 210																	
Totals	32	28	56	54	34	30	51	60	41	64	46	48	36	36	37	29	

Calm : .00 %

Total # Operational Hours : 682



JOB #: 2833-12-06-30-C

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

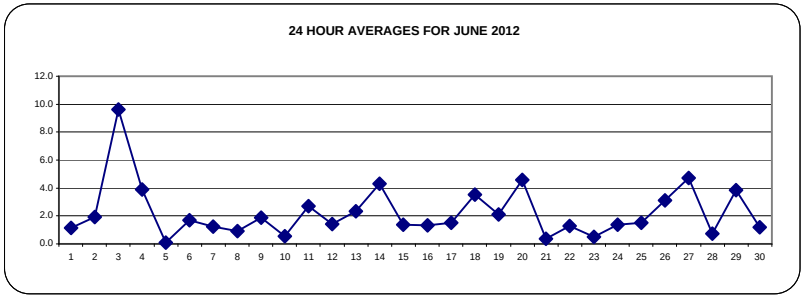
JUNE 2012

OXIDES OF NITROGEN hourly averages in ppb

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	1	2	3	4	2	1	0	0	0	0	1	**IZS**	3	1	0	0	0	1	1	1	2	4	1.1	24
2	1	1	1	1	1	1	1	3	5	5	1	1	1	**IZS**	3	2	2	1	1	1	1	1	4	5	5	1.9	24
3	15	12	25	24	31	5	8	7	6	7	12	14	**IZS**	10	10	1	9	7	7	2	3	1	2	3	31	**9.6**	24
4	4	9	10	7	9	8	10	12	5	3	4	**IZS**	1	1	1	3	1	0	1	0	0	0	1	0	12	3.9	24
5	0	0	0	0	0	0	0	0	0	0	**IZS**	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
6	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	6	13	5	7	7	1	13	1.7	24
7	1	1	1	2	2	1	2	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	1.2	24
8	1	1	1	1	1	1	1	**IZS**	2	2	3	1	1	0	0	0	0	0	0	0	0	0	2	3	3	0.9	24
9	3	3	3	2	3	2	**IZS**	2	2	2	1	2	1	1	2	2	2	1	1	1	1	2	2	2	3	1.9	24
10	7	2	1	1	1	**N**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0.6	23
11	3	5	4	8	**IZS**	4	6	2	1	2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	2	8	2.7	24
12	4	2	1	**IZS**	2	2	3	2	2	2	2	1	2	2	2	2	2	0	0	0	0	0	0	0	4	1.4	24
13	0	0	**IZS**	2	1	2	3	2	3	4	3	5	1	0	3	3	2	1	4	1	1	1	7	5	7	2.3	24
14	2	**IZS**	2	4	0	11	15	5	6	2	5	4	6	7	8	1	5	6	0	4	4	1	1	0	15	4.3	24
15	**IZS**	2	2	2	2	2	2	2	1	1	1	1	0	0	1	0	0	1	1	1	1	4	3	**IZS**	4	1.4	24
16	2	2	1	1	1	1	5	6	2	1	1	0	1	1	0	1	1	1	1	1	1	0	**IZS**	0	6	1.3	24
17	1	1	1	1	3	4	2	1	3	1	2	2	2	1	1	1	1	0	1	0	0	**IZS**	3	3	4	1.5	24
18	2	3	3	3	5	8	11	15	18	8	2	1	0	0	1	1	0	0	0	0	**IZS**	0	0	0	18	3.5	24
19	1	1	2	2	3	4	3	2	1	1	3	3	7	1	3	3	1	2	1	**IZS**	1	1	1	1	7	2.1	24
20	2	2	4	10	18	15	7	9	7	3	2	1	2	4	8	4	2	0	**IZS**	0	2	1	1	1	18	4.6	24
21	1	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	1	**IZS**	0	0	0	0	0	0	2	0.3	24
22	1	0	1	0	0	1	2	7	3	1	1	1	1	1	1	1	**IZS**	1	1	1	1	2	1	1	7	1.3	24
23	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	0	1	0	4	3	0	4	0.5	24
24	0	0	0	0	0	0	0	1	2	5	3	2	2	2	**IZS**	1	0	0	0	0	0	7	6	1	7	1.4	24
25	1	1	2	1	2	2	3	4	2	2	2	1	1	**IZS**	1	2	1	1	1	1	1	1	1	1	4	1.5	24
26	2	2	2	1	3	7	6	7	3	2	5	2	**IZS**	2	2	2	1	1	1	1	1	2	3	14	14	3.1	24
27	4	1	2	1	1	2	4	**37**	34	9	6	**IZS**	2	0	0	1	0	0	1	1	1	2	0	0	**37**	4.7	24
28	0	0	1	2	0	1	1	1	1	0	**IZS**	0	0	1	1	0	0	0	0	0	0	2	3	3	3	0.7	24
29	3	3	4	3	2	2	8	9	5	**IZS**	12	6	3	3	1	1	1	1	1	2	9	5	3	2	12	3.9	24
30	1	2	1	0	0	2	6	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	6	1.2	24
HOURLY MAX	15	12	25	24	31	15	15	37	34	9	12	14	7	10	10	4	9	7	7	13	9	7	7	14			
HOURLY AVG	2.2	2.0	2.6	2.8	3.2	3.1	3.9	4.8	4.1	2.3	2.7	2.0	1.4	1.6	1.9	1.4	1.3	1.0	1.1	1.2	1.3	1.7	2.0	1.8			

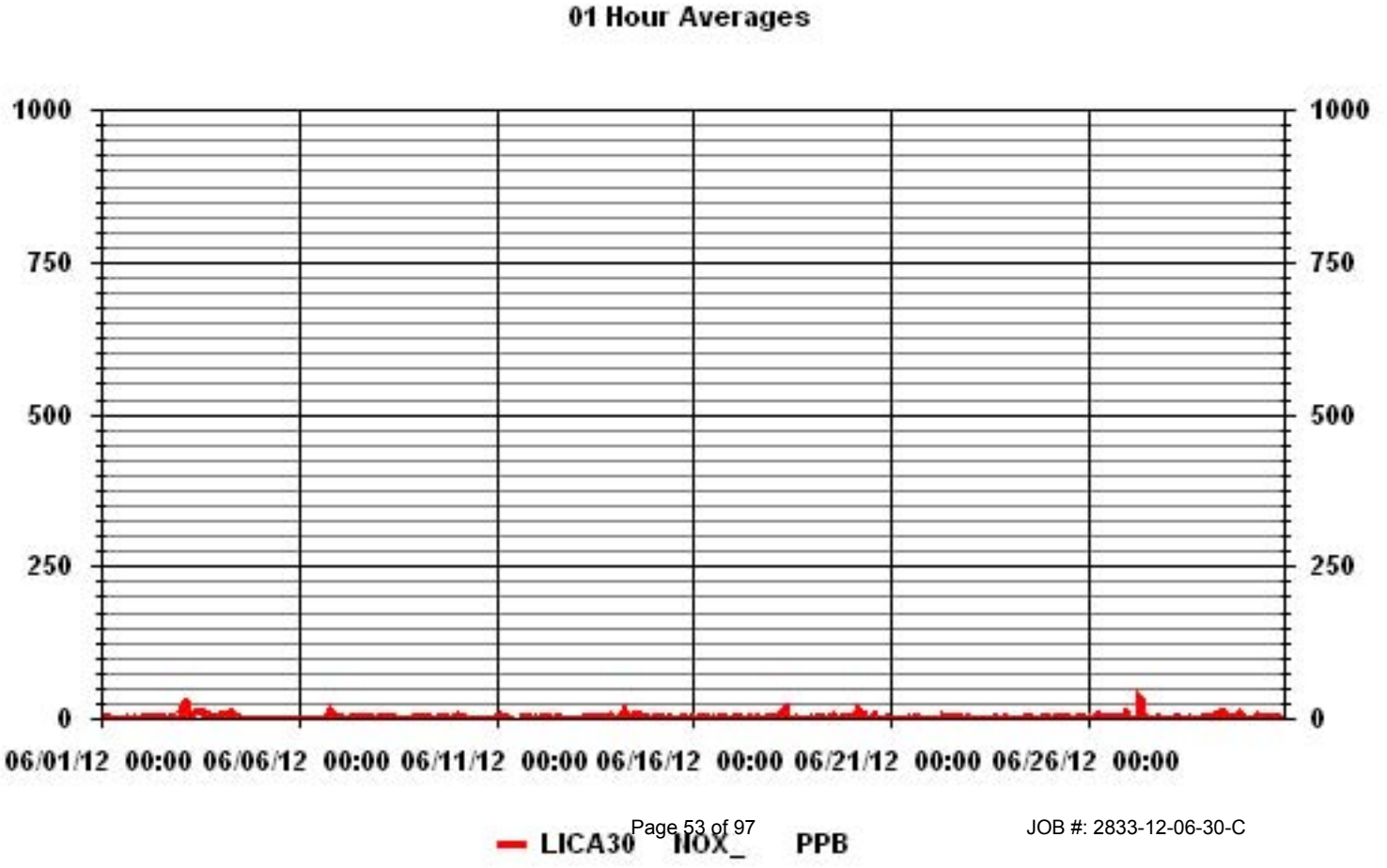
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	502					
MAXIMUM 1-HR AVERAGE:	37	PPB	@ HOUR(S)	7	ON DAY(S)	27
MAXIMUM 24-HR AVERAGE:	9.6	PPB			ON DAY(S)	3
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME		99.9	%
STANDARD DEVIATION	3.64		MONTHLY AVERAGE		2.22	PPB



JOB #: 2833-12-06-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2012

OXIDES OF NITROGEN MAX hourly averages in ppb

MST

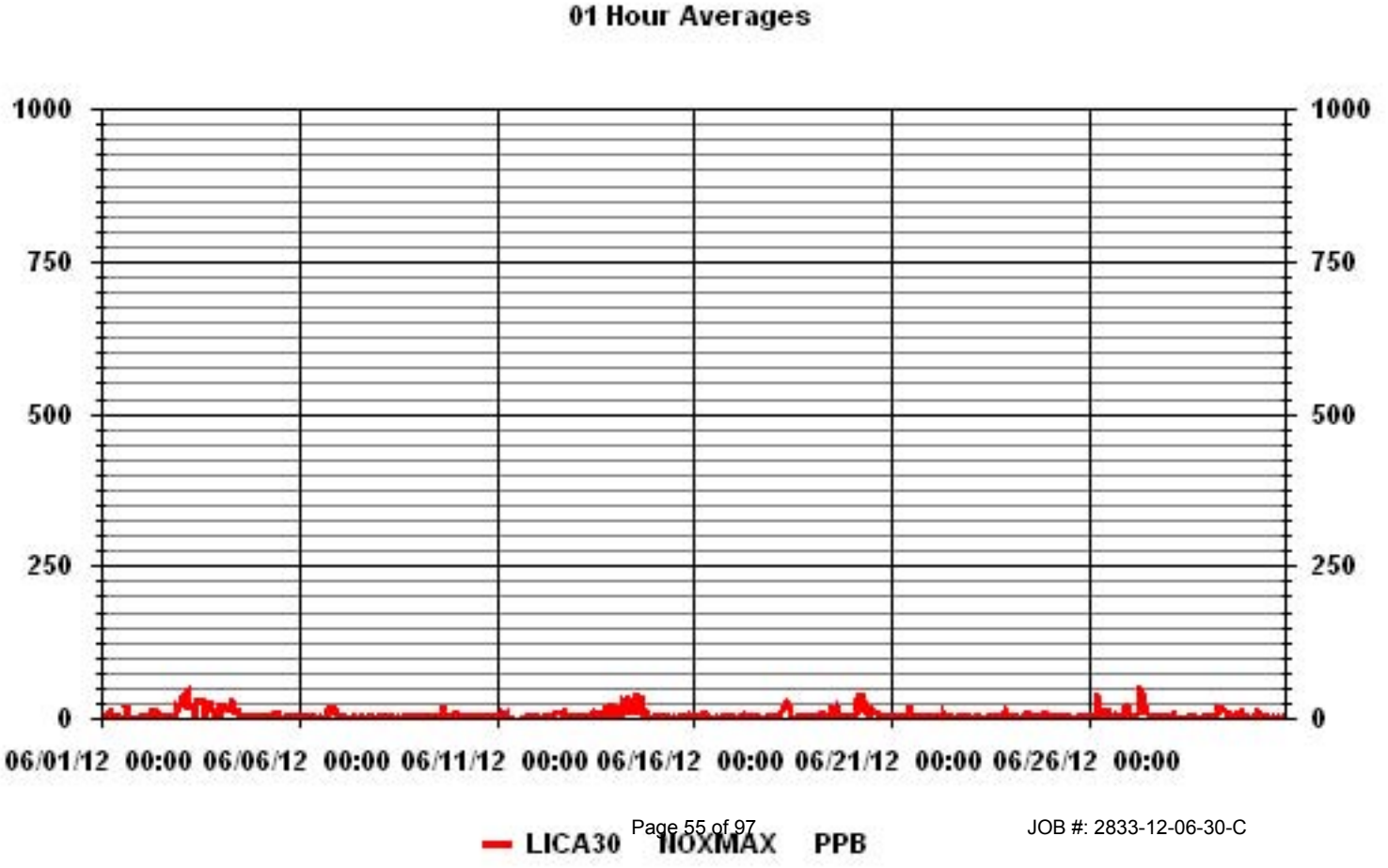
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	2	2	2	2	9	12	4	3	2	2	1	1	2	**IZS**	18	3	1	1	1	2	1	1	3	18	3.3	24
2	2	2	1	2	2	2	3	11	11	17	2	3	4	**IZS**	6	5	6	2	1	2	3	3	22	19	22	5.7	24
3	27	20	38	38	42	16	21	20	9	10	33	26	**IZS**	28	28	3	20	23	24	15	14	2	4	5	42	20.3	24
4	18	18	24	11	17	16	16	31	18	6	13	**IZS**	2	2	5	5	3	1	1	1	1	1	1	1	31	9.2	24
5	1	1	1	1	1	1	1	1	1	1	**IZS**	8	1	1	0	0	1	1	1	1	1	1	1	1	8	1.2	24
6	1	1	1	1	1	1	1	1	1	**IZS**	1	1	2	1	1	2	1	1	14	17	13	14	14	2	17	4.0	24
7	2	3	2	3	2	2	3	2	**IZS**	3	2	2	2	4	2	2	2	1	3	2	2	3	3	1	4	2.3	24
8	2	2	2	2	2	2	2	**IZS**	3	3	4	2	1	1	2	1	1	2	2	0	1	1	3	4	4	2.0	24
9	4	4	3	3	3	3	**IZS**	3	3	2	2	5	3	3	3	3	18	2	2	2	2	2	2	5	18	3.6	24
10	13	3	2	2	2	**N**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	13	1.8	23
11	5	6	7	12	**IZS**	6	10	4	2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	2	2	2	2	2	4	12	4.5	24
12	6	3	2	**IZS**	3	5	5	3	3	3	3	2	7	9	10	9	11	1	1	1	1	1	1	1	11	4.0	24
13	1	1	**IZS**	4	3	4	4	3	3	6	4	9	4	2	8	7	7	1	21	2	2	4	21	21	21	6.2	24
14	3	**IZS**	7	20	0	30	27	18	37	8	13	13	12	42	29	7	35	18	1	13	7	2	2	1	42	15.0	24
15	**IZS**	3	3	3	3	2	3	3	1	1	1	2	2	2	1	1	1	3	3	2	2	7	5	**IZS**	7	2.5	24
16	3	2	2	2	2	2	9	9	3	2	2	1	2	1	1	1	2	2	2	3	2	1	**IZS**	1	9	2.5	24
17	1	2	2	4	4	5	7	3	4	3	5	4	3	3	2	1	1	1	2	1	1	**IZS**	5	4	7	3.0	24
18	4	3	4	5	6	12	17	20	26	22	18	2	1	1	2	2	1	1	1	1	**IZS**	1	1	1	26	6.6	24
19	2	2	3	3	4	13	6	4	2	2	7	4	18	9	17	10	3	3	2	**IZS**	2	2	2	2	18	5.3	24
20	4	3	8	31	36	37	23	24	15	10	9	7	14	14	13	10	8	1	**IZS**	1	3	3	2	1	37	12.0	24
21	1	1	1	1	1	1	1	1	1	1	1	18	3	2	2	2	2	**IZS**	1	1	1	1	1	1	18	2.0	24
22	1	1	1	1	1	1	4	11	5	3	2	2	5	2	3	1	**IZS**	2	2	3	3	3	2	2	11	2.7	24
23	2	2	1	1	1	1	1	1	2	0	0	2	2	2	3	**IZS**	4	4	3	2	1	12	9	1	12	2.5	24
24	1	1	1	1	1	1	1	4	3	9	7	4	7	4	**IZS**	3	1	1	1	1	3	10	11	5	11	3.5	24
25	1	3	3	2	3	4	5	6	4	3	3	2	2	**IZS**	3	4	2	2	5	1	1	1	2	2	6	2.8	24
26	2	3	3	2	10	41	13	14	9	5	10	15	**IZS**	3	3	7	2	2	1	2	2	2	19	25	41	8.5	24
27	11	2	2	2	1	7	9	**52**	45	16	16	**IZS**	5	1	1	4	2	2	4	5	4	5	1	1	**52**	8.6	24
28	1	1	3	6	1	5	2	1	2	1	**IZS**	2	1	2	3	2	1	1	0	3	1	3	4	6	6	2.3	24
29	4	4	5	4	3	4	17	13	16	**IZS**	17	15	6	8	3	2	2	2	1	10	12	7	4	4	17	7.1	24
30	2	2	2	1	1	8	16	6	**IZS**	3	1	1	1	2	2	1	2	2	1	3	2	1	1	1	16	2.7	24
HOURLY MAX	27	20	38	38	42	41	27	52	45	22	33	26	18	42	29	18	35	23	24	17	14	14	22	25			
HOURLY AVG	4.4	3.5	4.7	5.9	5.4	8.3	8.3	9.4	8.3	5.3	6.6	5.7	4.1	5.6	5.7	4.1	5.1	2.9	3.6	3.4	3.2	3.3	5.1	4.4			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	674					
MAXIMUM INSTANTANEOUS VALUE:	52	PPB	@ HOUR(S)	7	ON DAY(S)	27
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	7.35					



JOB #: 2833-12-06-30-C

LICA30
NOX_ / WDR Joint Frequency Distribution (Percent)

June 2012

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	4.69	4.10	8.21	7.91	4.98	4.39	7.47	8.79	6.01	9.38	6.74	7.03	5.27	5.27	5.42	4.25	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	4.69	4.10	8.21	7.91	4.98	4.39	7.47	8.79	6.01	9.38	6.74	7.03	5.27	5.27	5.42	4.25	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	32	28	56	54	34	30	51	60	41	64	46	48	36	36	37	29	682
<	110																	
<	210																	
>=	210																	
	Totals	32	28	56	54	34	30	51	60	41	64	46	48	36	36	37	29	

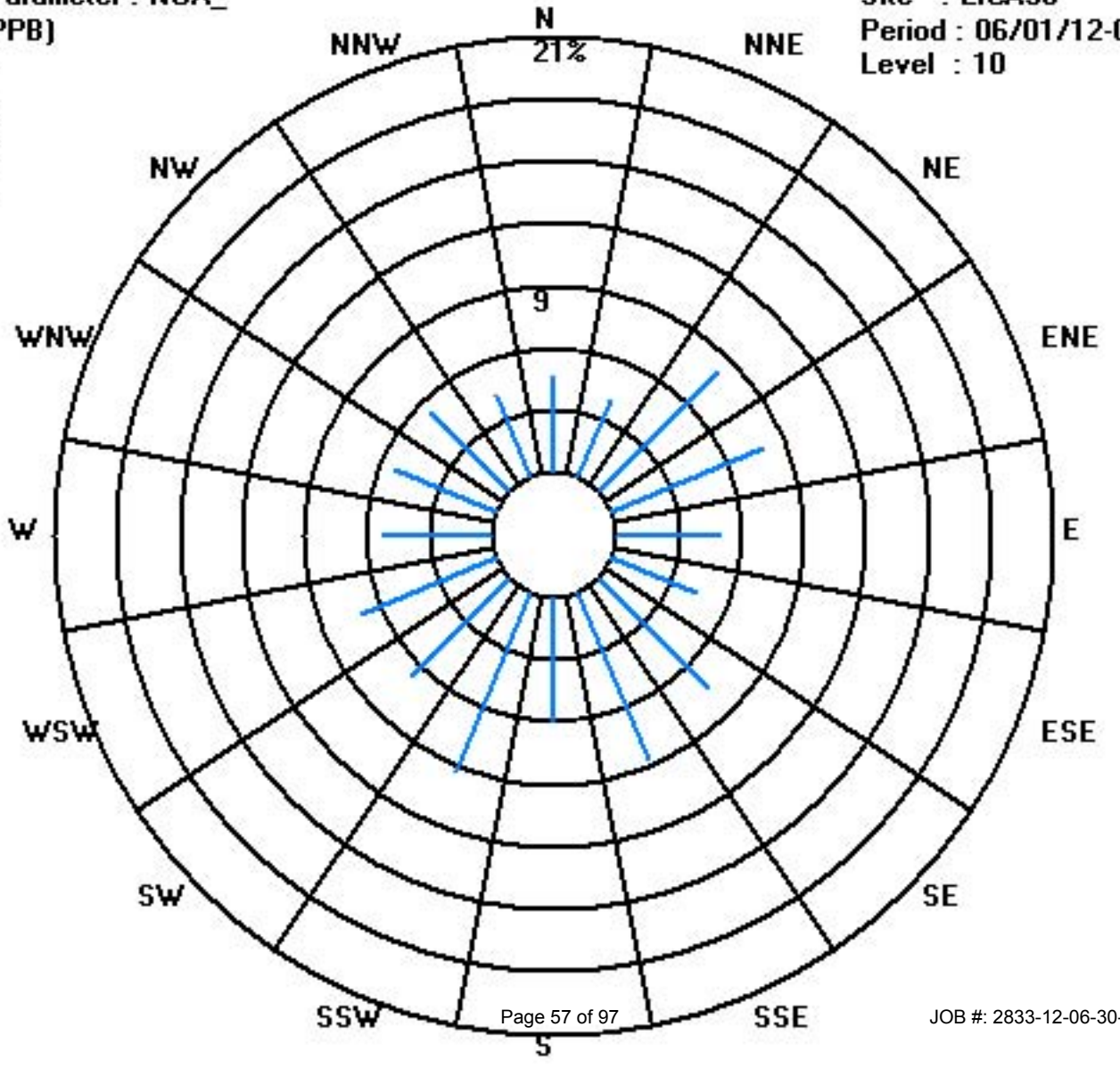
Calm : .00 %

Total # Operational Hours : 682

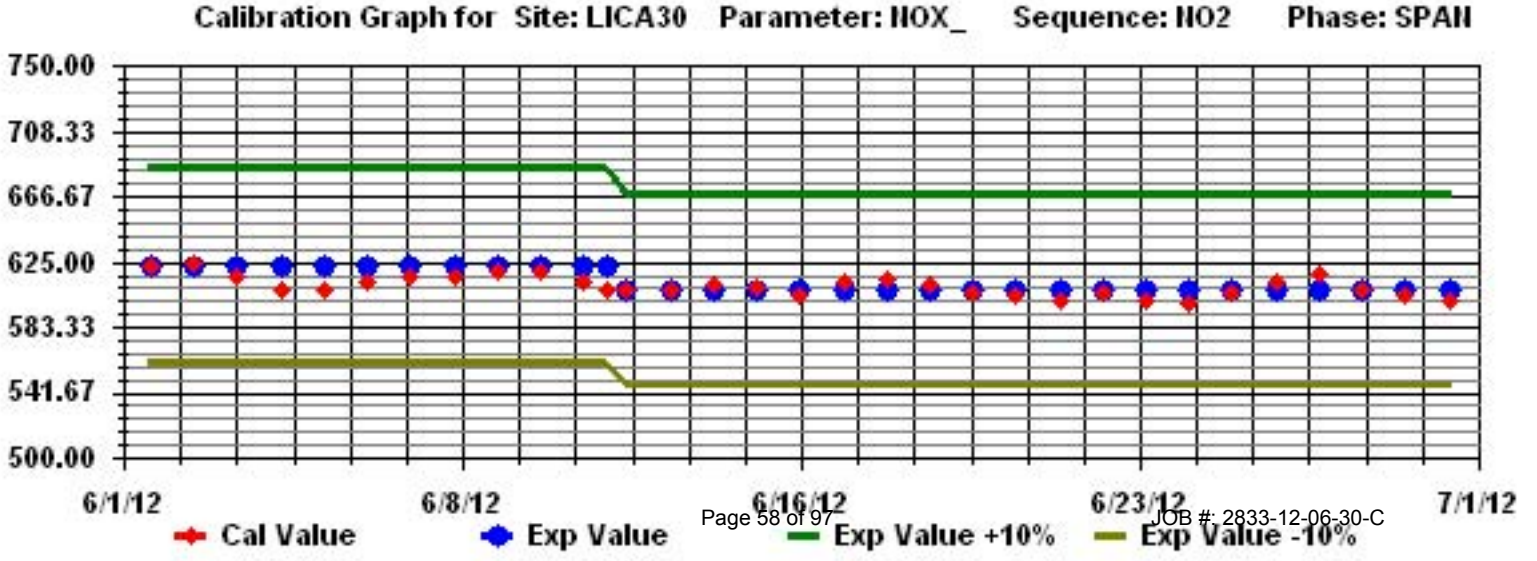
Logger : 30 Parameter : NOX_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA30
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-30-C


Calibration Graph for Site: LICA30 Parameter: NOX_ Sequence: NO2 Phase: SPAN
750.00
708.33
666.67
625.00
583.33
541.67
500.00
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2012

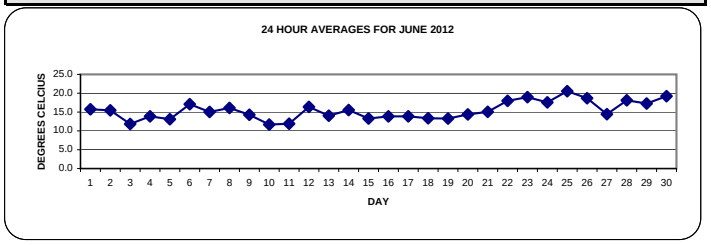
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	8.1	6.9	6.1	5.5	6.1	10.3	14.4	17.4	20.2	21.4	21.3	22	22.8	23.9	23.5	23.6	23.6	23	21.2	17	12.7	9.8	8.6	8.2	23.9	15.7	24
2	9.2	9.4	9.8	9.6	9.5	9.7	13.1	18.8	22	24.2	24.9	25.8	24.8	22.7	16.1	15.5	14.9	14.2	14	13.1	12.6	12.5	12.4	12.3	25.8	15.5	24
3	11.7	11.6	11.5	10.9	10.3	9.9	9.5	9.8	10.1	10.9	12.7	12.5	13.2	14.1	15.2	15	14.3	14.9	14.2	13.4	12.6	9.8	8.1	8	15.2	11.8	24
4	7.4	7.9	7.5	7.1	7.5	7.9	9.9	13.8	15.2	16.9	18.1	18.3	18.9	19.3	18.7	19.9	19.5	18.6	18.8	16.6	13.5	10.8	10.4	10.2	19.9	13.9	24
5	9.7	9.5	8.8	8.9	9.7	10.7	12	12.6	12.6	12.8	14.1	14.5	16	16.2	15.7	16.7	16.8	16.2	15.2	14.2	13.4	12.9	12.6	12.6	16.8	13.1	24
6	12.5	12.6	12.7	12.4	12.1	12.6	13.4	15.2	17.2	19.2	20.2	18.8	18.2	18.7	21.2	22.7	22.8	21.9	20.5	18.6	18.6	16.3	15.8	15.8	22.8	17.1	24
7	13.9	12.1	11.2	9.6	8.9	11	11.7	13.3	14.8	16.6	17.7	18.8	20	20.4	21.1	21.1	21	21	20.6	18.6	13.5	9.9	7.4	6.6	21.1	15.0	24
8	5.4	4	4	**3.2**	3.9	8.3	12.4	17	19.5	19.2	20.3	22.7	24.6	25.2	25.1	25.6	25	24.2	22.6	19.4	14.6	12.3	14.2	13.6	25.6	16.1	24
9	13.1	12.1	11.2	10.1	10.1	10.6	12.5	14.7	16.8	19.1	18.4	17.6	18	17.6	17	16.9	16.4	16.1	14.5	13	11.9	11.7	11.8	11.7	19.1	14.3	24
10	11.8	12.1	12.4	12.4	12.5	**N**	13.2	13.1	12.2	13.6	14.7	14.7	13.3	13.8	13.5	14.1	12	10.7	11	10.6	10	7.7	5.1	4.1	14.7	11.7	23
11	4.1	4.2	4.4	3.9	4.6	7.1	11.1	13.5	14	14.4	14.2	14.1	15.6	16.3	17	16.8	16.8	17.5	15.5	14.8	11.7	10.9	11.6	11.6	17.5	11.9	24
12	11.2	10	9.8	10	10	10.4	11.9	14.2	16.1	18.3	20.4	21.8	22.5	24.8	24.5	24.5	23.8	19.5	18.4	17.3	15.5	13.9	12.6	11.6	24.8	16.4	24
13	11.7	12	12	11.8	11.9	12	12.7	12.5	12.9	14.2	13.9	15	15.5	16.9	20	20.9	20.4	16.2	13.3	12.8	12.4	11.7	12	12.1	20.9	14.0	24
14	12	11.8	12	12	11.8	11.7	12.1	13.1	14.5	17.2	18	19.3	19.2	20.4	20.7	21.3	20.7	20.5	20.2	18.5	14.8	13.3	10.2	7.5	21.3	15.5	24
15	6.4	5.8	6.3	6.3	6.6	8.9	10.5	12.2	14.2	15.6	17.1	17.6	18.8	18.8	18.5	19.5	19	18.4	17.9	15.7	13.9	13.2	10.2	7.6	19.5	13.3	24
16	6.1	5.2	4.6	3.7	3.3	7.1	12.4	13.8	16.2	18	18.3	18.6	18.9	19.4	19.8	18.7	18.5	17.4	17.1	16	15.5	15.3	14.4	14.1	19.8	13.9	24
17	13.5	13	12.1	11.1	11.1	11.2	13.3	13.1	13.7	14	14.2	16.2	15.6	16.7	17.7	17.8	19.1	18.7	14.5	12.2	11.7	11.3	10.9	10.1	19.1	13.9	24
18	9.1	7.6	7.7	7.9	8.6	8.7	9.7	10.5	13.6	15.9	15.1	15.9	17.3	20.2	19	19.1	17.2	17.5	18.4	17.2	14.2	11.4	9.7	9.1	20.2	13.4	24
19	8.5	8.8	9.1	7.6	7.1	7.5	10.5	14.5	18.5	20.9	14.5	13.1	18	13.5	15.4	17.1	15.7	15.9	15.8	14.7	13.9	13.2	12.6	12.4	20.9	13.3	24
20	11.5	10.6	10.5	9.8	10.4	11	12.2	14.3	17.6	19.6	18.8	13.3	15.2	15.1	18.8	20	17.4	17.8	18.7	17.1	15.4	11.9	9.6	8.4	20.0	14.4	24
21	7.8	7.5	7.2	5.4	4.3	9.3	12.1	14.8	17	19.2	20	20.3	21.6	21.7	22	22.6	22.5	22.4	21.4	19.4	14.8	11.3	9.4	7.5	22.6	15.1	24
22	6.7	6.1	5.5	4.9	4.7	9	14.4	18.8	20.6	22.6	23.7	25.1	25.9	25.6	26.1	25.6	26.7	25.2	24.5	22.3	20.2	16.9	15.2	15.1	26.7	18.0	24
23	14.1	13.8	11.9	9.4	8.7	13	16.6	19.2	21.3	22.4	23.8	24.6	25.2	25.2	25.5	25.3	24.9	24.1	23.2	21	16.8	16	15.5	13.6	25.5	19.0	24
24	12.2	11.3	10.8	10	10.8	11.9	12.8	14.1	15.6	18.9	21	23.1	24	24.7	24.2	23.7	22.7	22.7	21.4	19.5	17.6	16.9	16.3	15.5	24.7	17.6	24
25	15.3	15.7	15.8	15.9	16.1	16.3	17.2	19.7	22.5	23.4	24.6	24.6	25.8	26.3	26.9	25.8	**26.9**	25.3	23.1	22.3	19.5	16.3	14.5	13.1	**26.9**	**20.5**	24
26	12.3	11.4	10.6	10.1	11.1	14.4	19.5	21.7	22.6	23.7	23.9	23.9	23.3	22.9	22.2	22.5	22.2	22.4	20.8	19.4	17.5	17.1	16.8	16.1	23.9	18.7	24
27	14.9	14.9	13.6	12.3	11.7	11.5	11.5	11.5	11.6	12	12.6	13.5	14.1	15	18.1	18.7	17.6	16.9	18.2	17.2	16.4	14.5	14.3	13.8	18.7	14.4	24
28	13.5	13.4	13.3	12.3	11.5	13.5	15.4	17	18.5	19.7	20.4	21.6	22.7	23.4	24.3	24.2	24.2	24	23.4	21.5	17.3	14.9	12.6	12.2	24.3	18.1	24
29	10.5	9.8	10.1	8.5	8.4	12	16	18.3	17.5	19.1	21.6	22.4	23.3	23.3	23.9	23.8	24.5	22.9	22.8	21.3	17.6	13.7	12.4	10.8	24.5	17.3	24
30	9.7	9.2	8.8	8.4	8.4	11.9	17.3	20.4	22.9	23.9	24.4	25.3	25.1	25.2	24.4	25	24.2	24.4	24.8	23	20.1	18.1	18.1	18.1	25.3	19.2	24
HOURLY MAX	15.3	15.7	15.8	15.9	16.1	16.3	19.5	21.7	22.9	24.2	24.9	25.8	25.9	26.3	26.9	25.8	26.9	25.3	24.8	23.0	20.2	18.1	18.1	18.1			
HOURLY AVG	10.5	10.0	9.7	9.0	9.1	10.7	13.0	15.1	16.7	18.2	18.8	19.2	19.9	20.2	20.5	20.8	20.4	19.7	18.9	17.3	15.0	13.2	12.2	11.4			

STATUS FLAG CODES

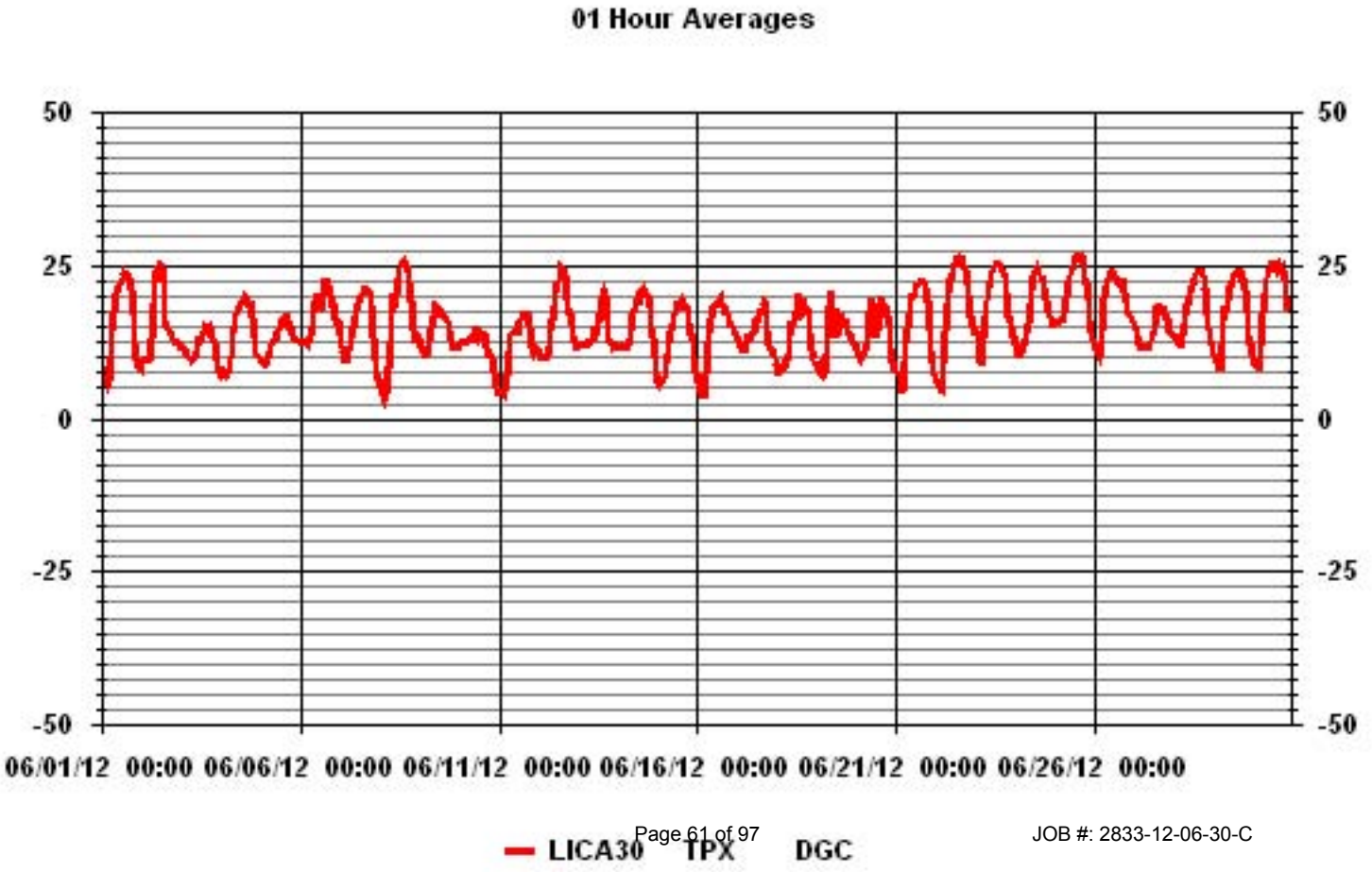
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	3.2	^{O}C	@ HOUR(S)	3	ON DAY(S)	8
MAXIMUM 1-HR AVERAGE:	26.9	^{O}C	@ HOUR(S)	16	ON DAY(S)	25
MAXIMUM 24-HR AVERAGE:	20.5	^{O}C			ON DAY(S)	25

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	719	HRS
			AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	5.33		MONTHLY AVERAGE:	15.40	^{O}C



JOB #: 2833-12-06-30-C

Precipitation

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2012

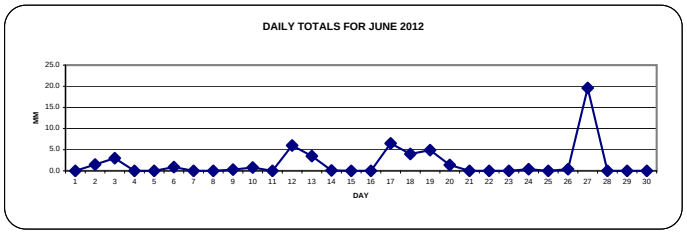
PRECIPITATION hourly averages (mm)

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	0	0.0	0.0	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	0.3	0.2	0.1	0	0	0	0	0	0	0.9	1.5	24
3	0	0	0	0.2	0.1	0.1	0.2	0.7	1.3	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3	3.0	24
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.6	0.1	0	0	0.6	0.9	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	0.1	0	0	0	0.2	0.2	0.3	24
10	0.1	0	0	0	0	**N**	0	0	0.4	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8	23
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
12	0.2	2.7	1	0.5	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.7	6.0	24
13	0	0	0	0	0	0	0	1.9	0.1	0	0	0	0	0	0	0	0	0.1	1.4	0	0	0	0	0	1.9	3.5	24
14	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	0.1	0.1	24
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
17	0	0	0.1	2.2	0	0	0	0.5	0.2	0	0.4	0	0.5	0	0	0	0	0	2	0.3	0	0.3	0	0	2.2	6.5	24
18	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	3.2	0.7	0	0	0	0	0	0	3.2	4.0	24
19	0	0	0	0	0	0	0	0	0	0	1.2	1.4	0	1.7	0.6	0	0	0	0	0	0	0	0	0	1.7	4.9	24
20	0	0	0	0	0	0.1	0.1	0	0	0	0	0.8	0.2	0.1	0	0	0.1	0	0	0	0	0	0	0	0.8	1.4	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4	0.4	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	0.1	0	0	0.3	0.3	0.4	24
27	0.5	1	1.8	2	3.6	2	**4.9**	1.9	0.6	0.2	0.6	0	0.3	0.2	0	0	0	0	0	0	0	0	0	0	**4.9**	**19.6**	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
HOURLY MAX	0.5	2.7	1.8	2.2	3.6	2.0	4.9	1.9	1.3	0.4	1.2	1.4	0.5	1.7	0.9	0.3	3.2	0.7	2.0	0.3	0.6	0.3	0.0	0.4			

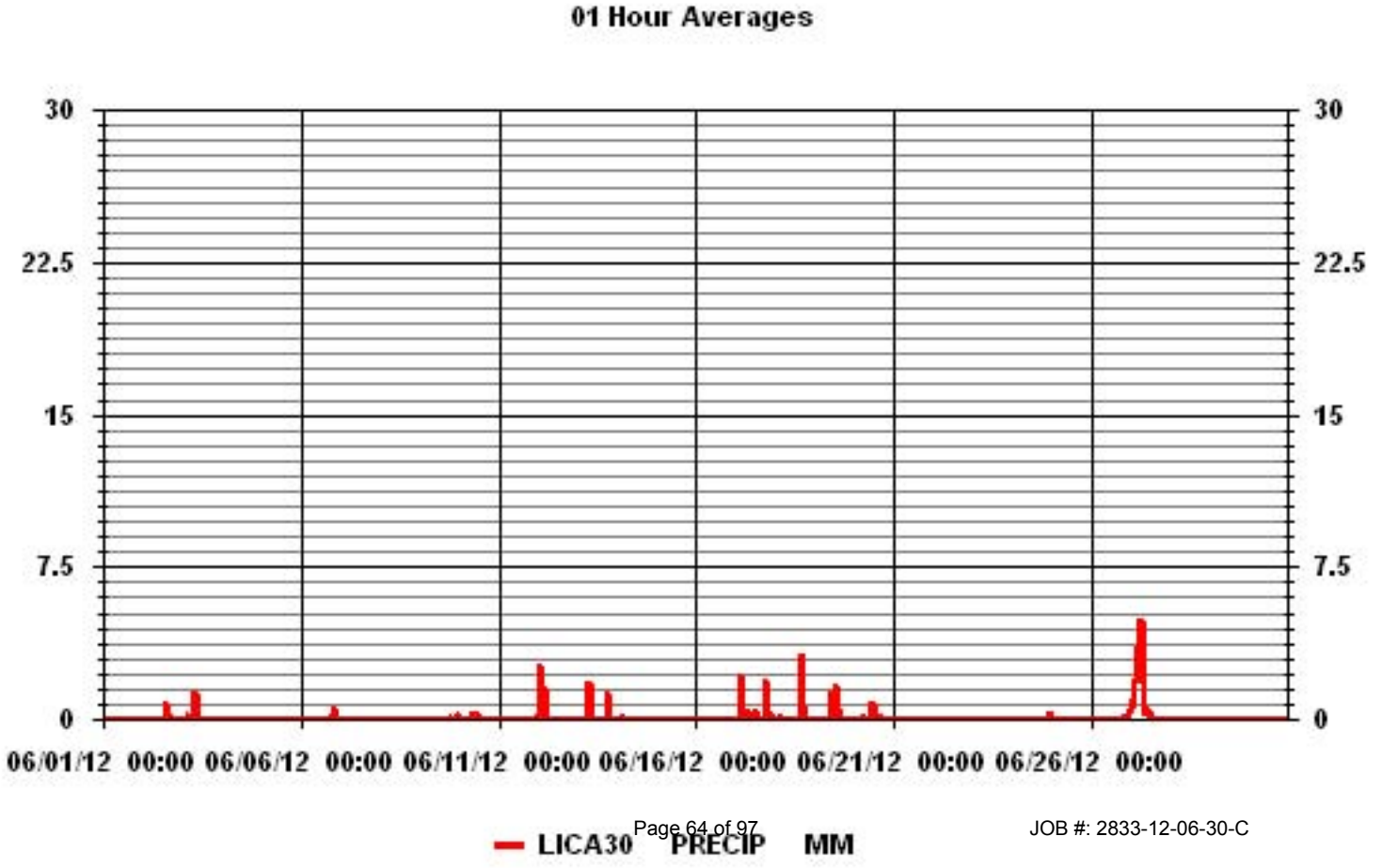
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:			4.9	MM	HOUR(S)	6	ON DAY(S) 27
MAXIMUM DAILY TOTAL			19.6	MM			ON DAY(S) 27
MONTHLY TOTAL			53.3	MM			
CALIBRATION TIME:	0	HRS		OPERATIONAL TIME:		719	HRS
				AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	0.37			MONTHLY AVERAGE:		0.07	MM



JOB #: 2833-12-06-30-C

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2012

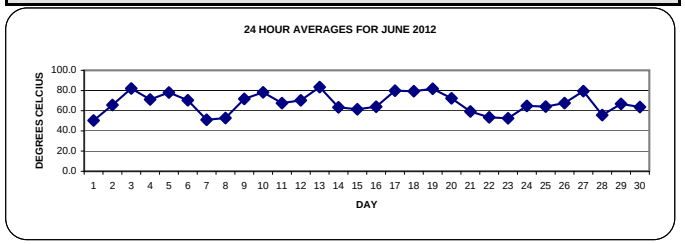
RELATIVE HUMIDITY hourly averages (%)

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	79	83	85	86	84	70	59	49	37	29	28	24	21	20	18	19	20	22	28	45	64	77	81	79	86	50.3	24
2	76	76	73	73	75	75	62	46	37	30	27	23	26	32	71	81	83	85	85	86	89	89	90	86	90	65.7	24
3	89	88	87	89	89	89	89	89	90	88	82	80	77	74	71	68	72	69	69	73	77	86	92	92	92	82.0	24
4	92	93	93	93	93	93	91	76	69	61	55	54	52	49	52	50	48	51	51	60	72	84	87	88	93	71.1	24
5	90	90	92	92	92	91	87	83	81	79	74	72	67	66	67	64	63	64	68	74	77	79	80	81	92	78.0	24
6	81	81	81	81	81	79	77	71	65	60	57	61	64	64	56	53	52	54	62	71	73	89	89	87	89	70.4	24
7	79	76	71	69	66	57	54	51	48	44	39	37	33	31	28	28	28	29	31	39	60	72	76	78	79	51.0	24
8	82	85	83	87	88	74	64	47	40	44	42	35	31	25	25	24	26	27	34	45	58	67	64	69	88	52.8	24
9	70	74	78	82	81	81	75	69	62	55	56	61	61	65	66	61	62	64	71	81	84	86	87	89	89	71.7	24
10	90	90	87	86	85	**N**	76	76	81	74	72	72	74	69	72	66	71	72	69	74	77	85	90	91	91	78.2	23
11	92	92	92	92	92	92	78	65	58	55	56	54	53	50	47	48	49	48	56	63	72	74	71	72	92	67.5	24
12	76	87	90	90	91	90	84	77	72	67	63	58	52	44	37	40	42	59	63	68	74	82	89	92	92	70.3	24
13	92	92	92	92	92	92	90	89	90	86	86	82	80	76	65	57	55	67	85	86	87	90	90	89	92	**83.4**	24
14	88	89	90	89	88	87	86	81	74	64	55	49	46	39	38	37	38	38	38	41	54	59	71	82	90	63.4	24
15	87	89	89	89	89	82	78	73	62	52	46	41	37	37	38	34	34	41	44	53	60	61	74	84	89	**61.4**	24
16	89	91	91	92	92	89	74	68	61	54	51	49	48	45	43	46	47	50	53	58	59	58	62	65	92	64.0	24
17	68	70	76	87	89	89	81	82	82	80	82	77	81	75	69	69	65	67	77	86	90	91	91	92	92	79.8	24
18	92	92	93	93	93	93	93	92	84	73	76	69	64	53	57	59	69	71	64	69	83	89	91	92	93	79.3	24
19	92	93	93	93	93	93	92	79	63	54	80	87	71	78	76	72	75	76	76	83	84	85	87	87	93	81.8	24
20	87	90	89	90	88	85	81	72	61	52	50	69	69	70	59	51	59	60	56	63	68	84	90	92	92	72.3	24
21	91	80	78	84	90	76	67	55	48	42	40	41	39	41	40	38	38	39	41	46	62	75	82	89	91	59.3	24
22	91	91	92	92	92	91	71	57	49	42	35	31	27	27	26	26	25	28	30	35	41	55	62	67	92	53.5	24
23	68	66	74	83	86	72	59	51	46	39	37	31	29	30	32	32	33	35	39	47	62	67	69	73	86	52.5	24
24	76	79	81	82	80	79	77	74	70	62	56	52	51	46	46	47	48	48	47	51	65	73	79	85	85	64.8	24
25	87	85	84	85	85	86	82	70	55	51	47	45	43	42	40	45	41	42	52	59	68	76	82	86	87	64.1	24
26	90	91	92	92	92	85	64	51	46	43	44	46	48	49	54	53	55	56	65	72	82	84	84	84	92	67.6	24
27	91	86	84	87	88	86	89	88	87	86	87	83	81	82	69	64	67	73	68	69	70	78	72	71	91	79.4	24
28	70	67	66	69	73	67	62	57	54	52	52	50	46	43	38	39	37	36	36	44	59	66	75	78	78	55.7	24
29	86	89	84	89	89	85	72	63	72	64	53	49	46	49	51	53	51	51	48	50	60	77	83	88	89	66.8	24
30	91	92	92	92	93	92	71	61	52	46	46	43	44	42	47	45	50	52	49	56	66	68	68	69	93	63.6	24
HOURLY MAX	92	93	93	93	93	93	93	92	90	88	87	87	81	82	76	81	83	85	85	86	90	91	92	92			
HOURLY AVG	84.4	84.9	85.1	86.7	87.0	83.4	76.2	68.7	63.2	57.6	55.8	54.2	52.0	50.4	49.9	49.0	50.1	52.5	55.2	61.6	69.9	76.9	80.3	82.6			

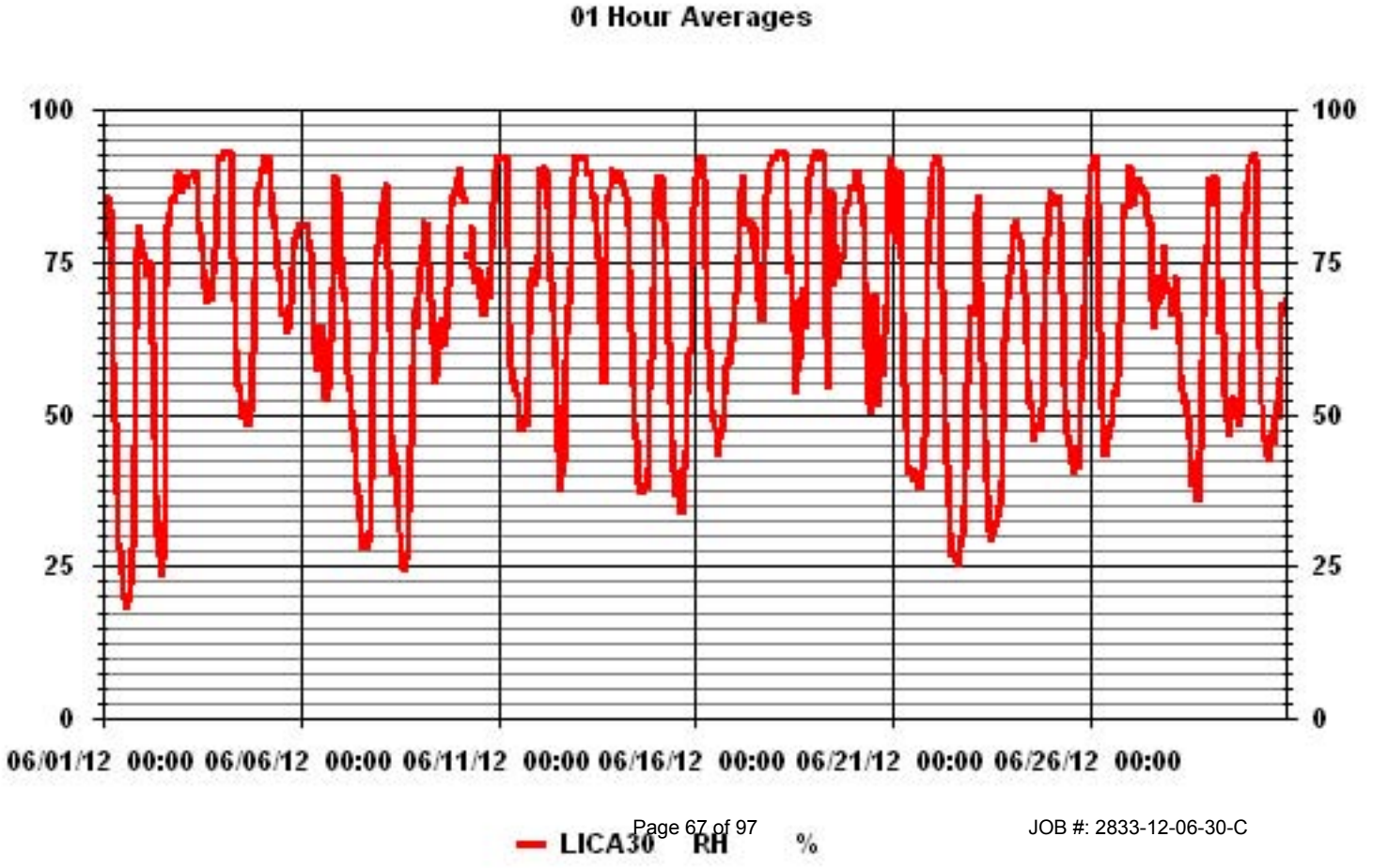
STATUS FLAG CODES

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

MAXIMUM 1-HR AVERAGE:		93	%	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:		83.4	%			ON DAY(S)	13
						VAR-VARIOUS	
CALIBRATION TIME:	0	HRS		OPERATIONAL TIME:		719	HRS
				AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	19.37			MONTHLY AVERAGE:		67.37	%



JOB #: 2833-12-06-30-C

Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

JUNE 2012

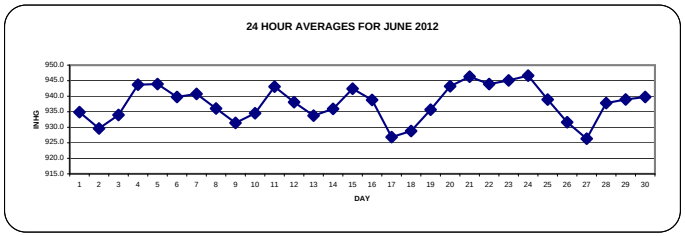
BAROMETRIC PRESSURE hourly averages (millibar)

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	935	935	935	935	935	936	937	937	937	937	937	936	936	936	935	935	935	934	934	933	932	932	932	931	937	934.9	24
2	931	931	931	930	930	930	930	931	931	931	930	930	929	929	929	929	929	929	928	929	929	928	929	928	931	929.6	24
3	928	929	929	929	930	930	930	931	932	932	933	934	935	935	936	936	937	937	938	938	939	939	939	939	939	934.0	24
4	940	940	940	940	941	942	943	944	944	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	943.7	24
5	945	945	944	945	945	944	944	945	945	944	945	945	944	944	943	943	943	943	943	943	943	943	943	943	945	943.9	24
6	942	942	941	941	940	941	940	940	939	940	940	939	939	939	939	939	939	938	939	939	939	940	939	940	942	939.8	24
7	940	939	939	940	940	941	941	941	941	942	942	942	942	942	942	942	942	941	941	941	940	939	939	939	942	940.8	24
8	938	938	937	937	937	937	938	938	938	938	938	937	937	936	936	935	935	935	935	934	933	933	933	932	938	936.0	24
9	933	932	932	931	932	932	932	932	932	932	932	931	931	932	932	932	932	931	931	931	930	930	930	929	933	931.4	24
10	929	928	928	929	929	**N**	930	930	931	931	932	933	934	935	936	937	938	939	940	941	941	941	941	941	941	934.5	23
11	941	942	942	942	942	943	944	944	944	944	944	944	944	944	944	944	944	944	943	943	943	942	942	941	944	943.1	24
12	941	941	940	940	939	938	939	939	939	939	939	938	938	938	937	937	937	937	937	937	937	936	936	935	941	938.1	24
13	935	935	935	934	934	934	934	934	934	934	934	934	934	934	934	933	933	933	933	932	933	933	934	933	935	933.8	24
14	932	933	933	933	934	934	935	935	936	936	936	936	937	937	937	937	937	937	937	938	938	938	938	938	938	935.9	24
15	938	938	939	939	940	940	941	942	943	943	944	943	943	943	944	944	944	944	944	944	945	945	944	944	945	942.4	24
16	944	943	943	943	942	942	943	943	943	942	941	941	940	939	938	937	937	936	934	933	933	932	931	931	944	938.8	24
17	930	929	929	928	927	927	926	927	927	927	927	927	926	926	926	926	926	926	926	926	927	926	926	926	930	926.8	24
18	926	926	926	926	927	927	927	927	928	929	929	929	929	929	930	930	930	930	931	931	931	931	931	931	931	928.8	24
19	931	931	932	932	932	933	934	934	935	935	935	935	936	936	936	937	938	938	938	939	939	940	940	940	940	935.7	24
20	941	941	941	941	942	942	943	943	944	944	944	944	944	943	944	944	944	944	944	944	944	944	944	944	944	943.2	24
21	944	944	945	945	945	946	947	947	948	948	948	948	948	948	947	947	947	946	946	946	946	945	945	945	948	946.3	24
22	945	945	945	944	944	945	946	946	946	946	945	945	945	944	944	943	942	942	942	942	942	942	942	942	946	943.9	24
23	942	943	942	942	943	943	944	945	945	946	946	946	946	946	946	946	946	946	946	946	946	946	947	947	947	945.1	24
24	948	948	948	948	948	948	948	948	948	**949**	948	948	948	947	947	947	946	945	945	945	944	943	943	942	**949**	**946.6**	24
25	942	941	940	940	940	941	941	941	941	941	940	940	940	939	939	938	938	938	937	937	936	935	935	934	942	938.9	24
26	934	934	934	933	934	934	934	934	934	934	933	933	933	932	932	931	930	930	929	929	929	928	926	925	934	931.6	24
27	924	924	924	923	922	922	922	922	922	923	924	925	924	926	927	928	929	930	930	931	932	932	933	933	933	926.3	24
28	934	935	935	935	936	937	937	938	938	938	939	939	939	939	939	939	939	939	939	939	939	939	938	938	939	937.8	24
29	939	938	938	938	938	939	939	940	940	940	940	940	939	939	939	939	939	938	938	939	939	939	939	939	940	939.0	24
30	939	939	939	939	939	940	941	941	942	942	941	941	941	940	940	940	940	939	939	939	939	938	938	938	942	939.8	24
HOURLY MAX	948	948	948	948	948	948	948	948	948	949	948	948	948	948	947	947	947	946	946	946	946	947	947	947			
HOURLY AVG	937.03	936.97	936.87	936.73	936.9	937.52	937.67	937.97	938.23	938.4	938.37	938.27	938.2	938.07	938.1	938	938.03	937.8	937.73	937.8	937.77	937.5	937.4	937.1			

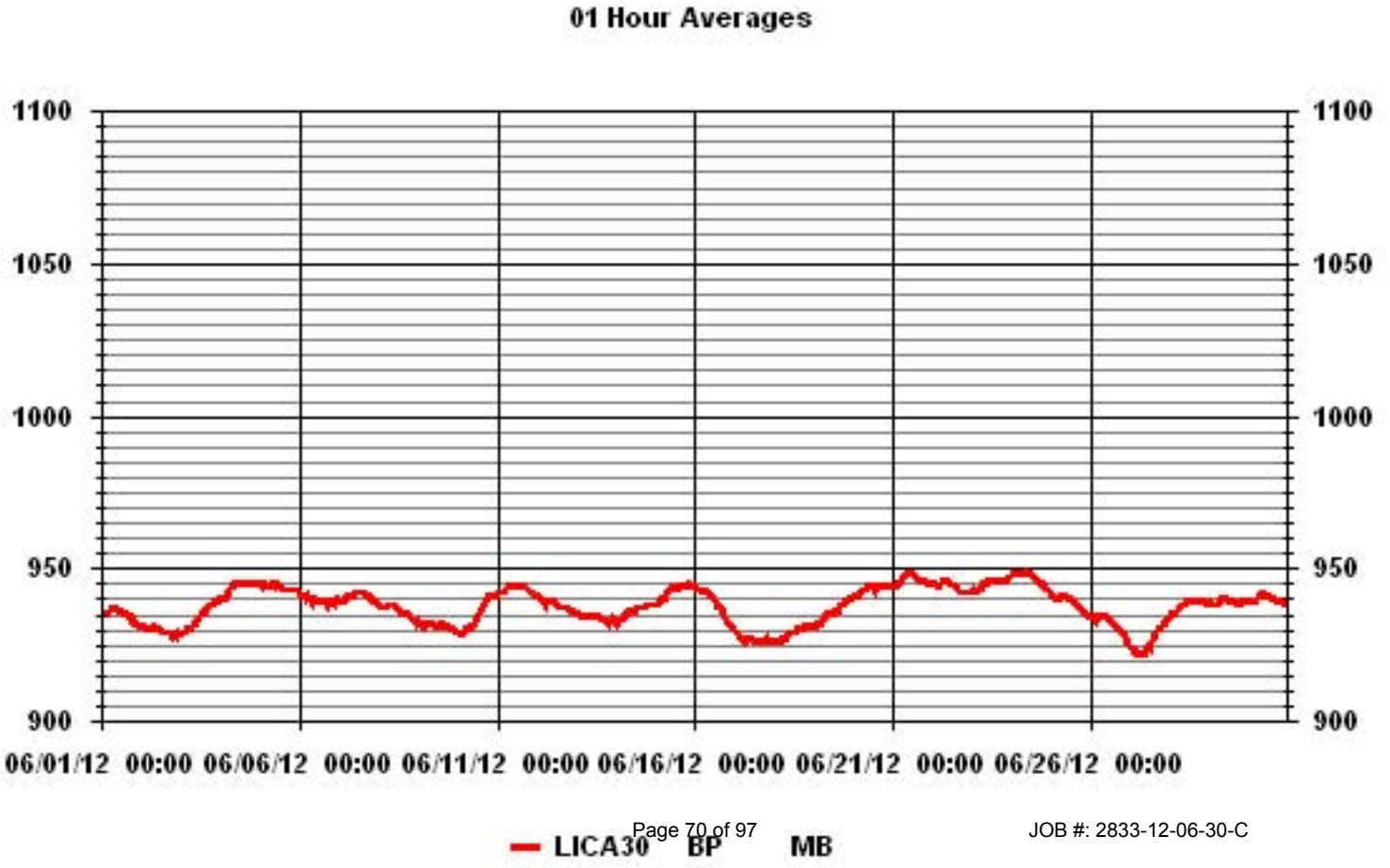
STATUS FLAG CODES

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:		949	MB	@ HOUR(S)	9	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:		946.6	MB			ON DAY(S)	24
						VAR-VARIOUS	
CALIBRATION TIME:	0	HRS		OPERATIONAL TIME:		719	HRS
				AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	6.03			MONTHLY AVERAGE:		938	MB



JOB #: 2833-12-06-30-C

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2012

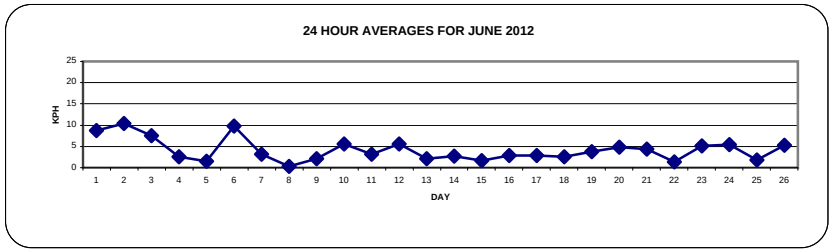
WIND SPEED hourly averages (km/hr)

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	2.5	2.8	2.9	2.5	3.3	2.5	3.2	3.9	4.1	6.1	7.7	8.1	7.6	7	8.2	7.6	5	4.9	2.5	2	2.5	1.7	0.9	0.2	8.2	3.5	24
2	0.8	1.9	0.9	3.6	2.1	2.3	3.9	2.1	4	2.7	3.7	3.4	5.4	5.6	7.6	1.6	3.4	4.5	3.7	2.7	1.1	0.8	2.2	3.6	7.6	1.7	24
3	6.2	6.7	8.2	8.9	7.9	8.2	8.4	8.5	8	8	8.7	8.4	9.3	8.6	7.3	9.2	7.8	5.6	5.8	4.8	3.7	1.6	1.3	2.5	9.3	6.5	24
4	1.7	1.9	1.3	1.9	2.5	3.1	3.4	4.8	4.3	4.1	3.5	6	4.9	5.2	4.1	3.7	4.8	5.3	6.3	6.1	3.3	3.3	4.4	4.3	6.3	2.2	24
5	4.9	4.9	4.5	5.2	6.6	6.9	8.6	9.2	8.9	8.8	9	8.5	10	10.3	14	13.8	12	9.5	9.9	8.3	10.8	11.1	10.2	10.6	14	8.8	24
6	10	9.8	10.9	10.2	9	9.4	10.4	13.2	16.3	16	14.7	11.6	10.3	9.8	11.5	11.8	12.3	11.4	11.7	12.3	11.9	8.3	6.4	7.5	16.3	**10.4**	24
7	6	6.4	7.3	5.9	7.2	7.3	9.9	8.6	10.1	10.6	11.1	11.7	13.3	13.7	12.4	11.7	10.4	9	6.2	4.2	2.9	3.1	2.4	2.3	13.7	7.6	24
8	2.8	2.5	3.8	3.3	4.2	4.3	4.1	3.9	4.8	4.4	5	6.3	4.3	3.9	2.4	0.8	4.9	4.4	3.5	2.2	2.3	3.5	4.5	5.3	6.3	2.6	24
9	4.6	1.3	0.8	2.7	1.8	2	4.6	5.9	6	4.3	4.8	3.4	3.5	5	6.6	7.4	5.5	6	5.2	5.5	5.9	2.4	2.5	2.9	7.4	1.5	24
10	1.4	3.8	6.4	6.5	8.1	**N**	13.6	10.8	15.6	17	16.7	15.7	17.1	13.4	14	16.9	**17.5**	11.8	9	6.6	7.2	2.3	1.5	2.2	**17.5**	9.8	23
11	1.7	1.8	2	1.3	0.7	0.8	2.3	2.6	3.5	3.8	5.6	5.4	5.6	5.7	4.8	5.4	5.7	4.8	3.4	2.3	3.5	5.1	5.1	4.7	5.7	3.1	24
12	3.1	3.7	6.6	3.9	3.6	3.2	3.5	4	4.5	3.8	4.7	5.3	4.2	5	8.6	8	6.6	13.1	9.7	5.3	2.5	4.2	3.5	3.9	13.1	0.3	24
13	3.9	3.5	5	2.3	2.5	2.7	1.6	3.1	2.3	3.2	4.8	2.8	4.6	5.9	5.5	5	1.8	4.9	4.1	5.4	4.6	2	3.5	4.7	5.9	2.1	24
14	5	5.2	5.1	5.2	4.2	5.5	5.3	6.4	7.5	7.7	8.8	8.7	8.2	8.2	8.2	6.4	6.5	7.1	7.6	5.5	3	3.5	1.8	0.7	8.8	5.6	24
15	0.9	1.1	0.6	0.9	0.9	2.2	4.1	6.6	8.8	8.1	8.4	8.4	9.3	8.1	9.3	7.5	8.1	2.3	6	3.9	1.4	2.7	1.8	1.7	9.3	3.2	24
16	1.3	1.8	0.7	1.2	1.8	1.4	2.7	4.9	5.9	6.8	7.4	8.3	8.2	9.4	9.7	9.3	8.9	6.6	5.4	6.2	6.8	8.2	6.8	8	9.7	5.5	24
17	6.9	1.8	2.3	8	4	1.9	1.8	2.9	3.1	4.4	3.5	2.8	2.5	3.2	3.4	2.5	4.5	3.1	5.5	3.8	2.1	1.9	0.6	2.1	8	2.1	24
18	1.7	1.9	2.8	4.2	2.5	2.9	2.7	2.9	2.8	2.9	3.8	3.7	4.3	4.5	5.3	7.1	5.4	1.2	2.5	1.9	2.7	3.2	0.1	1.1	7.1	2.7	24
19	1.6	4	2.6	0.6	0.4	0.4	2.5	2.9	2.6	0.7	0.9	1.8	2.2	4.2	2.8	5.6	5.5	4.2	4.1	3.4	3.6	3.9	3	3.4	5.6	1.7	24
20	3.5	3.7	3.4	3.8	5	4.9	4.6	5.4	5.5	5.8	6.5	4.2	4	4.1	3.6	5.2	4.6	4.4	3.7	3.1	4	3.4	0.7	1.9	6.5	2.9	24
21	3.4	4.3	4.3	3.2	1.8	2.2	4.8	6.5	4.9	3.4	3.7	5.5	5.5	6.1	6.3	5.7	6.8	6	6.5	4.4	3.2	3.1	3.1	0.3	6.8	2.8	24
22	1.1	0.7	0.7	1.5	0.5	0.4	1	2.3	4.1	5.1	6	4.5	3.4	7.1	5	5	4.7	6.5	4.5	2.8	2.7	0.6	1.2	1.7	7.1	2.6	24
23	2.1	3.2	2.3	1.4	0.8	2.4	4.8	5.7	4.9	6	5.7	4.5	4.5	5.3	4.9	6.2	6.5	6.5	5.4	2.8	2.3	4.1	3.7	3	6.5	3.7	24
24	3.2	3.3	3.9	2.9	3.5	3.6	3.7	0.9	2.7	4.5	4.8	6.2	7.4	8.9	8.8	8.4	7.8	6.7	7.1	7.4	8.2	7.4	7.1	6.7	8.9	4.8	24
25	5.1	7.2	6.3	5.9	5.8	6.8	8.5	5.4	4.7	7.1	7.8	7.5	6.6	7.1	6.1	5.4	4.5	4.2	3.2	0.5	1.1	0.4	2.8	0.8	8.5	4.4	24
26	0.8	2.1	1.2	1.1	1.6	0.1	1.4	4.2	4.4	3.4	2.7	3.2	5.4	4.5	4.5	3	1.7	1.6	1.5	2.2	3.5	2.2	3.1	1.1	5.4	1.4	24
27	1.3	4.2	3.4	3.4	6	5.3	7.9	10.6	9.3	9.6	8.6	9	7.7	4.5	6.5	7	9.7	5.7	4.5	1.7	4.1	2.6	5.2	5.4	10.6	5.1	24
28	5.7	6.7	6.9	4.7	3.5	3.8	4.7	5.4	5.4	6	7.7	8	7.2	6.6	7.6	7.6	7.9	6.5	5.9	3.8	4.4	5.9	4.5	4.4	8	5.4	24
29	2.9	4.1	4.4	4.1	3.5	1.6	0.8	0.4	1.7	0.7	2.2	2.2	2.8	3.6	4.3	2.5	4.2	5.1	7.4	5.8	3.5	1.3	2.1	3.1	7.4	1.8	24
30	3.1	3.2	2	2.1	1.4	1.7	2.3	4	4.1	6.6	7.8	8.5	7.7	9.4	6.6	8.4	9.8	8.1	6	6.1	6.8	6.5	8.1	9.4	9.8	5.3	24
HOURLY MAX	10.0	9.8	10.9	10.2	9.0	9.4	13.6	13.2	16.3	17.0	16.7	15.7	17.1	13.7	14.0	16.9	17.5	13.1	11.7	12.3	11.9	11.1	10.2	10.6			
HOURLY AVG	3.3	3.7	3.8	3.7	3.6	3.4	4.7	5.3	5.8	6.1	6.5	6.5	6.6	6.8	7.0	6.9	6.8	6.0	5.6	4.4	4.2	3.7	3.5	3.7			

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

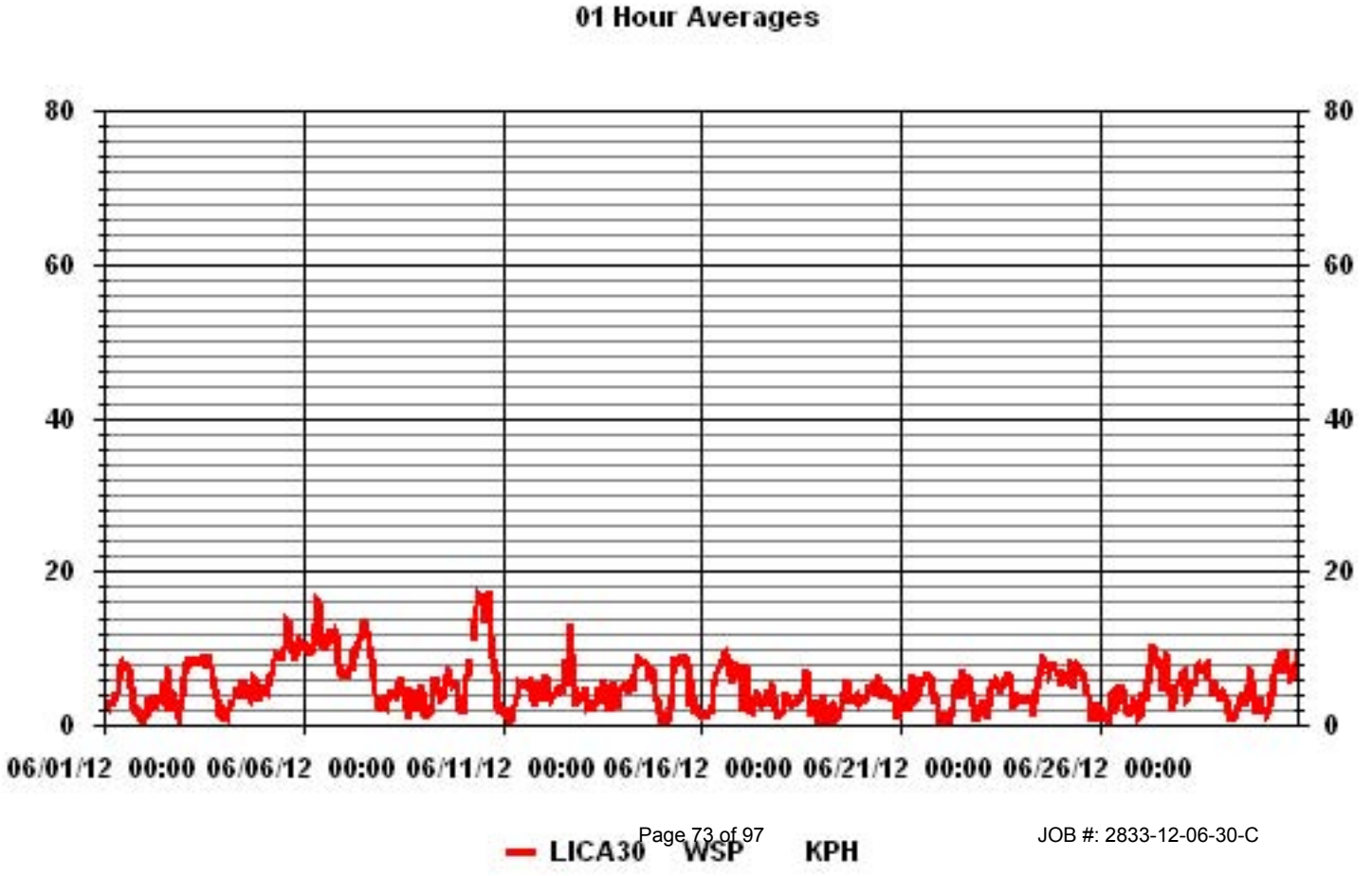


LAST CALIBRATION: December 20, 2011

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:		17.5	KPH	@ HOUR(S)	16	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:		10.4	KPH			ON DAY(S)	6
CALMS (≤ 1 KPH)	4.30	%		OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	0	HRS		AMD OPERATION UPTIME		99.9	%
STANDARD DEVIATION	3.12			MONTHLY AVERAGE		5.06	KPH

JOB #: 2833-12-06-30-C



JOB #: 2833-12-06-30-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

JUNE 2012

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

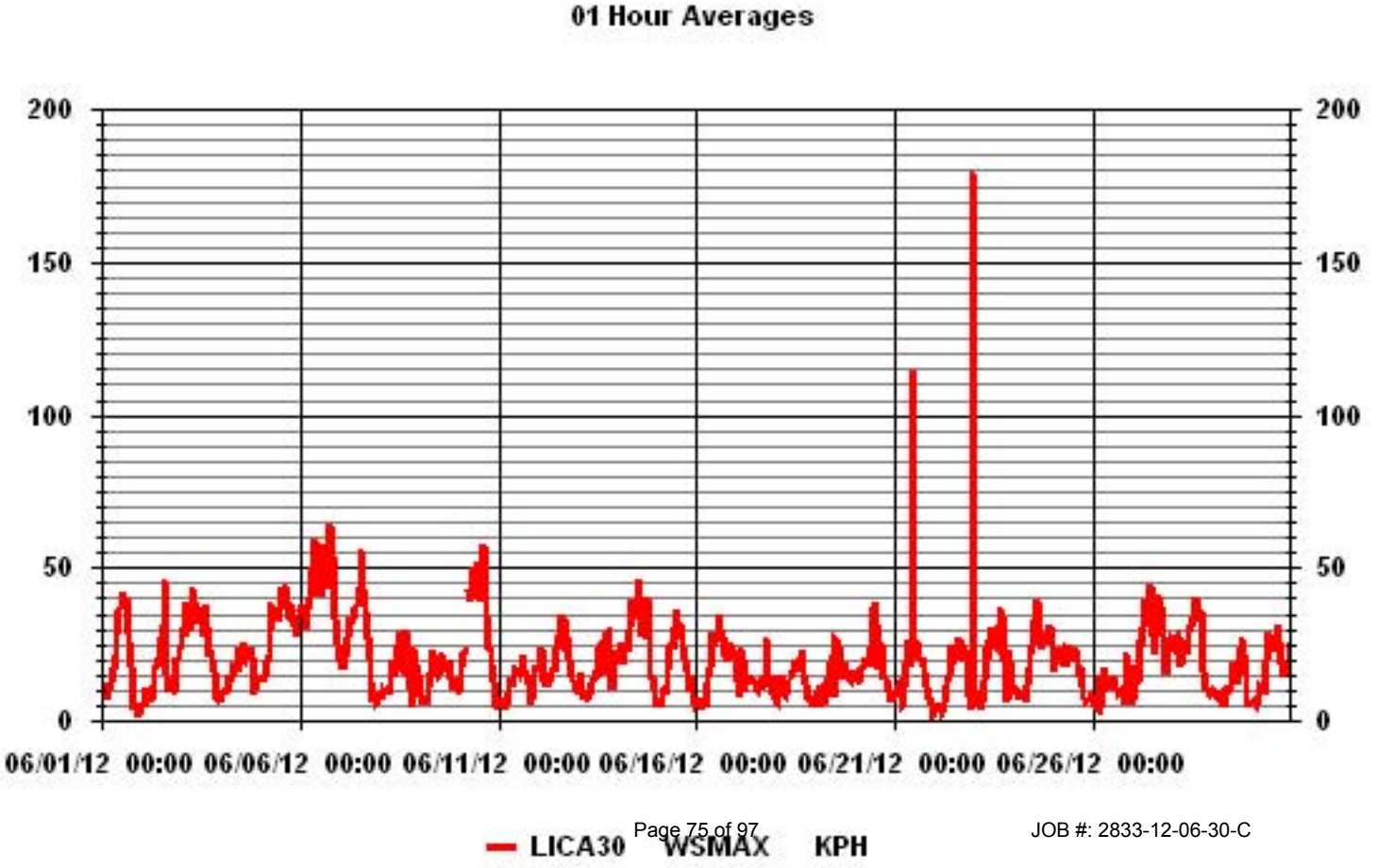
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	8.5	10.5	8.3	6.7	12.2	10.9	12.4	17	21.1	28.4	35.6	36.7	37.8	41.9	37.1	40.4	29.2	26.2	17.9	4.1	4.1	5.6	2.6	2.8	41.9
2	4.5	6.1	5.8	10.4	8.9	7.6	7.8	11.3	17.4	17.9	20.4	18.4	27.4	31.3	46.4	15.8	11.8	12.4	10.9	10.4	20.3	8.9	20.1	23.8	46.4
3	23.8	30.1	27.1	38.5	34.1	30.8	31.7	43.9	31.2	38.5	36.5	34.7	37.1	28.8	28.6	37.6	31.2	21.2	23.2	20.8	16.2	7.9	7.1	8.2	43.9
4	7.8	9.1	9.1	10.2	9.1	14.4	12.4	14.6	18.3	18.5	15.9	24.2	21.1	20.3	25.3	21.1	21.6	22.9	23.3	21.6	8.9	10.4	12.8	15	25.3
5	13.8	14.2	12.5	14.4	19.4	21.8	29.5	37.6	37.2	35	36.9	32.6	38.7	43.3	36.7	44.6	41.1	33	38.4	32.6	35.2	31.5	27.5	34.7	44.6
6	35.6	37.4	37.6	36.7	30.1	36.7	40.5	50.3	54.7	59.1	58.2	48	40.1	52.7	58	44.6	44.3	48.9	64.3	47.9	54.6	33.6	26	25.3	64.3
7	20.1	16.3	23.3	17	20.7	27.1	33.9	31.4	33	36.7	37.6	38.7	43.3	55.7	43.3	38.4	35.8	27.7	21.1	13.3	6.3	8.5	6.3	7.2	55.7
8	8.1	8.1	10.4	9.6	9.8	10.4	10.2	16.1	19.4	14.8	16.3	24.9	28.4	19.6	17	16.3	29.4	19.8	14.6	11.1	4.3	23.8	19	16.6	29.4
9	15.5	8.2	5.6	8.5	5.2	6.7	10.7	15.5	23	21.7	16.4	14.9	15.7	18.5	22	20.7	17.2	17.2	17.9	14.4	14.1	9.8	12	10	23
10	8.9	13.9	17.9	22	23.1	**N**	42.2	39.1	40.2	50.1	49	47	51.6	38.9	48.1	57.5	45.7	34.7	24.3	23	19.2	13.3	5.4	5	57.5
11	5.6	6.1	6.7	6.7	3.6	5.2	9.3	12.6	13.9	11.3	17.7	15.2	16.8	15.2	16.3	21.4	17	15.1	12.3	5.7	7.2	13.4	15.9	18.3	21.4
12	15.9	22.7	24.2	13.1	13.9	10.7	15.7	13.5	14.1	16.6	16.6	23.8	26.2	25.5	34.7	30.3	33.6	31.9	27.7	20.9	15.2	13.5	10.2	10.4	34.7
13	10.4	10	15.9	9.1	7.2	8.5	7.9	8.6	11.8	13.3	14.8	14.1	14.6	23.6	24.9	24	14.8	28.1	28.6	16.1	13.7	10.4	15.5	23.1	28.6
14	20.5	18.8	21.4	25.8	18.5	24.9	22.5	29.5	30.6	39.3	32.8	38.2	35.8	45.9	38.9	27.1	30.4	26.5	40.7	28.2	13.4	14.7	11.2	5.6	45.9
15	5.4	6.5	4.1	7.1	10.2	8.5	11.8	17	24.2	25.3	23.3	30.8	36.3	29.9	31.9	27	24.4	20.7	16.3	11.3	9.8	15	7.1	5.4	36.3
16	6.3	6.4	6.4	3.9	6.1	4.3	12.2	14.4	17.2	28.8	25.1	26	26.2	26.6	34.7	30.6	28.1	22	19.2	20.3	23.8	25.5	23.3	22.7	34.7
17	20.7	13.1	7.3	23.6	20.9	9.8	11.5	14.8	12	14.8	12.7	12.9	10.5	9.6	10.9	12.6	12	14.6	27.1	11.3	13.7	14.1	9.5	8.2	27.1
18	6.5	5.8	7.8	15.2	9.3	10.4	9.1	10.9	13.1	15.5	15.5	20.1	16.1	18.1	17	17.2	22.9	15.2	12.2	8	5.7	8.3	4.2	8.1	22.9
19	4.7	9.8	11.1	4.7	6.5	5.4	12	9.6	14.1	19	21.1	7.4	27.3	26.8	13.1	23.6	16.6	13.1	19	16.1	14.2	13.5	16.6	14.1	27.3
20	15.1	15.9	13.1	13.5	16.9	17.8	19.6	19.5	17.7	24.2	33.1	37	38.7	31.9	16.8	21.4	25.2	14.6	14.4	12.4	13.5	7.8	6.1	7.6	38.7
21	9.3	11.3	12	8.2	5.2	6.1	10.6	19.2	26.6	17.6	23.2	**114.7**	24.7	26.3	21	20.2	19.1	20.4	16.2	11.4	7.4	6.1	6.3	2.1	**114.7**
22	2.8	5	4.7	3.6	2.5	3.2	6	11.3	12.8	15	24.4	19	20	24.4	26.4	27.5	22.4	25.7	19	23.3	14.8	8.5	3.6	**N**	27.5
23	5.4	9.8	7.1	5.4	3.7	6.1	13.1	23.6	19.7	26.1	26.6	30.1	25.9	24.6	24	31.2	36.7	34.7	19.6	10.6	6.3	23.3	19.8	10.6	36.7
24	9.1	11.1	9.1	7.1	9.8	7.8	9.6	6.3	11.5	17.2	21.6	24.9	32.8	34.9	39.7	34.7	26.4	23.3	26.2	29	25.3	28.1	30.8	27.7	39.7
25	15.7	19.8	19	19.4	23.8	22.4	22.6	17.3	23.9	23.2	24.7	21	19.6	23.5	19.6	14.6	17.9	11.7	8	6.1	6.5	6.7	6.7	7.8	24.7
26	6.3	5.2	4.7	4.1	15.2	4.3	8.9	17.4	14.8	12.4	10.4	12	13.7	13.3	10.4	9.1	10	8.7	5.8	5.8	22	15.7	11.1	5.8	22
27	7.1	18.5	13.3	13.5	26.2	23.8	30.4	38.8	39.2	34.8	37.8	44.8	28.1	21.4	27.5	32.3	41.5	29.9	36.9	15.2	27.1	14.8	26.4	22.7	44.8
28	27.1	26.6	27.3	22.3	19	19.2	21.8	24.6	23.6	23.3	29	31	33.2	34.1	40	32.8	33.9	36.2	31	16.5	10.9	10.6	9.3	10.1	40
29	8	9.8	9.4	8	7.6	8.6	5.9	6.1	4.5	11.9	9.6	10.3	13.8	18.4	18.8	11.8	17.8	23.5	27.2	21.8	15.9	6.6	4.5	5.7	27.2
30	6	6.3	6.3	5.5	8	11.5	10.7	11.8	11.1	20	28.5	27.2	23.9	26.8	22.6	27.6	31.5	26.3	19.1	15.9	16.2	14.2	20.1	24.9	31.5
PEAK	35.6	37.4	37.6	38.5	34.1	36.7	42.2	50.3	54.7	59.1	58.2	114.7	51.6	55.7	58.0	57.5	45.7	48.9	64.3	47.9	54.6	33.6	30.8	34.7	

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	114.7	KPH	@ HOUR(S)	11
			ON DAY(S)	21



JOB #: 2833-12-06-30-C

LICA30
WSP / WDR Joint Frequency Distribution (Percent)

June 2012

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	2.64	1.66	6.11	5.00	3.19	2.92	4.17	4.86	4.17	8.20	5.98	6.25	3.47	1.66	3.33	3.75	67.45
<	12.0	1.39	1.39	1.39	2.22	1.66	1.39	3.47	3.61	1.39	2.22	.69	.69	1.80	3.61	1.94	.41	29.34
<	20.0	.41	.97	.41	.41	.41	.13	.00	.13	.27	.00	.00	.00	.00	.00	.00	.00	3.19
<	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	4.45	4.03	7.92	7.64	5.28	4.45	7.64	8.62	5.84	10.43	6.67	6.95	5.28	5.28	5.28	4.17	

Calm : .00 %

Total # Operational Hours : 719

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	19	12	44	36	23	21	30	35	30	59	43	45	25	12	24	27	485
<	12.0	10	10	10	16	12	10	25	26	10	16	5	5	13	26	14	3	211
<	20.0	3	7	3	3	3	1		1	2								23
<	29.0																	
<	39.0																	
>=	39.0																	
	Totals	32	29	57	55	38	32	55	62	42	75	48	50	38	38	38	30	

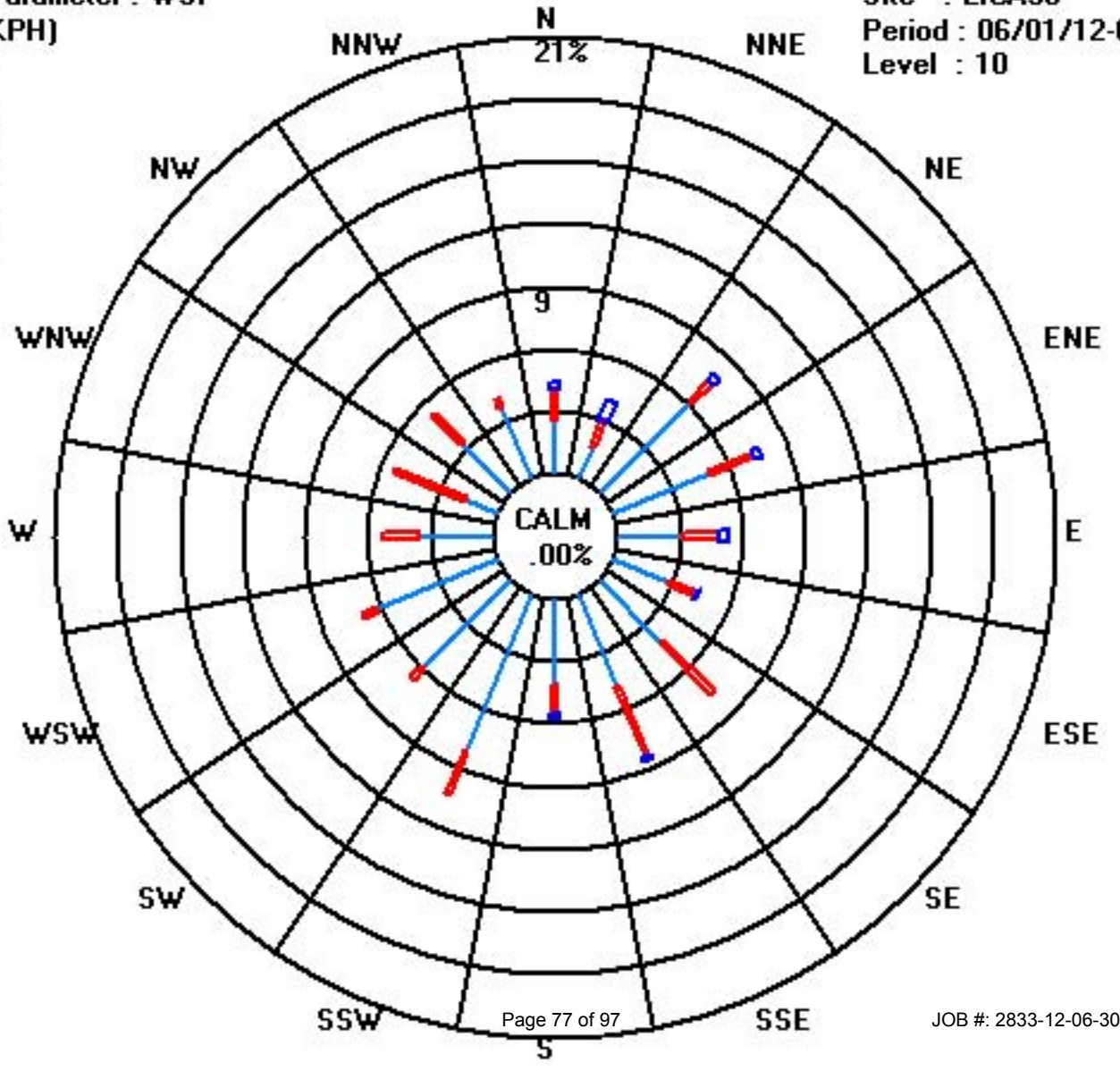
Calm : .00 %

Total # Operational Hours : 719

Logger : 30 Parameter : WSP
Class Limits (KPH)

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

Site : LICA30
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-30-C

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2012

WIND DIRECTION hourly averages in degrees

MST

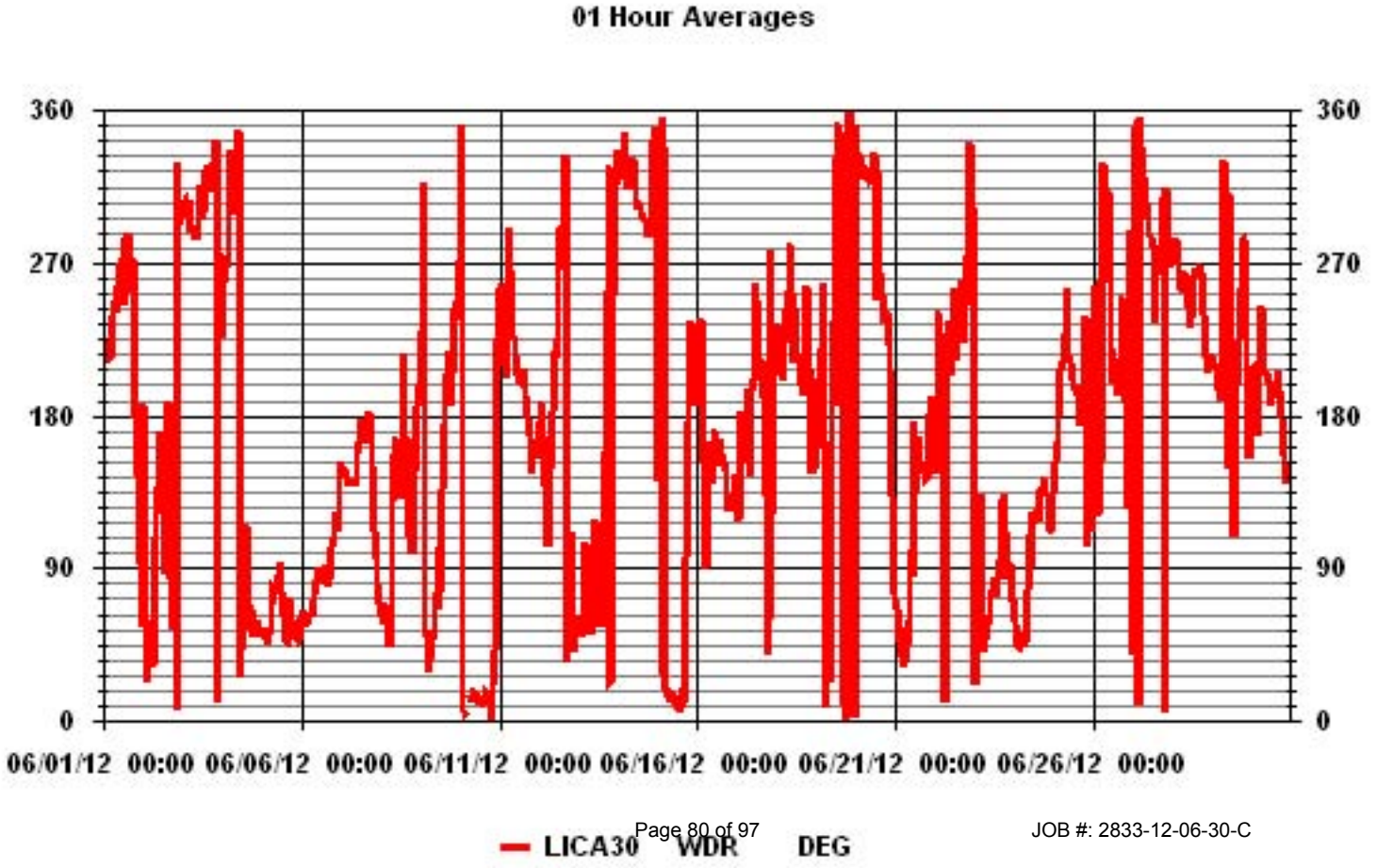
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	223	223	217	214	215	239	247	241	257	270	265	272	285	245	252	287	263	257	273	179	153	145	93	55	253	WSW	24
2	187	58	23	59	54	60	32	108	122	138	170	151	126	86	156	188	85	61	54	70	6	329	292	303	96	E	24
3	297	305	307	303	304	288	292	285	285	290	301	315	295	300	324	328	312	327	328	324	343	10	255	225	305	WNW	24
4	247	258	273	272	301	336	299	302	327	317	348	25	42	53	97	115	70	63	66	49	56	57	54	53	30	NNE	24
5	50	55	49	45	54	52	68	80	79	74	86	94	77	63	49	48	62	72	60	59	50	49	47	48	61	ENE	24
6	61	65	61	58	59	64	61	71	74	83	90	85	86	81	87	92	80	83	102	108	123	112	116	148	84	E	24
7	153	142	149	148	138	141	138	142	139	142	158	165	178	174	164	167	174	183	168	151	113	97	81	70	155	SSE	24
8	63	56	69	66	62	43	50	129	157	168	149	156	145	131	216	155	168	108	127	98	130	147	186	198	130	SE	24
9	208	230	318	54	51	29	36	48	54	76	65	102	76	136	175	185	204	218	194	185	204	243	248	236	153	SSE	24
10	272	352	7	4	5	**N**	14	11	17	16	15	12	13	11	10	11	18	17	12	1	21	41	225	209	12	NNE	23
11	255	258	240	230	202	234	291	267	225	227	216	205	201	200	208	204	192	180	169	145	155	163	164	155	200	SSW	24
12	177	188	169	140	127	102	150	150	183	218	213	225	265	290	291	294	333	34	45	68	111	41	54	62	100	E	24
13	58	49	62	96	106	55	61	51	71	91	118	107	58	55	107	88	159	254	328	22	23	250	322	321	56	NE	24
14	337	321	322	328	347	317	313	325	323	332	322	302	305	303	300	297	295	292	285	290	289	342	350	141	312	NW	24
15	276	347	27	356	340	19	16	18	17	13	11	15	11	5	8	16	15	96	177	209	235	223	186	188	12	NNE	24
16	196	192	237	153	94	90	165	160	140	162	172	160	150	156	166	159	154	148	129	123	130	133	131	143	150	SSE	24
17	143	118	182	154	158	151	196	159	144	194	201	258	249	206	207	214	192	133	38	60	277	122	163	206	166	SSE	24
18	234	207	204	209	200	223	243	254	282	254	211	244	218	212	214	199	192	217	256	218	209	145	189	149	217	SW	24
19	160	202	220	203	258	7	49	30	22	165	236	185	332	353	331	347	11	1	2	341	359	356	347	1	353	N	24
20	352	333	335	321	321	328	322	320	323	319	317	335	248	324	253	265	252	235	243	241	222	208	134	76	298	WNW	24
21	72	67	47	56	39	31	35	45	59	101	85	177	134	159	168	148	153	147	142	143	181	187	191	159	121	ESE	24
22	146	186	242	209	157	96	10	228	235	204	215	232	255	212	233	235	259	223	244	275	254	341	306	304	235	SW	24
23	21	46	48	52	134	41	48	60	61	57	77	82	84	73	84	94	101	130	133	112	83	89	93	72	81	E	24
24	60	57	45	44	52	43	52	46	77	109	90	123	116	124	118	135	135	137	143	134	133	113	111	133	112	ESE	24
25	134	153	165	180	207	211	212	228	255	216	212	202	197	197	194	190	174	188	185	238	102	138	112	237	195	SSW	24
26	257	176	141	121	259	153	329	321	313	312	259	221	199	201	192	214	208	250	245	189	124	203	289	141	228	SW	24
27	39	350	355	9	356	339	321	308	306	297	287	285	280	234	263	272	280	271	308	4	315	281	268	270	298	WNW	24
28	272	281	284	275	254	263	252	265	263	245	231	238	251	263	266	262	270	265	264	240	215	205	207	210	254	WSW	24
29	216	209	211	201	196	188	252	331	210	148	312	202	129	109	113	198	224	255	284	285	279	164	155	178	215	SSW	24
30	204	208	209	202	168	210	244	227	204	206	200	186	190	194	199	200	206	195	179	157	141	141	145	150	186	S	24
HOURLY AVG	352	352	355	356	356	339	329	331	327	332	348	335	332	353	331	347	333	327	328	341	359	356	350	321			

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:	December 20, 2011
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	719	HRS
STANDARD DEVIATION	95.77		AMD OPERATION UPTIME	99.9	%
			MONTHLY AVERAGE	123	DEG



JOB #: 2833-12-06-30-C

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *MASKWA*

JUNE 2012

STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

MST

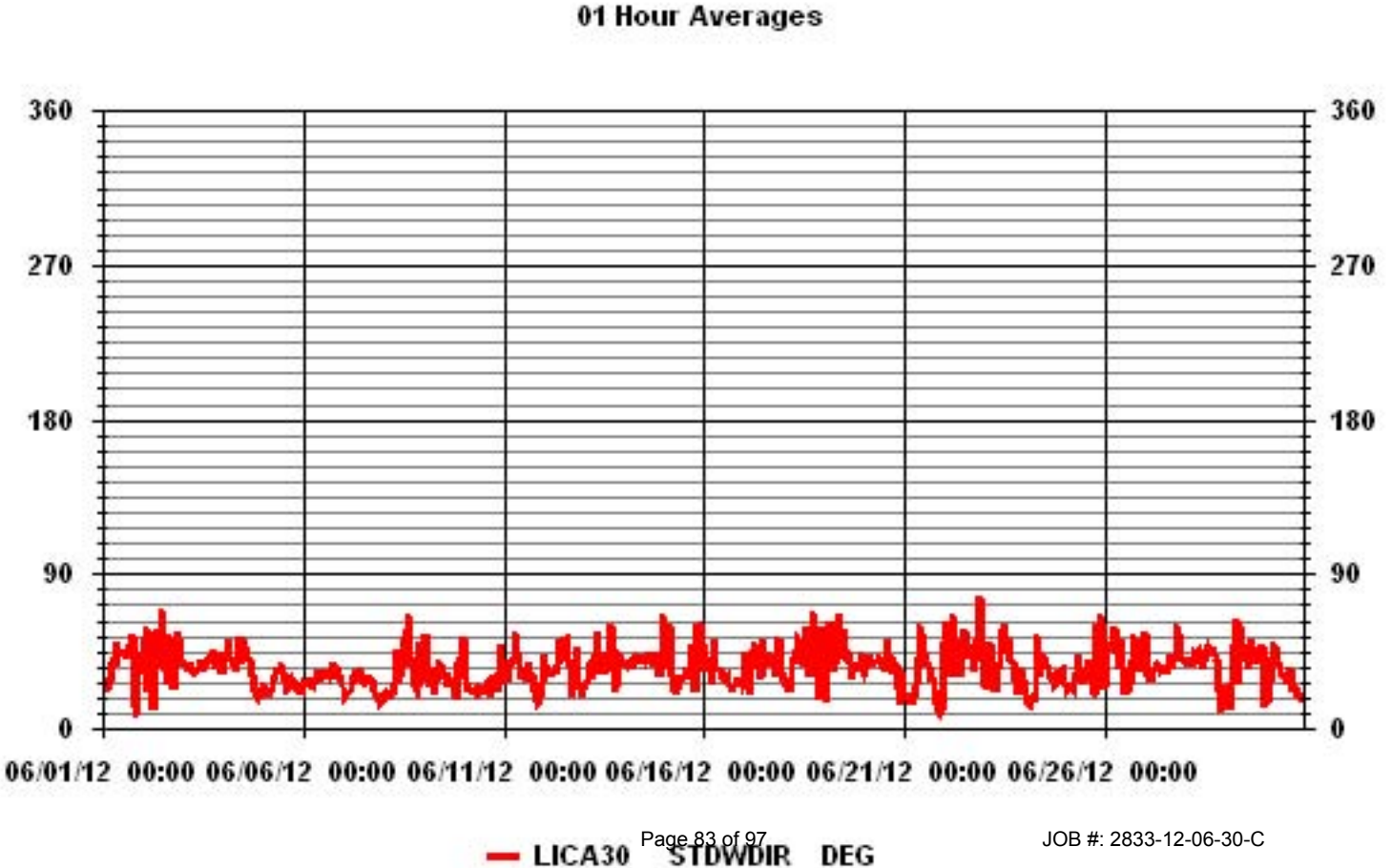
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	28	28	23	24	27	39	40	36	50	47	42	45	44	44	41	45	49	47	55	13	7	34	36	45
2	31	53	59	21	50	20	11	56	41	58	52	70	37	34	26	56	30	25	23	32	45	56	53	41
3	37	40	36	36	36	34	34	33	34	34	39	39	36	36	40	41	38	41	46	41	34	40	44	31
4	40	43	44	52	41	38	38	33	41	47	53	38	53	46	47	42	40	32	31	23	20	18	20	23
5	20	23	21	19	24	22	28	31	34	33	36	36	33	29	23	24	29	30	28	27	23	22	24	23
6	28	27	26	26	30	26	25	31	29	30	34	32	33	32	31	34	31	32	38	31	30	35	33	25
7	18	19	22	21	22	29	29	33	32	34	34	29	27	27	30	30	30	26	28	21	20	17	15	16
8	20	22	21	21	19	20	26	37	46	30	31	39	53	53	58	67	39	40	26	24	22	24	51	38
9	27	56	54	25	35	36	20	27	32	40	32	36	32	32	27	26	28	27	25	21	17	38	42	36
10	53	30	22	25	24	**N**	21	23	21	22	22	23	22	25	26	24	19	31	24	28	21	33	49	26
11	30	31	31	40	37	40	42	56	46	40	32	33	34	28	35	38	32	31	23	17	14	15	18	27
12	43	38	30	33	32	32	33	33	38	52	43	47	52	52	41	37	40	19	25	30	47	25	24	19
13	22	26	28	39	29	39	42	31	56	37	36	45	35	32	44	48	60	39	36	21	24	43	41	39
14	38	36	38	39	35	41	42	39	41	40	40	40	42	39	42	45	41	37	40	43	44	30	43	67
15	46	49	35	59	61	32	22	20	22	30	29	30	30	35	30	32	28	49	24	21	61	33	62	41
16	49	32	42	37	25	42	51	35	35	35	35	30	28	28	30	26	24	24	25	28	30	25	30	25
17	26	45	35	19	37	46	50	35	39	29	30	51	43	38	42	45	36	39	33	32	51	51	52	34
18	29	24	30	22	28	41	38	46	52	51	38	42	36	60	40	30	35	68	44	36	16	27	60	43
19	37	15	39	63	54	63	33	37	52	67	49	41	59	40	45	39	29	38	34	37	35	33	44	35
20	32	34	38	42	36	40	39	40	42	42	37	36	33	44	52	44	42	32	37	37	23	14	34	27
21	21	19	17	18	20	14	18	25	41	61	56	44	46	38	38	36	28	30	23	16	12	9	12	50
22	57	62	42	31	46	67	40	52	38	30	34	47	57	41	45	49	47	33	40	52	50	77	52	28
23	26	22	29	51	45	32	21	32	38	34	43	58	61	47	53	41	39	39	29	28	19	30	35	29
24	23	21	16	15	17	17	21	55	30	36	42	42	42	38	36	30	29	31	26	27	29	33	34	27
25	25	22	23	26	25	24	27	33	44	33	34	26	33	36	40	27	36	21	20	62	54	67	22	61
26	42	24	51	48	49	46	60	44	40	34	51	37	21	24	21	26	40	54	41	42	52	33	43	50
27	57	32	32	28	31	35	36	34	38	34	36	35	34	32	41	40	35	42	44	61	38	55	41	41
28	40	39	36	40	39	43	42	45	46	42	35	39	45	48	46	45	44	47	43	41	23	12	12	16
29	25	18	20	11	27	49	56	63	26	61	49	49	48	40	34	52	49	44	37	41	42	41	49	13
30	17	14	38	41	26	48	48	36	40	32	32	30	30	25	31	36	22	23	26	20	19	17	18	19

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: December 20, 2011

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 719 HRS



JOB #: 2833-12-06-30-C

Calibration Reports

Sulphur Dioxide

SO2 Calibration Report

Station Information

Calibration Date	June 11, 2012		Previous Calibration	May 11, 2012	
Company	Lakeland Industry & Community Association				
Plant / Location	Cold Lake - Maskwa				
Start Time (MST)	9:56		End Time (MST)	14:16	
Reason:			Monthly Calibration		
Barometric Pressure	944	mmHg	Station Temperature	24	Deg C
Cal Gas	49.6 ppm	Gas Cyl. #	LL42496	Cal Gas Expiry date	January 16, 2014
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 6000	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 6000	S/N :	4760		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 - 1000 ppb							
Sample Flow / Box Temp	594	ccm	30.9	Deg C	594	ccm	30.9	Deg C
HVPS / Lamp Setting	494		2508		494		2508	
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	42.2		1.243		43.9		1.24	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	1	N/A
4994	0	0	0	N/A
4918	75.5	750	752	0.9973
4918	75.5	750	749	1.0012
4954	40.3	400	394	1.0158
4974	20.2	201	197	1.0184
5020	0	0	1	N/A
			Sum of Least Squares	1.0052
			New Correction Factor	1.0012

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	1.7	0.7
Auto Span	378.0	377.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	0.9986
Current Correction Factor Before Span Adjust:	0.9973
Percent Change:	0.1%

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

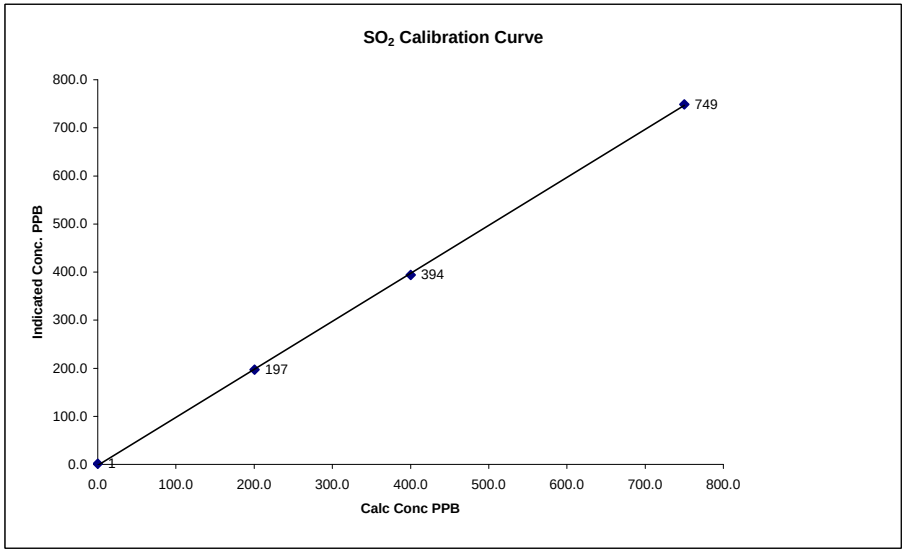
Calibration Performed by: Ting Xu

SO_2 Calibration Curve

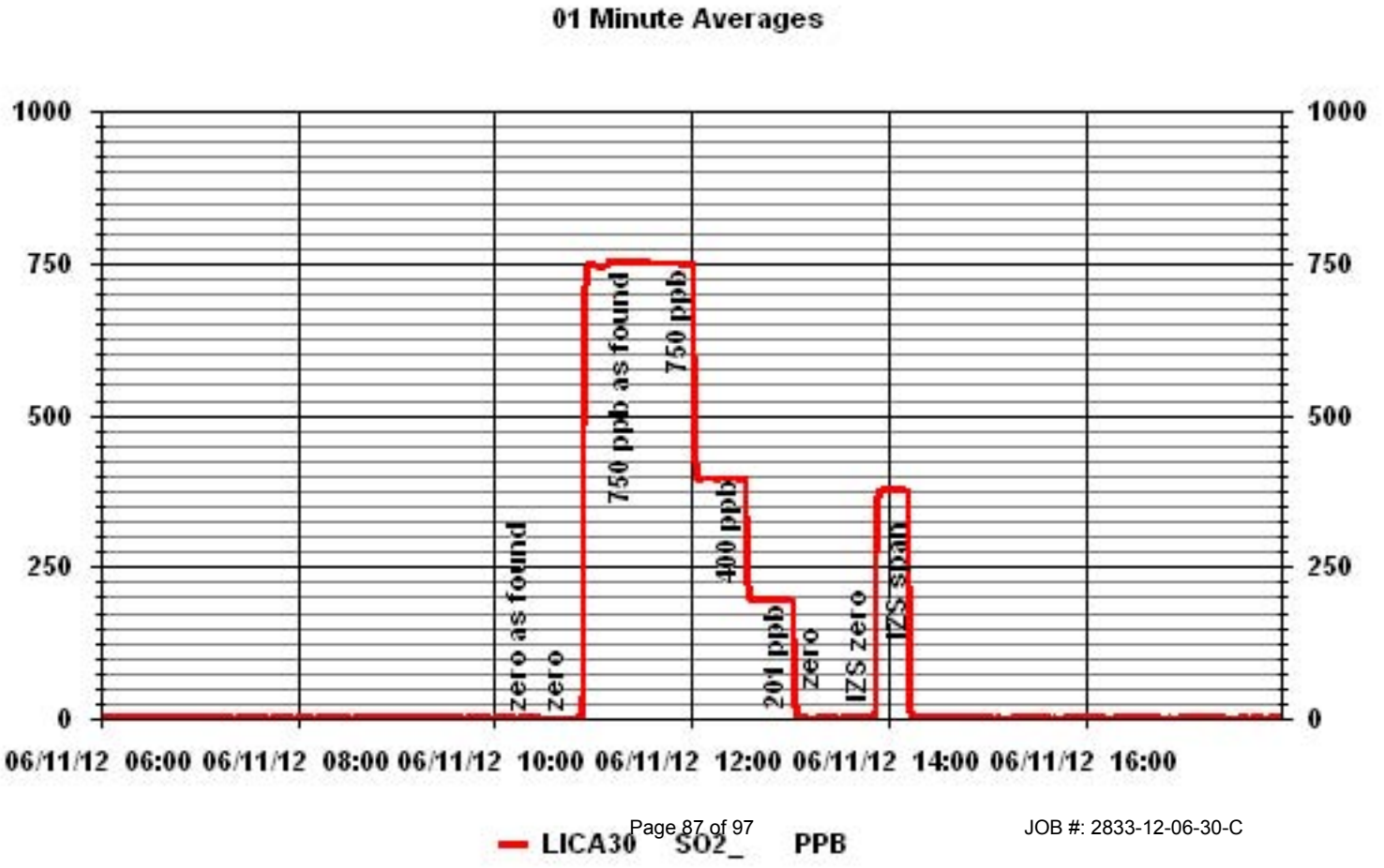
Calibration Date	June 11, 2012		
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:56	End Time (MST)	14:16

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	1	n/a
201	197	1.0184
400	394	1.0158
750	749	1.0012

Correlation Coefficient	(≥ 0.995)	0.999906
Slope	(0.85 to 1.15)	0.997988
Intercept	(± 3% F.S.)	-1.766498



Notes:



JOB #: 2833-12-06-30-C

Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	June 11, 2012		Previous Calibration	May 11, 2012	
Company	Lakelnad Industry & Community Association				
Plant / Location	Cold Lake - Maskwa				
Start Time (MST)	9:55		End Time (MST)	13:35	
Reason:	Monthly Calibration				
Barometric Pressure	944	mBar	Station Temperature	24	Deg C
Cal Gas	10 ppm	Gas Cyl. #	LL42648	Cal Gas Expiry date	December 27, 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	476	ccm	32	Deg C	476	ccm	31.3	Deg C
HVPS / Lamp Setting	552		2418		552		2419	
PMT / RxCell Temp	7.9	Deg C	50	Deg C	7.9	Deg C	50	Deg C
Converter / IZS Temp	316	Deg C	45	Deg C	315	Deg C	45.0	Deg C
Offset / Slope	38.2		0.843		36.8		0.837	

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	40.0	80	80	1.0000
	No Span Adj.			
4977	20.0	40	40	1.0000
4986	11.5	23	23	1.0000
4998	0	0	0	NA
			Sum of Least Squares	1.0001
			New Correction Factor	

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	-1.0	-0.3
Auto Span	59.1	58.3
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	1.0000
Percent Change:	0.0%

Notes: **NA : Not Applicable**

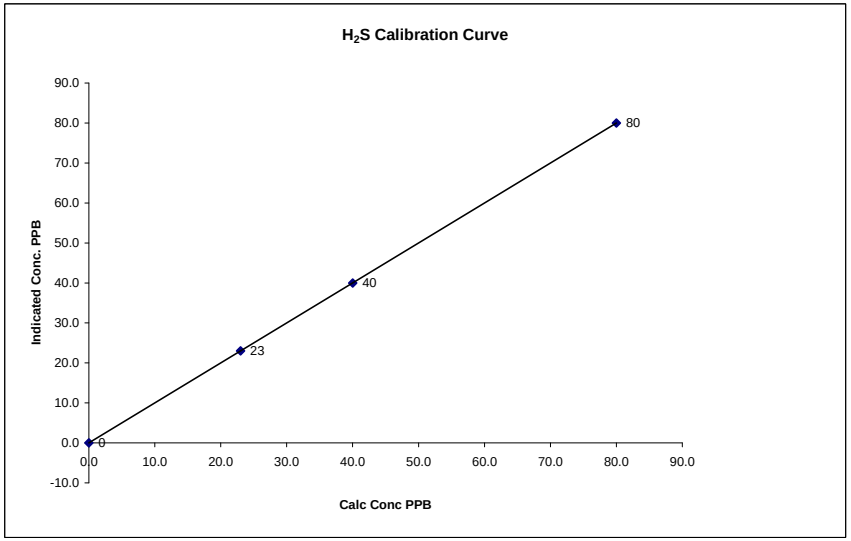
Calibration Performed by: Ting Xu

H_2S Calibration Curve

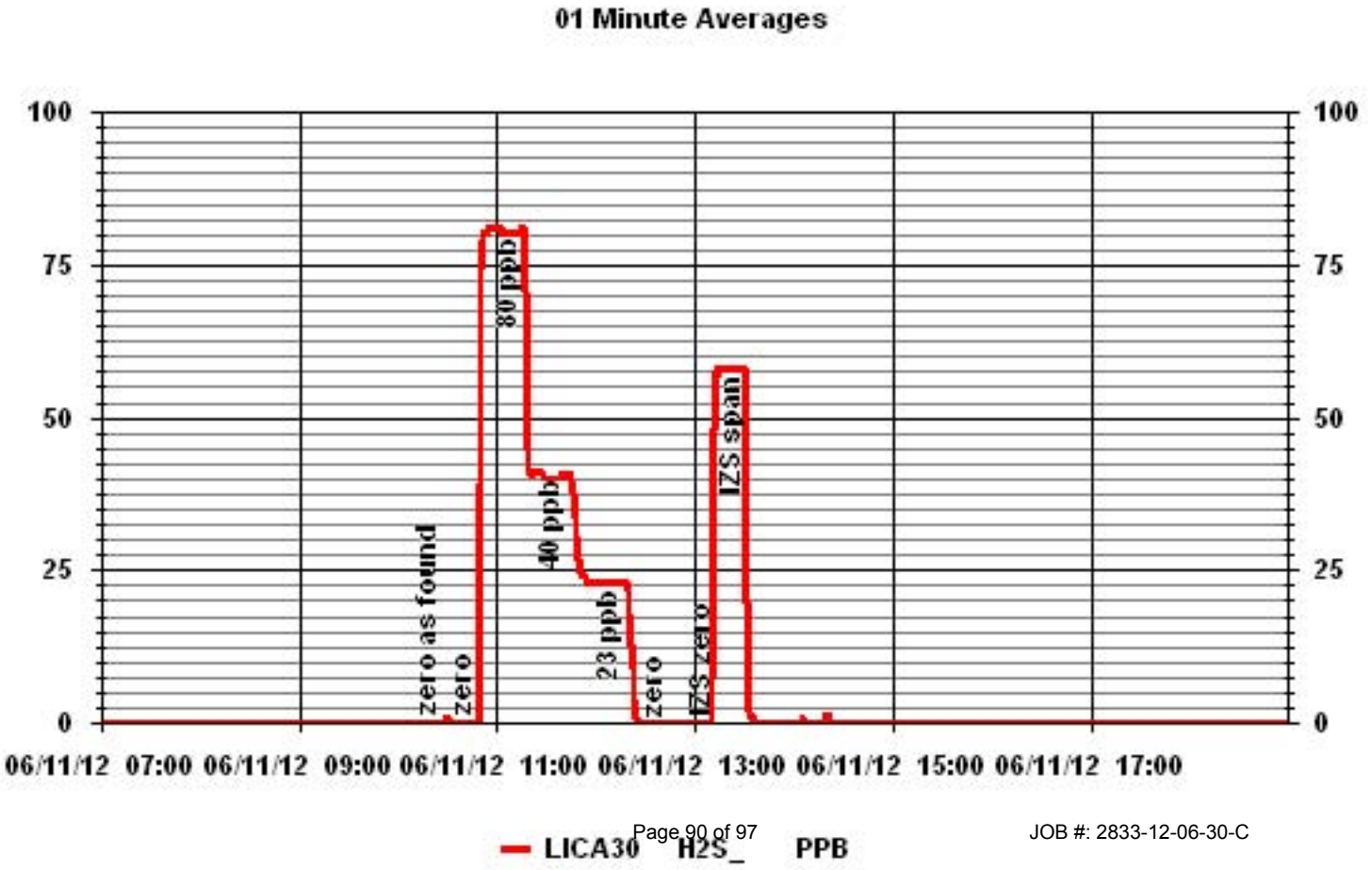
Calibration Date	June 11, 2012		
Company	Lakelnad Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:55	End Time (MST)	13:35

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	
23	23	1.0005
40	40	1.0006
80	80	1.0000

Correlation Coefficient	(≥ 0.995)	1.000000
Slope	(0.85 to 1.15)	1.000013
Intercept	(± 3% F.S.)	-0.009343



Notes:



JOB #: 2833-12-06-30-C

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	June 11, 2012		Previous Calibration	May 11, 2012	
Company:	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location:	Maskwa				
Start Time (MST)	12:53		End Time (MST)	16:30	
Reason:	Monthly Calibration				
Barometric Pressure:	944	mmHg	Station Temperature:	23	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 600 PPM		C3H8	204 PPM	
	TOTAL CH4 1161.0 PPM		Gas Cyl. #	LL155310	Cal Gas Expiry Date: September 9, 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
2000	0.0	0.0	0.0	NA
	No Zero Adj.			
2000	74.0	41.4	41.9	0.9886
2000	74.0	41.4	41.6	0.9958
2000	37.0	21.1	21.1	1.0000
2000	20.0	11.5	11.6	0.9910
2000	0.0	0.0	0.0	NA
			New Correction Factor:	0.9958

Percent Change

Previous Calibration Correction Factor:	0.9958
Current Correction Factor Before Span Adjust:	0.9886
Percent Change:	0.7%

IZS Calibration Data

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

Cylinder Pressures

Span 400 psi Hydrogen 800 psi Zero Air 32 psi

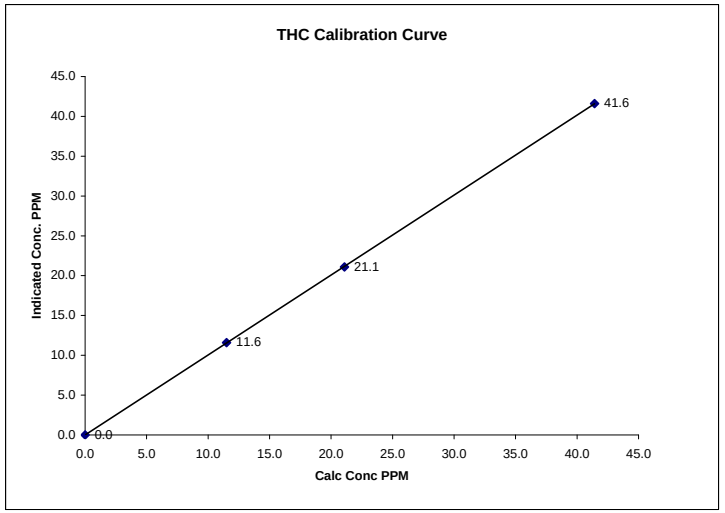
Notes: **NA : Not Applicable**

Calibration Performed by: Ting Xu

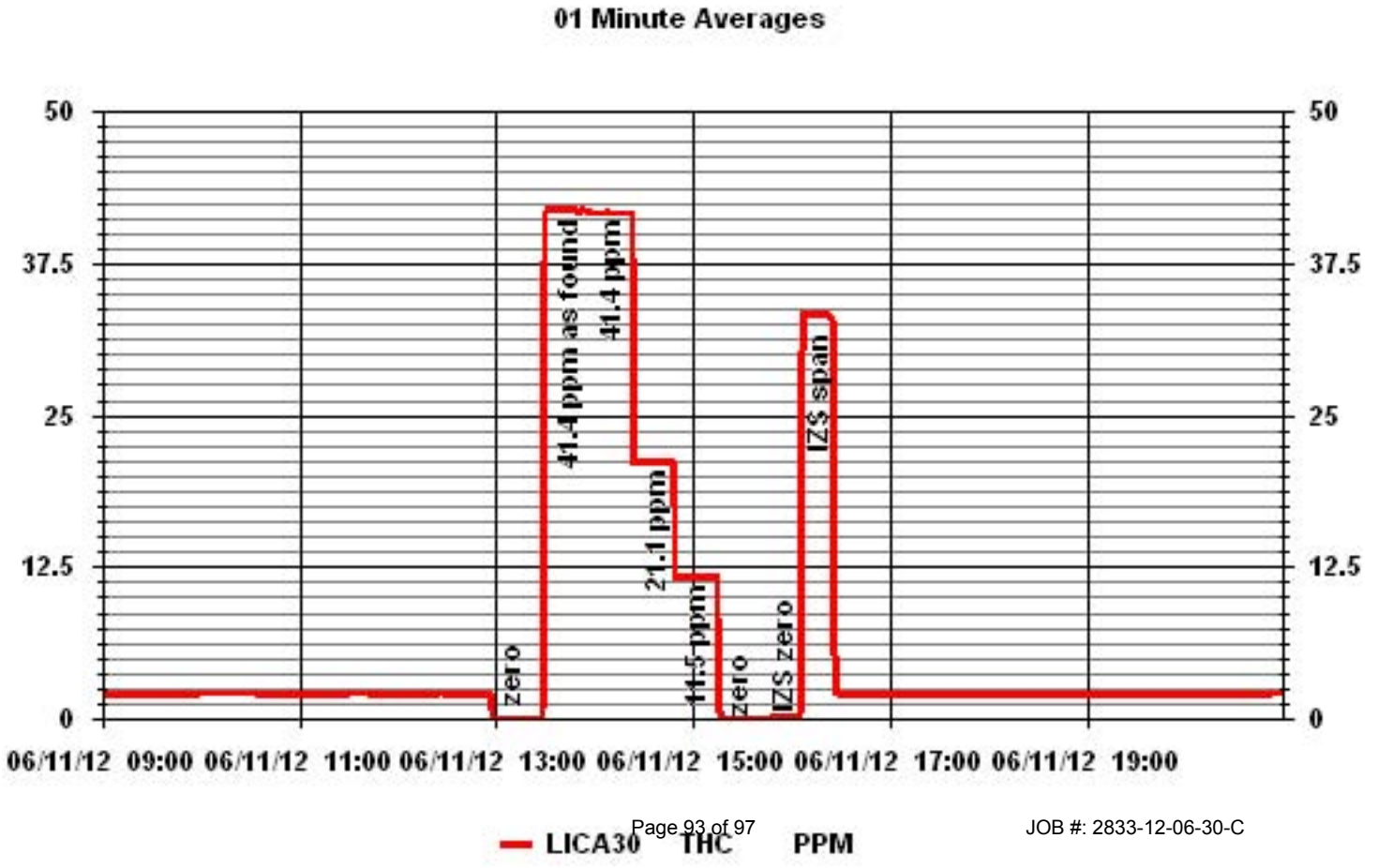
THC Calibration Curve

Calibration Date	June 11, 2012				
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	Maskwa				
Start Time (MST)	12:53	End Time	(MST)	16:30	

Calculated Conc. ppm	Indicated Response ppm	Correction Factor			
			Correlation Coefficient	(≥ 0.995)	0.999991
			Slope	(0.85 to 1.15)	1.003597
0.0	0.0	NA	Intercept	(± 3% F.S.)	0.00652
11.5	11.6	0.9910			
21.1	21.1	0.9994			
41.4	41.6	0.9958			



Notes:



JOB #: 2833-12-06-30-C

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	June 11, 2012		Previous Calibration	May 11, 2012	
Company	LICA		Plant/Location	Maskwa	
Start Time (MST)	9:55		End Time (MST)	16:36	
Reason:	Monthly Calibration				
Barometric Pressure	944 mBar	Station Temperature	24 Deg C	MFCF	1
Cal Gas Concentration	NOx 49.6 ppm	NO 49.5 ppm	Cal Gas Expiry date	January 16, 2014	
Cal Gas Cylinder #	LL42496				
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:	Environics 6100	S/N :	4760		

Analyzer Settings

	Before Calibration					After Calibration			
Concentration Range					0 - 1000 ppb				
Sample Flow/Conv. Temp	457	ccm	315	Deg C		462	ccm	317	Deg C
Ozone Flow / Vacuum	79	ccm	5.5	"Hg-A		79	ccm	5.6	"Hg-A
HVPS / A ZERO	767	Volts	16.9	MV		767	Volts	16.8	MV
Rx/ Temp / PMT Temp	50.0	Deg C	6.6	Deg C		50.0	Deg C	6.6	Deg C
Box Temp / IZS Temp	31.6	Deg C	40.1	Deg C		30.9	Deg C	40.1	Deg C
Offset	0.9	NOx	0.8	NO		0.9	NOx	0.8	NO
Slope	1.243	NOx	1.237	NO		1.230	NOx	1.225	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 NOx	NO	NO2	Indicated Concentration NOx	NO	NO2	Correction Factor NOx	NO
4944	0.0	NA	0	0	NA	0	0	0	NA	NA
	No Zero Adj.									
4918	75.5	NA	750	748	NA	757	754	3	0.9907	0.9926
4918	75.5	NA	750	748	NA	751	748	3	0.9986	1.0000
4954	40.3	NA	400	399	NA	399	397	2	1.0031	1.0061
4974	20.2	NA	201	200	NA	200	199	1	1.0031	1.0061
5020	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 NOx	NO	NO2	Indicated Concentration NOx	NO	NO2	NO_2 Correction Factor	NO2 Conv Efficency
4919	75.5	NA	750	748	NA	750	747	3	NA	NA
	No Adj.									
4919	75.5	600	750	NA	523	749	227	522	1.0019	99.81%
4919	75.5	250	750	NA	223	750	527	223	1.0000	100.00%
4919	75.5	140	750	NA	127	750	623	127	1.0000	100.00%

Linearity OK?	Yes	No	Sum of Least Squares Correction Factors:	NOx=	0.994	NO=	0.996	NO2=	1.002
				NOx=	0.9986	NO=	1.0000	NO2=	1.0019
						Average Converter Efficiency=			99.94%

IZS Calibration Data

	Before Calibration					After Calibration			
Auto Zero	0.0	NOx	0.7	NO2		0.4	NOx	0.7	NO2
Auto Span	612	NOx	601	NO2		607	NOx	596	NO2
					Sample Lines Connected	YES			
Percent Change from Previous Calibration					NOx 0.8%	NO	0.9%	NO2	0.2%

Notes

NA : Not Applicable

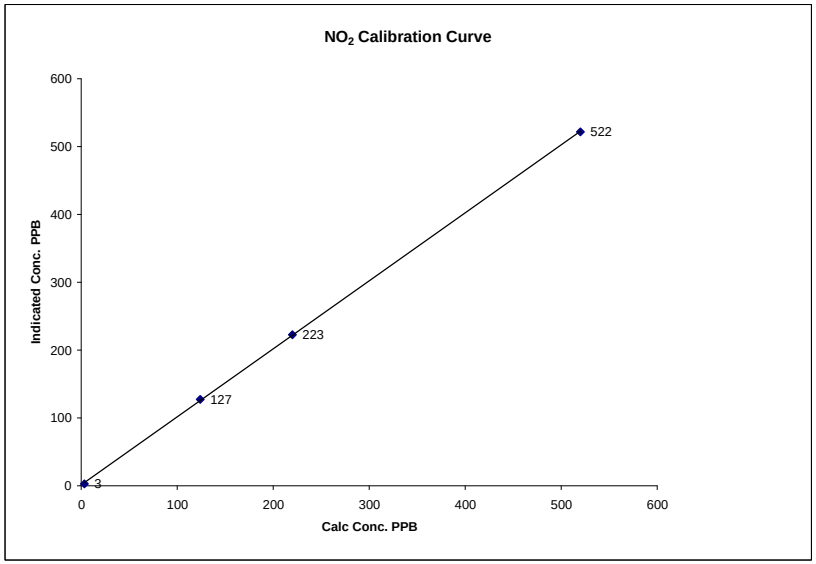
When started the GPT point, the readings at begnning was low, tightened the sample line, then re-did the point.

Calibration Performed by: Ting Xu

NO_2 Calibration Curve

Calibration Date	June 11, 2012				
Company	LICA				
Plant / Location	Maskwa				
Start Time (MST)	9:55	End Time	(MST)	16:36	

Calculated Conc. ppb	Indicated Response ppb	Correction Factor			
3	3	N/A	Correlation Coefficient	(≥ 0.995)	0.999964
124	127	0.9764	Slope	(0.85 to 1.15)	1.002311
220	223	0.9865	Intercept	(± 3% F.S.)	1.49911
520	522	0.9962			



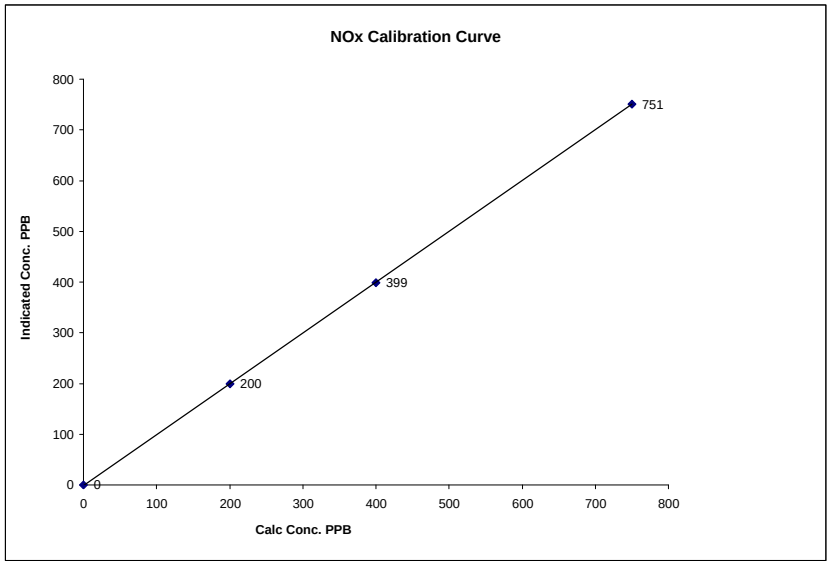
Notes:

NOx Calibration Curve

Calibration Date	June 11, 2012		
Company	LICA		
Plant / Location	Maskwa		
Start Time (MST)	9:55	End Time (MST)	16:36

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	N/A
201	200	1.0031
400	399	1.0031
750	751	0.9986

Correlation Coefficient	(≥ 0.995)	0.999993
Slope	(0.85 to 1.15)	1.001456
Intercept	(± 3% F.S.)	-0.68768



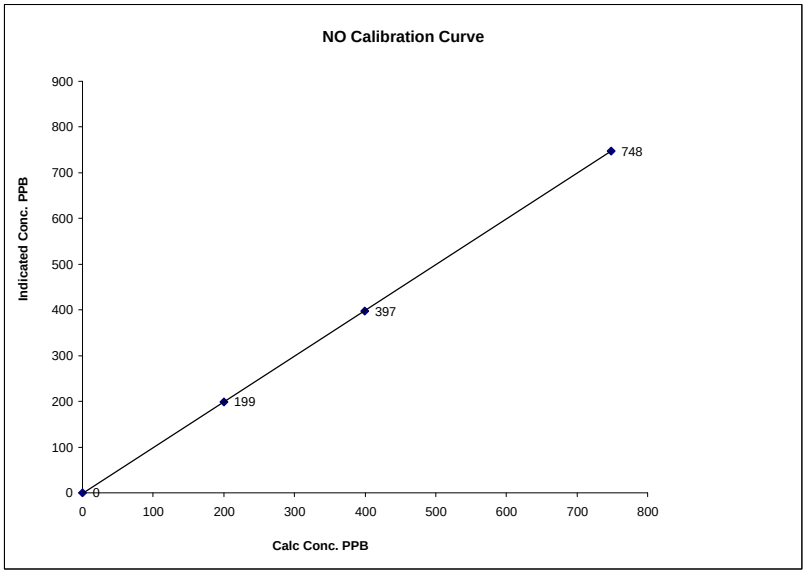
Notes:

NO Calibration Curve

Calibration Date	June 11, 2012		
Company	LICA		
Plant / Location	Maskwa		
Start Time (MST)	9:55	End Time (MST)	16:36

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	N/A
200	199	1.0061
399	397	1.0061
748	748	1.0006

Correlation Coefficient	(≥ 0.995)	0.999989
Slope	(0.85 to 1.15)	1.001926
Intercept	(± 3% F.S.)	-4.7171



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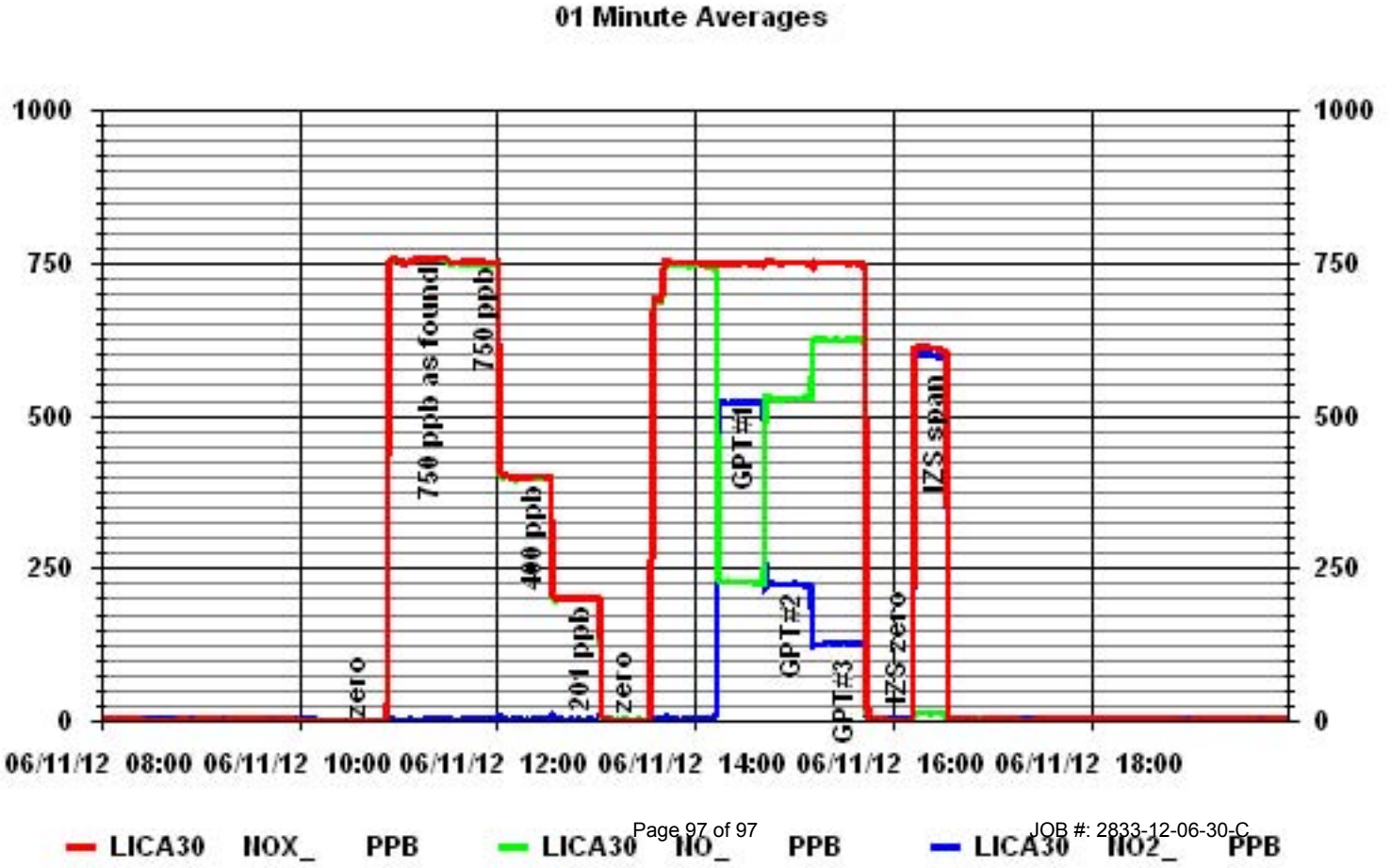


JOB #: 2833-12-06-30-C

Lakeland Industry & Community Association

Portable / Elk Point Airport Monitoring Site
Ambient Air Monitoring Data Report
For
June 2012

Prepared By:

July 27, 2012

JOB #: 2833-12-06-35-C

Lakeland Industry & Community Association
Portable / Elk Point Airport
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 / Elk Point Airport
Data Period: June 2012

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 –
- ELK POINT AIRPORT -

Continuous Ambient Monitoring – June 2012

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PORTABEL / ELK POINT AIRPORT 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	0.06	2	30	8, 10	1.7, 9.6	239(WSW), 213(SSW)	0.4	26	100.0
H_2S (PPB)	10	3	0	0	0.10	3	14	8	24.8	336(NNW)	0.7	17	99.9
THC (PPM)	-	-	-	-	2.60	8.1	22	23	5.2	313(NW)	3.5	22	99.7
NO_2 (PPB)	159	-	0	-	3.57	25	23	0	8.5	305(WNW)	6.0	22	99.9
NO (PPB)	-	-	-	-	0.68	25	18	4	3.2	311(NW)	2.7	16	99.9
NOx (PPB)	-	-	-	-	4.13	39	23	0	8.5	305(WNW)	7.3	23	99.9
O_3 (PPB)	82	-	0	-	29.95	62	8	VAR	VAR	VAR	42.8	1	100.0
PM 2.5 (UG/M^3)	-	30	-	0	6.81	60.7	28	16	16.1	275(W)	12.5	4	93.9
VECTOR WS (KPH)	-	-	-	-	11.47	38.0	6	12	-	117(ESE)	26.0	27	100.0
VECTOR WD (DEGREES)	-	-	-	-	360(N)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

Volatile Organics Data Summary
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
- PORTABLE – Elk Point Airport Site

Xontech Model 910A – June 02, 2012

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

Xontech Model 910A – June 08, 2012

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

Xontech Model 910A – June 14, 2012

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

Xontech Model 910A – June20, 2012

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

Xontech Model 910A – June 26, 2012

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

Polycyclic Aromatic Hydrocarbons (PAHs) Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

- PORTABLE – Elk Point Airport Site

PUF cartridge – June 02, 2012

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

PUF cartridge – June 08, 2012

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

PUF cartridge – June 14, 2012

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

PUF cartridge – June 20, 2012

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

PUF cartridge – June 26, 2012

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

General Monthly Summary

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

AQM STATION – LICA – PORTABLE
Sulphur Dioxide (PPB)
- Analyzer make / model – API 100E, S/N: 467

The analyzer was working well throughout the month. The inlet filter was replaced before the monthly calibration was started on June 15th. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)
- Analyzer make / model –API 101E, S/N: 509
- Converter - Internal

The analyzer was working well throughout the month. The inlet filter was replaced before the monthly calibration was started on June 14th. Data was corrected using daily zero information.

THC (PPM)
- Analyzer make / model – TECO 51C, S/N: 04366-09739

The analyzer was working well throughout the month. The inlet filter was replaced before the monthly calibration was started on June 14th. The H2 gas cylinder was replaced on June 7th. A daily calibration check was run after the cylinder replacement. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Nitrogen Dioxide (PPB)

- Analyzer make / model – API 200E, S/N: 593

The analyzer was working well throughout the month. Following the as found points check on June 14th, the exhaust pump was replaced and the exhaust scrubber was replaced. A post-repair calibration was then performed. The inlet filter was replaced before the post repair calibration was started. Data was corrected using daily zero information.

Ozone (PPB)

- Analyzer make / model –Thermo 49i, S/N: 1002240372

The analyzer was working well throughout the month. The inlet filter was replaced before the monthly calibration was started on June 15th. Data was corrected using daily zero information.

Particulate Matter 2.5 (ug/m^3)

- Analyzer make / model –TEOM 1405F, S/N: 1405A207691003

The Teom unit was working well throughout the month. A teom audit was performed on June 15th. The Teom filter and the FDMS filter were replaced on June 15th. 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. 44 hours of data were invalidated as they were below –3.0 ug/m^3.

General Monthly Summary

AQM STATION – LICA – PORTABLE

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

- System make / model –RM Young 5103VK, S/N: 43708

The wind system is reported as vector wind speed and vector wind direction.
No operational issues were observed this month.
The latest wind system calibration was done on November 24th, 2011 by manufacturer.

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

The manifold was cleaned on June 15th.

Air Quality Index (AQI)

No AQI report is included in this report, as the AQI value is no longer used by Alberta Environment.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Volatile Organics (VOCs)
The volatile organics were sampled from June 2nd to June 26th. 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 June 2nd to June 26th. 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

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

JUNE 2012

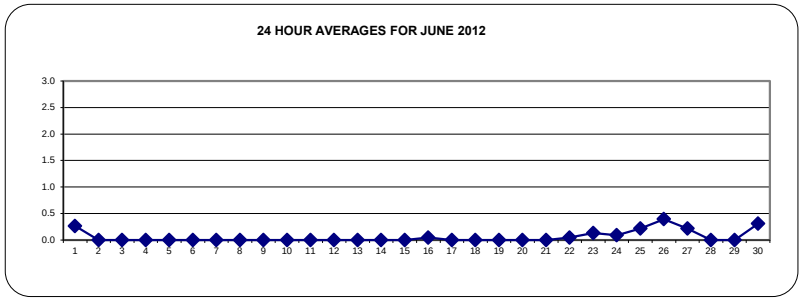
SULPHUR DIOXIDE (SO_2) hourly averages in ppb

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

STATUS FLAG CODES

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

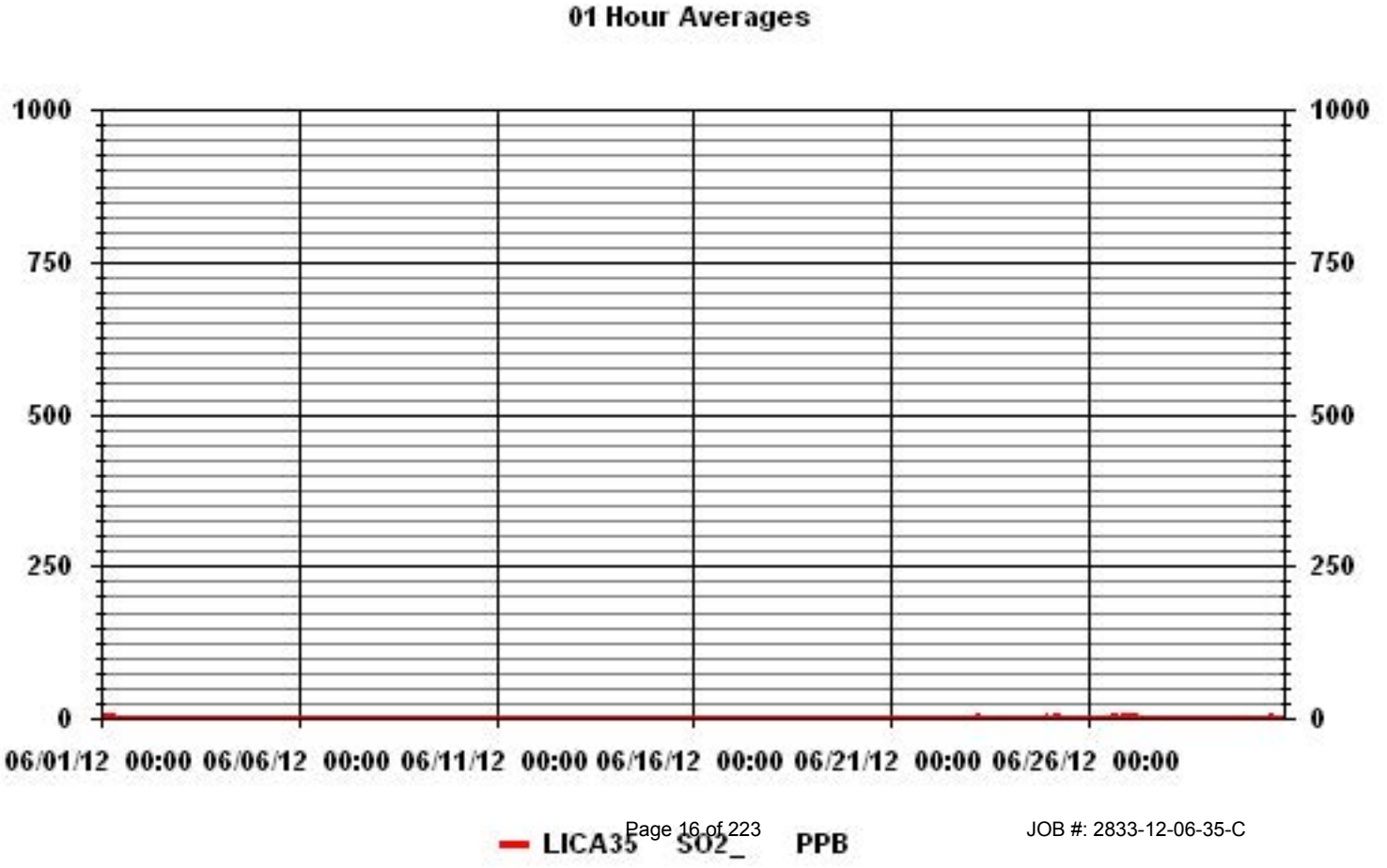


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	37					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	8, 10	ON DAY(S)	30
MAXIMUM 24-HR AVERAGE:	0.4	PPB			ON DAY(S)	26
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.24		MONTHLY AVERAGE:		0.06	PPB

JOB #: 2833-12-06-35-C



JOB #: 2833-12-06-35-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE - Elk Point Airport*

JUNE 2012

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

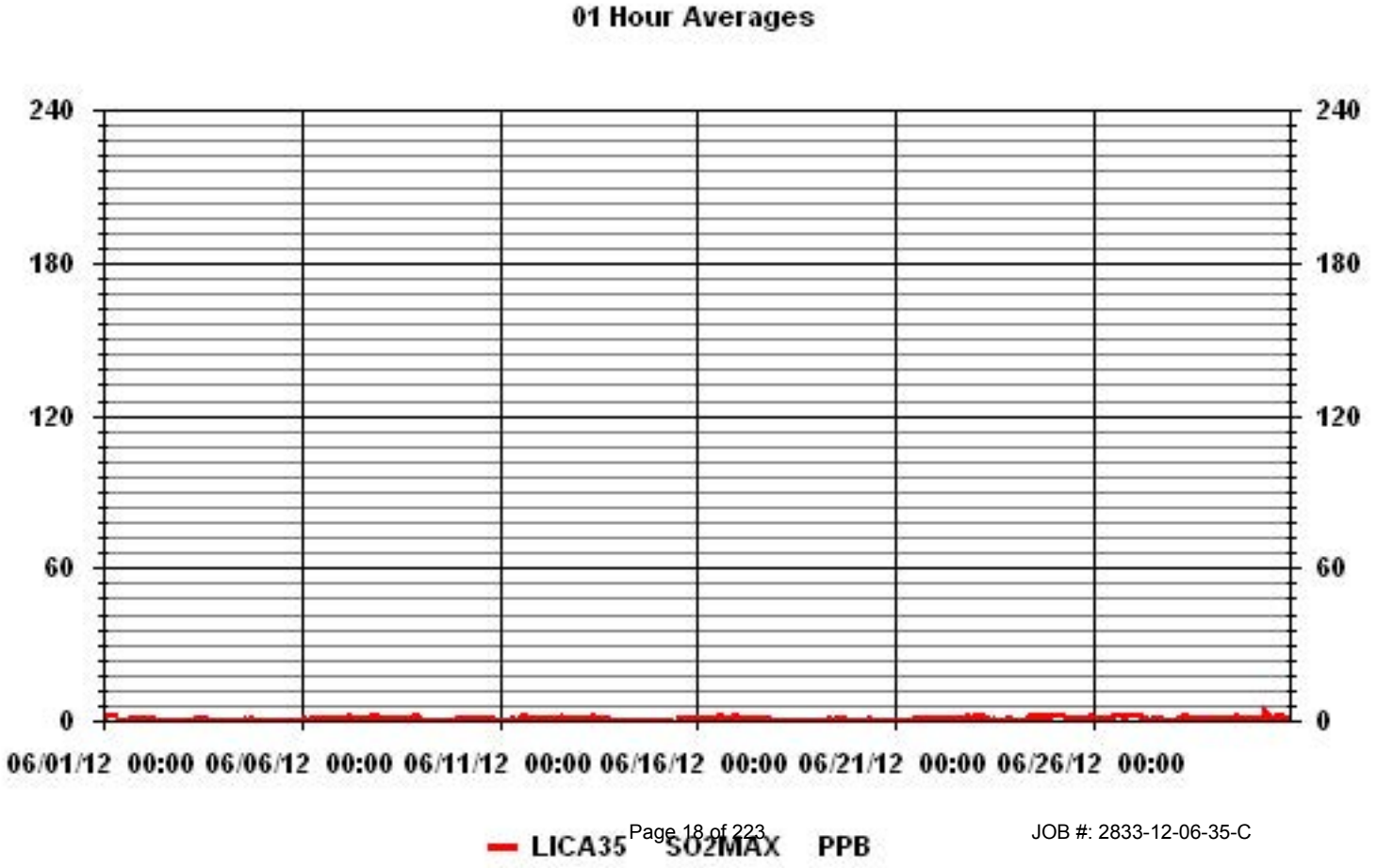
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	2	2	2	2	2	2	2	**IZS**	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	2	1.0	24
2	1	1	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
3	0	0	0	0	0	0	**IZS**	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0.3	24
4	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	2	0.1	24
5	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	1	**IZS**	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.8	24
7	1	1	**IZS**	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	2	1	2	1.2	24
8	1	**IZS**	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	3	1.0	24
9	**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
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	**IZS**	0	1	0.9	24
11	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	3	1	1	1	1	1	**IZS**	1	1	3	0.6	24
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	**IZS**	1	1	1	2	1.0	24
13	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	**IZS**	0	0	0	0	2	0.9	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	**C**	**C**	**C**	**C**	**C**	1	1	1	**IZS**	1	1	1	1	1	1	1	0.5	24
16	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	**IZS**	1	1	1	1	1	1	3	3	1.2	24
17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	0	0	0	2	0	0	0	0	2	0.7	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0.0	24
19	0	0	0	0	0	0	0	0	1	0	0	0	0	**IZS**	1	1	1	1	1	0	0	0	0	0	1	0.3	24
20	0	0	0	0	0	0	0	0	1	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
21	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	24
22	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1.0	24
23	2	2	1	2	1	2	2	1	1	**IZS**	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	0.7	24
24	0	0	0	0	0	0	0	0	**IZS**	1	2	1	1	3	1	1	2	1	1	2	2	1	2	2	3	1.0	24
25	2	2	2	2	2	2	2	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1.3	24
26	1	1	1	1	1	1	**IZS**	1	1	1	1	1	2	2	2	2	2	2	2	1	2	2	2	2	2	1.5	24
27	2	2	2	2	2	**IZS**	1	1	1	1	0	0	1	0	1	1	1	1	1	0	0	0	0	0	2	0.9	24
28	0	0	0	0	**IZS**	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	0.9	24
29	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	1.0	24
30	1	1	**IZS**	1	1	1	1	1	**4**	3	3	2	1	1	1	2	2	1	2	1	1	1	1	1	**4**	1.5	24
HOURLY MAX	2	2	2	2	2	2	2	2	4	3	3	2	2	3	2	3	2	2	2	2	2	2	3	3			
HOURLY AVG	0.7	0.7	0.6	0.7	0.6	0.8	0.7	0.6	0.9	0.7	0.6	0.6	0.7	0.8	0.9	0.9	0.8	0.7	0.8	0.7	0.7	0.7	0.7	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:	410					
MAXIMUM INSTANTANEOUS VALUE:	4	PPB	@ HOUR(S)	8	ON DAY(S)	30
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.68					



JOB #: 2833-12-06-35-C

LICA-ELK
SO2_ / WDR Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : SO2_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	4.81	2.48	1.60	2.04	11.97	10.36	10.80	4.67	4.37	2.04	2.18	2.91	6.42	10.21	11.67	11.38	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.81	2.48	1.60	2.04	11.97	10.36	10.80	4.67	4.37	2.04	2.18	2.91	6.42	10.21	11.67	11.38	

Calm : .00 %

Total # Operational Hours : 685

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	33	17	11	14	82	71	74	32	30	14	15	20	44	70	80	78	685
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	33	17	11	14	82	71	74	32	30	14	15	20	44	70	80	78	

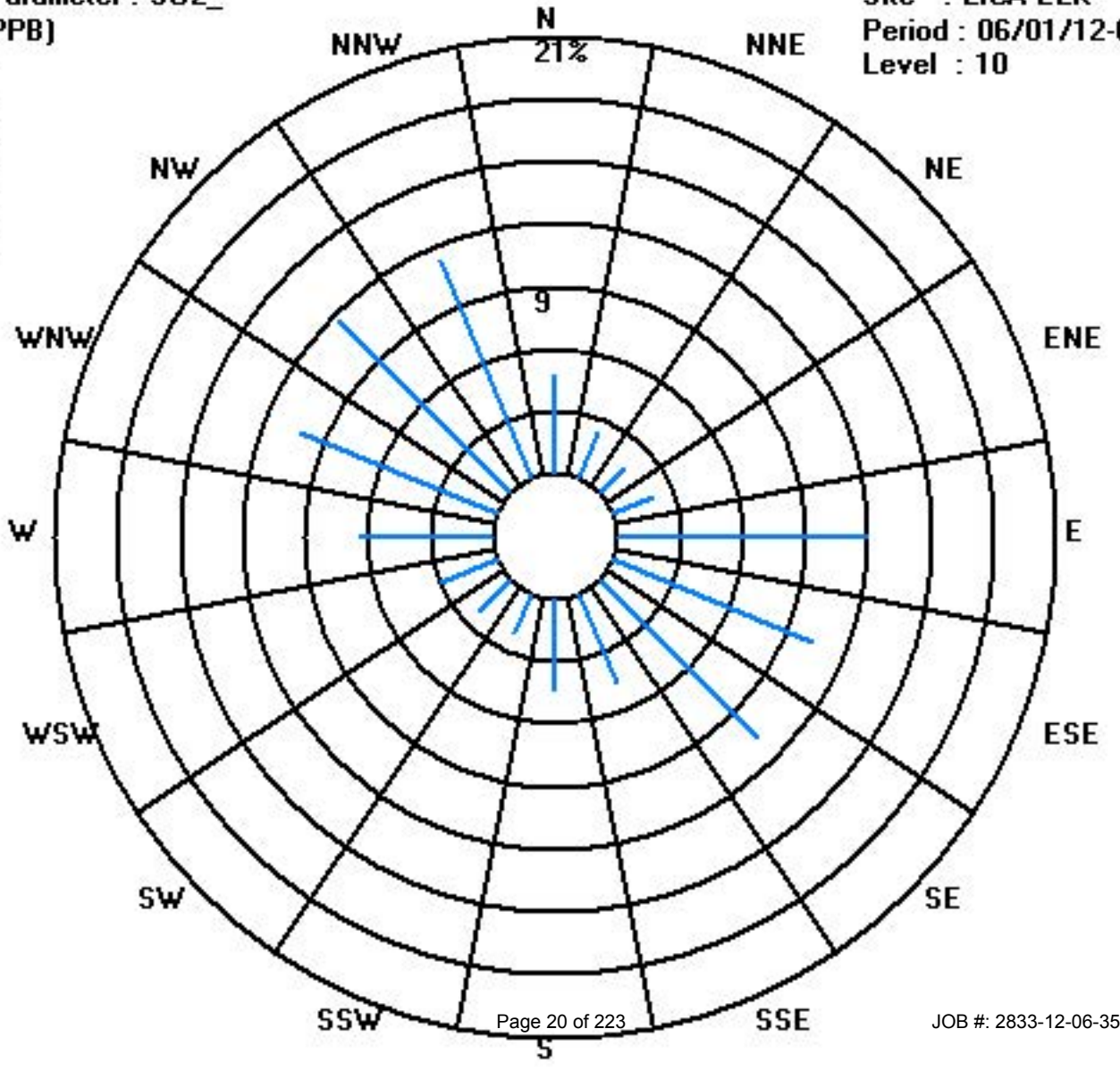
Calm : .00 %

Total # Operational Hours : 685

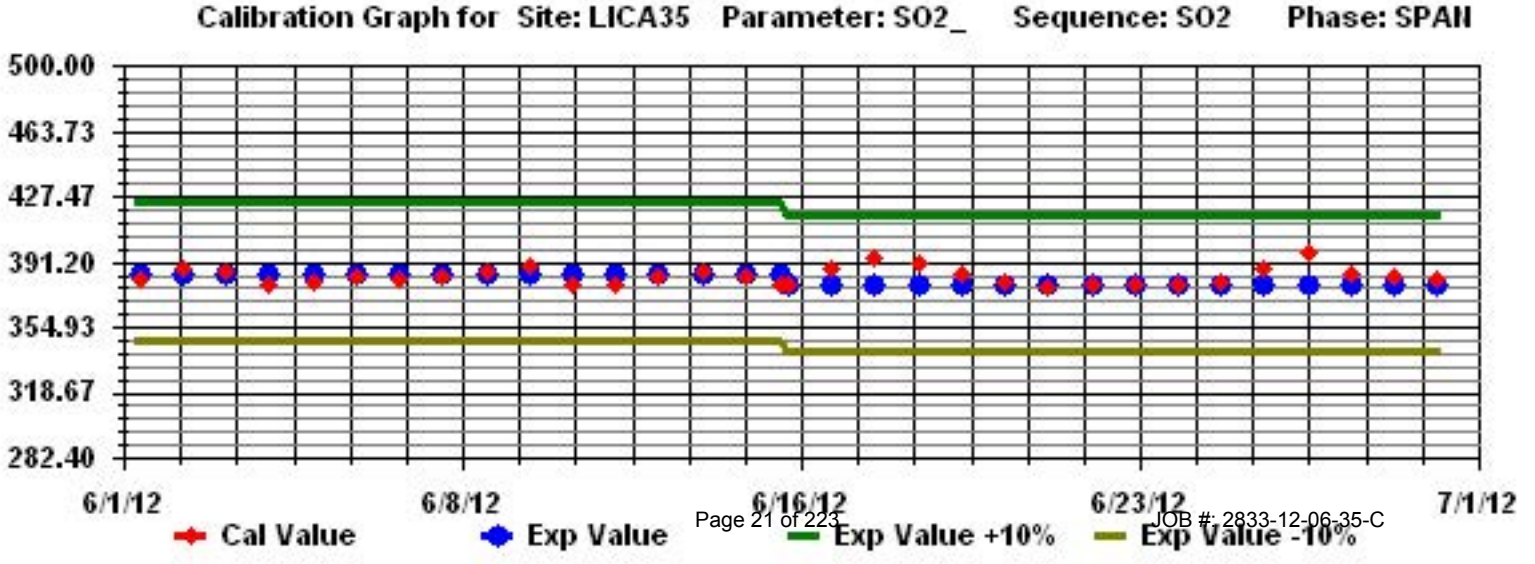
Logger : 35 Parameter : SO2_
Class Limits (PPB)

>= 340
< 340
< 170
< 110
< 60
< 20

Site : LICA-ELK
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-35-C


Calibration Graph for Site: LICA35 Parameter: SO2_ Sequence: SO2 Phase: SPAN
500.00
463.73
427.47
391.20
354.93
318.67
282.40
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE - Elk Point Airport

JUNE 2012

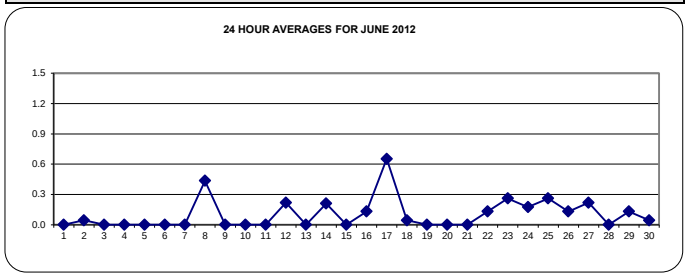
HYDROGEN SULPHIDE (H_2S) hourly averages in ppb

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

STATUS FLAG CODES

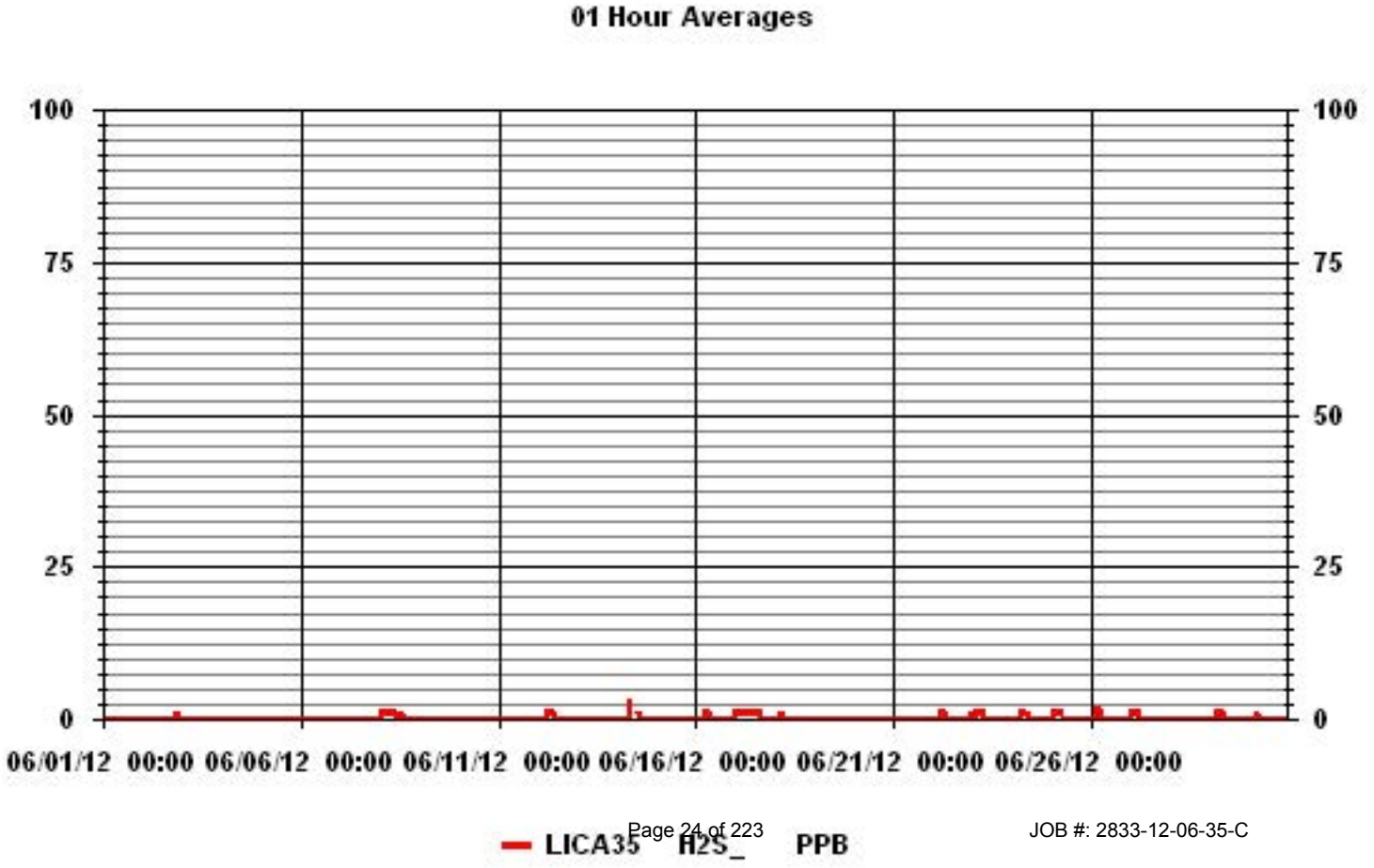
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



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:	67					
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	8	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	0.7	PPB			ON DAY(S)	17
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	0.32		MONTHLY AVERAGE:		0.10	PPB



JOB #: 2833-12-06-35-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE - Elk Point Airport*

JUNE 2012

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

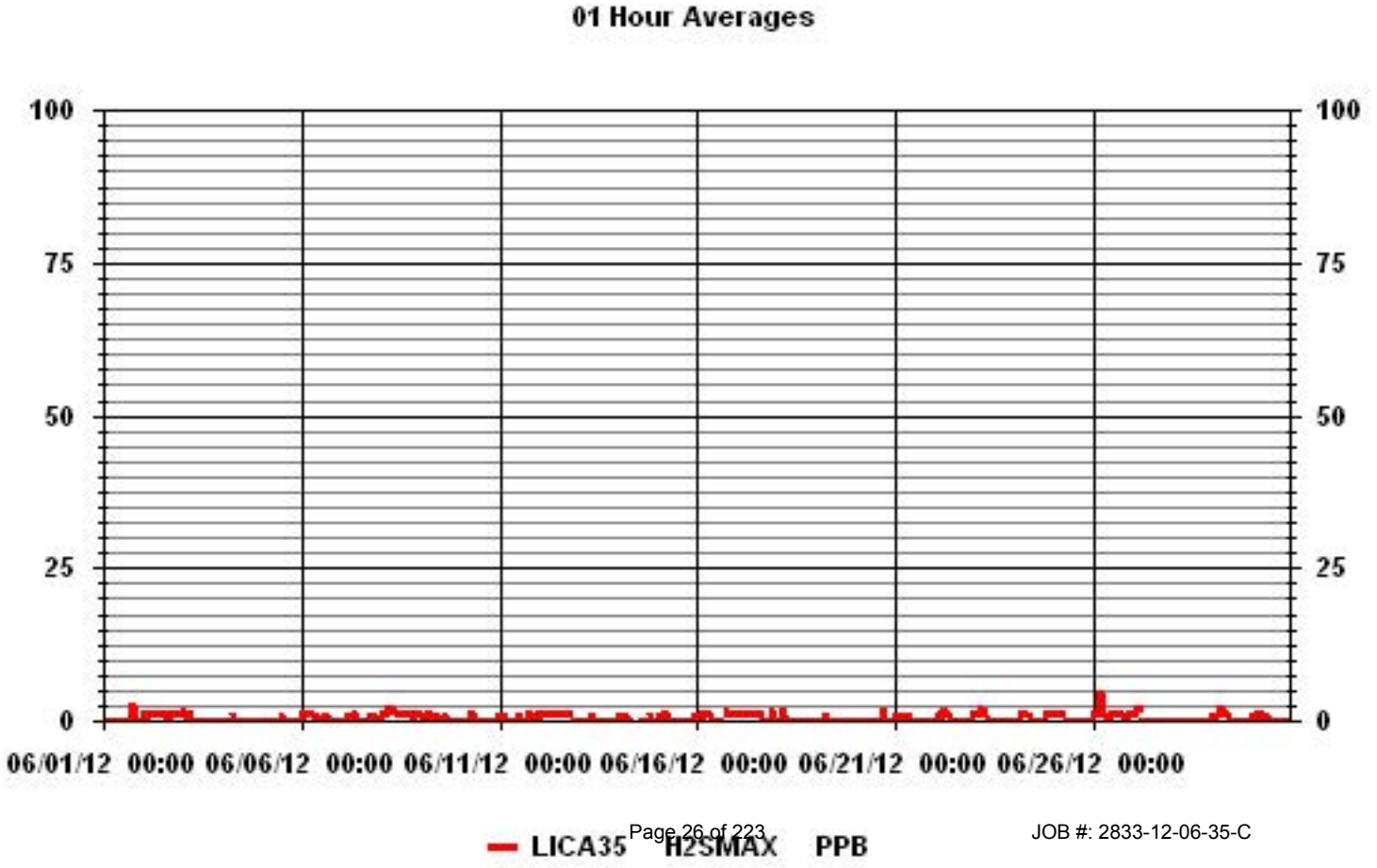
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00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

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	206					
MAXIMUM INSTANTANEOUS VALUE:	5	PPB	@ HOUR(S)	4	ON DAY(S)	26
				VAR - VARIOUS		
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	0.57					



JOB #: 2833-12-06-35-C

LICA-ELK
H2S_ / WDR Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : H2S_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	4.97	2.77	1.60	2.04	11.98	10.38	10.81	4.67	4.38	2.04	2.19	2.92	6.43	10.23	11.54	10.81	99.85
<	10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.14
<	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	4.97	2.77	1.60	2.04	11.98	10.38	10.81	4.67	4.38	2.04	2.19	2.92	6.43	10.23	11.54	10.96	

Calm : .00 %

Total # Operational Hours : 684

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	34	19	11	14	82	71	74	32	30	14	15	20	44	70	79	74	683
<	10																1	1
<	50																	
>=	50																	
	Totals	34	19	11	14	82	71	74	32	30	14	15	20	44	70	79	75	

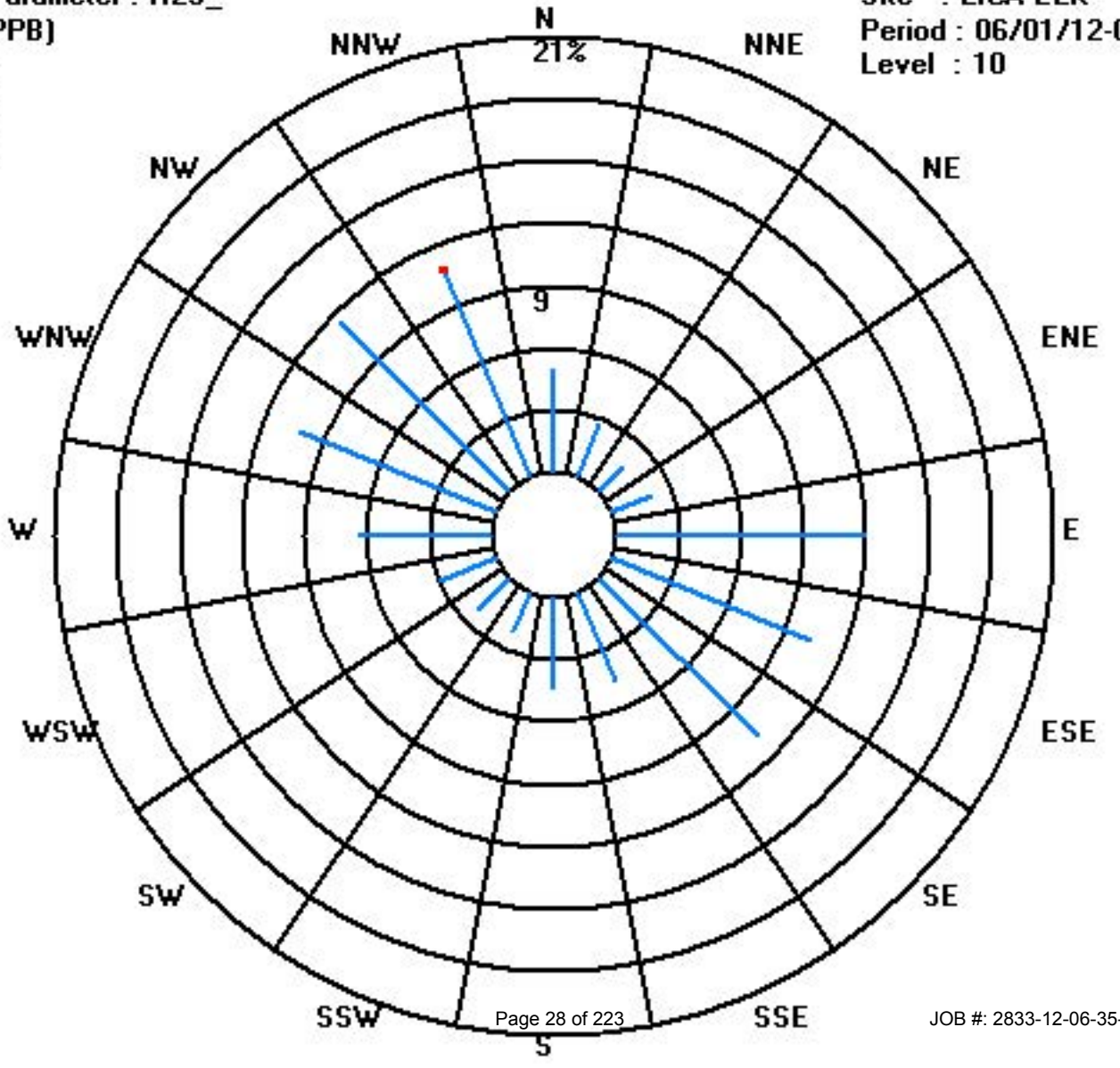
Calm : .00 %

Total # Operational Hours : 684

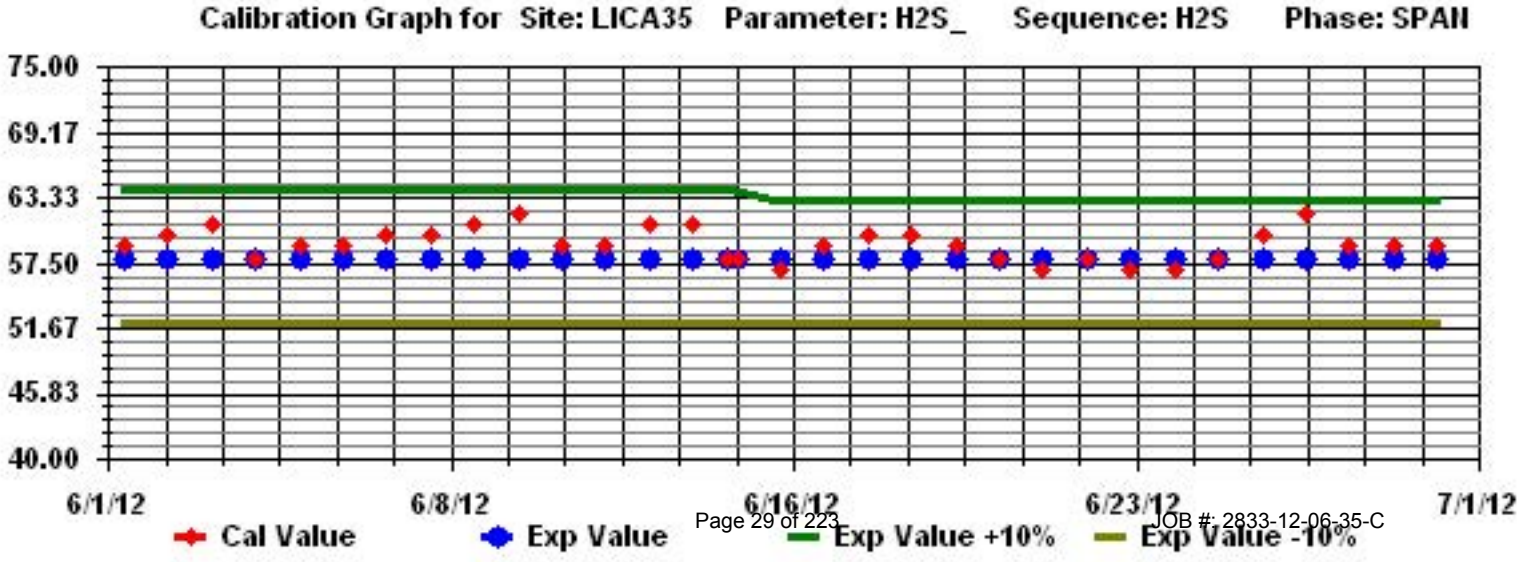
Logger : 35 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA-ELK
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-35-C


Calibration Graph for Site: LICA35 Parameter: H2S_ Sequence: H2S Phase: SPAN
75.00
69.17
63.33
57.50
51.67
45.83
40.00
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Poinr Airport

JUNE 2012

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

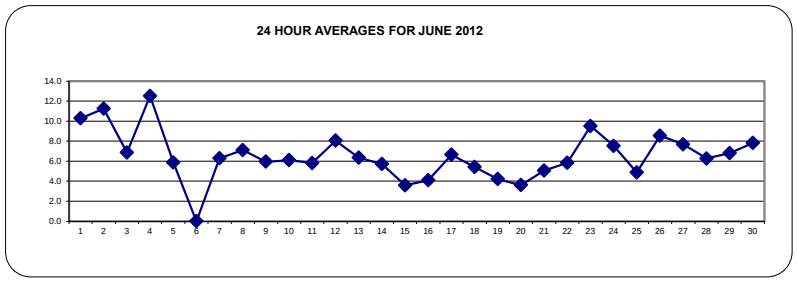
MST

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	9.2	13.8	8.8	8.2	6.7	12.2	12.7	14.3	15.2	**N**	11.2	15.7	10.2	5.2	13.2	1.2	4.2	4.7	11.2	12.2	4.2	11.7	20.7	9.7	20.7	10.3	23
2	15.2	17.7	17.2	16.7	16.2	14.3	9.7	11.2	13.7	11.7	0	6.2	14.7	9.2	14.7	**N**	12.7	4.2	13.8	5.7	16.2	3.2	7.3	7.3	17.7	11.3	23
3	8.8	8.8	6.2	5.7	4.8	6.2	4.8	4.2	6.7	3.2	7.7	5.2	2.2	7.3	7.3	5.2	**N**	0	15.2	16.2	3.2	6.2	10.7	12.2	16.2	6.9	23
4	10.2	11.7	8.8	4.8	8.2	9.7	14.7	10.2	11.2	3.7	1.2	13.2	9.7	**N**	12.2	12.7	24.7	21.2	12.7	13.8	21.2	19.3	19.7	12.7	24.7	**12.5**	23
5	11.7	8.2	5.2	3.2	5.2	4.2	7.7	5.2	6.2	7.7	0	11.2	11.7	15.2	0	6.7	3.7	0	10.2	4.2	2.7	6.2	2.7	1.7	15.2	5.9	24
6	0.7	5.2	2.7	4.2	4.8	6.2	4.8	10.7	10.2	6.2	4.2	17.7	7.7	19.2	6.7	17.2	11.2	10.7	1.2	0	7.7	**N**	**N**	3.7	19.2	0.0	22
7	3.2	0.2	0.7	2.7	0.2	0.2	4.2	4.2	6.2	8.8	0	**N**	3.2	17.7	5.7	14.3	1.2	17.2	2.7	8.8	13.2	10.7	10.2	8.8	17.7	6.3	23
8	8.2	4.8	4.7	7.7	3.7	6.2	10.2	6.2	6.2	7.7	8.8	13.8	21.7	7.7	1.2	6.7	**N**	14.7	0	7.3	5.2	2.7	3.2	4.8	21.7	7.1	23
9	4.8	0	2.7	7.3	4.8	9.7	3.7	6.7	3.2	0.2	8.8	10.7	10.7	8.8	0.7	10.2	2.2	3.2	7.3	6.7	6.2	6.7	7.7	9.7	10.7	5.9	24
10	4.2	12.8	10.2	8.8	7.3	6.7	7.7	4.8	11.7	3.7	5.2	12.2	3.2	0.7	6.2	7.3	3.7	6.7	1.7	5.7	3.2	2.2	6.7	3.7	12.8	6.1	24
11	6.7	3.2	3.2	6.7	4.2	4.8	3.7	5.7	2.7	3.2	3.7	1.2	8.2	5.2	9.2	9.7	5.7	3.2	4.8	15.2	7.3	5.7	8.8	7.7	15.2	5.8	24
12	5.2	9.7	4.8	9.7	7.3	10.2	11.7	12.2	4.2	13.2	0	14.2	0.7	16.2	3.2	5.7	0.2	5.6	20.4	13.2	4.8	4.2	6.2	10.4	20.4	8.1	24
13	5.7	6.2	5.2	6.7	7.8	9.2	6.2	8.6	11.1	8.9	0	16	8.6	0.8	3.8	**N**	17.1	2.3	**N**	4.1	0.3	4.1	5.3	1.6	17.1	6.3	22
14	7.3	5.2	4.2	6.8	5.6	9	10	5.2	0.5	11.1	16	7	6.9	0.1	0.2	0	7	11.6	0	5.5	3.9	4.6	4.4	5.1	16.0	5.7	24
15	1.4	3.2	4.9	3.7	5.6	2.7	0	6.6	3.1	5.4	2.8	**C**	9.1	0.6	3.5	0.4	2.6	5.1	5	**N**	0.3	4.7	4.3	4	9.1	3.6	23
16	0.5	1.9	5.5	5.4	2.2	4.6	1.2	7	4.6	7.4	**N**	**N**	**N**	1.7	7.6	4.2	7.1	9	4	0.2	4.6	0	1.1	6	9.0	4.1	21
17	5.2	4.8	4.3	0	0	7	1.8	1.2	3.4	9.3	18.7	6.9	4.4	13	**N**	3.7	3.3	4.9	12.7	0	27.5	9.2	7.1	4.4	27.5	6.6	23
18	1.7	5.7	2.6	2.7	5.6	6.6	0	0.6	16.5	N	3.4	0	5.4	0	18.9	3	0	8	**N**	5.7	6.9	**N**	14.3	6	18.9	5.4	21
19	2.3	0.9	3.6	0.8	4.1	5.2	5.7	8.3	6.4	6.7	5.2	6.4	1.8	**N**	**N**	**N**	0	2.2	**N**	6.2	9.4	0	4.8	4.2	9.4	4.2	20
20	3.8	4.7	0.2	4.2	2.7	3.7	3.3	2.7	7.3	2.7	7.7	3.2	6.7	N	0.7	6.7	5.2	4.7	0.7	7.3	1.2	0	2.2	1.2	7.7	3.6	23
21	2.7	3.7	5.2	4.8	5.7	N	5.2	7.7	3.2	4.7	9.2	1.7	N	6.7	6.2	6.2	**N**	8.8	2.7	0.2	11.2	0.7	3.7	6.2	11.2	5.1	21
22	6.2	1.7	4.8	4.2	4.2	4.2	5.7	8.8	2.7	N	**N**	0	10.7	18.7	5.2	**N**	4.7	5.2	9.7	4.2	0.2	9.2	4.8	7.7	18.7	5.8	21
23	6.2	10.7	6.7	4.2	8.8	3.3	10.7	9.7	8.8	8.2	11.7	9.2	20.3	0	11.2	19.2	11.7	9.2	8.2	15.7	0.7	13.8	11.2	8.8	20.3	9.5	24
24	9.7	7.7	7.7	12.3	9.2	8.2	8.2	2.2	14.3	1.7	9.2	0	12.7	27.7	2.7	2.2	0	8.8	4.2	0	4.2	9.2	9.7	8.8	27.7	7.5	24
25	3.7	7.3	10.7	8.2	0.2	11.2	**N**	11.7	**N**	9.2	3.7	4.2	0	0	0.7	**N**	3.2	**N**	0.7	**N**	4.8	13.2	0	0	13.2	4.9	19
26	7.7	4.8	6.7	5.2	6.7	13.8	8.8	15.7	13.8	**N**	15.2	**N**	11.2	0	15.7	1.2	13.8	0	16.7	0	1.7	13.2	11.2	4.8	16.7	8.5	22
27	2.8	7.3	0.8	3.7	5.7	4.8	4.8	4.2	6.2	2.7	2.7	0	12.7	28.7	25.7	**N**	13.8	2.7	15.7	**N**	15.7	1.7	1.7	4.8	28.7	7.7	22
28	2.7	4.2	2.7	0.7	5.2	**N**	5.7	3.2	5.7	2.2	0	2.7	**N**	**N**	4.2	0	**60.7**	8.2	0	6.7	0.7	2.7	9.2	4.2	**60.7**	6.3	21
29	4.8	5.7	7.3	7.3	0.7	2.7	6.7	10.2	7.3	18.2	6.2	**N**	12.2	0	13.8	8.2	1.2	3.7	13.2	2.7	4.8	4.8	5.7	9.2	18.2	6.8	23
30	7.7	7.7	3.7	3.7	5.2	10.7	1.2	8.8	7.3	5.7	7.7	11.7	0	**N**	5.2	2.2	7.3	13.2	8.8	13.8	16.2	N	13.8	10.7	16.2	7.8	22
HOURLY MAX	15	18	17	17	16	14	15	16	17	18	19	18	22	29	26	19	61	21	20	16	28	19	21	13			
HOURLY AVG	5.7	6.3	5.4	5.7	5.3	7.1	6.2	7.3	7.6	6.7	6.1	7.6	8.4	8.4	7.3	6.4	8.5	6.9	7.5	6.7	7.0	6.3	7.5	6.3			

STATUS FLAG CODES

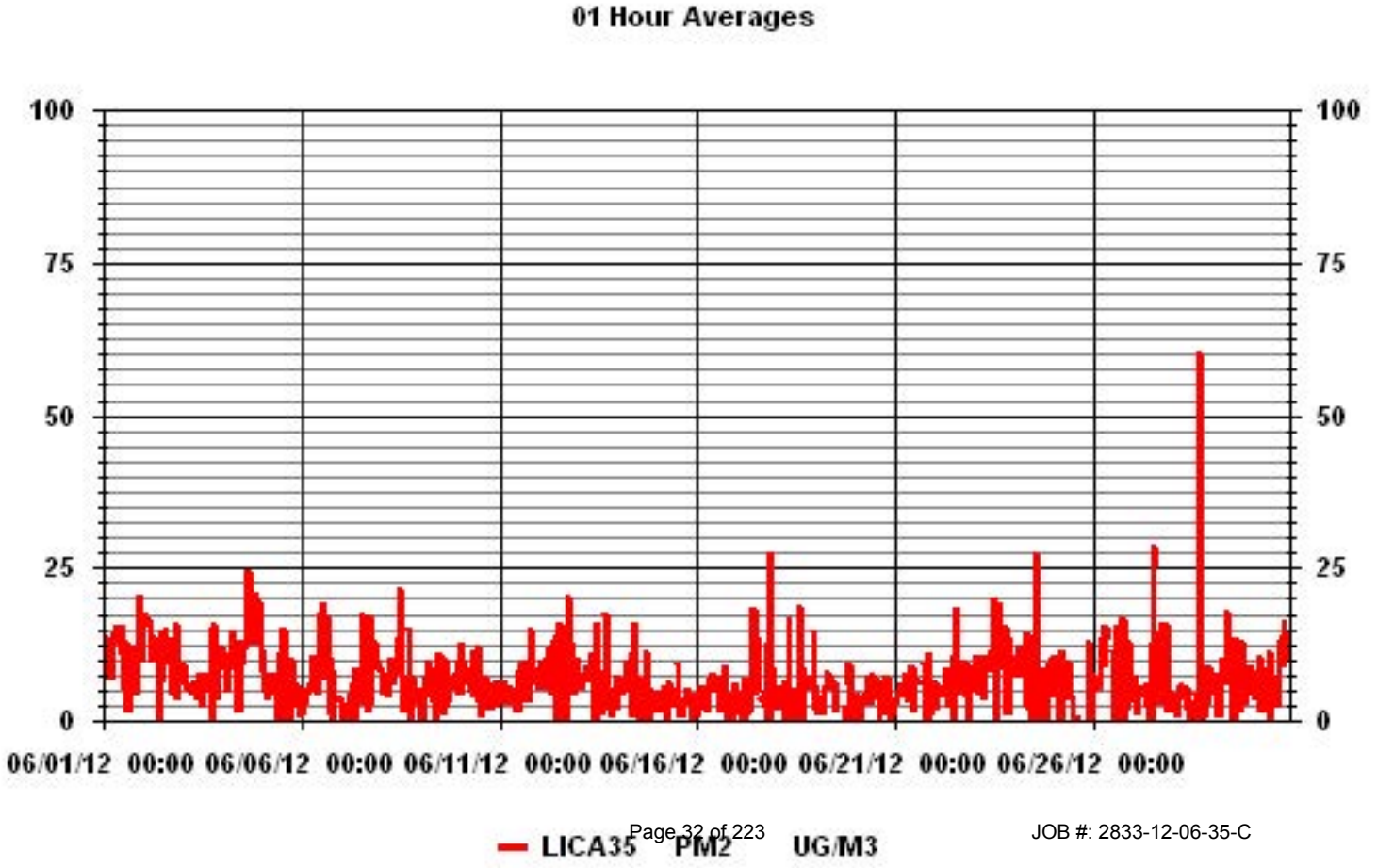
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR - 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:	632					
MAXIMUM 1-HR AVERAGE:	60.7	UG/M^3	@ HOUR(S)	16	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	12.5	UG/M^3			ON DAY(S)	4
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		676	HRS
MONTHLY CALIBRATION TIME:	1	HRS	AMD OPERATION UPTIME:		93.9	%
STANDARD DEVIATION:	5.38		MONTHLY AVERAGE:		6.81	UG/M^3



JOB #: 2833-12-06-35-C

LICA-ELK
PM2 / WDR Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : PM2
Units : UG/M3

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	5.33	2.22	1.77	2.07	12.29	10.66	10.96	4.44	3.70	1.77	2.07	2.37	6.37	10.51	12.14	11.11	99.85
<	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	.14	.00	.00	.00	.14
<	120.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.33	2.22	1.77	2.07	12.29	10.66	10.96	4.44	3.70	1.77	2.07	2.37	6.51	10.51	12.14	11.11	

Calm : .00 %

Total # Operational Hours : 675

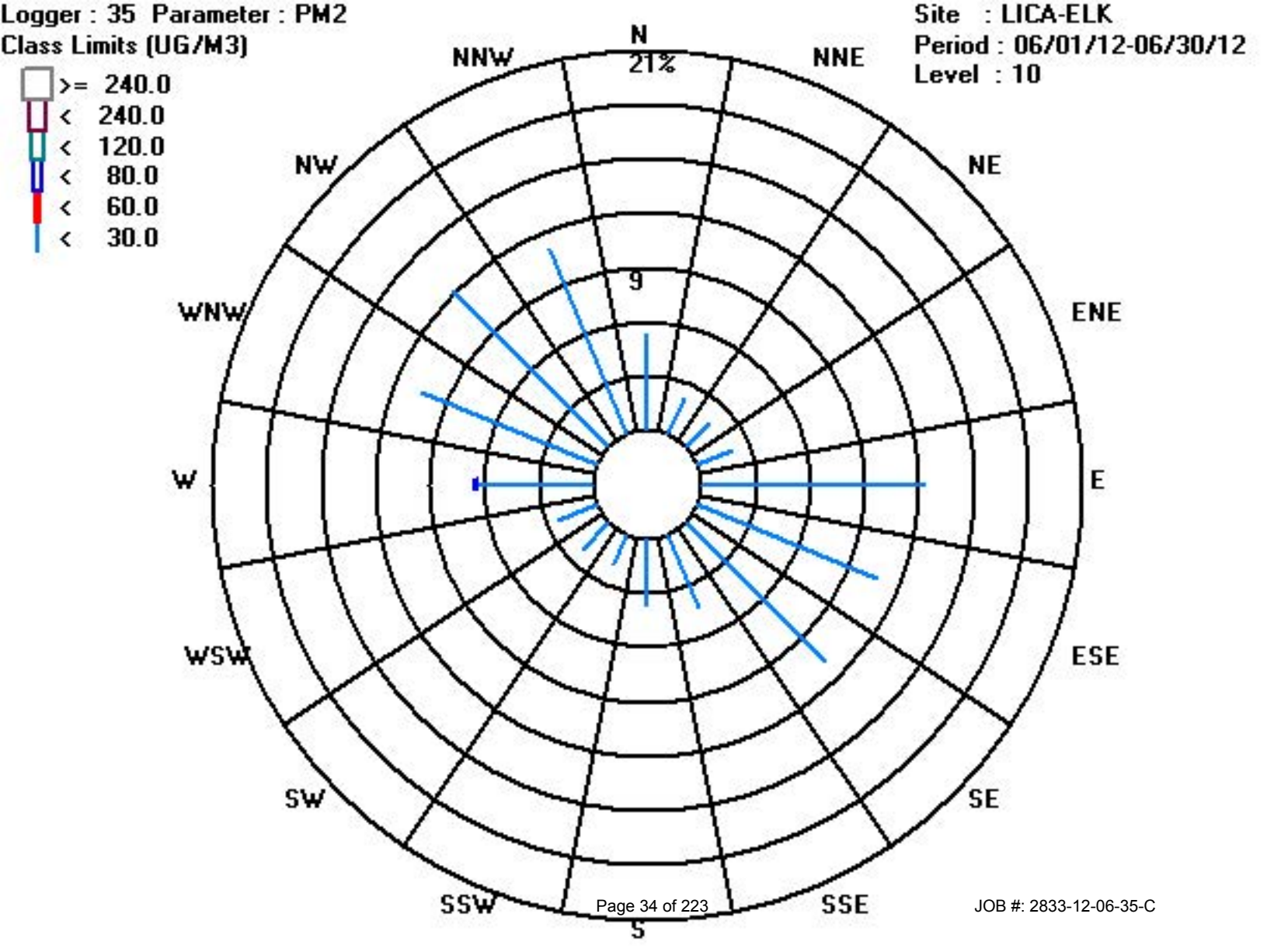
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	36	15	12	14	83	72	74	30	25	12	14	16	43	71	82	75	674
<	60.0																	
<	80.0													1				1
<	120.0																	
<	240.0																	
>=	240.0																	
	Totals	36	15	12	14	83	72	74	30	25	12	14	16	44	71	82	75	

Calm : .00 %

Total # Operational Hours : 675



JOB #: 2833-12-06-35-C

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2012

NITROGEN DIOXIDE hourly averages in ppb

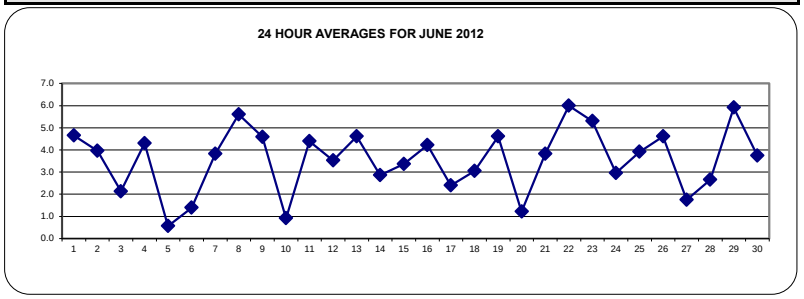
MST

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	5	8	7	6	7	5	5	**IZS**	1	1	1	1	1	1	1	1	1	1	7	13	10	9	12	13	4.7	24
2	11	7	9	9	10	8	7	**IZS**	6	4	3	1	1	2	1	1	1	1	1	2	1	2	1	2	11	4.0	24
3	3	2	3	2	2	2	**IZS**	1	1	1	1	1	1	1	1	0	1	0	0	1	1	2	9	13	13	2.1	24
4	18	13	14	11	9	**IZS**	10	3	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	1	18	4.3	24
5	1	1	1	1	**IZS**	1	1	1	0	0	1	1	0	0	0	0	1	0	1	0	0	1	1	0	1	0.6	24
6	0	1	1	**IZS**	0	0	0	1	1	2	1	1	1	2	1	1	1	2	2	2	2	3	4	3	4	1.4	24
7	3	3	**IZS**	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	2	6	9	14	13	16	16	3.8	24
8	13	**IZS**	15	13	12	11	8	8	6	5	3	2	1	2	1	1	1	1	2	3	3	4	7	7	15	5.6	24
9	**IZS**	8	10	16	12	9	7	5	4	2	2	2	2	1	2	2	1	1	1	1	3	5	5	**IZS**	16	4.6	24
10	2	3	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	**IZS**	6	6	0.9	24
11	9	7	5	5	5	6	6	4	5	5	2	1	1	1	1	1	2	1	2	4	8	**IZS**	13	7	13	4.4	24
12	7	6	4	4	6	6	5	4	3	4	2	1	1	1	1	1	0	1	2	2	**IZS**	7	5	8	8	3.5	24
13	9	10	9	8	7	8	9	10	6	4	3	3	2	1	1	1	2	2	1	**IZS**	2	5	2	1	10	4.6	24
14	2	1	1	1	1	1	1	1	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**IZS**	0	1	6	18	6	18	2.9	24
15	1	2	5	5	2	4	3	2	1	1	1	1	1	**M**	0	0	0	**IZS**	1	1	2	10	17	14	17	3.4	23
16	14	13	7	6	7	6	6	6	3	1	1	1	1	1	1	1	**IZS**	1	1	3	3	4	5	5	14	4.2	24
17	5	4	3	2	3	3	4	3	2	2	2	1	1	1	0	**IZS**	0	0	1	4	2	1	6	5	6	2.4	24
18	7	4	5	6	13	10	4	2	1	1	0	0	0	1	**IZS**	1	0	0	1	1	2	1	4	6	13	3.0	24
19	9	9	8	6	12	10	12	12	6	4	1	1	1	**IZS**	0	0	1	2	3	5	1	1	1	1	12	4.6	24
20	1	1	1	1	1	1	0	0	0	0	0	0	**IZS**	0	0	0	0	1	1	4	4	5	3	4	5	1.2	24
21	5	7	3	4	5	9	4	1	0	0	0	**IZS**	0	0	0	0	0	0	0	2	8	14	12	14	14	3.8	24
22	12	11	9	7	7	8	7	7	5	2	**IZS**	1	1	1	1	1	1	2	1	3	9	12	8	22	22	**6.0**	24
23	**25**	19	14	15	19	7	2	2	1	**IZS**	0	0	0	0	0	0	0	0	0	0	1	5	5	7	**25**	5.3	24
24	4	5	5	4	8	5	4	3	**IZS**	2	1	1	0	1	1	1	1	4	2	4	3	3	3	3	8	3.0	24
25	3	4	4	5	3	4	3	**IZS**	2	1	1	1	1	1	1	1	1	1	4	8	2	4	11	24	24	3.9	24
26	8	7	7	14	17	10	**IZS**	4	1	1	1	1	1	1	2	2	2	2	4	7	4	5	2	3	17	4.6	24
27	7	6	2	1	0	**IZS**	0	0	2	1	2	1	1	1	1	1	1	1	2	2	1	1	3	3	7	1.7	24
28	4	2	2	2	**IZS**	2	2	1	1	1	1	1	0	0	0	0	0	1	1	2	6	8	10	14	14	2.7	24
29	15	15	14	**IZS**	11	8	8	6	5	3	1	1	2	3	2	2	2	1	3	1	3	4	13	13	15	5.9	24
30	6	5	**IZS**	6	7	11	7	7	5	2	2	1	1	1	1	2	1	2	2	2	3	4	4	4	11	3.7	24
HOURLY MAX	25	19	15	16	19	11	12	12	6	5	3	3	2	3	2	2	2	4	4	8	13	14	18	24			
HOURLY AVG	7.1	6.2	6.1	5.9	6.8	5.7	4.6	3.6	2.5	1.9	1.3	1.0	0.9	1.0	0.8	0.8	0.8	1.1	1.5	2.7	3.4	5.0	6.8	7.7			

STATUS FLAG CODES

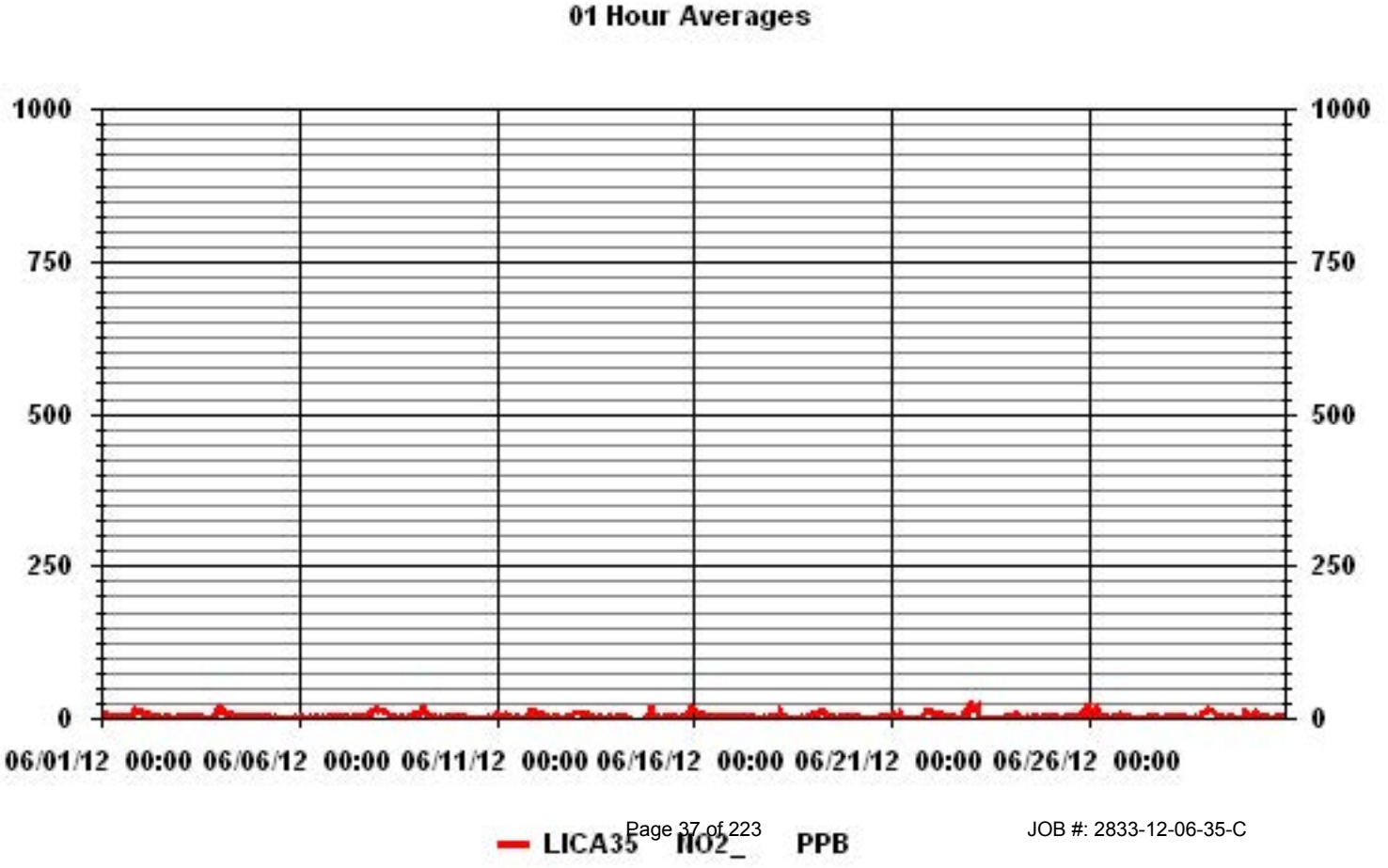
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	595					
MAXIMUM 1-HR AVERAGE:	25	PPB	@ HOUR(S)	0	ON DAY(S)	23
MAXIMUM 24-HR AVERAGE:	6.0	PPB			ON DAY(S)	22
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	9	HRS	AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	4.03		MONTHLY AVERAGE:		3.57	PPB



JOB #: 2833-12-06-35-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE - Elk Point Airport*

JUNE 2012

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	9	9	9	8	8	6	6	**IZS**	2	2	1	1	1	2	2	3	2	3	**42**	41	17	13	15	**42**	9.0	24
2	14	10	11	18	18	12	10	**IZS**	8	5	5	2	2	5	2	2	2	2	2	2	3	5	3	4	18	6.4	24
3	5	4	5	5	4	4	**IZS**	2	2	1	1	2	1	2	1	1	1	1	1	1	1	4	17	32	32	4.3	24
4	22	15	17	15	11	**IZS**	12	9	2	1	1	1	1	1	1	1	1	1	1	2	4	5	4	2	22	5.7	24
5	2	2	1	2	**IZS**	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	24
6	1	1	1	**IZS**	1	1	1	1	2	3	4	2	2	3	1	2	2	4	4	4	3	4	6	6	6	2.6	24
7	6	5	**IZS**	4	4	3	3	11	2	2	2	2	2	2	2	2	3	2	3	10	19	26	18	33	33	7.2	24
8	16	**IZS**	23	15	16	16	10	28	8	6	5	3	3	3	2	2	2	2	4	4	4	8	11	8	28	8.7	24
9	**IZS**	12	15	19	15	11	11	10	5	4	3	3	3	2	5	5	2	3	2	2	7	9	16	**IZS**	19	7.5	24
10	7	7	5	2	2	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	5	**IZS**	10	10	2.7	24
11	13	12	8	6	7	7	8	7	7	6	4	2	1	2	2	2	3	2	4	9	12	**IZS**	19	10	19	6.7	24
12	11	8	7	6	7	8	6	4	5	5	4	2	1	1	1	1	1	4	3	3	**IZS**	15	10	14	15	5.5	24
13	12	16	13	11	8	13	11	13	10	5	4	4	4	2	2	2	3	3	3	**IZS**	9	9	6	2	16	7.2	24
14	5	2	2	2	2	2	1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**IZS**	1	1	27	28	10	28	6.5	24
15	2	7	9	7	9	9	3	3	2	1	1	2	10	**M**	1	1	1	**IZS**	3	3	4	14	19	17	19	5.8	23
16	17	16	11	8	10	7	8	7	5	2	2	1	2	2	1	2	**IZS**	3	3	5	5	6	8	7	17	6.0	24
17	8	7	5	3	7	5	6	4	3	3	3	2	2	2	1	**IZS**	1	1	1	37	8	5	10	13	37	6.0	24
18	12	8	8	8	17	13	6	4	1	2	2	1	1	1	**IZS**	1	1	1	2	2	3	5	7	17	17	5.3	24
19	19	13	12	13	16	14	16	14	9	6	2	2	1	**IZS**	0	1	2	4	7	11	2	1	1	1	19	7.3	24
20	1	1	1	1	1	2	1	1	1	1	1	1	**IZS**	0	1	1	1	2	2	13	8	9	10	9	13	3.0	24
21	8	10	5	6	8	13	8	3	1	1	1	**IZS**	0	1	1	1	1	1	1	9	18	22	20	18	22	6.8	24
22	14	12	13	9	9	10	10	8	7	4	**IZS**	1	1	1	1	1	2	3	3	6	13	17	16	29	29	8.3	24
23	31	26	23	20	23	18	3	3	1	**IZS**	1	1	1	1	1	1	1	1	1	1	3	10	9	12	31	8.3	24
24	7	9	8	7	13	7	7	4	**IZS**	2	2	1	1	2	2	2	2	9	4	6	5	4	4	4	13	4.9	24
25	4	5	5	8	4	5	5	**IZS**	3	2	2	2	1	2	2	2	2	2	12	13	3	9	22	31	31	6.3	24
26	22	11	10	20	28	17	**IZS**	7	2	2	1	1	2	3	3	3	3	2	7	11	8	13	3	5	28	8.0	24
27	12	14	5	1	1	**IZS**	1	1	4	4	4	3	3	1	2	2	2	2	4	4	3	1	8	9	14	4.0	24
28	7	3	3	2	**IZS**	3	3	2	2	2	1	1	1	1	1	1	1	2	3	6	14	19	14	22	22	5.0	24
29	22	21	16	**IZS**	13	11	9	8	6	4	3	3	5	5	5	4	3	3	8	1	10	9	20	18	22	9.0	24
30	9	13	**IZS**	8	9	13	10	10	7	4	2	2	2	2	2	3	3	3	4	4	6	6	6	6	13	5.8	24
HOURLY MAX	31	26	23	20	28	18	16	28	10	6	8	4	10	5	5	5	3	9	12	42	41	27	28	33			
HOURLY AVG	10.8	9.6	9.0	8.4	9.7	8.4	6.4	6.2	4.0	2.9	2.6	1.8	2.0	1.9	1.7	1.8	1.8	2.4	3.3	7.4	7.6	9.8	11.3	12.6			

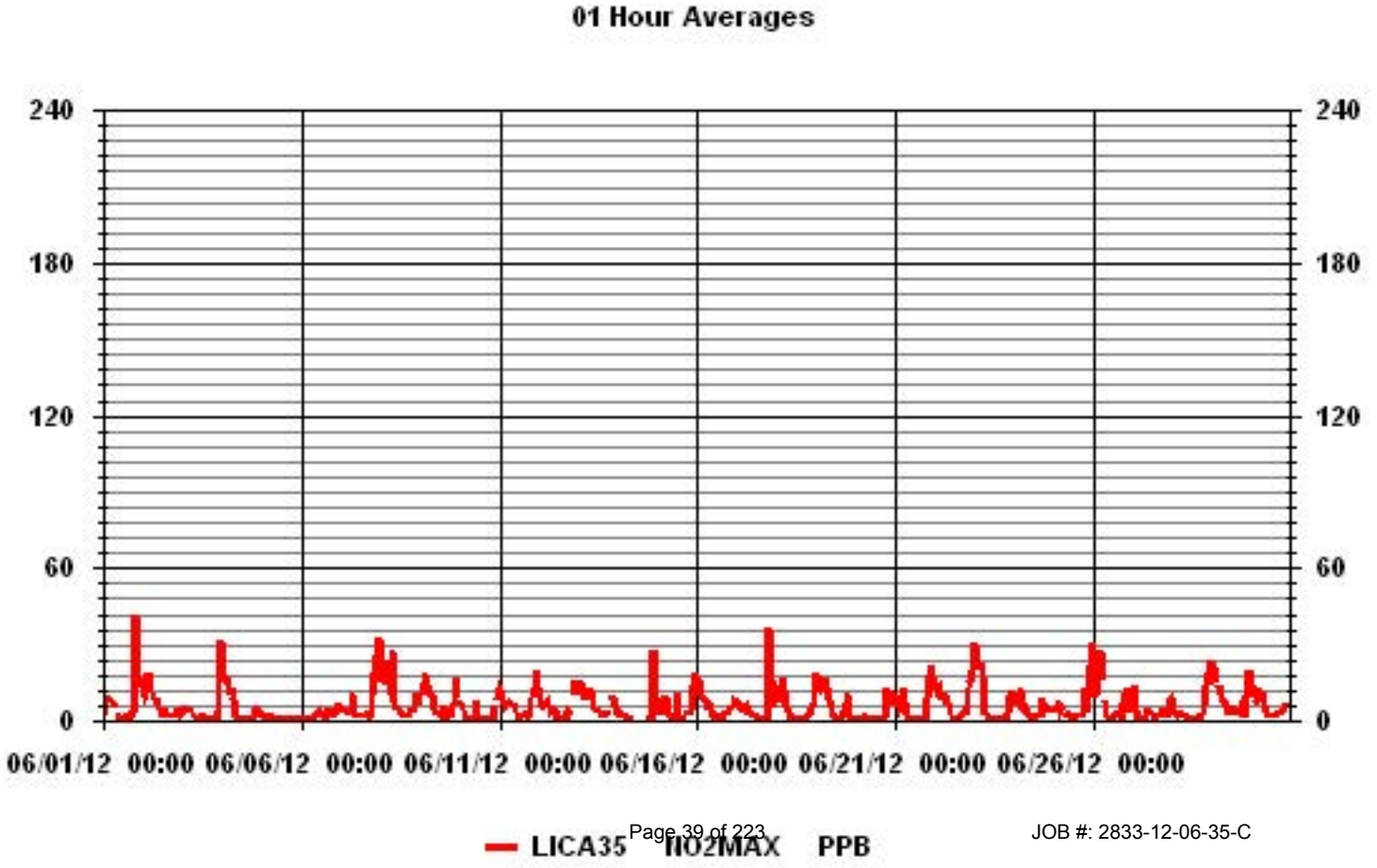
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	675					
MAXIMUM INSTANTANEOUS VALUE:	42	PPB	@ HOUR(S)	19	ON DAY(S)	1
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	10	HRS				
STANDARD DEVIATION:	6.33					

JOB #: 2833-12-06-35-C



JOB #: 2833-12-06-35-C

LICA-ELK
NO2_ / WDR Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
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	5.00	2.79	1.62	2.06	12.07	10.45	10.89	4.71	4.41	2.06	2.20	2.94	6.48	10.30	11.19	10.75	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	5.00	2.79	1.62	2.06	12.07	10.45	10.89	4.71	4.41	2.06	2.20	2.94	6.48	10.30	11.19	10.75	

Calm : .00 %

Total # Operational Hours : 679

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	34	19	11	14	82	71	74	32	30	14	15	20	44	70	76	73	679
< 110																	
< 210																	
>= 210																	
Totals	34	19	11	14	82	71	74	32	30	14	15	20	44	70	76	73	

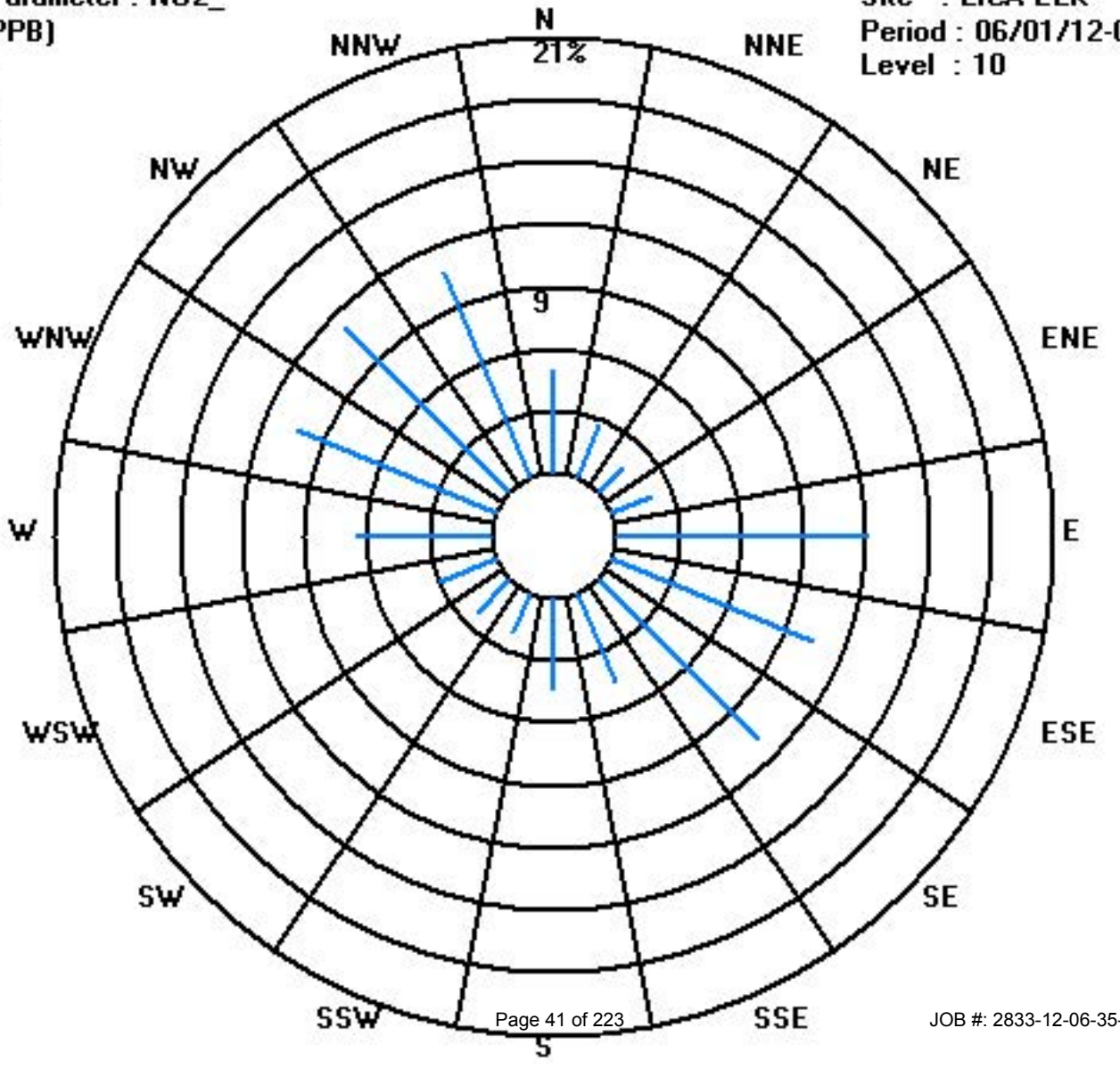
Calm : .00 %

Total # Operational Hours : 679

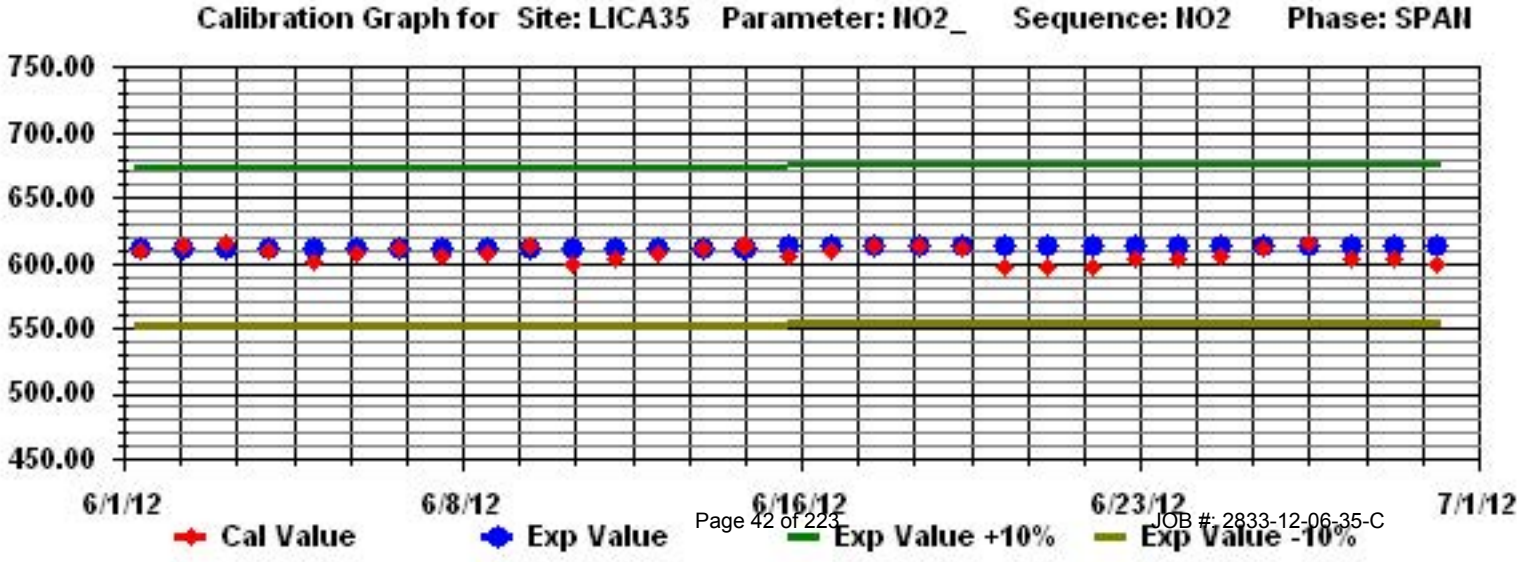
Logger : 35 Parameter : NO2_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA-ELK
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-35-C


Calibration Graph for Site: LICA35 Parameter: NO2_ Sequence: NO2 Phase: SPAN
750.00
700.00
650.00
600.00
550.00
500.00
450.00
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2012

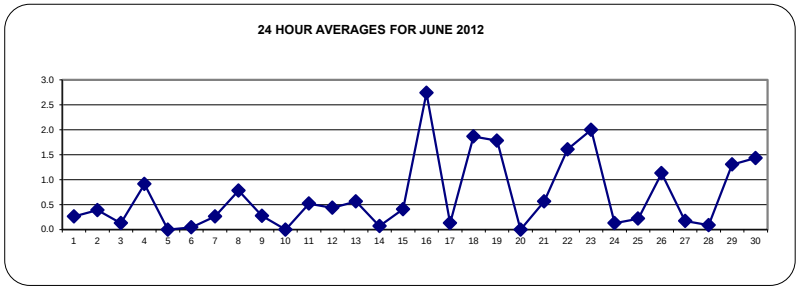
NITRIC OXIDE hourly averages in ppb

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	1	1	2	**IZS**	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0.3	24
2	0	0	0	1	1	2	2	**IZS**	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4	24
3	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0.1	24
4	2	1	1	3	3	**IZS**	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0.9	24
5	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.0	24
7	0	0	**IZS**	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0.3	24
8	0	**IZS**	1	1	3	4	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.8	24
9	**IZS**	0	0	0	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	2	0.3	24
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0.0	24
11	1	0	0	0	1	1	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0	3	0.5	24
12	0	0	0	0	0	1	2	2	2	2	1	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	2	0.4	24
13	0	0	0	0	0	2	2	3	2	1	1	1	1	0	0	0	0	0	0	**IZS**	0	0	0	0	3	0.6	24
14	0	0	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**IZS**	0	0	0	1	0	1	0.1	24
15	0	0	0	1	0	0	0	0	0	0	0	0	0	**M**	0	0	0	**IZS**	0	0	0	1	4	3	4	0.4	23
16	5	14	1	0	10	15	10	6	2	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	15	**2.7**	24
17	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	**IZS**	0	0	0	1	0	0	0	0	1	0.1	24
18	0	0	1	0	**25**	12	3	2	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	**25**	1.9	24
19	0	0	0	0	2	3	17	13	3	2	0	0	0	**IZS**	0	0	0	0	0	1	0	0	0	0	17	1.8	24
20	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	0	0	0	0	1	7	2	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	1	1	1	0	7	0.6	24
22	1	1	1	1	5	10	7	5	2	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	3	10	1.6	24
23	15	4	0	11	14	2	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	2.0	24
24	0	0	0	0	0	0	1	1	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
25	0	0	0	0	0	1	1	**IZS**	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0.2	24
26	0	0	0	2	17	6	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	1.1	24
27	0	0	0	0	0	**IZS**	0	0	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0.2	24
28	0	0	0	0	**IZS**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
29	0	0	1	**IZS**	7	8	6	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1.3	24
30	0	0	**IZS**	0	1	18	6	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	1.4	24
HOURLY MAX	15	14	1	11	25	18	17	13	3	2	1	1	1	1	0	0	0	0	1	1	1	1	4	3			
HOURLY AVG	0.8	0.7	0.2	0.7	3.3	3.5	2.8	1.9	0.9	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.4			

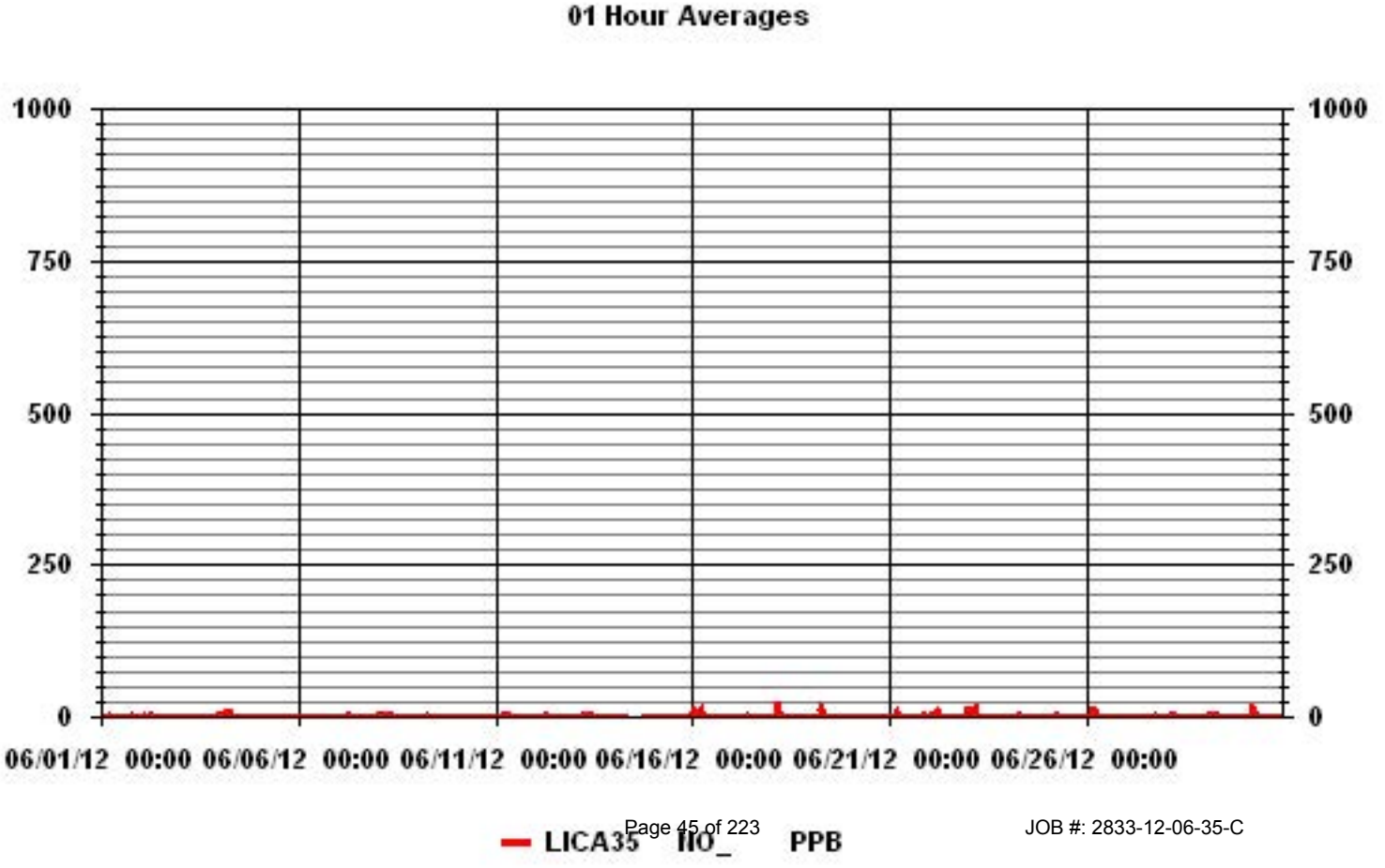
STATUS FLAG CODES

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:	142						
MAXIMUM 1-HR AVERAGE:	25	PPB	@ HOUR(S)	4	ON DAY(S)	18	
MAXIMUM 24-HR AVERAGE:	2.7	PPB			ON DAY(S)	16	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		719	HRS	
MONTHLY CALIBRATION TIME:	9	HRS	AMD OPERATION UPTIME:		99.9	%	
STANDARD DEVIATION:	2.33		MONTHLY AVERAGE:		0.68	PPB	



JOB #: 2833-12-06-35-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE - Elk Point Airport*

JUNE 2012

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

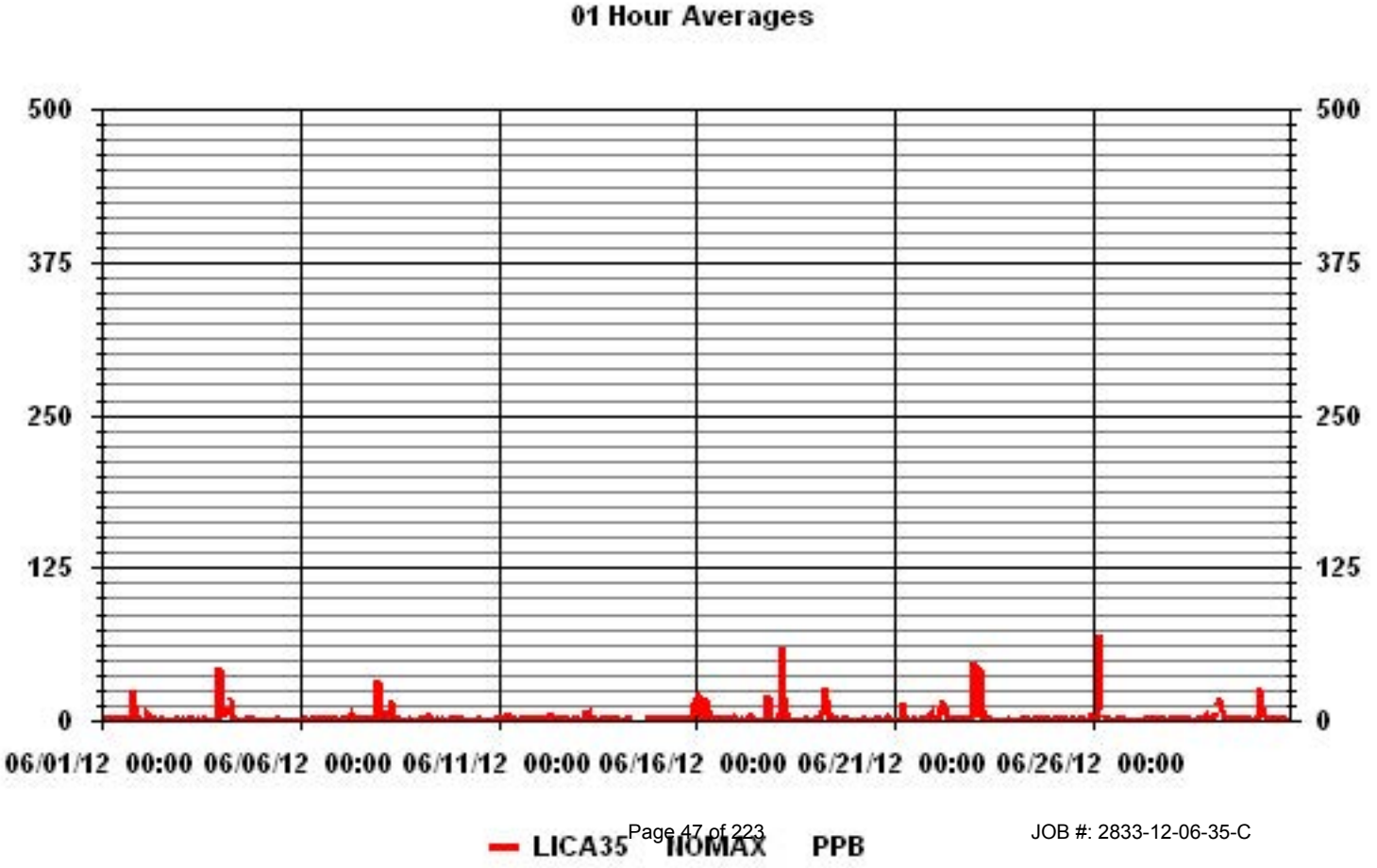
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	1	1	1	2	2	2	**IZS**	1	1	0	1	1	1	1	1	0	1	24	15	1	1	1	24	2.6	24
2	0	1	0	7	6	5	4	**IZS**	3	2	1	0	1	1	0	0	0	0	0	0	0	1	1	0	7	1.4	24
3	0	1	1	0	1	1	**IZS**	1	1	0	1	1	0	1	1	1	0	0	0	0	0	0	1	43	43	2.4	24
4	8	4	4	8	8	**IZS**	16	6	1	1	0	0	0	1	0	0	1	1	1	1	1	0	0	0	16	2.7	24
5	0	0	0	0	**IZS**	1	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0.2	24
6	0	0	0	**IZS**	1	1	0	1	1	1	1	1	1	2	1	1	0	1	1	1	1	1	1	0	2	0.8	24
7	0	0	**IZS**	1	1	2	2	5	1	1	1	1	1	1	1	1	1	1	1	1	2	4	2	33	33	2.8	24
8	1	**IZS**	3	2	6	7	4	16	2	2	2	1	1	0	0	0	0	0	1	1	0	0	0	0	16	2.1	24
9	**IZS**	1	2	1	2	4	3	3	2	1	0	1	1	0	1	1	0	0	0	0	2	0	0	**IZS**	4	1.1	24
10	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	**IZS**	2	2	0.3	24
11	2	1	1	1	1	2	4	5	3	2	2	1	0	1	1	1	1	1	1	1	2	**IZS**	2	1	5	1.6	24
12	1	1	1	1	1	2	3	3	3	3	2	1	0	1	1	1	0	1	1	0	**IZS**	1	2	3	3	1.4	24
13	1	1	1	2	1	5	5	7	4	2	2	2	2	1	1	1	1	1	1	**IZS**	2	1	1	1	7	2.0	24
14	2	0	0	0	0	1	1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**IZS**	1	1	2	3	1	3	1.0	24
15	0	1	1	2	2	2	1	1	1	1	1	1	1	**M**	1	1	0	**IZS**	1	1	1	4	12	12	12	2.2	23
16	18	22	6	2	15	18	11	9	4	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	0	3	22	5.2	24
17	1	0	0	0	1	1	2	1	1	3	3	1	0	0	0	**IZS**	1	0	0	20	1	2	2	0	20	1.7	24
18	0	0	4	1	59	20	6	4	1	1	0	0	0	1	**IZS**	1	0	1	1	1	0	1	0	1	59	4.5	24
19	2	1	2	1	6	7	26	18	8	4	1	1	1	**IZS**	1	0	1	1	2	2	0	0	0	0	26	3.7	24
20	0	0	0	0	0	1	1	1	0	0	0	0	**IZS**	1	1	1	0	1	0	3	1	1	0	1	3	0.6	24
21	0	1	0	0	2	14	6	2	1	1	0	**IZS**	1	1	0	0	1	1	1	2	3	3	6	1	14	2.0	24
22	3	2	3	5	10	15	10	8	4	1	**IZS**	1	1	1	0	1	1	1	1	2	1	1	1	8	15	3.5	24
23	47	11	2	40	40	9	1	1	0	**IZS**	1	1	0	0	0	0	0	1	0	0	0	1	1	0	47	6.8	24
24	0	0	0	0	1	1	1	1	**IZS**	2	1	0	1	1	1	1	1	2	1	1	1	1	0	0	2	0.8	24
25	0	1	1	1	1	2	2	**IZS**	2	1	0	1	1	1	0	0	1	1	1	1	0	0	2	6	6	1.1	24
26	1	1	0	8	**70**	21	**IZS**	3	1	1	1	0	0	0	0	1	1	0	1	1	0	1	0	0	**70**	4.9	24
27	0	1	0	0	0	**IZS**	1	0	2	2	2	1	1	1	1	1	1	1	1	1	1	0	1	1	2	0.9	24
28	2	0	0	0	**IZS**	1	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1	4	1	2	4	1.0	24
29	2	4	4	**IZS**	16	15	10	6	4	3	1	1	1	1	1	1	1	1	2	0	1	1	1	1	16	3.4	24
30	0	1	**IZS**	1	4	27	10	8	6	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	27	3.0	24
HOURLY MAX	47	22	6	40	70	27	26	18	8	4	3	2	2	2	1	1	1	2	2	24	15	4	12	43			
HOURLY AVG	3.2	2.0	1.4	3.0	9.1	6.7	4.8	4.1	2.1	1.4	1.0	0.8	0.7	0.8	0.6	0.7	0.6	0.7	0.8	2.3	1.3	1.1	1.4	4.2			

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:	485					
MAXIMUM INSTANTANEOUS VALUE:	70	PPB	@ HOUR(S)	4	ON DAY(S)	26
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	10	HRS				
STANDARD DEVIATION:	5.85					



JOB #: 2833-12-06-35-C

LICA-ELK
NO_ / WDR Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
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	5.00	2.79	1.62	2.06	12.07	10.45	10.89	4.71	4.41	2.06	2.20	2.94	6.48	10.30	11.19	10.75	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	5.00	2.79	1.62	2.06	12.07	10.45	10.89	4.71	4.41	2.06	2.20	2.94	6.48	10.30	11.19	10.75	

Calm : .00 %

Total # Operational Hours : 679

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	34	19	11	14	82	71	74	32	30	14	15	20	44	70	76	73	679
< 110																	
< 210																	
>= 210																	
Totals	34	19	11	14	82	71	74	32	30	14	15	20	44	70	76	73	

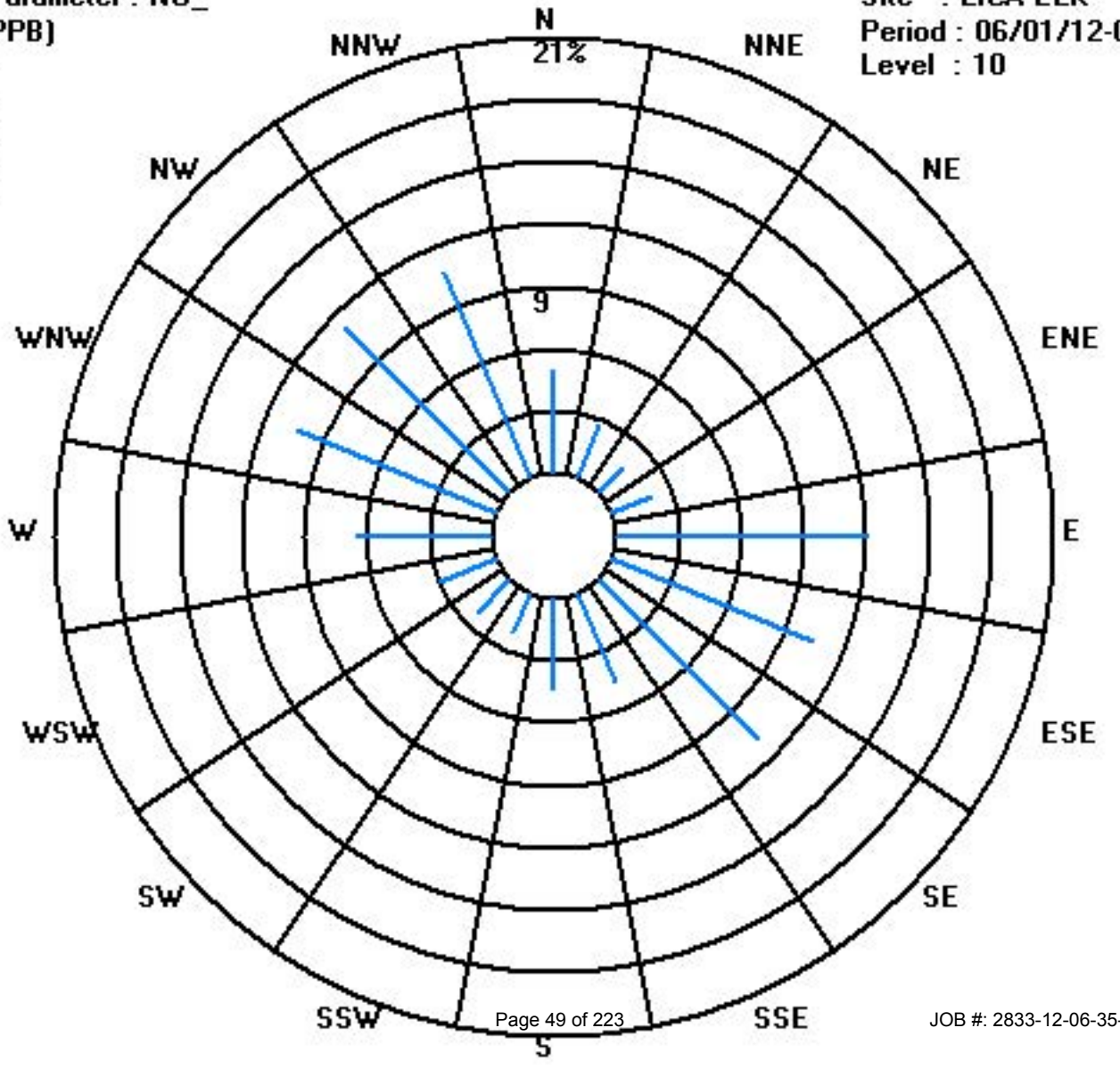
Calm : .00 %

Total # Operational Hours : 679

Logger : 35 Parameter : NO_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA-ELK
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-35-C

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

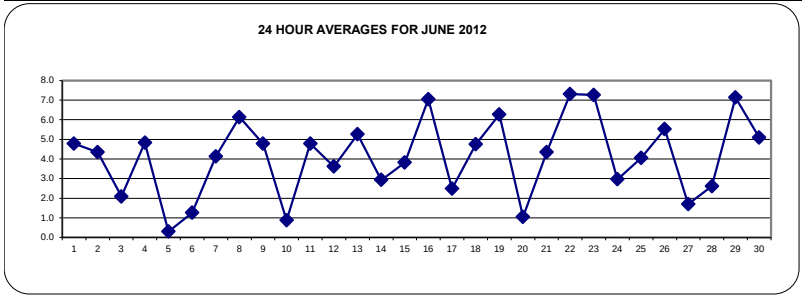
JUNE 2012

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	3	5	8	7	6	8	6	6	**IZS**	1	1	0	0	0	1	1	1	1	1	9	14	10	9	12	14	4.8	24
2	11	8	9	10	11	10	9	**IZS**	8	5	3	1	1	2	1	1	1	1	1	1	1	2	1	2	11	4.3	24
3	3	2	3	2	2	1	**IZS**	2	1	0	1	1	0	1	1	0	0	0	0	0	1	2	9	16	16	2.1	24
4	20	14	14	14	12	**IZS**	19	5	1	0	0	0	1	1	0	0	0	1	1	1	2	2	2	1	20	4.8	24
5	1	1	0	1	**IZS**	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	0	**IZS**	0	0	0	1	1	2	1	1	1	2	1	1	1	2	2	2	2	2	4	3	4	1.3	24
7	3	3	**IZS**	3	3	3	3	3	2	1	1	1	1	1	1	1	1	1	2	6	9	15	13	18	18	4.1	24
8	13	**IZS**	15	13	14	15	10	10	8	6	4	2	1	2	1	1	1	1	2	3	2	4	6	7	15	6.1	24
9	**IZS**	8	11	16	13	11	8	6	4	2	2	2	2	1	2	2	0	1	1	1	3	4	5	**IZS**	16	4.8	24
10	2	3	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	**IZS**	6	6	0.9	24
11	9	8	5	5	5	7	8	5	6	6	3	1	1	1	1	1	2	1	2	4	9	**IZS**	13	7	13	4.8	24
12	7	6	4	4	6	7	6	5	5	5	2	1	0	0	0	0	0	1	2	1	**IZS**	7	5	9	9	3.6	24
13	9	11	10	8	7	10	11	12	7	6	3	4	3	1	1	1	2	2	1	**IZS**	3	5	3	1	12	5.3	24
14	2	1	1	1	1	1	1	1	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**IZS**	0	1	6	19	6	19	2.9	24
15	1	2	5	6	2	4	3	3	2	1	1	1	1	**M**	0	0	0	**IZS**	1	1	1	11	21	17	21	3.8	23
16	19	27	8	6	17	21	16	12	5	1	1	1	1	1	1	1	**IZS**	2	2	3	3	4	5	5	27	7.0	24
17	5	4	2	2	3	3	4	3	3	3	3	2	1	1	0	**IZS**	0	0	0	5	1	1	6	5	6	2.5	24
18	7	4	5	6	38	22	7	3	1	1	0	0	0	0	**IZS**	1	0	0	1	1	2	1	4	5	38	4.7	24
19	9	9	8	6	14	14	29	26	9	6	1	1	0	**IZS**	0	0	1	2	3	5	1	0	0	0	29	6.3	24
20	0	0	0	1	1	1	0	0	0	0	0	0	**IZS**	0	0	0	0	0	1	4	4	5	3	4	5	1.0	24
21	5	7	3	4	6	15	6	1	0	0	0	**IZS**	0	0	0	0	0	0	0	2	9	15	13	14	15	4.3	24
22	12	11	10	8	12	18	14	13	7	2	**IZS**	1	0	0	0	0	1	2	1	2	9	12	8	25	25	7.3	24
23	**39**	22	15	25	34	9	2	2	1	**IZS**	0	0	0	0	0	0	0	0	0	0	1	5	5	7	**39**	**7.3**	24
24	4	5	5	4	8	5	5	3	**IZS**	2	1	0	0	1	1	1	1	4	2	4	3	3	3	3	8	3.0	24
25	3	3	4	5	4	4	4	**IZS**	3	1	1	1	0	1	1	1	1	1	4	9	2	4	11	25	25	4.0	24
26	8	7	7	16	34	16	**IZS**	5	1	1	0	0	1	1	1	2	2	1	4	7	3	5	2	3	34	5.5	24
27	7	6	2	0	0	**IZS**	0	0	2	1	3	1	1	1	1	1	1	1	2	2	1	0	3	3	7	1.7	24
28	4	2	1	1	**IZS**	2	2	1	1	1	1	1	0	0	0	0	0	1	1	2	6	9	10	14	14	2.6	24
29	16	15	15	**IZS**	17	16	14	10	7	4	1	2	2	3	2	2	2	1	3	0	3	3	13	13	17	7.1	24
30	6	5	**IZS**	6	9	29	13	12	8	2	1	1	1	1	1	1	1	2	1	2	3	4	4	4	29	5.1	24
HOURLY MAX	39	27	15	25	38	29	29	26	9	6	4	4	3	3	2	2	2	4	4	9	14	15	21	25			
HOURLY AVG	7.9	6.9	6.1	6.5	10.0	9.1	7.2	5.4	3.3	2.1	1.3	0.9	0.7	0.8	0.6	0.7	0.7	1.0	1.4	2.7	3.4	4.9	6.9	8.1			

STATUS FLAG CODES

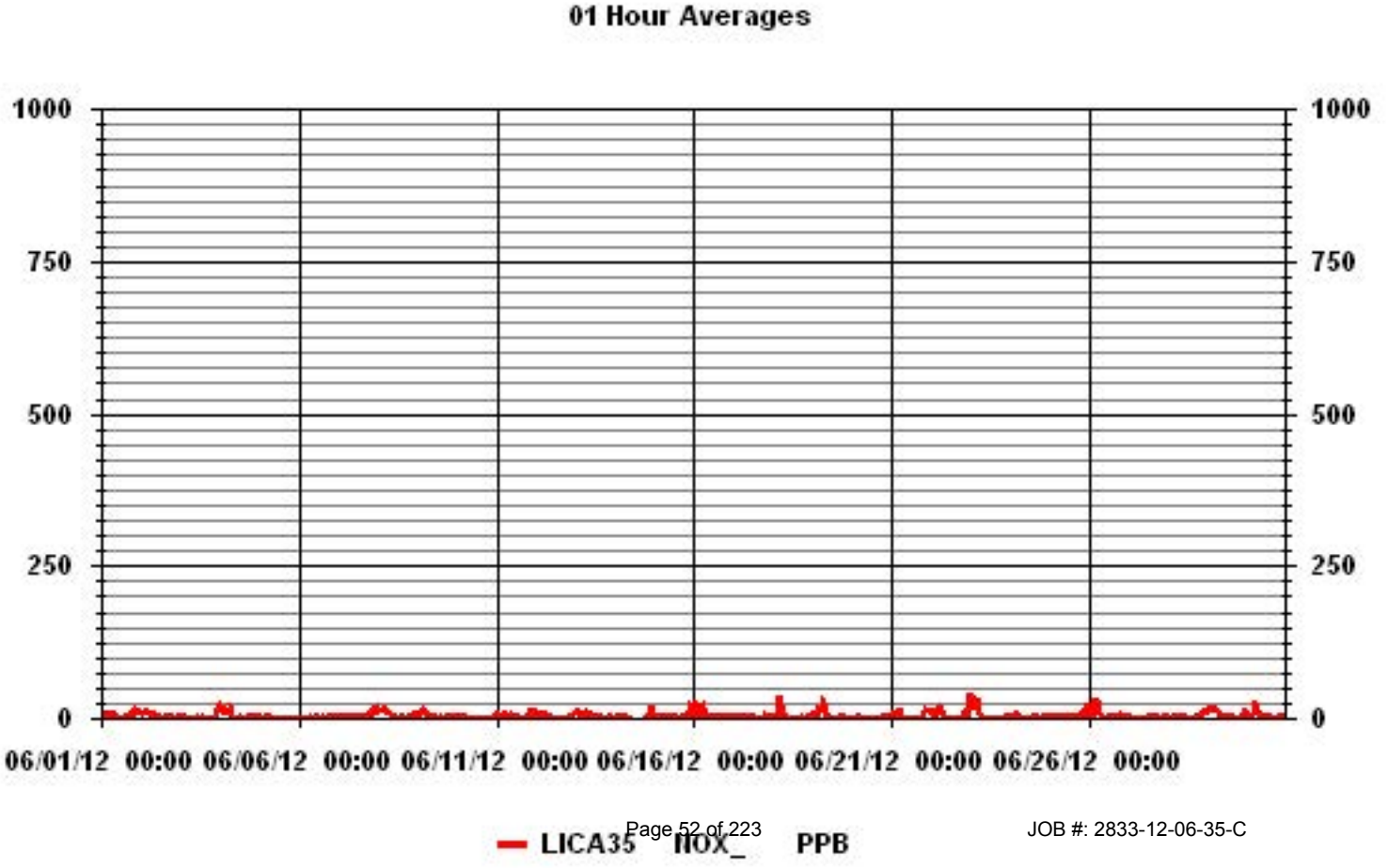
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	547					
MAXIMUM 1-HR AVERAGE:	39	PPB	@ HOUR(S)	0	ON DAY(S)	23
MAXIMUM 24-HR AVERAGE:	7.3	PPB			ON DAY(S)	23
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	9	HRS	AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	5.58		MONTHLY AVERAGE:		4.13	PPB

JOB #: 2833-12-06-35-C



JOB #: 2833-12-06-35-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE - Elk Point Airport*

JUNE 2012

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

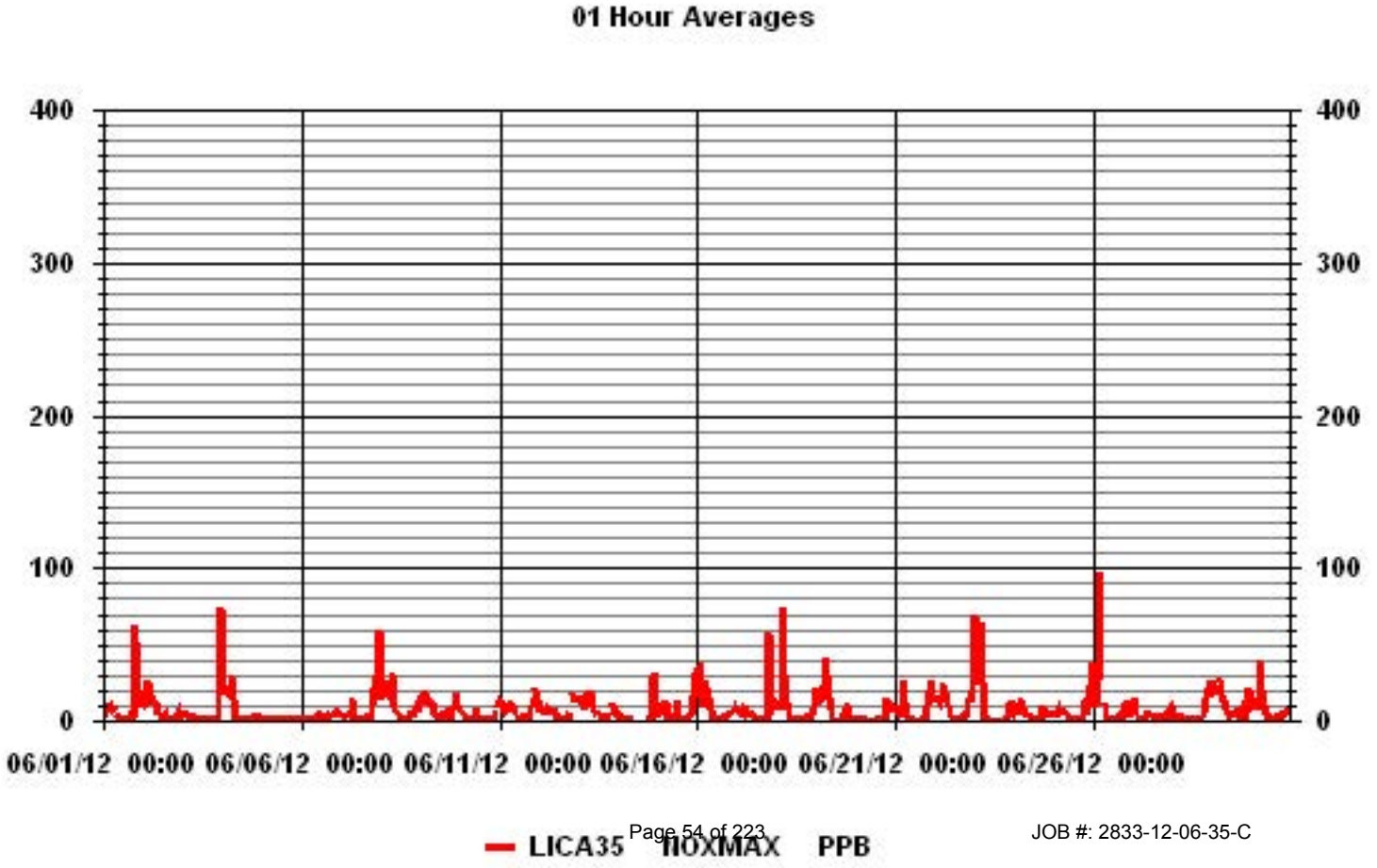
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	4	9	9	9	8	10	7	8	**IZS**	3	2	1	1	1	2	2	4	2	3	63	53	17	14	16	63	10.8	24
2	13	10	11	24	24	17	13	**IZS**	11	6	5	2	3	5	2	1	2	1	2	2	3	6	3	4	24	7.4	24
3	5	4	5	4	3	4	**IZS**	3	2	1	1	2	1	2	1	1	1	1	1	1	1	4	17	74	74	6.0	24
4	29	19	19	23	18	**IZS**	27	15	2	1	1	1	1	1	1	1	1	1	1	2	3	4	3	2	29	7.7	24
5	2	2	1	1	**IZS**	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24
6	1	1	1	**IZS**	1	1	1	2	2	4	5	2	2	5	1	2	2	5	4	4	4	4	6	6	6	2.9	24
7	5	4	**IZS**	4	5	5	4	14	3	2	2	2	2	2	2	2	3	2	4	11	21	29	19	60	60	9.0	24
8	16	**IZS**	25	15	20	20	13	31	10	8	6	3	3	2	2	2	2	2	4	4	4	8	11	8	31	9.5	24
9	**IZS**	12	17	20	16	13	14	13	6	4	2	3	3	2	5	6	1	3	1	1	8	9	16	**IZS**	20	8.0	24
10	8	7	5	2	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	5	**IZS**	11	11	2.7	24
11	14	13	8	6	7	9	11	12	10	8	5	2	1	2	3	2	3	2	4	9	13	**IZS**	19	10	19	7.5	24
12	11	8	7	6	7	9	8	6	6	7	5	2	1	1	1	1	1	4	3	3	**IZS**	16	12	16	16	6.1	24
13	12	16	13	12	8	18	15	19	14	7	5	6	5	2	3	2	3	3	3	**IZS**	10	10	6	2	19	8.4	24
14	6	1	2	1	1	1	1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**IZS**	1	1	29	31	10	31	6.6	24
15	2	7	9	8	11	11	3	3	3	1	1	2	11	**M**	1	1	0	**IZS**	3	4	5	17	31	28	31	7.4	23
16	34	35	16	9	23	24	18	16	8	2	2	2	2	2	1	3	**IZS**	3	4	5	5	6	8	10	35	10.3	24
17	8	7	5	2	7	5	7	4	4	5	5	3	1	1	1	**IZS**	1	1	1	57	8	7	10	13	57	7.1	24
18	12	8	11	8	74	32	13	8	1	1	1	0	1	1	**IZS**	1	1	1	3	3	3	6	6	19	74	9.3	24
19	21	13	13	14	21	20	41	32	17	9	2	2	1	**IZS**	1	0	2	4	8	12	2	1	1	1	41	10.3	24
20	1	1	1	1	1	2	1	1	0	0	0	0	**IZS**	1	1	0	1	2	2	15	8	9	9	9	15	2.9	24
21	8	10	4	5	9	26	13	4	0	1	1	**IZS**	1	0	0	0	1	1	1	10	20	23	26	18	26	7.9	24
22	15	14	15	13	17	24	20	16	11	4	**IZS**	1	1	1	1	1	2	4	3	7	14	17	16	36	36	11.0	24
23	70	36	24	60	61	27	3	3	1	**IZS**	1	0	0	0	0	0	0	0	0	1	2	11	8	12	70	13.9	24
24	7	9	8	7	14	8	8	5	**IZS**	4	2	1	1	2	1	2	2	9	4	7	6	4	4	4	14	5.2	24
25	4	5	5	8	5	6	7	**IZS**	4	2	2	2	1	1	1	2	2	2	13	14	3	9	23	37	37	6.9	24
26	23	12	10	27	**97**	37	**IZS**	10	2	1	1	1	1	2	2	3	3	2	7	11	7	13	2	5	**97**	12.1	24
27	12	14	5	1	1	**IZS**	1	1	5	6	5	4	3	2	3	2	2	3	4	5	4	1	8	10	14	4.4	24
28	8	3	3	2	**IZS**	3	3	2	2	2	1	2	1	1	1	1	1	1	3	6	15	22	15	24	24	5.3	24
29	24	23	20	**IZS**	27	26	18	14	9	6	3	4	5	5	6	4	3	3	9	1	10	9	21	18	27	11.7	24
30	9	14	**IZS**	9	12	39	21	16	12	5	3	1	2	2	2	3	3	3	4	4	5	6	6	6	39	8.1	24
HOURLY MAX	70	36	25	60	97	39	41	32	17	9	8	6	11	5	6	6	4	9	13	63	53	29	31	74			
HOURLY AVG	13.2	10.9	9.7	10.8	17.8	14.3	10.5	9.3	5.4	3.6	2.8	1.9	2.0	1.8	1.7	1.7	1.8	2.4	3.5	9.1	8.3	10.4	12.1	16.2			

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:	658					
MAXIMUM INSTANTANEOUS VALUE:	97	PPB	@ HOUR(S)	4	ON DAY(S)	26
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	10	HRS				
STANDARD DEVIATION:	10.47					



JOB #: 2833-12-06-35-C

LICA-ELK
NOX_ / WDR Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
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	5.00	2.79	1.62	2.06	12.07	10.45	10.89	4.71	4.41	2.06	2.20	2.94	6.48	10.30	11.19	10.75	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	5.00	2.79	1.62	2.06	12.07	10.45	10.89	4.71	4.41	2.06	2.20	2.94	6.48	10.30	11.19	10.75	

Calm : .00 %

Total # Operational Hours : 679

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	34	19	11	14	82	71	74	32	30	14	15	20	44	70	76	73	679
< 110																	
< 210																	
>= 210																	
Totals	34	19	11	14	82	71	74	32	30	14	15	20	44	70	76	73	

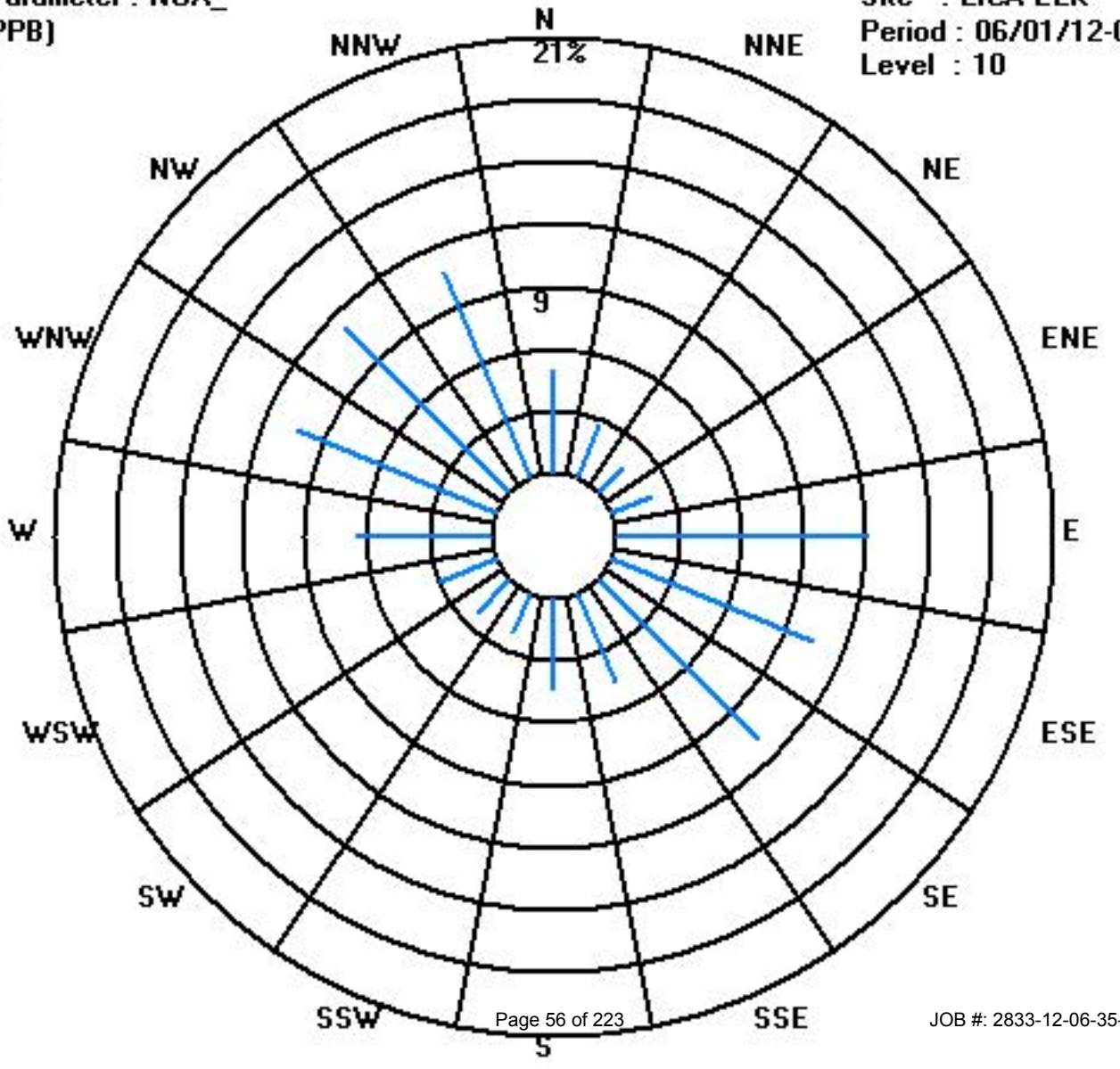
Calm : .00 %

Total # Operational Hours : 679

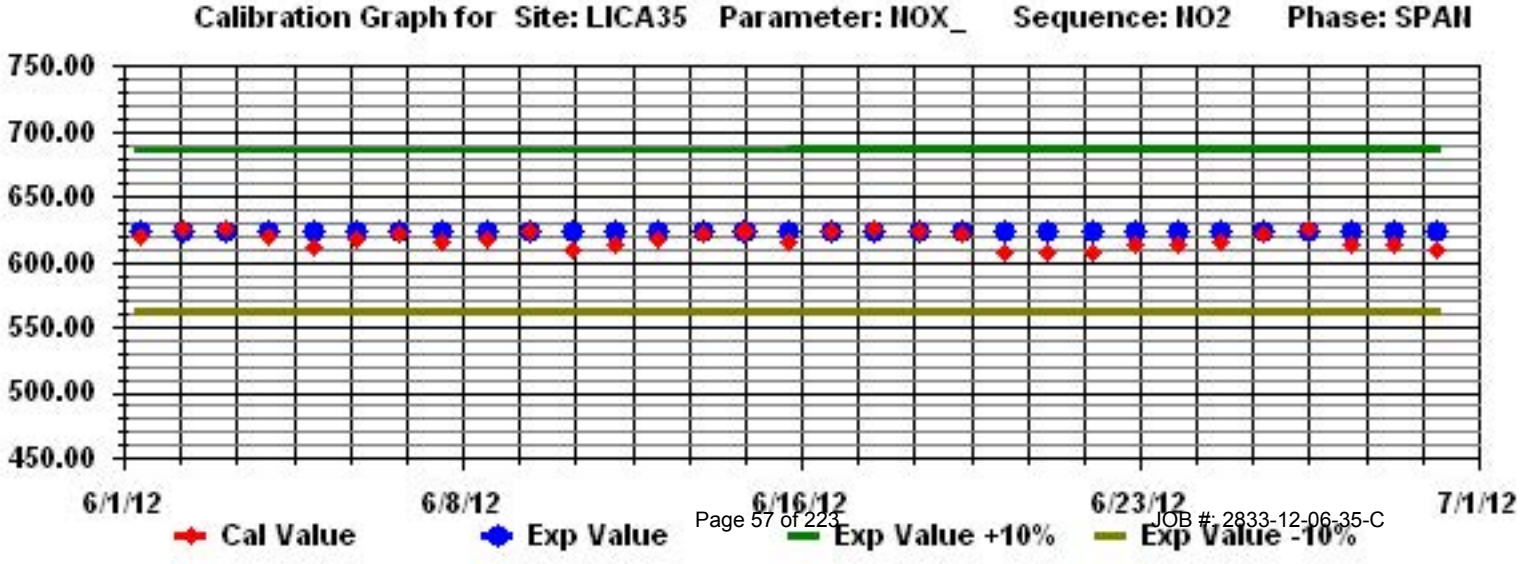
Logger : 35 Parameter : NOX_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA-ELK
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-35-C


Calibration Graph for Site: LICA35 Parameter: NOX_ Sequence: NO2 Phase: SPAN
750.00
700.00
650.00
600.00
550.00
500.00
450.00
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Poinr Airport

JUNE 2012

OZONE (O_3) hourly averages in ppb

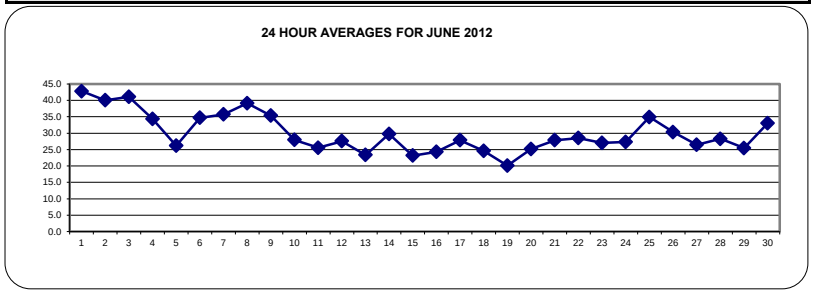
MST

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	34	30	26	25	26	25	28	30	**IZS**	50	54	57	57	58	61	61	60	59	59	46	38	35	35	30	61	**42.8**	24
2	29	27	22	19	17	19	28	**IZS**	37	47	54	52	54	55	56	55	54	51	48	41	36	39	45	35	56	40.0	24
3	31	31	30	32	35	38	**IZS**	44	49	52	50	47	48	48	50	51	51	49	48	45	41	36	25	13	52	41.0	24
4	7	6	7	4	7	**IZS**	13	27	37	42	45	47	49	49	50	50	51	52	50	47	41	37	36	35	52	34.3	24
5	29	24	22	21	**IZS**	23	23	22	23	24	25	27	29	29	29	31	30	29	27	28	29	27	26	25	31	26.2	24
6	24	23	24	**IZS**	29	29	30	30	29	29	36	39	42	42	40	41	43	45	46	46	39	35	30	26	46	34.7	24
7	25	26	**IZS**	24	25	24	26	29	30	34	38	42	45	48	48	48	50	52	53	47	38	26	24	19	53	35.7	24
8	17	**IZS**	14	11	8	16	27	26	26	31	43	54	58	62	62	62	61	60	52	45	52	44	37	31	**62**	39.1	24
9	**IZS**	25	20	12	13	13	19	30	41	48	49	46	43	44	44	48	51	49	45	40	35	31	32	**IZS**	51	35.4	24
10	40	38	34	28	23	21	19	18	20	22	27	30	32	33	32	28	28	32	32	32	32	25	**IZS**	17	40	28.0	24
11	11	13	14	13	11	10	13	22	19	19	28	33	37	39	41	41	40	40	40	37	28	**IZS**	17	22	41	25.6	24
12	20	21	23	23	19	19	19	20	21	26	35	35	35	34	35	34	35	37	43	38	**IZS**	24	21	17	43	27.6	24
13	15	14	12	7	10	11	12	11	17	23	27	28	33	38	43	46	45	39	32	**IZS**	23	17	16	18	46	23.3	24
14	18	20	18	19	19	19	21	24	28	31	35	38	42	43	41	43	46	45	**IZS**	38	34	26	14	22	46	29.7	24
15	26	27	22	19	21	20	22	22	27	30	**C**	**C**	**C**	**C**	32	33	33	**IZS**	30	30	26	12	3	5	33	23.2	24
16	3	2	8	6	1	2	6	14	21	30	34	37	39	43	43	43	**IZS**	41	40	36	33	29	25	22	43	24.3	24
17	20	20	21	21	19	19	18	19	20	21	24	29	32	35	41	**IZS**	42	43	43	35	36	35	25	22	43	27.8	24
18	17	20	18	15	3	6	14	20	26	27	27	28	32	32	**IZS**	35	36	34	32	33	32	33	25	21	36	24.6	24
19	15	15	11	13	8	7	4	6	19	23	33	35	37	**IZS**	32	32	32	29	27	22	19	17	14	13	37	20.1	24
20	12	12	12	12	12	13	15	19	24	27	30	31	**IZS**	32	33	38	40	42	39	33	31	26	25	21	42	25.2	24
21	16	14	19	16	14	9	18	27	32	34	36	**IZS**	40	41	43	45	43	43	44	39	27	17	14	9	45	27.8	24
22	7	6	4	3	2	6	11	19	30	41	**IZS**	45	46	47	49	50	51	51	50	45	35	27	24	6	51	28.5	24
23	3	9	12	8	4	16	24	30	34	**IZS**	40	40	41	40	40	39	39	38	36	32	31	25	22	19	41	27.0	24
24	20	18	17	19	14	18	19	20	**IZS**	30	37	37	38	38	39	41	41	34	30	27	24	24	21	23	41	27.3	24
25	24	21	16	15	17	21	24	**IZS**	32	40	44	46	49	50	50	48	49	49	39	31	50	43	31	14	50	34.9	24
26	30	19	14	4	2	10	**IZS**	27	36	40	46	43	43	45	49	40	38	34	31	24	27	29	34	32	49	30.3	24
27	25	25	29	34	34	**IZS**	33	29	24	21	18	21	24	29	30	31	31	30	27	25	24	25	21	19	34	26.5	24
28	18	18	20	22	**IZS**	21	23	26	26	28	29	29	31	32	33	34	34	38	41	39	34	31	26	17	41	28.3	24
29	11	8	5	**IZS**	3	4	7	12	17	27	40	42	38	34	33	38	41	45	42	42	35	29	16	16	45	25.4	24
30	21	17	**IZS**	13	8	4	13	19	32	47	53	51	49	51	52	51	51	46	41	37	33	27	23	21	53	33.0	24
HOURLY MAX	40	38	34	34	35	38	33	44	49	52	54	57	58	62	62	62	61	60	59	47	52	44	45	35			
HOURLY AVG	19.6	18.9	17.6	16.4	14.4	15.8	18.9	22.9	27.8	32.6	37.0	38.9	40.8	41.8	42.4	42.7	43.0	42.6	40.2	36.6	33.2	28.7	24.4	20.3			

STATUS FLAG CODES

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

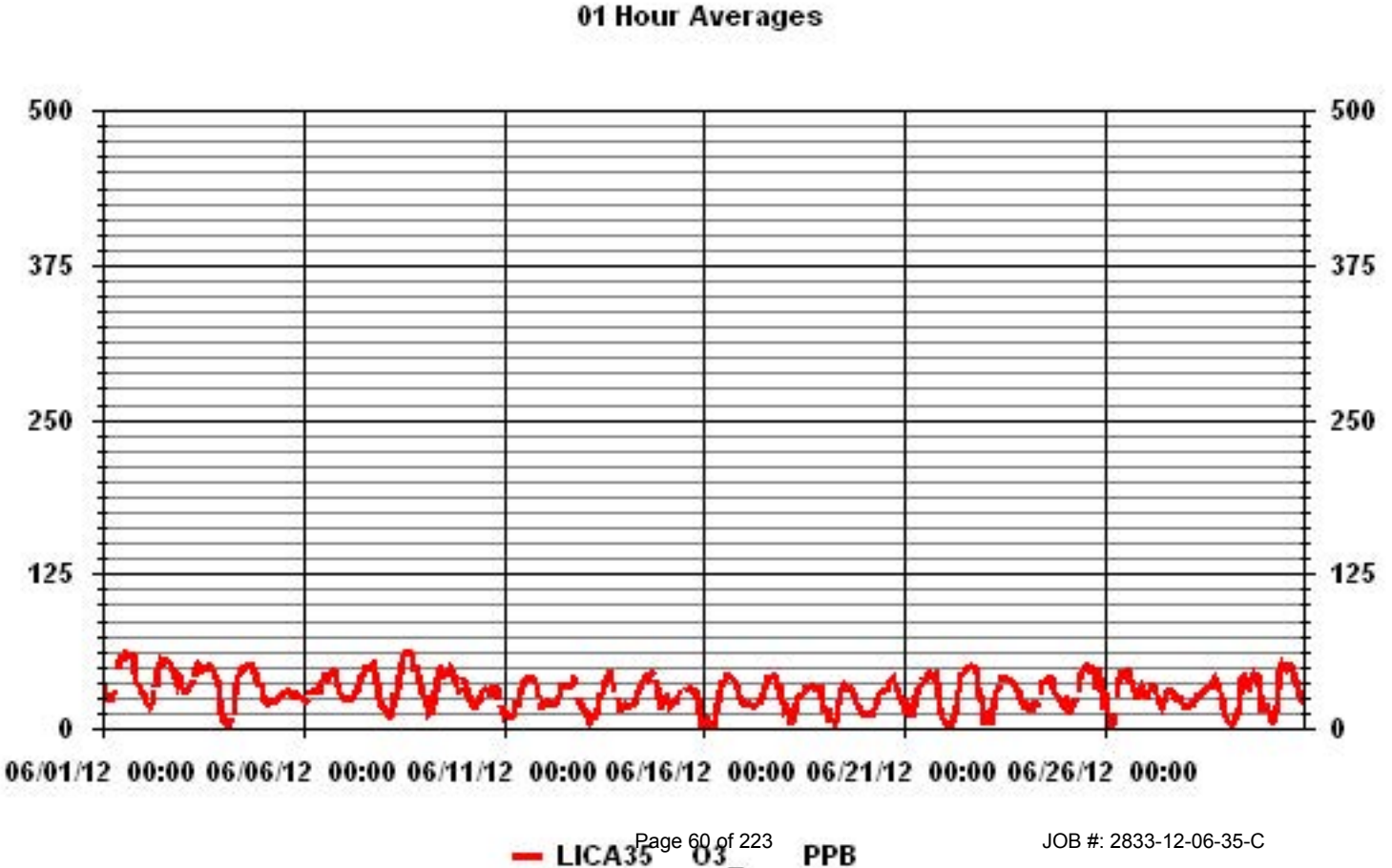
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	685					
MAXIMUM 1-HR AVERAGE:	62	PPB	@ HOUR(S)	VAR	ON DAY(S)	8
MAXIMUM 24-HR AVERAGE:	42.8	PPB			ON DAY(S)	1
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	13.17		MONTHLY AVERAGE:		29.95	PPB

JOB #: 2833-12-06-35-C



JOB #: 2833-12-06-35-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2012

OZONE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	36	33	27	28	29	28	29	36	**IZS**	54	57	58	58	60	63	63	61	61	61	60	46	41	44	35	63	46.4	24
2	35	34	29	23	23	28	33	**IZS**	45	51	56	55	56	59	58	57	56	53	51	46	40	49	48	42	59	44.7	24
3	34	34	32	35	37	41	**IZS**	47	52	53	53	49	49	49	51	52	52	51	50	48	43	40	35	19	53	43.7	24
4	20	11	11	11	12	**IZS**	19	36	43	44	47	49	50	50	51	51	52	53	53	49	44	40	38	38	53	37.9	24
5	32	26	23	22	**IZS**	24	24	23	24	25	26	29	30	30	30	33	32	31	28	30	30	29	27	26	33	27.6	24
6	25	24	25	**IZS**	29	30	31	31	31	30	38	41	44	44	42	43	45	50	52	49	43	37	34	29	52	36.8	24
7	29	29	**IZS**	26	26	26	29	30	33	36	40	44	47	49	49	50	52	53	55	53	47	35	30	28	55	39.0	24
8	19	**IZS**	20	17	12	25	29	28	30	34	53	57	61	64	64	64	62	62	59	51	54	51	46	35	**64**	43.3	24
9	**IZS**	32	26	15	17	18	25	40	48	51	51	49	46	48	47	53	54	53	48	45	39	36	37	**IZS**	54	39.9	24
10	44	43	37	31	25	22	20	20	22	25	29	32	35	34	35	30	32	33	34	35	35	31	**IZS**	24	44	30.8	24
11	14	16	16	15	14	13	21	26	25	24	32	37	39	40	42	42	41	42	41	40	34	**IZS**	22	26	42	28.8	24
12	22	25	25	25	21	21	20	22	24	29	37	37	37	36	36	36	37	42	49	42	**IZS**	30	27	23	49	30.6	24
13	19	19	22	11	12	16	17	14	25	27	30	31	38	42	45	47	47	42	37	**IZS**	27	23	18	20	47	27.3	24
14	20	21	19	20	20	20	23	28	31	33	36	41	44	44	44	45	48	47	**IZS**	41	37	35	26	27	48	32.6	24
15	29	31	26	24	25	23	24	25	29	**C**	**C**	**C**	**C**	**C**	34	34	34	**IZS**	33	33	33	24	10	10	34	26.7	24
16	9	8	14	10	2	4	10	18	30	32	36	39	42	45	45	45	**IZS**	43	42	40	35	31	28	24	45	27.5	24
17	22	21	23	23	21	21	20	21	22	22	27	34	35	39	44	**IZS**	44	45	45	44	38	38	29	27	45	30.7	24
18	22	22	21	19	9	11	16	26	28	29	28	30	33	34	**IZS**	36	37	37	35	35	35	39	30	27	39	27.8	24
19	20	19	15	21	12	11	8	10	23	32	36	37	38	**IZS**	34	33	33	32	33	27	23	18	15	14	38	23.7	24
20	13	12	12	13	13	15	16	21	29	29	34	33	**IZS**	33	35	41	42	44	42	36	34	30	26	25	44	27.3	24
21	20	20	21	18	17	13	24	29	35	36	40	**IZS**	41	42	45	47	48	44	45	45	35	29	20	17	48	31.8	24
22	10	11	9	4	3	9	15	23	36	45	**IZS**	46	47	48	50	52	52	53	52	51	42	40	31	22	53	32.7	24
23	11	21	26	19	7	22	29	33	36	**IZS**	41	43	42	42	41	40	40	40	38	35	33	32	28	22	43	31.3	24
24	23	21	19	21	19	21	21	22	**IZS**	34	39	39	39	39	42	43	43	40	33	31	26	26	23	26	43	30.0	24
25	26	23	19	18	21	22	26	**IZS**	36	45	46	48	50	51	51	49	50	51	47	49	54	50	41	26	54	39.1	24
26	36	31	18	12	4	13	**IZS**	33	38	47	48	45	46	50	52	44	42	36	40	31	34	38	40	42	52	35.7	24
27	35	33	33	36	35	**IZS**	34	32	28	22	21	24	28	32	32	32	33	32	29	28	27	26	24	23	36	29.5	24
28	23	18	21	23	**IZS**	22	26	27	28	29	30	30	52	33	34	35	36	41	43	42	38	39	34	24	52	31.7	24
29	16	12	9	**IZS**	6	5	11	16	24	37	43	43	42	37	37	40	45	47	46	45	40	35	28	21	47	29.8	24
30	26	23	**IZS**	16	14	9	17	32	45	50	54	53	50	53	53	54	54	48	45	38	37	29	28	24	54	37.0	24
HOURLY MAX	44	43	37	36	37	41	34	47	52	54	57	58	61	64	64	64	62	62	61	60	54	51	48	42			
HOURLY AVG	23.8	23.2	21.4	19.9	17.3	19.0	22.0	26.8	32.1	35.9	39.6	41.2	43.5	43.8	44.3	44.5	45.0	45.0	43.7	41.3	37.3	34.5	29.9	25.7			

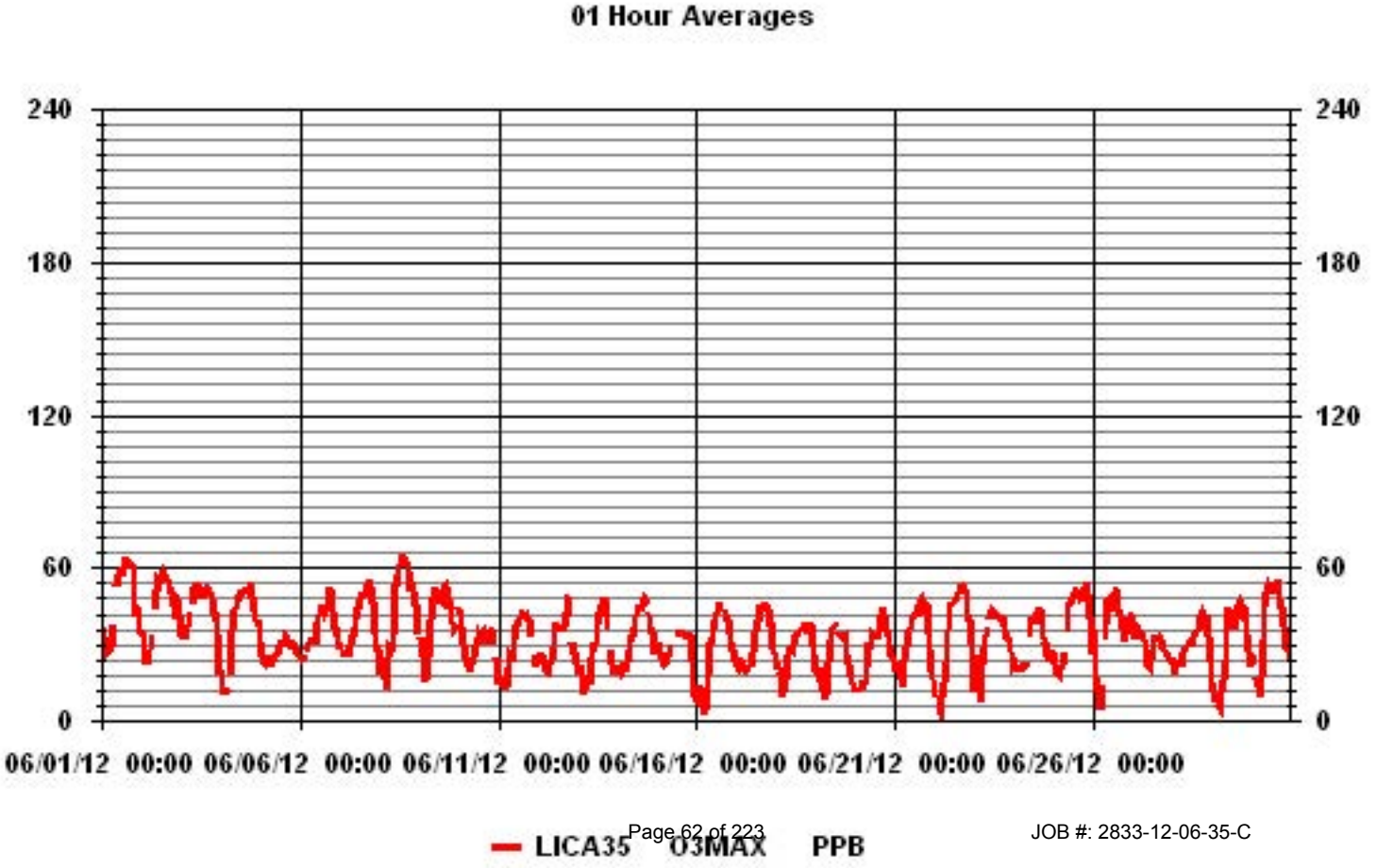
STATUS FLAG CODES

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:	684					
MAXIMUM INSTANTANEOUS VALUE:	64	PPB	@ HOUR(S)	VAR	ON DAY(S)	8
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	12.75					

JOB #: 2833-12-06-35-C



JOB #: 2833-12-06-35-C

LICA-ELK
O3_ / WDR Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : O3_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	4.67	2.33	1.02	1.89	11.38	9.92	10.21	4.37	3.35	1.02	1.89	2.62	6.13	9.19	11.24	10.80	92.11
< 110	.14	.14	.58	.14	.58	.43	.58	.29	1.02	1.02	.29	.29	.29	1.02	.43	.58	7.88
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.81	2.48	1.60	2.04	11.97	10.36	10.80	4.67	4.37	2.04	2.18	2.91	6.42	10.21	11.67	11.38	

Calm : .00 %

Total # Operational Hours : 685

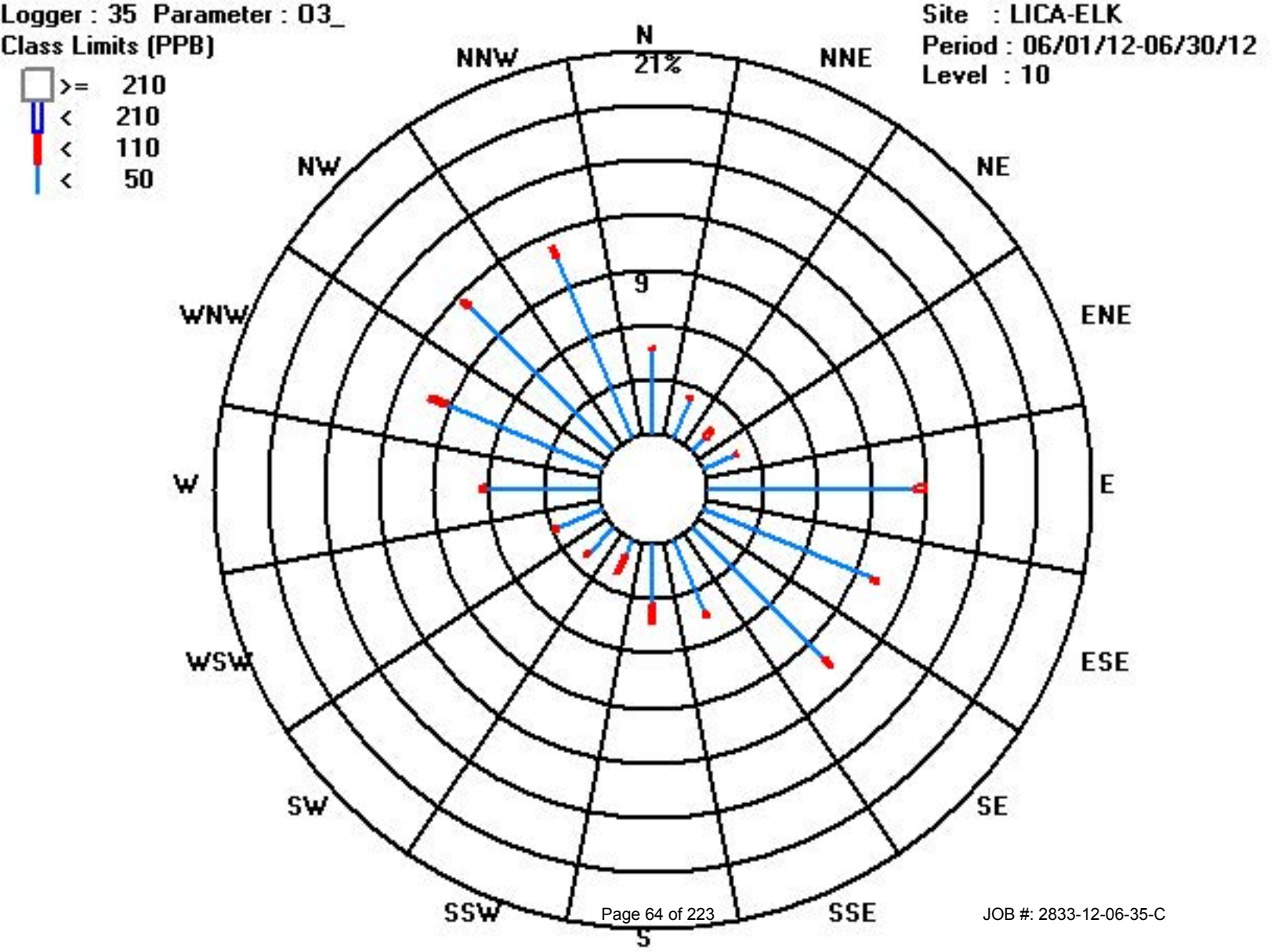
Distribution By Samples

Direction

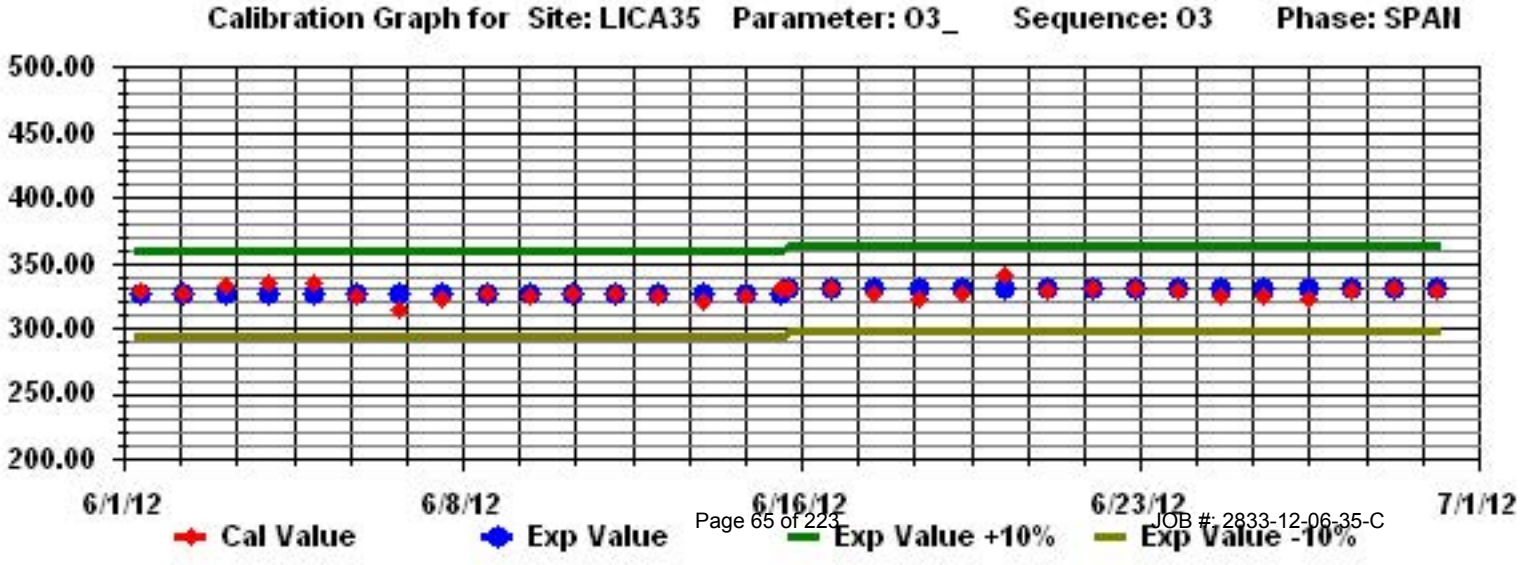
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	32	16	7	13	78	68	70	30	23	7	13	18	42	63	77	74	631
< 110	1	1	4	1	4	3	4	2	7	7	2	2	2	7	3	4	54
< 210																	
>= 210																	
Totals	33	17	11	14	82	71	74	32	30	14	15	20	44	70	80	78	

Calm : .00 %

Total # Operational Hours : 685



JOB #: 2833-12-06-35-C


Calibration Graph for Site: LICA35 Parameter: O3_ Sequence: O3 Phase: SPAN
500.00
450.00
400.00
350.00
300.00
250.00
200.00
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2012

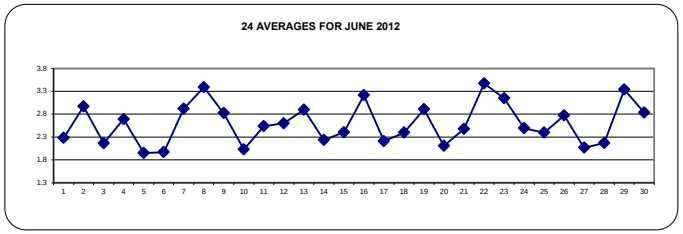
TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST

HOUR START / HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY																											
1	2.2	2.3	2.5	2.3	2.1	2.2	2.1	2	**IZS**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	3.2	3.3	3.2	4	4.0	2.3	24
2	3.9	4	4.9	4.4	5.7	5.1	4.3	**IZS**	3.6	3.1	2.5	2	2	2.1	2	2	2	2	2	2.1	2.1	2.4	2	2.1	5.7	3.0	24
3	2.1	2.1	2.1	2	2	2.1	**IZS**	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3.1	3.1	3.1	3.1	2.2	24
4	5.4	3.7	4.4	5.1	4.5	**IZS**	3.5	2.6	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.3	2.2	2.1	5.4	2.7	24
5	2.1	2	2	2	**IZS**	2	2	2	2	1.9	1.9	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	1.9	2.1	2.0	24
6	1.9	1.9	1.9	**IZS**	1.9	1.9	1.9	1.9	1.9	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.2	2.3	2.5	2.5	2.0	24
7	2.5	2.5	**IZS**	2.3	2.3	2.3	2.2	2.1	2	2	2	1.9	**M**	**C**	1.9	2	2	2	2.1	2.4	3.2	6.9	7.1	7.6	7.6	2.9	23
8	7.3	**IZS**	5.2	6.8	5.6	5.9	4.4	3.7	3.6	3.3	2.7	2.3	2.3	2.4	2.1	2.1	2.1	2	2.1	2	2	2.5	2.7	2.8	7.3	3.4	24
9	**IZS**	3.4	3.7	6.3	5.3	5	3.4	3	2.5	2.1	2.2	2.2	2	2	2	2	1.9	1.9	1.9	2	2.4	2.5	2.4	**IZS**	6.3	2.8	24
10	2.1	2.2	2.1	1.9	2	1.9	1.9	1.9	1.9	1.9	2	1.9	1.9	1.9	2	1.9	2	2	2	2	2	2.9	**IZS**	2.4	2.9	2.0	24
11	2.7	2.5	2.5	2.7	2.7	2.8	2.6	2.6	2.9	2.8	2.4	2.2	2	2.1	2	2	2	2	2.1	2.2	3.1	**IZS**	3.9	3.5	3.9	2.5	24
12	3.1	3	2.7	2.9	3.5	3.5	3.4	3.1	2.9	2.8	2.3	2	2	2	2	2	1.9	2	2	2	**IZS**	2.6	2.8	3.3	3.5	2.6	24
13	3.5	4	4.1	4.3	3.4	3.3	4.1	3.8	3.4	2.9	2.6	2.9	2.6	2.3	2.3	2.1	2.3	2.1	2	**IZS**	2.2	2.3	2.2	1.9	4.3	2.9	24
14	2	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2	**C**	**C**	**C**	**C**	**C**	2.1	**IZS**	1.9	2.3	3.2	3.5	3.6	3.6	2.2	24
15	2.1	2.2	2.7	2.3	2.5	2.2	2.1	2.1	2.1	1.8	2	2	2	**M**	2	2	2	**IZS**	1.9	2	2.1	3.4	5.4	4	5.4	2.4	23
16	4.5	8	3.6	3.9	5	5.7	4.9	4	3	2.1	2.1	2	2	2	1.9	2	**IZS**	2	2.1	2.2	2.4	2.5	3	3	8.0	3.2	24
17	2.5	2.5	2.2	2.2	2.3	2.3	2.5	2.3	2.4	2.3	2.3	2.1	2.1	2	1.9	**IZS**	1.8	1.8	1.8	2.2	2	2.1	2.6	2.6	2.6	2.2	24
18	3.2	2.3	2.5	2.6	4.8	4.3	2.8	2.2	1.9	1.9	1.8	1.8	1.9	1.9	**IZS**	1.9	1.9	1.8	2	2	2.1	2	2.5	3	4.8	2.4	24
19	3.1	3.3	3.8	3.4	3.7	3.8	7.4	5.5	3.5	3	2	2	2	**IZS**	1.9	1.9	2	2	2.2	2.3	2	2	2	2	7.4	2.9	24
20	2	2	2	2	2	2.1	2	2	2	2	2	2	**IZS**	1.9	2	2	2	2	2	2.2	2.4	3.1	2.5	2.3	3.1	2.1	24
21	2.7	3	2.3	2.7	2.9	3.3	2.9	2.2	2.1	2.1	2.1	**IZS**	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.5	3.3	3.6	3.8	3.8	3.8	2.5	24
22	4	4.1	3.9	4.4	4.7	4.9	4.8	4.3	3.6	2.7	**IZS**	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	3.1	4.4	3.7	**8.1**	**8.1**	**3.5**	24
23	6.8	5.1	4.6	6.8	6.2	3.8	2.9	2.6	2.4	**IZS**	2.2	2	2	2	2	2	2	2	2	2.1	2.2	2.5	3.1	3.1	6.8	3.1	24
24	2.7	3	3.2	2.7	3.1	2.8	2.8	2.8	**IZS**	2.5	2.3	2	2	2	2.1	2.1	2.1	2.3	2.2	2.3	2.3	2.4	3.2	2.4	3.2	2.5	24
25	2.2	2.3	2.5	3.1	2.3	2.5	2.5	**IZS**	2	2	2	2	2	2	2.1	2	2	2	2.4	2.6	2.2	2.7	2.8	4.9	4.9	2.4	24
26	3	3.7	4.4	4.5	6.4	4	**IZS**	2.6	2.1	2	1.9	1.9	2	2.1	2.1	2.1	2.3	2.1	2.2	2.9	2.6	2.5	2.1	2.3	6.4	2.8	24
27	2.8	2.4	2	1.8	1.8	**IZS**	1.9	1.9	2	1.9	2.1	2	2	2	2	2	2	2	2.1	2.1	2.1	2	2.3	2.3	2.8	2.1	24
28	2.3	2.2	2.1	2.1	**IZS**	2	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.4	2.5	3.4	3.9	3.9	2.2	24
29	4.5	5.4	5.7	**IZS**	6	6.5	5.2	4.2	3.7	3	2.1	2	2.2	2.1	2.1	2	2.1	2	2.1	1.9	2.3	3.2	3.6	2.9	6.5	3.3	24
30	2.5	2.7	**IZS**	3.1	3.9	5.4	4.2	4.3	3.4	2.2	2	2	2	2	2	2	2	2	2.1	2.3	2.7	3.3	3.5	3.6	5.4	2.8	24
HOURLY MAX	7.3	8.0	5.7	6.8	6.4	6.5	7.4	5.5	3.7	3.3	2.7	2.9	2.6	2.4	2.3	2.1	2.3	2.3	2.4	2.9	3.2	6.9	7.1	8.1			
HOURLY AVG	3.2	3.1	3.1	3.3	3.6	3.4	3.2	2.8	2.5	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.8	3.1	3.3			

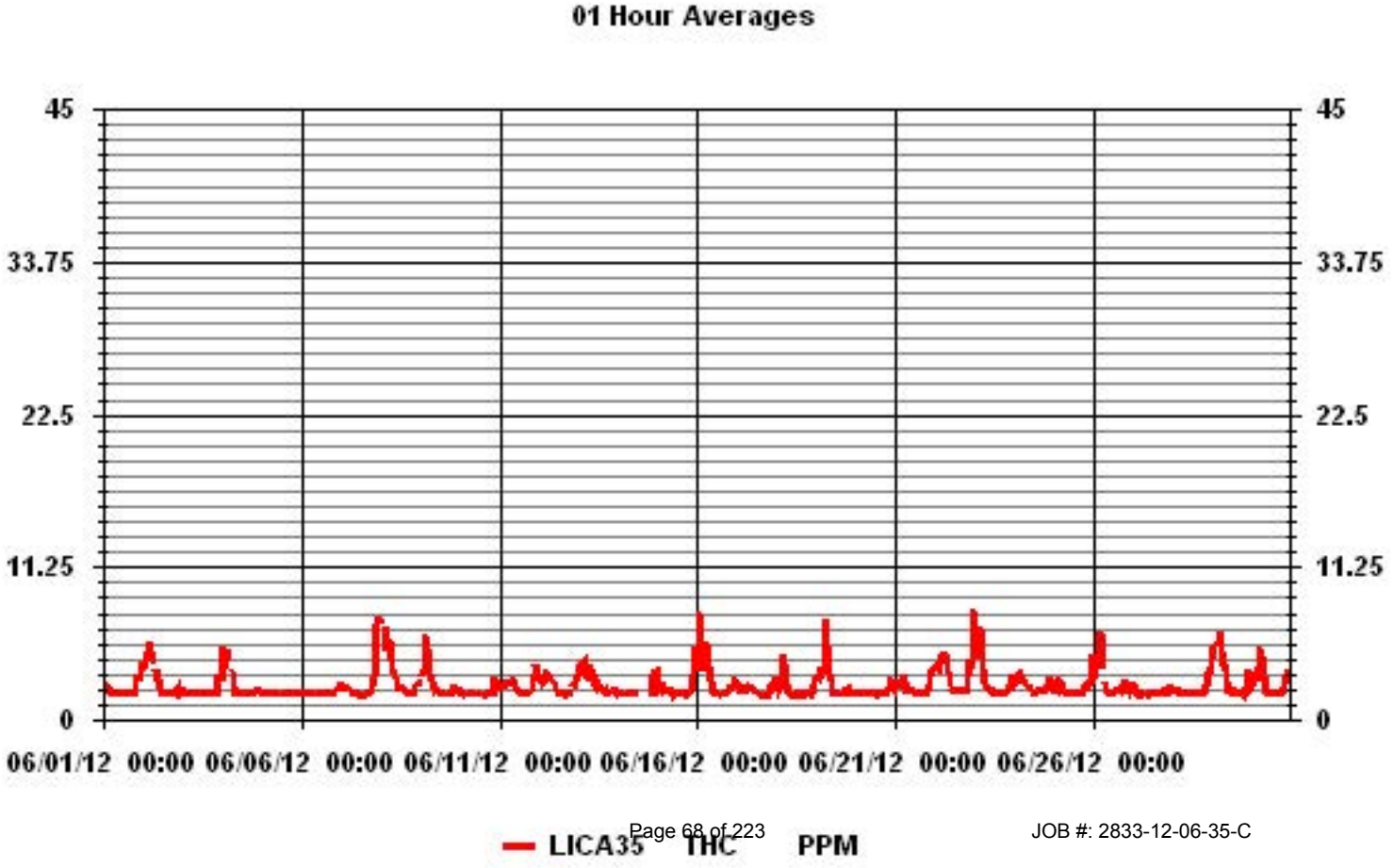
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	681					
MAXIMUM 1-HR AVERAGE:	8.1	PPM	@ HOUR(S)	23	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	3.5	PPM			ON DAY(S)	22
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		718	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	1.05		MONTHLY AVERAGE:		2.60	PPM



JOB #: 2833-12-06-35-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE - Elk Point Airport*

JUNE 2012

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

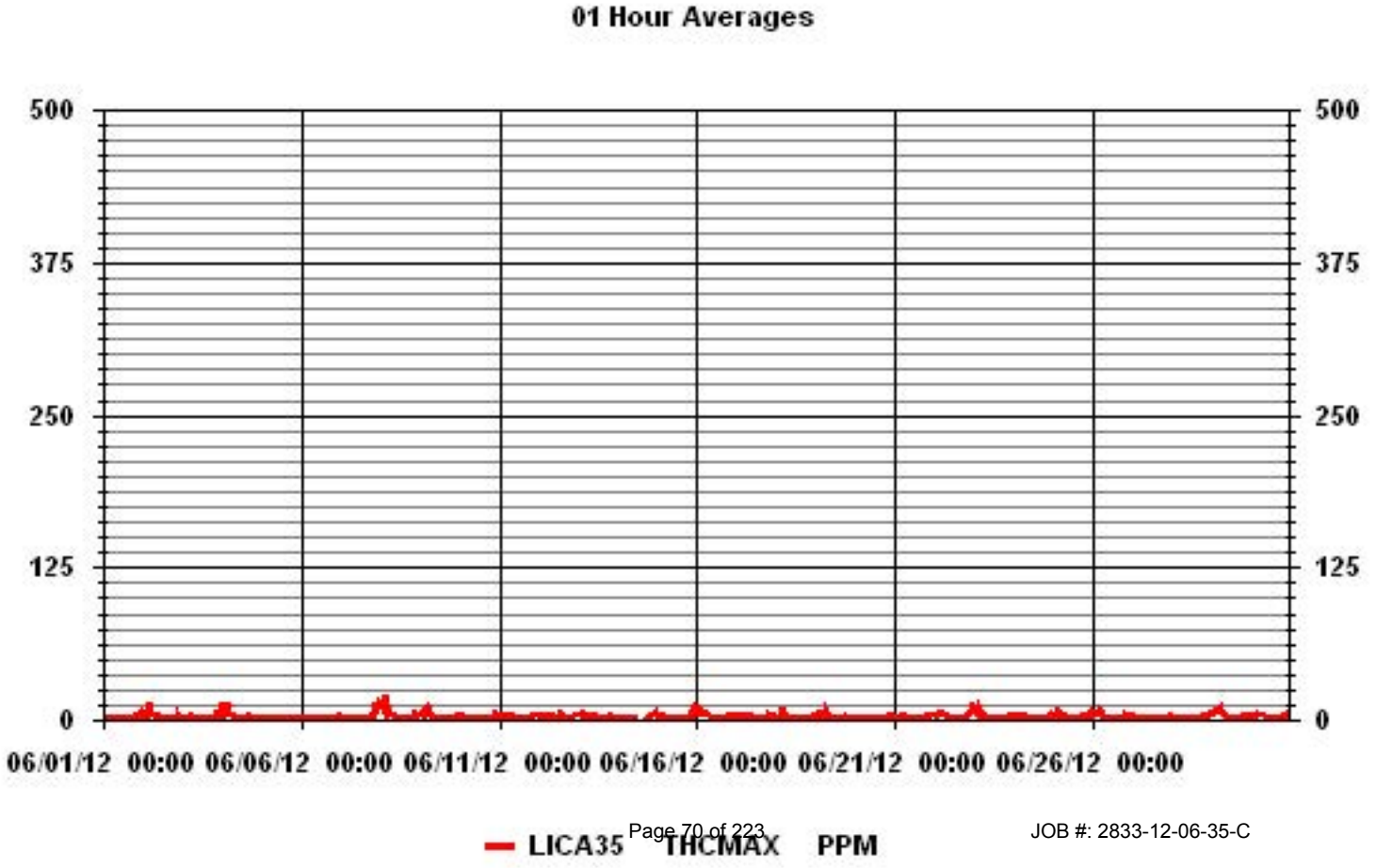
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.3	2.5	2.8	2.5	2.3	2.3	2.2	2.1	**IZS**	2	2	2	2.2	1.9	2	1.9	1.9	2	2.1	2.4	4.4	4.1	3.9	7	7	2.6	24
2	5	7.5	6.9	5	13.4	7.4	5.1	**IZS**	4.4	3.2	3.1	2.2	2.1	3.1	2.3	2.1	2.2	2.1	2.4	2.4	2.2	5.8	2.5	2.4	13.4	4.1	24
3	2.3	2.7	2.3	2.2	2.6	2.6	**IZS**	2.2	2.3	2.2	2.9	2.3	2.2	2.3	2.2	2	2.2	2	2	2	2.1	7	3.5	6.9	7	2.7	24
4	14.9	4.8	5.3	11.5	12.8	**IZS**	4.8	3.9	2	2.1	2	2.1	2.1	2	2	2.1	4	2.1	2.1	2.2	2.3	2.4	2.4	2.3	14.9	4.1	24
5	2.2	2.1	2	2.1	**IZS**	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	1.9	2	2	2	2	2	2	2.2	2.0	24
6	2	2	2	**IZS**	2	2	2	1.9	2	2.1	2	2	1.9	2	2	2	2	2	2.1	2.1	2.3	2.6	2.4	4.9	4.9	2.2	24
7	3.6	3	**IZS**	2.8	2.5	2.6	2.4	2.2	2.2	2.2	2	2.5	**M**	**C**	2.1	2.4	3.2	2.1	2.9	3	4.7	13.2	8.9	14.6	14.6	4.1	23
8	13.1	**IZS**	6.5	**20.7**	6.5	8.5	6.2	4.7	4.4	3.5	3.4	2.4	2.5	2.6	2.3	2.2	2.2	2.1	2.3	2.1	2.2	6.9	3.2	4.9	**20.7**	5.0	24
9	**IZS**	6.2	4.9	8.7	10.9	8.3	4.9	4.8	2.8	2.3	2.3	2.4	2.2	2.1	2.1	2.1	2	2.1	2	2.2	3.7	2.9	4	**IZS**	10.9	3.9	24
10	3	3.4	3	2	2	2	2	1.9	2	2	3.2	2.4	2	2	2	2	2	2	2	2	2	7.3	**IZS**	3	7.3	2.5	24
11	2.9	2.8	2.7	3.2	3.6	3.3	3.9	3.1	3.4	3.2	2.7	2.4	2.2	2.1	2.1	2.1	2.2	2.1	2.5	2.3	5	**IZS**	4.9	5.3	5.3	3.0	24
12	3.7	3.4	3	3.6	4.2	3.8	3.6	3.2	3	3	2.8	2.2	2.1	6.9	2	2.1	2	2.4	2.4	2.3	**IZS**	3.8	4.5	4.5	6.9	3.2	24
13	4.4	4.6	5.2	5	3.7	3.7	4.6	4.1	4	3.5	2.8	3.2	3.2	2.5	2.4	2.3	2.6	2.5	2.4	**IZS**	4.1	2.5	2.9	2.1	5.2	3.4	24
14	2.8	1.9	2	2	2.1	2	2.4	2	2	2	2.1	2.1	**C**	**C**	**C**	**C**	**C**	15.9	**IZS**	2	3.4	4.2	4.4	6.7	15.9	3.4	24
15	2.2	2.7	4.3	2.6	4.1	3	2.2	2.3	2.3	2.2	2	2.1	2.1	**M**	2.1	2	2	**IZS**	2	2.2	2.3	7.3	9.5	5.6	9.5	3.1	23
16	7.4	12.1	5.8	5.2	5.5	6.2	5.2	4.6	3.7	2.2	2.2	2.1	2.2	2	2	2	**IZS**	2.1	2.2	2.7	3.1	3	4.4	3.8	12.1	4.0	24
17	2.9	2.7	3	2.3	3.3	2.8	2.9	3.1	3.2	2.6	2.6	2.2	2.1	2	2	**IZS**	1.9	1.9	2	5.2	3.8	4.4	4.2	3.6	5.2	2.9	24
18	4	2.8	4.2	3.2	8.8	5.3	3.8	3.3	2	1.9	2	2.1	2	2	**IZS**	1.9	2.1	1.9	2.8	2.2	2.2	2.3	3.3	3.9	8.8	3.0	24
19	3.8	3.8	5.7	4.2	4.6	4.3	9.7	7.1	5.3	4.1	2.3	2.3	2	**IZS**	1.9	1.9	2.3	2.2	2.8	2.8	2.2	2	2	2	9.7	3.5	24
20	2	2	2	2	2	2.2	2.1	2	2.1	2.1	2	2.1	**IZS**	2	2	2	2	2	2.1	2.6	3.3	3.6	3.6	2.7	3.6	2.3	24
21	2.9	3.8	2.7	3.4	3.4	4	3.8	2.6	2.2	2.2	2.2	**IZS**	2	1.9	1.9	2	2	2	2	2.7	3	4.5	4.2	4.1	4.5	2.8	24
22	4.6	5.2	4.3	5	5.3	6.2	6.1	5	4.1	3.3	**IZS**	2.3	2.2	2.3	2.2	2.2	2.2	2.5	2.2	2.2	4.5	5.5	7	13.7	13.7	4.4	24
23	8.3	7.9	6.4	11.3	9	5.4	3.2	2.8	2.5	**IZS**	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4	3.2	5	3.9	11.3	4.0	24
24	3.2	4.6	3.8	3.5	3.7	3	3.1	4	**IZS**	2.7	2.4	2.2	2.1	2.1	2.1	2.2	2.2	2.6	2.3	2.5	2.5	2.7	4.8	2.8	4.8	2.9	24
25	2.3	2.5	3.3	9.4	2.4	3.2	3	**IZS**	2.2	2	2	2	2	2.1	2.1	2.1	2	2.1	3.5	3.5	2.5	3.2	3.5	6.8	9.4	3.0	24
26	4.9	6.2	5.4	5.2	8.5	6.3	**IZS**	3	2.2	2.1	2	2	2.2	2.2	2.2	2.4	3.1	2.3	2.7	4.7	4.7	3.9	2.2	3.5	8.5	3.6	24
27	4.1	2.6	2.3	1.9	1.8	**IZS**	1.9	1.9	2.3	2.4	2.3	2.2	2.1	2.1	2.2	2.1	2.2	2.2	2.4	2.4	2.5	2.3	2.8	2.6	4.1	2.3	24
28	2.7	2.3	2.2	2.2	**IZS**	2	2.1	2	2	2	2	1.9	1.9	2	2	2	2	1.9	2	3.4	3.8	2.9	4.2	5.8	5.8	2.5	24
29	5.8	6.5	8.6	**IZS**	7.7	10.3	6.7	5.5	4.3	3.5	3	2.2	2.6	2.5	2.2	2.2	2.2	2.2	2.8	2	3.6	4.8	5.5	3.5	10.3	4.4	24
30	2.7	4.9	**IZS**	3.5	5.7	6.2	4.9	5.9	4.9	2.7	2.1	2.2	2.4	2	2.2	2.8	2.2	2.5	2.4	2.4	3.6	3.8	5.9	4.7	6.2	3.6	24
HOURLY MAX	14.9	12.1	8.6	20.7	13.4	10.3	9.7	7.1	5.3	4.1	3.4	3.2	3.2	6.9	2.4	2.8	4.0	15.9	3.5	5.2	5.0	13.2	9.5	14.6			
HOURLY AVG	4.3	4.1	4.0	4.9	5.2	4.3	3.8	3.3	2.9	2.5	2.4	2.2	2.2	2.3	2.1	2.1	2.3	2.6	2.3	2.6	3.1	4.3	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
BB	- BELOW BACKGROUND OF 1.5 PPM		

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	681					
MAXIMUM INSTANTANEOUS VALUE:	20.7	PPM	@ HOUR(S)	3	ON DAY(S)	8
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		718	HRS
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	2.12					



JOB #: 2833-12-06-35-C

LICA-ELK
THC / WDR Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : THC
Units : PPM

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	4.84	2.49	1.46	1.32	9.69	6.60	6.46	3.81	3.52	1.76	1.90	2.05	5.72	7.63	7.48	10.71	77.53
<	10.0	.14	.29	.14	.73	2.34	3.81	4.40	.88	.58	.29	.29	.88	.73	2.64	3.67	.58	22.46
<	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	4.99	2.79	1.61	2.05	12.04	10.42	10.86	4.69	4.11	2.05	2.20	2.93	6.46	10.27	11.16	11.30	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	33	17	10	9	66	45	44	26	24	12	13	14	39	52	51	73	528
<	10.0	1	2	1	5	16	26	30	6	4	2	2	6	5	18	25	4	153
<	50.0																	
>=	50.0																	
	Totals	34	19	11	14	82	71	74	32	28	14	15	20	44	70	76	77	

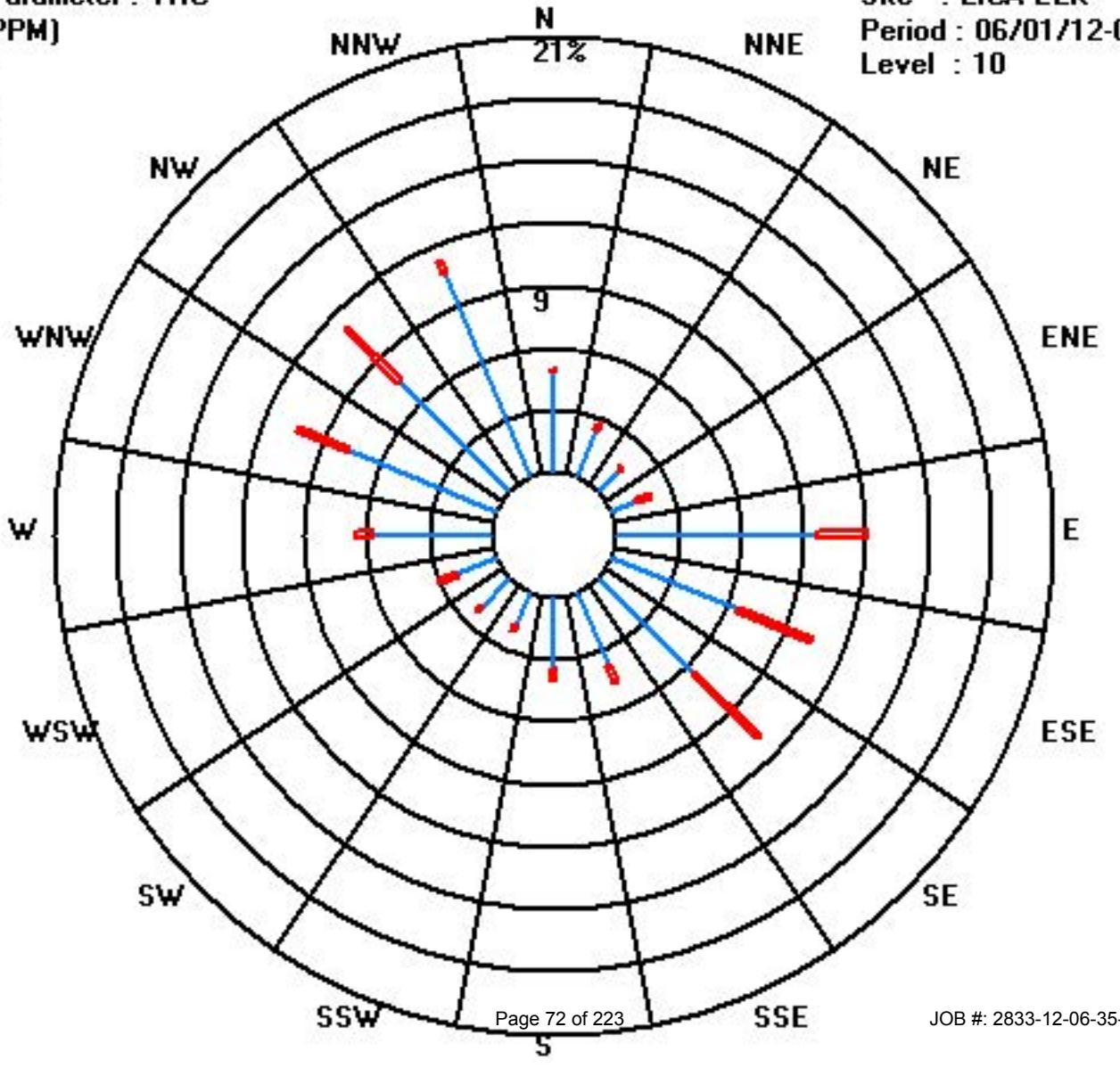
Calm : .00 %

Total # Operational Hours : 681

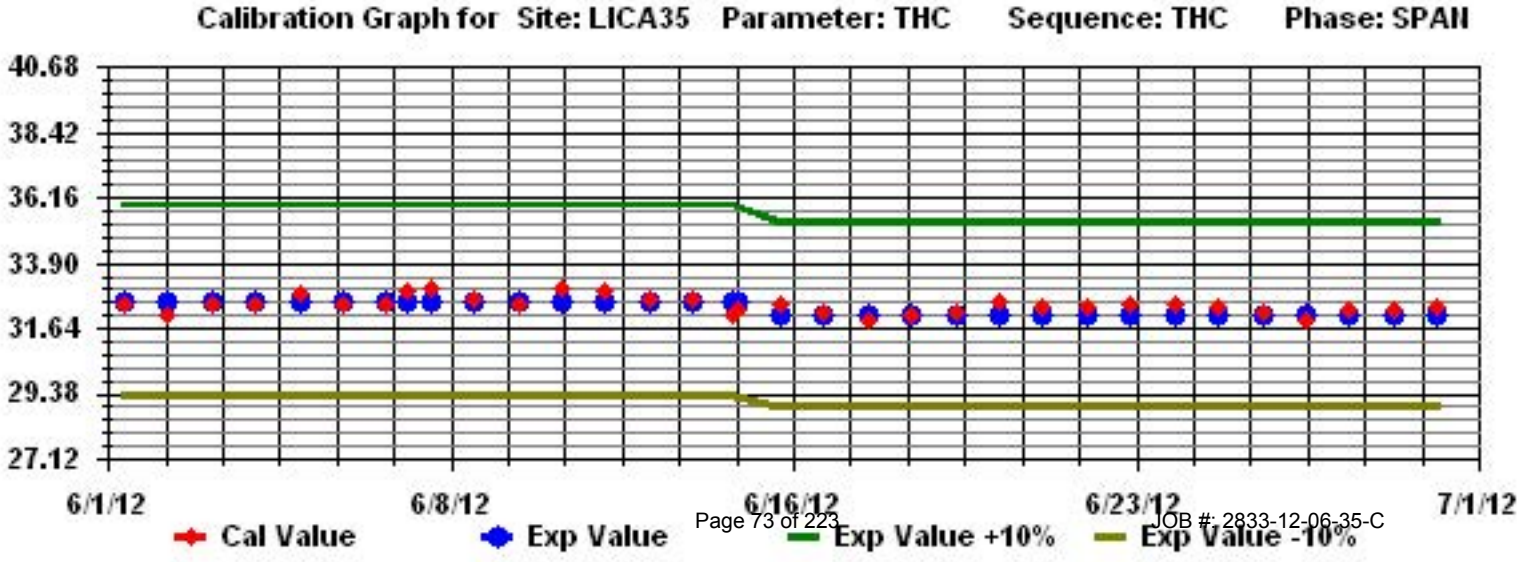
Logger : 35 Parameter : THC
Class Limits (PPM)

>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA-ELK
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-35-C


Calibration Graph for Site: LICA35 Parameter: THC Sequence: THC Phase: SPAN
40.68
38.42
36.16
33.90
31.64
29.38
27.12
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE*

JUNE 2012

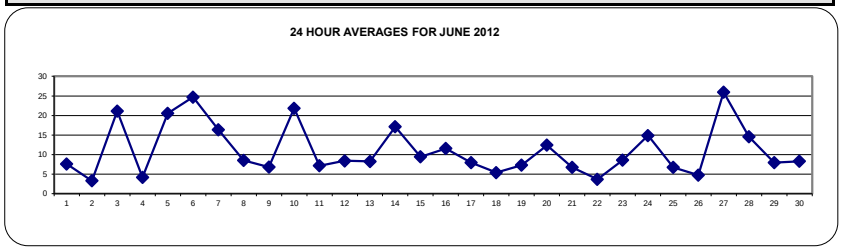
VECTOR WIND SPEED (WS) hourly averages (km/hr)

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	10.1	9.3	7.6	8.2	7.1	8.3	11.4	10	11.5	14.3	18.5	19.2	19.7	16.9	14	12.1	8.5	6.6	1.9	3.3	5.5	6.6	4.3	5.4	19.7	7.6	24
2	4.5	1.3	3.2	2.3	1.3	1.6	3.3	4.2	4	8.1	10.7	11.6	5.2	8.9	19.9	14	13.5	12.1	7.7	6	4.8	15.1	16.6	18	19.9	3.3	24
3	18.6	18.4	20.2	25.6	25.6	24.5	22.8	24	28.7	34.9	31.7	36.7	31.5	28.5	26.5	25.8	22.4	21.1	19	12.9	7.3	7.3	6.4	4.3	36.7	21.1	24
4	3.7	3.5	1.8	3.8	6.4	5.1	3.9	6.4	5.7	11	14.3	16.2	10.6	7.5	8.6	6.1	8.3	7.4	12.3	11.5	9.7	8.2	10.7	12.5	16.2	4.2	24
5	12.7	15	16.1	15.9	17.9	19.2	20.4	19.3	24.5	21.4	20.1	19.4	26.5	28.5	25.6	24.9	22.4	23.6	21.8	18.8	19.6	18.7	19.1	21.9	28.5	20.6	24
6	23.4	26.2	25.5	23.9	23	24.2	24.5	26.2	24.9	18.2	27	27.4	**38**	34.1	27.9	26.1	26.7	34.2	27	22.6	20.4	17.1	12.7	11.8	**38.0**	24.7	24
7	12.4	15.7	17.2	17.2	19.8	21.7	22.7	22.5	21.9	19	22.1	21.1	21.4	20.7	19.3	21.9	16.8	15.8	11.1	6.2	6.3	5.1	5.9	8.4	22.7	16.3	24
8	6.8	3.9	5.3	5.8	6	6.6	11.9	9.2	3.9	6.2	7.4	9.3	7.9	8.3	14	13.1	11.4	11.7	5.2	26.6	13.7	5.3	4.1	1.2	26.6	8.5	24
9	1.7	2.3	2.8	4.2	2.1	4	2.7	3.2	5.8	4	6.7	11.2	8.3	9.8	13.3	13.4	9.5	3.9	8.1	3.3	7.7	6.1	12.7	15.7	15.7	6.8	24
10	16.3	16.4	16.8	15.6	16.4	23.5	23	26.2	30	30.6	27.7	25	27.1	30.8	29.4	29.8	31.3	30.1	26	18.9	12.2	9.6	4.7	7	31.3	21.9	24
11	6.6	9.1	7.1	7.5	3.8	3.4	2	2.3	2.9	4.3	8.4	8	9.8	8.6	3.3	4.8	9.2	9.5	14.2	12.9	8.9	7.3	8.1	9.2	14.2	7.1	24
12	9.3	6.4	9.9	11.8	6.4	6.9	5.4	0.9	2.3	5.2	6.9	11.3	13.9	11.6	9.1	11.4	5.7	17.9	15.7	9.5	10.9	4.2	2.9	6.1	17.9	8.4	24
13	3.2	4.6	1.9	5	5.1	3.5	8.4	1.3	1.7	8	8.9	9.6	11.4	9.9	7.2	3	8	21.6	20.4	15.8	7.1	7.9	9.6	14.4	21.6	8.2	24
14	13.7	13.9	15.7	13.8	14.4	15.9	23.6	21.9	24.8	24.9	25	26.2	27.5	23.5	21.5	19.2	20.2	14.9	12	7.8	5.6	6.4	9.2	9.9	27.5	17.1	24
15	10.5	6.7	5.5	6	7.9	5.1	9.6	6.5	15.1	13.8	13.7	13.3	14.8	11.9	9.4	7.7	10.3	17.4	6.5	12.5	2.4	5.8	8.1	6	17.4	9.4	24
16	4.7	4.4	6.1	0.9	2.4	2.3	6.6	7.9	10	14.9	14.9	17.7	18.6	16.9	19.2	17.7	17	15.1	16.5	14.4	12.9	12	11.7	12.2	19.2	11.5	24
17	11.5	12.4	9.4	9.2	12.3	10.9	10.4	5.9	1.8	1.4	7.2	6.9	10.7	10.4	13.3	10.5	6.3	1	1	4.1	10.1	14.5	3.5	6.5	14.5	8.0	24
18	8.2	8.5	3.2	4.6	3.2	2	5.3	5.7	7.8	7.8	5.2	4.7	2	3.5	3.7	2.9	5	6.7	6.2	15.4	8.5	3.6	4.6	0.6	15.4	5.4	24
19	5.1	4.7	6.3	2.2	2.7	1.2	1.7	1.7	3.6	3.3	5.3	5.6	2	21.9	15.2	15.6	10.6	9.2	5.7	9.5	10.9	10.3	9.2	11.1	21.9	7.3	24
20	12.6	12.9	12.1	10.4	9.7	10.9	12.4	14.4	12.3	10.7	9.3	10.4	16.3	19	21.3	13.4	14	15.1	13.6	8.5	10.1	10.3	11.5	6.3	21.3	12.4	24
21	4.2	9	8.1	8.6	7.9	4.5	6.8	10.4	10.5	8.1	7.6	5.2	5.7	9.1	5.6	5.6	7	8.8	8.8	6.1	5.4	3.9	3.1	0.9	10.5	6.7	24
22	1.4	1.3	0.9	1.4	1.8	1.6	2.7	3.1	2.9	2.9	4.4	4.7	4.6	4.1	3.7	3.1	3.5	6.4	5.3	5.1	7.3	5.9	5.1	5.2	7.3	3.7	24
23	8.5	7.4	6.6	7.7	6.9	3.2	3.8	7.2	9.6	11.2	11.8	10.7	10.8	9.1	9	8.9	9.4	10.7	14	10.5	10.3	6.5	5.9	6.9	14.0	8.6	24
24	8.1	6.5	4.1	9.6	8.5	7	5.4	8.4	10.9	17.3	21.3	28.2	29.1	29.5	28.8	26.2	24	14	11.6	13.1	11.2	9.2	12.5	12.6	29.5	14.9	24
25	11.5	9.5	5.9	5.4	7.9	7.4	10.3	9.9	9.2	8	3.9	5.1	3.2	3.1	9.2	4.8	4.9	4.6	4.4	4.7	13.2	1.1	6.4	7.5	13.2	6.7	24
26	8.6	1.5	2.1	1.8	5.4	4.5	5.6	4.5	1.2	6.3	6	4.7	3.5	4.7	4.9	3.6	5.9	5.8	3.1	6.5	3.9	9.8	8.6	0.6	9.8	4.7	24
27	10	10.4	23.8	31.6	26.1	31.5	33.5	29.1	27	27.6	21.2	21.7	26.3	31.2	34.3	36.6	35.6	33.3	26.3	24.9	20.9	22.5	18.5	19.5	36.6	**26.0**	24
28	14.7	13.2	14.8	13.3	10.4	9.1	16.1	21.5	20.9	17	17.6	20	21.9	21.9	22.1	20.4	16.1	15.4	11.7	8.6	7.4	8.4	4.8	2.7	22.1	14.6	24
29	2	0.5	0.8	1.3	2.8	4.9	5.4	6.1	6.3	8.2	13	14.2	9.5	12.3	14.8	12.8	11	14.2	10.9	9.7	9.4	7.4	7.1	6	14.8	7.9	24
30	7.3	6.1	2.1	5.2	2.8	1.9	1.3	1.6	1.7	7.9	9.6	11.3	14	15.6	15.5	11.9	12.7	12.4	7.9	9	9.9	10.5	10	10.6	15.6	8.3	24
HOURLY MAX	23.4	26.2	25.5	31.6	26.1	31.5	33.5	29.1	30.0	34.9	31.7	36.7	38.0	34.1	34.3	36.6	35.6	34.2	27.0	26.6	20.9	22.5	19.1	21.9			
HOURLY AVG	9.1	8.7	8.8	9.3	9.1	9.2	10.8	10.7	11.4	12.6	13.6	14.6	15.1	15.7	15.7	14.2	13.6	14.0	11.9	11.3	9.8	8.9	8.6	8.7			

STATUS FLAG CODES

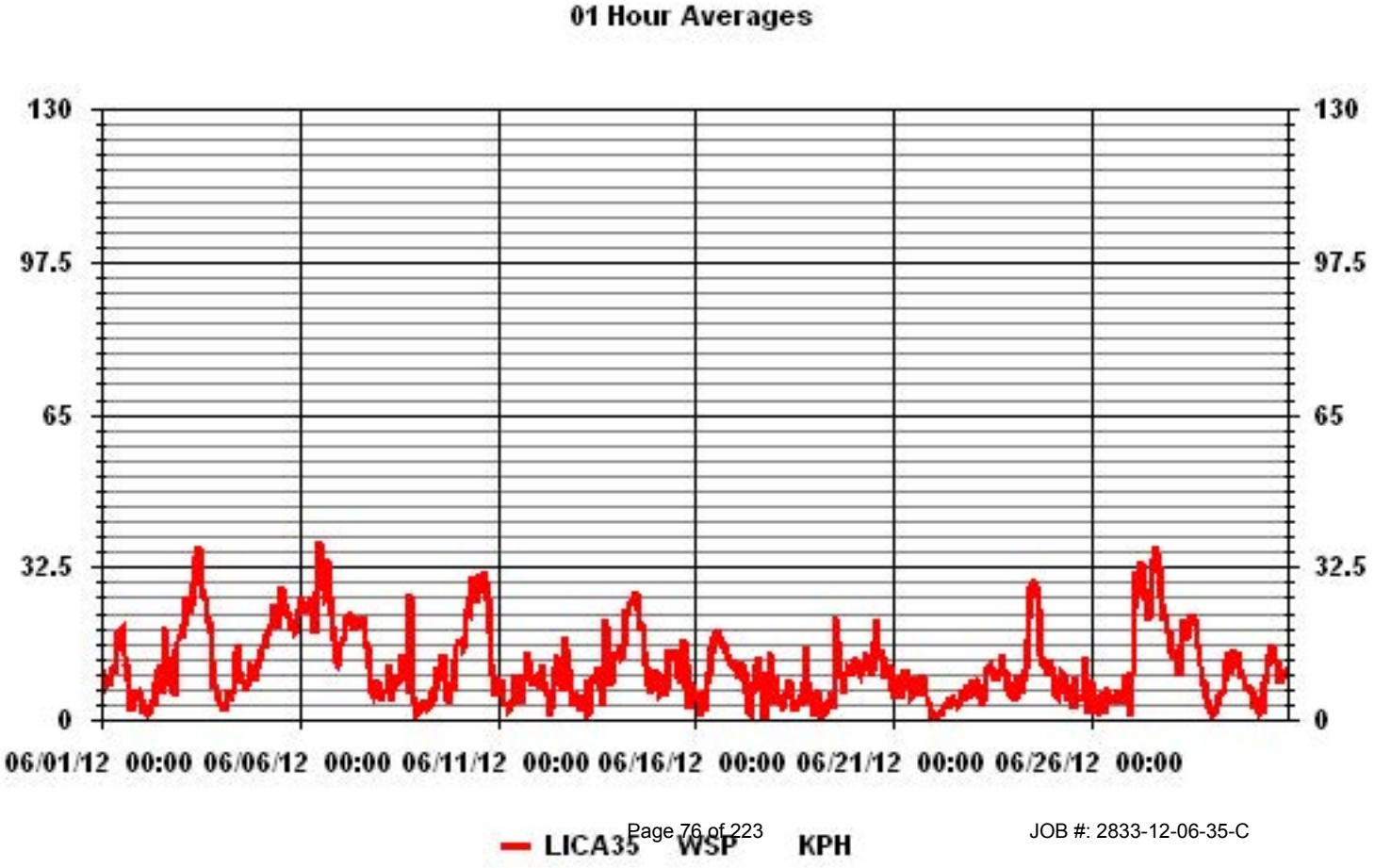
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	-MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



LAST CALIBRATION: November 24, 2011

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	38.0	KPH	@ HOUR(S)	12	ON DAY(S)	6	
MAXIMUM 24-HR AVERAGE:	26.0	KPH			ON DAY(S)	27	
CALMS (≤ 1 KPH)	0.00	%	OPERATIONAL TIME:		720	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	7.88		MONTHLY AVERAGE:		11.47	KPH	



JOB #: 2833-12-06-35-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE - Elk Point Airport*

JUNE 2012

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

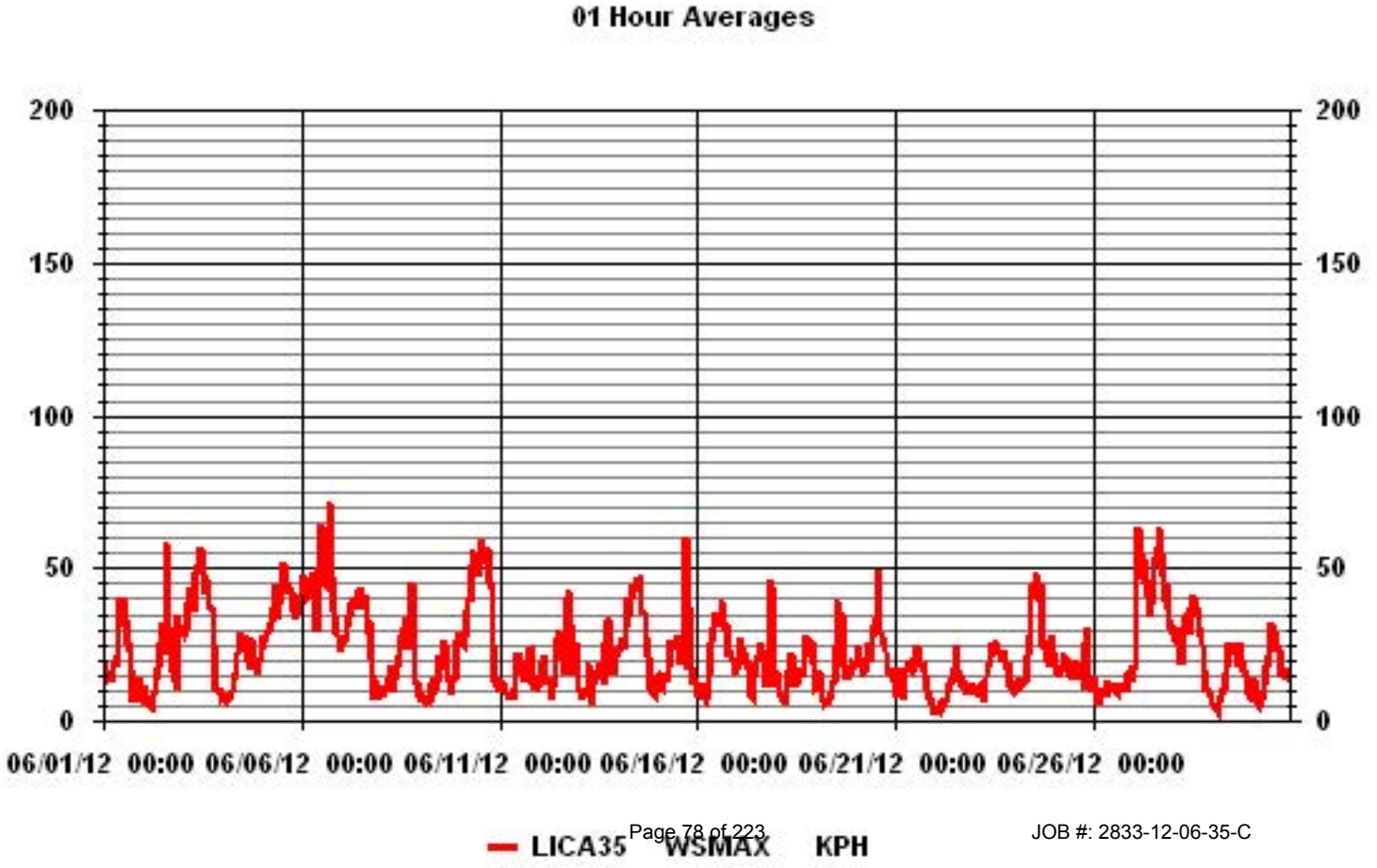
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	19.5	14.5	13.2	13.4	13.5	16.6	19.4	17.5	21.5	30.2	38.8	38.4	40.2	36.7	33.9	25.9	23.5	17.4	6.5	7.6	9.7	9.4	14.2	8.9	40.2
2	9.6	6.6	6.3	5.7	5.5	5	8.4	10	13.2	17.4	25.4	32.1	21.4	25.7	58.7	28.1	28.8	23.1	16.4	13.3	9.7	34.8	30.1	28.8	58.7
3	30.8	28.6	29.6	38.6	39.7	43.5	38.3	35.7	48.2	51	49.2	56.4	52.6	48.8	41.6	45.8	38.4	37.7	36.2	25.7	11.1	9.8	10	7.4	56.4
4	8.1	7.6	8.2	7	8	8.2	9.6	13.2	16	21.7	23.3	28.8	25.7	24.1	24.7	28	19.9	16.4	27.2	21.1	19	15.2	19.9	20.6	28.8
5	23.1	28.1	25.6	28.8	29.5	32	32.6	36.8	44.5	33.4	40.5	40	47.1	51.7	44.7	46.2	41.8	44.1	42.3	36.5	33.6	36	36.2	41.1	51.7
6	45.7	45.1	47.5	39.6	40	40.9	44.8	48.8	45.4	29.3	49.9	52.1	64.4	60.2	44.8	44.1	49.9	**71.5**	47.8	36.4	35.2	29.1	28.3	22.9	**71.5**
7	24.8	25.2	28.2	26	30.5	34.1	38.6	39.7	40.6	36.2	43.2	40.5	43.4	40.8	36.5	41.1	27.9	33.1	21	15.8	7.9	7.6	7.7	10.9	43.4
8	10.1	7.9	9.2	11.7	9	14	18.2	15.4	9.6	13.8	17.2	21.3	24.3	27.7	30.2	33.4	23.4	26.9	43	45.1	33.5	13.6	12.6	8.1	45.1
9	6.2	7.9	6.8	8.5	5.6	6.8	7	12.3	13.6	11.6	12.7	21.3	18.8	16.4	26.7	25	22.9	12.9	14.7	8.6	13.3	13.7	26.7	24.4	26.7
10	28.9	26	25.2	27.2	36.2	40.4	38.7	51	55.9	53.6	55.4	47.4	53.4	59.3	53.1	52.5	53.7	57.1	45.9	44.1	25.8	13.8	12.4	12	59.3
11	9.7	14.2	10	11.9	9.7	8.8	6.6	8.2	7.1	10.8	16.4	22.6	20.5	18.5	16.1	12.9	17.2	19.5	23	23.5	12.7	11.5	11.1	13.6	23.5
12	13.2	19.9	17.2	21	12.2	14.1	12.6	7	11.2	13.9	27.1	29.1	29	27.2	22.6	23.2	15.2	40.4	42.8	19.5	31.1	15.3	25.7	24.2	42.8
13	9.6	11	7.1	9.8	9.7	10.6	18.9	8.2	5.4	16.3	14.9	16.2	19.1	17.7	17.4	11.5	25.3	32.5	33.8	29.2	15.8	15.7	16.8	22.8	33.8
14	22.3	24.2	27.2	23.5	25.2	30.8	40.5	33.8	39.8	44.1	42.4	46.2	46.5	42.6	34.9	35.9	35.3	28.3	21.8	11.2	9.8	9	14	14.5	46.5
15	15.4	14.4	10.9	10.5	15.2	12.3	15.7	17.4	26	24.7	24.1	24.3	27.6	24	18.2	19.6	21.5	60.4	16.6	37.5	18.1	12.1	13.7	12.9	60.4
16	9	8.6	10.2	10.9	8.1	7.2	10.3	14.8	25.5	30.7	32.8	35	32.9	30.7	34.5	39.9	31.6	29.5	32.3	21.3	22.7	20.1	16.6	16.4	39.9
17	17.1	20.4	27.3	24.8	22.7	18.7	19.8	17.7	8.8	8.1	17.7	17	19.5	21	25.7	23.6	19.9	12.1	11.3	13.8	46.5	44.5	12.1	11	46.5
18	15.1	14.7	9.1	8.6	7.1	5.4	15.5	15.1	18.2	22.5	11.2	13.8	11.3	17.1	14.2	15.7	14.2	20.6	27.7	26	22.5	26.1	18.7	11.3	27.7
19	11.9	9.2	16.4	10.1	7.3	5.5	6.1	6	8.5	7.4	12.5	13	24.4	39.2	28	27.1	35.8	18.5	14.4	14.3	16.5	15.1	19.2	18.6	39.2
20	19.3	24.9	21	19.1	15.9	16.3	20.6	25.8	22.3	19.4	30.9	27.8	33.5	34.6	49.7	29.6	27.9	25.8	23.2	16.5	16.7	14.3	16.5	13.5	49.7
21	7.7	17.5	15.8	16.9	14.4	7	16.1	17.3	19.5	18	19.2	17.3	18.5	24.6	23.3	18.6	17.8	18.4	15.7	10.8	7.7	7.5	6.2	3.6	24.6
22	4	3.5	4.3	5.4	3.7	4.5	5.9	7.3	9.4	11.8	14.2	16.8	14	24.8	14	12.9	14.4	13.3	12.1	9	10.5	10.5	11.9	8.8	24.8
23	11.4	9.9	9.4	10.9	9.5	6.3	10.6	13.9	18.3	19	25.7	22.9	23.8	26.5	23.8	23.3	22.3	19.1	23.2	18.1	18.2	12	11.9	10.4	26.5
24	11.6	9.9	10.3	13.7	11.8	12.5	12.9	13.1	21.6	27.9	39.6	44.1	44.9	48.6	44.1	38.9	45.6	24.9	24.2	26.5	19.9	17.5	20.6	27.6	48.6
25	23	19.1	15.6	14.3	17.7	16.4	22.2	17.3	18.3	16.5	15.3	13.4	15.3	19.2	19.1	16.7	14.7	14.4	10	25.6	30.5	13.7	11.3	11.7	30.5
26	15	9	11.4	5.2	10.1	9.8	10.2	9.9	7.4	12.9	11.1	9.5	11.4	11.2	9.5	8.8	11.4	11.7	11.2	12.1	9.5	15.3	16.8	12.3	16.8
27	18.1	17.2	54.1	63.3	46.2	54.5	53.3	45.3	46.6	41.7	34	37.8	43.5	50.8	53.3	57	63.8	54.8	47.7	38.9	45.4	36.9	29.9	30.9	63.8
28	29.4	27.2	26.6	30.4	19.5	18.4	29	33.8	34.6	29.6	29.4	37.3	40.3	40.1	37.9	34.7	31.1	28.6	25.8	17.1	10.7	10.4	9.7	8.5	40.3
29	6	4.8	4.4	3.4	5.9	8.1	8.7	10.4	15.3	17.2	25.7	24.7	22.1	25.2	23.2	21.6	17.9	25.4	20.1	17	15	10	8.6	10	25.7
30	11.6	14	6.2	10.5	6.4	5.2	6.9	7.8	11.6	17.7	21.6	24.2	32.3	29	28.9	22.8	24.2	23.7	14.4	17	13.8	15.1	14.3	16.5	32.3
PEAK	45.7	45.1	54.1	63.3	46.2	54.5	53.3	51.0	55.9	53.6	55.4	56.4	64.4	60.2	58.7	57.0	63.8	71.5	47.8	45.1	46.5	44.5	36.2	41.1	

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	71.5	KPH	@ HOUR(S)	17
			ON DAY(S)	6



JOB #: 2833-12-06-35-C

LICA-ELK
WSP / WDR Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : WSP
Units : KPH

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	1.11	1.11	.69	.97	3.05	2.50	3.75	1.25	1.66	.83	1.25	.83	1.11	2.36	3.61	1.66	27.77
<	12.0	1.38	.41	.69	.69	4.30	4.72	3.33	1.52	.69	.55	.69	1.52	3.61	4.02	2.91	4.30	35.41
<	20.0	.69	.69	.27	.27	1.94	1.52	2.08	1.38	1.25	.55	.13	.27	1.25	2.50	1.94	3.33	20.13
<	29.0	.97	.27	.00	.00	2.63	1.25	1.11	.41	.55	.00	.00	.13	.27	1.52	2.08	1.94	13.19
<	39.0	.97	.13	.00	.00	.00	.27	.41	.00	.00	.00	.00	.00	.00	.13	1.11	.41	3.47
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.13	2.63	1.66	1.94	11.94	10.27	10.69	4.58	4.16	1.94	2.08	2.77	6.25	10.55	11.66	11.66	

Calm : .00 %

Total # Operational Hours : 720

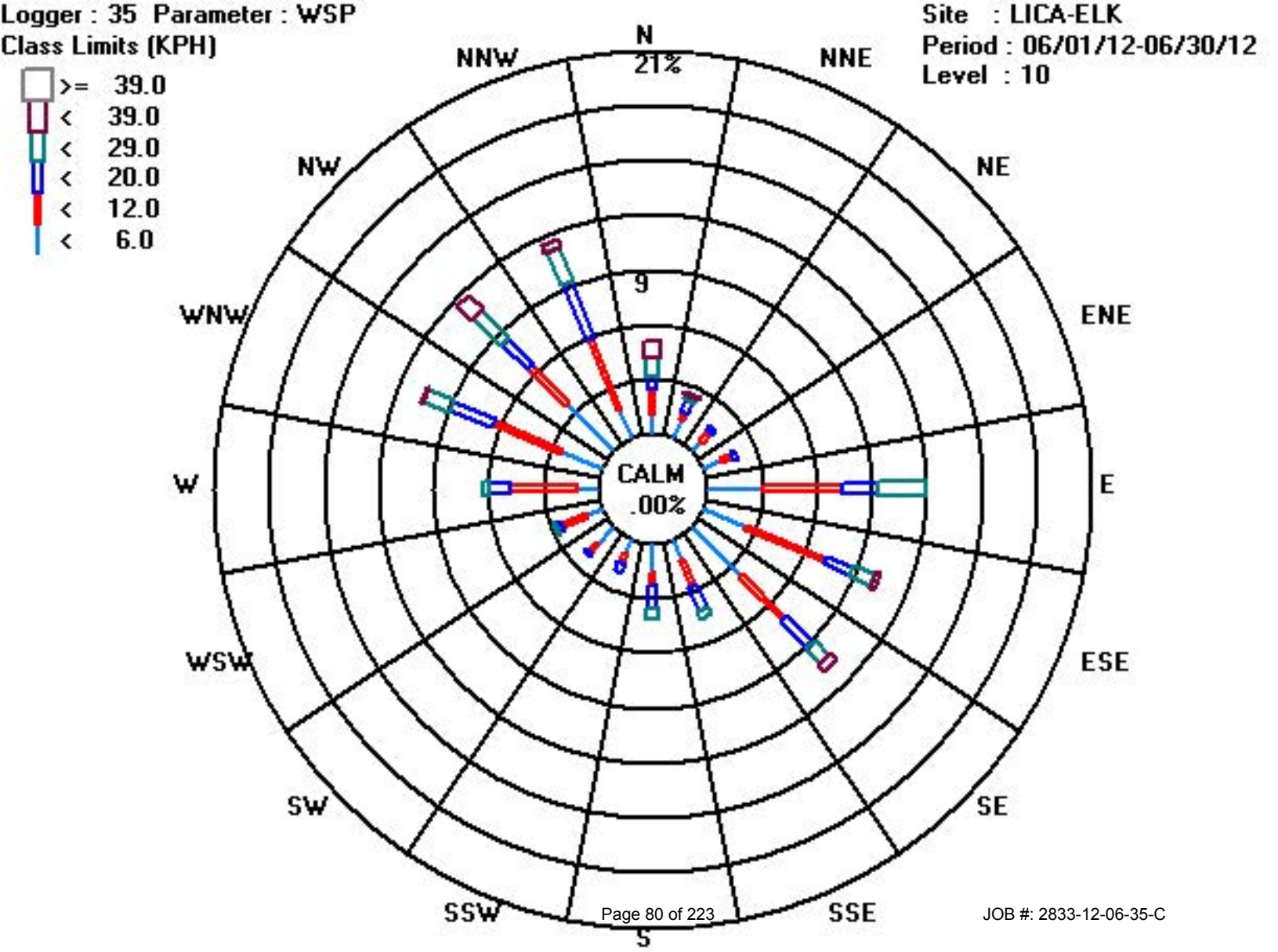
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	8	8	5	7	22	18	27	9	12	6	9	6	8	17	26	12	200
<	12.0	10	3	5	5	31	34	24	11	5	4	5	11	26	29	21	31	255
<	20.0	5	5	2	2	14	11	15	10	9	4	1	2	9	18	14	24	145
<	29.0	7	2			19	9	8	3	4			1	2	11	15	14	95
<	39.0	7	1				2	3							1	8	3	25
>=	39.0																	
	Totals	37	19	12	14	86	74	77	33	30	14	15	20	45	76	84	84	

Calm : .00 %

Total # Operational Hours : 720



JOB #: 2833-12-06-35-C

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE - Elk Point Airport*

JUNE 2012

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

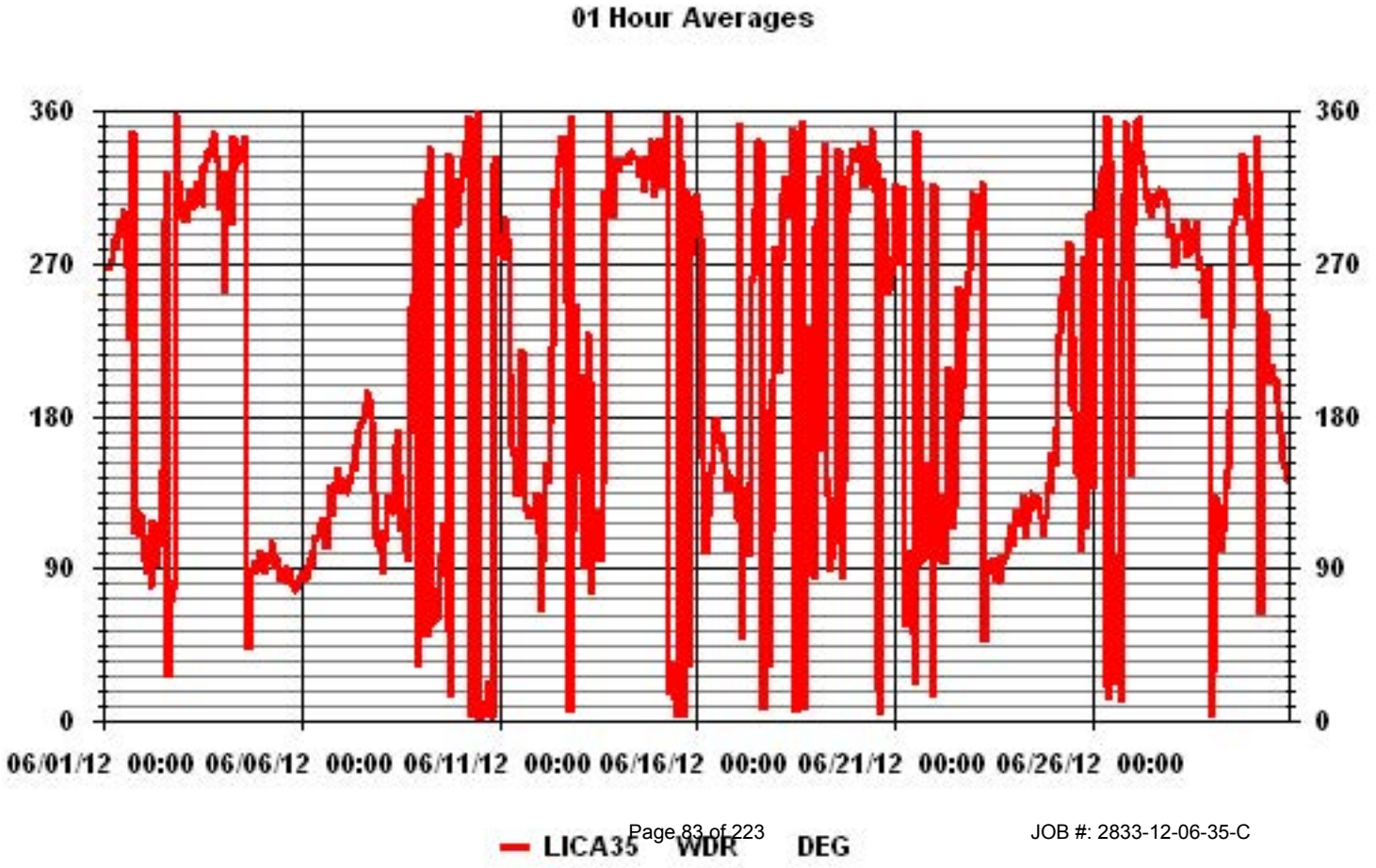
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	267	267	267	267	270	273	284	278	287	295	289	296	302	287	270	268	224	290	349	110	125	121	108	123	279	W	24
2	111	94	96	86	98	78	118	105	91	103	112	128	149	295	324	26	48	70	83	77	359	327	320	308	31	NNE	24
3	299	299	294	298	308	314	306	302	312	318	308	307	328	324	329	337	332	338	344	348	335	330	301	307	317	NW	24
4	303	252	325	319	303	292	313	345	326	328	337	335	330	340	346	47	42	54	88	88	95	89	95	101	13	NNE	24
5	88	93	87	93	99	96	106	97	90	98	91	83	85	88	89	81	87	90	81	79	82	78	79	85	88	E	24
6	87	89	82	84	92	96	90	101	106	109	110	110	117	120	103	103	106	135	139	121	138	141	149	134	110	ESE	24
7	138	144	137	139	137	140	145	149	149	163	160	172	175	176	178	187	195	188	188	178	136	109	105	107	158	SSE	24
8	112	86	106	107	125	133	125	124	127	122	163	172	147	112	124	122	101	93	169	245	252	304	232	31	142	SE	24
9	302	308	162	128	49	324	339	67	79	60	61	68	85	98	117	114	86	52	335	13	303	297	291	293	48	NE	24
10	320	312	320	332	342	351	357	3	3	7	6	360	1	9	12	5	2	7	24	10	1	329	334	286	357	N	24
11	288	275	277	272	298	285	283	206	163	157	132	151	152	170	220	134	124	128	121	121	121	123	126	135	150	SSE	24
12	112	64	94	120	142	152	140	175	221	314	303	313	326	333	345	337	345	247	225	5	357	112	219	246	320	NW	24
13	146	171	205	95	90	144	230	201	75	111	103	125	104	94	118	140	313	311	333	359	333	296	321	325	8	N	24
14	325	332	329	332	329	332	328	334	336	335	334	332	324	325	332	322	312	328	333	329	344	320	308	320	329	NNW	24
15	334	344	315	318	330	322	359	15	35	26	14	13	2	357	331	330	2	314	229	31	274	307	308	288	349	NNW	24
16	312	303	286	156	126	98	104	120	146	152	170	178	180	165	165	170	161	155	150	135	145	135	144	137	157	SSE	24
17	120	118	353	47	104	124	138	97	141	258	262	303	341	342	340	340	6	27	184	137	31	112	202	255	57	ENE	24
18	280	272	205	271	311	321	315	321	311	296	350	344	4	346	347	278	354	6	84	145	167	233	186	83	301	WNW	24
19	292	296	322	184	159	284	341	144	134	88	95	104	129	333	337	333	83	141	255	300	322	327	331	338	336	NNW	24
20	329	334	340	339	323	314	327	338	338	336	350	318	312	331	20	3	321	301	298	270	251	254	262	275	322	NW	24
21	318	284	273	269	274	316	55	85	94	101	76	52	21	348	328	320	110	95	96	120	153	124	145	14	56	NE	24
22	318	117	97	98	134	115	93	100	177	209	125	113	126	132	177	257	179	196	233	230	251	265	297	313	192	S	24
23	305	290	295	310	310	319	46	90	92	95	92	87	96	82	88	83	81	98	93	96	105	104	115	102	83	E	24
24	115	122	124	117	116	116	133	107	118	124	131	134	133	129	131	131	123	121	109	120	120	141	134	156	127	SE	24
25	156	155	173	216	229	248	247	263	256	269	283	186	229	184	145	158	146	99	275	113	137	299	297	301	207	SSW	24
26	266	137	288	285	314	291	323	328	20	358	12	332	21	41	70	73	98	10	259	311	355	327	341	144	342	NNW	24
27	292	297	354	355	346	338	329	322	316	308	300	303	297	309	311	302	312	314	313	313	309	304	285	292	315	NW	24
28	294	267	270	272	287	284	287	292	297	273	275	277	278	286	290	295	275	268	267	259	237	243	256	269	279	W	24
29	1	28	87	133	129	113	100	113	113	137	149	184	231	292	295	307	307	298	303	335	322	319	296	288	287	WNW	24
30	269	275	290	260	346	326	63	149	239	241	213	206	199	210	204	202	189	183	170	154	150	150	143	142	194	SSW	24
HOURLY AVG	334	344	354	355	346	351	359	345	338	358	350	360	341	357	347	340	354	338	349	359	359	330	341	338			

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:	November 24, 2011
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
STANDARD DEVIATION:	104.94		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	360	DEG



JOB #: 2833-12-06-35-C

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *PORTABLE SITE - Elk Point Airport*

JUNE 2012

STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

MST

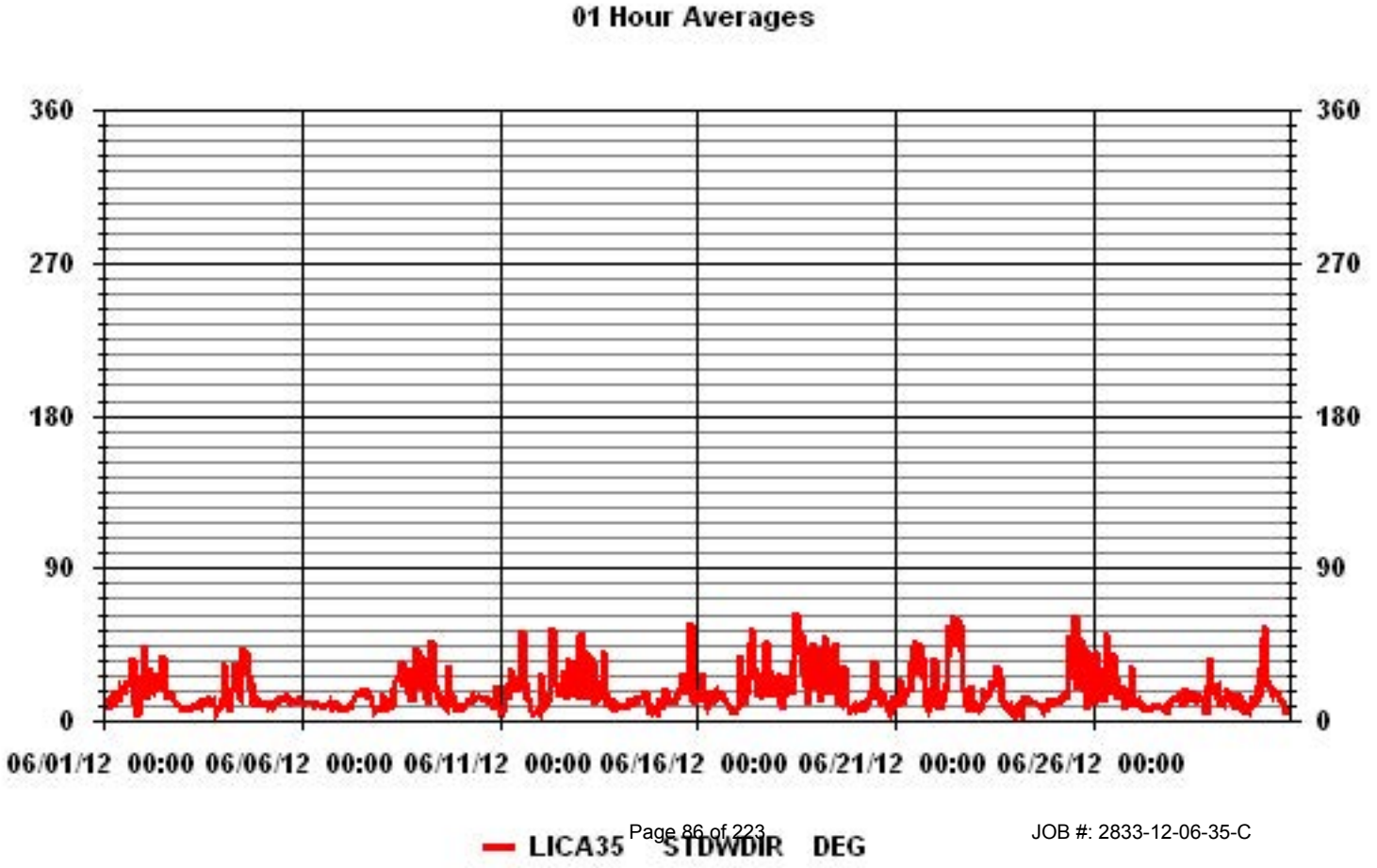
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	12	10	10	9	12	13	12	16	16	15	19	17	17	17	24	21	23	25	37	10	4	3	27	16
2	20	44	13	15	32	21	19	22	27	23	21	26	38	25	17	13	15	16	15	12	10	10	9	7
3	7	8	7	7	8	7	8	9	9	8	11	9	11	11	12	12	13	11	12	9	5	6	8	9
4	14	34	18	16	5	9	18	19	34	19	14	13	35	42	32	41	29	21	22	11	8	14	10	10
5	11	11	10	10	8	10	8	10	11	11	12	13	14	13	13	14	13	11	13	12	11	12	13	12
6	12	10	11	11	11	10	11	11	9	9	10	10	9	9	9	9	9	12	10	7	8	8	11	7
7	7	8	7	6	7	8	10	12	14	16	16	17	17	16	19	16	17	15	14	10	6	7	7	8
8	6	16	5	12	11	11	9	9	19	24	25	27	33	35	19	28	23	16	31	12	14	18	43	30
9	33	38	19	15	13	10	17	47	24	21	18	13	16	12	10	9	15	33	7	16	10	11	8	7
10	7	7	8	9	10	11	12	13	15	12	13	15	14	13	13	14	14	12	12	11	10	7	21	9
11	6	7	6	9	20	12	22	31	25	21	17	26	20	20	53	28	23	14	12	7	5	5	5	6
12	5	29	9	16	9	11	15	46	55	31	24	21	14	20	22	19	30	13	37	17	31	35	16	15
13	50	14	52	17	12	31	12	38	37	35	12	13	14	15	23	41	18	8	11	11	9	12	7	7
14	8	9	8	9	9	9	9	11	11	11	14	13	12	14	14	16	15	17	11	4	7	5	6	5
15	9	14	10	7	11	19	9	13	11	11	11	12	15	17	19	28	20	20	16	26	57	12	12	10
16	17	12	18	29	13	12	9	11	18	15	17	18	14	15	16	16	14	13	11	9	8	5	5	5
17	7	8	39	26	12	12	15	27	45	54	27	28	16	16	16	13	29	45	47	14	30	21	17	26
18	20	14	29	11	6	23	26	19	20	15	36	45	64	55	39	51	26	40	22	10	42	39	47	33
19	20	20	10	43	23	51	42	44	15	23	19	30	46	10	12	11	27	32	21	9	6	6	7	9
20	7	9	9	10	7	7	10	10	13	17	17	35	17	15	13	18	17	14	13	11	6	5	7	13
21	14	9	11	25	10	12	15	17	21	20	34	44	47	28	45	44	38	25	11	10	7	9	19	27
22	37	23	12	7	13	10	17	22	37	57	52	62	48	43	60	57	42	21	19	9	5	19	21	13
23	10	5	10	7	7	17	17	14	15	17	19	24	20	28	33	24	27	13	9	9	7	6	8	5
24	4	8	9	5	4	11	14	10	12	13	13	12	11	11	10	9	9	7	9	9	8	13	8	11
25	12	13	12	12	12	14	15	15	18	23	**51**	40	45	63	19	34	49	29	17	42	7	18	12	14
26	9	40	42	33	11	17	11	20	52	18	18	16	40	25	27	12	19	19	20	6	20	8	15	33
27	12	12	11	13	11	10	9	7	8	7	7	8	8	9	9	9	8	9	8	8	6	6	8	11
28	14	13	13	14	14	15	10	10	11	17	16	15	16	16	14	12	15	15	14	9	5	5	21	38
29	24	15	18	20	14	8	12	10	15	18	17	15	12	9	8	12	16	13	10	7	4	8	6	8
30	9	14	12	10	21	14	31	49	57	24	22	21	20	15	17	14	17	13	12	11	6	7	5	5

STATUS FLAG CODES

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

LAST CALIBRATION: November 24, 2011

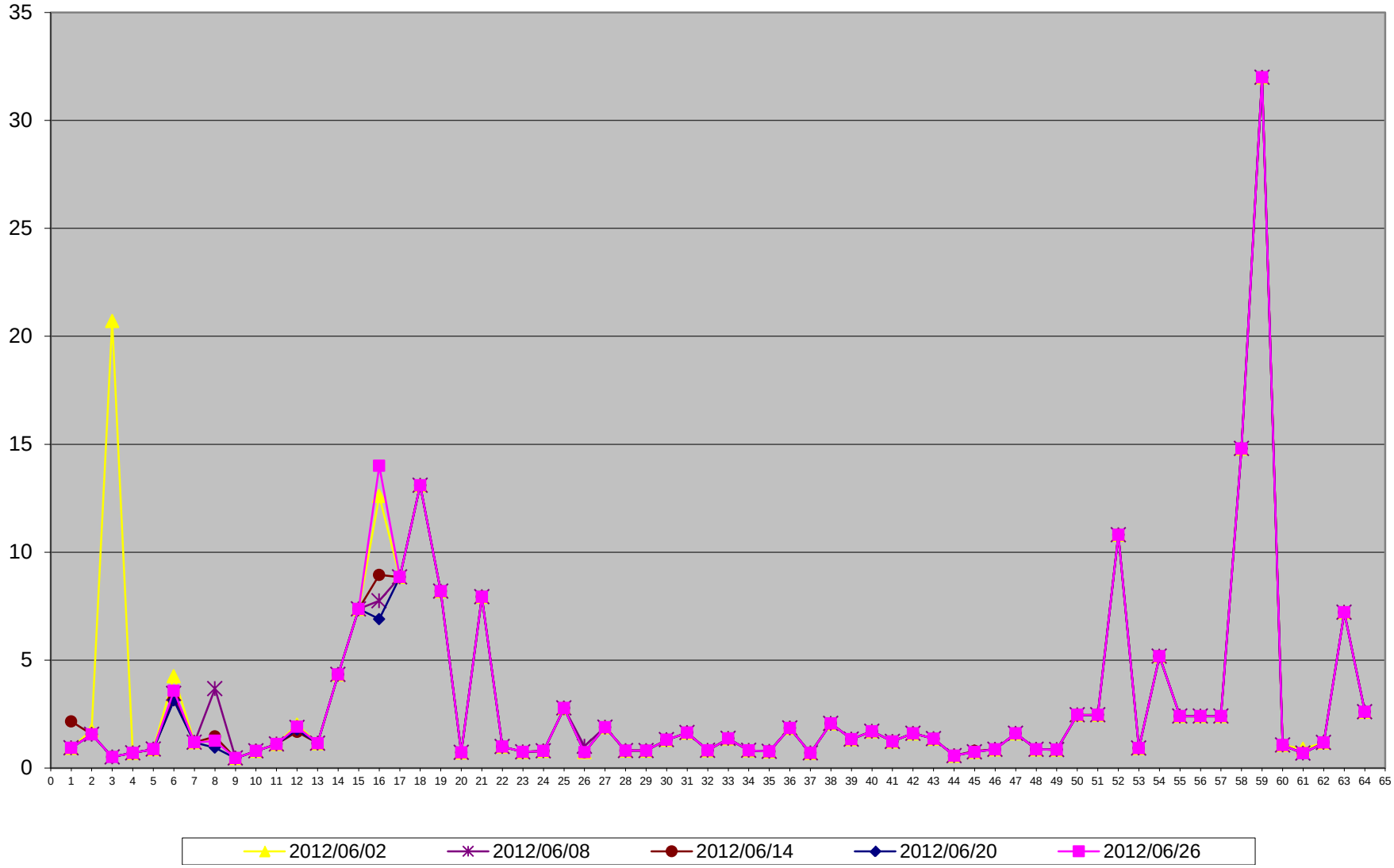
CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS



JOB #: 2833-12-06-35-C

Volatile Organics

Volatile Organics in ug/m3 Site: LICA - Portable - Elk Point Airport



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 June 2012

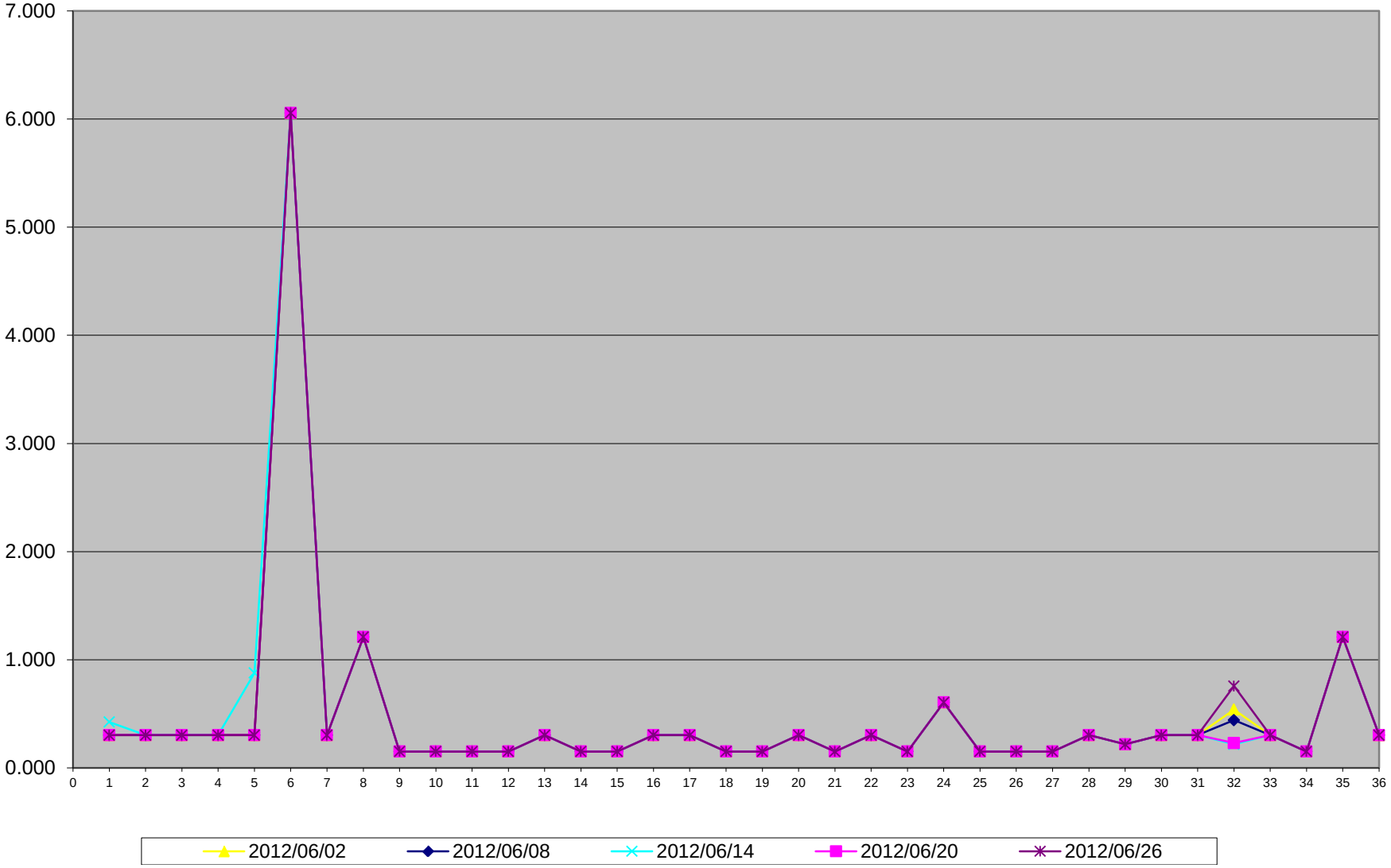
LICA - Portable Site - Elk Point Airport

Unit: ng/m3

	PAHs	2012/06/02	2012/06/08	2012/06/14	2012/06/20	2012/06/26
	Sample Volume (unit: m3)	330.34	330.33	330.34	330.34	330.33
1	1-Methylnaphthalene	0.303	0.303	0.424	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	0.303	0.878	0.303	0.303
6	3-Methylcholanthrene	6.055	6.055	6.055	6.055	6.055
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	0.151	0.151	0.151	0.151
11	Anthracene	0.151	0.151	0.151	0.151	0.151
12	Benzo(a)anthracene	0.151	0.151	0.151	0.151	0.151
13	Benzo(a)fluorene	0.303	0.303	0.303	0.303	0.303
14	Benzo(a)pyrene	0.151	0.151	0.151	0.151	0.151
15	Benzo(b)fluoranthene	0.151	0.151	0.151	0.151	0.151
16	Benzo(b)fluorene	0.303	0.303	0.303	0.303	0.303
17	Benzo(e)pyrene	0.303	0.303	0.303	0.303	0.303
18	Benzo(g,h,I)perylene	0.151	0.151	0.151	0.151	0.151
19	Benzo(k)fluoranthene	0.151	0.151	0.151	0.151	0.151
20	Biphenyl	0.303	0.303	0.303	0.303	0.303
21	Chrysene	0.151	0.151	0.151	0.151	0.151
22	Coronene	0.303	0.303	0.303	0.303	0.303
23	Dibenz(a,h)anthracene	0.151	0.151	0.151	0.151	0.151
24	Dibenzo(a,e)pyrene	0.605	0.605	0.605	0.605	0.605
25	Fluoranthene	0.151	0.151	0.151	0.151	0.151
26	Fluorene	0.151	0.151	0.151	0.151	0.151
27	Indeno(1,2,3-cd)pyrene	0.151	0.151	0.151	0.151	0.151
28	m-Terphenyl	0.303	0.303	0.303	0.303	0.303
29	Naphthalene	0.218	0.218	0.218	0.218	0.218
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	0.539	0.442	0.218	0.230	0.757
33	p-Terphenyl	0.303	0.303	0.303	0.303	0.303
34	Pyrene	0.151	0.151	0.151	0.151	0.151
35	Quinoline	1.211	1.211	1.211	1.211	1.211
36	Tetralin	0.303	0.303	0.303	0.303	0.303

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

PAHs in ng/m3 Site: LICA - Portable - Elk Point Airport



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	June 15, 2012	Previous Calibration	May 9, 2012
Company	Lakeland Community and Industry Association		
Plant / Location	Portable / Elk Poin Airport		
Start Time (MST)	9:49	End Time (MST)	13:52
Reason:		Monthly Calibration	
Barometric Pressure	0.934 atm	Station Temperature	22 Deg C
Cal Gas	49.6 ppm	Gas Cyl. # LL42496	Cal Gas Expiry date January 16, 2014
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	578 ccm	31.2 Deg C	578 ccm	30.1 Deg C
HVPS / Lamp Setting	612	1772	612	1770
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	81.9	1.249	83.1	1.258

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	1	N/A
4995	0	0	0	N/A
4924	75.6	750	745	1.0067
4924	75.6	750	751	0.9987
4953	40.3	400	403	0.9933
4982	17.1	170	171	0.9922
4995	0	0	0	N/A
			Sum of Least Squares	0.9973
			New Correction Factor	0.9987

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	2.6	1.4
Auto Span	383.0	379.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	1.0067
Percent Change:	-0.7%

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

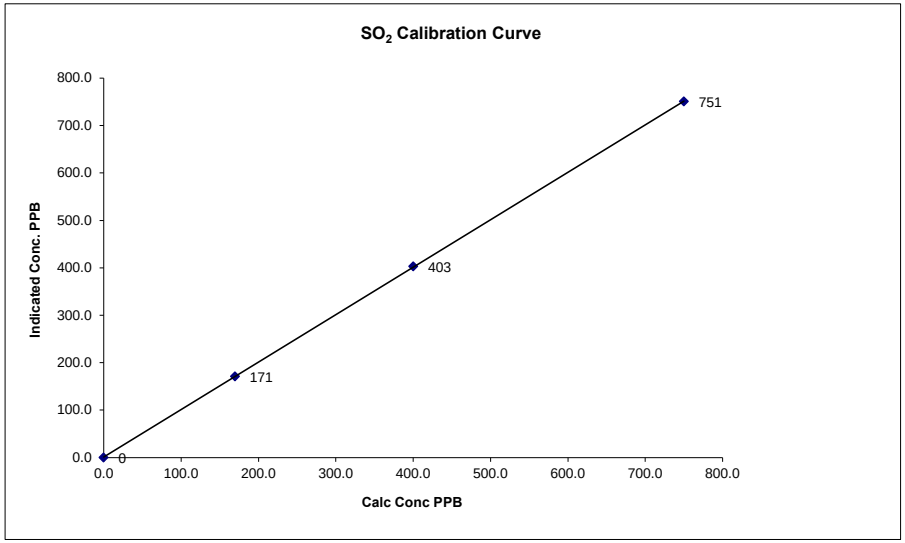
Calibration Performed by: Ting Xu

SO_2 Calibration Curve

Calibration Date	June 15, 2012		
Company	Lakeland Community and Industry Association		
Plant / Location	Portable / Elk Poin Airport		
Start Time (MST)	9:49	End Time (MST)	13:52

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
170	171	0.9922
400	403	0.9933
750	751	0.9987

Correlation Coefficient	(≥ 0.995)	0.999990
Slope	(0.85 to 1.15)	1.001233
Intercept	(± 3% F.S.)	0.846445



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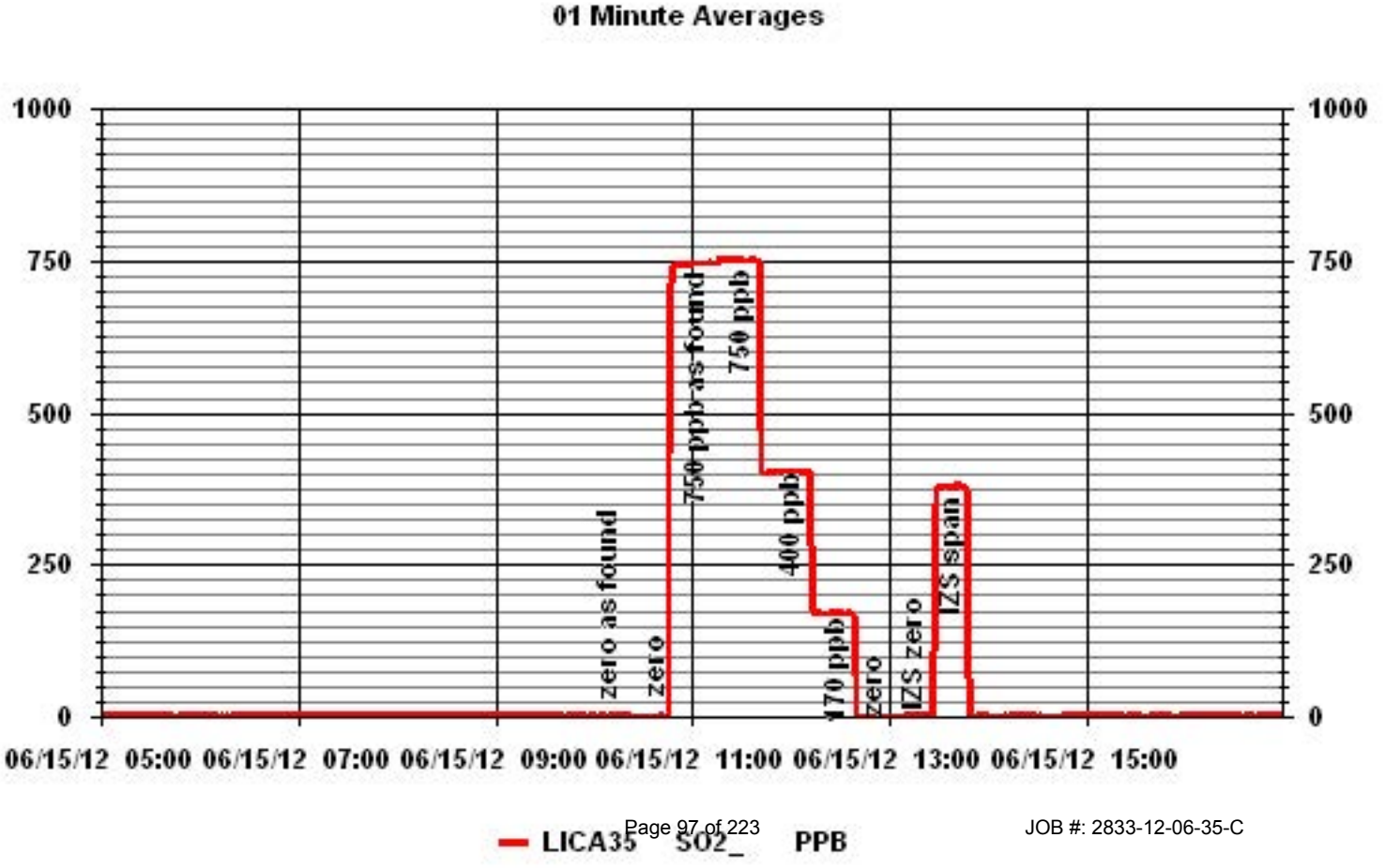


JOB #: 2833-12-06-35-C

Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	June 14, 2012		Previous Calibration	May 9, 2012	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	Portable/ Elk Point Airport				
Start Time (MST)	8:59		End Time (MST)	13:14	
Reason:	Monthly Calibration				
Barometric Pressure	0.926	atm	Station Temperature	23	Deg C
Cal Gas	10 ppm	Gas Cyl. #	LL42648	Cal Gas Expiry date	December 27, 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	517	ccm	30.7	Deg C	519	ccm	28.6	Deg C
HVPS / Lamp Setting	540		1965		540		1967	
PMT / RxCell Temp	7.9	Deg C	50	Deg C	7.9	Deg C	50	Deg C
Converter / IZS Temp	315	Deg C	45	Deg C	314.7	Deg C	45.0	Deg C
Offset / Slope	81.7		1.004		85		0.993	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	2	NA
4955	0	0	0	NA
4959	40.0	80	82	0.9758
4959	40.0	80	80	1.0000
4975	20.0	40	41	0.9766
4986	11.5	23	24	0.9588
4995	0	0	1	NA
			Sum of Least Squares	0.9930
			New Correction Factor	1.0000

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	3.3	2.1
Auto Span	61.1	57.7
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	0.9879
Current Correction Factor Before Span Adjust:	0.9758
Percent Change:	1.2%

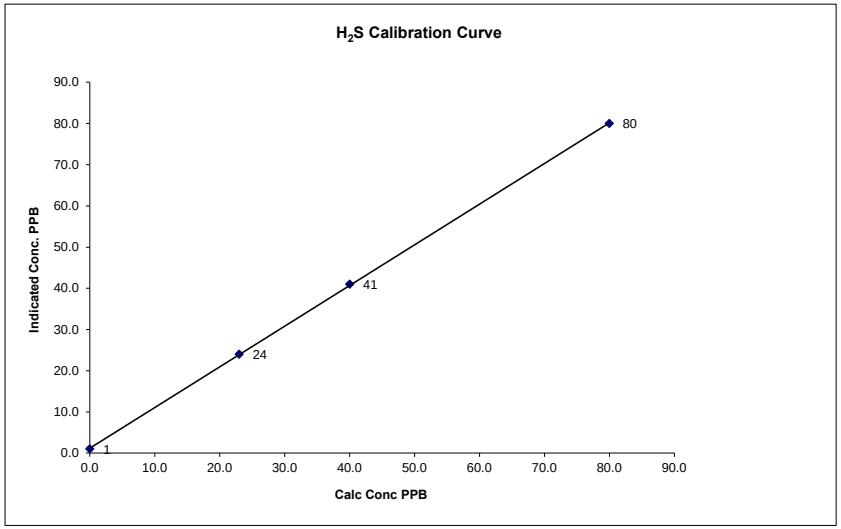
Notes: **NA : Not Applicable**

Calibration Performed by: Ting Xu

H_2S Calibration Curve

Calibration Date	June 14, 2012				
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	Portable/ Elk Point Airport				
Start Time (MST)	8:59		End Time (MST)	13:14	

Calculated Conc. ppb	Indicated Response ppb	Correction Factor			
0	1		Correlation Coefficient	(≥ 0.995)	0.999953
			Slope	(0.85 to 1.15)	0.986841
			Intercept	(± 3% F.S.)	1.203783
23	24	0.9588			
40	41	0.9766			
80	80	1.0002			



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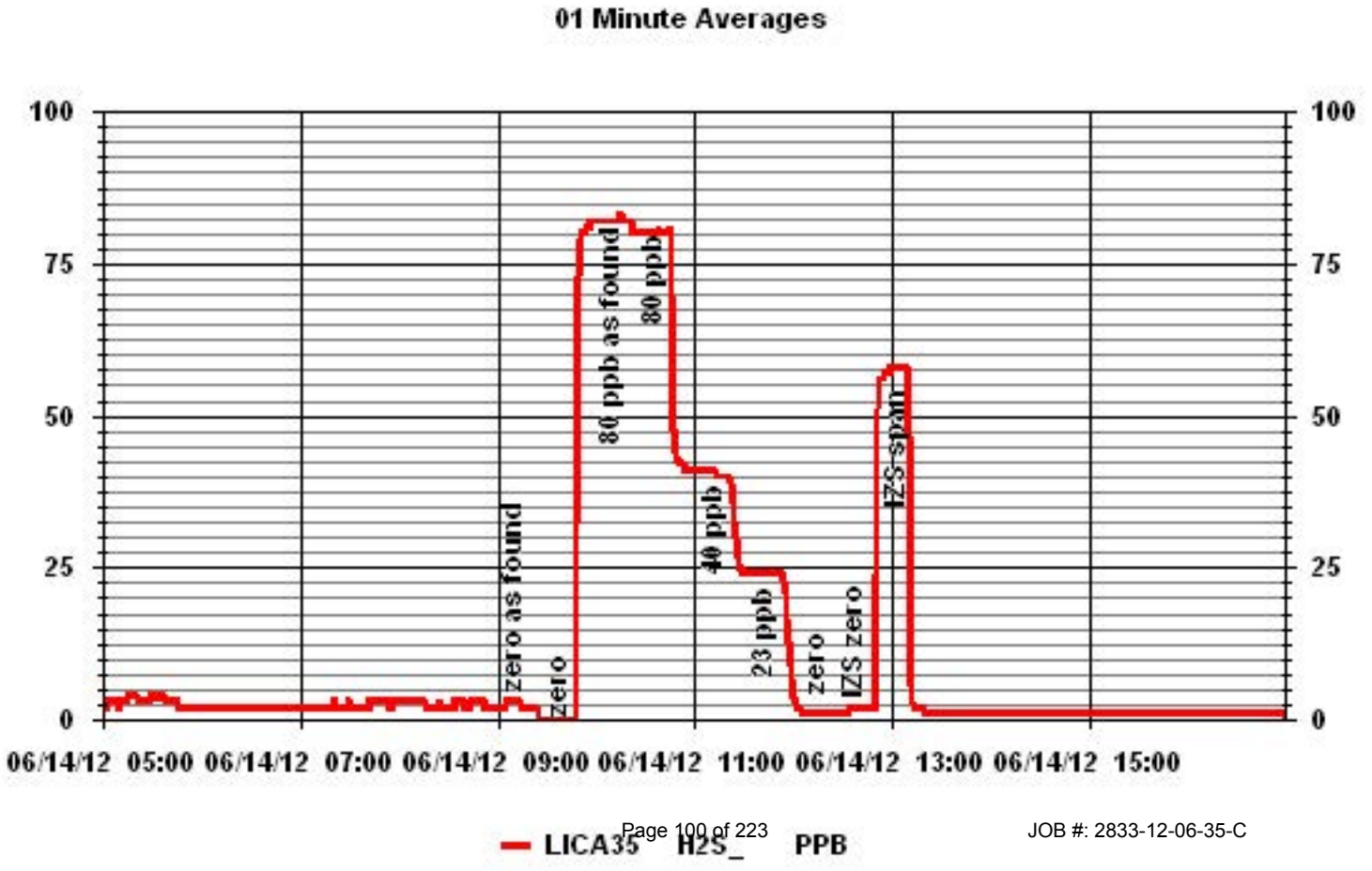


JOB #: 2833-12-06-35-C

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	June 14, 2012		Previous Calibration	May 10, 2012	
Company:	**Lakeland Industry and Community Association**				
Plant / Location:	**ELICA Portable Station / Elk Point Airport**				
Start Time (MST)	12:33		End Time (MST)	16:33	
Reason:	Monthly Calibration				
Barometric Pressure:	0.928	atm	Station Temperature:	22	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 600 PPM		C3H8	204 PPM	
	TOTAL CH4 1161.0 PPM		Gas Cyl. #	LL155310	Cal Gas Expiry Date: September 9, 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	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
2000	0.0	0.0	0.2	NA
2000	0.0	0.0	0.0	NA
2000	74.0	41.4	42.3	0.9793
2000	74.0	41.4	41.5	0.9982
2000	37.0	21.1	20.8	1.0139
2000	20.0	11.5	11.3	1.0173
2000	0.0	0.0	0.0	NA
			New Correction Factor:	0.9982

Percent Change

Previous Calibration Correction Factor:	0.9982
Current Correction Factor Before Span Adjust:	0.9793
Percent Change:	1.9%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.2	0.0
Auto Span	32.7	32.1
Sample Lines Connected		**YES**

Cylinder Pressures

Span 700 psi Hydrogen 1900 psi Zero Air 35 psi

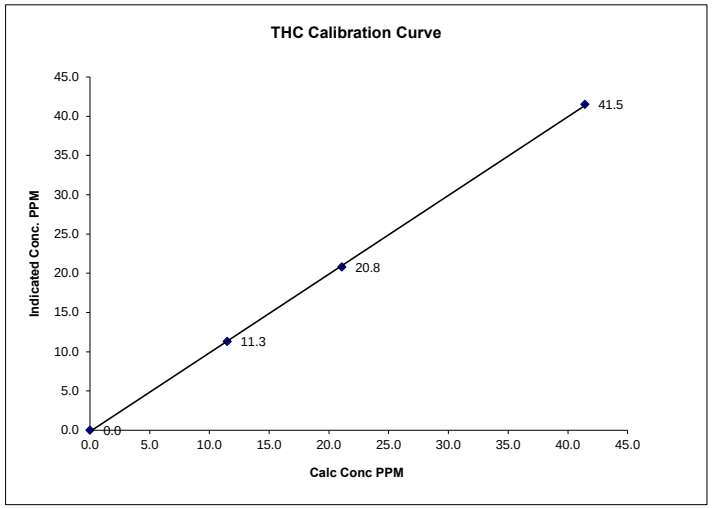
Notes: **NA : Not Applicable**

Calibration Performed by: Ting Xu

THC Calibration Curve

Calibration Date	June 14, 2012				
Company	**Lakeland Industry and Community Association**				
Plant / Location	**ELICA Portable Station / Elk Point Airport**				
Start Time (MST)	12:33	End Time	(MST)	16:33	

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999915
			Slope (0.85 to 1.15)	1.002551
0.0	0.0	NA	Intercept (± 3% F.S.)	-0.14913
11.5	11.3	1.0173		
21.1	20.8	1.0139		
41.4	41.5	0.9982		



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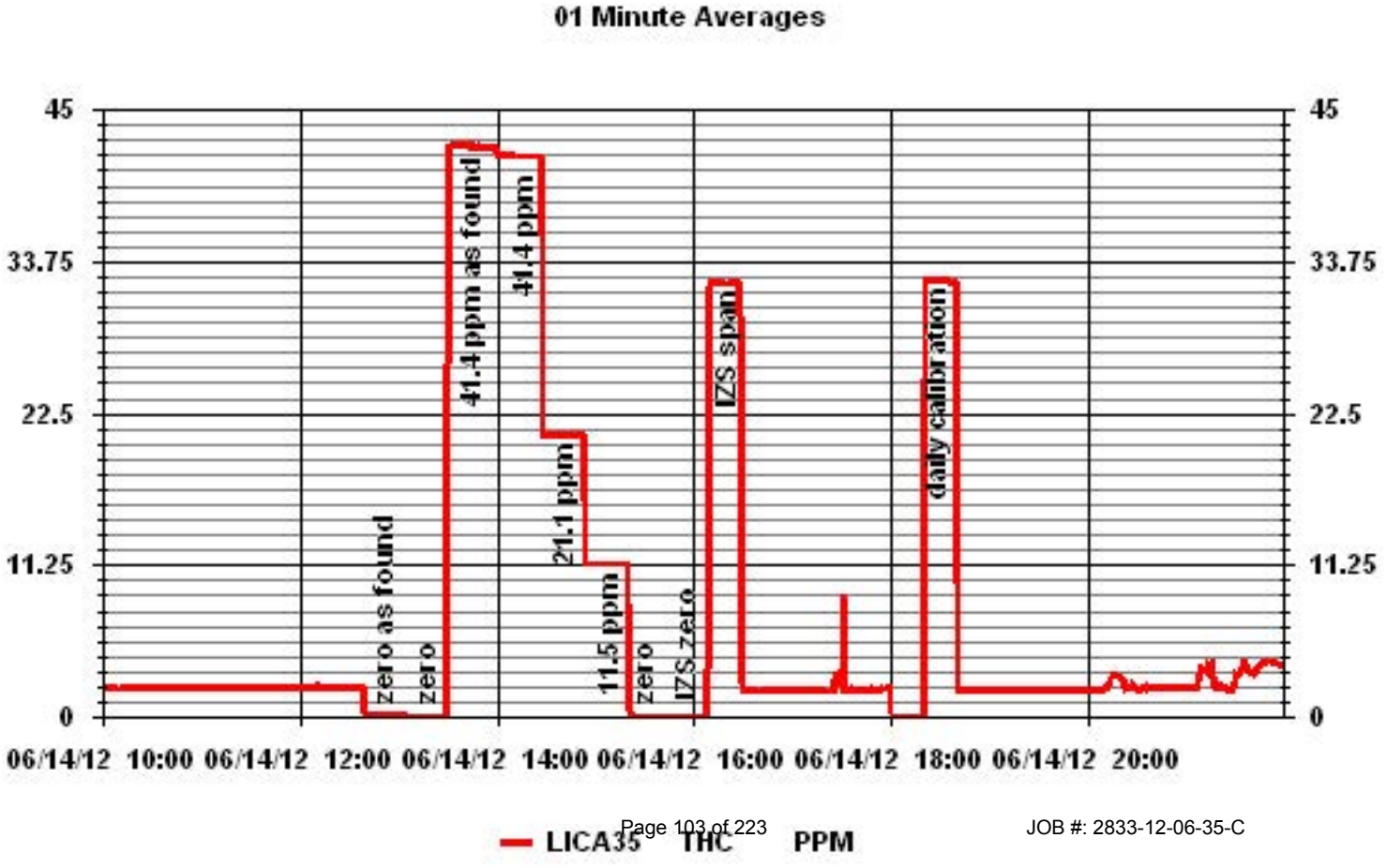


JOB #: 2833-12-06-35-C

Particulate Matter 2.5

TEOM 1405F Audit

Station		Audit Transfer Standard	
Date:	June 15, 2012	Make/Model:	Streamline FTS
Station Name:	Lica Portable (CASA # 35)	Serial Number:	Hi 091001, Low 091099
Location:	Elk Point Airport	Cell s/n:	NA
Operator:	LICA	Thermometer s/n:	Fisher Brand 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	1405A208301003	Filter Load (%)	27.6%
Firmware Ver.	1.52	K_o Factor	13125
Parameter	PM 2.5 (with FDMS)	Temp (^oC)	15.4
		Press (ATM)	0.933

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**	0.009	Warnings	None
Pump Vacuum **<0.40atm**	0.32	Pump Gauge (inHg)	-19

Temperature/Pressure

Measured Temp **(± 2 °C)**	16.2	**D °C**	-0.8
Measured Press **(± 0.01atm)**	0.931	**DATM**	0.002

Flow Audit

Indicated Main Flow (l/min)	3.00	Main Flow Drift **(±10.0%)**	1.26%
Measured Main Flow (l/min)	3.01	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift **(±10.0%)**	1.27%
Measured Bypass Flow (l/min)	13.81	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: 11:15 **Finish Time:** 12:29

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

New Filter Loading %: 17.8%

Comments:

Auditor/s: Ting Xu

JOB #: 2833-12-06-35-C

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	June 14, 2012		Previous Calibration	May 18, 2012	
Company	LICA		Plant/Location	**Portable/Elk Point Airport**	
Start Time (MST)	10:40		End Time (MST)	17:20	
Reason:	Post Repair Calibration				
Barometric Pressure	0.927 atm	Station Temperature	21 Deg C	MFCF	0
Cal Gas Concentration	NOx 49.6 ppm	NO 49.5 ppm	Cal Gas Expiry date	January 16, 2014	
Cal Gas Cylinder #	LL42496				
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	469	ccm	315	Deg C		470	ccm	314	Deg C
Ozone Flow / Vacuum	77	ccm	5.1	"Hg-A		77	ccm	4.5	"Hg-A
HVPS / A ZERO	646	Volts	6.0	MV		646	Volts	6.4	MV
Rx/ Temp / PMT Temp	50.0	Deg C	6.7	Deg C		50.0	Deg C	6.7	Deg C
Box Temp / IZS Temp	31.2	Deg C	45.1	Deg C		29.9	Deg C	45.1	Deg C
Offset	1.9	NOx	0.0	NO		0.5	NOx	0.2	NO
Slope	1.172	NOx	1.157	NO		1.226	NOx	1.218	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	0	0	0	NA	NA
	No Zero Adj.									
4919	75.5	NA	750	748	NA	751	749	3	0.9984	0.9990
	No Span Adj.									
4953	40.3	NA	400	400	NA	397	398	-1	1.0083	1.0038
4974	20.2	NA	201	200	NA	199	199	0	1.0081	1.0061
4994		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		
4918	75.6	NA	751	749	NA	750	749	1	NA	NA
4918	75.6	600	751	NA	539	749	211	537	1.0037	99.63%
4918	75.6	600	751	NA	540	749	210	539	1.0019	99.81%
4918	75.6	250	751	NA	229	750	521	229	1.0000	100.00%
4918	75.6	140	751	NA	129	751	621	130	0.9923	100.78%

Linearity			Sum of Least Squares	NOx=	1.001	NO=	1.000	NO2= 1.001
OK?	Yes	No	Correction Factors:	NOx=	0.9984	NO=	0.9990	NO2= 1.0019
						Average Converter Efficiency=		100.06%

IZS Calibration Data

	Before Calibration					After Calibration			
Auto Zero	-	NOx	-	NO2		-0.1	NOx	-0.3	NO2
Auto Span	-	NOx	-	NO2		624	NOx	614	NO2
					Sample Lines Connected	YES			
Percent Change from Previous Calibration					NOx 0.5%	NO	0.7%	NO2	0.0%

Notes

NA : Not Applicable

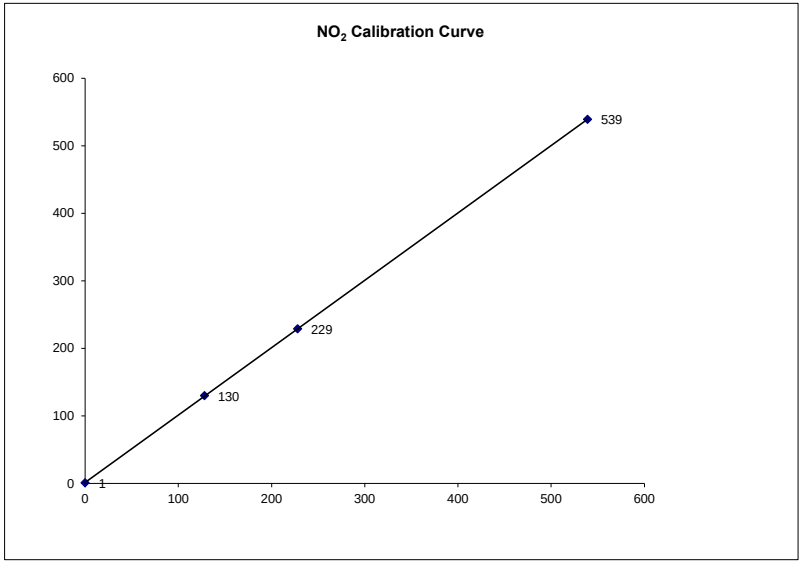
Additional point done for ozone cal: O3 set point 420, NOx 751, NO 370, NO2 381

Calibration Performed by: Ting Xu

NO_2 Calibration Curve

Calibration Date	June 14, 2012				
Company	**LICA**				
Plant / Location	**Portable/Elk Point Airport**				
Start Time (MST)	10:40	End Time (MST)	17:20		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999994
0	1	N/A	Slope (0.85 to 1.15)	0.997409
128	130	0.9846	Intercept (± 3% F.S.)	1.57971
228	229	0.9956		
539	539	1.0000		

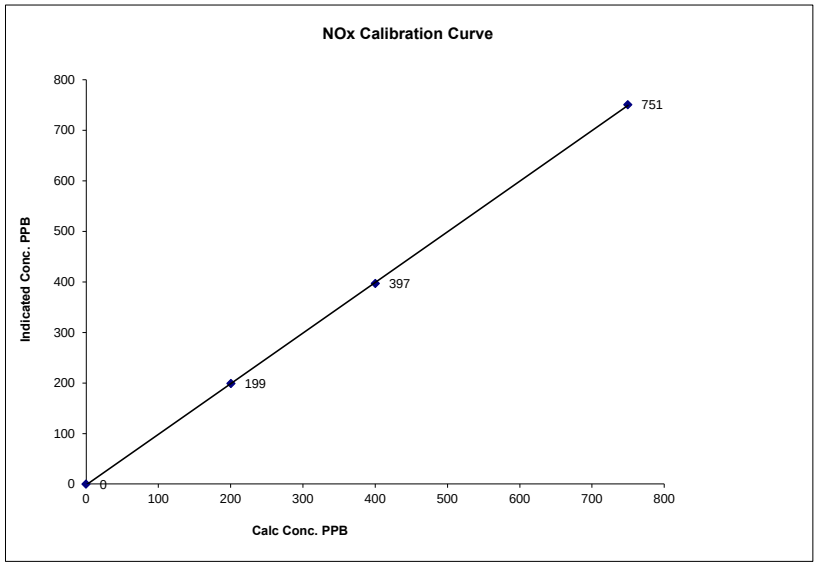


Notes:

NOx Calibration Curve

Calibration Date	June 14, 2012		
Company	LICA		
Plant / Location	Portable/Elk Point Airport		
Start Time (MST)	10:40	End Time (MST)	17:20

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999965
			Slope (0.85 to 1.15)	1.001680
0	0	N/A	Intercept (± 3% F.S.)	-1.49566
201	199	1.0081		
400	397	1.0083		
750	751	0.9984		

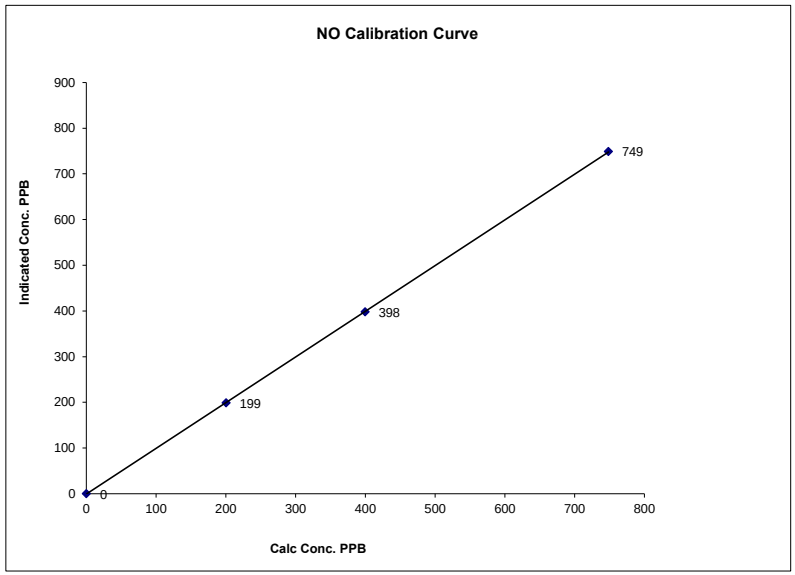


Notes:

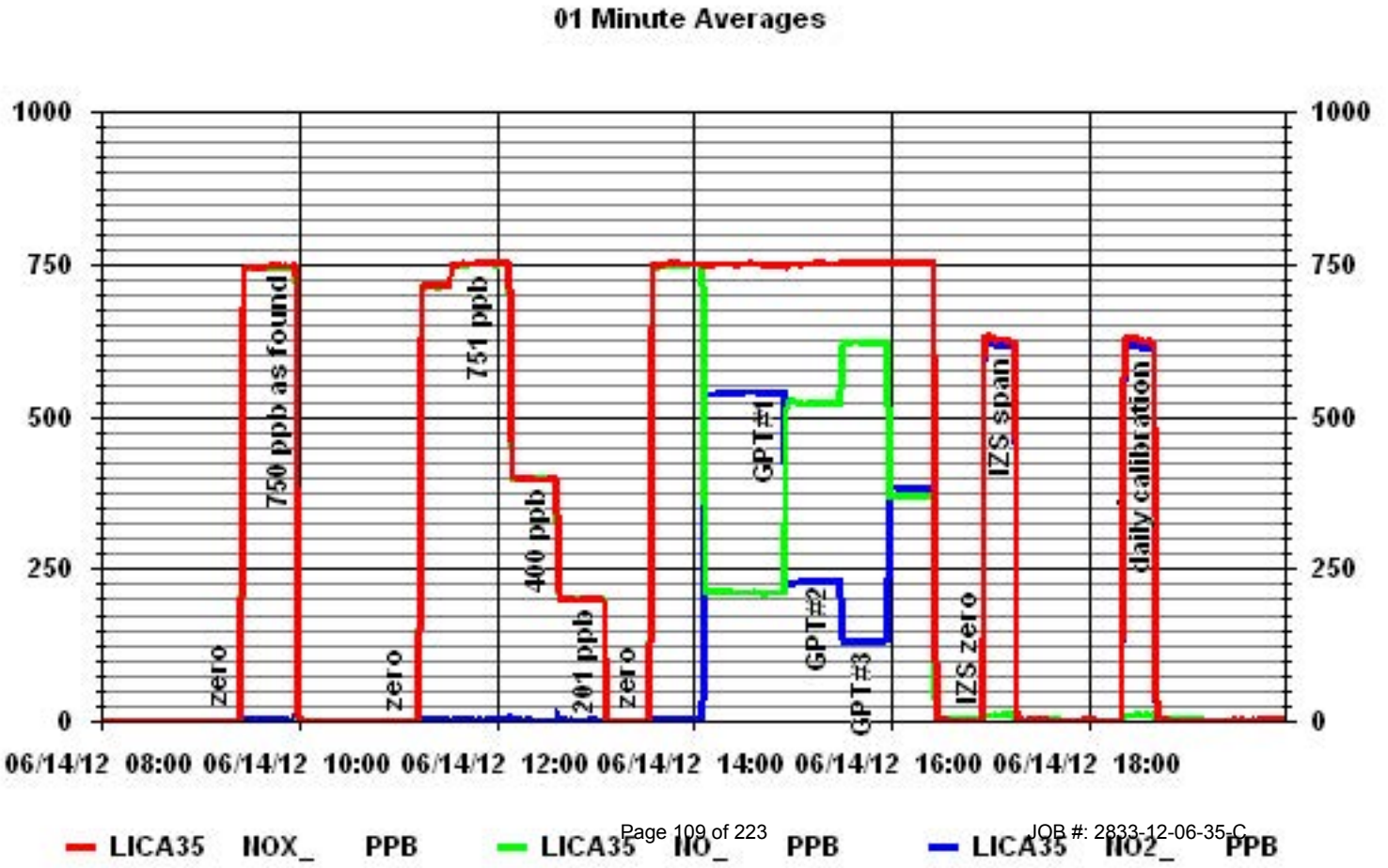
NO Calibration Curve

Calibration Date	June 14, 2012		
Company	LICA		
Plant / Location	Portable/Elk Point Airport		
Start Time (MST)	10:40	End Time (MST)	17:20

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999991
			Slope (0.85 to 1.15)	1.003861
0	0	N/A	Intercept (± 3% F.S.)	-4.0623
200	199	1.0061		
400	398	1.0038		
748	749	0.9990		



Notes:


01 Minute Averages
1000
750
500
250
0
zero
750 ppb as found
zero
751 ppb
400 ppb
201 ppb
zero
GPT#1
GPT#2
GPT#3
IZS zero
IZS span
daily calibration
06/14/12 08:00
06/14/12 10:00
06/14/12 12:00
06/14/12 14:00
06/14/12 16:00
06/14/12 18:00
LICA35 NOX_ PPB
LICA35 NO_ PPB
LICA35 NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	June 15, 2012	Previous Calibration	May 9, 2012
Company	Lakeland Industry & Community Association		
Plant / Location	Portable / Elk Point Airport		
Start Time (MST)	9:49	End Time (MST)	13:52
Reason:		Monthly Calibration	
Barometric Pressure	0.934 atm	Station Temperature	22 Deg C
DAS Output Voltage	0-10 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	1002240372	Method:	Photometric
Calibrator Make / Model:	Environics 6100		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	755	ccm	761	ccm	757	ccm	762	ccm
Pressure	694	mmHg			696	mmHg		
Bench Lamp	54.1	Deg C			54.1	DegC		
O3 Lamp / Box Temp	68.2	Deg C	30.8	Deg C	68.2	Deg C	30.2	Deg C
Offset / Slope	0.5		1		-0.2		1.005	

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	-1	NA
4994	0	0	0	NA
4994	420	379	376	1.0080
4994	420	379	380	0.9974
4994	250	226	228	0.9912
4994	140	128	128	1.0000
4994	0	0	0	NA
			Sum of Least Squares	0.9961
			New Correction Factor	0.9974

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	-0.6	0.1
Auto Span	325.0	330.0
Sample Lines Connected		YES
Previous Calibration Correction Factor:		1.0000
Current Correctio Factor Before Span Adjust:		1.0080
Percent Change:		-0.8%

Note: **NA : Not Applicable**

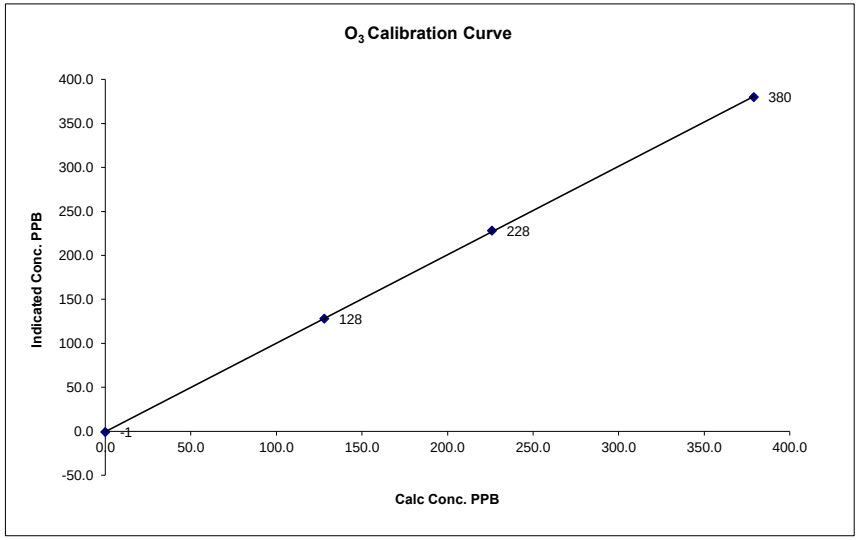
Calibration Performed by: Ting Xu

O_3 Calibration Curve

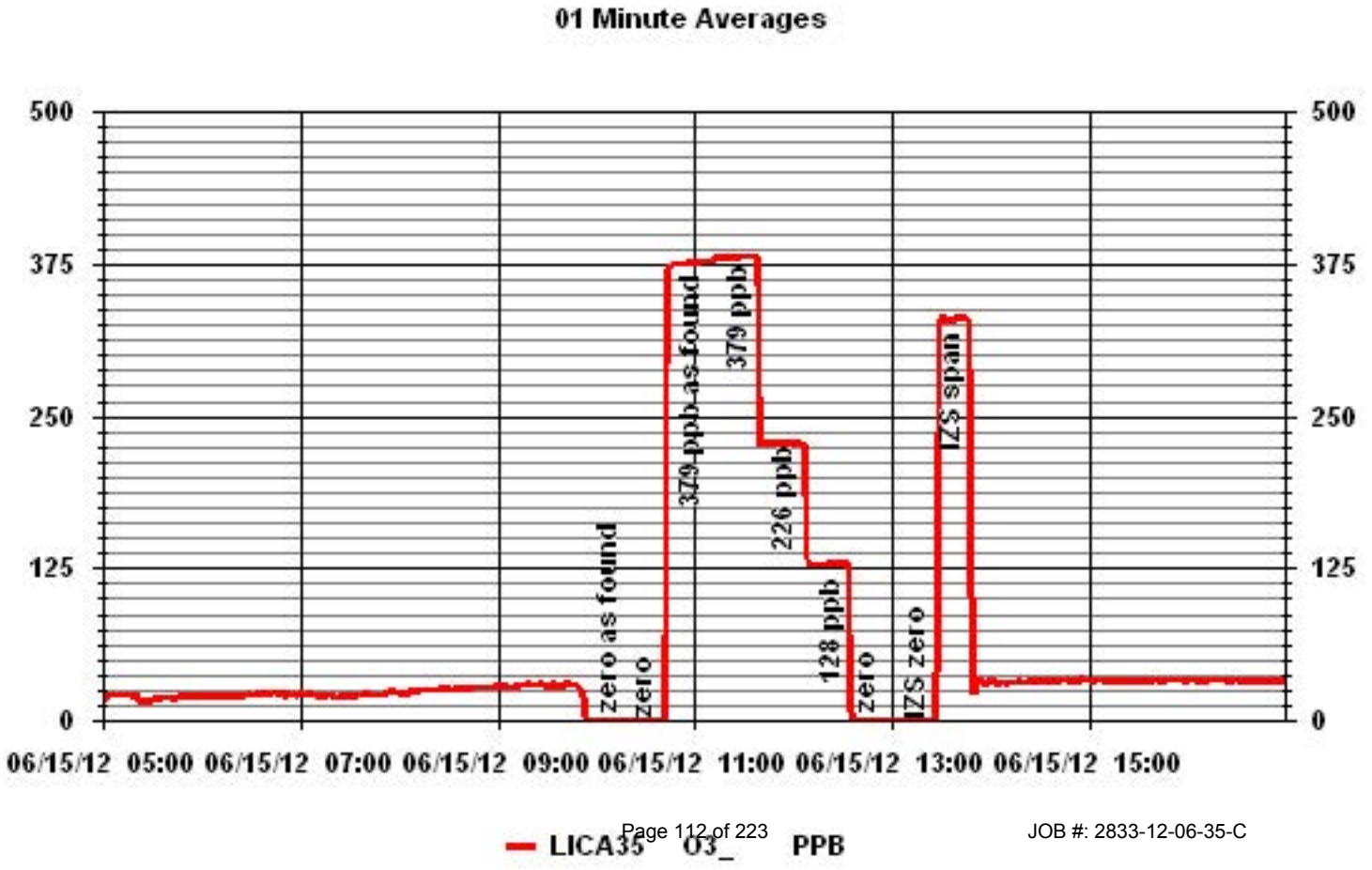
Calibration Date	June 15, 2012		
Company	Lakeland Industry & Community Association		
Plant / Location	Portable / Elk Point Airport		
Start Time (MST)	9:49	End Time (MST)	13:52

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	-1	n/a
128	128	1.0000
226	228	0.9912
379	380	0.9974

Correlation Coefficient	(≥ 0.995)	0.999972
Slope	(0.85 to 1.15)	1.006050
Intercept	(± 3% F.S.)	-0.608635



Notes:



JOB #: 2833-12-06-35-C

Volatile Organics Laboratory Analysis

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: Elk Point Airport
Station ID: Lica 35 (Portable)
Field Sample ID: LICA VOC/PORT/ Jun 02, 12

Sampler s/n: 6200
Canister ID: S2296
Canister Installation Date/Time: Jun 01, 12 @ 10:38 mst
Canister Removal Date/Time: Jun 05, 12 @ 10:41 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
02-Jun-12	06/02/2012 0:00	06/03/2012 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)
-28	21

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

Comments: System leak check prior to sampling. COC # 12144

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 12144

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

Report Date: 2012/06/18

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B283565
Received: 2012/06/07, 09:49

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	1	N/A	2012/06/08	BRL SOP-00304	EPA TO-15
Canister Pressure (TO-15)	1	N/A	2012/06/13	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2012/06/08	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2012/06/13	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 #: B283565
Report Date: 2012/06/18

RESULTS OF ANALYSES OF AIR

Maxxam ID		NS4814		NS4815	
Sampling Date		2012/06/02		2012/06/02	
COC Number		12144		12144	
	Units	**LICA VOC\ CLS\ JUN 02,12 / 287**	**QC Batch**	**LICA VOC\ PORT\ JUN 02,12 / S2296**	**QC Batch**
Volatile Organics					
Pressure on Receipt	psig	23	2876827	20	2880774

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		NS4814				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ CLS\ JUN 02,12 / 287**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2876878
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2876878
Propene	ppbv	<0.30	0.30	<0.516	0.516	2876878
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2876878
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2876878
Dichlorodifluoromethane (FREON 12)	ppbv	0.80	0.20	3.94	0.989	2876878
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2876878
Chloromethane	ppbv	0.66	0.30	1.36	0.620	2876878
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2876878
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2876878
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2876878
Trichlorofluoromethane (FREON 11)	ppbv	0.35	0.20	1.96	1.12	2876878
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2876878
Ethanol (ethyl alcohol)	ppbv	2.4	2.3	4.58	4.33	2876878
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2876878
2-Propanone	ppbv	5.54	0.80	13.1	1.90	2876878
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2876878
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2876878
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2876878
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2876878
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2876878
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2876878
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2876878
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2876878
Methylene Chloride(Dichloromethane)	ppbv	1.29	0.80	4.49	2.78	2876878
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2876878
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2876878
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2876878
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2876878
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2876878
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2876878

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B283565
Report Date: 2012/06/18

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NS4814				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ CLS\ JUN 02,12 / 287**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2876878
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2876878
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2876878
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2876878
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2876878
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2876878
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2876878
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2876878
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2876878
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2876878
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2876878
Tetrachloroethylene	ppbv	0.28	0.20	1.93	1.36	2876878
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2876878
Toluene	ppbv	0.36	0.20	1.34	0.753	2876878
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2876878
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2876878
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2876878
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2876878
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2876878
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2876878
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2876878
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2876878
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2876878
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2876878
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2876878
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2876878
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2876878
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2876878
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2876878
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2876878
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2876878
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2876878
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2876878

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B283565
Report Date: 2012/06/18

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NS4814				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ CLS\ JUN 02,12 / 287**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)						
Bromochloromethane	%	87		N/A	N/A	2876878
D5-Chlorobenzene	%	85		N/A	N/A	2876878
Difluorobenzene	%	86		N/A	N/A	2876878

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

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Maxxam Analytics

Maxxam Job #: B283565
Report Date: 2012/06/18

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NS4815				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ PORT\ JUN 02,12 / S2296**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2880778
Carbon Disulfide	ppbv	0.56	0.50	1.75	1.56	2880778
Propene	ppbv	<12	12	<20.7	20.7	2880778
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2880778
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2880778
Dichlorodifluoromethane (FREON 12)	ppbv	0.86	0.20	4.25	0.989	2880778
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2880778
Chloromethane	ppbv	0.63	0.30	1.30	0.620	2880778
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2880778
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2880778
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2880778
Trichlorofluoromethane (FREON 11)	ppbv	0.36	0.20	2.01	1.12	2880778
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2880778
Ethanol (ethyl alcohol)	ppbv	<2.3	2.3	<4.33	4.33	2880778
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2880778
2-Propanone	ppbv	5.31	0.80	12.6	1.90	2880778
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2880778
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2880778
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2880778
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2880778
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2880778
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2880778
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2880778
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2880778
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2880778
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2880778
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2880778
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2880778
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2880778
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2880778

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B283565
Report Date: 2012/06/18

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NS4815				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ PORT\ JUN 02,12 / S2296**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2880778
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2880778
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2880778
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2880778
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2880778
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2880778
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2880778
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2880778
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2880778
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2880778
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2880778
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2880778
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2880778
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2880778
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2880778
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2880778
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2880778
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2880778
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2880778
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2880778
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2880778
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2880778
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2880778
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2880778
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2880778
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2880778
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2880778
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2880778
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2880778
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2880778
Cyclohexane	ppbv	0.26	0.20	0.893	0.688	2880778
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2880778

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B283565
Report Date: 2012/06/18

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NS4815				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ PORT\ JUN 02,12 / S2296**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2880778
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2880778
Surrogate Recovery (%)						
Bromochloromethane	%	91		N/A	N/A	2880778
D5-Chlorobenzene	%	98		N/A	N/A	2880778
Difluorobenzene	%	95		N/A	N/A	2880778

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

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Maxxam Job #: B283565
Report Date: 2012/06/18

Test Summary

Maxxam ID NS4814 **Collected** 2012/06/02
Sample ID LICA VOC\ CLS\ JUN 02,12 / 287 **Shipped**
Matrix AIR **Received** 2012/06/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2876827	N/A	2012/06/08	YAO LIANG SUN
Volatile Organics in Air (TO-15)	GC/MS	2876878	N/A	2012/06/08	YAO LIANG SUN

Maxxam ID NS4815 **Collected** 2012/06/02
Sample ID LICA VOC\ PORT\ JUN 02,12 / S2296 **Shipped**
Matrix AIR **Received** 2012/06/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2880774	N/A	2012/06/13	YAO LIANG SUN
Volatile Organics in Air (TO-15)	GC/MS	2880778	N/A	2012/06/13	YAO LIANG SUN

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Maxxam Analytics

Maxxam Job #: B283565
Report Date: 2012/06/18

GENERAL COMMENTS

Sample NS4815-01: TO15
Increased DL for propene due to interference.

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: GB283565

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2876878 LSY	Spiked Blank	Bromochloromethane	2012/06/08		102	%	60 - 140
		D5-Chlorobenzene	2012/06/08		102	%	60 - 140
		Difluorobenzene	2012/06/08		101	%	60 - 140
		2,2,4-Trimethylpentane	2012/06/08		97	%	70 - 130
		Carbon Disulfide	2012/06/08		97	%	70 - 130
		Propene	2012/06/08		96	%	70 - 130
		Vinyl Acetate	2012/06/08		103	%	70 - 130
		Vinyl Bromide	2012/06/08		100	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2012/06/08		99	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2012/06/08		111	%	70 - 130
		Chloromethane	2012/06/08		99	%	70 - 130
		Vinyl Chloride	2012/06/08		99	%	70 - 130
		Chloroethane	2012/06/08		98	%	70 - 130
		1,3-Butadiene	2012/06/08		98	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2012/06/08		99	%	70 - 130
		Trichlorotrifluoroethane	2012/06/08		100	%	70 - 130
		Ethanol (ethyl alcohol)	2012/06/08		80	%	70 - 130
		2-propanol	2012/06/08		103	%	70 - 130
		2-Propanone	2012/06/08		97	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2012/06/08		95	%	70 - 130
		Methyl Isobutyl Ketone	2012/06/08		102	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2012/06/08		107	%	70 - 130
		Methyl t-butyl ether (MTBE)	2012/06/08		102	%	70 - 130
		Ethyl Acetate	2012/06/08		100	%	70 - 130
		1,1-Dichloroethylene	2012/06/08		100	%	70 - 130
		cis-1,2-Dichloroethylene	2012/06/08		102	%	70 - 130
		trans-1,2-Dichloroethylene	2012/06/08		100	%	70 - 130
		Methylene Chloride(Dichloromethane)	2012/06/08		88	%	70 - 130
		Chloroform	2012/06/08		99	%	70 - 130
		Carbon Tetrachloride	2012/06/08		103	%	70 - 130
		1,1-Dichloroethane	2012/06/08		99	%	70 - 130
		1,2-Dichloroethane	2012/06/08		102	%	70 - 130
		Ethylene Dibromide	2012/06/08		100	%	70 - 130
		1,1,1-Trichloroethane	2012/06/08		100	%	70 - 130
		1,1,2-Trichloroethane	2012/06/08		98	%	70 - 130
		1,1,2,2-Tetrachloroethane	2012/06/08		92	%	70 - 130
		cis-1,3-Dichloropropene	2012/06/08		100	%	70 - 130
		trans-1,3-Dichloropropene	2012/06/08		107	%	70 - 130
		1,2-Dichloropropane	2012/06/08		97	%	70 - 130
		Bromomethane	2012/06/08		98	%	70 - 130
		Bromoform	2012/06/08		103	%	70 - 130
		Bromodichloromethane	2012/06/08		101	%	70 - 130
		Dibromochloromethane	2012/06/08		103	%	70 - 130
		Heptane	2012/06/08		99	%	70 - 130
		Trichloroethylene	2012/06/08		99	%	70 - 130
		Tetrachloroethylene	2012/06/08		101	%	70 - 130
		Benzene	2012/06/08		100	%	70 - 130
		Toluene	2012/06/08		102	%	70 - 130
		Ethylbenzene	2012/06/08		102	%	70 - 130
		p+m-Xylene	2012/06/08		101	%	70 - 130
		o-Xylene	2012/06/08		102	%	70 - 130
		Styrene	2012/06/08		89	%	70 - 130
		1,3,5-Trimethylbenzene	2012/06/08		95	%	70 - 130
		1,2,4-Trimethylbenzene	2012/06/08		92	%	70 - 130
		4-ethyltoluene	2012/06/08		97	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB283565

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2876878	LSY	Spiked Blank	Chlorobenzene	2012/06/08		100	%	70 - 130
			Benzyl chloride	2012/06/08		91	%	70 - 130
			1,3-Dichlorobenzene	2012/06/08		88	%	70 - 130
			1,4-Dichlorobenzene	2012/06/08		85	%	70 - 130
			1,2-Dichlorobenzene	2012/06/08		82	%	70 - 130
			1,2,4-Trichlorobenzene	2012/06/08		92	%	70 - 130
			Hexachlorobutadiene	2012/06/08		85	%	70 - 130
			Hexane	2012/06/08		101	%	70 - 130
			Cyclohexane	2012/06/08		100	%	70 - 130
			Tetrahydrofuran	2012/06/08		101	%	70 - 130
			1,4-Dioxane	2012/06/08		101	%	70 - 130
			Xylene (Total)	2012/06/08		101	%	70 - 130
		Method Blank	Bromochloromethane	2012/06/08		91	%	60 - 140
			D5-Chlorobenzene	2012/06/08		88	%	60 - 140
			Difluorobenzene	2012/06/08		91	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/08	<0.20		ppbv	
			Carbon Disulfide	2012/06/08	<0.50		ppbv	
			Propene	2012/06/08	<0.30		ppbv	
			Vinyl Acetate	2012/06/08	<0.20		ppbv	
			Vinyl Bromide	2012/06/08	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/06/08	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/06/08	<0.17		ppbv	
			Chloromethane	2012/06/08	<0.30		ppbv	
			Vinyl Chloride	2012/06/08	<0.18		ppbv	
			Chloroethane	2012/06/08	<0.30		ppbv	
			1,3-Butadiene	2012/06/08	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/06/08	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/06/08	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/06/08	<2.3		ppbv	
			2-propanol	2012/06/08	<3.0		ppbv	
			2-Propanone	2012/06/08	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/06/08	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/06/08	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/06/08	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/06/08	<0.20		ppbv	
			Ethyl Acetate	2012/06/08	<2.2		ppbv	
			1,1-Dichloroethylene	2012/06/08	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/06/08	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/06/08	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/06/08	<0.80		ppbv	
			Chloroform	2012/06/08	<0.15		ppbv	
			Carbon Tetrachloride	2012/06/08	<0.30		ppbv	
			1,1-Dichloroethane	2012/06/08	<0.20		ppbv	
			1,2-Dichloroethane	2012/06/08	<0.20		ppbv	
			Ethylene Dibromide	2012/06/08	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/06/08	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/06/08	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/06/08	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/06/08	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/06/08	<0.17		ppbv	
			1,2-Dichloropropane	2012/06/08	<0.40		ppbv	
			Bromomethane	2012/06/08	<0.18		ppbv	
			Bromoform	2012/06/08	<0.20		ppbv	
			Bromodichloromethane	2012/06/08	<0.20		ppbv	
			Dibromochloromethane	2012/06/08	<0.20		ppbv	

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Quality Assurance Report (Continued)

Maxxam Job Number: GB283565

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2876878	LSY	Method Blank	Heptane	2012/06/08	<0.30		ppbv	
			Trichloroethylene	2012/06/08	<0.30		ppbv	
			Tetrachloroethylene	2012/06/08	<0.20		ppbv	
			Benzene	2012/06/08	<0.18		ppbv	
			Toluene	2012/06/08	<0.20		ppbv	
			Ethylbenzene	2012/06/08	<0.20		ppbv	
			p+m-Xylene	2012/06/08	<0.37		ppbv	
			o-Xylene	2012/06/08	<0.20		ppbv	
			Styrene	2012/06/08	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/06/08	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/06/08	<0.50		ppbv	
			4-ethyltoluene	2012/06/08	<2.2		ppbv	
			Chlorobenzene	2012/06/08	<0.20		ppbv	
			Benzyl chloride	2012/06/08	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/06/08	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/06/08	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/06/08	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/06/08	<2.0		ppbv	
			Hexachlorobutadiene	2012/06/08	<3.0		ppbv	
			Hexane	2012/06/08	<0.30		ppbv	
			Cyclohexane	2012/06/08	<0.20		ppbv	
			Tetrahydrofuran	2012/06/08	<0.40		ppbv	
			1,4-Dioxane	2012/06/08	<2.0		ppbv	
			Xylene (Total)	2012/06/08	<0.60		ppbv	
		RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2012/06/08	NC		%	25
			Carbon Disulfide	2012/06/08	NC		%	25
			Propene	2012/06/08	NC		%	25
			Vinyl Acetate	2012/06/08	NC		%	25
			Vinyl Bromide	2012/06/08	NC		%	25
			Dichlorodifluoromethane (FREON 12)	2012/06/08	NC		%	25
			1,2-Dichlorotetrafluoroethane	2012/06/08	NC		%	25
			Chloromethane	2012/06/08	NC		%	25
			Vinyl Chloride	2012/06/08	NC		%	25
			Chloroethane	2012/06/08	NC		%	25
			1,3-Butadiene	2012/06/08	NC		%	25
			Trichlorofluoromethane (FREON 11)	2012/06/08	NC		%	25
			Trichlorotrifluoroethane	2012/06/08	NC		%	25
			Ethanol (ethyl alcohol)	2012/06/08	NC		%	25
			2-propanol	2012/06/08	NC		%	25
			2-Propanone	2012/06/08	5.8		%	25
			Methyl Ethyl Ketone (2-Butanone)	2012/06/08	NC		%	25
			Methyl Isobutyl Ketone	2012/06/08	NC		%	25
			Methyl Butyl Ketone (2-Hexanone)	2012/06/08	NC		%	25
			Methyl t-butyl ether (MTBE)	2012/06/08	NC		%	25
			Ethyl Acetate	2012/06/08	NC		%	25
			1,1-Dichloroethylene	2012/06/08	NC		%	25
			cis-1,2-Dichloroethylene	2012/06/08	NC		%	25
			trans-1,2-Dichloroethylene	2012/06/08	NC		%	25
			Methylene Chloride(Dichloromethane)	2012/06/08	NC		%	25
			Chloroform	2012/06/08	NC		%	25
			Carbon Tetrachloride	2012/06/08	NC		%	25
			1,1-Dichloroethane	2012/06/08	NC		%	25
			1,2-Dichloroethane	2012/06/08	NC		%	25

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB283565

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2876878	LSY	RPD - Sample/Sample Dup	Ethylene Dibromide	2012/06/08	NC		%	25
			1,1,1-Trichloroethane	2012/06/08	NC		%	25
			1,1,2-Trichloroethane	2012/06/08	NC		%	25
			1,1,2,2-Tetrachloroethane	2012/06/08	NC		%	25
			cis-1,3-Dichloropropene	2012/06/08	NC		%	25
			trans-1,3-Dichloropropene	2012/06/08	NC		%	25
			1,2-Dichloropropane	2012/06/08	NC		%	25
			Bromomethane	2012/06/08	NC		%	25
			Bromoform	2012/06/08	NC		%	25
			Bromodichloromethane	2012/06/08	NC		%	25
			Dibromochloromethane	2012/06/08	NC		%	25
			Heptane	2012/06/08	NC		%	25
			Trichloroethylene	2012/06/08	NC		%	25
			Tetrachloroethylene	2012/06/08	NC		%	25
			Benzene	2012/06/08	NC		%	25
			Toluene	2012/06/08	NC		%	25
			Ethylbenzene	2012/06/08	NC		%	25
			p+m-Xylene	2012/06/08	NC		%	25
			o-Xylene	2012/06/08	NC		%	25
			Styrene	2012/06/08	NC		%	25
			1,3,5-Trimethylbenzene	2012/06/08	NC		%	25
			1,2,4-Trimethylbenzene	2012/06/08	NC		%	25
			4-ethyltoluene	2012/06/08	NC		%	25
			Chlorobenzene	2012/06/08	NC		%	25
			Benzyl chloride	2012/06/08	NC		%	25
			1,3-Dichlorobenzene	2012/06/08	NC		%	25
			1,4-Dichlorobenzene	2012/06/08	NC		%	25
			1,2-Dichlorobenzene	2012/06/08	NC		%	25
			1,2,4-Trichlorobenzene	2012/06/08	NC		%	25
			Hexachlorobutadiene	2012/06/08	NC		%	25
			Hexane	2012/06/08	NC		%	25
			Cyclohexane	2012/06/08	NC		%	25
			Tetrahydrofuran	2012/06/08	NC		%	25
			1,4-Dioxane	2012/06/08	NC		%	25
			Xylene (Total)	2012/06/08	NC		%	25
2880778	LSY	Spiked Blank	Bromochloromethane	2012/06/13		103	%	60 - 140
			D5-Chlorobenzene	2012/06/13		111	%	60 - 140
			Difluorobenzene	2012/06/13		107	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/13		95	%	70 - 130
			Carbon Disulfide	2012/06/13		97	%	70 - 130
			Propene	2012/06/13		94	%	70 - 130
			Vinyl Acetate	2012/06/13		103	%	70 - 130
			Vinyl Bromide	2012/06/13		102	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2012/06/13		100	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2012/06/13		114	%	70 - 130
			Chloromethane	2012/06/13		99	%	70 - 130
			Vinyl Chloride	2012/06/13		99	%	70 - 130
			Chloroethane	2012/06/13		98	%	70 - 130
			1,3-Butadiene	2012/06/13		100	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2012/06/13		102	%	70 - 130
			Trichlorotrifluoroethane	2012/06/13		101	%	70 - 130
			Ethanol (ethyl alcohol)	2012/06/13		80	%	70 - 130
			2-propanol	2012/06/13		102	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB283565

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2880778	LSY	Spiked Blank	2-Propanone	2012/06/13		99	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2012/06/13		95	%	70 - 130
			Methyl Isobutyl Ketone	2012/06/13		100	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2012/06/13		106	%	70 - 130
			Methyl t-butyl ether (MTBE)	2012/06/13		104	%	70 - 130
			Ethyl Acetate	2012/06/13		100	%	70 - 130
			1,1-Dichloroethylene	2012/06/13		101	%	70 - 130
			cis-1,2-Dichloroethylene	2012/06/13		102	%	70 - 130
			trans-1,2-Dichloroethylene	2012/06/13		100	%	70 - 130
			Methylene Chloride(Dichloromethane)	2012/06/13		88	%	70 - 130
			Chloroform	2012/06/13		100	%	70 - 130
			Carbon Tetrachloride	2012/06/13		104	%	70 - 130
			1,1-Dichloroethane	2012/06/13		100	%	70 - 130
			1,2-Dichloroethane	2012/06/13		104	%	70 - 130
			Ethylene Dibromide	2012/06/13		99	%	70 - 130
			1,1,1-Trichloroethane	2012/06/13		101	%	70 - 130
			1,1,2-Trichloroethane	2012/06/13		97	%	70 - 130
			1,1,2,2-Tetrachloroethane	2012/06/13		90	%	70 - 130
			cis-1,3-Dichloropropene	2012/06/13		101	%	70 - 130
			trans-1,3-Dichloropropene	2012/06/13		106	%	70 - 130
			1,2-Dichloropropane	2012/06/13		93	%	70 - 130
			Bromomethane	2012/06/13		99	%	70 - 130
			Bromoform	2012/06/13		104	%	70 - 130
			Bromodichloromethane	2012/06/13		101	%	70 - 130
			Dibromochloromethane	2012/06/13		101	%	70 - 130
			Heptane	2012/06/13		97	%	70 - 130
			Trichloroethylene	2012/06/13		95	%	70 - 130
			Tetrachloroethylene	2012/06/13		100	%	70 - 130
			Benzene	2012/06/13		98	%	70 - 130
			Toluene	2012/06/13		99	%	70 - 130
			Ethylbenzene	2012/06/13		101	%	70 - 130
			p+m-Xylene	2012/06/13		100	%	70 - 130
			o-Xylene	2012/06/13		99	%	70 - 130
			Styrene	2012/06/13		87	%	70 - 130
			1,3,5-Trimethylbenzene	2012/06/13		94	%	70 - 130
			1,2,4-Trimethylbenzene	2012/06/13		93	%	70 - 130
			4-ethyltoluene	2012/06/13		97	%	70 - 130
			Chlorobenzene	2012/06/13		98	%	70 - 130
			Benzyl chloride	2012/06/13		90	%	70 - 130
			1,3-Dichlorobenzene	2012/06/13		87	%	70 - 130
			1,4-Dichlorobenzene	2012/06/13		84	%	70 - 130
			1,2-Dichlorobenzene	2012/06/13		83	%	70 - 130
			1,2,4-Trichlorobenzene	2012/06/13		94	%	70 - 130
			Hexachlorobutadiene	2012/06/13		91	%	70 - 130
			Hexane	2012/06/13		100	%	70 - 130
			Cyclohexane	2012/06/13		97	%	70 - 130
			Tetrahydrofuran	2012/06/13		100	%	70 - 130
			1,4-Dioxane	2012/06/13		98	%	70 - 130
			Xylene (Total)	2012/06/13		100	%	70 - 130
		Method Blank	Bromochloromethane	2012/06/13		92	%	60 - 140
			D5-Chlorobenzene	2012/06/13		94	%	60 - 140
			Difluorobenzene	2012/06/13		95	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/13	<0.20		ppbv	
			Carbon Disulfide	2012/06/13	<0.50		ppbv	
			Propene	2012/06/13	<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: GB283565

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2880778	LSY	Method Blank	Vinyl Acetate	2012/06/13	<0.20		ppbv	
			Vinyl Bromide	2012/06/13	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/06/13	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/06/13	<0.17		ppbv	
			Chloromethane	2012/06/13	<0.30		ppbv	
			Vinyl Chloride	2012/06/13	<0.18		ppbv	
			Chloroethane	2012/06/13	<0.30		ppbv	
			1,3-Butadiene	2012/06/13	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/06/13	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/06/13	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/06/13	<2.3		ppbv	
			2-propanol	2012/06/13	<3.0		ppbv	
			2-Propanone	2012/06/13	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/06/13	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/06/13	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/06/13	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/06/13	<0.20		ppbv	
			Ethyl Acetate	2012/06/13	<2.2		ppbv	
			1,1-Dichloroethylene	2012/06/13	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/06/13	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/06/13	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/06/13	<0.80		ppbv	
			Chloroform	2012/06/13	<0.15		ppbv	
			Carbon Tetrachloride	2012/06/13	<0.30		ppbv	
			1,1-Dichloroethane	2012/06/13	<0.20		ppbv	
			1,2-Dichloroethane	2012/06/13	<0.20		ppbv	
			Ethylene Dibromide	2012/06/13	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/06/13	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/06/13	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/06/13	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/06/13	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/06/13	<0.17		ppbv	
			1,2-Dichloropropane	2012/06/13	<0.40		ppbv	
			Bromomethane	2012/06/13	<0.18		ppbv	
			Bromoform	2012/06/13	<0.20		ppbv	
			Bromodichloromethane	2012/06/13	<0.20		ppbv	
			Dibromochloromethane	2012/06/13	<0.20		ppbv	
			Heptane	2012/06/13	<0.30		ppbv	
			Trichloroethylene	2012/06/13	<0.30		ppbv	
			Tetrachloroethylene	2012/06/13	<0.20		ppbv	
			Benzene	2012/06/13	<0.18		ppbv	
			Toluene	2012/06/13	<0.20		ppbv	
			Ethylbenzene	2012/06/13	<0.20		ppbv	
			p+m-Xylene	2012/06/13	<0.37		ppbv	
			o-Xylene	2012/06/13	<0.20		ppbv	
			Styrene	2012/06/13	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/06/13	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/06/13	<0.50		ppbv	
			4-ethyltoluene	2012/06/13	<2.2		ppbv	
			Chlorobenzene	2012/06/13	<0.20		ppbv	
			Benzyl chloride	2012/06/13	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/06/13	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/06/13	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/06/13	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/06/13	<2.0		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB283565

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2880778	LSY	Method Blank	Hexachlorobutadiene	2012/06/13	<3.0		ppbv	
			Hexane	2012/06/13	<0.30		ppbv	
			Cyclohexane	2012/06/13	<0.20		ppbv	
			Tetrahydrofuran	2012/06/13	<0.40		ppbv	
			1,4-Dioxane	2012/06/13	<2.0		ppbv	
			Xylene (Total)	2012/06/13	<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.
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: Elk Point Airport
Station ID: Lica 35 (Portable)
Field Sample ID: LICA VOC/PORT/ Jun 08, 12

Sampler s/n: 6200
Canister ID: 7839
Canister Installation Date/Time: Jun 07, 12 @ 17:02 mst
Canister Removal Date/Time: Jun 13, 12 @ 09:24 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
08-Jun-12	06/08/2012 0:00	06/09/2012 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)
-28	21

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

Comments: System leak check prior to sampling. COC #12183

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 12183

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

Report Date: 2012/06/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B288661
Received: 2012/06/15, 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	2012/06/19	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2012/06/19	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: 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 #: B288661
Report Date: 2012/06/27

RESULTS OF ANALYSES OF AIR

Maxxam ID		NU8891	NU8892	
Sampling Date		2012/06/08	2012/06/08	
COC Number		12183	12183	
	Units	**LICA VOC/CLS/JUN 08,12 / 265**	**LICA VOC/PORT/JUN 08,12 / 7839**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	23	21	2885913

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B288661
Report Date: 2012/06/27

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NU8891			NU8892				
Sampling Date		2012/06/08			2012/06/08				
COC Number		12183			12183				
	Units	**LICA VOC/CLS/JUN 08,12 / 265**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 08,12 / 7839**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics									
2,2,4-Trimethylpentane	ppbv	<0.20	<0.934	0.934	<0.20	0.20	<0.934	0.934	2885910
Carbon Disulfide	ppbv	<0.50	<1.56	1.56	<0.50	0.50	<1.56	1.56	2885910
Propene	ppbv	<0.30	<0.516	0.516	<0.30	0.30	<0.516	0.516	2885910
Vinyl Acetate	ppbv	<0.20	<0.704	0.704	<0.20	0.20	<0.704	0.704	2885910
Vinyl Bromide	ppbv	<0.20	<0.875	0.875	<0.20	0.20	<0.875	0.875	2885910
Dichlorodifluoromethane (FREON 12)	ppbv	0.70	3.47	0.989	0.70	0.20	3.45	0.989	2885910
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	<1.19	1.19	<0.17	0.17	<1.19	1.19	2885910
Chloromethane	ppbv	0.48	0.997	0.620	1.78	0.30	3.68	0.620	2885910
Vinyl Chloride	ppbv	<0.18	<0.460	0.460	<0.18	0.18	<0.460	0.460	2885910
Chloroethane	ppbv	<0.30	<0.792	0.792	<0.30	0.30	<0.792	0.792	2885910
1,3-Butadiene	ppbv	<0.50	<1.11	1.11	<0.50	0.50	<1.11	1.11	2885910
Trichlorofluoromethane (FREON 11)	ppbv	0.33	1.84	1.12	0.33	0.20	1.88	1.12	2885910
Trichlorotrifluoroethane	ppbv	<0.15	<1.15	1.15	<0.15	0.15	<1.15	1.15	2885910
Ethanol (ethyl alcohol)	ppbv	<2.3	<4.33	4.33	<2.3	2.3	<4.33	4.33	2885910
2-propanol	ppbv	<3.0	<7.37	7.37	<3.0	3.0	<7.37	7.37	2885910
2-Propanone	ppbv	3.77	8.95	1.90	3.26	0.80	7.75	1.90	2885910
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	<8.85	8.85	<3.0	3.0	<8.85	8.85	2885910
Methyl Isobutyl Ketone	ppbv	<3.2	<13.1	13.1	<3.2	3.2	<13.1	13.1	2885910
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	<8.19	8.19	<2.0	2.0	<8.19	8.19	2885910
Methyl t-butyl ether (MTBE)	ppbv	<0.20	<0.721	0.721	<0.20	0.20	<0.721	0.721	2885910
Ethyl Acetate	ppbv	<2.2	<7.93	7.93	<2.2	2.2	<7.93	7.93	2885910
1,1-Dichloroethylene	ppbv	<0.25	<0.991	0.991	<0.25	0.25	<0.991	0.991	2885910
cis-1,2-Dichloroethylene	ppbv	<0.19	<0.753	0.753	<0.19	0.19	<0.753	0.753	2885910
trans-1,2-Dichloroethylene	ppbv	<0.20	<0.793	0.793	<0.20	0.20	<0.793	0.793	2885910
Methylene Chloride(Dichloromethane)	ppbv	<0.80	<2.78	2.78	<0.80	0.80	<2.78	2.78	2885910
Chloroform	ppbv	<0.15	<0.732	0.732	0.21	0.15	1.01	0.732	2885910
Carbon Tetrachloride	ppbv	<0.30	<1.89	1.89	<0.30	0.30	<1.89	1.89	2885910
1,1-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2885910
1,2-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2885910
Ethylene Dibromide	ppbv	<0.17	<1.31	1.31	<0.17	0.17	<1.31	1.31	2885910
1,1,1-Trichloroethane	ppbv	<0.30	<1.64	1.64	<0.30	0.30	<1.64	1.64	2885910

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NU8891			NU8892				
Sampling Date		2012/06/08			2012/06/08				
COC Number		12183			12183				
	Units	**LICA VOC/CLS/JUN 08,12 / 265**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 08,12 / 7839**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	<0.818	0.818	<0.15	0.15	<0.818	0.818	2885910
1,1,2,2-Tetrachloroethane	ppbv	<0.20	<1.37	1.37	<0.20	0.20	<1.37	1.37	2885910
cis-1,3-Dichloropropene	ppbv	<0.18	<0.817	0.817	<0.18	0.18	<0.817	0.817	2885910
trans-1,3-Dichloropropene	ppbv	<0.17	<0.772	0.772	<0.17	0.17	<0.772	0.772	2885910
1,2-Dichloropropane	ppbv	<0.40	<1.85	1.85	<0.40	0.40	<1.85	1.85	2885910
Bromomethane	ppbv	<0.18	<0.699	0.699	<0.18	0.18	<0.699	0.699	2885910
Bromoform	ppbv	<0.20	<2.07	2.07	<0.20	0.20	<2.07	2.07	2885910
Bromodichloromethane	ppbv	<0.20	<1.34	1.34	<0.20	0.20	<1.34	1.34	2885910
Dibromochloromethane	ppbv	<0.20	<1.70	1.70	<0.20	0.20	<1.70	1.70	2885910
Heptane	ppbv	<0.30	<1.23	1.23	<0.30	0.30	<1.23	1.23	2885910
Trichloroethylene	ppbv	<0.30	<1.61	1.61	<0.30	0.30	<1.61	1.61	2885910
Tetrachloroethylene	ppbv	<0.20	<1.36	1.36	<0.20	0.20	<1.36	1.36	2885910
Benzene	ppbv	<0.18	<0.575	0.575	<0.18	0.18	<0.575	0.575	2885910
Toluene	ppbv	<0.20	<0.753	0.753	<0.20	0.20	<0.753	0.753	2885910
Ethylbenzene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2885910
p+m-Xylene	ppbv	<0.37	<1.61	1.61	<0.37	0.37	<1.61	1.61	2885910
o-Xylene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2885910
Styrene	ppbv	<0.20	<0.852	0.852	<0.20	0.20	<0.852	0.852	2885910
1,3,5-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2885910
1,2,4-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2885910
4-ethyltoluene	ppbv	<2.2	<10.8	10.8	<2.2	2.2	<10.8	10.8	2885910
Chlorobenzene	ppbv	<0.20	<0.921	0.921	<0.20	0.20	<0.921	0.921	2885910
Benzyl chloride	ppbv	<1.0	<5.18	5.18	<1.0	1.0	<5.18	5.18	2885910
1,3-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2885910
1,4-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2885910
1,2-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2885910
1,2,4-Trichlorobenzene	ppbv	<2.0	<14.8	14.8	<2.0	2.0	<14.8	14.8	2885910
Hexachlorobutadiene	ppbv	<3.0	<32.0	32.0	<3.0	3.0	<32.0	32.0	2885910
Hexane	ppbv	<0.30	<1.06	1.06	<0.30	0.30	<1.06	1.06	2885910
Cyclohexane	ppbv	<0.20	<0.688	0.688	<0.20	0.20	<0.688	0.688	2885910
Tetrahydrofuran	ppbv	<0.40	<1.18	1.18	<0.40	0.40	<1.18	1.18	2885910
1,4-Dioxane	ppbv	<2.0	<7.21	7.21	<2.0	2.0	<7.21	7.21	2885910
Xylene (Total)	ppbv	<0.60	<2.61	2.61	<0.60	0.60	<2.61	2.61	2885910

QC Batch = Quality Control Batch

Maxxam Analytics

Maxxam Job #: B288661
Report Date: 2012/06/27

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NU8891			NU8892				
Sampling Date		2012/06/08			2012/06/08				
COC Number		12183			12183				
	Units	**LICA VOC/CLS/JUN 08,12 / 265**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 08,12 / 7839**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)									
Bromochloromethane	%	93	N/A	N/A	89		N/A	N/A	2885910
D5-Chlorobenzene	%	84	N/A	N/A	84		N/A	N/A	2885910
Difluorobenzene	%	95	N/A	N/A	94		N/A	N/A	2885910

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

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Maxxam Job #: B288661
Report Date: 2012/06/27

Test Summary

Maxxam ID NU8891 **Collected** 2012/06/08
Sample ID LICA VOC/CLS/JUN 08,12 / 265 **Shipped**
Matrix AIR **Received** 2012/06/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2885913	N/A	2012/06/19	SPOMENKA SMILJANIC
Volatile Organics in Air (TO-15)	GC/MS	2885910	N/A	2012/06/19	SPOMENKA SMILJANIC

Maxxam ID NU8892 **Collected** 2012/06/08
Sample ID LICA VOC/PORT/JUN 08,12 / 7839 **Shipped**
Matrix AIR **Received** 2012/06/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2885913	N/A	2012/06/19	SPOMENKA SMILJANIC
Volatile Organics in Air (TO-15)	GC/MS	2885910	N/A	2012/06/19	SPOMENKA SMILJANIC

Maxxam ID NU8892 Dup **Collected** 2012/06/08
Sample ID LICA VOC/PORT/JUN 08,12 / 7839 **Shipped**
Matrix AIR **Received** 2012/06/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Volatile Organics in Air (TO-15)	GC/MS	2885910	N/A	2012/06/19	SPOMENKA SMILJANIC

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Report Date: 2012/06/27

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: GB288661

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2885910	S_S	Spiked Blank	Bromochloromethane	2012/06/19		96	%	60 - 140
			D5-Chlorobenzene	2012/06/19		98	%	60 - 140
			Difluorobenzene	2012/06/19		97	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/19		96	%	70 - 130
			Carbon Disulfide	2012/06/19		90	%	70 - 130
			Propene	2012/06/19		80	%	70 - 130
			Vinyl Acetate	2012/06/19		103	%	70 - 130
			Vinyl Bromide	2012/06/19		97	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2012/06/19		111	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2012/06/19		121	%	70 - 130
			Chloromethane	2012/06/19		110	%	70 - 130
			Vinyl Chloride	2012/06/19		99	%	70 - 130
			Chloroethane	2012/06/19		98	%	70 - 130
			1,3-Butadiene	2012/06/19		101	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2012/06/19		110	%	70 - 130
			Trichlorotrifluoroethane	2012/06/19		96	%	70 - 130
			Ethanol (ethyl alcohol)	2012/06/19		89	%	70 - 130
			2-propanol	2012/06/19		95	%	70 - 130
			2-Propanone	2012/06/19		124	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2012/06/19		98	%	70 - 130
			Methyl Isobutyl Ketone	2012/06/19		109	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2012/06/19		110	%	70 - 130
			Methyl t-butyl ether (MTBE)	2012/06/19		104	%	70 - 130
			Ethyl Acetate	2012/06/19		104	%	70 - 130
			1,1-Dichloroethylene	2012/06/19		102	%	70 - 130
			cis-1,2-Dichloroethylene	2012/06/19		102	%	70 - 130
			trans-1,2-Dichloroethylene	2012/06/19		99	%	70 - 130
			Methylene Chloride(Dichloromethane)	2012/06/19		93	%	70 - 130
			Chloroform	2012/06/19		103	%	70 - 130
			Carbon Tetrachloride	2012/06/19		121	%	70 - 130
			1,1-Dichloroethane	2012/06/19		103	%	70 - 130
			1,2-Dichloroethane	2012/06/19		118	%	70 - 130
			Ethylene Dibromide	2012/06/19		98	%	70 - 130
			1,1,1-Trichloroethane	2012/06/19		115	%	70 - 130
			1,1,2-Trichloroethane	2012/06/19		97	%	70 - 130
			1,1,2,2-Tetrachloroethane	2012/06/19		94	%	70 - 130
			cis-1,3-Dichloropropene	2012/06/19		107	%	70 - 130
			trans-1,3-Dichloropropene	2012/06/19		109	%	70 - 130
			1,2-Dichloropropane	2012/06/19		96	%	70 - 130
			Bromomethane	2012/06/19		97	%	70 - 130
			Bromoform	2012/06/19		119	%	70 - 130
			Bromodichloromethane	2012/06/19		119	%	70 - 130
			Dibromochloromethane	2012/06/19		119	%	70 - 130
			Heptane	2012/06/19		103	%	70 - 130
			Trichloroethylene	2012/06/19		93	%	70 - 130
			Tetrachloroethylene	2012/06/19		102	%	70 - 130
			Benzene	2012/06/19		91	%	70 - 130
			Toluene	2012/06/19		98	%	70 - 130
			Ethylbenzene	2012/06/19		97	%	70 - 130
			p+m-Xylene	2012/06/19		101	%	70 - 130
			o-Xylene	2012/06/19		104	%	70 - 130
			Styrene	2012/06/19		69 (1)	%	70 - 130
			1,3,5-Trimethylbenzene	2012/06/19		101	%	70 - 130
			1,2,4-Trimethylbenzene	2012/06/19		99	%	70 - 130
			4-ethyltoluene	2012/06/19		106	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB288661

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2885910	S_S	Spiked Blank	Chlorobenzene	2012/06/19		90	%	70 - 130
			Benzyl chloride	2012/06/19		102	%	70 - 130
			1,3-Dichlorobenzene	2012/06/19		88	%	70 - 130
			1,4-Dichlorobenzene	2012/06/19		87	%	70 - 130
			1,2-Dichlorobenzene	2012/06/19		89	%	70 - 130
			1,2,4-Trichlorobenzene	2012/06/19		87	%	70 - 130
			Hexachlorobutadiene	2012/06/19		120	%	70 - 130
			Hexane	2012/06/19		102	%	70 - 130
			Cyclohexane	2012/06/19		96	%	70 - 130
			Tetrahydrofuran	2012/06/19		98	%	70 - 130
			1,4-Dioxane	2012/06/19		101	%	70 - 130
			Xylene (Total)	2012/06/19		102	%	70 - 130
		Method Blank	Bromochloromethane	2012/06/19		71	%	60 - 140
			D5-Chlorobenzene	2012/06/19		63	%	60 - 140
			Difluorobenzene	2012/06/19		74	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/19	<0.20		ppbv	
			Carbon Disulfide	2012/06/19	<0.50		ppbv	
			Propene	2012/06/19	<0.30		ppbv	
			Vinyl Acetate	2012/06/19	<0.20		ppbv	
			Vinyl Bromide	2012/06/19	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/06/19	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/06/19	<0.17		ppbv	
			Chloromethane	2012/06/19	<0.30		ppbv	
			Vinyl Chloride	2012/06/19	<0.18		ppbv	
			Chloroethane	2012/06/19	<0.30		ppbv	
			1,3-Butadiene	2012/06/19	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/06/19	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/06/19	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/06/19	<2.3		ppbv	
			2-propanol	2012/06/19	<3.0		ppbv	
			2-Propanone	2012/06/19	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/06/19	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/06/19	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/06/19	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/06/19	<0.20		ppbv	
			Ethyl Acetate	2012/06/19	<2.2		ppbv	
			1,1-Dichloroethylene	2012/06/19	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/06/19	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/06/19	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/06/19	<0.80		ppbv	
			Chloroform	2012/06/19	<0.15		ppbv	
			Carbon Tetrachloride	2012/06/19	<0.30		ppbv	
			1,1-Dichloroethane	2012/06/19	<0.20		ppbv	
			1,2-Dichloroethane	2012/06/19	<0.20		ppbv	
			Ethylene Dibromide	2012/06/19	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/06/19	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/06/19	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/06/19	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/06/19	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/06/19	<0.17		ppbv	
			1,2-Dichloropropane	2012/06/19	<0.40		ppbv	
			Bromomethane	2012/06/19	<0.18		ppbv	
			Bromoform	2012/06/19	<0.20		ppbv	
			Bromodichloromethane	2012/06/19	<0.20		ppbv	
			Dibromochloromethane	2012/06/19	<0.20		ppbv	

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Attention: Michael Bisaga
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Quality Assurance Report (Continued)

Maxxam Job Number: GB288661

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2885910	S_S	Method Blank	Heptane	2012/06/19	<0.30		ppbv	
			Trichloroethylene	2012/06/19	<0.30		ppbv	
			Tetrachloroethylene	2012/06/19	<0.20		ppbv	
			Benzene	2012/06/19	<0.18		ppbv	
			Toluene	2012/06/19	<0.20		ppbv	
			Ethylbenzene	2012/06/19	<0.20		ppbv	
			p+m-Xylene	2012/06/19	<0.37		ppbv	
			o-Xylene	2012/06/19	<0.20		ppbv	
			Styrene	2012/06/19	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/06/19	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/06/19	<0.50		ppbv	
			4-ethyltoluene	2012/06/19	<2.2		ppbv	
			Chlorobenzene	2012/06/19	<0.20		ppbv	
			Benzyl chloride	2012/06/19	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/06/19	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/06/19	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/06/19	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/06/19	<2.0		ppbv	
			Hexachlorobutadiene	2012/06/19	<3.0		ppbv	
			Hexane	2012/06/19	<0.30		ppbv	
			Cyclohexane	2012/06/19	<0.20		ppbv	
			Tetrahydrofuran	2012/06/19	<0.40		ppbv	
			1,4-Dioxane	2012/06/19	<2.0		ppbv	
			Xylene (Total)	2012/06/19	<0.60		ppbv	
		RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2012/06/19	NC		%	25
			Carbon Disulfide	2012/06/19	NC		%	25
			Propene	2012/06/19	NC		%	25
			Vinyl Acetate	2012/06/19	NC		%	25
			Vinyl Bromide	2012/06/19	NC		%	25
			Dichlorodifluoromethane (FREON 12)	2012/06/19	NC		%	25
			1,2-Dichlorotetrafluoroethane	2012/06/19	NC		%	25
			Chloromethane	2012/06/19	1.6		%	25
			Vinyl Chloride	2012/06/19	NC		%	25
			Chloroethane	2012/06/19	NC		%	25
			1,3-Butadiene	2012/06/19	NC		%	25
			Trichlorofluoromethane (FREON 11)	2012/06/19	NC		%	25
			Trichlorotrifluoroethane	2012/06/19	NC		%	25
			Ethanol (ethyl alcohol)	2012/06/19	NC		%	25
			2-propanol	2012/06/19	NC		%	25
			2-Propanone	2012/06/19	NC		%	25
			Methyl Ethyl Ketone (2-Butanone)	2012/06/19	NC		%	25
			Methyl Isobutyl Ketone	2012/06/19	NC		%	25
			Methyl Butyl Ketone (2-Hexanone)	2012/06/19	NC		%	25
			Methyl t-butyl ether (MTBE)	2012/06/19	NC		%	25
			Ethyl Acetate	2012/06/19	NC		%	25
			1,1-Dichloroethylene	2012/06/19	NC		%	25
			cis-1,2-Dichloroethylene	2012/06/19	NC		%	25
			trans-1,2-Dichloroethylene	2012/06/19	NC		%	25
			Methylene Chloride(Dichloromethane)	2012/06/19	NC		%	25
			Chloroform	2012/06/19	NC		%	25
			Carbon Tetrachloride	2012/06/19	NC		%	25
			1,1-Dichloroethane	2012/06/19	NC		%	25
			1,2-Dichloroethane	2012/06/19	NC		%	25

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

Maxxam Job Number: GB288661

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2885910	S_S	RPD - Sample/Sample Dup	Ethylene Dibromide	2012/06/19	NC		%	25
			1,1,1-Trichloroethane	2012/06/19	NC		%	25
			1,1,2-Trichloroethane	2012/06/19	NC		%	25
			1,1,2,2-Tetrachloroethane	2012/06/19	NC		%	25
			cis-1,3-Dichloropropene	2012/06/19	NC		%	25
			trans-1,3-Dichloropropene	2012/06/19	NC		%	25
			1,2-Dichloropropane	2012/06/19	NC		%	25
			Bromomethane	2012/06/19	NC		%	25
			Bromoform	2012/06/19	NC		%	25
			Bromodichloromethane	2012/06/19	NC		%	25
			Dibromochloromethane	2012/06/19	NC		%	25
			Heptane	2012/06/19	NC		%	25
			Trichloroethylene	2012/06/19	NC		%	25
			Tetrachloroethylene	2012/06/19	NC		%	25
			Benzene	2012/06/19	NC		%	25
			Toluene	2012/06/19	NC		%	25
			Ethylbenzene	2012/06/19	NC		%	25
			p+m-Xylene	2012/06/19	NC		%	25
			o-Xylene	2012/06/19	NC		%	25
			Styrene	2012/06/19	NC		%	25
			1,3,5-Trimethylbenzene	2012/06/19	NC		%	25
			1,2,4-Trimethylbenzene	2012/06/19	NC		%	25
			4-ethyltoluene	2012/06/19	NC		%	25
			Chlorobenzene	2012/06/19	NC		%	25
			Benzyl chloride	2012/06/19	NC		%	25
			1,3-Dichlorobenzene	2012/06/19	NC		%	25
			1,4-Dichlorobenzene	2012/06/19	NC		%	25
			1,2-Dichlorobenzene	2012/06/19	NC		%	25
			1,2,4-Trichlorobenzene	2012/06/19	NC		%	25
			Hexachlorobutadiene	2012/06/19	NC		%	25
			Hexane	2012/06/19	NC		%	25
			Cyclohexane	2012/06/19	NC		%	25
			Tetrahydrofuran	2012/06/19	NC		%	25
			1,4-Dioxane	2012/06/19	NC		%	25
			Xylene (Total)	2012/06/19	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.

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MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: Elk Point Airport
Station ID: Lica 35 (Portable)
Field Sample ID: LICA VOC/PORT/ Jun 14, 12

Sampler s/n: 6200
Canister ID: 111
Canister Installation Date/Time: Jun 13, 12 @ 09:32 mst
Canister Removal Date/Time: Jun 15, 12 @ 09:54 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
14-Jun-12	06/14/2012 0:00	06/15/2012 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 #12211

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 12211

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

Report Date: 2012/07/03

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B291033
Received: 2012/06/20, 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	2012/06/27	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2012/06/27	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 #: B291033
Report Date: 2012/07/03

RESULTS OF ANALYSES OF AIR

Maxxam ID		NW0026	NW0027	
Sampling Date		2012/06/14	2012/06/14	
COC Number		12211	12211	
	Units	**LICA VOC/CLS/JUN 14,12 - 122**	**LICA VOC/PORT/JUN 14,12 - 111**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	23	23	2894497

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B291033
Report Date: 2012/07/03

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NW0026			NW0027				
Sampling Date		2012/06/14			2012/06/14				
COC Number		12211			12211				
	Units	**LICA VOC/CLS/JUN 14,12 - 122**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 14,12 - 111**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics									
2,2,4-Trimethylpentane	ppbv	<0.20	<0.934	0.934	0.46	0.20	2.16	0.934	2895183
Carbon Disulfide	ppbv	0.79	2.45	1.56	<0.50	0.50	<1.56	1.56	2895183
Propene	ppbv	<0.30	<0.516	0.516	<0.30	0.30	<0.516	0.516	2895183
Vinyl Acetate	ppbv	<0.20	<0.704	0.704	<0.20	0.20	<0.704	0.704	2895183
Vinyl Bromide	ppbv	<0.20	<0.875	0.875	<0.20	0.20	<0.875	0.875	2895183
Dichlorodifluoromethane (FREON 12)	ppbv	0.69	3.43	0.989	0.64	0.20	3.17	0.989	2895183
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	<1.19	1.19	<0.17	0.17	<1.19	1.19	2895183
Chloromethane	ppbv	0.71	1.46	0.620	0.71	0.30	1.46	0.620	2895183
Vinyl Chloride	ppbv	<0.18	<0.460	0.460	<0.18	0.18	<0.460	0.460	2895183
Chloroethane	ppbv	<0.30	<0.792	0.792	<0.30	0.30	<0.792	0.792	2895183
1,3-Butadiene	ppbv	<0.50	<1.11	1.11	<0.50	0.50	<1.11	1.11	2895183
Trichlorofluoromethane (FREON 11)	ppbv	0.30	1.67	1.12	0.30	0.20	1.68	1.12	2895183
Trichlorotrifluoroethane	ppbv	<0.15	<1.15	1.15	<0.15	0.15	<1.15	1.15	2895183
Ethanol (ethyl alcohol)	ppbv	<2.3	<4.33	4.33	<2.3	2.3	<4.33	4.33	2895183
2-propanol	ppbv	<3.0	<7.37	7.37	<3.0	3.0	<7.37	7.37	2895183
2-Propanone	ppbv	4.35	10.3	1.90	3.77	0.80	8.95	1.90	2895183
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	<8.85	8.85	<3.0	3.0	<8.85	8.85	2895183
Methyl Isobutyl Ketone	ppbv	<3.2	<13.1	13.1	<3.2	3.2	<13.1	13.1	2895183
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	<8.19	8.19	<2.0	2.0	<8.19	8.19	2895183
Methyl t-butyl ether (MTBE)	ppbv	<0.20	<0.721	0.721	<0.20	0.20	<0.721	0.721	2895183
Ethyl Acetate	ppbv	<2.2	<7.93	7.93	<2.2	2.2	<7.93	7.93	2895183
1,1-Dichloroethylene	ppbv	<0.25	<0.991	0.991	<0.25	0.25	<0.991	0.991	2895183
cis-1,2-Dichloroethylene	ppbv	<0.19	<0.753	0.753	<0.19	0.19	<0.753	0.753	2895183
trans-1,2-Dichloroethylene	ppbv	<0.20	<0.793	0.793	<0.20	0.20	<0.793	0.793	2895183
Methylene Chloride(Dichloromethane)	ppbv	<0.80	<2.78	2.78	<0.80	0.80	<2.78	2.78	2895183
Chloroform	ppbv	<0.15	<0.732	0.732	<0.15	0.15	<0.732	0.732	2895183
Carbon Tetrachloride	ppbv	<0.30	<1.89	1.89	<0.30	0.30	<1.89	1.89	2895183
1,1-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2895183
1,2-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2895183
Ethylene Dibromide	ppbv	<0.17	<1.31	1.31	<0.17	0.17	<1.31	1.31	2895183
1,1,1-Trichloroethane	ppbv	<0.30	<1.64	1.64	<0.30	0.30	<1.64	1.64	2895183

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B291033
Report Date: 2012/07/03

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NW0026			NW0027				
Sampling Date		2012/06/14			2012/06/14				
COC Number		12211			12211				
	Units	**LICA VOC/CLS/JUN 14,12 - 122**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 14,12 - 111**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	<0.818	0.818	<0.15	0.15	<0.818	0.818	2895183
1,1,2,2-Tetrachloroethane	ppbv	<0.20	<1.37	1.37	<0.20	0.20	<1.37	1.37	2895183
cis-1,3-Dichloropropene	ppbv	<0.18	<0.817	0.817	<0.18	0.18	<0.817	0.817	2895183
trans-1,3-Dichloropropene	ppbv	<0.17	<0.772	0.772	<0.17	0.17	<0.772	0.772	2895183
1,2-Dichloropropane	ppbv	<0.40	<1.85	1.85	<0.40	0.40	<1.85	1.85	2895183
Bromomethane	ppbv	<0.18	<0.699	0.699	<0.18	0.18	<0.699	0.699	2895183
Bromoform	ppbv	<0.20	<2.07	2.07	<0.20	0.20	<2.07	2.07	2895183
Bromodichloromethane	ppbv	<0.20	<1.34	1.34	<0.20	0.20	<1.34	1.34	2895183
Dibromochloromethane	ppbv	<0.20	<1.70	1.70	<0.20	0.20	<1.70	1.70	2895183
Heptane	ppbv	<0.30	<1.23	1.23	<0.30	0.30	<1.23	1.23	2895183
Trichloroethylene	ppbv	<0.30	<1.61	1.61	<0.30	0.30	<1.61	1.61	2895183
Tetrachloroethylene	ppbv	<0.20	<1.36	1.36	<0.20	0.20	<1.36	1.36	2895183
Benzene	ppbv	<0.18	<0.575	0.575	<0.18	0.18	<0.575	0.575	2895183
Toluene	ppbv	<0.20	<0.753	0.753	0.21	0.20	0.789	0.753	2895183
Ethylbenzene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2895183
p+m-Xylene	ppbv	<0.37	<1.61	1.61	<0.37	0.37	<1.61	1.61	2895183
o-Xylene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2895183
Styrene	ppbv	<0.20	<0.852	0.852	<0.20	0.20	<0.852	0.852	2895183
1,3,5-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2895183
1,2,4-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2895183
4-ethyltoluene	ppbv	<2.2	<10.8	10.8	<2.2	2.2	<10.8	10.8	2895183
Chlorobenzene	ppbv	<0.20	<0.921	0.921	<0.20	0.20	<0.921	0.921	2895183
Benzyl chloride	ppbv	<1.0	<5.18	5.18	<1.0	1.0	<5.18	5.18	2895183
1,3-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2895183
1,4-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2895183
1,2-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2895183
1,2,4-Trichlorobenzene	ppbv	<2.0	<14.8	14.8	<2.0	2.0	<14.8	14.8	2895183
Hexachlorobutadiene	ppbv	<3.0	<32.0	32.0	<3.0	3.0	<32.0	32.0	2895183
Hexane	ppbv	<0.30	<1.06	1.06	<0.30	0.30	<1.06	1.06	2895183
Cyclohexane	ppbv	<0.20	<0.688	0.688	<0.20	0.20	<0.688	0.688	2895183
Tetrahydrofuran	ppbv	<0.40	<1.18	1.18	<0.40	0.40	<1.18	1.18	2895183
1,4-Dioxane	ppbv	<2.0	<7.21	7.21	<2.0	2.0	<7.21	7.21	2895183
Xylene (Total)	ppbv	<0.60	<2.61	2.61	<0.60	0.60	<2.61	2.61	2895183

QC Batch = Quality Control Batch

Maxxam Analytics

Maxxam Job #: B291033
Report Date: 2012/07/03

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NW0026			NW0027				
Sampling Date		2012/06/14			2012/06/14				
COC Number		12211			12211				
	Units	**LICA VOC/CLS/JUN 14,12 - 122**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 14,12 - 111**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)									
Bromochloromethane	%	91	N/A	N/A	77		N/A	N/A	2895183
D5-Chlorobenzene	%	82	N/A	N/A	72		N/A	N/A	2895183
Difluorobenzene	%	92	N/A	N/A	79		N/A	N/A	2895183

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

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Maxxam Analytics

Maxxam Job #: B291033
Report Date: 2012/07/03

Test Summary

Maxxam ID NW0026 **Collected** 2012/06/14
Sample ID LICA VOC/CLS/JUN 14,12 - 122 **Shipped**
Matrix AIR **Received** 2012/06/20

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2894497	N/A	2012/06/27	Diane Temniuk
Volatile Organics in Air (TO-15)	GC/MS	2895183	N/A	2012/06/27	Diane Temniuk

Maxxam ID NW0027 **Collected** 2012/06/14
Sample ID LICA VOC/PORT/JUN 14,12 - 111 **Shipped**
Matrix AIR **Received** 2012/06/20

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2894497	N/A	2012/06/27	Diane Temniuk
Volatile Organics in Air (TO-15)	GC/MS	2895183	N/A	2012/06/27	Diane Temniuk

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Maxxam Analytics

Maxxam Job #: B291033
Report Date: 2012/07/03

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: GB291033

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2895183	DVO	Spiked Blank	Bromochloromethane	2012/06/27		102	%	60 - 140
			D5-Chlorobenzene	2012/06/27		103	%	60 - 140
			Difluorobenzene	2012/06/27		107	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/27		114	%	70 - 130
			Carbon Disulfide	2012/06/27		109	%	70 - 130
			Propene	2012/06/27		112	%	70 - 130
			Vinyl Acetate	2012/06/27		125	%	70 - 130
			Vinyl Bromide	2012/06/27		111	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2012/06/27		101	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2012/06/27		127	%	70 - 130
			Chloromethane	2012/06/27		121	%	70 - 130
			Vinyl Chloride	2012/06/27		116	%	70 - 130
			Chloroethane	2012/06/27		118	%	70 - 130
			1,3-Butadiene	2012/06/27		130	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2012/06/27		97	%	70 - 130
			Trichlorotrifluoroethane	2012/06/27		101	%	70 - 130
			Ethanol (ethyl alcohol)	2012/06/27		103	%	70 - 130
			2-propanol	2012/06/27		117	%	70 - 130
			2-Propanone	2012/06/27		117	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2012/06/27		131 (1)	%	70 - 130
			Methyl Isobutyl Ketone	2012/06/27		123	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2012/06/27		125	%	70 - 130
			Methyl t-butyl ether (MTBE)	2012/06/27		106	%	70 - 130
			Ethyl Acetate	2012/06/27		119	%	70 - 130
			1,1-Dichloroethylene	2012/06/27		103	%	70 - 130
			cis-1,2-Dichloroethylene	2012/06/27		103	%	70 - 130
			trans-1,2-Dichloroethylene	2012/06/27		109	%	70 - 130
			Methylene Chloride(Dichloromethane)	2012/06/27		101	%	70 - 130
			Chloroform	2012/06/27		100	%	70 - 130
			Carbon Tetrachloride	2012/06/27		99	%	70 - 130
			1,1-Dichloroethane	2012/06/27		104	%	70 - 130
			1,2-Dichloroethane	2012/06/27		101	%	70 - 130
			Ethylene Dibromide	2012/06/27		106	%	70 - 130
			1,1,1-Trichloroethane	2012/06/27		98	%	70 - 130
			1,1,2-Trichloroethane	2012/06/27		105	%	70 - 130
			1,1,2,2-Tetrachloroethane	2012/06/27		114	%	70 - 130
			cis-1,3-Dichloropropene	2012/06/27		108	%	70 - 130
			trans-1,3-Dichloropropene	2012/06/27		109	%	70 - 130
			1,2-Dichloropropane	2012/06/27		104	%	70 - 130
			Bromomethane	2012/06/27		115	%	70 - 130
			Bromoform	2012/06/27		121	%	70 - 130
			Bromodichloromethane	2012/06/27		113	%	70 - 130
			Dibromochloromethane	2012/06/27		117	%	70 - 130
			Heptane	2012/06/27		115	%	70 - 130
			Trichloroethylene	2012/06/27		93	%	70 - 130
			Tetrachloroethylene	2012/06/27		105	%	70 - 130
			Benzene	2012/06/27		102	%	70 - 130
			Toluene	2012/06/27		105	%	70 - 130
			Ethylbenzene	2012/06/27		106	%	70 - 130
			p+m-Xylene	2012/06/27		106	%	70 - 130
			o-Xylene	2012/06/27		109	%	70 - 130
			Styrene	2012/06/27		91	%	70 - 130
			1,3,5-Trimethylbenzene	2012/06/27		108	%	70 - 130
			1,2,4-Trimethylbenzene	2012/06/27		106	%	70 - 130
			4-ethyltoluene	2012/06/27		116	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB291033

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2895183	DVO	Spiked Blank	Chlorobenzene	2012/06/27		99	%	70 - 130
			Benzyl chloride	2012/06/27		102	%	70 - 130
			1,3-Dichlorobenzene	2012/06/27		102	%	70 - 130
			1,4-Dichlorobenzene	2012/06/27		100	%	70 - 130
			1,2-Dichlorobenzene	2012/06/27		96	%	70 - 130
			1,2,4-Trichlorobenzene	2012/06/27		85	%	70 - 130
			Hexachlorobutadiene	2012/06/27		113	%	70 - 130
			Hexane	2012/06/27		110	%	70 - 130
			Cyclohexane	2012/06/27		112	%	70 - 130
			Tetrahydrofuran	2012/06/27		120	%	70 - 130
			1,4-Dioxane	2012/06/27		114	%	70 - 130
			Xylene (Total)	2012/06/27		107	%	70 - 130
		Method Blank	Bromochloromethane	2012/06/27		85	%	60 - 140
			D5-Chlorobenzene	2012/06/27		79	%	60 - 140
			Difluorobenzene	2012/06/27		88	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/27	<0.20		ppbv	
			Carbon Disulfide	2012/06/27	<0.50		ppbv	
			Propene	2012/06/27	<0.30		ppbv	
			Vinyl Acetate	2012/06/27	<0.20		ppbv	
			Vinyl Bromide	2012/06/27	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/06/27	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/06/27	<0.17		ppbv	
			Chloromethane	2012/06/27	<0.30		ppbv	
			Vinyl Chloride	2012/06/27	<0.18		ppbv	
			Chloroethane	2012/06/27	<0.30		ppbv	
			1,3-Butadiene	2012/06/27	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/06/27	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/06/27	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/06/27	<2.3		ppbv	
			2-propanol	2012/06/27	<3.0		ppbv	
			2-Propanone	2012/06/27	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/06/27	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/06/27	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/06/27	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/06/27	<0.20		ppbv	
			Ethyl Acetate	2012/06/27	<2.2		ppbv	
			1,1-Dichloroethylene	2012/06/27	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/06/27	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/06/27	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/06/27	<0.80		ppbv	
			Chloroform	2012/06/27	<0.15		ppbv	
			Carbon Tetrachloride	2012/06/27	<0.30		ppbv	
			1,1-Dichloroethane	2012/06/27	<0.20		ppbv	
			1,2-Dichloroethane	2012/06/27	<0.20		ppbv	
			Ethylene Dibromide	2012/06/27	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/06/27	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/06/27	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/06/27	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/06/27	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/06/27	<0.17		ppbv	
			1,2-Dichloropropane	2012/06/27	<0.40		ppbv	
			Bromomethane	2012/06/27	<0.18		ppbv	
			Bromoform	2012/06/27	<0.20		ppbv	
			Bromodichloromethane	2012/06/27	<0.20		ppbv	
			Dibromochloromethane	2012/06/27	<0.20		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB291033

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2895183	DVO	Method Blank	Heptane	2012/06/27	<0.30		ppbv	
			Trichloroethylene	2012/06/27	<0.30		ppbv	
			Tetrachloroethylene	2012/06/27	<0.20		ppbv	
			Benzene	2012/06/27	<0.18		ppbv	
			Toluene	2012/06/27	<0.20		ppbv	
			Ethylbenzene	2012/06/27	<0.20		ppbv	
			p+m-Xylene	2012/06/27	<0.37		ppbv	
			o-Xylene	2012/06/27	<0.20		ppbv	
			Styrene	2012/06/27	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/06/27	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/06/27	<0.50		ppbv	
			4-ethyltoluene	2012/06/27	<2.2		ppbv	
			Chlorobenzene	2012/06/27	<0.20		ppbv	
			Benzyl chloride	2012/06/27	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/06/27	<2.0		ppbv	
			Hexachlorobutadiene	2012/06/27	<3.0		ppbv	
			Hexane	2012/06/27	<0.30		ppbv	
			Cyclohexane	2012/06/27	<0.20		ppbv	
			Tetrahydrofuran	2012/06/27	<0.40		ppbv	
			1,4-Dioxane	2012/06/27	<2.0		ppbv	
			Xylene (Total)	2012/06/27	<0.60		ppbv	

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

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MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: Elk Point Airport
Station ID: Lica 35 (Portable)
Field Sample ID: LICA VOC/PORT/ Jun 20, 12

Sampler s/n: 6200
Canister ID: 136
Canister Installation Date/Time: Jun 19, 12 @ 10:31 mst
Canister Removal Date/Time: Jun 21, 12 @ 09:01 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
20-Jun-12	06/20/2012 0:00	06/21/2012 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 #12274

Technician Signiture: Ting Xu

Your C.O.C. #: i2274

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

Report Date: 2012/07/04

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B293865
Received: 2012/06/25, 10:24

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2012/06/27	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2012/06/27	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 #: B293865
Report Date: 2012/07/04

RESULTS OF ANALYSES OF AIR

Maxxam ID		NX2990	NX2991	
Sampling Date		2012/06/20	2012/06/20	
COC Number		i2274	i2274	
	Units	**LICAVOC/CLS/JUN20,12/280**	**LICAVOC/PORT/JUN20,12/136**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	23	22	2893815

QC Batch = Quality Control Batch

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Maxxam Job #: B293865
Report Date: 2012/07/04

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2990				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/CLS/JUN20,12/280**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2893985
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2893985
Propene	ppbv	<0.30	0.30	<0.516	0.516	2893985
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2893985
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2893985
Dichlorodifluoromethane (FREON 12)	ppbv	0.65	0.20	3.22	0.989	2893985
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2893985
Chloromethane	ppbv	0.46	0.30	0.949	0.620	2893985
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2893985
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2893985
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2893985
Trichlorofluoromethane (FREON 11)	ppbv	0.31	0.20	1.72	1.12	2893985
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2893985
Ethanol (ethyl alcohol)	ppbv	<2.3	2.3	<4.33	4.33	2893985
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2893985
2-Propanone	ppbv	3.70	0.80	8.78	1.90	2893985
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2893985
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2893985
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2893985
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2893985
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2893985
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2893985
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2893985
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2893985
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2893985
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2893985
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2893985
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2893985
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2893985
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2893985
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2893985
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2893985

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B293865
Report Date: 2012/07/04

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2990				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/CLS/JUN20,12/280**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2893985
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2893985
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2893985
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2893985
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2893985
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2893985
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2893985
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2893985
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2893985
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2893985
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2893985
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2893985
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2893985
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2893985
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2893985
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2893985
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2893985
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2893985
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2893985
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2893985
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2893985
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2893985
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2893985
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2893985
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2893985
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2893985
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2893985
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2893985
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2893985
Surrogate Recovery (%)						
Bromochloromethane	%	86		N/A	N/A	2893985

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

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Maxxam Analytics

Maxxam Job #: B293865
Report Date: 2012/07/04

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2990				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/CLS/JUN20,12/280**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	87		N/A	N/A	2893985
Difluorobenzene	%	87		N/A	N/A	2893985

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2991				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/PORT/JUN20,12/136**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2893985
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2893985
Propene	ppbv	<0.30	0.30	<0.516	0.516	2893985
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2893985
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2893985
Dichlorodifluoromethane (FREON 12)	ppbv	0.63	0.20	3.13	0.989	2893985
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2893985
Chloromethane	ppbv	0.46	0.30	0.946	0.620	2893985
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2893985
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2893985
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2893985
Trichlorofluoromethane (FREON 11)	ppbv	0.32	0.20	1.78	1.12	2893985
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2893985
Ethanol (ethyl alcohol)	ppbv	<2.3	2.3	<4.33	4.33	2893985
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2893985
2-Propanone	ppbv	2.91	0.80	6.90	1.90	2893985
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2893985
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2893985
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2893985
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2893985
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2893985
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2893985
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2893985
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2893985
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2893985
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2893985
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2893985
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2893985
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2893985
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2893985
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2893985
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2893985

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2991				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/PORT/JUN20,12/136**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2893985
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2893985
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2893985
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2893985
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2893985
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2893985
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2893985
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2893985
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2893985
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2893985
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2893985
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2893985
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2893985
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2893985
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2893985
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2893985
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2893985
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2893985
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2893985
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2893985
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2893985
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2893985
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2893985
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2893985
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2893985
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2893985
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2893985
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2893985
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2893985
Surrogate Recovery (%)						
Bromochloromethane	%	84		N/A	N/A	2893985

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

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Maxxam Analytics

Maxxam Job #: B293865
Report Date: 2012/07/04

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2991				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/PORT/JUN20,12/136**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	85		N/A	N/A	2893985
Difluorobenzene	%	85		N/A	N/A	2893985

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

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Maxxam Analytics

Maxxam Job #: B293865
Report Date: 2012/07/04

Test Summary

Maxxam ID NX2990 **Collected** 2012/06/20
Sample ID LICAVOC/CLS/JUN20,12/280 **Shipped**
Matrix AIR **Received** 2012/06/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2893815	N/A	2012/06/27	Spomenka Smiljanic
Volatile Organics in Air (TO-15)	GC/MS	2893985	N/A	2012/06/27	Spomenka Smiljanic

Maxxam ID NX2991 **Collected** 2012/06/20
Sample ID LICAVOC/PORT/JUN20,12/136 **Shipped**
Matrix AIR **Received** 2012/06/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2893815	N/A	2012/06/27	Spomenka Smiljanic
Volatile Organics in Air (TO-15)	GC/MS	2893985	N/A	2012/06/27	Spomenka Smiljanic

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Maxxam Analytics

Maxxam Job #: B293865
Report Date: 2012/07/04

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: GB293865

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2893985	S_S	Spiked Blank	Bromochloromethane	2012/06/27		101	%	60 - 140
			D5-Chlorobenzene	2012/06/27		102	%	60 - 140
			Difluorobenzene	2012/06/27		102	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/27		88	%	70 - 130
			Carbon Disulfide	2012/06/27		94	%	70 - 130
			Propene	2012/06/27		81	%	70 - 130
			Vinyl Acetate	2012/06/27		90	%	70 - 130
			Vinyl Bromide	2012/06/27		91	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2012/06/27		89	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2012/06/27		95	%	70 - 130
			Chloromethane	2012/06/27		82	%	70 - 130
			Vinyl Chloride	2012/06/27		81	%	70 - 130
			Chloroethane	2012/06/27		80	%	70 - 130
			1,3-Butadiene	2012/06/27		84	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2012/06/27		87	%	70 - 130
			Trichlorotrifluoroethane	2012/06/27		89	%	70 - 130
			Ethanol (ethyl alcohol)	2012/06/27		82	%	70 - 130
			2-propanol	2012/06/27		89	%	70 - 130
			2-Propanone	2012/06/27		104	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2012/06/27		79	%	70 - 130
			Methyl Isobutyl Ketone	2012/06/27		86	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2012/06/27		89	%	70 - 130
			Methyl t-butyl ether (MTBE)	2012/06/27		91	%	70 - 130
			Ethyl Acetate	2012/06/27		89	%	70 - 130
			1,1-Dichloroethylene	2012/06/27		87	%	70 - 130
			cis-1,2-Dichloroethylene	2012/06/27		86	%	70 - 130
			trans-1,2-Dichloroethylene	2012/06/27		89	%	70 - 130
			Methylene Chloride(Dichloromethane)	2012/06/27		77	%	70 - 130
			Chloroform	2012/06/27		86	%	70 - 130
			Carbon Tetrachloride	2012/06/27		94	%	70 - 130
			1,1-Dichloroethane	2012/06/27		82	%	70 - 130
			1,2-Dichloroethane	2012/06/27		88	%	70 - 130
			Ethylene Dibromide	2012/06/27		90	%	70 - 130
			1,1,1-Trichloroethane	2012/06/27		90	%	70 - 130
			1,1,2-Trichloroethane	2012/06/27		87	%	70 - 130
			1,1,2,2-Tetrachloroethane	2012/06/27		91	%	70 - 130
			cis-1,3-Dichloropropene	2012/06/27		94	%	70 - 130
			trans-1,3-Dichloropropene	2012/06/27		99	%	70 - 130
			1,2-Dichloropropane	2012/06/27		84	%	70 - 130
			Bromomethane	2012/06/27		83	%	70 - 130
			Bromoform	2012/06/27		98	%	70 - 130
			Bromodichloromethane	2012/06/27		93	%	70 - 130
			Dibromochloromethane	2012/06/27		97	%	70 - 130
			Heptane	2012/06/27		81	%	70 - 130
			Trichloroethylene	2012/06/27		82	%	70 - 130
			Tetrachloroethylene	2012/06/27		88	%	70 - 130
			Benzene	2012/06/27		84	%	70 - 130
			Toluene	2012/06/27		85	%	70 - 130
			Ethylbenzene	2012/06/27		88	%	70 - 130
			p+m-Xylene	2012/06/27		86	%	70 - 130
			o-Xylene	2012/06/27		85	%	70 - 130
			Styrene	2012/06/27		75	%	70 - 130
			1,3,5-Trimethylbenzene	2012/06/27		87	%	70 - 130
			1,2,4-Trimethylbenzene	2012/06/27		89	%	70 - 130
			4-ethyltoluene	2012/06/27		89	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB293865

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2893985	S_S	Spiked Blank	Chlorobenzene	2012/06/27		87	%	70 - 130
			Benzyl chloride	2012/06/27		101	%	70 - 130
			1,3-Dichlorobenzene	2012/06/27		88	%	70 - 130
			1,4-Dichlorobenzene	2012/06/27		84	%	70 - 130
			1,2-Dichlorobenzene	2012/06/27		86	%	70 - 130
			1,2,4-Trichlorobenzene	2012/06/27		101	%	70 - 130
			Hexachlorobutadiene	2012/06/27		98	%	70 - 130
			Hexane	2012/06/27		85	%	70 - 130
			Cyclohexane	2012/06/27		84	%	70 - 130
			Tetrahydrofuran	2012/06/27		87	%	70 - 130
			1,4-Dioxane	2012/06/27		102	%	70 - 130
			Xylene (Total)	2012/06/27		85	%	70 - 130
		Method Blank	Bromochloromethane	2012/06/27		92	%	60 - 140
			D5-Chlorobenzene	2012/06/27		91	%	60 - 140
			Difluorobenzene	2012/06/27		93	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/27	<0.20		ppbv	
			Carbon Disulfide	2012/06/27	<0.50		ppbv	
			Propene	2012/06/27	<0.30		ppbv	
			Vinyl Acetate	2012/06/27	<0.20		ppbv	
			Vinyl Bromide	2012/06/27	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/06/27	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/06/27	<0.17		ppbv	
			Chloromethane	2012/06/27	<0.30		ppbv	
			Vinyl Chloride	2012/06/27	<0.18		ppbv	
			Chloroethane	2012/06/27	<0.30		ppbv	
			1,3-Butadiene	2012/06/27	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/06/27	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/06/27	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/06/27	<2.3		ppbv	
			2-propanol	2012/06/27	<3.0		ppbv	
			2-Propanone	2012/06/27	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/06/27	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/06/27	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/06/27	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/06/27	<0.20		ppbv	
			Ethyl Acetate	2012/06/27	<2.2		ppbv	
			1,1-Dichloroethylene	2012/06/27	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/06/27	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/06/27	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/06/27	<0.80		ppbv	
			Chloroform	2012/06/27	<0.15		ppbv	
			Carbon Tetrachloride	2012/06/27	<0.30		ppbv	
			1,1-Dichloroethane	2012/06/27	<0.20		ppbv	
			1,2-Dichloroethane	2012/06/27	<0.20		ppbv	
			Ethylene Dibromide	2012/06/27	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/06/27	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/06/27	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/06/27	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/06/27	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/06/27	<0.17		ppbv	
			1,2-Dichloropropane	2012/06/27	<0.40		ppbv	
			Bromomethane	2012/06/27	<0.18		ppbv	
			Bromoform	2012/06/27	<0.20		ppbv	
			Bromodichloromethane	2012/06/27	<0.20		ppbv	
			Dibromochloromethane	2012/06/27	<0.20		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB293865

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2893985	S_S	Method Blank	Heptane	2012/06/27	<0.30		ppbv	
			Trichloroethylene	2012/06/27	<0.30		ppbv	
			Tetrachloroethylene	2012/06/27	<0.20		ppbv	
			Benzene	2012/06/27	<0.18		ppbv	
			Toluene	2012/06/27	<0.20		ppbv	
			Ethylbenzene	2012/06/27	<0.20		ppbv	
			p+m-Xylene	2012/06/27	<0.37		ppbv	
			o-Xylene	2012/06/27	<0.20		ppbv	
			Styrene	2012/06/27	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/06/27	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/06/27	<0.50		ppbv	
			4-ethyltoluene	2012/06/27	<2.2		ppbv	
			Chlorobenzene	2012/06/27	<0.20		ppbv	
			Benzyl chloride	2012/06/27	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/06/27	<2.0		ppbv	
			Hexachlorobutadiene	2012/06/27	<3.0		ppbv	
			Hexane	2012/06/27	<0.30		ppbv	
			Cyclohexane	2012/06/27	<0.20		ppbv	
			Tetrahydrofuran	2012/06/27	<0.40		ppbv	
			1,4-Dioxane	2012/06/27	<2.0		ppbv	
			Xylene (Total)	2012/06/27	<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.

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MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: Elk Point Airport
Station ID: Lica 35 (Portable)
Field Sample ID: LICA VOC/PORT/ Jun 26, 12

Sampler s/n: 6200
Canister ID: 7807
Canister Installation Date/Time: Jun 25, 12 @ 11:41 mst
Canister Removal Date/Time: Jun 28, 12 @ 12:42 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
26-Jun-12	06/26/2012 0:00	06/27/2012 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	21

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

Comments: System leak check prior to sampling. COC #12319

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 12319

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

Report Date: 2012/07/05

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B298270
Received: 2012/07/03, 08:45

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2012/07/03	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2012/07/03	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 #: B298270
Report Date: 2012/07/05

RESULTS OF ANALYSES OF AIR

Maxxam ID		NZ5217	NZ5218	
Sampling Date		2012/06/26	2012/06/26	
COC Number		12319	12319	
	Units	**LICA VOC/CLS/JUNE 26,12 - 7793**	**LICA VOC/PORT/JUNE 26,12 - 7807**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	23	21	2897991

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5217				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/CLS/JUNE 26,12 - 7793**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2897984
Carbon Disulfide	ppbv	0.81	0.50	2.51	1.56	2897984
Propene	ppbv	<0.30	0.30	<0.516	0.516	2897984
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2897984
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2897984
Dichlorodifluoromethane (FREON 12)	ppbv	0.70	0.20	3.46	0.989	2897984
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2897984
Chloromethane	ppbv	0.61	0.30	1.26	0.620	2897984
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2897984
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2897984
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2897984
Trichlorofluoromethane (FREON 11)	ppbv	0.33	0.20	1.85	1.12	2897984
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2897984
Ethanol (ethyl alcohol)	ppbv	2.3	2.3	4.38	4.33	2897984
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2897984
2-Propanone	ppbv	6.85	0.80	16.3	1.90	2897984
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2897984
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2897984
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2897984
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2897984
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2897984
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2897984
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2897984
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2897984
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2897984
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2897984
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2897984
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2897984
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2897984
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2897984
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2897984

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5217				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/CLS/JUNE 26,12 - 7793**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2897984
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2897984
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2897984
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2897984
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2897984
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2897984
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2897984
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2897984
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2897984
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2897984
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2897984
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2897984
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2897984
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2897984
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2897984
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2897984
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2897984
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2897984
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2897984
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2897984
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2897984
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2897984
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2897984
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2897984
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2897984
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2897984
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2897984
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2897984
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2897984
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2897984

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5217				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/CLS/JUNE 26,12 - 7793**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)						
Bromochloromethane	%	99		N/A	N/A	2897984
D5-Chlorobenzene	%	94		N/A	N/A	2897984
Difluorobenzene	%	102		N/A	N/A	2897984

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5218				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/PORT/JUNE 26,12 - 7807**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2897984
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2897984
Propene	ppbv	<0.30	0.30	<0.516	0.516	2897984
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2897984
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2897984
Dichlorodifluoromethane (FREON 12)	ppbv	0.72	0.20	3.58	0.989	2897984
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2897984
Chloromethane	ppbv	0.61	0.30	1.26	0.620	2897984
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2897984
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2897984
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2897984
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.91	1.12	2897984
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2897984
Ethanol (ethyl alcohol)	ppbv	<2.3	2.3	<4.33	4.33	2897984
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2897984
2-Propanone	ppbv	5.89	0.80	14.0	1.90	2897984
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2897984
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2897984
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2897984
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2897984
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2897984
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2897984
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2897984
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2897984
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2897984
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2897984
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2897984
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2897984
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2897984
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2897984
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2897984

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5218				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/PORT/JUNE 26,12 - 7807**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2897984
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2897984
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2897984
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2897984
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2897984
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2897984
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2897984
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2897984
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2897984
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2897984
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2897984
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2897984
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2897984
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2897984
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2897984
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2897984
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2897984
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2897984
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2897984
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2897984
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2897984
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2897984
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2897984
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2897984
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2897984
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2897984
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2897984
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2897984
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2897984
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2897984

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5218				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/PORT/JUNE 26,12 - 7807**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)						
Bromochloromethane	%	93		N/A	N/A	2897984
D5-Chlorobenzene	%	89		N/A	N/A	2897984
Difluorobenzene	%	96		N/A	N/A	2897984

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

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

Test Summary

Maxxam ID NZ5217 **Collected** 2012/06/26
Sample ID LICA VOC/CLS/JUNE 26,12 - 7793 **Shipped**
Matrix AIR **Received** 2012/07/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2897991	N/A	2012/07/03	Spomenka Smiljanic
Volatile Organics in Air (TO-15)	GC/MS	2897984	N/A	2012/07/03	Spomenka Smiljanic

Maxxam ID NZ5218 **Collected** 2012/06/26
Sample ID LICA VOC/PORT/JUNE 26,12 - 7807 **Shipped**
Matrix AIR **Received** 2012/07/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2897991	N/A	2012/07/03	Spomenka Smiljanic
Volatile Organics in Air (TO-15)	GC/MS	2897984	N/A	2012/07/03	Spomenka Smiljanic

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

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: GB298270

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2897984	S_S	Spiked Blank	Bromochloromethane	2012/07/03		108	%	60 - 140
			D5-Chlorobenzene	2012/07/03		104	%	60 - 140
			Difluorobenzene	2012/07/03		113	%	60 - 140
			2,2,4-Trimethylpentane	2012/07/03		108	%	70 - 130
			Carbon Disulfide	2012/07/03		114	%	70 - 130
			Propene	2012/07/03		105	%	70 - 130
			Vinyl Acetate	2012/07/03		118	%	70 - 130
			Vinyl Bromide	2012/07/03		109	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2012/07/03		104	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2012/07/03		118	%	70 - 130
			Chloromethane	2012/07/03		107	%	70 - 130
			Vinyl Chloride	2012/07/03		105	%	70 - 130
			Chloroethane	2012/07/03		103	%	70 - 130
			1,3-Butadiene	2012/07/03		110	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2012/07/03		99	%	70 - 130
			Trichlorotrifluoroethane	2012/07/03		103	%	70 - 130
			Ethanol (ethyl alcohol)	2012/07/03		116	%	70 - 130
			2-propanol	2012/07/03		115	%	70 - 130
			2-Propanone	2012/07/03		140 (1)	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2012/07/03		104	%	70 - 130
			Methyl Isobutyl Ketone	2012/07/03		109	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2012/07/03		114	%	70 - 130
			Methyl t-butyl ether (MTBE)	2012/07/03		109	%	70 - 130
			Ethyl Acetate	2012/07/03		115	%	70 - 130
			1,1-Dichloroethylene	2012/07/03		107	%	70 - 130
			cis-1,2-Dichloroethylene	2012/07/03		106	%	70 - 130
			trans-1,2-Dichloroethylene	2012/07/03		111	%	70 - 130
			Methylene Chloride(Dichloromethane)	2012/07/03		100	%	70 - 130
			Chloroform	2012/07/03		102	%	70 - 130
			Carbon Tetrachloride	2012/07/03		109	%	70 - 130
			1,1-Dichloroethane	2012/07/03		103	%	70 - 130
			1,2-Dichloroethane	2012/07/03		109	%	70 - 130
			Ethylene Dibromide	2012/07/03		101	%	70 - 130
			1,1,1-Trichloroethane	2012/07/03		105	%	70 - 130
			1,1,2-Trichloroethane	2012/07/03		97	%	70 - 130
			1,1,2,2-Tetrachloroethane	2012/07/03		106	%	70 - 130
			cis-1,3-Dichloropropene	2012/07/03		111	%	70 - 130
			trans-1,3-Dichloropropene	2012/07/03		119	%	70 - 130
			1,2-Dichloropropane	2012/07/03		101	%	70 - 130
			Bromomethane	2012/07/03		103	%	70 - 130
			Bromoform	2012/07/03		110	%	70 - 130
			Bromodichloromethane	2012/07/03		113	%	70 - 130
			Dibromochloromethane	2012/07/03		111	%	70 - 130
			Heptane	2012/07/03		105	%	70 - 130
			Trichloroethylene	2012/07/03		88	%	70 - 130
			Tetrachloroethylene	2012/07/03		94	%	70 - 130
			Benzene	2012/07/03		98	%	70 - 130
			Toluene	2012/07/03		97	%	70 - 130
			Ethylbenzene	2012/07/03		100	%	70 - 130
			p+m-Xylene	2012/07/03		98	%	70 - 130
			o-Xylene	2012/07/03		97	%	70 - 130
			Styrene	2012/07/03		82	%	70 - 130
			1,3,5-Trimethylbenzene	2012/07/03		97	%	70 - 130
			1,2,4-Trimethylbenzene	2012/07/03		98	%	70 - 130
			4-ethyltoluene	2012/07/03		102	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB298270

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2897984	S_S	Spiked Blank	Chlorobenzene	2012/07/03		97	%	70 - 130
			Benzyl chloride	2012/07/03		118	%	70 - 130
			1,3-Dichlorobenzene	2012/07/03		93	%	70 - 130
			1,4-Dichlorobenzene	2012/07/03		91	%	70 - 130
			1,2-Dichlorobenzene	2012/07/03		91	%	70 - 130
			1,2,4-Trichlorobenzene	2012/07/03		111	%	70 - 130
			Hexachlorobutadiene	2012/07/03		108	%	70 - 130
			Hexane	2012/07/03		108	%	70 - 130
			Cyclohexane	2012/07/03		105	%	70 - 130
			Tetrahydrofuran	2012/07/03		113	%	70 - 130
			1,4-Dioxane	2012/07/03		116	%	70 - 130
			Xylene (Total)	2012/07/03		98	%	70 - 130
		Method Blank	Bromochloromethane	2012/07/03		103	%	60 - 140
			D5-Chlorobenzene	2012/07/03		96	%	60 - 140
			Difluorobenzene	2012/07/03		107	%	60 - 140
			2,2,4-Trimethylpentane	2012/07/03	<0.20		ppbv	
			Carbon Disulfide	2012/07/03	<0.50		ppbv	
			Propene	2012/07/03	<0.30		ppbv	
			Vinyl Acetate	2012/07/03	<0.20		ppbv	
			Vinyl Bromide	2012/07/03	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/07/03	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/07/03	<0.17		ppbv	
			Chloromethane	2012/07/03	<0.30		ppbv	
			Vinyl Chloride	2012/07/03	<0.18		ppbv	
			Chloroethane	2012/07/03	<0.30		ppbv	
			1,3-Butadiene	2012/07/03	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/07/03	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/07/03	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/07/03	<2.3		ppbv	
			2-propanol	2012/07/03	<3.0		ppbv	
			2-Propanone	2012/07/03	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/07/03	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/07/03	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/07/03	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/07/03	<0.20		ppbv	
			Ethyl Acetate	2012/07/03	<2.2		ppbv	
			1,1-Dichloroethylene	2012/07/03	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/07/03	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/07/03	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/07/03	<0.80		ppbv	
			Chloroform	2012/07/03	<0.15		ppbv	
			Carbon Tetrachloride	2012/07/03	<0.30		ppbv	
			1,1-Dichloroethane	2012/07/03	<0.20		ppbv	
			1,2-Dichloroethane	2012/07/03	<0.20		ppbv	
			Ethylene Dibromide	2012/07/03	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/07/03	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/07/03	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/07/03	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/07/03	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/07/03	<0.17		ppbv	
			1,2-Dichloropropane	2012/07/03	<0.40		ppbv	
			Bromomethane	2012/07/03	<0.18		ppbv	
			Bromoform	2012/07/03	<0.20		ppbv	
			Bromodichloromethane	2012/07/03	<0.20		ppbv	
			Dibromochloromethane	2012/07/03	<0.20		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB298270

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2897984	S_S	Method Blank	Heptane	2012/07/03	<0.30		ppbv	
			Trichloroethylene	2012/07/03	<0.30		ppbv	
			Tetrachloroethylene	2012/07/03	<0.20		ppbv	
			Benzene	2012/07/03	<0.18		ppbv	
			Toluene	2012/07/03	<0.20		ppbv	
			Ethylbenzene	2012/07/03	<0.20		ppbv	
			p+m-Xylene	2012/07/03	<0.37		ppbv	
			o-Xylene	2012/07/03	<0.20		ppbv	
			Styrene	2012/07/03	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/07/03	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/07/03	<0.50		ppbv	
			4-ethyltoluene	2012/07/03	<2.2		ppbv	
			Chlorobenzene	2012/07/03	<0.20		ppbv	
			Benzyl chloride	2012/07/03	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/07/03	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/07/03	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/07/03	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/07/03	<2.0		ppbv	
			Hexachlorobutadiene	2012/07/03	<3.0		ppbv	
			Hexane	2012/07/03	<0.30		ppbv	
			Cyclohexane	2012/07/03	<0.20		ppbv	
			Tetrahydrofuran	2012/07/03	<0.40		ppbv	
			1,4-Dioxane	2012/07/03	<2.0		ppbv	
			Xylene (Total)	2012/07/03	<0.60		ppbv	

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

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Polycyclic Aromatic Hydrocarbons Laboratory Analysis

MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: Elk Point Airport
Station ID: Lica 35 (Portable)
Field Sample ID: LICA PUF/PORT/Jun 02, 12

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Jun 01, 2012 @ 10:52 mst
Removal Date/Time: Jun 05, 2012 @ 10:47 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
02-Jun-12	06/02/2012 0:00	06/03/2012 0:00	24.0000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
29-May-12	05-Jun-12	11-Jun-12	????

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)
697	229	16.1	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# 12143
GB234722 Puff #2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Jun 02 , 12

Technician Signiture: Ting Xu

JOB #: 2833-12-06-35-C

Success Through Science®

Your C.O.C. #: 12143

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

Report Date: 2012/06/18

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B283811
Received: 2012/06/07, 08:30

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2012/06/09	2012/06/11	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: 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		NS6089	NS6090		
Sampling Date		2012/06/02	2012/06/02		
COC Number		12143	12143		
	Units	**LICA PUFF+QFF/CLS/JUNE02,12**	**LICA PUFF+QFF/PORT/JUNE 02,12**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2875873
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2875873
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2875873
2-Methylanthracene	ug	<0.10	<0.10	0.10	2875873
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2875873
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2875873
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2875873
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2875873
Acenaphthene	ug	<0.050	<0.050	0.050	2875873
Acenaphthylene	ug	<0.050	<0.050	0.050	2875873
Anthracene	ug	<0.050	<0.050	0.050	2875873
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2875873
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2875873
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2875873
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2875873
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2875873
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2875873
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2875873
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2875873
Biphenyl	ug	<0.10	<0.10	0.10	2875873
Chrysene	ug	<0.050	<0.050	0.050	2875873
Coronene	ug	<0.10	<0.10	0.10	2875873
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2875873
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2875873
Fluoranthene	ug	0.088	<0.050	0.050	2875873
Fluorene	ug	0.102	<0.050	0.050	2875873
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2875873
m-Terphenyl	ug	<0.10	<0.10	0.10	2875873
Naphthalene	ug	<0.072	<0.072	0.072	2875873
o-Terphenyl	ug	<0.10	<0.10	0.10	2875873
Perylene	ug	<0.10	<0.10	0.10	2875873

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B283811
Report Date: 2012/06/18

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

Maxxam ID		NS6089	NS6090		
Sampling Date		2012/06/02	2012/06/02		
COC Number		12143	12143		
	Units	**LICA PUFF+QFF/CLS/JUNE02,12**	**LICA PUFF+QFF/PORT/JUNE 02,12**	**RDL**	**QC Batch**
Phenanthrene	ug	0.706	0.178	0.050	2875873
p-Terphenyl	ug	<0.10	<0.10	0.10	2875873
Pyrene	ug	0.074	<0.050	0.050	2875873
Quinoline	ug	<0.40	<0.40	0.40	2875873
Tetralin	ug	<0.10	<0.10	0.10	2875873
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	62	62		2875873
D10-Fluoranthene	%	84	82		2875873
D10-Phenanthrene	%	82	80		2875873
D12-Benzo(a)anthracene	%	100	88		2875873
D12-Benzo(a)pyrene	%	94	92		2875873
D12-Benzo(b)fluoranthene	%	88	86		2875873
D12-Benzo(ghi)perylene	%	116	94		2875873
D12-Benzo(k)fluoranthene	%	100	98		2875873
D12-Chrysene	%	92	84		2875873
D12-Indeno(1,2,3-cd)pyrene	%	114	88		2875873
D12-Perylene	%	92	86		2875873
D14-Dibenzo(a,h)anthracene	%	116	94		2875873
D14-Terphenyl (FS)	%	89	92		2875873
D8-Acenaphthylene	%	64	66		2875873
D8-Naphthalene	%	60	56		2875873

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B283811
Report Date: 2012/06/18

Test Summary

Maxxam ID NS6089 **Collected** 2012/06/02
Sample ID LICA PUFF+QFF/CLS/JUNE02,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2875873	2012/06/09	2012/06/11	LIDIJA TOMIC

Maxxam ID NS6090 **Collected** 2012/06/02
Sample ID LICA PUFF+QFF/PORT/JUNE 02,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2875873	2012/06/09	2012/06/11	LIDIJA TOMIC

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Maxxam Analytics

Maxxam Job #: B283811
Report Date: 2012/06/18

GENERAL COMMENTS

Low recovery for Naphthalene in Spike Duplicate. Spike Duplicate was re-run with similar result. Original run reported.

Not calibrated for benzo(b)anthracene, picene, dibenzo(a,c)anthracene and triphenylene. An estimated mdl for each of these compounds is 0.05ug x split.
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.

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: GB283811

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2875873	LTO	Spiked Blank	D10-2-Methylnaphthalene	2012/06/11		80	%	50 - 150
			D10-Fluoranthene	2012/06/11		84	%	50 - 150
			D10-Phenanthrene	2012/06/11		86	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/11		90	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/11		100	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/11		86	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/11		96	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/11		100	%	50 - 150
			D12-Chrysene	2012/06/11		86	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2012/06/11		92	%	50 - 150
			D12-Perylene	2012/06/11		94	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/11		96	%	50 - 150
			D8-Acenaphthylene	2012/06/11		84	%	50 - 150
			D8-Naphthalene	2012/06/11		72	%	50 - 150
			Acenaphthene	2012/06/11		79	%	60 - 130
		RPD	Acenaphthene	2012/06/11	16.9		%	50
		Spiked Blank	Acenaphthylene	2012/06/11		78	%	60 - 130
		RPD	Acenaphthylene	2012/06/11	18.1		%	50
		Spiked Blank	Anthracene	2012/06/11		87	%	60 - 130
		RPD	Anthracene	2012/06/11	12.2		%	50
		Spiked Blank	Benzo(a)anthracene	2012/06/11		83	%	60 - 130
		RPD	Benzo(a)anthracene	2012/06/11	0.3		%	50
		Spiked Blank	Benzo(a)pyrene	2012/06/11		81	%	60 - 130
		RPD	Benzo(a)pyrene	2012/06/11	2.2		%	50
		Spiked Blank	Benzo(b)fluoranthene	2012/06/11		91	%	60 - 130
		RPD	Benzo(b)fluoranthene	2012/06/11	1.7		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2012/06/11		89	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2012/06/11	2.0		%	50
		Spiked Blank	Benzo(k)fluoranthene	2012/06/11		86	%	60 - 130
		RPD	Benzo(k)fluoranthene	2012/06/11	2.0		%	50
		Spiked Blank	Chrysene	2012/06/11		82	%	60 - 130
		RPD	Chrysene	2012/06/11	0.3		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2012/06/11		94	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2012/06/11	0.3		%	50
		Spiked Blank	Fluoranthene	2012/06/11		81	%	60 - 130
		RPD	Fluoranthene	2012/06/11	4.7		%	50
		Spiked Blank	Fluorene	2012/06/11		80	%	60 - 130
		RPD	Fluorene	2012/06/11	16.3		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2012/06/11		90	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2012/06/11	0		%	50
		Spiked Blank	Naphthalene	2012/06/11		73	%	60 - 130
		RPD	Naphthalene	2012/06/11	22.6		%	50
		Spiked Blank	Phenanthrene	2012/06/11		82	%	60 - 130
		RPD	Phenanthrene	2012/06/11	12.6		%	50
		Spiked Blank	Pyrene	2012/06/11		80	%	60 - 130
		RPD	Pyrene	2012/06/11	6.2		%	50
		Method Blank	D10-2-Methylnaphthalene	2012/06/11		74	%	50 - 150
			D10-Fluoranthene	2012/06/11		80	%	50 - 150
			D10-Phenanthrene	2012/06/11		80	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/11		88	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/11		100	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/11		86	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/11		94	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/11		102	%	50 - 150
			D12-Chrysene	2012/06/11		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: GB283811

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2875873	LTO	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2012/06/11		92	%	50 - 150
			D12-Perylene	2012/06/11		96	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/11		94	%	50 - 150
			D8-Acenaphthylene	2012/06/11		78	%	50 - 150
			D8-Naphthalene	2012/06/11		68	%	50 - 150
			1-Methylnaphthalene	2012/06/11	<0.10		ug	
			1-Methylphenanthrene	2012/06/11	<0.10		ug	
			2-Chloronaphthalene	2012/06/11	<0.10		ug	
			2-Methylanthracene	2012/06/11	<0.10		ug	
			2-Methylnaphthalene	2012/06/11	<0.10		ug	
			3-Methylcholanthrene	2012/06/11	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2012/06/11	<0.10		ug	
			9,10-Dimethylanthracene	2012/06/11	<0.40		ug	
			Acenaphthene	2012/06/11	<0.050		ug	
			Acenaphthylene	2012/06/11	<0.050		ug	
			Anthracene	2012/06/11	<0.050		ug	
			Benzo(a)anthracene	2012/06/11	<0.050		ug	
			Benzo(a)fluorene	2012/06/11	<0.10		ug	
			Benzo(a)pyrene	2012/06/11	<0.050		ug	
			Benzo(b)fluoranthene	2012/06/11	<0.050		ug	
			Benzo(b)fluorene	2012/06/11	<0.10		ug	
			Benzo(e)pyrene	2012/06/11	<0.10		ug	
			Benzo(g,h,i)perylene	2012/06/11	<0.050		ug	
			Benzo(k)fluoranthene	2012/06/11	<0.050		ug	
			Biphenyl	2012/06/11	<0.10		ug	
			Chrysene	2012/06/11	<0.050		ug	
			Coronene	2012/06/11	<0.10		ug	
			Dibenz(a,h)anthracene	2012/06/11	<0.050		ug	
			Dibenzo(a,e)pyrene	2012/06/11	<0.20		ug	
			Fluoranthene	2012/06/11	<0.050		ug	
			Fluorene	2012/06/11	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2012/06/11	<0.050		ug	
			m-Terphenyl	2012/06/11	<0.10		ug	
			Naphthalene	2012/06/11	<0.072		ug	
			o-Terphenyl	2012/06/11	<0.10		ug	
			Perylene	2012/06/11	<0.10		ug	
			Phenanthrene	2012/06/11	<0.050		ug	
			p-Terphenyl	2012/06/11	<0.10		ug	
			Pyrene	2012/06/11	<0.050		ug	
			Quinoline	2012/06/11	<0.40		ug	
			Tetralin	2012/06/11	<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: Elk Point Airport
Station ID: Lica 35 (Portable)
Field Sample ID: LICA PUF/PORT/Jun 08, 12

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Jun 07, 2012 @ 17:12 mst
Removal Date/Time: Jun 13, 2012 @ 09:36 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
08-Jun-12	06/08/2012 0:00	06/09/2012 0:00	24.0000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
05-Jun-12	13-Jun-12	18-Jun-12	????

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)
702	229	15.5	330.33

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

Comments: COC #12184
GB234726 Puff #2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Jun 08 , 12

Technician Signiture: Ting Xu

JOB #: 2833-12-06-35-C

Success Through Science®

Your C.O.C. #: 12184

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

Report Date: 2012/06/29

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B288743
Received: 2012/06/15, 09:00

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2012/06/18	2012/06/25	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

==========

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Total cover pages: 1

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

Maxxam ID		NU9101	NU9102		
Sampling Date		2012/06/08	2012/06/08		
COC Number		12184	12184		
	Units	**LICA PUFF+QFF/CLS/JUNE 08,12**	**LICA PUFF+QFF/PORT/JUNE 08,12**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2883758
1-Methylphenanthrene	ug	0.12	<0.10	0.10	2883758
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2883758
2-Methylanthracene	ug	<0.10	<0.10	0.10	2883758
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2883758
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2883758
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2883758
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2883758
Acenaphthene	ug	<0.050	<0.050	0.050	2883758
Acenaphthylene	ug	<0.050	<0.050	0.050	2883758
Anthracene	ug	0.114	<0.050	0.050	2883758
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2883758
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2883758
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2883758
Benzo(b)Anthracene	ug	<0.10	0.10	0.10	2883758
Benzo(b)fluoranthene	ug	0.064	<0.050	0.050	2883758
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2883758
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2883758
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2883758
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2883758
Biphenyl	ug	<0.10	<0.10	0.10	2883758
Chrysene	ug	0.076	<0.050	0.050	2883758
Coronene	ug	<0.10	<0.10	0.10	2883758
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2883758
Dibenzo(a,c) anthracene + Picene	ug	<0.10	<0.10	0.10	2883758
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2883758
Fluoranthene	ug	0.258	<0.050	0.050	2883758
Fluorene	ug	0.234	<0.050	0.050	2883758
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2883758
m-Terphenyl	ug	<0.10	<0.10	0.10	2883758
Naphthalene	ug	<0.072	<0.072	0.072	2883758

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B288743
Report Date: 2012/06/29

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

Maxxam ID		NU9101	NU9102		
Sampling Date		2012/06/08	2012/06/08		
COC Number		12184	12184		
	Units	**LICA PUFF+QFF/CLS/JUNE 08,12**	**LICA PUFF+QFF/PORT/JUNE 08,12**	**RDL**	**QC Batch**
o-Terphenyl	ug	<0.10	<0.10	0.10	2883758
Perylene	ug	<0.10	<0.10	0.10	2883758
Phenanthrene	ug	1.11	0.146	0.050	2883758
p-Terphenyl	ug	<0.10	<0.10	0.10	2883758
Pyrene	ug	0.218	<0.050	0.050	2883758
Quinoline	ug	<0.40	<0.40	0.40	2883758
Tetralin	ug	<0.10	<0.10	0.10	2883758
Triphenylene	ug	<0.10	<0.10	0.10	2883758
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	54	56		2883758
D10-Fluoranthene	%	90	86		2883758
D10-Phenanthrene	%	84	78		2883758
D12-Benzo(a)anthracene	%	92	90		2883758
D12-Benzo(a)pyrene	%	94	90		2883758
D12-Benzo(b)fluoranthene	%	90	88		2883758
D12-Benzo(ghi)perylene	%	100	96		2883758
D12-Benzo(k)fluoranthene	%	98	98		2883758
D12-Chrysene	%	88	86		2883758
D12-Indeno(1,2,3-cd)pyrene	%	94	90		2883758
D12-Perylene	%	88	84		2883758
D14-Dibenzo(a,h)anthracene	%	96	94		2883758
D14-Terphenyl (FS)	%	97	91		2883758
D8-Acenaphthylene	%	58	58		2883758
D8-Naphthalene	%	48 (1)	52		2883758

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 #: B288743
Report Date: 2012/06/29

Test Summary

Maxxam ID NU9101 **Collected** 2012/06/08
Sample ID LICA PUFF+QFF/CLS/JUNE 08,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2883758	2012/06/18	2012/06/25	Lidija Tomic

Maxxam ID NU9102 **Collected** 2012/06/08
Sample ID LICA PUFF+QFF/PORT/JUNE 08,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2883758	2012/06/18	2012/06/25	Lidija Tomic

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Maxxam Analytics

Maxxam Job #: B288743
Report Date: 2012/06/29

GENERAL COMMENTS

PAHMS-F
Not calibrated for benzo(b)anthracene, picene, dibenzo(a,c)anthracene and triphenylene. An estimated mdl for each of these compounds is 0.05ug x split.
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.

Low recovery of Acenaphthylene, Acenaphthene in Spike and Spike Dupl, and low recovery of D8-Naphthalene in the sample NU9101-01

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: GB288743

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2883758	LTO	Spiked Blank	D10-2-Methylnaphthalene	2012/06/25		58	%	50 - 150
			D10-Fluoranthene	2012/06/25		82	%	50 - 150
			D10-Phenanthrene	2012/06/25		74	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/25		88	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/25		96	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/25		88	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/25		96	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/25		100	%	50 - 150
			D12-Chrysene	2012/06/25		88	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2012/06/25		90	%	50 - 150
			D12-Perylene	2012/06/25		90	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/25		94	%	50 - 150
			D8-Acenaphthylene	2012/06/25		62	%	50 - 150
			D8-Naphthalene	2012/06/25		52	%	50 - 150
			Acenaphthene	2012/06/25		58 (1)	%	60 - 130
		RPD	Acenaphthene	2012/06/25	3.4		%	50
		Spiked Blank	Acenaphthylene	2012/06/25		57 (1)	%	60 - 130
		RPD	Acenaphthylene	2012/06/25	4.3		%	50
		Spiked Blank	Anthracene	2012/06/25		69	%	60 - 130
		RPD	Anthracene	2012/06/25	2.5		%	50
		Spiked Blank	Benzo(a)anthracene	2012/06/25		84	%	60 - 130
		RPD	Benzo(a)anthracene	2012/06/25	0.6		%	50
		Spiked Blank	Benzo(a)pyrene	2012/06/25		76	%	60 - 130
		RPD	Benzo(a)pyrene	2012/06/25	0.7		%	50
		Spiked Blank	Benzo(b)fluoranthene	2012/06/25		90	%	60 - 130
		RPD	Benzo(b)fluoranthene	2012/06/25	2.8		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2012/06/25		90	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2012/06/25	0.8		%	50
		Spiked Blank	Benzo(k)fluoranthene	2012/06/25		87	%	60 - 130
		RPD	Benzo(k)fluoranthene	2012/06/25	0.3		%	50
		Spiked Blank	Chrysene	2012/06/25		83	%	60 - 130
		RPD	Chrysene	2012/06/25	0.6		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2012/06/25		90	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2012/06/25	0.8		%	50
		Spiked Blank	Fluoranthene	2012/06/25		79	%	60 - 130
		RPD	Fluoranthene	2012/06/25	1.3		%	50
		Spiked Blank	Fluorene	2012/06/25		62	%	60 - 130
		RPD	Fluorene	2012/06/25	0.8		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2012/06/25		85	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2012/06/25	0.6		%	50
		Spiked Blank	Naphthalene	2012/06/25		52 (1)	%	60 - 130
		RPD	Naphthalene	2012/06/25	2.9		%	50
		Spiked Blank	Phenanthrene	2012/06/25		70	%	60 - 130
		RPD	Phenanthrene	2012/06/25	2.9		%	50
		Spiked Blank	Pyrene	2012/06/25		77	%	60 - 130
		RPD	Pyrene	2012/06/25	1		%	50
		Method Blank	D10-2-Methylnaphthalene	2012/06/25		58	%	50 - 150
			D10-Fluoranthene	2012/06/25		78	%	50 - 150
			D10-Phenanthrene	2012/06/25		70	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/25		86	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/25		94	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/25		86	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/25		94	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/25		98	%	50 - 150
			D12-Chrysene	2012/06/25		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: GB288743

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2883758	LTO	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2012/06/25		88	%	50 - 150
			D12-Perylene	2012/06/25		88	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/25		92	%	50 - 150
			D8-Acenaphthylene	2012/06/25		62	%	50 - 150
			D8-Naphthalene	2012/06/25		52	%	50 - 150
			1-Methylnaphthalene	2012/06/25	<0.10		ug	
			1-Methylphenanthrene	2012/06/25	<0.10		ug	
			2-Chloronaphthalene	2012/06/25	<0.10		ug	
			2-Methylanthracene	2012/06/25	<0.10		ug	
			2-Methylnaphthalene	2012/06/25	<0.10		ug	
			3-Methylcholanthrene	2012/06/25	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2012/06/25	<0.10		ug	
			9,10-Dimethylanthracene	2012/06/25	<0.40		ug	
			Acenaphthene	2012/06/25	<0.050		ug	
			Acenaphthylene	2012/06/25	<0.050		ug	
			Anthracene	2012/06/25	<0.050		ug	
			Benzo(a)anthracene	2012/06/25	<0.050		ug	
			Benzo(a)fluorene	2012/06/25	<0.10		ug	
			Benzo(a)pyrene	2012/06/25	<0.050		ug	
			Benzo(b)Anthracene	2012/06/25	<0.10		ug	
			Benzo(b)fluoranthene	2012/06/25	<0.050		ug	
			Benzo(b)fluorene	2012/06/25	<0.10		ug	
			Benzo(e)pyrene	2012/06/25	<0.10		ug	
			Benzo(g,h,i)perylene	2012/06/25	<0.050		ug	
			Benzo(k)fluoranthene	2012/06/25	<0.050		ug	
			Biphenyl	2012/06/25	<0.10		ug	
			Chrysene	2012/06/25	<0.050		ug	
			Coronene	2012/06/25	<0.10		ug	
			Dibenz(a,h)anthracene	2012/06/25	<0.050		ug	
			Dibenzo(a,c) anthracene + Picene	2012/06/25	<0.10		ug	
			Dibenzo(a,e)pyrene	2012/06/25	<0.20		ug	
			Fluoranthene	2012/06/25	<0.050		ug	
			Fluorene	2012/06/25	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2012/06/25	<0.050		ug	
			m-Terphenyl	2012/06/25	<0.10		ug	
			Naphthalene	2012/06/25	<0.072		ug	
			o-Terphenyl	2012/06/25	<0.10		ug	
			Perylene	2012/06/25	<0.10		ug	
			Phenanthrene	2012/06/25	<0.050		ug	
			p-Terphenyl	2012/06/25	<0.10		ug	
			Pyrene	2012/06/25	<0.050		ug	
			Quinoline	2012/06/25	<0.40		ug	
			Tetralin	2012/06/25	<0.10		ug	
			Triphenylene	2012/06/25	<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.

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MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: Elk Point Airport
Station ID: Lica 35 (Portable)
Field Sample ID: LICA PUF/PORT/Jun 14, 12

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Jun 13, 2012 @ 09:50 mst
Removal Date/Time: Jun 15, 2012 @ 10:10 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
14-Jun-12	06/14/2012 0:00	06/15/2012 0:00	24.0000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
08-Jun-12	18-Jun-12	21-Jun-12	????

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)
703	229	15.1	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 #12212
GB234730 Puff #2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Jun 14 , 12

Technician Signiture: Ting Xu

JOB #: 2833-12-06-35-C

Success Through Science®

Your C.O.C. #: 12212

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

Report Date: 2012/06/29

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B291084
Received: 2012/06/20, 09:10

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2012/06/21	2012/06/27	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

Theresa Stephenson, Project Manager
Email: 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		NW0155	NW0156		
Sampling Date		2012/06/14	2012/06/14		
COC Number		12212	12212		
	Units	**LICA PUFF+QFF/CLS/JUNE 14,12**	**LICA PUFF+QFF/PORT/JUNE 14,12**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	0.14	0.10	2887183
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2887183
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2887183
2-Methylanthracene	ug	<0.10	<0.10	0.10	2887183
2-Methylnaphthalene	ug	<0.10	0.29	0.10	2887183
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2887183
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2887183
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2887183
Acenaphthene	ug	<0.050	<0.050	0.050	2887183
Acenaphthylene	ug	<0.050	<0.050	0.050	2887183
Anthracene	ug	<0.050	<0.050	0.050	2887183
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2887183
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2887183
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2887183
Benzo(b)Anthracene	ug	<0.10	<0.10	0.10	2887183
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2887183
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2887183
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2887183
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2887183
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2887183
Biphenyl	ug	<0.10	<0.10	0.10	2887183
Chrysene	ug	<0.050	<0.050	0.050	2887183
Coronene	ug	<0.10	<0.10	0.10	2887183
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2887183
Dibenzo(a,c) anthracene + Picene	ug	<0.10	<0.10	0.10	2887183
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2887183
Fluoranthene	ug	<0.050	<0.050	0.050	2887183
Fluorene	ug	0.082	<0.050	0.050	2887183
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2887183
m-Terphenyl	ug	<0.10	<0.10	0.10	2887183
Naphthalene	ug	<0.072	<0.072	0.072	2887183

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B291084
Report Date: 2012/06/29

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

Maxxam ID		NW0155	NW0156		
Sampling Date		2012/06/14	2012/06/14		
COC Number		12212	12212		
	Units	**LICA PUFF+QFF/CLS/JUNE 14,12**	**LICA PUFF+QFF/PORT/JUNE 14,12**	**RDL**	**QC Batch**
o-Terphenyl	ug	<0.10	<0.10	0.10	2887183
Perylene	ug	<0.10	<0.10	0.10	2887183
Phenanthrene	ug	0.320	0.072	0.050	2887183
p-Terphenyl	ug	<0.10	<0.10	0.10	2887183
Pyrene	ug	<0.050	<0.050	0.050	2887183
Quinoline	ug	<0.40	<0.40	0.40	2887183
Tetralin	ug	<0.10	<0.10	0.10	2887183
Triphenylene	ug	<0.10	<0.10	0.10	2887183
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	58	60		2887183
D10-Fluoranthene	%	90	86		2887183
D10-Phenanthrene	%	84	80		2887183
D12-Benzo(a)anthracene	%	94	88		2887183
D12-Benzo(a)pyrene	%	100	94		2887183
D12-Benzo(b)fluoranthene	%	94	90		2887183
D12-Benzo(ghi)perylene	%	100	98		2887183
D12-Benzo(k)fluoranthene	%	98	96		2887183
D12-Chrysene	%	88	86		2887183
D12-Indeno(1,2,3-cd)pyrene	%	94	90		2887183
D12-Perylene	%	94	88		2887183
D14-Dibenzo(a,h)anthracene	%	98	94		2887183
D14-Terphenyl (FS)	%	100	99		2887183
D8-Acenaphthylene	%	64	64		2887183
D8-Naphthalene	%	52	54		2887183

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B291084
Report Date: 2012/06/29

Test Summary

Maxxam ID NW0155 **Collected** 2012/06/14
Sample ID LICA PUFF+QFF/CLS/JUNE 14,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/20

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2887183	2012/06/21	2012/06/27	Lidija Tomic

Maxxam ID NW0156 **Collected** 2012/06/14
Sample ID LICA PUFF+QFF/PORT/JUNE 14,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/20

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2887183	2012/06/21	2012/06/27	Lidija Tomic

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Maxxam Analytics

Maxxam Job #: B291084
Report Date: 2012/06/29

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: GB291084

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2887183	LTO	Spiked Blank	D10-2-Methylnaphthalene	2012/06/26		62	%	50 - 150
			D10-Fluoranthene	2012/06/26		84	%	50 - 150
			D10-Phenanthrene	2012/06/26		76	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/26		88	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/26		100	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/26		92	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/26		96	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/26		96	%	50 - 150
			D12-Chrysene	2012/06/26		84	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2012/06/26		92	%	50 - 150
			D12-Perylene	2012/06/26		92	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/26		94	%	50 - 150
			D8-Acenaphthylene	2012/06/26		66	%	50 - 150
			D8-Naphthalene	2012/06/26		56	%	50 - 150
			Acenaphthene	2012/06/26		61	%	60 - 130
		RPD	Acenaphthene	2012/06/26	14.7		%	50
		Spiked Blank	Acenaphthylene	2012/06/26		61	%	60 - 130
		RPD	Acenaphthylene	2012/06/26	16.0		%	50
		Spiked Blank	Anthracene	2012/06/26		75	%	60 - 130
		RPD	Anthracene	2012/06/26	9.2		%	50
		Spiked Blank	Benzo(a)anthracene	2012/06/26		82	%	60 - 130
		RPD	Benzo(a)anthracene	2012/06/26	1.5		%	50
		Spiked Blank	Benzo(a)pyrene	2012/06/26		78	%	60 - 130
		RPD	Benzo(a)pyrene	2012/06/26	1		%	50
		Spiked Blank	Benzo(b)fluoranthene	2012/06/26		81	%	60 - 130
		RPD	Benzo(b)fluoranthene	2012/06/26	2.1		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2012/06/26		89	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2012/06/26	0		%	50
		Spiked Blank	Benzo(k)fluoranthene	2012/06/26		93	%	60 - 130
		RPD	Benzo(k)fluoranthene	2012/06/26	1.1		%	50
		Spiked Blank	Chrysene	2012/06/26		80	%	60 - 130
		RPD	Chrysene	2012/06/26	0.6		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2012/06/26		89	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2012/06/26	0		%	50
		Spiked Blank	Fluoranthene	2012/06/26		81	%	60 - 130
		RPD	Fluoranthene	2012/06/26	2.7		%	50
		Spiked Blank	Fluorene	2012/06/26		65	%	60 - 130
		RPD	Fluorene	2012/06/26	13.3		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2012/06/26		86	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2012/06/26	0		%	50
		Spiked Blank	Naphthalene	2012/06/26		55 (1)	%	60 - 130
		RPD	Naphthalene	2012/06/26	8.3 (2)		%	50
		Spiked Blank	Phenanthrene	2012/06/26		72	%	60 - 130
		RPD	Phenanthrene	2012/06/26	8.4		%	50
		Spiked Blank	Pyrene	2012/06/26		78	%	60 - 130
		RPD	Pyrene	2012/06/26	2.5		%	50
		Method Blank	D10-2-Methylnaphthalene	2012/06/26		62	%	50 - 150
			D10-Fluoranthene	2012/06/26		86	%	50 - 150
			D10-Phenanthrene	2012/06/26		76	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/26		90	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/26		100	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/26		94	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/26		98	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/26		98	%	50 - 150
			D12-Chrysene	2012/06/26		88	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB291084

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2887183	LTO	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2012/06/26		92	%	50 - 150
			D12-Perylene	2012/06/26		96	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/26		96	%	50 - 150
			D8-Acenaphthylene	2012/06/26		66	%	50 - 150
			D8-Naphthalene	2012/06/26		56	%	50 - 150
			1-Methylnaphthalene	2012/06/26	<0.10		ug	
			1-Methylphenanthrene	2012/06/26	<0.10		ug	
			2-Chloronaphthalene	2012/06/26	<0.10		ug	
			2-Methylanthracene	2012/06/26	<0.10		ug	
			2-Methylnaphthalene	2012/06/26	<0.10		ug	
			3-Methylcholanthrene	2012/06/26	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2012/06/26	<0.10		ug	
			9,10-Dimethylanthracene	2012/06/26	<0.40		ug	
			Acenaphthene	2012/06/26	<0.050		ug	
			Acenaphthylene	2012/06/26	<0.050		ug	
			Anthracene	2012/06/26	<0.050		ug	
			Benzo(a)anthracene	2012/06/26	<0.050		ug	
			Benzo(a)fluorene	2012/06/26	<0.10		ug	
			Benzo(a)pyrene	2012/06/26	<0.050		ug	
			Benzo(b)Anthracene	2012/06/26	<0.10		ug	
			Benzo(b)fluoranthene	2012/06/26	<0.050		ug	
			Benzo(b)fluorene	2012/06/26	<0.10		ug	
			Benzo(e)pyrene	2012/06/26	<0.10		ug	
			Benzo(g,h,i)perylene	2012/06/26	<0.050		ug	
			Benzo(k)fluoranthene	2012/06/26	<0.050		ug	
			Biphenyl	2012/06/26	<0.10		ug	
			Chrysene	2012/06/26	<0.050		ug	
			Coronene	2012/06/26	<0.10		ug	
			Dibenz(a,h)anthracene	2012/06/26	<0.050		ug	
			Dibenzo(a,c) anthracene + Picene	2012/06/26	<0.10		ug	
			Dibenzo(a,e)pyrene	2012/06/26	<0.20		ug	
			Fluoranthene	2012/06/26	<0.050		ug	
			Fluorene	2012/06/26	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2012/06/26	<0.050		ug	
			m-Terphenyl	2012/06/26	<0.10		ug	
			Naphthalene	2012/06/26	<0.072		ug	
			o-Terphenyl	2012/06/26	<0.10		ug	
			Perylene	2012/06/26	<0.10		ug	
			Phenanthrene	2012/06/26	<0.050		ug	
			p-Terphenyl	2012/06/26	<0.10		ug	
			Pyrene	2012/06/26	<0.050		ug	
			Quinoline	2012/06/26	<0.40		ug	
			Tetralin	2012/06/26	<0.10		ug	
			Triphenylene	2012/06/26	<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 vs the Mspike = 76%
(2) Recovery vs the Mspike = 82%

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MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: Elk Point Airport
Station ID: Lica 35 (Portable)
Field Sample ID: LICA PUF/PORT/Jun 20, 12

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Jun 19, 2012 @ 10:45 mst
Removal Date/Time: Jun 21, 2012 @ 09:09 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
20-Jun-12	06/20/2012 0:00	06/21/2012 0:00	24.0000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
15-Jun-12	21-Jun-12	23-Jun-12	????

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)
707	229	15.0	330.34

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

Comments: COC #12275
GB234732 Puff #2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Jun 20 , 12

Technician Signiture: Ting Xu

JOB #: 2833-12-06-35-C

Success Through Science®

Your C.O.C. #: 12275

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

Report Date: 2012/07/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B294088
Received: 2012/06/25, 08:25

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2012/06/27	2012/07/04	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

Lakeland Industry & Community Assoc.

Maxxam Job #: B294088
Report Date: 2012/07/09

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

Maxxam ID		NX3809	NX3810		
Sampling Date		2012/06/20	2012/06/20		
COC Number		12275	12275		
	Units	**LICAPUFF&QFF/CLS/JUNE20,12**	**LICAPUFF&QFF/PORT/JUNE20,12**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	0.14	<0.10	0.10	2892321
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2892321
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2892321
2-Methylanthracene	ug	<0.10	<0.10	0.10	2892321
2-Methylnaphthalene	ug	0.23	<0.10	0.10	2892321
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2892321
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2892321
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2892321
Acenaphthene	ug	0.064	<0.050	0.050	2892321
Acenaphthylene	ug	0.062	<0.050	0.050	2892321
Anthracene	ug	<0.050	<0.050	0.050	2892321
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2892321
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2892321
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2892321
Benzo(b)Anthracene	ug	<0.10	<0.10	0.10	2892321
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2892321
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2892321
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2892321
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2892321
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2892321
Biphenyl	ug	<0.10	<0.10	0.10	2892321
Chrysene	ug	<0.050	<0.050	0.050	2892321
Coronene	ug	<0.10	<0.10	0.10	2892321
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2892321
Dibenzo(a,c) anthracene + Picene	ug	<0.10	<0.10	0.10	2892321
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2892321
Fluoranthene	ug	<0.050	<0.050	0.050	2892321
Fluorene	ug	0.098	<0.050	0.050	2892321
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2892321
m-Terphenyl	ug	<0.10	<0.10	0.10	2892321
Naphthalene	ug	0.324	<0.072	0.072	2892321
o-Terphenyl	ug	<0.10	<0.10	0.10	2892321

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Lakeland Industry & Community Assoc.

Maxxam Job #: B294088
Report Date: 2012/07/09

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

Maxxam ID		NX3809	NX3810		
Sampling Date		2012/06/20	2012/06/20		
COC Number		12275	12275		
	Units	**LICAPUFF&QFF/CLS/JUNE20,12**	**LICAPUFF&QFF/PORT/JUNE20,12**	**RDL**	**QC Batch**
Perylene	ug	<0.10	<0.10	0.10	2892321
Phenanthrene	ug	0.346	0.076	0.050	2892321
p-Terphenyl	ug	<0.10	<0.10	0.10	2892321
Pyrene	ug	<0.050	<0.050	0.050	2892321
Quinoline	ug	<0.40	<0.40	0.40	2892321
Tetralin	ug	<0.10	<0.10	0.10	2892321
Triphenylene	ug	<0.10	<0.10	0.10	2892321
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	60	58		2892321
D10-Fluoranthene	%	84	84		2892321
D10-Fluorene (FS)	%	4.8 (1)	4.6 (1)		2892321
D10-Phenanthrene	%	78	76		2892321
D12-Benzo(a)anthracene	%	88	90		2892321
D12-Benzo(a)pyrene	%	84	84		2892321
D12-Benzo(b)fluoranthene	%	88	90		2892321
D12-Benzo(ghi)perylene	%	88	88		2892321
D12-Benzo(k)fluoranthene	%	86	88		2892321
D12-Chrysene	%	86	86		2892321
D12-Indeno(1,2,3-cd)pyrene	%	88	88		2892321
D12-Perylene	%	84	86		2892321
D14-Dibenzo(a,h)anthracene	%	90	90		2892321
D14-Terphenyl (FS)	%	88	89		2892321
D8-Acenaphthylene	%	58	58		2892321
D8-Naphthalene	%	58	58		2892321

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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Lakeland Industry & Community Assoc.

Maxxam Job #: B294088
Report Date: 2012/07/09

Test Summary

Maxxam ID NX3809 **Collected** 2012/06/20
Sample ID LICAPUFF&QFF/CLS/JUNE20,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2892321	2012/06/27	2012/07/04	Lidija Tomic

Maxxam ID NX3810 **Collected** 2012/06/20
Sample ID LICAPUFF&QFF/PORT/JUNE20,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2892321	2012/06/27	2012/07/04	Lidija Tomic

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Lakeland Industry & Community Assoc.

Maxxam Job #: B294088
Report Date: 2012/07/09

GENERAL COMMENTS

Sample NX3809-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field spike.

Sample NX3810-01: 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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Lakeland Industry & Community Assoc.
Attention: Michael Bisaga
Client Project #:
P.O. #:
Site Location:

Quality Assurance Report

Maxxam Job Number: GB294088

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2892321	LTO	Spiked Blank	D10-2-Methylnaphthalene	2012/07/05		68	%	50 - 150
			D10-Fluoranthene	2012/07/05		80	%	50 - 150
			D10-Phenanthrene	2012/07/05		72	%	50 - 150
			D12-Benzo(a)anthracene	2012/07/05		86	%	50 - 150
			D12-Benzo(a)pyrene	2012/07/05		90	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/07/05		90	%	50 - 150
			D12-Benzo(ghi)perylene	2012/07/05		88	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/07/05		86	%	50 - 150
			D12-Chrysene	2012/07/05		86	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2012/07/05		90	%	50 - 150
			D12-Perylene	2012/07/05		88	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/07/05		92	%	50 - 150
			D8-Acenaphthylene	2012/07/05		68	%	50 - 150
			D8-Naphthalene	2012/07/05		68	%	50 - 150
			Acenaphthene	2012/07/05		64	%	60 - 130
		RPD	Acenaphthene	2012/07/05	0.4		%	50
		Spiked Blank	Acenaphthylene	2012/07/05		65	%	60 - 130
		RPD	Acenaphthylene	2012/07/05	2.4		%	50
		Spiked Blank	Anthracene	2012/07/05		71	%	60 - 130
		RPD	Anthracene	2012/07/05	2.8		%	50
		Spiked Blank	Benzo(a)anthracene	2012/07/05		81	%	60 - 130
		RPD	Benzo(a)anthracene	2012/07/05	0.6		%	50
		Spiked Blank	Benzo(a)pyrene	2012/07/05		72	%	60 - 130
		RPD	Benzo(a)pyrene	2012/07/05	1.0		%	50
		Spiked Blank	Benzo(b)fluoranthene	2012/07/05		79	%	60 - 130
		RPD	Benzo(b)fluoranthene	2012/07/05	1.3		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2012/07/05		80	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2012/07/05	2.2		%	50
		Spiked Blank	Benzo(k)fluoranthene	2012/07/05		83	%	60 - 130
		RPD	Benzo(k)fluoranthene	2012/07/05	2.4		%	50
		Spiked Blank	Chrysene	2012/07/05		77	%	60 - 130
		RPD	Chrysene	2012/07/05	0.3		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2012/07/05		86	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2012/07/05	0.9		%	50
		Spiked Blank	Fluoranthene	2012/07/05		77	%	60 - 130
		RPD	Fluoranthene	2012/07/05	1		%	50
		Spiked Blank	Fluorene	2012/07/05		67	%	60 - 130
		RPD	Fluorene	2012/07/05	0		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2012/07/05		82	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2012/07/05	0.3		%	50
		Spiked Blank	Naphthalene	2012/07/05		69	%	60 - 130
		RPD	Naphthalene	2012/07/05	4.8		%	50
		Spiked Blank	Phenanthrene	2012/07/05		66	%	60 - 130
		RPD	Phenanthrene	2012/07/05	1.1		%	50
		Spiked Blank	Pyrene	2012/07/05		70	%	60 - 130
		RPD	Pyrene	2012/07/05	1.8		%	50
		Method Blank	D10-2-Methylnaphthalene	2012/07/04		72	%	50 - 150
			D10-Fluoranthene	2012/07/04		84	%	50 - 150
			D10-Phenanthrene	2012/07/04		78	%	50 - 150
			D12-Benzo(a)anthracene	2012/07/04		90	%	50 - 150
			D12-Benzo(a)pyrene	2012/07/04		90	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/07/04		88	%	50 - 150
			D12-Benzo(ghi)perylene	2012/07/04		88	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/07/04		88	%	50 - 150
			D12-Chrysene	2012/07/04		84	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB294088

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2892321	LTO	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2012/07/04		88	%	50 - 150
			D12-Perylene	2012/07/04		90	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/07/04		90	%	50 - 150
			D8-Acenaphthylene	2012/07/04		72	%	50 - 150
			D8-Naphthalene	2012/07/04		70	%	50 - 150
			1-Methylnaphthalene	2012/07/04	<0.10		ug	
			1-Methylphenanthrene	2012/07/04	<0.10		ug	
			2-Chloronaphthalene	2012/07/04	<0.10		ug	
			2-Methylanthracene	2012/07/04	<0.10		ug	
			2-Methylnaphthalene	2012/07/04	<0.10		ug	
			3-Methylcholanthrene	2012/07/04	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2012/07/04	<0.10		ug	
			9,10-Dimethylanthracene	2012/07/04	<0.40		ug	
			Acenaphthene	2012/07/04	<0.050		ug	
			Acenaphthylene	2012/07/04	<0.050		ug	
			Anthracene	2012/07/04	<0.050		ug	
			Benzo(a)anthracene	2012/07/04	<0.050		ug	
			Benzo(a)fluorene	2012/07/04	<0.10		ug	
			Benzo(a)pyrene	2012/07/04	<0.050		ug	
			Benzo(b)Anthracene	2012/07/04	<0.10		ug	
			Benzo(b)fluoranthene	2012/07/04	<0.050		ug	
			Benzo(b)fluorene	2012/07/04	<0.10		ug	
			Benzo(e)pyrene	2012/07/04	<0.10		ug	
			Benzo(g,h,i)perylene	2012/07/04	<0.050		ug	
			Benzo(k)fluoranthene	2012/07/04	<0.050		ug	
			Biphenyl	2012/07/04	<0.10		ug	
			Chrysene	2012/07/04	<0.050		ug	
			Coronene	2012/07/04	<0.10		ug	
			Dibenz(a,h)anthracene	2012/07/04	<0.050		ug	
			Dibenzo(a,c) anthracene + Picene	2012/07/04	<0.10		ug	
			Dibenzo(a,e)pyrene	2012/07/04	<0.20		ug	
			Fluoranthene	2012/07/04	<0.050		ug	
			Fluorene	2012/07/04	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2012/07/04	<0.050		ug	
			m-Terphenyl	2012/07/04	<0.10		ug	
			Naphthalene	2012/07/04	<0.072		ug	
			o-Terphenyl	2012/07/04	<0.10		ug	
			Perylene	2012/07/04	<0.10		ug	
			Phenanthrene	2012/07/04	<0.050		ug	
			p-Terphenyl	2012/07/04	<0.10		ug	
			Pyrene	2012/07/04	<0.050		ug	
			Quinoline	2012/07/04	<0.40		ug	
			Tetralin	2012/07/04	<0.10		ug	
			Triphenylene	2012/07/04	<0.010		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: Elk Point Airport
Station ID: Lica 35 (Portable)
Field Sample ID: LICA PUF/PORT/Jun 26, 12

Puf+ s/n: 100-1015
Motor s/n: 1139
Installation Date/Time: Jun 25, 2012 @ 11:50 mst
Removal Date/Time: Jun 28, 2012 @ 12:52 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
26-Jun-12	06/26/2012 0:00	06/27/2012 0:00	24.0000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
20-Jun-12	28-Jun-12	03-Jul-12	????

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)
699	229	17.4	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 #12320
GB234737 Puff #2
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/PORT/Jun 26 , 12

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 12320

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

Report Date: 2012/07/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B298336
Received: 2012/07/03, 08:22

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2012/07/04	2012/07/06	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

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

==========

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

Total cover pages: 1

Maxxam Analytics

Maxxam Job #: B298336
Report Date: 2012/07/09

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

Maxxam ID		NZ5451	NZ5452		
Sampling Date		2012/06/26	2012/06/26		
COC Number		12320	12320		
	Units	**LICA PUFF+QFF/CLS/JUN 26,12**	**LICA PUFF+QFF/PORT/JUN 26,12**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2898321
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2898321
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2898321
2-Methylanthracene	ug	<0.10	<0.10	0.10	2898321
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2898321
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2898321
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2898321
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2898321
Acenaphthene	ug	0.078	<0.050	0.050	2898321
Acenaphthylene	ug	<0.050	<0.050	0.050	2898321
Anthracene	ug	0.054	<0.050	0.050	2898321
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2898321
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2898321
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2898321
Benzo(b)Anthracene	ug	<0.10	<0.10	0.10	2898321
Benzo(b)fluoranthene	ug	0.052	<0.050	0.050	2898321
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2898321
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2898321
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2898321
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2898321
Biphenyl	ug	<0.10	<0.10	0.10	2898321
Chrysene	ug	0.052	<0.050	0.050	2898321
Coronene	ug	<0.10	<0.10	0.10	2898321
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2898321
Dibenzo(a,c) anthracene + Picene	ug	<0.10	<0.10	0.10	2898321
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2898321
Fluoranthene	ug	0.242	<0.050	0.050	2898321
Fluorene	ug	0.142	<0.050	0.050	2898321
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2898321
m-Terphenyl	ug	<0.10	<0.10	0.10	2898321
Naphthalene	ug	<0.072	<0.072	0.072	2898321

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298336
Report Date: 2012/07/09

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

Maxxam ID		NZ5451	NZ5452		
Sampling Date		2012/06/26	2012/06/26		
COC Number		12320	12320		
	Units	**LICA PUFF+QFF/CLS/JUN 26,12**	**LICA PUFF+QFF/PORT/JUN 26,12**	**RDL**	**QC Batch**
o-Terphenyl	ug	<0.10	<0.10	0.10	2898321
Perylene	ug	<0.10	<0.10	0.10	2898321
Phenanthrene	ug	1.31	0.250	0.050	2898321
p-Terphenyl	ug	<0.10	<0.10	0.10	2898321
Pyrene	ug	0.122	<0.050	0.050	2898321
Quinoline	ug	<0.40	<0.40	0.40	2898321
Tetralin	ug	<0.10	<0.10	0.10	2898321
Triphenylene	ug	<0.10	<0.10	0.10	2898321
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	80	78		2898321
D10-Fluoranthene	%	90	90		2898321
D10-Fluorene (FS)	%	4.4 (1)	5.0 (1)		2898321
D10-Phenanthrene	%	86	84		2898321
D12-Benzo(a)anthracene	%	88	86		2898321
D12-Benzo(a)pyrene	%	92	90		2898321
D12-Benzo(b)fluoranthene	%	92	92		2898321
D12-Benzo(ghi)perylene	%	94	92		2898321
D12-Benzo(k)fluoranthene	%	92	90		2898321
D12-Chrysene	%	94	94		2898321
D12-Indeno(1,2,3-cd)pyrene	%	90	88		2898321
D12-Perylene	%	92	92		2898321
D14-Dibenzo(a,h)anthracene	%	90	90		2898321
D14-Terphenyl (FS)	%	92	94		2898321
D8-Acenaphthylene	%	78	76		2898321
D8-Naphthalene	%	82	80		2898321

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 #: B298336
Report Date: 2012/07/09

Test Summary

Maxxam ID NZ5451 **Collected** 2012/06/26
Sample ID LICA PUFF+QFF/CLS/JUN 26,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/07/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2898321	2012/07/04	2012/07/06	Lidija Tomic

Maxxam ID NZ5452 **Collected** 2012/06/26
Sample ID LICA PUFF+QFF/PORT/JUN 26,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/07/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2898321	2012/07/04	2012/07/06	Lidija Tomic

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Maxxam Analytics

Maxxam Job #: B298336
Report Date: 2012/07/09

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: GB298336

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2898321	LTO	Spiked Blank	D10-2-Methylnaphthalene	2012/07/06		84	%	50 - 150
			D10-Fluoranthene	2012/07/06		86	%	50 - 150
			D10-Phenanthrene	2012/07/06		78	%	50 - 150
			D12-Benzo(a)anthracene	2012/07/06		86	%	50 - 150
			D12-Benzo(a)pyrene	2012/07/06		94	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/07/06		92	%	50 - 150
			D12-Benzo(ghi)perylene	2012/07/06		94	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/07/06		92	%	50 - 150
			D12-Chrysene	2012/07/06		94	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2012/07/06		90	%	50 - 150
			D12-Perylene	2012/07/06		94	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/07/06		90	%	50 - 150
			D8-Acenaphthylene	2012/07/06		82	%	50 - 150
			D8-Naphthalene	2012/07/06		86	%	50 - 150
			Acenaphthene	2012/07/06		77	%	60 - 130
		RPD	Acenaphthene	2012/07/06	4.0		%	50
		Spiked Blank	Acenaphthylene	2012/07/06		78	%	60 - 130
		RPD	Acenaphthylene	2012/07/06	3.9		%	50
		Spiked Blank	Anthracene	2012/07/06		82	%	60 - 130
		RPD	Anthracene	2012/07/06	5.6		%	50
		Spiked Blank	Benzo(a)anthracene	2012/07/06		81	%	60 - 130
		RPD	Benzo(a)anthracene	2012/07/06	3.4		%	50
		Spiked Blank	Benzo(a)pyrene	2012/07/06		75	%	60 - 130
		RPD	Benzo(a)pyrene	2012/07/06	3.7		%	50
		Spiked Blank	Benzo(b)fluoranthene	2012/07/06		84	%	60 - 130
		RPD	Benzo(b)fluoranthene	2012/07/06	3.9		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2012/07/06		84	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2012/07/06	7.7		%	50
		Spiked Blank	Benzo(k)fluoranthene	2012/07/06		91	%	60 - 130
		RPD	Benzo(k)fluoranthene	2012/07/06	4.2		%	50
		Spiked Blank	Chrysene	2012/07/06		84	%	60 - 130
		RPD	Chrysene	2012/07/06	4.3		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2012/07/06		88	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2012/07/06	5.0		%	50
		Spiked Blank	Fluoranthene	2012/07/06		83	%	60 - 130
		RPD	Fluoranthene	2012/07/06	2.4		%	50
		Spiked Blank	Fluorene	2012/07/06		78	%	60 - 130
		RPD	Fluorene	2012/07/06	3.2		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2012/07/06		84	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2012/07/06	4.6		%	50
		Spiked Blank	Naphthalene	2012/07/06		84	%	60 - 130
		RPD	Naphthalene	2012/07/06	10.1		%	50
		Spiked Blank	Phenanthrene	2012/07/06		72	%	60 - 130
		RPD	Phenanthrene	2012/07/06	3.5		%	50
		Spiked Blank	Pyrene	2012/07/06		76	%	60 - 130
		RPD	Pyrene	2012/07/06	3.7		%	50
		Method Blank	D10-2-Methylnaphthalene	2012/07/06		90	%	50 - 150
			D10-Fluoranthene	2012/07/06		88	%	50 - 150
			D10-Phenanthrene	2012/07/06		80	%	50 - 150
			D12-Benzo(a)anthracene	2012/07/06		82	%	50 - 150
			D12-Benzo(a)pyrene	2012/07/06		92	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/07/06		90	%	50 - 150
			D12-Benzo(ghi)perylene	2012/07/06		90	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/07/06		92	%	50 - 150
			D12-Chrysene	2012/07/06		94	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB298336

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2898321	LTO	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2012/07/06		88	%	50 - 150
			D12-Perylene	2012/07/06		94	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/07/06		88	%	50 - 150
			D8-Acenaphthylene	2012/07/06		86	%	50 - 150
			D8-Naphthalene	2012/07/06		92	%	50 - 150
			1-Methylnaphthalene	2012/07/06	<0.10		ug	
			1-Methylphenanthrene	2012/07/06	<0.10		ug	
			2-Chloronaphthalene	2012/07/06	<0.10		ug	
			2-Methylanthracene	2012/07/06	<0.10		ug	
			2-Methylnaphthalene	2012/07/06	<0.10		ug	
			3-Methylcholanthrene	2012/07/06	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2012/07/06	<0.10		ug	
			9,10-Dimethylanthracene	2012/07/06	<0.40		ug	
			Acenaphthene	2012/07/06	<0.050		ug	
			Acenaphthylene	2012/07/06	<0.050		ug	
			Anthracene	2012/07/06	<0.050		ug	
			Benzo(a)anthracene	2012/07/06	<0.050		ug	
			Benzo(a)fluorene	2012/07/06	<0.10		ug	
			Benzo(a)pyrene	2012/07/06	<0.050		ug	
			Benzo(b)Anthracene	2012/07/06	<0.10		ug	
			Benzo(b)fluoranthene	2012/07/06	<0.050		ug	
			Benzo(b)fluorene	2012/07/06	<0.10		ug	
			Benzo(e)pyrene	2012/07/06	<0.10		ug	
			Benzo(g,h,i)perylene	2012/07/06	<0.050		ug	
			Benzo(k)fluoranthene	2012/07/06	<0.050		ug	
			Biphenyl	2012/07/06	<0.10		ug	
			Chrysene	2012/07/06	<0.050		ug	
			Coronene	2012/07/06	<0.10		ug	
			Dibenz(a,h)anthracene	2012/07/06	<0.050		ug	
			Dibenzo(a,c) anthracene + Picene	2012/07/06	<0.10		ug	
			Dibenzo(a,e)pyrene	2012/07/06	<0.20		ug	
			Fluoranthene	2012/07/06	<0.050		ug	
			Fluorene	2012/07/06	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2012/07/06	<0.050		ug	
			m-Terphenyl	2012/07/06	<0.10		ug	
			Naphthalene	2012/07/06	<0.072		ug	
			o-Terphenyl	2012/07/06	<0.10		ug	
			Perylene	2012/07/06	<0.10		ug	
			Phenanthrene	2012/07/06	<0.050		ug	
			p-Terphenyl	2012/07/06	<0.10		ug	
			Pyrene	2012/07/06	<0.050		ug	
			Quinoline	2012/07/06	<0.40		ug	
			Tetralin	2012/07/06	<0.10		ug	
			Triphenylene	2012/07/06	<0.10		ug	

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

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
June 2012

Prepared By:

July 27, 2012

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: June 2012

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 – June 2012

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	0.11	4	25	9	10.3	226(SW)	0.8	25	99.6
H2S (PPB)	10	3	0	0	0.21	2	26, 30	VAR	VAR	VAR	1.0	5, 30	99.6
THC (PPM)	-	-	-	-	2.11	2.8	8	6, 7	7.2, 6.7	88(E), 118(ESE)	2.3	8	99.4
OZONE (PPB)	82	-	0	-	31.9	57	8	15	5.4	122(ESE)	45.4	2	99.6
NOx (PPB)	-	-	-	-	1.23	5	8	VAR	VAR	VAR	2.5	8	96.9
NO (PPB)	-	-	-	-	0.27	4	1	6	10.4	245(WSW)	1.2	4	95.6
NO_2 (PPB)	159	-	0	-	0.81	4	10, 26	VAR	VAR	VAR	2.1	8, 10	99.2
PM2.5 (ug/m3)	-	30	-	0	5.15	16.6	4	21	10.9	68(ENE)	8.5	4	99.6
TEMPERATURE (DEGREE C)	-	-	-	-	15.93	25.5	22	15	3.3	276(W)	20.1	25	99.7
BP (MILLIBAR)	-	-	-	-	928	940	21	VAR	VAR	VAR	937.2	21	99.7
RH (%)	-	-	-	-	62.99	92	25	3, 4	9.6, 7.1	200(SSW), 210(SSW)	80.6	13	99.7
PRECIPITATION (MM)	-	-	-	-	0.07	5.7	19	17	2.4	0(N)	14.5	19	99.7
VECTOR WS (KPH)	-	-	-	-	9.59	28.0	6	2	-	63(ENE)	21.3	6	99.7
VECTOR WD (DEGREES)	-	-	-	-	303(WNW)	-	-	-	-	-	-	-	99.7

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 on June 7th. Hourly data on June 28th at hour 12 and hour 13 were invalidated due to a power failure. Hourly data on June 28th at hour 14 was also invalid, as the analyzer was recovering from the power failure. 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 on June 6th. Hourly data on June 28th at hour 12 and hour 13 were invalidated due to a power failure. Hourly data on June 28th at hour 14 was also invalid, as the analyzer was recovering from the power failure. Data was corrected using daily zero information.

Total Hydrocarbon (PPM)
Analyzer make / model –TECO 51C, S/N: 77021-384
The analyzer was working will throughout the month. The inlet filter was changed before the monthly calibration was started on June 6th. Hourly data on June 28th at hour 12 and hour 13 were invalidated due to a power failure. The analyzer flamed out after the power failure, and it was re-lit on June 28th at hour 15. 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 on June 7th. Hourly data on June 28th at hour 12 and hour 13 were invalidated due to a power failure. Hourly data on June 28th at hour 14 was also invalid, as the analyzer was recovering from the power failure. Hourly maximum value recorded on June 6th at hour 18 was invalid due to the analyzer spiked. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

Analyzer make / model - API 200E, S/N: 592

It was noticed that the hourly readings for NO channel were unreal on June 5th. Found the wire connected between the analyzer and the datalogger was loose on June 6th. Tightened the wire on June 6th. Hourly data for NO between June 5th at hour 6 and June 6th at hour 7 were invalidated due to this issue. The inlet filter was changed before the monthly calibration was started on June 6th. The analyzer spanned low on June 7th. Following the as found points check, the permeation tube was replaced. The expected span value was adjusted on June 20th. Hourly data on June 28th at hour 12 and hour 13 were invalidated due to a power failure. Hourly data on June 28th at hour 14 was also invalid, as the analyzer was recovering from the power failure. It was noticed that the hourly readings for NOx channel were unreal on June 28th. Found the wire connected between the analyzer and the datalogger was loose on June 29th. Tightened the wire and ran a daily calibration check on June 29th. Hourly data for NOx between June 28th at hour 18 and June 29th at hour 9 were invalidated due to this issue. Data was corrected using daily zero information.

Particulate Matter 2.5 (UG/M3)

Analyzer make / model –Thermo Scientific Series 1405F, S/N: 1405A207691003

The Teom unit was working well throughout the month. A routine Teom audit was performed on June 7th. Hourly data on June 28th at hour 12 and hour 13 were invalidated due to a power failure. 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 hourly data was invalidated as the data was below –3 ug/m3.

General Monthly Summary

AQM STATION – LICA – St. Lina

Temperature (Degree C)
Analyzer make / model – Met One 060
No operational issues were observed during the month. Hourly data on June 28th at hour 12 and hour 13 were invalidated due to a power failure.

Barometric Pressure (Millibar)
Analyzer make / model - Met One 092
No operational issues were observed during the month. Hourly data on June 28th at hour 12 and hour 13 were invalidated due to a power failure.

Relative Humidity (%)
Analyzer make / model - Met One 083
No operational issues were observed during the month. Hourly data on June 28th at hour 12 and hour 13 were invalidated due to a power failure.

Precipitation (MM)
Analyzer make / model - Met One 387
No operational issues were observed during the month. Hourly data on June 28th at hour 12 and hour 13 were invalidated due to a power failure.

Vector Wind Speed (KPH) & Vector Wind Direction (DEG)
System make / model –RM Young5103VK, S/N: 56589
The wind system is reported as vector wind speed and vector wind direction.
The wind system was working well throughout the month. Hourly data on June 28th at hour 12 and hour 13 were invalidated due to a power failure.

General Monthly Summary

AQM STATION – LICA – St. Lina

Datalogger
System make / model - ESC 8832, S/N: AO717
Software make/version - ESC v 5.51a
The station is connected to a modem to allow for daily polling of the station.

Trailer
The manifold was cleaned on June 7th.

Air Quality Index (AQI)
No AQI report is included in this report, as the AQI value is no longer used by Alberta Environment.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

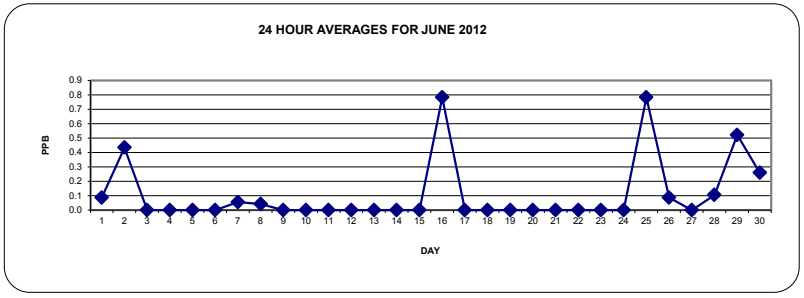
SULPHUR DIOXIDE (SO_2) hourly averages in ppb

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



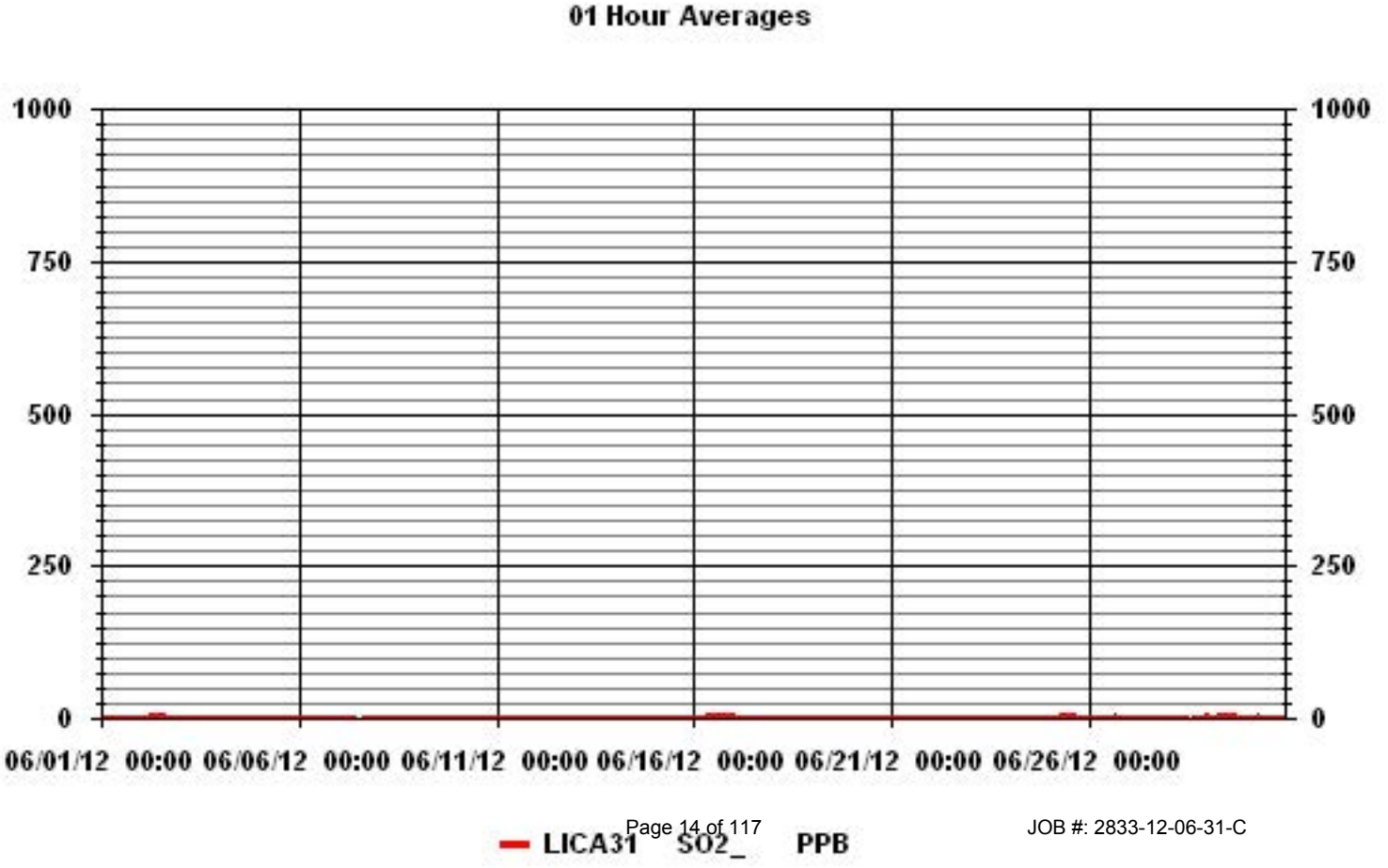
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	60					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	9	ON DAY(S)	25
MAXIMUM 24-HR AVERAGE:	0.8	PPB			ON DAY(S)	25

IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:	717	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.6	%
STANDARD DEVIATION:	0.38		MONTHLY AVERAGE:	0.11	PPB

JOB #: 2833-12-06-31-C



JOB #: 2833-12-06-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

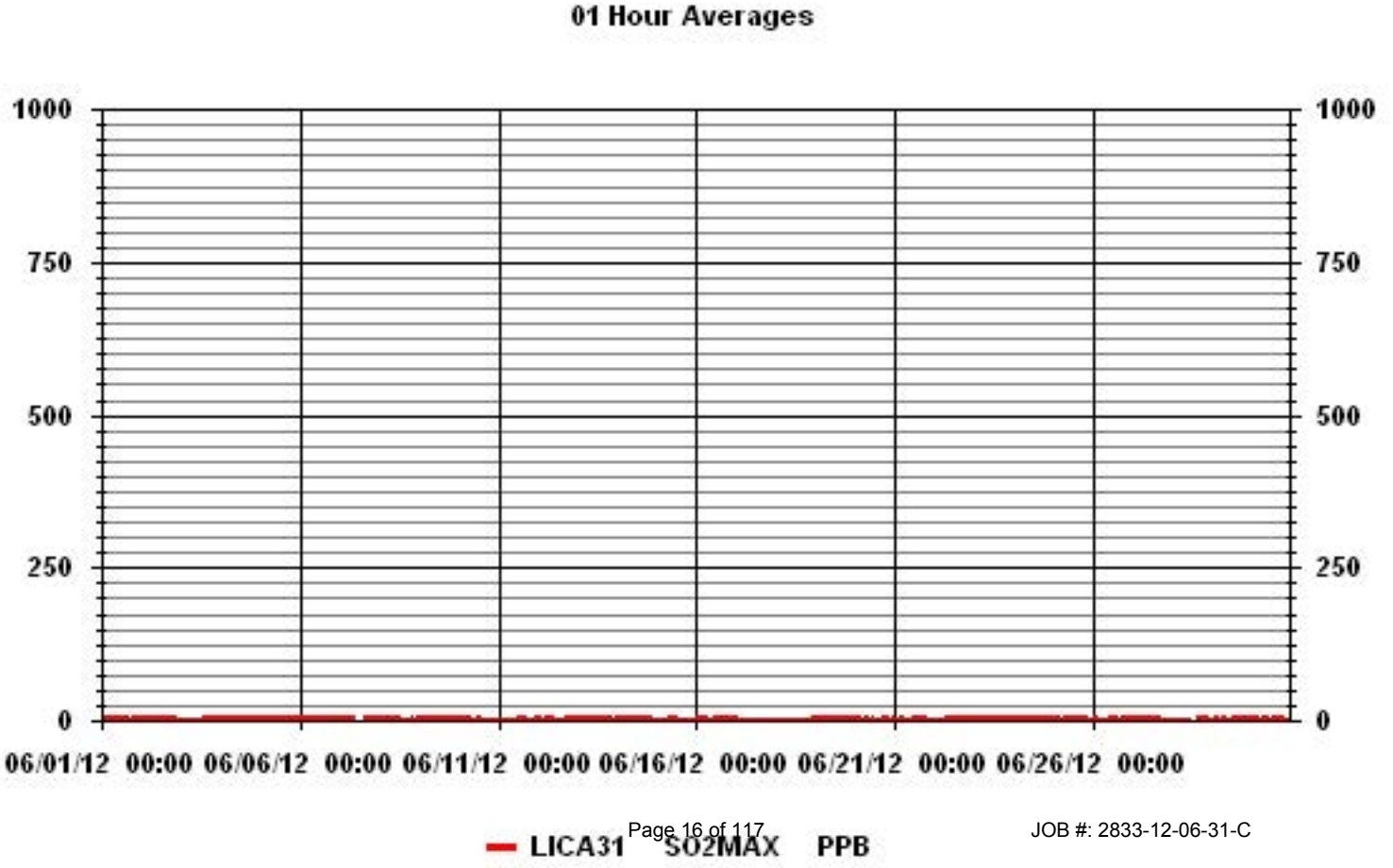
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	2	1	1	1	1	1	2	1.0	24
2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	**IZS**	1	1	1	1	1	1	0	0	2	1.3	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	0.4	24
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1.0	24
5	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
6	1	1	1	1	1	1	1	1	1	**M**	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	23
7	1	1	1	1	1	1	1	1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1	1	1.0	24
8	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	0	0	0	1	2	1	1	0	0	1	2	0.8	24
9	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
10	1	1	1	1	1	1	1	**IZS**	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.5	24
11	0	0	0	0	0	0	**IZS**	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	1	1	1	0.3	24
12	1	1	1	1	0	**IZS**	1	1	1	1	1	0	0	0	1	0	1	1	1	1	1	1	1	1	1	0.8	24
13	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1.0	24
14	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	0.9	24
15	0	1	**IZS**	0	0	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.3	24
16	0	**IZS**	1	1	1	1	1	1	2	1	2	2	3	3	2	2	2	2	2	2	2	2	2	2	3	1.7	24
17	**IZS**	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0.0	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	0.0	24
19	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	1.0	24
20	1	1	1	1	1	0	1	1	1	0	0	1	1	0	0	1	0	1	1	1	**IZS**	0	1	1	1	0.7	24
21	0	0	0	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	**IZS**	1	0	0	0	1	0.6	24
22	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	0.8	24
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1.0	24
24	1	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	0.9	24
25	1	1	1	1	1	1	2	3	4	**5**	4	3	2	2	2	**IZS**	1	1	1	1	1	1	0	1	**5**	1.7	24
26	0	1	1	1	0	0	1	0	2	1	1	1	1	1	**IZS**	1	2	1	1	1	1	1	1	1	2	0.9	24
27	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	0	0	0	0	0	0	1	0.7	24
28	0	0	0	0	0	0	0	0	0	0	0	**P**	**P**	**P**	**N**	**C**	**C**	1	1	1	1	1	1	2	2	0.4	20
29	1	2	1	1	1	1	2	2	2	2	1	**IZS**	1	2	2	2	2	1	1	1	1	1	1	1	2	1.4	24
30	1	1	1	1	1	1	2	2	2	3	**IZS**	2	1	1	0	1	1	1	1	1	1	0	0	0	3	1.1	24
HOURLY MAX	1	2	1	1	1	1	2	3	4	5	4	3	3	3	2	2	2	2	2	2	2	2	2	2			
HOURLY AVG	0.7	0.8	0.8	0.8	0.7	0.7	0.9	0.9	1.0	1.1	0.9	1.0	1.0	1.0	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.8			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	512					
MAXIMUM INSTANTANEOUS VALUE:	5	PPB	@ HOUR(S)	9	ON DAY(S)	25
IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:		715	HRS
MONTHLY CALIBRATION TIME:	9	HRS				
STANDARD DEVIATION:	0.60					



JOB #: 2833-12-06-31-C

LICA31
SO2_ / WDR Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	6.02	1.76	2.50	8.38	5.88	6.47	6.02	5.73	5.44	4.70	3.67	7.79	6.91	13.23	10.14	5.29	100.00
<	60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	6.02	1.76	2.50	8.38	5.88	6.47	6.02	5.73	5.44	4.70	3.67	7.79	6.91	13.23	10.14	5.29	

Calm : .00 %

Total # Operational Hours : 680

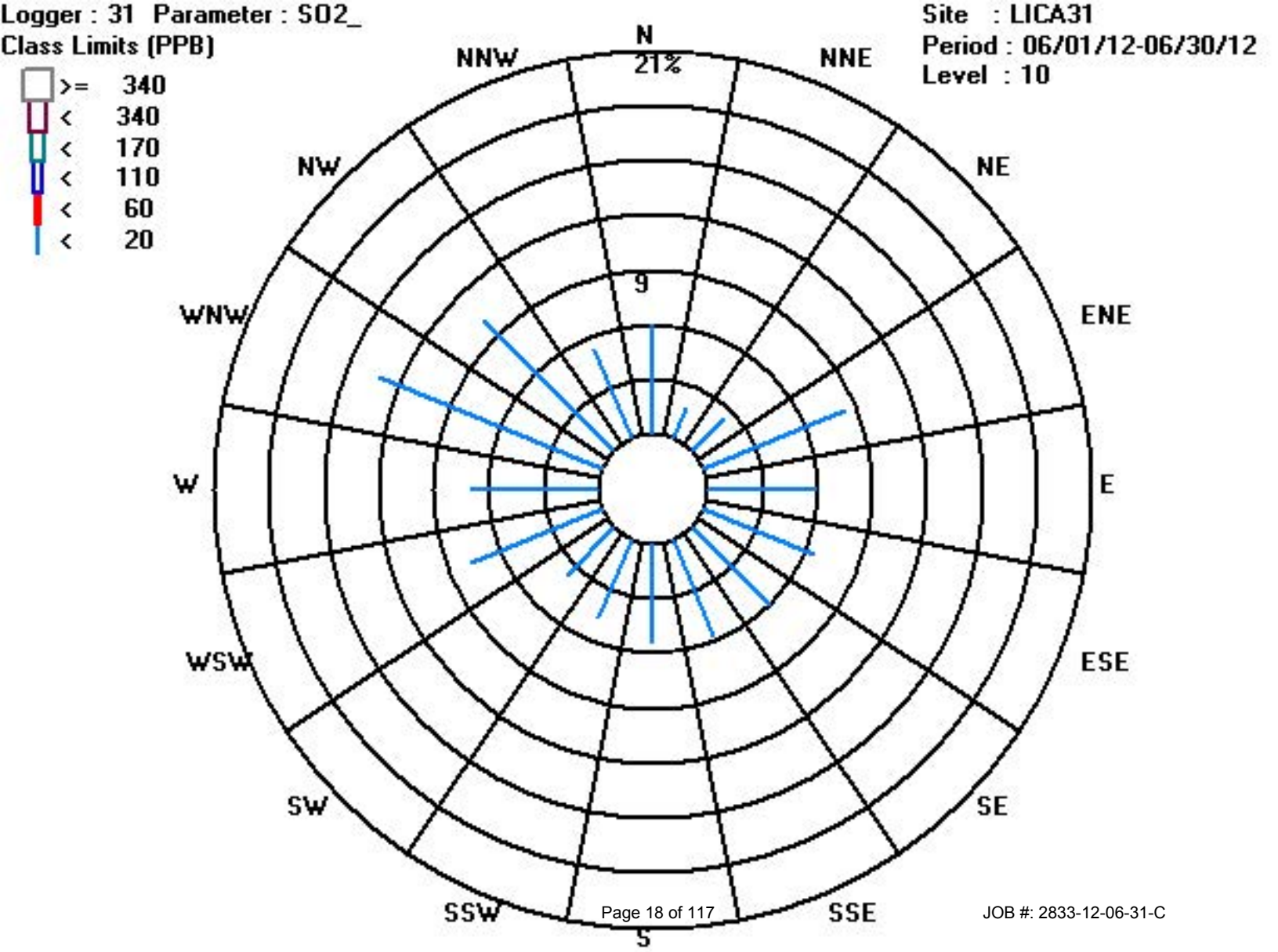
Distribution By Samples

Direction

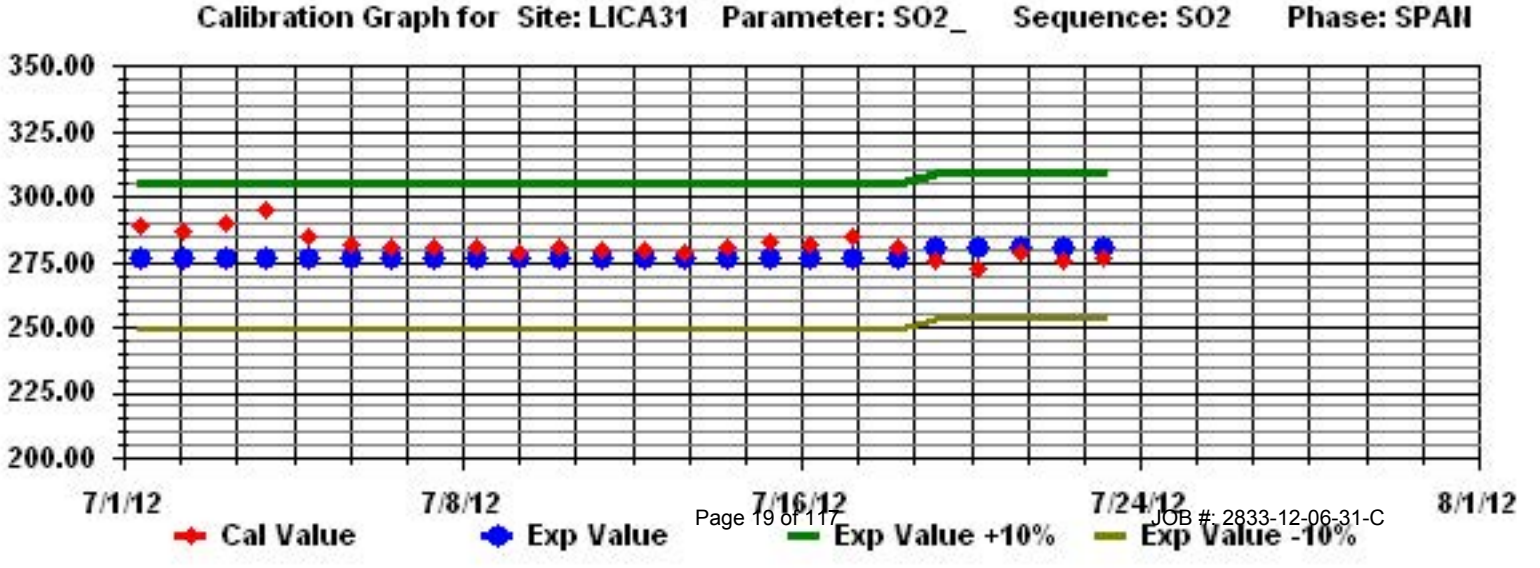
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	41	12	17	57	40	44	41	39	37	32	25	53	47	90	69	36	680
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	41	12	17	57	40	44	41	39	37	32	25	53	47	90	69	36	

Calm : .00 %

Total # Operational Hours : 680



JOB #: 2833-12-06-31-C


Calibration Graph for Site: LICA31 Parameter: SO2_ Sequence: SO2 Phase: SPAN
350.00
325.00
300.00
275.00
250.00
225.00
200.00
7/1/12
7/8/12
7/16/12
7/24/12
8/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSCOIATION - ST. LINA

JUNE 2012

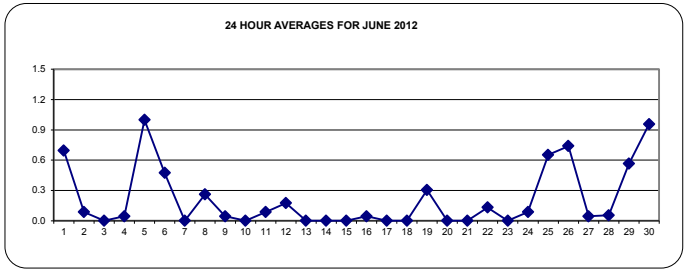
HYDROGEN SULPHIDE (H_2S) hourly averages in ppb

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

STATUS FLAG CODES

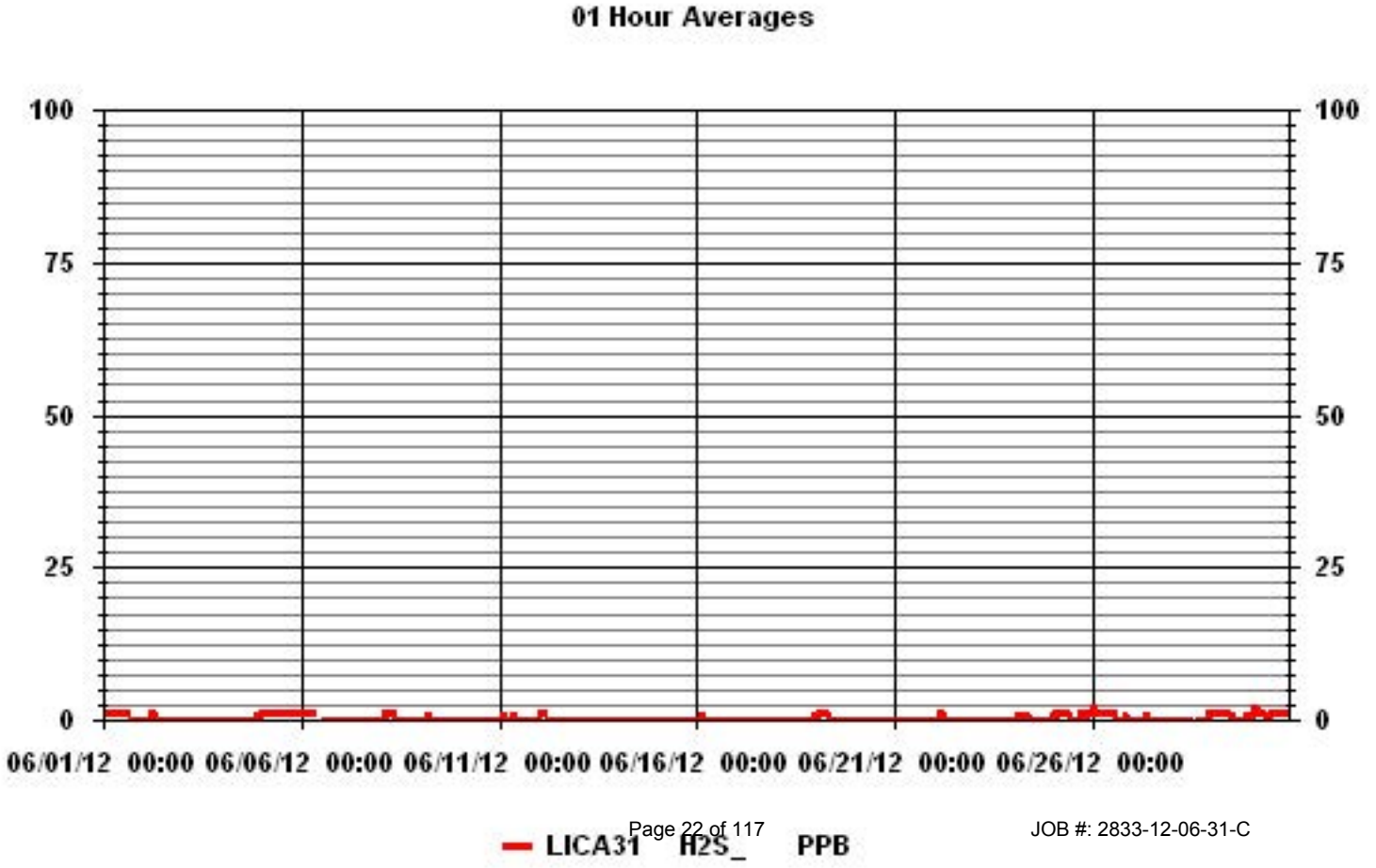
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



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:	142					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)	26, 30
MAXIMUM 24-HR AVERAGE:	1.0	PPB			ON DAY(S)	5, 30
				VAR-VARIOUS		
IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:		717	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	0.42		MONTHLY AVERAGE:		0.21	PPB



JOB #: 2833-12-06-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

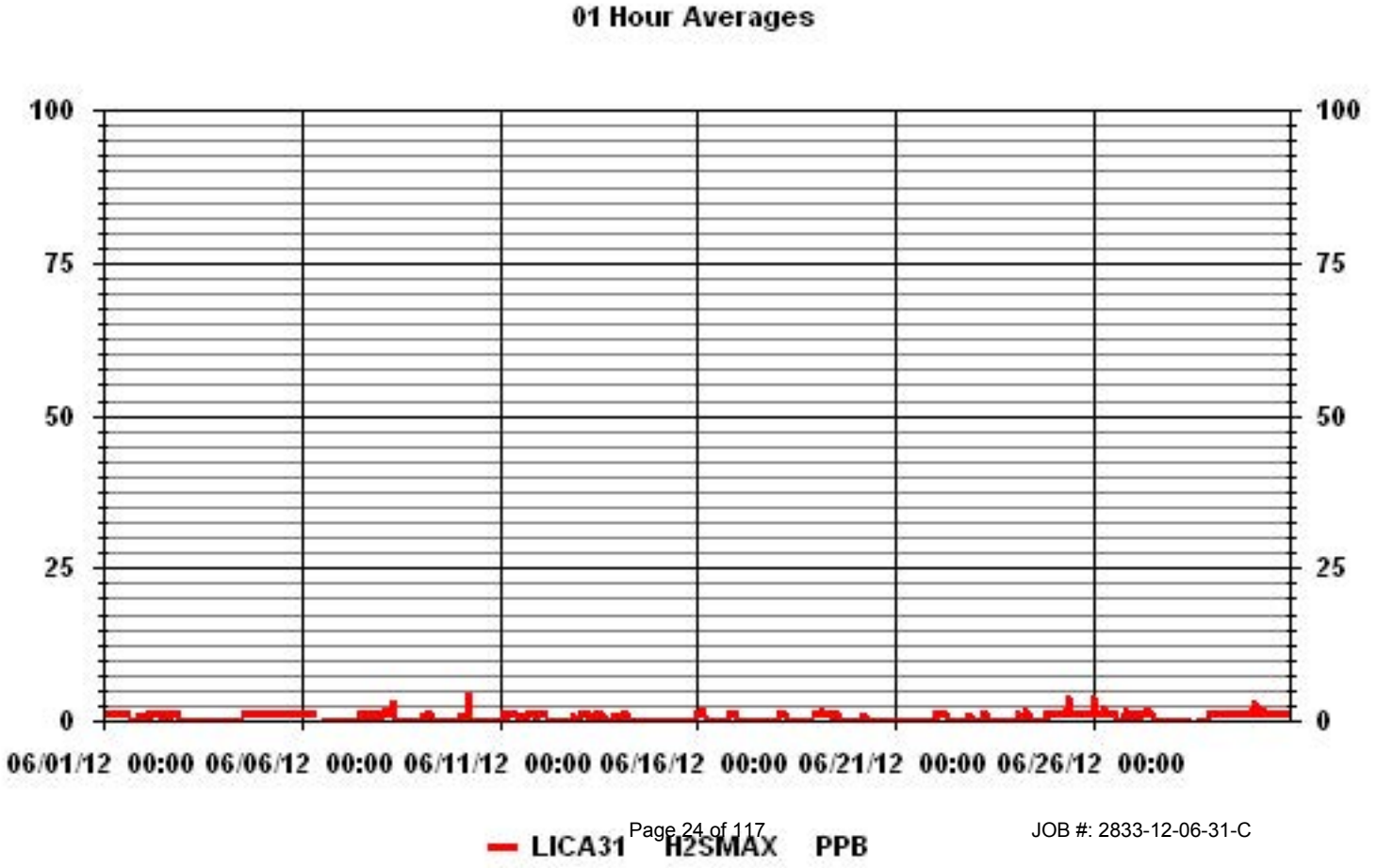
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00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

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	276					
MAXIMUM INSTANTANEOUS VALUE:	4	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:		715	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	0.61					



JOB #: 2833-12-06-31-C

LICA31
H2S_ / WDR Joint Frequency Distribution (Percent)

June 2012

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	6.02	1.76	2.50	8.08	5.58	6.47	6.02	5.88	5.73	4.85	3.67	7.79	6.91	13.23	10.14	5.29	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	6.02	1.76	2.50	8.08	5.58	6.47	6.02	5.88	5.73	4.85	3.67	7.79	6.91	13.23	10.14	5.29	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	41	12	17	55	38	44	41	40	39	33	25	53	47	90	69	36	680
< 10																	
< 50																	
>= 50																	
Totals	41	12	17	55	38	44	41	40	39	33	25	53	47	90	69	36	

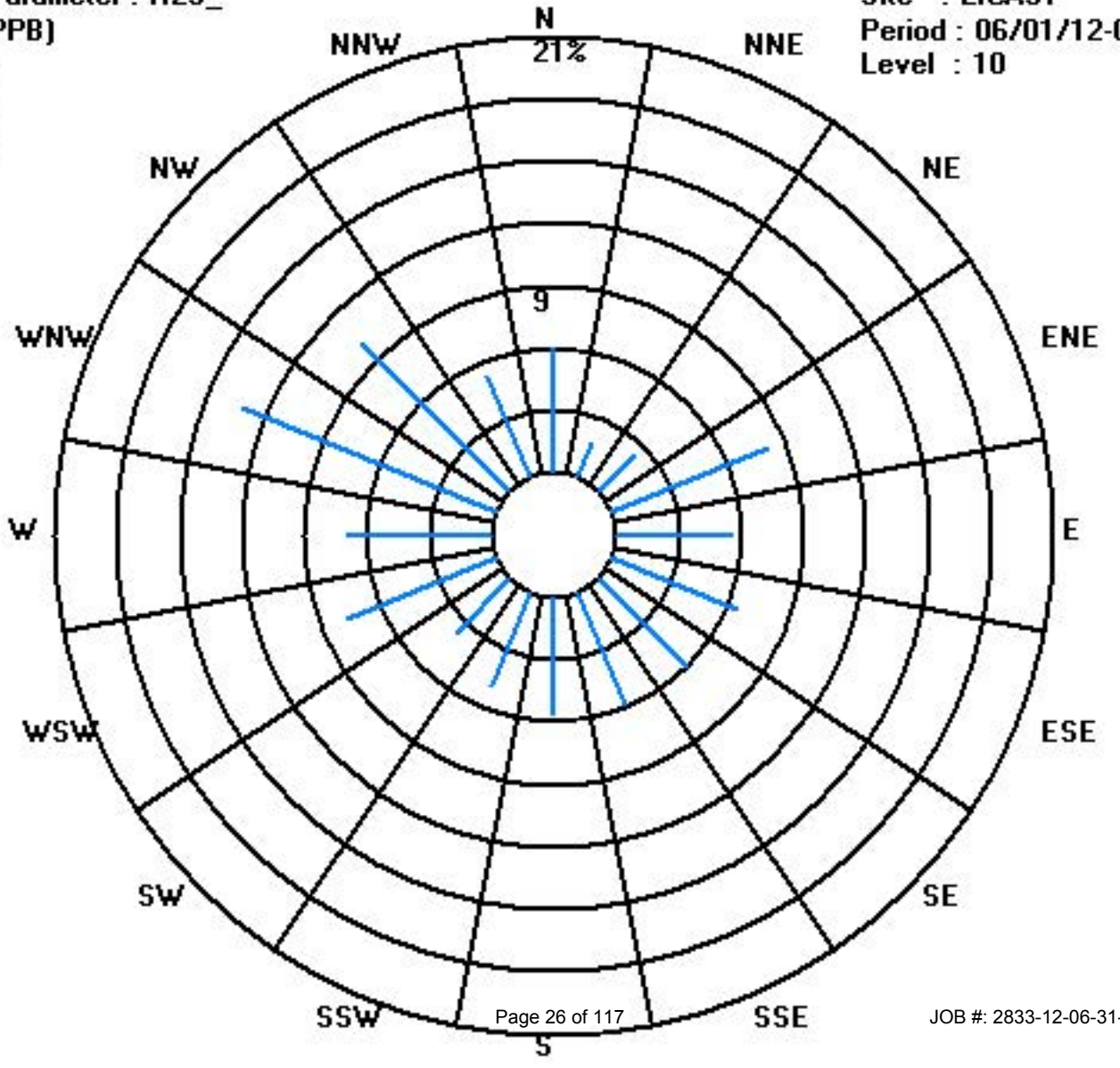
Calm : .00 %

Total # Operational Hours : 680

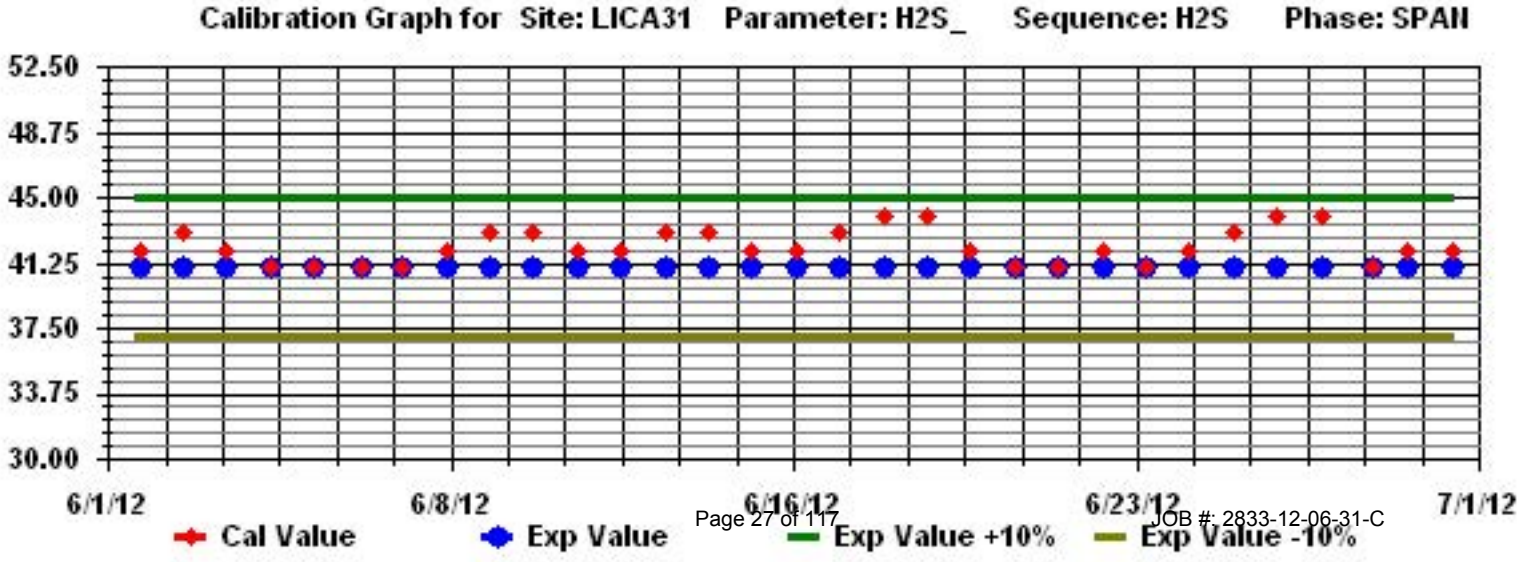
Logger : 31 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA31
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-31-C


Calibration Graph for Site: LICA31 Parameter: H2S_ Sequence: H2S Phase: SPAN
52.50
48.75
45.00
41.25
37.50
33.75
30.00
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

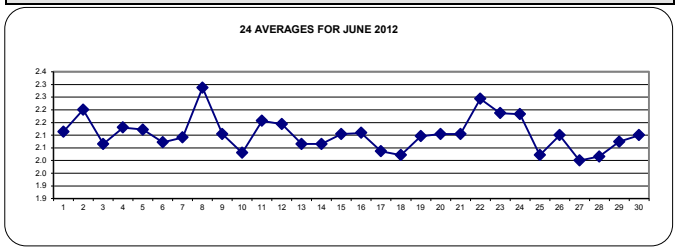
TOTAL HYDROCARBONS hourly averages in ppm

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

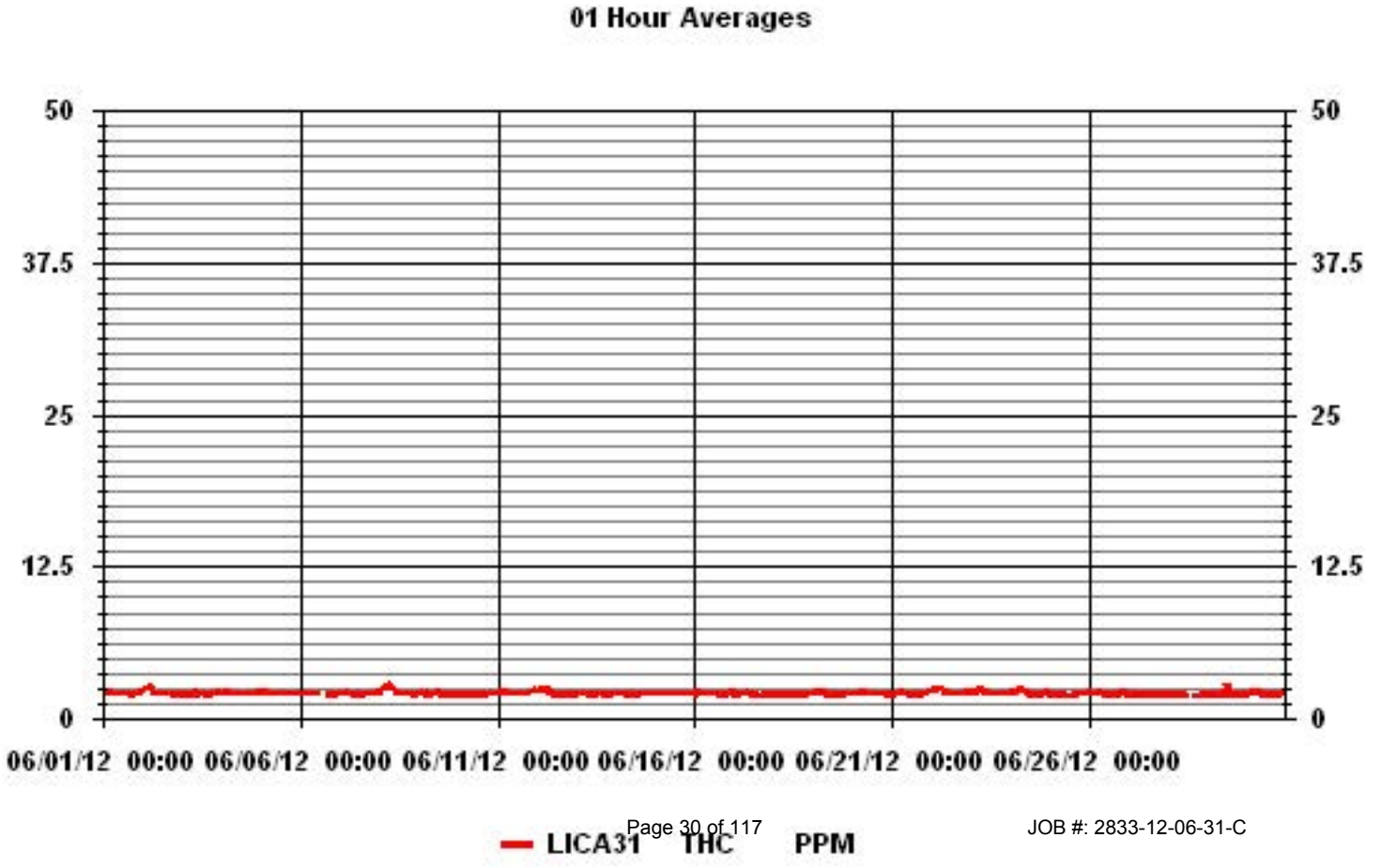
STATUS FLAG CODES

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:		679					
MAXIMUM 1-HR AVERAGE:		2.8	PPM	@ HOUR(S)	6, 7	ON DAY(S)	8
MAXIMUM 24-HR AVERAGE:		2.3	PPM			ON DAY(S)	8
						VAR- VARIOUS	
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:			716	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:			99.4	%
STANDARD DEVIATION:	0.12		MONTHLY AVERAGE:			2.11	PPM



JOB #: 2833-12-06-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

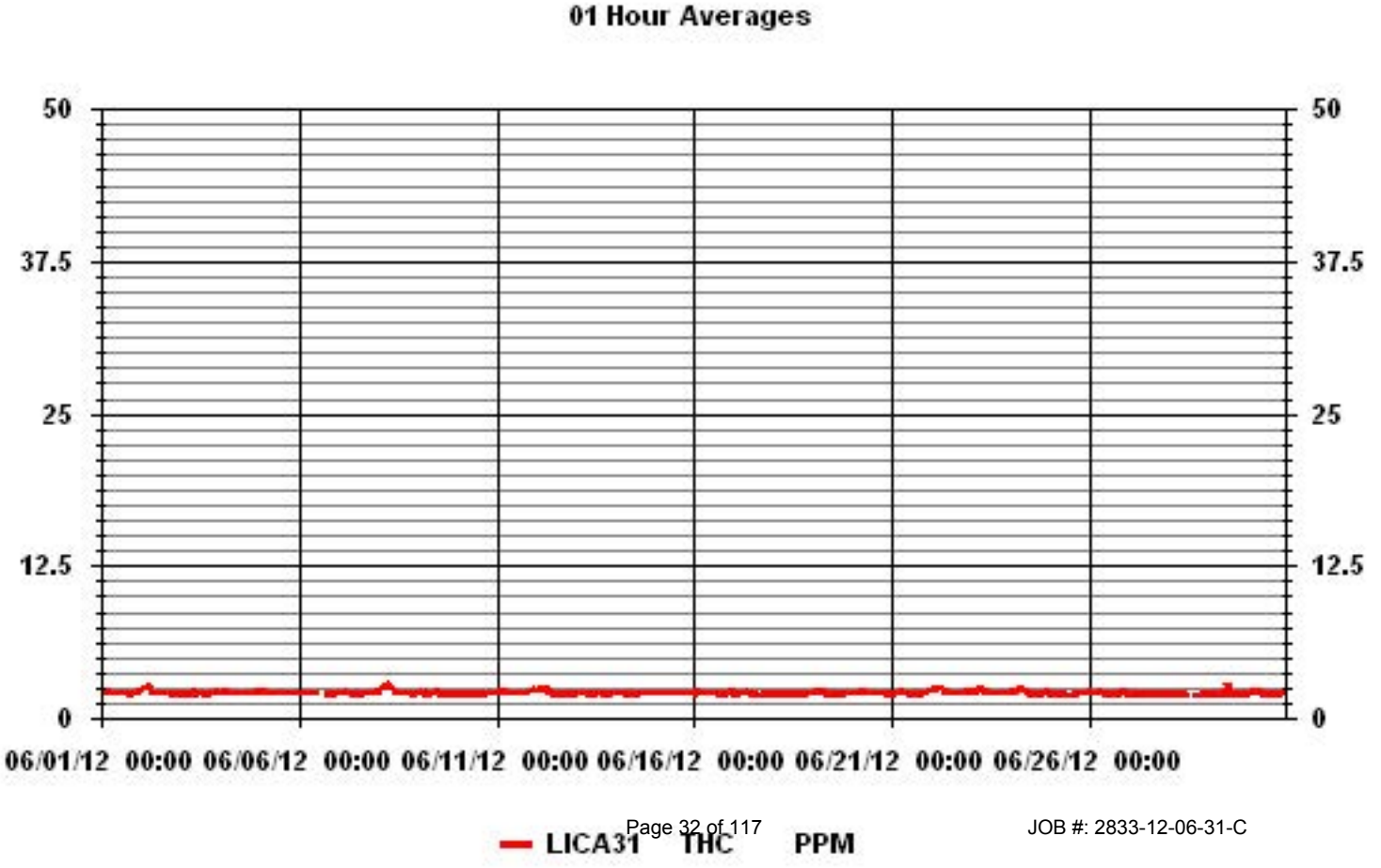
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	**IZS**	2.2	2.1	2.5	2.1	2.2	2.6	2.4	2.6	2.2	24
2	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.3	2.2	2.1	2.2	2.2	2.2	2.5	2.3	**IZS**	2.3	2.1	2.1	2.1	2.1	2.2	2.5	2.2	2.6	2.3	24
3	2.5	2.1	2.3	2.2	2.2	2.2	2.1	2.9	3.1	2.1	2.2	2.3	2.3	2.1	**IZS**	2.1	2.1	2.1	2.1	2.6	2.1	3.1	3.5	3.5	3.5	2.4	24
4	2.1	2.5	2.6	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.4	2.1	2.2	**IZS**	2.1	2.3	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.3	2.6	2.2	24
5	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	**IZS**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.2	24
6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	**M**	2.1	**C**	**C**	**C**	**C**	**C**	**C**	2	2.1	2	2	2.1	2.1	2.1	2.1	2.1	23
7	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	**IZS**	2	2	2	2	**M**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	23
8	2.4	2.4	2.9	2.6	2.7	2.8	2.9	2.9	2.8	**IZS**	2.6	2.3	2.1	2.2	2.1	2.1	2.3	2.2	2.3	2.2	2.1	2.1	2.1	2.1	2.9	2.4	24
9	2.2	2.2	**9.9**	3	2.2	2.3	2.3	2.1	**IZS**	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.2	2	2.6	2.1	2.1	2	2	**9.9**	2.5	24
10	2.1	2.2	2.1	2.1	2.1	2.1	2.1	**IZS**	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.2	2.6	2.3	2.6	2.1	24
11	2.2	2.2	2.2	2.2	2.2	2.2	**IZS**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.5	2.3	2.4	2.6	2.6	2.2	24
12	2.5	2.5	2.4	2.5	2.6	**IZS**	2.6	2.6	2.4	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2	2	2	2.3	2.3	2.1	2.6	2.3	24
13	2.1	2.1	2.9	2.1	**IZS**	2.4	2.3	2.1	2.6	2.2	2.1	2.1	2.1	2.1	3.8	2.8	2.3	2.2	2.2	2	2.2	2.2	2.3	2.2	3.8	2.3	24
14	2.3	2.7	2.4	**IZS**	2.3	3.2	2.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.1	2.1	2.1	2.1	3.2	2.2	24
15	2.1	2.1	**IZS**	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.2	2.3	2.3	2.1	2.2	2.3	2.1	24
16	2.2	**IZS**	2.2	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.1	24
17	**IZS**	2	2.3	2.1	2.4	2.4	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.7	2	2.1	2.1	2.2	2	2	2.2	2	**IZS**	2.7	2.2	24
18	2.1	2.1	2	2.1	2.1	2	2	2.1	2.1	2.1	2	2.1	2	2	2.1	2.1	2.1	2.1	2	2.3	2.3	2.5	**IZS**	3.7	3.7	2.2	24
19	2.1	2.1	7.5	5.9	3.1	2.7	3.1	2.7	2.1	2.2	2.4	2.3	2.2	2.1	2.1	2.2	2.1	3.2	2.1	2.6	2.3	**IZS**	2.5	2.6	7.5	2.8	24
20	2.3	2.4	2.3	2.3	2.2	2.3	2.3	2.5	2.4	2.4	2.2	2.4	2.2	2.2	2.2	2.2	2.4	2.5	2.5	2.1	**IZS**	2.1	2.1	2	2.5	2.3	24
21	2.3	2.5	2.8	2.1	2.2	2.4	2.5	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	**IZS**	2.2	2.1	2.2	2.3	2.8	2.2	24
22	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.3	**IZS**	2.4	2.2	2.4	2.5	2.4	2.5	2.3	24
23	2.4	2.6	2.3	2.2	2.4	2.4	2.6	2.6	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	**IZS**	2.3	2.4	2.4	2.3	2.3	2.1	2.6	2.3	24
24	2.4	2.3	2.3	2.3	2.5	2.4	2.5	2.9	2.5	2.4	2.4	2.3	2.1	2.1	2.1	2.1	**IZS**	2	2	2	2.2	2.2	2.9	2.3	2.9	2.3	24
25	2.2	2	2	2	2	2	2.1	2.1	2	2	2	2	2	2.1	2.2	**IZS**	2.4	3.7	2.4	2.2	2.3	2.1	2.7	2.5	3.7	2.2	24
26	2.3	2.3	2.1	2.3	2.2	2.3	2.3	2.6	2.3	2.3	2.4	2.7	2.1	2.5	**IZS**	2	2.1	2.2	2.1	2.5	2.5	2.6	2.2	2.5	2.7	2.3	24
27	2.1	2.2	2	2.1	2.1	2.1	2.1	2.1	2.5	2.5	2.2	2.2	2.1	**IZS**	2.3	2.1	2	2	2	2	2.1	2.1	2.1	2.1	2.5	2.1	24
28	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	**P**	**P**	**P**	**N**	**C**	**C**	2	2	2	2	2.1	2.2	2.1	2.2	2.1	20
29	2	2	2.1	2.1	2	2	2	2	2	2.1	2.8	**IZS**	2.9	2.6	2.2	2.1	2.2	2.1	2.1	2.2	2.4	2.5	2.2	2.1	2.9	2.2	24
30	2.3	2.2	2.3	2.2	2.2	2.3	2.3	2.3	2.2	2.1	**IZS**	2	2	2	2	2	2	2	2.1	2	2.1	2.2	2.3	2.3	2.3	2.1	24
HOURLY MAX	2.5	2.7	9.9	5.9	3.1	3.2	3.1	2.9	3.1	2.5	2.8	2.7	2.9	2.6	3.8	2.8	2.4	3.7	2.5	2.6	2.6	2.6	3.1	3.7			
HOURLY AVG	2.2	2.3	2.7	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.3			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	677						
MAXIMUM INSTANTANEOUS VALUE:	9.9	PPM	@ HOUR(S)	2	ON DAY(S)	9	
IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:			714	HRS
MONTHLY CALIBRATION TIME:	8	HRS					
STANDARD DEVIATION:	0.45						



JOB #: 2833-12-06-31-C

LICA31
THC / WDR Joint Frequency Distribution (Percent)

June 2012

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	6.03	1.76	2.50	8.39	5.15	6.48	6.03	5.89	5.74	4.86	3.68	7.80	6.92	13.25	10.16	5.30	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	6.03	1.76	2.50	8.39	5.15	6.48	6.03	5.89	5.74	4.86	3.68	7.80	6.92	13.25	10.16	5.30	

Calm : .00 %

Total # Operational Hours : 679

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	41	12	17	57	35	44	41	40	39	33	25	53	47	90	69	36	679
< 10.0																	
< 50.0																	
>= 50.0																	
Totals	41	12	17	57	35	44	41	40	39	33	25	53	47	90	69	36	

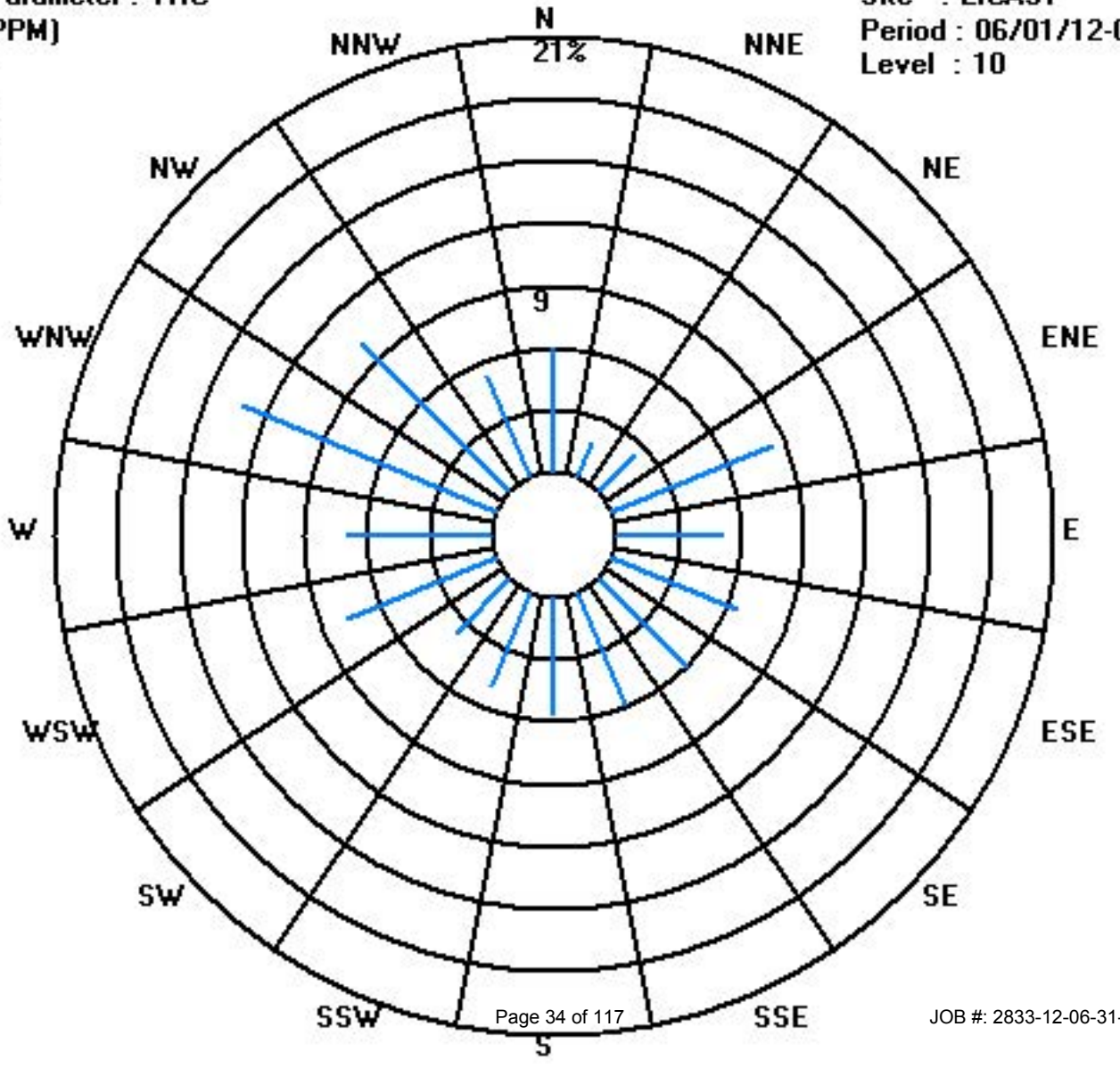
Calm : .00 %

Total # Operational Hours : 679

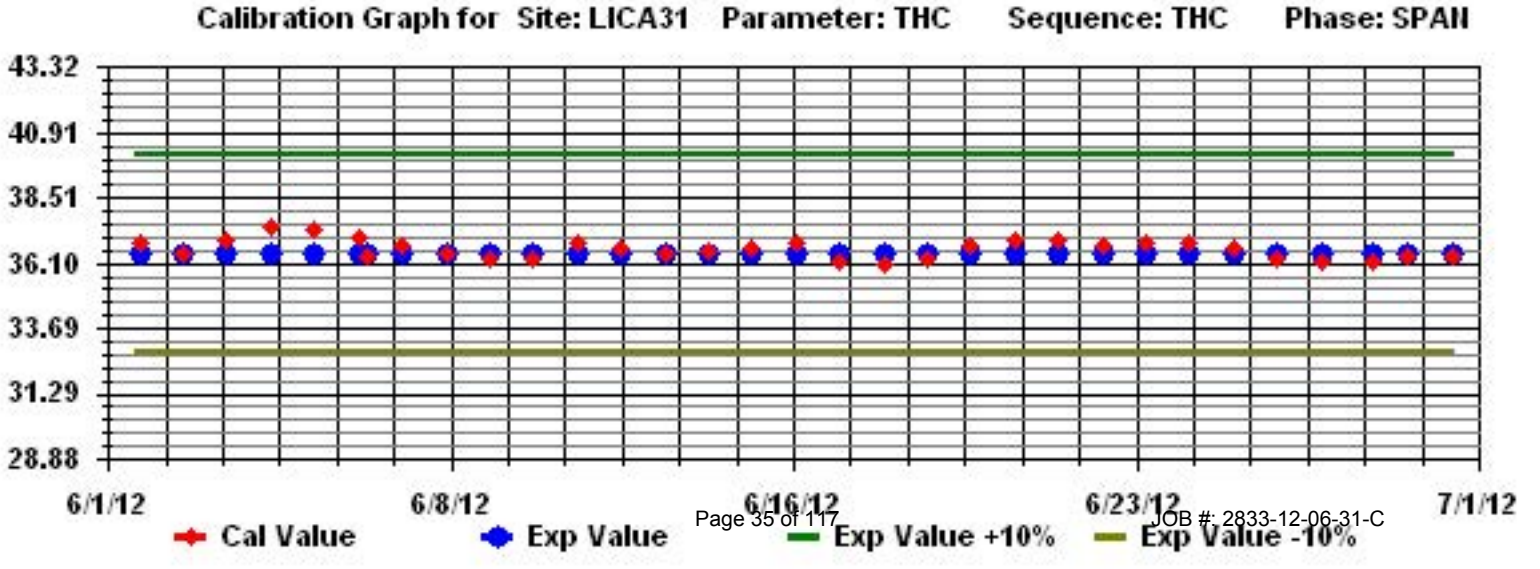
Logger : 31 Parameter : THC
Class Limits (PPM)

>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA31
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-31-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
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

JUNE 2012

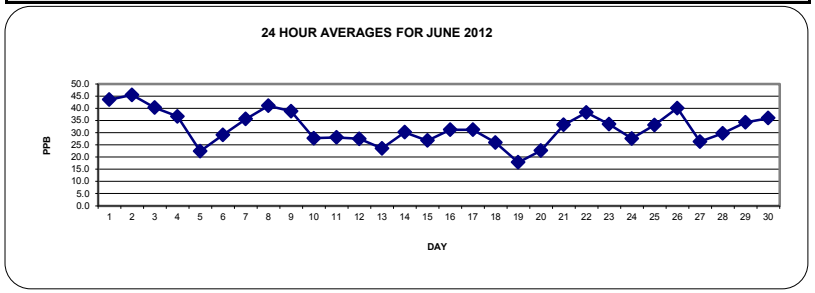
OZONE (O_3) hourly averages in ppb

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	35	34	32	29	26	24	25	31	37	44	49	51	51	51	53	57	**IZS**	57	55	56	56	53	50	46	57	43.6	24
2	44	44	42	41	40	40	38	44	51	55	57	57	56	53	52	**IZS**	52	50	47	42	39	34	34	33	57	**45.4**	24
3	32	32	33	34	36	39	41	42	45	45	43	43	44	45	**IZS**	45	44	43	43	40	39	39	40	40	45	40.3	24
4	40	40	37	24	25	26	28	31	34	36	37	38	40	**IZS**	42	45	45	45	46	44	40	37	33	30	46	36.7	24
5	28	23	17	15	16	17	18	19	20	20	20	23	**IZS**	27	28	28	29	28	26	26	25	21	20	20	29	22.3	24
6	19	18	19	20	22	23	22	22	23	25	24	**IZS**	29	32	35	36	37	38	40	43	42	37	33	29	43	29.0	24
7	28	29	27	26	26	25	25	26	27	29	**C**	**C**	**C**	**C**	**C**	40	44	46	48	46	46	46	46	46	48	35.6	24
8	45	42	40	33	28	26	24	22	27	**IZS**	34	44	52	54	55	**57**	52	47	43	41	41	47	46	43	**57**	41.0	24
9	45	41	37	36	36	33	30	32	**IZS**	38	41	42	42	43	45	48	42	45	41	38	34	37	34	31	48	38.7	24
10	32	30	27	25	21	19	18	**IZS**	21	25	28	32	33	32	31	29	30	30	32	34	28	26	28	27	34	27.7	24
11	24	23	17	17	17	18	**IZS**	20	21	27	33	33	30	32	34	35	35	36	36	33	30	29	33	32	36	28.0	24
12	29	26	25	24	23	**IZS**	17	18	23	25	25	26	29	28	29	29	30	30	39	37	32	29	31	28	39	27.5	24
13	25	24	23	25	**IZS**	21	18	21	22	24	25	28	34	35	31	25	27	23	21	20	19	17	17	17	35	23.6	24
14	15	17	18	**IZS**	17	17	18	22	27	30	33	35	36	38	42	43	42	40	39	36	34	33	31	31	43	30.2	24
15	30	29	**IZS**	26	25	23	21	22	24	27	29	29	29	30	30	28	29	28	28	30	27	26	25	21	30	26.8	24
16	21	**IZS**	20	18	19	19	22	22	29	31	31	34	38	42	42	41	41	40	39	37	35	34	32	30	42	31.2	24
17	**IZS**	46	42	35	32	29	29	25	21	18	23	31	34	35	34	36	34	34	32	32	29	28	27	**IZS**	46	31.2	24
18	22	24	22	20	19	17	18	20	23	25	26	26	28	30	34	33	33	33	32	32	28	27	**IZS**	24	34	25.9	24
19	23	26	21	23	22	13	10	10	15	18	17	17	19	20	21	19	19	20	20	16	16	**IZS**	13	12	26	17.8	24
20	12	11	10	10	11	10	12	16	18	16	22	26	28	31	34	39	35	35	34	32	**IZS**	27	27	26	39	22.7	24
21	25	24	24	23	25	23	23	25	27	31	34	36	37	39	40	42	42	44	43	**IZS**	42	41	39	34	44	33.2	24
22	32	32	32	31	30	30	28	29	33	40	42	42	42	43	44	44	45	45	**IZS**	41	42	41	44	47	47	38.2	24
23	40	40	36	32	25	23	23	27	31	34	36	37	39	39	39	40	41	**IZS**	39	33	29	28	29	29	41	33.4	24
24	25	24	23	21	21	19	18	16	14	24	34	37	37	37	36	35	**IZS**	37	36	34	30	27	27	23	37	27.6	24
25	23	21	18	16	16	15	17	20	26	37	43	46	48	48	46	**IZS**	47	45	44	39	37	36	36	38	48	33.1	24
26	31	31	36	34	37	37	32	30	41	44	47	47	45	45	**IZS**	45	47	44	44	42	38	41	47	37	47	40.1	24
27	31	30	30	31	29	28	25	23	20	21	21	24	26	**IZS**	28	29	30	28	27	27	26	25	23	24	31	26.3	24
28	25	26	28	27	26	23	23	25	25	25	26	27	**P**	**P**	**N**	**C**	**C**	38	39	38	37	38	35	34	39	29.7	21
29	34	33	30	27	31	32	29	27	27	30	25	**IZS**	35	38	38	43	44	41	41	38	36	37	36	36	44	34.3	24
30	37	35	22	25	25	25	21	24	34	46	**IZS**	46	46	45	42	45	46	46	43	39	37	34	33	31	46	36.0	24
HOURLY MAX	45	46	42	41	40	40	41	44	51	55	57	57	56	54	55	57	52	57	55	56	56	53	50	47			
HOURLY AVG	29.4	29.5	27.2	25.8	25.0	23.9	23.2	24.5	27.1	30.7	32.3	35.4	37.3	38.2	37.9	38.4	38.6	38.5	37.8	36.1	34.3	33.6	32.7	31.0			

STATUS FLAG CODES

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

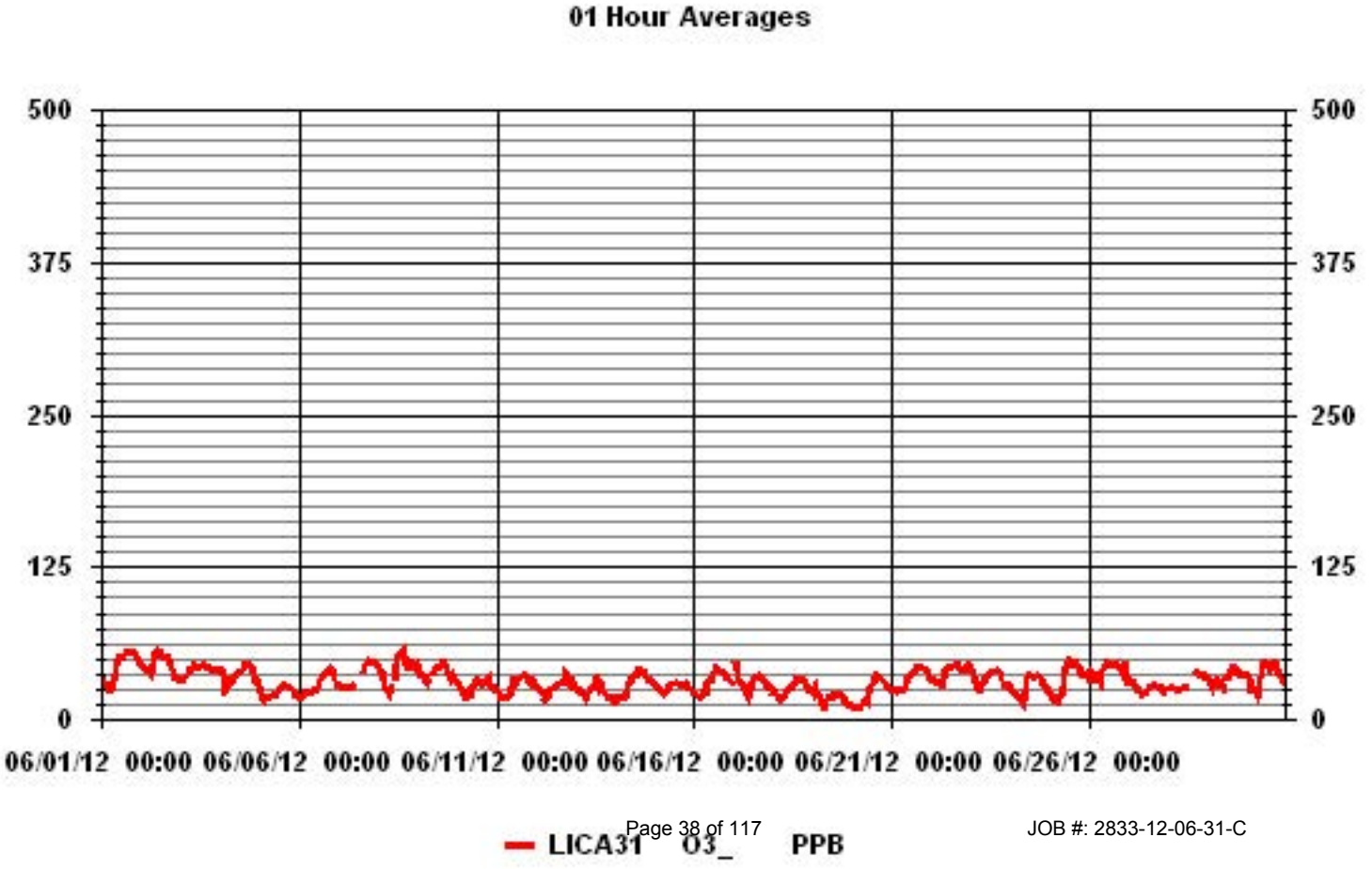


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	681					
MAXIMUM 1-HR AVERAGE:	57	PPB	@ HOUR(S)	15	ON DAY(S)	8
MAXIMUM 24-HR AVERAGE:	45.4	PPB			ON DAY(S) VAR-VARIOUS	2
IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:		717	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	9.71		MONTHLY AVERAGE:		31.9	PPB

JOB #: 2833-12-06-31-C



JOB #: 2833-12-06-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

JUNE 2012

OZONE MAX instantaneous maximum in ppb

MST

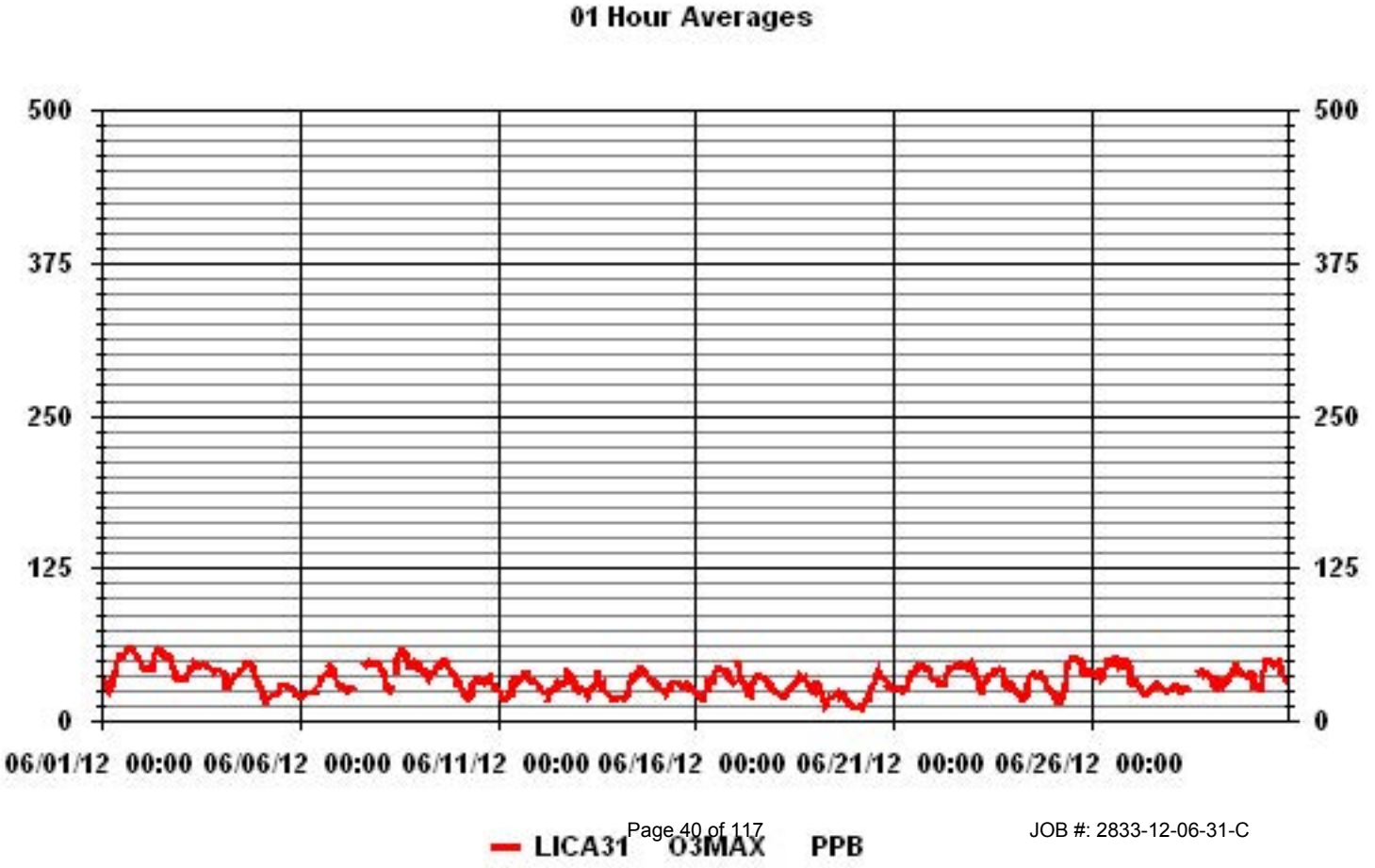
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	37	35	34	31	28	25	28	36	41	48	53	53	53	53	55	59	**IZS**	**60**	59	59	57	55	53	50	**60**	46.2	24
2	46	44	43	42	42	42	42	47	55	58	59	59	58	54	55	**IZS**	54	53	51	45	43	36	35	34	59	47.7	24
3	33	33	34	35	38	40	43	44	48	46	45	45	46	47	**IZS**	46	45	45	44	42	40	41	42	41	48	41.9	24
4	41	41	40	29	28	28	31	34	37	37	39	42	41	**IZS**	44	47	47	47	48	46	42	39	35	31	48	38.9	24
5	30	27	20	16	17	19	19	20	21	21	22	25	**IZS**	29	29	29	30	29	28	26	26	23	21	21	30	23.8	24
6	20	19	20	22	23	23	23	23	24	26	25	**IZS**	31	35	36	37	37	39	**N**	45	44	39	35	31	45	29.9	23
7	29	30	28	28	26	25	26	27	28	**C**	**C**	**C**	**C**	**C**	**C**	**C**	46	47	49	48	47	47	47	47	49	36.8	24
8	47	44	42	37	32	28	26	25	28	**IZS**	40	51	54	55	58	59	57	51	46	42	46	49	48	45	59	43.9	24
9	47	45	41	42	41	38	35	37	**IZS**	41	44	45	45	47	48	52	45	50	44	42	41	39	38	32	52	42.6	24
10	33	32	28	26	23	21	19	**IZS**	22	29	31	34	34	34	32	33	31	32	34	36	32	29	29	28	36	29.7	24
11	27	25	19	19	18	19	**IZS**	22	22	32	35	35	32	34	35	36	38	38	39	35	32	32	34	33	39	30.0	24
12	32	29	27	26	24	**IZS**	18	22	25	26	26	28	31	29	30	30	31	31	43	40	36	31	33	30	43	29.5	24
13	26	25	26	26	**IZS**	25	21	23	24	26	28	30	38	38	34	29	31	26	23	22	21	18	18	18	38	25.9	24
14	17	18	19	**IZS**	18	19	20	24	29	33	36	36	37	41	44	45	44	42	40	38	35	34	33	32	45	31.9	24
15	31	29	**IZS**	27	26	24	22	24	25	29	31	31	31	31	31	30	30	29	31	31	29	27	26	25	31	28.3	24
16	23	**IZS**	21	19	21	20	24	25	32	32	32	36	40	43	43	42	42	41	40	40	36	35	33	31	43	32.7	24
17	**IZS**	48	46	39	34	31	31	28	23	22	29	33	36	37	36	38	37	36	35	34	31	30	29	**IZS**	48	33.8	24
18	24	25	24	21	20	19	20	22	26	27	28	29	30	33	37	35	34	34	36	34	31	29	**IZS**	25	37	28.0	24
19	26	33	26	28	26	17	11	12	18	20	19	19	20	21	23	20	22	23	22	18	17	**IZS**	14	13	33	20.3	24
20	12	12	11	12	12	11	14	18	20	19	26	28	30	33	39	42	37	37	36	34	**IZS**	29	28	28	42	24.7	24
21	26	26	26	27	27	24	25	26	29	33	36	39	39	42	42	44	44	45	46	**IZS**	43	41	41	36	46	35.1	24
22	33	33	33	33	31	30	30	31	38	43	43	43	44	45	45	45	47	46	**IZS**	45	45	44	46	48	48	40.0	24
23	45	41	39	35	28	23	23	30	33	36	37	38	40	40	41	42	43	**IZS**	42	36	31	29	31	31	45	35.4	24
24	27	25	24	22	22	20	19	18	20	30	36	37	38	39	37	36	**IZS**	39	37	36	33	29	28	26	39	29.5	24
25	24	23	20	17	16	16	18	23	30	41	46	48	50	50	51	**IZS**	51	48	48	41	38	38	38	40	51	35.4	24
26	40	39	39	38	41	41	36	38	43	49	49	49	48	47	**IZS**	51	51	46	48	46	45	49	49	47	51	44.7	24
27	33	31	32	33	31	29	27	24	22	22	23	25	28	**IZS**	29	31	31	29	28	27	27	26	24	25	33	27.7	24
28	26	27	28	28	28	25	24	25	26	26	27	**P**	**P**	**P**	**N**	**C**	**C**	40	41	41	38	39	39	36	41	31.3	20
29	36	34	31	29	34	34	30	28	32	34	33	**IZS**	37	39	42	45	46	43	42	40	37	37	38	37	46	36.4	24
30	38	38	26	29	27	27	23	29	40	50	**IZS**	48	48	48	46	47	48	49	46	41	38	36	34	32	50	38.6	24
HOURLY MAX	47	48	46	42	42	42	43	47	55	58	59	59	58	55	58	59	57	60	59	59	57	55	53	50			
HOURLY AVG	31.3	31.4	29.2	28.1	27.0	25.6	25.1	27.1	29.7	33.4	34.9	37.9	39.2	40.2	40.1	40.4	40.7	40.5	40.2	38.3	36.6	35.5	34.4	32.9			

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:	677					
MAXIMUM INSTANTANEOUS VALUE:	60	PPB	@ HOUR(S)	17	ON DAY(S)	1
IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:		715	HRS
MONTHLY CALIBRATION TIME:	9	HRS				
STANDARD DEVIATION:	10.03					



JOB #: 2833-12-06-31-C

LICA31
O3_ / WDR Joint Frequency Distribution (Percent)

June 2012

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	6.01	1.75	2.34	7.91	5.86	5.86	5.71	5.27	5.27	4.54	3.51	7.03	6.74	13.19	10.11	5.13	96.33
< 110	.00	.00	.14	.43	.00	.58	.29	.43	.29	.14	.14	.73	.29	.00	.00	.14	3.66
< 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	6.01	1.75	2.49	8.35	5.86	6.45	6.01	5.71	5.57	4.69	3.66	7.77	7.03	13.19	10.11	5.27	

Calm : .00 %

Total # Operational Hours : 682

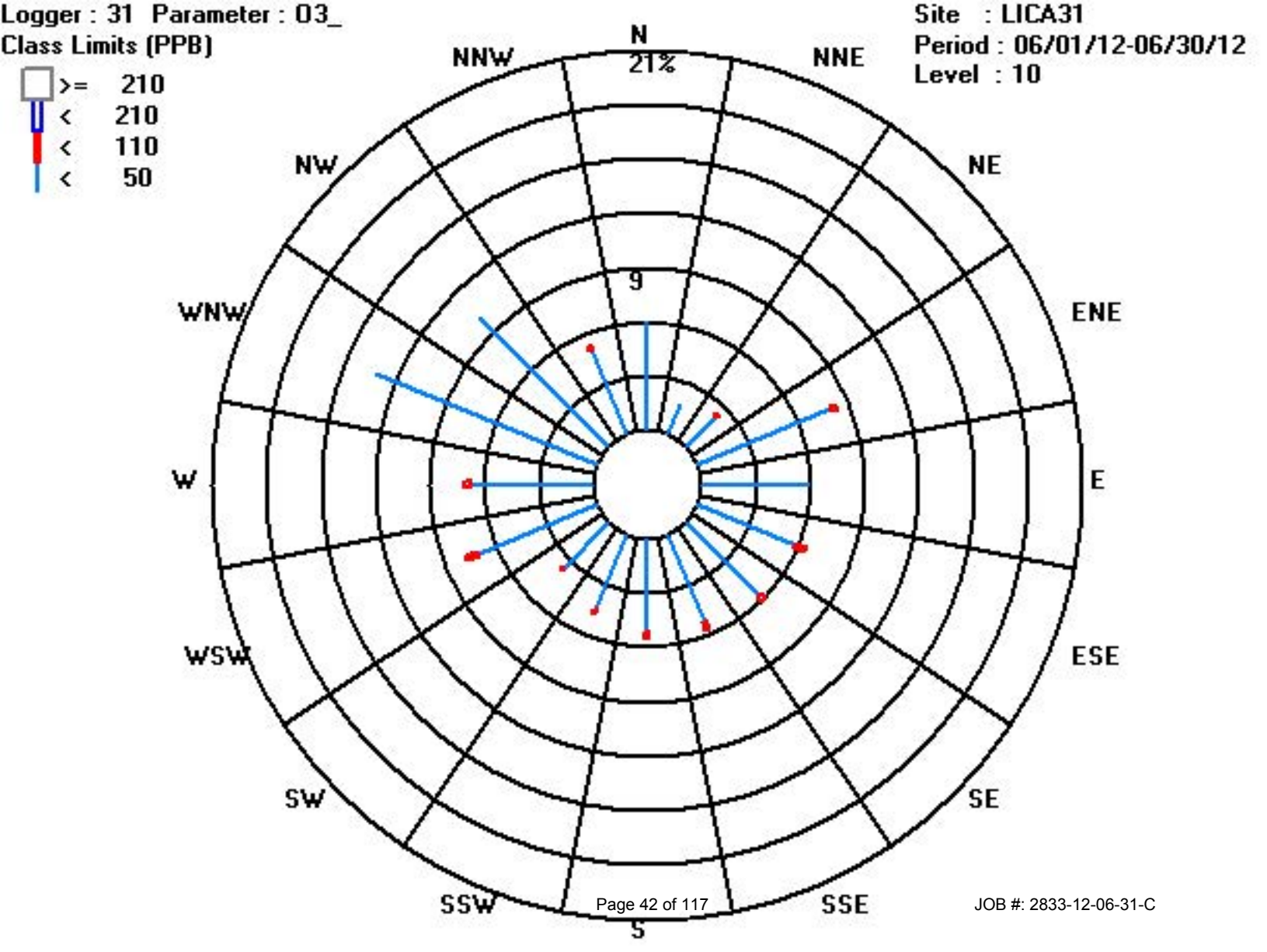
Distribution By Samples

Direction

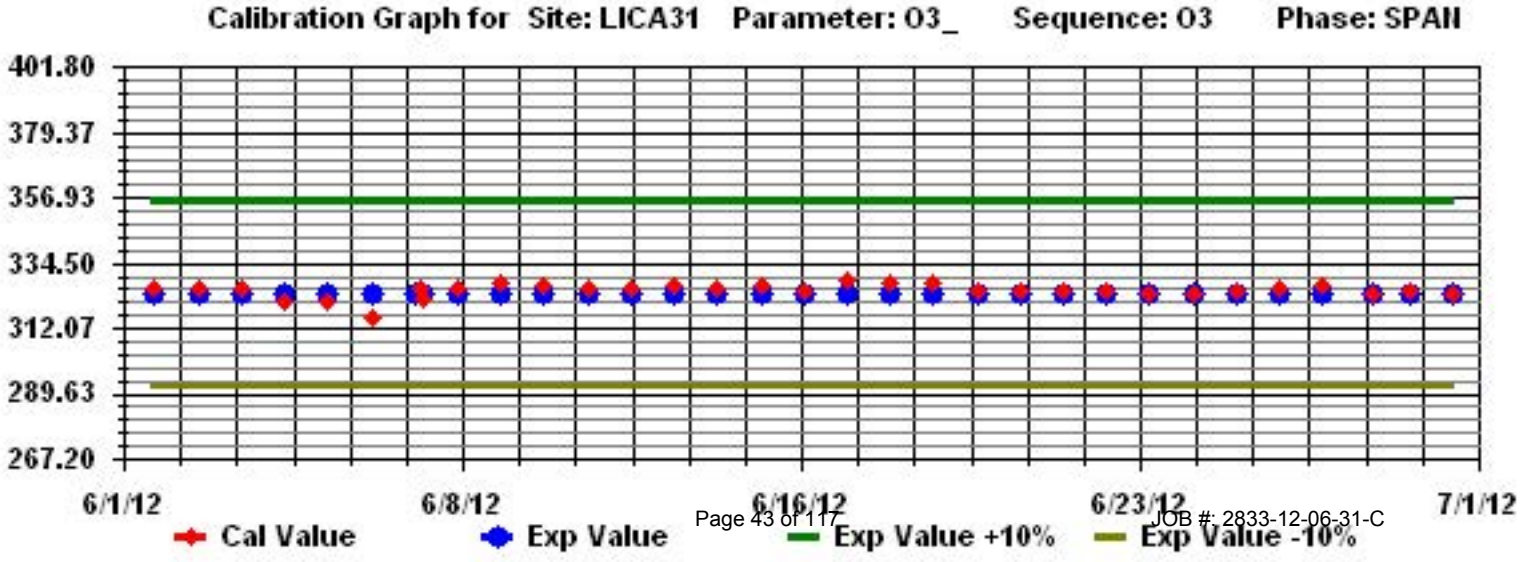
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	41	12	16	54	40	40	39	36	36	31	24	48	46	90	69	35	657
< 110			1	3		4	2	3	2	1	1	5	2			1	25
< 210																	
>= 210																	
Totals	41	12	17	57	40	44	41	39	38	32	25	53	48	90	69	36	

Calm : .00 %

Total # Operational Hours : 682



JOB #: 2833-12-06-31-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
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

NITROGEN DIOXIDE hourly averages in ppb

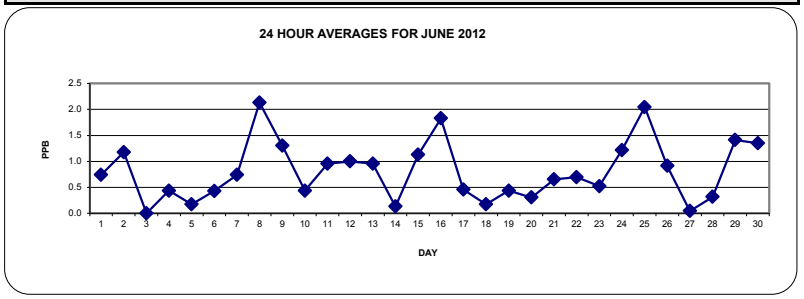
MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	2	2	2	2	2	1	1	0	0	0	0	0	0	0	**IZS**	0	1	0	0	0	1	1	2	0.7	24
2	2	2	2	2	2	3	3	2	1	1	1	0	0	1	1	**IZS**	0	0	1	1	1	1	0	0	3	1.2	24
3	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
4	0	0	0	1	1	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	1	1	1	2	2	2	0.4	24
5	1	1	1	1	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
6	0	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	**M**	1	1	1	1	0.4	23
7	1	1	1	1	1	1	1	1	1	1	**IZS**	0	0	**C**	**C**	**M**	**M**	0	0	0	1	1	1	1	1	0.7	22
8	1	2	2	3	3	4	4	4	3	**IZS**	3	1	1	0	0	1	0	2	3	3	3	2	2	2	4	2.1	24
9	2	2	2	2	2	2	1	1	**IZS**	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1.3	24
10	1	1	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.4	24
11	2	1	1	1	1	2	**IZS**	1	1	0	0	1	1	1	0	0	1	0	0	1	1	2	2	2	2	1.0	24
12	2	2	2	2	2	**IZS**	2	2	1	1	0	0	0	0	0	0	0	0	1	1	1	2	1	1	2	1.0	24
13	1	2	2	2	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	2	1.0	24
14	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
15	0	1	**IZS**	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.1	24
16	2	**IZS**	2	3	2	2	3	2	2	1	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	1.8	24
17	**IZS**	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	**IZS**	1	0.5	24
18	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	0.2	24
19	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	**IZS**	0	1	1	0.4	24
20	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	1	1	1	0.3	24
21	1	1	0	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	1	1	2	3	0.7	24
22	2	2	1	1	2	2	1	1	1	1	0	0	0	0	0	0	0	0	**IZS**	0	1	0	1	0	2	0.7	24
23	0	0	0	1	2	2	2	1	1	0	0	0	0	0	0	0	0	**IZS**	0	0	1	1	1	0	2	0.5	24
24	1	1	1	1	1	2	2	2	2	1	1	0	0	0	0	0	**IZS**	1	1	2	2	2	2	3	3	1.2	24
25	2	2	3	3	3	3	3	3	3	3	3	2	2	2	2	**IZS**	1	1	1	1	1	1	1	1	3	2.0	24
26	1	2	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	0	1	1	1	1	0	1	1	0	2	0.9	24
27	0	0	0	0	0	0	0	0	1	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	**P**	**P**	**N**	**C**	**C**	0	0	0	1	1	2	2	2	0.3	21
29	3	3	3	3	3	2	1	1	1	1	**C**	**IZS**	2	1	1	1	1	1	0	1	1	0	0	1	3	1.4	24
30	0	1	2	2	2	1	2	3	3	2	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.3	24
HOURLY MAX	3	3	3	3	3	4	4	4	3	3	3	2	2	2	2	1	1	2	3	3	3	2	3	3			
HOURLY AVG	1.0	1.1	1.1	1.3	1.3	1.3	1.2	1.1	1.0	0.6	0.5	0.4	0.4	0.5	0.4	0.3	0.4	0.4	0.5	0.6	0.7	0.8	1.0	1.1			

STATUS FLAG CODES

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

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

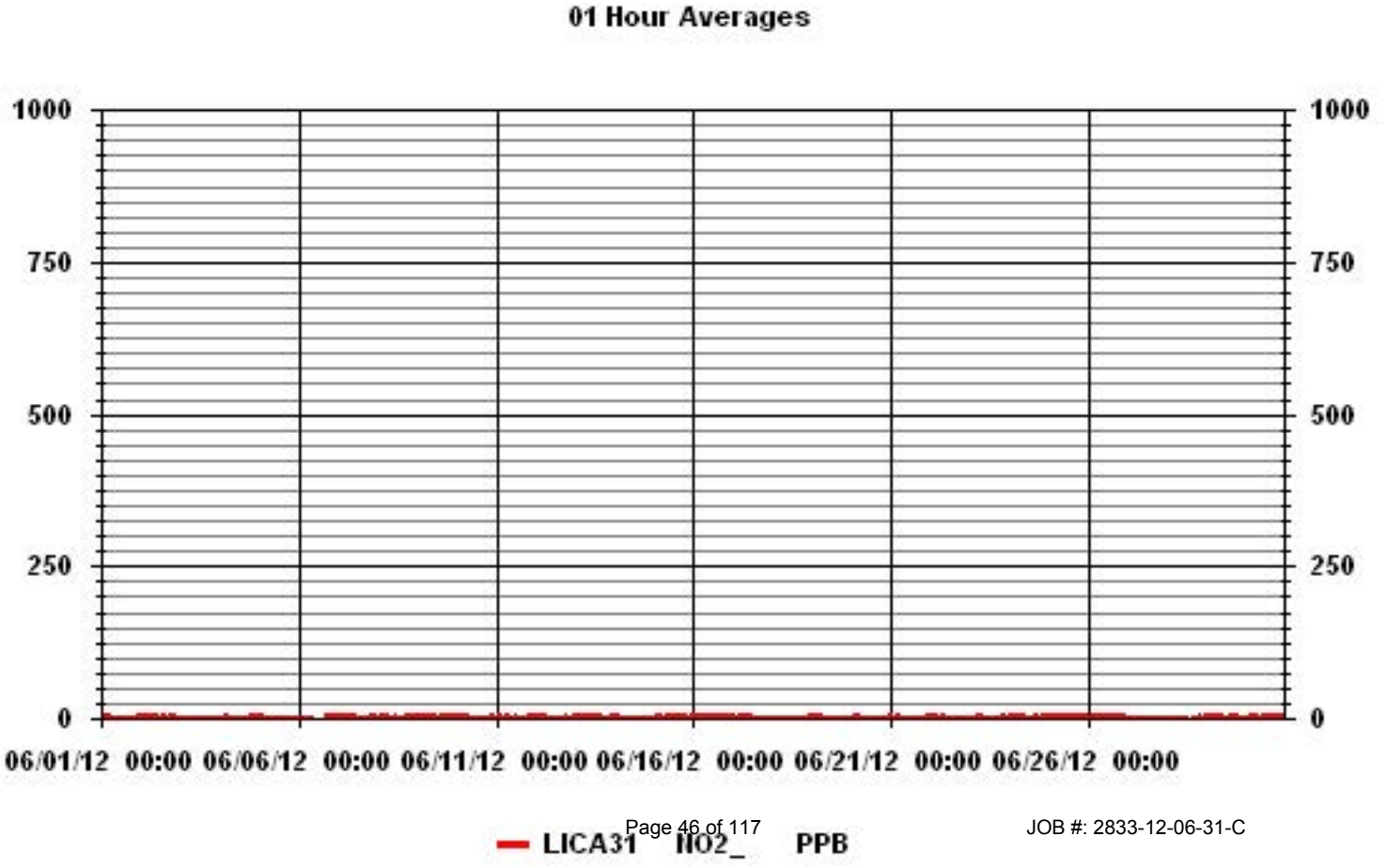


MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	382					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	VAR	ON DAY(S)	10, 26
MAXIMUM 24-HR AVERAGE:	2.1	PPB			ON DAY(S)	8, 10

IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:	714	HRS
MONTHLY CALIBRATION TIME:	14	HRS	AMD OPERATION UPTIME:	99.2	%
STANDARD DEVIATION:	0.87		MONTHLY AVERAGE:	0.81	PPB

JOB #: 2833-12-06-31-C



JOB #: 2833-12-06-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST.LINA*

JUNE 2012

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	2	2	3	3	3	3	2	2	1	1	1	1	2	2	1	**IZS**	2	2	1	1	1	2	2	3	1.8	24
2	3	3	3	3	3	4	6	3	2	19	2	1	1	1	1	**IZS**	1	1	2	2	2	2	1	1	19	2.9	24
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1.0	24
4	1	1	2	2	2	2	1	1	1	1	1	1	1	**IZS**	0	0	1	1	1	1	2	2	3	3	3	1.3	24
5	2	2	2	1	1	1	1	1	1	1	0	0	**IZS**	0	1	1	1	0	1	1	1	1	1	1	2	1.0	24
6	0	1	1	1	0	0	1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	2	2	**M**	2	2	2	2	1.1	23
7	2	2	2	2	2	2	2	1	2	1	**IZS**	1	1	**M**	**M**	**C**	**C**	1	1	1	1	2	2	2	2	1.6	22
8	2	3	3	3	5	5	5	5	4	**IZS**	**57**	2	2	1	1	4	2	3	4	4	5	3	3	3	**57**	5.6	24
9	3	4	3	3	3	3	2	2	**IZS**	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	4	2.3	24
10	1	2	2	1	2	1	1	**IZS**	0	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1.1	24
11	3	1	1	2	3	4	**IZS**	2	2	1	1	1	2	2	1	1	1	1	1	2	2	3	3	3	4	1.9	24
12	3	2	3	3	3	**IZS**	4	3	3	2	1	1	1	2	1	2	1	1	2	2	3	4	2	2	4	2.2	24
13	2	2	3	3	**IZS**	2	2	2	2	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	3	1.8	24
14	1	1	2	**IZS**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1.1	24
15	1	1	**IZS**	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	4	3	4	2.1	24
16	3	**IZS**	5	5	4	3	4	3	3	2	2	2	2	2	2	2	2	2	2	3	3	3	4	4	5	2.9	24
17	**IZS**	1	1	2	2	2	1	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	2	**IZS**	2	1.4	24
18	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	2	2	1.1	24
19	2	2	2	1	1	2	2	2	1	1	2	1	1	1	1	1	1	3	1	2	1	**IZS**	1	1	3	1.4	24
20	1	1	2	2	1	1	2	1	1	1	1	1	1	2	1	1	1	1	1	0	**IZS**	1	2	2	2	1.2	24
21	2	2	1	2	4	4	3	2	2	1	1	1	10	1	1	1	1	1	1	**IZS**	1	1	2	3	10	2.1	24
22	3	2	2	2	2	2	3	2	2	1	1	1	1	1	1	1	1	1	**IZS**	1	6	2	2	2	6	1.8	24
23	1	1	1	2	3	3	3	2	2	1	1	1	1	1	1	1	1	**IZS**	1	1	2	2	2	1	3	1.5	24
24	2	2	2	2	2	2	3	2	3	2	2	1	1	1	1	1	**IZS**	2	2	2	3	3	3	3	3	2.0	24
25	3	3	4	4	4	4	4	4	4	5	4	3	3	3	5	**IZS**	2	3	3	2	2	2	2	3	5	3.3	24
26	2	3	2	2	2	2	2	3	3	2	2	2	2	4	**IZS**	1	2	1	2	1	1	2	2	1	4	2.0	24
27	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	0	1	1	1	1	1	0	1	1	1	1	0.9	24
28	1	1	1	1	1	2	1	1	1	1	1	**P**	**P**	**P**	**N**	**C**	**C**	1	1	1	3	2	3	3	3	1.4	20
29	4	3	4	4	4	2	2	2	3	1	**C**	**IZS**	5	2	2	2	1	2	1	1	3	2	2	2	5	2.5	24
30	1	2	3	3	2	2	3	4	4	4	**IZS**	2	2	2	2	2	2	1	1	1	2	2	2	2	4	2.2	24
HOURLY MAX	4	4	5	5	5	5	6	5	4	19	57	3	10	4	5	4	2	3	4	4	6	4	4	4			
HOURLY AVG	1.9	1.8	2.1	2.2	2.3	2.2	2.3	2.0	2.0	2.1	3.5	1.3	1.9	1.6	1.4	1.4	1.3	1.4	1.5	1.4	2.0	1.9	2.0	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

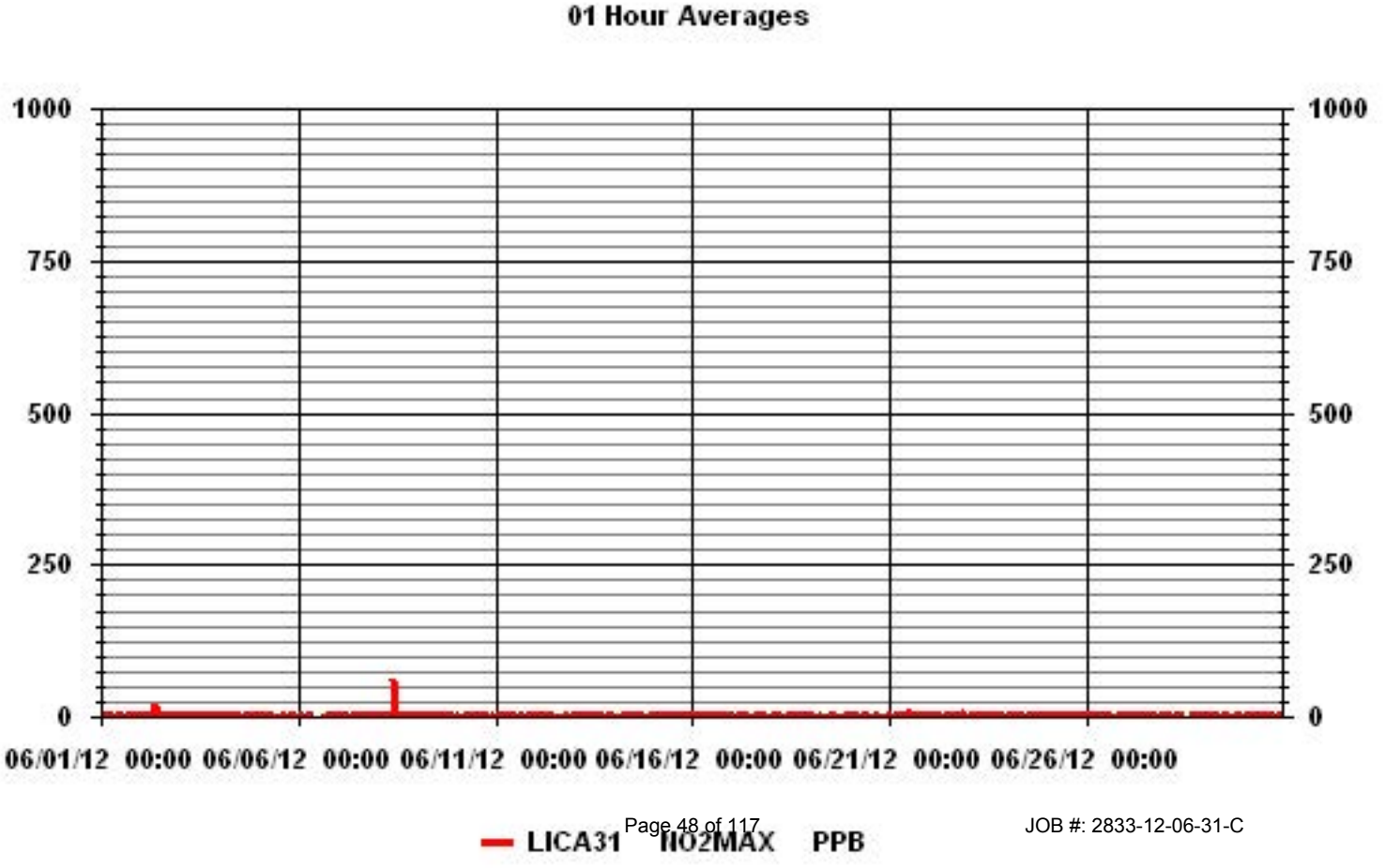
NUMBER OF NON-ZERO READINGS: 657

MAXIMUM INSTANTANEOUS VALUE: 57 PPB @ HOUR(S) 10 ON DAY(S) 8

IZS CALIBRATION TIME: 29 HRS OPERATIONAL TIME: 713 HRS

MONTHLY CALIBRATION TIME: 14 HRS

STANDARD DEVIATION: 2.46



JOB #: 2833-12-06-31-C

LICA31
NO2_ / WDR Joint Frequency Distribution (Percent)

June 2012

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	6.10	1.63	2.52	8.18	5.05	6.39	6.10	5.95	5.50	4.76	3.72	7.88	7.14	13.39	10.26	5.35	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	6.10	1.63	2.52	8.18	5.05	6.39	6.10	5.95	5.50	4.76	3.72	7.88	7.14	13.39	10.26	5.35	

Calm : .00 %

Total # Operational Hours : 672

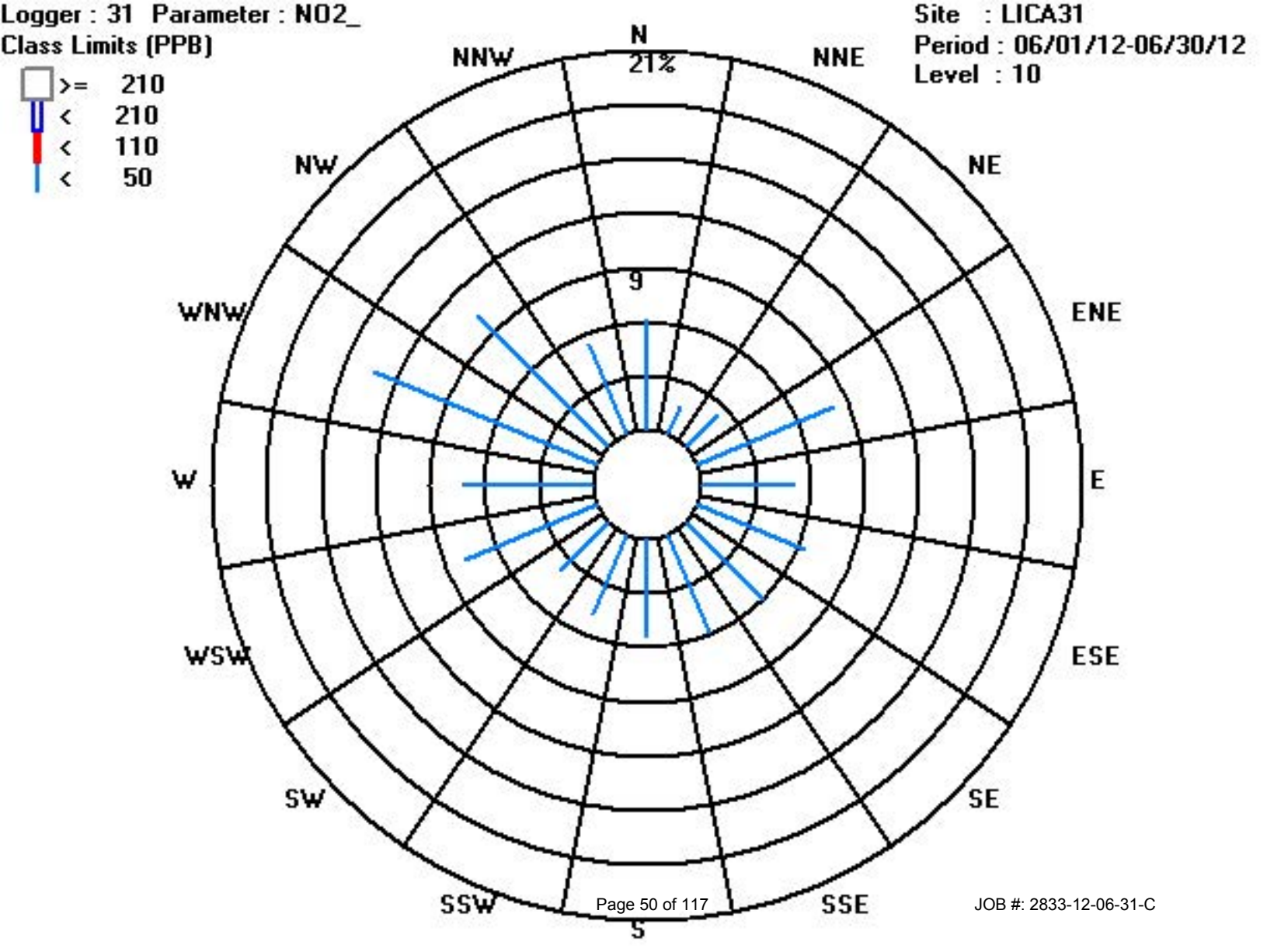
Distribution By Samples

Direction

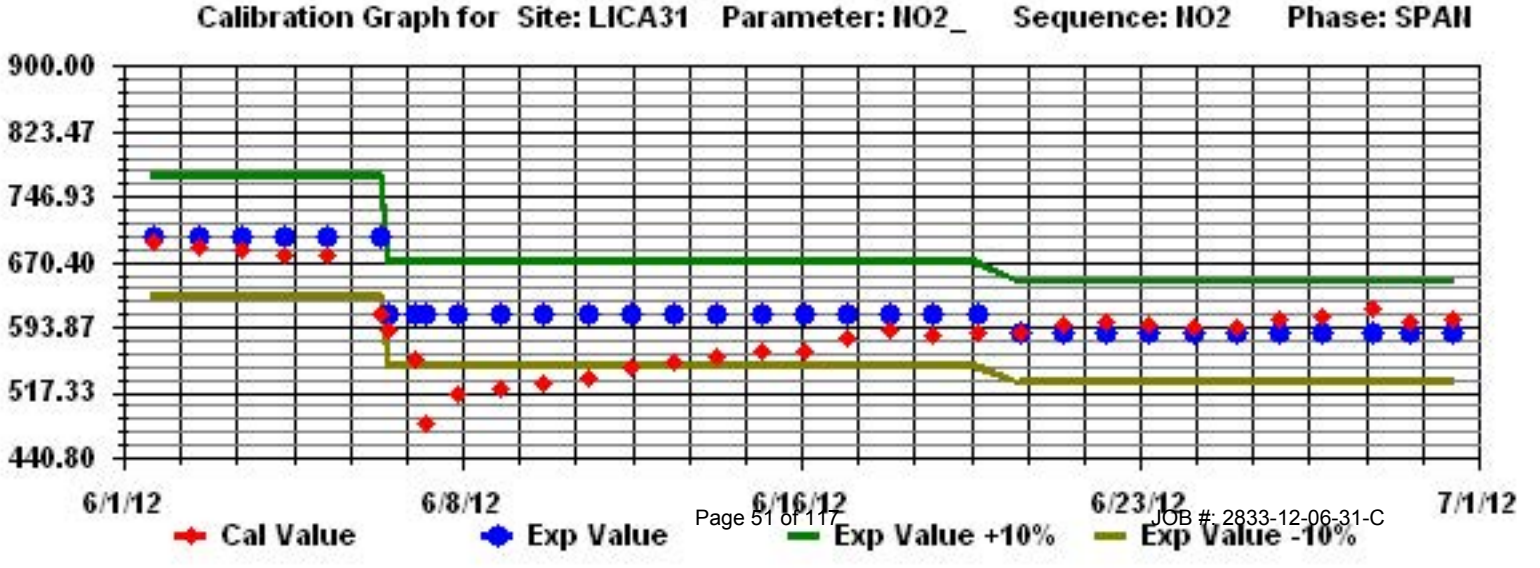
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	41	11	17	55	34	43	41	40	37	32	25	53	48	90	69	36	672
<	110																	
<	210																	
>=	210																	
	Totals	41	11	17	55	34	43	41	40	37	32	25	53	48	90	69	36	

Calm : .00 %

Total # Operational Hours : 672



JOB #: 2833-12-06-31-C


Calibration Graph for Site: LICA31 Parameter: NO2_ Sequence: NO2 Phase: SPAN
900.00
823.47
746.93
670.40
593.87
517.33
440.80
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

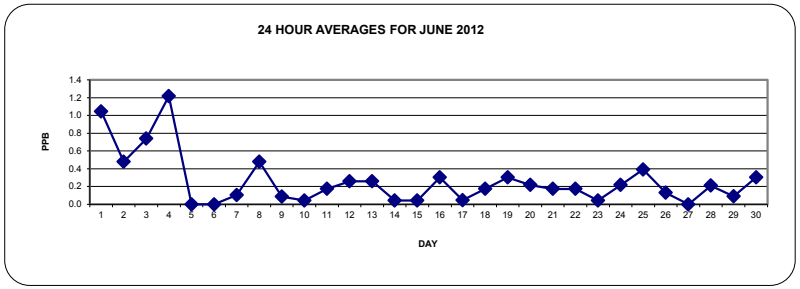
NITRIC OXIDE hourly averages in ppb

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

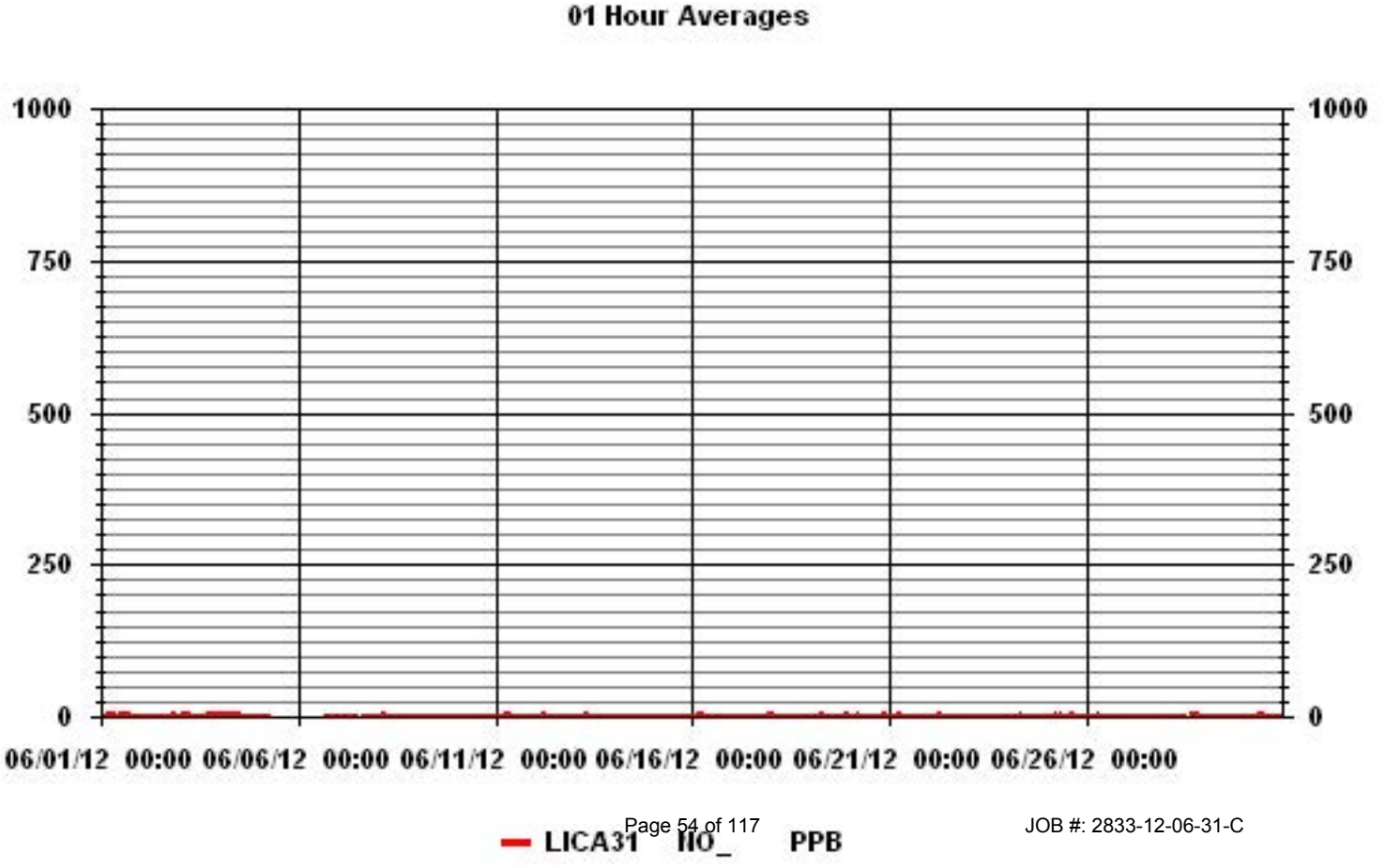
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	139					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	6	ON DAY(S)	1
MAXIMUM 24-HR AVERAGE:	1.2	PPB			ON DAY(S)	4
IZS CALIBRATION TIME:	28	HRS	OPERATIONAL TIME:		688	HRS
MONTHLY CALIBRATION TIME:	14	HRS	AMD OPERATION UPTIME:		95.6	%
STANDARD DEVIATION:	0.59		MONTHLY AVERAGE:		0.27	PPB



JOB #: 2833-12-06-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

JUNE 2012

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

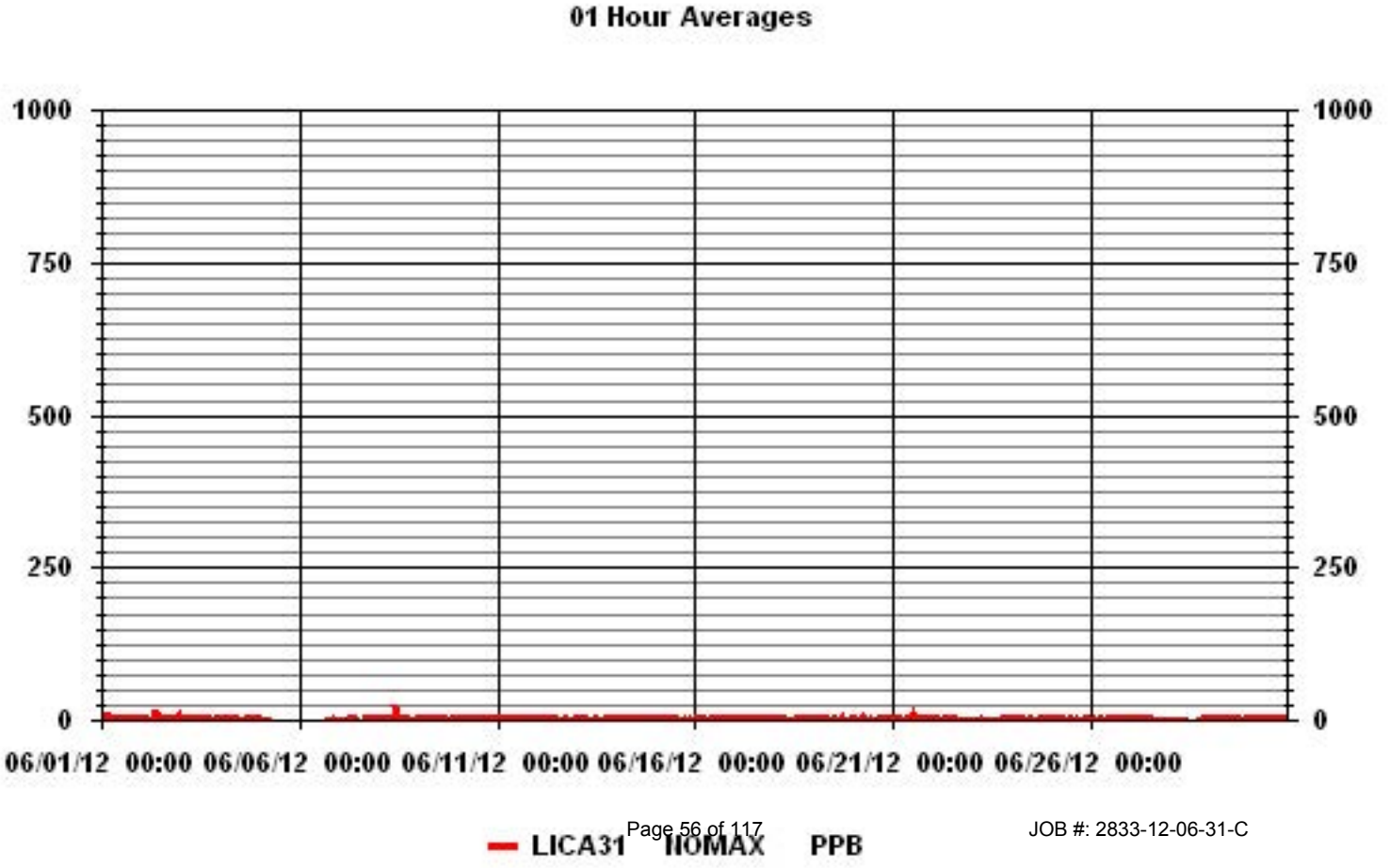
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	1	13	4	4	4	4	3	2	2	2	2	2	2	**IZS**	3	2	1	1	1	1	1	13	2.5	24
2	1	1	1	1	1	1	3	1	1	15	1	1	1	1	1	**IZS**	3	1	3	6	3	3	6	10	15	2.9	24
3	2	4	3	2	5	4	3	2	1	1	0	1	1	1	**IZS**	4	2	2	2	2	1	2	2	2	5	2.1	24
4	2	2	2	2	3	4	4	3	3	2	3	3	2	**IZS**	2	1	1	1	1	1	1	1	1	1	4	2.0	24
5	1	1	0	0	0	1	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	1	0.5	6
6	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	**M**	3	1	0	3	0.7	15
7	0	0	1	0	0	0	1	1	1	1	**IZS**	3	1	**C**	**C**	**M**	**M**	1	1	1	1	1	1	1	3	0.8	22
8	1	1	1	1	1	2	2	2	2	**IZS**	**20**	2	1	1	1	1	1	1	1	1	1	2	1	1	**20**	2.1	24
9	1	1	1	1	1	1	1	1	**IZS**	3	1	1	1	1	1	1	1	1	1	2	1	1	1	1	3	1.1	24
10	1	1	1	1	1	1	1	**IZS**	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.1	24
11	1	1	1	1	4	5	**IZS**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1.3	24
12	1	1	1	1	1	**IZS**	4	4	3	2	1	1	1	1	1	3	1	1	1	1	1	2	1	1	4	1.5	24
13	1	1	1	1	**IZS**	4	1	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	4	1.2	24
14	1	1	1	**IZS**	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.1	24
15	1	1	**IZS**	3	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	0	2	2	1	3	1.2	24
16	1	**IZS**	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.3	24
17	**IZS**	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	3	1.1	24
18	4	1	1	1	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	**IZS**	3	4	1.3	24
19	1	1	1	1	2	2	3	3	1	2	3	1	1	1	1	2	1	5	1	2	1	**IZS**	3	1	5	1.7	24
20	1	1	1	1	2	1	5	1	1	2	1	1	1	3	1	1	1	1	1	1	**IZS**	3	2	1	5	1.5	24
21	1	1	1	1	1	2	2	1	1	1	1	1	8	1	1	1	1	1	1	**IZS**	3	1	1	1	8	1.5	24
22	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	**IZS**	2	3	0	0	0	3	1.1	24
23	0	0	-1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	**IZS**	3	1	1	1	1	1	3	0.4	24
24	1	1	1	1	1	1	1	1	2	2	1	1	1	1	0	1	**IZS**	3	1	1	1	1	1	1	3	1.1	24
25	1	1	1	1	1	2	3	3	2	2	1	1	1	1	2	**IZS**	3	1	2	1	1	1	1	1	3	1.5	24
26	1	0	1	1	2	1	1	2	2	1	1	1	1	3	**IZS**	2	1	1	1	1	1	1	1	1	3	1.2	24
27	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	2	0	0	0	0	0	0	0	0	0	2	0.7	24
28	0	0	0	0	0	1	2	0	0	0	0	**P**	**P**	**P**	**N**	**C**	**C**	2	1	2	1	1	1	1	2	0.7	20
29	1	1	1	1	1	1	1	1	1	1	**C**	**IZS**	3	2	1	1	1	1	1	1	2	1	1	1	3	1.2	24
30	1	1	1	1	1	1	3	3	2	2	**IZS**	3	1	1	1	1	1	1	1	1	1	1	1	1	3	1.3	24
HOURLY MAX	4	4	3	3	13	5	5	4	4	15	20	3	8	3	2	4	3	5	3	6	3	3	6	10			
HOURLY AVG	1.1	1.1	1.0	1.0	1.8	1.8	2.0	1.7	1.5	1.9	1.8	1.3	1.4	1.2	1.1	1.3	1.2	1.3	1.2	1.3	1.2	1.3	1.3	1.3			

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:	593						
MAXIMUM INSTANTANEOUS VALUE:	20	PPB	@ HOUR(S)	10	ON DAY(S)	8	
IZS CALIBRATION TIME:	28	HRS	OPERATIONAL TIME:			687	HRS
MONTHLY CALIBRATION TIME:	14	HRS					
STANDARD DEVIATION:	1.41						



JOB #: 2833-12-06-31-C

LICA31
NO_ / WDR Joint Frequency Distribution (Percent)

June 2012

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	6.33	1.70	2.31	5.25	4.94	6.64	6.33	6.18	5.71	4.94	3.86	8.19	7.41	13.91	10.66	5.56	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	6.33	1.70	2.31	5.25	4.94	6.64	6.33	6.18	5.71	4.94	3.86	8.19	7.41	13.91	10.66	5.56	

Calm : .00 %

Total # Operational Hours : 647

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	41	11	15	34	32	43	41	40	37	32	25	53	48	90	69	36	647
< 110																	
< 210																	
>= 210																	
Totals	41	11	15	34	32	43	41	40	37	32	25	53	48	90	69	36	

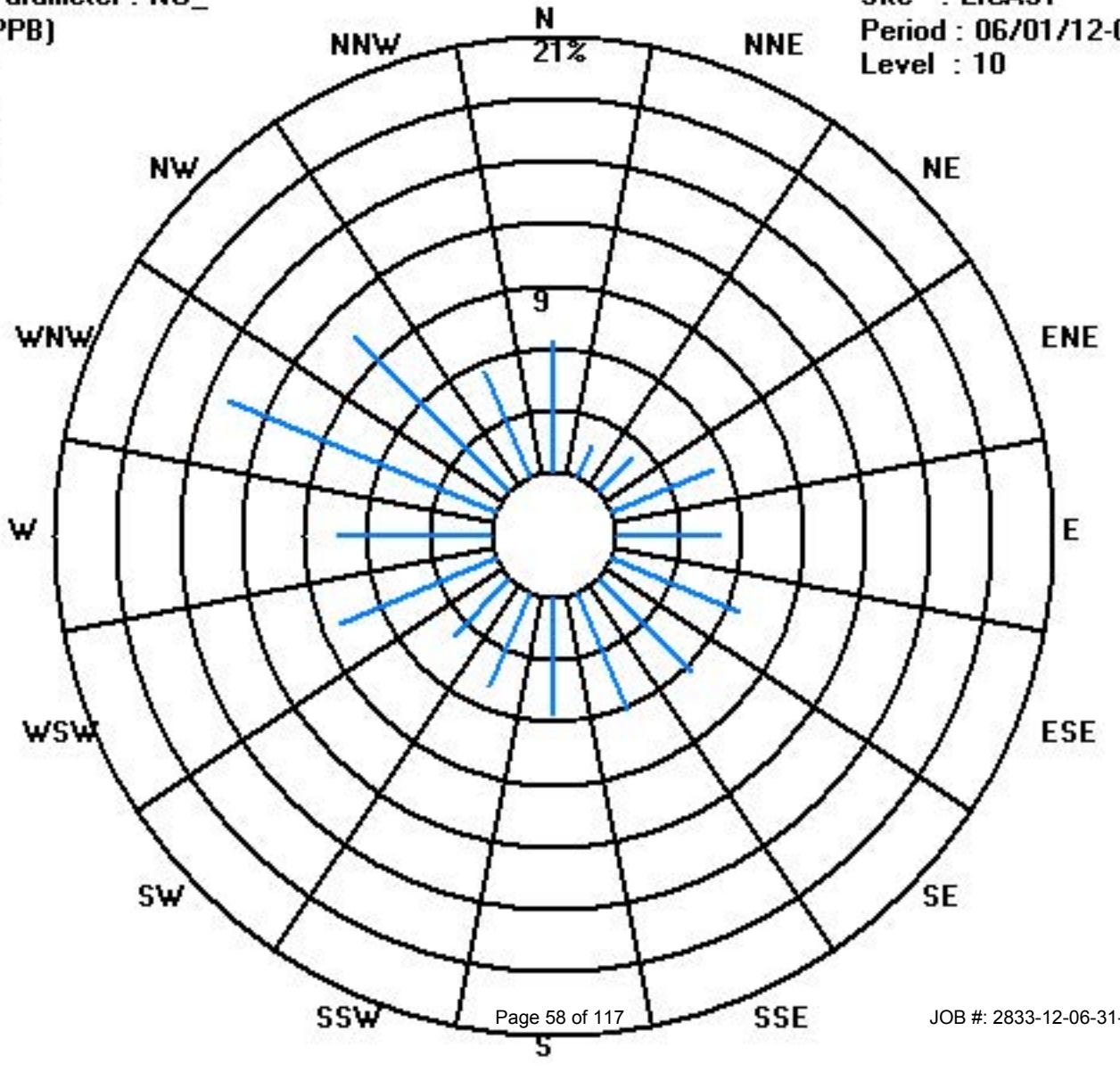
Calm : .00 %

Total # Operational Hours : 647

Logger : 31 Parameter : NO_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA31
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-31-C

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

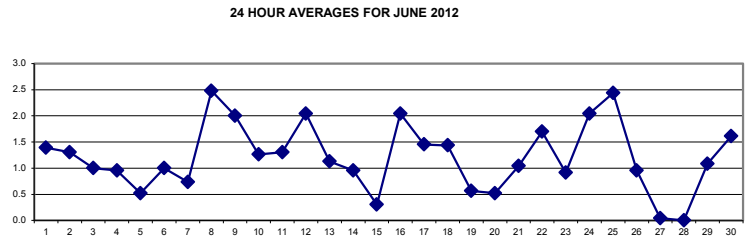
JUNE 2012

OXIDES OF NITROGEN hourly averages in ppb

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	2	2	3	3	3	3	2	1	1	1	1	1	1	1	1	**IZS**	1	1	0	0	0	1	1	3	1.4	24
2	1	2	2	2	2	3	4	2	1	1	0	0	0	0	0	**IZS**	2	1	2	1	1	1	1	1	4	1.3	24
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	2	1	1	1	1	1	1	0	1	2	1.0	24
4	1	1	1	2	1	2	1	1	1	1	1	1	1	**IZS**	1	0	0	0	0	0	1	1	2	2	2	1.0	24
5	1	1	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	1	1	1	1	1	0	1	0.5	24
6	1	1	1	1	0	0	1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	1	1	**M**	2	2	2	2	1.0	23
7	1	1	1	1	1	1	1	1	1	1	**IZS**	1	0	**C**	**C**	**M**	**M**	0	0	0	0	1	1	1	1	0.7	22
8	1	2	2	3	4	5	5	5	4	**IZS**	5	2	1	0	0	1	0	1	4	3	3	2	2	2	**5**	**2.5**	24
9	2	2	2	2	2	2	2	1	**IZS**	3	2	2	2	3	2	2	1	2	2	2	2	2	2	2	3	2.0	24
10	2	1	2	1	1	1	2	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1.3	24
11	3	2	1	2	2	3	**IZS**	2	1	1	0	0	1	1	1	0	1	0	1	1	1	2	2	2	3	1.3	24
12	1	1	2	2	2	**IZS**	5	5	4	2	1	1	1	1	1	1	1	2	2	3	3	2	3	5	2.0	24
13	2	3	3	3	**IZS**	2	1	2	2	1	1	1	1	0	1	1	1	0	0	0	0	0	1	0	3	1.1	24
14	0	0	0	**IZS**	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
15	1	2	**IZS**	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0.3	24
16	1	**IZS**	4	3	3	3	4	3	2	1	1	1	1	2	1	1	1	1	2	2	2	2	3	3	4	2.0	24
17	**IZS**	2	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	**IZS**	2	1.5	24
18	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	2	3	1.4	24
19	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	1	0	0	0	**IZS**	1	1	1	0.6	24
20	0	1	1	1	1	1	2	0	0	1	0	0	0	0	0	0	0	0	0	0	**IZS**	1	2	1	2	0.5	24
21	1	1	0	1	2	4	3	2	1	0	0	0	0	0	0	0	0	0	0	**IZS**	2	2	2	3	4	1.0	24
22	3	3	2	2	3	3	3	3	2	2	1	1	1	1	1	1	1	1	**IZS**	1	2	1	1	0	3	1.7	24
23	0	0	0	1	2	3	2	2	1	0	0	0	0	0	0	0	0	**IZS**	2	1	2	2	2	1	3	0.9	24
24	2	2	2	2	3	3	3	3	4	3	2	1	1	1	1	1	**IZS**	2	1	2	2	2	2	2	4	2.0	24
25	2	2	3	3	3	4	4	5	5	4	3	2	2	2	3	**IZS**	2	1	1	1	1	1	1	1	5	2.4	24
26	1	1	1	1	1	1	1	2	2	1	1	1	1	1	**IZS**	1	1	1	1	0	0	1	1	0	2	1.0	24
27	0	0	0	0	0	0	0	0	1	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	**P**	**P**	**N**	**C**	**C**	0	**N**	**N**	**N**	**N**	**N**	**N**	0	0.0	15
29	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**C**	**C**	4	2	1	1	1	1	0	1	1	0	0	1	4	1.1	14
30	0	1	2	2	2	1	3	5	4	3	**IZS**	2	1	1	1	1	1	1	1	1	1	1	1	1	5	1.6	24
HOURLY MAX	NA	3	4	3	4	5	5	5	5	4	5	2	4	3	3	2	2	2	4	3	3	3	3	3			
HOURLY AVG	NA	1.4	1.4	1.6	1.6	1.9	2.1	1.9	1.7	1.2	1.0	0.8	0.9	0.9	0.8	0.8	0.8	0.7	1.0	0.9	1.1	1.2	1.3	1.3			

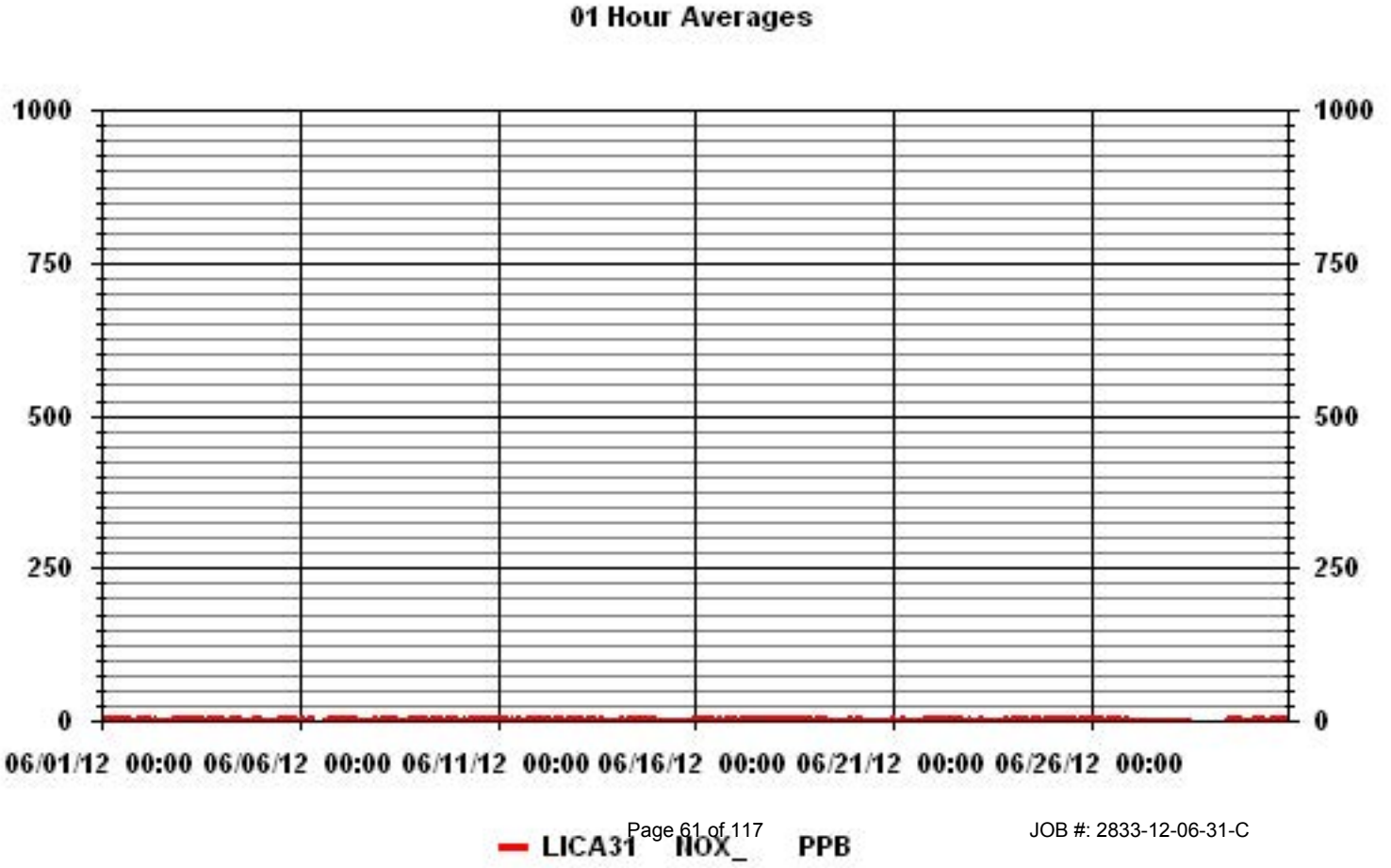
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:			500				
MAXIMUM 1-HR AVERAGE:			5	PPB	@ HOUR(S)	VAR	ON DAY(S) 8
MAXIMUM 24-HR AVERAGE:			2.5	PPB			ON DAY(S) 8
IZS CALIBRATION TIME:	28	HRS		OPERATIONAL TIME:			698 HRS
MONTHLY CALIBRATION TIME:	15	HRS		AMD OPERATION UPTIME:			96.9 %
STANDARD DEVIATION:	1.04			MONTHLY AVERAGE:			1.23 PPB



JOB #: 2833-12-06-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

JUNE 2012

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	3	3	4	5	5	4	3	2	2	2	2	2	3	3	2	**IZS**	3	2	1	1	1	1	2	5	2.6	24
2	2	3	3	3	3	4	7	3	3	30	1	1	1	2	1	**IZS**	3	2	3	4	2	2	1	2	30	3.7	24
3	1	1	2	1	2	1	1	1	1	1	2	2	2	2	**IZS**	3	2	1	1	1	1	2	1	1	3	1.4	24
4	1	2	2	3	2	3	2	2	2	1	2	2	1	**IZS**	2	1	1	1	1	1	1	2	3	2	3	1.7	24
5	2	2	1	1	1	1	1	1	0	0	0	0	**IZS**	2	2	1	2	1	1	1	1	1	2	1	2	1.1	24
6	1	1	2	2	1	1	2	2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	2	2	**M**	3	3	2	3	1.8	23
7	2	1	2	2	2	2	2	2	2	2	**IZS**	2	1	**C**	**C**	**M**	**M**	1	1	1	1	2	2	2	2	1.7	22
8	2	3	3	4	5	5	6	6	5	**IZS**	**76**	3	2	1	1	4	1	3	5	4	5	4	3	3	**76**	6.7	24
9	3	4	3	3	3	3	2	2	**IZS**	4	3	3	3	4	3	2	3	3	3	4	3	3	3	2	4	3.0	24
10	2	3	2	2	2	2	2	**IZS**	2	2	2	1	2	2	2	2	2	2	2	2	2	3	2	3	3	2.1	24
11	5	3	2	4	8	10	**IZS**	3	2	1	1	1	2	1	1	1	1	1	1	1	2	3	3	3	10	2.6	24
12	2	2	3	3	3	**IZS**	9	7	6	4	3	2	2	3	2	5	2	2	3	3	5	6	3	3	9	3.6	24
13	3	4	4	3	**IZS**	4	2	3	3	3	2	2	2	2	2	3	2	2	2	1	1	1	1	1	4	2.3	24
14	1	1	1	**IZS**	4	4	2	2	2	2	2	2	2	2	2	3	2	2	2	2	3	2	2	2	4	2.1	24
15	2	2	**IZS**	2	1	1	1	2	2	1	1	1	1	1	1	1	2	0	1	1	1	4	4	2	4	1.5	24
16	2	**IZS**	5	6	6	3	4	4	3	2	2	2	2	2	2	2	2	2	3	3	3	3	3	4	6	3.0	24
17	**IZS**	3	2	3	3	3	3	3	3	3	3	2	2	3	3	2	2	2	2	2	2	2	2	**IZS**	3	2.5	24
18	4	3	3	2	3	3	3	3	3	2	2	3	2	2	2	2	2	2	2	2	2	2	**IZS**	3	4	2.5	24
19	3	2	2	1	2	4	4	4	1	2	3	2	1	1	1	3	1	7	1	4	1	**IZS**	2	2	7	2.3	24
20	1	2	1	2	2	2	6	1	1	3	1	1	1	4	2	1	1	1	1	1	**IZS**	3	2	2	6	1.8	24
21	2	2	1	2	4	4	4	3	2	1	1	1	15	1	1	1	1	1	1	**IZS**	3	3	3	4	15	2.7	24
22	4	4	4	3	4	4	5	4	4	3	2	2	2	2	2	2	2	3	**IZS**	2	9	2	2	2	9	3.2	24
23	1	1	1	1	3	4	3	2	2	1	1	1	1	0	1	1	1	**IZS**	3	2	3	2	2	2	4	1.7	24
24	3	3	3	3	3	4	4	4	5	4	3	2	2	2	2	2	**IZS**	3	2	2	3	3	3	3	5	3.0	24
25	3	3	4	4	4	5	6	6	6	6	5	3	3	3	7	**IZS**	3	3	4	2	3	3	2	2	7	3.9	24
26	2	2	2	2	3	2	3	4	3	3	3	3	2	6	**IZS**	2	2	1	1	2	1	2	1	1	6	2.3	24
27	1	1	1	1	2	1	1	1	2	1	1	1	1	**IZS**	2	1	1	1	0	1	1	1	1	1	2	1.1	24
28	1	1	1	1	1	3	3	1	1	0	1	**P**	**P**	**P**	**N**	**C**	**C**	**1**	**N**	**N**	**N**	**N**	**N**	**N**	3	1.3	14
29	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**C**	**C**	7	3	2	2	2	2	2	2	3	2	1	2	7	2.5	14
30	1	2	3	2	3	2	5	6	5	4	**IZS**	3	3	3	2	2	1	2	1	1	2	2	2	2	6	2.6	24
HOURLY MAX	5	4	5	6	8	10	9	7	6	30	76	3	15	6	7	5	3	7	5	4	9	6	4	4			
HOURLY AVG	2.1	2.3	2.4	2.5	3.0	3.2	3.5	3.0	2.7	3.3	4.8	1.9	2.5	2.3	2.0	2.0	1.8	1.9	1.9	2.0	2.4	2.5	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

MONTHLY SUMMARY

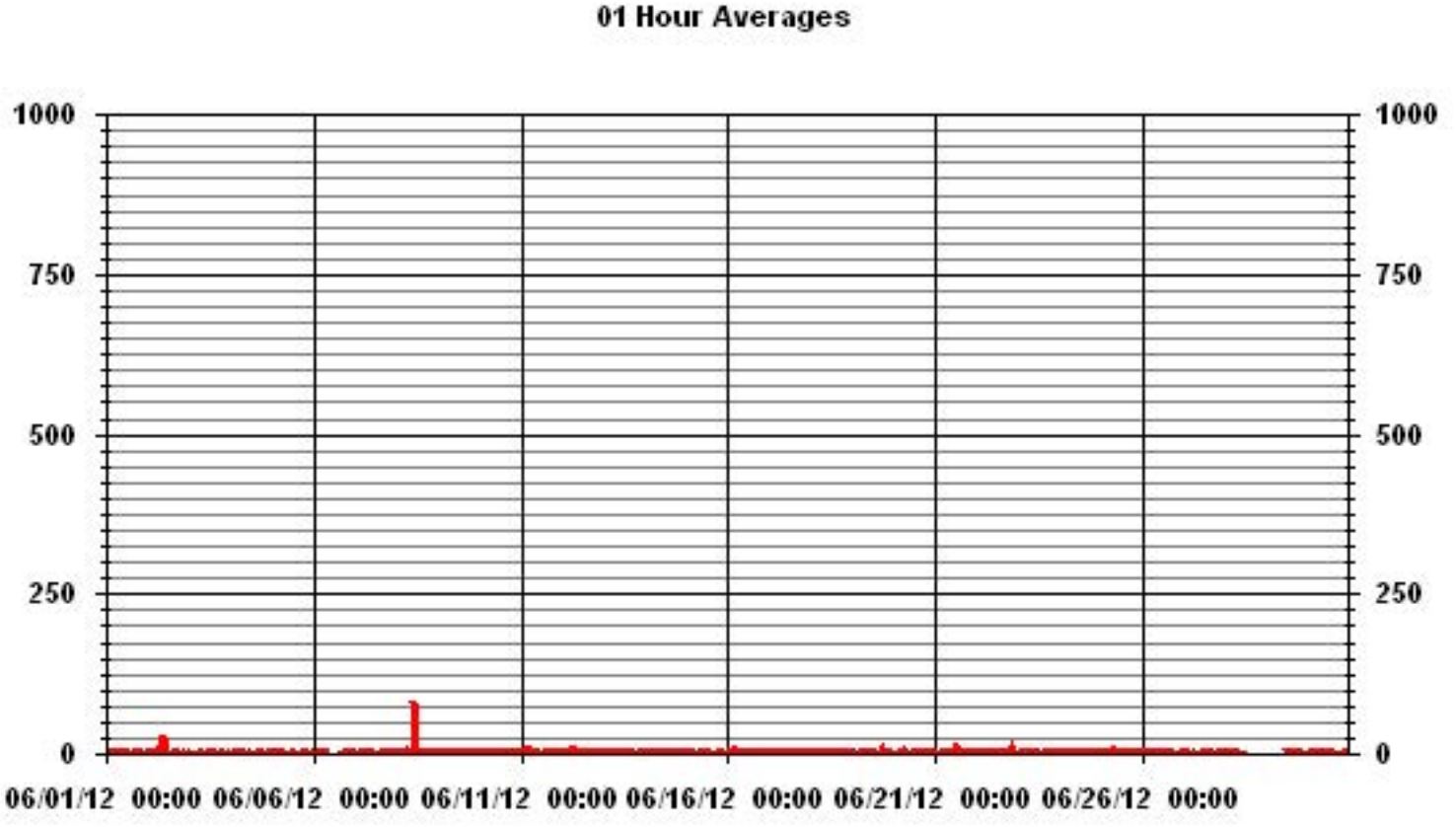
NUMBER OF NON-ZERO READINGS: 646

MAXIMUM INSTANTANEOUS VALUE: 76 PPB @ HOUR(S) 10 ON DAY(S) 8

IZS CALIBRATION TIME: 28 HRS OPERATIONAL TIME: 697 HRS

MONTHLY CALIBRATION TIME: 15 HRS

STANDARD DEVIATION: 3.39



JOB #: 2833-12-06-31-C

LICA31
NOX_ / WDR Joint Frequency Distribution (Percent)

June 2012

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	6.25	1.67	2.59	8.38	5.03	6.55	6.25	6.09	4.87	4.26	3.50	7.62	7.16	13.71	10.51	5.48	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	6.25	1.67	2.59	8.38	5.03	6.55	6.25	6.09	4.87	4.26	3.50	7.62	7.16	13.71	10.51	5.48	

Calm : .00 %

Total # Operational Hours : 656

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	41	11	17	55	33	43	41	40	32	28	23	50	47	90	69	36	656
< 110																	
< 210																	
>= 210																	
Totals	41	11	17	55	33	43	41	40	32	28	23	50	47	90	69	36	

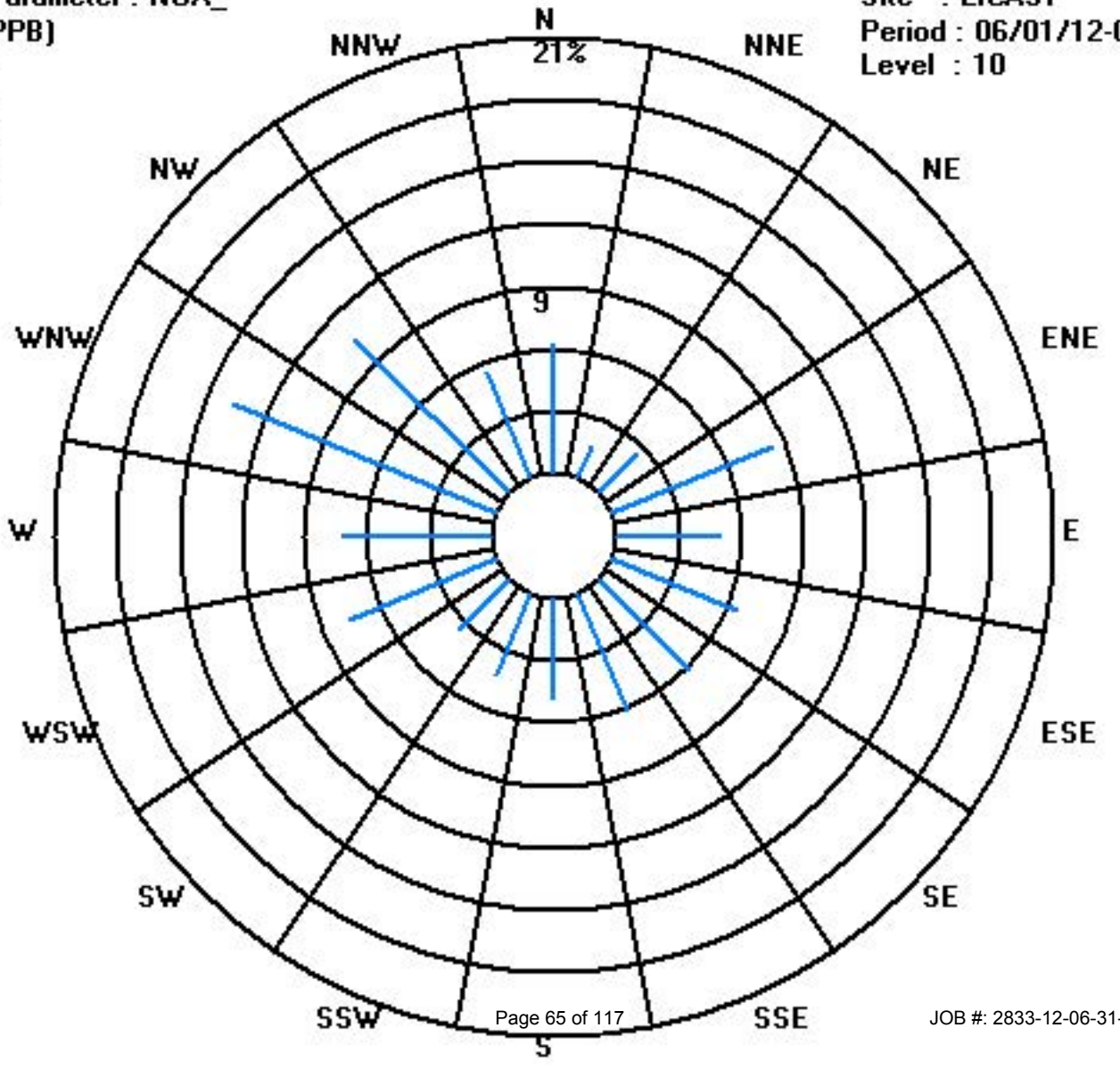
Calm : .00 %

Total # Operational Hours : 656

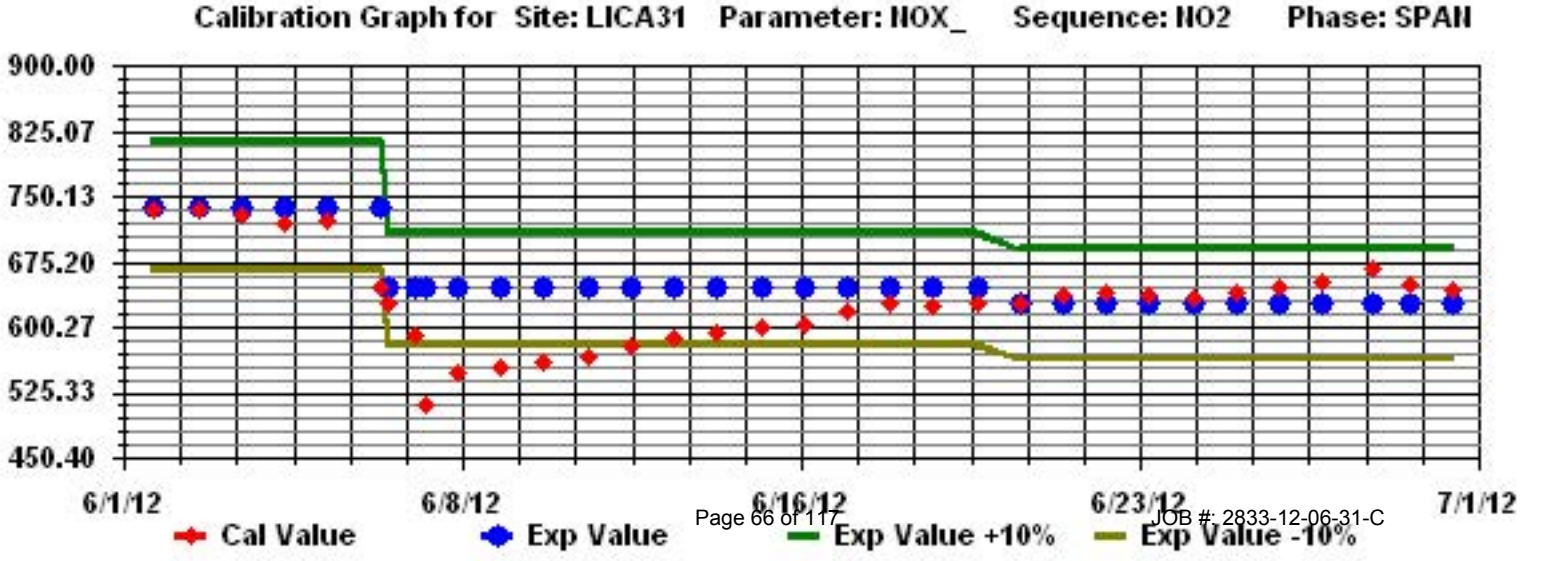
Logger : 31 Parameter : NOX_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA31
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-31-C


Calibration Graph for Site: LICA31 Parameter: NOX_ Sequence: NO2 Phase: SPAN
900.00
825.07
750.13
675.20
600.27
525.33
450.40
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

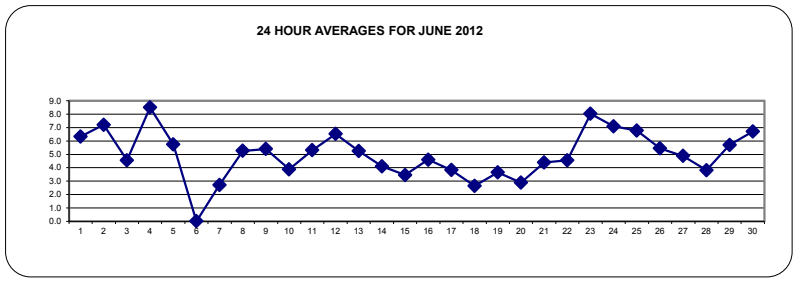
PARTICULATE MATTER 2.5 (PM2.5) hourly averages in ug/m^3

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	6.6	7.1	3	7.1	5.1	10.1	15.1	10.5	2.6	6.6	0	4	7.1	4	4	3.6	5.5	7.1	7.6	8.6	4	7.1	6.1	9.1	15.1	6.3	24
2	16.6	6.6	8.6	8	13.1	10.1	9.1	6.6	4.6	6.1	8.6	2.6	6.6	3	2.1	6.1	5.1	6.6	7.1	7.1	4	9.6	5.5	9.5	16.6	7.2	24
3	4.6	4.6	6.6	4.5	6.1	4	2.6	8	4	10.5	5.5	4	2.1	2.1	3	3.6	8	6.1	7.1	0	2.6	3.6	2.6	3.6	10.5	4.6	24
4	4.6	7.6	6.1	8.6	9.1	9.6	4	8	8.6	11.6	7.1	5.5	7.1	4.6	8	6.1	2.1	7.1	11.6	16	16	**16.6**	10.5	8	**16.6**	**8.5**	24
5	10	7.6	8	6.1	4	4	7.6	4.6	2.1	7.6	4.6	5.1	8	5.5	11	3.6	6.6	4.6	6.6	4	9.6	0	1.5	5.5	11.0	5.7	24
6	3.6	2.6	3.6	5.1	3.6	0	5.1	3.6	6.6	10.1	2.6	6.6	0	5.1	13.6	8	2.6	3.6	8.6	8	2.6	4.1	5.5	8.6	13.6	0.0	24
7	2.6	5.1	4.6	3.6	0	0	7.6	2.6	0	5.5	0	0	0	4	4.6	**C**	2.6	0	3.5	3	3.5	3.5	2.6	3.5	7.6	2.7	24
8	5.5	2.1	0	7.1	2.6	9.6	4	8.6	4.6	4	5.5	10	3.5	5.1	10	8.6	4.6	1.1	7.1	1.5	8	2.6	7.6	3	10.0	5.3	24
9	2.1	7.6	2.1	6.1	5.5	7.6	2.1	8.6	7.6	6	11.5	7.6	7.1	8.6	3	2.1	3.5	5.1	4	5.1	0	4	7.1	5.5	11.5	5.4	24
10	8	6.6	7.1	6.6	5.5	8	8.6	3	5.1	0	0	1.5	3.5	3	0	2.1	3.5	3	5.1	5.1	2.1	2.6	2.1	1.1	8.6	3.9	24
11	1.5	7.1	3	3.5	5.1	5.5	3	3	1.5	1.5	2.1	2.6	5.1	0	8	6	11.5	7.6	6.6	5.5	10.5	11	7	9.1	11.5	5.3	24
12	8.1	9.5	7.6	5.5	13.5	14.6	7	10.1	10.6	9.8	3.2	5.1	3.5	0	0	3	7.6	9.1	8.6	2.6	5.5	0	8	4.1	14.6	6.5	24
13	4.1	3	5.1	4.6	1.1	5.5	6.1	2.5	5.5	8.6	7.4	8.6	8.9	3.7	8.6	3.5	4	5.6	4.6	5.5	6.6	3	2.9	7.1	8.9	5.3	24
14	2.2	7.2	3.8	3.9	5.1	8.3	5.9	3.6	4.2	5.7	3.9	4.8	4.9	2.6	3	0	3.7	4.2	3.9	4.4	4.2	2.6	3.9	2.6	8.3	4.1	24
15	0.3	4.3	4	0.5	1.1	2.8	6.9	4.3	6.8	4.2	2.6	6	0	3.2	4	7.3	5.2	0	3.3	2.8	3.3	4.9	3.4	1.5	7.3	3.4	24
16	1.9	4.6	0.2	1.2	7.8	5.2	4.9	6.5	2.8	2.8	4.5	3	3.5	8	4.8	4.6	4.9	4.3	4.4	6.3	9.2	7.8	2.6	4.6	9.2	4.6	24
17	1.1	4.4	1.9	8.3	3.8	1.9	0.1	2.3	2.7	8	5.5	4	3.4	1.4	8	1.2	3.5	6.7	2.2	2.9	5.3	5.9	4.2	3	8.3	3.8	24
18	4.2	2.4	1.5	1.7	3	0.2	0.4	3.6	4.1	0.9	4	4.3	5.1	0.6	1.9	2.1	1.5	8	3.5	0.2	4.7	3.6	0	2	8.0	2.6	24
19	4.6	4.6	3.6	8	0.8	4.3	5.1	3.5	4	4.6	2.1	3.6	5.9	1.4	4.6	4.4	1.6	7	0	3.1	0	5.1	3.5	2.4	8.0	3.7	24
20	2.6	1.5	0.5	4.6	2.6	2.1	0	5.1	2.5	2.6	2.1	7.4	0.6	2.1	1.5	3.5	3.6	2.6	5.5	3	0.5	2.6	4	6.1	7.4	2.9	24
21	4	5.5	3	10.5	6.6	7.1	5.1	3	5.5	2.1	0	4	6.5	2.6	**N**	2.1	6.1	6.1	5.1	6.1	0	7.6	1.1	1.5	10.5	4.4	23
22	5.5	5.1	4.6	1.5	6	3	4.6	0	7.1	6.1	7.1	4	5.1	8.6	3	3.6	6.1	4	6.1	0.5	7.1	3	3	4.6	8.6	4.6	24
23	4.6	6.6	6.1	6.6	9.5	9.1	10.5	9	7.6	9.5	10.5	6	3.5	6.6	10.5	7.1	3.5	9.1	9	13.6	8.6	9.1	6	10.5	13.6	8.0	24
24	10.5	6.6	8	8	8	5.5	8.6	7.1	7.1	9.5	14.1	7.6	11.1	3	4.6	8	3.5	7.6	4.6	1.1	5.5	8	3	9.5	14.1	7.1	24
25	8.6	10.1	8	6.6	10.5	11.6	12.1	12.1	8.6	8.6	6.5	2.6	0	5.5	0	8.6	8	8	9	3	5.1	0	8.6	1.1	12.1	6.8	24
26	9	6.1	6	5.1	5.1	5.5	5.5	4	4	6.1	5.1	4.6	4.6	1.5	2.1	4.6	8	5.1	8.6	5.5	6.6	3.5	6.6	8	9.0	5.5	24
27	2.1	7.1	6.1	4	4.6	2.6	6.6	6.5	9.5	8	1.1	6.1	4.6	5.1	8	8.6	0	6.6	5.1	6.6	0.5	2.1	1.5	4	9.5	4.9	24
28	0	7.1	6.6	4.6	1.5	2.1	0.5	2.1	1.5	4.6	8.6	2.6	**P**	**P**	2.6	3.5	0	0.5	4.6	4.6	6.1	6	5.1	9	9.0	3.8	22
29	8.6	6.1	5.5	5.1	8	5.1	0	3.5	6.1	3	6.1	9.5	8	4.6	6	10	4.6	2.1	3.5	3.6	4	7.1	10	6.6	10.0	5.7	24
30	0	5.1	12	7.1	4	5.5	6.5	5.1	8	12.5	10	4.6	3.5	4	10	5.5	0.5	3	6.1	10.5	9.5	10	8	10	12.5	6.7	24
HOURLY MAX	16.6	10.1	12.0	10.5	13.5	14.6	15.1	12.1	10.6	12.5	14.1	10.0	11.1	8.6	13.6	10.0	11.5	9.1	11.6	16.0	16.0	16.6	10.5	10.5			
HOURLY AVG	4.9	5.7	4.9	5.5	5.4	5.7	5.5	5.4	5.2	6.2	5.1	4.9	4.6	3.8	5.2	4.9	4.4	5.1	5.8	5.0	5.2	5.2	4.8	5.5			

STATUS FLAG CODES

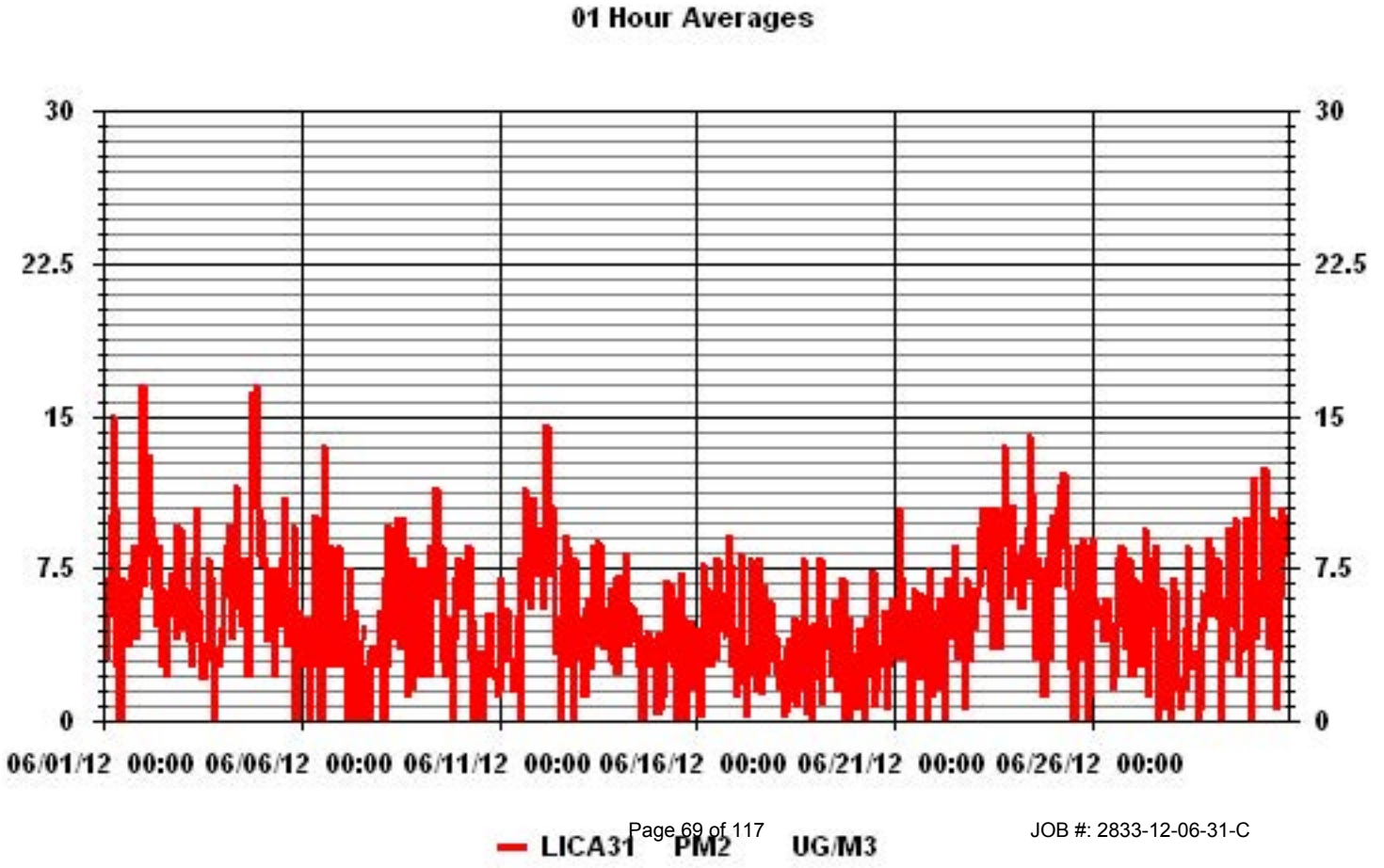
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



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:	677						
MAXIMUM 1-HR AVERAGE:	16.6	UG/M^3	@ HOUR(S)	21	ON DAY(S)	4	
MAXIMUM 24-HR AVERAGE:	8.5	UG/M^3			ON DAY(S)	4	
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		717	HRS	
MONTHLY CALIBRATION TIME:	1	HRS	AMD OPERATION UPTIME:		99.6	%	
STANDARD DEVIATION:	3.05		MONTHLY AVERAGE:		5.15	UG/M^3	



JOB #: 2833-12-06-31-C

LICA31
PM2 / WDR Joint Frequency Distribution (Percent)

June 2012

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	6.14	1.95	2.51	7.96	5.72	6.42	6.14	5.72	5.86	4.60	3.77	7.82	7.12	12.98	10.05	5.16	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	6.14	1.95	2.51	7.96	5.72	6.42	6.14	5.72	5.86	4.60	3.77	7.82	7.12	12.98	10.05	5.16	

Calm : .00 %

Total # Operational Hours : 716

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	44	14	18	57	41	46	44	41	42	33	27	56	51	93	72	37	716
<	60.0																	
<	80.0																	
<	120.0																	
<	240.0																	
>=	240.0																	
	Totals	44	14	18	57	41	46	44	41	42	33	27	56	51	93	72	37	

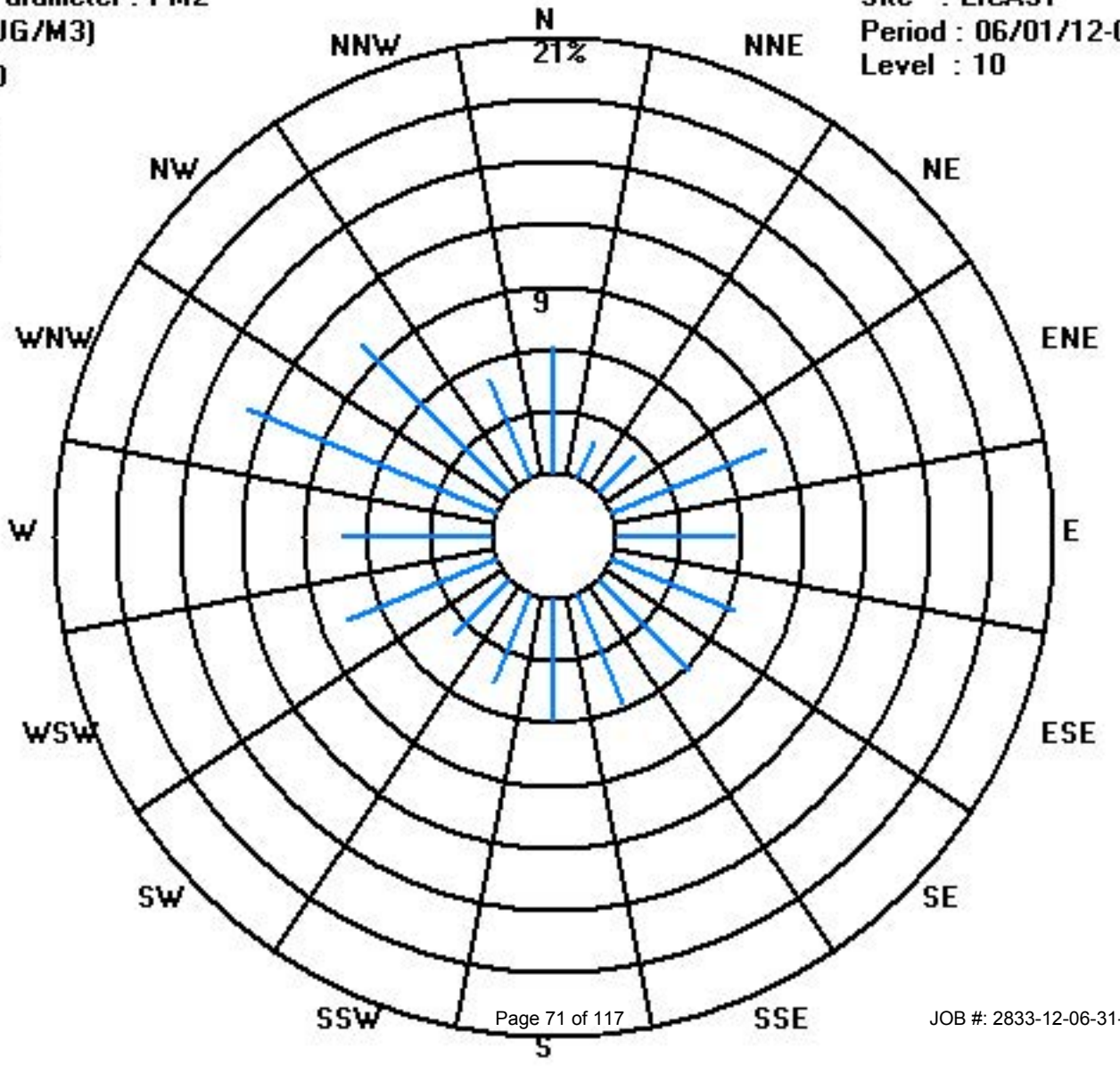
Calm : .00 %

Total # Operational Hours : 716

Logger : 31 Parameter : PM2
Class Limits (UG/M3)

>= 240.0
< 240.0
< 120.0
< 80.0
< 60.0
< 30.0

Site : LICA31
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-31-C

Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

AMBIENT TEMPERATURE hourly averages (Degrees C)

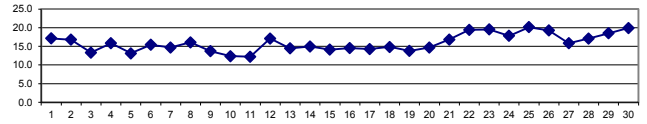
MST

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	10.6	10.3	9.5	8.4	7.4	10	12.3	15.6	18.4	20	20.8	21.6	22.2	22.6	22.7	23.5	22.9	22.6	21.7	19.9	18.1	17.3	16.9	16.1	23.5	17.1	24
2	15.4	14.6	13.3	12.4	12.1	14.9	18.5	20.5	22.3	24.2	25	24.3	20.2	17.4	19.9	20.6	19.4	18.2	16	13.1	11.3	10.7	9.5	9.5	25.0	16.8	24
3	9.4	9.1	8.7	8.1	8	8.1	9	10.2	12.6	14.5	16.2	17.2	17.9	18.5	18.5	18.7	18.6	18.1	16.7	14.7	13.3	11.9	11	10.6	18.7	13.3	24
4	10.2	9.9	9.2	6.9	**6.3**	11.3	14.9	15.9	16.9	18.2	19.3	20	20.7	21.3	21.6	21.6	21.5	21.2	19.5	17.7	15.7	14	13.1	12.8	21.6	15.8	24
5	12.5	11.5	10.4	10.2	10.5	11	11.4	12.2	12.5	12.6	13	13.4	14.4	16	16.2	15.9	16.8	16.1	15.3	14.4	13.6	12	11.7	11.6	16.8	13.1	24
6	11.6	11.6	11.9	11.9	12.2	12.2	12.8	13	14.5	15.1	14.5	17.5	18.2	19.2	19.9	20.4	20.6	20.5	17.9	16.4	15.6	15.1	14.4	13.2	20.6	15.4	24
7	12	10.7	9.4	8.4	7.7	8.5	9.7	10.9	12.3	14.3	16	17.1	18.4	19.2	20.3	20.2	20.1	19.9	19.8	18.5	16.6	15.1	14.3	13.6	20.3	14.7	24
8	12.9	12	11.2	9.3	8.3	9.7	10.8	12.6	13.7	15.2	18.6	22.4	23.7	24.3	22.9	23.5	21.6	20.7	19.5	18	15.3	13.6	12.9	12.6	24.3	16.1	24
9	12.3	11.7	10.3	9.5	9.5	11.3	11.4	13.5	16	18.1	19.5	18.9	18.4	17.3	16.3	15.9	15.6	14.2	12.6	12.2	11.7	11.2	10.8	10.7	19.5	13.7	24
10	10.6	10.9	11.8	12	12	12.3	12.6	13	13.6	13.6	14.3	15.1	15.2	15.5	15.2	14.6	14.3	14.2	12.5	11.6	9.1	7.9	7.8	7.1	15.5	12.4	24
11	7.8	7.2	7	7.4	7.7	8.4	9.2	9.5	10.3	11.8	13	14.1	14.8	14.7	15.8	17.3	17.3	17.9	17.2	15.6	13.2	12	12	12.2	17.9	12.2	24
12	11.5	11	10.6	10.2	10.1	10.8	11.7	15.1	17.6	20.6	21.9	22.7	23.7	23.9	24.6	24	23.8	23.6	19.4	16.8	15.3	13.4	13.9	13.6	24.6	17.1	24
13	13.2	12.3	11.8	11.8	11.1	12.4	12.8	14.3	16.5	20.2	20.2	19.7	21.4	18.3	15.8	14.8	14.2	13.2	13.1	13	12.3	12	11.8	11.7	21.4	14.5	24
14	11.4	10.9	10.3	10	10.2	10.6	11.5	13.9	15.7	16.8	17.4	17.7	17.8	19.6	19.7	20	19.9	19.2	17.9	16	14.8	13.2	12.3	11.7	20.0	14.9	24
15	10.8	10.5	10.4	10.2	10	10.2	10.8	12.6	14.3	15.3	17.1	17.8	17.3	17.6	18.8	19.2	19	18.7	15.8	16	14	12.3	11.1	9.4	19.2	14.1	24
16	8.9	8.8	8.1	7.3	8.4	9.9	12.2	14.6	16.8	17.1	17.7	17.9	17.2	18.3	18.4	17.4	17.8	17.7	18	17.6	16.1	15.1	14.3	13.8	18.4	14.6	24
17	13.5	12.2	11.4	11.6	11.5	11.7	12	12.5	12.6	13	14.6	16.1	17.9	19.6	18	20.7	20.9	20.1	18.9	14	11.9	10.1	9.7	8.7	20.9	14.3	24
18	8.3	8.5	8.2	8	8.1	10.4	12.6	14.4	15.2	16.3	17.7	18.7	19.2	18.2	19.8	20.2	19.9	19.6	18.9	18	16.1	14	13.6	12.4	20.2	14.8	24
19	12.5	12.1	11.2	10.8	10.7	11.2	11.5	14.4	16.1	17.7	15.6	15.5	16.4	17.6	17.6	16.7	16.3	14.1	12.1	13.3	12.6	12	11.8	11.6	17.7	13.8	24
20	11.4	11	9.8	8.9	8.6	10.2	12.8	13.8	13.8	13.9	16.8	19.2	19.4	19.9	13.4	17.9	19.1	19.4	19	17.9	15.9	13.9	13.3	13	19.9	14.7	24
21	12.1	11.9	11.7	9.8	10	12.1	13.2	14.8	16.5	17.6	18.8	19.9	21.1	22.2	22.2	23.1	22.6	21.9	20.9	19.4	17.8	16	14.7	13.7	23.1	16.8	24
22	12.9	12.4	12	11.8	11.8	13.9	15.8	19	21.1	21.9	23.1	23.2	23.7	24.3	24.9	**25.5**	24.9	24.5	23.7	22.3	20.1	17.6	17.2	17.9	**25.5**	19.4	24
23	16.2	15.7	14.8	13	12.6	14.9	16.7	19	21.1	22.4	23	24	24.3	24.6	25.2	24.4	24.1	23.3	21.8	19.9	18.3	17	16.4	16.3	25.2	19.5	24
24	14.6	14.5	14.4	14.3	14.2	13.7	13.5	14	15.9	19.3	21.7	22.8	23.3	23.3	23.1	22.3	20.8	19.9	18.7	17.7	16.6	16	16.5	16.3	23.3	17.8	24
25	16.2	15.3	14.7	14.4	14.4	14.9	17.5	19.7	22.4	23.8	24.6	24.8	24.2	24	24.7	25.4	25.2	23.4	22.3	21.9	19.5	17.7	16.4	16.1	25.4	**20.1**	24
26	14.7	14.3	14.7	13.9	13.9	16.3	18.2	19.4	21.9	22.4	23.2	23	22.5	22.3	22.2	22.4	22.3	22.1	21.1	19.6	18.9	18.1	17.9	17.9	23.2	19.3	24
27	17.3	14.9	13	12.3	12.4	12.6	12	11.4	11.7	12.7	14	17.4	18.8	19.5	20.8	21.1	20.9	20.2	19.2	18.1	16.7	15	14.2	14	21.1	15.8	24
28	13.9	12.8	11.5	10.8	10.4	12	13.6	15	16.7	18.3	19.9	21.1	**P**	**P**	22.6	23.6	23.9	22.9	22.2	21	18.4	16.2	15.6	14	23.9	17.1	22
29	13.8	13.5	13	12.9	13.3	14	14.9	17.6	19.1	21	21.1	21.8	22.1	22.3	24	23.3	23	22.4	21.5	20.6	18.6	17.3	16.7	16	24.0	18.5	24
30	15.3	14.8	12.6	12.5	12.8	15.5	17.6	19.7	21.7	24.1	24.5	25.1	24.8	23.7	22.9	23.6	23.9	23.4	22.8	21.4	20.4	19.1	18.2	17.3	25.1	19.9	24
HOURLY MAX	17.3	15.7	14.8	14.4	14.4	16.3	18.5	20.5	22.4	24.2	25.0	25.1	24.8	24.6	25.2	25.5	25.2	24.5	23.7	22.3	20.4	19.1	18.2	17.9			
HOURLY AVG	12.5	11.9	11.2	10.6	10.5	11.8	13.1	14.7	16.3	17.7	18.8	19.7	20.0	20.2	20.3	20.6	20.4	19.8	18.5	17.2	15.6	14.2	13.7	13.2			

STATUS FLAG CODES

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

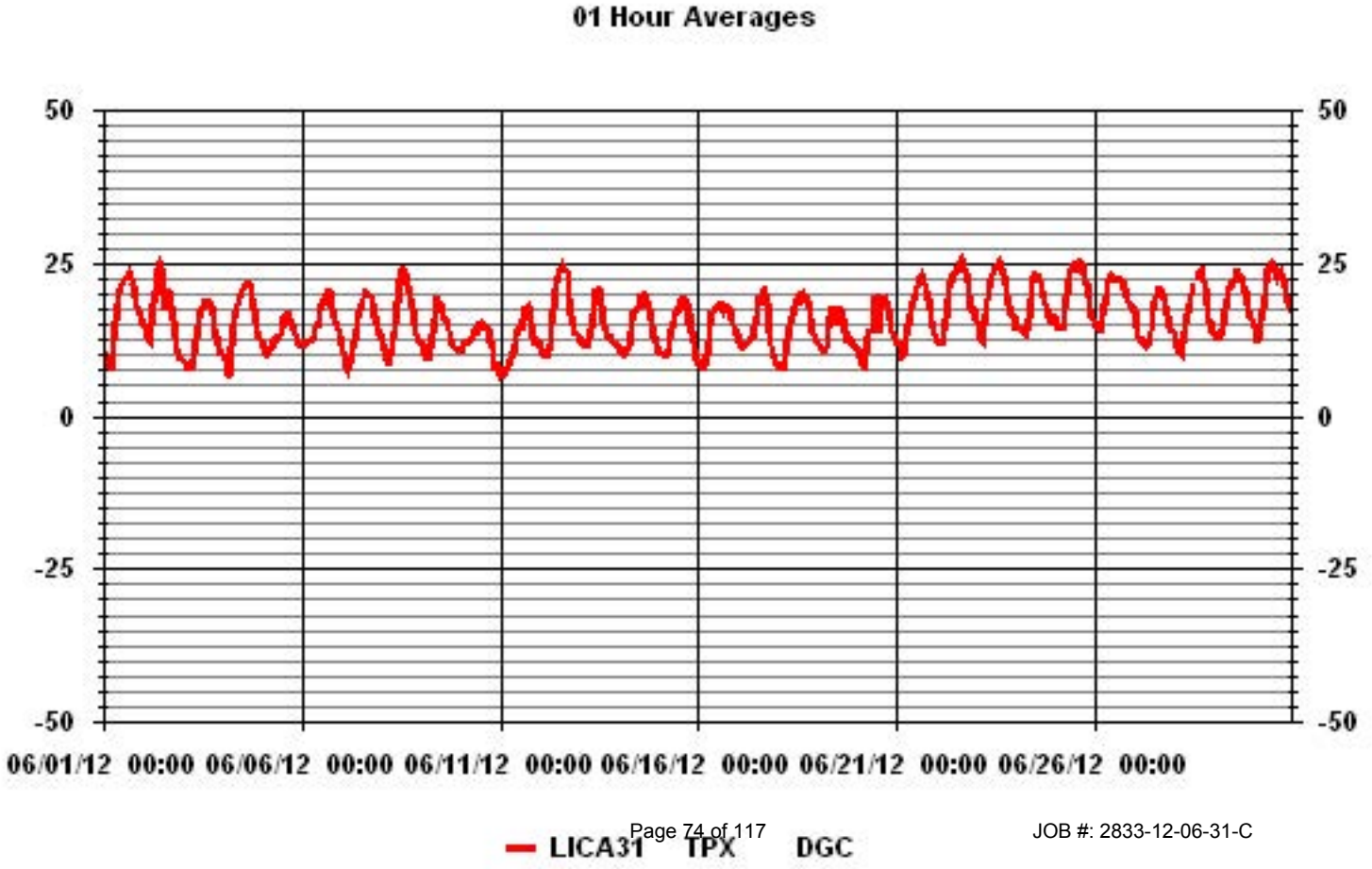
24 HOUR AVERAGES FOR JUNE 2012



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	6.3	^{o}C	@ HOUR(S)	4	ON DAY(S)	4
MAXIMUM 1-HR AVERAGE:	25.5	^{o}C	@ HOUR(S)	15	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	20.1	^{o}C			ON DAY(S)	25

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	718	HRS
			AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	4.50		MONTHLY AVERAGE:	15.93	^{o}C



JOB #: 2833-12-06-31-C

Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

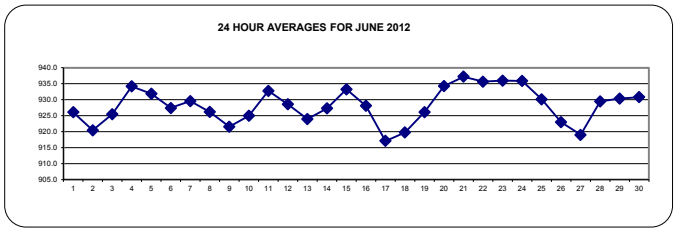
BAROMETRIC PRESSURE hourly averages (millibar)

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	926	926	926	926	925	926	926	927	928	928	928	928	928	928	927	927	927	926	926	925	924	923	923	922	928	926.1	24
2	922	921	921	920	920	920	921	921	922	922	922	922	921	920	920	921	920	920	919	919	919	919	919	919	922	920.4	24
3	920	920	920	920	921	921	922	923	923	924	925	926	927	927	928	929	929	930	930	929	929	929	929	930	930	925.5	24
4	930	930	930	930	930	931	933	934	935	935	936	936	936	936	937	937	937	937	937	936	935	934	934	934	937	934.2	24
5	934	933	932	932	932	932	932	932	932	933	933	932	932	932	932	932	932	932	932	931	931	930	930	930	934	931.9	24
6	929	929	928	927	928	928	927	926	927	927	927	927	927	927	928	928	927	926	927	927	927	928	928	928	929	927.4	24
7	927	927	927	926	927	927	928	928	929	929	930	931	931	932	932	933	932	932	932	932	931	929	929	929	933	929.6	24
8	928	927	927	926	926	926	926	927	927	927	927	928	928	928	927	927	926	926	925	925	924	924	923	923	928	926.2	24
9	922	921	921	921	921	921	921	922	922	923	923	923	923	922	922	922	923	922	921	921	920	920	920	919	923	921.5	24
10	919	919	919	919	920	920	920	921	922	922	923	924	925	926	927	928	929	930	931	932	931	931	931	931	932	925.0	24
11	931	931	931	932	932	932	932	932	933	933	933	934	934	934	934	935	935	935	935	934	932	931	931	931	935	932.8	24
12	931	929	929	928	928	928	928	929	929	930	930	930	930	930	930	929	929	929	929	927	927	926	926	925	931	928.6	24
13	925	924	924	924	923	924	924	924	924	925	925	925	925	924	924	923	923	923	923	923	923	924	924	924	925	923.9	24
14	924	924	924	924	924	925	926	926	927	927	928	928	928	929	929	930	930	930	930	929	928	928	928	929	930	927.3	24
15	928	928	929	929	930	930	931	932	933	934	934	935	935	935	935	936	936	936	936	937	936	935	934	934	937	933.3	24
16	933	933	932	932	931	931	931	932	932	932	931	930	930	928	928	927	926	925	924	924	922	921	920	919	933	928.1	24
17	919	919	918	917	916	916	916	916	917	916	917	917	917	918	917	918	918	918	918	917	917	916	916	916	919	917.1	24
18	916	915	916	916	916	917	917	918	918	919	920	920	921	920	921	922	922	923	924	924	924	922	922	922	924	919.8	24
19	922	922	922	922	922	923	924	924	925	926	926	926	927	927	928	928	929	928	928	929	929	930	930	930	930	926.1	24
20	931	931	931	931	931	932	933	934	935	935	935	936	936	936	935	936	936	936	937	937	936	935	934	934	937	934.3	24
21	934	935	935	934	934	935	936	937	937	938	938	939	939	939	940	940	940	939	940	939	938	936	936	935	**940**	**937.2**	24
22	935	935	935	935	934	935	935	936	937	937	937	937	937	937	937	937	937	936	936	936	935	934	933	933	937	935.7	24
23	933	933	933	932	932	933	934	935	936	936	937	938	938	938	938	938	938	938	938	937	937	937	937	937	938	936.0	24
24	937	937	937	937	937	937	937	937	937	938	938	938	937	937	937	936	935	935	935	934	933	932	932	932	938	935.9	24
25	931	931	930	930	930	931	931	931	932	932	932	932	932	931	931	931	931	930	930	929	928	926	926	925	932	930.1	24
26	925	925	925	924	924	924	925	924	925	925	925	925	925	924	924	923	922	922	922	920	920	919	917	916	925	923.0	24
27	915	915	914	914	914	914	914	914	915	915	917	918	919	920	921	922	923	923	924	925	925	925	925	925	925	919.0	24
28	926	926	926	927	927	927	928	929	929	930	931	931	**P**	**P**	932	932	932	932	932	932	931	930	929	929	932	929.5	22
29	929	929	929	928	928	929	929	930	930	930	931	931	931	931	932	932	932	931	932	932	932	930	930	931	932	930.4	24
30	930	931	930	930	930	930	931	932	932	933	933	933	933	932	932	932	932	931	930	930	929	928	928	927	933	930.8	24
HOURLY MAX	937	937	937	937	937	937	937	937	937	938	938	939	939	939	940	940	940	939	940	939	938	937	937	937			
HOURLY AVG	927	927	927	926	926	927	927	928	928	929	929	929	929	929	930	930	930	929	929	929	928	928	927	927			

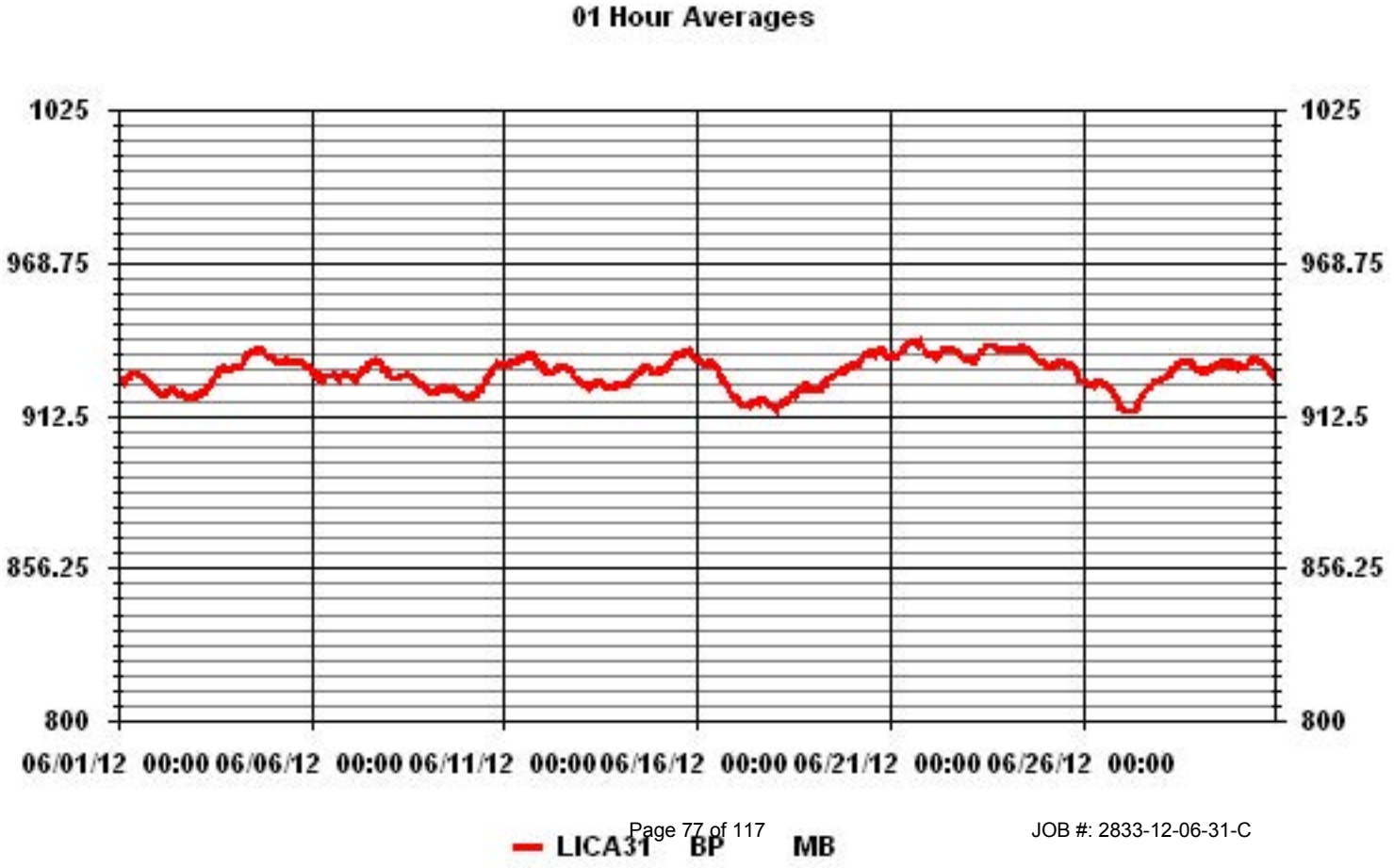
STATUS FLAG CODES

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:	940	MB	@ HOUR(S)	VAR	ON DAY(S)	21
MAXIMUM 24-HR AVERAGE:	937.2	MB			ON DAY(S)	21
				VAR-VARIOUS		
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		718	HRS
			AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	5.89		MONTHLY AVERAGE:		928	MB



JOB #: 2833-12-06-31-C

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

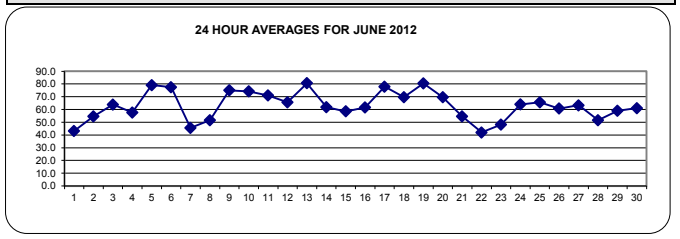
RELATIVE HUMIDITY hourly averages (%)

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	67	69	72	77	80	72	65	54	45	36	28	25	23	23	23	22	23	26	27	30	33	37	37	42	80	43.2	24
2	45	46	50	54	55	48	44	38	33	29	30	29	39	59	50	51	52	56	66	82	89	88	89	89	89	54.6	24
3	88	87	87	86	86	82	78	73	65	58	51	47	45	44	45	44	45	47	50	58	62	65	68	71	88	63.8	24
4	74	75	78	88	90	78	70	66	62	57	50	44	39	36	33	27	29	31	40	52	59	64	68	71	90	57.5	24
5	74	81	88	90	90	89	89	86	83	82	81	78	73	69	67	68	65	68	70	73	76	86	87	86	90	79.1	24
6	85	85	85	85	83	82	81	81	78	76	82	77	73	70	67	65	64	65	79	80	80	84	81	72	85	77.5	24
7	64	58	61	61	62	61	60	57	55	51	45	41	34	32	29	28	29	30	29	35	40	43	44	45	64	45.6	24
8	48	52	55	67	73	71	70	65	59	55	45	33	26	25	27	27	36	43	47	54	59	64	67	71	73	51.6	24
9	71	73	82	86	86	81	81	76	67	60	56	59	61	62	66	65	68	74	84	86	88	89	90	90	90	75.0	24
10	89	88	86	86	87	88	85	81	75	73	70	65	63	62	62	64	64	60	59	59	73	79	80	83	89	74.2	24
11	82	83	86	86	86	83	80	78	76	70	61	60	63	64	60	56	58	57	60	65	73	75	71	72	86	71.0	24
12	83	85	84	84	84	82	82	73	68	60	53	49	42	42	40	41	42	41	55	69	77	83	78	79	85	65.7	24
13	82	83	84	85	88	85	85	79	72	62	64	64	59	65	80	86	84	88	88	88	90	91	91	91	91	**80.6**	24
14	91	91	90	90	90	88	85	76	67	58	54	49	46	40	36	35	35	36	38	46	52	59	65	66	91	61.8	24
15	69	71	73	74	75	75	75	70	66	60	49	43	45	41	39	40	40	39	48	45	56	63	69	79	79	58.5	24
16	80	79	82	86	80	74	67	63	52	46	47	48	47	44	47	52	52	54	54	57	63	65	69	70	86	61.6	24
17	73	84	90	88	89	89	88	87	87	87	83	76	70	62	70	57	56	55	57	72	82	87	88	91	91	77.8	24
18	91	91	90	90	89	81	78	74	70	65	59	56	55	60	51	52	52	52	56	59	68	77	76	80	91	69.7	24
19	82	84	89	87	89	88	88	80	74	68	73	76	74	68	66	67	72	82	87	86	86	87	89	90	90	80.5	24
20	90	90	91	91	90	84	77	75	74	75	65	54	51	49	75	56	52	49	51	56	60	70	72	74	91	69.6	24
21	77	78	78	83	77	70	68	64	60	56	49	45	42	38	37	33	35	34	37	42	46	49	52	58	83	54.5	24
22	62	63	62	62	63	57	56	53	49	41	32	31	28	27	26	26	27	28	26	35	35	44	39	36	63	42.0	24
23	44	46	53	61	66	63	62	56	50	44	40	37	35	36	34	35	35	35	40	50	57	58	59	58	66	48.1	24
24	66	67	67	70	71	75	80	81	78	67	54	47	44	45	46	48	47	47	51	64	73	79	83	85	85	64.0	24
25	85	88	91	**92**	**92**	91	82	72	61	49	43	42	44	47	48	47	49	54	58	54	64	72	76	75	**92**	65.7	24
26	84	85	77	79	71	63	61	61	50	49	44	47	49	53	55	53	53	55	55	61	66	65	62	59	85	60.7	24
27	56	66	76	76	75	71	74	78	75	73	70	62	57	56	52	50	49	50	51	53	55	62	67	65	78	63.3	24
28	63	63	64	65	66	63	58	55	52	50	47	43	**P**	**P**	39	35	33	35	36	41	49	52	58	67	67	51.5	22
29	69	71	73	71	67	65	65	62	59	56	63	58	57	54	47	42	45	48	47	52	58	60	62	65	73	59.0	24
30	65	68	85	82	80	69	67	64	59	49	44	42	43	49	50	52	52	51	56	61	64	69	71	74	85	61.1	24
HOURLY MAX	91	91	91	92	92	91	89	87	87	87	83	78	74	70	80	86	84	88	88	88	90	91	91	91			
HOURLY AVG	73.3	75.0	77.6	79.4	79.3	75.6	73.4	69.3	64.0	58.7	54.4	50.9	49.2	49.0	48.9	47.5	48.1	49.7	53.4	58.8	64.4	68.9	70.3	71.8			

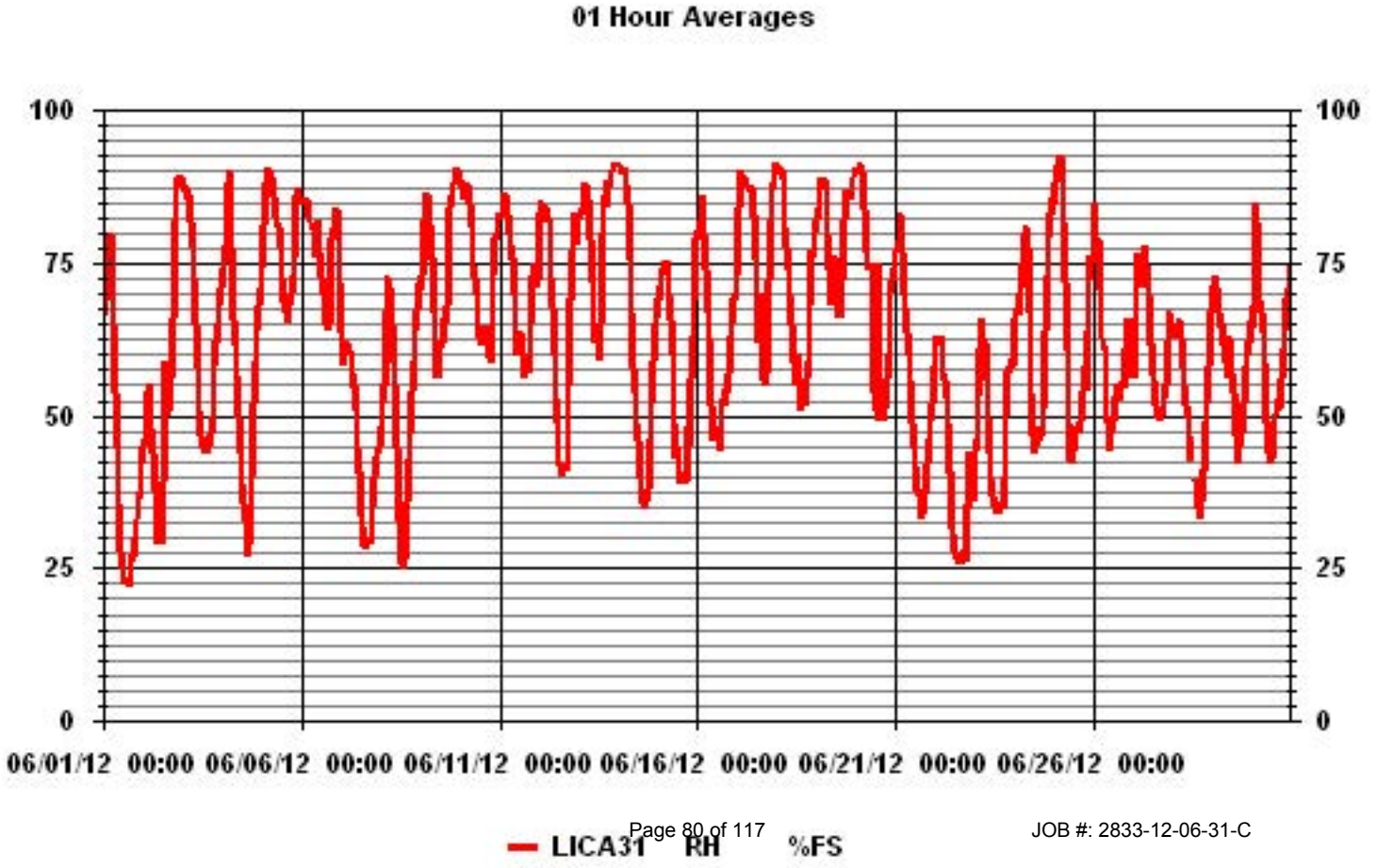
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:		92	%	@ HOUR(S)	3, 4	ON DAY(S)	25
MAXIMUM 24-HR AVERAGE:		80.6	%			ON DAY(S)	13
						VAR-VARIOUS	
CALIBRATION TIME:	0	HRS		OPERATIONAL TIME:		718	HRS
				AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	17.59			MONTHLY AVERAGE:		62.99	%



JOB #: 2833-12-06-31-C

Precipitation

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

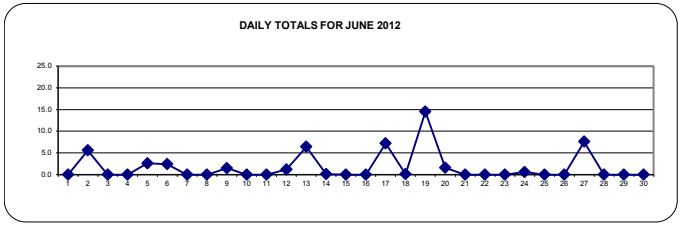
PRECIPITATION hourly averages (mm)

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	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	1.4	4.1	0.1	0	0	4.1	5.6	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.1	0	0	2.1	2.6	24
6	0	0	0	0	0	0	0	0	0	0	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	2.4	2.4	24
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	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	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0.2	0	0.2	0.1	0	0	0.8	1.5	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	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	1.2	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	2.2	0.8	2.4	0.2	0.1	0	0	0	0	2.4	6.4	24
14	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
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	3	1.2	0.1	0	0	0.3	0.7	0	0	1.1	0	0	0	0.2	0	0	0	0	0.5	0	0	0	0.1	3.0	7.2	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	0.1	0.1	0.1	24
19	0.4	2.1	0	0.1	0	0	0	0	0	0	0	0.3	0	0	0	0	0.1	**5.7**	5.5	0.1	0.1	0.1	0	0	**5.7**	**14.5**	24
20	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	1.5	0	0	0	0	0	0	0	0	0	1.5	1.6	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
24	0	0	0	0	0	0.3	0.1	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0.3	0.6	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
27	0.2	1.2	2.8	0.8	0	0.1	1.1	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.8	7.6	24
28	0	0	0	0	0	0	0	0	0	0	0	0	**P**	**P**	0	0	0	0	0	0	0	0	0	0	0.0	0.0	22
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
HOURLY MAX	1.2	3.0	2.8	0.8	0.1	0.3	1.1	1.4	0.0	0.0	2.4	0.3	0.0	0.0	1.5	2.2	0.8	5.7	5.5	1.4	4.1	2.1	0.0	0.1			

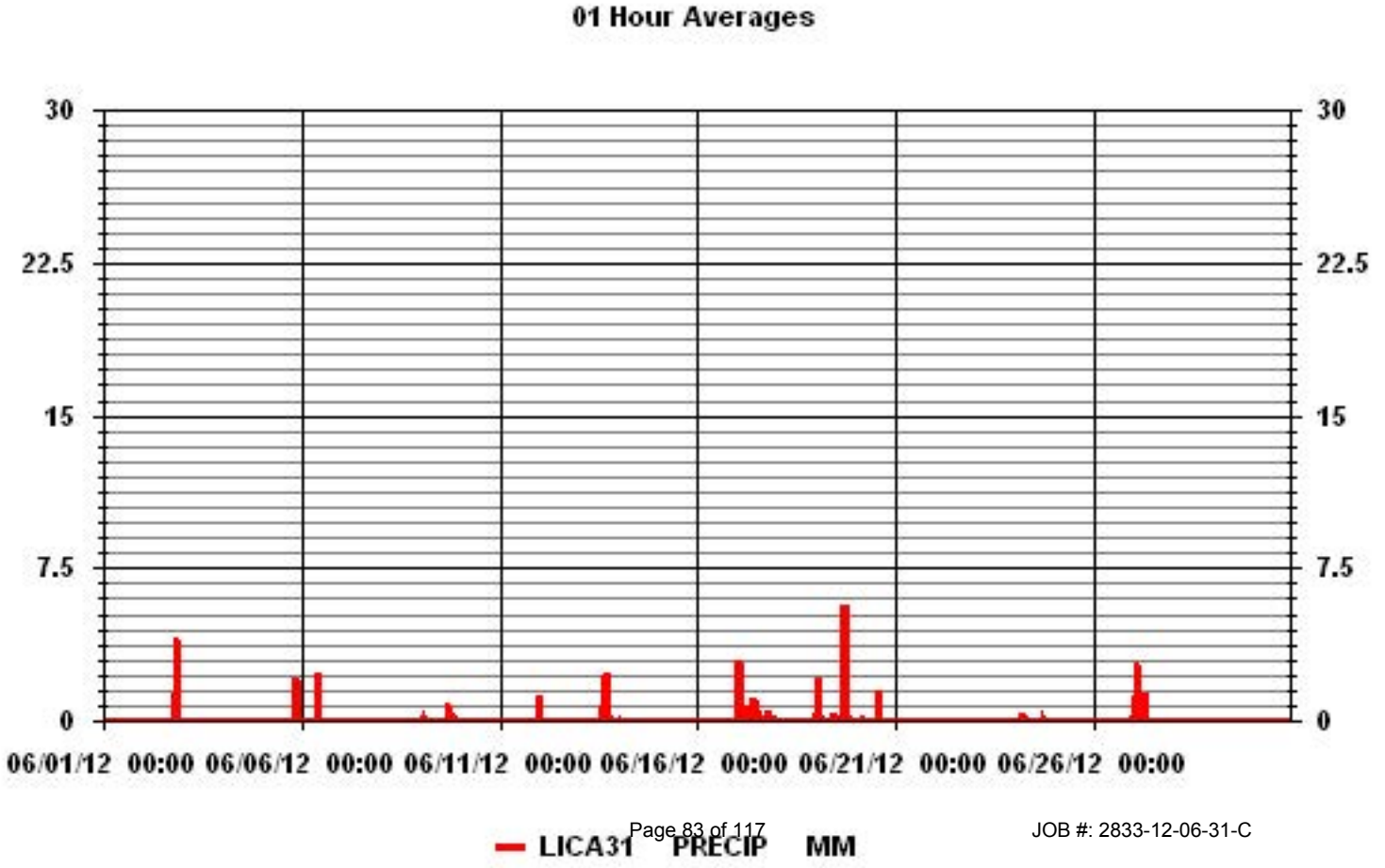
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	5.7	MM	HOUR(S)	17	ON DAY(S)	19
MAXIMUM DAILY TOTAL	14.5	MM			ON DAY(S)	19
MONTHLY TOTAL	51.4	MM				
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		718	HRS
			AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	0.43		MONTHLY AVERAGE:		0.07	MM



JOB #: 2833-12-06-31-C

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2012

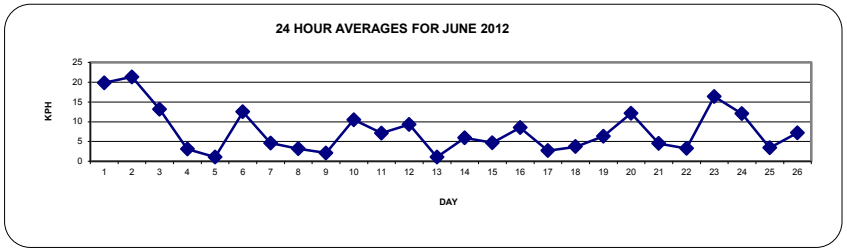
WIND SPEED hourly averages (km/hr)

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	11.1	11.1	11.4	10.4	9.7	10.5	10.4	11.7	9.8	14.4	15.7	17.2	16.4	10.7	15.4	14.6	11.1	7.3	3.7	3.5	6.6	5.8	3.6	4.2	17.2	8.6	24
2	5	8.3	7.4	5.7	6.6	5.3	3.1	3.4	2.3	1.8	4.5	2.5	9.4	14.2	5.8	6.7	9.7	9.8	5.1	12.5	10.3	12.6	14.9	13.9	14.9	0.4	24
3	13.1	14.2	15.6	13.5	12.1	12.6	12.3	13.7	17.4	17.6	18.4	18.1	17.8	15.7	13.4	12.6	10.6	9.7	10.4	7.6	5	6.2	5.7	6	18.4	11.7	24
4	7.4	8.4	9.2	4	6.2	4.1	2.6	5.5	6	5.9	6.2	7.7	8.3	7	5.6	5.8	6	3.2	8.8	11.8	10.2	10.9	12	12.7	12.7	5.1	24
5	14.7	15.5	14.3	16.2	15.1	15.9	15.4	17.3	18.8	16.1	19.3	21.2	24.5	23.8	24.3	22.6	25.1	21.3	22.6	24.1	23.2	22.7	22.6	22.2	25.1	19.8	24
6	23.9	25.1	**28**	26.6	25.9	25	23.2	22.4	21.8	19.6	18.4	22.2	26.3	24.9	26.4	25.5	21	23.6	26.1	21.5	20.4	19.2	15.9	12.8	**28**	**21.3**	24
7	15.9	17.2	17.3	18	18	17.6	15	16.4	17.3	16.9	17.3	18.2	15.7	14.1	11.4	13	9.6	8.2	7.7	7.6	9.6	10.8	11.4	12.3	18.2	13.1	24
8	12.3	9.9	7.6	6.1	8	8	7.2	6.7	8.3	8	5.6	4.9	6.6	3.7	7	5.4	1.6	7.6	7.5	4.6	18.4	17.2	15.8	9.9	18.4	3.1	24
9	6.7	4	3	3.5	3.1	1.6	3.5	3	2.8	4.2	4.6	5.5	5.4	8.4	8.1	6.3	4	4.4	3.9	4	5.6	9.3	9.4	11.6	11.6	1.1	24
10	12.8	10.9	11.6	11.4	12.6	13.4	12.8	15.3	17.8	18.1	17.7	16.2	18	20.6	19.8	22.6	20.2	17.3	14.2	10.5	6.2	4	1.6	3.8	22.6	12.5	24
11	4.5	5	5	4	3.9	5.7	5.7	6.7	5.7	7.2	9	9.1	7.6	5.2	2.6	3.4	4.6	3.7	3.4	7.5	9.5	11.2	12.6	6.4	12.6	4.6	24
12	1.3	9.3	11.3	7.1	4.7	5.9	5.3	6.5	10.1	9.4	10.2	11.3	11.7	8.3	8.6	9	7.4	7.9	9.5	6.1	4.6	3.9	5.6	8	11.7	3.2	24
13	3.8	6.3	4.1	8.4	4.2	3.3	1.6	2.8	2.2	3.8	6.6	6.8	8.3	4.3	7.4	6.4	10.1	8.4	6.4	7.8	6	8.3	7.2	8.8	10.1	2.1	24
14	7.6	9.4	9.5	9	9.6	11.1	9.7	12.7	12.7	14.7	14.8	15.2	14.6	15.3	15.7	13.7	12.3	10.2	8.1	6.9	7.8	7.8	7.6	6.9	15.7	10.5	24
15	7.2	9.1	8.2	8.3	7.8	6.9	6.5	7.3	8.7	8.4	8.9	9.6	9.5	12.4	9.8	10.2	10.7	9.4	11.8	7.1	7.3	4.7	5.7	5.8	12.4	7.1	24
16	6.5	6.2	5.9	6.2	4.5	5.3	7.1	8	11.2	12.1	13.6	14.1	15.4	16.8	16	12.6	13.1	13	12.3	11	7.6	8.4	8.7	8.4	16.8	9.3	24
17	3	8.7	7.5	13.2	6.1	1.8	6.5	4.7	4.8	2.8	4.4	3.9	5.7	4.5	4.3	3.4	3.1	6.2	8.2	10.1	6.5	3.5	5.6	8.3	13.2	1.1	24
18	9.7	7.7	8.2	9.6	11.1	10	11.2	10.7	8.1	9.3	10.4	8.1	12	7.5	7	8.7	8.5	7.8	4.2	1	3.7	5.7	4.6	5.1	12	5.9	24
19	10.2	6.2	3.6	3.9	8.3	9	7.1	5.7	3.9	6.3	7.6	5.1	2.7	3.3	6.3	12.2	8.1	2.4	7	5.6	7.3	7.2	6.5	7.3	12.2	4.7	24
20	7	6.7	7.5	6.7	9	7.6	7	8.9	7.8	7.9	11	9.5	11.8	9.1	9.5	11	10.6	11.1	8.8	7.9	7.5	10.2	11.6	10.8	11.8	8.5	24
21	7.8	7.7	7.3	5.5	7.5	7.9	9	9.5	8.6	8.8	7.2	6	3.1	1.3	1.8	2.2	3.1	2	3.4	6.9	7.6	8.7	9.2	9.2	9.5	2.7	24
22	9.4	9.5	9.1	9.3	8.4	6.9	4.8	3.9	4.2	3.6	4	3.6	4.1	3.4	1.9	3.3	1.6	2	2.6	3.7	4.9	5.9	8.5	8	9.5	3.7	24
23	5.9	4.8	6	6.5	8.6	7.4	7.9	6.1	7	9.7	9.1	7.8	6.9	7.5	5.6	7.4	7.3	7.6	7.5	7.7	8.8	10.2	11.8	12.9	12.9	6.3	24
24	10.6	9.9	9.3	7.9	5.7	6.5	4.9	5.2	8.6	11.9	14.9	18.6	18	18.8	19	18.3	17.4	15.3	16.1	16.9	14	12.5	12	10.2	19	12.1	24
25	11.3	8.9	9.8	9.6	7.1	6	8	12.4	9.1	10.3	11.6	5.8	6.3	3.3	2.5	4.1	2.2	3.1	6.3	6.7	7.2	6.8	5.4	3.3	12.4	4.5	24
26	5.5	9.2	8	6.9	11	8.7	6.7	3.1	4.7	4.2	2.8	1.7	1.3	3.4	1.2	3.3	3.1	1.9	2.9	0.8	3.3	3	1.8	10	11	3.3	24
27	10.5	9.5	11.3	11.6	13.9	13.7	12.7	15.2	16.7	20.1	19.3	16.9	19.2	20.8	22	25.8	25.7	22.1	24.2	21.2	16.7	10.7	10.8	12	25.8	16.3	24
28	11.8	12.2	11.6	10.4	11.3	12.4	15.8	16.1	16.3	17	17.4	19.8	**P**	**P**	11.6	14.6	15	13.5	11.2	8.4	6.5	7.2	6	6.4	19.8	12	22
29	6.1	6	6.8	7.3	8.4	6.9	7.2	5.3	3.8	4.6	5.5	5.8	4.7	6.1	3.7	9.8	9.2	9.6	10.8	7.6	6.5	6.8	6.3	6.6	10.8	3.4	24
30	6.3	6.1	6.5	6.3	6	5.6	5	5.6	5.3	7.1	7.8	9.7	10.8	15.5	14.1	15.2	10.3	9.9	6.8	8.2	9.5	11.3	8.5	9.3	15.5	7.2	24
HOURLY MAX	23.9	25.1	28.0	26.6	25.9	25.0	23.2	22.4	21.8	20.1	19.3	22.2	26.3	24.9	26.4	25.8	25.7	23.6	26.1	24.1	23.2	22.7	22.6	22.2			
HOURLY AVG	9.0	9.4	9.4	9.1	9.1	8.8	8.5	9.1	9.4	10.1	10.8	10.7	11.1	10.7	10.3	11.0	10.1	9.3	9.4	8.9	8.9	9.1	9.0	9.1			

STATUS FLAG CODES

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

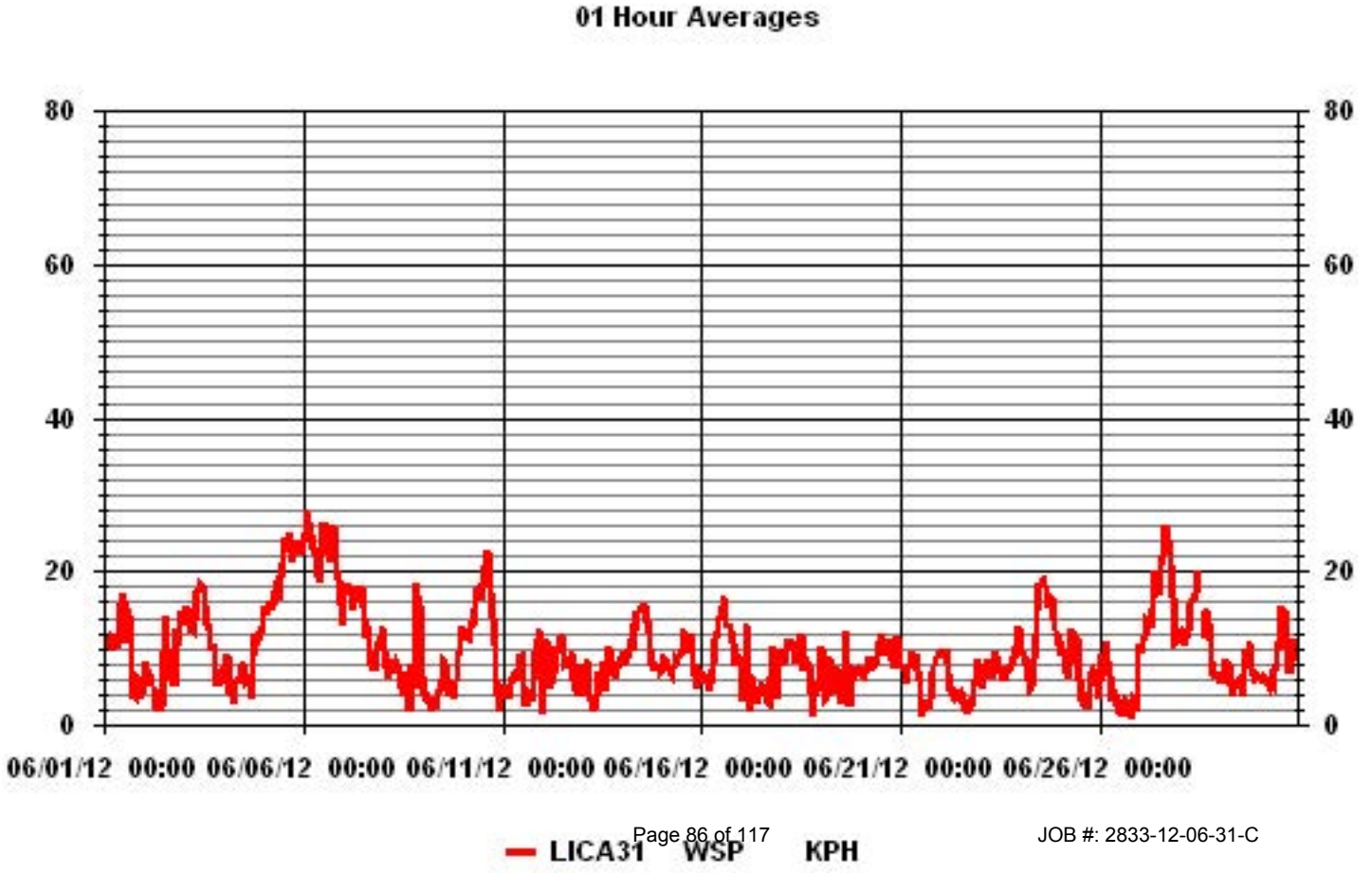


LAST CALIBRATION: May 15, 2012

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	28.0	KPH	@ HOUR(S)	2	ON DAY(S)	6	
MAXIMUM 24-HR AVERAGE:	21.3	KPH			ON DAY(S)	6	
CALMS (≤ 0 KPH)	0.13	%	OPERATIONAL TIME:		718	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:		99.7	%	
STANDARD DEVIATION:	5.42		MONTHLY AVERAGE:		9.59	KPH	

JOB #: 2833-12-06-31-C



JOB #: 2833-12-06-31-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST. LINA*

JUNE 2012

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

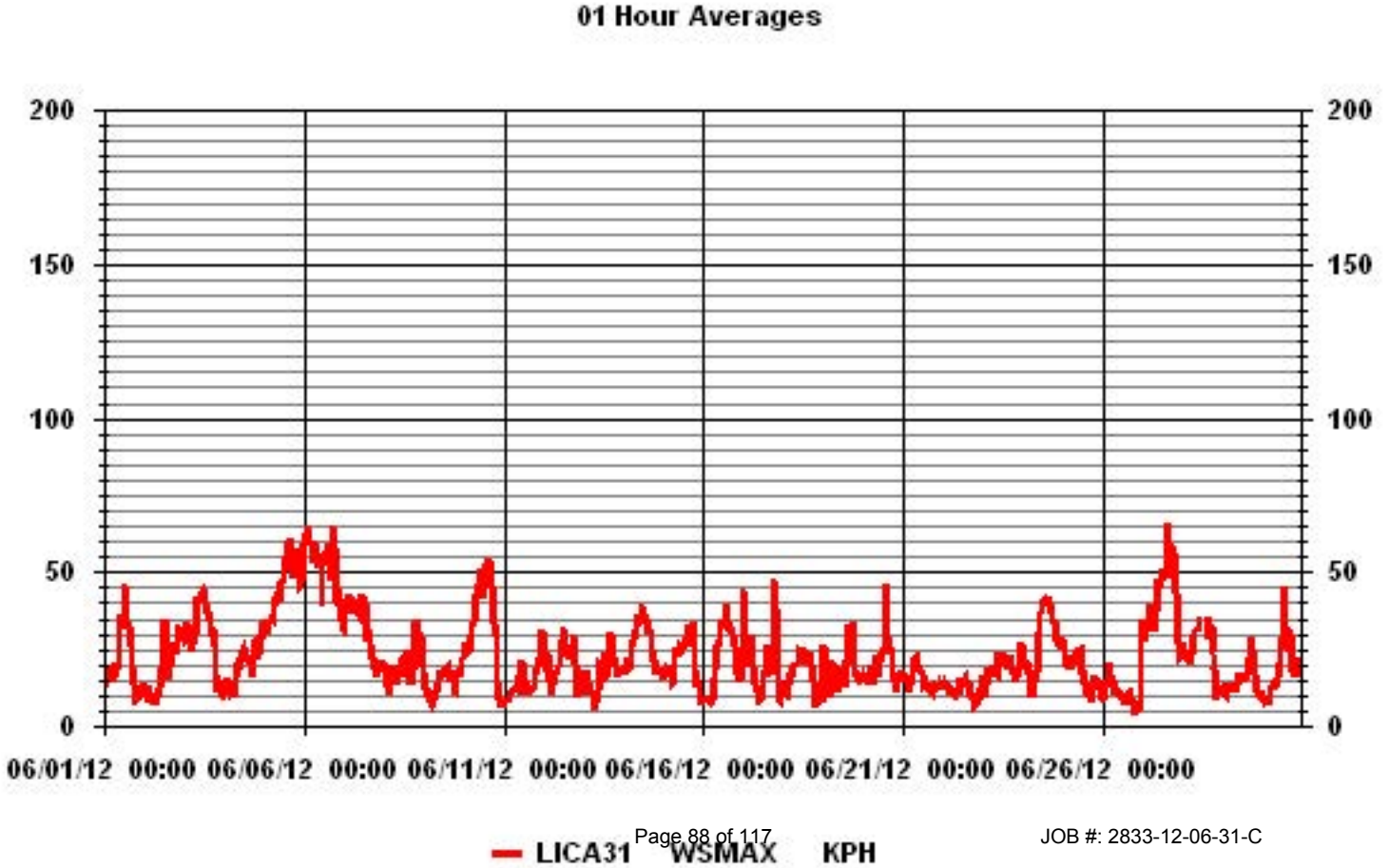
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	16.5	15.6	18.2	19.5	14	15.6	16.3	20.7	18.6	33.1	35.5	35.9	46.4	31.9	34.5	33	26.2	19.3	13.8	8.7	9.1	9.9	12	12.3	46.4
2	14.1	12.5	12.6	7.9	10.6	8.5	7.1	9.4	9.9	12.2	18.5	14.9	35	30.2	14.7	18.8	25.8	27.1	23	27.3	32.9	29.5	32.4	28.7	35
3	27.5	28.2	33.3	30.7	23.9	26.7	28.2	29.6	41	41	42.8	43.9	42.2	39.8	37.5	34.6	29	31.7	26.2	16.9	11.1	14.8	10.4	10	43.9
4	12.8	14.4	15.8	12.8	10.4	11.1	10.9	15.7	19.7	19.6	21.8	24.2	25.4	23.5	21.6	20.3	23	15.8	27.8	28.3	22	23.3	28.1	33.3	33.3
5	31.3	34.4	30.2	33.1	35.2	34.7	39.1	41.4	43.1	40.1	46.4	47.6	51.5	54.8	60	50.7	61.1	48.5	50.4	53.3	57.7	51.2	46.2	47	61.1
6	59.2	62.8	65.2	59.8	59.3	59.4	52.9	59.3	52	0	40	56.2	55	56.3	57.4	59.1	47.4	65	58.7	42.6	43.2	39.7	34.7	31.8	65.2
7	31.3	41.3	36.8	42.6	38.4	42.2	39.3	37.3	36.8	35.9	38.3	42.8	41.7	40.5	29.5	30	27.3	22.8	19.1	15.8	18.1	18.4	21.7	19.7	42.8
8	19.9	18.4	13	10.4	13.2	20.1	16.6	13.8	16.4	18.3	15.6	21.9	22.7	18.8	24.5	22.6	13.2	18.7	18.8	33.3	34.5	31.2	29.6	20.1	34.5
9	17.7	12.8	10	9.1	8.7	7.3	8.7	11.1	14	15	17.8	15.6	18.3	18.2	19.2	16.4	14	18.2	11.3	10.9	17	18.6	15.6	21.9	21.9
10	25.8	25.8	24.2	24.7	29.9	32.8	34.1	42.5	45.6	45.8	51.3	41	44.6	50.8	50.1	54.3	49.8	46.4	33.7	29.9	14.7	9.2	7.3	6.8	54.3
11	6.9	8.3	8.8	8.6	10.8	11.8	11.7	12.5	12.1	16.3	20.5	20.5	18.2	15.2	10.2	13	11.1	12.6	12.8	16.8	19.2	22.3	24.9	31.4	31.4
12	28.1	17.5	23.6	15.3	10.3	12.5	13.3	17	18.1	19.4	22.7	28.3	32.3	26.9	25	21.8	23.1	23.4	29.9	20.5	9.5	19	15.1	15.5	32.3
13	10.3	16.1	18	14.5	11.5	10.7	5.5	7.6	9.8	11.9	20.6	20	23.5	16.3	17	25.4	30.2	21.3	19.6	22.1	15.7	19.1	17.9	18.3	30.2
14	16.7	19.7	22.2	19.1	19.4	25.5	28.1	31.3	32.3	35.9	33.2	39.1	36.9	32.9	35.7	30.8	30.5	25.4	21.8	17.8	18	18.4	17.8	15	39.1
15	16.5	18.3	17.1	19.6	16.7	14.3	15.1	22.4	25.1	22.7	25.9	25.2	26.8	28.1	26.5	32.9	25.6	29.3	33.6	18.9	13.9	14	8.1	8	33.6
16	8.9	9.5	9	8.7	8	8.9	15.6	18.5	26.3	28	34.4	31.7	32.8	34.1	39.5	31.8	30.1	31.6	30.2	26.7	17.6	16	15.7	16.9	39.5
17	44.5	23.4	22.8	24.7	19.3	29.6	20	13.9	11.5	8.7	9	10.6	18	16	26.5	17	18.6	16.4	48	38.6	19	8.5	7.8	13.5	48
18	15	11.3	10.6	13.6	16.4	16.4	19.2	20.2	20.6	24.3	23.4	23	25.8	20.2	24	22.3	23.5	20.2	14.6	6.5	7.8	8.3	10.2	9.8	25.8
19	26.3	19.3	10.3	10.4	16.5	21	13.9	13.2	11.2	19.1	18.7	15.1	14.6	12.7	21.1	33.2	27.5	20	33.5	16.1	18.3	15.3	14.9	15.3	33.5
20	17.1	16.2	15.1	13.8	20	17.1	13.7	22.7	20.9	16.2	20.7	23.5	25.5	43.3	46	29.6	24.1	24.1	18.2	15.2	11.1	14.2	16.7	16.3	46
21	17	15.7	14.7	11.4	13.6	16.7	19.9	21.9	22.4	20.4	18.6	17.4	14.2	15.1	13.8	12.6	13.9	11.9	11	13.3	12.5	12.9	14.6	13.7	22.4
22	12.4	14.5	13.5	13.1	11.1	11.2	10.7	10.3	11.8	11.5	14.6	14.1	15.4	16.3	13.5	15.1	10.3	9.7	11	6.8	7.6	8.4	11.8	13.2	16.3
23	16.2	8.9	13.1	17.5	17.5	15.8	19.7	17.7	17	23.9	22.3	21.7	21.2	23.8	20.3	20.8	21.5	19.1	17.8	14.1	16.9	17.2	23.5	26.8	26.8
24	21.2	18.8	21	17.8	13.4	10.5	9.3	14.4	17.8	30.6	36.8	40.1	39.9	41.2	40.5	40.8	36.5	39.3	33.3	34.3	27.8	29.1	27.1	25.4	41.2
25	29	21.7	22.2	21.1	18.2	20	22.4	23.3	19.7	25.1	25.5	17.9	17.9	14.4	11.6	11.1	10.1	8	15.3	14.8	15.8	15.2	12.7	9.6	29
26	8.1	14.6	13.5	14.6	20.3	16.8	15.5	10	12.5	12.1	10.2	9.3	8.2	8.1	8	9.9	10.5	7.9	7.9	3.5	4.8	5.5	6	29.5	29.5
27	34.2	27.3	32.7	33.1	39.3	38.2	30.9	34.5	37.5	48.1	44.9	47.3	50.2	50.2	49.9	**66**	60.1	58.7	56.6	56.1	43.9	27.5	22.5	23	**66**
28	27.1	25.4	23.8	22	19.7	22.9	29.3	30.7	31.7	30.6	34.3	**P**	**P**	**P**	29.1	35.4	33.1	32.5	23.8	19	9.1	10.2	11.4	11.9	35.4
29	12.6	10.1	9.6	12.1	13.4	11.4	14.1	12	10.8	13.8	16.8	15.1	15.3	16.5	16.3	21.1	22	28.6	25.2	17.6	11.8	10.4	10.6	9.3	28.6
30	10	8.1	8.9	8	8.1	12.6	13.1	14.8	12.2	15.8	20.6	24.5	28.9	45.1	31.6	31.4	23.8	30.3	18.7	15.5	19.4	22.1	19.7	17.2	45.1
PEAK	59.2	62.8	65.2	59.8	59.3	59.4	52.9	59.3	52.0	48.1	51.3	56.2	55.0	56.3	60.0	66.0	61.1	65.0	58.7	56.1	57.7	51.2	46.2	47.0	

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	66	KPH	@ HOUR(S)	15
			ON DAY(S)	27



JOB #: 2833-12-06-31-C

LICA31
WSP / WDR Joint Frequency Distribution (Percent)

June 2012

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	1.94	1.11	1.11	.97	1.39	.97	1.53	1.25	2.22	2.92	1.67	1.25	1.25	1.81	1.94	1.94	25.34
<	12.0	2.50	.83	1.11	2.50	2.92	3.06	1.94	2.92	3.06	1.67	1.94	4.45	4.59	5.98	6.12	3.06	48.74
<	20.0	1.25	.00	.00	1.81	.27	2.08	2.50	1.53	.69	.00	.13	2.08	1.25	4.03	1.94	.13	19.77
<	29.0	.41	.00	.27	2.64	1.11	.27	.13	.00	.00	.00	.00	.00	.00	1.11	.00	.00	5.98
<	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	6.12	1.94	2.50	7.93	5.71	6.40	6.12	5.71	5.98	4.59	3.76	7.79	7.10	12.95	10.02	5.15	

Calm : .13 %

Total # Operational Hours : 718

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	14	8	8	7	10	7	11	9	16	21	12	9	9	13	14	14	182
<	12.0	18	6	8	18	21	22	14	21	22	12	14	32	33	43	44	22	350
<	20.0	9			13	2	15	18	11	5		1	15	9	29	14	1	142
<	29.0	3		2	19	8	2	1							8			43
<	39.0																	
>=	39.0																	
	Totals	44	14	18	57	41	46	44	41	43	33	27	56	51	93	72	37	

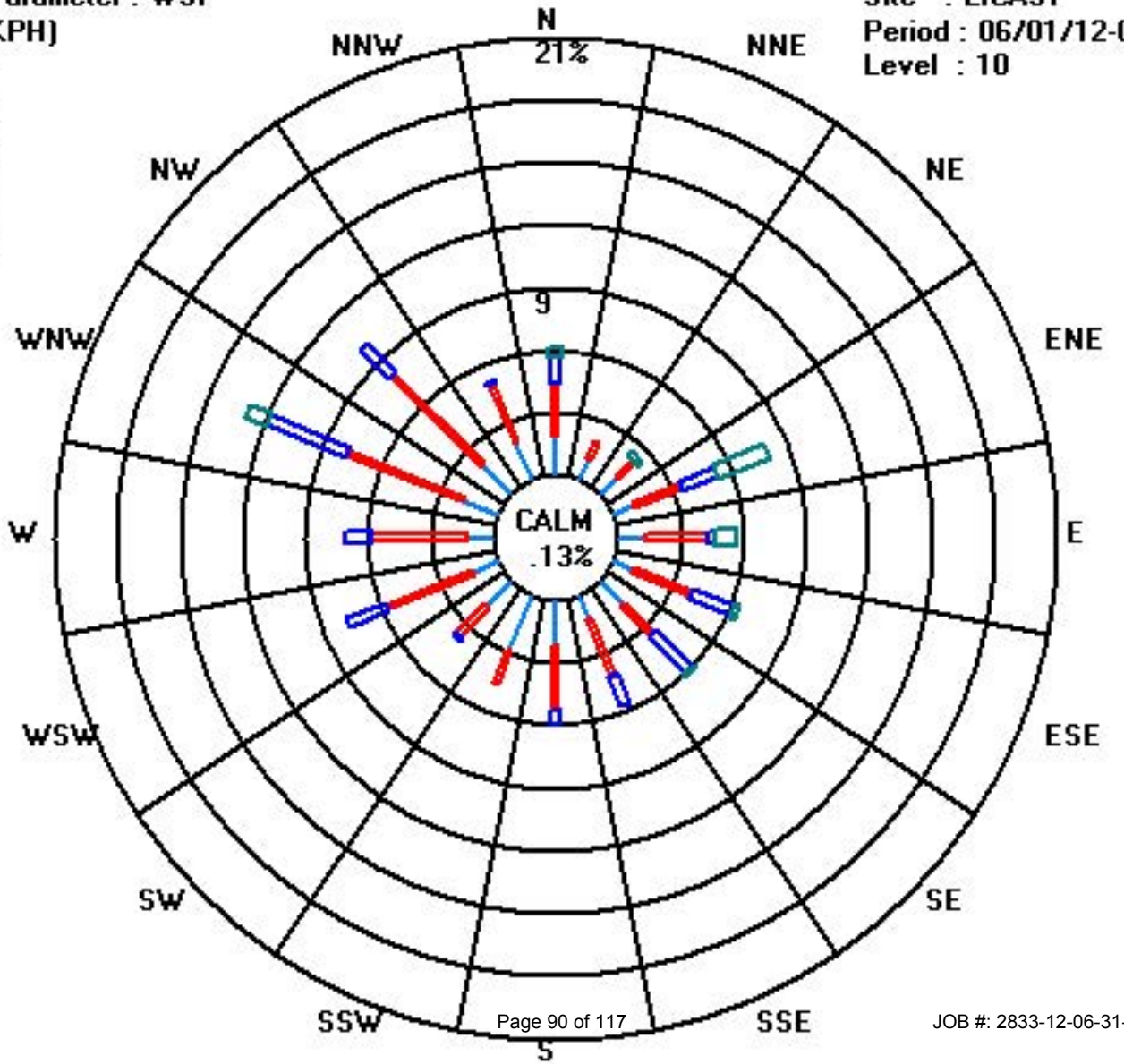
Calm : .13 %

Total # Operational Hours : 718

Logger : 31 Parameter : WSP
Class Limits (KPH)

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

Site : LICA31
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-31-C

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST. LINA

JUNE 2012

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	255	258	258	246	245	245	245	257	252	256	268	254	260	266	253	246	241	238	225	142	111	115	158	79	248	WSW	24
2	93	113	116	113	140	169	219	190	186	163	63	126	121	257	330	47	59	69	129	298	311	293	291	295	331	NNW	24
3	292	283	281	289	295	287	288	290	296	293	288	286	295	311	325	323	338	340	340	351	341	345	313	323	303	WNW	24
4	325	315	287	345	18	358	349	352	359	344	334	352	343	1	10	8	343	43	75	78	82	68	68	68	19	NNE	24
5	73	68	66	73	74	67	81	70	76	82	73	73	68	60	63	65	71	70	72	68	56	58	54	57	68	ENE	24
6	60	61	63	63	69	71	67	70	81	78	76	82	80	80	87	89	81	89	125	108	106	116	136	133	84	E	24
7	130	153	134	136	137	139	143	154	141	133	141	153	181	182	192	186	169	168	172	139	123	117	116	109	147	SE	24
8	107	115	119	83	63	75	88	118	132	145	173	195	192	183	162	122	50	263	301	292	230	241	251	249	176	S	24
9	268	277	299	333	202	135	30	14	23	36	10	11	69	101	130	123	144	295	227	309	231	255	268	277	287	WNW	24
10	283	307	336	334	322	325	334	359	355	353	353	1	2	359	359	3	2	1	6	17	38	39	268	221	350	N	24
11	213	227	228	214	210	197	185	167	164	139	139	167	186	175	106	115	95	117	112	90	87	103	125	157	149	SSE	24
12	271	103	121	133	151	181	212	234	258	259	299	292	303	295	285	302	293	325	189	189	211	74	159	252	250	WSW	24
13	200	168	169	172	246	256	136	171	245	337	57	44	69	134	235	249	289	304	301	341	296	305	305	300	284	WNW	24
14	290	295	302	295	299	298	310	314	312	313	305	301	297	289	292	284	293	302	295	307	323	349	355	347	304	WNW	24
15	334	350	349	359	2	360	338	358	11	14	359	346	331	325	338	308	298	311	324	308	286	289	252	212	332	NNW	24
16	225	216	221	230	190	170	166	174	165	163	155	149	158	147	144	153	147	137	135	138	157	140	151	140	157	SSE	24
17	310	344	85	112	74	11	65	164	178	165	247	269	285	324	304	290	308	298	305	337	31	101	210	235	325	NW	24
18	235	248	247	258	267	252	253	262	290	277	262	252	244	241	311	310	318	324	346	336	56	82	132	232	268	W	24
19	241	210	239	265	290	311	308	309	357	351	319	303	49	70	358	324	27	0	5	317	324	319	310	307	317	NW	24
20	310	306	311	305	286	286	288	298	301	281	260	294	308	330	301	276	274	281	271	267	260	248	258	265	285	WNW	24
21	280	306	306	11	41	54	64	72	82	88	77	89	38	13	64	285	66	98	134	166	152	148	150	172	90	E	24
22	168	168	166	165	174	175	184	204	195	185	178	141	165	150	338	276	2	233	261	249	252	239	257	283	197	SSW	24
23	322	299	350	24	36	42	54	75	77	81	84	63	71	82	66	94	84	104	94	88	94	102	106	108	75	ENE	24
24	87	79	103	108	101	118	140	92	79	105	122	130	127	120	118	118	112	116	113	108	102	109	142	153	114	ESE	24
25	177	188	198	200	210	211	229	249	236	226	249	211	180	192	292	292	329	305	282	307	311	346	356	343	236	SW	24
26	210	263	275	311	306	307	308	322	326	303	284	305	200	275	341	352	44	22	345	64	83	15	313	333	309	NW	24
27	326	309	337	318	317	321	307	295	295	287	289	296	290	288	293	288	288	288	289	285	287	279	278	279	295	WNW	24
28	284	277	275	275	269	247	258	269	266	253	252	255	**P**	**P**	269	265	252	261	265	257	241	242	205	216	260	WSW	22
29	211	205	188	179	178	183	178	192	214	92	33	19	346	272	272	288	292	297	293	283	286	288	277	259	256	WSW	24
30	272	250	230	222	215	197	208	209	198	203	177	194	186	182	169	168	181	175	142	140	119	127	155	164	180	S	24
HOURLY AVG	334	350	350	359	322	360	349	359	359	353	359	352	346	359	359	352	343	340	346	351	341	349	356	347			

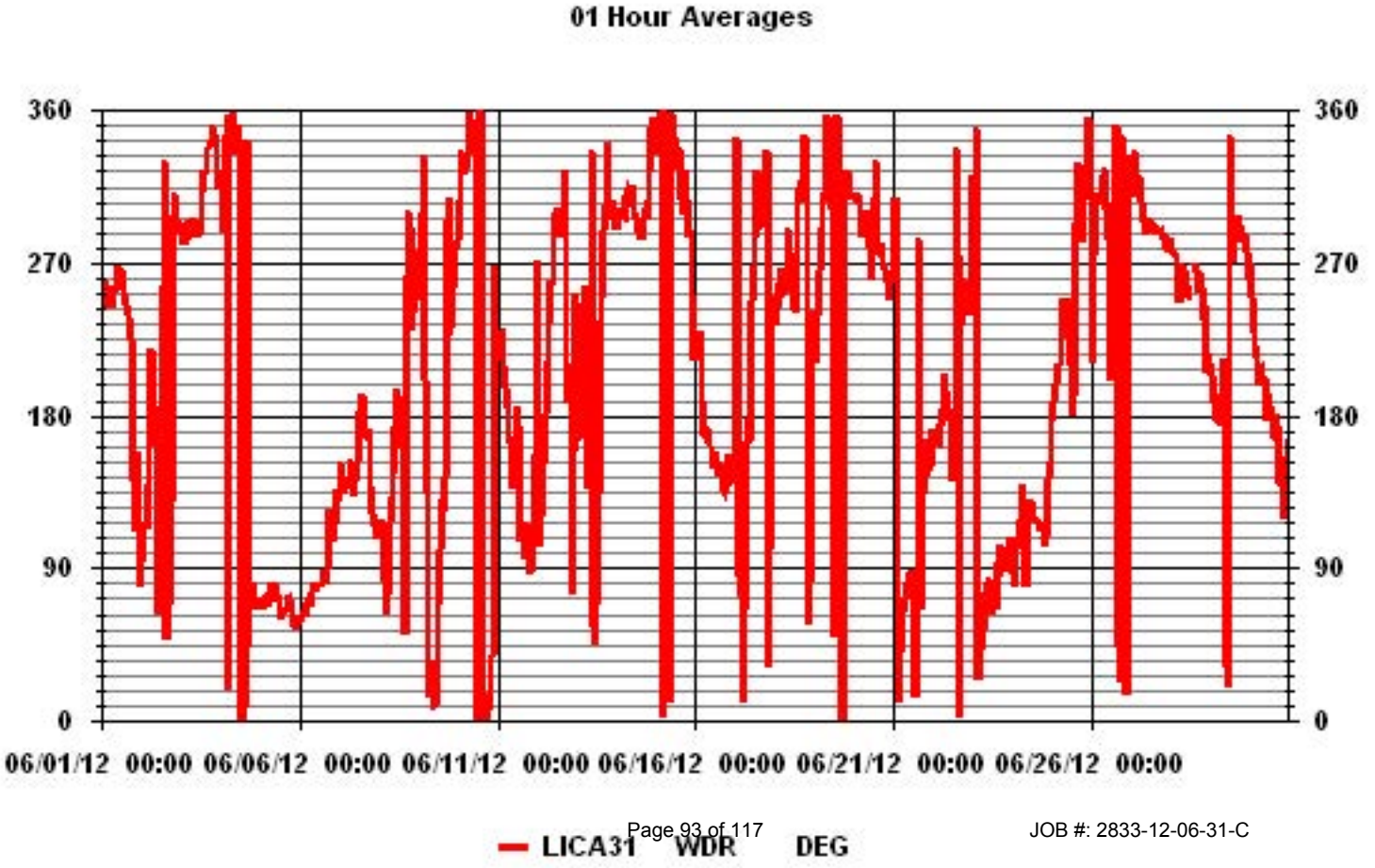
STATUS FLAG CODES

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:	May 15, 2012
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	718	HRS
STANDARD DEVIATION:	100.01		AMD OPERATION UPTIME:	99.7	%
			MONTHLY AVERAGE:	303	DEG

JOB #: 2833-12-06-31-C



JOB #: 2833-12-06-31-C

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *ST.LINA*

JUNE 2012

STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

MST

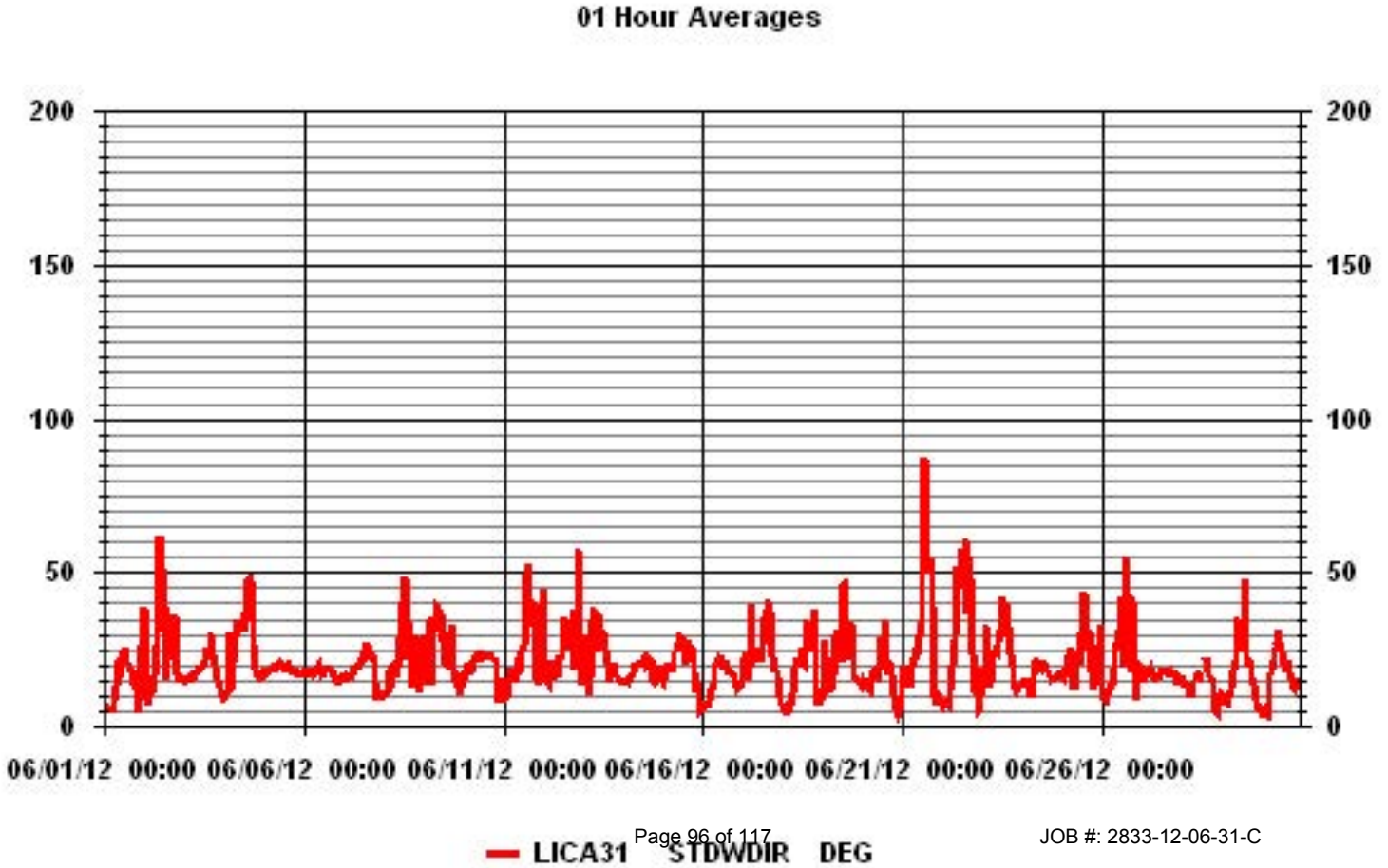
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	6	6	7	6	5	5	9	13	19	18	22	24	24	25	21	19	18	19	15	13	4	11	26	23
2	39	9	7	10	11	11	17	26	30	62	45	52	40	15	24	28	23	23	36	17	17	15	15	16
3	16	15	16	16	17	16	16	18	18	19	19	20	21	22	25	26	31	24	21	19	16	13	10	9
4	9	10	11	30	12	20	30	29	34	34	34	33	31	37	47	48	34	47	27	19	17	16	17	18
5	18	17	18	18	19	19	20	19	20	21	20	20	19	20	20	20	19	18	18	19	17	17	17	17
6	18	18	17	18	18	17	18	19	19	20	18	18	18	19	19	19	19	18	17	15	15	15	16	16
7	16	17	16	16	16	17	19	19	19	20	22	20	24	26	27	23	23	23	21	15	10	10	10	11
8	10	11	11	18	12	20	20	18	16	19	29	40	33	49	21	35	28	14	14	30	17	11	18	13
9	20	30	26	35	14	36	31	34	39	38	37	27	31	21	20	22	29	33	19	14	18	13	10	13
10	15	18	20	20	18	18	21	23	24	23	24	24	23	23	23	21	23	23	22	22	14	8	13	16
11	8	9	10	16	19	18	16	14	17	21	20	25	26	27	50	53	32	41	36	20	16	14	15	40
12	45	15	14	14	22	15	20	17	17	22	22	23	25	36	28	25	29	26	38	20	18	57	26	13
13	28	14	30	10	16	34	39	24	26	37	30	28	31	25	21	18	14	16	17	20	17	15	14	14
14	15	15	15	15	16	17	18	20	20	21	21	21	22	23	20	21	22	22	15	14	15	19	19	16
15	15	18	20	20	19	19	19	24	26	27	30	29	25	20	27	28	24	26	21	18	11	14	6	6
16	6	8	6	8	9	12	14	20	21	22	21	22	18	20	20	18	18	17	17	16	14	12	13	14
17	20	22	24	15	19	39	23	25	20	26	21	24	26	36	38	41	38	23	17	22	19	16	10	8
18	6	7	5	5	8	7	11	19	21	20	21	26	20	20	35	27	28	25	31	38	13	7	12	8
19	10	28	18	23	11	14	14	17	30	31	22	21	46	46	32	23	24	34	22	16	16	15	15	14
20	15	14	14	13	12	15	18	19	17	17	18	29	22	35	20	17	21	20	17	11	6	4	5	7
21	19	19	13	15	12	17	20	22	25	25	29	34	59	88	76	52	50	54	40	10	7	11	10	8
22	7	8	8	7	7	12	20	28	30	52	49	57	57	45	61	36	55	48	24	12	11	5	5	10
23	19	14	33	14	14	15	21	25	26	25	27	32	42	32	41	29	33	24	20	15	13	12	13	14
24	14	16	14	16	13	10	13	17	21	22	21	19	21	21	19	19	17	15	16	15	16	17	17	17
25	17	16	18	20	23	26	19	12	20	24	20	30	25	44	38	25	32	18	12	16	13	18	27	33
26	9	9	9	11	11	12	14	19	25	27	31	40	42	19	55	29	40	43	17	40	8	21	15	21
27	18	14	19	17	18	19	17	17	16	17	16	18	19	18	18	17	18	19	17	17	17	14	15	15
28	16	14	15	14	11	10	12	15	17	17	18	16	**P**	**P**	22	19	17	15	15	10	6	5	9	11
29	11	10	8	7	9	11	13	18	21	35	33	32	30	24	48	19	22	20	17	14	10	7	7	6
30	7	3	5	4	8	17	19	21	25	27	31	28	25	21	17	20	22	18	16	13	12	14	15	13

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: May 15, 2012

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 718 HRS



JOB #: 2833-12-06-31-C

Calibration Reports

Sulphur Dioxide

SO2 Calibration Report

Station Information

Calibration Date	June 7, 2012		Previous Calibration	May 24, 2012	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST. LINA				
Start Time (MST)	9:53		End Time (MST)	15:06	
Reason:			Monthly Calibration		
Barometric Pressure	930	mBar	Station Temperature	24	Deg C
Cal Gas	49.6 ppm	Gas Cyl. #	LL42496	Cal Gas Expiry date	January 16, 2014
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	520	ccm	30.8	Deg C	514	ccm	34.4	Deg C
HVPS / Lamp Setting	540		2275		540		2272	
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	82.9		1.048		84.8		1.038	

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
4922	75.6	750	756	0.9925
4922	75.6	750	750	1.0000
4955	40.3	400	402	0.9954
4980	17.1	170	171	0.9926
4997	0	0	0	N/A
			Sum of Least Squares	0.9990
			New Correction Factor	1.0000

IZS alibration Data

	Before Calibration	After Calibration
Auto Zero	1.4	0.6
Auto Span	282.0	282.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0018
Current Correction Factor Before Span Adjust:	0.9925
Percent Change:	0.9%

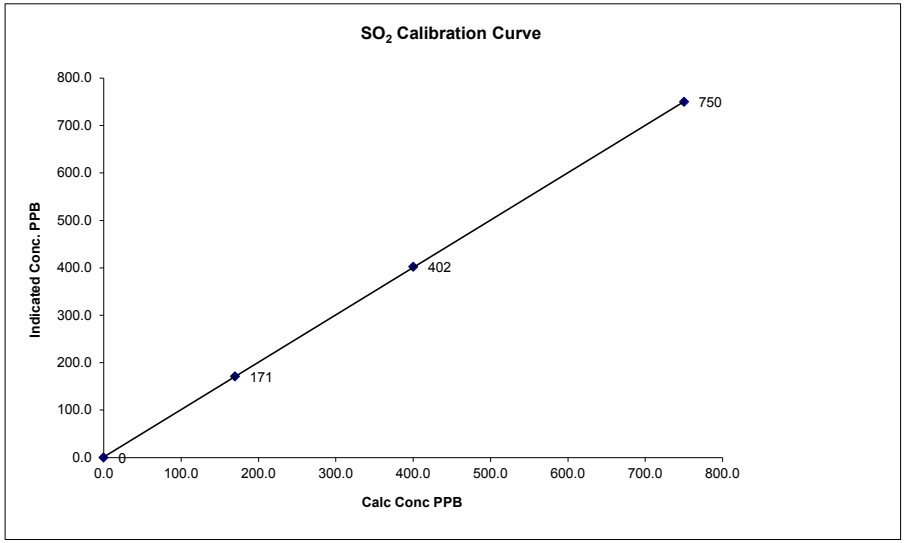
Notes: **N/A : Not applicable**

Calibration Performed by: Ting Xu

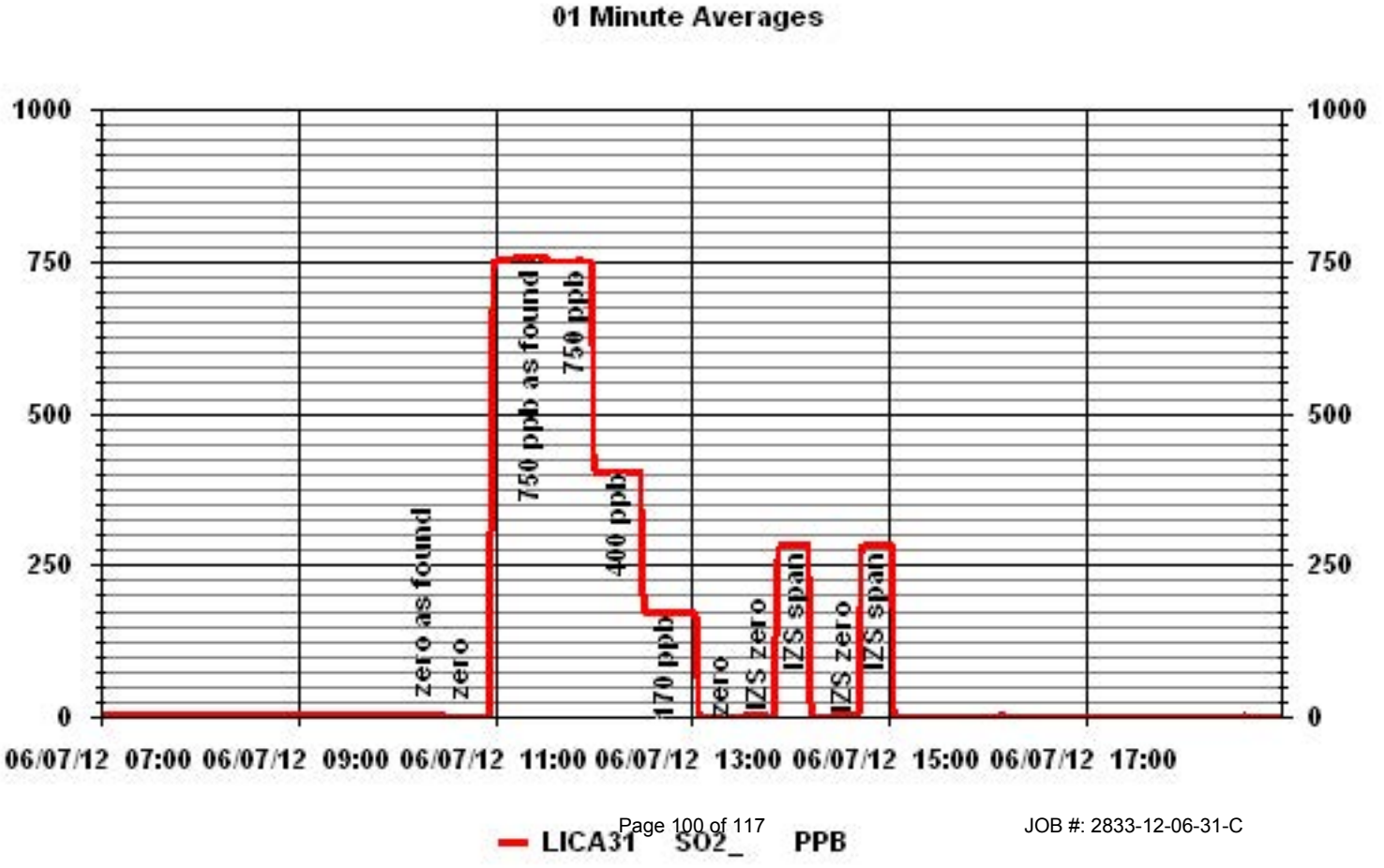
SO_2 Calibration Curve

Calibration Date	June 7, 2012				
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST. LINA				
Start Time (MST)	9:53	End Time	(MST)	15:06	

Calculated Conc. ppb	Indicated Response ppb	Correction Factor			
0	0	n/a	Correlation Coefficient	(≥ 0.995)	0.999990
170	171	0.9926	Slope	(0.85 to 1.15)	0.999351
400	402	0.9954	Intercept	(± 3% F.S.)	0.915499
750	750	1.0000			



Notes:



JOB #: 2833-12-06-31-C

Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	June 6, 2012		Previous Calibration	May 23, 2012	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST.LINA				
Start Time (MST)	9:32		End Time (MST)	13:19	
Reason:	Monthly Calibration				
Barometric Pressure	927	mBar	Station Temperature	22	Deg C
Cal Gas	10 ppm	Gas Cyl. #	LL42648	Cal Gas Expiry date	December 27, 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	535	ccm	30.8	Deg C	533	ccm	31.1	Deg C
HVPS / Lamp Setting	518		2328		518		2326	
PMT / RxCell Temp	8.4	Deg C	50	Deg C	8.4	Deg C	50	Deg C
Converter / IZS Temp	315	Deg C	45	Deg C	315.5	Deg C	45.0	Deg C
Offset / Slope	83.1		1.021		84.1		1.028	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4997	0	0	1	NA
4997	0	0	0	1.0000
4959	40.0	80	80	1.0000
	No Span Adj.			
4980	20.0	40	40	1.0000
4988	11.5	23	24	0.9584
5000	0	0	1	NA
			Sum of Least Squares	0.9975
			New Correction Factor	

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.5	0.4
Auto Span	41.4	41.1
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	1.0000
Percent Change:	0.0%

Notes: **NA : Not Applicable**

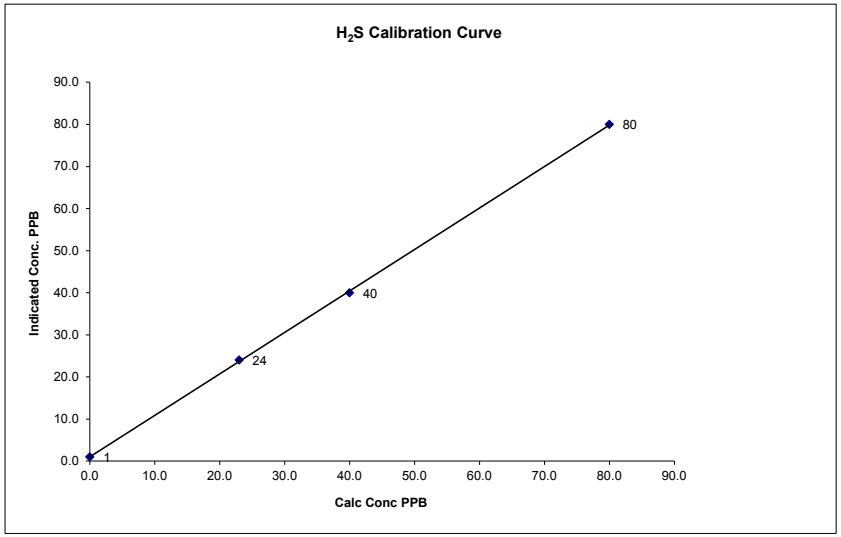
Calibration Performed by: Ting Xu

H_2S Calibration Curve

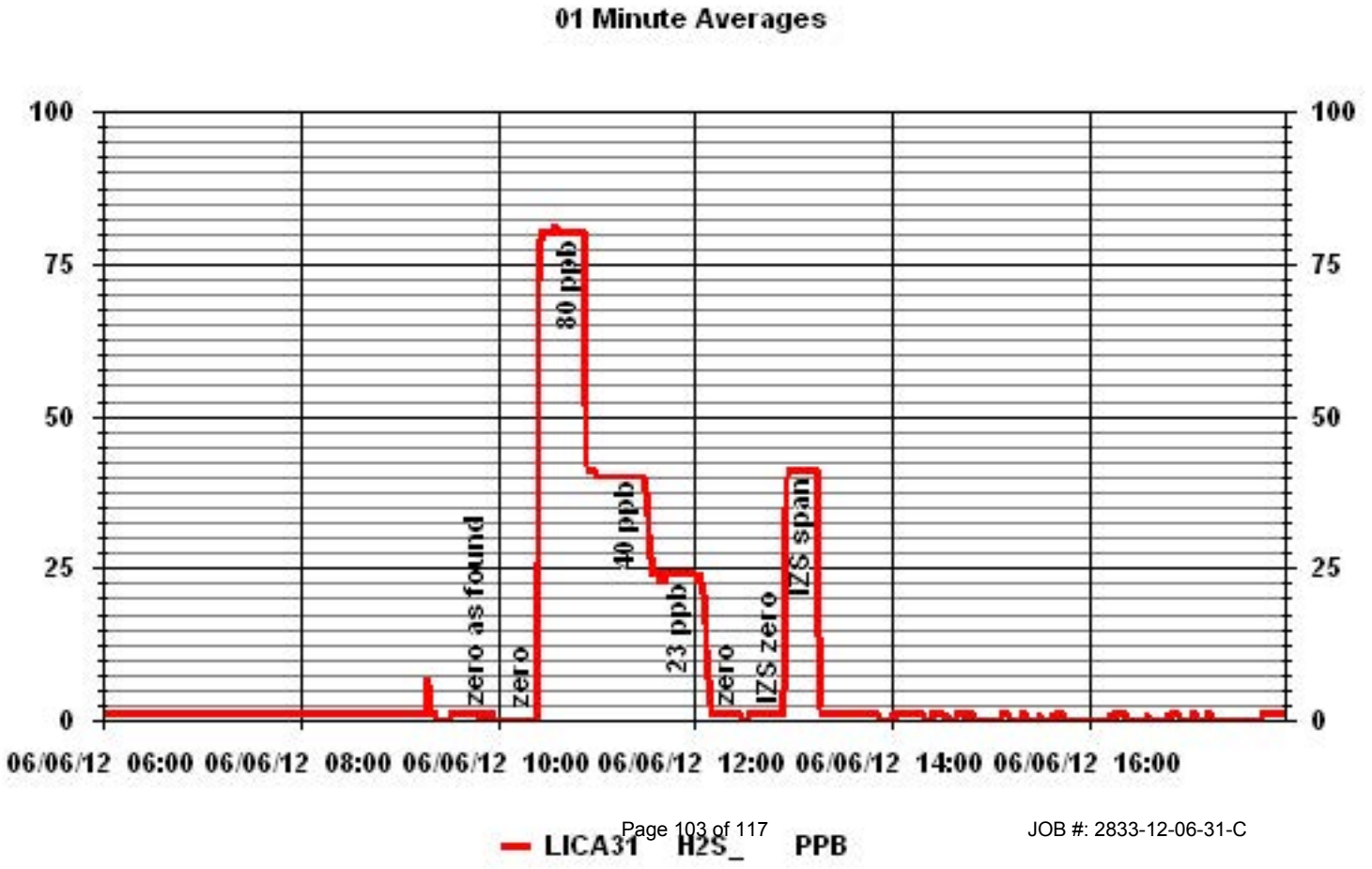
Calibration Date	June 6, 2012				
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST.LINA				
Start Time (MST)	9:32		End Time (MST)	13:19	

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	1	
23	24	0.9584
40	40	1.0000
80	80	1.0002

Correlation Coefficient	(≥ 0.995)	0.999908
Slope	(0.85 to 1.15)	0.985610
Intercept	(± 3% F.S.)	1.009925



Notes:



JOB #: 2833-12-06-31-C

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	June 6, 2012		Previous Calibration	May 23, 2012	
Company:	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location:	ST. LINA				
Start Time (MST)	12:39		End Time (MST)	16:37	
Reason:	Monthly Calibration				
Barometric Pressure:	928	mBar	Station Temperature:	22	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 600 PPM		C3H8	204 PPM	
	TOTAL CH4 1161.0 PPM		Gas Cyl. #	LL155310	Cal Gas Expiry Date: September 9, 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	10	psi	10	psi
Air Pressure	21	psi	21	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	-0.1	NA
	No Zero Adj.			
2000	74.0	41.4	42.3	0.9793
2000	74.0	41.4	41.6	0.9958
2000	37.0	21.1	21.0	1.0042
2000	20.0	11.5	11.5	1.0000
2000	0.0	0.0	0.0	NA
			New Correction Factor:	0.9958

Percent Change

Previous Calibration Correction Factor:	0.9958
Current Correction Factor Before Span Adjust:	0.9793
Percent Change:	1.7%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	37.1	36.5
Sample Lines Connected		YES

Cylinder Pressures

Span 1600 psi Hydrogen 2000 psi Zero Air 34 psi

Notes: **NA : Not Applicable**

The diluent gas warning appeared during the third point. Re-did the point.

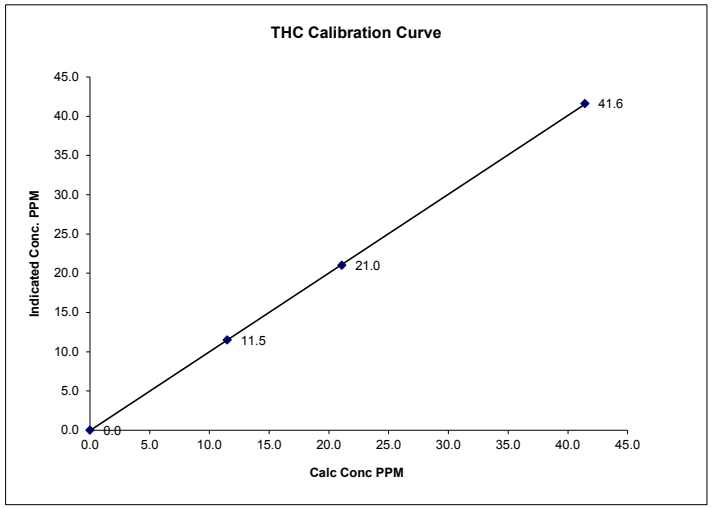
Calibration Performed by: Ting Xu

THC Calibration Curve

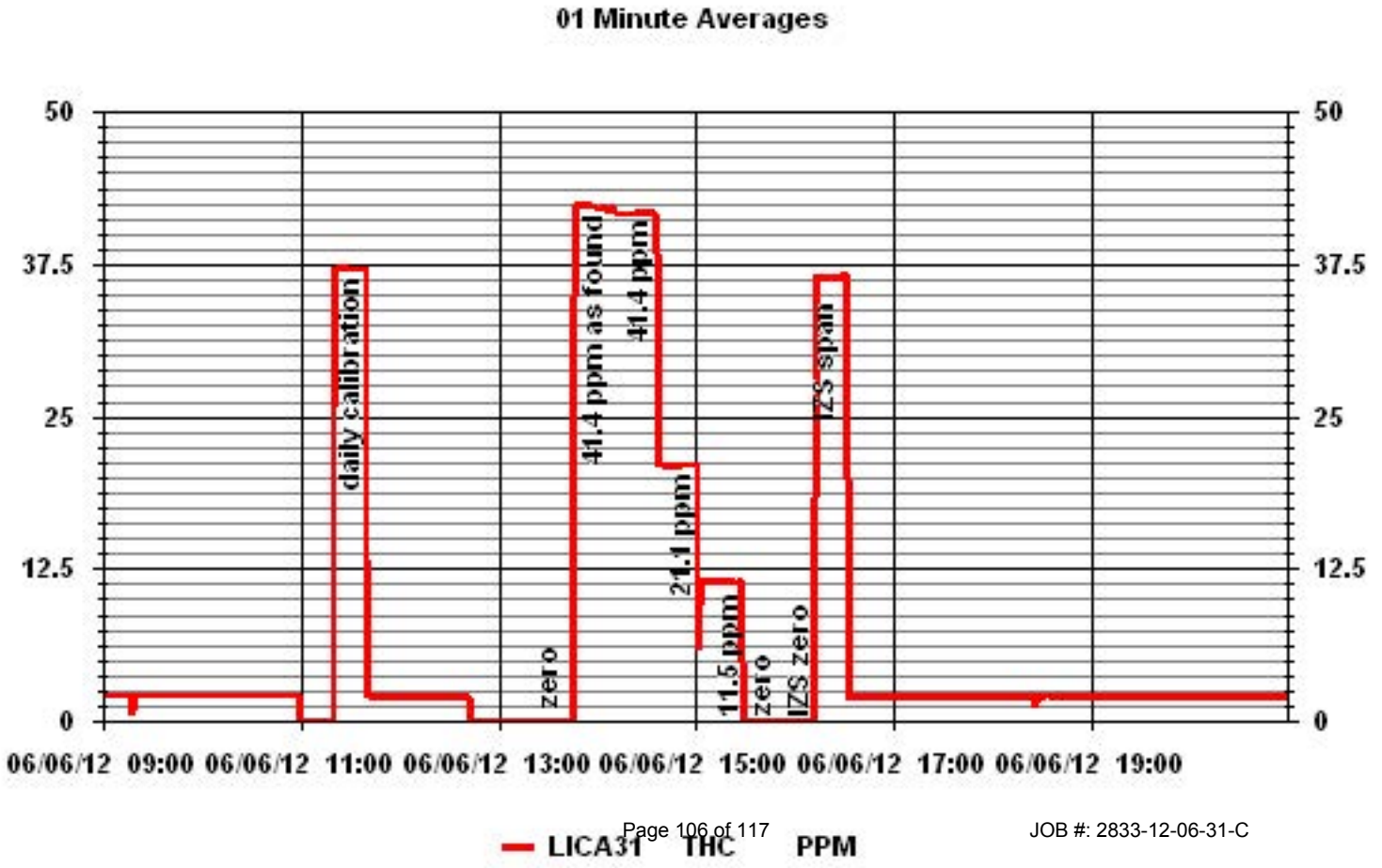
Calibration Date	June 6, 2012				
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST. LINA				
Start Time (MST)	12:39	End Time	(MST)	16:37	

Calculated Conc. ppm	Indicated Response ppm	Correction Factor
0.0	0.0	NA
11.5	11.5	0.9996
21.1	21.0	1.0042
41.4	41.6	0.9958

Correlation Coefficient	(≥ 0.995)	0.999977
Slope	(0.85 to 1.15)	1.004076
Intercept	(± 3% F.S.)	-0.05234



Notes:



JOB #: 2833-12-06-31-C

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	June 6, 2012		Previous Calibration	May 23, 2012	
Company	LICA		Plant/Location	St. Lina	
Start Time (MST)	9:24		End Time (MST)	16:25	
Reason:	Monthly Calibration				
Barometric Pressure	927 mBar	Station Temperature	22 Deg C	MFCF	1
Cal Gas Concentration	NOx 49.6 ppm	NO 49.5 ppm	Cal Gas Expiry date	January 16, 2014	
Cal Gas Cylinder #	LL42496				
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	481	ccm	316	Deg C		475	ccm	314	Deg C
Ozone Flow / Vacuum	71	ccm	5.0	"Hg-A		71	ccm	5	"Hg-A
HVPS / A ZERO	662	Volts	19.1	MV		662	Volts	19.3	MV
Rx/ Temp / PMT Temp	50.0	Deg C	6.8	Deg C		50.0	Deg C	6.8	Deg C
Box Temp / IZS Temp	28.5	Deg C	42.2	Deg C		28.7	Deg C	42.2	Deg C
Offset	1.5	NOx	0.5	NO		1.5	NOx	0.2	NO
Slope	1.449	NOx	1.428	NO		1.484	NOx	1.472	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	0	1	0	NA	NA
	No Zero Adj.									
4921	75.6	NA	750	749	NA	731	728	4	1.0266	1.0302
4921	75.6	NA	750	749	NA	750	750	1	1.0000	0.9999
4961	35.3	NA	350	350	NA	349	349	1	1.0041	1.0050
4977	17.2	NA	171	170	NA	170	170	1	1.0048	1.0000
4994	0.0	NA	0	0	NA	0	1	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		
4920	75.6	NA	751	749	NA	750	748	2	NA	NA
4920	75.6	600	751	NA	516	750	234	515	1.0019	99.81%
	No NO2 Adj.									
4919	75.6	300	751	NA	257	752	493	259	0.9923	100.78%
4919	75.6	120	751	NA	104	751	646	106	0.9811	101.96%

Linearity			Sum of Least Squares	NOx=	1.001	NO=	0.999	NO2= 0.999
OK?	Yes	No	Correction Factors:	NOx=	1.0000	NO=	0.9999	NO2= 1.0019
						Average Converter Efficiency=		100.85%

IZS Calibration Data

	Before Calibration					After Calibration			
Auto Zero	0.4	NOx	-0.2	NO2		0.0	NOx	-0.1	NO2
Auto Span	723	NOx	679	NO2		645	NOx	610	NO2
					Sample Lines Connected	YES			

Percent Change from Previous Calibration	NOx	-2.8%	NO	-2.9%	NO2 0.4%

Notes

NA : Not Applicable

Additional GPT was done for O3 claibration. O3 set point 450, NO=364, NO2=386, NOx=750

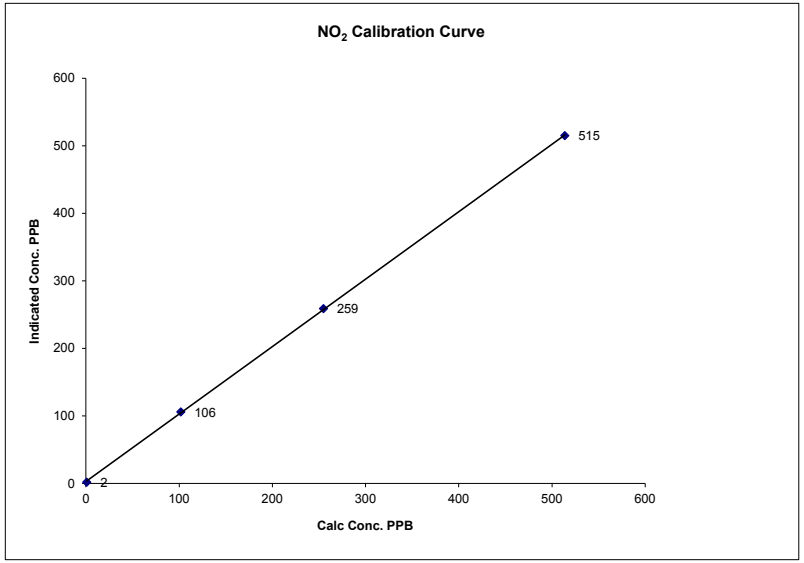
Calibration Performed by: Ting Xu

NO_2 Calibration Curve

Calibration Date	June 6, 2012		
Company	LICA		
Plant / Location	St. Lina		
Start Time (MST)	9:24	End Time (MST)	16:25

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
1	2	N/A
102	106	0.9623
255	259	0.9846
514	515	0.9981

Correlation Coefficient	(≥ 0.995)	0.999942
Slope	(0.85 to 1.15)	0.998415
Intercept	(± 3% F.S.)	2.84552

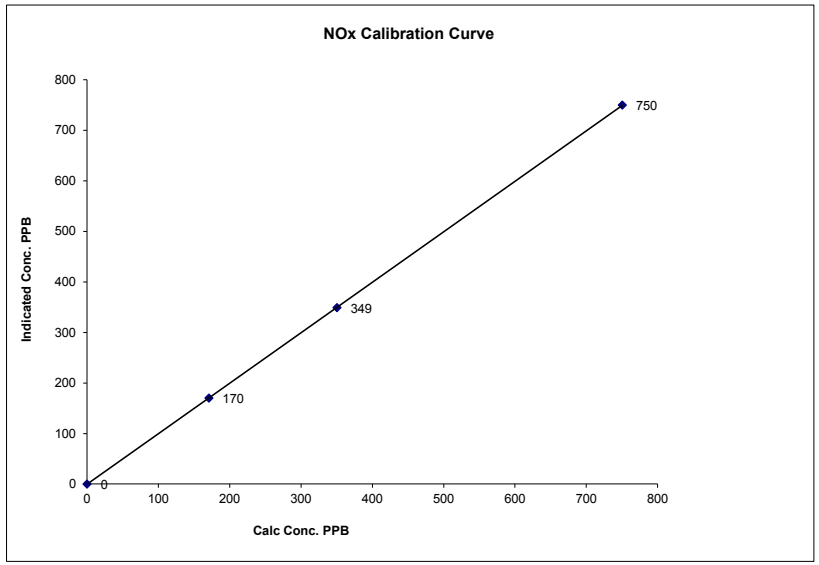


Notes:

NOx Calibration Curve

Calibration Date	June 6, 2012				
Company	LICA				
Plant / Location	St. Lina				
Start Time (MST)	9:24	End Time (MST)	16:25		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999997
			Slope (0.85 to 1.15)	0.999596
0	0	N/A	Intercept (± 3% F.S.)	-0.55141
171	170	1.0048		
350	349	1.0041		
750	750	1.0006		

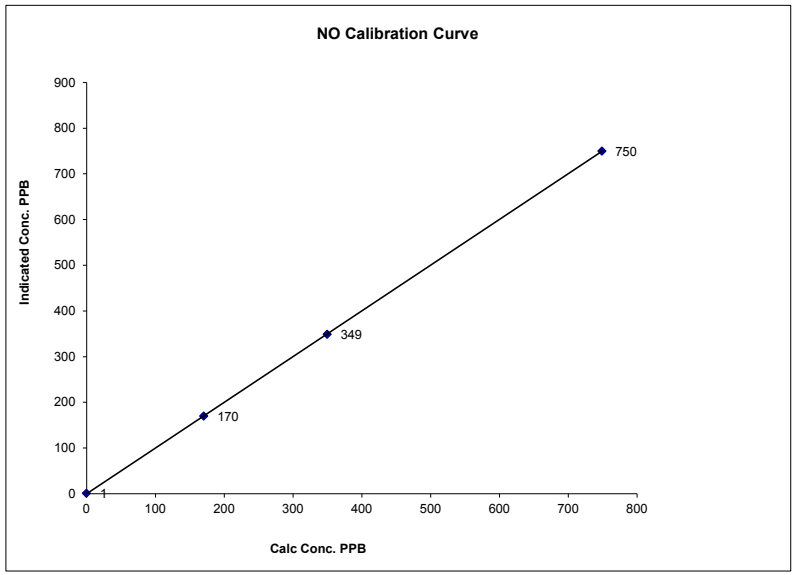


Notes:

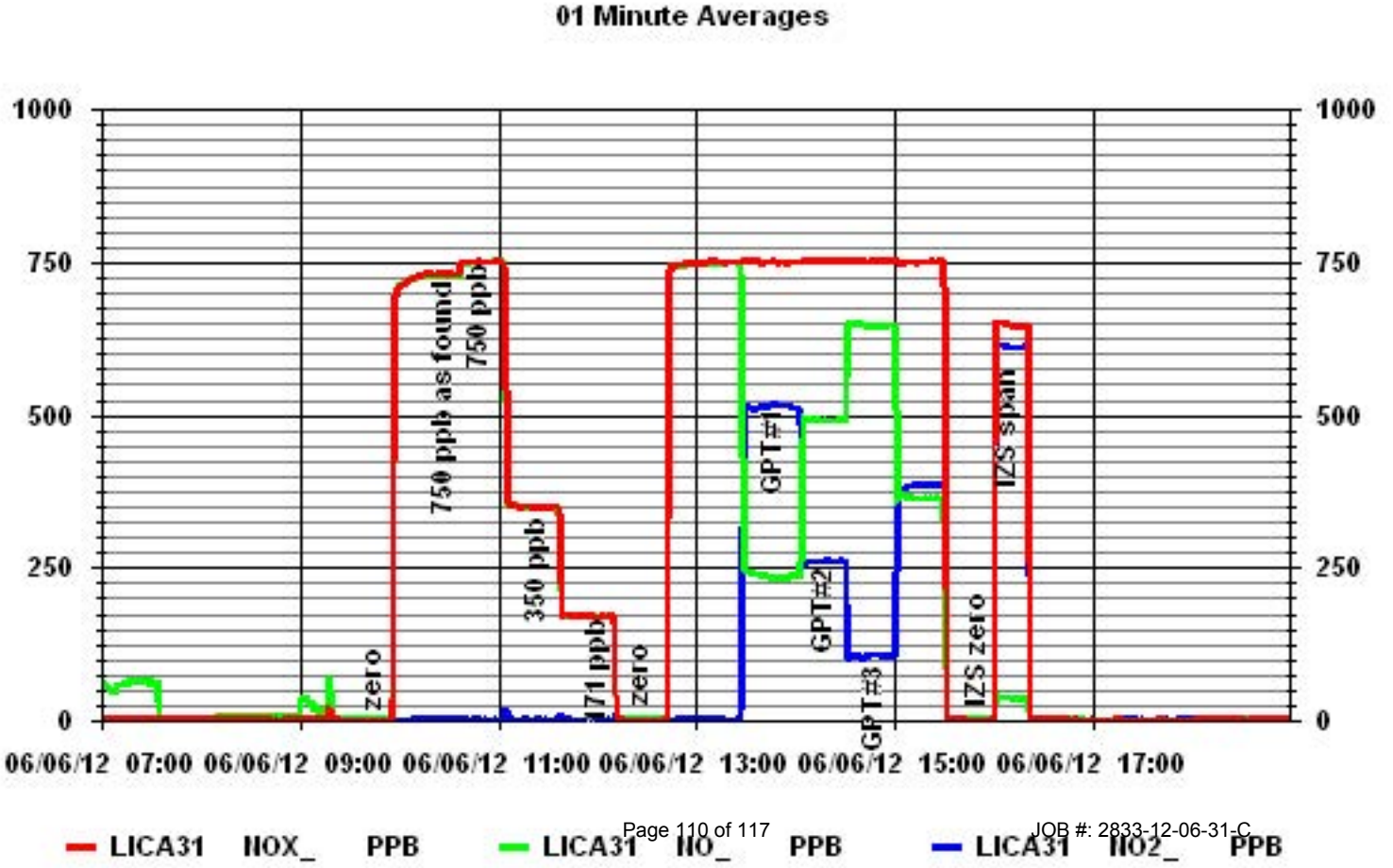
NO Calibration Curve

Calibration Date	June 6, 2012				
Company	LICA				
Plant / Location	St. Lina				
Start Time (MST)	9:24	End Time (MST)	16:25		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999992
			Slope (0.85 to 1.15)	1.002945
0	1	N/A	Intercept (± 3% F.S.)	-2.2877
170	170	1.0028		
350	349	1.0021		
749	750	0.9986		



Notes:


01 Minute Averages
1000
750
500
250
0
zero
750 ppb as found
750 ppb
350 ppb
171 ppb
zero
GPT#1
GPT#2
GPT#3
IZS zero
IZS span
06/06/12 07:00
06/06/12 09:00
06/06/12 11:00
06/06/12 13:00
06/06/12 15:00
06/06/12 17:00
LICA31 NOX_ PPB
LICA31 NO_ PPB
LICA31 NO2_ PPB

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	June 7, 2012		Previous Calibration	June 6, 2012	
Company	LICA		Plant/Location	St. Lina	
Start Time (MST)	13:34		End Time (MST)	16:34	
Reason:	As Found				
Barometric Pressure	932 mBar	Station Temperature	26 Deg C	MFCF	1
Cal Gas Concentration	NOx 49.6 ppm	NO 49.5 ppm	Cal Gas Expiry date	January 16, 2014	
Cal Gas Cylinder #	LL42496				
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	483	ccm	314	Deg C		479	ccm	316	Deg C
Ozone Flow / Vacuum	71	ccm	5.0	"Hg-A		71	ccm	5	"Hg-A
HVPS / A ZERO	662	Volts	20.8	MV		662	Volts	21.2	MV
Rx/ Temp / PMT Temp	50.0	Deg C	6.8	Deg C		50.0	Deg C	6.8	Deg C
Box Temp / IZS Temp	34.0	Deg C	42.1	Deg C		34.2	Deg C	42.3	Deg C
Offset	1.5	NOx	0.5	NO		1.5	NOx	0.2	NO
Slope	1.484	NOx	1.472	NO		1.484	NOx	1.472	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	0	1	-1	NA	NA
	No Zero Adj.									
4921	75.5	NA	749	748	NA	749	752	-3	1.0000	0.9960

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		

Linearity		Sum of Least Squares	NOx=	#VALUE!	NO=	#VALUE!	NO2=	#VALUE!
OK?	Yes No	Correction Factors:	NOx=	1.0000	NO=	0.9960	NO2=	
					Average Converter Efficiency=		#DIV/0!	

IZS Calibration Data

	Before Calibration					After Calibration			
Auto Zero	0.1	NOx	-0.2	NO2		0.0	NOx	-0.1	NO2
Auto Span	592	NOx	556	NO2		645	NOx	610	NO2
					Sample Lines Connected	YES			

Percent Change from Previous Calibration	NOx	0.0%	NO	0.4%	NO2

Notes

NA : Not Applicable

After A/F points, replaced the perm tube.

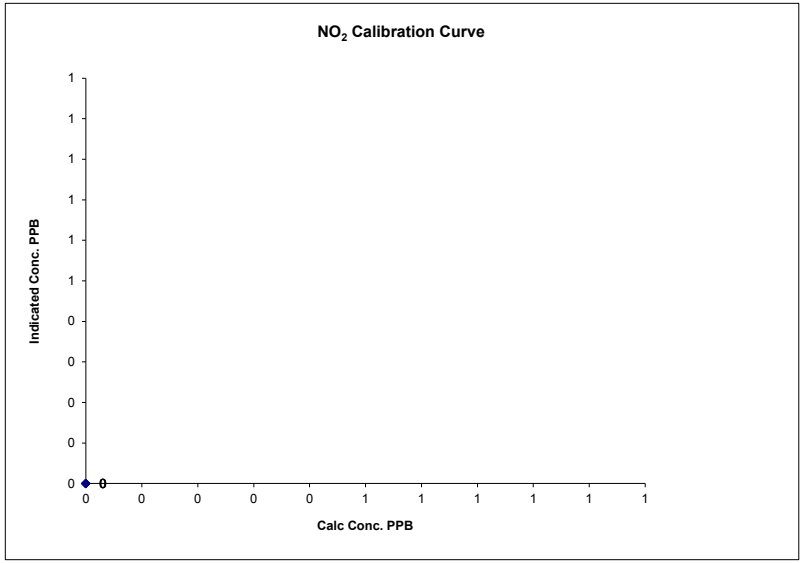
Accidentally turned off the button of the circuit board (15:33-15:40), fixed it and re-ran daily cal.

Calibration Performed by: Ting Xu

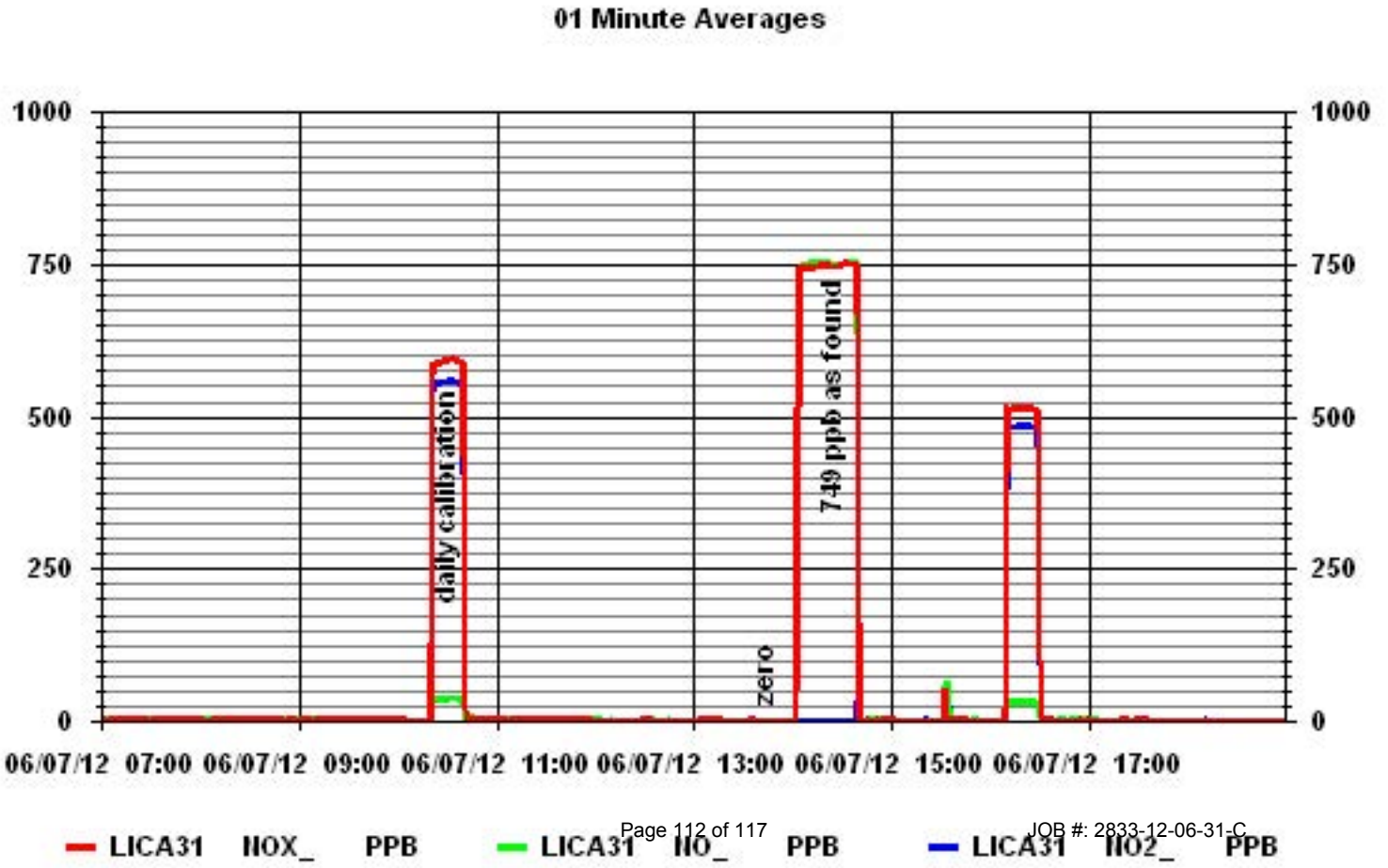
NO_2 Calibration Curve

Calibration Date	June 7, 2012			
Company	LICA			
Plant / Location	St. Lina			
Start Time (MST)	13:34	End Time (MST)	16:34	

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



Notes:


01 Minute Averages
1000
750
500
250
0
daily calibration
zero
749 ppb as found
06/07/12 07:00
06/07/12 09:00
06/07/12 11:00
06/07/12 13:00
06/07/12 15:00
06/07/12 17:00
LICA31 NOX_ PPB
LICA31 NO_ PPB
LICA31 NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	June 7, 2012	Previous Calibration	May 25, 2012	
Company	**Lakeland Industry & Community Association**			
Plant / Location	**St. Lina**			
Start Time (MST)	9:53	End Time (MST)	15:06	
Reason:	Monthly Calibration			
Barometric Pressure	930 mBar	Station Temperature	24	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	837 ccm	867 ccm	835 ccm	867 ccm
Pressure	704 mmHg		703 mmHg	
Bench Temp	56.8 Deg C		56.9 Deg C	
O3 Lamp / Box Temp	80 Deg C	32.3 Deg C	80 Deg C	35.9 Deg C
Offset / Slope	0.1	0.991	0.1	0.991

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	NA
	No Zero Adj			
4994	450	384	381	1.0079
4994	300	255	250	1.0200
4994	120	102	100	1.0200
4994	0	0	0	N/A
			Sum of Least Squares	N/A
			New Correction Factor	0.0000

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.1	0.8
Auto Span	316	322
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.8%

Note: **NA: Not Applicable**

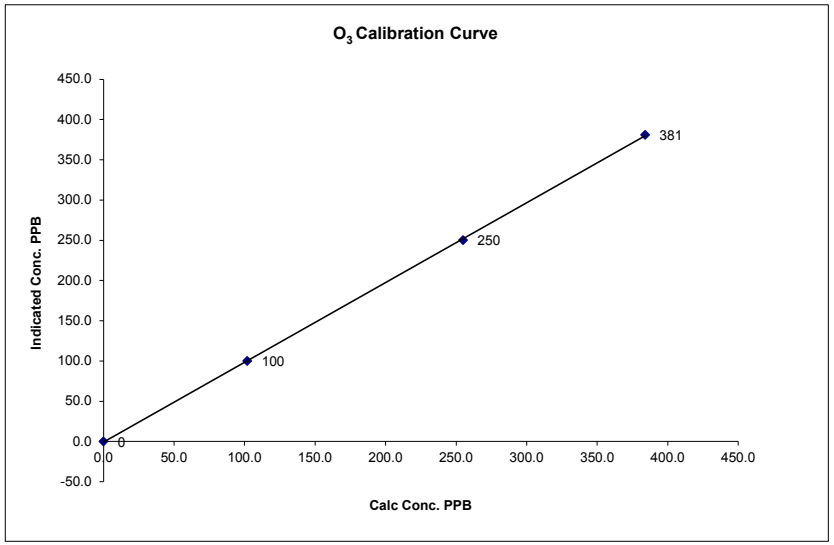
Calibration Performed by: Ting Xu

O_3 Calibration Curve

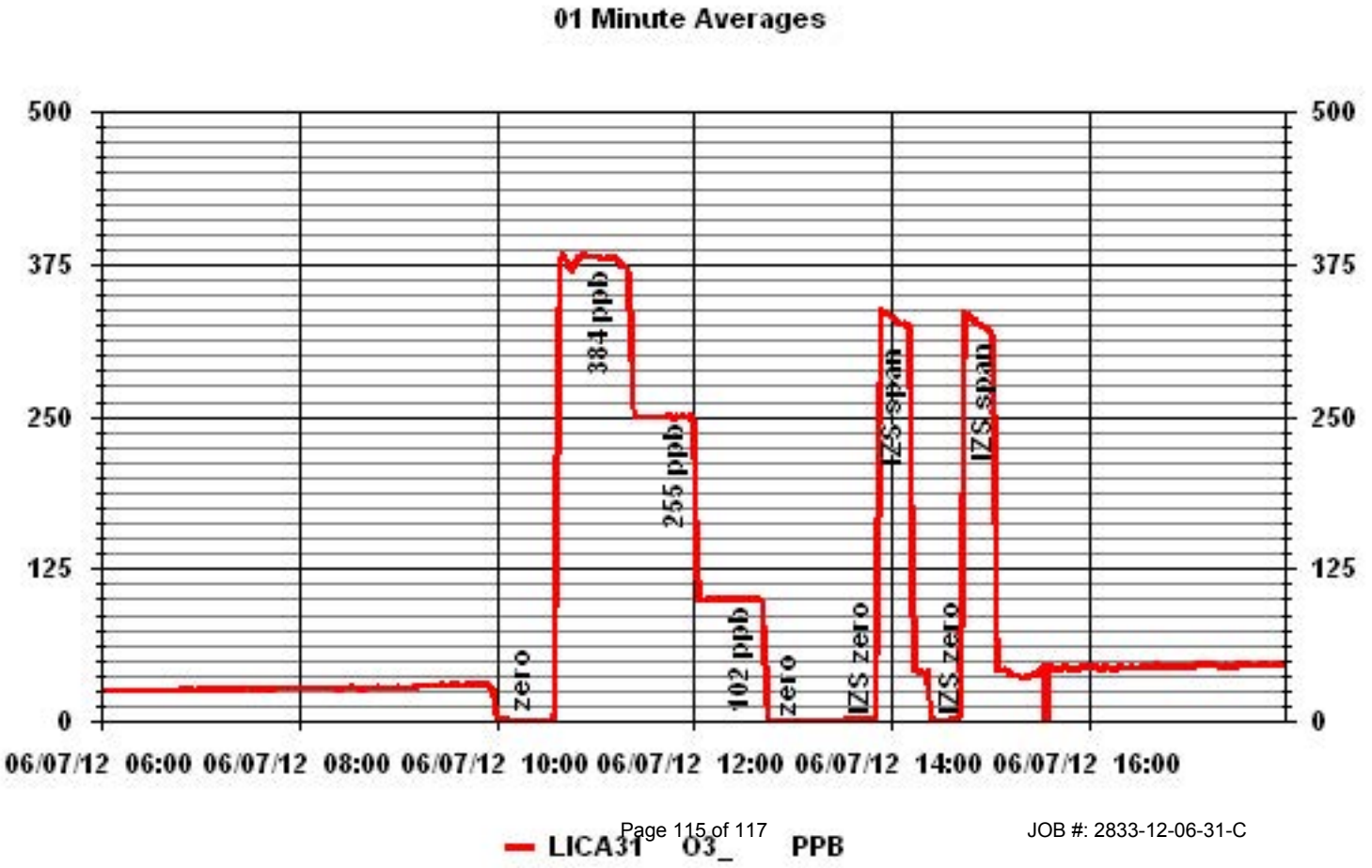
Calibration Date	June 7, 2012		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**St. Lina**		
Start Time (MST)	9:53	End Time (MST)	15:06

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
102	100	1.0200
255	250	1.0200
384	381	1.0079

Correlation Coefficient	(≥ 0.995)	0.999930
Slope	(0.85 to 1.15)	0.990907
Intercept	(± 3% F.S.)	-0.815511



Notes:



JOB #: 2833-12-06-31-C

Particulate Matter 2.5

TEOMÒ 1405F Audit

Station		Audit Transfer Standard	
Date:	June 7, 2012	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	1405A207691003	Filter Load (%)	30.6%
Firmware Ver.	1.55	K_o Factor	15634.0
Parameter	PM 2.5 (with FDMS)	Temp (^oC)	20.48
		Press (ATM)	0.923

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**	0.004	Warnings	None
Pump Vacuum **<0.4atm**	0.28	Pump Gauge (inHg)	NA

Temperature/Pressure

Measured Temp **(± 2 ^oC)**	19.5	**D ^oC**	1.0
Measured Press **(± 0.01atm)**	0.920	**DATM**	0.003

Flow Audit

Indicated Main Flow (l/min)	3.00	Main Flow Drift **(±10.0%)**	0.61%
Measured Main Flow (l/min)	3.01	Flow Adjusted to Measured?	YES
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift **(±10.0%)**	0.40%
Measured Bypass Flow (l/min)	13.67	Flow Adjusted to Measured?	YES

Leak Check

Main **(< 0.15 l/min)**	Base=-0.01 Ref=-0.01
Aux **(< 0.6 l/min)**	Base=0.00 Ref=0.00

Instrument Setup

Flow Control = Active

Report Conditions = Actual

K_o Factor

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

Start Time: 12:13 **Finish Time:** 15:15

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

New Filter Loading %: 19.6%

Comments:

Auditor/s: Ting Xu

JOB #: 2833-12-06-31-C

Lakeland Industry & Community Association

Cold Lake Monitoring Site
Ambient Air Monitoring
Data Report
For
June 2012

Prepared By:

July 27, 2012

JOB #: 2833-12-06-01-C

Lakeland Industry & Community Association
Cold Lake Monitoring Site
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: Cold Lake
Data Period: June 2012

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 – June 2012

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	0.06	3	VAR	VAR	VAR	VAR	0.4	VAR	99.6
TRS (PPB)	-	-	-	-	0.00	1	22, 25	5, 22	0.9, 2.9	99(E), 268(W)	0.0	ALL	99.6
NO_2 (PPB)	159	-	0	-	1.90	7	4, 7	7, 22	2.9, 1.1	236(SW), 62(ENE)	3.1	26	99.9
NO (PPB)	-	-	-	-	0.22	8	22	5	0.9	99(E)	0.7	4, 22	99.9
NOx (PPB)	-	-	-	-	2.13	12	22	5	0.9	99(E)	3.6	26	99.9
O_3 (PPB)	82	-	0	-	27.47	59	1	14	10.9	264(W)	37.9	1	99.9
THC (PPM)	-	-	-	-	2.07	3.5	26	1	0.8	176(S)	2.6	25	99.7
PM 2.5 (UG/M^3)	-	30	-	0	6.27	35.0	30	23	6.1	133(SE)	14.3	4	99.3
TEMPERATURE (DEG C)	-	-	-	-	15.53	26.6	25	16	2.9	134(SE)	21.0	25	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	68.70	100	13	5, 6	1.7, 2.1	114(ESE), 10(N)	89.5	13	100.0
VECTOR WS (KPH)	-	-	-	-	5.64	18.8	6	3	-	83(E)	14.8	6	100.0
VECTOR WD (DEGREES)	-	-	-	-	62(ENE)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS NA: NOT AVAILABLE

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

Passive Ambient Monitoring Network – June 2012

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO_2	#8	0.8	0.25
H_2S	#5	0.21	0.11
NO_2	#12	3.5	1.0
O_3	#32	39.0	25.9

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

Xontech Model 910A – June 2nd, 2012

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

Xontech Model 910A – June 8th, 2012

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

Xontech Model 910A – June 14th, 2012

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

Xontech Model 910A – June 20th, 2012

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

Xontech Model 910A – June 26th, 2012

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

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

PUF cartridge – June 2nd, 2012

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

PUF cartridge – June 8th, 2012

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

PUF cartridge – June 14th, 2012

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

PUF cartridge – June 20th, 2012

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

PUF cartridge – June 26th, 2012

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

General Monthly Summary - Cold Lake

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

AQM STATION – LICA – COLD LAKE

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

No operational issues were observed during the month. The inlet filter was changed before the monthly calibration was started on June 5th. 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 were observed during the month. The inlet filter was changed before the monthly calibration was started on June 5th. It was noticed that the daily span system was not stable. Suspected the issue is due to the temperature controller for the permeation tube oven. Data was corrected using daily zero information.

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

No operational issues were observed during the month. The inlet filter was changed before the monthly calibration was started on June 4th. Data was corrected using daily zero information.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Total Hydrocarbon (PPM)

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

No operational issues were observed during the month. The inlet filter was changed before the monthly calibration was started on June 4th. The span gas cylinder was changed on June 7th, and a daily calibration was run after. The H2 gas cylinder was replaced on June 25th. After the gas cylinder replacement, a daily zero/span check was run. The zero/span check result showed that the zero went up to 2.0 ppm. The data was corrected during the QA/QC process. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

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

No operational issues were observed during the month. The inlet filter was changed before the monthly calibration was started on June 4th. Data was corrected using daily zero information.

Particulate Matter 2.5 (UG/M3)

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

No operational issues were observed this month. A routine Teom audit was performed on June 5th. Both the Teom filter and the FDMS filter were changed on June 5th. 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. Five hours of data were invalid as the data were 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 issues were observed during the month.

Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3

No operational issues were observed during the month.

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

No operational issues were observed during the month.

Trailer Temperature (DEGC)

- System make / model - R&R 61

No operational issues were 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

The manifold and the sample inlet were cleaned on June 5th.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Air Quality Index (AQI)
No AQI report is included in this report, as the AQI value is no longer used by Alberta Environment.

Passive Network
The 10% duplicate sampling program was run this month.
No issue was recorded this month.

Volatile Organics (VOCs)
The volatile organics were sampled from June 2nd to June 26th. 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 on June 2nd to June 26th. 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

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

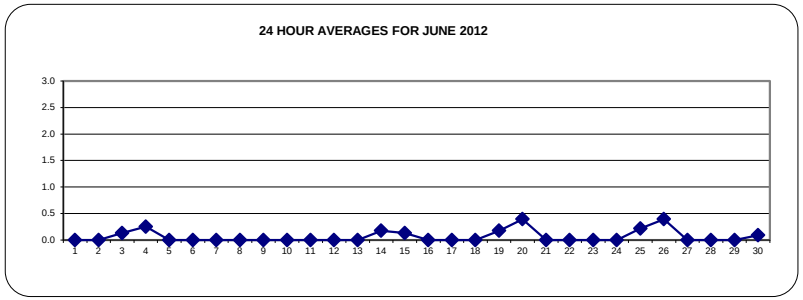
SULPHUR DIOXIDE (SO_2) hourly averages in ppb

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

STATUS FLAG CODES

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

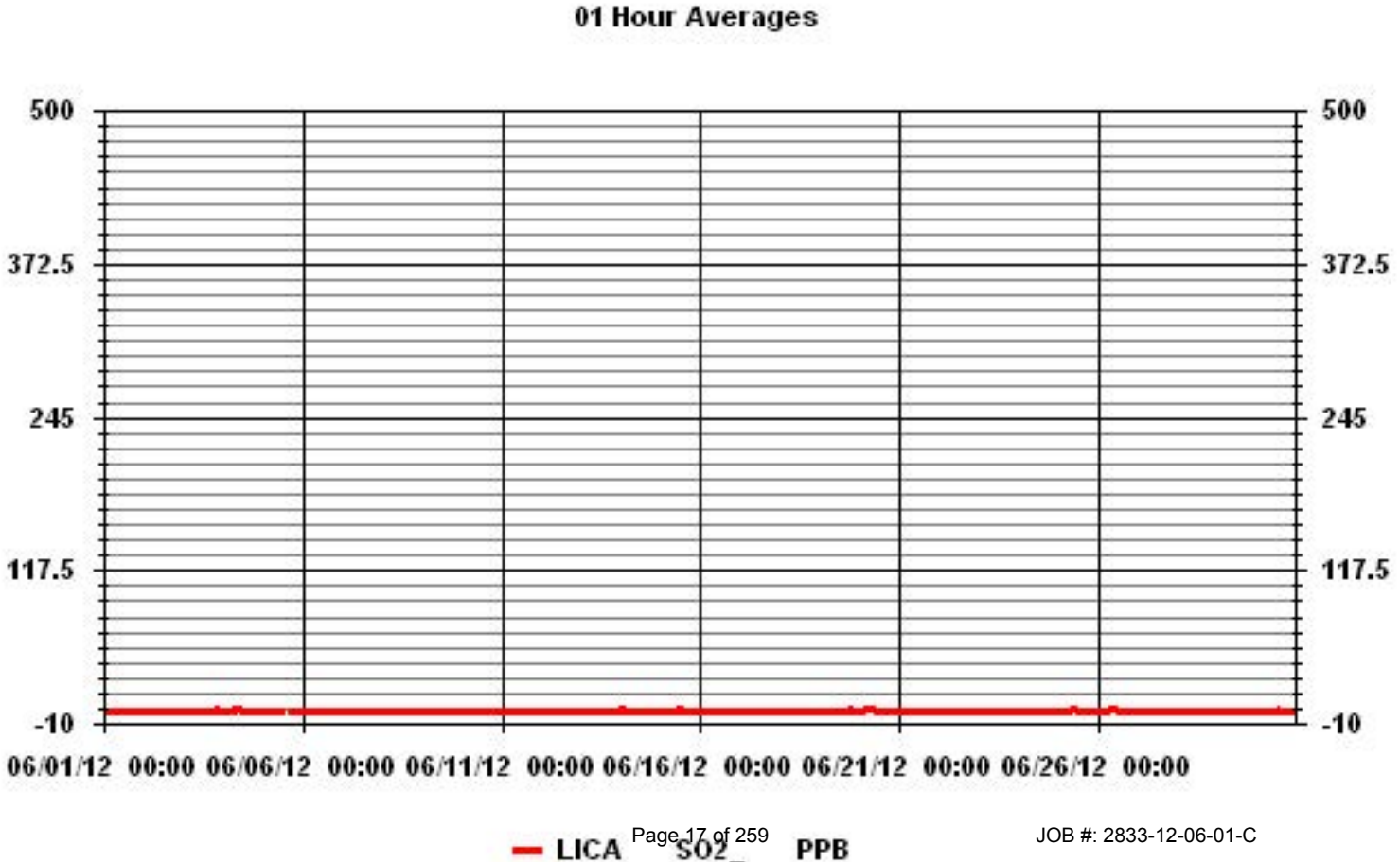


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	40					
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.4	PPB			ON DAY(S)	VAR
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		717	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	0.27		MONTHLY AVERAGE:		0.06	PPB

JOB #: 2833-12-06-01-C



JOB #: 2833-12-06-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

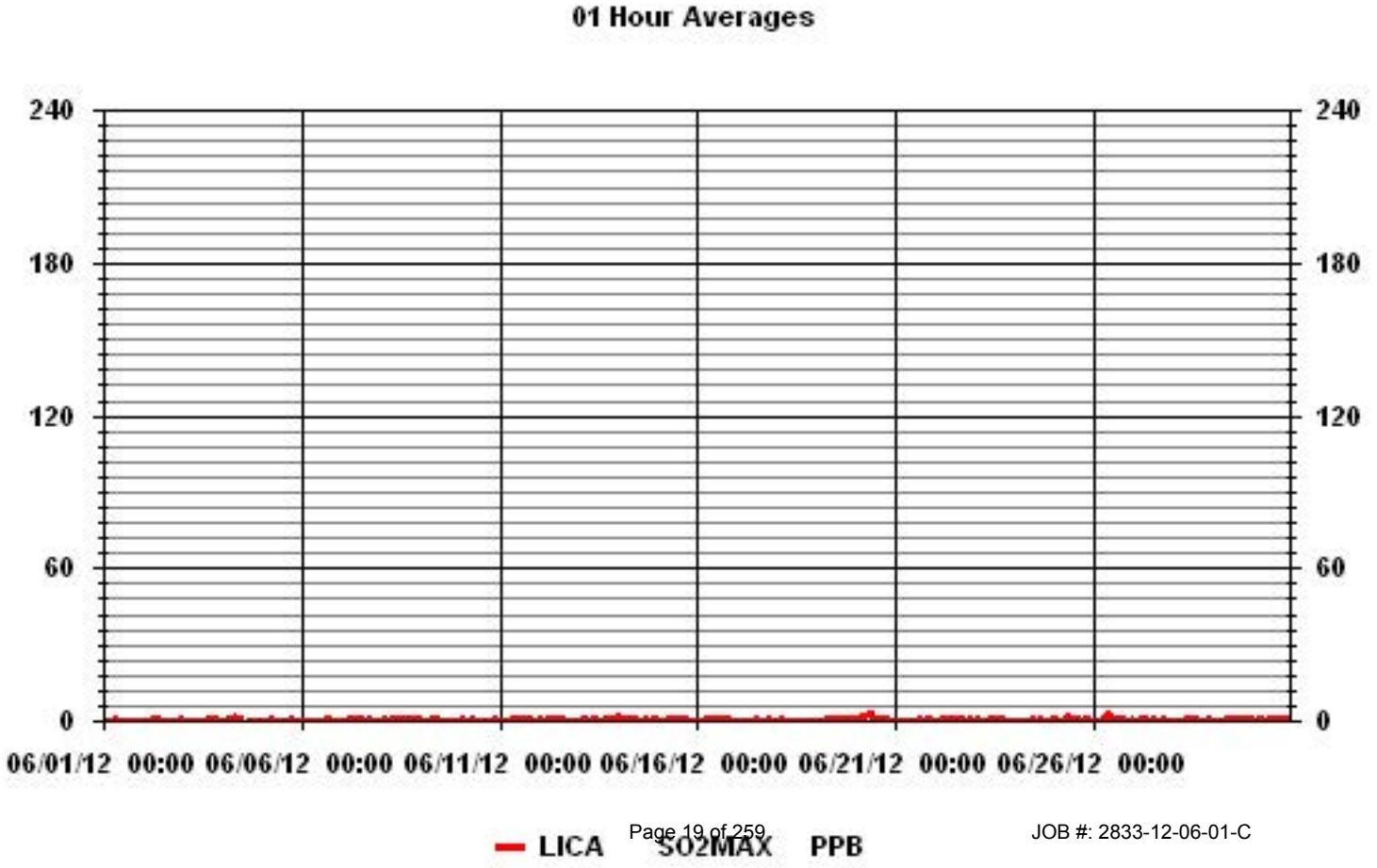
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00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

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	247					
MAXIMUM INSTANTANEOUS VALUE:	3	PPB	@ HOUR(S)	9, 10	ON DAY(S)	26
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		716	HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.54					



JOB #: 2833-12-06-01-C

LICA
SO2_ / WDR Joint Frequency Distribution (Percent)

June 2012

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	2.93	4.99	6.46	4.11	9.10	5.13	13.21	4.55	3.23	4.40	6.31	9.10	10.86	8.81	4.55	2.20	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	2.93	4.99	6.46	4.11	9.10	5.13	13.21	4.55	3.23	4.40	6.31	9.10	10.86	8.81	4.55	2.20	

Calm : .00 %

Total # Operational Hours : 681

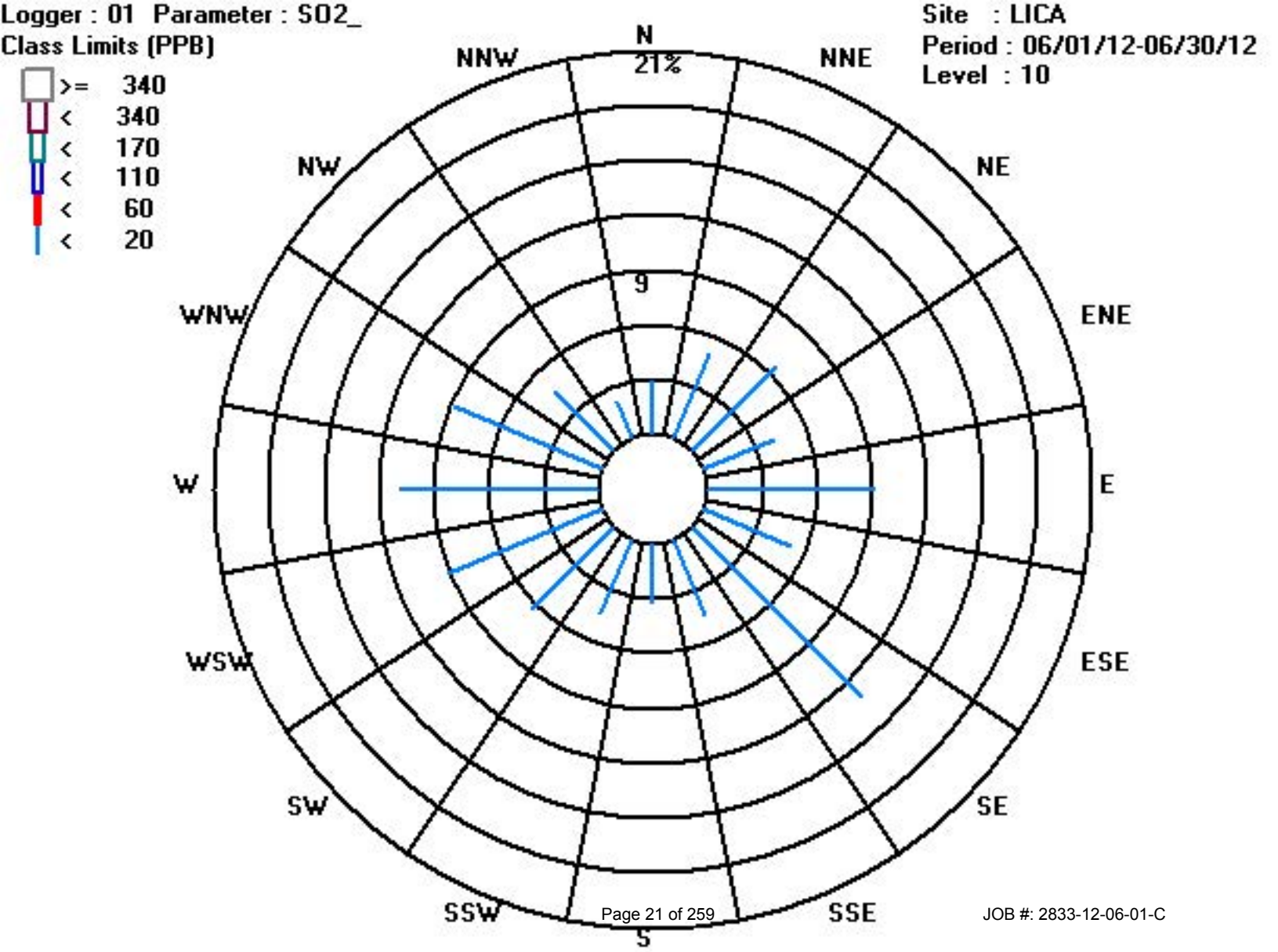
Distribution By Samples

Direction

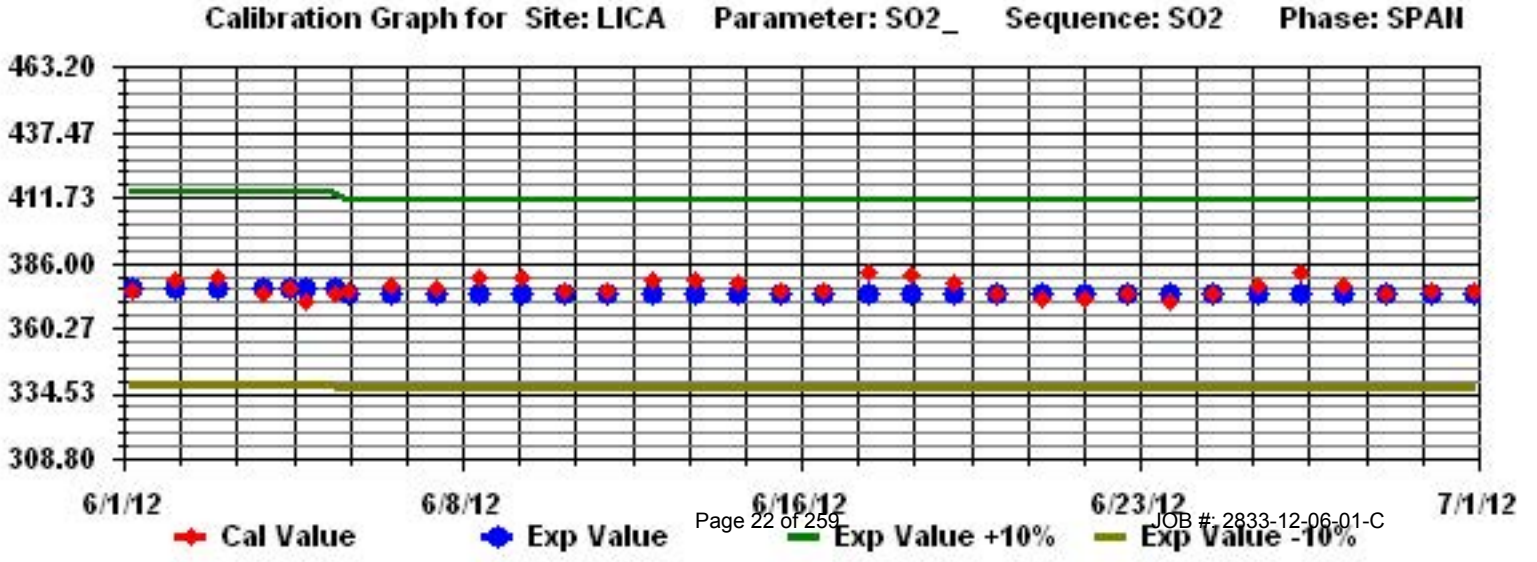
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	20	34	44	28	62	35	90	31	22	30	43	62	74	60	31	15	681
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	20	34	44	28	62	35	90	31	22	30	43	62	74	60	31	15	

Calm : .00 %

Total # Operational Hours : 681



JOB #: 2833-12-06-01-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
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

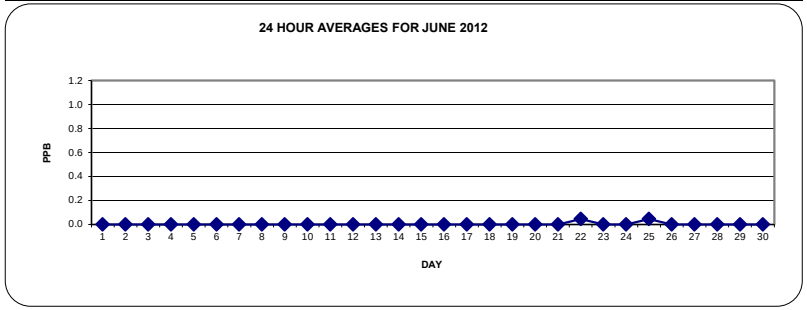
TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

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	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
4	0	**IZS**	0	0	0	0	0	0	**C**	**C**	**M**	**M**	**M**	0	0	0	0	0	0	0	0	0	0	0	0	0.0	21
5	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	0	0	0	0	0	0	**IZS**	0	0.0	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0.0	24
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	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	**IZS**	0	0	0	0	0.0	24
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0.0	24
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0.0	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0.0	24
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0.0	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0.0	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0.0	24
15	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	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	**IZS**	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	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
19	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
22	0	0	0	0	0	**1**	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0.0	24
23	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0.0	24
26	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0.0	24
HOURLY MAX	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	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	0.0	0.0	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

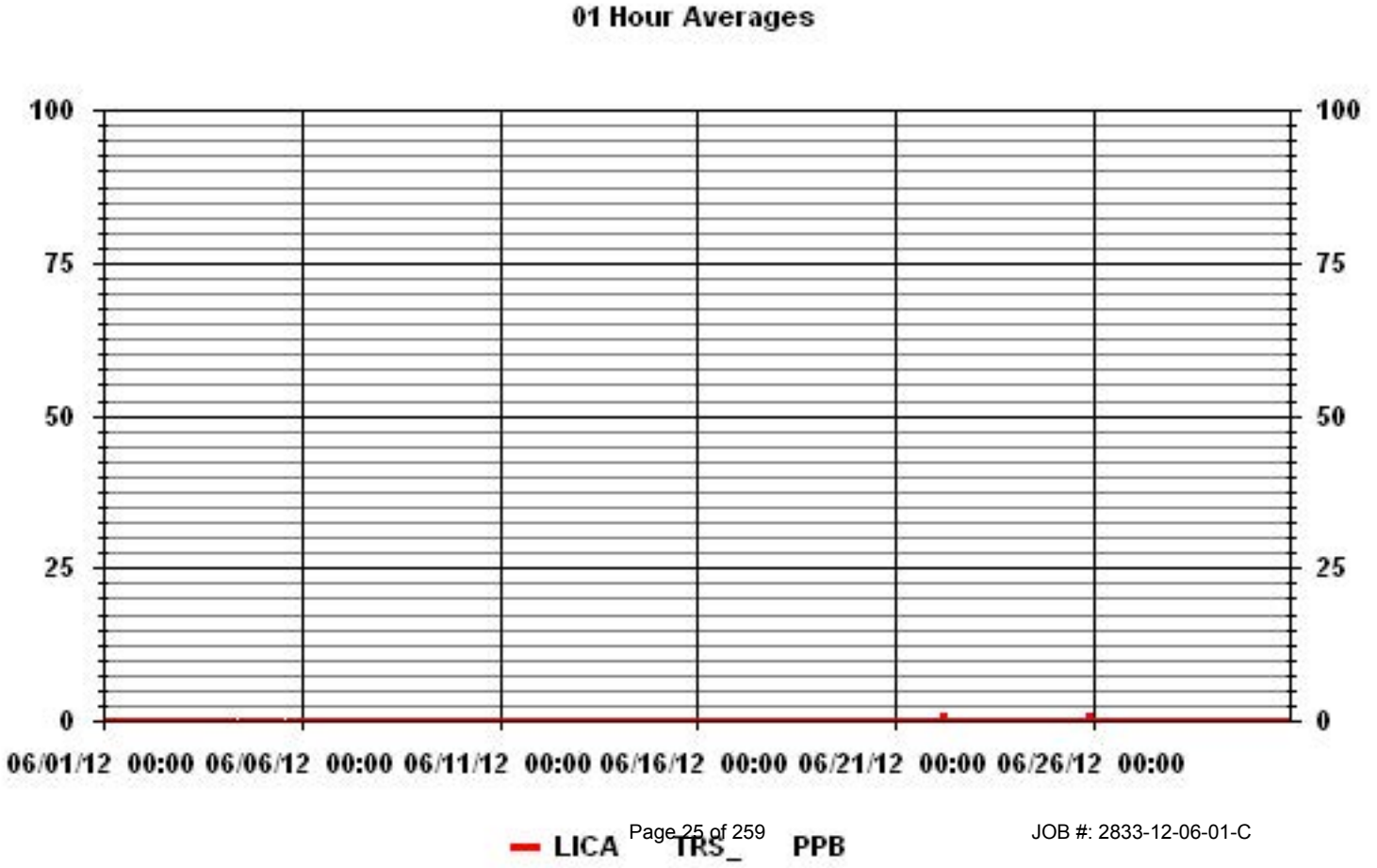
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	2					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	5, 22	ON DAY(S)	22, 25
MAXIMUM 24-HR AVERAGE:	0.0	PPB			ON DAY(S)	ALL
					VAR-VARIOUS	

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	717	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.6	%
STANDARD DEVIATION:	0.05		MONTHLY AVERAGE:	0.00	PPB



JOB #: 2833-12-06-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

TOTAL REDUCED SULPHUR MAX instantaneous maximum in ppb

MST

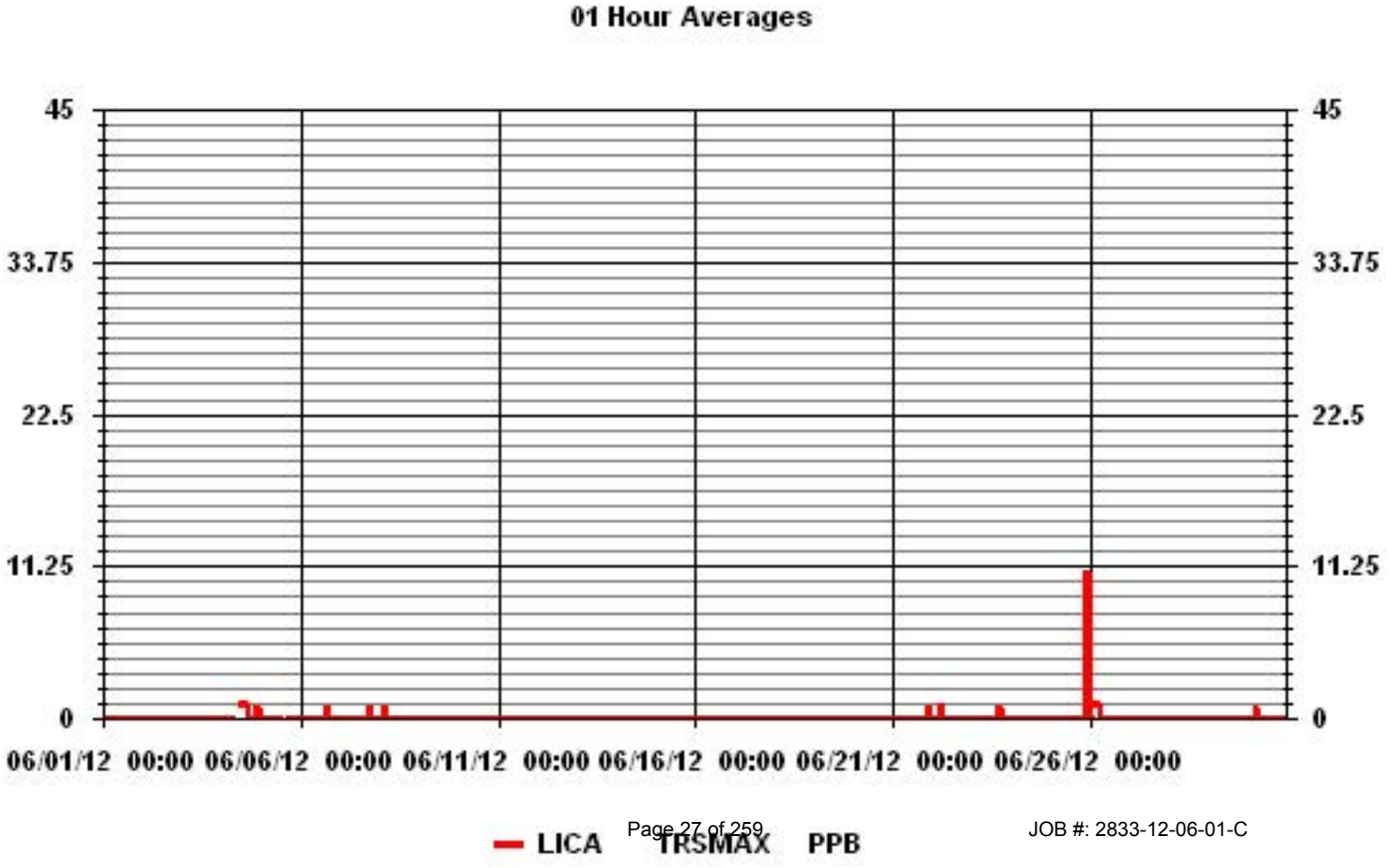
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
4	0	**IZS**	0	0	0	0	0	0	**C**	**C**	**M**	**M**	**M**	1	1	1	0	0	0	0	0	0	1	0	1	0.2	21
5	**IZS**	0	0	0	0	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	**IZS**	0	0.0	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**IZS**	0	1	0.0	24
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**IZS**	0	0	1	0.0	24
8	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
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0.0	24
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	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	**IZS**	0	0	0	0	0	0	0	0.0	24
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0.0	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0.0	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0.0	24
15	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	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	**IZS**	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	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
19	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0	24
22	0	0	0	0	0	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
23	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.0	24
24	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	**11**	1	**11**	0.6	24
26	0	0	**IZS**	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
27	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0.0	24
30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	1	0.0	24
HOURLY MAX	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	2	11	1			
HOURLY AVG	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	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:	17					
MAXIMUM INSTANTANEOUS VALUE:	11	PPB	@ HOUR(S)	22	ON DAY(S)	25
				VAR - VARIOUS		
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		717	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	0.45					



JOB #: 2833-12-06-01-C

LICA
TRS_ / WDR Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : TRS_
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	2.94	4.86	6.48	4.12	9.13	5.15	13.25	4.56	3.09	4.41	6.33	9.13	10.89	8.83	4.56	2.20	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.94	4.86	6.48	4.12	9.13	5.15	13.25	4.56	3.09	4.41	6.33	9.13	10.89	8.83	4.56	2.20	

Calm : .00 %

Total # Operational Hours : 679

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	20	33	44	28	62	35	90	31	21	30	43	62	74	60	31	15	679
< 10																	
< 50																	
>= 50																	
Totals	20	33	44	28	62	35	90	31	21	30	43	62	74	60	31	15	

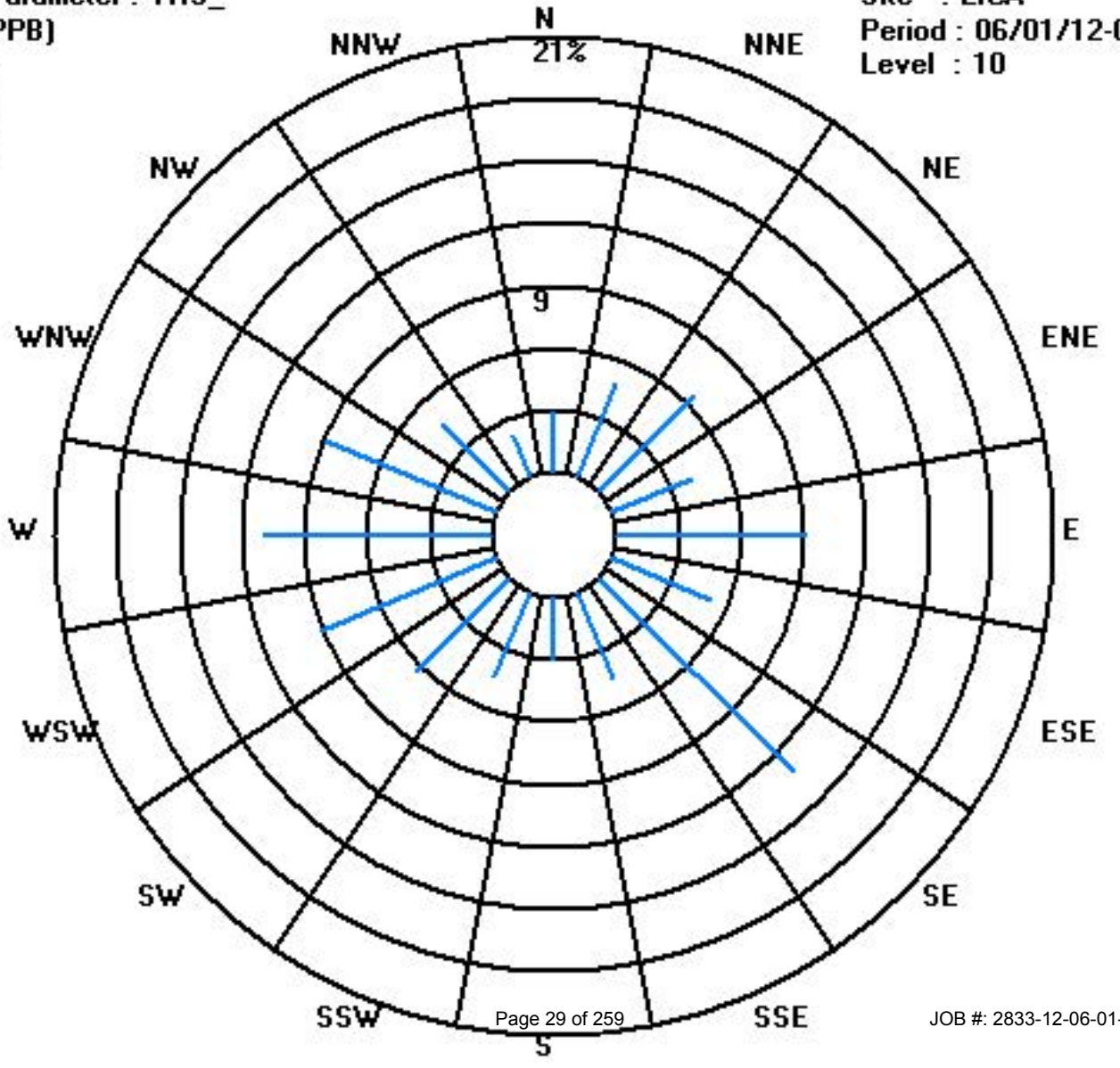
Calm : .00 %

Total # Operational Hours : 679

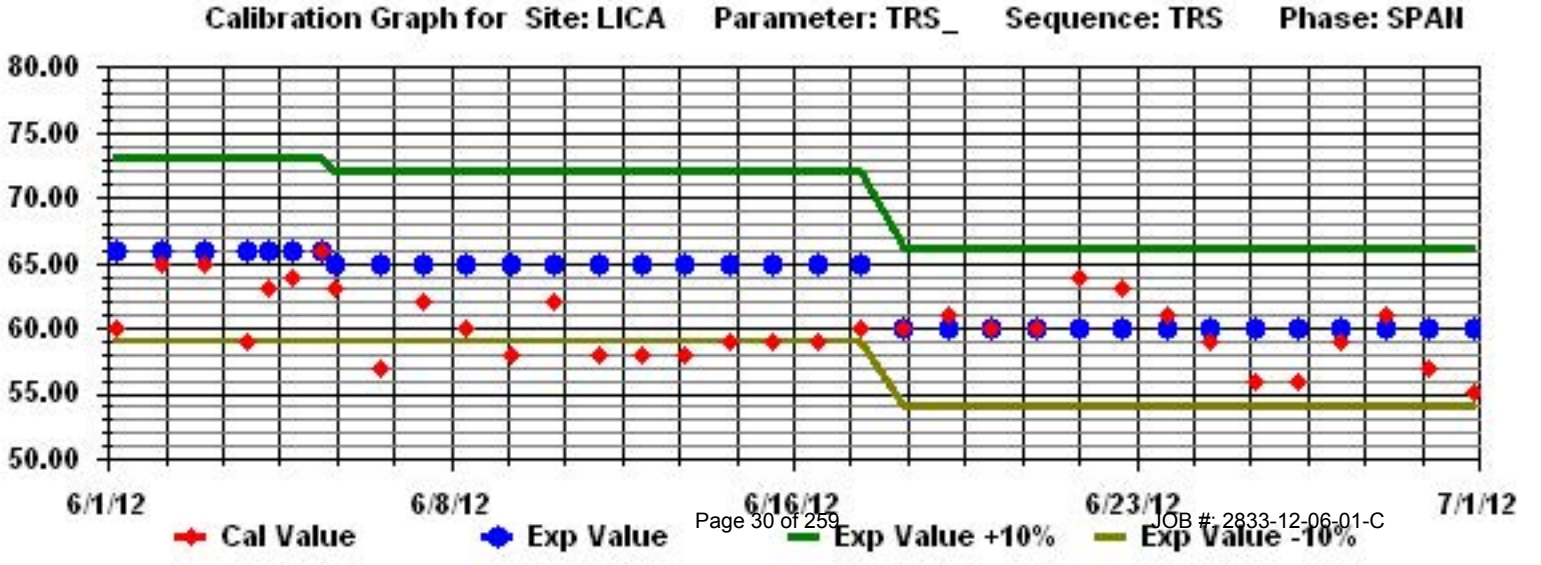
Logger : 01 Parameter : TRS_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-01-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
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

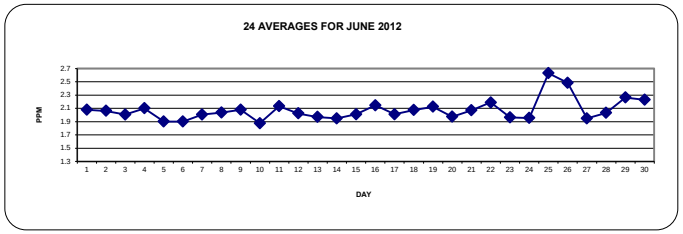
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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

STATUS FLAG CODES

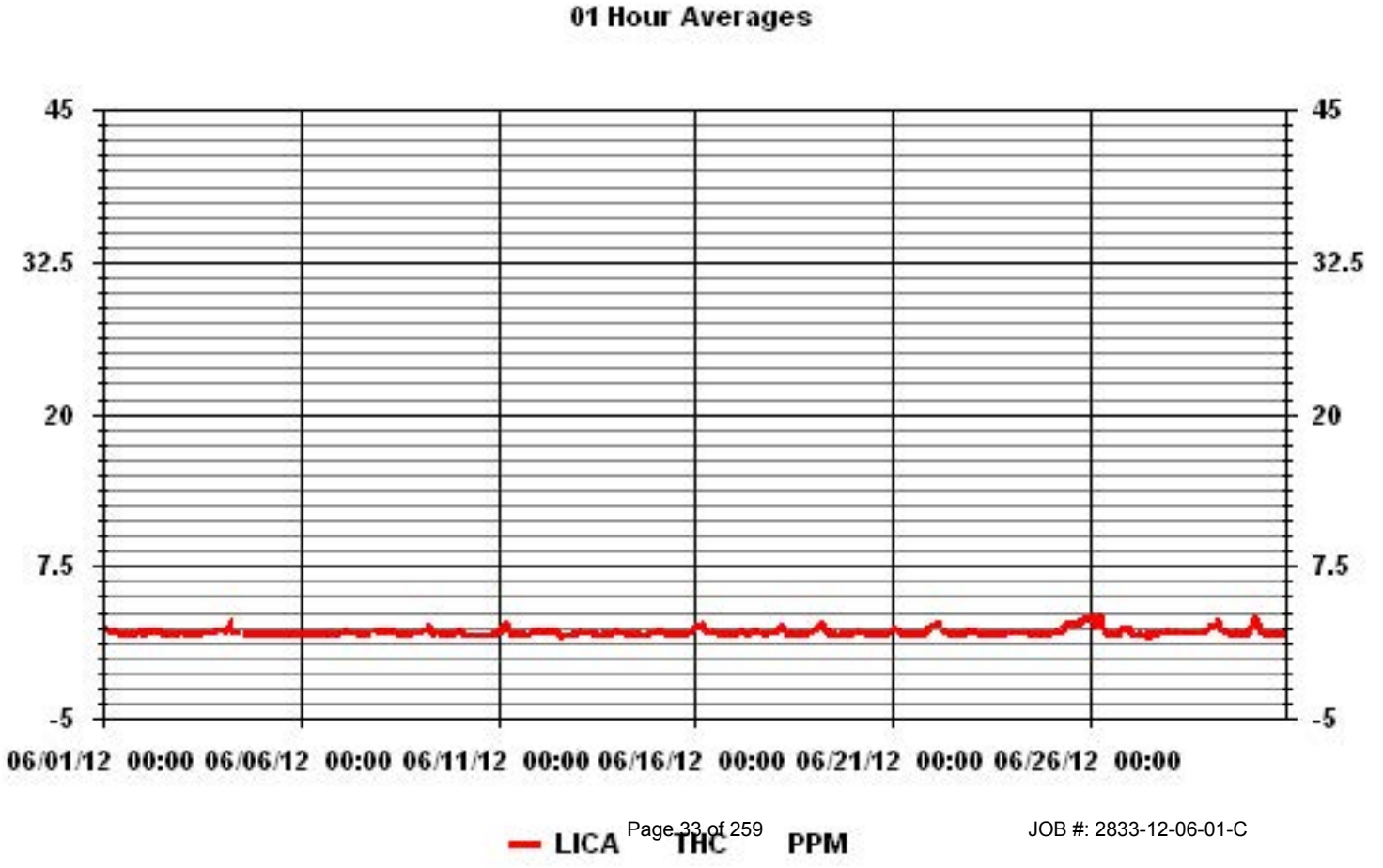
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE
BB	- BELOW BACKGROUND OF 1.5 PPM		



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	676					
MAXIMUM 1-HR AVERAGE:	3.5	PPM	@ HOUR(S)	1	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	2.6	PPM			ON DAY(S)	25

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	718	HRS
MONTHLY CALIBRATION TIME:	10	HRS	AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	0.27		MONTHLY AVERAGE:	2.07	PPM



JOB #: 2833-12-06-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

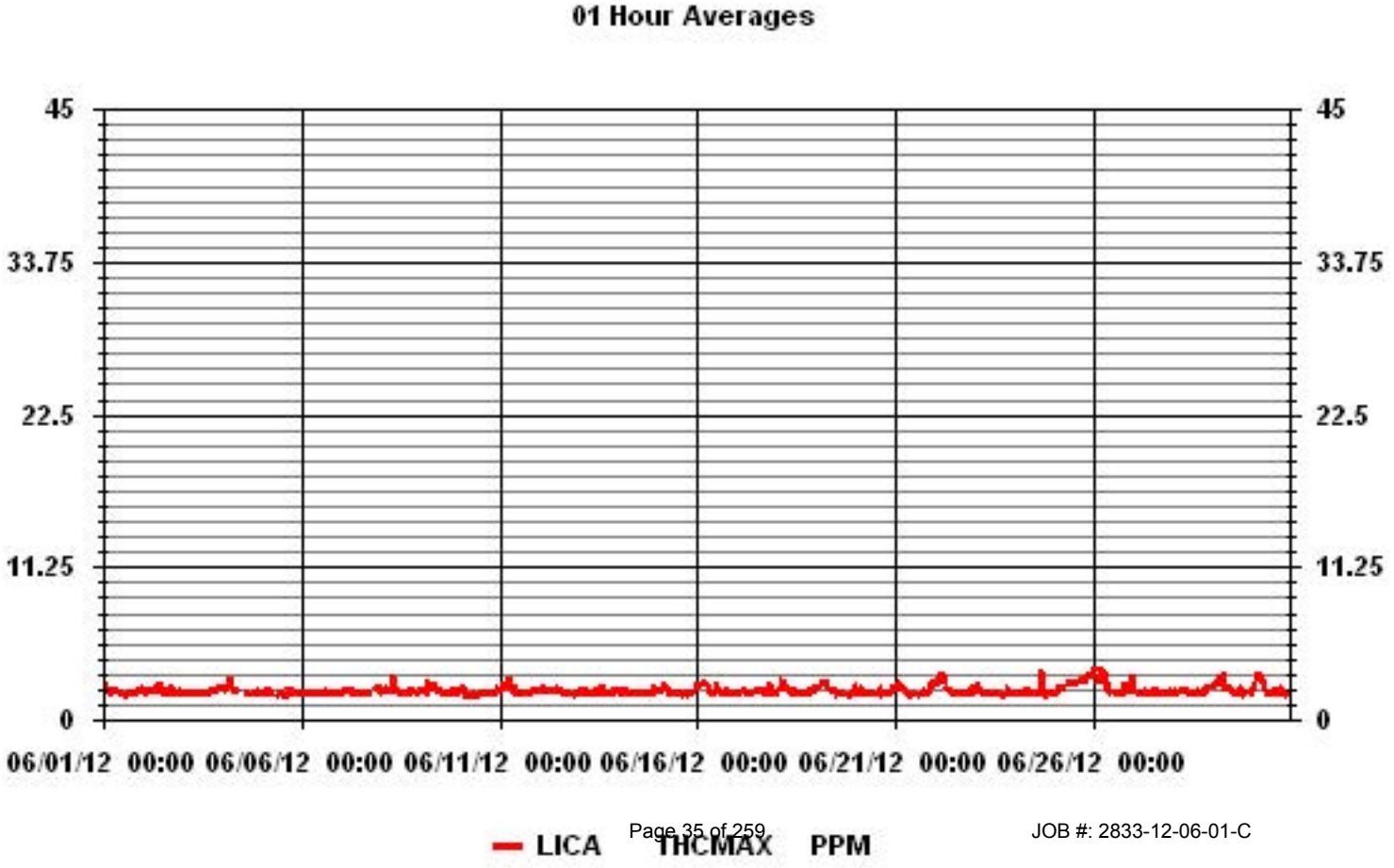
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00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

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	672						
MAXIMUM INSTANTANEOUS VALUE:	3.7	PPM	@ HOUR(S)	VAR	ON DAY(S)	24, 26	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			717	HRS
MONTHLY CALIBRATION TIME:	13	HRS					
STANDARD DEVIATION:	0.32						



JOB #: 2833-12-06-01-C

LICA
THC / WD Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : THC
Units : PPM

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	2.81	4.88	6.36	4.58	9.02	5.02	13.16	4.14	2.95	4.28	6.06	8.57	10.65	8.57	4.58	2.21	97.92
<	10.0	.14	.00	.00	.00	.00	.14	.14	.29	.14	.00	.29	.44	.29	.14	.00	.00	2.07
<	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	2.95	4.88	6.36	4.58	9.02	5.17	13.31	4.43	3.10	4.28	6.36	9.02	10.94	8.72	4.58	2.21	

Calm : .00 %

Total # Operational Hours : 676

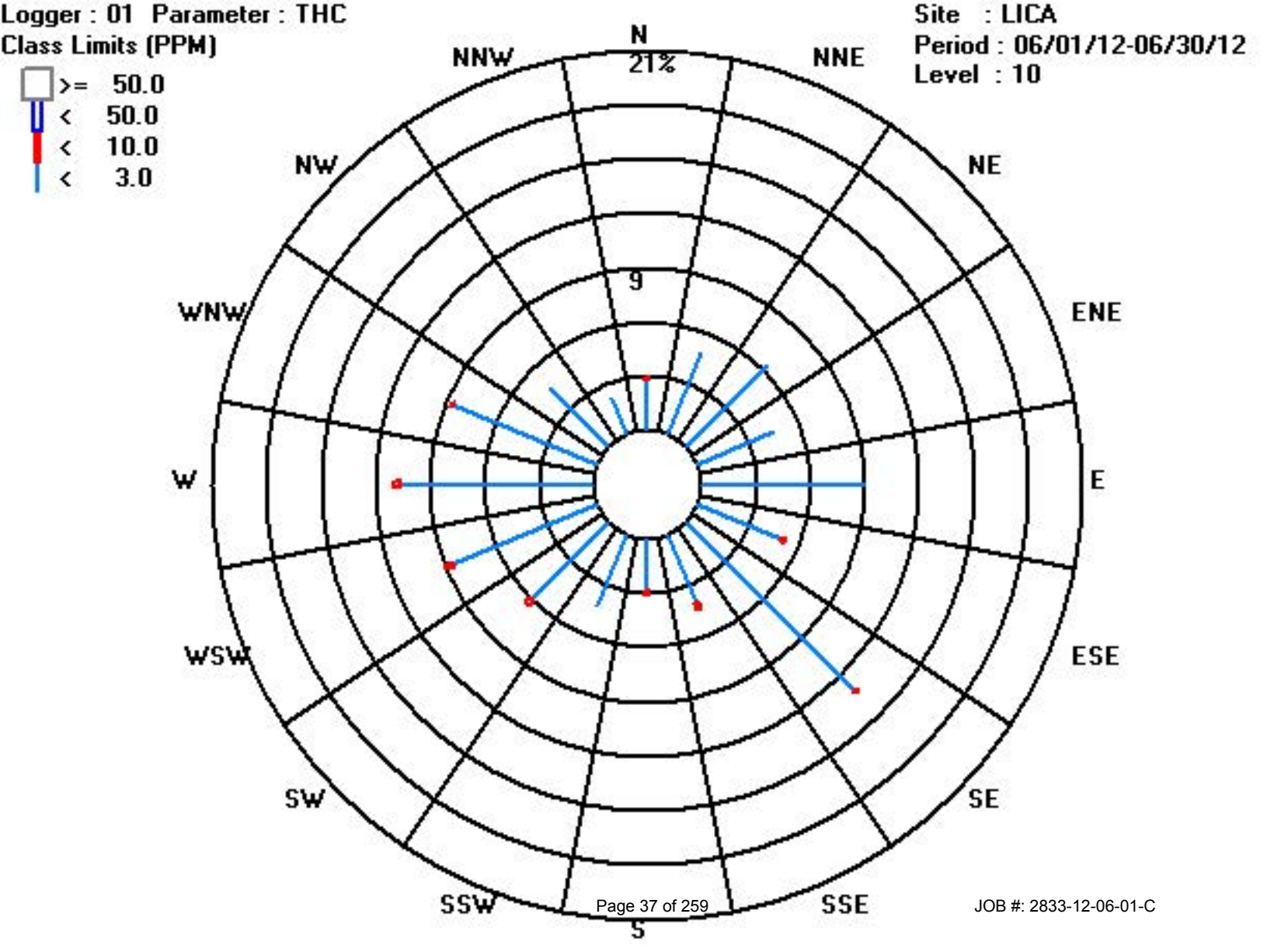
Distribution By Samples

Direction

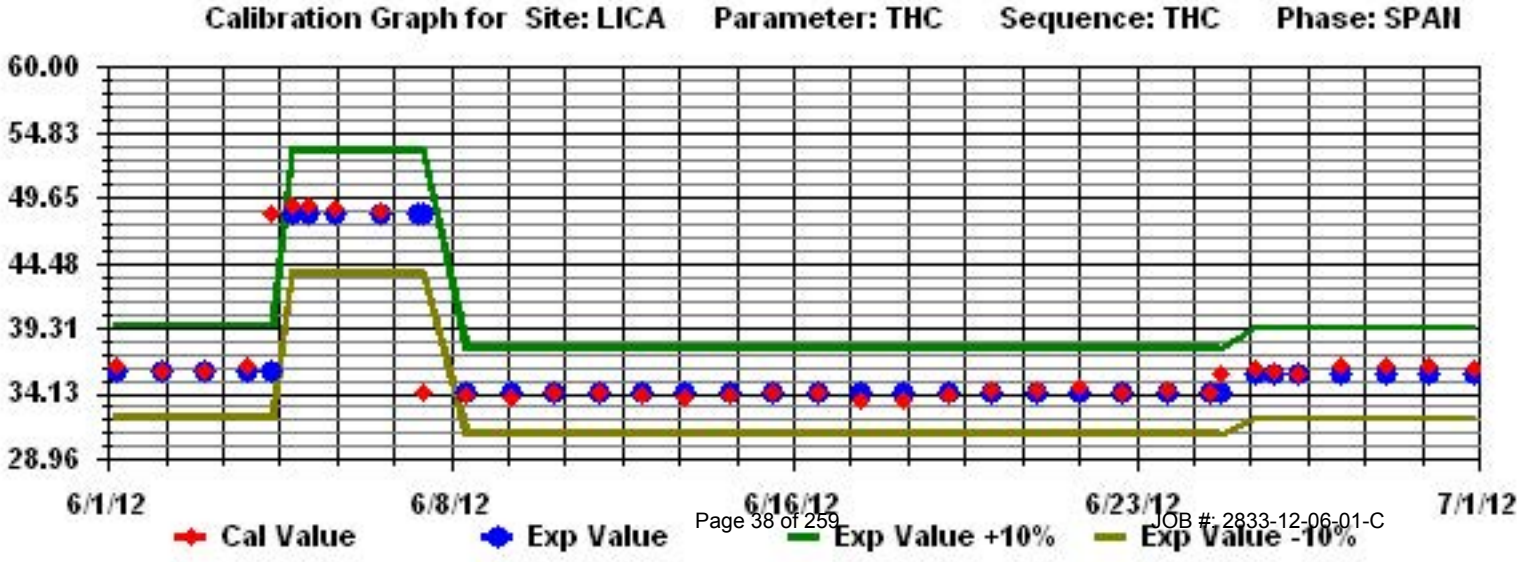
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	19	33	43	31	61	34	89	28	20	29	41	58	72	58	31	15	662
<	10.0	1					1	1	2	1		2	3	2	1			14
<	50.0																	
>=	50.0																	
	Totals	20	33	43	31	61	35	90	30	21	29	43	61	74	59	31	15	

Calm : .00 %

Total # Operational Hours : 676



JOB #: 2833-12-06-01-C


Calibration Graph for Site: LICA Parameter: THC Sequence: THC Phase: SPAN
60.00
54.83
49.65
44.48
39.31
34.13
28.96
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

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

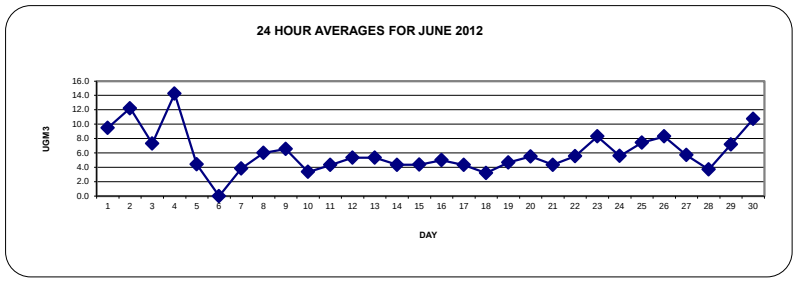
MST

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	12.5	6.9	7.9	2.9	2.9	11	7.5	9.4	3.4	7.9	11.5	8.4	6	4.4	7.9	15	19.5	14.4	7.9	10.5	12	14.9	14.9	8.4	19.5	9.5	24
2	17	20	13	5.5	9	6.9	18.5	12.5	13.5	19	14.5	9.9	16	13	18.5	8.4	7.9	6	17.5	10.9	12	6.5	7.9	9.4	20.0	12.2	24
3	9	6.5	3.4	6	6.5	1	6.5	1.4	2.5	6.9	4.4	5.5	7.5	7.5	9.5	12	7.5	3.4	6.5	6.5	12.5	12.5	15.5	14.5	15.5	7.3	24
4	16	9	15	9	17	8.5	9.4	16.5	17.5	17	10.5	29	15	21	24.5	15	21.5	13	11	11.5	8.4	12.5	10.9	3.4	29.0	**14.3**	24
5	5	1.4	2.5	2.5	4.4	4.4	5.5	4.4	9.9	4.4	5.5	6	7	10.5	**C**	1.9	4.4	3.4	4.4	2.9	2.5	3.4	0	5	10.5	4.4	24
6	2.5	6.5	2.9	5.5	4	4.4	5	3.4	2.5	8.4	7.5	9	2.9	6	5.5	6.5	10.5	9.4	10.5	9	10.9	13	11.5	10.9	13.0	0.0	24
7	7	4.4	1	5	1.9	0	1.9	0	**N**	1.9	3.4	2.5	1.9	4	4.4	2.5	5	2.9	4	3.4	3.4	7.5	9.9	10.5	10.5	3.8	23
8	6	6	5	4	5	5	6.5	6.5	**N**	7.5	7.5	4	4	3.4	6	1	6	2.9	6.5	12.5	24.5	7.5	1	0	24.5	6.0	23
9	7.9	2.5	6	3.4	6.9	7.9	6.9	7.5	9.4	4	8.4	7.5	9.5	9.4	4.4	2.9	6.5	5	3.4	6	12.5	5.5	5.5	8.4	12.5	6.6	24
10	9.9	9	9.4	6	4.4	1.4	1.9	0	2.9	0	2.9	4	5	1.4	0	2.5	0	4.4	0	4	0.5	4.4	0.5	6	9.9	3.4	24
11	1.9	3.4	2.9	7	3.4	7.5	6	4.4	1.4	2.5	0	4.4	1	5	2.5	7.9	4	9.9	2.5	6.5	1.9	7.5	3.4	6.9	9.9	4.3	24
12	3.4	9.9	4.4	7.9	5	9	7.5	12	5.5	8.4	5	9	2.5	1.4	0.5	6	2	7.5	0	5	0	7	3.4	6	12.0	5.3	24
13	6.9	9.9	4.4	7.9	6.9	7.5	1.4	7.5	5	7.5	5.5	7.5	4	5.5	2.9	4.4	7.9	7.5	1.9	4	2.5	4.4	1.9	3.4	9.9	5.3	24
14	4	5	2.5	4.4	1.4	3.4	2.9	6	5	7	7.5	4.4	3.4	2.5	1.4	4.4	4	4	2.9	6	3.4	7.5	5	6.5	7.5	4.4	24
15	4	5	3.4	6	5.4	4.4	2.5	6.8	5.5	3.4	3.4	3.4	2	2.5	3.5	3.4	6.1	4	4.9	7	4.6	5.4	4	4.5	7.0	4.4	24
16	5.4	6	3.4	5.4	7.4	1.5	5.9	5.6	7.9	2.5	6	3.4	7.4	4	5.1	4.2	7.7	1.4	4.3	4.6	6.8	3.4	4.4	6.1	7.9	5.0	24
17	6.8	3.8	1.3	0	6	4.8	3.1	3.3	6	1.2	7.1	2.3	5.5	5	6.5	3.2	4.8	6	6.8	0	7.7	2.2	6.1	4.4	7.7	4.3	24
18	4.6	3.2	4.7	2.7	5.5	0.7	2.9	1.4	5.5	1.7	2.1	5.9	5.3	4.4	1.7	1	4.7	1.7	0.2	0.4	3.4	6.5	4	2.9	6.5	3.2	24
19	5	1.4	5.5	2.7	5	4.4	6.3	5	4.4	5.5	4.2	5.3	0	2.5	4.2	0.5	2	5.5	2.9	9.1	7	8.3	5.2	10.5	10.5	4.7	24
20	7.5	10.6	5.5	6.9	4.6	8.5	4	7.5	**N**	7.3	2.3	7.9	0	7.4	0	6.9	2.7	4.4	0	6	2	9.3	2	13.9	13.9	5.5	23
21	6.3	9.4	5	8	1.3	9	0	4.4	**N**	4.5	2	4.9	0	4.4	0	7	0.4	8.5	0.5	6.5	0	7.5	2.9	7.4	9.4	4.3	23
22	0	7.9	2.9	5.5	2.5	8.4	1.9	8.4	4.4	8.4	3.4	6.5	3.4	4.4	5.5	7.5	6.5	6.5	4	7.9	6.5	8.4	4.4	7.9	8.4	5.5	24
23	6.5	12	10.5	9.4	8.4	7.5	7.5	5.5	5	6	6.5	9	9	7.9	9	10.5	6	8.5	7.9	9.4	9	9.9	8.4	9.9	12.0	8.3	24
24	5.5	9.4	1.4	6.9	5.5	5.5	6	5.5	6	11	4	7.5	8.4	4	5	9	6.5	5	1	1.9	3.4	2	6.5	7	11.0	5.6	24
25	1.4	9.9	5.5	4	9	12	7.5	9	4	10.5	9.4	6.5	6.5	7.5	8.4	5	5	5	9.9	7.5	10.5	9	10.5	5	12.0	7.4	24
26	7.5	9.4	2.9	7.5	9.9	2.5	10.5	7.9	11	15	10.5	1	4.4	5.5	5.5	8.4	7.5	9.4	7.9	10.5	13.9	7.5	11.5	11.5	15.0	8.3	24
27	11	7.5	9.4	9.9	6	0	**N**	4	4	0.4	6.5	1	2.9	5	6	6	6	4	7	10.5	7.5	4.4	8.5	4	11.0	5.7	23
28	6	1	0.4	0	1	0	5	3.4	0.5	8.4	4	3.4	6	0.5	5.5	5.5	4.4	2.9	2.9	2.9	2.9	6	5.5	10.5	10.5	3.7	24
29	9	8.4	4	6.5	5	9.9	2.5	9.4	7.9	6.5	1.4	7.5	2.5	11.5	2.5	8.4	1.9	9.9	3.4	9	7.5	17.5	2.9	17	17.5	7.2	24
30	0	9.9	4	10.5	2.9	6	6	7.9	2.9	9	1	4	0	7	7	9.9	8	9	7.9	22	26.5	32.5	28.5	**35**	**35.0**	10.7	24
HOURLY MAX	17	20	15	11	17	12	19	17	18	19	15	29	16	21	25	15	22	14	18	22	27	33	29	35			
HOURLY AVG	6.5	7.2	5.0	5.6	5.5	5.4	5.5	6.2	5.9	6.8	5.6	6.4	5.0	6.0	5.6	6.2	6.2	6.2	5.0	7.1	7.5	8.5	6.9	8.6			

STATUS FLAG CODES

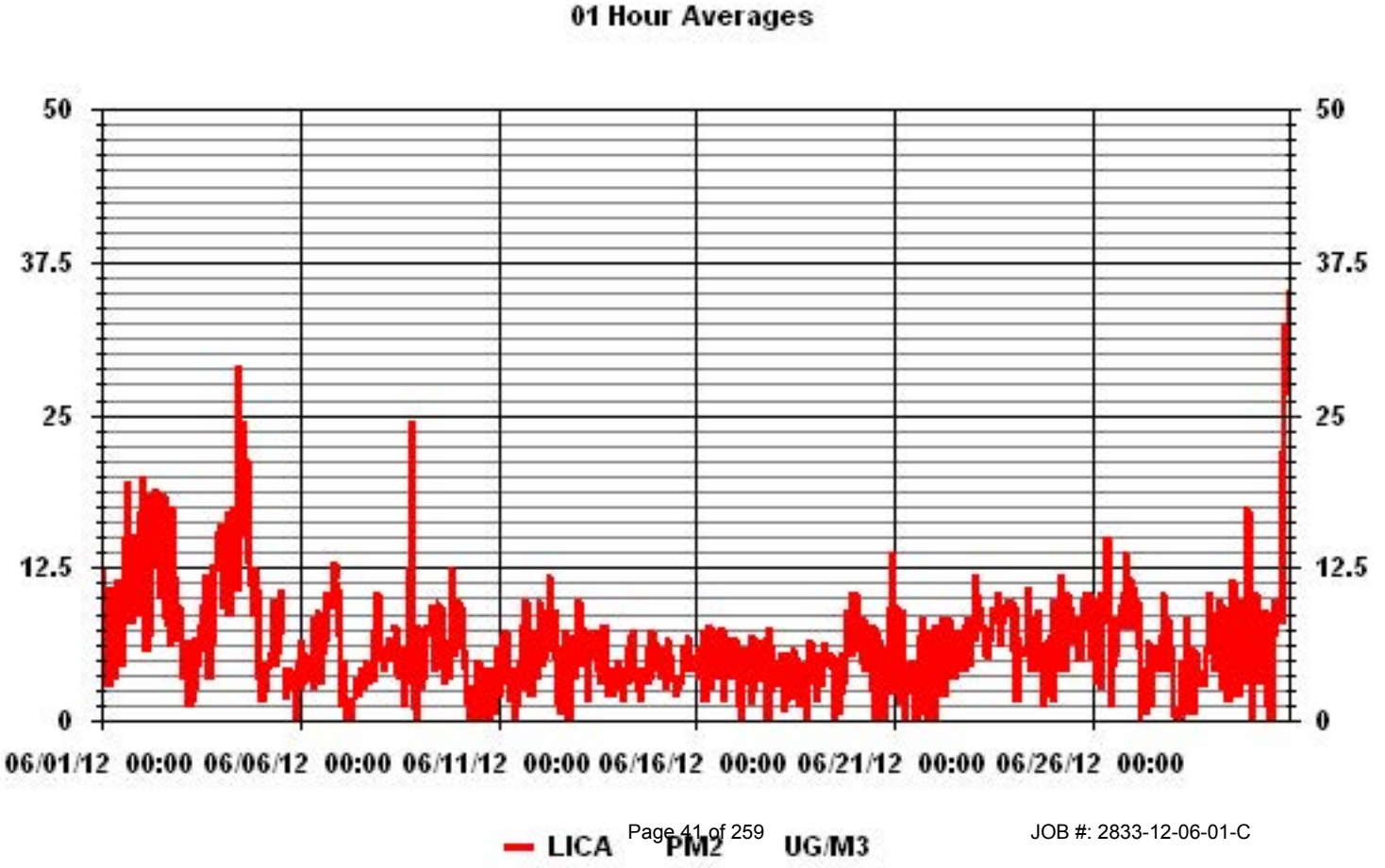
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR - 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:	686					
MAXIMUM 1-HR AVERAGE:	35.0	UG/M^3	@ HOUR(S)	23	ON DAY(S)	30
MAXIMUM 24-HR AVERAGE:	14.3	UG/M^3			ON DAY(S)	4
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		715	HRS
MONTHLY CALIBRATION TIME:	1	HRS	AMD OPERATION UPTIME:		99.3	%
STANDARD DEVIATION:	4.40		MONTHLY AVERAGE:		6.27	UG/M^3



JOB #: 2833-12-06-01-C

LICA
PM2 / WD Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : PM2
Units : UG/M3

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	2.94	4.76	6.44	5.32	8.96	5.32	12.46	4.48	3.36	4.34	6.30	9.10	10.64	8.68	4.34	2.24	99.71
<	60.0	.00	.00	.00	.00	.00	.00	.28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.28
<	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	2.94	4.76	6.44	5.32	8.96	5.32	12.74	4.48	3.36	4.34	6.30	9.10	10.64	8.68	4.34	2.24	

Calm : .00 %

Total # Operational Hours : 714

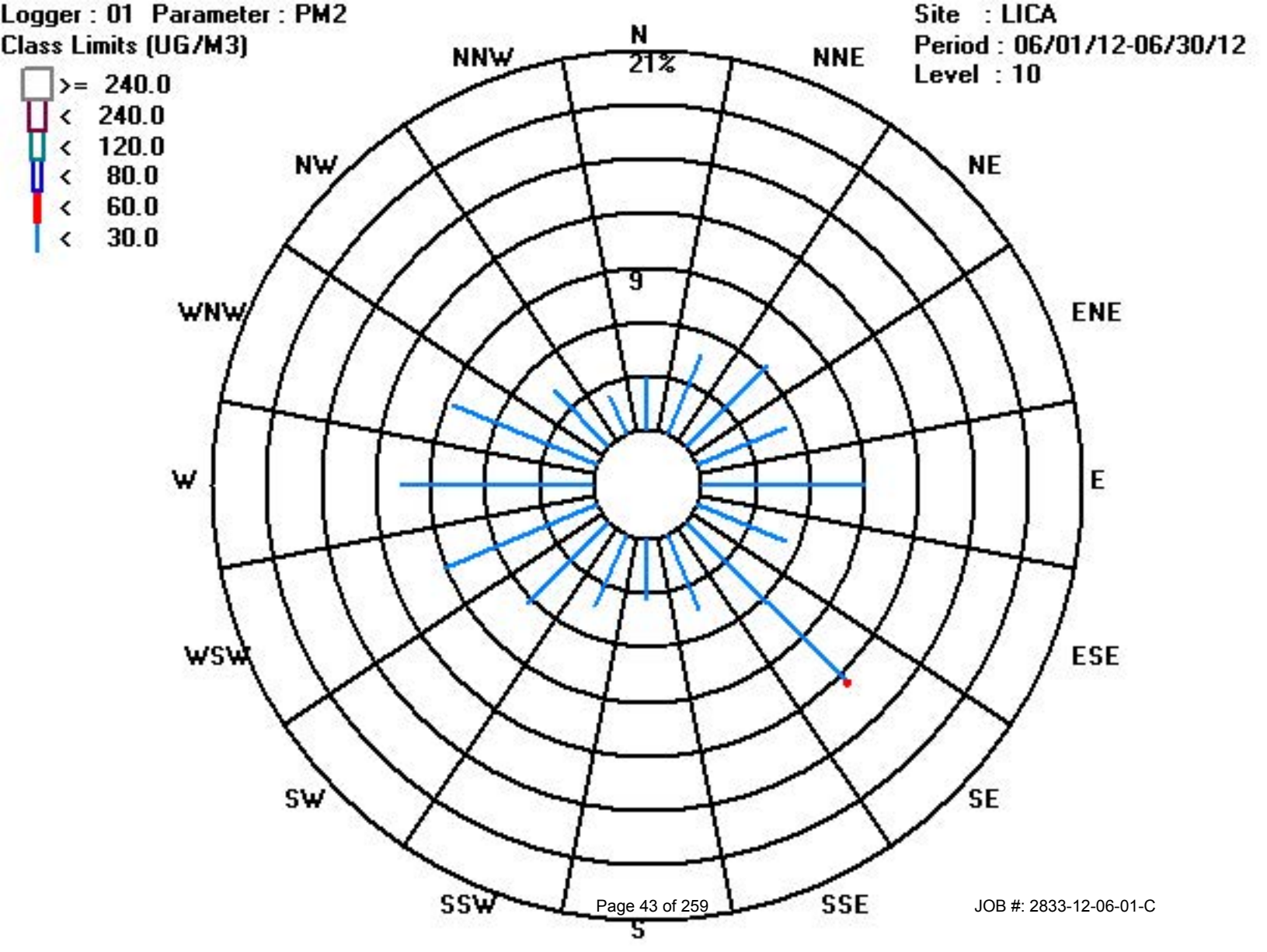
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	21	34	46	38	64	38	89	32	24	31	45	65	76	62	31	16	712
<	60.0							2										2
<	80.0																	
<	120.0																	
<	240.0																	
>=	240.0																	
	Totals	21	34	46	38	64	38	91	32	24	31	45	65	76	62	31	16	

Calm : .00 %

Total # Operational Hours : 714



JOB #: 2833-12-06-01-C

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

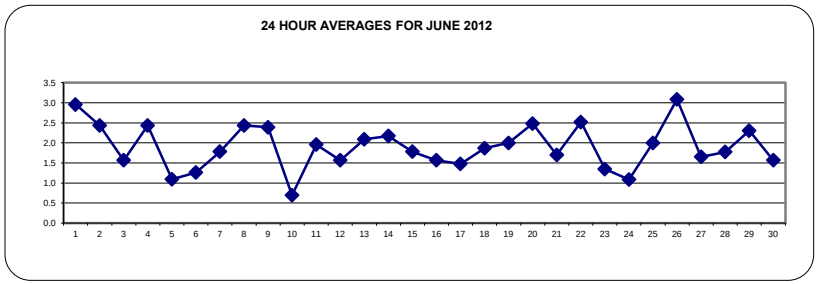
NITROGEN DIOXIDE hourly averages in ppb

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	4	4	4	4	**IZS**	5	5	4	4	3	2	1	1	1	1	1	1	1	1	3	4	5	5	4	5	3.0	24
2	5	3	2	**IZS**	2	3	3	2	3	2	2	2	2	3	2	1	3	2	2	2	2	2	2	4	5	2.4	24
3	2	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	3	4	3	3	4	1.6	24
4	2	**IZS**	2	1	2	6	5	**7**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	2	2	2	2	2	1	**7**	2.4	24
5	**IZS**	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	**M**	1	1	1	1	1	1	**IZS**	2	1.1	23
6	1	0	1	1	1	1	1	1	1	1	1	1	2	2	2	1	2	2	1	1	1	2	**IZS**	2	2	1.3	24
7	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	**IZS**	**7**	5	**7**	1.8	24
8	3	3	2	3	4	5	4	2	2	2	3	2	1	1	1	1	1	1	3	5	**IZS**	3	2	2	5	2.4	24
9	2	3	3	3	3	2	3	4	3	3	3	2	3	2	1	1	1	1	2	**IZS**	2	3	2	3	4	2.4	24
10	3	4	4	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**IZS**	0	1	0	1	1	4	0.7	24
11	1	2	3	3	2	3	5	3	2	3	2	1	1	1	1	1	1	**IZS**	1	2	3	2	1	1	5	2.0	24
12	1	2	2	2	2	2	1	1	2	2	2	2	2	2	1	1	**IZS**	1	1	2	1	1	2	1	2	1.6	24
13	1	2	2	2	1	3	2	3	3	2	2	2	1	1	1	**IZS**	2	1	1	3	3	2	3	5	5	2.1	24
14	6	6	5	3	3	3	2	1	2	1	1	1	1	0	**IZS**	1	1	1	1	1	1	3	3	3	6	2.2	24
15	2	2	2	1	2	2	3	2	1	1	1	1	1	**IZS**	1	1	1	1	1	1	2	2	3	4	4	1.8	24
16	4	3	3	2	2	2	2	2	1	1	1	1	**IZS**	1	1	1	1	1	1	1	2	1	1	1	4	1.6	24
17	1	1	1	2	2	1	1	1	1	1	2	**IZS**	2	2	1	1	1	2	2	2	3	1	2	1	3	1.5	24
18	2	2	1	2	3	2	2	3	3	2	**IZS**	2	1	1	1	1	1	1	1	1	2	4	3	2	4	1.9	24
19	2	2	1	2	2	3	4	5	2	**IZS**	2	2	2	2	1	1	1	2	1	1	2	2	2	2	5	2.0	24
20	2	2	2	4	6	5	5	3	**IZS**	2	1	2	1	2	2	1	1	1	1	2	3	2	3	4	6	2.5	24
21	4	3	2	2	1	2	3	**IZS**	1	1	1	1	1	0	1	0	1	1	1	2	3	3	2	3	4	1.7	24
22	3	3	2	2	2	4	**IZS**	6	6	3	2	1	1	1	1	1	1	1	1	2	3	3	4	5	6	2.5	24
23	3	3	2	2	2	**IZS**	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	3	2	1	3	1.3	24
24	1	1	1	1	**IZS**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1.1	24
25	1	1	1	**IZS**	2	2	2	2	3	3	2	1	1	1	1	1	1	1	2	4	5	3	3	3	5	2.0	24
26	3	3	**IZS**	2	2	4	5	6	6	6	4	2	2	2	2	2	2	2	2	3	3	2	3	3	6	**3.1**	24
27	3	**IZS**	2	2	1	1	4	2	1	1	1	1	1	2	2	2	1	1	1	1	1	2	3	2	4	1.7	24
28	**IZS**	2	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	4	3	3	**IZS**	4	1.8	24
29	2	2	1	1	1	2	4	5	5	4	3	2	2	2	2	2	1	2	2	2	1	2	3	**IZS**	5	2.3	24
30	2	2	2	2	2	2	3	2	2	1	1	1	1	1	1	1	1	1	2	1	2	**IZS**	2	1	3	1.6	24
HOURLY MAX	6	6	5	4	6	6	5	7	6	6	4	2	3	3	2	2	3	2	3	5	5	5	7	5			
HOURLY AVG	2.4	2.3	2.1	2.0	2.0	2.5	2.6	2.6	2.2	1.8	1.6	1.3	1.3	1.3	1.2	1.0	1.2	1.2	1.4	1.8	2.4	2.3	2.5	2.5			

STATUS FLAG CODES

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



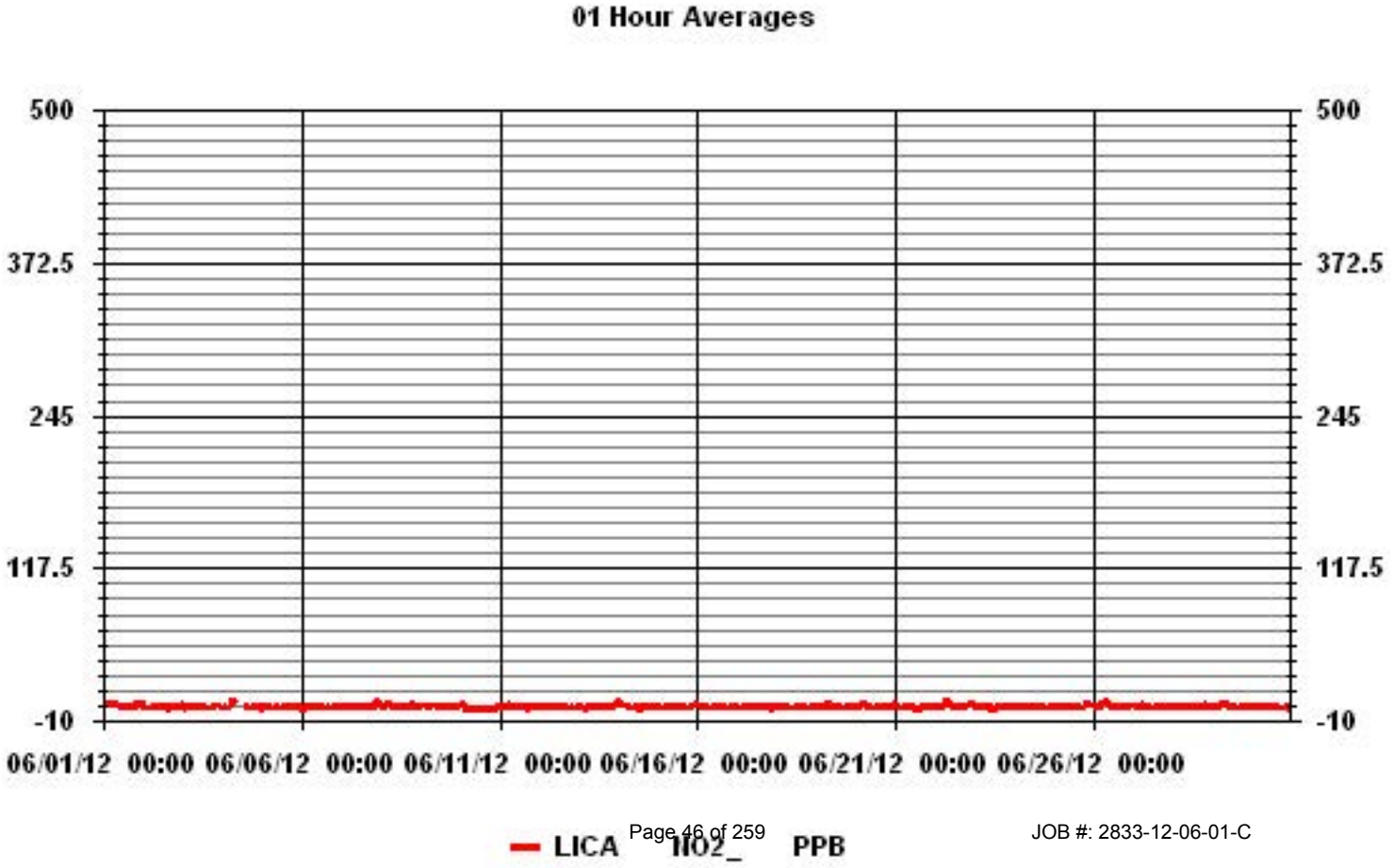
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 159 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	659					
MAXIMUM 1-HR AVERAGE:	7	PPB	@ HOUR(S)	7, 22	ON DAY(S)	4, 7
MAXIMUM 24-HR AVERAGE:	3.1	PPB			ON DAY(S)	26

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	719	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	1.19		MONTHLY AVERAGE:	1.90	PPB

JOB #: 2833-12-06-01-C



JOB #: 2833-12-06-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

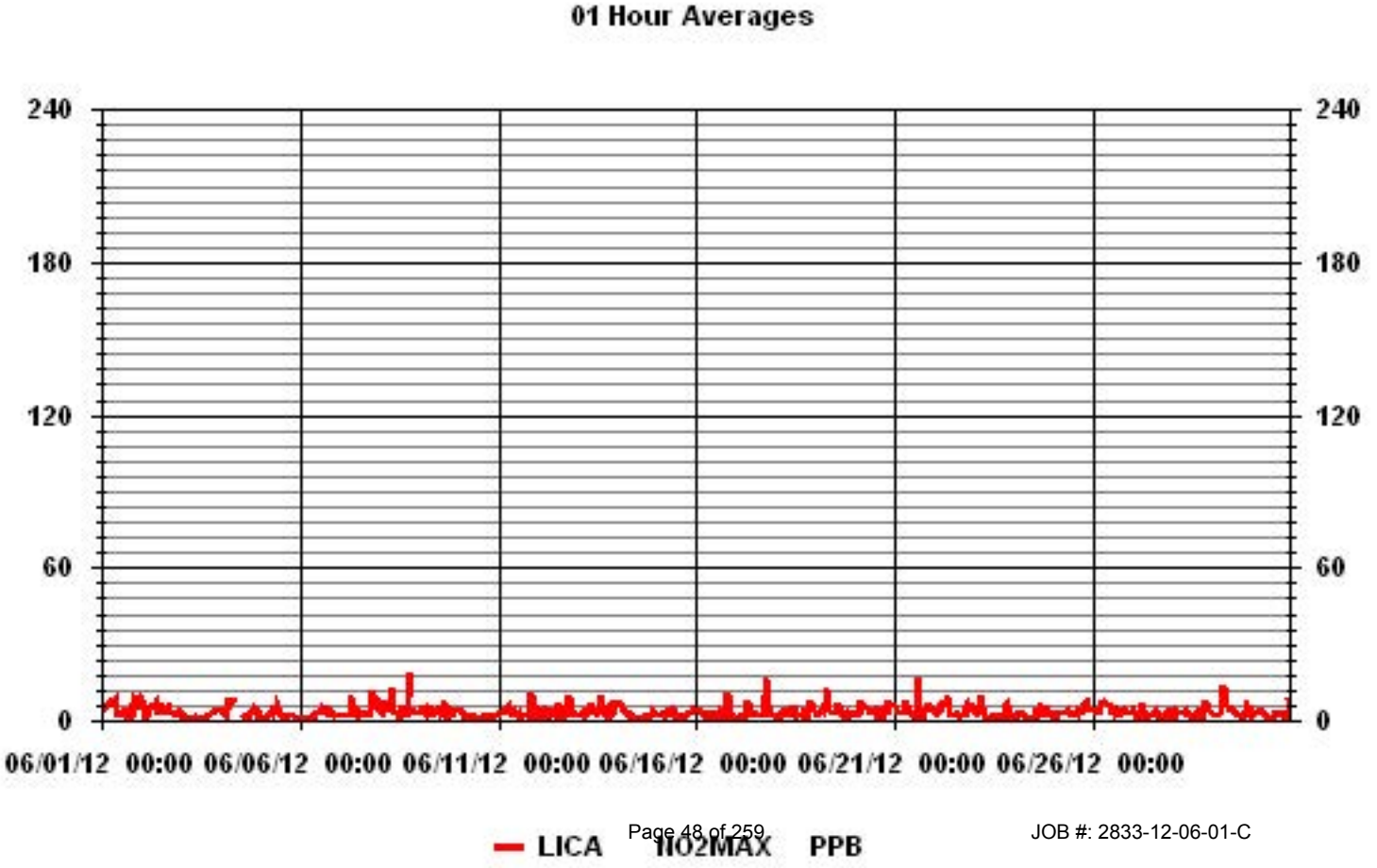
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	4	4	5	5	**IZS**	7	8	7	8	4	3	2	2	4	2	5	1	1	2	8	7	10	7	9	10	5.0	24
2	8	5	2	**IZS**	3	5	6	6	6	7	3	3	6	6	5	4	5	3	3	3	3	2	2	5	8	4.4	24
3	3	2	**IZS**	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2	3	3	4	4	4	4	4	2.0	24
4	4	**IZS**	3	2	4	9	6	8	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	1	2	3	3	5	4	4	2	9	3.9	24
5	**IZS**	1	1	1	2	2	4	3	6	2	7	6	2	2	2	1	**M**	2	2	2	2	2	1	**IZS**	7	2.5	23
6	1	1	1	1	1	1	1	2	1	3	3	3	3	5	4	2	5	5	2	2	3	2	**IZS**	2	5	2.3	24
7	2	2	2	2	2	2	2	10	2	2	6	1	2	3	2	2	4	1	3	4	11	**IZS**	9	8	11	3.7	24
8	4	4	3	4	7	7	6	10	13	3	3	3	1	2	6	2	2	2	9	**18**	**IZS**	4	3	3	**18**	5.2	24
9	3	4	6	4	5	3	4	6	4	3	4	4	6	3	4	8	3	2	5	**IZS**	3	4	4	4	8	4.2	24
10	4	4	4	3	1	1	0	0	1	3	1	1	1	1	1	1	2	1	**IZS**	2	2	1	2	2	4	1.7	24
11	2	3	3	4	4	5	3	4	3	4	2	2	3	1	2	2	2	**IZS**	1	10	11	4	2	2	11	3.4	24
12	1	4	3	2	6	3	5	2	3	3	4	2	3	7	2	1	**IZS**	3	2	10	3	1	3	2	10	3.3	24
13	2	2	2	3	2	4	4	4	7	3	3	4	3	4	9	**IZS**	5	3	2	5	6	3	4	6	9	3.9	24
14	7	7	7	4	4	4	3	2	3	3	2	1	1	1	**IZS**	1	2	2	1	1	2	4	3	3	7	3.0	24
15	2	2	2	2	3	2	4	4	2	2	6	1	1	**IZS**	2	2	2	1	2	3	3	3	5	5	6	2.7	24
16	4	4	4	4	3	2	3	2	3	2	1	3	**IZS**	2	4	3	4	1	2	11	1	1	3	1	11	3.0	24
17	1	1	2	2	2	2	1	8	3	2	2	**IZS**	3	3	2	2	2	10	17	5	7	3	3	2	17	3.7	24
18	2	2	1	3	4	4	3	4	4	3	**IZS**	5	1	2	2	2	2	5	2	1	7	7	5	4	7	3.3	24
19	2	2	3	3	5	4	7	13	4	**IZS**	3	3	3	3	7	4	1	4	2	1	3	2	2	3	13	3.7	24
20	2	2	3	7	7	6	5	5	**IZS**	3	3	5	3	6	2	1	1	2	6	2	8	6	6	6	8	4.2	24
21	6	3	3	3	3	3	7	**IZS**	5	4	3	3	2	1	17	1	3	2	5	3	6	6	6	4	17	4.3	24
22	4	4	3	4	6	7	**IZS**	7	10	3	3	2	2	2	4	1	2	2	2	6	7	5	6	6	10	4.3	24
23	4	4	3	4	9	**IZS**	4	2	1	1	1	3	1	2	1	2	2	2	1	6	7	4	2	1	9	2.9	24
24	1	2	3	2	**IZS**	3	2	2	1	1	1	1	1	1	5	1	7	1	5	2	6	2	2	4	7	2.4	24
25	2	1	2	**IZS**	3	3	3	3	3	4	2	2	2	2	4	3	5	2	4	6	7	5	5	4	7	3.3	24
26	4	4	**IZS**	3	3	7	7	8	7	7	6	3	3	6	3	4	4	3	4	5	4	3	3	3	8	4.5	24
27	5	**IZS**	3	2	1	3	7	5	2	1	2	2	2	3	4	2	2	1	3	1	2	3	4	4	7	2.8	24
28	**IZS**	2	4	3	3	3	3	3	4	2	2	2	2	1	2	3	1	1	1	3	7	7	5	**IZS**	7	2.9	24
29	3	3	2	2	2	3	11	14	7	6	4	4	5	4	3	3	3	2	2	1	4	7	**IZS**	5	14	4.3	24
30	2	3	3	3	3	4	4	3	3	2	1	1	1	1	3	3	2	2	4	2	3	**IZS**	8	2	8	2.7	24
HOURLY MAX	8	7	7	7	9	9	11	14	13	7	7	6	6	7	17	8	7	10	17	18	11	10	9	9			
HOURLY AVG	3.2	2.9	3.0	3.0	3.5	3.8	4.3	5.1	4.2	3.0	2.9	2.6	2.4	2.8	3.8	2.4	2.8	2.4	3.4	4.4	5.0	3.9	4.0	3.8			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	678					
MAXIMUM INSTANTANEOUS VALUE:	18	PPB	@ HOUR(S)	19	ON DAY(S)	8
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	2.33					



JOB #: 2833-12-06-01-C

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : NO2_
Units : PPB

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	2.94	4.85	6.32	4.41	9.11	5.14	13.23	4.55	3.08	4.41	6.32	9.11	10.88	8.82	4.55	2.20	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.94	4.85	6.32	4.41	9.11	5.14	13.23	4.55	3.08	4.41	6.32	9.11	10.88	8.82	4.55	2.20	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	20	33	43	30	62	35	90	31	21	30	43	62	74	60	31	15	680
< 110																	
< 210																	
>= 210																	
Totals	20	33	43	30	62	35	90	31	21	30	43	62	74	60	31	15	

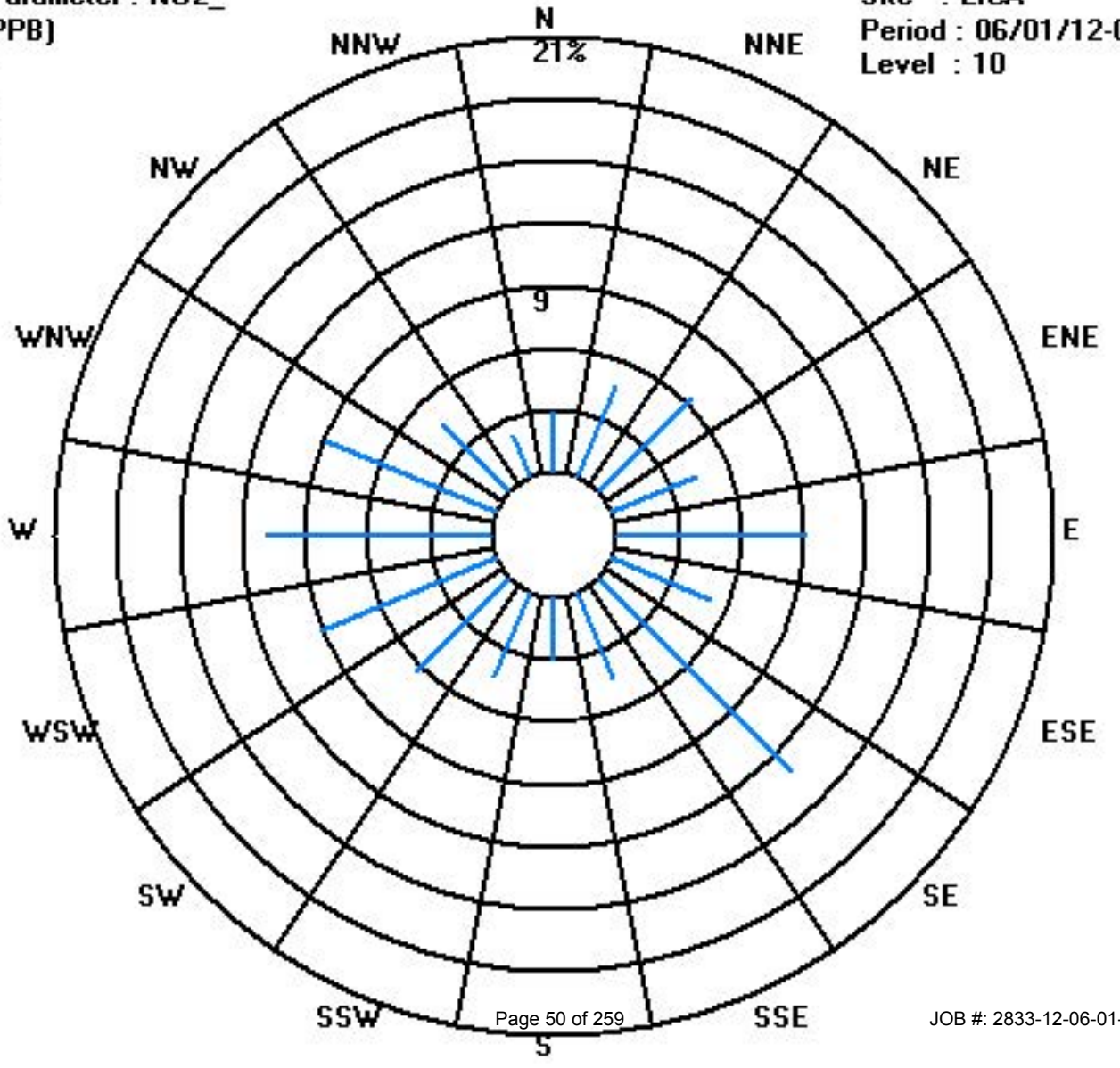
Calm : .00 %

Total # Operational Hours : 680

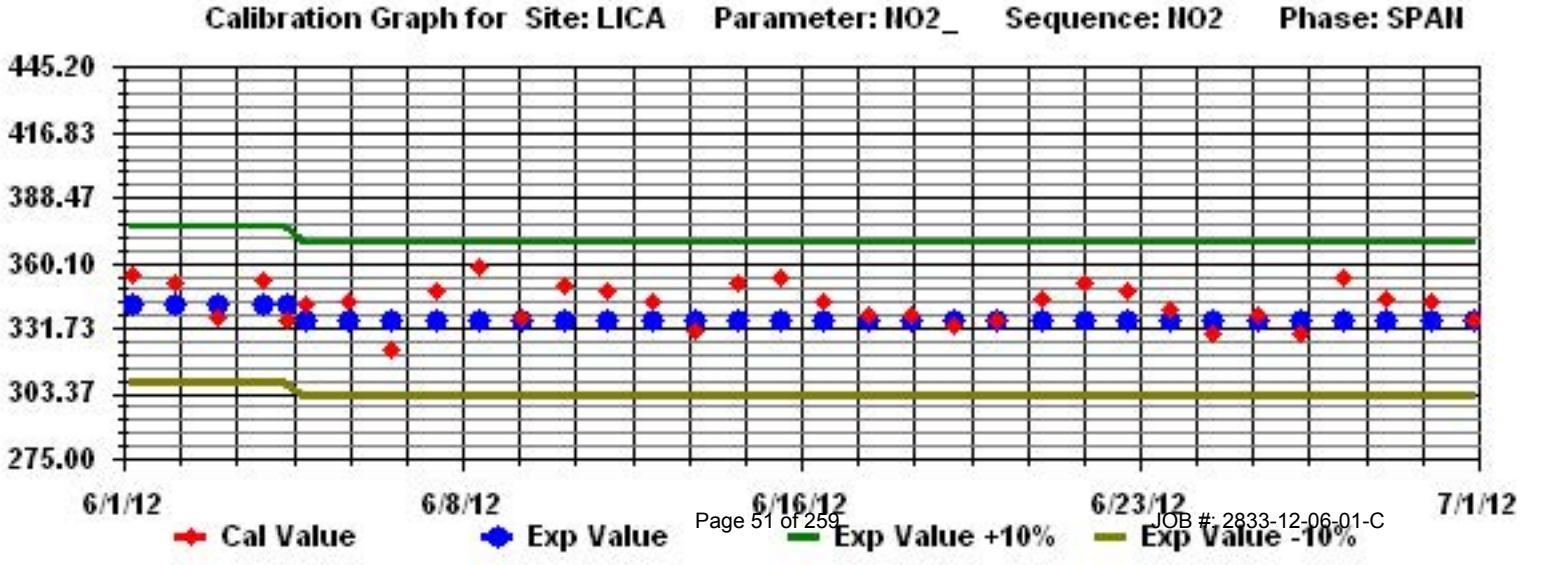
Logger : 01 Parameter : NO2_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-01-C


Calibration Graph for Site: LICA Parameter: NO2_ Sequence: NO2 Phase: SPAN
445.20
416.83
388.47
360.10
331.73
303.37
275.00
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

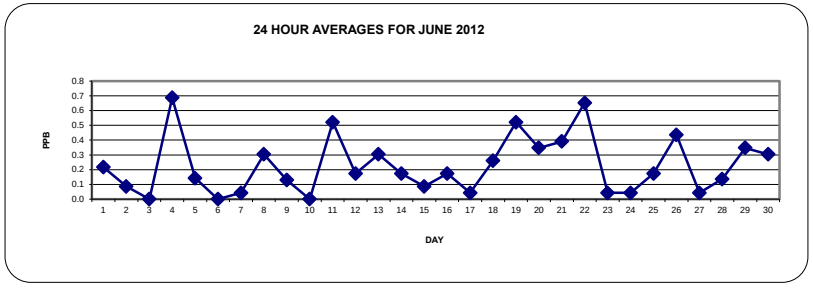
NITRIC OXIDE hourly averages in ppb

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

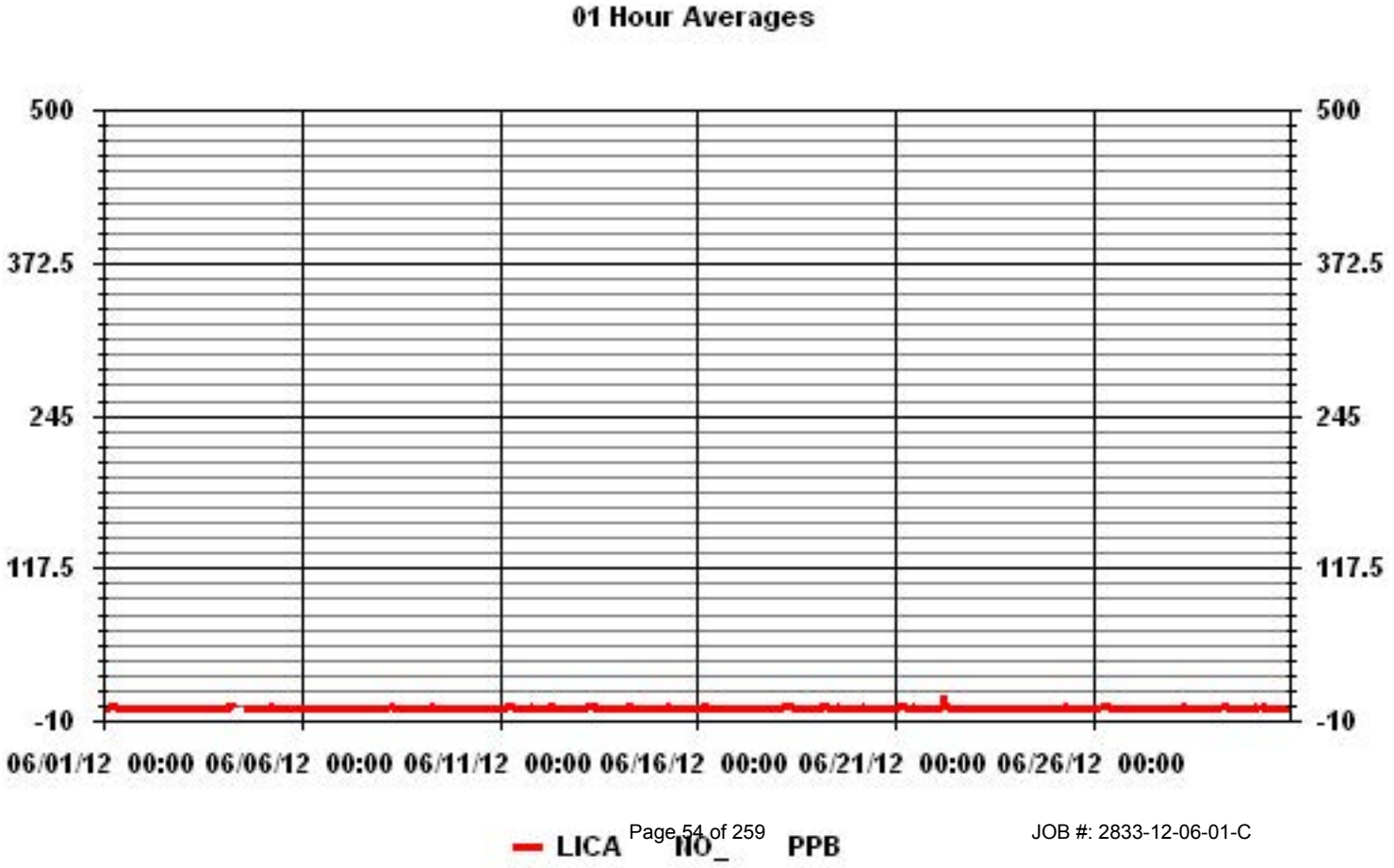
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:		115					
MAXIMUM 1-HR AVERAGE:		8	PPB	@ HOUR(S)	5	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:		0.7	PPB			ON DAY(S)	4, 22
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			719	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	0.60		MONTHLY AVERAGE:			0.22	PPB



JOB #: 2833-12-06-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

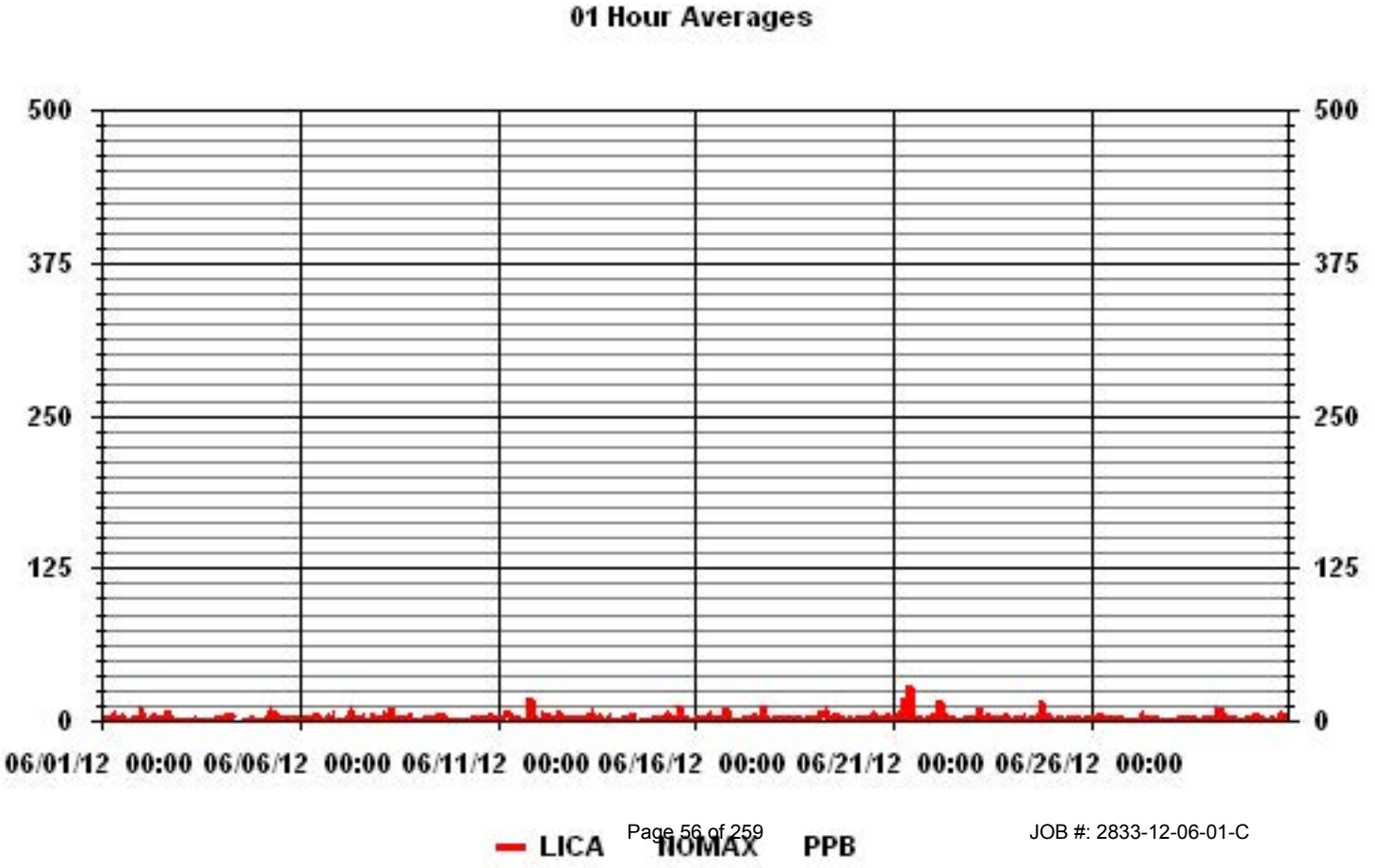
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	1	1	1	**IZS**	2	3	5	3	1	1	1	0	3	1	1	0	0	0	1	1	1	1	1	5	1.3	24
2	6	3	0	**IZS**	0	1	3	4	2	3	1	2	2	3	1	1	7	1	0	2	1	0	0	0	7	1.9	24
3	0	0	**IZS**	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	1	0	0	1	1	1	1	0.3	24
4	1	**IZS**	1	1	4	5	4	5	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	1	1	1	0	1	0	5	1.6	24
5	**IZS**	0	0	1	1	1	6	3	5	1	2	6	1	1	1	1	**M**	1	1	1	1	1	1	**IZS**	6	1.7	23
6	0	0	1	1	1	1	2	1	1	3	3	3	3	2	2	1	1	3	1	0	3	0	**IZS**	1	3	1.5	24
7	0	0	0	0	1	1	1	6	3	3	2	1	2	1	3	1	1	0	1	0	4	**IZS**	0	1	6	1.4	24
8	1	1	1	1	5	3	2	2	9	1	1	2	1	1	1	1	1	1	1	5	**IZS**	1	0	0	9	1.8	24
9	0	0	0	0	2	1	1	2	1	1	1	3	3	1	1	6	1	0	1	**IZS**	0	0	0	0	6	1.1	24
10	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	**IZS**	1	5	0	1	1	5	0.8	24
11	1	1	1	1	3	5	5	5	1	2	1	1	1	1	1	0	1	**IZS**	1	16	16	2	0	4	16	3.0	24
12	0	0	1	0	4	2	4	5	2	1	1	1	1	7	1	0	**IZS**	3	1	3	2	0	1	1	7	1.8	24
13	1	1	1	1	1	2	2	2	6	2	6	3	2	3	4	**IZS**	2	1	0	1	3	0	0	0	6	1.9	24
14	0	0	0	0	1	1	1	2	3	3	4	2	1	0	**IZS**	0	1	0	0	0	0	0	0	1	4	0.9	24
15	1	1	1	1	1	1	1	4	1	3	1	1	1	**IZS**	10	1	4	1	1	1	1	0	0	0	10	1.6	24
16	1	1	1	1	2	2	1	1	2	4	1	1	**IZS**	2	1	1	1	1	0	11	0	1	1	0	11	1.6	24
17	0	0	0	0	0	1	1	2	1	1	1	**IZS**	4	2	1	1	1	12	2	0	2	0	0	0	12	1.4	24
18	1	1	1	1	2	2	2	1	2	3	**IZS**	2	1	1	1	1	1	1	0	0	2	2	2	3	3	1.4	24
19	1	1	1	1	7	4	4	7	4	**IZS**	2	1	1	2	6	2	1	1	1	0	0	1	1	1	7	2.2	24
20	0	0	1	1	1	2	2	3	**IZS**	2	1	4	1	6	1	1	1	1	1	1	2	4	3	1	6	1.7	24
21	1	1	1	4	2	3	17	**IZS**	3	2	**28**	1	3	1	1	1	1	2	2	1	1	1	3	4	**28**	3.7	24
22	1	1	1	1	16	10	**IZS**	3	3	1	1	1	2	1	1	0	1	0	1	2	0	0	1	1	16	2.1	24
23	1	1	1	1	8	**IZS**	3	1	3	1	3	1	1	2	1	1	1	1	1	3	4	3	1	1	8	1.9	24
24	0	0	2	1	**IZS**	3	1	3	0	1	0	1	1	1	3	1	2	1	17	0	4	0	3	3	17	2.1	24
25	2	0	0	**IZS**	2	1	1	1	1	2	1	1	1	2	1	1	2	0	0	1	2	1	1	1	2	1.1	24
26	1	1	**IZS**	1	4	4	4	4	3	2	1	1	1	2	1	1	1	1	1	2	1	0	0	1	4	1.7	24
27	0	**IZS**	0	0	0	1	4	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	4	0.7	24
28	**IZS**	0	0	0	1	1	1	1	2	1	1	1	1	1	1	1	1	0	0	0	1	1	1	**IZS**	2	0.8	24
29	1	1	1	1	6	3	6	7	2	2	2	1	1	2	1	1	1	0	0	0	0	1	**IZS**	1	7	1.8	24
30	1	1	2	2	6	2	2	1	1	1	0	0	0	1	1	1	0	0	3	0	1	**IZS**	5	2	6	1.4	24
HOURLY MAX	6	3	2	4	16	10	17	7	9	4	28	6	4	7	10	6	7	12	17	16	16	4	5	4			
HOURLY AVG	0.8	0.6	0.7	0.8	2.9	2.2	2.9	2.8	2.3	1.8	2.5	1.6	1.4	1.8	1.8	1.0	1.3	1.2	1.4	1.8	2.0	0.8	1.0	1.1			

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:	528					
MAXIMUM INSTANTANEOUS VALUE:	28	PPB	@ HOUR(S)	10	ON DAY(S)	21
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	2.28					



JOB #: 2833-12-06-01-C

LICA
NO_ / WD Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : NO_
Units : PPB

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	2.94	4.85	6.32	4.41	9.11	5.14	13.23	4.55	3.08	4.41	6.32	9.11	10.88	8.82	4.55	2.20	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.94	4.85	6.32	4.41	9.11	5.14	13.23	4.55	3.08	4.41	6.32	9.11	10.88	8.82	4.55	2.20	

Calm : .00 %

Total # Operational Hours : 680

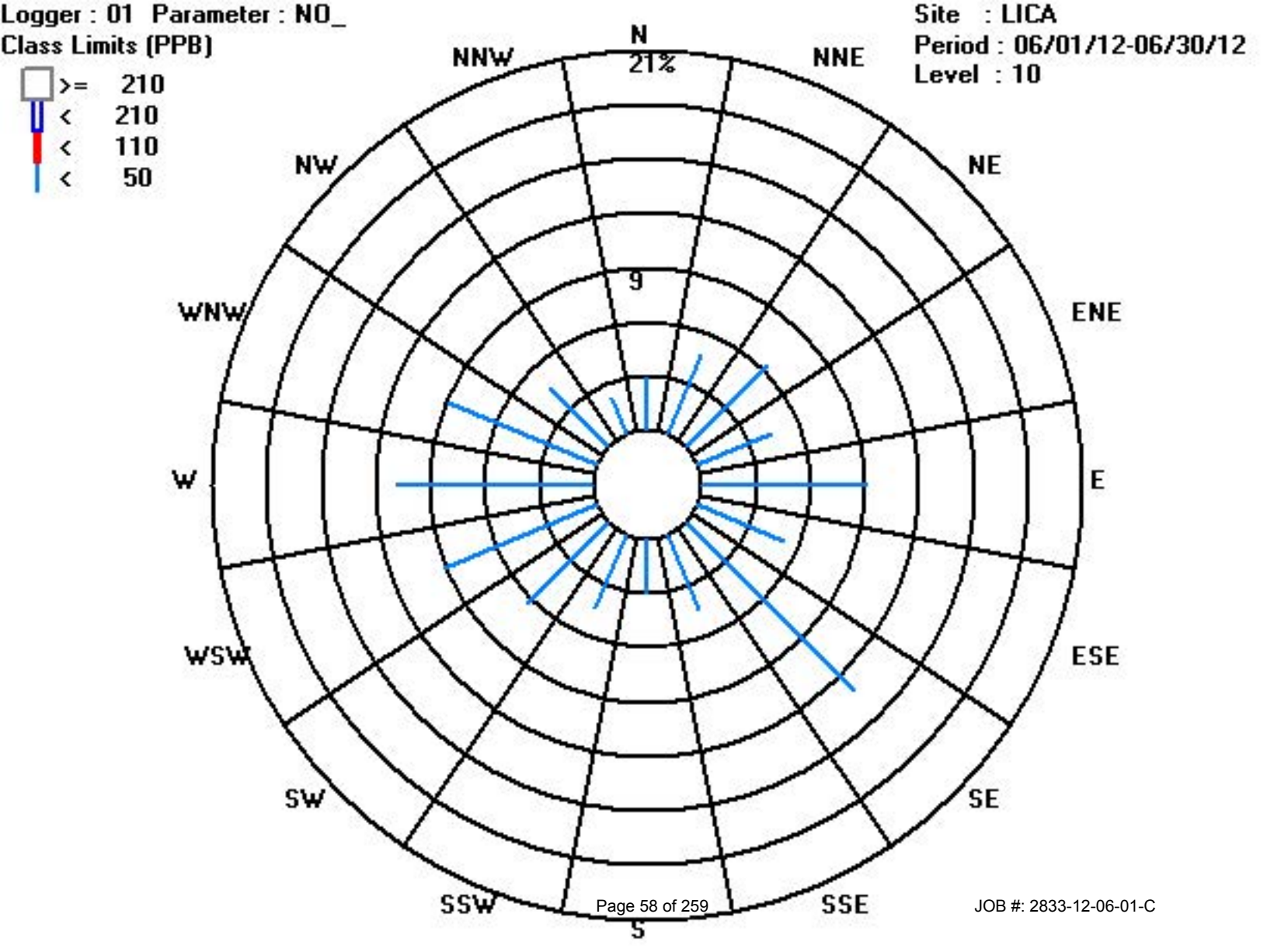
Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	20	33	43	30	62	35	90	31	21	30	43	62	74	60	31	15	680
< 110																	
< 210																	
>= 210																	
Totals	20	33	43	30	62	35	90	31	21	30	43	62	74	60	31	15	

Calm : .00 %

Total # Operational Hours : 680



JOB #: 2833-12-06-01-C

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

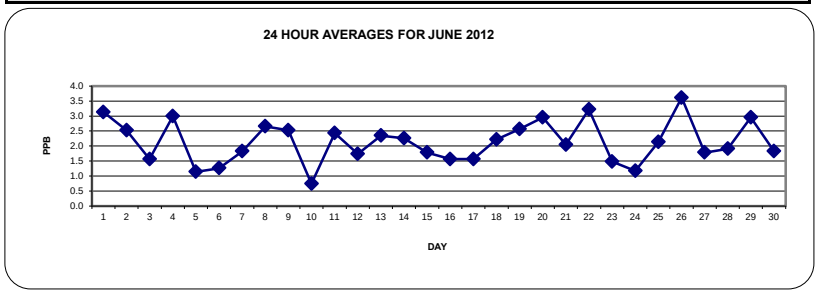
OXIDES OF NITROGEN hourly averages in ppb

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	3	4	4	4	**IZS**	6	6	5	5	3	2	1	1	1	1	1	1	1	1	3	4	5	5	5	6	3.1	24
2	5	3	2	**IZS**	2	3	3	2	3	3	2	2	3	3	2	1	3	2	2	2	2	2	2	4	5	2.5	24
3	2	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	3	4	3	3	4	1.6	24
4	2	**IZS**	2	1	3	8	7	11	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	2	2	2	2	2	1	11	3.0	24
5	**IZS**	1	1	1	1	1	2	2	1	1	1	2	1	1	1	1	**M**	1	1	1	1	1	1	**IZS**	2	1.1	23
6	1	0	1	1	1	1	1	1	1	1	1	1	2	2	2	1	2	2	1	1	1	2	**IZS**	2	2	1.3	24
7	2	2	1	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	4	**IZS**	7	5	7	1.8	24
8	3	3	2	3	4	7	5	3	3	2	3	2	1	1	1	1	1	1	3	5	**IZS**	3	2	2	7	2.7	24
9	2	3	3	3	3	3	3	5	3	3	3	2	3	2	1	2	1	1	2	**IZS**	2	3	2	3	5	2.5	24
10	3	4	3	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	**IZS**	0	1	0	1	1	4	0.7	24
11	1	2	3	3	3	6	8	5	3	3	2	1	1	1	1	1	1	**IZS**	1	2	4	2	1	1	8	2.4	24
12	1	2	2	2	2	2	2	2	3	3	2	2	2	2	1	1	**IZS**	1	1	2	1	1	2	1	3	1.7	24
13	1	1	2	2	1	4	3	4	4	2	3	2	2	1	2	**IZS**	2	1	1	3	3	2	3	5	5	2.3	24
14	6	6	5	3	3	3	3	2	3	2	1	1	1	0	**IZS**	1	1	1	0	1	1	3	3	2	6	2.3	24
15	2	2	2	1	2	2	3	2	1	1	1	1	1	**IZS**	1	1	1	1	1	2	2	3	4	4	4	1.8	24
16	4	3	3	2	2	2	2	2	1	1	1	1	**IZS**	1	1	1	1	1	1	2	1	1	1	1	4	1.6	24
17	1	1	1	2	2	2	1	1	1	1	2	**IZS**	2	2	2	1	1	2	2	2	3	1	2	1	3	1.6	24
18	2	2	1	2	3	4	4	3	4	3	**IZS**	2	1	1	1	1	1	2	1	1	2	4	4	2	4	2.2	24
19	2	2	2	2	4	4	6	7	4	**IZS**	3	2	2	3	2	1	1	2	1	1	2	2	2	2	7	2.6	24
20	2	2	2	4	7	6	7	3	**IZS**	3	2	3	1	3	2	1	1	1	1	2	3	3	4	5	7	3.0	24
21	4	3	2	2	2	4	5	**IZS**	1	1	2	1	1	1	1	1	1	1	1	2	3	3	2	3	5	2.0	24
22	3	3	3	2	4	**12**	**IZS**	9	8	3	2	1	1	1	1	1	1	1	1	2	3	3	4	5	**12**	3.2	24
23	3	3	2	2	3	**IZS**	2	1	1	1	1	1	0	1	1	1	1	1	1	1	3	2	1	1	3	1.5	24
24	1	1	1	1	**IZS**	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	3	1	1	1	3	1.2	24
25	1	1	1	**IZS**	2	2	3	3	3	3	2	1	1	1	1	2	1	1	2	4	5	3	3	3	5	2.1	24
26	3	3	**IZS**	2	3	7	7	9	7	7	5	2	2	2	2	2	2	2	2	3	3	2	3	3	9	**3.6**	24
27	3	**IZS**	2	2	1	1	5	2	1	1	1	1	1	2	3	2	1	1	2	1	1	2	3	2	5	1.8	24
28	**IZS**	2	3	3	2	2	2	2	3	2	2	1	1	1	1	1	1	1	1	1	4	3	3	**IZS**	4	1.9	24
29	3	2	2	2	2	4	5	7	7	5	4	2	3	2	2	2	1	2	2	1	2	3	**IZS**	3	7	3.0	24
30	2	2	2	2	3	4	4	3	3	1	1	1	1	1	1	1	1	1	2	1	2	**IZS**	2	1	4	1.8	24
HOURLY MAX	6	6	5	4	7	12	8	11	8	7	5	3	3	3	3	2	3	2	3	5	5	5	7	5			
HOURLY AVG	2.4	2.3	2.1	2.1	2.4	3.6	3.5	3.4	2.8	2.1	1.9	1.4	1.4	1.4	1.3	1.2	1.2	1.2	1.4	1.8	2.4	2.4	2.6	2.6			

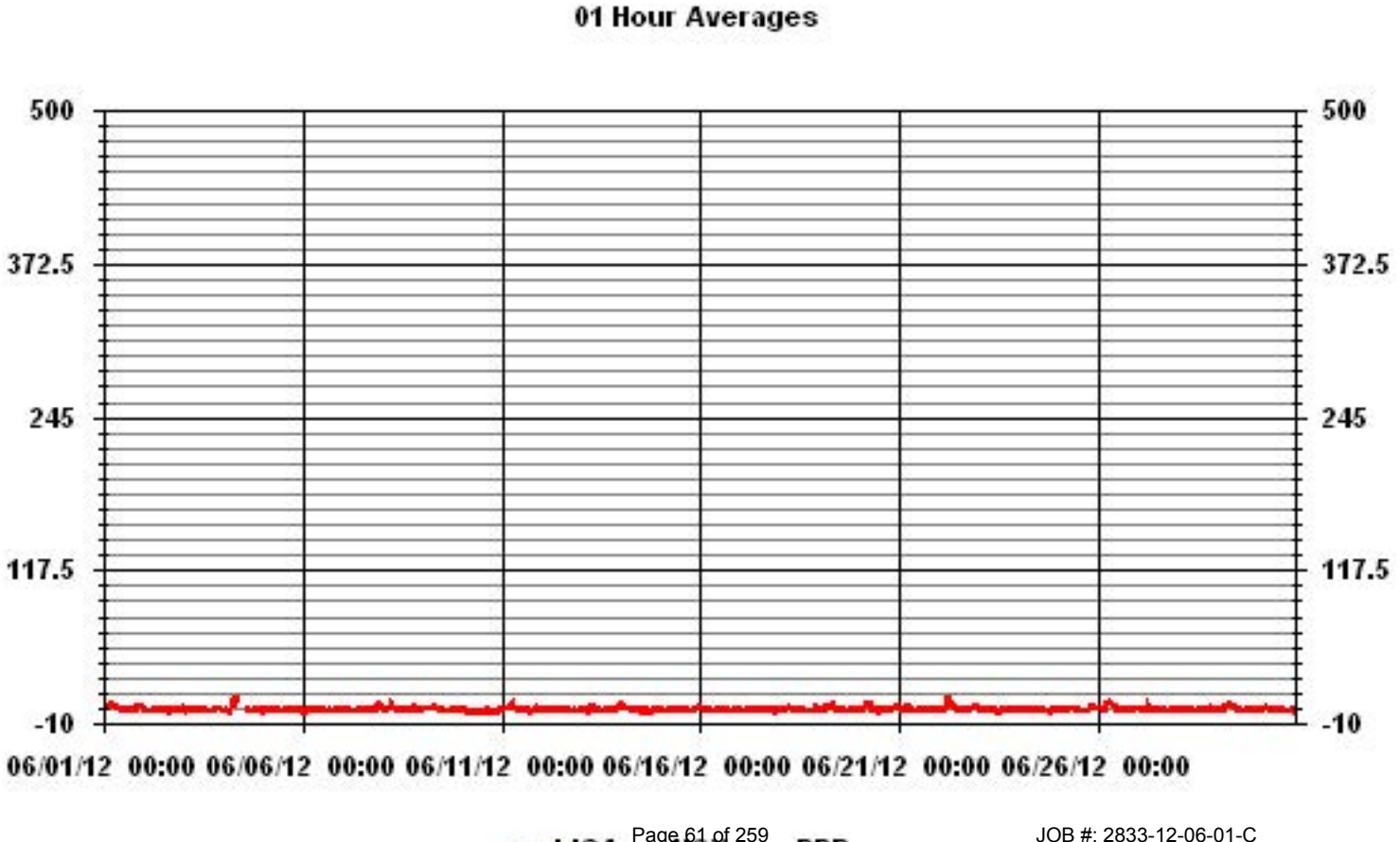
STATUS FLAG CODES

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:	663						
MAXIMUM 1-HR AVERAGE:	12	PPB	@ HOUR(S)	5	ON DAY(S)	22	
MAXIMUM 24-HR AVERAGE:	3.6	PPB			ON DAY(S)	26	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		719	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		99.9	%	
STANDARD DEVIATION:	1.52		MONTHLY AVERAGE:		2.13	PPB	



JOB #: 2833-12-06-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

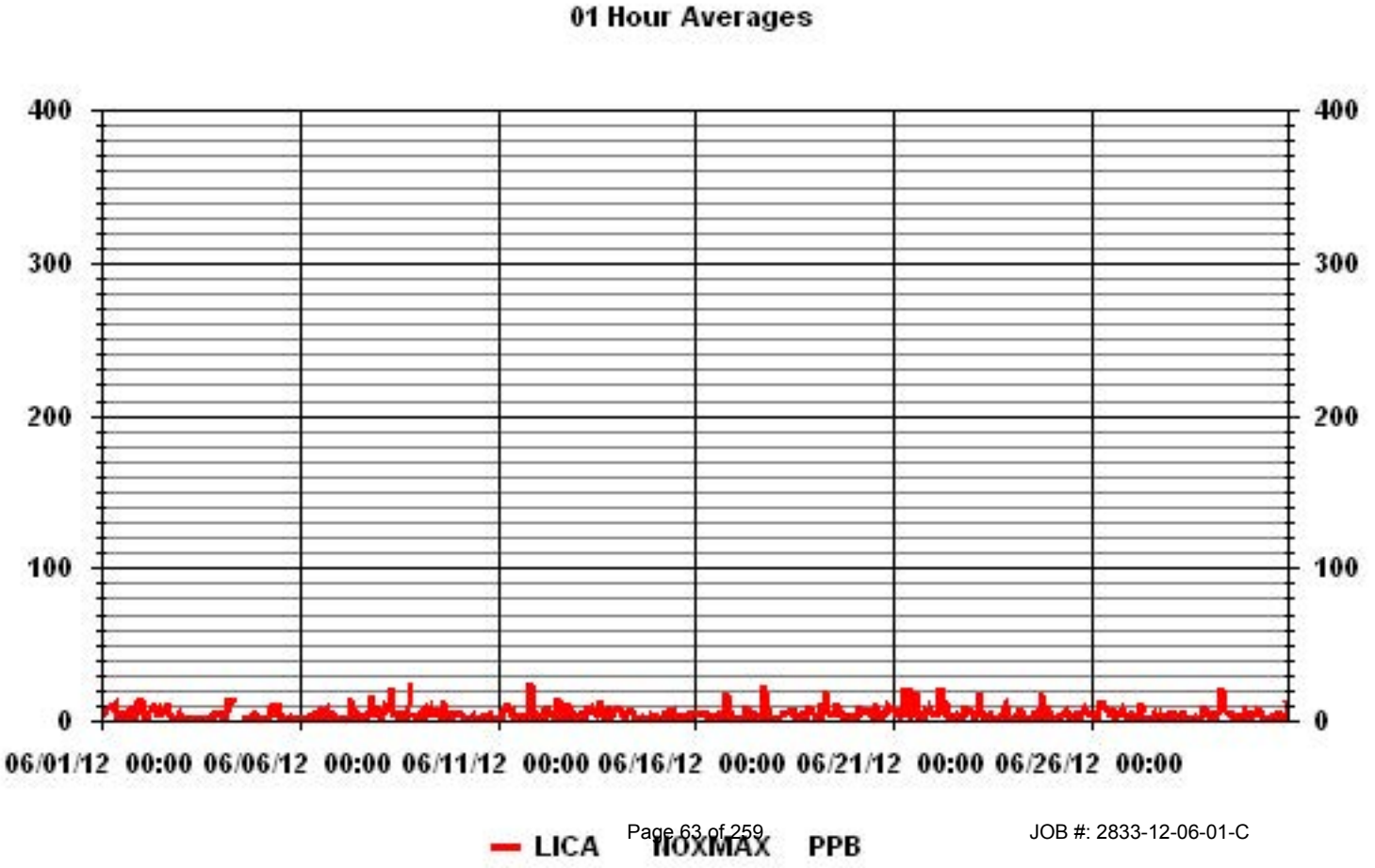
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	4	5	5	5	**IZS**	9	10	9	11	6	3	2	2	7	3	5	2	1	2	9	7	10	7	10	11	5.8	24
2	14	7	3	**IZS**	3	6	9	10	8	10	4	4	8	6	5	5	11	4	3	3	3	2	2	5	14	5.9	24
3	3	2	**IZS**	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2	3	3	4	4	4	4	4	2.0	24
4	4	**IZS**	3	3	5	14	10	13	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	2	3	3	5	4	4	2	14	4.9	24
5	**IZS**	1	1	1	2	2	9	4	11	2	8	11	3	2	3	2	**M**	2	2	3	2	2	1	**IZS**	11	3.5	23
6	1	1	1	1	1	2	3	3	1	5	4	5	4	7	5	2	5	7	2	2	6	2	**IZS**	2	7	3.1	24
7	2	2	2	2	2	2	2	15	3	3	8	1	2	3	3	2	4	2	4	4	14	**IZS**	9	8	15	4.3	24
8	4	4	3	4	11	10	9	12	22	4	4	5	2	2	7	2	2	3	10	23	**IZS**	4	3	4	23	6.7	24
9	3	4	6	4	7	4	5	8	5	4	5	5	8	3	5	13	3	2	5	**IZS**	2	4	4	4	13	4.9	24
10	4	4	4	3	1	1	1	1	1	3	1	1	1	2	1	1	3	3	**IZS**	3	4	1	2	2	4	2.1	24
11	2	3	3	5	7	8	11	7	4	6	3	2	3	2	3	2	3	**IZS**	1	22	**25**	6	2	3	**25**	5.8	24
12	1	4	3	2	8	3	9	4	5	4	4	3	3	14	2	1	**IZS**	4	2	12	3	2	4	2	14	4.3	24
13	2	2	3	4	2	7	6	6	10	4	8	6	4	6	12	**IZS**	7	3	2	5	9	3	4	6	12	5.3	24
14	7	7	7	4	4	4	3	4	6	6	6	3	1	1	**IZS**	1	3	2	1	1	2	4	3	3	7	3.6	24
15	3	3	3	2	3	3	5	6	2	4	6	2	1	**IZS**	4	3	3	2	2	4	3	3	5	5	6	3.3	24
16	4	4	4	4	4	4	4	2	5	4	2	4	**IZS**	4	5	3	4	2	2	18	1	1	3	1	18	3.9	24
17	1	1	2	2	2	3	2	9	4	2	2	**IZS**	5	4	2	2	2	23	19	5	9	3	3	2	23	4.7	24
18	2	2	2	3	5	5	4	5	5	6	**IZS**	7	2	3	3	2	2	6	2	1	9	7	7	6	9	4.2	24
19	2	3	3	3	11	7	10	19	8	**IZS**	5	4	4	5	12	6	2	5	3	2	3	2	2	3	19	5.4	24
20	2	2	3	8	8	6	7	6	**IZS**	5	4	8	3	11	3	2	2	2	6	3	10	9	8	7	11	5.4	24
21	7	4	4	6	4	5	20	**IZS**	6	5	22	3	5	2	18	1	4	3	6	4	6	6	9	7	22	6.8	24
22	4	4	4	5	22	16	**IZS**	10	13	4	3	2	3	2	4	2	3	2	3	7	7	5	6	6	22	6.0	24
23	4	5	3	5	17	**IZS**	6	3	2	1	3	4	1	2	1	2	3	3	2	9	11	6	3	2	17	4.3	24
24	1	2	4	2	**IZS**	6	2	2	1	2	1	1	1	1	7	1	8	1	18	2	9	2	3	6	18	3.6	24
25	4	1	2	**IZS**	4	3	4	4	4	6	3	2	3	2	5	4	5	2	4	6	8	5	5	4	8	3.9	24
26	4	4	**IZS**	3	6	11	10	11	9	8	7	4	4	8	3	5	4	4	4	7	4	3	3	3	11	5.6	24
27	5	**IZS**	3	2	1	3	11	5	2	2	2	2	2	3	5	3	2	1	4	2	2	3	4	4	11	3.2	24
28	**IZS**	2	4	4	3	3	4	4	5	3	3	2	2	1	2	3	2	1	1	3	7	7	6	**IZS**	7	3.3	24
29	3	3	2	2	7	4	12	21	9	7	5	5	6	5	3	4	3	2	3	1	4	9	**IZS**	5	21	5.4	24
30	3	3	4	5	7	5	6	4	3	2	1	1	1	1	3	3	2	2	7	2	3	**IZS**	12	2	12	3.6	24
HOURLY MAX	14	7	7	8	22	16	20	21	22	10	22	11	8	14	18	13	11	23	19	23	25	10	12	10			
HOURLY AVG	3.6	3.2	3.3	3.4	5.6	5.4	6.7	7.2	5.9	4.3	4.6	3.6	3.0	3.9	4.6	2.9	3.5	3.4	4.3	5.8	6.3	4.3	4.6	4.2			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680					
MAXIMUM INSTANTANEOUS VALUE:	25	PPB	@ HOUR(S)	20	ON DAY(S)	11
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	3.65					



JOB #: 2833-12-06-01-C

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : NOX_
Units : PPB

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	2.94	4.85	6.32	4.41	9.11	5.14	13.23	4.55	3.08	4.41	6.32	9.11	10.88	8.82	4.55	2.20	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.94	4.85	6.32	4.41	9.11	5.14	13.23	4.55	3.08	4.41	6.32	9.11	10.88	8.82	4.55	2.20	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	20	33	43	30	62	35	90	31	21	30	43	62	74	60	31	15	680
< 110																	
< 210																	
>= 210																	
Totals	20	33	43	30	62	35	90	31	21	30	43	62	74	60	31	15	

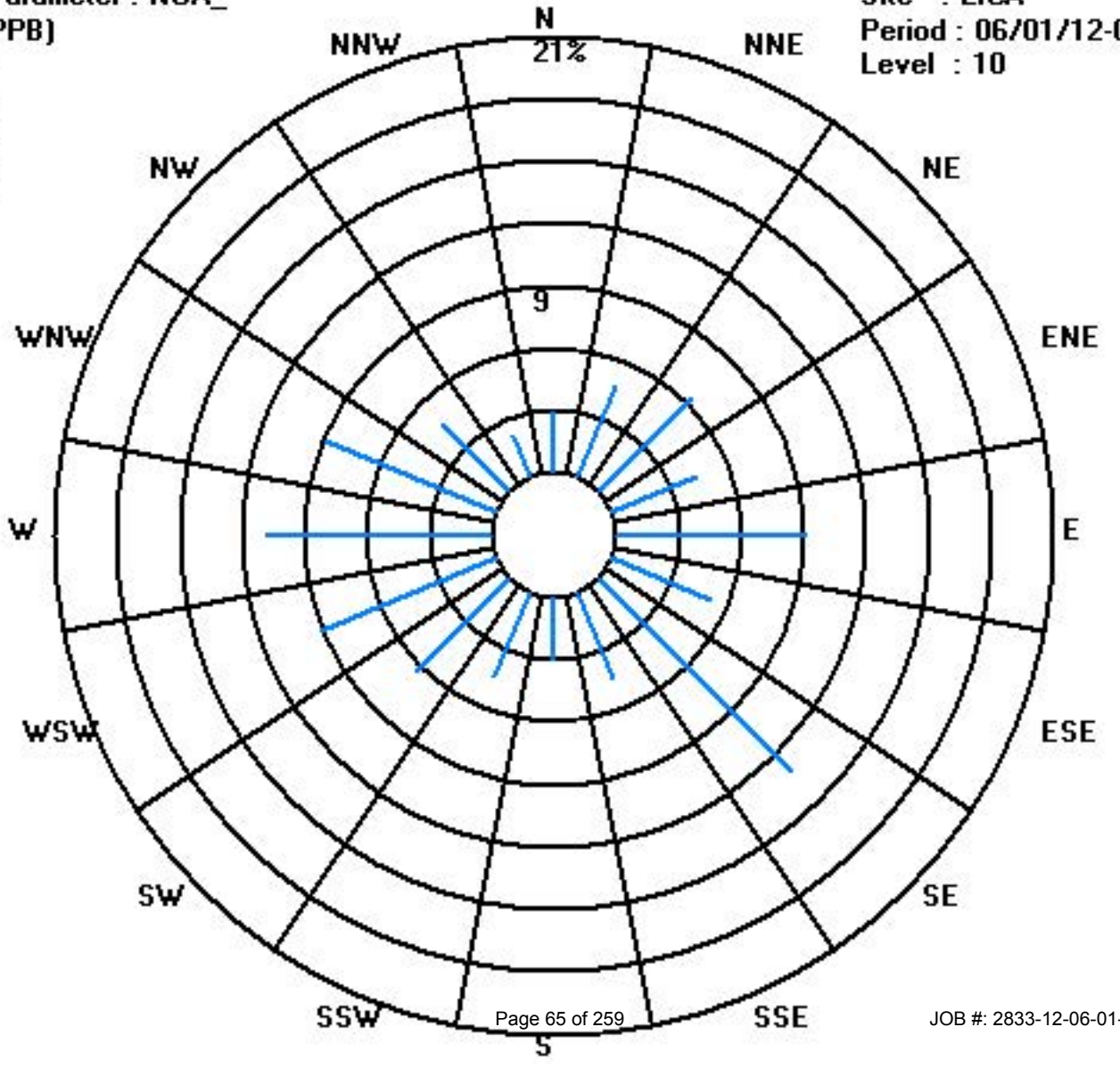
Calm : .00 %

Total # Operational Hours : 680

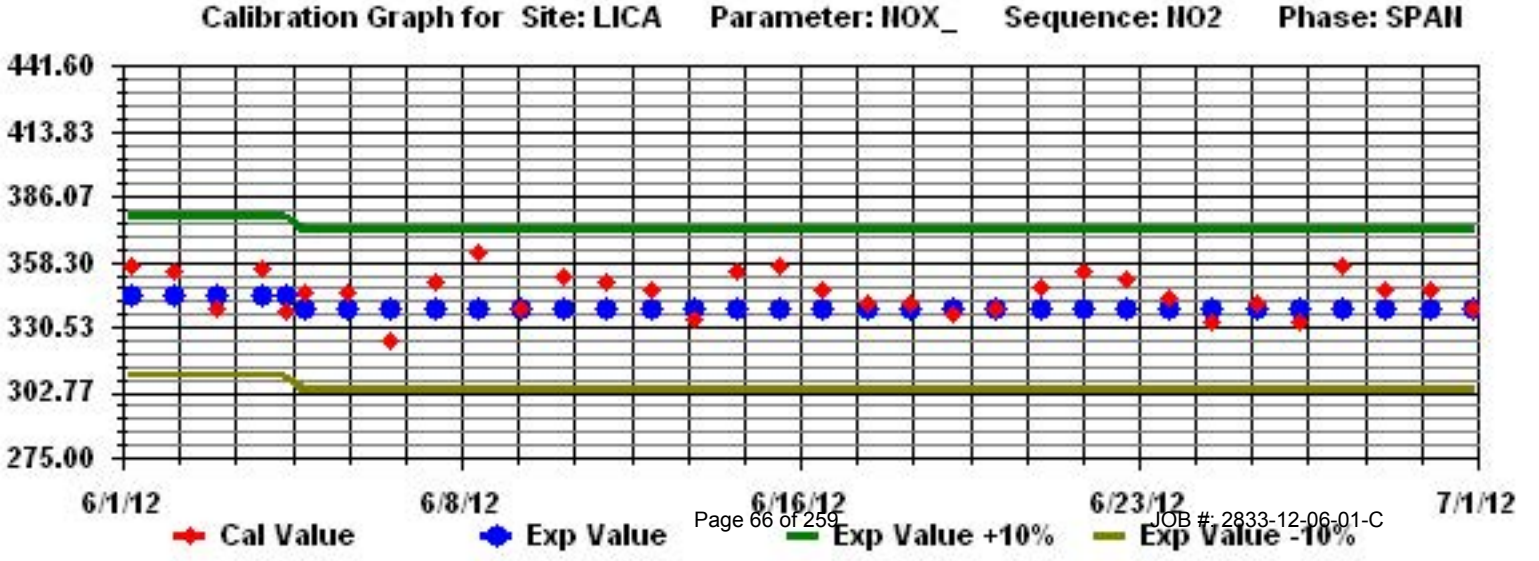
Logger : 01 Parameter : NOX_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA
Period : 06/01/12-06/30/12
Level : 10



JOB #: 2833-12-06-01-C


Calibration Graph for Site: LICA Parameter: NOX_ Sequence: NO2 Phase: SPAN
441.60
413.83
386.07
358.30
330.53
302.77
275.00
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

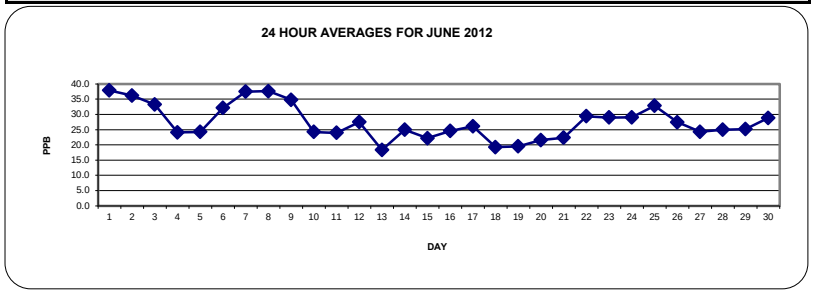
OZONE (O_3) hourly averages in ppb

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	27	17	19	21	**IZS**	23	26	32	37	44	51	55	56	56	**59**	58	57	57	55	36	25	23	20	18	**59**	**37.9**	24
2	16	24	30	**IZS**	26	20	29	42	45	45	48	51	48	47	47	45	41	41	39	39	32	27	26	24	51	36.2	24
3	30	31	**IZS**	29	31	32	34	33	33	34	36	39	38	39	43	45	39	37	35	38	36	27	13	12	45	33.2	24
4	12	**IZS**	6	2	2	9	9	12	20	28	37	42	45	44	**C**	**C**	**C**	**C**	44	41	37	25	21	22	45	24.1	24
5	**IZS**	19	19	19	20	21	22	21	22	25	28	28	28	29	30	31	**M**	27	27	25	23	23	22	**IZS**	31	24.2	23
6	22	24	25	27	27	26	25	25	27	30	32	31	31	31	38	39	39	43	45	41	40	38	**IZS**	33	45	32.1	24
7	31	29	28	28	28	28	29	30	31	33	36	43	52	55	55	53	52	53	53	48	33	**IZS**	18	16	55	37.5	24
8	15	10	10	8	10	16	30	37	39	39	35	48	57	58	57	56	56	55	52	50	**IZS**	41	42	44	58	37.6	24
9	44	35	24	21	20	18	23	29	37	39	38	33	32	37	48	49	50	48	41	**IZS**	33	36	34	31	50	34.8	24
10	26	22	16	19	18	18	17	17	19	24	26	31	30	34	29	28	26	32	**IZS**	35	35	31	18	7	35	24.3	24
11	6	6	7	4	2	7	14	21	28	30	32	34	36	38	39	39	40	**IZS**	36	35	23	23	23	27	40	23.9	24
12	28	23	23	24	25	24	23	24	23	28	32	32	33	33	33	35	**IZS**	31	30	28	27	32	23	19	35	27.5	24
13	14	11	8	6	6	8	12	12	11	17	18	21	29	35	34	**IZS**	31	24	29	23	23	19	17	13	35	18.3	24
14	11	11	12	11	10	12	13	15	18	24	28	32	34	37	**IZS**	37	38	39	39	39	35	27	29	23	39	25.0	24
15	14	10	8	8	7	12	17	24	25	28	30	31	33	**IZS**	32	33	34	33	28	21	25	22	17	18	34	22.2	24
16	12	6	4	3	3	10	16	23	26	28	30	33	**IZS**	35	36	36	35	36	35	33	33	32	30	29	36	24.5	24
17	28	27	26	20	21	21	21	20	21	18	21	**IZS**	25	26	26	33	34	37	32	34	27	24	29	29	37	26.1	24
18	15	6	3	7	8	8	16	18	19	22	**IZS**	30	29	30	33	32	28	30	28	32	21	12	6	10	33	19.3	24
19	13	8	6	5	3	10	14	17	21	**IZS**	28	30	27	28	26	31	32	28	29	25	23	21	13	11	32	19.5	24
20	12	11	9	5	5	7	8	16	**IZS**	27	29	30	31	32	34	39	39	37	38	32	26	16	9	4	39	21.6	24
21	3	3	2	2	3	6	23	**IZS**	33	32	33	34	35	37	38	38	38	38	39	30	16	12	10	9	39	22.3	24
22	6	5	3	3	2	3	**IZS**	26	33	40	44	45	46	48	48	48	49	49	47	42	28	23	22	16	49	29.4	24
23	16	17	20	13	8	**IZS**	27	31	33	31	32	36	40	44	42	37	36	35	34	29	25	26	27	27	44	29.0	24
24	27	25	24	22	**IZS**	25	25	24	23	24	26	29	35	35	35	35	36	37	37	33	29	28	27	26	37	29.0	24
25	24	24	24	**IZS**	18	17	18	24	30	38	45	47	48	51	50	47	49	45	42	34	29	23	18	11	51	32.9	24
26	9	9	**IZS**	2	2	7	15	19	30	39	47	48	45	40	41	47	43	47	39	31	21	19	19	12	48	27.4	24
27	21	**IZS**	25	26	31	31	26	26	25	23	21	19	19	19	21	25	28	33	26	24	24	22	21	23	33	24.3	24
28	**IZS**	23	22	21	20	21	23	25	25	26	27	27	27	28	30	32	32	33	33	32	21	12	9	**IZS**	33	25.0	24
29	7	5	4	2	2	6	17	22	26	29	34	36	36	38	38	36	36	42	44	41	37	29	**IZS**	12	44	25.2	24
30	8	5	3	2	2	5	18	24	32	37	38	40	44	47	49	47	44	39	33	41	45	**IZS**	32	28	49	28.8	24
HOURLY MAX	44	35	30	29	31	32	34	42	45	45	51	55	57	58	59	58	57	57	55	50	45	41	42	44			
HOURLY AVG	17.8	15.9	14.6	12.9	12.9	15.6	20.3	23.8	27.3	30.4	33.2	35.7	36.9	38.3	39.0	39.7	39.3	38.8	37.6	34.2	28.7	24.8	21.3	19.8			

STATUS FLAG CODES

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



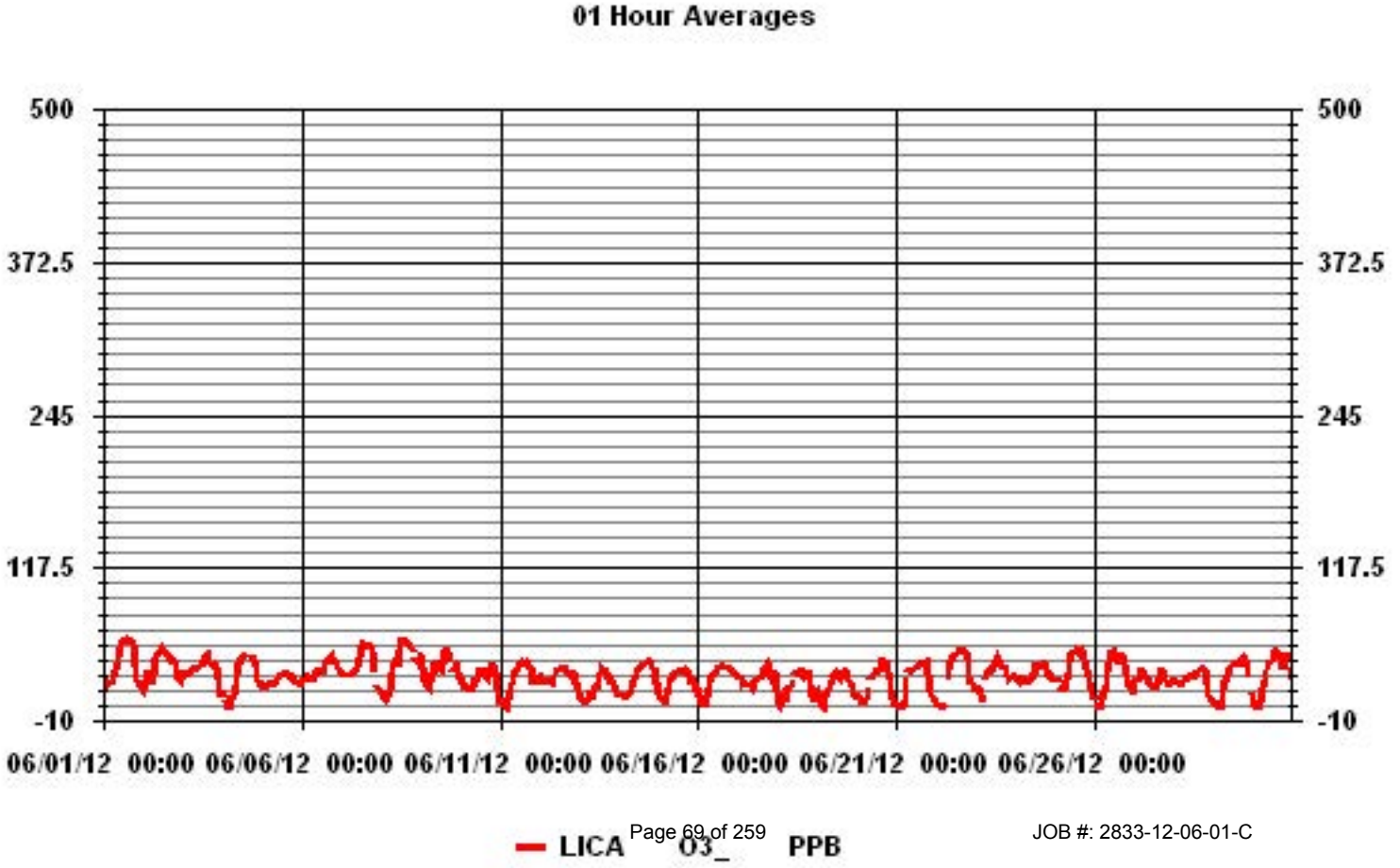
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	683					
MAXIMUM 1-HR AVERAGE:	59	PPB	@ HOUR(S)	14	ON DAY(S)	1
MAXIMUM 24-HR AVERAGE:	37.9	PPB			ON DAY(S) VAR-VARIOUS	1

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	719	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	12.60		MONTHLY AVERAGE:	27.47	PPB

JOB #: 2833-12-06-01-C



JOB #: 2833-12-06-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

OZONE MAX instantaneous maximum in ppb

MST

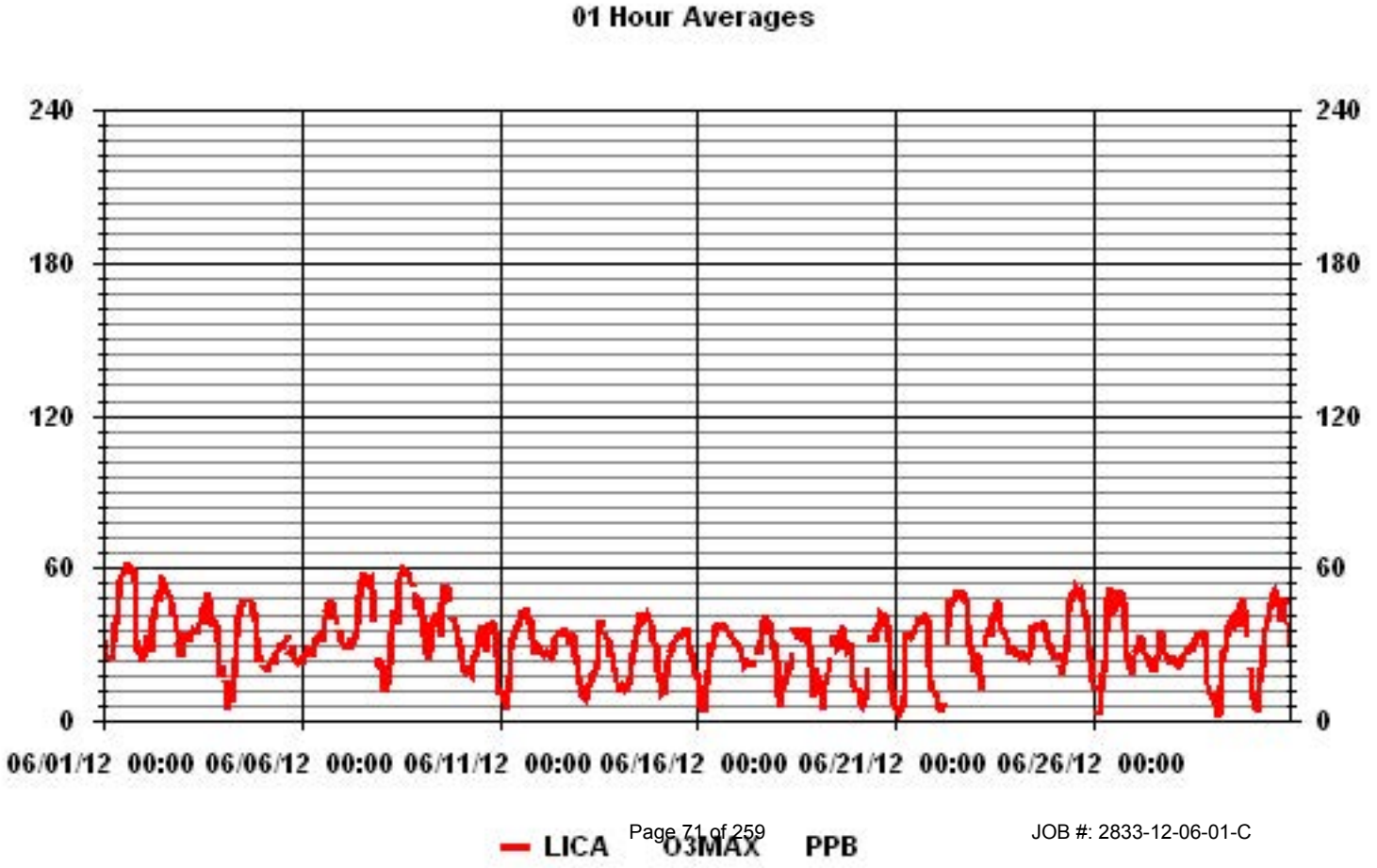
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	31	24	24	24	**IZS**	25	31	38	41	49	55	57	58	59	**61**	**61**	59	59	59	55	32	28	27	23	**61**	42.6	24
2	25	29	33	**IZS**	34	27	40	44	49	47	51	57	55	51	51	51	50	47	43	42	36	30	31	25	57	41.2	24
3	35	33	**IZS**	32	32	35	36	35	35	35	38	42	41	44	46	50	48	39	37	40	38	32	18	18	50	36.5	24
4	21	**IZS**	15	4	7	12	11	17	25	33	41	45	47	**C**	**C**	**C**	**C**	**C**	46	43	40	34	24	24	47	27.2	24
5	**IZS**	21	20	20	21	22	24	22	26	27	29	29	29	30	31	33	**M**	27	28	28	24	24	23	**IZS**	33	25.6	23
6	23	25	26	28	28	26	26	26	30	32	33	32	32	35	40	44	43	45	47	43	41	39	**IZS**	35	47	33.9	24
7	32	31	29	29	29	29	31	31	32	34	38	49	55	57	57	55	54	55	56	52	40	**IZS**	22	25	57	40.1	24
8	21	13	13	11	14	22	35	39	42	42	38	55	58	60	60	58	58	58	55	54	**IZS**	49	44	47	60	41.1	24
9	47	42	34	27	25	25	27	38	40	42	40	38	33	46	52	52	52	52	48	**IZS**	40	38	37	33	52	39.5	24
10	30	25	20	20	19	20	20	19	24	25	28	33	33	37	34	30	27	37	**IZS**	37	39	35	26	14	39	27.5	24
11	11	11	11	8	4	11	18	28	32	34	35	37	39	40	43	41	44	**IZS**	39	39	33	27	27	29	44	27.9	24
12	29	27	27	26	27	26	26	25	26	32	33	34	34	34	35	36	**IZS**	34	31	31	32	35	26	23	36	30.0	24
13	18	15	10	10	9	11	14	15	18	19	20	24	34	38	38	**IZS**	34	33	32	26	26	21	20	16	38	21.8	24
14	12	12	14	13	12	13	14	17	22	27	31	34	37	41	**IZS**	39	40	42	41	40	38	32	31	30	42	27.5	24
15	20	16	12	13	10	18	23	25	27	30	31	33	34	**IZS**	34	35	35	35	35	26	27	24	20	19	35	25.3	24
16	17	9	6	4	4	14	20	25	29	29	33	37	**IZS**	37	37	37	37	37	36	34	34	33	31	30	37	26.5	24
17	30	28	28	24	22	23	23	22	22	22	22	**IZS**	27	27	31	35	39	41	34	39	35	28	31	32	41	28.9	24
18	25	10	5	13	13	14	18	21	21	26	**IZS**	36	33	33	35	35	31	33	32	36	31	22	9	17	36	23.9	24
19	18	15	13	14	4	14	16	19	24	**IZS**	30	33	29	30	28	35	37	31	31	28	29	29	16	14	37	23.3	24
20	13	12	12	7	6	8	11	20	**IZS**	32	32	32	36	37	37	42	41	41	41	38	32	21	13	7	42	24.8	24
21	5	5	3	4	5	10	33	**IZS**	34	33	34	35	37	39	39	39	40	40	42	40	22	17	13	12	42	25.3	24
22	9	11	5	4	4	6	**IZS**	31	37	46	46	47	48	50	50	49	50	50	48	47	39	30	27	19	50	32.7	24
23	22	25	25	19	13	**IZS**	30	33	35	35	33	40	42	46	47	40	37	36	35	33	27	27	27	28	47	32.0	24
24	28	26	26	25	**IZS**	26	26	25	24	25	28	36	36	37	37	37	37	38	38	36	32	29	29	27	38	30.8	24
25	25	25	25	**IZS**	21	18	22	27	34	43	47	50	51	53	52	50	51	49	44	42	37	30	25	16	53	36.4	24
26	13	13	**IZS**	3	3	12	19	24	35	48	51	51	50	44	45	51	48	51	47	37	27	25	21	18	51	32.0	24
27	25	**IZS**	28	29	32	32	29	27	26	25	22	20	20	20	24	26	31	35	31	27	25	25	22	24	35	26.3	24
28	**IZS**	25	24	23	22	23	25	26	27	27	29	28	45	30	32	33	33	34	34	34	30	15	11	**IZS**	45	27.7	24
29	10	8	7	3	2	14	23	27	29	33	37	39	38	41	42	38	38	46	48	44	40	34	**IZS**	20	48	28.7	24
30	12	9	5	4	4	15	21	30	36	39	40	44	46	50	51	49	46	43	39	46	48	**IZS**	37	30	51	32.3	24
HOURLY MAX	47	42	34	32	34	35	40	44	49	49	55	57	58	60	61	61	59	59	59	55	48	49	44	47			
HOURLY AVG	21.7	19.5	17.9	15.8	15.2	19.0	23.9	26.8	30.4	33.5	35.3	38.9	39.9	40.9	41.8	42.2	42.2	41.7	40.6	38.5	33.6	29.0	24.6	23.4			

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:	682						
MAXIMUM INSTANTANEOUS VALUE:	61	PPB	@ HOUR(S)	14, 15	ON DAY(S)	1	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			719	HRS
MONTHLY CALIBRATION TIME:	5	HRS					
STANDARD DEVIATION:	12.56						



JOB #: 2833-12-06-01-C

LICA
O3_ / WD Joint Frequency Distribution (Percent)

June 2012

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : O3_
Units : PPB

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	2.92	4.39	5.85	4.53	9.07	4.97	12.88	3.95	2.78	4.09	6.29	8.78	9.80	8.78	4.53	2.19	95.90
<	110	.00	.58	.43	.00	.00	.14	.29	.58	.43	.29	.00	.29	1.02	.00	.00	.00	4.09
<	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	2.92	4.97	6.29	4.53	9.07	5.12	13.17	4.53	3.22	4.39	6.29	9.07	10.83	8.78	4.53	2.19	

Calm : .00 %

Total # Operational Hours : 683

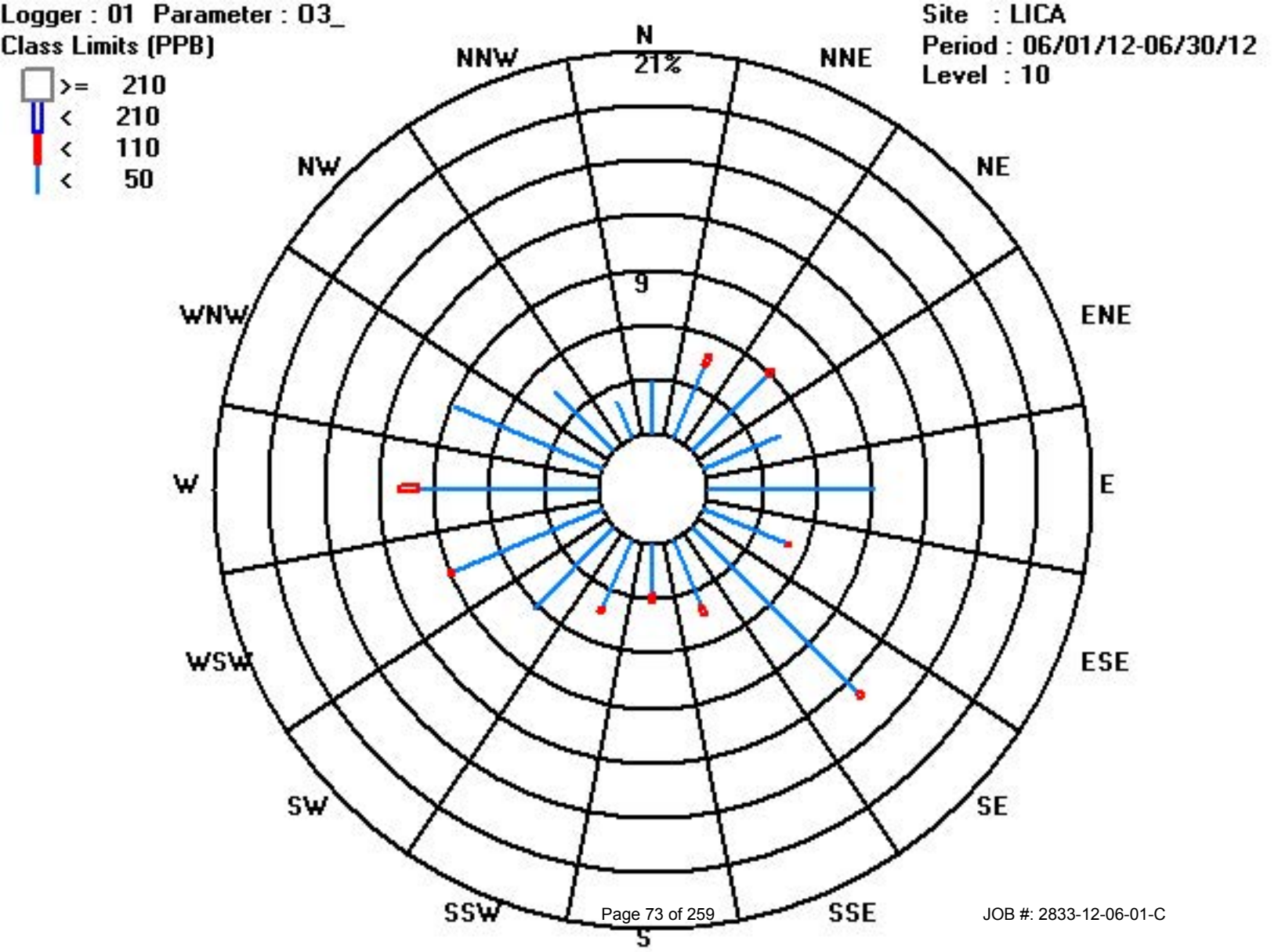
Distribution By Samples

Direction

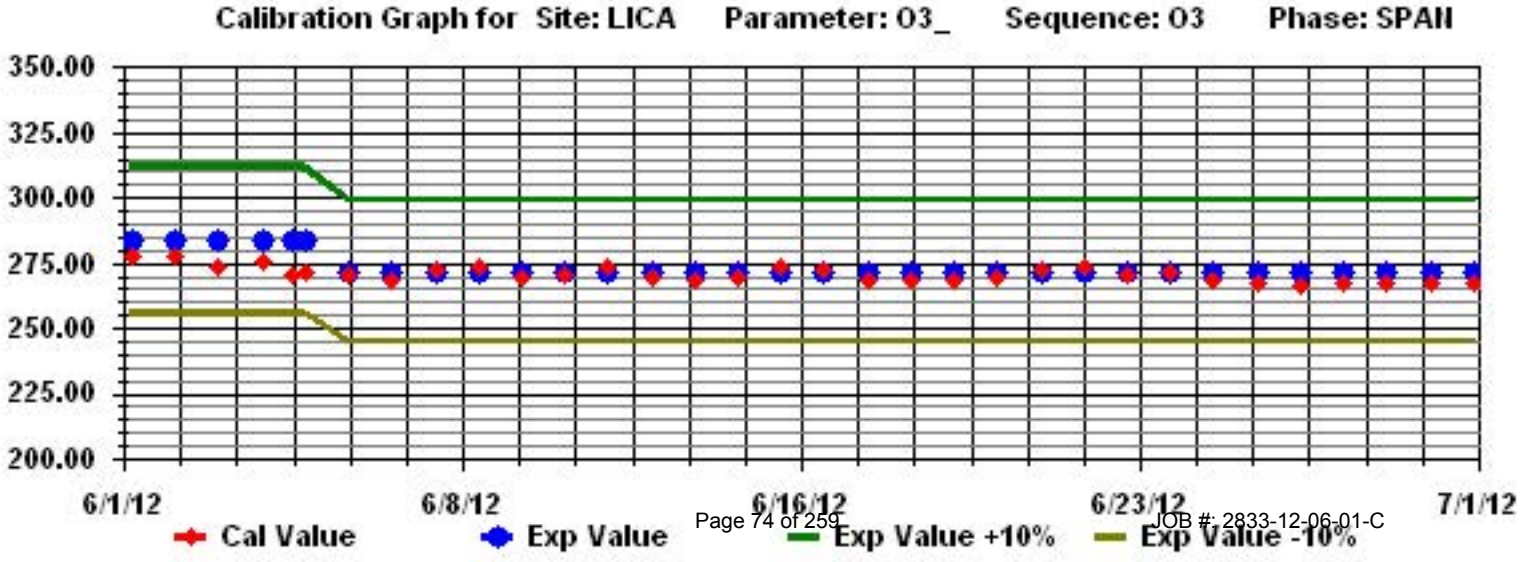
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	20	30	40	31	62	34	88	27	19	28	43	60	67	60	31	15	655
<	110		4	3			1	2	4	3	2		2	7				28
<	210																	
>=	210																	
	Totals	20	34	43	31	62	35	90	31	22	30	43	62	74	60	31	15	

Calm : .00 %

Total # Operational Hours : 683



JOB #: 2833-12-06-01-C


Calibration Graph for Site: LICA Parameter: O3_ Sequence: O3 Phase: SPAN
350.00
325.00
300.00
275.00
250.00
225.00
200.00
6/1/12
6/8/12
6/16/12
6/23/12
7/1/12
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

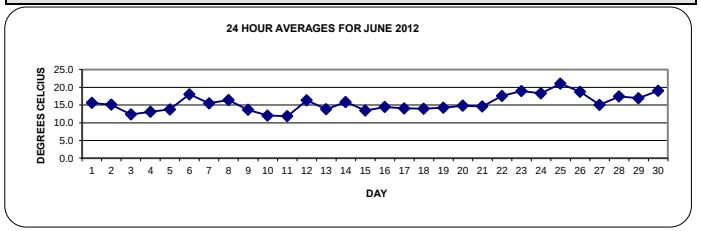
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	8.8	6.9	6.6	6.4	6.8	8.9	11.9	14.5	17.1	18.9	20.2	20.9	21.4	22	22.8	22.7	22.8	22.8	22.4	19.7	15.5	12.8	11.3	11.1	22.8	15.6	24
2	11.6	11.3	11.5	11.4	9.9	10.3	13.9	16.8	19.7	20.9	22.4	23.4	22.1	19	16.7	15.9	14.9	14.6	13.4	12.9	12.2	12.3	12.8	12.6	23.4	15.1	24
3	12.4	12.2	12.1	11.7	11	10.7	10.2	10.1	10.3	10.7	12.1	13.1	12.8	14.2	15.9	16.4	14.9	14.8	15.9	14.7	13.5	11.6	8.7	7.6	16.4	12.4	24
4	7.3	7	6.1	4.6	4	6.3	7.4	9.3	12.2	14.7	16.1	17	17.8	18.1	18.7	18.9	19.3	19.5	19.3	17.9	15.4	12.2	11.6	13	19.5	13.1	24
5	12.8	12.4	11.9	11.7	12.1	12.5	12.5	12.4	12.4	12.7	13.2	13.8	14.5	15.3	16.4	17.4	17.1	16.2	15.9	14.9	13.9	13.5	12.6	12.7	17.4	13.8	24
6	13.6	13.7	13.8	13.7	13.5	13.5	13.9	14.6	16.4	18.1	18.8	18.9	19	20.5	22.9	23.9	23.9	23.8	22.9	21.7	19.2	17.9	17.6	17.1	23.9	18.0	24
7	15.3	13.8	11.9	10.2	9.7	10.5	11.4	12.4	13.6	15.1	16.7	18.4	19.7	20.5	20.7	21	20.9	21.3	21	20.1	15.9	12.6	10.5	8.6	21.3	15.5	24
8	7.2	5.9	4.9	4.3	4.8	9.5	13.4	15.1	17.9	18.6	18.6	21.7	23.3	24.1	24.5	23.9	24.2	23.8	23.1	21.8	17.8	16.3	14.9	14.1	24.5	16.4	24
9	13.8	13	12	11	10.6	10.9	12.5	13.3	14.9	16	15.7	15.8	16.5	16.7	15.4	14.6	15.2	15.7	14.4	12.5	12.2	11.8	11.6	11.9	16.7	13.7	24
10	12.1	12.1	12.2	12.7	12.9	13.2	13.4	13.4	12.4	13.3	14.2	15	14	13.9	14.4	13.7	11.6	11.4	11.3	11.3	9.8	8.8	6.8	5.2	15.0	12.0	24
11	**3.9**	4	4.5	4.4	4.1	7.4	10.6	12.4	13.6	14.1	14	14.7	15.4	15.5	16.6	16.4	16.7	16.7	16	15.8	13.4	11.4	11	11.5	16.7	11.8	24
12	11.6	10.7	10	10.1	10.3	10.4	11.5	12.9	14.9	17.1	19.3	20.4	21.6	22.9	23.7	24.1	24	20.2	19.2	18.5	17.4	15.2	13.5	12.3	24.1	16.3	24
13	11.1	10.5	10.1	10.1	10.6	11.3	12.4	13	12.9	13.9	14.5	14.8	15.9	18	19.6	19.4	18.9	16	13.4	13.4	13.4	12.5	12.7	12.5	19.6	13.8	24
14	12.4	12	12.2	12.1	12.4	12.5	12.5	13	14.7	16.1	17.6	18.3	18.8	19.6	20.3	20.4	20.7	20.6	20.4	19.2	16.6	13.5	13.1	11.3	20.7	15.8	24
15	8.4	7.6	7.7	7.8	8.1	9.6	11	12.2	13.3	15	16	16.3	17.4	17.5	17.7	17.6	18	18.3	17.4	16.1	14.7	12.9	10.8	10.9	18.3	13.4	24
16	9.5	7.1	5.7	4.9	5.2	8.8	11.4	13.2	15.2	17.1	17.9	18.5	18.8	19	19.2	19.1	19	18.3	18	17.4	16.9	16.3	15.6	14.8	19.2	14.5	24
17	13.8	13.6	13.4	11.9	11.4	11.5	12.6	13.4	13.4	13.1	13.9	15.6	16.1	16	16.3	17.2	18.4	18.6	17.1	13.5	12	11.6	11.6	11	18.6	14.0	24
18	10.3	9	7.5	7.2	7.4	8.3	11.1	11.2	11.8	14.7	16.4	18	17.6	18.4	19.9	18.2	16.1	18.8	18.7	19.6	16.8	13.7	12	11.9	19.9	13.9	24
19	11.2	9.7	8.4	8.3	8.2	11.3	13.2	14.3	15.9	16.8	17.7	16.2	15.6	17.6	17.4	17.9	18.4	17.1	17.2	16.2	15	13.1	12.1	12.6	18.4	14.2	24
20	13	12.6	11.1	10.6	10.7	11.3	12.5	13.8	16.1	18.1	18.2	16.3	14.1	15.3	16	18.6	19.6	19.1	20.1	19.1	16.5	12.8	11	9.5	20.1	14.8	24
21	8.2	7.3	6.2	5.7	6.5	9.6	13	14.5	15.4	16.3	16.9	17.7	18.6	19.5	20.2	20.9	21.3	21.5	21.6	21.1	16.4	12.7	10.7	9.8	21.6	14.7	24
22	8.3	7.5	6.4	5.6	6.1	10	14.2	17.3	19.4	20.8	22.4	23.8	24.3	24.8	25.1	25	25.2	24.9	24.5	22.8	18.8	16.1	14.8	13.8	25.2	17.6	24
23	13.5	14.1	13.4	11	10.9	14.8	17.1	18.1	20.1	20.4	21.6	22.5	23.1	23.7	24.1	24	23.9	23.7	23.2	21.2	19.5	18.4	17.1	16.1	24.1	19.0	24
24	15.6	14.7	14.2	14	14.6	14.7	14.7	15.5	15.9	17.8	19.9	22.1	23	23.5	23.8	23.3	22.9	22.2	21.1	17.8	16.9	16.8	16.8	16.9	23.8	18.3	24
25	16.9	17	16.6	15.6	15	16.3	18.1	20.1	21.5	22.7	23.5	23.9	24.8	25.8	25.9	25.6	**26.6**	26.2	24.6	23.3	22.1	19.2	17.6	15.7	**26.6**	**21.0**	24
26	14.3	13.8	12.9	11.6	11.5	14.7	17.6	18.9	20.9	22.5	22.6	22.9	22.8	22.4	22.4	22.9	22.3	23	21.2	19	18.3	17.6	17.2	16.8	23.0	18.8	24
27	16.5	16.3	15.4	13.7	12.6	12.2	12	12	12	12.4	12.5	13.1	14.1	14.7	16.3	18.7	18.3	17.1	18.2	19.3	17.6	16	14.9	14.8	19.3	15.0	24
28	14.4	13.9	13	12.1	11.1	12.3	13.7	14.8	16.2	17.8	19.2	20.1	21.2	22.1	22.8	23.2	23.5	23.5	23.2	22.6	19.3	14.6	12.7	11.5	23.5	17.5	24
29	10.8	9.6	8.6	8	8.4	12.9	14.9	16.5	17.8	18.8	20.4	21.7	21.8	21.7	21.3	21.6	22.6	22.5	22.7	22.1	19.7	16.3	13.6	11.8	22.7	16.9	24
30	10.6	9.8	9.2	8.3	8.4	12.2	15.5	18.5	21.6	23	23.4	24.7	25.1	25.7	25.7	25.5	24.4	23.8	23.4	22.4	20.7	19	17.8	17.2	25.7	19.0	24
HOURLY MAX	16.9	17.0	16.6	15.6	15.0	16.3	18.1	20.1	21.6	23.0	23.5	24.7	25.1	25.8	25.9	25.6	26.6	26.2	24.6	23.3	22.1	19.2	17.8	17.2			
HOURLY AVG	11.6	11.0	10.3	9.7	9.6	11.3	13.0	14.3	15.7	16.9	17.9	18.7	19.0	19.6	20.1	20.3	20.2	19.9	19.4	18.3	16.2	14.3	13.2	12.6			

STATUS FLAG CODES

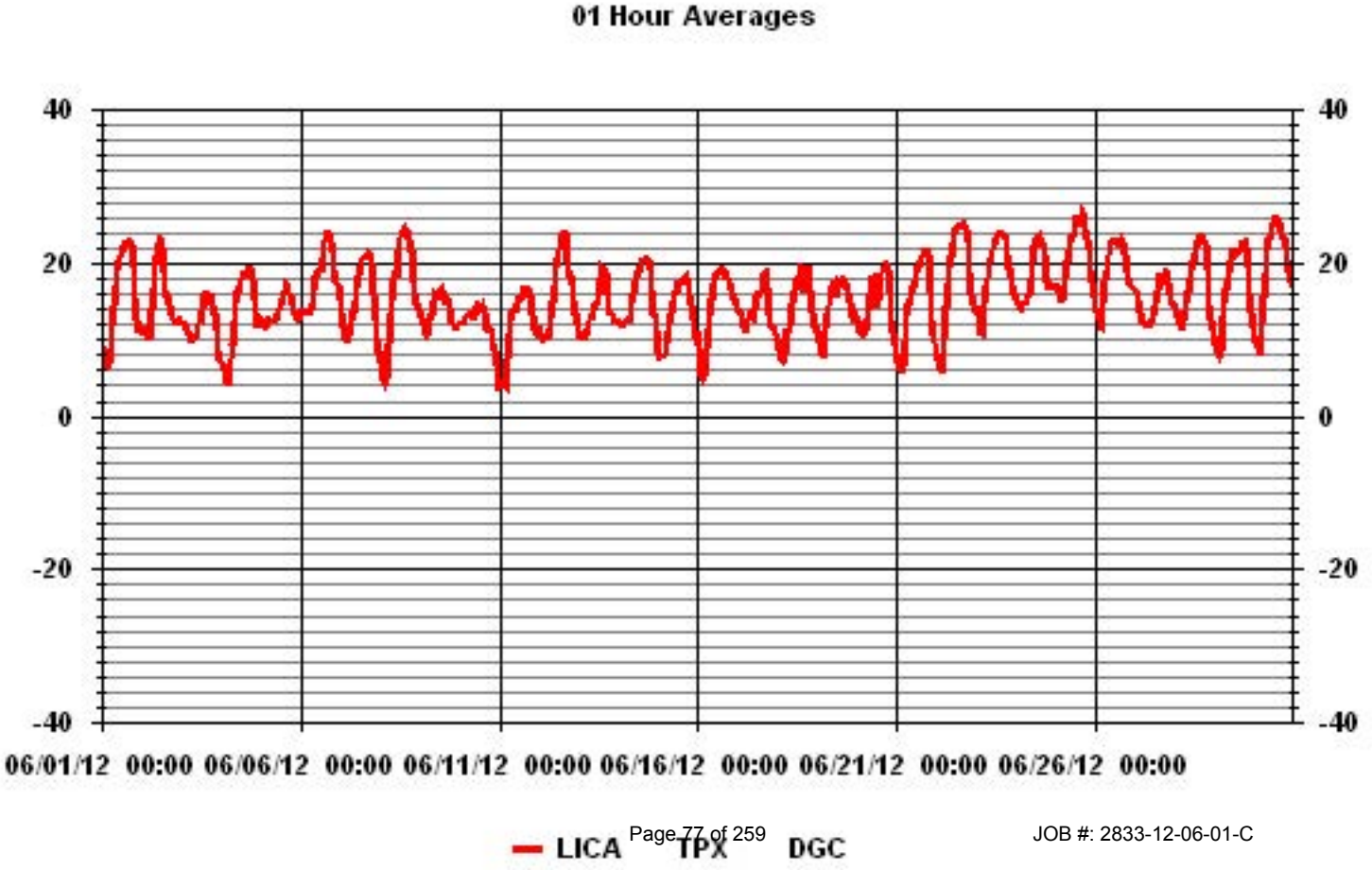
S	- OUT OF SERVICE	OD	- OUTSIDE DECTECTION LIMITS
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	3.9	^{O}C	@ HOUR(S)	0	ON DAY(S)	11
MAXIMUM 1-HR AVERAGE:	26.6	^{O}C	@ HOUR(S)	16	ON DAY(S)	25
MAXIMUM 24-HR AVERAGE:	21.0	^{O}C			ON DAY(S)	25
					VAR-VARIOUS	

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	4.83		MONTHLY AVERAGE:	15.53	^{O}C



JOB #: 2833-12-06-01-C

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

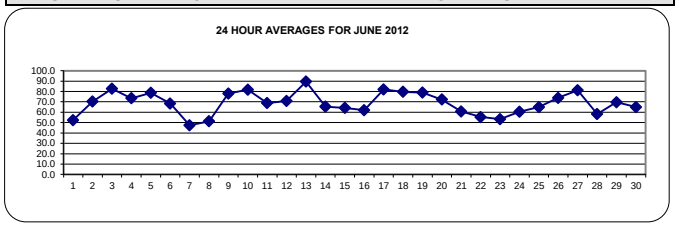
RELATIVE HUMIDITY hourly averages (%)

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	80	88	87	87	87	80	71	60	49	42	33	27	23	22	19	20	22	22	25	42	58	67	72	73	88	52.3	24
2	72	70	67	65	75	76	62	49	43	43	41	37	41	58	72	77	88	87	91	93	95	97	96	96	97	70.5	24
3	94	93	91	90	91	91	91	93	94	93	86	80	81	74	64	60	68	69	65	68	74	83	93	96	96	82.6	24
4	96	97	97	96	96	98	100	100	87	73	66	63	57	55	51	48	45	42	45	52	61	77	82	79	100	73.5	24
5	82	84	88	92	92	90	88	88	86	82	78	77	73	69	65	61	63	68	69	73	78	79	82	82	92	78.7	24
6	79	79	79	78	78	80	79	76	69	62	61	62	65	61	51	49	49	49	53	58	77	84	85	79	85	68.4	24
7	70	68	68	66	62	56	52	48	47	43	38	34	29	26	25	26	26	26	27	32	52	65	73	79	79	47.4	24
8	83	86	88	88	86	72	59	52	45	47	52	38	27	23	24	27	25	26	28	29	37	57	64	67	88	51.3	24
9	68	73	79	83	86	86	79	77	69	65	66	69	70	69	68	71	69	68	80	95	97	95	95	96	97	78.0	24
10	97	98	99	93	90	87	82	80	85	76	73	68	79	74	68	68	77	73	70	69	81	86	93	95	99	81.7	24
11	96	96	97	97	95	90	80	72	63	59	58	55	51	45	45	48	48	48	54	54	70	77	79	75	97	68.8	24
12	75	87	97	97	95	93	88	82	77	71	65	61	55	49	43	38	38	56	58	59	66	78	85	89	97	70.9	24
13	93	95	96	97	99	**100**	**100**	97	97	92	89	90	83	70	63	67	69	89	90	95	91	95	95	96	**100**	**89.5**	24
14	96	96	95	96	95	93	91	87	78	69	60	52	48	42	39	39	37	36	36	40	50	64	62	71	96	65.5	24
15	87	89	90	91	92	86	80	72	68	58	53	51	42	40	40	40	39	38	47	59	58	65	76	77	92	64.1	24
16	85	92	93	93	91	85	77	68	60	54	51	47	42	43	42	44	44	45	49	52	53	55	59	63	93	62.0	24
17	67	68	69	87	94	91	85	81	82	88	85	80	79	80	82	74	68	65	74	87	94	96	94	95	96	81.9	24
18	97	98	98	99	99	98	91	93	91	80	71	61	62	59	50	62	79	62	63	57	73	86	91	93	99	79.7	24
19	93	94	96	96	94	87	84	80	74	72	67	66	75	69	69	59	57	68	66	74	81	88	95	93	96	79.0	24
20	89	88	91	94	93	91	84	77	67	53	54	65	76	71	67	50	48	49	45	54	65	83	88	92	94	72.3	24
21	94	95	95	95	92	85	67	52	48	48	45	41	39	36	34	34	32	32	30	41	68	80	86	87	95	60.7	24
22	91	91	93	94	90	78	69	58	52	46	38	32	28	25	27	27	27	28	30	37	55	67	71	76	94	55.4	24
23	79	74	81	91	88	72	62	53	47	47	44	36	30	26	28	34	35	36	37	48	55	57	59	61	91	53.3	24
24	62	67	68	70	64	63	64	64	66	63	59	53	44	43	41	43	41	42	45	69	77	81	82	81	82	60.5	24
25	81	80	82	88	90	86	82	75	65	56	49	47	46	41	43	43	38	40	52	61	66	77	84	89	90	65.0	24
26	92	94	95	94	94	85	78	74	66	56	49	49	51	55	56	52	56	50	64	88	93	93	94	96	96	73.9	24
27	95	94	97	93	86	89	92	91	90	90	90	88	84	84	78	66	66	68	69	66	64	70	70	67	97	81.1	24
28	68	68	69	72	76	70	64	60	58	55	53	50	48	44	41	39	37	36	37	40	58	80	88	90	90	58.4	24
29	91	92	94	93	91	78	79	71	65	63	57	55	57	54	56	58	57	58	51	47	57	71	84	90	94	69.5	24
30	93	93	93	94	94	83	77	67	55	48	48	45	41	40	43	44	48	57	61	60	57	66	74	77	94	64.9	24
HOURLY MAX	97	98	99	99	99	100	100	100	97	93	90	90	84	84	82	77	88	89	91	95	97	97	96	96			
HOURLY AVG	84.833	86.233	87.733	88.967	88.5	83.967	78.567	73.233	68.1	63.133	59.3	55.967	54.2	51.567	49.8	48.933	49.867	51.1	53.7	59.967	68.7	77.3	81.7	83.333			

STATUS FLAG CODES

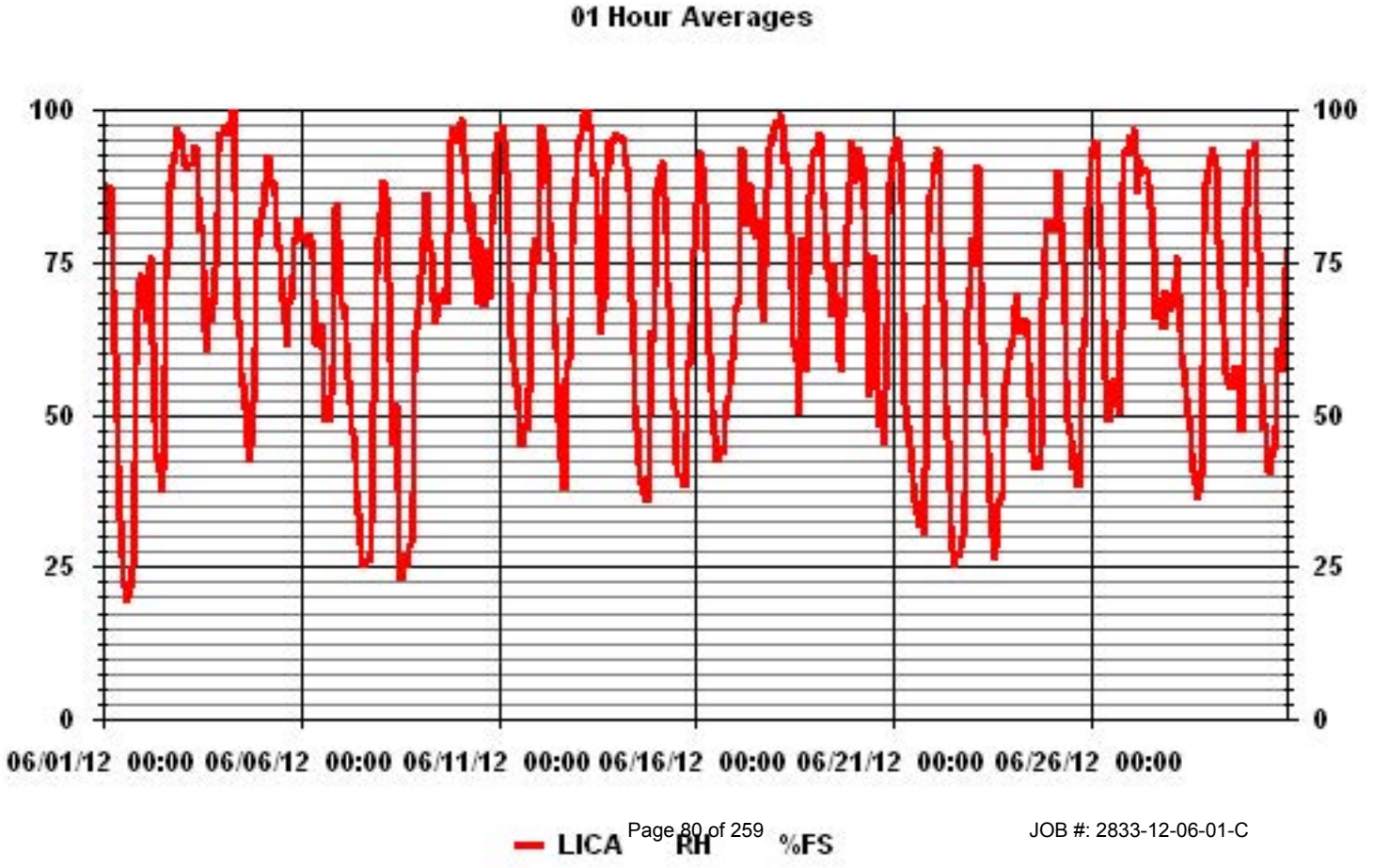
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	100	%	@ HOUR(S)	5, 6	ON DAY(S)	13
MAXIMUM 24-HR AVERAGE:	89.5	%			ON DAY(S)	13

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	20.40		MONTHLY AVERAGE:	68.70	%



JOB #: 2833-12-06-01-C

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

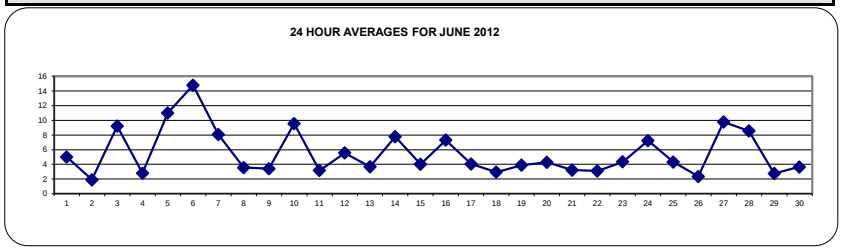
VECTOR WIND SPEED (WS) hourly averages (km/hr)

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	4.2	2.8	3.3	3.4	4.7	5.4	6	6.5	5.8	7	8.4	10.9	11.5	10	10.9	10.3	7.8	7.4	3.7	0.7	1.5	1.7	1	0.6	11.5	5	24
2	0.6	1.2	1.7	2	1.2	0.7	2	5.5	2.5	4.9	5.9	8	6	2.2	5.2	2.9	3.5	4.4	3.9	3.1	2.7	3.9	2.1	3.5	8	1.9	24
3	6.9	7.8	9.5	11.3	11.6	10.2	10.6	10.8	11.4	11.2	12	12.1	12.2	11.6	17	13.2	10.5	9.9	9.2	7.8	5.9	1.9	2.2	3.2	17	9.2	24
4	1.7	3.8	0.4	0.7	2.1	4	2.6	2.9	0.9	3.1	2.6	7	7.9	9	7.1	7.8	7.4	7.6	7.1	5.6	3.1	0.8	3.1	6.9	9	2.8	24
5	5.6	6.4	8.9	11.5	11	11	12.6	13.2	13.1	11.8	12.1	10.6	12.6	13.7	16.9	14.7	13.8	12.3	10.4	7.1	9.5	9.5	6.4	9.3	16.9	11.0	24
6	12.3	15.1	16.1	**18.8**	17.4	16.1	14.8	18.3	17.6	16.9	16.6	14.2	11.5	12.3	16.9	16.8	17.4	18	17	12.5	14.6	8.2	6.5	9	**18.8**	**14.8**	24
7	6.2	8.8	5.9	5.7	7.1	9.4	12.3	13.3	14.3	15.7	14.4	9.7	9.4	11.9	12	10.1	8.3	6.3	4.9	2.8	1.8	1.5	1.1	0.5	15.7	8.1	24
8	0.6	0.3	0.5	1	1	1.7	2.9	4.4	4.6	3	4.5	5.6	5.6	3.9	1.6	7	8	6.6	4.5	3.2	1.4	4.7	4.3	4.5	8.0	3.6	24
9	4.1	0.9	0.4	1.3	0.5	0.3	1.4	3.1	3.8	5.2	5.3	2	3.2	4.7	5.8	8.9	4.2	2.4	1.9	2.5	4.1	4.8	5.2	5.8	8.9	3.4	24
10	5.7	4.7	4.7	8.1	7.4	9.8	11.3	12.4	14.8	13.5	12.6	13.3	12.4	13.7	13.6	12.1	11.5	13.3	10.3	8.1	7.4	4.1	2.8	1.4	14.8	9.5	24
11	2.8	3.8	3.2	2.3	0.7	1.6	2.5	1.2	3	2.7	4.3	3.9	2.5	3.4	4	5	3.5	2.4	4.3	3.8	3.1	2.7	3.5	5.5	5.5	3.2	24
12	3.7	1.7	5.3	7.4	5.4	8.3	5.5	6.3	2.6	2.5	4.1	6.5	7.2	8.2	8.3	10.2	9.4	10.1	9.3	4.6	2	1.9	1.4	1.5	10.2	5.6	24
13	0.7	1.2	1.3	1.4	0.7	1.7	2.1	3	1.9	6.2	4.2	5.7	6.8	7.2	4.6	5.6	3.1	4.3	8	2.3	2.2	5	4	4.9	8.0	3.7	24
14	5.3	3.7	3.3	4.8	4.7	4.5	5.9	8.9	10.9	11.8	12.8	12	13.3	11.1	11.1	11	11.2	9.8	8.9	7.8	4.1	3.9	3.7	1.9	13.3	7.8	24
15	2.1	0.8	0.2	0.8	1.5	0.9	2.9	6.4	6.9	8.8	9	6.3	7.7	7.2	6.1	5	2.7	2.1	1.8	1.6	4.3	3.7	3.1	4.6	9.0	4.0	24
16	1	1.1	1.3	0.9	0.7	2.6	2.7	7.1	8.4	8.1	8.2	9	10.9	8.5	11.9	11	10.5	7.7	8.4	9	11.5	10.8	12.2	11.9	12.2	7.3	24
17	10.1	9.6	2.7	3.2	9.5	7.3	7	3.6	2.1	1.8	2.1	0.9	2.9	2.4	2.7	2.1	2	4.9	5.4	2.7	1.1	0.8	8.6	1.7	10.1	4.1	24
18	0.3	0.5	1.4	2.1	1.2	0.9	4.7	5.5	5.2	5.3	4.7	3.9	7.8	3.7	4.2	6.8	1.8	0.2	4	2.2	1.4	0.7	0.9	1.3	7.8	2.9	24
19	3.4	0.8	2.6	0.5	1	2	0.4	2.2	2.9	4.2	5	8.8	3.3	6.7	7.5	6	8.8	6.4	6.9	3.3	4.5	0.7	2.2	3.3	8.8	3.9	24
20	4.6	5.5	2.4	2.4	3.5	3.9	4.8	5	5.6	7.1	2.9	5.8	1.6	9	5.3	6.6	8.3	7.1	2.2	3.1	2.6	1.2	1.2	0.6	9.0	4.3	24
21	1.5	0.3	0.9	0.7	0.7	0.6	3	5.4	7.4	6.1	8	7.5	6.3	6.1	4.6	4	3.9	4.1	2.4	0.3	1.5	0.8	0.4	1	8.0	3.2	24
22	0.7	0.5	0.5	0.2	0.4	0.9	0.7	1.6	3	4.2	3.9	3.5	1.3	4.4	6.7	8.1	6.6	7.7	6.8	4.8	2.1	2.5	1.9	1.3	8.1	3.1	24
23	0.5	1.7	0.6	0.5	0.6	0.7	4.7	5.4	4.1	7.1	6.3	6.1	6	2.8	5.6	7.4	7.5	7	6	4.9	3.5	5.3	4.8	5	7.5	4.3	24
24	5	3.1	3.2	2.2	5.1	4.1	4.5	2.1	5.3	6.3	7.3	9.3	14	13.4	12.6	12.7	11.5	11.4	9.4	6.2	5.3	6.7	5.6	7.6	14.0	7.2	24
25	8.5	8.3	5.4	4.2	2.4	2.7	5.4	5.7	5.8	7.3	7.6	6.8	5.4	3.9	5.4	3.8	2.9	2.2	3	1.3	2.6	0.5	0.8	1.3	8.5	4.3	24
26	0.8	2.1	1.2	0.4	1.2	1.3	1.3	3	3	2.3	4.3	3.6	2.3	3.6	2.6	2.4	2.6	2.1	0.4	5.7	1.2	4	2.9	1.9	5.7	2.3	24
27	3.2	2.6	7.6	12.7	13.7	10.6	9.1	12.7	12.4	12.2	13.8	12.9	12.1	10.8	8.8	10.4	13.5	11.3	8.7	3.7	8.3	5.3	9.1	9.7	13.8	9.8	24
28	9.6	8.3	7.7	5.7	7	7.9	11.3	12	11.1	9.8	10.6	12.6	12.1	11.4	12.4	12.3	11.1	10.5	8.5	5.3	2.7	1.8	1.7	1.9	12.6	8.6	24
29	0.6	1.1	0.6	0.8	0.7	0.2	2.6	0.8	1.6	2.7	0.7	2.7	5.7	6.5	4.8	4	1	6.9	7.5	6	3.7	2	1.8	1.1	7.5	2.8	24
30	1.7	0.5	0.7	0.5	0.2	1.1	3.1	2.4	1.4	2.5	5.4	4.9	6.2	5.9	6.7	5.6	4.7	2	2.5	6.6	7.9	4.2	4.7	6.1	7.9	3.6	24
HOURLY MAX	12.3	15.1	16.1	18.8	17.4	16.1	14.8	18.3	17.6	16.9	16.6	14.2	14.0	13.7	17.0	16.8	17.4	18.0	17.0	12.5	14.6	10.8	12.2	11.9			
HOURLY AVG	3.8	3.6	3.5	3.9	4.2	4.4	5.4	6.4	6.4	7.0	7.3	7.5	7.6	7.6	8.1	8.1	7.3	6.9	6.2	4.6	4.3	3.5	3.6	4.0			

STATUS FLAG CODES

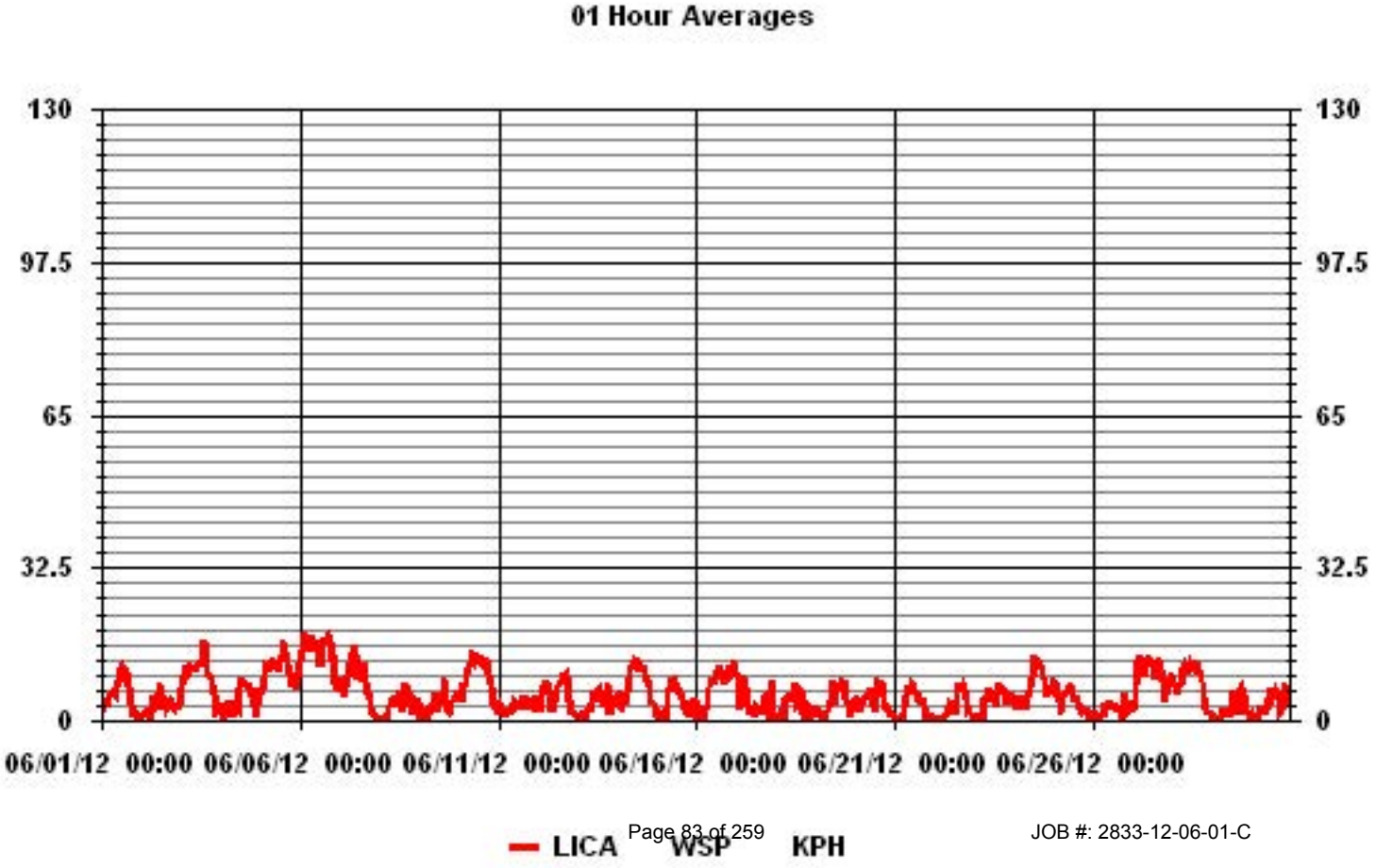
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



LAST CALIBRATION: December 16, 2010

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	18.8	KPH	@ HOUR(S)	3	ON DAY(S)	6	
MAXIMUM 24-HR AVERAGE:	14.8	KPH			ON DAY(S)	6	
CALMS (≤ 0 KPH)	1.34	%	OPERATIONAL TIME:		720	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	4.13		MONTHLY AVERAGE:		5.64	KPH	



JOB #: 2833-12-06-01-C

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

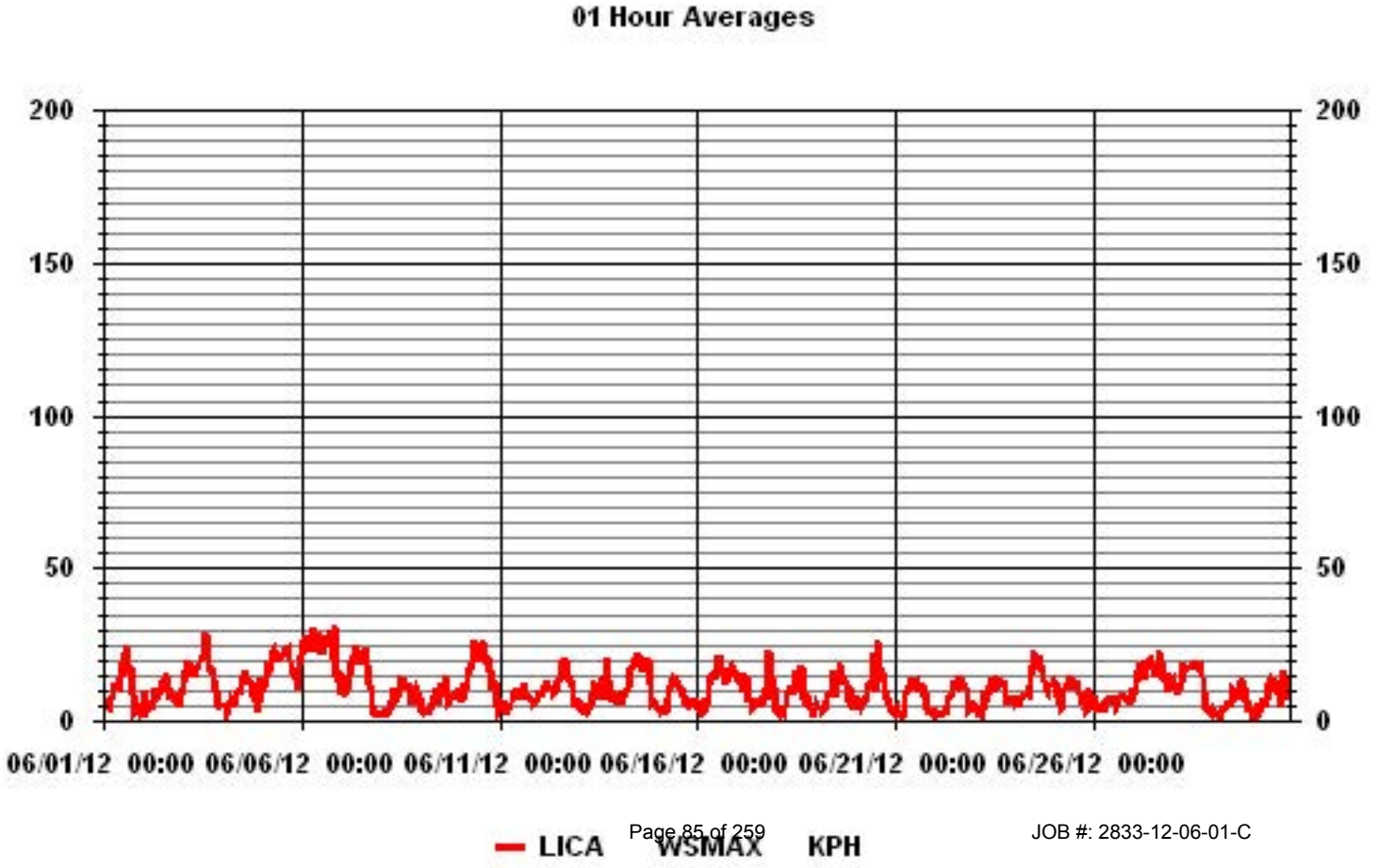
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	5.6	4.6	4.8	4.5	7.1	7.8	10.9	10.9	11.8	11.2	14.3	19.1	22.3	19.1	24.6	18.6	15	15.5	9.3	2.6	3.3	4.1	1.8	2.3	24.6
2	2.2	10.1	4.6	4.1	5.4	3.7	6.3	10.8	6.7	8.7	10.2	12.2	11.7	14.1	15.9	10.1	7	8.7	7.7	6.6	6.8	8.6	4.1	8.7	15.9
3	10.3	13	16.3	18.5	18.6	15.6	15.5	14.5	18	16.5	18.9	20.9	21.2	21.5	28.6	20.4	15.8	17.5	15.9	13.7	10.4	5	5	4.8	28.6
4	4.9	5	2	2.6	5.4	7.5	6.5	6	6.4	9.3	9.2	10.9	14.3	15.6	15.4	13.5	11.6	13.1	12.6	8.3	6.9	2.8	6	13.8	15.6
5	9	11.3	13.5	17.2	16.3	17.3	22.9	23.7	20.6	21	21.2	20.7	21.2	21.8	23.4	24.2	24.5	19.6	16.1	15.1	15.9	14.4	9.7	18.1	24.5
6	21.3	26.4	25.4	27.9	25.3	23.6	23.5	30.1	28.2	27.7	29.2	21.7	22.8	21.5	28	25.6	23.9	29.7	28.4	20.2	**31.3**	15	12.9	16.6	**31.3**
7	8.2	13.9	9	9.1	10.1	14.7	19.4	21.2	20.2	24.9	22.2	18.2	21.1	21.1	22.8	24.1	18.7	12.4	11	5.3	3.1	2.3	1.9	2.4	24.9
8	2.3	2.3	3	2	2.2	3.8	6.5	10.3	9	7	7.6	10.8	14.6	10.4	14.3	11.6	12	11.7	7.2	5.4	8.6	10.6	9.5	8.9	14.6
9	8.2	3.5	2.5	2.9	3.7	3.3	4	5.7	8.3	10.2	8	5.3	7.7	11.2	11.4	14.7	10.8	6.3	7	8.1	7.8	8.9	9.2	9.9	14.7
10	9.7	7.3	7.5	12.1	10.3	15.2	17.2	19	24.9	26.3	19.5	22.3	21.2	24.7	26.6	20.3	18.8	21.7	17	12.1	12.6	12.3	5.4	3.3	26.6
11	4.4	6.1	5.4	5.4	1.7	3.4	5.4	6	9.4	9.5	9.4	10.8	8.6	8.3	9.7	11.8	8.9	8.7	8.1	6.9	5.6	6.3	6.6	7.5	11.8
12	9.8	7.6	9.3	11.2	12.3	12.3	10.3	11.6	8.5	8.9	9.7	12.8	13.5	13.8	18.3	17.7	20.3	17	15.7	13.5	11.8	7.8	5.4	4.3	20.3
13	7	4.5	3.5	4	3.4	5.9	4.5	5.4	8.8	13.1	7.1	9.4	11.9	12.9	11.6	10.7	6.6	20.8	14.3	7.6	6.5	10	7.7	8.5	20.8
14	8.8	6.8	6.4	7.7	8.2	9.2	11	16.6	17.2	17.9	20.1	19.2	21.9	20.5	19.5	16	20.6	18.5	20.5	12.5	6.7	7.5	7	4.7	21.9
15	4.1	4.2	2.6	3	3.8	2.5	7.2	10.6	11.4	14.2	13.6	11.6	13	11.7	11.3	9.1	8.8	6.2	4.8	5.1	7.5	5.9	4.6	7.5	14.2
16	4.6	3.6	4.3	2.6	2.9	7.5	5.2	11.9	14.6	15.3	14.7	15	18.8	17.9	21.3	18.1	16.1	12	12.9	16.3	17.3	14.7	16.5	15.3	21.3
17	13.7	13.2	13.6	8.9	15.5	11.4	14.4	7.4	6.8	4.1	4.6	6	6.9	6.8	5.8	6	7.8	9.8	9.8	23.2	7.2	9.3	13.9	11.8	23.2
18	3.4	2.3	3.5	4.1	3.1	4.8	9.1	9.2	9.3	11.1	8.7	9.8	16.5	9.6	10.6	18.1	7.3	5.2	8.7	5.5	4.5	2.9	2.7	4.2	18.1
19	6	4.7	4.4	2.8	3.2	5.7	5.2	8.5	8.7	9.8	12.5	16.3	7.3	13.2	17.7	17.8	15.5	13.1	12.2	6.1	11.1	5	3.7	5.8	17.8
20	6.4	8.2	6.1	4.6	6	6.3	8.1	10.1	11.7	12.9	10.5	22.4	9.2	26.2	13.7	14.3	15.4	14	10.3	7.8	5.9	4	3.1	3.9	26.2
21	4.6	2.3	2.8	2.1	1.5	2.4	8.8	9.9	11.6	10.6	13.6	12.3	11.6	12.5	9.9	11	11	9	8.8	4.3	3.3	3	3.1	2	13.6
22	4	2.3	2.5	1.6	1.6	2.6	2.7	5.1	7.6	8.2	9.2	13.4	11.9	11.3	14.2	14.1	12.2	12.2	11.4	10.5	4.2	5	5.5	3.7	14.2
23	3.9	4.7	3.7	2.3	2	3.6	9	9.3	8.5	11.1	13	13	13.4	10.9	11.4	11.8	12.8	12.7	12.4	8.4	5.5	8.3	6.9	7.4	13.4
24	7.6	5.3	5.6	4.5	7.6	7.6	8.6	8.9	8.6	11.4	15	18.1	22	21.5	19	19.7	16.1	18.3	13.5	10.2	9.4	11	12	13	22
25	11.8	11.9	8.9	6.2	4.5	5.4	10.4	11.7	11.5	12.6	14.4	13	13.1	10.1	12.8	9.4	7.6	8.3	6.3	3.9	4.8	10.5	5	5.3	14.4
26	4.8	8.2	3.4	4.5	5	3.8	3.7	6.2	6.4	7.1	7.3	6.7	5.3	7.7	5.2	6.2	6.9	7.9	8.2	7.7	6	7.7	5.2	6.4	8.2
27	11	8.4	12.9	16.4	18.7	16.7	13.4	19.5	17.8	19.4	19.9	17.6	17.8	18.9	14.4	18.5	22.6	19.7	14.5	14.1	14.6	9.4	13.2	13.7	22.6
28	14.3	12.5	11.3	8.6	9.9	12.2	19	17.6	17	17.2	17.5	18.1	18.8	18.3	19	18.2	17.2	17.9	14.7	10.1	4.9	4	3.2	4.2	19
29	2.4	3.2	2.2	2	1.5	1	3.8	3.7	4.1	5.3	5.4	6.3	10.7	10.2	8	8.7	8.3	13.1	14.2	11.1	6.6	7.6	3.9	3.5	14.2
30	3.2	1.8	1.5	3.5	5.4	4.1	5.6	7.1	4.8	7.2	12.1	13.2	11.5	13.3	14.2	10.1	9.3	4.7	7.1	16.4	14.6	8.5	6.9	9.3	16.4
PEAK	21.3	26.4	25.4	27.9	25.3	23.6	23.5	30.1	28.2	27.7	29.2	22.4	22.8	26.2	28.6	25.6	24.5	29.7	28.4	23.2	31.3	15.0	16.5	18.1	

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	31.3	KPH	@ HOUR(S)	20
			ON DAY(S)	6



JOB #: 2833-12-06-01-C

LICA
WSP / WD Joint Frequency Distribution (Percent)

June 2012

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	1.11	2.36	3.75	2.77	4.30	3.47	6.25	3.61	2.77	3.88	5.00	6.25	5.13	4.72	2.50	1.25	59.16
<	12.0	.83	1.94	2.63	2.08	1.25	1.25	5.41	.69	.27	.27	.97	2.36	4.30	2.91	1.25	.83	29.30
<	20.0	.97	.41	.00	.69	3.05	.55	1.25	.13	.00	.00	.00	.27	1.11	.97	.55	.13	10.13
<	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	2.91	4.72	6.38	5.55	8.61	5.27	12.91	4.44	3.05	4.16	5.97	8.88	10.55	8.61	4.30	2.22	

Calm : 1.38 %

Total # Operational Hours : 720

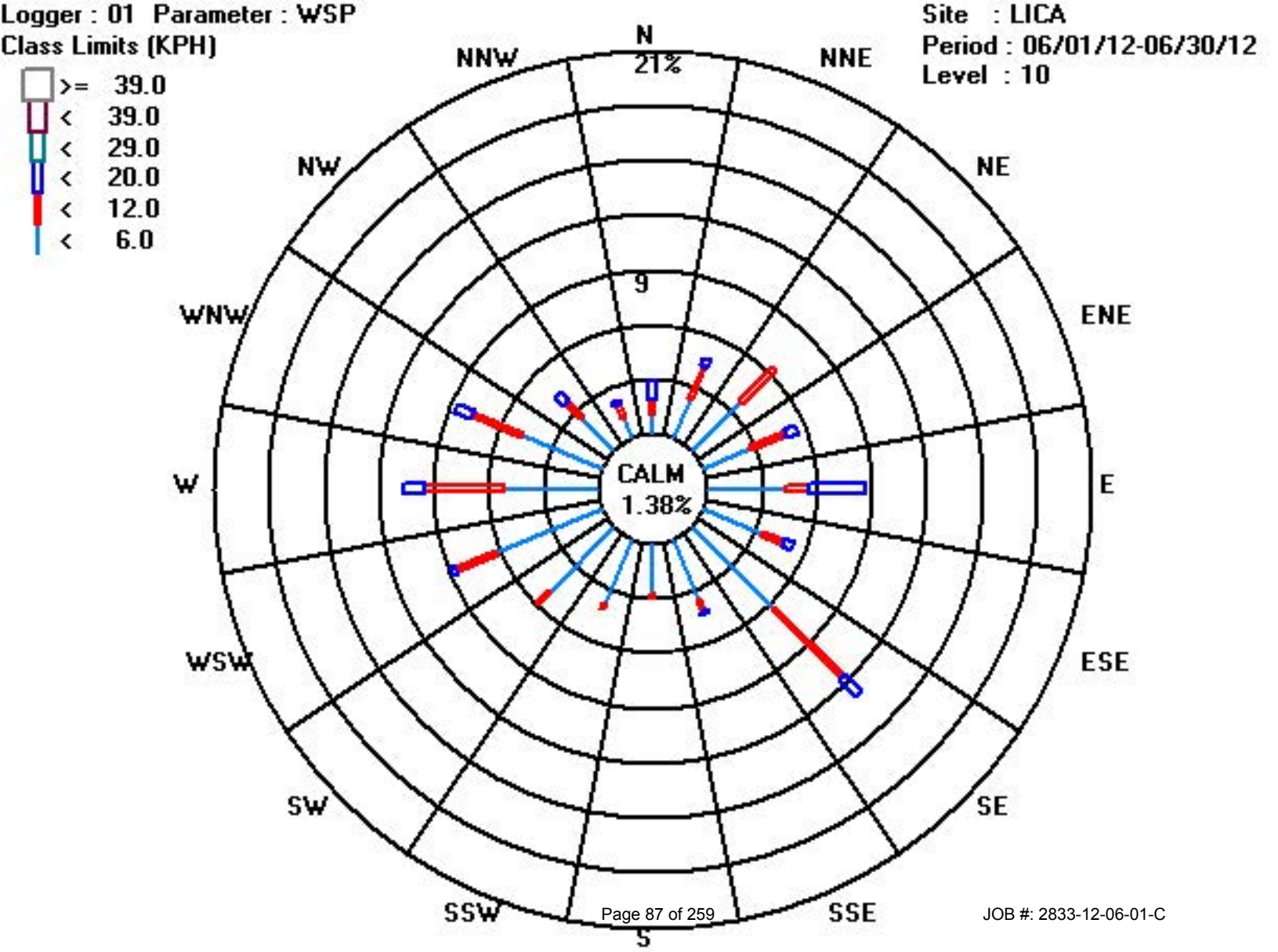
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	8	17	27	20	31	25	45	26	20	28	36	45	37	34	18	9	426
<	12.0	6	14	19	15	9	9	39	5	2	2	7	17	31	21	9	6	211
<	20.0	7	3		5	22	4	9	1				2	8	7	4	1	73
<	29.0																	
<	39.0																	
>=	39.0																	
	Totals	21	34	46	40	62	38	93	32	22	30	43	64	76	62	31	16	

Calm : 1.38 %

Total # Operational Hours : 720



JOB #: 2833-12-06-01-C

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

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	233	236	234	234	239	241	251	255	252	237	256	271	272	277	264	280	252	277	275	161	124	119	75	90	258	WSW	24
2	7	35	32	60	275	182	107	127	100	10	13	29	39	97	41	290	76	46	7	53	334	282	292	270	29	NNE	24
3	281	278	290	285	289	280	278	270	272	275	287	287	296	302	311	309	316	303	320	311	310	325	232	248	292	WNW	24
4	255	249	193	163	234	266	274	236	170	59	60	60	33	50	72	71	70	56	58	37	37	41	67	82	56	NE	24
5	69	84	87	92	89	88	87	90	86	77	86	78	69	68	60	76	87	62	60	43	49	51	39	57	74	ENE	24
6	79	84	87	83	84	85	79	83	81	87	86	81	80	82	94	94	89	97	114	109	120	117	121	141	92	E	24
7	138	131	136	130	129	130	136	136	133	132	134	157	176	149	149	154	168	194	171	151	117	73	62	107	143	SE	24
8	55	94	127	73	101	52	100	127	128	122	29	115	144	181	55	31	45	12	23	35	106	198	240	203	89	E	24
9	236	206	91	133	206	293	350	40	21	16	54	313	163	144	144	133	119	263	208	226	240	257	260	268	188	S	24
10	275	284	298	335	338	343	358	351	2	6	14	15	9	9	3	18	25	4	1	358	12	346	255	191	358	N	24
11	235	245	244	248	115	216	257	264	275	261	243	230	236	211	217	229	227	174	144	142	150	145	142	133	208	SSW	24
12	138	246	137	129	124	128	136	136	154	250	272	282	277	258	285	281	288	31	43	42	138	218	48	15	241	WSW	24
13	254	89	52	97	224	114	10	42	95	119	76	90	111	106	65	63	87	284	301	360	43	271	286	298	63	ENE	24
14	304	279	280	291	300	281	284	299	313	314	306	299	299	294	287	282	276	284	296	299	291	292	328	343	296	WNW	24
15	231	179	203	291	292	307	14	16	18	18	34	43	40	38	57	14	83	16	246	212	243	235	237	245	18	NNE	24
16	190	191	195	131	138	136	173	132	132	133	136	132	138	140	138	138	137	135	127	124	127	128	127	129	134	SE	24
17	129	128	204	148	133	129	131	141	149	168	321	171	357	53	23	315	154	89	97	29	322	106	131	268	123	ESE	24
18	189	207	164	195	115	200	249	259	284	296	278	249	320	286	247	286	337	188	292	300	256	132	119	180	275	W	24
19	222	167	241	276	127	150	19	127	130	155	211	290	313	6	19	26	348	11	329	317	331	67	268	292	332	NNW	24
20	324	317	295	277	272	269	293	311	297	325	322	40	294	315	302	287	278	273	301	250	243	214	60	193	299	WNW	24
21	227	85	238	104	160	225	66	65	70	37	32	50	37	69	82	85	74	85	65	224	179	152	151	90	64	ENE	24
22	198	98	196	238	101	99	209	297	249	264	259	287	274	240	232	230	223	230	239	227	206	240	256	217	238	SW	24
23	280	50	86	226	64	51	41	38	96	27	34	54	57	22	53	51	58	61	98	133	116	106	107	116	67	ENE	24
24	100	102	99	91	88	82	99	149	124	110	114	123	128	128	122	132	127	130	129	122	99	89	107	128	118	ESE	24
25	131	138	142	140	143	191	222	244	243	229	229	228	223	213	141	160	134	157	310	29	123	4	268	149	190	S	24
26	176	260	122	157	261	255	231	256	269	282	308	291	200	153	194	247	301	348	162	138	139	293	280	247	252	WSW	24
27	308	346	327	326	329	317	301	297	297	277	270	266	269	261	256	260	278	270	267	298	261	274	256	263	284	WNW	24
28	264	264	255	243	243	249	254	260	258	255	249	248	250	269	261	265	271	263	268	264	235	186	216	237	257	WSW	24
29	208	183	159	142	136	216	135	101	40	46	105	106	32	8	15	342	232	246	266	290	274	314	216	189	322	NW	24
30	228	120	140	167	302	238	234	240	240	194	206	203	206	199	178	175	196	180	141	148	126	125	130	133	174	S	24
HOURLY AVG	324	346	327	335	338	343	358	351	313	325	322	313	357	315	311	342	348	348	329	360	334	346	328	343			

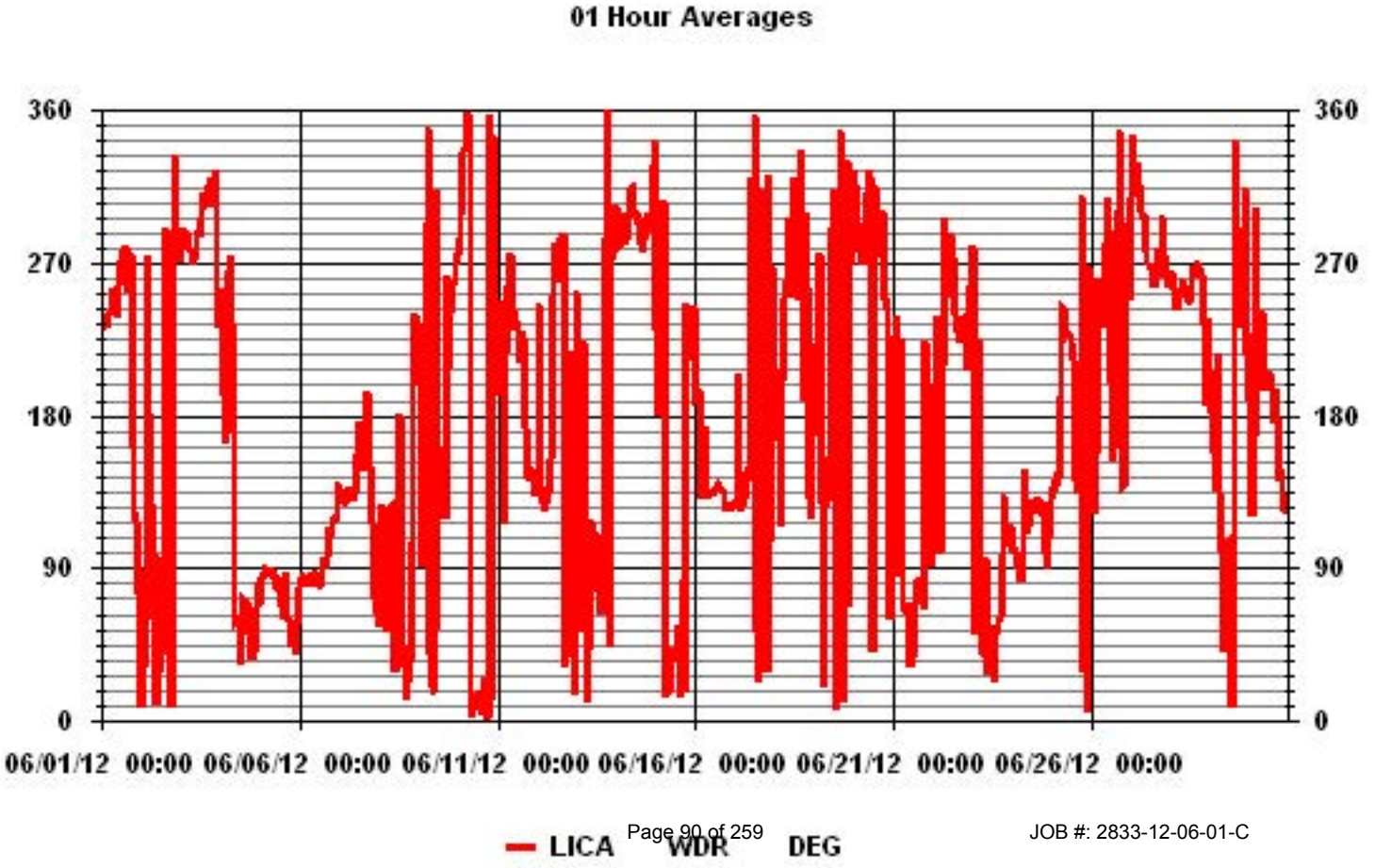
STATUS FLAG CODES

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:	December 16, 2010
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
STANDARD DEVIATION:	95.58		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	62	DEG

JOB #: 2833-12-06-01-C



JOB #: 2833-12-06-01-C

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2012

STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

MST

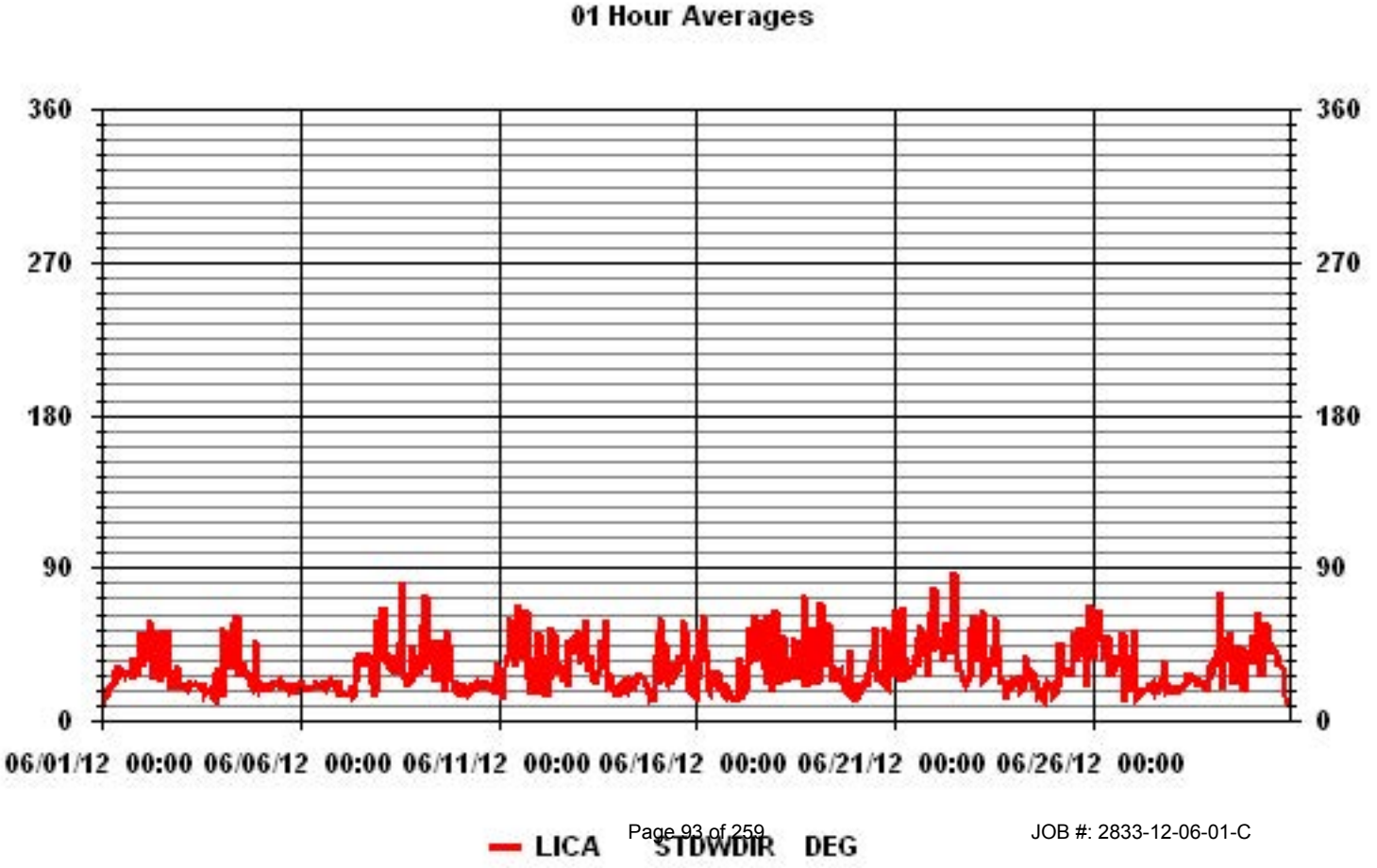
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	15	13	17	16	17	19	20	22	29	32	31	28	30	30	27	29	29	28	25	38	26	27	27	44
2	52	31	48	35	53	58	51	24	54	33	31	24	25	54	44	27	53	19	25	30	24	20	33	18
3	21	21	20	22	19	21	22	21	21	22	21	22	19	20	16	18	17	17	18	14	13	28	31	24
4	27	13	53	53	50	33	33	38	58	54	63	28	27	26	33	29	28	26	22	19	21	48	21	19
5	22	21	20	20	20	21	20	22	22	22	23	21	24	21	19	22	21	18	20	21	17	17	19	21
6	22	23	22	19	19	20	21	20	21	23	22	21	20	21	22	22	20	22	22	24	22	22	20	21
7	16	14	18	15	16	15	16	20	15	17	23	37	40	36	34	34	39	39	38	24	23	14	17	59
8	58	65	65	34	41	34	32	31	32	39	28	34	45	48	82	26	26	21	23	23	44	33	30	32
9	27	39	57	30	74	65	49	33	37	26	22	48	30	36	25	17	47	53	42	44	25	19	18	23
10	20	21	15	17	19	17	19	18	19	19	22	23	22	21	22	21	24	20	20	19	21	19	19	34
11	30	17	12	26	31	36	39	61	53	44	31	45	68	45	58	36	46	65	26	20	15	37	30	15
12	50	50	26	18	39	14	22	24	55	50	53	32	35	28	32	25	25	29	20	47	48	48	38	50
13	53	42	36	36	48	59	34	28	39	26	25	22	27	30	48	39	44	59	22	23	28	20	19	18
14	14	20	21	16	16	20	22	18	20	22	21	25	23	24	27	26	26	24	21	17	13	14	11	38
15	21	52	61	47	22	47	25	23	24	22	25	34	29	29	39	37	59	53	34	36	19	17	16	15
16	39	24	53	49	62	43	35	19	18	27	29	26	23	29	21	19	20	16	14	17	14	14	14	12
17	13	13	37	27	19	16	18	33	55	41	34	63	52	47	36	45	59	32	22	63	42	55	17	31
18	65	34	20	35	49	49	25	24	27	31	37	49	24	44	45	25	36	74	20	28	43	55	53	28
19	22	55	22	69	58	31	50	49	57	45	33	22	27	29	29	30	26	23	19	18	20	42	19	14
20	13	14	22	16	18	22	24	20	28	33	30	41	55	26	27	29	25	26	56	21	20	43	31	52
21	25	65	48	54	23	66	38	24	27	31	29	29	36	35	48	56	46	48	52	39	25	43	63	40
22	79	65	42	49	43	35	43	58	44	40	47	61	87	56	38	31	30	27	24	21	24	26	54	42
23	62	42	34	47	60	65	24	25	37	25	32	37	43	61	45	33	24	24	23	12	18	20	23	21
24	22	23	22	27	18	19	22	39	23	27	29	28	19	23	21	16	17	15	13	18	23	22	21	20
25	15	16	21	21	44	44	29	30	28	29	31	26	42	52	35	38	54	38	43	55	20	54	69	57
26	58	36	53	49	66	47	38	39	42	50	26	28	37	31	32	38	35	45	51	11	24	20	20	27
27	39	54	14	15	19	15	18	19	18	22	21	20	21	18	19	19	22	21	21	36	18	20	16	19
28	19	19	16	19	20	18	19	21	22	27	27	23	26	25	23	22	24	24	22	18	21	17	24	31
29	30	34	37	41	32	76	18	43	39	34	49	51	35	22	27	29	45	25	22	20	17	41	40	41
30	33	51	33	36	64	55	26	46	52	58	42	48	40	42	41	40	33	33	33	31	15	12	11	13

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: December 16, 2010

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS



JOB #: 2833-12-06-01-C

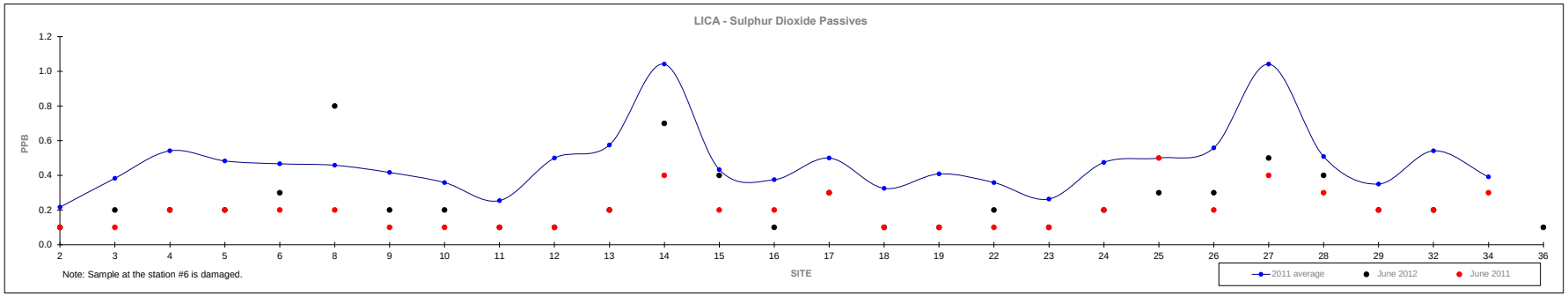
Non-Continuous Monitoring

Passive Summary Results for June 2012

Lakeland Industry & Community Association

Sulphur Dioxide
ppb

	2011																								June 2012	
	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**	**36**	**Reading**	**Site**
Mean	0.2	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.5	0.6	1.0	0.4	0.4	0.5	0.3	0.4	0.4	0.3	0.5	0.5	0.6	1.0	0.5	0.4	0.5	0.4	0.27	-
Minimum	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.2	0.1	<0.1	#02
Maximum	0.6	1.3	1.3	1.1	1.0	1.0	1.0	1.0	0.6	1.5	1.9	2.2	1.1	0.9	1.3	0.8	1.0	1.3	0.5	1.4	1.4	1.1	1.7	1.1	0.9	1.4	0.9	1.0	#14



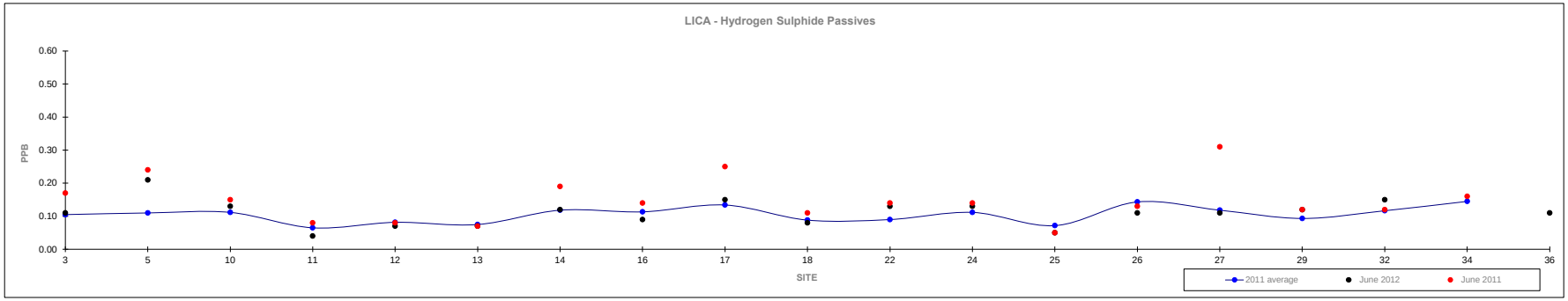
Note: Sample at the station #6 is damaged.

Passive Summary Results for June 2012

Lakeland Industry & Community Association

Hydrogen Sulphide
ppb

	2011																		June 2012	
	3	5	10	11	12	13	14	16	17	18	22	24	25	26	27	29	32	36	Reading	Site
Mean	0.15	0.20	0.14	0.09	0.11	0.15	0.17	0.15	0.29	0.12	0.14	0.16	0.09	0.17	0.48	0.15	0.15	0.18	0.09	-
Minimum	0.03	0.10	0.10	0.04	0.06	0.04	0.12	0.06	0.08	0.05	0.08	0.09	0.04	0.12	0.13	0.09	0.09	0.09	0.05	#25
Maximum	0.29	0.38	0.21	0.13	0.17	0.80	0.21	0.21	0.67	0.18	0.23	0.21	0.18	0.25	1.12	0.25	0.22	0.29	0.23	#27

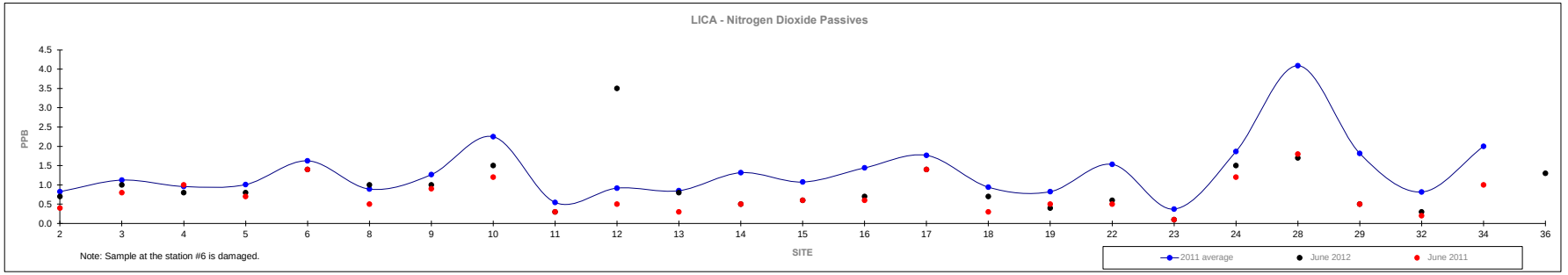


Passive Summary Results for June 2012

Lakeland Industry & Community Association

Nitrogen Dioxide
ppb

	2011																							June 2012	
	2	**3**	**4**	**5**	**6**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**28**	**29**	**32**	**36**	**Reading**	**Site**
Mean	0.8	1.1	1.0	1.0	1.6	0.9	1.3	2.3	0.5	0.9	0.9	1.3	1.1	1.4	1.8	0.9	0.8	1.5	0.4	1.9	4.1	1.8	0.8	2.0	0.6	-
Minimum	0.1	0.4	0.1	0.2	0.6	0.2	0.4	0.7	0.1	0.2	0.1	0.1	0.2	0.4	0.9	0.2	0.2	0.3	0.1	0.8	1.6	0.3	0.2	0.5	<0.1	#23
Maximum	2.5	2.6	2.2	2.2	3.5	2.4	3.0	5.6	1.2	2.3	2.1	3.0	2.4	3.0	3.5	2.2	2.3	3.7	1.0	3.7	11.3	4.7	2.3	6.9	2.0	#28



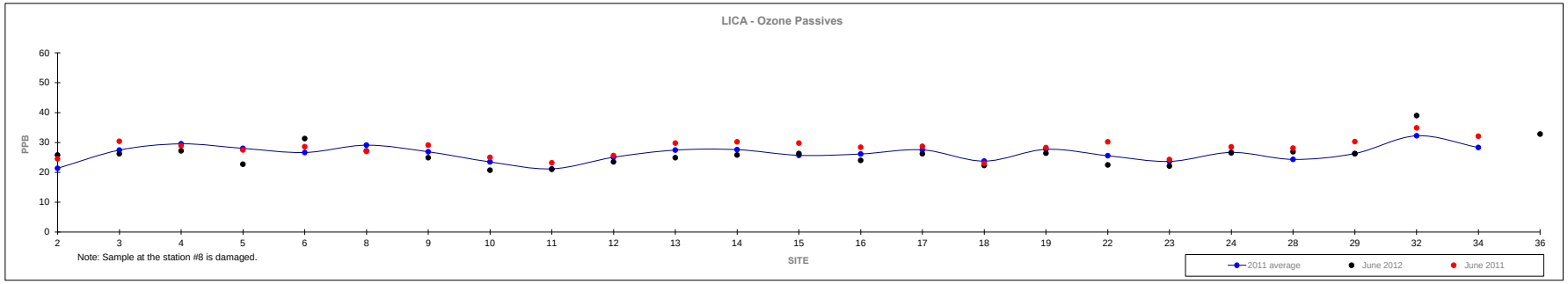
Note: Sample at the station #6 is damaged.

Passive Summary Results for June 2012

Lakeland Industry & Community Association

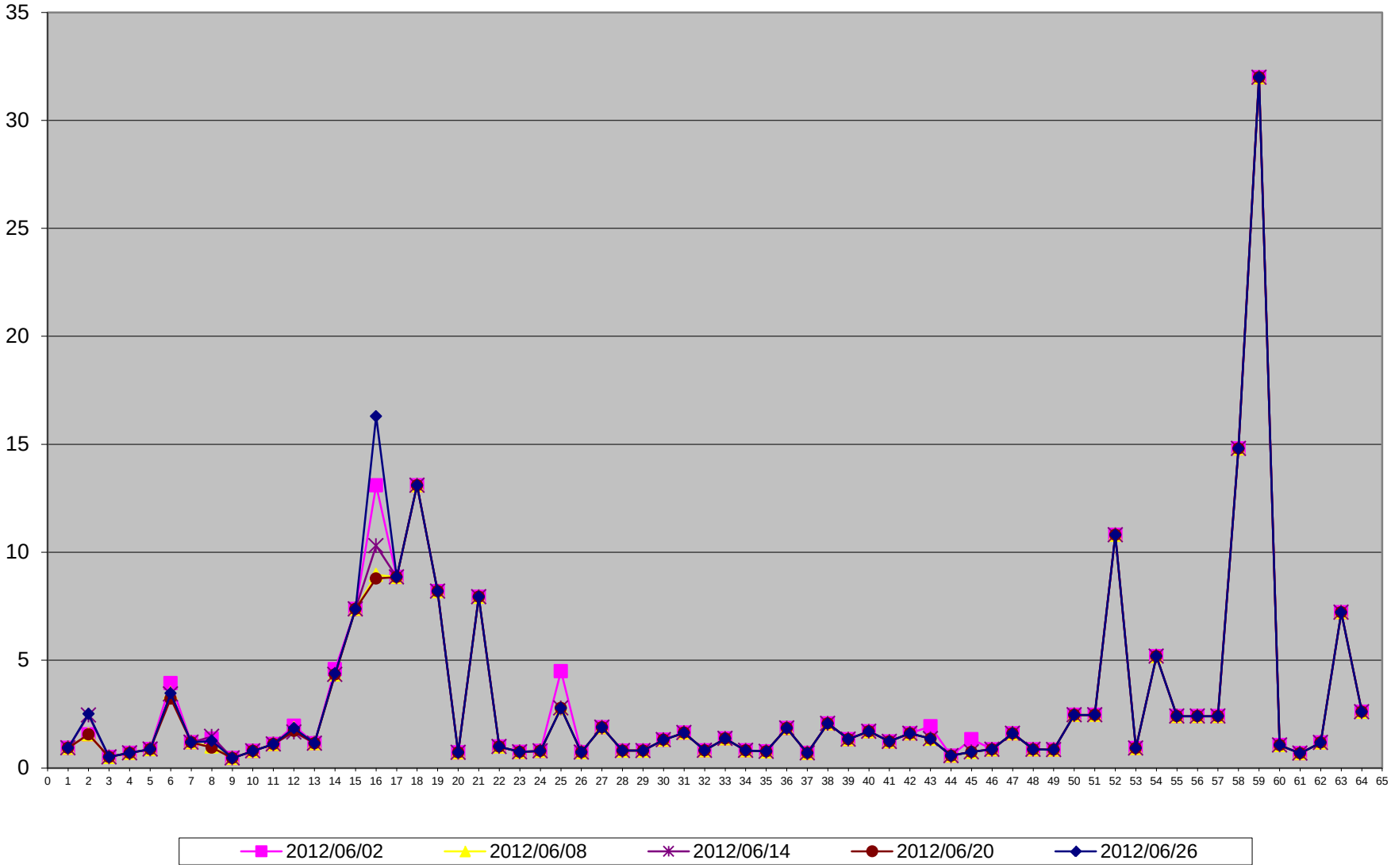
Ozone
ppb

	2011																							June 2012	
	2	**3**	**4**	**5**	**6**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**28**	**29**	**32**	**36**	**Reading**	**Site**
Mean	21.4	27.5	29.6	28.0	26.6	29.1	26.9	23.5	21.2	25.1	27.5	27.6	25.7	26.1	27.5	23.8	27.7	25.6	23.7	26.7	24.3	26.3	32.2	28.3	30.8	-
Minimum	11.9	17.6	20.0	18.5	16.8	19.1	18.0	13.9	11.5	14.0	18.4	19.1	16.1	16.6	17.8	13.3	18.6	15.1	12.8	17.1	15.8	17.3	25.0	17.6	24.1	#12
Maximum	33.2	39.2	39.6	44.1	40.8	42.4	38.2	33.9	30.9	34.9	38.1	39.1	40.3	37.0	40.3	35.4	40.1	37.0	32.5	35.9	34.8	36.4	42.0	42.5	34.9	#32



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 June 2012

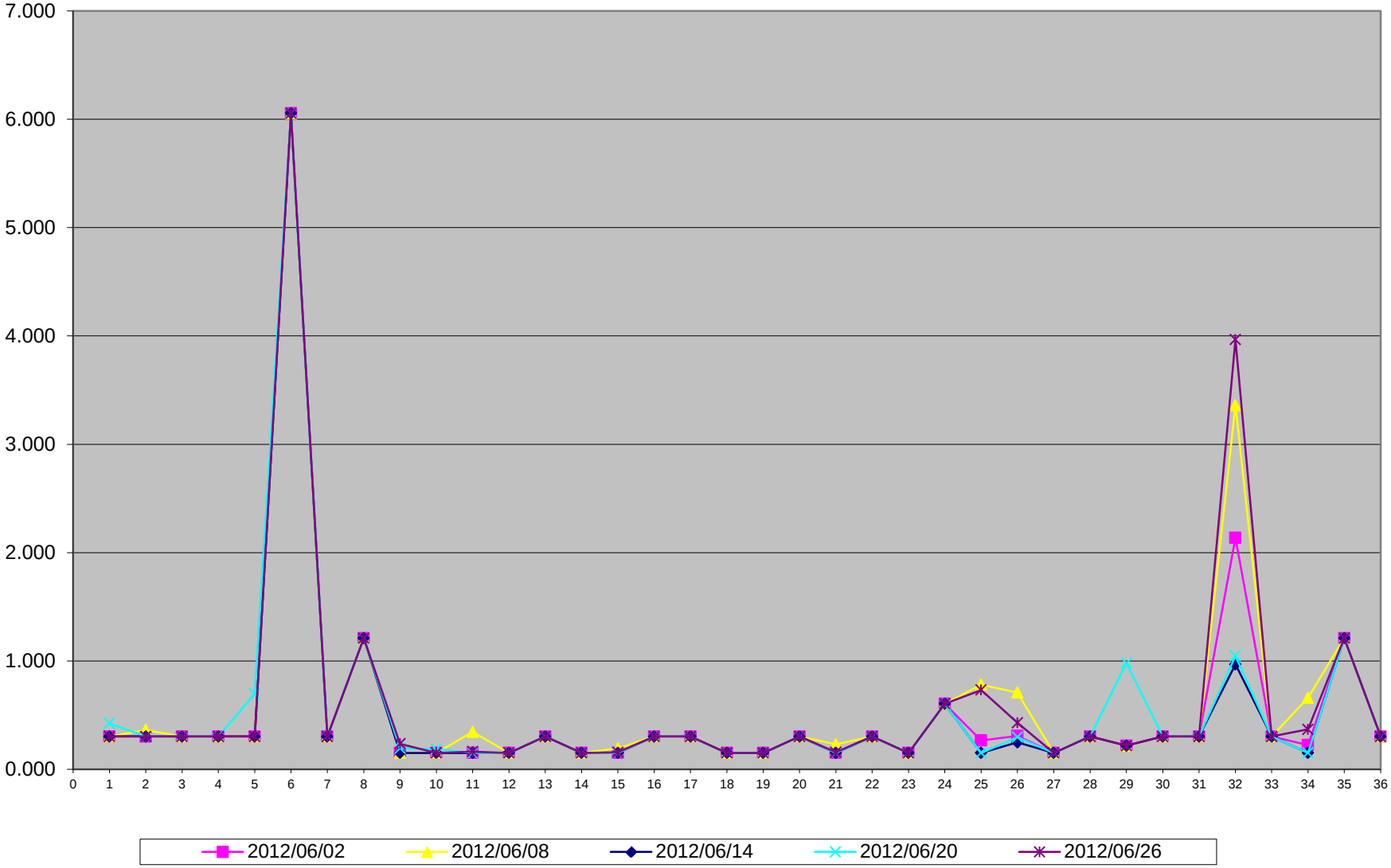
LICA- Cold Lake South Site

Unit: ng/m3

	PAHs	2012/06/02	2012/06/08	2012/06/14	2012/06/20	2012/06/26
	Sample Volume (unit: m3)	330.34	330.32	330.32	330.33	330.33
1	1-Methylnaphthalene	0.303	0.303	0.303	0.424	0.303
2	1-Methylphenanthrene	0.303	0.363	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	0.303	0.303	0.696	0.303
6	3-Methylcholanthrene	6.055	6.055	6.055	6.055	6.055
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	0.194	0.236
10	Acenaphthylene	0.151	0.151	0.151	0.188	0.151
11	Anthracene	0.151	0.345	0.151	0.151	0.163
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	0.194	0.151	0.151	0.157
16	Benzo(b)fluorene	0.303	0.303	0.303	0.303	0.303
17	Benzo(e)pyrene	0.303	0.303	0.303	0.303	0.303
18	Benzo(g,h,I)perylene	0.151	0.151	0.151	0.151	0.151
19	Benzo(k)fluoranthene	0.151	0.151	0.151	0.151	0.151
20	Biphenyl	0.303	0.303	0.303	0.303	0.303
21	Chrysene	0.151	0.230	0.151	0.151	0.157
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	0.266	0.781	0.151	0.151	0.733
26	Fluorene	0.309	0.708	0.248	0.297	0.430
27	Indeno(1,2,3-cd)pyrene	0.151	0.151	0.151	0.151	0.151
28	m-Terphenyl	0.303	0.303	0.303	0.303	0.303
29	Naphthalene	0.218	0.218	0.218	0.981	0.218
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	2.137	3.360	0.969	1.047	3.966
33	p-Terphenyl	0.303	0.303	0.303	0.303	0.303
34	Pyrene	0.224	0.660	0.151	0.151	0.369
35	Quinoline	1.211	1.211	1.211	1.211	1.211
36	Tetralin	0.303	0.303	0.303	0.303	0.303

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

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



1	1-Methylnaphthalene
2	1-Methylphenanthrene
3	2-Chloronaphthalene
4	2-Methlyanthracene
5	2-Methylnaphthalene
6	3-Methylcholanthrene
7	7,12-Dimethylbenzo(a)anthracene
8	9,10-Dimethylanthracene
9	Acenaphthene
10	Acenaphthylene
11	Anthracene
12	Benzo(a)anthracene
13	Benzo(a)fluorene
14	Benzo(a)pyrene
15	Benzo(b)fluoranthene
16	Benzo(b)fluorene
17	Benzo(e)pyrene
18	Benzo(g,h,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	June 4, 2012		Previous Calibration	May 8, 2012	
Company	Lakeland Community and Industry Association				
Plant / Location	LICA 1 - Cold Lake South				
Start Time (MST)	13:54		End Time (MST)	16:44	
Reason:			As Found		
Barometric Pressure	0.918	atm	Station Temperature	22	Deg C
Cal Gas	49.6 ppm	Gas Cyl. #	LL42496	Cal Gas Expiry date	January 16, 2014
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 - 500	ppb				
Sample Flow / Box Temp	448	ccm	29.9	Deg C	449	ccm	30.8	Deg C
HVPS / Lamp Setting	-632		739		-632		742	
PMT / RxCell Temp	OK	Deg C	44.9	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		1.024		6		1.024	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	N/A
	No Zero Adj			
4953	40.3	400	405	0.9884
		Sum of Least Squares		
		New Correction Factor		0.9884

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.1	3.9
Auto Span	374.0	376.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	0.9933
Current Correction Factor Before Span Adjust:	0.9884
Percent Change:	0.5%

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

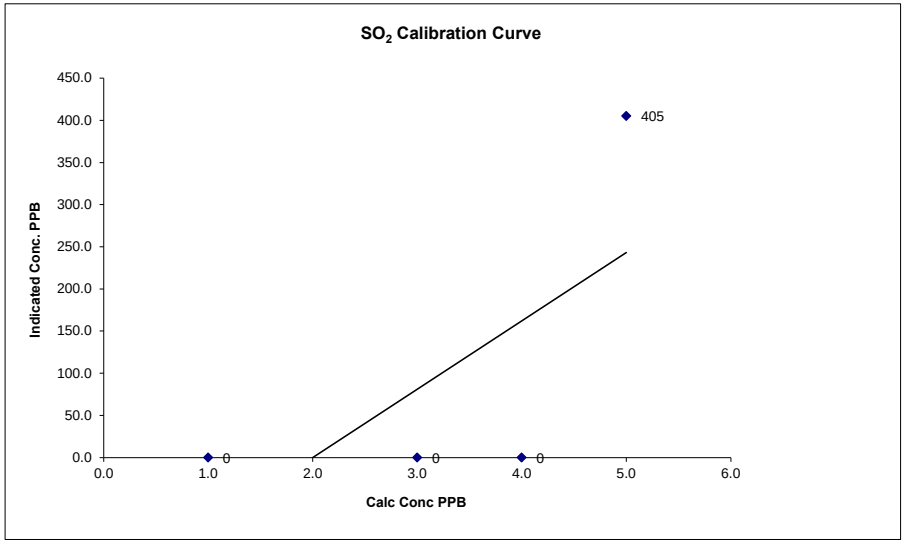
Following the A/F point, rebuilt the exhausting pump.

Calibration Performed by: Ting Xu

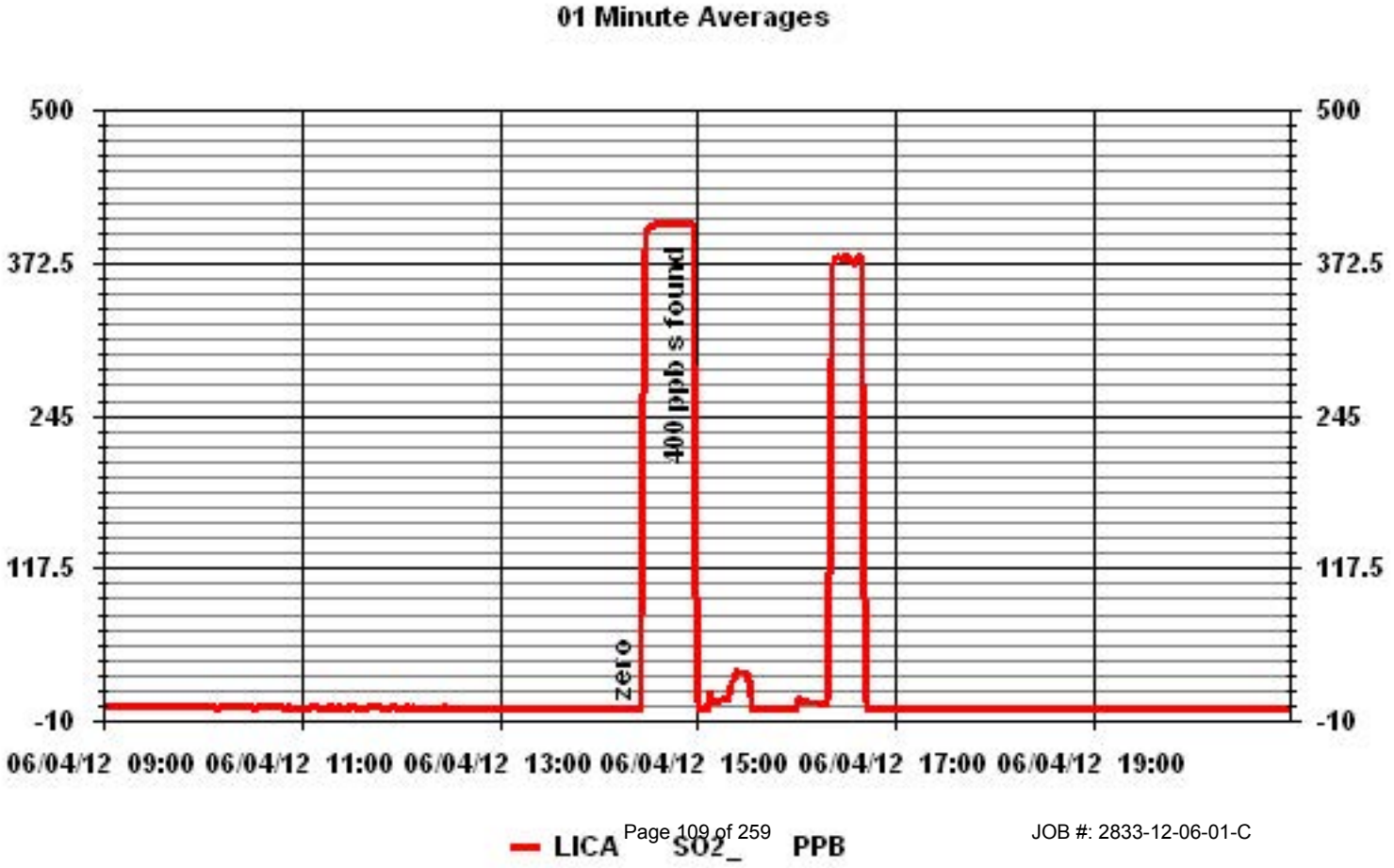
SO_2 Calibration Curve

Calibration Date	June 4, 2012				
Company	Lakeland Community and Industry Association				
Plant / Location	LICA 1 - Cold Lake South				
Start Time (MST)	13:54	End Time	(MST)	16:44	

Calculated Conc. ppb	Indicated Response ppb	Correction Factor			
0	0	n/a	Correlation Coefficient	(≥ 0.995)	1.000000
	0	#VALUE!	Slope	(0.85 to 1.15)	1.011710
	0	#VALUE!	Intercept	(± 3% F.S.)	0.000000
400	405	0.9884			



Notes:



JOB #: 2833-12-06-01-C

SO2 Calibration Report

Station Information

Calibration Date	June 5, 2012		Previous Calibration	June 4, 2012	
Company	Lakeland Community and Industry Association				
Plant / Location	LICA 1 - Cold Lake South				
Start Time (MST)	12:58		End Time (MST)	16:28	
Reason:	Post Repair Calibration				
Barometric Pressure	0.917	atm	Station Temperature	22	Deg C
Cal Gas	49.6 ppm	Gas Cyl. #	LL42496	Cal Gas Expiry date	January 16, 2014
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:	Environics 6100	S/N :	4760	Method:	Dilution
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 / Box Temp	448	ccm	30.5	Deg C	449	ccm	32.1	Deg C
HVPS / Lamp Setting	-632		739		-632		738	
PMT / RxCell Temp	OK	Deg C	45	Deg C	OK	Deg C	44.9	Deg C
Converter / IZS Temp	NA	Deg C	45	Deg C	NA	Deg C	45.0	Deg C
Offset / Slope	6		1.024		6		1.029	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	N/A
	No Zero Adj			
4951	40.2	399	401	0.9962
	No Span Adj.			
4972	22.6	224	227	0.9887
4980	12.6	125	127	0.9856
4994	0	0	0	N/A
			Sum of Least Squares	0.9938
			New Correction Factor	0.9962

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.2	0.2
Auto Span	371.0	374.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	0.9933
Current Correction Factor Before Span Adjust:	0.9962
Percent Change:	-0.3%

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

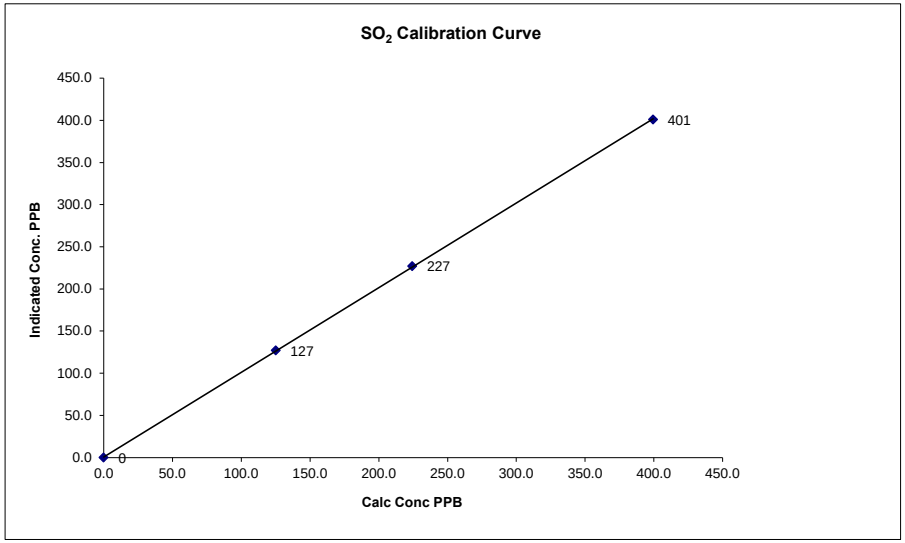
Calibration Performed by: Ting Xu

SO_2 Calibration Curve

Calibration Date	June 5, 2012		
Company	Lakeland Community and Industry Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	12:58	End Time (MST)	16:28

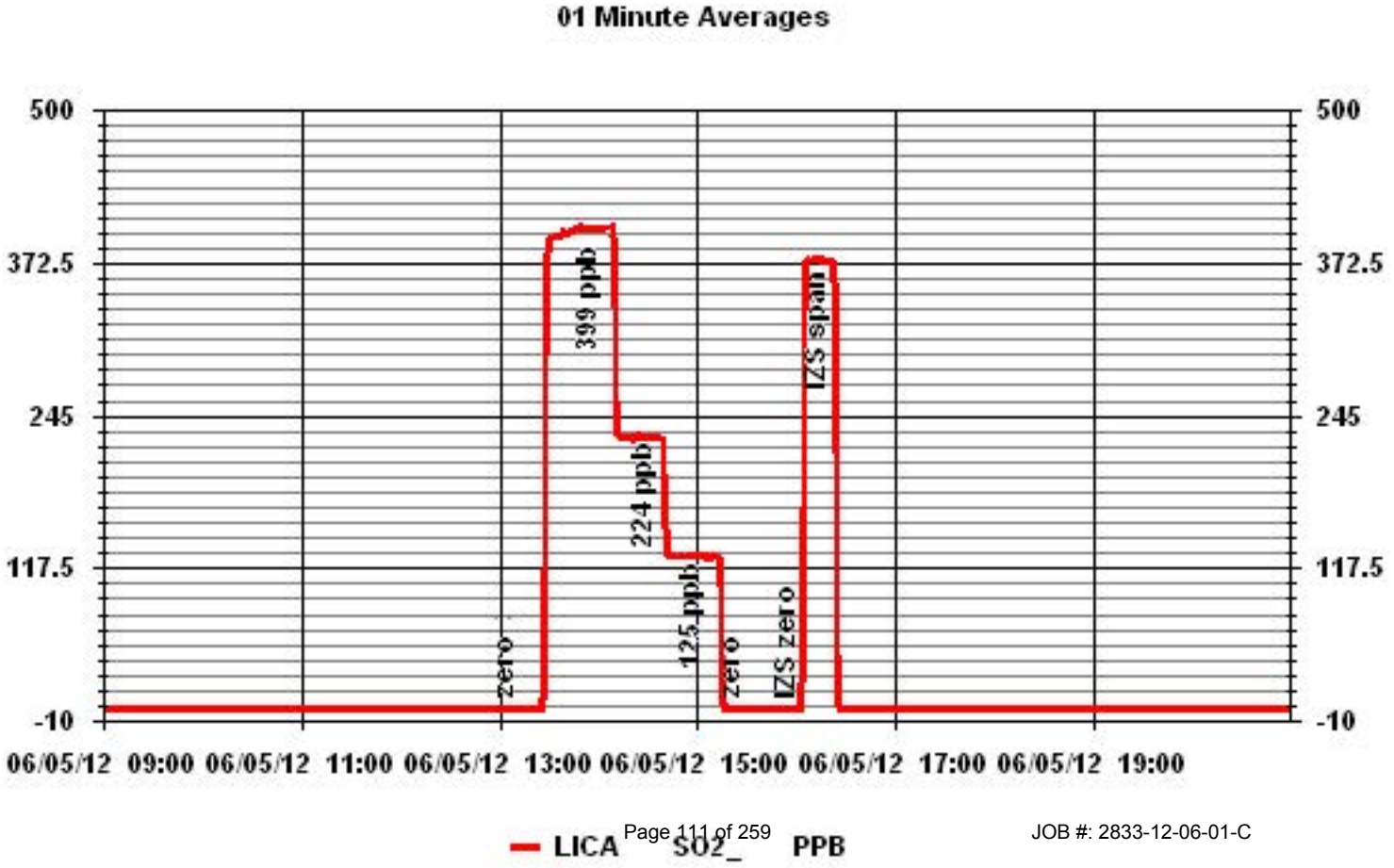
Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
125	127	0.9856
224	227	0.9887
399	401	0.9962

Correlation Coefficient	(≥ 0.995)	0.999972
Slope	(0.85 to 1.15)	1.003553
Intercept	(± 3% F.S.)	0.809962



Notes:

JOB #: 2833-12-06-01-C



JOB #: 2833-12-06-01-C

Total Reduced Sulphur

TRS Calibration Report

Station Information

Calibration Date	June 4, 2012		Previous Calibration	May 8, 2012	
Company	**Lakeland Industry & Community Association**				
Plant / Location	**LICA 1 - Cold Lake South**				
Start Time (MST)	8:20		End Time (MST)	12:46	
Reason:	As found				
Barometric Pressure	0.918	atm	Station Temperature	24	Deg C
Cal Gas	10 ppm	Gas Cyl. #	LL42648	Cal Gas Expiry date	December 27, 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	354	ccm	33.3	Deg C	352	ccm	32.8	Deg C
HVPS / Lamp Setting	-623.5		750		-623.1		749	
PMT / RxCell Temp	OK	Deg C	45	Deg C	OK	Deg C	45.2	Deg C
Converter / IZS Temp	810	Deg C	45	Deg C	810	Deg C	45.0	Deg C
Offset / Slope	13.9		1.356		13.9		1.356	

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			
4960	40.0	80	82	0.9756
			Sum of Least Squares	
			New Correction Factor	

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	-0.1	-0.1
Auto Span	59.5	62.8
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	0.9875
Current Correction Factor Before Span Adjust:	0.9756
Percent Change:	1.2%

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

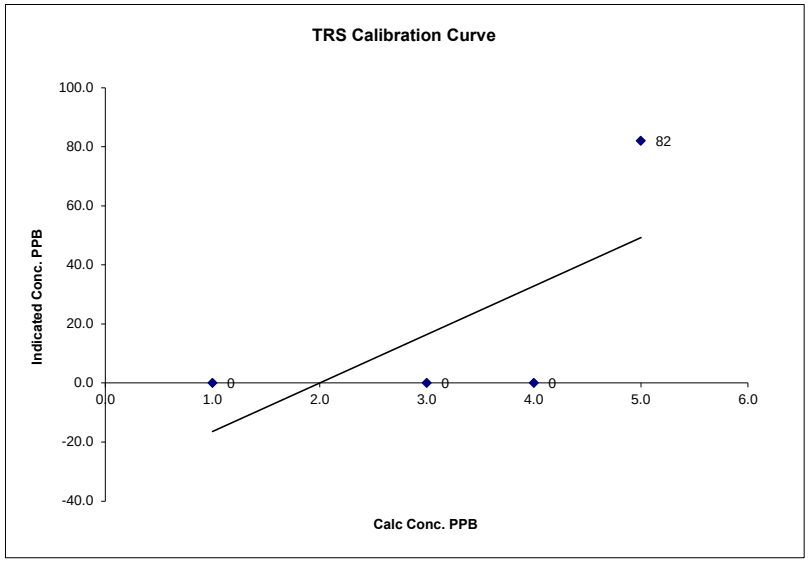
Following the A/F points, replaced the SO2 scrubber material and rebuilt the exhausting pump.

Calibration Performed by: Ting Xu

TRS Calibration Curve

Calibration Date	June 4, 2012				
Company	**Lakeland Industry & Community Association**				
Plant / Location	**LICA 1 - Cold Lake South**				
Start Time (MST)	8:20		End Time (MST)	12:46	

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	#DIV/0!
	0	n/a	Slope (0.85 to 1.15)	#DIV/0!
	0	#DIV/0!	Intercept (± 3% F.S.)	#DIV/0!
	0	#VALUE!		
80	82	#VALUE!		



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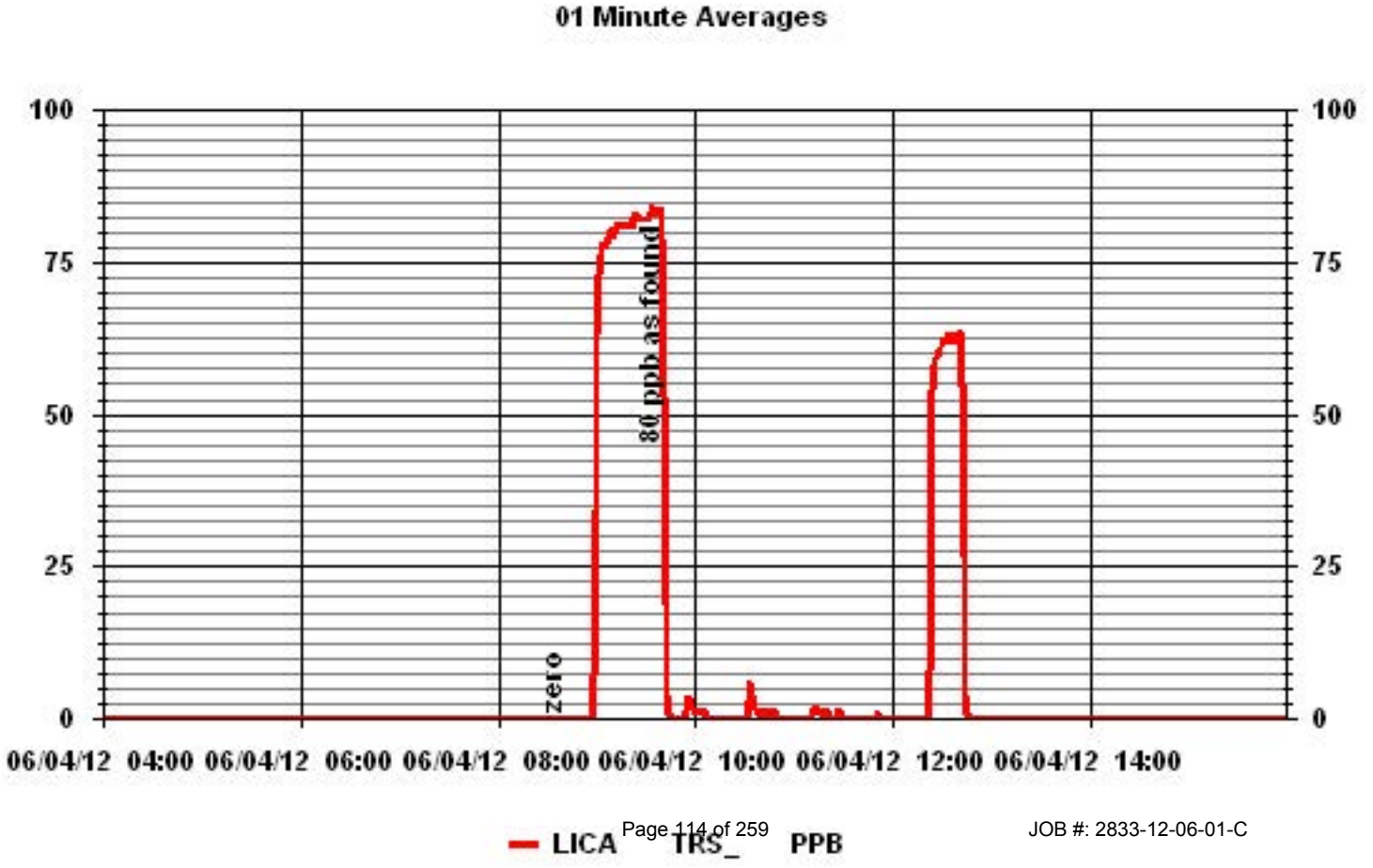


JOB #: 2833-12-06-01-C

TRS Calibration Report

Station Information

Calibration Date	June 5, 2012		Previous Calibration	June 4, 2012	
Company	**Lakeland Industry & Community Association**				
Plant / Location	**LICA 1 - Cold Lake South**				
Start Time (MST)	12:58		End Time (MST)	16:28	
Reason:			Post Repair Calibration		
Barometric Pressure	0.917	atm	Station Temperature	22	Deg C
Cal Gas	10 ppm	Gas Cyl. #	LL42648	Cal Gas Expiry date	December 27, 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	32.7	Deg C	353	ccm	34.1	Deg C
HVPS / Lamp Setting	-623.5		749		-623.5		750	
PMT / RxCell Temp	OK	Deg C	44.9	Deg C	OK	Deg C	45.2	Deg C
Converter / IZS Temp	810	Deg C	45	Deg C	810	Deg C	45.0	Deg C
Offset / Slope	13.9		1.356		13.4		1.307	

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			
4960	40.0	80	80	1.0000
	No Span Adj.			
4975	20.0	40	41	0.9766
4987	11.5	23	24	0.9586
4996	0.0	0	0	N/A
			Sum of Least Squares	0.9929
			New Correction Factor	1.0000

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	-0.2	0.1
Auto Span	63.9	66.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	0.9875
Current Correction Factor Before Span Adjust:	1.0000
Percent Change:	-1.3%

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

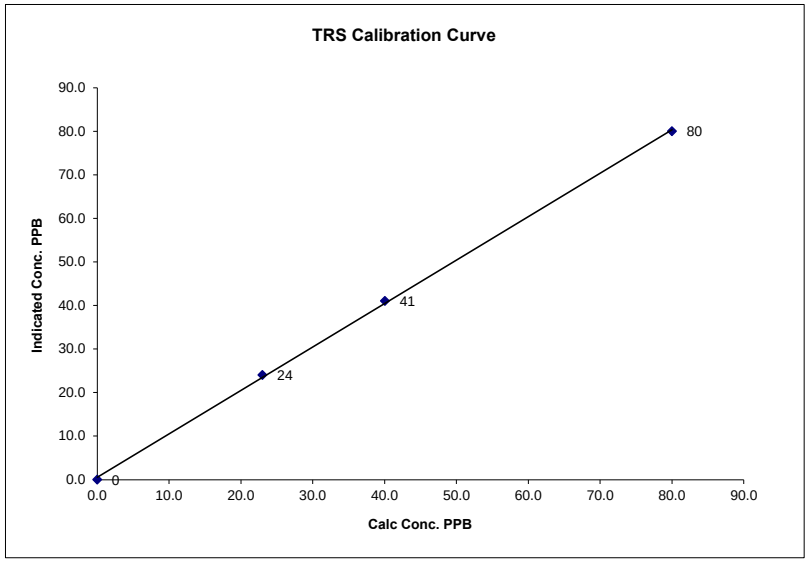
Calibration Performed by: Ting Xu

TRS Calibration Curve

Calibration Date	June 5, 2012		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	12:58	End Time (MST)	16:28

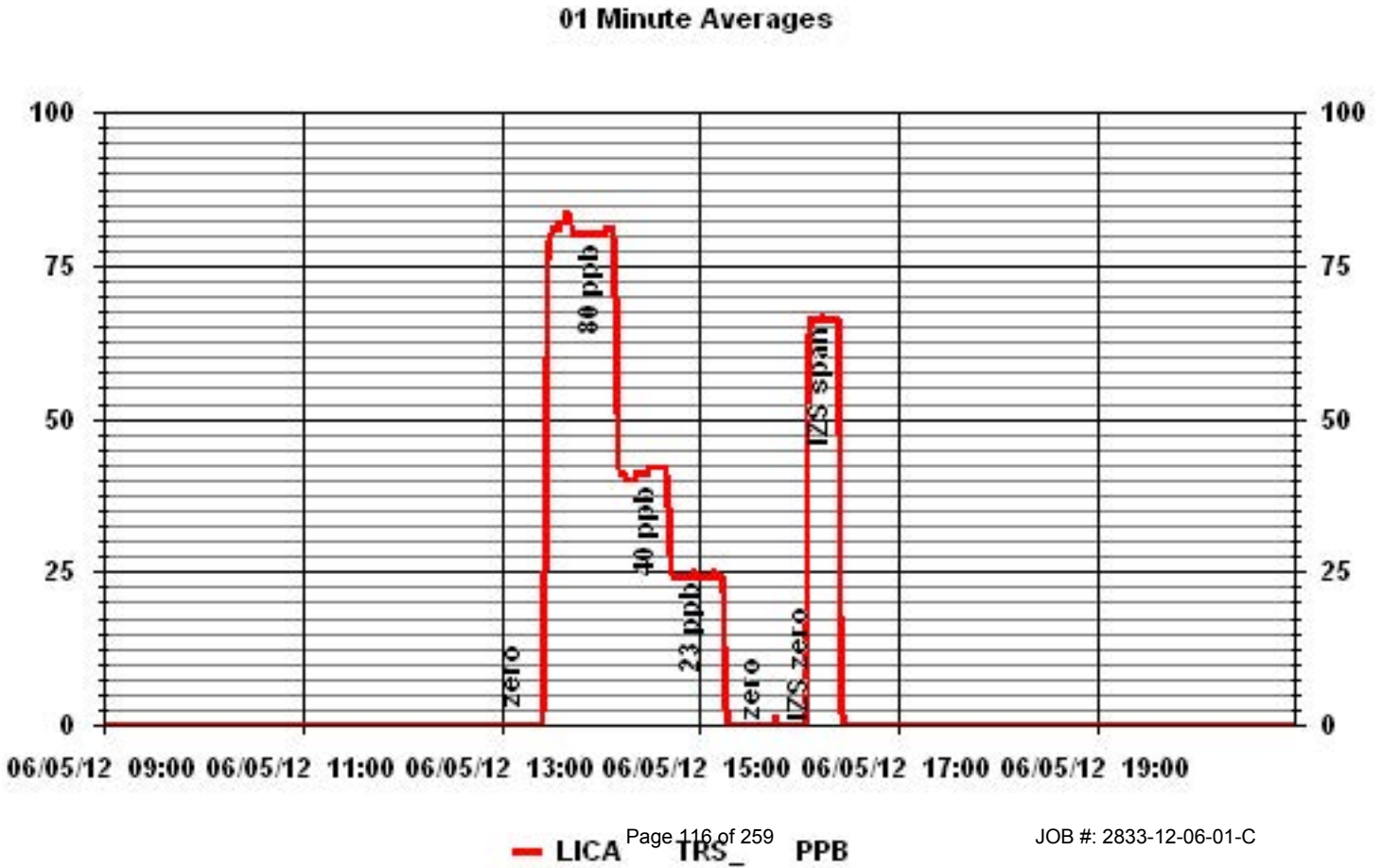
Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
23	24	0.0000
40	41	0.5611
80	80	0.5005

Correlation Coefficient	(≥ 0.995)	0.999726
Slope	(0.85 to 1.15)	0.997495
Intercept	(± 3% F.S.)	0.577852



Notes:

JOB #: 2833-12-06-01-C



JOB #: 2833-12-06-01-C

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	June 4, 2012		Previous Calibration	May 8, 2012	
Company:	**Lakeland Industry and Community Association**				
Plant / Location:	**LICA1/Cold Lake**				
Start Time (MST)	10:59		End Time (MST)	14:33	
Reason:	Monthly Calibration				
Barometric Pressure:	0.956	atm	Station Temperature:	23	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 600 PPM		C3H8	204 PPM	
	TOTAL CH4 1161.0 PPM		Gas Cyl. #	LL55310	Cal Gas Expiry Date: September 9, 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
2000	0.0	0.0	0.0	NA
	No Zero Adj.			
2000	74.0	41.4	42.1	0.9840
2000	74.0	41.4	41.6	0.9958
2000	37.0	21.1	20.9	1.0090
2000	20.0	11.5	11.4	1.0083
2000	0.0	0.0	0.0	NA
			New Correction Factor:	0.9958

Percent Change

Previous Calibration Correction Factor:	0.9958
Current Correction Factor Before Span Adjust:	0.9840
Percent Change:	1.2%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.1	0.1
Auto Span	36.4	48.5
Sample Lines Connected		**YES**

Cylinder Pressures

Span 1900 psi Hydrogen 400 psi Zero Air 32 psi

Notes: **NA : Not Applicable**

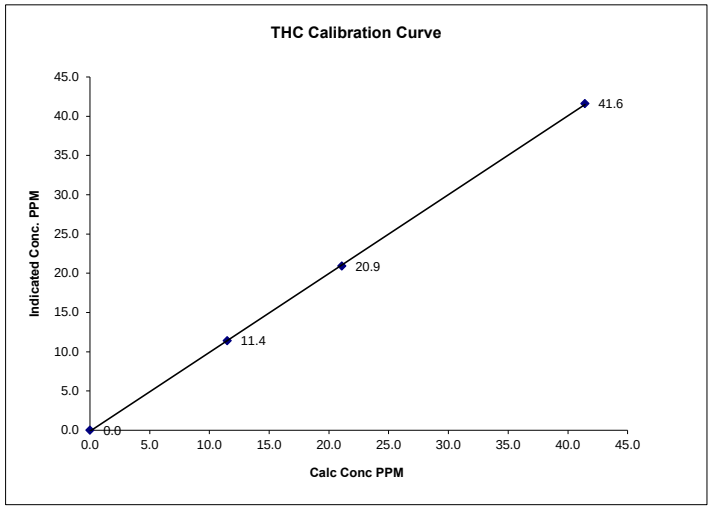
Calibration Performed by: Ting Xu

THC Calibration Curve

Calibration Date	June 4, 2012		
Company	**Lakeland Industry and Community Association**		
Plant / Location	**LICA1/Cold Lake**		
Start Time (MST)	10:59	End Time (MST)	14:33

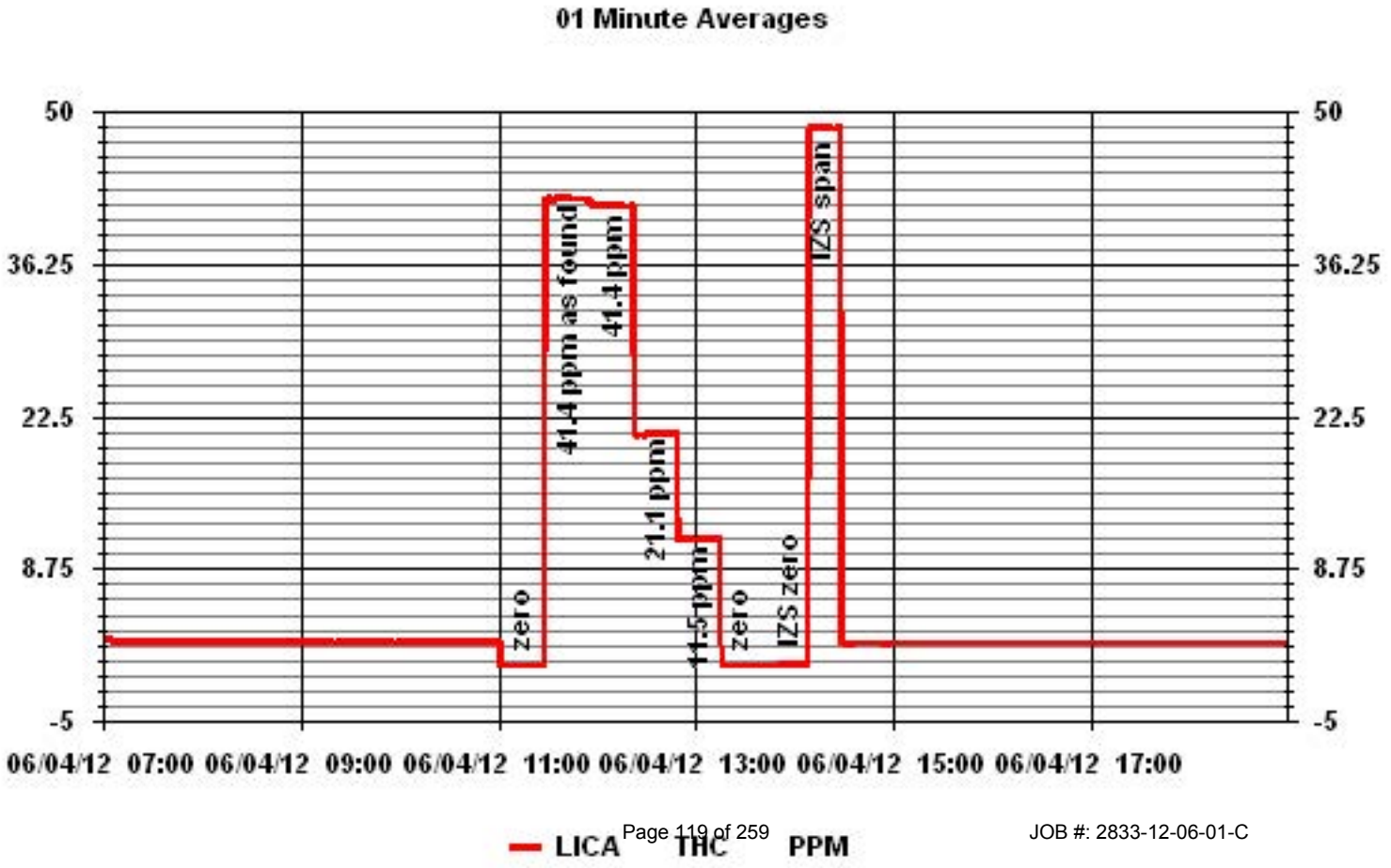
Calculated Conc. ppm	Indicated Response ppm	Correction Factor
0.0	0.0	NA
11.5	11.4	1.0083
21.1	20.9	1.0090
41.4	41.6	0.9958

Correlation Coefficient	(≥ 0.995)	0.999943
Slope	(0.85 to 1.15)	1.004554
Intercept	(± 3% F.S.)	-0.11120



Notes:

JOB #: 2833-12-06-01-C



JOB #: 2833-12-06-01-C

THC Calibration Report

Station Information

Calibration Date:	June 5, 2012		Previous Calibration	June 4, 2012	
Company:	**Lakeland Industry and Community Association**				
Plant / Location:	**LICA1/Cold Lake**				
Start Time (MST)	7:53		End Time (MST)	9:36	
Reason:	As Found				
Barometric Pressure:	0.957	atm	Station Temperature:	24	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 600 PPM		C3H8	204 PPM	
	TOTAL CH4 1161.0 PPM		Gas Cyl. #	LL55310	Cal Gas Expiry Date: September 9, 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
2000	0.0	0.0	0.0	NA
	No Zero Adj.			
2000	74.0	41.4	41.9	0.9886
			New Correction Factor:	0.9886

Percent Change

Previous Calibration Correction Factor:	0.9958
Current Correction Factor Before Span Adjust:	0.9886
Percent Change:	0.7%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.1	0.1
Auto Span	49.1	49.0
Sample Lines Connected		**YES**

Cylinder Pressures

Span 1900 psi Hydrogen 400 psi Zero Air 32 psi

Notes: **NA : Not Applicable**

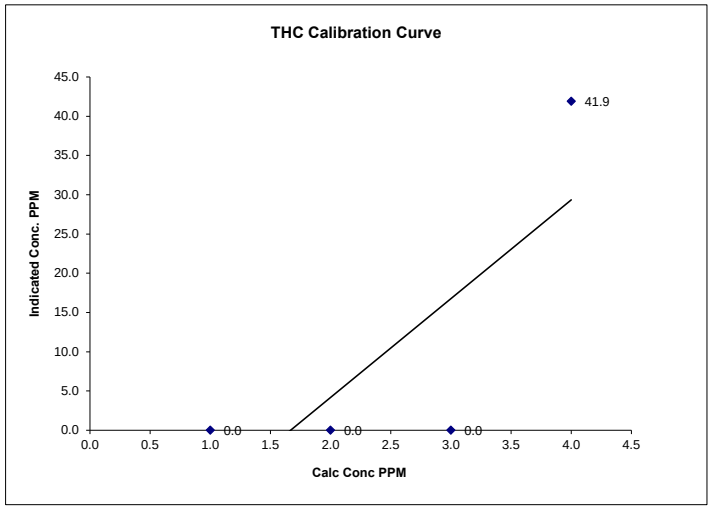
Performed A/F points to verify data.

Calibration Performed by: Ting Xu

THC Calibration Curve

Calibration Date	June 5, 2012		
Company	**Lakeland Industry and Community Association**		
Plant / Location	**LICA1/Cold Lake**		
Start Time (MST)	7:53	End Time (MST)	9:36

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	#DIV/0!
	0.0	NA	Slope (0.85 to 1.15)	#DIV/0!
	0.0	#VALUE!	Intercept (± 3% F.S.)	#DIV/0!
	0.0	#VALUE!		
41.4	41.9	0.9886		



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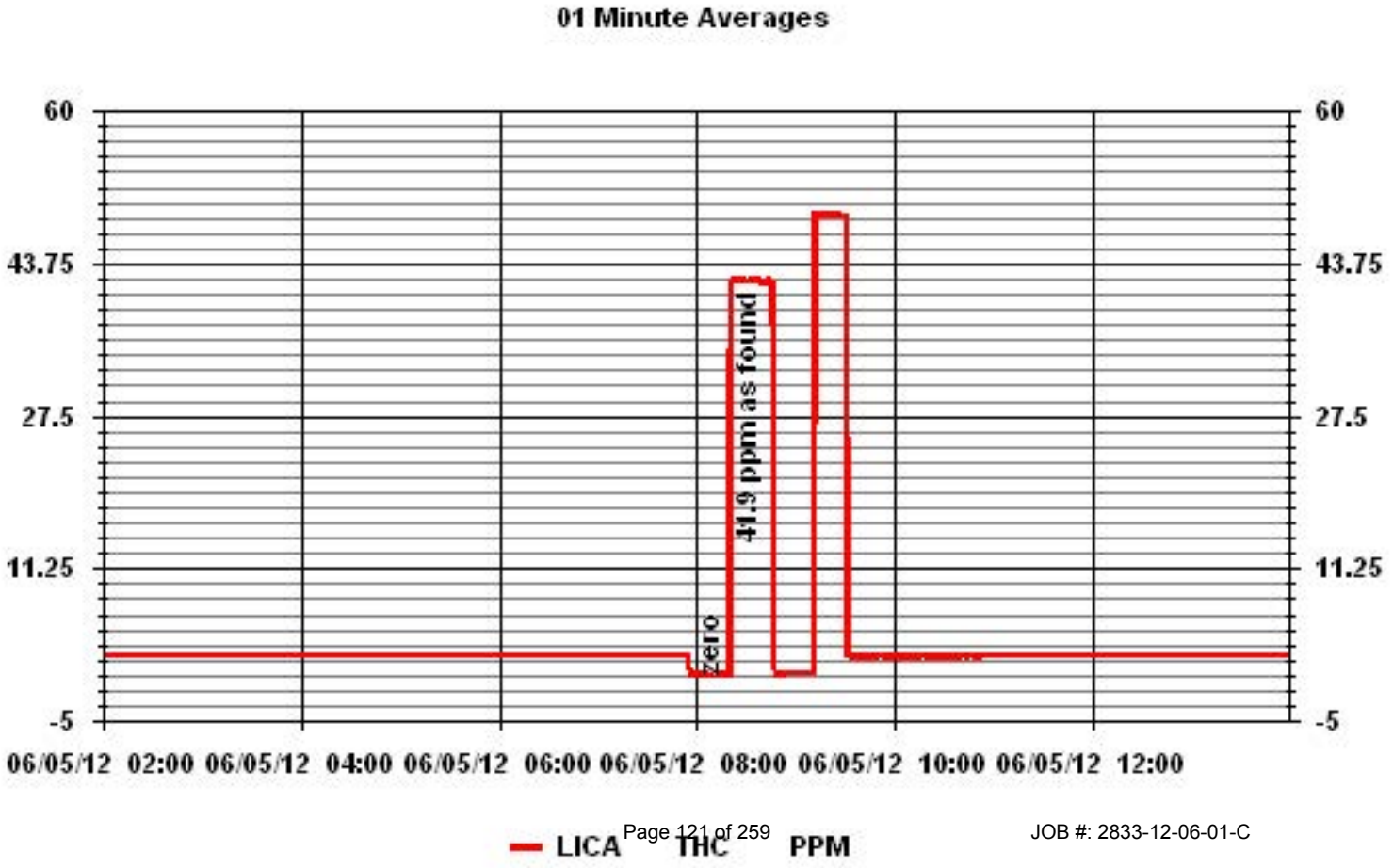


JOB #: 2833-12-06-01-C

THC Calibration Report

Station Information

Calibration Date:	June 26, 2012		Previous Calibration	June 5, 2012	
Company:	**Lakeland Industry and Community Association**				
Plant / Location:	**LICA1/Cold Lake**				
Start Time (MST)	11:09		End Time (MST)	13:05	
Reason:	As Found				
Barometric Pressure:	0.899	atm	Station Temperature:	22	Deg C
Calibrator:	API 700		S/N:	831	
Cal Gas Concentration:	CH4 600 PPM		C3H8	204 PPM	
	TOTAL CH4 1161.0 PPM		Gas Cyl. #	LL55310	Cal Gas Expiry Date: September 9, 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
2000	0.0	0.0	1.9	NA
	No Zero Adj.			
2000	74.0	41.4	43.1	0.9611
			New Correction Factor:	0.9611

Percent Change

Previous Calibration Correction Factor:	0.9958
Current Correction Factor Before Span Adjust:	0.9611
Percent Change:	3.6%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	2.0	2.0
Auto Span	36.1	35.9
Sample Lines Connected		**YES**

Cylinder Pressures

Span 1800 psi Hydrogen 2400 psi Zero Air 32 psi

Notes: **NA : Not Applicable**

Performed A/F points to verify data.

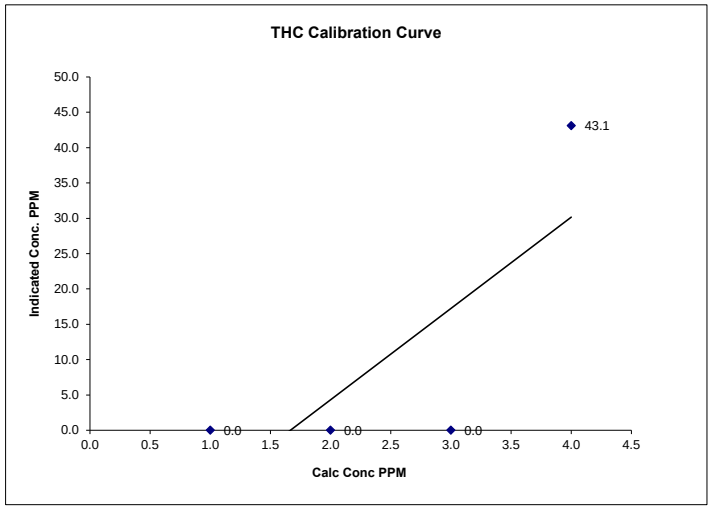
Calibration Performed by: Ting Xu

THC Calibration Curve

Calibration Date	June 26, 2012			
Company	**Lakeland Industry and Community Association**			
Plant / Location	**LICA1/Cold Lake**			
Start Time (MST)	11:09	End Time (MST)	13:05	

Calculated Conc. ppm	Indicated Response ppm	Correction Factor
	0.0	NA
	0.0	#VALUE!
	0.0	#VALUE!
41.4	43.1	0.9611

Correlation Coefficient	(≥ 0.995)	#DIV/0!
Slope	(0.85 to 1.15)	#DIV/0!
Intercept	(± 3% F.S.)	#DIV/0!



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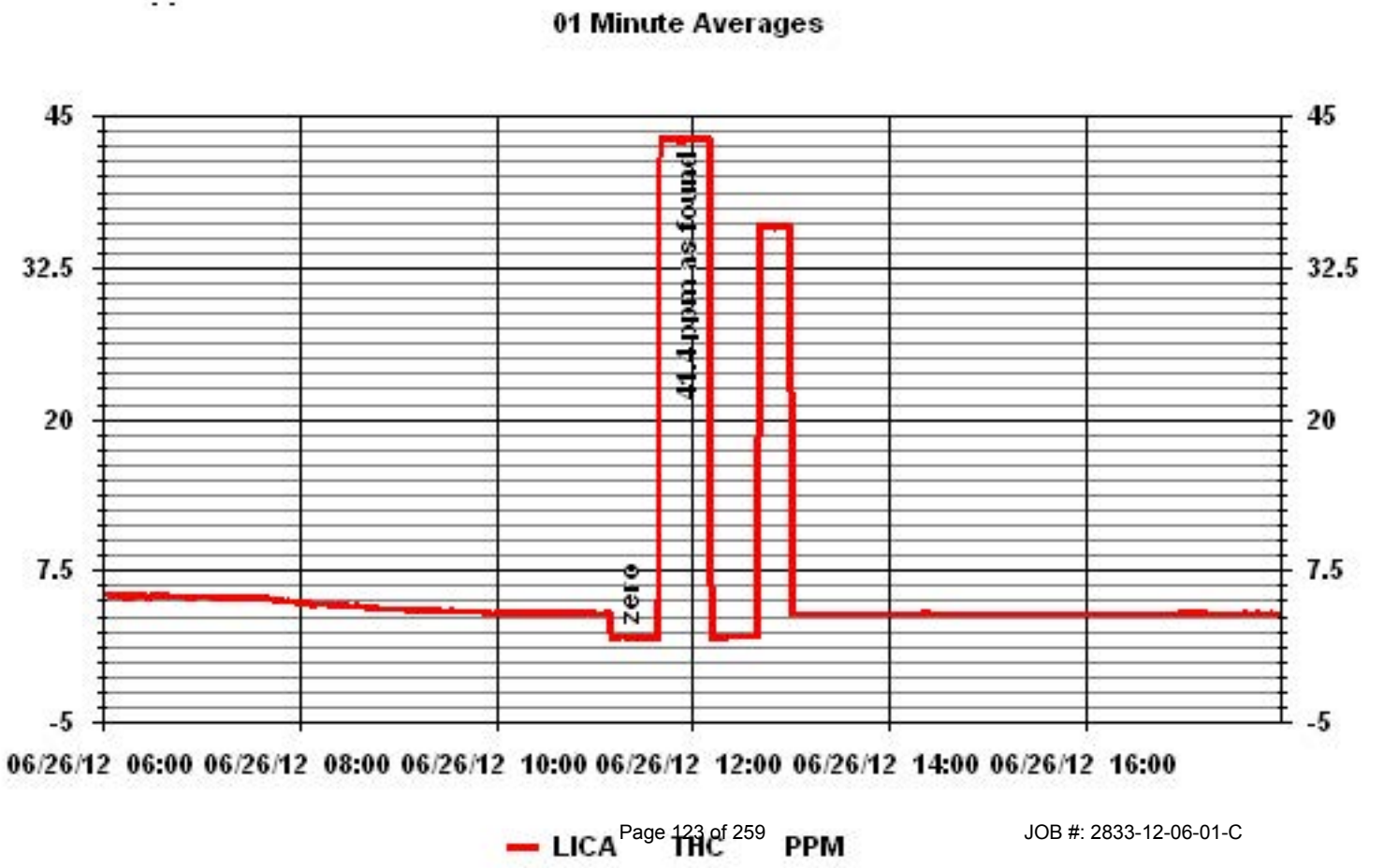


JOB #: 2833-12-06-01-C

Particulate Matter 2.5

TEOM 1405F Audit

Station		Audit Transfer Standard	
Date:	June 5, 2012	Make/Model:	Streamline FTS
Station Name:	LICA 1	Serial Number:	Hi 091001, Lo 091099
Location:	Cold Lake South	Cell s/n:	NA
Operator:	LICA	Thermometer s/n:	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 #	AMU 1775	F-Aux Set Pt (l/min)	13.67
Unit s/n	1405A201620804	Filter Load (%)	36.6%
Firmware Ver.	1.52	K_o Factor	14578.0
Parameter	PM 2.5 (with FDMS)	Temp (^oC)	16.8
		Press (ATM)	0.917

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**	0.008	Warnings	None
Pump Vacuum **< 0.40 atm**	0.33		

Temperature/Pressure

Measured Temp **(± 2 °C)**	16.3	Δ **°C**	0.5
Measured Press **(± 0.01atm)**	0.937	**DATM**	-0.020

Flow Audit

Indicated Main Flow (l/min)	3.00	Main Flow Drift **(±10.0%)**	1.18%
Measured Main Flow (l/min)	3.01	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift **(±10.0%)**	1.48%
Measured Bypass Flow (l/min)	13.70	Flow Adjusted to Measured?	Yes

Leak Check

Main **(< 0.15 l/min)**	Base=0.08 Ref=0.07
Aux **(< 0.6 l/min)**	Base=0.29 Ref=0.25

Instrument Setup

Flow Control = Active

Report Conditions = Actual

K_o Factor

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

Start Time: 14:20 **Finish Time:** 15:55

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

New Filter Loading %: 27.6%

Comments:

Auditor/s: Ting Xu

JOB #: 2833-12-06-01-C

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	June 4, 2012		Previous Calibration	May 8, 2012	
Company	LICA		Plant/Location	Cold Lake South	
Start Time (MST)	8:20		End Time (MST)	14:33	
Reason:	Monthly Calibration				
Barometric Pressure	0.918 atm	Station Temperature	24 Deg C	MFCF	0
Cal Gas Concentration	NOx 49.6 ppm	NO 49.5 ppm	Cal Gas Expiry date	January 16, 2014	
Cal Gas Cylinder #	LL42496				
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		734	ccm	317	Deg C
Ozone Flow / Vacuum	OK	ccm	177.0	"Hg-A		OK	ccm	178	"Hg-A
HVPS / A ZERO	-821	Volts	NA	MV		-821	Volts	NA	MV
Rx/ Temp / PMT Temp	50.0	Deg C	-2.5	Deg C		49.9	Deg C	-2.5	Deg C
Box Temp / IZS Temp	29.6	Deg C	OK	Deg C		28	Deg C	OK	Deg C
Offset	3.9	NOx	3.6	NO		3.9	NOx	3.6	NO
Slope	1.006	NOx	0.920	NO		1.005	NOx	0.925	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	40.3	NA	400	399	NA	399	397	2	1.0031	1.0061
4954	40.3	NA	400	399	NA	401	399	2	0.9981	1.0000
4974	20.2	NA	201	200	NA	202	201	1	0.9932	0.9961
4986	10.1	NA	100	100	NA	102	102	1	0.9830	0.9811
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	40.3	NA	400	399	NA	401	399	2	NA	NA
4954	40.3	350	400	NA	318	402	83	319	0.9969	100.32%
	No NO2 Adj.									
4954	40.3	150	400	NA	139	402	262	139	1.0000	100.00%
4954	40.3	70	400	NA	69	401	332	69	1.0000	100.00%

Linearity OK?	Yes	No	Sum of Least Squares	NOx= 0.996	NO= 0.999	NO2= 0.997		
			Correction Factors:	NOx= 0.9981	NO= 1.0000	NO2= 0.9969		
					Average Converter Efficiency= 100.11%			

IZS Calibration Data

	Before Calibration					After Calibration			
Auto Zero	0.1	NOx	0.2	NO2		0.1	NOx	0.2	NO2
Auto Span	356	NOx	353	NO2		338	NOx	335	NO2
					Sample Lines Connected	YES			
Percent Change from Previous Calibration				NOx	-0.5%	NO	-0.6%	NO2	0.3%

Notes

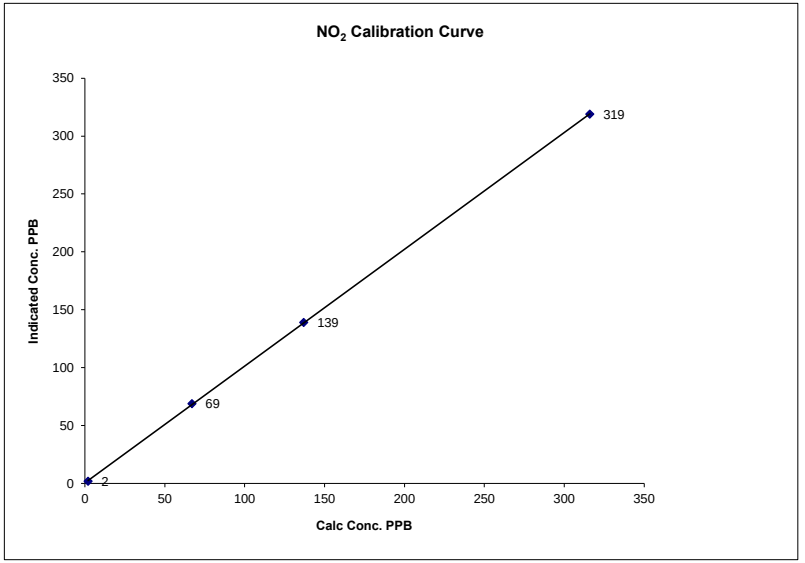
NA : Not Applicable

Calibration Performed by: Ting Xu

NO_2 Calibration Curve

Calibration Date	June 4, 2012				
Company	LICA				
Plant / Location	Cold Lake South				
Start Time (MST)	8:20	End Time (MST)	14:33		

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999979
			Slope (0.85 to 1.15)	1.008046
2	2	N/A	Intercept (± 3% F.S.)	0.70001
67	69	0.9710		
137	139	0.9856		
316	319	0.9906		



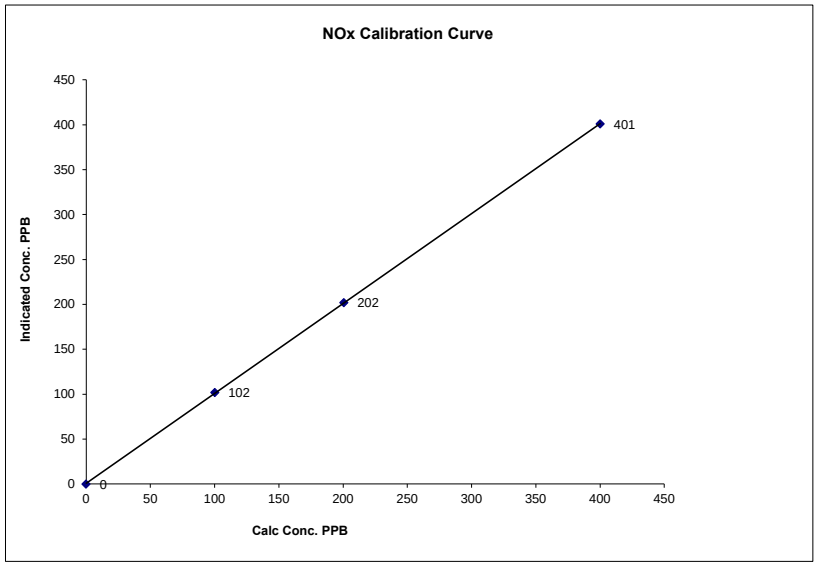
Notes:

JOB #: 2833-12-06-01-C

NOx Calibration Curve

Calibration Date	June 4, 2012		
Company	LICA		
Plant / Location	Cold Lake South		
Start Time (MST)	8:20	End Time (MST)	14:33

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999981
			Slope (0.85 to 1.15)	1.000890
0	0	N/A	Intercept (± 3% F.S.)	0.81412
100	102	0.9830		
201	202	0.9932		
400	401	0.9981		

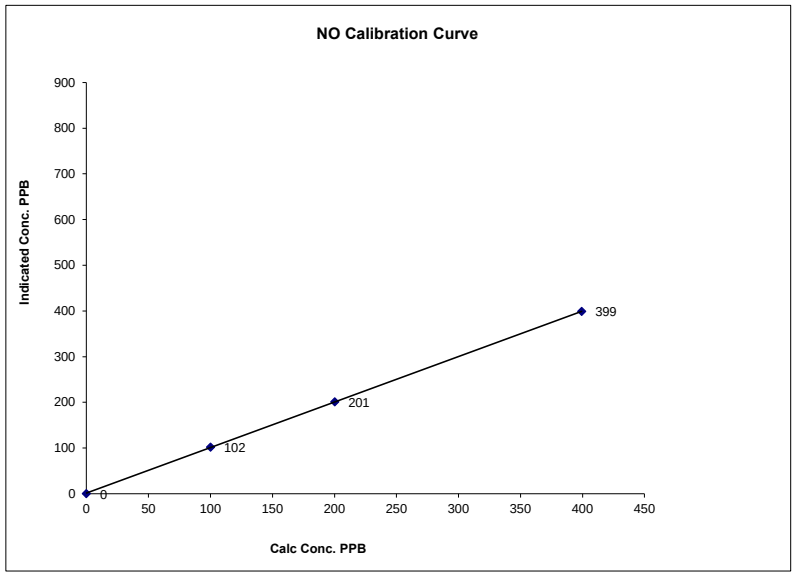


Notes:

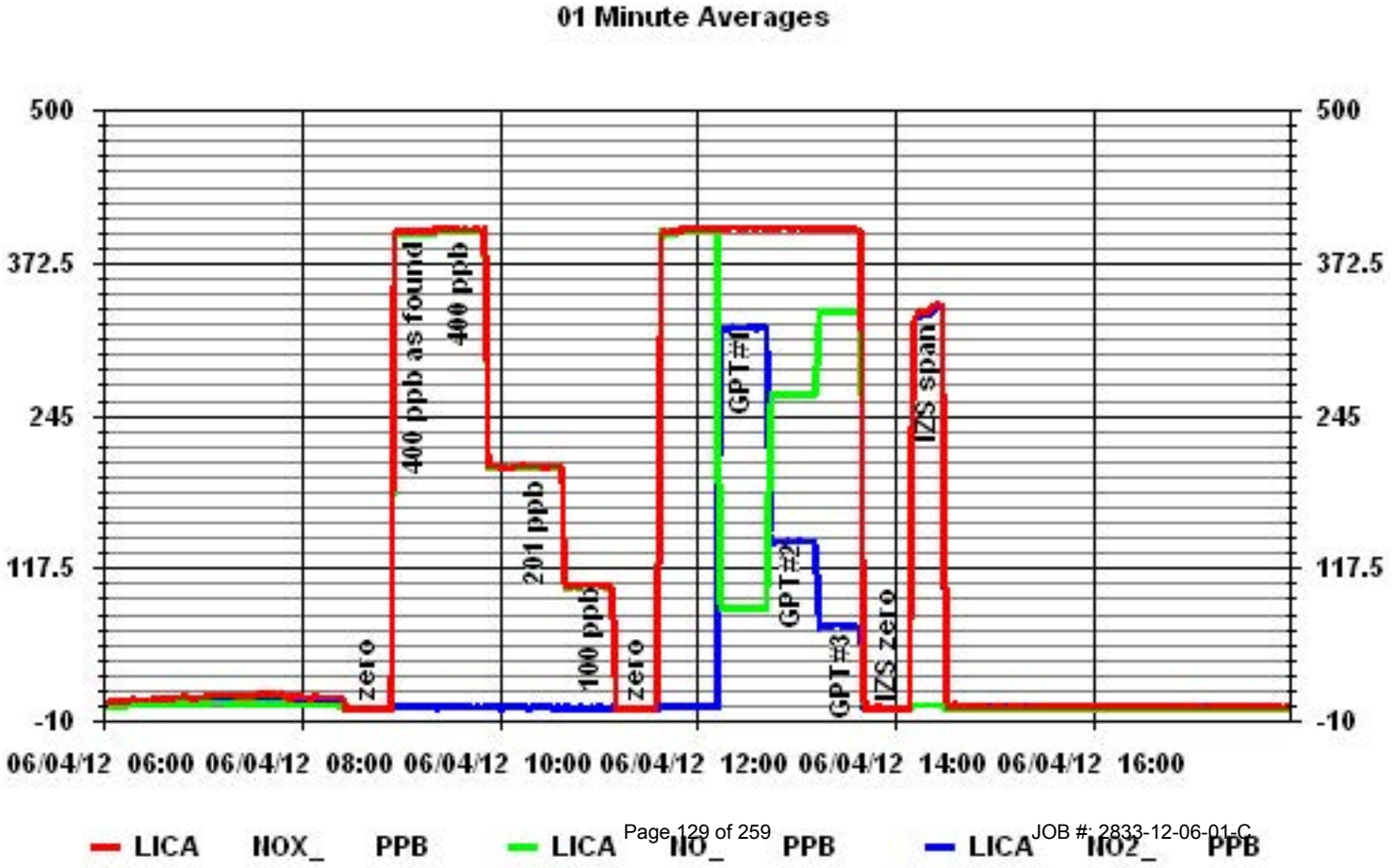
NO Calibration Curve

Calibration Date	June 4, 2012		
Company	LICA		
Plant / Location	Cold Lake South		
Start Time (MST)	8:20	End Time (MST)	14:33

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999969
			Slope (0.85 to 1.15)	0.992378
0	0	N/A	Intercept (± 3% F.S.)	2.0069
100	102	0.9811		
200	201	0.9961		
399	399	1.0011		



Notes:


01 Minute Averages
500
372.5
245
117.5
-10
zero
400 ppb as found
400 ppb
201 ppb
100 ppb
zero
GPT#1
GPT#2
GPT#3
IZS zero
IZS span
06/04/12 06:00
06/04/12 08:00
06/04/12 10:00
06/04/12 12:00
06/04/12 14:00
06/04/12 16:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	June 4, 2012	Previous Calibration	May 8, 2012
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	13:54	End Time (MST)	17:41
Reason:		Monthly Calibration	
Barometric Pressure	0.918 atm	Station Temperature	22 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	S/N :	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	697 LPM	736 LPM	716 LPM	758 LPM
O_3 Set Level	681	mmHg	714	mmHg
Bench Lamp	53.5	Deg C	53.5	Deg C
O3 Lamp / Box Temp	67.5 Deg	28 Deg C	67.5 Deg C	28.4 Deg C
Offset / Slope	-0.2	1.038	0.1	1.021

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	NA
	No Zero Adj			
4994	350	316	321	0.9844
4994	350	316	316	1.0000
4994	150	137	137	1.0000
4994	75	67	68	0.9853
4994	0	0	0	NA
			Sum of Least Squares	0.9995
			New Correction Factor	1.0000

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.2
Auto Span	276	272
Sample Lines Connected		YES
Previous Calibration Correction Factor:		0.9969
Current Correctio Factor Before Span Adjust:		0.9844
Percent Change:		1.3%

Note: **NA : Not Applicable**

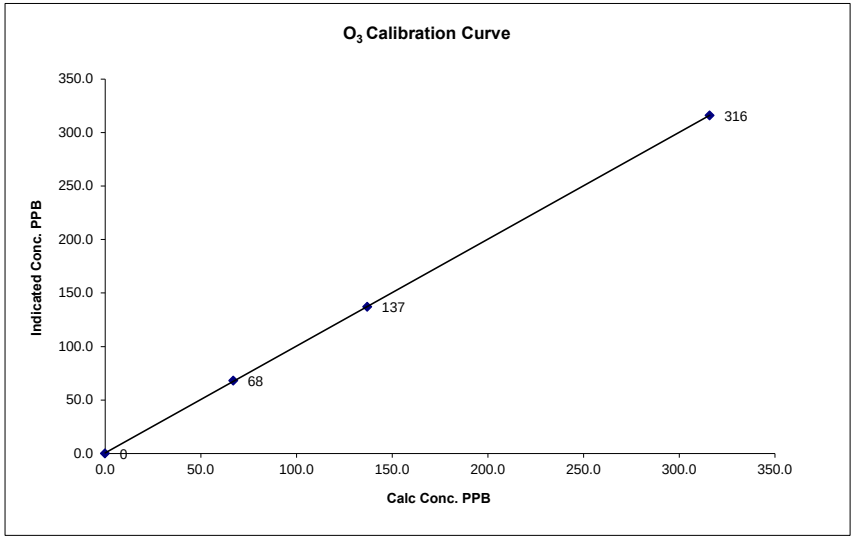
Calibration Performed by: Ting Xu

O_3 Calibration Curve

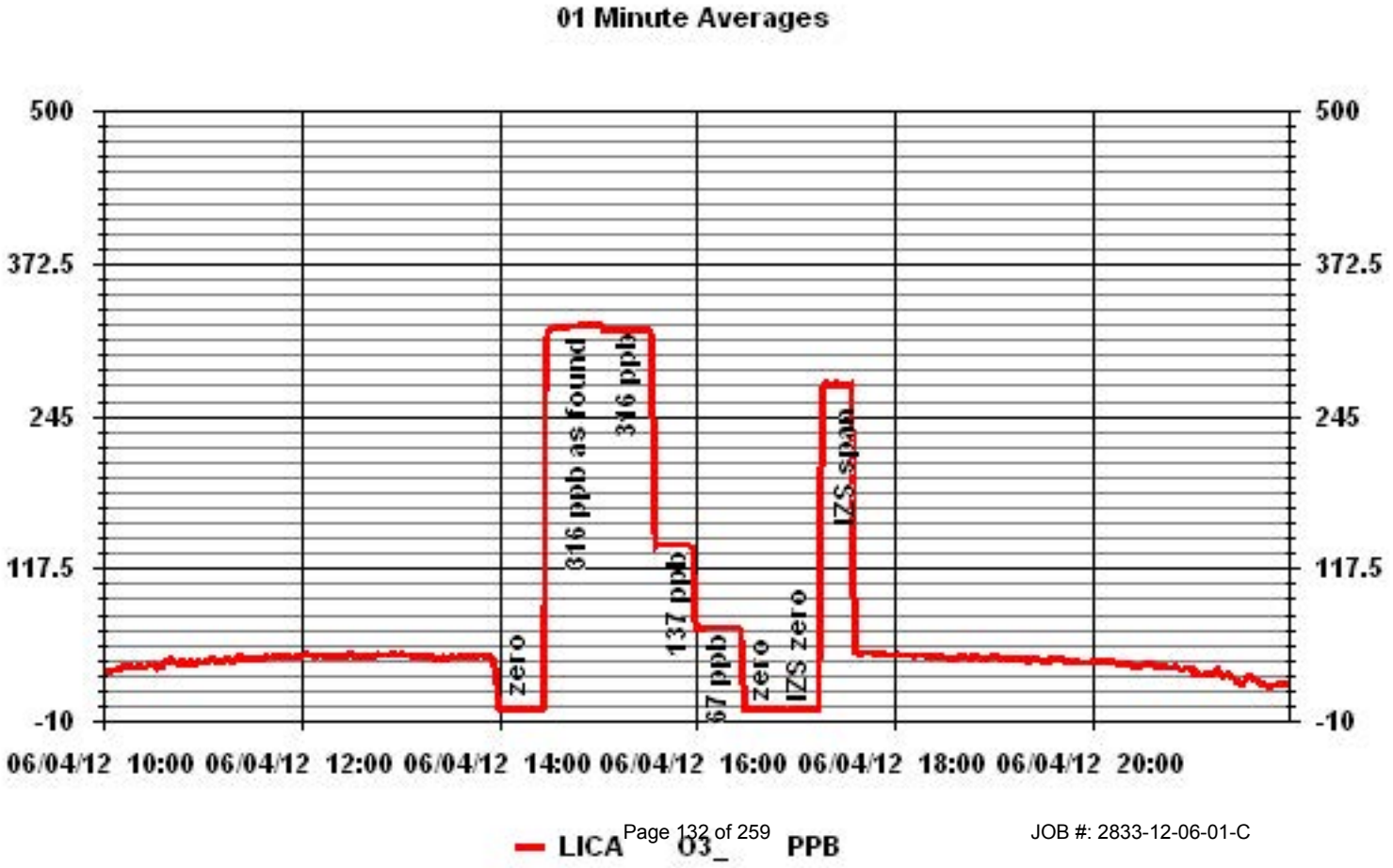
Calibration Date	June 4, 2012
Company	Lakeland Industry & Community Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	13:54
End Time (MST)	17:41

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
67	68	0.9853
137	137	1.0000
316	316	1.0000

Correlation Coefficient	(≥ 0.995)	0.999988
Slope	(0.85 to 1.15)	0.998865
Intercept	(± 3% F.S.)	0.397530



Notes:



JOB #: 2833-12-06-01-C

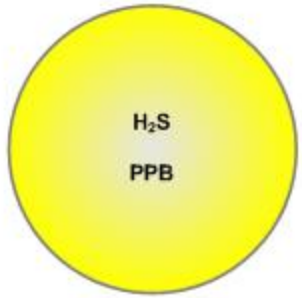
Passive Bubble Maps

Lakeland Industry & Community Association
H_2S Passive Bubble Map

JUNE 2012

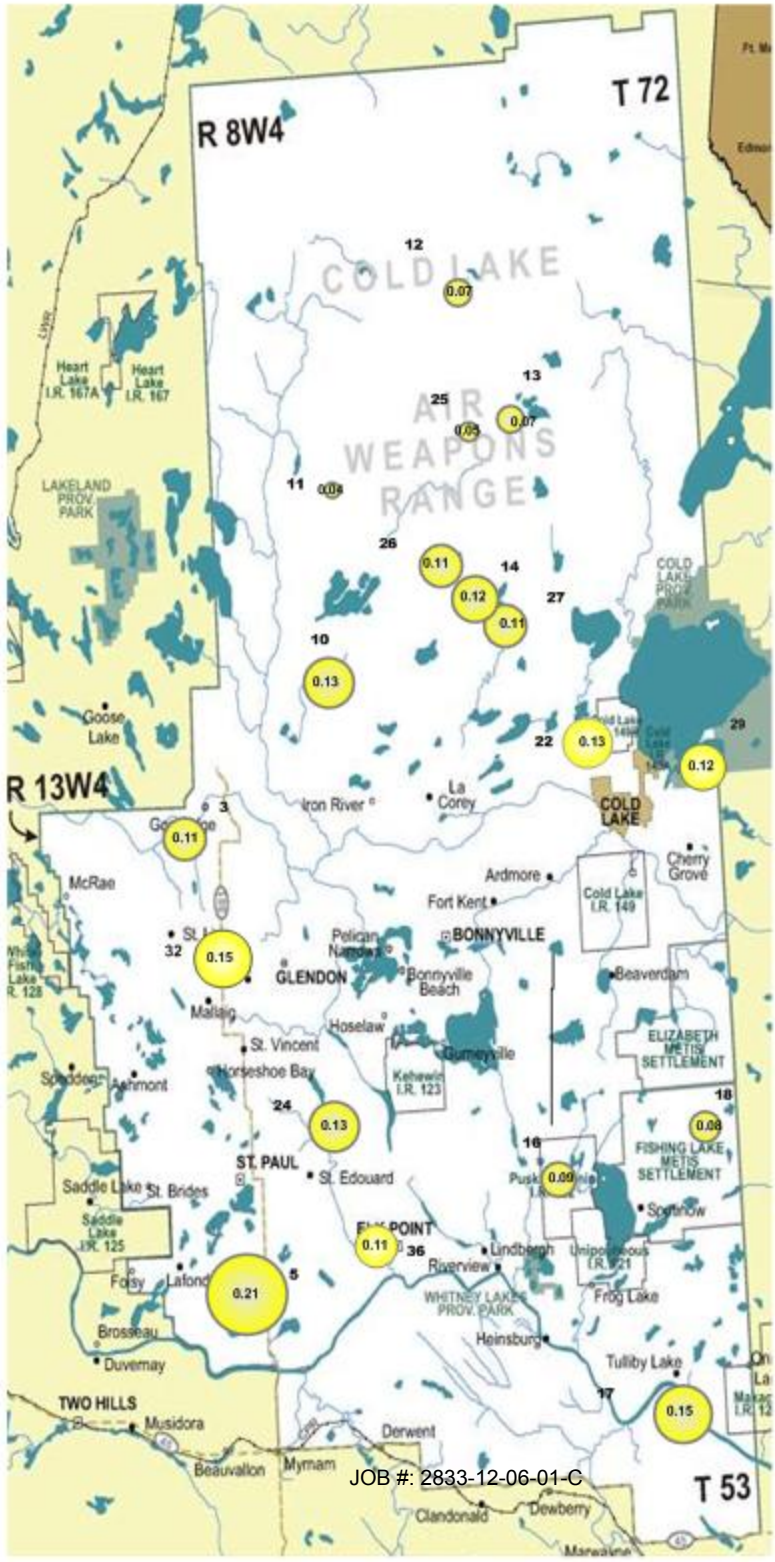
PASSIVE STATIONS

		DUPLICATE
3 – Therien	0.11 PPB	NA
5 – Lake Eliza	0.21 PPB	NA
10 – La Corey	0.13 PPB	NA
11 – Wolf Lake	0.04 PPB	NA
12 – Foster Creek	0.07 PPB	NA
13 – Primrose	0.07 PPB	NA
14 – Maskwa	0.12 PPB	NA
16 – Frog Lake	0.09 PPB	NA
17 – Clear Range	0.15 PPB	NA
18 – Fishing Lake	0.08 PPB	NA
22 – Cold Lake South	0.13 PPB	NA
24 – Fort George	0.13 PPB	NA
25 – Burnt Lake	0.05 PPB	NA
26 – Mahihkan	0.11 PPB	NA
27 – Mahkeses	0.11 PPB	NA
29 – Cold Lake South 2	0.12 PPB	0.11 PPB
32 – St. Lina	0.15 PPB	0.13 PPB
36 – Portable	0.11 PPB	NA



Summary

Minimum : 0.04 PPB – Wolf Lake
Maximum: 0.21 PPB –Lake Eliza
Average: 0.11 PPB *Includes Duplicates



JOB #: 2833-12-06-01-C

Lakeland Industry & Community Association
NO_2 Passive Bubble Map

JUNE 2012

PASSIVE STATIONS		DUPLICATE
2 – Sand River	0.7 PPB	NA
3 – Therien	1.0 PPB	NA
4 – Flat Lake	0.8 PPB	NA
5 – Lake Eliza	0.8 PPB	NA
6 – Telegraph Creek	1.4 PPB	NA
8 – Muriel-Kehewin	1.0 PPB	NA
9 – Dupre	1.0 PPB	NA
10 – La Corey	1.5 PPB	NA
11 – Wolf Lake	0.3 PPB	NA
12 – Foster Creek	3.5 PPB	NA
13 – Primrose	0.8 PPB	NA
14 – Maskwa	0.5 PPB	NA
15 – Ardmore	0.6 PPB	NA
16 – Frog Lake	0.7 PPB	NA
17 – Clear Range	1.2 PPB	1.6 PPB
18 – Fishing Lake	0.6 PPB	0.8 PPB
19 – Beaverdam	0.4 PPB	NA
22 – Cold Lake South	0.6 PPB	NA
23 – Medley-Martineau	0.1 PPB	NA
24 – Fort George	1.5 PPB	NA
28 – Town of Bonnyville	1.7 PPB	NA
29 – Cold Lake South 2	0.5 PPB	NA
32 – St. Lina	0.3 PPB	NA
36 – Portable	1.3 PPB	NA

Summary

Minimum : 0.1 PPB – Medley-Martineau
Maximum: 3.5 PPB – Foster Creek
Average: 1.0 PPB *Includes Duplicates

JOB #: 2833-12-06-01-C

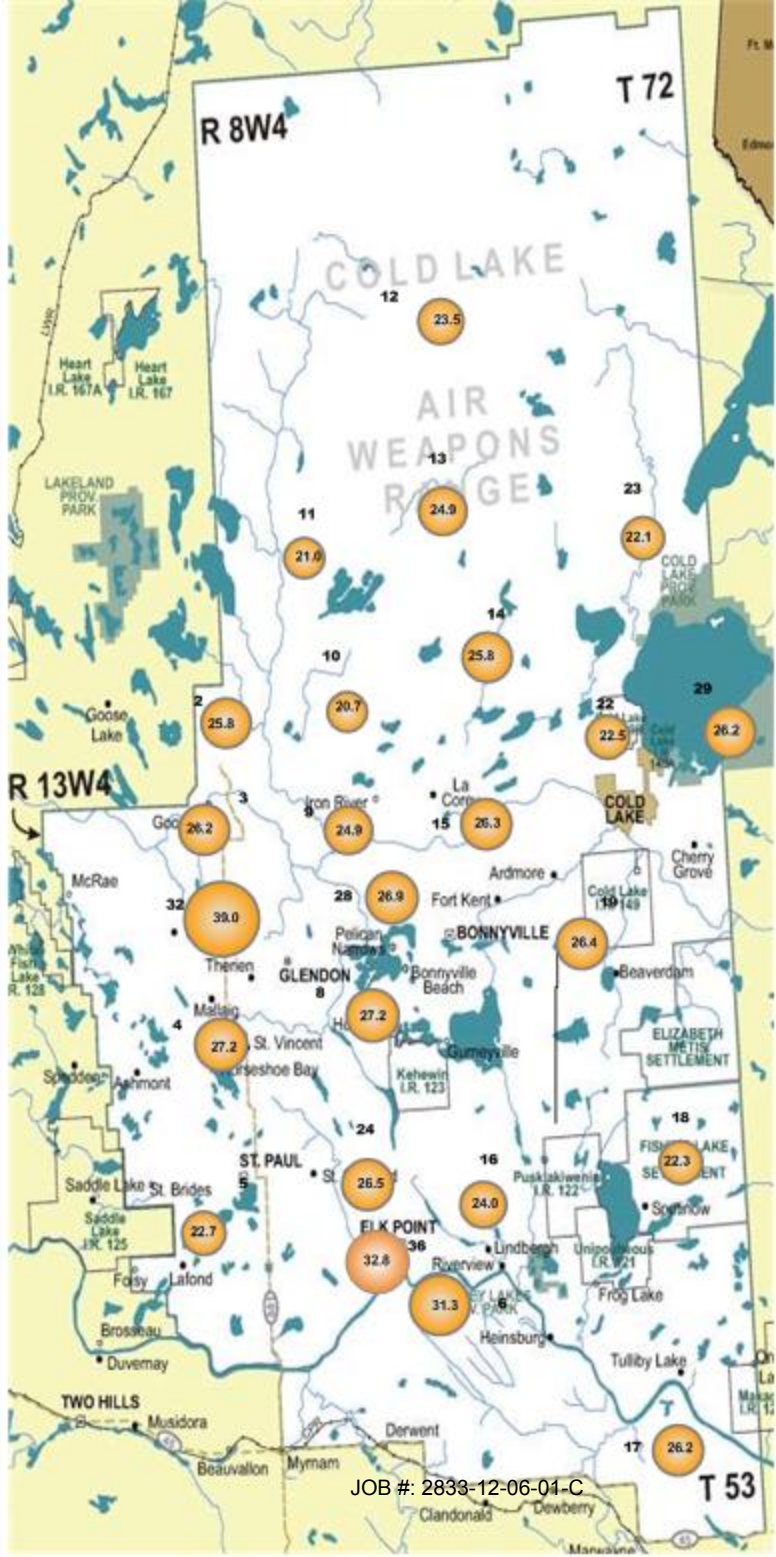
Lakeland Industry & Community Association
O_3 Passive Bubble Map

JUNE 2012

PASSIVE STATIONS

		DUPLICATE
2 – Sand River	25.8 PPB	NA
3 – Therien	26.2 PPB	NA
4 – Flat Lake	27.2 PPB	NA
5 – Lake Eliza	22.7 PPB	NA
6 – Telegraph Creek	31.3 PPB	NA
8 – Muriel-Kehewin	27.2 PPB	NA
9 – Dupre	24.9 PPB	NA
10 – La Corey	20.7 PPB	NA
11 – Wolf Lake	21.0 PPB	NA
12 – Foster Creek	23.5 PPB	NA
13 – Primrose	24.9 PPB	NA
14 – Maskwa	25.8 PPB	NA
15 – Ardmore	26.3 PPB	NA
16 – Frog Lake	24.0 PPB	NA
17 – Clear Range	26.1 PPB	26.3 PPB
18 – Fishing Lake	21.3 PPB	23.3 PPB
19 – Beaverdam	26.4 PPB	NA
22 – Cold Lake South	22.5 PPB	NA
23 – Medley-Martineau	22.1 PPB	NA
24 – Fort George	26.5 PPB	NA
28 – Town of Bonnyville	26.9 PPB	NA
29 – Cold Lake South 2	26.2 PPB	NA
32 – St. Lina	39.0 PPB	NA
36 – Portable	32.8 PPB	NA

O_3 PPB



Summary

Minimum : 20.7 PPB – La Corey
Maximum: 39.0 PPB – St. Lina
Average: 25.9 PPB *Includes Duplicates

JOB #: 2833-12-06-01-C

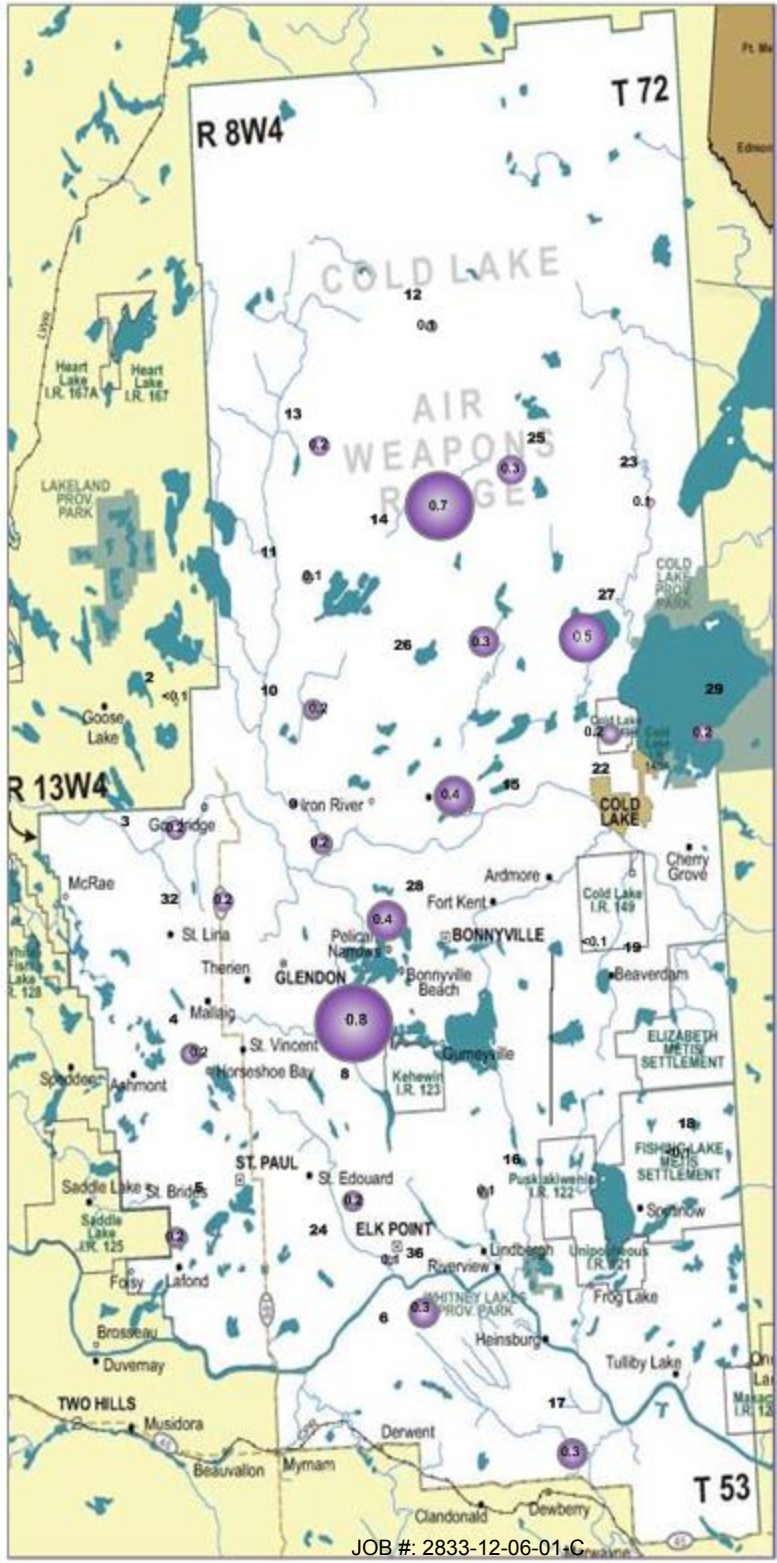
Lakeland Industry & Community Association
SO_2 Passive Bubble Map

JUNE 2012

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

Summary

Minimum : <0.1 PPB –Various stations
Maximum: 0.8 PPB –Muriel-Kehewin
Average: 0.25 PPB *Includes Duplicates



Passive Field Data

Field Notes

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
2	$SO_2/NO_2/O_3$	05/30/2012	17:32	06/28/2012	18:00	
3	$H_2S/SO_2/NO_2/O_3$	05/30/2012	16:45	06/28/2012	17:15	
4	$SO_2/NO_2/O_3$	05/30/2012	15:40	06/28//2012	15:50	
5	$H_2S/SO_2/NO_2/O_3$	05/30/3012	14:50	06/28/2012	15:20	
6	$SO_2/NO_2/O_3$	05/30/2012	12:30	06/28/2012	12:50	
8	$SO_2/NO_2/O_3$	05/31/2012	13:15	06/28/2012	13:00	
9	$SO_2/NO_2/O_3$	05/31/2012	11:40	06/29/2012	10:15	
10	$H_2S/SO_2/NO_2/O_3$	05/31/2012	17:44	06/29/2012	14:05	
11	$H_2S/SO_2/NO_2/O_3$	05/31/2012	14:20	06/29/2012	14:50	
12	$H_2S/SO_2/NO_2/O_3$	05/31/2012	16:25	06/29/2012	16:00	
13	$H_2S/SO_2/NO_2/O_3$	05/31/2012	09:55	06/29/2012	08:40	
14	$H_2S/SO_2/NO_2/O_3$	05/31/2012	08:25	06/29/2012	07:40	
15	$SO_2/NO_2/O_3$	05/31/2012	11:00	06/29/2012	09:45	
16	$H_2S/SO_2/NO_2/O_3$	05/30/2012	10:45	06/28/2012	11:14	
17	$H_2S/SO_2/NO_2/O_3$	05/30/2012	11:40	06/28/2012	12:05	
18	$H_2S/SO_2/NO_2/O_3$	05/30/2012	09:55	06/28/2012	10:35	
19	$SO_2/NO_2/O_3$	05/30/2012	09:00	06/28/2012	09:35	
22	$H_2S/SO_2/NO_2/O_3$	05/30/2012	07:50	06/28/2012	08:38	
23	$SO_2/NO_2/O_3$	05/31/2012	18:58	06/28/2012	19:17	
24	$H_2S/SO_2/NO_2/O_3$	05/30/2012	13:10	06/28/2012	13:26	
25	H_2S/SO_2	05/31/2012	15:15	06/29/2012	17:03	
26	H_2S/SO_2	05/31/2012	09:25	06/29/2012	08:00	
27	H_2S/SO_2	05/31/2012	08:05	06/29/2012	07:15	
28	$SO_2/NO_2/O_3$	05/31/2012	11:55	06/29/2012	10:35	
29	$H_2S/SO_2/NO_2/O_3$	05/30/2012	08:05	06/28/2012	08:20	
32	$H_2S/SO_2/NO_2/O_3$	05/30/2012	16:15	06/27/2012	19:30	
36	$H_2S/SO_2/NO_2/O_3$	05/30/2012	14:00	06/28/2012	14:30	

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
Duplicate # 27	SO_2	05/31/2012	08:05	06/29/2012	07:15	
Duplicate # 26	SO_2	05/31/2012	09:25	06/29/2012	08:00	
Duplicate # 25	SO_2	05/31/2012	15:15	06/29/2012	17:03	
Duplicate # 29	H_2S	05/30/2012	08:05	06/28/2012	08:20	
Duplicate # 32	H_2S	05/30/2012	16:15	06/27/2012	19:30	
Duplicate # 17	NO_2	05/30/2012	10:40	06/28/2012	12:05	
Duplicate # 18	NO_2	05/30/2012	09:55	06/28/2012	10:35	
Duplicate # 17	O_3	05/30/2012	10:40	06/28/2012	12:05	
Duplicate # 18	O_3	05/30/2012	09:55	06/28/2012	10:35	

Passive Network Laboratory Analysis

Your Project #: 2012/05/30 - 2012/06/28
Site Location: LICA

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

Report Date: 2012/07/16

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B257518
Received: 2012/07/05, 10:50

Sample Matrix: Air
Samples Received: 34

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	20	2012/07/13	2012/07/16	EINDSOP-00150	Tang.Passive H2S in
NO2 Passive Analysis (1)	26	2012/07/11	2012/07/16	EINDSOP-00148	Tang Passive NO2 in
O3 Passive Analysis (1)	26	2012/07/09	2012/07/16	EINDSOP-00197	EPA 300 R2.1
SO2 Passive Analysis (1)	30	2012/07/11	2012/07/16	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

==========

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 #: B257518
Report Date: 2012/07/16

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2012/05/30 - 2012/06/28
Site Location: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		DV8713	DV8714	DV8715	DV8716	DV8717		
Sampling Date		2012/05/30 17:32	2012/05/30 16:45	2012/05/30 15:40	2012/05/30 14:50	2012/05/30 12:30		
	UNITS	**2**	**3**	**4**	**5**	**6**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb		0.11		0.21		0.02	6000827
Calculated NO2	ppb	0.7	1.0	0.8	0.8	1.4	0.1	5992237
Calculated O3	ppb	25.8	26.2	27.2	22.7	31.3	0.1	5983434
Calculated SO2	ppb	<0.1	0.2	0.2	0.2	0.3	0.1	5992196

RDL = Reportable Detection Limit

Maxxam ID		DV8718	DV8719	DV8720	DV8721	DV8722		
Sampling Date		2012/05/31 13:15	2012/05/31 11:40	2012/05/31 17:44	2012/05/31 14:20	2012/05/31 16:25		
	UNITS	**8**	**9**	**10**	**11**	**12**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb			0.13	0.04	0.07	0.02	6000827
Calculated NO2	ppb	1.0	1.0	1.5	0.3	3.5	0.1	5992237
Calculated O3	ppb	27.2	24.9	20.7	21.0	23.5	0.1	5983434
Calculated SO2	ppb	0.8	0.2	0.2	0.1	0.1	0.1	5992196

RDL = Reportable Detection Limit

Maxxam ID		DV8723	DV8724	DV8725	DV8726	DV8727		
Sampling Date		2012/05/31 09:55	2012/05/31 08:25	2012/05/31 11:00	2012/05/30 10:45	2012/05/30 11:40		
	UNITS	**13**	**14**	**15**	**16**	**17**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb	0.07	0.12		0.09	0.15	0.02	6000827
Calculated NO2	ppb	0.8	0.5	0.6	0.7	1.2	0.1	5992237
Calculated O3	ppb	24.9	25.8	26.3	24.0	26.1	0.1	5983434
Calculated SO2	ppb	0.2	0.7	0.4	0.1	0.3	0.1	5992196

RDL = Reportable Detection Limit

Maxxam Job #: B257518
Report Date: 2012/07/16

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2012/05/30 - 2012/06/28
Site Location: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		DV8728	DV8729		DV8730		DV8731		
Sampling Date		2012/05/30 09:55	2012/05/30 09:00		2012/05/30 07:50		2012/05/30 18:58		
	UNITS	**18**	**19**	**QC Batch**	**22**	**QC Batch**	**23**	**RDL**	**QC Batch**
Passive Monitoring									
Calculated H2S	ppb	0.08		6000827	0.13	6000827		0.02	6000827
Calculated NO2	ppb	0.6	0.4	5992237	0.6	5992208	0.1	0.1	5992208
Calculated O3	ppb	21.3	26.4	5983457	22.5	5983457	22.1	0.1	5983457
Calculated SO2	ppb	<0.1	<0.1	5992196	0.2	5992196	0.1	0.1	5992199

RDL = Reportable Detection Limit

Maxxam ID		DV8732	DV8733	DV8734	DV8736	DV8737		
Sampling Date		2012/05/30 13:10	2012/05/31 15:15	2012/05/31 09:25	2012/05/31 08:05	2012/05/31 11:55		
	UNITS	**24**	**25**	**26**	**27**	**28**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb	0.13	0.05	0.11	0.11		0.02	6000827
Calculated NO2	ppb	1.5				1.7	0.1	5992208
Calculated O3	ppb	26.5				26.9	0.1	5983457
Calculated SO2	ppb	0.2	0.3	0.3	0.5	0.4	0.1	5992199

RDL = Reportable Detection Limit

Maxxam ID		DV8738	DV8740	DV8741		DV8744		
Sampling Date		2012/05/30 08:05	2012/05/30 16:15	2012/05/30 17:32		2012/05/30 11:40		
	UNITS	**29**	**32**	**36**	**QC Batch**	**17 DUP**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb	0.12	0.16	0.11	6000827		0.02	6000827
Calculated NO2	ppb	0.5	0.3	1.3	5992208	1.6	0.1	5992237
Calculated O3	ppb	26.2	39.0	32.8	5983457	26.3	0.1	5983457
Calculated SO2	ppb	0.2	0.2	0.1	5992199		0.1	

RDL = Reportable Detection Limit

Maxxam Job #: B257518
Report Date: 2012/07/16

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2012/05/30 - 2012/06/28
Site Location: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		DV8745	DV8746	DV8747	DV8748	DV8749		
Sampling Date		2012/05/30 09:55	2012/05/31 15:15	2012/05/31 09:25	2012/05/31 08:05	2012/05/30 08:05		
	UNITS	**18 DUP**	**25 DUP**	**26 DUP**	**27 DUP**	**29 DUP**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb					0.11	0.02	6000827
Calculated NO2	ppb	0.8					0.1	5992237
Calculated O3	ppb	23.3					0.1	5983457
Calculated SO2	ppb		0.3	0.3	0.5		0.1	5992199

RDL = Reportable Detection Limit

Maxxam ID		DV8750		
Sampling Date		2012/05/30 16:15		
	UNITS	**32 DUP**	**RDL**	**QC Batch**
Passive Monitoring				
Calculated H2S	ppb	0.13	0.02	6000827

RDL = Reportable Detection Limit

General Comments

Results relate only to the items tested.

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Attention: MICHAEL BISAGA
Client Project #: 2012/05/30 - 2012/06/28
P.O. #:
Site Location: LICA

Quality Assurance Report

Maxxam Job Number: PB257518

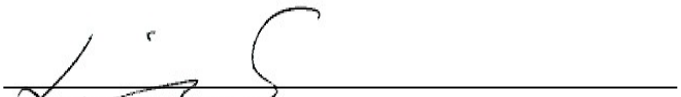
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
5983434	OZ	Calibration Check	Calculated O3	2012/07/09		99	%	91 - 107
		Spiked Blank	Calculated O3	2012/07/09		101	%	N/A
		Method Blank	Calculated O3	2012/07/09	<0.1		ppb	
5983457	OZ	Calibration Check	Calculated O3	2012/07/09		100	%	91 - 107
		Spiked Blank	Calculated O3	2012/07/09		100	%	N/A
		Method Blank	Calculated O3	2012/07/09	<0.1		ppb	
5992196	DF4	Calibration Check	Calculated SO2	2012/07/11		100	%	95 - 105
		Spiked Blank	Calculated SO2	2012/07/11		95	%	N/A
		Method Blank	Calculated SO2	2012/07/11	<0.1		ppb	
5992199	DF4	Calibration Check	Calculated SO2	2012/07/11		100	%	95 - 105
		Spiked Blank	Calculated SO2	2012/07/11		103	%	N/A
		Method Blank	Calculated SO2	2012/07/11	<0.1		ppb	
5992208	DF4	Calibration Check	Calculated NO2	2012/07/11		98	%	76 - 118
		Spiked Blank	Calculated NO2	2012/07/11		97	%	N/A
		Method Blank	Calculated NO2	2012/07/11	<0.1		ppb	
5992237	DF4	Calibration Check	Calculated NO2	2012/07/11		100	%	76 - 118
		Spiked Blank	Calculated NO2	2012/07/11		99	%	N/A
		Method Blank	Calculated NO2	2012/07/11	<0.1		ppb	
6000827	WC6	Calibration Check	Calculated H2S	2012/07/13		102	%	80 - 120
		Spiked Blank	Calculated H2S	2012/07/13		99	%	N/A

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

Validation Signature Page

Maxxam Job #: B257518

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

Volatile Organics Laboratory Analysis

MAXXAM

Xontech Model 910A VOC Sample Collection Data Sheet

Client: LICA
Location: Cold Lake South
Station ID: Lica 1
Field Sample ID: LICA VOC/ CLS /Jun 02, 2012

Sampler s/n: 6167
Canister ID: 287
Canister Installation Date/Time: Jun 01, 2012 @ 8:45 mst
Canister Removal Date/Time: Jun 05, 2012 @ 7:58 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
02-Jun-12	06/02/2012 0:00	06/03/2012 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 # 12144

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 12144

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

Report Date: 2012/06/18

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B283565
Received: 2012/06/07, 09:49

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	1	N/A	2012/06/08	BRL SOP-00304	EPA TO-15
Canister Pressure (TO-15)	1	N/A	2012/06/13	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2012/06/08	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	1	N/A	2012/06/13	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 #: B283565
Report Date: 2012/06/18

RESULTS OF ANALYSES OF AIR

Maxxam ID		NS4814		NS4815	
Sampling Date		2012/06/02		2012/06/02	
COC Number		12144		12144	
	Units	**LICA VOC\ CLS\ JUN 02,12 / 287**	**QC Batch**	**LICA VOC\ PORT\ JUN 02,12 / S2296**	**QC Batch**
Volatile Organics					
Pressure on Receipt	psig	23	2876827	20	2880774

QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NS4814				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ CLS\ JUN 02,12 / 287**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2876878
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2876878
Propene	ppbv	<0.30	0.30	<0.516	0.516	2876878
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2876878
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2876878
Dichlorodifluoromethane (FREON 12)	ppbv	0.80	0.20	3.94	0.989	2876878
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2876878
Chloromethane	ppbv	0.66	0.30	1.36	0.620	2876878
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2876878
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2876878
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2876878
Trichlorofluoromethane (FREON 11)	ppbv	0.35	0.20	1.96	1.12	2876878
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2876878
Ethanol (ethyl alcohol)	ppbv	2.4	2.3	4.58	4.33	2876878
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2876878
2-Propanone	ppbv	5.54	0.80	13.1	1.90	2876878
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2876878
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2876878
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2876878
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2876878
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2876878
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2876878
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2876878
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2876878
Methylene Chloride(Dichloromethane)	ppbv	1.29	0.80	4.49	2.78	2876878
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2876878
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2876878
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2876878
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2876878
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2876878
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2876878

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NS4814				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ CLS\ JUN 02,12 / 287**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2876878
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2876878
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2876878
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2876878
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2876878
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2876878
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2876878
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2876878
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2876878
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2876878
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2876878
Tetrachloroethylene	ppbv	0.28	0.20	1.93	1.36	2876878
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2876878
Toluene	ppbv	0.36	0.20	1.34	0.753	2876878
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2876878
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2876878
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2876878
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2876878
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2876878
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2876878
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2876878
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2876878
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2876878
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2876878
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2876878
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2876878
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2876878
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2876878
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2876878
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2876878
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2876878
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2876878
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2876878

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B283565
Report Date: 2012/06/18

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NS4814				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ CLS\ JUN 02,12 / 287**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)						
Bromochloromethane	%	87		N/A	N/A	2876878
D5-Chlorobenzene	%	85		N/A	N/A	2876878
Difluorobenzene	%	86		N/A	N/A	2876878

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NS4815				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ PORT\ JUN 02,12 / S2296**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2880778
Carbon Disulfide	ppbv	0.56	0.50	1.75	1.56	2880778
Propene	ppbv	<12	12	<20.7	20.7	2880778
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2880778
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2880778
Dichlorodifluoromethane (FREON 12)	ppbv	0.86	0.20	4.25	0.989	2880778
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2880778
Chloromethane	ppbv	0.63	0.30	1.30	0.620	2880778
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2880778
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2880778
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2880778
Trichlorofluoromethane (FREON 11)	ppbv	0.36	0.20	2.01	1.12	2880778
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2880778
Ethanol (ethyl alcohol)	ppbv	<2.3	2.3	<4.33	4.33	2880778
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2880778
2-Propanone	ppbv	5.31	0.80	12.6	1.90	2880778
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2880778
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2880778
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2880778
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2880778
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2880778
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2880778
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2880778
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2880778
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2880778
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2880778
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2880778
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2880778
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2880778
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2880778

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NS4815				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ PORT\ JUN 02,12 / S2296**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2880778
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2880778
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2880778
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2880778
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2880778
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2880778
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2880778
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2880778
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2880778
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2880778
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2880778
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2880778
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2880778
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2880778
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2880778
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2880778
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2880778
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2880778
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2880778
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2880778
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2880778
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2880778
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2880778
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2880778
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2880778
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2880778
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2880778
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2880778
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2880778
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2880778
Cyclohexane	ppbv	0.26	0.20	0.893	0.688	2880778
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2880778

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B283565
Report Date: 2012/06/18

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NS4815				
Sampling Date		2012/06/02				
COC Number		12144				
	Units	**LICA VOC\ PORT\ JUN 02,12 / S2296**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2880778
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2880778
Surrogate Recovery (%)						
Bromochloromethane	%	91		N/A	N/A	2880778
D5-Chlorobenzene	%	98		N/A	N/A	2880778
Difluorobenzene	%	95		N/A	N/A	2880778

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

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Maxxam Job #: B283565
Report Date: 2012/06/18

Test Summary

Maxxam ID NS4814 **Collected** 2012/06/02
Sample ID LICA VOC\ CLS\ JUN 02,12 / 287 **Shipped**
Matrix AIR **Received** 2012/06/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2876827	N/A	2012/06/08	YAO LIANG SUN
Volatile Organics in Air (TO-15)	GC/MS	2876878	N/A	2012/06/08	YAO LIANG SUN

Maxxam ID NS4815 **Collected** 2012/06/02
Sample ID LICA VOC\ PORT\ JUN 02,12 / S2296 **Shipped**
Matrix AIR **Received** 2012/06/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2880774	N/A	2012/06/13	YAO LIANG SUN
Volatile Organics in Air (TO-15)	GC/MS	2880778	N/A	2012/06/13	YAO LIANG SUN

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GENERAL COMMENTS

Sample NS4815-01: TO15
Increased DL for propene due to interference.

Results relate only to the items tested.

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Quality Assurance Report

Maxxam Job Number: GB283565

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2876878	LSY	Spiked Blank	Bromochloromethane	2012/06/08		102	%	60 - 140
			D5-Chlorobenzene	2012/06/08		102	%	60 - 140
			Difluorobenzene	2012/06/08		101	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/08		97	%	70 - 130
			Carbon Disulfide	2012/06/08		97	%	70 - 130
			Propene	2012/06/08		96	%	70 - 130
			Vinyl Acetate	2012/06/08		103	%	70 - 130
			Vinyl Bromide	2012/06/08		100	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2012/06/08		99	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2012/06/08		111	%	70 - 130
			Chloromethane	2012/06/08		99	%	70 - 130
			Vinyl Chloride	2012/06/08		99	%	70 - 130
			Chloroethane	2012/06/08		98	%	70 - 130
			1,3-Butadiene	2012/06/08		98	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2012/06/08		99	%	70 - 130
			Trichlorotrifluoroethane	2012/06/08		100	%	70 - 130
			Ethanol (ethyl alcohol)	2012/06/08		80	%	70 - 130
			2-propanol	2012/06/08		103	%	70 - 130
			2-Propanone	2012/06/08		97	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2012/06/08		95	%	70 - 130
			Methyl Isobutyl Ketone	2012/06/08		102	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2012/06/08		107	%	70 - 130
			Methyl t-butyl ether (MTBE)	2012/06/08		102	%	70 - 130
			Ethyl Acetate	2012/06/08		100	%	70 - 130
			1,1-Dichloroethylene	2012/06/08		100	%	70 - 130
			cis-1,2-Dichloroethylene	2012/06/08		102	%	70 - 130
			trans-1,2-Dichloroethylene	2012/06/08		100	%	70 - 130
			Methylene Chloride(Dichloromethane)	2012/06/08		88	%	70 - 130
			Chloroform	2012/06/08		99	%	70 - 130
			Carbon Tetrachloride	2012/06/08		103	%	70 - 130
			1,1-Dichloroethane	2012/06/08		99	%	70 - 130
			1,2-Dichloroethane	2012/06/08		102	%	70 - 130
			Ethylene Dibromide	2012/06/08		100	%	70 - 130
			1,1,1-Trichloroethane	2012/06/08		100	%	70 - 130
			1,1,2-Trichloroethane	2012/06/08		98	%	70 - 130
			1,1,2,2-Tetrachloroethane	2012/06/08		92	%	70 - 130
			cis-1,3-Dichloropropene	2012/06/08		100	%	70 - 130
			trans-1,3-Dichloropropene	2012/06/08		107	%	70 - 130
			1,2-Dichloropropane	2012/06/08		97	%	70 - 130
			Bromomethane	2012/06/08		98	%	70 - 130
			Bromoform	2012/06/08		103	%	70 - 130
			Bromodichloromethane	2012/06/08		101	%	70 - 130
			Dibromochloromethane	2012/06/08		103	%	70 - 130
			Heptane	2012/06/08		99	%	70 - 130
			Trichloroethylene	2012/06/08		99	%	70 - 130
			Tetrachloroethylene	2012/06/08		101	%	70 - 130
			Benzene	2012/06/08		100	%	70 - 130
			Toluene	2012/06/08		102	%	70 - 130
			Ethylbenzene	2012/06/08		102	%	70 - 130
			p+m-Xylene	2012/06/08		101	%	70 - 130
			o-Xylene	2012/06/08		102	%	70 - 130
			Styrene	2012/06/08		89	%	70 - 130
			1,3,5-Trimethylbenzene	2012/06/08		95	%	70 - 130
			1,2,4-Trimethylbenzene	2012/06/08		92	%	70 - 130
			4-ethyltoluene	2012/06/08		97	%	70 - 130

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Quality Assurance Report (Continued)

Maxxam Job Number: GB283565

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2876878	LSY	Spiked Blank	Chlorobenzene	2012/06/08		100	%	70 - 130
			Benzyl chloride	2012/06/08		91	%	70 - 130
			1,3-Dichlorobenzene	2012/06/08		88	%	70 - 130
			1,4-Dichlorobenzene	2012/06/08		85	%	70 - 130
			1,2-Dichlorobenzene	2012/06/08		82	%	70 - 130
			1,2,4-Trichlorobenzene	2012/06/08		92	%	70 - 130
			Hexachlorobutadiene	2012/06/08		85	%	70 - 130
			Hexane	2012/06/08		101	%	70 - 130
			Cyclohexane	2012/06/08		100	%	70 - 130
			Tetrahydrofuran	2012/06/08		101	%	70 - 130
			1,4-Dioxane	2012/06/08		101	%	70 - 130
			Xylene (Total)	2012/06/08		101	%	70 - 130
		Method Blank	Bromochloromethane	2012/06/08		91	%	60 - 140
			D5-Chlorobenzene	2012/06/08		88	%	60 - 140
			Difluorobenzene	2012/06/08		91	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/08	<0.20		ppbv	
			Carbon Disulfide	2012/06/08	<0.50		ppbv	
			Propene	2012/06/08	<0.30		ppbv	
			Vinyl Acetate	2012/06/08	<0.20		ppbv	
			Vinyl Bromide	2012/06/08	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/06/08	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/06/08	<0.17		ppbv	
			Chloromethane	2012/06/08	<0.30		ppbv	
			Vinyl Chloride	2012/06/08	<0.18		ppbv	
			Chloroethane	2012/06/08	<0.30		ppbv	
			1,3-Butadiene	2012/06/08	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/06/08	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/06/08	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/06/08	<2.3		ppbv	
			2-propanol	2012/06/08	<3.0		ppbv	
			2-Propanone	2012/06/08	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/06/08	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/06/08	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/06/08	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/06/08	<0.20		ppbv	
			Ethyl Acetate	2012/06/08	<2.2		ppbv	
			1,1-Dichloroethylene	2012/06/08	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/06/08	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/06/08	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/06/08	<0.80		ppbv	
			Chloroform	2012/06/08	<0.15		ppbv	
			Carbon Tetrachloride	2012/06/08	<0.30		ppbv	
			1,1-Dichloroethane	2012/06/08	<0.20		ppbv	
			1,2-Dichloroethane	2012/06/08	<0.20		ppbv	
			Ethylene Dibromide	2012/06/08	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/06/08	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/06/08	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/06/08	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/06/08	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/06/08	<0.17		ppbv	
			1,2-Dichloropropane	2012/06/08	<0.40		ppbv	
			Bromomethane	2012/06/08	<0.18		ppbv	
			Bromoform	2012/06/08	<0.20		ppbv	
			Bromodichloromethane	2012/06/08	<0.20		ppbv	
			Dibromochloromethane	2012/06/08	<0.20		ppbv	

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Quality Assurance Report (Continued)

Maxxam Job Number: GB283565

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2876878	LSY	Method Blank	Heptane	2012/06/08	<0.30		ppbv	
			Trichloroethylene	2012/06/08	<0.30		ppbv	
			Tetrachloroethylene	2012/06/08	<0.20		ppbv	
			Benzene	2012/06/08	<0.18		ppbv	
			Toluene	2012/06/08	<0.20		ppbv	
			Ethylbenzene	2012/06/08	<0.20		ppbv	
			p+m-Xylene	2012/06/08	<0.37		ppbv	
			o-Xylene	2012/06/08	<0.20		ppbv	
			Styrene	2012/06/08	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/06/08	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/06/08	<0.50		ppbv	
			4-ethyltoluene	2012/06/08	<2.2		ppbv	
			Chlorobenzene	2012/06/08	<0.20		ppbv	
			Benzyl chloride	2012/06/08	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/06/08	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/06/08	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/06/08	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/06/08	<2.0		ppbv	
			Hexachlorobutadiene	2012/06/08	<3.0		ppbv	
			Hexane	2012/06/08	<0.30		ppbv	
			Cyclohexane	2012/06/08	<0.20		ppbv	
			Tetrahydrofuran	2012/06/08	<0.40		ppbv	
			1,4-Dioxane	2012/06/08	<2.0		ppbv	
			Xylene (Total)	2012/06/08	<0.60		ppbv	
		RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2012/06/08	NC		%	25
			Carbon Disulfide	2012/06/08	NC		%	25
			Propene	2012/06/08	NC		%	25
			Vinyl Acetate	2012/06/08	NC		%	25
			Vinyl Bromide	2012/06/08	NC		%	25
			Dichlorodifluoromethane (FREON 12)	2012/06/08	NC		%	25
			1,2-Dichlorotetrafluoroethane	2012/06/08	NC		%	25
			Chloromethane	2012/06/08	NC		%	25
			Vinyl Chloride	2012/06/08	NC		%	25
			Chloroethane	2012/06/08	NC		%	25
			1,3-Butadiene	2012/06/08	NC		%	25
			Trichlorofluoromethane (FREON 11)	2012/06/08	NC		%	25
			Trichlorotrifluoroethane	2012/06/08	NC		%	25
			Ethanol (ethyl alcohol)	2012/06/08	NC		%	25
			2-propanol	2012/06/08	NC		%	25
			2-Propanone	2012/06/08	5.8		%	25
			Methyl Ethyl Ketone (2-Butanone)	2012/06/08	NC		%	25
			Methyl Isobutyl Ketone	2012/06/08	NC		%	25
			Methyl Butyl Ketone (2-Hexanone)	2012/06/08	NC		%	25
			Methyl t-butyl ether (MTBE)	2012/06/08	NC		%	25
			Ethyl Acetate	2012/06/08	NC		%	25
			1,1-Dichloroethylene	2012/06/08	NC		%	25
			cis-1,2-Dichloroethylene	2012/06/08	NC		%	25
			trans-1,2-Dichloroethylene	2012/06/08	NC		%	25
			Methylene Chloride(Dichloromethane)	2012/06/08	NC		%	25
			Chloroform	2012/06/08	NC		%	25
			Carbon Tetrachloride	2012/06/08	NC		%	25
			1,1-Dichloroethane	2012/06/08	NC		%	25
			1,2-Dichloroethane	2012/06/08	NC		%	25

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2876878	LSY	RPD - Sample/Sample Dup	Ethylene Dibromide	2012/06/08	NC		%	25
			1,1,1-Trichloroethane	2012/06/08	NC		%	25
			1,1,2-Trichloroethane	2012/06/08	NC		%	25
			1,1,2,2-Tetrachloroethane	2012/06/08	NC		%	25
			cis-1,3-Dichloropropene	2012/06/08	NC		%	25
			trans-1,3-Dichloropropene	2012/06/08	NC		%	25
			1,2-Dichloropropane	2012/06/08	NC		%	25
			Bromomethane	2012/06/08	NC		%	25
			Bromoform	2012/06/08	NC		%	25
			Bromodichloromethane	2012/06/08	NC		%	25
			Dibromochloromethane	2012/06/08	NC		%	25
			Heptane	2012/06/08	NC		%	25
			Trichloroethylene	2012/06/08	NC		%	25
			Tetrachloroethylene	2012/06/08	NC		%	25
			Benzene	2012/06/08	NC		%	25
			Toluene	2012/06/08	NC		%	25
			Ethylbenzene	2012/06/08	NC		%	25
			p+m-Xylene	2012/06/08	NC		%	25
			o-Xylene	2012/06/08	NC		%	25
			Styrene	2012/06/08	NC		%	25
			1,3,5-Trimethylbenzene	2012/06/08	NC		%	25
			1,2,4-Trimethylbenzene	2012/06/08	NC		%	25
			4-ethyltoluene	2012/06/08	NC		%	25
			Chlorobenzene	2012/06/08	NC		%	25
			Benzyl chloride	2012/06/08	NC		%	25
			1,3-Dichlorobenzene	2012/06/08	NC		%	25
			1,4-Dichlorobenzene	2012/06/08	NC		%	25
			1,2-Dichlorobenzene	2012/06/08	NC		%	25
			1,2,4-Trichlorobenzene	2012/06/08	NC		%	25
			Hexachlorobutadiene	2012/06/08	NC		%	25
			Hexane	2012/06/08	NC		%	25
			Cyclohexane	2012/06/08	NC		%	25
			Tetrahydrofuran	2012/06/08	NC		%	25
			1,4-Dioxane	2012/06/08	NC		%	25
			Xylene (Total)	2012/06/08	NC		%	25
2880778	LSY	Spiked Blank	Bromochloromethane	2012/06/13		103	%	60 - 140
			D5-Chlorobenzene	2012/06/13		111	%	60 - 140
			Difluorobenzene	2012/06/13		107	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/13		95	%	70 - 130
			Carbon Disulfide	2012/06/13		97	%	70 - 130
			Propene	2012/06/13		94	%	70 - 130
			Vinyl Acetate	2012/06/13		103	%	70 - 130
			Vinyl Bromide	2012/06/13		102	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2012/06/13		100	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2012/06/13		114	%	70 - 130
			Chloromethane	2012/06/13		99	%	70 - 130
			Vinyl Chloride	2012/06/13		99	%	70 - 130
			Chloroethane	2012/06/13		98	%	70 - 130
			1,3-Butadiene	2012/06/13		100	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2012/06/13		102	%	70 - 130
			Trichlorotrifluoroethane	2012/06/13		101	%	70 - 130
			Ethanol (ethyl alcohol)	2012/06/13		80	%	70 - 130
			2-propanol	2012/06/13		102	%	70 - 130

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2880778	LSY	Spiked Blank	2-Propanone	2012/06/13		99	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2012/06/13		95	%	70 - 130
			Methyl Isobutyl Ketone	2012/06/13		100	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2012/06/13		106	%	70 - 130
			Methyl t-butyl ether (MTBE)	2012/06/13		104	%	70 - 130
			Ethyl Acetate	2012/06/13		100	%	70 - 130
			1,1-Dichloroethylene	2012/06/13		101	%	70 - 130
			cis-1,2-Dichloroethylene	2012/06/13		102	%	70 - 130
			trans-1,2-Dichloroethylene	2012/06/13		100	%	70 - 130
			Methylene Chloride(Dichloromethane)	2012/06/13		88	%	70 - 130
			Chloroform	2012/06/13		100	%	70 - 130
			Carbon Tetrachloride	2012/06/13		104	%	70 - 130
			1,1-Dichloroethane	2012/06/13		100	%	70 - 130
			1,2-Dichloroethane	2012/06/13		104	%	70 - 130
			Ethylene Dibromide	2012/06/13		99	%	70 - 130
			1,1,1-Trichloroethane	2012/06/13		101	%	70 - 130
			1,1,2-Trichloroethane	2012/06/13		97	%	70 - 130
			1,1,2,2-Tetrachloroethane	2012/06/13		90	%	70 - 130
			cis-1,3-Dichloropropene	2012/06/13		101	%	70 - 130
			trans-1,3-Dichloropropene	2012/06/13		106	%	70 - 130
			1,2-Dichloropropane	2012/06/13		93	%	70 - 130
			Bromomethane	2012/06/13		99	%	70 - 130
			Bromoform	2012/06/13		104	%	70 - 130
			Bromodichloromethane	2012/06/13		101	%	70 - 130
			Dibromochloromethane	2012/06/13		101	%	70 - 130
			Heptane	2012/06/13		97	%	70 - 130
			Trichloroethylene	2012/06/13		95	%	70 - 130
			Tetrachloroethylene	2012/06/13		100	%	70 - 130
			Benzene	2012/06/13		98	%	70 - 130
			Toluene	2012/06/13		99	%	70 - 130
			Ethylbenzene	2012/06/13		101	%	70 - 130
			p+m-Xylene	2012/06/13		100	%	70 - 130
			o-Xylene	2012/06/13		99	%	70 - 130
			Styrene	2012/06/13		87	%	70 - 130
			1,3,5-Trimethylbenzene	2012/06/13		94	%	70 - 130
			1,2,4-Trimethylbenzene	2012/06/13		93	%	70 - 130
			4-ethyltoluene	2012/06/13		97	%	70 - 130
			Chlorobenzene	2012/06/13		98	%	70 - 130
			Benzyl chloride	2012/06/13		90	%	70 - 130
			1,3-Dichlorobenzene	2012/06/13		87	%	70 - 130
			1,4-Dichlorobenzene	2012/06/13		84	%	70 - 130
			1,2-Dichlorobenzene	2012/06/13		83	%	70 - 130
			1,2,4-Trichlorobenzene	2012/06/13		94	%	70 - 130
			Hexachlorobutadiene	2012/06/13		91	%	70 - 130
			Hexane	2012/06/13		100	%	70 - 130
			Cyclohexane	2012/06/13		97	%	70 - 130
			Tetrahydrofuran	2012/06/13		100	%	70 - 130
			1,4-Dioxane	2012/06/13		98	%	70 - 130
			Xylene (Total)	2012/06/13		100	%	70 - 130
		Method Blank	Bromochloromethane	2012/06/13		92	%	60 - 140
			D5-Chlorobenzene	2012/06/13		94	%	60 - 140
			Difluorobenzene	2012/06/13		95	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/13	<0.20		ppbv	
			Carbon Disulfide	2012/06/13	<0.50		ppbv	
			Propene	2012/06/13	<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: GB283565

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2880778	LSY	Method Blank	Vinyl Acetate	2012/06/13	<0.20		ppbv	
			Vinyl Bromide	2012/06/13	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/06/13	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/06/13	<0.17		ppbv	
			Chloromethane	2012/06/13	<0.30		ppbv	
			Vinyl Chloride	2012/06/13	<0.18		ppbv	
			Chloroethane	2012/06/13	<0.30		ppbv	
			1,3-Butadiene	2012/06/13	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/06/13	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/06/13	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/06/13	<2.3		ppbv	
			2-propanol	2012/06/13	<3.0		ppbv	
			2-Propanone	2012/06/13	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/06/13	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/06/13	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/06/13	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/06/13	<0.20		ppbv	
			Ethyl Acetate	2012/06/13	<2.2		ppbv	
			1,1-Dichloroethylene	2012/06/13	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/06/13	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/06/13	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/06/13	<0.80		ppbv	
			Chloroform	2012/06/13	<0.15		ppbv	
			Carbon Tetrachloride	2012/06/13	<0.30		ppbv	
			1,1-Dichloroethane	2012/06/13	<0.20		ppbv	
			1,2-Dichloroethane	2012/06/13	<0.20		ppbv	
			Ethylene Dibromide	2012/06/13	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/06/13	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/06/13	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/06/13	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/06/13	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/06/13	<0.17		ppbv	
			1,2-Dichloropropane	2012/06/13	<0.40		ppbv	
			Bromomethane	2012/06/13	<0.18		ppbv	
			Bromoform	2012/06/13	<0.20		ppbv	
			Bromodichloromethane	2012/06/13	<0.20		ppbv	
			Dibromochloromethane	2012/06/13	<0.20		ppbv	
			Heptane	2012/06/13	<0.30		ppbv	
			Trichloroethylene	2012/06/13	<0.30		ppbv	
			Tetrachloroethylene	2012/06/13	<0.20		ppbv	
			Benzene	2012/06/13	<0.18		ppbv	
			Toluene	2012/06/13	<0.20		ppbv	
			Ethylbenzene	2012/06/13	<0.20		ppbv	
			p+m-Xylene	2012/06/13	<0.37		ppbv	
			o-Xylene	2012/06/13	<0.20		ppbv	
			Styrene	2012/06/13	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/06/13	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/06/13	<0.50		ppbv	
			4-ethyltoluene	2012/06/13	<2.2		ppbv	
			Chlorobenzene	2012/06/13	<0.20		ppbv	
			Benzyl chloride	2012/06/13	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/06/13	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/06/13	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/06/13	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/06/13	<2.0		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB283565

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2880778	LSY	Method Blank	Hexachlorobutadiene	2012/06/13	<3.0		ppbv	
			Hexane	2012/06/13	<0.30		ppbv	
			Cyclohexane	2012/06/13	<0.20		ppbv	
			Tetrahydrofuran	2012/06/13	<0.40		ppbv	
			1,4-Dioxane	2012/06/13	<2.0		ppbv	
			Xylene (Total)	2012/06/13	<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.
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 /Jun 08, 2012

Sampler s/n: 6167
Canister ID: 265
Canister Installation Date/Time: Jun 07, 2012 @ 7:34 mst
Canister Removal Date/Time: Jun 13, 2012 @ 7:24 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
08-Jun-12	06/08/2012 0:00	06/09/2012 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 # 12183

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 12183

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

Report Date: 2012/06/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B288661
Received: 2012/06/15, 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	2012/06/19	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2012/06/19	BRL SOP-00304	EPA TO-15

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

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

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: 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 #: B288661
Report Date: 2012/06/27

RESULTS OF ANALYSES OF AIR

Maxxam ID		NU8891	NU8892	
Sampling Date		2012/06/08	2012/06/08	
COC Number		12183	12183	
	Units	**LICA VOC/CLS/JUN 08,12 / 265**	**LICA VOC/PORT/JUN 08,12 / 7839**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	23	21	2885913

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B288661
Report Date: 2012/06/27

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NU8891			NU8892				
Sampling Date		2012/06/08			2012/06/08				
COC Number		12183			12183				
	Units	**LICA VOC/CLS/JUN 08,12 / 265**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 08,12 / 7839**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics									
2,2,4-Trimethylpentane	ppbv	<0.20	<0.934	0.934	<0.20	0.20	<0.934	0.934	2885910
Carbon Disulfide	ppbv	<0.50	<1.56	1.56	<0.50	0.50	<1.56	1.56	2885910
Propene	ppbv	<0.30	<0.516	0.516	<0.30	0.30	<0.516	0.516	2885910
Vinyl Acetate	ppbv	<0.20	<0.704	0.704	<0.20	0.20	<0.704	0.704	2885910
Vinyl Bromide	ppbv	<0.20	<0.875	0.875	<0.20	0.20	<0.875	0.875	2885910
Dichlorodifluoromethane (FREON 12)	ppbv	0.70	3.47	0.989	0.70	0.20	3.45	0.989	2885910
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	<1.19	1.19	<0.17	0.17	<1.19	1.19	2885910
Chloromethane	ppbv	0.48	0.997	0.620	1.78	0.30	3.68	0.620	2885910
Vinyl Chloride	ppbv	<0.18	<0.460	0.460	<0.18	0.18	<0.460	0.460	2885910
Chloroethane	ppbv	<0.30	<0.792	0.792	<0.30	0.30	<0.792	0.792	2885910
1,3-Butadiene	ppbv	<0.50	<1.11	1.11	<0.50	0.50	<1.11	1.11	2885910
Trichlorofluoromethane (FREON 11)	ppbv	0.33	1.84	1.12	0.33	0.20	1.88	1.12	2885910
Trichlorotrifluoroethane	ppbv	<0.15	<1.15	1.15	<0.15	0.15	<1.15	1.15	2885910
Ethanol (ethyl alcohol)	ppbv	<2.3	<4.33	4.33	<2.3	2.3	<4.33	4.33	2885910
2-propanol	ppbv	<3.0	<7.37	7.37	<3.0	3.0	<7.37	7.37	2885910
2-Propanone	ppbv	3.77	8.95	1.90	3.26	0.80	7.75	1.90	2885910
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	<8.85	8.85	<3.0	3.0	<8.85	8.85	2885910
Methyl Isobutyl Ketone	ppbv	<3.2	<13.1	13.1	<3.2	3.2	<13.1	13.1	2885910
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	<8.19	8.19	<2.0	2.0	<8.19	8.19	2885910
Methyl t-butyl ether (MTBE)	ppbv	<0.20	<0.721	0.721	<0.20	0.20	<0.721	0.721	2885910
Ethyl Acetate	ppbv	<2.2	<7.93	7.93	<2.2	2.2	<7.93	7.93	2885910
1,1-Dichloroethylene	ppbv	<0.25	<0.991	0.991	<0.25	0.25	<0.991	0.991	2885910
cis-1,2-Dichloroethylene	ppbv	<0.19	<0.753	0.753	<0.19	0.19	<0.753	0.753	2885910
trans-1,2-Dichloroethylene	ppbv	<0.20	<0.793	0.793	<0.20	0.20	<0.793	0.793	2885910
Methylene Chloride(Dichloromethane)	ppbv	<0.80	<2.78	2.78	<0.80	0.80	<2.78	2.78	2885910
Chloroform	ppbv	<0.15	<0.732	0.732	0.21	0.15	1.01	0.732	2885910
Carbon Tetrachloride	ppbv	<0.30	<1.89	1.89	<0.30	0.30	<1.89	1.89	2885910
1,1-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2885910
1,2-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2885910
Ethylene Dibromide	ppbv	<0.17	<1.31	1.31	<0.17	0.17	<1.31	1.31	2885910
1,1,1-Trichloroethane	ppbv	<0.30	<1.64	1.64	<0.30	0.30	<1.64	1.64	2885910

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B288661
Report Date: 2012/06/27

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NU8891			NU8892				
Sampling Date		2012/06/08			2012/06/08				
COC Number		12183			12183				
	Units	**LICA VOC/CLS/JUN 08,12 / 265**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 08,12 / 7839**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	<0.818	0.818	<0.15	0.15	<0.818	0.818	2885910
1,1,2,2-Tetrachloroethane	ppbv	<0.20	<1.37	1.37	<0.20	0.20	<1.37	1.37	2885910
cis-1,3-Dichloropropene	ppbv	<0.18	<0.817	0.817	<0.18	0.18	<0.817	0.817	2885910
trans-1,3-Dichloropropene	ppbv	<0.17	<0.772	0.772	<0.17	0.17	<0.772	0.772	2885910
1,2-Dichloropropane	ppbv	<0.40	<1.85	1.85	<0.40	0.40	<1.85	1.85	2885910
Bromomethane	ppbv	<0.18	<0.699	0.699	<0.18	0.18	<0.699	0.699	2885910
Bromoform	ppbv	<0.20	<2.07	2.07	<0.20	0.20	<2.07	2.07	2885910
Bromodichloromethane	ppbv	<0.20	<1.34	1.34	<0.20	0.20	<1.34	1.34	2885910
Dibromochloromethane	ppbv	<0.20	<1.70	1.70	<0.20	0.20	<1.70	1.70	2885910
Heptane	ppbv	<0.30	<1.23	1.23	<0.30	0.30	<1.23	1.23	2885910
Trichloroethylene	ppbv	<0.30	<1.61	1.61	<0.30	0.30	<1.61	1.61	2885910
Tetrachloroethylene	ppbv	<0.20	<1.36	1.36	<0.20	0.20	<1.36	1.36	2885910
Benzene	ppbv	<0.18	<0.575	0.575	<0.18	0.18	<0.575	0.575	2885910
Toluene	ppbv	<0.20	<0.753	0.753	<0.20	0.20	<0.753	0.753	2885910
Ethylbenzene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2885910
p+m-Xylene	ppbv	<0.37	<1.61	1.61	<0.37	0.37	<1.61	1.61	2885910
o-Xylene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2885910
Styrene	ppbv	<0.20	<0.852	0.852	<0.20	0.20	<0.852	0.852	2885910
1,3,5-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2885910
1,2,4-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2885910
4-ethyltoluene	ppbv	<2.2	<10.8	10.8	<2.2	2.2	<10.8	10.8	2885910
Chlorobenzene	ppbv	<0.20	<0.921	0.921	<0.20	0.20	<0.921	0.921	2885910
Benzyl chloride	ppbv	<1.0	<5.18	5.18	<1.0	1.0	<5.18	5.18	2885910
1,3-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2885910
1,4-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2885910
1,2-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2885910
1,2,4-Trichlorobenzene	ppbv	<2.0	<14.8	14.8	<2.0	2.0	<14.8	14.8	2885910
Hexachlorobutadiene	ppbv	<3.0	<32.0	32.0	<3.0	3.0	<32.0	32.0	2885910
Hexane	ppbv	<0.30	<1.06	1.06	<0.30	0.30	<1.06	1.06	2885910
Cyclohexane	ppbv	<0.20	<0.688	0.688	<0.20	0.20	<0.688	0.688	2885910
Tetrahydrofuran	ppbv	<0.40	<1.18	1.18	<0.40	0.40	<1.18	1.18	2885910
1,4-Dioxane	ppbv	<2.0	<7.21	7.21	<2.0	2.0	<7.21	7.21	2885910
Xylene (Total)	ppbv	<0.60	<2.61	2.61	<0.60	0.60	<2.61	2.61	2885910

QC Batch = Quality Control Batch

Maxxam Analytics

Maxxam Job #: B288661
Report Date: 2012/06/27

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NU8891			NU8892				
Sampling Date		2012/06/08			2012/06/08				
COC Number		12183			12183				
	Units	**LICA VOC/CLS/JUN 08,12 / 265**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 08,12 / 7839**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)									
Bromochloromethane	%	93	N/A	N/A	89		N/A	N/A	2885910
D5-Chlorobenzene	%	84	N/A	N/A	84		N/A	N/A	2885910
Difluorobenzene	%	95	N/A	N/A	94		N/A	N/A	2885910

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

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Maxxam Analytics

Maxxam Job #: B288661
Report Date: 2012/06/27

Test Summary

Maxxam ID NU8891 **Collected** 2012/06/08
Sample ID LICA VOC/CLS/JUN 08,12 / 265 **Shipped**
Matrix AIR **Received** 2012/06/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2885913	N/A	2012/06/19	SPOMENKA SMILJANIC
Volatile Organics in Air (TO-15)	GC/MS	2885910	N/A	2012/06/19	SPOMENKA SMILJANIC

Maxxam ID NU8892 **Collected** 2012/06/08
Sample ID LICA VOC/PORT/JUN 08,12 / 7839 **Shipped**
Matrix AIR **Received** 2012/06/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2885913	N/A	2012/06/19	SPOMENKA SMILJANIC
Volatile Organics in Air (TO-15)	GC/MS	2885910	N/A	2012/06/19	SPOMENKA SMILJANIC

Maxxam ID NU8892 Dup **Collected** 2012/06/08
Sample ID LICA VOC/PORT/JUN 08,12 / 7839 **Shipped**
Matrix AIR **Received** 2012/06/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Volatile Organics in Air (TO-15)	GC/MS	2885910	N/A	2012/06/19	SPOMENKA SMILJANIC

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 #: B288661
Report Date: 2012/06/27

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: GB288661

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2885910	S_S	Spiked Blank	Bromochloromethane	2012/06/19		96	%	60 - 140
			D5-Chlorobenzene	2012/06/19		98	%	60 - 140
			Difluorobenzene	2012/06/19		97	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/19		96	%	70 - 130
			Carbon Disulfide	2012/06/19		90	%	70 - 130
			Propene	2012/06/19		80	%	70 - 130
			Vinyl Acetate	2012/06/19		103	%	70 - 130
			Vinyl Bromide	2012/06/19		97	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2012/06/19		111	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2012/06/19		121	%	70 - 130
			Chloromethane	2012/06/19		110	%	70 - 130
			Vinyl Chloride	2012/06/19		99	%	70 - 130
			Chloroethane	2012/06/19		98	%	70 - 130
			1,3-Butadiene	2012/06/19		101	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2012/06/19		110	%	70 - 130
			Trichlorotrifluoroethane	2012/06/19		96	%	70 - 130
			Ethanol (ethyl alcohol)	2012/06/19		89	%	70 - 130
			2-propanol	2012/06/19		95	%	70 - 130
			2-Propanone	2012/06/19		124	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2012/06/19		98	%	70 - 130
			Methyl Isobutyl Ketone	2012/06/19		109	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2012/06/19		110	%	70 - 130
			Methyl t-butyl ether (MTBE)	2012/06/19		104	%	70 - 130
			Ethyl Acetate	2012/06/19		104	%	70 - 130
			1,1-Dichloroethylene	2012/06/19		102	%	70 - 130
			cis-1,2-Dichloroethylene	2012/06/19		102	%	70 - 130
			trans-1,2-Dichloroethylene	2012/06/19		99	%	70 - 130
			Methylene Chloride(Dichloromethane)	2012/06/19		93	%	70 - 130
			Chloroform	2012/06/19		103	%	70 - 130
			Carbon Tetrachloride	2012/06/19		121	%	70 - 130
			1,1-Dichloroethane	2012/06/19		103	%	70 - 130
			1,2-Dichloroethane	2012/06/19		118	%	70 - 130
			Ethylene Dibromide	2012/06/19		98	%	70 - 130
			1,1,1-Trichloroethane	2012/06/19		115	%	70 - 130
			1,1,2-Trichloroethane	2012/06/19		97	%	70 - 130
			1,1,2,2-Tetrachloroethane	2012/06/19		94	%	70 - 130
			cis-1,3-Dichloropropene	2012/06/19		107	%	70 - 130
			trans-1,3-Dichloropropene	2012/06/19		109	%	70 - 130
			1,2-Dichloropropane	2012/06/19		96	%	70 - 130
			Bromomethane	2012/06/19		97	%	70 - 130
			Bromoform	2012/06/19		119	%	70 - 130
			Bromodichloromethane	2012/06/19		119	%	70 - 130
			Dibromochloromethane	2012/06/19		119	%	70 - 130
			Heptane	2012/06/19		103	%	70 - 130
			Trichloroethylene	2012/06/19		93	%	70 - 130
			Tetrachloroethylene	2012/06/19		102	%	70 - 130
			Benzene	2012/06/19		91	%	70 - 130
			Toluene	2012/06/19		98	%	70 - 130
			Ethylbenzene	2012/06/19		97	%	70 - 130
			p+m-Xylene	2012/06/19		101	%	70 - 130
			o-Xylene	2012/06/19		104	%	70 - 130
			Styrene	2012/06/19		69 (1)	%	70 - 130
			1,3,5-Trimethylbenzene	2012/06/19		101	%	70 - 130
			1,2,4-Trimethylbenzene	2012/06/19		99	%	70 - 130
			4-ethyltoluene	2012/06/19		106	%	70 - 130

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

Maxxam Job Number: GB288661

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2885910	S_S	Spiked Blank	Chlorobenzene	2012/06/19		90	%	70 - 130
			Benzyl chloride	2012/06/19		102	%	70 - 130
			1,3-Dichlorobenzene	2012/06/19		88	%	70 - 130
			1,4-Dichlorobenzene	2012/06/19		87	%	70 - 130
			1,2-Dichlorobenzene	2012/06/19		89	%	70 - 130
			1,2,4-Trichlorobenzene	2012/06/19		87	%	70 - 130
			Hexachlorobutadiene	2012/06/19		120	%	70 - 130
			Hexane	2012/06/19		102	%	70 - 130
			Cyclohexane	2012/06/19		96	%	70 - 130
			Tetrahydrofuran	2012/06/19		98	%	70 - 130
			1,4-Dioxane	2012/06/19		101	%	70 - 130
			Xylene (Total)	2012/06/19		102	%	70 - 130
		Method Blank	Bromochloromethane	2012/06/19		71	%	60 - 140
			D5-Chlorobenzene	2012/06/19		63	%	60 - 140
			Difluorobenzene	2012/06/19		74	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/19	<0.20		ppbv	
			Carbon Disulfide	2012/06/19	<0.50		ppbv	
			Propene	2012/06/19	<0.30		ppbv	
			Vinyl Acetate	2012/06/19	<0.20		ppbv	
			Vinyl Bromide	2012/06/19	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/06/19	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/06/19	<0.17		ppbv	
			Chloromethane	2012/06/19	<0.30		ppbv	
			Vinyl Chloride	2012/06/19	<0.18		ppbv	
			Chloroethane	2012/06/19	<0.30		ppbv	
			1,3-Butadiene	2012/06/19	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/06/19	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/06/19	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/06/19	<2.3		ppbv	
			2-propanol	2012/06/19	<3.0		ppbv	
			2-Propanone	2012/06/19	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/06/19	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/06/19	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/06/19	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/06/19	<0.20		ppbv	
			Ethyl Acetate	2012/06/19	<2.2		ppbv	
			1,1-Dichloroethylene	2012/06/19	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/06/19	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/06/19	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/06/19	<0.80		ppbv	
			Chloroform	2012/06/19	<0.15		ppbv	
			Carbon Tetrachloride	2012/06/19	<0.30		ppbv	
			1,1-Dichloroethane	2012/06/19	<0.20		ppbv	
			1,2-Dichloroethane	2012/06/19	<0.20		ppbv	
			Ethylene Dibromide	2012/06/19	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/06/19	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/06/19	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/06/19	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/06/19	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/06/19	<0.17		ppbv	
			1,2-Dichloropropane	2012/06/19	<0.40		ppbv	
			Bromomethane	2012/06/19	<0.18		ppbv	
			Bromoform	2012/06/19	<0.20		ppbv	
			Bromodichloromethane	2012/06/19	<0.20		ppbv	
			Dibromochloromethane	2012/06/19	<0.20		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB288661

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2885910	S_S	Method Blank	Heptane	2012/06/19	<0.30		ppbv	
			Trichloroethylene	2012/06/19	<0.30		ppbv	
			Tetrachloroethylene	2012/06/19	<0.20		ppbv	
			Benzene	2012/06/19	<0.18		ppbv	
			Toluene	2012/06/19	<0.20		ppbv	
			Ethylbenzene	2012/06/19	<0.20		ppbv	
			p+m-Xylene	2012/06/19	<0.37		ppbv	
			o-Xylene	2012/06/19	<0.20		ppbv	
			Styrene	2012/06/19	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/06/19	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/06/19	<0.50		ppbv	
			4-ethyltoluene	2012/06/19	<2.2		ppbv	
			Chlorobenzene	2012/06/19	<0.20		ppbv	
			Benzyl chloride	2012/06/19	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/06/19	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/06/19	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/06/19	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/06/19	<2.0		ppbv	
			Hexachlorobutadiene	2012/06/19	<3.0		ppbv	
			Hexane	2012/06/19	<0.30		ppbv	
			Cyclohexane	2012/06/19	<0.20		ppbv	
			Tetrahydrofuran	2012/06/19	<0.40		ppbv	
			1,4-Dioxane	2012/06/19	<2.0		ppbv	
			Xylene (Total)	2012/06/19	<0.60		ppbv	
		RPD - Sample/Sample Dup	2,2,4-Trimethylpentane	2012/06/19	NC		%	25
			Carbon Disulfide	2012/06/19	NC		%	25
			Propene	2012/06/19	NC		%	25
			Vinyl Acetate	2012/06/19	NC		%	25
			Vinyl Bromide	2012/06/19	NC		%	25
			Dichlorodifluoromethane (FREON 12)	2012/06/19	NC		%	25
			1,2-Dichlorotetrafluoroethane	2012/06/19	NC		%	25
			Chloromethane	2012/06/19	1.6		%	25
			Vinyl Chloride	2012/06/19	NC		%	25
			Chloroethane	2012/06/19	NC		%	25
			1,3-Butadiene	2012/06/19	NC		%	25
			Trichlorofluoromethane (FREON 11)	2012/06/19	NC		%	25
			Trichlorotrifluoroethane	2012/06/19	NC		%	25
			Ethanol (ethyl alcohol)	2012/06/19	NC		%	25
			2-propanol	2012/06/19	NC		%	25
			2-Propanone	2012/06/19	NC		%	25
			Methyl Ethyl Ketone (2-Butanone)	2012/06/19	NC		%	25
			Methyl Isobutyl Ketone	2012/06/19	NC		%	25
			Methyl Butyl Ketone (2-Hexanone)	2012/06/19	NC		%	25
			Methyl t-butyl ether (MTBE)	2012/06/19	NC		%	25
			Ethyl Acetate	2012/06/19	NC		%	25
			1,1-Dichloroethylene	2012/06/19	NC		%	25
			cis-1,2-Dichloroethylene	2012/06/19	NC		%	25
			trans-1,2-Dichloroethylene	2012/06/19	NC		%	25
			Methylene Chloride(Dichloromethane)	2012/06/19	NC		%	25
			Chloroform	2012/06/19	NC		%	25
			Carbon Tetrachloride	2012/06/19	NC		%	25
			1,1-Dichloroethane	2012/06/19	NC		%	25
			1,2-Dichloroethane	2012/06/19	NC		%	25

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

Maxxam Job Number: GB288661

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2885910	S_S	RPD - Sample/Sample Dup	Ethylene Dibromide	2012/06/19	NC		%	25
			1,1,1-Trichloroethane	2012/06/19	NC		%	25
			1,1,2-Trichloroethane	2012/06/19	NC		%	25
			1,1,2,2-Tetrachloroethane	2012/06/19	NC		%	25
			cis-1,3-Dichloropropene	2012/06/19	NC		%	25
			trans-1,3-Dichloropropene	2012/06/19	NC		%	25
			1,2-Dichloropropane	2012/06/19	NC		%	25
			Bromomethane	2012/06/19	NC		%	25
			Bromoform	2012/06/19	NC		%	25
			Bromodichloromethane	2012/06/19	NC		%	25
			Dibromochloromethane	2012/06/19	NC		%	25
			Heptane	2012/06/19	NC		%	25
			Trichloroethylene	2012/06/19	NC		%	25
			Tetrachloroethylene	2012/06/19	NC		%	25
			Benzene	2012/06/19	NC		%	25
			Toluene	2012/06/19	NC		%	25
			Ethylbenzene	2012/06/19	NC		%	25
			p+m-Xylene	2012/06/19	NC		%	25
			o-Xylene	2012/06/19	NC		%	25
			Styrene	2012/06/19	NC		%	25
			1,3,5-Trimethylbenzene	2012/06/19	NC		%	25
			1,2,4-Trimethylbenzene	2012/06/19	NC		%	25
			4-ethyltoluene	2012/06/19	NC		%	25
			Chlorobenzene	2012/06/19	NC		%	25
			Benzyl chloride	2012/06/19	NC		%	25
			1,3-Dichlorobenzene	2012/06/19	NC		%	25
			1,4-Dichlorobenzene	2012/06/19	NC		%	25
			1,2-Dichlorobenzene	2012/06/19	NC		%	25
			1,2,4-Trichlorobenzene	2012/06/19	NC		%	25
			Hexachlorobutadiene	2012/06/19	NC		%	25
			Hexane	2012/06/19	NC		%	25
			Cyclohexane	2012/06/19	NC		%	25
			Tetrahydrofuran	2012/06/19	NC		%	25
			1,4-Dioxane	2012/06/19	NC		%	25
			Xylene (Total)	2012/06/19	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.

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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 /Jun 14, 2012

Sampler s/n: 6167
Canister ID: 122
Canister Installation Date/Time: Jun 13, 2012 @ 7:29 mst
Canister Removal Date/Time: Jun 15, 2012 @ 7:23 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
14-Jun-12	06/14/2012 0:00	06/15/2012 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 # 12211

Technician Signiture: Ting Xu

Success Through Science®

Your C.O.C. #: 12211

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

Report Date: 2012/07/03

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B291033
Received: 2012/06/20, 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	2012/06/27	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2012/06/27	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 #: B291033
Report Date: 2012/07/03

RESULTS OF ANALYSES OF AIR

Maxxam ID		NW0026	NW0027	
Sampling Date		2012/06/14	2012/06/14	
COC Number		12211	12211	
	Units	**LICA VOC/CLS/JUN 14,12 - 122**	**LICA VOC/PORT/JUN 14,12 - 111**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	23	23	2894497

QC Batch = Quality Control Batch

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Maxxam Job #: B291033
Report Date: 2012/07/03

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NW0026			NW0027				
Sampling Date		2012/06/14			2012/06/14				
COC Number		12211			12211				
	Units	**LICA VOC/CLS/JUN 14,12 - 122**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 14,12 - 111**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics									
2,2,4-Trimethylpentane	ppbv	<0.20	<0.934	0.934	0.46	0.20	2.16	0.934	2895183
Carbon Disulfide	ppbv	0.79	2.45	1.56	<0.50	0.50	<1.56	1.56	2895183
Propene	ppbv	<0.30	<0.516	0.516	<0.30	0.30	<0.516	0.516	2895183
Vinyl Acetate	ppbv	<0.20	<0.704	0.704	<0.20	0.20	<0.704	0.704	2895183
Vinyl Bromide	ppbv	<0.20	<0.875	0.875	<0.20	0.20	<0.875	0.875	2895183
Dichlorodifluoromethane (FREON 12)	ppbv	0.69	3.43	0.989	0.64	0.20	3.17	0.989	2895183
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	<1.19	1.19	<0.17	0.17	<1.19	1.19	2895183
Chloromethane	ppbv	0.71	1.46	0.620	0.71	0.30	1.46	0.620	2895183
Vinyl Chloride	ppbv	<0.18	<0.460	0.460	<0.18	0.18	<0.460	0.460	2895183
Chloroethane	ppbv	<0.30	<0.792	0.792	<0.30	0.30	<0.792	0.792	2895183
1,3-Butadiene	ppbv	<0.50	<1.11	1.11	<0.50	0.50	<1.11	1.11	2895183
Trichlorofluoromethane (FREON 11)	ppbv	0.30	1.67	1.12	0.30	0.20	1.68	1.12	2895183
Trichlorotrifluoroethane	ppbv	<0.15	<1.15	1.15	<0.15	0.15	<1.15	1.15	2895183
Ethanol (ethyl alcohol)	ppbv	<2.3	<4.33	4.33	<2.3	2.3	<4.33	4.33	2895183
2-propanol	ppbv	<3.0	<7.37	7.37	<3.0	3.0	<7.37	7.37	2895183
2-Propanone	ppbv	4.35	10.3	1.90	3.77	0.80	8.95	1.90	2895183
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	<8.85	8.85	<3.0	3.0	<8.85	8.85	2895183
Methyl Isobutyl Ketone	ppbv	<3.2	<13.1	13.1	<3.2	3.2	<13.1	13.1	2895183
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	<8.19	8.19	<2.0	2.0	<8.19	8.19	2895183
Methyl t-butyl ether (MTBE)	ppbv	<0.20	<0.721	0.721	<0.20	0.20	<0.721	0.721	2895183
Ethyl Acetate	ppbv	<2.2	<7.93	7.93	<2.2	2.2	<7.93	7.93	2895183
1,1-Dichloroethylene	ppbv	<0.25	<0.991	0.991	<0.25	0.25	<0.991	0.991	2895183
cis-1,2-Dichloroethylene	ppbv	<0.19	<0.753	0.753	<0.19	0.19	<0.753	0.753	2895183
trans-1,2-Dichloroethylene	ppbv	<0.20	<0.793	0.793	<0.20	0.20	<0.793	0.793	2895183
Methylene Chloride(Dichloromethane)	ppbv	<0.80	<2.78	2.78	<0.80	0.80	<2.78	2.78	2895183
Chloroform	ppbv	<0.15	<0.732	0.732	<0.15	0.15	<0.732	0.732	2895183
Carbon Tetrachloride	ppbv	<0.30	<1.89	1.89	<0.30	0.30	<1.89	1.89	2895183
1,1-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2895183
1,2-Dichloroethane	ppbv	<0.20	<0.809	0.809	<0.20	0.20	<0.809	0.809	2895183
Ethylene Dibromide	ppbv	<0.17	<1.31	1.31	<0.17	0.17	<1.31	1.31	2895183
1,1,1-Trichloroethane	ppbv	<0.30	<1.64	1.64	<0.30	0.30	<1.64	1.64	2895183

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B291033
Report Date: 2012/07/03

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NW0026			NW0027				
Sampling Date		2012/06/14			2012/06/14				
COC Number		12211			12211				
	Units	**LICA VOC/CLS/JUN 14,12 - 122**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 14,12 - 111**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	<0.818	0.818	<0.15	0.15	<0.818	0.818	2895183
1,1,2,2-Tetrachloroethane	ppbv	<0.20	<1.37	1.37	<0.20	0.20	<1.37	1.37	2895183
cis-1,3-Dichloropropene	ppbv	<0.18	<0.817	0.817	<0.18	0.18	<0.817	0.817	2895183
trans-1,3-Dichloropropene	ppbv	<0.17	<0.772	0.772	<0.17	0.17	<0.772	0.772	2895183
1,2-Dichloropropane	ppbv	<0.40	<1.85	1.85	<0.40	0.40	<1.85	1.85	2895183
Bromomethane	ppbv	<0.18	<0.699	0.699	<0.18	0.18	<0.699	0.699	2895183
Bromoform	ppbv	<0.20	<2.07	2.07	<0.20	0.20	<2.07	2.07	2895183
Bromodichloromethane	ppbv	<0.20	<1.34	1.34	<0.20	0.20	<1.34	1.34	2895183
Dibromochloromethane	ppbv	<0.20	<1.70	1.70	<0.20	0.20	<1.70	1.70	2895183
Heptane	ppbv	<0.30	<1.23	1.23	<0.30	0.30	<1.23	1.23	2895183
Trichloroethylene	ppbv	<0.30	<1.61	1.61	<0.30	0.30	<1.61	1.61	2895183
Tetrachloroethylene	ppbv	<0.20	<1.36	1.36	<0.20	0.20	<1.36	1.36	2895183
Benzene	ppbv	<0.18	<0.575	0.575	<0.18	0.18	<0.575	0.575	2895183
Toluene	ppbv	<0.20	<0.753	0.753	0.21	0.20	0.789	0.753	2895183
Ethylbenzene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2895183
p+m-Xylene	ppbv	<0.37	<1.61	1.61	<0.37	0.37	<1.61	1.61	2895183
o-Xylene	ppbv	<0.20	<0.868	0.868	<0.20	0.20	<0.868	0.868	2895183
Styrene	ppbv	<0.20	<0.852	0.852	<0.20	0.20	<0.852	0.852	2895183
1,3,5-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2895183
1,2,4-Trimethylbenzene	ppbv	<0.50	<2.46	2.46	<0.50	0.50	<2.46	2.46	2895183
4-ethyltoluene	ppbv	<2.2	<10.8	10.8	<2.2	2.2	<10.8	10.8	2895183
Chlorobenzene	ppbv	<0.20	<0.921	0.921	<0.20	0.20	<0.921	0.921	2895183
Benzyl chloride	ppbv	<1.0	<5.18	5.18	<1.0	1.0	<5.18	5.18	2895183
1,3-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2895183
1,4-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2895183
1,2-Dichlorobenzene	ppbv	<0.40	<2.40	2.40	<0.40	0.40	<2.40	2.40	2895183
1,2,4-Trichlorobenzene	ppbv	<2.0	<14.8	14.8	<2.0	2.0	<14.8	14.8	2895183
Hexachlorobutadiene	ppbv	<3.0	<32.0	32.0	<3.0	3.0	<32.0	32.0	2895183
Hexane	ppbv	<0.30	<1.06	1.06	<0.30	0.30	<1.06	1.06	2895183
Cyclohexane	ppbv	<0.20	<0.688	0.688	<0.20	0.20	<0.688	0.688	2895183
Tetrahydrofuran	ppbv	<0.40	<1.18	1.18	<0.40	0.40	<1.18	1.18	2895183
1,4-Dioxane	ppbv	<2.0	<7.21	7.21	<2.0	2.0	<7.21	7.21	2895183
Xylene (Total)	ppbv	<0.60	<2.61	2.61	<0.60	0.60	<2.61	2.61	2895183

QC Batch = Quality Control Batch

Maxxam Analytics

Maxxam Job #: B291033
Report Date: 2012/07/03

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NW0026			NW0027				
Sampling Date		2012/06/14			2012/06/14				
COC Number		12211			12211				
	Units	**LICA VOC/CLS/JUN 14,12 - 122**	**ug/m3**	**DL (ug/m3)**	**LICA VOC/PORT/JUN 14,12 - 111**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)									
Bromochloromethane	%	91	N/A	N/A	77		N/A	N/A	2895183
D5-Chlorobenzene	%	82	N/A	N/A	72		N/A	N/A	2895183
Difluorobenzene	%	92	N/A	N/A	79		N/A	N/A	2895183

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

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Maxxam Job #: B291033
Report Date: 2012/07/03

Test Summary

Maxxam ID NW0026 **Collected** 2012/06/14
Sample ID LICA VOC/CLS/JUN 14,12 - 122 **Shipped**
Matrix AIR **Received** 2012/06/20

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2894497	N/A	2012/06/27	Diane Temniuk
Volatile Organics in Air (TO-15)	GC/MS	2895183	N/A	2012/06/27	Diane Temniuk

Maxxam ID NW0027 **Collected** 2012/06/14
Sample ID LICA VOC/PORT/JUN 14,12 - 111 **Shipped**
Matrix AIR **Received** 2012/06/20

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2894497	N/A	2012/06/27	Diane Temniuk
Volatile Organics in Air (TO-15)	GC/MS	2895183	N/A	2012/06/27	Diane Temniuk

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Maxxam Analytics

Maxxam Job #: B291033
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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: GB291033

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2895183	DVO	Spiked Blank	Bromochloromethane	2012/06/27		102	%	60 - 140
			D5-Chlorobenzene	2012/06/27		103	%	60 - 140
			Difluorobenzene	2012/06/27		107	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/27		114	%	70 - 130
			Carbon Disulfide	2012/06/27		109	%	70 - 130
			Propene	2012/06/27		112	%	70 - 130
			Vinyl Acetate	2012/06/27		125	%	70 - 130
			Vinyl Bromide	2012/06/27		111	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2012/06/27		101	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2012/06/27		127	%	70 - 130
			Chloromethane	2012/06/27		121	%	70 - 130
			Vinyl Chloride	2012/06/27		116	%	70 - 130
			Chloroethane	2012/06/27		118	%	70 - 130
			1,3-Butadiene	2012/06/27		130	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2012/06/27		97	%	70 - 130
			Trichlorotrifluoroethane	2012/06/27		101	%	70 - 130
			Ethanol (ethyl alcohol)	2012/06/27		103	%	70 - 130
			2-propanol	2012/06/27		117	%	70 - 130
			2-Propanone	2012/06/27		117	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2012/06/27		131 (1)	%	70 - 130
			Methyl Isobutyl Ketone	2012/06/27		123	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2012/06/27		125	%	70 - 130
			Methyl t-butyl ether (MTBE)	2012/06/27		106	%	70 - 130
			Ethyl Acetate	2012/06/27		119	%	70 - 130
			1,1-Dichloroethylene	2012/06/27		103	%	70 - 130
			cis-1,2-Dichloroethylene	2012/06/27		103	%	70 - 130
			trans-1,2-Dichloroethylene	2012/06/27		109	%	70 - 130
			Methylene Chloride(Dichloromethane)	2012/06/27		101	%	70 - 130
			Chloroform	2012/06/27		100	%	70 - 130
			Carbon Tetrachloride	2012/06/27		99	%	70 - 130
			1,1-Dichloroethane	2012/06/27		104	%	70 - 130
			1,2-Dichloroethane	2012/06/27		101	%	70 - 130
			Ethylene Dibromide	2012/06/27		106	%	70 - 130
			1,1,1-Trichloroethane	2012/06/27		98	%	70 - 130
			1,1,2-Trichloroethane	2012/06/27		105	%	70 - 130
			1,1,2,2-Tetrachloroethane	2012/06/27		114	%	70 - 130
			cis-1,3-Dichloropropene	2012/06/27		108	%	70 - 130
			trans-1,3-Dichloropropene	2012/06/27		109	%	70 - 130
			1,2-Dichloropropane	2012/06/27		104	%	70 - 130
			Bromomethane	2012/06/27		115	%	70 - 130
			Bromoform	2012/06/27		121	%	70 - 130
			Bromodichloromethane	2012/06/27		113	%	70 - 130
			Dibromochloromethane	2012/06/27		117	%	70 - 130
			Heptane	2012/06/27		115	%	70 - 130
			Trichloroethylene	2012/06/27		93	%	70 - 130
			Tetrachloroethylene	2012/06/27		105	%	70 - 130
			Benzene	2012/06/27		102	%	70 - 130
			Toluene	2012/06/27		105	%	70 - 130
			Ethylbenzene	2012/06/27		106	%	70 - 130
			p+m-Xylene	2012/06/27		106	%	70 - 130
			o-Xylene	2012/06/27		109	%	70 - 130
			Styrene	2012/06/27		91	%	70 - 130
			1,3,5-Trimethylbenzene	2012/06/27		108	%	70 - 130
			1,2,4-Trimethylbenzene	2012/06/27		106	%	70 - 130
			4-ethyltoluene	2012/06/27		116	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB291033

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2895183	DVO	Spiked Blank	Chlorobenzene	2012/06/27		99	%	70 - 130
			Benzyl chloride	2012/06/27		102	%	70 - 130
			1,3-Dichlorobenzene	2012/06/27		102	%	70 - 130
			1,4-Dichlorobenzene	2012/06/27		100	%	70 - 130
			1,2-Dichlorobenzene	2012/06/27		96	%	70 - 130
			1,2,4-Trichlorobenzene	2012/06/27		85	%	70 - 130
			Hexachlorobutadiene	2012/06/27		113	%	70 - 130
			Hexane	2012/06/27		110	%	70 - 130
			Cyclohexane	2012/06/27		112	%	70 - 130
			Tetrahydrofuran	2012/06/27		120	%	70 - 130
			1,4-Dioxane	2012/06/27		114	%	70 - 130
			Xylene (Total)	2012/06/27		107	%	70 - 130
		Method Blank	Bromochloromethane	2012/06/27		85	%	60 - 140
			D5-Chlorobenzene	2012/06/27		79	%	60 - 140
			Difluorobenzene	2012/06/27		88	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/27	<0.20		ppbv	
			Carbon Disulfide	2012/06/27	<0.50		ppbv	
			Propene	2012/06/27	<0.30		ppbv	
			Vinyl Acetate	2012/06/27	<0.20		ppbv	
			Vinyl Bromide	2012/06/27	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/06/27	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/06/27	<0.17		ppbv	
			Chloromethane	2012/06/27	<0.30		ppbv	
			Vinyl Chloride	2012/06/27	<0.18		ppbv	
			Chloroethane	2012/06/27	<0.30		ppbv	
			1,3-Butadiene	2012/06/27	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/06/27	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/06/27	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/06/27	<2.3		ppbv	
			2-propanol	2012/06/27	<3.0		ppbv	
			2-Propanone	2012/06/27	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/06/27	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/06/27	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/06/27	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/06/27	<0.20		ppbv	
			Ethyl Acetate	2012/06/27	<2.2		ppbv	
			1,1-Dichloroethylene	2012/06/27	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/06/27	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/06/27	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/06/27	<0.80		ppbv	
			Chloroform	2012/06/27	<0.15		ppbv	
			Carbon Tetrachloride	2012/06/27	<0.30		ppbv	
			1,1-Dichloroethane	2012/06/27	<0.20		ppbv	
			1,2-Dichloroethane	2012/06/27	<0.20		ppbv	
			Ethylene Dibromide	2012/06/27	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/06/27	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/06/27	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/06/27	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/06/27	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/06/27	<0.17		ppbv	
			1,2-Dichloropropane	2012/06/27	<0.40		ppbv	
			Bromomethane	2012/06/27	<0.18		ppbv	
			Bromoform	2012/06/27	<0.20		ppbv	
			Bromodichloromethane	2012/06/27	<0.20		ppbv	
			Dibromochloromethane	2012/06/27	<0.20		ppbv	

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Attention: Michael Bisaga
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Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: GB291033

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2895183	DVO	Method Blank	Heptane	2012/06/27	<0.30		ppbv	
			Trichloroethylene	2012/06/27	<0.30		ppbv	
			Tetrachloroethylene	2012/06/27	<0.20		ppbv	
			Benzene	2012/06/27	<0.18		ppbv	
			Toluene	2012/06/27	<0.20		ppbv	
			Ethylbenzene	2012/06/27	<0.20		ppbv	
			p+m-Xylene	2012/06/27	<0.37		ppbv	
			o-Xylene	2012/06/27	<0.20		ppbv	
			Styrene	2012/06/27	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/06/27	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/06/27	<0.50		ppbv	
			4-ethyltoluene	2012/06/27	<2.2		ppbv	
			Chlorobenzene	2012/06/27	<0.20		ppbv	
			Benzyl chloride	2012/06/27	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/06/27	<2.0		ppbv	
			Hexachlorobutadiene	2012/06/27	<3.0		ppbv	
			Hexane	2012/06/27	<0.30		ppbv	
			Cyclohexane	2012/06/27	<0.20		ppbv	
			Tetrahydrofuran	2012/06/27	<0.40		ppbv	
			1,4-Dioxane	2012/06/27	<2.0		ppbv	
			Xylene (Total)	2012/06/27	<0.60		ppbv	

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

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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 /Jun 20, 2012

Sampler s/n: 6167
Canister ID: 280
Canister Installation Date/Time: Jun 19, 2012 @ 8:40 mst
Canister Removal Date/Time: Jun 21, 2012 @ 7:24 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
20-Jun-12	06/20/2012 0:00	06/21/2012 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 # 12274

Technician Signiture: Ting Xu

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Your C.O.C. #: i2274

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

Report Date: 2012/07/04

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B293865
Received: 2012/06/25, 10:24

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2012/06/27	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2012/06/27	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 #: B293865
Report Date: 2012/07/04

RESULTS OF ANALYSES OF AIR

Maxxam ID		NX2990	NX2991	
Sampling Date		2012/06/20	2012/06/20	
COC Number		i2274	i2274	
	Units	**LICAVOC/CLS/JUN20,12/280**	**LICAVOC/PORT/JUN20,12/136**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	23	22	2893815

QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2990				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/CLS/JUN20,12/280**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2893985
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2893985
Propene	ppbv	<0.30	0.30	<0.516	0.516	2893985
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2893985
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2893985
Dichlorodifluoromethane (FREON 12)	ppbv	0.65	0.20	3.22	0.989	2893985
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2893985
Chloromethane	ppbv	0.46	0.30	0.949	0.620	2893985
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2893985
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2893985
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2893985
Trichlorofluoromethane (FREON 11)	ppbv	0.31	0.20	1.72	1.12	2893985
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2893985
Ethanol (ethyl alcohol)	ppbv	<2.3	2.3	<4.33	4.33	2893985
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2893985
2-Propanone	ppbv	3.70	0.80	8.78	1.90	2893985
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2893985
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2893985
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2893985
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2893985
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2893985
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2893985
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2893985
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2893985
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2893985
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2893985
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2893985
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2893985
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2893985
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2893985
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2893985
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2893985

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2990				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/CLS/JUN20,12/280**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2893985
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2893985
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2893985
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2893985
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2893985
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2893985
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2893985
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2893985
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2893985
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2893985
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2893985
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2893985
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2893985
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2893985
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2893985
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2893985
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2893985
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2893985
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2893985
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2893985
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2893985
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2893985
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2893985
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2893985
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2893985
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2893985
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2893985
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2893985
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2893985
Surrogate Recovery (%)						
Bromochloromethane	%	86		N/A	N/A	2893985

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

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Maxxam Analytics

Maxxam Job #: B293865
Report Date: 2012/07/04

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2990				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/CLS/JUN20,12/280**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	87		N/A	N/A	2893985
Difluorobenzene	%	87		N/A	N/A	2893985

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

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2991				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/PORT/JUN20,12/136**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2893985
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2893985
Propene	ppbv	<0.30	0.30	<0.516	0.516	2893985
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2893985
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2893985
Dichlorodifluoromethane (FREON 12)	ppbv	0.63	0.20	3.13	0.989	2893985
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2893985
Chloromethane	ppbv	0.46	0.30	0.946	0.620	2893985
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2893985
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2893985
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2893985
Trichlorofluoromethane (FREON 11)	ppbv	0.32	0.20	1.78	1.12	2893985
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2893985
Ethanol (ethyl alcohol)	ppbv	<2.3	2.3	<4.33	4.33	2893985
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2893985
2-Propanone	ppbv	2.91	0.80	6.90	1.90	2893985
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2893985
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2893985
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2893985
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2893985
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2893985
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2893985
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2893985
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2893985
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2893985
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2893985
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2893985
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2893985
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2893985
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2893985
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2893985
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2893985

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2991				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/PORT/JUN20,12/136**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2893985
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2893985
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2893985
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2893985
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2893985
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2893985
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2893985
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2893985
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2893985
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2893985
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2893985
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2893985
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2893985
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2893985
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2893985
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2893985
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2893985
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2893985
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2893985
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2893985
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2893985
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2893985
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2893985
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2893985
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2893985
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2893985
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2893985
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2893985
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2893985
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2893985
Surrogate Recovery (%)						
Bromochloromethane	%	84		N/A	N/A	2893985

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

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Maxxam Analytics

Maxxam Job #: B293865
Report Date: 2012/07/04

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NX2991				
Sampling Date		2012/06/20				
COC Number		i2274				
	Units	**LICAVOC/PORT/JUN20,12/136**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
D5-Chlorobenzene	%	85		N/A	N/A	2893985
Difluorobenzene	%	85		N/A	N/A	2893985

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

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Maxxam Analytics

Maxxam Job #: B293865
Report Date: 2012/07/04

Test Summary

Maxxam ID NX2990 **Collected** 2012/06/20
Sample ID LICAVOC/CLS/JUN20,12/280 **Shipped**
Matrix AIR **Received** 2012/06/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2893815	N/A	2012/06/27	Spomenka Smiljanic
Volatile Organics in Air (TO-15)	GC/MS	2893985	N/A	2012/06/27	Spomenka Smiljanic

Maxxam ID NX2991 **Collected** 2012/06/20
Sample ID LICAVOC/PORT/JUN20,12/136 **Shipped**
Matrix AIR **Received** 2012/06/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2893815	N/A	2012/06/27	Spomenka Smiljanic
Volatile Organics in Air (TO-15)	GC/MS	2893985	N/A	2012/06/27	Spomenka Smiljanic

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Maxxam Analytics

Maxxam Job #: B293865
Report Date: 2012/07/04

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: GB293865

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2893985 S_S	Spiked Blank	Bromochloromethane	2012/06/27		101	%	60 - 140
		D5-Chlorobenzene	2012/06/27		102	%	60 - 140
		Difluorobenzene	2012/06/27		102	%	60 - 140
		2,2,4-Trimethylpentane	2012/06/27		88	%	70 - 130
		Carbon Disulfide	2012/06/27		94	%	70 - 130
		Propene	2012/06/27		81	%	70 - 130
		Vinyl Acetate	2012/06/27		90	%	70 - 130
		Vinyl Bromide	2012/06/27		91	%	70 - 130
		Dichlorodifluoromethane (FREON 12)	2012/06/27		89	%	70 - 130
		1,2-Dichlorotetrafluoroethane	2012/06/27		95	%	70 - 130
		Chloromethane	2012/06/27		82	%	70 - 130
		Vinyl Chloride	2012/06/27		81	%	70 - 130
		Chloroethane	2012/06/27		80	%	70 - 130
		1,3-Butadiene	2012/06/27		84	%	70 - 130
		Trichlorofluoromethane (FREON 11)	2012/06/27		87	%	70 - 130
		Trichlorotrifluoroethane	2012/06/27		89	%	70 - 130
		Ethanol (ethyl alcohol)	2012/06/27		82	%	70 - 130
		2-propanol	2012/06/27		89	%	70 - 130
		2-Propanone	2012/06/27		104	%	70 - 130
		Methyl Ethyl Ketone (2-Butanone)	2012/06/27		79	%	70 - 130
		Methyl Isobutyl Ketone	2012/06/27		86	%	70 - 130
		Methyl Butyl Ketone (2-Hexanone)	2012/06/27		89	%	70 - 130
		Methyl t-butyl ether (MTBE)	2012/06/27		91	%	70 - 130
		Ethyl Acetate	2012/06/27		89	%	70 - 130
		1,1-Dichloroethylene	2012/06/27		87	%	70 - 130
		cis-1,2-Dichloroethylene	2012/06/27		86	%	70 - 130
		trans-1,2-Dichloroethylene	2012/06/27		89	%	70 - 130
		Methylene Chloride(Dichloromethane)	2012/06/27		77	%	70 - 130
		Chloroform	2012/06/27		86	%	70 - 130
		Carbon Tetrachloride	2012/06/27		94	%	70 - 130
		1,1-Dichloroethane	2012/06/27		82	%	70 - 130
		1,2-Dichloroethane	2012/06/27		88	%	70 - 130
		Ethylene Dibromide	2012/06/27		90	%	70 - 130
		1,1,1-Trichloroethane	2012/06/27		90	%	70 - 130
		1,1,2-Trichloroethane	2012/06/27		87	%	70 - 130
		1,1,2,2-Tetrachloroethane	2012/06/27		91	%	70 - 130
		cis-1,3-Dichloropropene	2012/06/27		94	%	70 - 130
		trans-1,3-Dichloropropene	2012/06/27		99	%	70 - 130
		1,2-Dichloropropane	2012/06/27		84	%	70 - 130
		Bromomethane	2012/06/27		83	%	70 - 130
		Bromoform	2012/06/27		98	%	70 - 130
		Bromodichloromethane	2012/06/27		93	%	70 - 130
		Dibromochloromethane	2012/06/27		97	%	70 - 130
		Heptane	2012/06/27		81	%	70 - 130
		Trichloroethylene	2012/06/27		82	%	70 - 130
		Tetrachloroethylene	2012/06/27		88	%	70 - 130
		Benzene	2012/06/27		84	%	70 - 130
		Toluene	2012/06/27		85	%	70 - 130
		Ethylbenzene	2012/06/27		88	%	70 - 130
		p+m-Xylene	2012/06/27		86	%	70 - 130
		o-Xylene	2012/06/27		85	%	70 - 130
		Styrene	2012/06/27		75	%	70 - 130
		1,3,5-Trimethylbenzene	2012/06/27		87	%	70 - 130
		1,2,4-Trimethylbenzene	2012/06/27		89	%	70 - 130
		4-ethyltoluene	2012/06/27		89	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB293865

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2893985	S_S	Spiked Blank	Chlorobenzene	2012/06/27		87	%	70 - 130
			Benzyl chloride	2012/06/27		101	%	70 - 130
			1,3-Dichlorobenzene	2012/06/27		88	%	70 - 130
			1,4-Dichlorobenzene	2012/06/27		84	%	70 - 130
			1,2-Dichlorobenzene	2012/06/27		86	%	70 - 130
			1,2,4-Trichlorobenzene	2012/06/27		101	%	70 - 130
			Hexachlorobutadiene	2012/06/27		98	%	70 - 130
			Hexane	2012/06/27		85	%	70 - 130
			Cyclohexane	2012/06/27		84	%	70 - 130
			Tetrahydrofuran	2012/06/27		87	%	70 - 130
			1,4-Dioxane	2012/06/27		102	%	70 - 130
			Xylene (Total)	2012/06/27		85	%	70 - 130
		Method Blank	Bromochloromethane	2012/06/27		92	%	60 - 140
			D5-Chlorobenzene	2012/06/27		91	%	60 - 140
			Difluorobenzene	2012/06/27		93	%	60 - 140
			2,2,4-Trimethylpentane	2012/06/27	<0.20		ppbv	
			Carbon Disulfide	2012/06/27	<0.50		ppbv	
			Propene	2012/06/27	<0.30		ppbv	
			Vinyl Acetate	2012/06/27	<0.20		ppbv	
			Vinyl Bromide	2012/06/27	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/06/27	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/06/27	<0.17		ppbv	
			Chloromethane	2012/06/27	<0.30		ppbv	
			Vinyl Chloride	2012/06/27	<0.18		ppbv	
			Chloroethane	2012/06/27	<0.30		ppbv	
			1,3-Butadiene	2012/06/27	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/06/27	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/06/27	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/06/27	<2.3		ppbv	
			2-propanol	2012/06/27	<3.0		ppbv	
			2-Propanone	2012/06/27	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/06/27	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/06/27	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/06/27	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/06/27	<0.20		ppbv	
			Ethyl Acetate	2012/06/27	<2.2		ppbv	
			1,1-Dichloroethylene	2012/06/27	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/06/27	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/06/27	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/06/27	<0.80		ppbv	
			Chloroform	2012/06/27	<0.15		ppbv	
			Carbon Tetrachloride	2012/06/27	<0.30		ppbv	
			1,1-Dichloroethane	2012/06/27	<0.20		ppbv	
			1,2-Dichloroethane	2012/06/27	<0.20		ppbv	
			Ethylene Dibromide	2012/06/27	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/06/27	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/06/27	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/06/27	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/06/27	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/06/27	<0.17		ppbv	
			1,2-Dichloropropane	2012/06/27	<0.40		ppbv	
			Bromomethane	2012/06/27	<0.18		ppbv	
			Bromoform	2012/06/27	<0.20		ppbv	
			Bromodichloromethane	2012/06/27	<0.20		ppbv	
			Dibromochloromethane	2012/06/27	<0.20		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB293865

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2893985	S_S	Method Blank	Heptane	2012/06/27	<0.30		ppbv	
			Trichloroethylene	2012/06/27	<0.30		ppbv	
			Tetrachloroethylene	2012/06/27	<0.20		ppbv	
			Benzene	2012/06/27	<0.18		ppbv	
			Toluene	2012/06/27	<0.20		ppbv	
			Ethylbenzene	2012/06/27	<0.20		ppbv	
			p+m-Xylene	2012/06/27	<0.37		ppbv	
			o-Xylene	2012/06/27	<0.20		ppbv	
			Styrene	2012/06/27	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/06/27	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/06/27	<0.50		ppbv	
			4-ethyltoluene	2012/06/27	<2.2		ppbv	
			Chlorobenzene	2012/06/27	<0.20		ppbv	
			Benzyl chloride	2012/06/27	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/06/27	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/06/27	<2.0		ppbv	
			Hexachlorobutadiene	2012/06/27	<3.0		ppbv	
			Hexane	2012/06/27	<0.30		ppbv	
			Cyclohexane	2012/06/27	<0.20		ppbv	
			Tetrahydrofuran	2012/06/27	<0.40		ppbv	
			1,4-Dioxane	2012/06/27	<2.0		ppbv	
			Xylene (Total)	2012/06/27	<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.

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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 /Jun 26, 2012

Sampler s/n: 6167
Canister ID: 7793
Canister Installation Date/Time: Jun 25, 2012 @ 7:29 mst
Canister Removal Date/Time: Jun 28, 2012 @ 6:16 mst

Date and Time Information			
Sample Date	Start Time (MST)	End Time (MST)	Elapsed Time (Hours)
26-Jun-12	06/26/2012 0:00	06/27/2012 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)
-27	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 # 12319

Technician Signiture: Ting Xu

Maxxam

Success Through Science®

Your C.O.C. #: 12319

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

Report Date: 2012/07/05

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B298270
Received: 2012/07/03, 08:45

Sample Matrix: AIR
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Canister Pressure (TO-15)	2	N/A	2012/07/03	BRL SOP-00304	EPA TO-15
Volatile Organics in Air (TO-15) (1)	2	N/A	2012/07/03	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 #: B298270
Report Date: 2012/07/05

RESULTS OF ANALYSES OF AIR

Maxxam ID		NZ5217	NZ5218	
Sampling Date		2012/06/26	2012/06/26	
COC Number		12319	12319	
	Units	**LICA VOC/CLS/JUNE 26,12 - 7793**	**LICA VOC/PORT/JUNE 26,12 - 7807**	**QC Batch**
Volatile Organics				
Pressure on Receipt	psig	23	21	2897991

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5217				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/CLS/JUNE 26,12 - 7793**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2897984
Carbon Disulfide	ppbv	0.81	0.50	2.51	1.56	2897984
Propene	ppbv	<0.30	0.30	<0.516	0.516	2897984
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2897984
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2897984
Dichlorodifluoromethane (FREON 12)	ppbv	0.70	0.20	3.46	0.989	2897984
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2897984
Chloromethane	ppbv	0.61	0.30	1.26	0.620	2897984
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2897984
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2897984
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2897984
Trichlorofluoromethane (FREON 11)	ppbv	0.33	0.20	1.85	1.12	2897984
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2897984
Ethanol (ethyl alcohol)	ppbv	2.3	2.3	4.38	4.33	2897984
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2897984
2-Propanone	ppbv	6.85	0.80	16.3	1.90	2897984
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2897984
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2897984
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2897984
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2897984
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2897984
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2897984
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2897984
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2897984
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2897984
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2897984
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2897984
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2897984
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2897984
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2897984
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2897984

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5217				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/CLS/JUNE 26,12 - 7793**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2897984
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2897984
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2897984
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2897984
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2897984
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2897984
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2897984
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2897984
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2897984
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2897984
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2897984
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2897984
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2897984
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2897984
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2897984
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2897984
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2897984
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2897984
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2897984
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2897984
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2897984
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2897984
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2897984
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2897984
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2897984
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2897984
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2897984
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2897984
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2897984
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2897984

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5217				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/CLS/JUNE 26,12 - 7793**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)						
Bromochloromethane	%	99		N/A	N/A	2897984
D5-Chlorobenzene	%	94		N/A	N/A	2897984
Difluorobenzene	%	102		N/A	N/A	2897984

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

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5218				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/PORT/JUNE 26,12 - 7807**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Volatile Organics						
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.934	0.934	2897984
Carbon Disulfide	ppbv	<0.50	0.50	<1.56	1.56	2897984
Propene	ppbv	<0.30	0.30	<0.516	0.516	2897984
Vinyl Acetate	ppbv	<0.20	0.20	<0.704	0.704	2897984
Vinyl Bromide	ppbv	<0.20	0.20	<0.875	0.875	2897984
Dichlorodifluoromethane (FREON 12)	ppbv	0.72	0.20	3.58	0.989	2897984
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<1.19	1.19	2897984
Chloromethane	ppbv	0.61	0.30	1.26	0.620	2897984
Vinyl Chloride	ppbv	<0.18	0.18	<0.460	0.460	2897984
Chloroethane	ppbv	<0.30	0.30	<0.792	0.792	2897984
1,3-Butadiene	ppbv	<0.50	0.50	<1.11	1.11	2897984
Trichlorofluoromethane (FREON 11)	ppbv	0.34	0.20	1.91	1.12	2897984
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<1.15	1.15	2897984
Ethanol (ethyl alcohol)	ppbv	<2.3	2.3	<4.33	4.33	2897984
2-propanol	ppbv	<3.0	3.0	<7.37	7.37	2897984
2-Propanone	ppbv	5.89	0.80	14.0	1.90	2897984
Methyl Ethyl Ketone (2-Butanone)	ppbv	<3.0	3.0	<8.85	8.85	2897984
Methyl Isobutyl Ketone	ppbv	<3.2	3.2	<13.1	13.1	2897984
Methyl Butyl Ketone (2-Hexanone)	ppbv	<2.0	2.0	<8.19	8.19	2897984
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.721	0.721	2897984
Ethyl Acetate	ppbv	<2.2	2.2	<7.93	7.93	2897984
1,1-Dichloroethylene	ppbv	<0.25	0.25	<0.991	0.991	2897984
cis-1,2-Dichloroethylene	ppbv	<0.19	0.19	<0.753	0.753	2897984
trans-1,2-Dichloroethylene	ppbv	<0.20	0.20	<0.793	0.793	2897984
Methylene Chloride(Dichloromethane)	ppbv	<0.80	0.80	<2.78	2.78	2897984
Chloroform	ppbv	<0.15	0.15	<0.732	0.732	2897984
Carbon Tetrachloride	ppbv	<0.30	0.30	<1.89	1.89	2897984
1,1-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2897984
1,2-Dichloroethane	ppbv	<0.20	0.20	<0.809	0.809	2897984
Ethylene Dibromide	ppbv	<0.17	0.17	<1.31	1.31	2897984
1,1,1-Trichloroethane	ppbv	<0.30	0.30	<1.64	1.64	2897984

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5218				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/PORT/JUNE 26,12 - 7807**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
1,1,2-Trichloroethane	ppbv	<0.15	0.15	<0.818	0.818	2897984
1,1,2,2-Tetrachloroethane	ppbv	<0.20	0.20	<1.37	1.37	2897984
cis-1,3-Dichloropropene	ppbv	<0.18	0.18	<0.817	0.817	2897984
trans-1,3-Dichloropropene	ppbv	<0.17	0.17	<0.772	0.772	2897984
1,2-Dichloropropane	ppbv	<0.40	0.40	<1.85	1.85	2897984
Bromomethane	ppbv	<0.18	0.18	<0.699	0.699	2897984
Bromoform	ppbv	<0.20	0.20	<2.07	2.07	2897984
Bromodichloromethane	ppbv	<0.20	0.20	<1.34	1.34	2897984
Dibromochloromethane	ppbv	<0.20	0.20	<1.70	1.70	2897984
Heptane	ppbv	<0.30	0.30	<1.23	1.23	2897984
Trichloroethylene	ppbv	<0.30	0.30	<1.61	1.61	2897984
Tetrachloroethylene	ppbv	<0.20	0.20	<1.36	1.36	2897984
Benzene	ppbv	<0.18	0.18	<0.575	0.575	2897984
Toluene	ppbv	<0.20	0.20	<0.753	0.753	2897984
Ethylbenzene	ppbv	<0.20	0.20	<0.868	0.868	2897984
p+m-Xylene	ppbv	<0.37	0.37	<1.61	1.61	2897984
o-Xylene	ppbv	<0.20	0.20	<0.868	0.868	2897984
Styrene	ppbv	<0.20	0.20	<0.852	0.852	2897984
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2897984
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<2.46	2.46	2897984
4-ethyltoluene	ppbv	<2.2	2.2	<10.8	10.8	2897984
Chlorobenzene	ppbv	<0.20	0.20	<0.921	0.921	2897984
Benzyl chloride	ppbv	<1.0	1.0	<5.18	5.18	2897984
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,4-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,2-Dichlorobenzene	ppbv	<0.40	0.40	<2.40	2.40	2897984
1,2,4-Trichlorobenzene	ppbv	<2.0	2.0	<14.8	14.8	2897984
Hexachlorobutadiene	ppbv	<3.0	3.0	<32.0	32.0	2897984
Hexane	ppbv	<0.30	0.30	<1.06	1.06	2897984
Cyclohexane	ppbv	<0.20	0.20	<0.688	0.688	2897984
Tetrahydrofuran	ppbv	<0.40	0.40	<1.18	1.18	2897984
1,4-Dioxane	ppbv	<2.0	2.0	<7.21	7.21	2897984
Xylene (Total)	ppbv	<0.60	0.60	<2.61	2.61	2897984

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

VOLATILE ORGANICS BY GC/MS (AIR)

Maxxam ID		NZ5218				
Sampling Date		2012/06/26				
COC Number		12319				
	Units	**LICA VOC/PORT/JUNE 26,12 - 7807**	**RDL**	**ug/m3**	**DL (ug/m3)**	**QC Batch**
Surrogate Recovery (%)						
Bromochloromethane	%	93		N/A	N/A	2897984
D5-Chlorobenzene	%	89		N/A	N/A	2897984
Difluorobenzene	%	96		N/A	N/A	2897984

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

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

Test Summary

Maxxam ID NZ5217 **Collected** 2012/06/26
Sample ID LICA VOC/CLS/JUNE 26,12 - 7793 **Shipped**
Matrix AIR **Received** 2012/07/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2897991	N/A	2012/07/03	Spomenka Smiljanic
Volatile Organics in Air (TO-15)	GC/MS	2897984	N/A	2012/07/03	Spomenka Smiljanic

Maxxam ID NZ5218 **Collected** 2012/06/26
Sample ID LICA VOC/PORT/JUNE 26,12 - 7807 **Shipped**
Matrix AIR **Received** 2012/07/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Canister Pressure (TO-15)	PRES	2897991	N/A	2012/07/03	Spomenka Smiljanic
Volatile Organics in Air (TO-15)	GC/MS	2897984	N/A	2012/07/03	Spomenka Smiljanic

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Maxxam Analytics

Maxxam Job #: B298270
Report Date: 2012/07/05

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: GB298270

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2897984	S_S	Spiked Blank	Bromochloromethane	2012/07/03		108	%	60 - 140
			D5-Chlorobenzene	2012/07/03		104	%	60 - 140
			Difluorobenzene	2012/07/03		113	%	60 - 140
			2,2,4-Trimethylpentane	2012/07/03		108	%	70 - 130
			Carbon Disulfide	2012/07/03		114	%	70 - 130
			Propene	2012/07/03		105	%	70 - 130
			Vinyl Acetate	2012/07/03		118	%	70 - 130
			Vinyl Bromide	2012/07/03		109	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2012/07/03		104	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2012/07/03		118	%	70 - 130
			Chloromethane	2012/07/03		107	%	70 - 130
			Vinyl Chloride	2012/07/03		105	%	70 - 130
			Chloroethane	2012/07/03		103	%	70 - 130
			1,3-Butadiene	2012/07/03		110	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2012/07/03		99	%	70 - 130
			Trichlorotrifluoroethane	2012/07/03		103	%	70 - 130
			Ethanol (ethyl alcohol)	2012/07/03		116	%	70 - 130
			2-propanol	2012/07/03		115	%	70 - 130
			2-Propanone	2012/07/03		140 (1)	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2012/07/03		104	%	70 - 130
			Methyl Isobutyl Ketone	2012/07/03		109	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2012/07/03		114	%	70 - 130
			Methyl t-butyl ether (MTBE)	2012/07/03		109	%	70 - 130
			Ethyl Acetate	2012/07/03		115	%	70 - 130
			1,1-Dichloroethylene	2012/07/03		107	%	70 - 130
			cis-1,2-Dichloroethylene	2012/07/03		106	%	70 - 130
			trans-1,2-Dichloroethylene	2012/07/03		111	%	70 - 130
			Methylene Chloride(Dichloromethane)	2012/07/03		100	%	70 - 130
			Chloroform	2012/07/03		102	%	70 - 130
			Carbon Tetrachloride	2012/07/03		109	%	70 - 130
			1,1-Dichloroethane	2012/07/03		103	%	70 - 130
			1,2-Dichloroethane	2012/07/03		109	%	70 - 130
			Ethylene Dibromide	2012/07/03		101	%	70 - 130
			1,1,1-Trichloroethane	2012/07/03		105	%	70 - 130
			1,1,2-Trichloroethane	2012/07/03		97	%	70 - 130
			1,1,2,2-Tetrachloroethane	2012/07/03		106	%	70 - 130
			cis-1,3-Dichloropropene	2012/07/03		111	%	70 - 130
			trans-1,3-Dichloropropene	2012/07/03		119	%	70 - 130
			1,2-Dichloropropane	2012/07/03		101	%	70 - 130
			Bromomethane	2012/07/03		103	%	70 - 130
			Bromoform	2012/07/03		110	%	70 - 130
			Bromodichloromethane	2012/07/03		113	%	70 - 130
			Dibromochloromethane	2012/07/03		111	%	70 - 130
			Heptane	2012/07/03		105	%	70 - 130
			Trichloroethylene	2012/07/03		88	%	70 - 130
			Tetrachloroethylene	2012/07/03		94	%	70 - 130
			Benzene	2012/07/03		98	%	70 - 130
			Toluene	2012/07/03		97	%	70 - 130
			Ethylbenzene	2012/07/03		100	%	70 - 130
			p+m-Xylene	2012/07/03		98	%	70 - 130
			o-Xylene	2012/07/03		97	%	70 - 130
			Styrene	2012/07/03		82	%	70 - 130
			1,3,5-Trimethylbenzene	2012/07/03		97	%	70 - 130
			1,2,4-Trimethylbenzene	2012/07/03		98	%	70 - 130
			4-ethyltoluene	2012/07/03		102	%	70 - 130

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB298270

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2897984	S_S	Spiked Blank	Chlorobenzene	2012/07/03		97	%	70 - 130
			Benzyl chloride	2012/07/03		118	%	70 - 130
			1,3-Dichlorobenzene	2012/07/03		93	%	70 - 130
			1,4-Dichlorobenzene	2012/07/03		91	%	70 - 130
			1,2-Dichlorobenzene	2012/07/03		91	%	70 - 130
			1,2,4-Trichlorobenzene	2012/07/03		111	%	70 - 130
			Hexachlorobutadiene	2012/07/03		108	%	70 - 130
			Hexane	2012/07/03		108	%	70 - 130
			Cyclohexane	2012/07/03		105	%	70 - 130
			Tetrahydrofuran	2012/07/03		113	%	70 - 130
			1,4-Dioxane	2012/07/03		116	%	70 - 130
			Xylene (Total)	2012/07/03		98	%	70 - 130
		Method Blank	Bromochloromethane	2012/07/03		103	%	60 - 140
			D5-Chlorobenzene	2012/07/03		96	%	60 - 140
			Difluorobenzene	2012/07/03		107	%	60 - 140
			2,2,4-Trimethylpentane	2012/07/03	<0.20		ppbv	
			Carbon Disulfide	2012/07/03	<0.50		ppbv	
			Propene	2012/07/03	<0.30		ppbv	
			Vinyl Acetate	2012/07/03	<0.20		ppbv	
			Vinyl Bromide	2012/07/03	<0.20		ppbv	
			Dichlorodifluoromethane (FREON 12)	2012/07/03	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2012/07/03	<0.17		ppbv	
			Chloromethane	2012/07/03	<0.30		ppbv	
			Vinyl Chloride	2012/07/03	<0.18		ppbv	
			Chloroethane	2012/07/03	<0.30		ppbv	
			1,3-Butadiene	2012/07/03	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2012/07/03	<0.20		ppbv	
			Trichlorotrifluoroethane	2012/07/03	<0.15		ppbv	
			Ethanol (ethyl alcohol)	2012/07/03	<2.3		ppbv	
			2-propanol	2012/07/03	<3.0		ppbv	
			2-Propanone	2012/07/03	<0.80		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2012/07/03	<3.0		ppbv	
			Methyl Isobutyl Ketone	2012/07/03	<3.2		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2012/07/03	<2.0		ppbv	
			Methyl t-butyl ether (MTBE)	2012/07/03	<0.20		ppbv	
			Ethyl Acetate	2012/07/03	<2.2		ppbv	
			1,1-Dichloroethylene	2012/07/03	<0.25		ppbv	
			cis-1,2-Dichloroethylene	2012/07/03	<0.19		ppbv	
			trans-1,2-Dichloroethylene	2012/07/03	<0.20		ppbv	
			Methylene Chloride(Dichloromethane)	2012/07/03	<0.80		ppbv	
			Chloroform	2012/07/03	<0.15		ppbv	
			Carbon Tetrachloride	2012/07/03	<0.30		ppbv	
			1,1-Dichloroethane	2012/07/03	<0.20		ppbv	
			1,2-Dichloroethane	2012/07/03	<0.20		ppbv	
			Ethylene Dibromide	2012/07/03	<0.17		ppbv	
			1,1,1-Trichloroethane	2012/07/03	<0.30		ppbv	
			1,1,2-Trichloroethane	2012/07/03	<0.15		ppbv	
			1,1,2,2-Tetrachloroethane	2012/07/03	<0.20		ppbv	
			cis-1,3-Dichloropropene	2012/07/03	<0.18		ppbv	
			trans-1,3-Dichloropropene	2012/07/03	<0.17		ppbv	
			1,2-Dichloropropane	2012/07/03	<0.40		ppbv	
			Bromomethane	2012/07/03	<0.18		ppbv	
			Bromoform	2012/07/03	<0.20		ppbv	
			Bromodichloromethane	2012/07/03	<0.20		ppbv	
			Dibromochloromethane	2012/07/03	<0.20		ppbv	

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB298270

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2897984	S_S	Method Blank	Heptane	2012/07/03	<0.30		ppbv	
			Trichloroethylene	2012/07/03	<0.30		ppbv	
			Tetrachloroethylene	2012/07/03	<0.20		ppbv	
			Benzene	2012/07/03	<0.18		ppbv	
			Toluene	2012/07/03	<0.20		ppbv	
			Ethylbenzene	2012/07/03	<0.20		ppbv	
			p+m-Xylene	2012/07/03	<0.37		ppbv	
			o-Xylene	2012/07/03	<0.20		ppbv	
			Styrene	2012/07/03	<0.20		ppbv	
			1,3,5-Trimethylbenzene	2012/07/03	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2012/07/03	<0.50		ppbv	
			4-ethyltoluene	2012/07/03	<2.2		ppbv	
			Chlorobenzene	2012/07/03	<0.20		ppbv	
			Benzyl chloride	2012/07/03	<1.0		ppbv	
			1,3-Dichlorobenzene	2012/07/03	<0.40		ppbv	
			1,4-Dichlorobenzene	2012/07/03	<0.40		ppbv	
			1,2-Dichlorobenzene	2012/07/03	<0.40		ppbv	
			1,2,4-Trichlorobenzene	2012/07/03	<2.0		ppbv	
			Hexachlorobutadiene	2012/07/03	<3.0		ppbv	
			Hexane	2012/07/03	<0.30		ppbv	
			Cyclohexane	2012/07/03	<0.20		ppbv	
			Tetrahydrofuran	2012/07/03	<0.40		ppbv	
			1,4-Dioxane	2012/07/03	<2.0		ppbv	
			Xylene (Total)	2012/07/03	<0.60		ppbv	

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

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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/Jun 02, 2012

Puf+ s/n: 100-1020
Motor s/n: 1138
Installation Date/Time: Jun 01, 2012 @ 9:00 mst
Removal Date/Time: Jun 05, 2012 @ 8:01 mst

Date and Time Information			
Sample Date	Start Time (MST)	Finish Time (MST)	Elapsed Time (Hours)
02-Jun-12	06/02/2012 0:00	06/03/2012 0:00	24.000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
29-May-12	05-Jun-12	11-Jun-12	????

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)
701	229	17.2	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#12143
GB234722PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Jun 02, 2012

Technician Signiture: Ting Xu

JOB #: 2833-12-06-01-C

Success Through Science®

Your C.O.C. #: 12143

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

Report Date: 2012/06/18

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B283811
Received: 2012/06/07, 08:30

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2012/06/09	2012/06/11	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

THERESA STEPHENSON, Project Manager
Email: 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		NS6089	NS6090		
Sampling Date		2012/06/02	2012/06/02		
COC Number		12143	12143		
	Units	**LICA PUFF+QFF/CLS/JUNE02,12**	**LICA PUFF+QFF/PORT/JUNE 02,12**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2875873
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2875873
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2875873
2-Methylanthracene	ug	<0.10	<0.10	0.10	2875873
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2875873
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2875873
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2875873
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2875873
Acenaphthene	ug	<0.050	<0.050	0.050	2875873
Acenaphthylene	ug	<0.050	<0.050	0.050	2875873
Anthracene	ug	<0.050	<0.050	0.050	2875873
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2875873
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2875873
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2875873
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2875873
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2875873
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2875873
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2875873
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2875873
Biphenyl	ug	<0.10	<0.10	0.10	2875873
Chrysene	ug	<0.050	<0.050	0.050	2875873
Coronene	ug	<0.10	<0.10	0.10	2875873
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2875873
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2875873
Fluoranthene	ug	0.088	<0.050	0.050	2875873
Fluorene	ug	0.102	<0.050	0.050	2875873
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2875873
m-Terphenyl	ug	<0.10	<0.10	0.10	2875873
Naphthalene	ug	<0.072	<0.072	0.072	2875873
o-Terphenyl	ug	<0.10	<0.10	0.10	2875873
Perylene	ug	<0.10	<0.10	0.10	2875873

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B283811
Report Date: 2012/06/18

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

Maxxam ID		NS6089	NS6090		
Sampling Date		2012/06/02	2012/06/02		
COC Number		12143	12143		
	Units	**LICA PUFF+QFF/CLS/JUNE02,12**	**LICA PUFF+QFF/PORT/JUNE 02,12**	**RDL**	**QC Batch**
Phenanthrene	ug	0.706	0.178	0.050	2875873
p-Terphenyl	ug	<0.10	<0.10	0.10	2875873
Pyrene	ug	0.074	<0.050	0.050	2875873
Quinoline	ug	<0.40	<0.40	0.40	2875873
Tetralin	ug	<0.10	<0.10	0.10	2875873
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	62	62		2875873
D10-Fluoranthene	%	84	82		2875873
D10-Phenanthrene	%	82	80		2875873
D12-Benzo(a)anthracene	%	100	88		2875873
D12-Benzo(a)pyrene	%	94	92		2875873
D12-Benzo(b)fluoranthene	%	88	86		2875873
D12-Benzo(ghi)perylene	%	116	94		2875873
D12-Benzo(k)fluoranthene	%	100	98		2875873
D12-Chrysene	%	92	84		2875873
D12-Indeno(1,2,3-cd)pyrene	%	114	88		2875873
D12-Perylene	%	92	86		2875873
D14-Dibenzo(a,h)anthracene	%	116	94		2875873
D14-Terphenyl (FS)	%	89	92		2875873
D8-Acenaphthylene	%	64	66		2875873
D8-Naphthalene	%	60	56		2875873

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B283811
Report Date: 2012/06/18

Test Summary

Maxxam ID NS6089 **Collected** 2012/06/02
Sample ID LICA PUFF+QFF/CLS/JUNE02,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2875873	2012/06/09	2012/06/11	LIDIJA TOMIC

Maxxam ID NS6090 **Collected** 2012/06/02
Sample ID LICA PUFF+QFF/PORT/JUNE 02,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/07

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2875873	2012/06/09	2012/06/11	LIDIJA TOMIC

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Maxxam Analytics

Maxxam Job #: B283811
Report Date: 2012/06/18

GENERAL COMMENTS

Low recovery for Naphthalene in Spike Duplicate. Spike Duplicate was re-run with similar result. Original run reported.

Not calibrated for benzo(b)anthracene, picene, dibenzo(a,c)anthracene and triphenylene. An estimated mdl for each of these compounds is 0.05ug x split.
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.

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: GB283811

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2875873	LTO	Spiked Blank	D10-2-Methylnaphthalene	2012/06/11		80	%	50 - 150
			D10-Fluoranthene	2012/06/11		84	%	50 - 150
			D10-Phenanthrene	2012/06/11		86	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/11		90	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/11		100	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/11		86	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/11		96	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/11		100	%	50 - 150
			D12-Chrysene	2012/06/11		86	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2012/06/11		92	%	50 - 150
			D12-Perylene	2012/06/11		94	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/11		96	%	50 - 150
			D8-Acenaphthylene	2012/06/11		84	%	50 - 150
			D8-Naphthalene	2012/06/11		72	%	50 - 150
			Acenaphthene	2012/06/11		79	%	60 - 130
		RPD	Acenaphthene	2012/06/11	16.9		%	50
		Spiked Blank	Acenaphthylene	2012/06/11		78	%	60 - 130
		RPD	Acenaphthylene	2012/06/11	18.1		%	50
		Spiked Blank	Anthracene	2012/06/11		87	%	60 - 130
		RPD	Anthracene	2012/06/11	12.2		%	50
		Spiked Blank	Benzo(a)anthracene	2012/06/11		83	%	60 - 130
		RPD	Benzo(a)anthracene	2012/06/11	0.3		%	50
		Spiked Blank	Benzo(a)pyrene	2012/06/11		81	%	60 - 130
		RPD	Benzo(a)pyrene	2012/06/11	2.2		%	50
		Spiked Blank	Benzo(b)fluoranthene	2012/06/11		91	%	60 - 130
		RPD	Benzo(b)fluoranthene	2012/06/11	1.7		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2012/06/11		89	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2012/06/11	2.0		%	50
		Spiked Blank	Benzo(k)fluoranthene	2012/06/11		86	%	60 - 130
		RPD	Benzo(k)fluoranthene	2012/06/11	2.0		%	50
		Spiked Blank	Chrysene	2012/06/11		82	%	60 - 130
		RPD	Chrysene	2012/06/11	0.3		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2012/06/11		94	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2012/06/11	0.3		%	50
		Spiked Blank	Fluoranthene	2012/06/11		81	%	60 - 130
		RPD	Fluoranthene	2012/06/11	4.7		%	50
		Spiked Blank	Fluorene	2012/06/11		80	%	60 - 130
		RPD	Fluorene	2012/06/11	16.3		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2012/06/11		90	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2012/06/11	0		%	50
		Spiked Blank	Naphthalene	2012/06/11		73	%	60 - 130
		RPD	Naphthalene	2012/06/11	22.6		%	50
		Spiked Blank	Phenanthrene	2012/06/11		82	%	60 - 130
		RPD	Phenanthrene	2012/06/11	12.6		%	50
		Spiked Blank	Pyrene	2012/06/11		80	%	60 - 130
		RPD	Pyrene	2012/06/11	6.2		%	50
		Method Blank	D10-2-Methylnaphthalene	2012/06/11		74	%	50 - 150
			D10-Fluoranthene	2012/06/11		80	%	50 - 150
			D10-Phenanthrene	2012/06/11		80	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/11		88	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/11		100	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/11		86	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/11		94	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/11		102	%	50 - 150
			D12-Chrysene	2012/06/11		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: GB283811

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2875873	LTO	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2012/06/11		92	%	50 - 150
			D12-Perylene	2012/06/11		96	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/11		94	%	50 - 150
			D8-Acenaphthylene	2012/06/11		78	%	50 - 150
			D8-Naphthalene	2012/06/11		68	%	50 - 150
			1-Methylnaphthalene	2012/06/11	<0.10		ug	
			1-Methylphenanthrene	2012/06/11	<0.10		ug	
			2-Chloronaphthalene	2012/06/11	<0.10		ug	
			2-Methylanthracene	2012/06/11	<0.10		ug	
			2-Methylnaphthalene	2012/06/11	<0.10		ug	
			3-Methylcholanthrene	2012/06/11	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2012/06/11	<0.10		ug	
			9,10-Dimethylanthracene	2012/06/11	<0.40		ug	
			Acenaphthene	2012/06/11	<0.050		ug	
			Acenaphthylene	2012/06/11	<0.050		ug	
			Anthracene	2012/06/11	<0.050		ug	
			Benzo(a)anthracene	2012/06/11	<0.050		ug	
			Benzo(a)fluorene	2012/06/11	<0.10		ug	
			Benzo(a)pyrene	2012/06/11	<0.050		ug	
			Benzo(b)fluoranthene	2012/06/11	<0.050		ug	
			Benzo(b)fluorene	2012/06/11	<0.10		ug	
			Benzo(e)pyrene	2012/06/11	<0.10		ug	
			Benzo(g,h,i)perylene	2012/06/11	<0.050		ug	
			Benzo(k)fluoranthene	2012/06/11	<0.050		ug	
			Biphenyl	2012/06/11	<0.10		ug	
			Chrysene	2012/06/11	<0.050		ug	
			Coronene	2012/06/11	<0.10		ug	
			Dibenz(a,h)anthracene	2012/06/11	<0.050		ug	
			Dibenzo(a,e)pyrene	2012/06/11	<0.20		ug	
			Fluoranthene	2012/06/11	<0.050		ug	
			Fluorene	2012/06/11	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2012/06/11	<0.050		ug	
			m-Terphenyl	2012/06/11	<0.10		ug	
			Naphthalene	2012/06/11	<0.072		ug	
			o-Terphenyl	2012/06/11	<0.10		ug	
			Perylene	2012/06/11	<0.10		ug	
			Phenanthrene	2012/06/11	<0.050		ug	
			p-Terphenyl	2012/06/11	<0.10		ug	
			Pyrene	2012/06/11	<0.050		ug	
			Quinoline	2012/06/11	<0.40		ug	
			Tetralin	2012/06/11	<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/Jun 08, 2012

Puf+ s/n: 100-1020
Motor s/n: 1138
Installation Date/Time: Jun 07, 2012 @ 7:45 mst
Removal Date/Time: Jun 13, 2012 @ 7:38 mst

Date and Time Information			
Sample Date	Start Time (MST)	Finish Time (MST)	Elapsed Time (Hours)
08-Jun-12	06/08/2012 0:00	06/09/2012 0:00	24.000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
05-Jun-12	13-Jun-12	18-Jun-12	????

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	18.7	330.32

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

Comments: COC#12184
GB234726PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Jun 08, 2012

Technician Signiture: Ting Xu

JOB #: 2833-12-06-01-C

Success Through Science®

Your C.O.C. #: 12184

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

Report Date: 2012/06/29

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B288743
Received: 2012/06/15, 09:00

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2012/06/18	2012/06/25	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 Job #: B288743
Report Date: 2012/06/29

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

Maxxam ID		NU9101	NU9102		
Sampling Date		2012/06/08	2012/06/08		
COC Number		12184	12184		
	Units	**LICA PUFF+QFF/CLS/JUNE 08,12**	**LICA PUFF+QFF/PORT/JUNE 08,12**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2883758
1-Methylphenanthrene	ug	0.12	<0.10	0.10	2883758
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2883758
2-Methylanthracene	ug	<0.10	<0.10	0.10	2883758
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2883758
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2883758
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2883758
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2883758
Acenaphthene	ug	<0.050	<0.050	0.050	2883758
Acenaphthylene	ug	<0.050	<0.050	0.050	2883758
Anthracene	ug	0.114	<0.050	0.050	2883758
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2883758
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2883758
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2883758
Benzo(b)Anthracene	ug	<0.10	0.10	0.10	2883758
Benzo(b)fluoranthene	ug	0.064	<0.050	0.050	2883758
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2883758
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2883758
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2883758
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2883758
Biphenyl	ug	<0.10	<0.10	0.10	2883758
Chrysene	ug	0.076	<0.050	0.050	2883758
Coronene	ug	<0.10	<0.10	0.10	2883758
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2883758
Dibenzo(a,c) anthracene + Picene	ug	<0.10	<0.10	0.10	2883758
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2883758
Fluoranthene	ug	0.258	<0.050	0.050	2883758
Fluorene	ug	0.234	<0.050	0.050	2883758
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2883758
m-Terphenyl	ug	<0.10	<0.10	0.10	2883758
Naphthalene	ug	<0.072	<0.072	0.072	2883758

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B288743
Report Date: 2012/06/29

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

Maxxam ID		NU9101	NU9102		
Sampling Date		2012/06/08	2012/06/08		
COC Number		12184	12184		
	Units	**LICA PUFF+QFF/CLS/JUNE 08,12**	**LICA PUFF+QFF/PORT/JUNE 08,12**	**RDL**	**QC Batch**
o-Terphenyl	ug	<0.10	<0.10	0.10	2883758
Perylene	ug	<0.10	<0.10	0.10	2883758
Phenanthrene	ug	1.11	0.146	0.050	2883758
p-Terphenyl	ug	<0.10	<0.10	0.10	2883758
Pyrene	ug	0.218	<0.050	0.050	2883758
Quinoline	ug	<0.40	<0.40	0.40	2883758
Tetralin	ug	<0.10	<0.10	0.10	2883758
Triphenylene	ug	<0.10	<0.10	0.10	2883758
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	54	56		2883758
D10-Fluoranthene	%	90	86		2883758
D10-Phenanthrene	%	84	78		2883758
D12-Benzo(a)anthracene	%	92	90		2883758
D12-Benzo(a)pyrene	%	94	90		2883758
D12-Benzo(b)fluoranthene	%	90	88		2883758
D12-Benzo(ghi)perylene	%	100	96		2883758
D12-Benzo(k)fluoranthene	%	98	98		2883758
D12-Chrysene	%	88	86		2883758
D12-Indeno(1,2,3-cd)pyrene	%	94	90		2883758
D12-Perylene	%	88	84		2883758
D14-Dibenzo(a,h)anthracene	%	96	94		2883758
D14-Terphenyl (FS)	%	97	91		2883758
D8-Acenaphthylene	%	58	58		2883758
D8-Naphthalene	%	48 (1)	52		2883758

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 #: B288743
Report Date: 2012/06/29

Test Summary

Maxxam ID NU9101 **Collected** 2012/06/08
Sample ID LICA PUFF+QFF/CLS/JUNE 08,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2883758	2012/06/18	2012/06/25	Lidija Tomic

Maxxam ID NU9102 **Collected** 2012/06/08
Sample ID LICA PUFF+QFF/PORT/JUNE 08,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/15

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2883758	2012/06/18	2012/06/25	Lidija Tomic

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 #: B288743
Report Date: 2012/06/29

GENERAL COMMENTS

PAHMS-F
Not calibrated for benzo(b)anthracene, picene, dibenzo(a,c)anthracene and triphenylene. An estimated mdl for each of these compounds is 0.05ug x split.
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.

Low recovery of Acenaphthylene, Acenaphthene in Spike and Spike Dupl, and low recovery of D8-Naphthalene in the sample NU9101-01

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: GB288743

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2883758	LTO	Spiked Blank	D10-2-Methylnaphthalene	2012/06/25		58	%	50 - 150
			D10-Fluoranthene	2012/06/25		82	%	50 - 150
			D10-Phenanthrene	2012/06/25		74	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/25		88	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/25		96	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/25		88	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/25		96	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/25		100	%	50 - 150
			D12-Chrysene	2012/06/25		88	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2012/06/25		90	%	50 - 150
			D12-Perylene	2012/06/25		90	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/25		94	%	50 - 150
			D8-Acenaphthylene	2012/06/25		62	%	50 - 150
			D8-Naphthalene	2012/06/25		52	%	50 - 150
			Acenaphthene	2012/06/25		58 (1)	%	60 - 130
		RPD	Acenaphthene	2012/06/25	3.4		%	50
		Spiked Blank	Acenaphthylene	2012/06/25		57 (1)	%	60 - 130
		RPD	Acenaphthylene	2012/06/25	4.3		%	50
		Spiked Blank	Anthracene	2012/06/25		69	%	60 - 130
		RPD	Anthracene	2012/06/25	2.5		%	50
		Spiked Blank	Benzo(a)anthracene	2012/06/25		84	%	60 - 130
		RPD	Benzo(a)anthracene	2012/06/25	0.6		%	50
		Spiked Blank	Benzo(a)pyrene	2012/06/25		76	%	60 - 130
		RPD	Benzo(a)pyrene	2012/06/25	0.7		%	50
		Spiked Blank	Benzo(b)fluoranthene	2012/06/25		90	%	60 - 130
		RPD	Benzo(b)fluoranthene	2012/06/25	2.8		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2012/06/25		90	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2012/06/25	0.8		%	50
		Spiked Blank	Benzo(k)fluoranthene	2012/06/25		87	%	60 - 130
		RPD	Benzo(k)fluoranthene	2012/06/25	0.3		%	50
		Spiked Blank	Chrysene	2012/06/25		83	%	60 - 130
		RPD	Chrysene	2012/06/25	0.6		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2012/06/25		90	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2012/06/25	0.8		%	50
		Spiked Blank	Fluoranthene	2012/06/25		79	%	60 - 130
		RPD	Fluoranthene	2012/06/25	1.3		%	50
		Spiked Blank	Fluorene	2012/06/25		62	%	60 - 130
		RPD	Fluorene	2012/06/25	0.8		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2012/06/25		85	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2012/06/25	0.6		%	50
		Spiked Blank	Naphthalene	2012/06/25		52 (1)	%	60 - 130
		RPD	Naphthalene	2012/06/25	2.9		%	50
		Spiked Blank	Phenanthrene	2012/06/25		70	%	60 - 130
		RPD	Phenanthrene	2012/06/25	2.9		%	50
		Spiked Blank	Pyrene	2012/06/25		77	%	60 - 130
		RPD	Pyrene	2012/06/25	1		%	50
		Method Blank	D10-2-Methylnaphthalene	2012/06/25		58	%	50 - 150
			D10-Fluoranthene	2012/06/25		78	%	50 - 150
			D10-Phenanthrene	2012/06/25		70	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/25		86	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/25		94	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/25		86	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/25		94	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/25		98	%	50 - 150
			D12-Chrysene	2012/06/25		86	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB288743

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2883758	LTO	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2012/06/25		88	%	50 - 150
			D12-Perylene	2012/06/25		88	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/25		92	%	50 - 150
			D8-Acenaphthylene	2012/06/25		62	%	50 - 150
			D8-Naphthalene	2012/06/25		52	%	50 - 150
			1-Methylnaphthalene	2012/06/25	<0.10		ug	
			1-Methylphenanthrene	2012/06/25	<0.10		ug	
			2-Chloronaphthalene	2012/06/25	<0.10		ug	
			2-Methylanthracene	2012/06/25	<0.10		ug	
			2-Methylnaphthalene	2012/06/25	<0.10		ug	
			3-Methylcholanthrene	2012/06/25	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2012/06/25	<0.10		ug	
			9,10-Dimethylanthracene	2012/06/25	<0.40		ug	
			Acenaphthene	2012/06/25	<0.050		ug	
			Acenaphthylene	2012/06/25	<0.050		ug	
			Anthracene	2012/06/25	<0.050		ug	
			Benzo(a)anthracene	2012/06/25	<0.050		ug	
			Benzo(a)fluorene	2012/06/25	<0.10		ug	
			Benzo(a)pyrene	2012/06/25	<0.050		ug	
			Benzo(b)Anthracene	2012/06/25	<0.10		ug	
			Benzo(b)fluoranthene	2012/06/25	<0.050		ug	
			Benzo(b)fluorene	2012/06/25	<0.10		ug	
			Benzo(e)pyrene	2012/06/25	<0.10		ug	
			Benzo(g,h,i)perylene	2012/06/25	<0.050		ug	
			Benzo(k)fluoranthene	2012/06/25	<0.050		ug	
			Biphenyl	2012/06/25	<0.10		ug	
			Chrysene	2012/06/25	<0.050		ug	
			Coronene	2012/06/25	<0.10		ug	
			Dibenz(a,h)anthracene	2012/06/25	<0.050		ug	
			Dibenzo(a,c) anthracene + Picene	2012/06/25	<0.10		ug	
			Dibenzo(a,e)pyrene	2012/06/25	<0.20		ug	
			Fluoranthene	2012/06/25	<0.050		ug	
			Fluorene	2012/06/25	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2012/06/25	<0.050		ug	
			m-Terphenyl	2012/06/25	<0.10		ug	
			Naphthalene	2012/06/25	<0.072		ug	
			o-Terphenyl	2012/06/25	<0.10		ug	
			Perylene	2012/06/25	<0.10		ug	
			Phenanthrene	2012/06/25	<0.050		ug	
			p-Terphenyl	2012/06/25	<0.10		ug	
			Pyrene	2012/06/25	<0.050		ug	
			Quinoline	2012/06/25	<0.40		ug	
			Tetralin	2012/06/25	<0.10		ug	
			Triphenylene	2012/06/25	<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 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

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: Cold Lake South
Station ID: Lica1
Field Sample ID: LICA PUF/CLS/Jun 14, 2012

Puf+ s/n: 100-1020
Motor s/n: 1138
Installation Date/Time: Jun 13, 2012 @ 7:46 mst
Removal Date/Time: Jun 15, 2012 @ 7:30 mst

Date and Time Information			
Sample Date	Start Time (MST)	Finish Time (MST)	Elapsed Time (Hours)
14-Jun-12	06/14/2012 0:00	06/15/2012 0:00	24.000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
08-Jun-12	18-Jun-12	21-Jun-12	????

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	18.2	330.32

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

Comments: COC#12212
GB234730PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Jun 14, 2012

Technician Signiture: Ting Xu

JOB #: 2833-12-06-01-C

Success Through Science®

Your C.O.C. #: 12212

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

Report Date: 2012/06/29

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B291084
Received: 2012/06/20, 09:10

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2012/06/21	2012/06/27	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

Theresa Stephenson, Project Manager
Email: 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 #: B291084
Report Date: 2012/06/29

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

Maxxam ID		NW0155	NW0156		
Sampling Date		2012/06/14	2012/06/14		
COC Number		12212	12212		
	Units	**LICA PUFF+QFF/CLS/JUNE 14,12**	**LICA PUFF+QFF/PORT/JUNE 14,12**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	0.14	0.10	2887183
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2887183
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2887183
2-Methylanthracene	ug	<0.10	<0.10	0.10	2887183
2-Methylnaphthalene	ug	<0.10	0.29	0.10	2887183
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2887183
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2887183
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2887183
Acenaphthene	ug	<0.050	<0.050	0.050	2887183
Acenaphthylene	ug	<0.050	<0.050	0.050	2887183
Anthracene	ug	<0.050	<0.050	0.050	2887183
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2887183
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2887183
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2887183
Benzo(b)Anthracene	ug	<0.10	<0.10	0.10	2887183
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2887183
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2887183
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2887183
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2887183
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2887183
Biphenyl	ug	<0.10	<0.10	0.10	2887183
Chrysene	ug	<0.050	<0.050	0.050	2887183
Coronene	ug	<0.10	<0.10	0.10	2887183
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2887183
Dibenzo(a,c) anthracene + Picene	ug	<0.10	<0.10	0.10	2887183
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2887183
Fluoranthene	ug	<0.050	<0.050	0.050	2887183
Fluorene	ug	0.082	<0.050	0.050	2887183
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2887183
m-Terphenyl	ug	<0.10	<0.10	0.10	2887183
Naphthalene	ug	<0.072	<0.072	0.072	2887183

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B291084
Report Date: 2012/06/29

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

Maxxam ID		NW0155	NW0156		
Sampling Date		2012/06/14	2012/06/14		
COC Number		12212	12212		
	Units	**LICA PUFF+QFF/CLS/JUNE 14,12**	**LICA PUFF+QFF/PORT/JUNE 14,12**	**RDL**	**QC Batch**
o-Terphenyl	ug	<0.10	<0.10	0.10	2887183
Perylene	ug	<0.10	<0.10	0.10	2887183
Phenanthrene	ug	0.320	0.072	0.050	2887183
p-Terphenyl	ug	<0.10	<0.10	0.10	2887183
Pyrene	ug	<0.050	<0.050	0.050	2887183
Quinoline	ug	<0.40	<0.40	0.40	2887183
Tetralin	ug	<0.10	<0.10	0.10	2887183
Triphenylene	ug	<0.10	<0.10	0.10	2887183
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	58	60		2887183
D10-Fluoranthene	%	90	86		2887183
D10-Phenanthrene	%	84	80		2887183
D12-Benzo(a)anthracene	%	94	88		2887183
D12-Benzo(a)pyrene	%	100	94		2887183
D12-Benzo(b)fluoranthene	%	94	90		2887183
D12-Benzo(ghi)perylene	%	100	98		2887183
D12-Benzo(k)fluoranthene	%	98	96		2887183
D12-Chrysene	%	88	86		2887183
D12-Indeno(1,2,3-cd)pyrene	%	94	90		2887183
D12-Perylene	%	94	88		2887183
D14-Dibenzo(a,h)anthracene	%	98	94		2887183
D14-Terphenyl (FS)	%	100	99		2887183
D8-Acenaphthylene	%	64	64		2887183
D8-Naphthalene	%	52	54		2887183

QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B291084
Report Date: 2012/06/29

Test Summary

Maxxam ID NW0155 **Collected** 2012/06/14
Sample ID LICA PUFF+QFF/CLS/JUNE 14,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/20

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2887183	2012/06/21	2012/06/27	Lidija Tomic

Maxxam ID NW0156 **Collected** 2012/06/14
Sample ID LICA PUFF+QFF/PORT/JUNE 14,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/20

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2887183	2012/06/21	2012/06/27	Lidija Tomic

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Maxxam Analytics

Maxxam Job #: B291084
Report Date: 2012/06/29

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: GB291084

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2887183	LTO	Spiked Blank	D10-2-Methylnaphthalene	2012/06/26		62	%	50 - 150
			D10-Fluoranthene	2012/06/26		84	%	50 - 150
			D10-Phenanthrene	2012/06/26		76	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/26		88	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/26		100	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/26		92	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/26		96	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/26		96	%	50 - 150
			D12-Chrysene	2012/06/26		84	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2012/06/26		92	%	50 - 150
			D12-Perylene	2012/06/26		92	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/26		94	%	50 - 150
			D8-Acenaphthylene	2012/06/26		66	%	50 - 150
			D8-Naphthalene	2012/06/26		56	%	50 - 150
			Acenaphthene	2012/06/26		61	%	60 - 130
		RPD	Acenaphthene	2012/06/26	14.7		%	50
		Spiked Blank	Acenaphthylene	2012/06/26		61	%	60 - 130
		RPD	Acenaphthylene	2012/06/26	16.0		%	50
		Spiked Blank	Anthracene	2012/06/26		75	%	60 - 130
		RPD	Anthracene	2012/06/26	9.2		%	50
		Spiked Blank	Benzo(a)anthracene	2012/06/26		82	%	60 - 130
		RPD	Benzo(a)anthracene	2012/06/26	1.5		%	50
		Spiked Blank	Benzo(a)pyrene	2012/06/26		78	%	60 - 130
		RPD	Benzo(a)pyrene	2012/06/26	1		%	50
		Spiked Blank	Benzo(b)fluoranthene	2012/06/26		81	%	60 - 130
		RPD	Benzo(b)fluoranthene	2012/06/26	2.1		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2012/06/26		89	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2012/06/26	0		%	50
		Spiked Blank	Benzo(k)fluoranthene	2012/06/26		93	%	60 - 130
		RPD	Benzo(k)fluoranthene	2012/06/26	1.1		%	50
		Spiked Blank	Chrysene	2012/06/26		80	%	60 - 130
		RPD	Chrysene	2012/06/26	0.6		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2012/06/26		89	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2012/06/26	0		%	50
		Spiked Blank	Fluoranthene	2012/06/26		81	%	60 - 130
		RPD	Fluoranthene	2012/06/26	2.7		%	50
		Spiked Blank	Fluorene	2012/06/26		65	%	60 - 130
		RPD	Fluorene	2012/06/26	13.3		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2012/06/26		86	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2012/06/26	0		%	50
		Spiked Blank	Naphthalene	2012/06/26		55 (1)	%	60 - 130
		RPD	Naphthalene	2012/06/26	8.3 (2)		%	50
		Spiked Blank	Phenanthrene	2012/06/26		72	%	60 - 130
		RPD	Phenanthrene	2012/06/26	8.4		%	50
		Spiked Blank	Pyrene	2012/06/26		78	%	60 - 130
		RPD	Pyrene	2012/06/26	2.5		%	50
		Method Blank	D10-2-Methylnaphthalene	2012/06/26		62	%	50 - 150
			D10-Fluoranthene	2012/06/26		86	%	50 - 150
			D10-Phenanthrene	2012/06/26		76	%	50 - 150
			D12-Benzo(a)anthracene	2012/06/26		90	%	50 - 150
			D12-Benzo(a)pyrene	2012/06/26		100	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/06/26		94	%	50 - 150
			D12-Benzo(ghi)perylene	2012/06/26		98	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/06/26		98	%	50 - 150
			D12-Chrysene	2012/06/26		88	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB291084

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2887183	LTO	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2012/06/26		92	%	50 - 150
			D12-Perylene	2012/06/26		96	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/06/26		96	%	50 - 150
			D8-Acenaphthylene	2012/06/26		66	%	50 - 150
			D8-Naphthalene	2012/06/26		56	%	50 - 150
			1-Methylnaphthalene	2012/06/26	<0.10		ug	
			1-Methylphenanthrene	2012/06/26	<0.10		ug	
			2-Chloronaphthalene	2012/06/26	<0.10		ug	
			2-Methylanthracene	2012/06/26	<0.10		ug	
			2-Methylnaphthalene	2012/06/26	<0.10		ug	
			3-Methylcholanthrene	2012/06/26	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2012/06/26	<0.10		ug	
			9,10-Dimethylanthracene	2012/06/26	<0.40		ug	
			Acenaphthene	2012/06/26	<0.050		ug	
			Acenaphthylene	2012/06/26	<0.050		ug	
			Anthracene	2012/06/26	<0.050		ug	
			Benzo(a)anthracene	2012/06/26	<0.050		ug	
			Benzo(a)fluorene	2012/06/26	<0.10		ug	
			Benzo(a)pyrene	2012/06/26	<0.050		ug	
			Benzo(b)Anthracene	2012/06/26	<0.10		ug	
			Benzo(b)fluoranthene	2012/06/26	<0.050		ug	
			Benzo(b)fluorene	2012/06/26	<0.10		ug	
			Benzo(e)pyrene	2012/06/26	<0.10		ug	
			Benzo(g,h,i)perylene	2012/06/26	<0.050		ug	
			Benzo(k)fluoranthene	2012/06/26	<0.050		ug	
			Biphenyl	2012/06/26	<0.10		ug	
			Chrysene	2012/06/26	<0.050		ug	
			Coronene	2012/06/26	<0.10		ug	
			Dibenz(a,h)anthracene	2012/06/26	<0.050		ug	
			Dibenzo(a,c) anthracene + Picene	2012/06/26	<0.10		ug	
			Dibenzo(a,e)pyrene	2012/06/26	<0.20		ug	
			Fluoranthene	2012/06/26	<0.050		ug	
			Fluorene	2012/06/26	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2012/06/26	<0.050		ug	
			m-Terphenyl	2012/06/26	<0.10		ug	
			Naphthalene	2012/06/26	<0.072		ug	
			o-Terphenyl	2012/06/26	<0.10		ug	
			Perylene	2012/06/26	<0.10		ug	
			Phenanthrene	2012/06/26	<0.050		ug	
			p-Terphenyl	2012/06/26	<0.10		ug	
			Pyrene	2012/06/26	<0.050		ug	
			Quinoline	2012/06/26	<0.40		ug	
			Tetralin	2012/06/26	<0.10		ug	
			Triphenylene	2012/06/26	<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 vs the Mspike = 76%
(2) Recovery vs the Mspike = 82%

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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/Jun 20, 2012

Puf+ s/n: 100-1020
Motor s/n: 1138
Installation Date/Time: Jun 19, 2012 @ 8:55 mst
Removal Date/Time: Jun 21, 2012 @ 7:30 mst

Date and Time Information			
Sample Date	Start Time (MST)	Finish Time (MST)	Elapsed Time (Hours)
20-Jun-12	06/20/2012 0:00	06/21/2012 0:00	24.000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
15-Jun-12	21-Jun-12	23-Jun-12	????

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)
711	229	17.1	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#12275
GB234732PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Jun 20, 2012

Technician Signiture: Ting Xu

JOB #: 2833-12-06-01-C

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ACCREDITED IN ACCORDANCE WITH nelac

Your C.O.C. #: 12275

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

Report Date: 2012/07/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B294088
Received: 2012/06/25, 08:25

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2012/06/27	2012/07/04	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

Lakeland Industry & Community Assoc.

Maxxam Job #: B294088
Report Date: 2012/07/09

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

Maxxam ID		NX3809	NX3810		
Sampling Date		2012/06/20	2012/06/20		
COC Number		12275	12275		
	Units	**LICAPUFF&QFF/CLS/JUNE20,12**	**LICAPUFF&QFF/PORT/JUNE20,12**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	0.14	<0.10	0.10	2892321
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2892321
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2892321
2-Methylanthracene	ug	<0.10	<0.10	0.10	2892321
2-Methylnaphthalene	ug	0.23	<0.10	0.10	2892321
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2892321
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2892321
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2892321
Acenaphthene	ug	0.064	<0.050	0.050	2892321
Acenaphthylene	ug	0.062	<0.050	0.050	2892321
Anthracene	ug	<0.050	<0.050	0.050	2892321
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2892321
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2892321
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2892321
Benzo(b)Anthracene	ug	<0.10	<0.10	0.10	2892321
Benzo(b)fluoranthene	ug	<0.050	<0.050	0.050	2892321
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2892321
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2892321
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2892321
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2892321
Biphenyl	ug	<0.10	<0.10	0.10	2892321
Chrysene	ug	<0.050	<0.050	0.050	2892321
Coronene	ug	<0.10	<0.10	0.10	2892321
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2892321
Dibenzo(a,c) anthracene + Picene	ug	<0.10	<0.10	0.10	2892321
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2892321
Fluoranthene	ug	<0.050	<0.050	0.050	2892321
Fluorene	ug	0.098	<0.050	0.050	2892321
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2892321
m-Terphenyl	ug	<0.10	<0.10	0.10	2892321
Naphthalene	ug	0.324	<0.072	0.072	2892321
o-Terphenyl	ug	<0.10	<0.10	0.10	2892321

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Lakeland Industry & Community Assoc.

Maxxam Job #: B294088
Report Date: 2012/07/09

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

Maxxam ID		NX3809	NX3810		
Sampling Date		2012/06/20	2012/06/20		
COC Number		12275	12275		
	Units	**LICAPUFF&QFF/CLS/JUNE20,12**	**LICAPUFF&QFF/PORT/JUNE20,12**	**RDL**	**QC Batch**
Perylene	ug	<0.10	<0.10	0.10	2892321
Phenanthrene	ug	0.346	0.076	0.050	2892321
p-Terphenyl	ug	<0.10	<0.10	0.10	2892321
Pyrene	ug	<0.050	<0.050	0.050	2892321
Quinoline	ug	<0.40	<0.40	0.40	2892321
Tetralin	ug	<0.10	<0.10	0.10	2892321
Triphenylene	ug	<0.10	<0.10	0.10	2892321
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	60	58		2892321
D10-Fluoranthene	%	84	84		2892321
D10-Fluorene (FS)	%	4.8 (1)	4.6 (1)		2892321
D10-Phenanthrene	%	78	76		2892321
D12-Benzo(a)anthracene	%	88	90		2892321
D12-Benzo(a)pyrene	%	84	84		2892321
D12-Benzo(b)fluoranthene	%	88	90		2892321
D12-Benzo(ghi)perylene	%	88	88		2892321
D12-Benzo(k)fluoranthene	%	86	88		2892321
D12-Chrysene	%	86	86		2892321
D12-Indeno(1,2,3-cd)pyrene	%	88	88		2892321
D12-Perylene	%	84	86		2892321
D14-Dibenzo(a,h)anthracene	%	90	90		2892321
D14-Terphenyl (FS)	%	88	89		2892321
D8-Acenaphthylene	%	58	58		2892321
D8-Naphthalene	%	58	58		2892321

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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Lakeland Industry & Community Assoc.

Maxxam Job #: B294088
Report Date: 2012/07/09

Test Summary

Maxxam ID NX3809 **Collected** 2012/06/20
Sample ID LICAPUFF&QFF/CLS/JUNE20,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2892321	2012/06/27	2012/07/04	Lidija Tomic

Maxxam ID NX3810 **Collected** 2012/06/20
Sample ID LICAPUFF&QFF/PORT/JUNE20,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/06/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2892321	2012/06/27	2012/07/04	Lidija Tomic

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Lakeland Industry & Community Assoc.

Maxxam Job #: B294088
Report Date: 2012/07/09

GENERAL COMMENTS

Sample spike. NX3809-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field

Sample spike. NX3810-01: Low d10-fluorene field spike recovery. Suspect sample matrix as cause due to acceptable recovery of d14-terphenyl field

Results relate only to the items tested.

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

Quality Assurance Report

Maxxam Job Number: GB294088

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2892321	LTO	Spiked Blank	D10-2-Methylnaphthalene	2012/07/05		68	%	50 - 150
			D10-Fluoranthene	2012/07/05		80	%	50 - 150
			D10-Phenanthrene	2012/07/05		72	%	50 - 150
			D12-Benzo(a)anthracene	2012/07/05		86	%	50 - 150
			D12-Benzo(a)pyrene	2012/07/05		90	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/07/05		90	%	50 - 150
			D12-Benzo(ghi)perylene	2012/07/05		88	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/07/05		86	%	50 - 150
			D12-Chrysene	2012/07/05		86	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2012/07/05		90	%	50 - 150
			D12-Perylene	2012/07/05		88	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/07/05		92	%	50 - 150
			D8-Acenaphthylene	2012/07/05		68	%	50 - 150
			D8-Naphthalene	2012/07/05		68	%	50 - 150
			Acenaphthene	2012/07/05		64	%	60 - 130
		RPD	Acenaphthene	2012/07/05	0.4		%	50
		Spiked Blank	Acenaphthylene	2012/07/05		65	%	60 - 130
		RPD	Acenaphthylene	2012/07/05	2.4		%	50
		Spiked Blank	Anthracene	2012/07/05		71	%	60 - 130
		RPD	Anthracene	2012/07/05	2.8		%	50
		Spiked Blank	Benzo(a)anthracene	2012/07/05		81	%	60 - 130
		RPD	Benzo(a)anthracene	2012/07/05	0.6		%	50
		Spiked Blank	Benzo(a)pyrene	2012/07/05		72	%	60 - 130
		RPD	Benzo(a)pyrene	2012/07/05	1.0		%	50
		Spiked Blank	Benzo(b)fluoranthene	2012/07/05		79	%	60 - 130
		RPD	Benzo(b)fluoranthene	2012/07/05	1.3		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2012/07/05		80	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2012/07/05	2.2		%	50
		Spiked Blank	Benzo(k)fluoranthene	2012/07/05		83	%	60 - 130
		RPD	Benzo(k)fluoranthene	2012/07/05	2.4		%	50
		Spiked Blank	Chrysene	2012/07/05		77	%	60 - 130
		RPD	Chrysene	2012/07/05	0.3		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2012/07/05		86	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2012/07/05	0.9		%	50
		Spiked Blank	Fluoranthene	2012/07/05		77	%	60 - 130
		RPD	Fluoranthene	2012/07/05	1		%	50
		Spiked Blank	Fluorene	2012/07/05		67	%	60 - 130
		RPD	Fluorene	2012/07/05	0		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2012/07/05		82	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2012/07/05	0.3		%	50
		Spiked Blank	Naphthalene	2012/07/05		69	%	60 - 130
		RPD	Naphthalene	2012/07/05	4.8		%	50
		Spiked Blank	Phenanthrene	2012/07/05		66	%	60 - 130
		RPD	Phenanthrene	2012/07/05	1.1		%	50
		Spiked Blank	Pyrene	2012/07/05		70	%	60 - 130
		RPD	Pyrene	2012/07/05	1.8		%	50
		Method Blank	D10-2-Methylnaphthalene	2012/07/04		72	%	50 - 150
			D10-Fluoranthene	2012/07/04		84	%	50 - 150
			D10-Phenanthrene	2012/07/04		78	%	50 - 150
			D12-Benzo(a)anthracene	2012/07/04		90	%	50 - 150
			D12-Benzo(a)pyrene	2012/07/04		90	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/07/04		88	%	50 - 150
			D12-Benzo(ghi)perylene	2012/07/04		88	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/07/04		88	%	50 - 150
			D12-Chrysene	2012/07/04		84	%	50 - 150

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

Quality Assurance Report (Continued)

Maxxam Job Number: GB294088

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2892321	LTO	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2012/07/04		88	%	50 - 150
			D12-Perylene	2012/07/04		90	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/07/04		90	%	50 - 150
			D8-Acenaphthylene	2012/07/04		72	%	50 - 150
			D8-Naphthalene	2012/07/04		70	%	50 - 150
			1-Methylnaphthalene	2012/07/04	<0.10		ug	
			1-Methylphenanthrene	2012/07/04	<0.10		ug	
			2-Chloronaphthalene	2012/07/04	<0.10		ug	
			2-Methylanthracene	2012/07/04	<0.10		ug	
			2-Methylnaphthalene	2012/07/04	<0.10		ug	
			3-Methylcholanthrene	2012/07/04	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2012/07/04	<0.10		ug	
			9,10-Dimethylanthracene	2012/07/04	<0.40		ug	
			Acenaphthene	2012/07/04	<0.050		ug	
			Acenaphthylene	2012/07/04	<0.050		ug	
			Anthracene	2012/07/04	<0.050		ug	
			Benzo(a)anthracene	2012/07/04	<0.050		ug	
			Benzo(a)fluorene	2012/07/04	<0.10		ug	
			Benzo(a)pyrene	2012/07/04	<0.050		ug	
			Benzo(b)Anthracene	2012/07/04	<0.10		ug	
			Benzo(b)fluoranthene	2012/07/04	<0.050		ug	
			Benzo(b)fluorene	2012/07/04	<0.10		ug	
			Benzo(e)pyrene	2012/07/04	<0.10		ug	
			Benzo(g,h,i)perylene	2012/07/04	<0.050		ug	
			Benzo(k)fluoranthene	2012/07/04	<0.050		ug	
			Biphenyl	2012/07/04	<0.10		ug	
			Chrysene	2012/07/04	<0.050		ug	
			Coronene	2012/07/04	<0.10		ug	
			Dibenz(a,h)anthracene	2012/07/04	<0.050		ug	
			Dibenzo(a,c) anthracene + Picene	2012/07/04	<0.10		ug	
			Dibenzo(a,e)pyrene	2012/07/04	<0.20		ug	
			Fluoranthene	2012/07/04	<0.050		ug	
			Fluorene	2012/07/04	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2012/07/04	<0.050		ug	
			m-Terphenyl	2012/07/04	<0.10		ug	
			Naphthalene	2012/07/04	<0.072		ug	
			o-Terphenyl	2012/07/04	<0.10		ug	
			Perylene	2012/07/04	<0.10		ug	
			Phenanthrene	2012/07/04	<0.050		ug	
			p-Terphenyl	2012/07/04	<0.10		ug	
			Pyrene	2012/07/04	<0.050		ug	
			Quinoline	2012/07/04	<0.40		ug	
			Tetralin	2012/07/04	<0.10		ug	
			Triphenylene	2012/07/04	<0.010		ug	

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

MAXXAM

Tisch Hi-Vol PUF+ Sample Collection Data Sheet

Client: Lica
Location: Cold Lake South
Station ID: Lica1
Field Sample ID: LICA PUF/CLS/Jun 26, 2012

Puf+ s/n: 100-1020
Motor s/n: 1138
Installation Date/Time: Jun 25, 2012 @ 7:45 mst
Removal Date/Time: Jun 28, 2012 @ 7:27 mst

Date and Time Information			
Sample Date	Start Time (MST)	Finish Time (MST)	Elapsed Time (Hours)
26-Jun-12	06/26/2012 0:00	06/27/2012 0:00	24.000

PUF and QFF Information			
Date Received	Date Shipped	Puf Expiration Date	QFF Prep Date
20-Jun-12	28-Jun-12	03-Jul-12	????

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)
702	229	21.7	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#12320
GB234737PUFF # 1
Ran with a 102mm Quartz Fiber Filter - Sample ID - LICA QFF/CLS/Jun 26, 2012

Technician Signiture: Ting Xu

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Your C.O.C. #: 12320

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

Report Date: 2012/07/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B298336
Received: 2012/07/03, 08:22

Sample Matrix: PUF AND FILTER
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PAH's in Air (CARB429mod)	2	2012/07/04	2012/07/06	BRL SOP-00201	CARB429(ARBM1,M2)mod

Encryption Key

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

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

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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

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

Maxxam ID		NZ5451	NZ5452		
Sampling Date		2012/06/26	2012/06/26		
COC Number		12320	12320		
	Units	**LICA PUFF+QFF/CLS/JUN 26,12**	**LICA PUFF+QFF/PORT/JUN 26,12**	**RDL**	**QC Batch**
Semivolatile Organics					
1-Methylnaphthalene	ug	<0.10	<0.10	0.10	2898321
1-Methylphenanthrene	ug	<0.10	<0.10	0.10	2898321
2-Chloronaphthalene	ug	<0.10	<0.10	0.10	2898321
2-Methylanthracene	ug	<0.10	<0.10	0.10	2898321
2-Methylnaphthalene	ug	<0.10	<0.10	0.10	2898321
3-Methylcholanthrene	ug	<2.0	<2.0	2.0	2898321
7,12-Dimethylbenzo(a)anthracene	ug	<0.10	<0.10	0.10	2898321
9,10-Dimethylanthracene	ug	<0.40	<0.40	0.40	2898321
Acenaphthene	ug	0.078	<0.050	0.050	2898321
Acenaphthylene	ug	<0.050	<0.050	0.050	2898321
Anthracene	ug	0.054	<0.050	0.050	2898321
Benzo(a)anthracene	ug	<0.050	<0.050	0.050	2898321
Benzo(a)fluorene	ug	<0.10	<0.10	0.10	2898321
Benzo(a)pyrene	ug	<0.050	<0.050	0.050	2898321
Benzo(b)Anthracene	ug	<0.10	<0.10	0.10	2898321
Benzo(b)fluoranthene	ug	0.052	<0.050	0.050	2898321
Benzo(b)fluorene	ug	<0.10	<0.10	0.10	2898321
Benzo(e)pyrene	ug	<0.10	<0.10	0.10	2898321
Benzo(g,h,i)perylene	ug	<0.050	<0.050	0.050	2898321
Benzo(k)fluoranthene	ug	<0.050	<0.050	0.050	2898321
Biphenyl	ug	<0.10	<0.10	0.10	2898321
Chrysene	ug	0.052	<0.050	0.050	2898321
Coronene	ug	<0.10	<0.10	0.10	2898321
Dibenz(a,h)anthracene	ug	<0.050	<0.050	0.050	2898321
Dibenzo(a,c) anthracene + Picene	ug	<0.10	<0.10	0.10	2898321
Dibenzo(a,e)pyrene	ug	<0.20	<0.20	0.20	2898321
Fluoranthene	ug	0.242	<0.050	0.050	2898321
Fluorene	ug	0.142	<0.050	0.050	2898321
Indeno(1,2,3-cd)pyrene	ug	<0.050	<0.050	0.050	2898321
m-Terphenyl	ug	<0.10	<0.10	0.10	2898321
Naphthalene	ug	<0.072	<0.072	0.072	2898321

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytics

Maxxam Job #: B298336
Report Date: 2012/07/09

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

Maxxam ID		NZ5451	NZ5452		
Sampling Date		2012/06/26	2012/06/26		
COC Number		12320	12320		
	Units	**LICA PUFF+QFF/CLS/JUN 26,12**	**LICA PUFF+QFF/PORT/JUN 26,12**	**RDL**	**QC Batch**
o-Terphenyl	ug	<0.10	<0.10	0.10	2898321
Perylene	ug	<0.10	<0.10	0.10	2898321
Phenanthrene	ug	1.31	0.250	0.050	2898321
p-Terphenyl	ug	<0.10	<0.10	0.10	2898321
Pyrene	ug	0.122	<0.050	0.050	2898321
Quinoline	ug	<0.40	<0.40	0.40	2898321
Tetralin	ug	<0.10	<0.10	0.10	2898321
Triphenylene	ug	<0.10	<0.10	0.10	2898321
Surrogate Recovery (%)					
D10-2-Methylnaphthalene	%	80	78		2898321
D10-Fluoranthene	%	90	90		2898321
D10-Fluorene (FS)	%	4.4 (1)	5.0 (1)		2898321
D10-Phenanthrene	%	86	84		2898321
D12-Benzo(a)anthracene	%	88	86		2898321
D12-Benzo(a)pyrene	%	92	90		2898321
D12-Benzo(b)fluoranthene	%	92	92		2898321
D12-Benzo(ghi)perylene	%	94	92		2898321
D12-Benzo(k)fluoranthene	%	92	90		2898321
D12-Chrysene	%	94	94		2898321
D12-Indeno(1,2,3-cd)pyrene	%	90	88		2898321
D12-Perylene	%	92	92		2898321
D14-Dibenzo(a,h)anthracene	%	90	90		2898321
D14-Terphenyl (FS)	%	92	94		2898321
D8-Acenaphthylene	%	78	76		2898321
D8-Naphthalene	%	82	80		2898321

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 #: B298336
Report Date: 2012/07/09

Test Summary

Maxxam ID NZ5451 **Collected** 2012/06/26
Sample ID LICA PUFF+QFF/CLS/JUN 26,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/07/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2898321	2012/07/04	2012/07/06	Lidija Tomic

Maxxam ID NZ5452 **Collected** 2012/06/26
Sample ID LICA PUFF+QFF/PORT/JUN 26,12 **Shipped**
Matrix PUF AND FILTER **Received** 2012/07/03

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
PAH's in Air (CARB429mod)	GC/MS	2898321	2012/07/04	2012/07/06	Lidija Tomic

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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: GB298336

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2898321	LTO	Spiked Blank	D10-2-Methylnaphthalene	2012/07/06		84	%	50 - 150
			D10-Fluoranthene	2012/07/06		86	%	50 - 150
			D10-Phenanthrene	2012/07/06		78	%	50 - 150
			D12-Benzo(a)anthracene	2012/07/06		86	%	50 - 150
			D12-Benzo(a)pyrene	2012/07/06		94	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/07/06		92	%	50 - 150
			D12-Benzo(ghi)perylene	2012/07/06		94	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/07/06		92	%	50 - 150
			D12-Chrysene	2012/07/06		94	%	50 - 150
			D12-Indeno(1,2,3-cd)pyrene	2012/07/06		90	%	50 - 150
			D12-Perylene	2012/07/06		94	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/07/06		90	%	50 - 150
			D8-Acenaphthylene	2012/07/06		82	%	50 - 150
			D8-Naphthalene	2012/07/06		86	%	50 - 150
			Acenaphthene	2012/07/06		77	%	60 - 130
		RPD	Acenaphthene	2012/07/06	4.0		%	50
		Spiked Blank	Acenaphthylene	2012/07/06		78	%	60 - 130
		RPD	Acenaphthylene	2012/07/06	3.9		%	50
		Spiked Blank	Anthracene	2012/07/06		82	%	60 - 130
		RPD	Anthracene	2012/07/06	5.6		%	50
		Spiked Blank	Benzo(a)anthracene	2012/07/06		81	%	60 - 130
		RPD	Benzo(a)anthracene	2012/07/06	3.4		%	50
		Spiked Blank	Benzo(a)pyrene	2012/07/06		75	%	60 - 130
		RPD	Benzo(a)pyrene	2012/07/06	3.7		%	50
		Spiked Blank	Benzo(b)fluoranthene	2012/07/06		84	%	60 - 130
		RPD	Benzo(b)fluoranthene	2012/07/06	3.9		%	50
		Spiked Blank	Benzo(g,h,i)perylene	2012/07/06		84	%	60 - 130
		RPD	Benzo(g,h,i)perylene	2012/07/06	7.7		%	50
		Spiked Blank	Benzo(k)fluoranthene	2012/07/06		91	%	60 - 130
		RPD	Benzo(k)fluoranthene	2012/07/06	4.2		%	50
		Spiked Blank	Chrysene	2012/07/06		84	%	60 - 130
		RPD	Chrysene	2012/07/06	4.3		%	50
		Spiked Blank	Dibenz(a,h)anthracene	2012/07/06		88	%	60 - 130
		RPD	Dibenz(a,h)anthracene	2012/07/06	5.0		%	50
		Spiked Blank	Fluoranthene	2012/07/06		83	%	60 - 130
		RPD	Fluoranthene	2012/07/06	2.4		%	50
		Spiked Blank	Fluorene	2012/07/06		78	%	60 - 130
		RPD	Fluorene	2012/07/06	3.2		%	50
		Spiked Blank	Indeno(1,2,3-cd)pyrene	2012/07/06		84	%	60 - 130
		RPD	Indeno(1,2,3-cd)pyrene	2012/07/06	4.6		%	50
		Spiked Blank	Naphthalene	2012/07/06		84	%	60 - 130
		RPD	Naphthalene	2012/07/06	10.1		%	50
		Spiked Blank	Phenanthrene	2012/07/06		72	%	60 - 130
		RPD	Phenanthrene	2012/07/06	3.5		%	50
		Spiked Blank	Pyrene	2012/07/06		76	%	60 - 130
		RPD	Pyrene	2012/07/06	3.7		%	50
		Method Blank	D10-2-Methylnaphthalene	2012/07/06		90	%	50 - 150
			D10-Fluoranthene	2012/07/06		88	%	50 - 150
			D10-Phenanthrene	2012/07/06		80	%	50 - 150
			D12-Benzo(a)anthracene	2012/07/06		82	%	50 - 150
			D12-Benzo(a)pyrene	2012/07/06		92	%	50 - 150
			D12-Benzo(b)fluoranthene	2012/07/06		90	%	50 - 150
			D12-Benzo(ghi)perylene	2012/07/06		90	%	50 - 150
			D12-Benzo(k)fluoranthene	2012/07/06		92	%	50 - 150
			D12-Chrysene	2012/07/06		94	%	50 - 150

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Attention: Michael Bisaga
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Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: GB298336

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2898321	LTO	Method Blank	D12-Indeno(1,2,3-cd)pyrene	2012/07/06		88	%	50 - 150
			D12-Perylene	2012/07/06		94	%	50 - 150
			D14-Dibenzo(a,h)anthracene	2012/07/06		88	%	50 - 150
			D8-Acenaphthylene	2012/07/06		86	%	50 - 150
			D8-Naphthalene	2012/07/06		92	%	50 - 150
			1-Methylnaphthalene	2012/07/06	<0.10		ug	
			1-Methylphenanthrene	2012/07/06	<0.10		ug	
			2-Chloronaphthalene	2012/07/06	<0.10		ug	
			2-Methylanthracene	2012/07/06	<0.10		ug	
			2-Methylnaphthalene	2012/07/06	<0.10		ug	
			3-Methylcholanthrene	2012/07/06	<2.0		ug	
			7,12-Dimethylbenzo(a)anthracene	2012/07/06	<0.10		ug	
			9,10-Dimethylanthracene	2012/07/06	<0.40		ug	
			Acenaphthene	2012/07/06	<0.050		ug	
			Acenaphthylene	2012/07/06	<0.050		ug	
			Anthracene	2012/07/06	<0.050		ug	
			Benzo(a)anthracene	2012/07/06	<0.050		ug	
			Benzo(a)fluorene	2012/07/06	<0.10		ug	
			Benzo(a)pyrene	2012/07/06	<0.050		ug	
			Benzo(b)Anthracene	2012/07/06	<0.10		ug	
			Benzo(b)fluoranthene	2012/07/06	<0.050		ug	
			Benzo(b)fluorene	2012/07/06	<0.10		ug	
			Benzo(e)pyrene	2012/07/06	<0.10		ug	
			Benzo(g,h,i)perylene	2012/07/06	<0.050		ug	
			Benzo(k)fluoranthene	2012/07/06	<0.050		ug	
			Biphenyl	2012/07/06	<0.10		ug	
			Chrysene	2012/07/06	<0.050		ug	
			Coronene	2012/07/06	<0.10		ug	
			Dibenz(a,h)anthracene	2012/07/06	<0.050		ug	
			Dibenzo(a,c) anthracene + Picene	2012/07/06	<0.10		ug	
			Dibenzo(a,e)pyrene	2012/07/06	<0.20		ug	
			Fluoranthene	2012/07/06	<0.050		ug	
			Fluorene	2012/07/06	<0.050		ug	
			Indeno(1,2,3-cd)pyrene	2012/07/06	<0.050		ug	
			m-Terphenyl	2012/07/06	<0.10		ug	
			Naphthalene	2012/07/06	<0.072		ug	
			o-Terphenyl	2012/07/06	<0.10		ug	
			Perylene	2012/07/06	<0.10		ug	
			Phenanthrene	2012/07/06	<0.050		ug	
			p-Terphenyl	2012/07/06	<0.10		ug	
			Pyrene	2012/07/06	<0.050		ug	
			Quinoline	2012/07/06	<0.40		ug	
			Tetralin	2012/07/06	<0.10		ug	
			Triphenylene	2012/07/06	<0.10		ug	

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

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