

Lakeland Industry & Community Association
Cold Lake Monitoring Site
Ambient Air Monitoring
Data Report
For
September 2007

Prepared By:

MAXXAM ANALYTICS INC.

Lakeland Industry & Community Assoc.

COLD LAKE

AMBIENT AIR MONITORING STATION

TABLE OF CONTENTS

CALIBRATION PROCEDURE	3
MONTHLY CONTINUOUS SUMMARY – COLD LAKE	4
PASSIVE NETWORK DATA SUMMARY	5
GENERAL MONTHLY SUMMARY- COLD LAKE	6
MONTHLY GRAPHS, SUMMARIES AND WIND ROSES	9
COLD LAKE SOUTH	
AIR QUALITY INDEX MONTHLY SUMMARY	10
SULPHUR DIOXIDE MONTHLY SUMMARY	12
TOTAL REDUCED SULPHUR MONTHLY SUMMARY	20
TOTAL HYDROCARBONS MONTHLY SUMMARY	28
PARTICULATE MATTER 2.5 MONTHLY SUMMARY	36
NITROGEN DIOXIDE MONTHLY SUMMARY	43
NITRIC OXIDE MONTHLY SUMMARY	51
OXIDES OF NITROGEN MONTHLY SUMMARY	58
OZONE MONTHLY SUMMARY	66
VECTOR WIND SPEED MONTHLY SUMMARY	74
VECTOR WIND DIRECTION MONTHLY SUMMARY	81
TEMPURATURE MONTHLY SUMMARY	86
RELATIVE HUMIDITY MONTHLY SUMMARY	89
SEPTEMBER 2007 CALIBRATION REPORTS	92
COLD LAKE SOUTH	
SULPHUR DIOXIDE	93
TOTAL REDUCED SULPHUR	97
TOTAL HYDROCARBONS	101
PARTICULATE MATTER 2.5	105
NITROGEN DIOXIDE	108
OZONE	114
SEPTEMBER 2007 PASSIVE BUBBLE MAPS	118
SEPTEMBER 2007 PASSIVE AMBIENT AIR MONITORING ANALYSIS	123
SEPTEMBER 2007 PASSIVE FIELD DATA	129
SEPTEMBER 2007 PASSIVE FIELD PHOTO	131

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*.

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

MONTHLY CONTINUOUS DATA SUMMARY

COLD LAKE

Continuous Ambient Monitoring – September 2007

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION COLD LAKE SITE					MAXIMUM VALUES					OPERATIONAL TIME (PERCENT)	
					1-HOUR				24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	READING	DAY	
	1-HR	24-HR	1-HR	24-HR							
SO ₂ (PPB)	172	57	0	0	0.03	2	27	14	0.3	28	100.0
TRS (PPB)	-	-	-	-	0.09	1	VAR	VAR	0.5	20	100.0
NO ₂ (PPB)	212	106	0	0	2.08	10	29	21	3.6	22,25	100.0
NO (PPB)	-	-	-	-	0.47	23	18	7	2.1	18	100.0
NOx (PPB)	-	-	-	-	2.59	32	18	7	5.2	22	100.0
O ₃ (PPB)	82	-	0	-	17.49	48	15	17	26.4	28	100.0
THC (PPM)	-	-	-	-	2.05	4.4	15	2	2.6	15	100.0
PM 2.5 (UG/M ³)	-	30	-	0	1.99	29.6	18	19	6.3	15	96.1
TEMPERATURE (DEG C)	-	-	-	-	8.87	23.3	16	16	15.3	4	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	74.55	99.1	9	9	91.4	8	100.0
VECTOR WS (KPH)	-	-	-	-	5.41	19.4	12	12	14.1	12	100.0
VECTOR WD (DEGREES)	-	-	-	-	W	-	-	-	-	-	100.0

**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Passive Ambient Monitoring Network – September 2007**

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM (PPB)		NETWORK AVERAGE (PPB)	
PARAMETER	STATION	READING	READING
NO ₂	25	4.3	1.5
SO ₂	24	1.9	0.5
H ₂ S	4	0.77	0.18
O ₃	14	25.4	17.6

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

SO₂

- Analyzer make / model TECO 43A

No operational issues during the month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information. Alberta Environment conducted an audit on September 25th, 2007 with no major findings.

TRS

- Analyzer make / model TECO 43A
CD NOVA CDN 101 Converter

No operational issues during the month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information. Alberta Environment conducted an audit on September 25th, 2007 with no major findings.

THC

- Analyzer make / model TECO 51C-LT

No operational issues during the month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information. It was agreed to with the LICA Program Manager to invalidate all data, after zero correction, which falls below the historical background average of 1.5 ppm. As a result 0 hours of data was invalidated and the uptime was at 100.0%. The Hydrogen cylinder was changed out on September 21st. Alberta Environment conducted an audit on September 25th, 2007 with no major findings.

NOx

- Analyzer make / model TECO 42C

No operational issues during the month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information. Alberta Environment conducted an audit on September 25th, 2007 with no major findings.

O₃

- Analyzer make / model

TECO 49I

No operational issues during the month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information. Alberta Environment conducted an audit on September 25th, 2007 with no major findings.

PM 2.5

- Analyzer make / model

TEOM 1400A

No operational issues during the month. There were 25 hours of instability during the month; the data was subsequently invalidated. There were three hours of data missing on September 6th. No reason found for the missing data. Alberta Environment conducted an audit on September 25th, 2007 with no major findings.

Wind Speed & Direction

- System make / model

MET ONE 50.5

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

Relative Humidity

- System make / model

Rotronic Hygroclip-S3

No operational issues observed during the month.

Temperature

- System make / model

Rotronic Hygroclip-S3

No operational issues observed during the month.

Datalogger

- System make / model

ESC 8832

- Software make / version

ESC v 5.51a

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

Air Quality Index (AQI)

The AQI data was adjusted to reflect regular monthly calibrations, maintenance, and downtime and daily calibrations.

Passive Network

- Site #12 – Site was vandalized. Post was pulled out of ground. Photos inserted at end of report. The SO₂ cartridge was damaged and analysis unable to be conducted.
- Site #17 – Station was leaning, site post was straightened.
- Site # 8 – Ozone sampler damaged.

LICA - COLD LAKE SITE

MONTHLY SUMMARIES,

GRAPHS

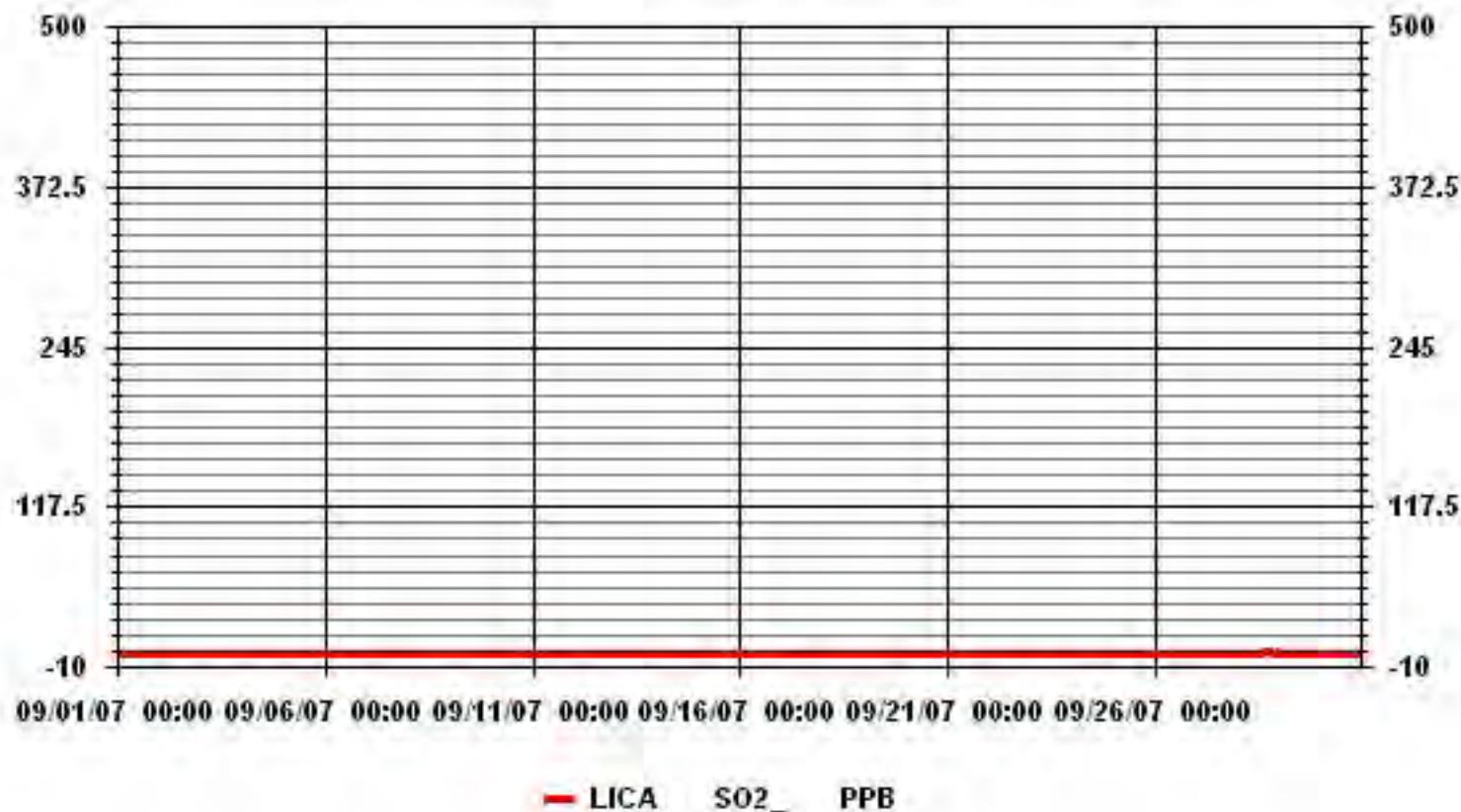
&

WIND ROSES

AIR QUALITY INDEX

SO₂

01 Hour Averages



LICA
SO2_ / WD Joint Frequency Distribution (Percent)

September 2007

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : SO2_
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
< 20	2.04	1.90	1.90	2.92	4.68	6.14	8.78	2.63	4.09	6.73	12.00	15.37	9.95	9.80	7.90	3.07	100.00
< 60	.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	
< 170	.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	
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	2.04	1.90	1.90	2.92	4.68	6.14	8.78	2.63	4.09	6.73	12.00	15.37	9.95	9.80	7.90	3.07	

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	14	13	13	20	32	42	60	18	28	46	82	105	68	67	54	21	683
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	14	13	13	20	32	42	60	18	28	46	82	105	68	67	54	21	

Calm : .00 %

Total # Operational Hours : 683

Logger : 01 Parameter : SO2

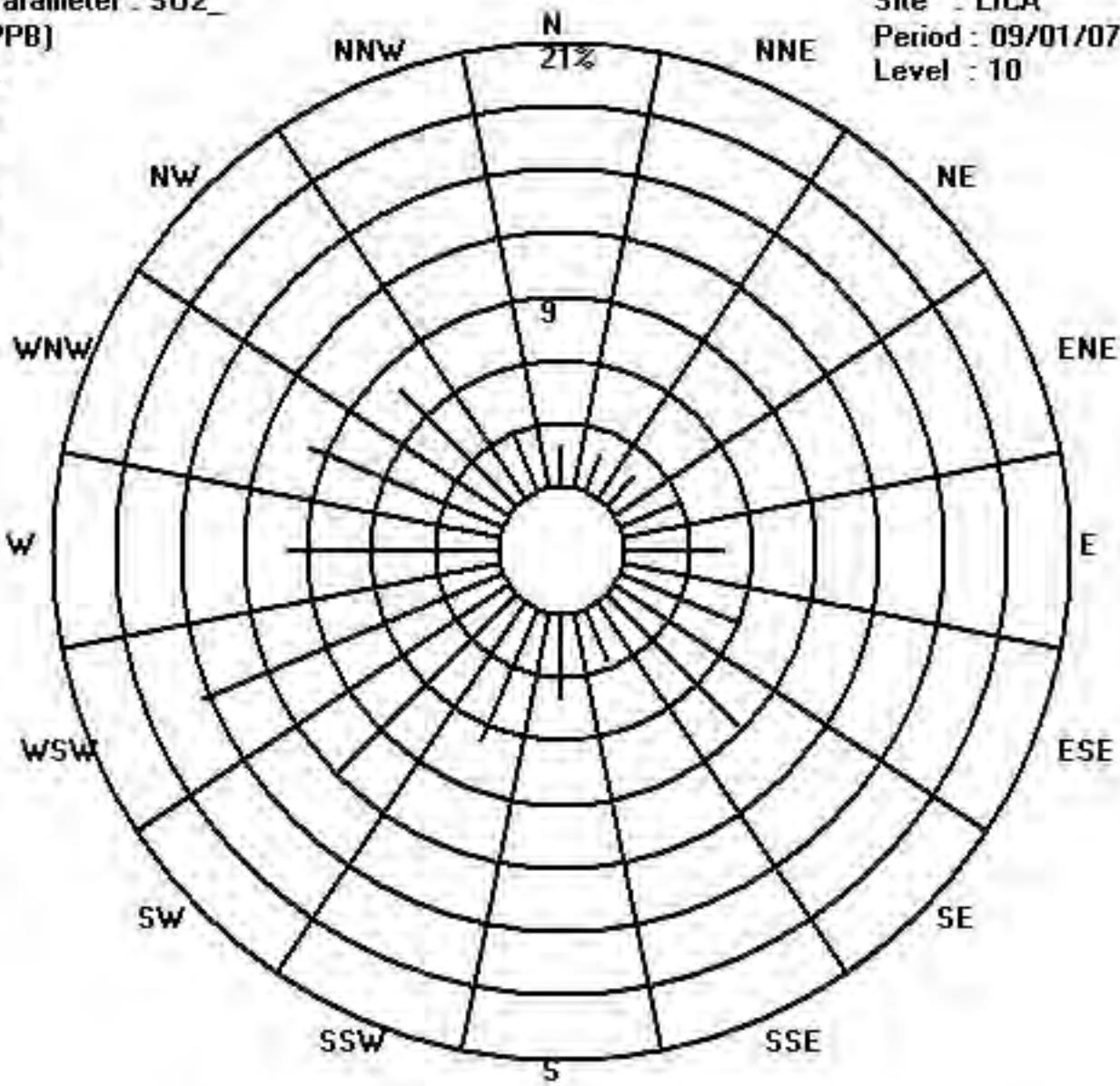
Class Limits (PPB)



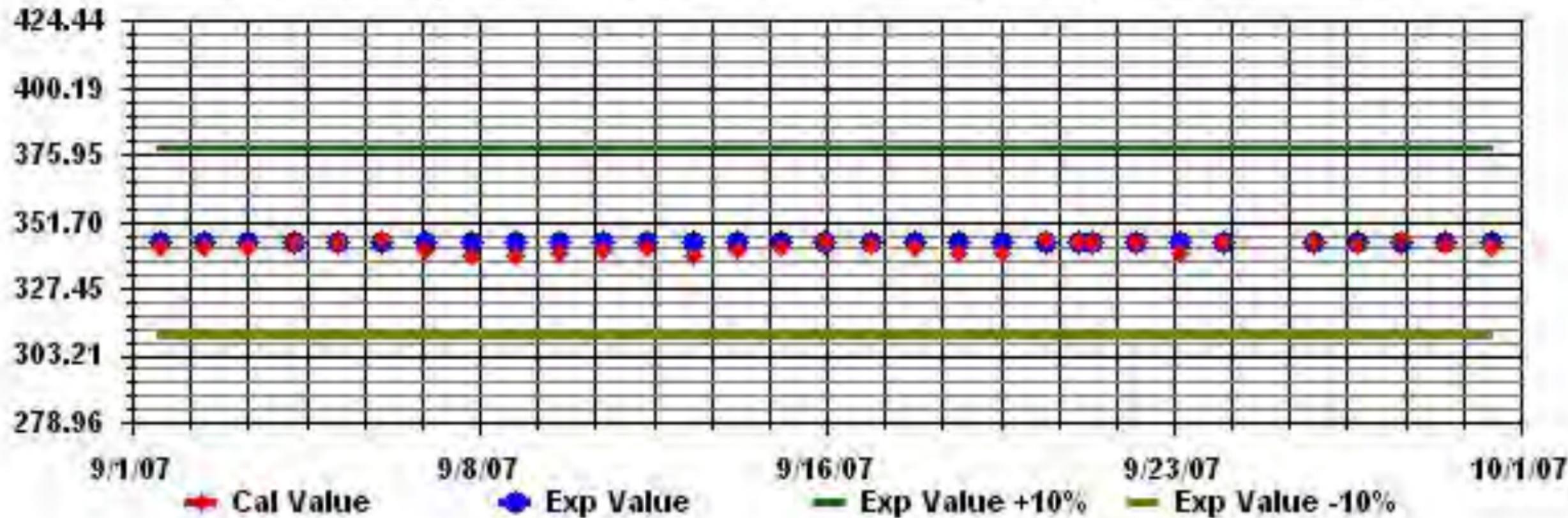
Site : LICA

Period : 09/01/07-09/30/07

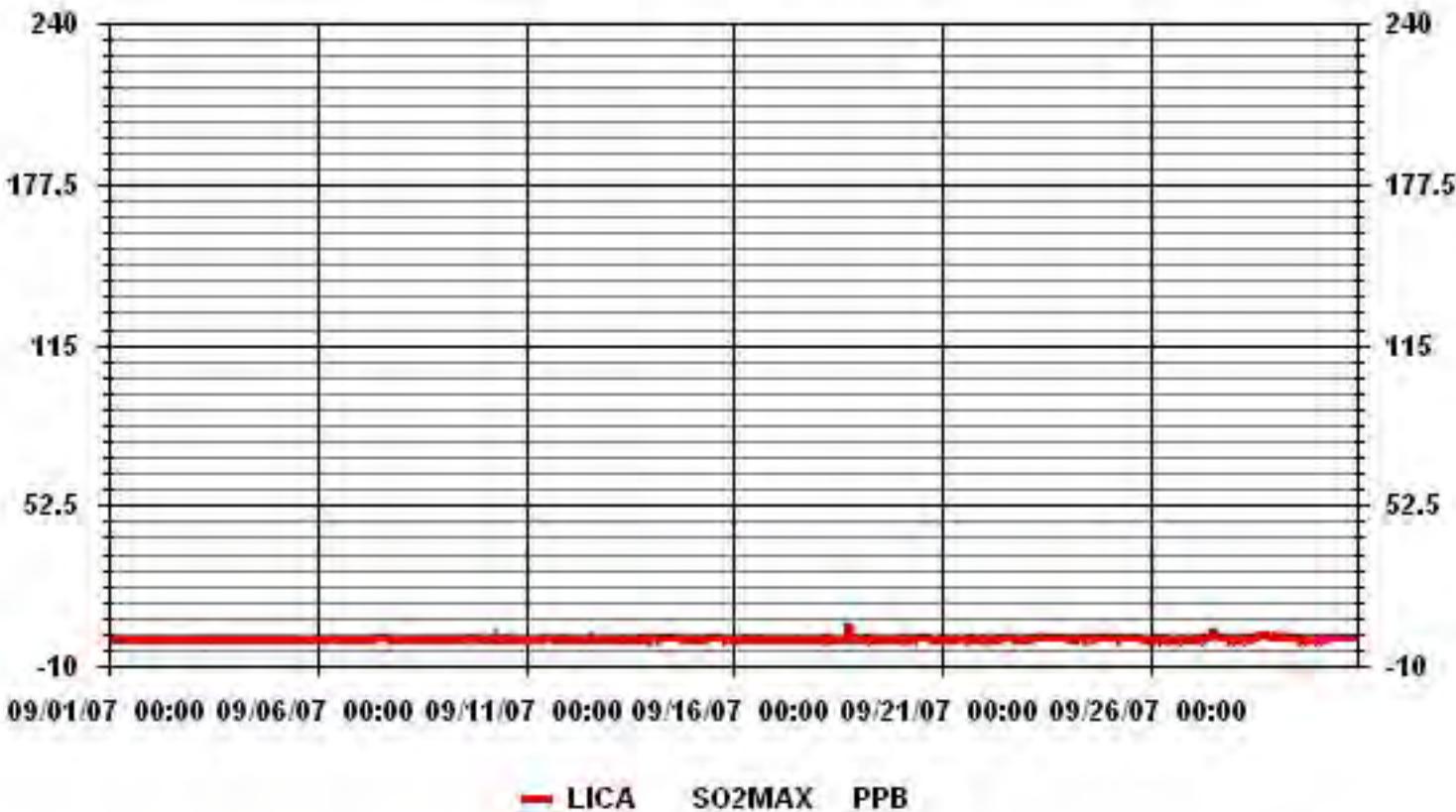
Level : 10



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

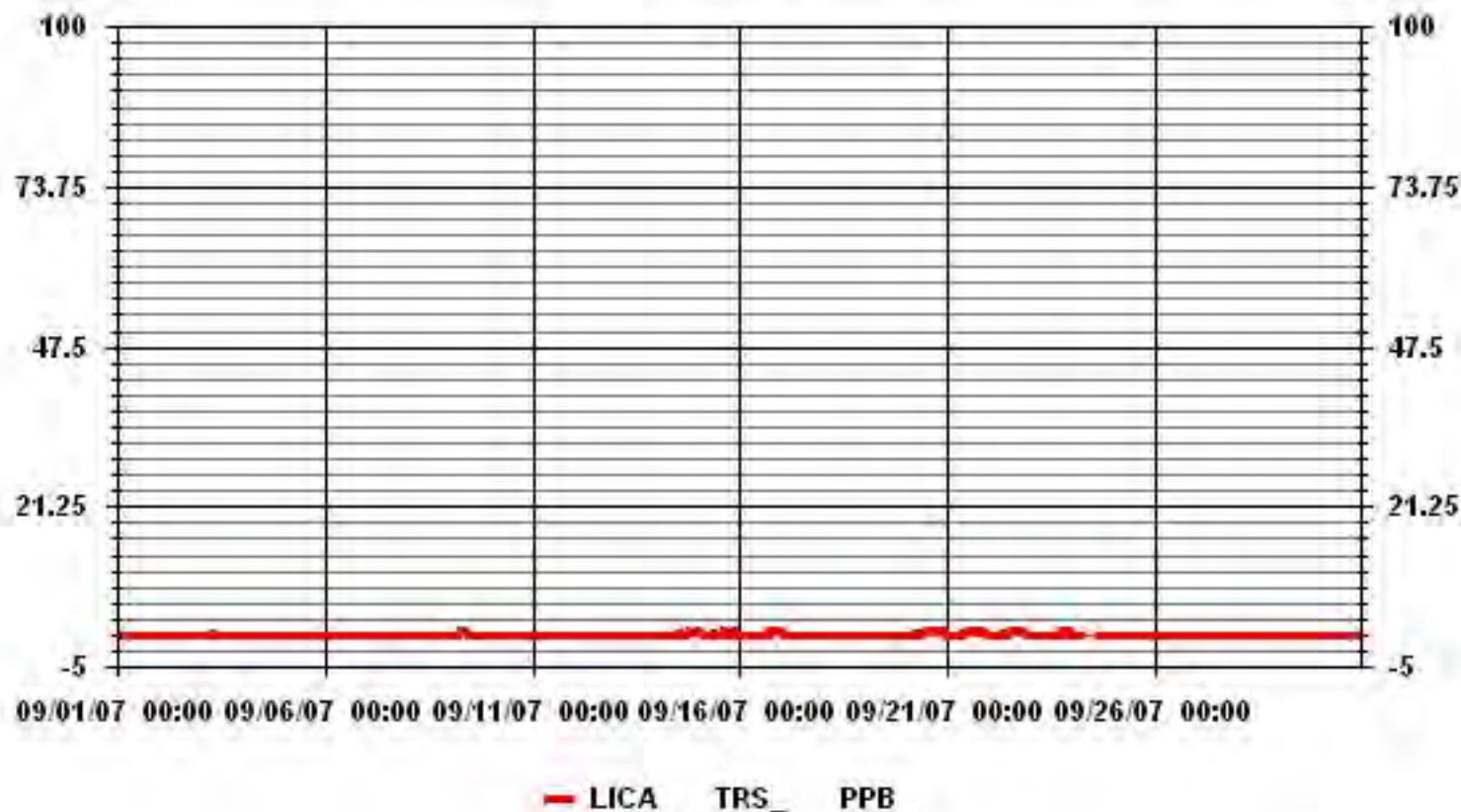


01 Hour Averages



TRS

01 Hour Averages



LICA
TRS_ / WD Joint Frequency Distribution (Percent)

September 2007

Distribution By % Of Samples

Logger Id : 01
 Site Name : LICA
 Parameter : TRS_
 Units : PPB

Wind Parameter : WD
 Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	2.06	1.91	1.91	2.94	4.71	6.18	8.68	2.65	4.12	6.77	11.48	15.31	10.16	10.01	7.95	3.09	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	2.06	1.91	1.91	2.94	4.71	6.18	8.68	2.65	4.12	6.77	11.48	15.31	10.16	10.01	7.95	3.09	

Calm : .00 %

Total # Operational Hours : 679

Distribution By Samples

Direction

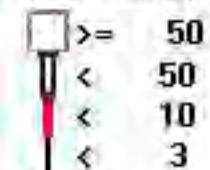
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	14	13	13	20	32	42	59	18	28	46	78	104	69	68	54	21	679
< 10																	
< 50																	
>= 50																	
Totals	14	13	13	20	32	42	59	18	28	46	78	104	69	68	54	21	

Calm : .00 %

Total # Operational Hours : 679

Logger : 01 Parameter : TRS_

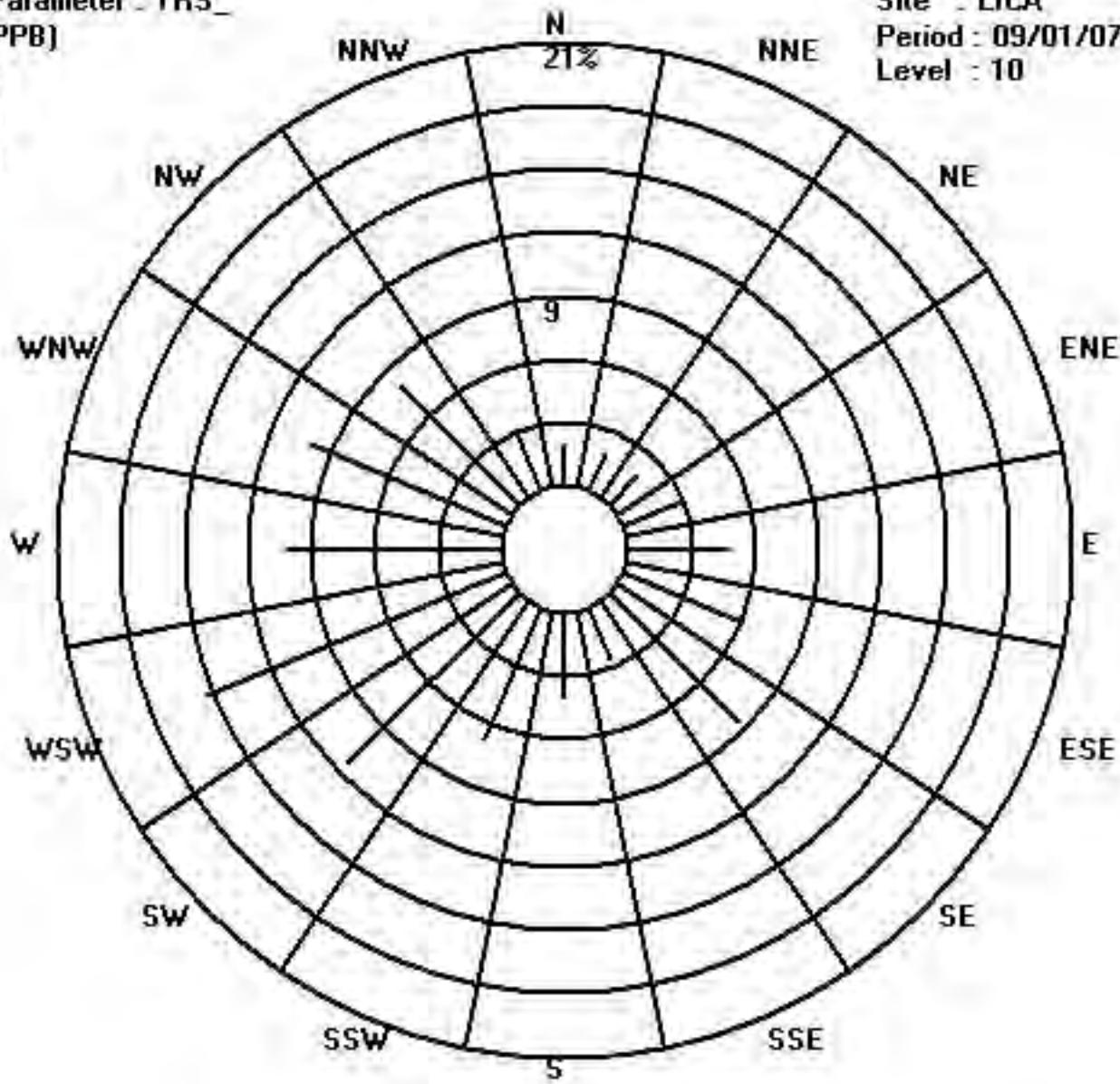
Class Limits (PPB)



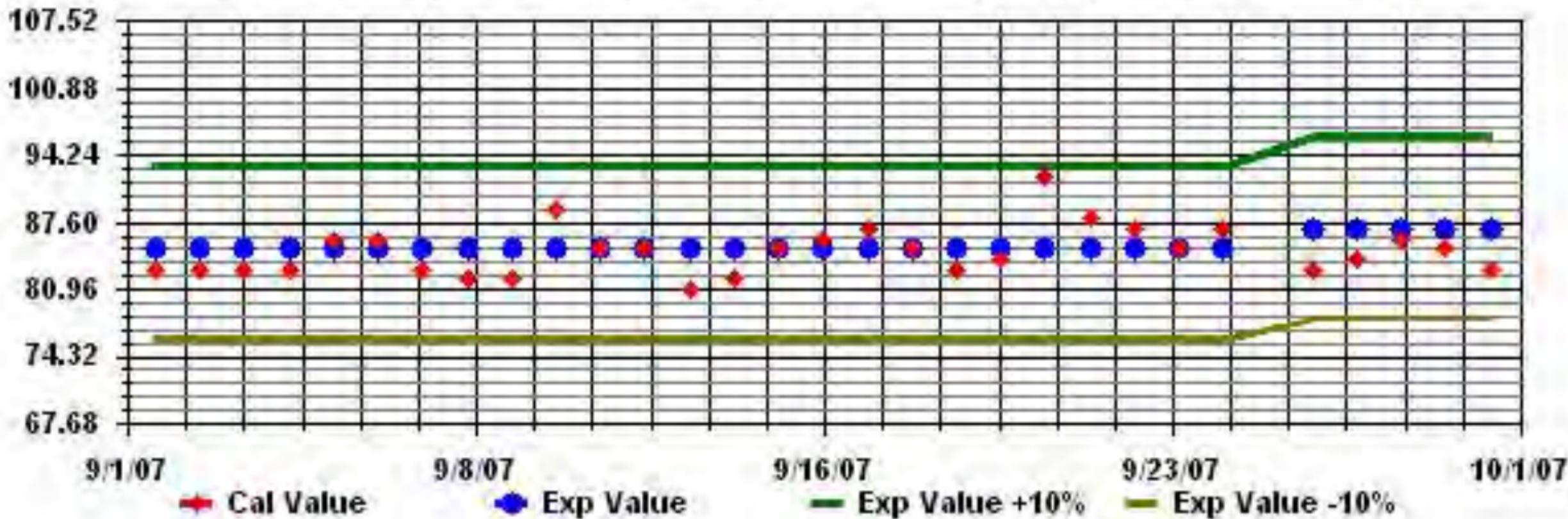
Site : LICA

Period : 09/01/07-09/30/07

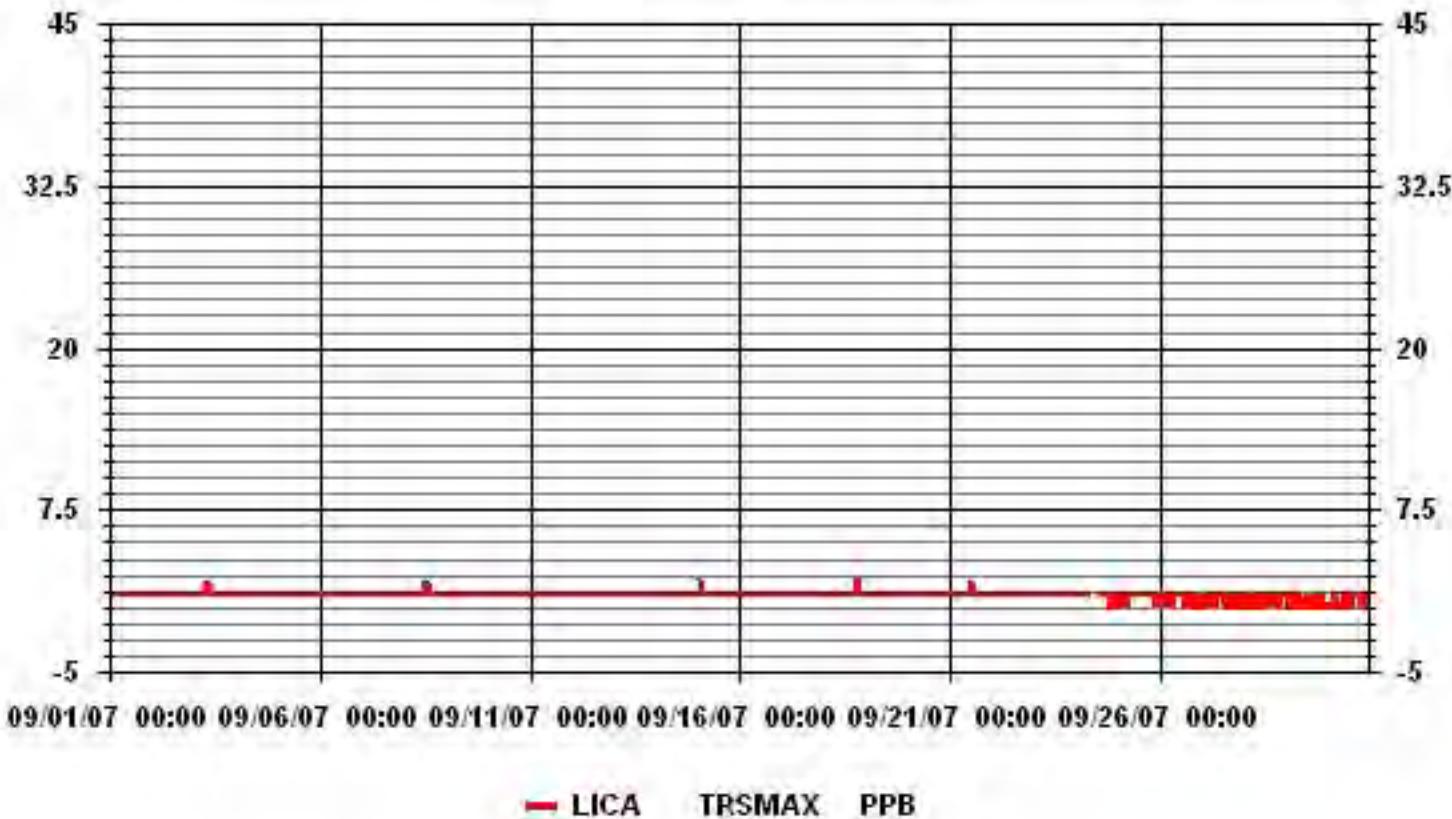
Level : 10



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

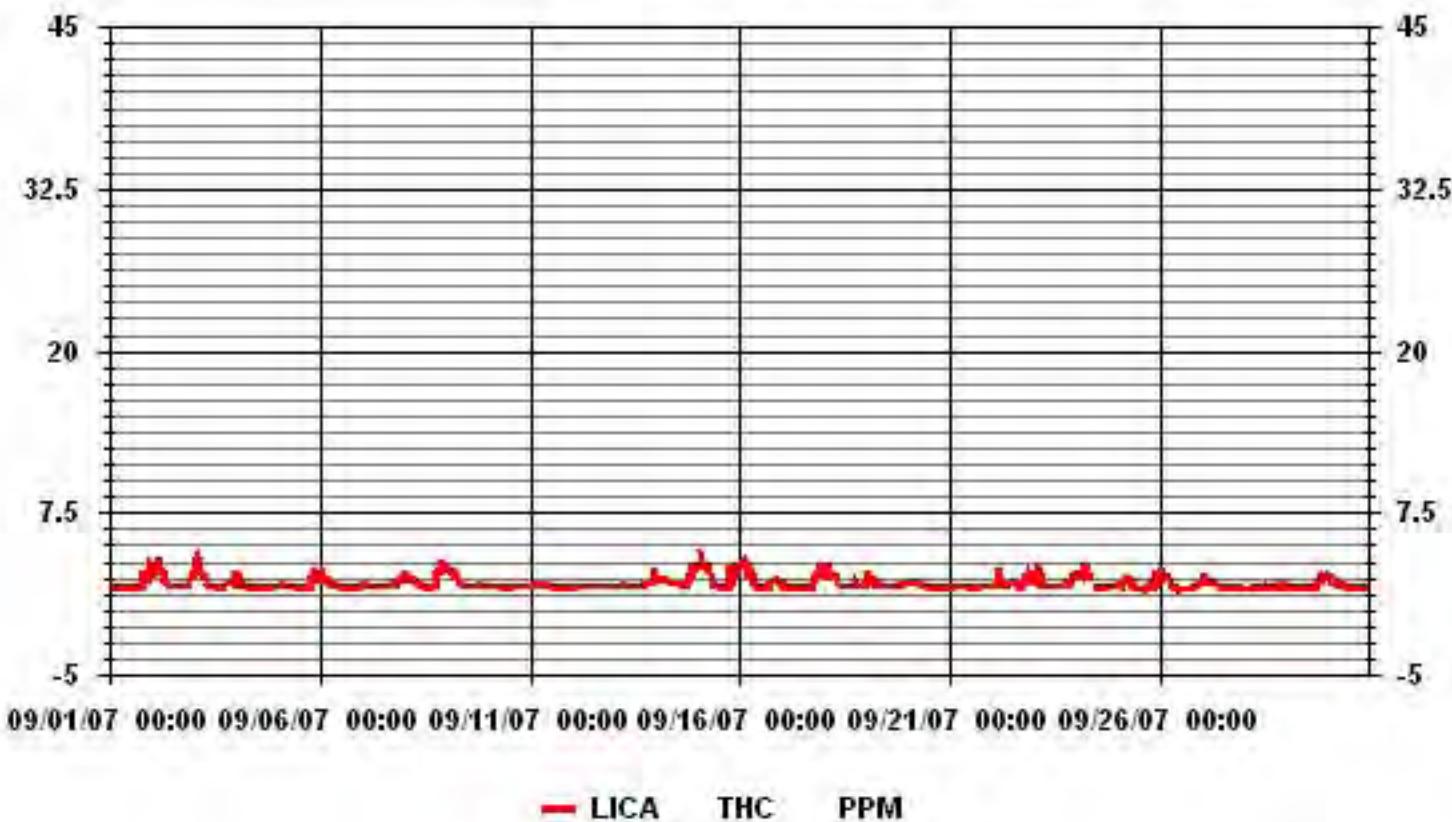


01 Hour Averages



THC

01 Hour Averages



LICA
THC / WD Joint Frequency Distribution (Percent)

September 2007

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	2.04	1.75	1.75	2.77	4.37	5.83	8.46	2.18	3.35	5.54	10.07	13.86	10.21	9.78	7.88	3.06	92.99
< 10.0	.00	.14	.14	.14	.29	.29	.29	.43	.72	1.16	1.60	1.45	.29	.00	.00	.00	7.00
< 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	2.04	1.89	1.89	2.91	4.67	6.13	8.75	2.62	4.08	6.71	11.67	15.32	10.51	9.78	7.88	3.06	

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
< 3.0	14	12	12	19	30	40	58	15	23	38	69	95	70	67	54	21	637
< 10.0		1	1	1	2	2	2	3	5	8	11	10	2				48
< 50.0																	
>= 50.0																	
Totals	14	13	13	20	32	42	60	18	28	46	80	105	72	67	54	21	

Calm : .00 %

Total # Operational Hours : 685

Logger : 01 Parameter : THC

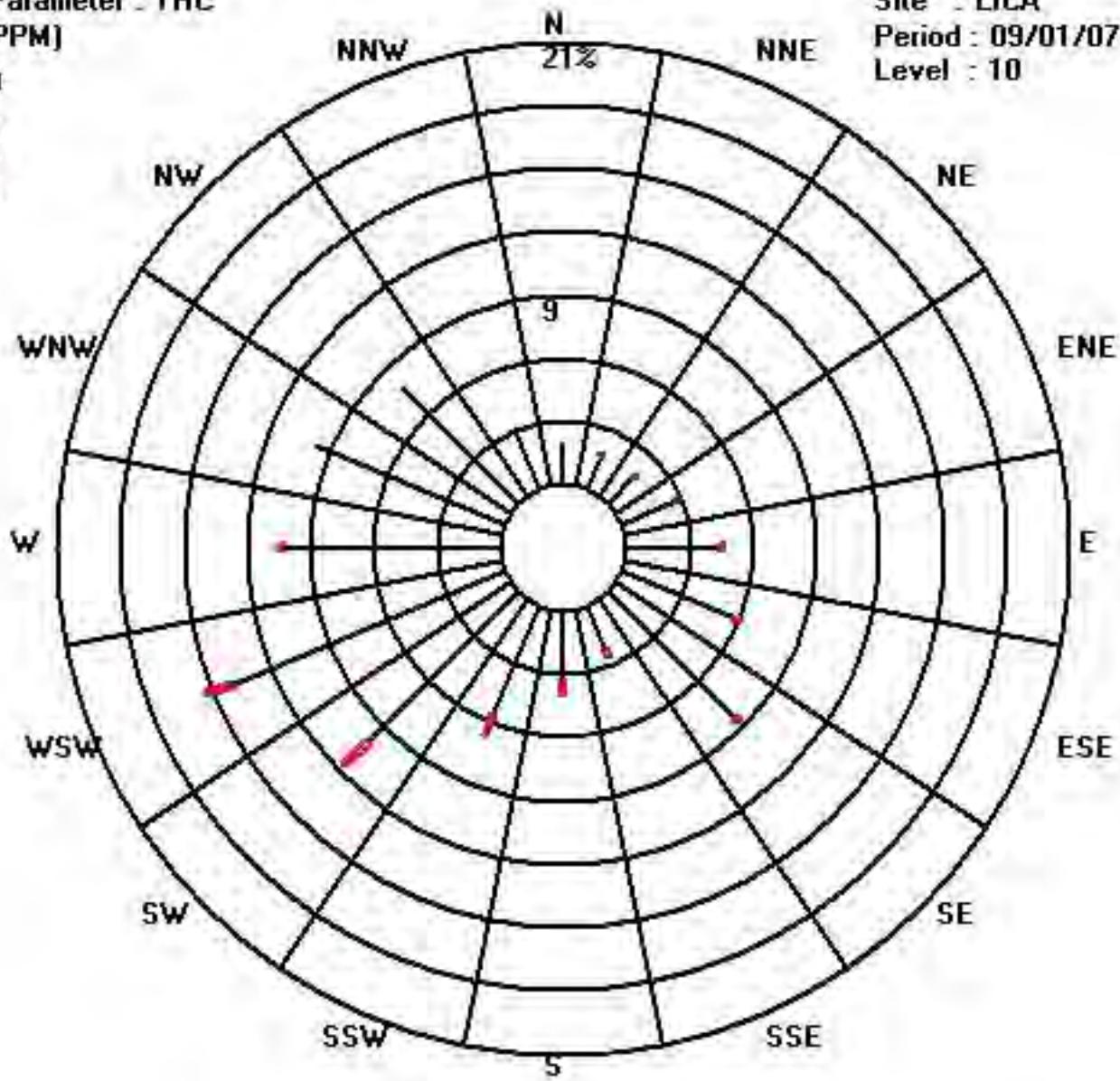
Class Limits (PPM)



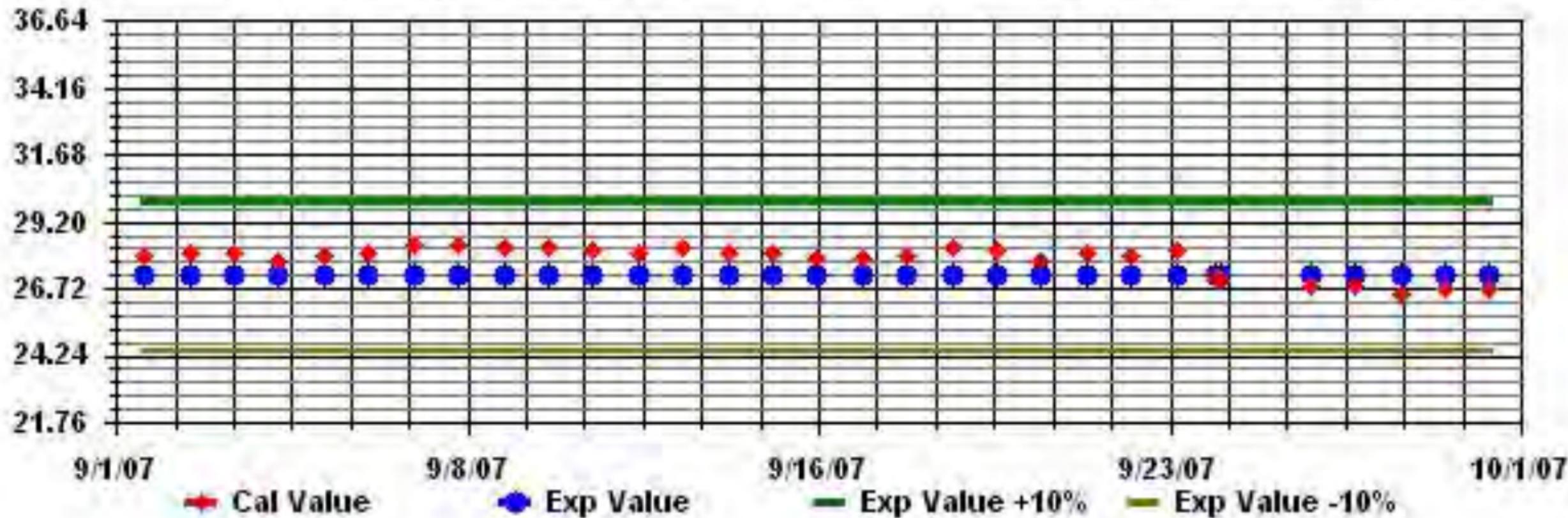
Site : LICA

Period : 09/01/07-09/30/07

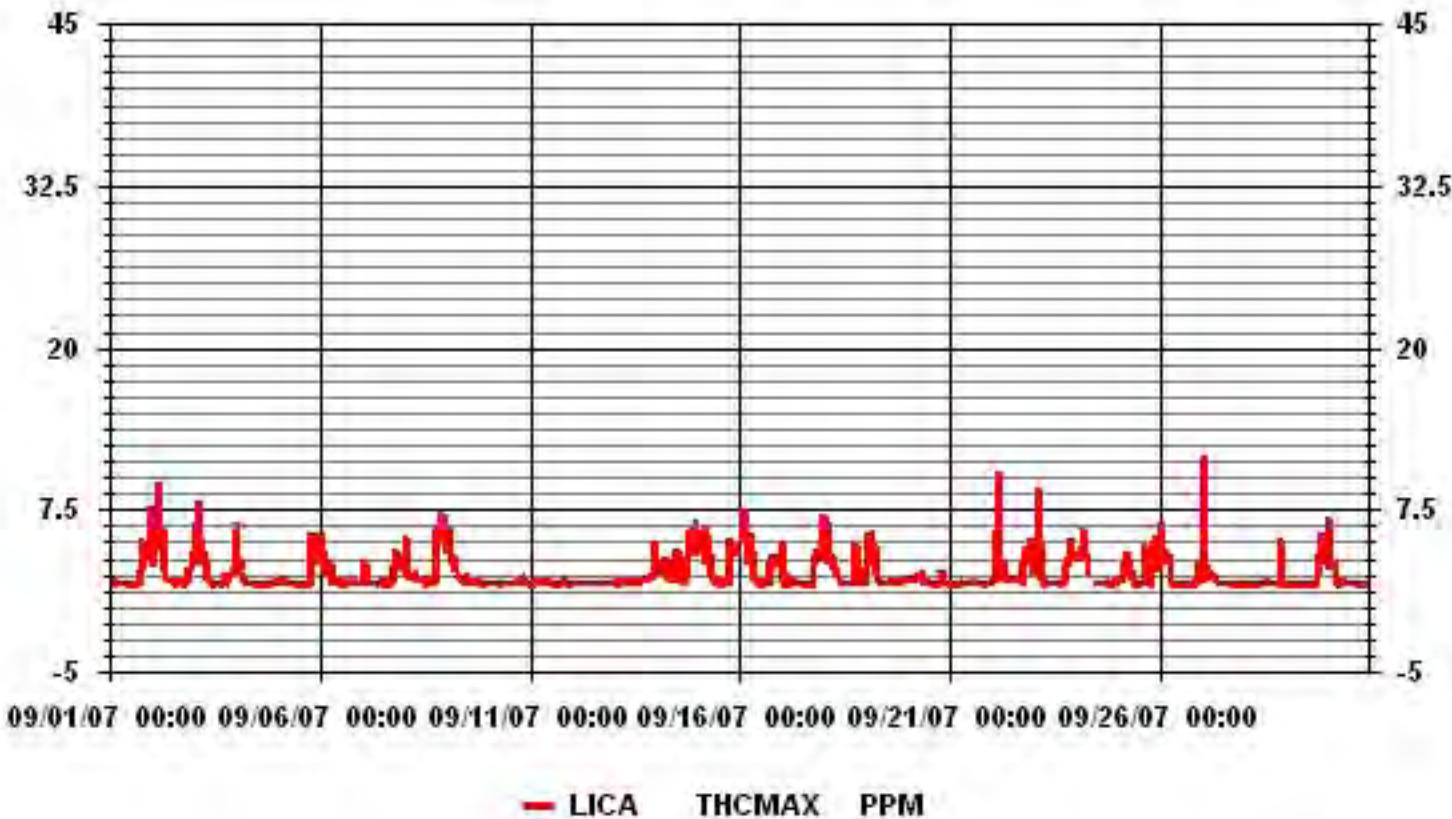
Level : 10



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



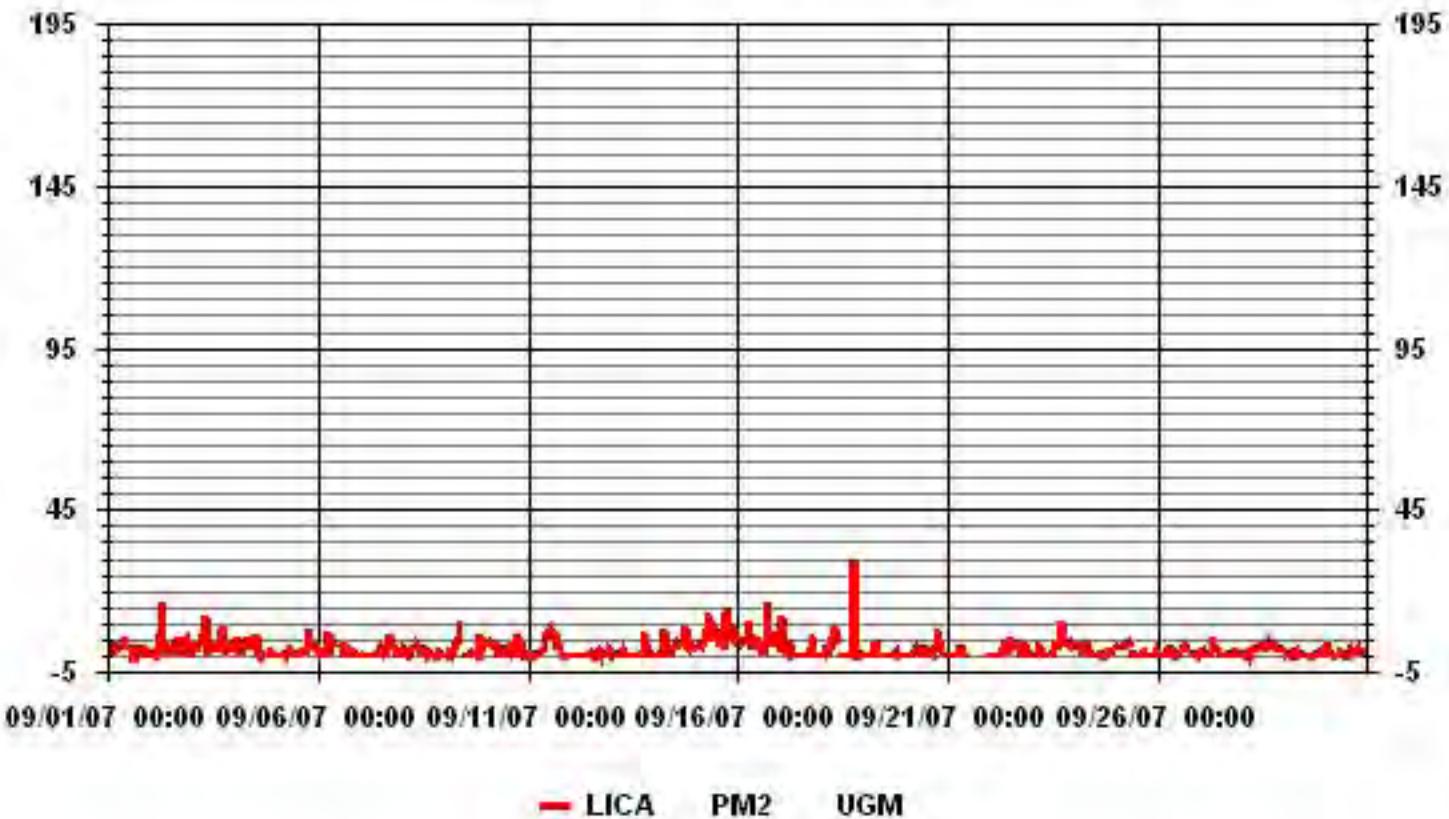
01 Hour Averages



PARTICULATE MATTER

2.5

01 Hour Averages



LICA
PM2 / WD Joint Frequency Distribution (Percent)

September 2007

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	2.03	1.74	2.03	3.05	4.79	5.81	9.15	2.47	3.92	6.97	11.77	14.97	10.46	10.17	7.26	3.34	100.00
< 60.0	.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	
< 120.0	.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	
>= 240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	2.03	1.74	2.03	3.05	4.79	5.81	9.15	2.47	3.92	6.97	11.77	14.97	10.46	10.17	7.26	3.34	

Calm : .00 %

Total # Operational Hours : 688

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	14	12	14	21	33	40	63	17	27	48	81	103	72	70	50	23	688
< 60.0																	
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	14	12	14	21	33	40	63	17	27	48	81	103	72	70	50	23	

Calm : .00 %

Total # Operational Hours : 688

Logger : 01 Parameter : PM2

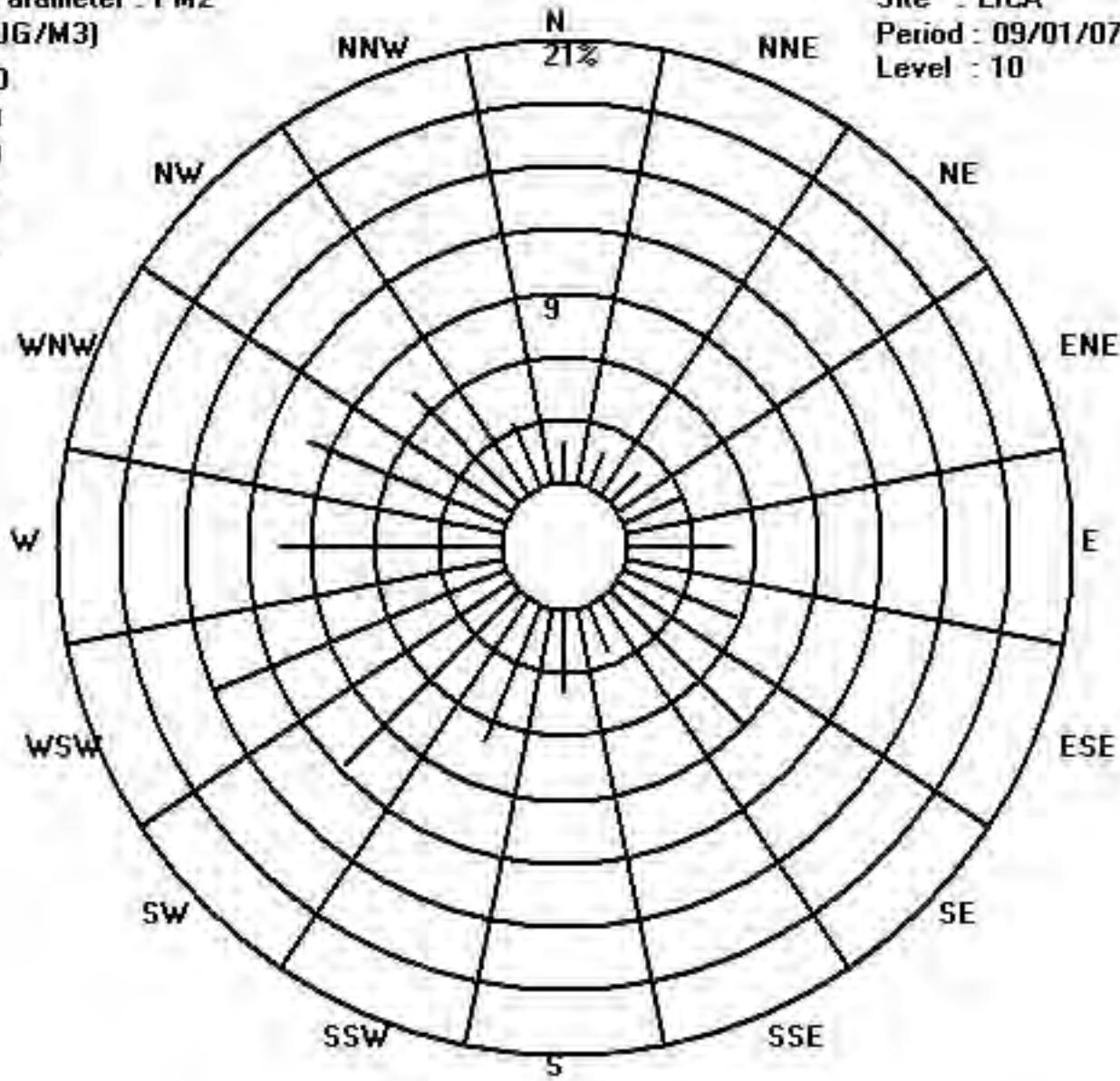
Class Limits (UG/M3)



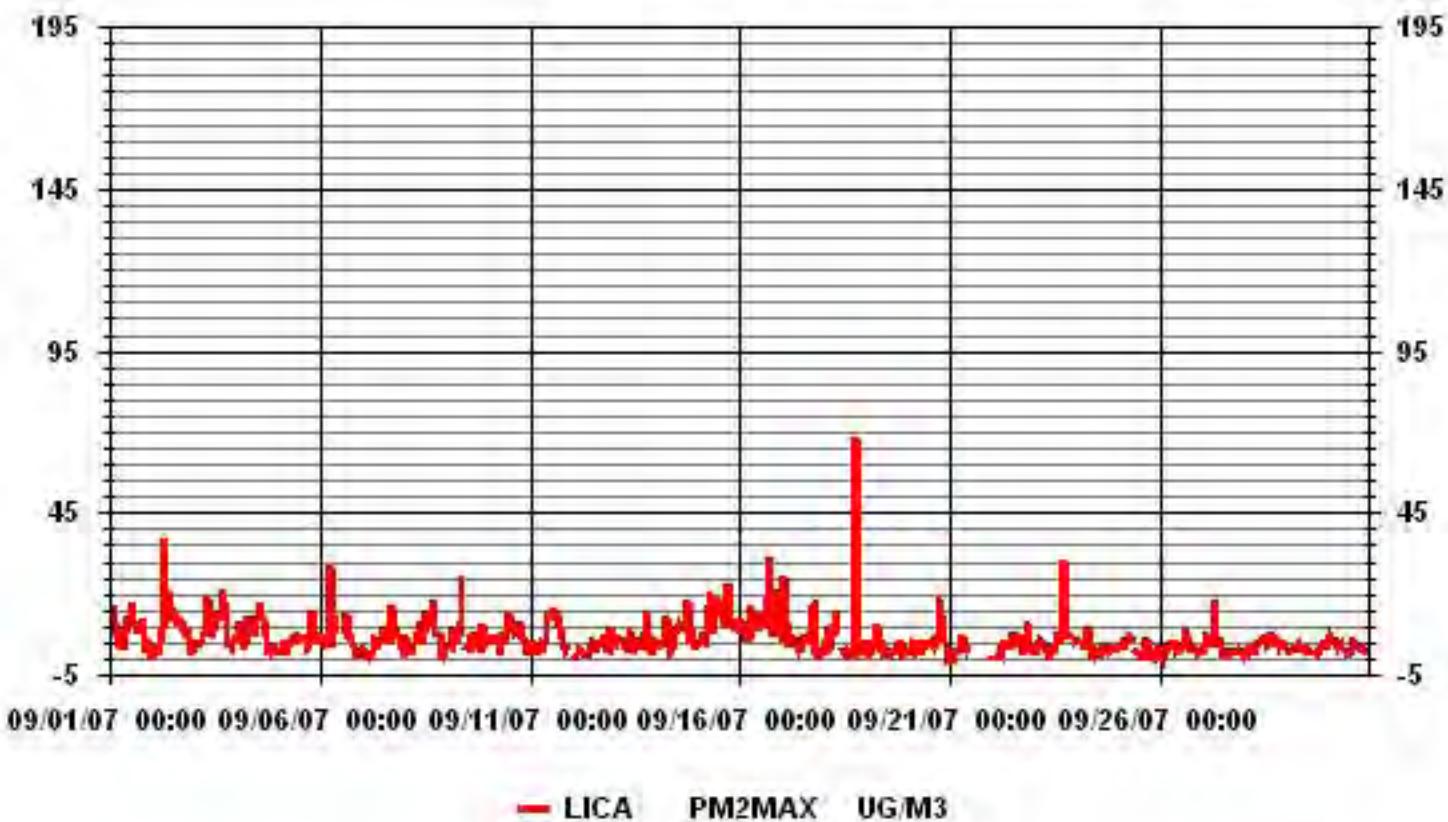
Site : LICA

Period : 09/01/07-09/30/07

Level : 10

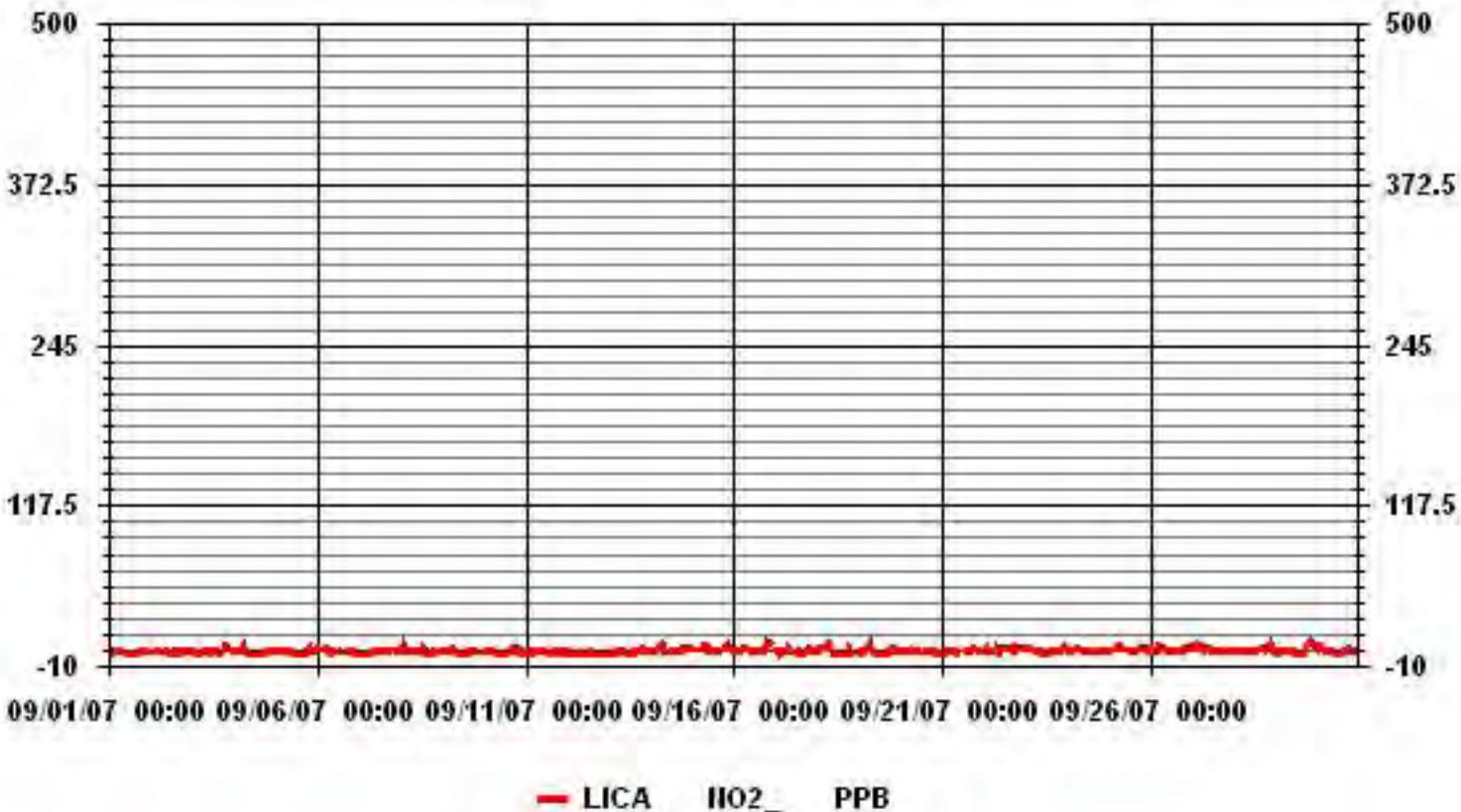


01 Hour Averages



NO₂

01 Hour Averages



LICA
NO2_ / WD Joint Frequency Distribution (Percent)

September 2007

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	2.05	1.90	1.90	2.93	4.69	6.16	8.81	2.64	4.11	6.75	12.04	15.12	9.98	9.83	7.92	3.08	100.00
< 110	.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	
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	2.05	1.90	1.90	2.93	4.69	6.16	8.81	2.64	4.11	6.75	12.04	15.12	9.98	9.83	7.92	3.08	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

Direction

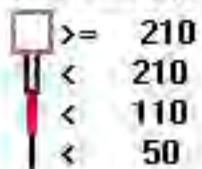
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	14	13	13	20	32	42	60	18	28	46	82	103	68	67	54	21	681
< 110																	
< 210																	
>= 210																	
Totals	14	13	13	20	32	42	60	18	28	46	82	103	68	67	54	21	

Calm : .00 %

Total # Operational Hours : 681

Logger : 01 Parameter : NO₂

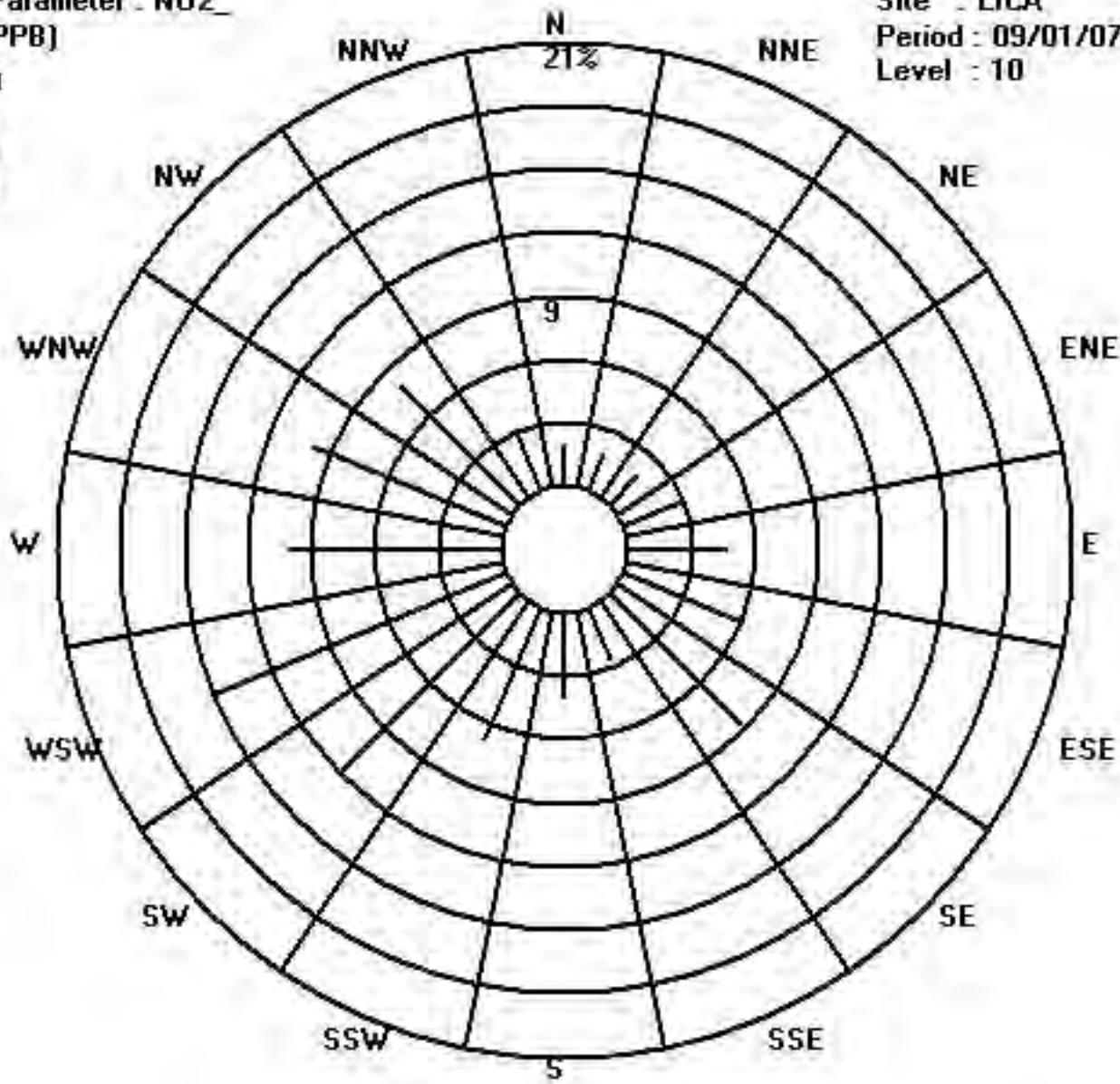
Class Limits (PPB)



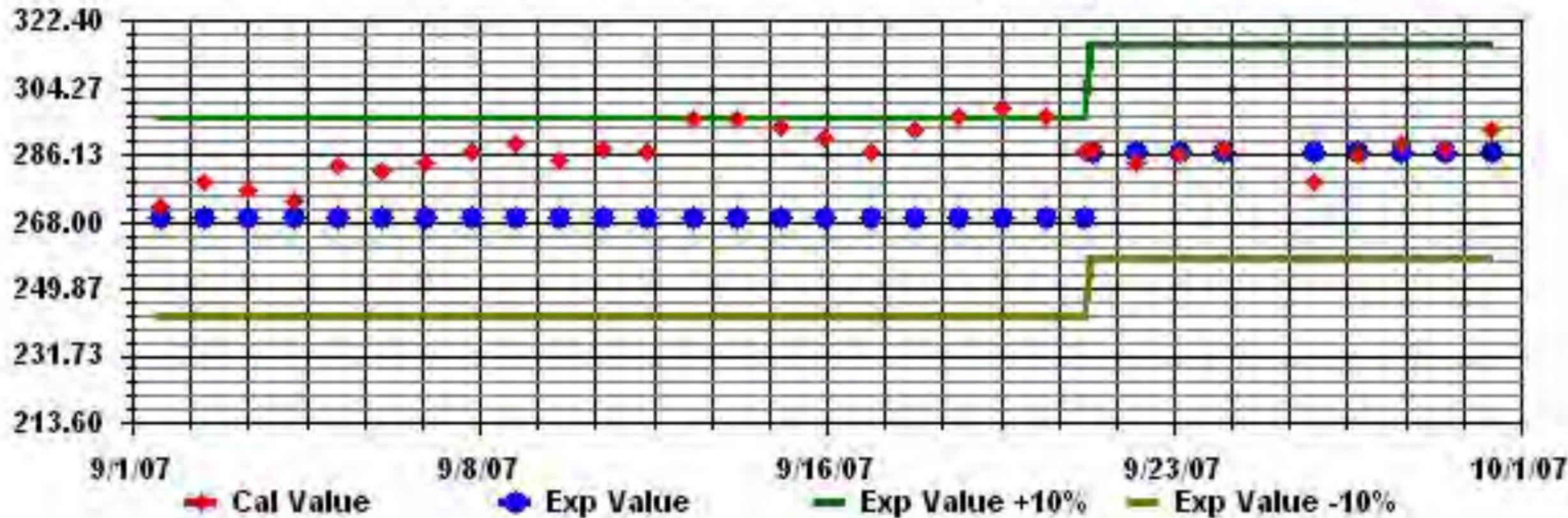
Site : LICA

Period : 09/01/07-09/30/07

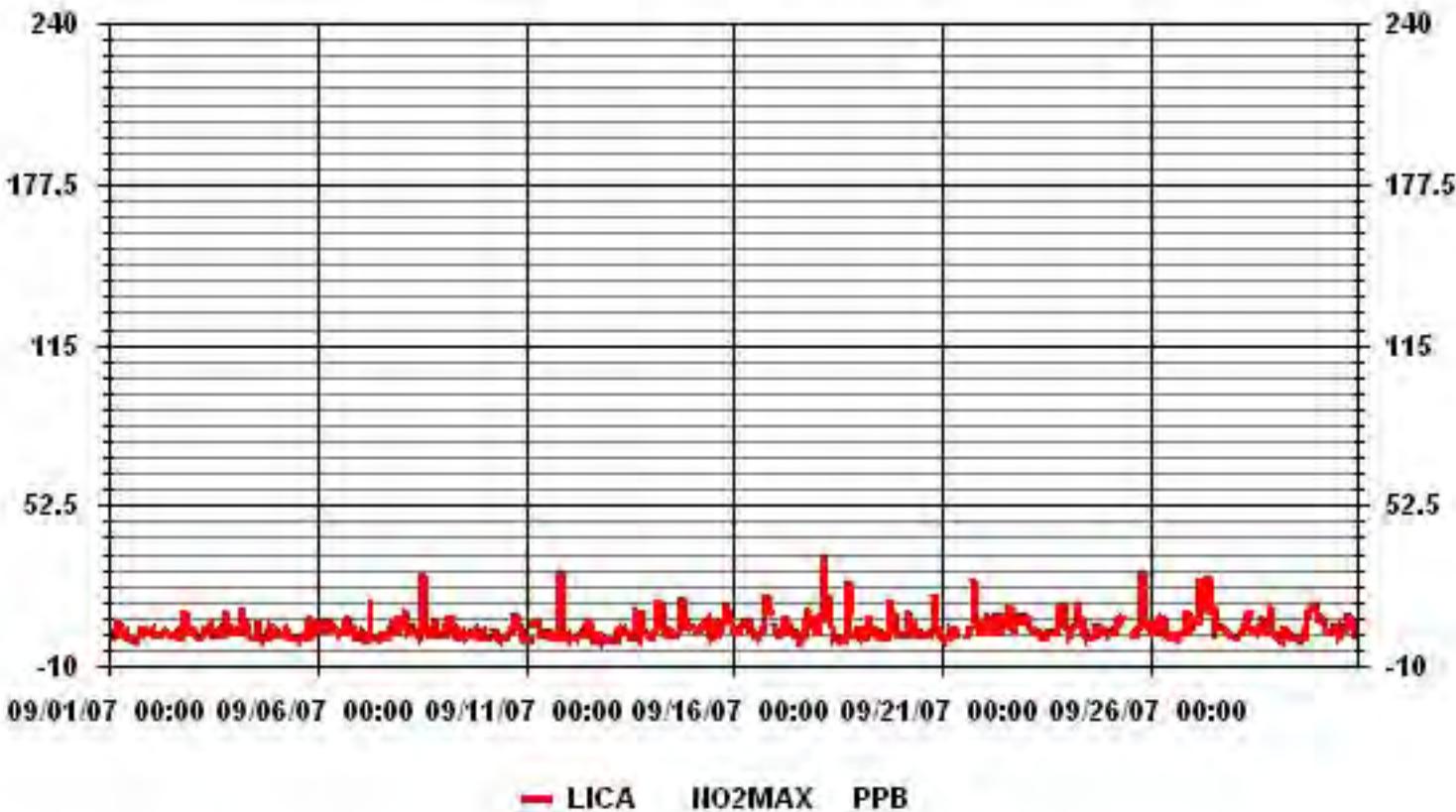
Level : 10



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

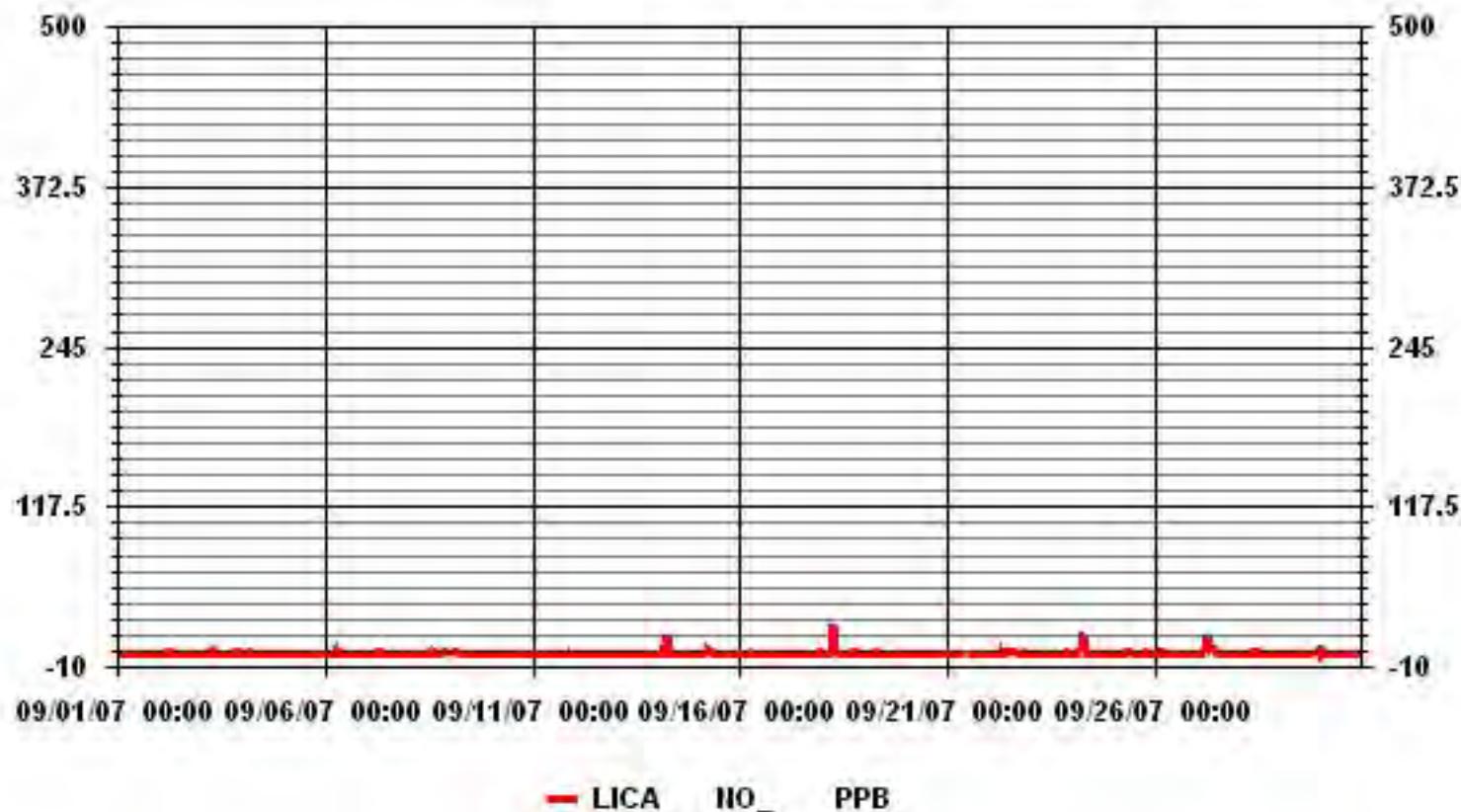


01 Hour Averages



NO

01 Hour Averages



LICA
NO_ / WD Joint Frequency Distribution (Percent)

September 2007

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	2.05	1.90	1.90	2.93	4.69	6.16	8.81	2.64	4.11	6.75	12.04	15.12	9.98	9.83	7.92	3.08	100.00
< 110	.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	
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	2.05	1.90	1.90	2.93	4.69	6.16	8.81	2.64	4.11	6.75	12.04	15.12	9.98	9.83	7.92	3.08	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

Direction

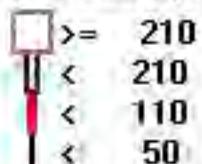
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	14	13	13	20	32	42	60	18	28	46	82	103	68	67	54	21	681
< 110																	
< 210																	
>= 210																	
Totals	14	13	13	20	32	42	60	18	28	46	82	103	68	67	54	21	

Calm : .00 %

Total # Operational Hours : 681

Logger : 01 Parameter : NO_x

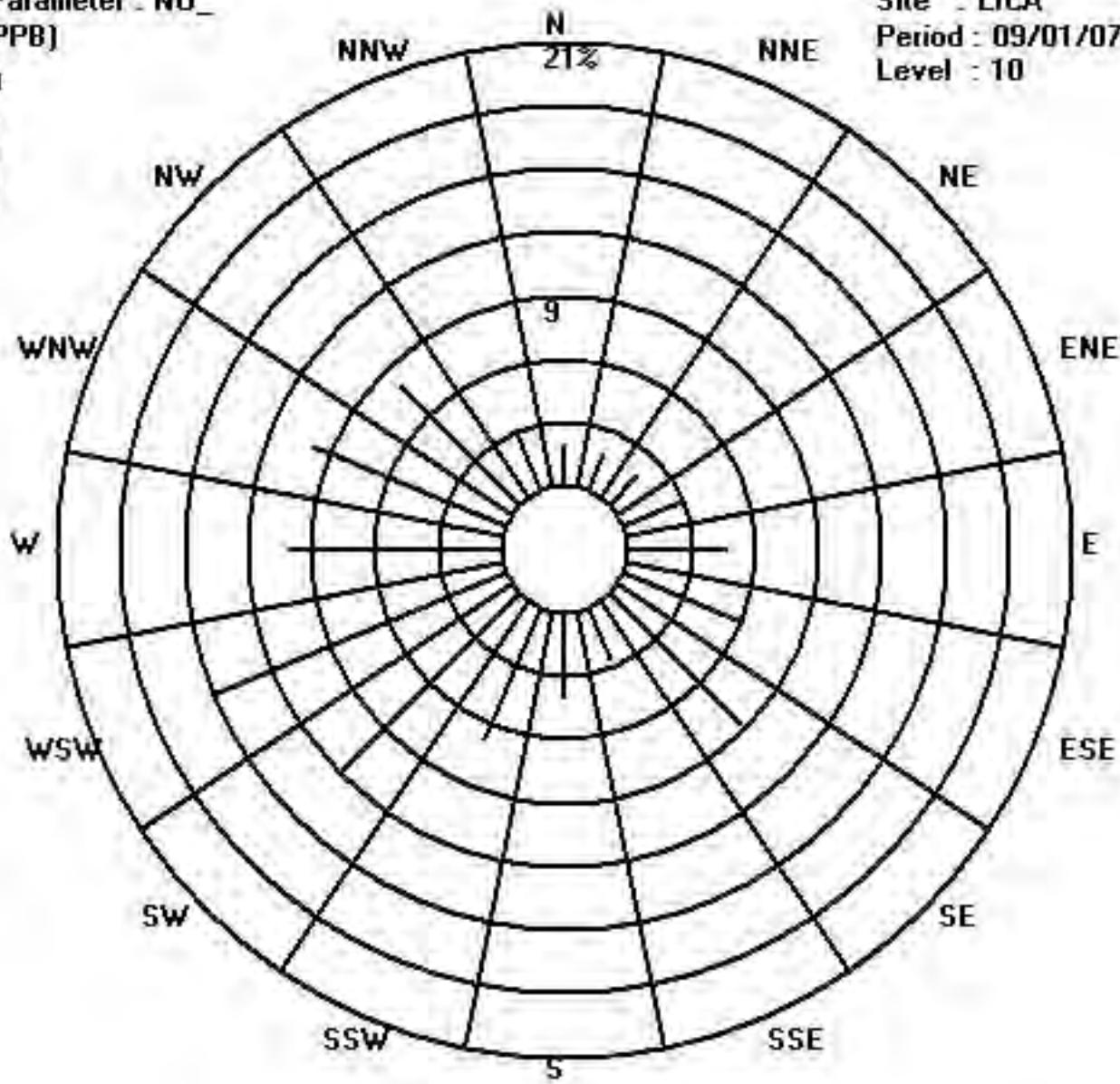
Class Limits (PPB)



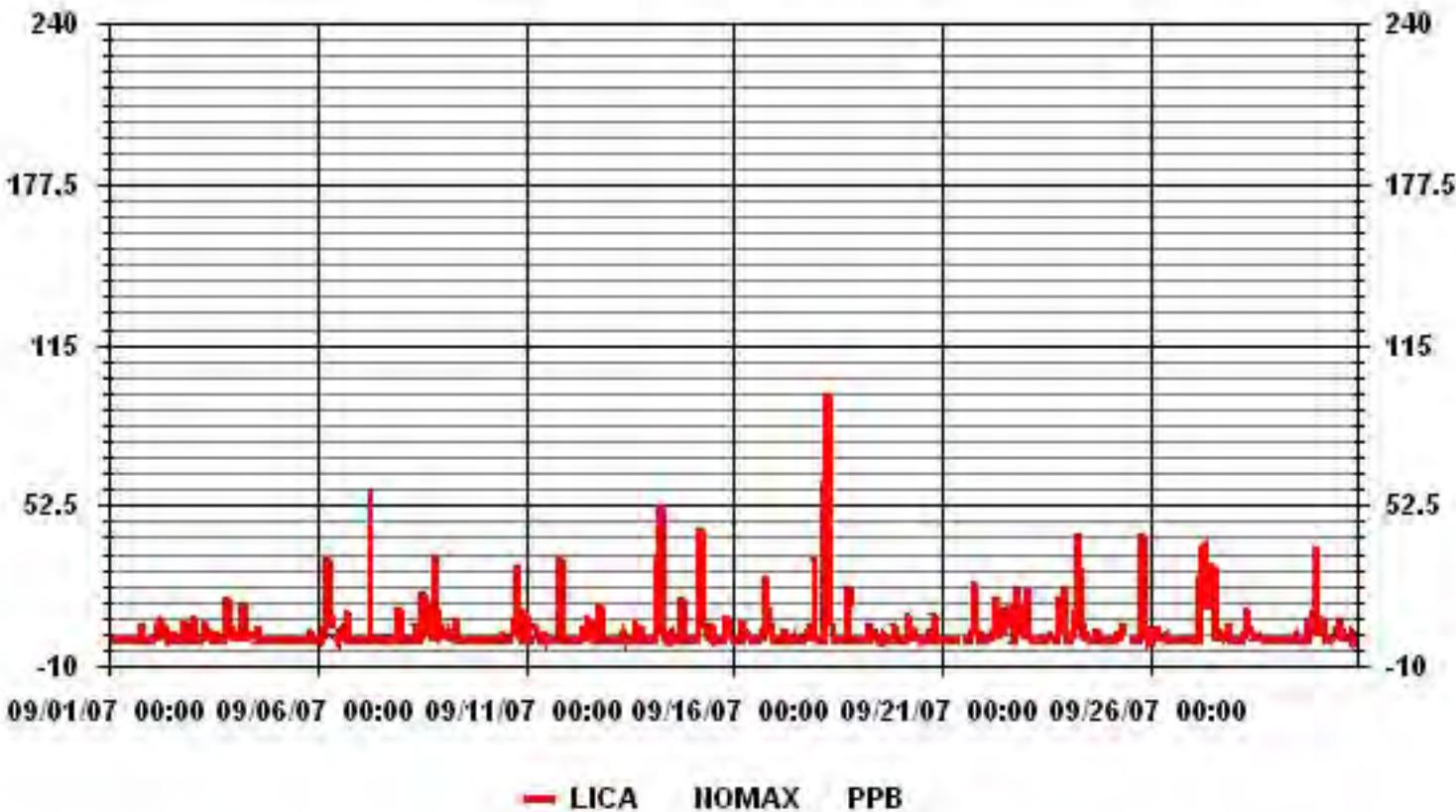
Site : LICA

Period : 09/01/07-09/30/07

Level : 10

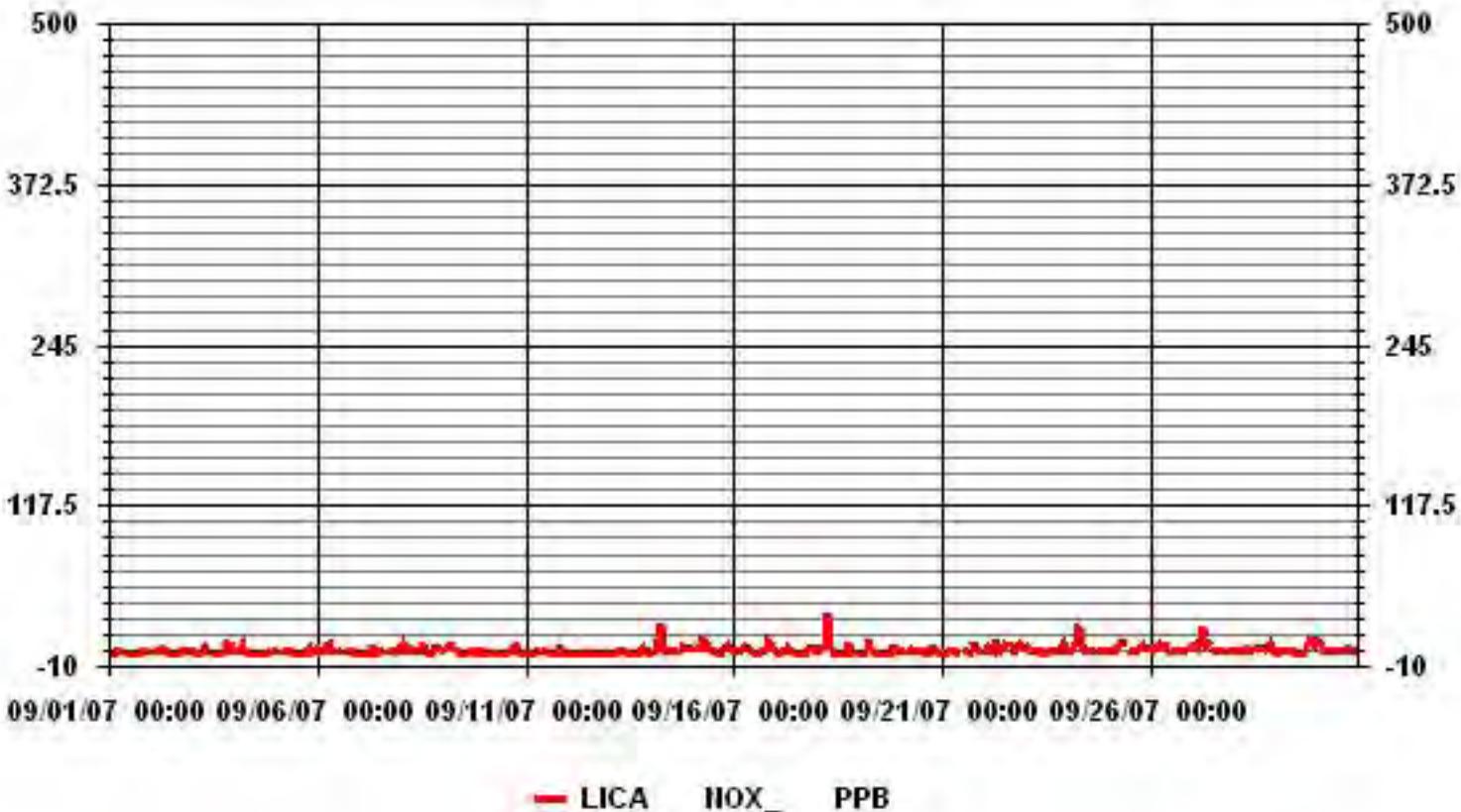


01 Hour Averages



NO_x

01 Hour Averages



LICA
NOX_ / WD Joint Frequency Distribution (Percent)

September 2007

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	2.05	1.90	1.90	2.93	4.69	6.16	8.81	2.64	4.11	6.75	12.04	15.12	9.98	9.83	7.92	3.08	100.00
< 110	.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	
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	2.05	1.90	1.90	2.93	4.69	6.16	8.81	2.64	4.11	6.75	12.04	15.12	9.98	9.83	7.92	3.08	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	14	13	13	20	32	42	60	18	28	46	82	103	68	67	54	21	681
< 110																	
< 210																	
>= 210																	
Totals	14	13	13	20	32	42	60	18	28	46	82	103	68	67	54	21	

Calm : .00 %

Total # Operational Hours : 681

Logger : 01 Parameter : NOX

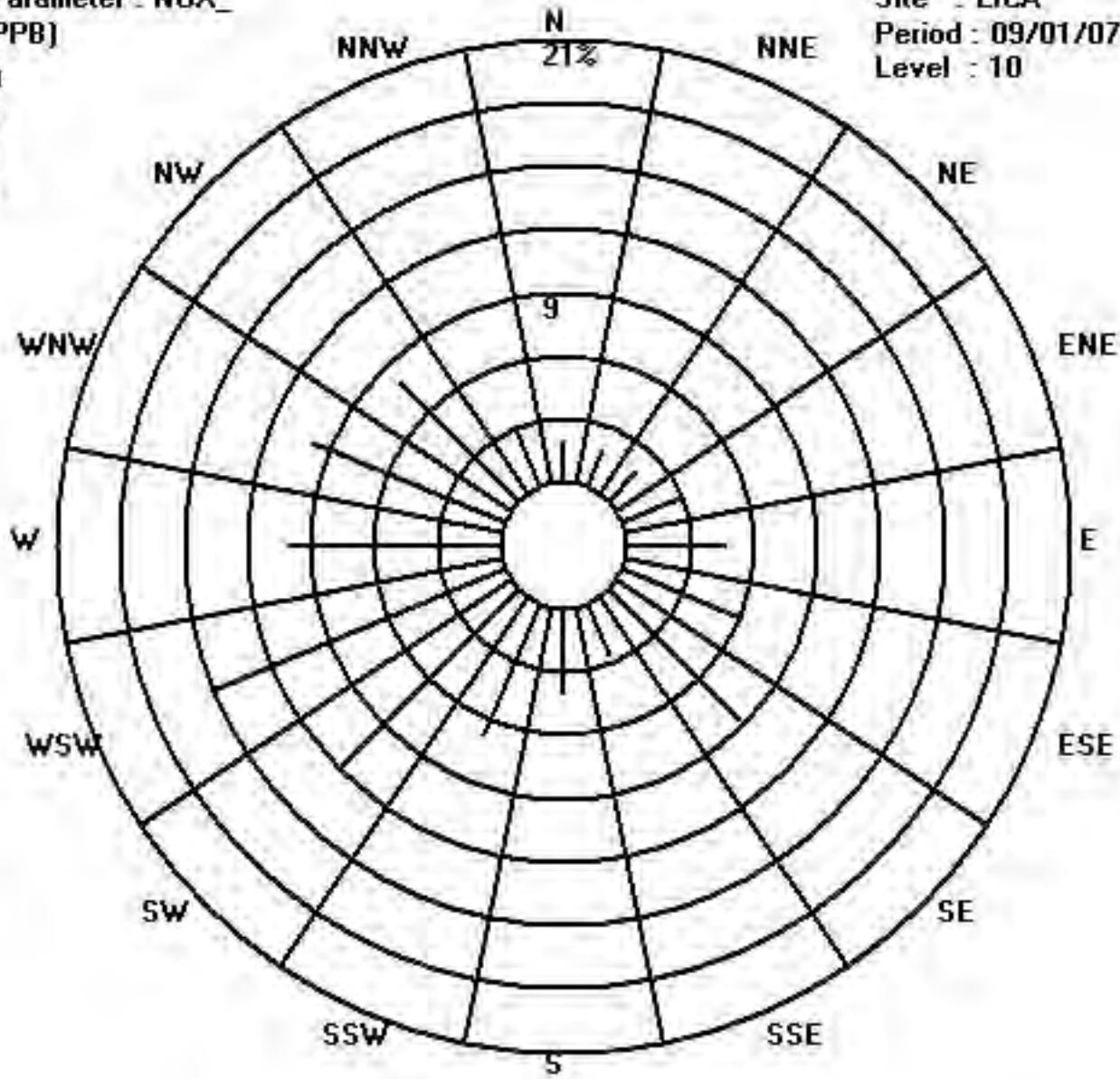
Class Limits (PPB)



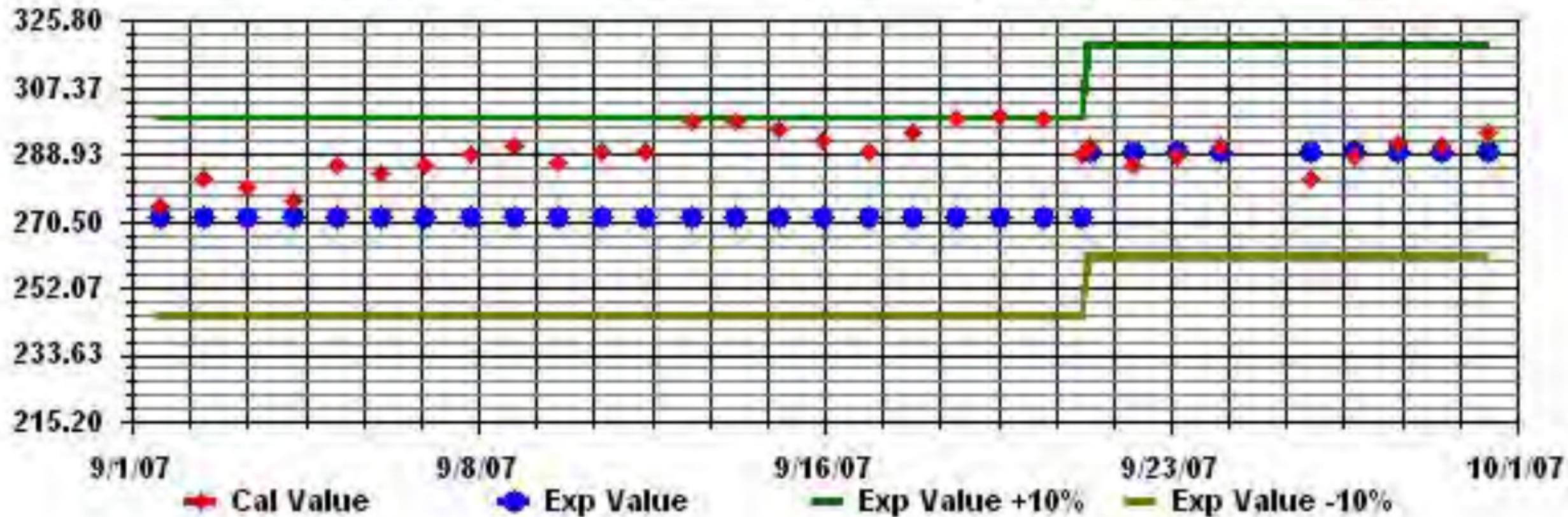
Site : LICA

Period : 09/01/07-09/30/07

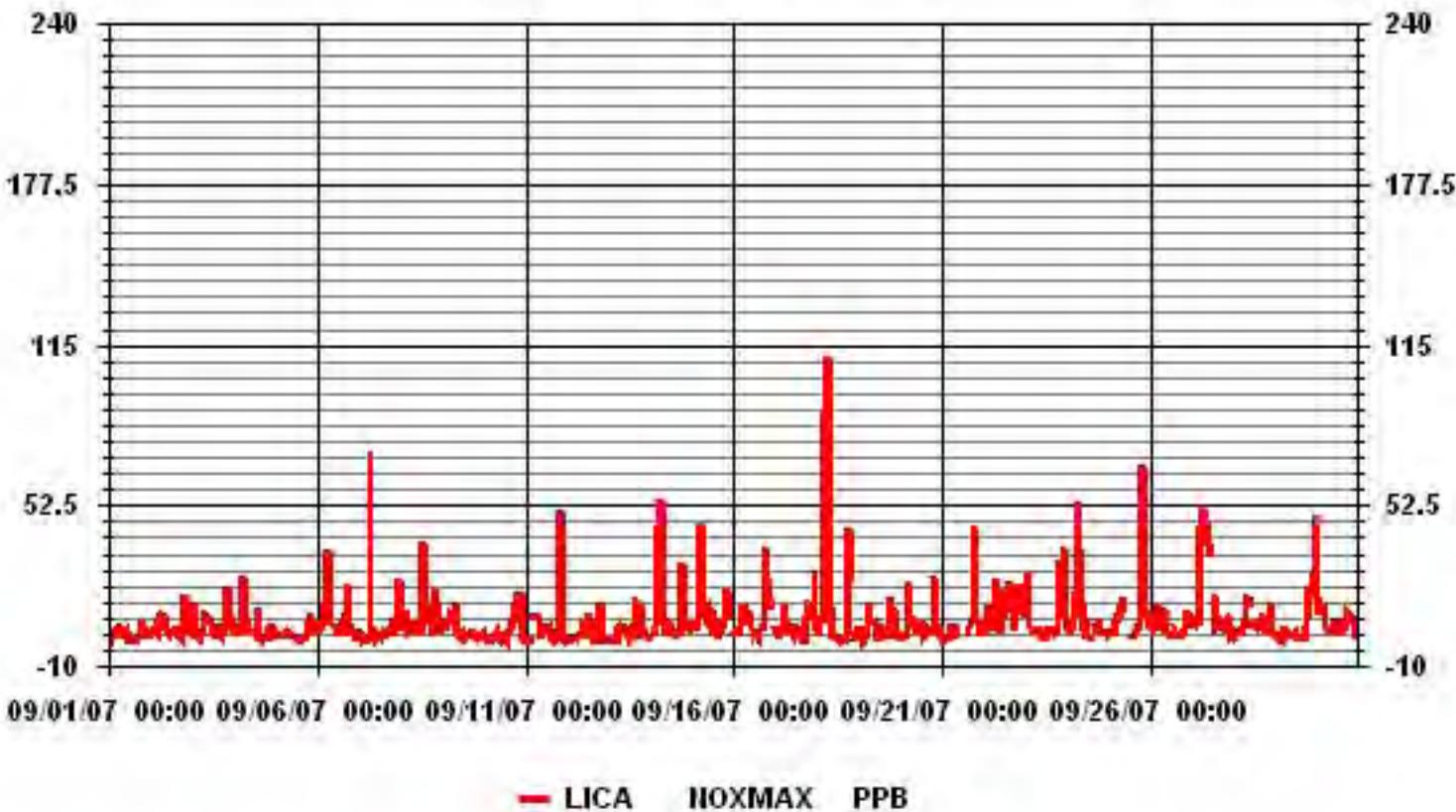
Level : 10



Calibration Graph for Site: LICA Parameter: HOX_ Sequence: HO2 Phase: SPAN

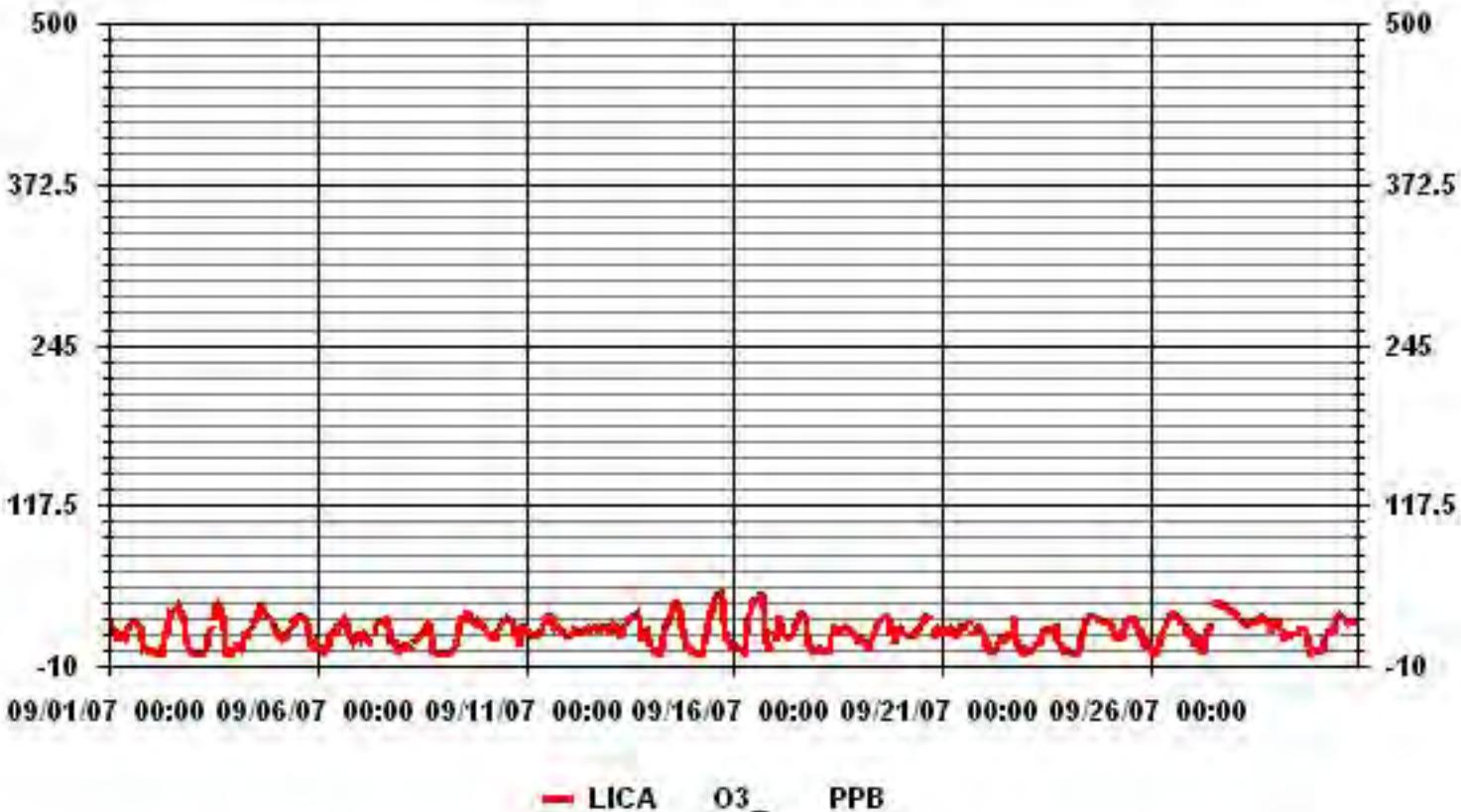


01 Hour Averages



O₃

01 Hour Averages



LICA
O3_ / WD Joint Frequency Distribution (Percent)

September 2007

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	2.03	1.89	1.89	2.91	4.65	6.11	8.73	2.62	4.07	6.55	11.79	15.57	10.33	9.89	7.86	3.05	100.00
< 110	.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	
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	2.03	1.89	1.89	2.91	4.65	6.11	8.73	2.62	4.07	6.55	11.79	15.57	10.33	9.89	7.86	3.05	

Calm : .00 %

Total # Operational Hours : 687

Distribution By Samples

Direction

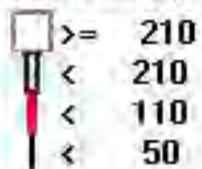
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	14	13	13	20	32	42	60	18	28	45	81	107	71	68	54	21	687
< 110																	
< 210																	
>= 210																	
Totals	14	13	13	20	32	42	60	18	28	45	81	107	71	68	54	21	

Calm : .00 %

Total # Operational Hours : 687

Logger : 01 Parameter : 03

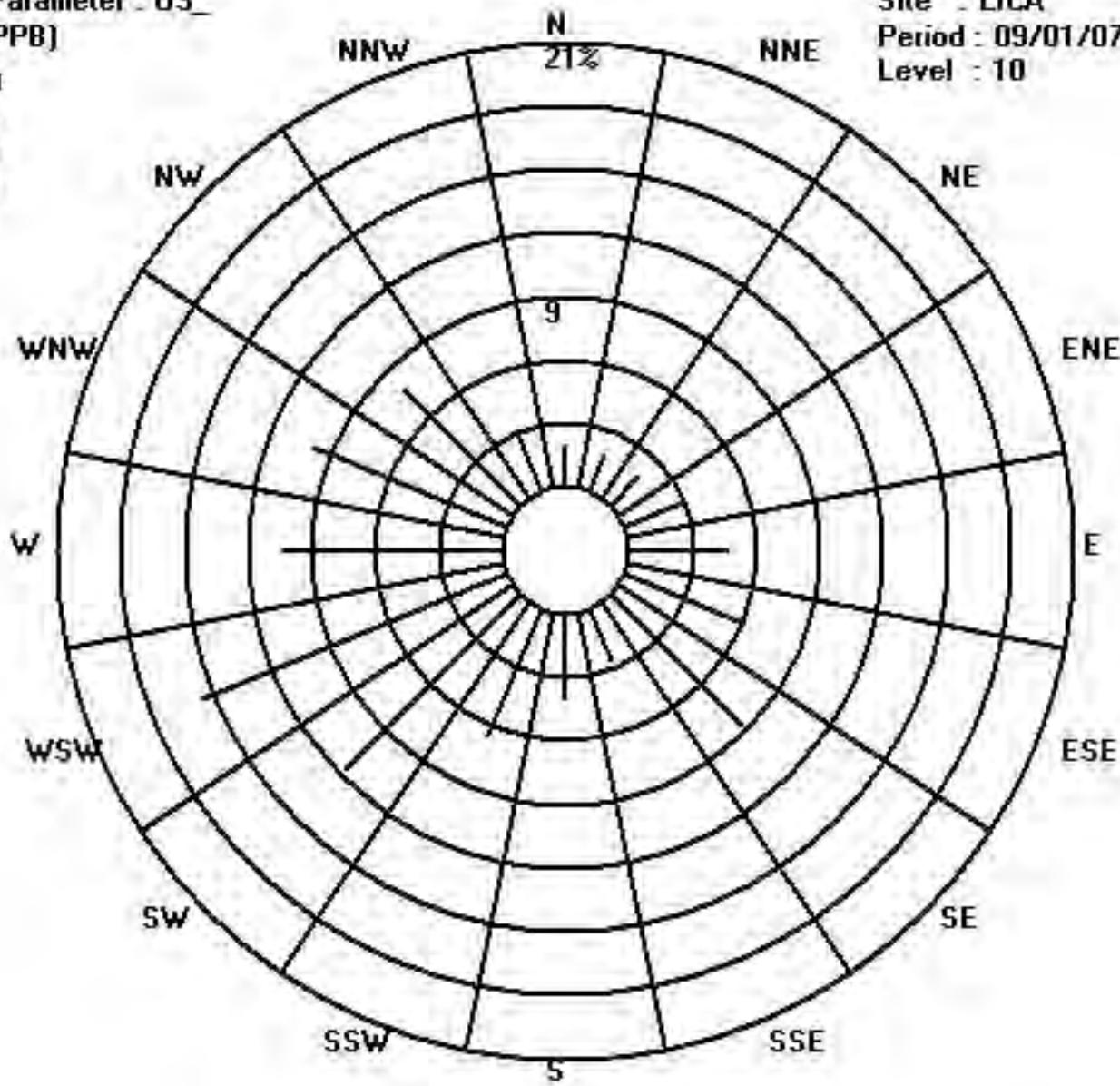
Class Limits (PPB)



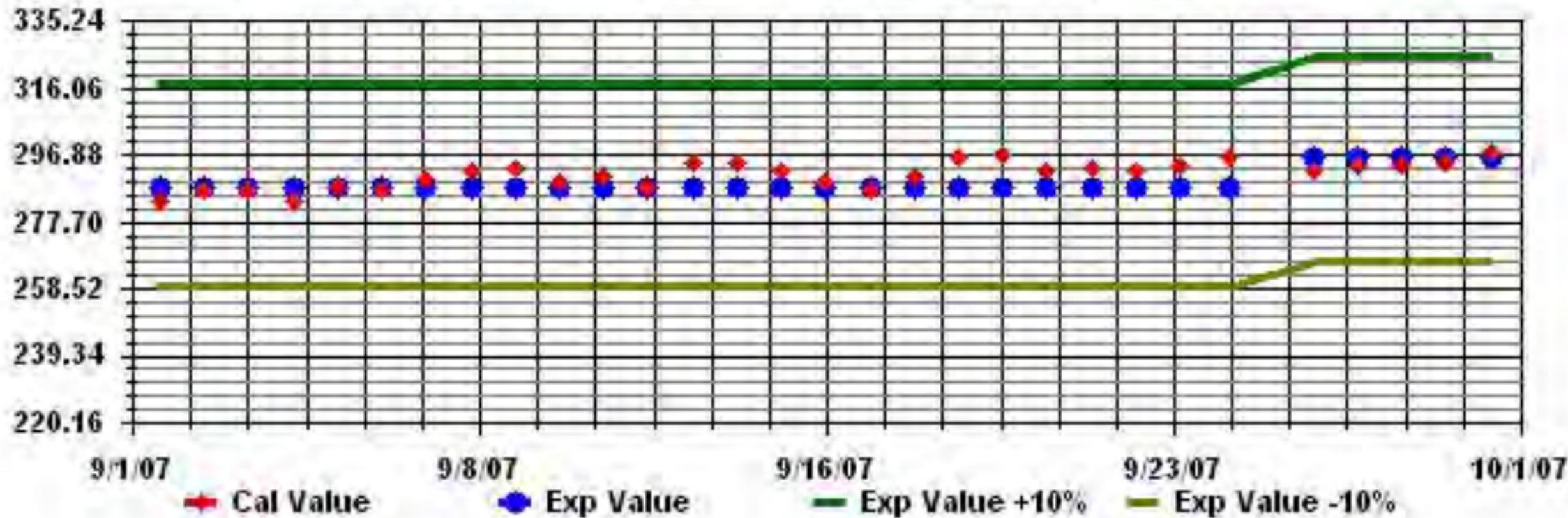
Site : LICA

Period : 09/01/07-09/30/07

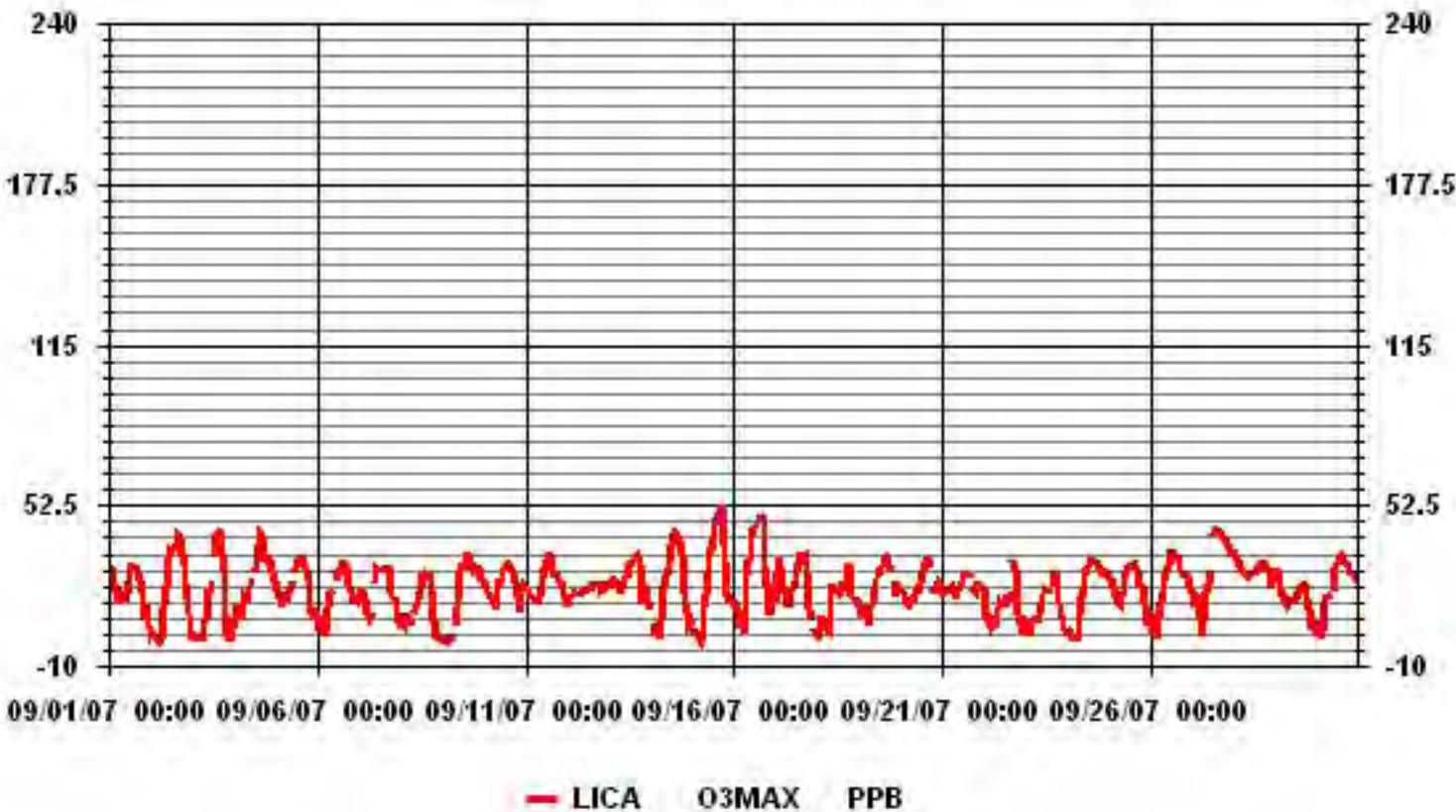
Level : 10



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

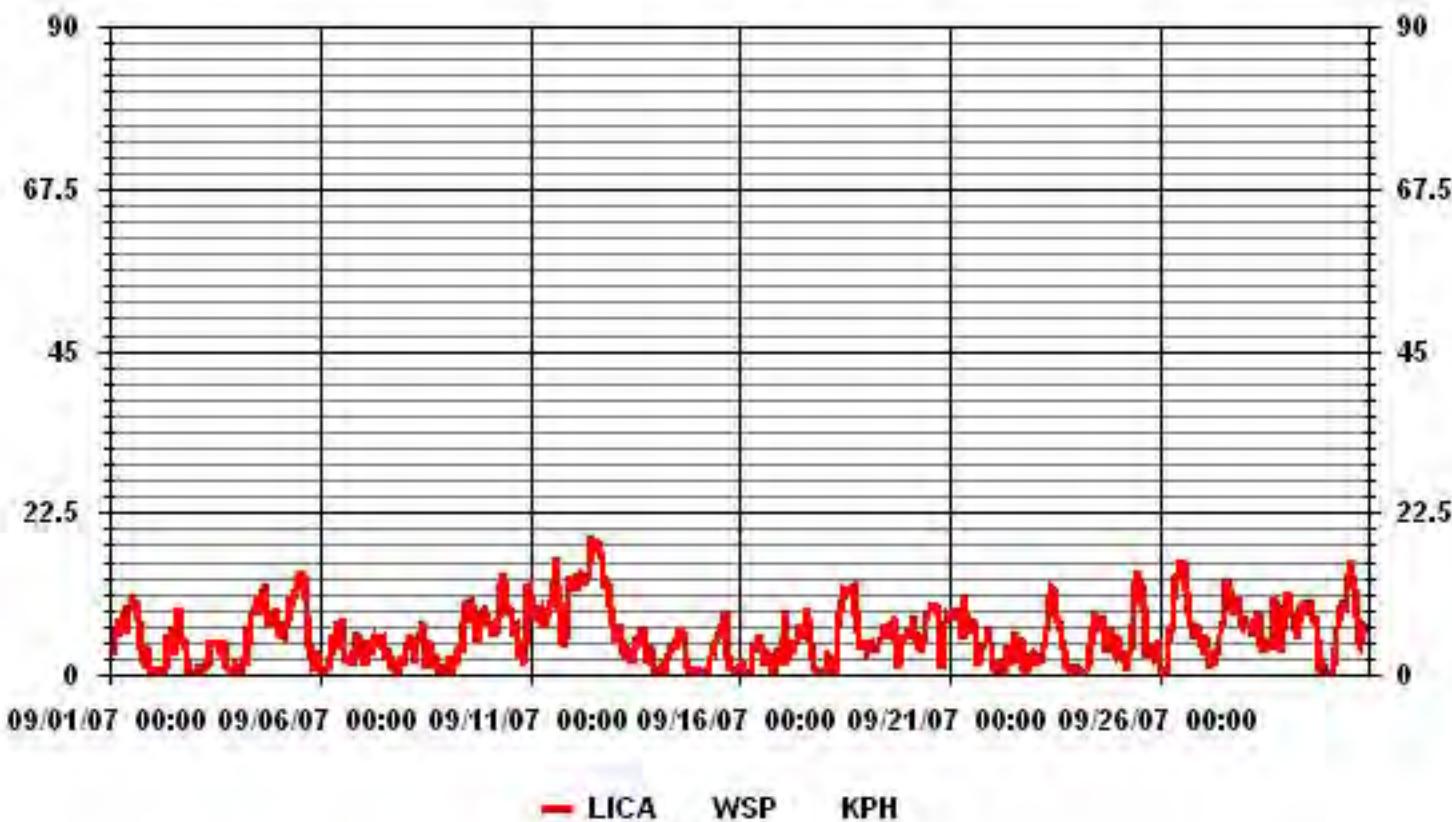


01 Hour Averages



VECTOR WIND SPEED

01 Hour Averages



LICA
WSP / WD Joint Frequency Distribution (Percent)

September 2007

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	.97	1.25	1.52	2.36	3.33	3.47	4.44	1.80	2.91	6.25	6.80	9.72	3.88	4.02	2.22	1.11	56.11
< 12.0	.83	.55	.27	.13	1.25	2.22	2.91	.27	.27	.27	4.16	5.13	4.30	4.72	2.63	1.11	31.11
< 20.0	.00	.00	.00	.00	.00	.13	1.38	.00	.00	.00	.00	.27	1.80	1.52	2.36	.83	8.33
< 29.0	.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	
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	1.80	1.80	1.80	2.50	4.58	5.83	8.75	2.08	3.19	6.52	10.97	15.13	10.00	10.27	7.22	3.05	

Calm : 4.44 %

Total # Operational Hours : 720

Distribution By Samples

Direction

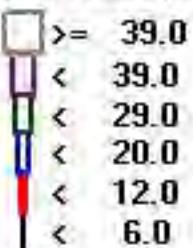
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	7	9	11	17	24	25	32	13	21	45	49	70	28	29	16	8	404
< 12.0	6	4	2	1	9	16	21	2	2	2	30	37	31	34	19	8	224
< 20.0								1	10				2	13	11	17	60
< 29.0																	
< 39.0																	
>= 39.0																	
Totals	13	13	13	18	33	42	63	15	23	47	79	109	72	74	52	22	

Calm : 4.44 %

Total # Operational Hours : 720

Logger : 01 Parameter : WSP

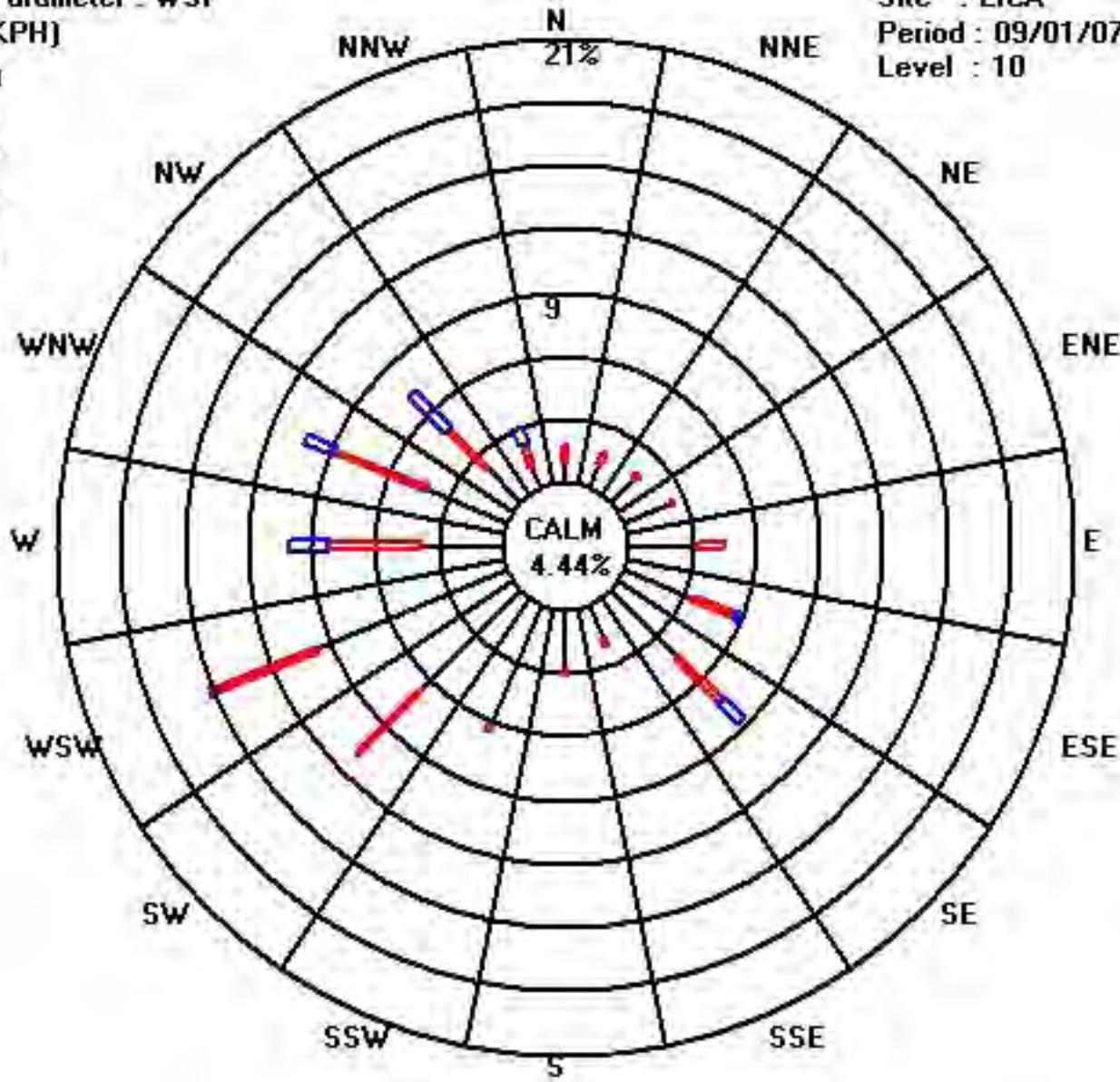
Class Limits (KPH)



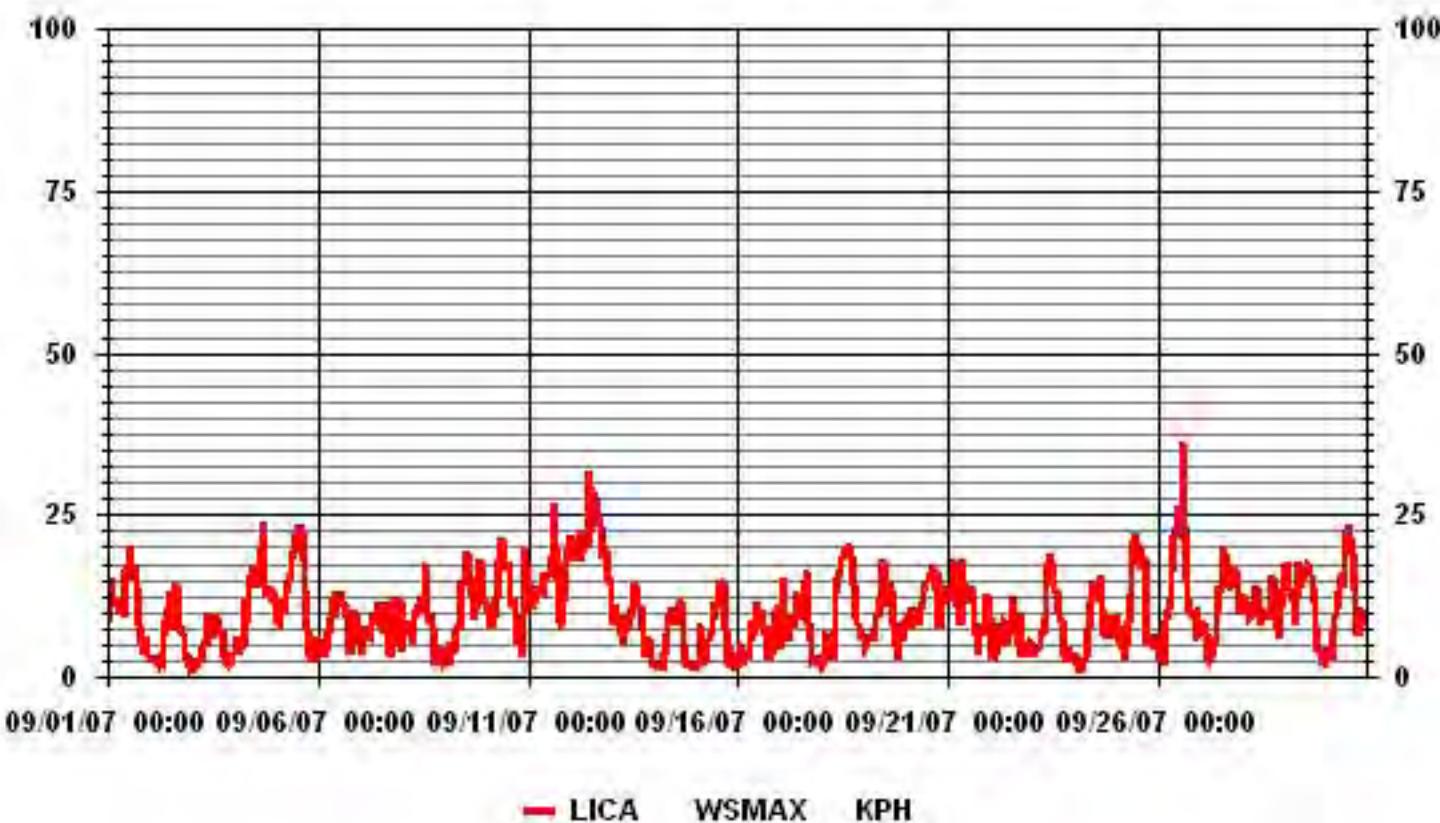
Site : LICA

Period : 09/01/07-09/30/07

Level : 10

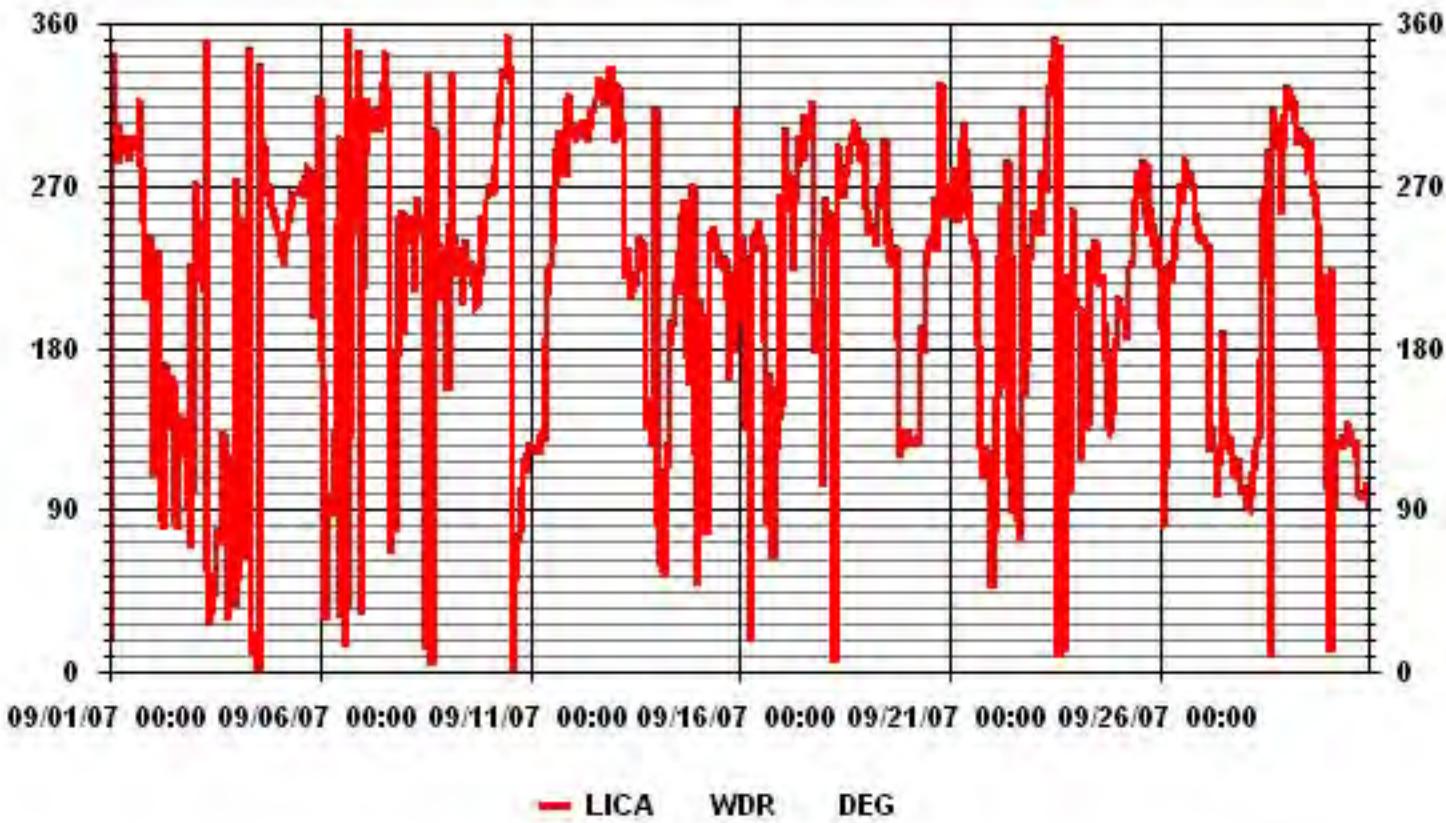


01 Hour Averages

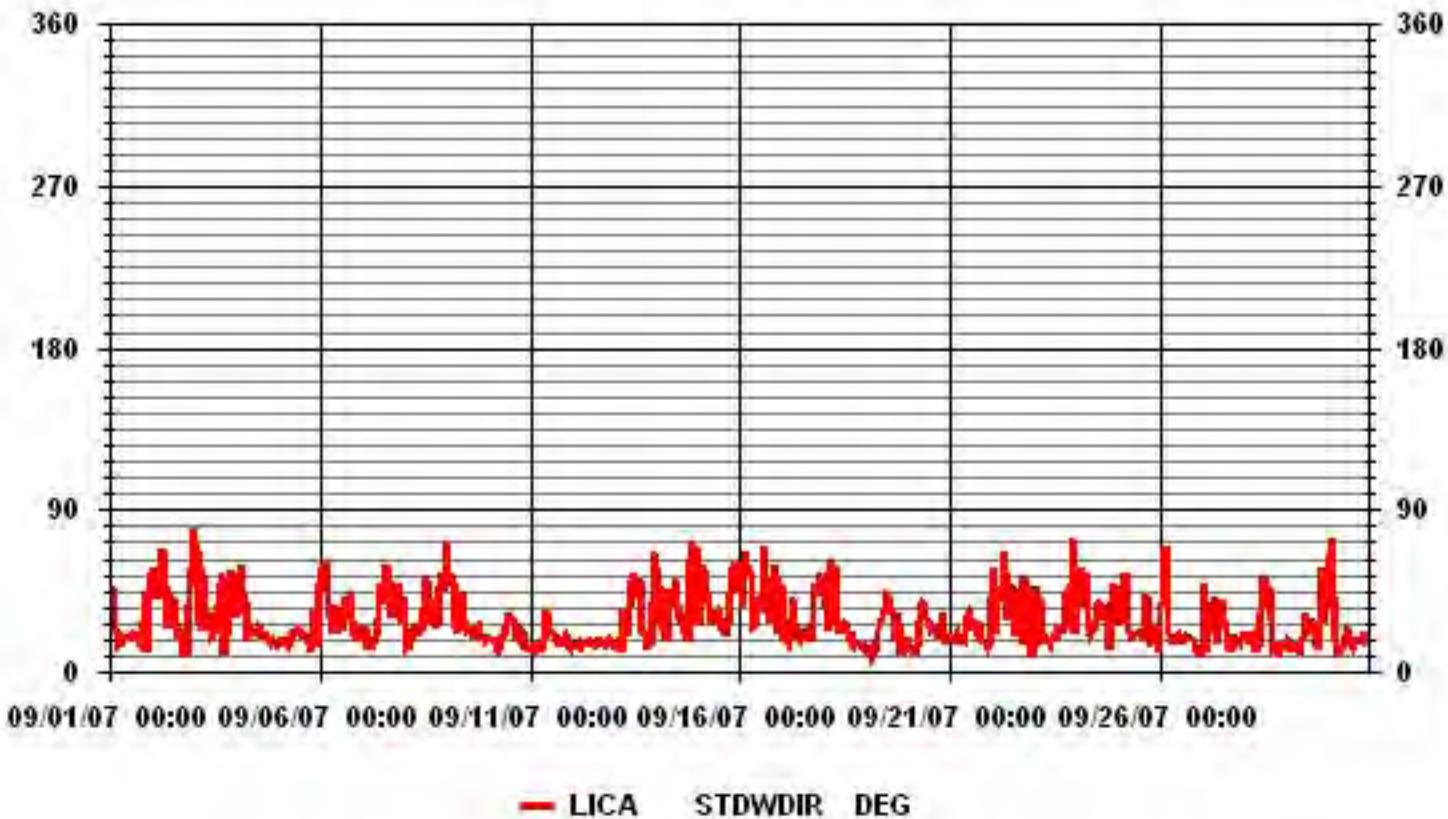


VECTOR WIND DIRECTION

01 Hour Averages

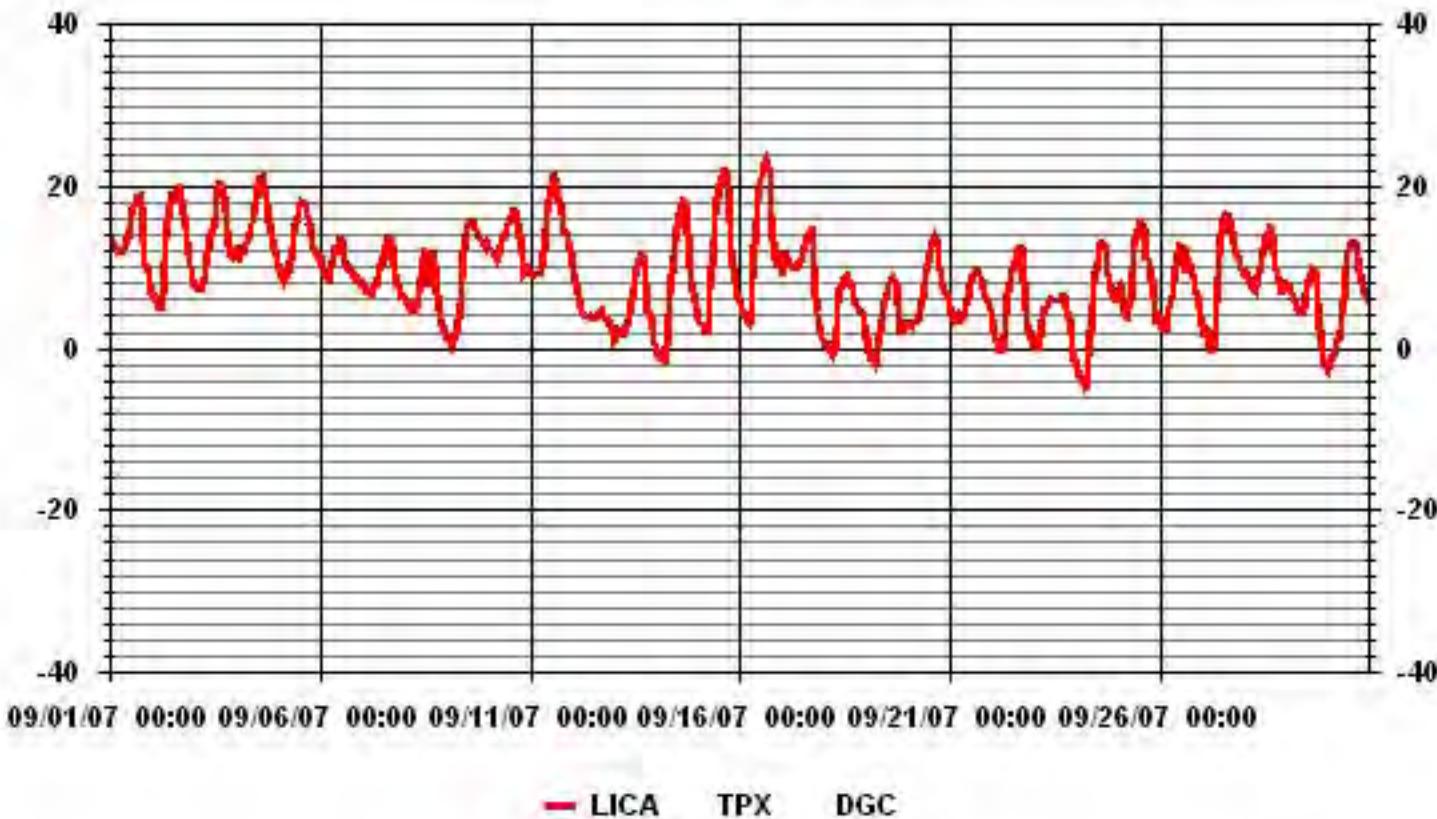


01 Hour Averages



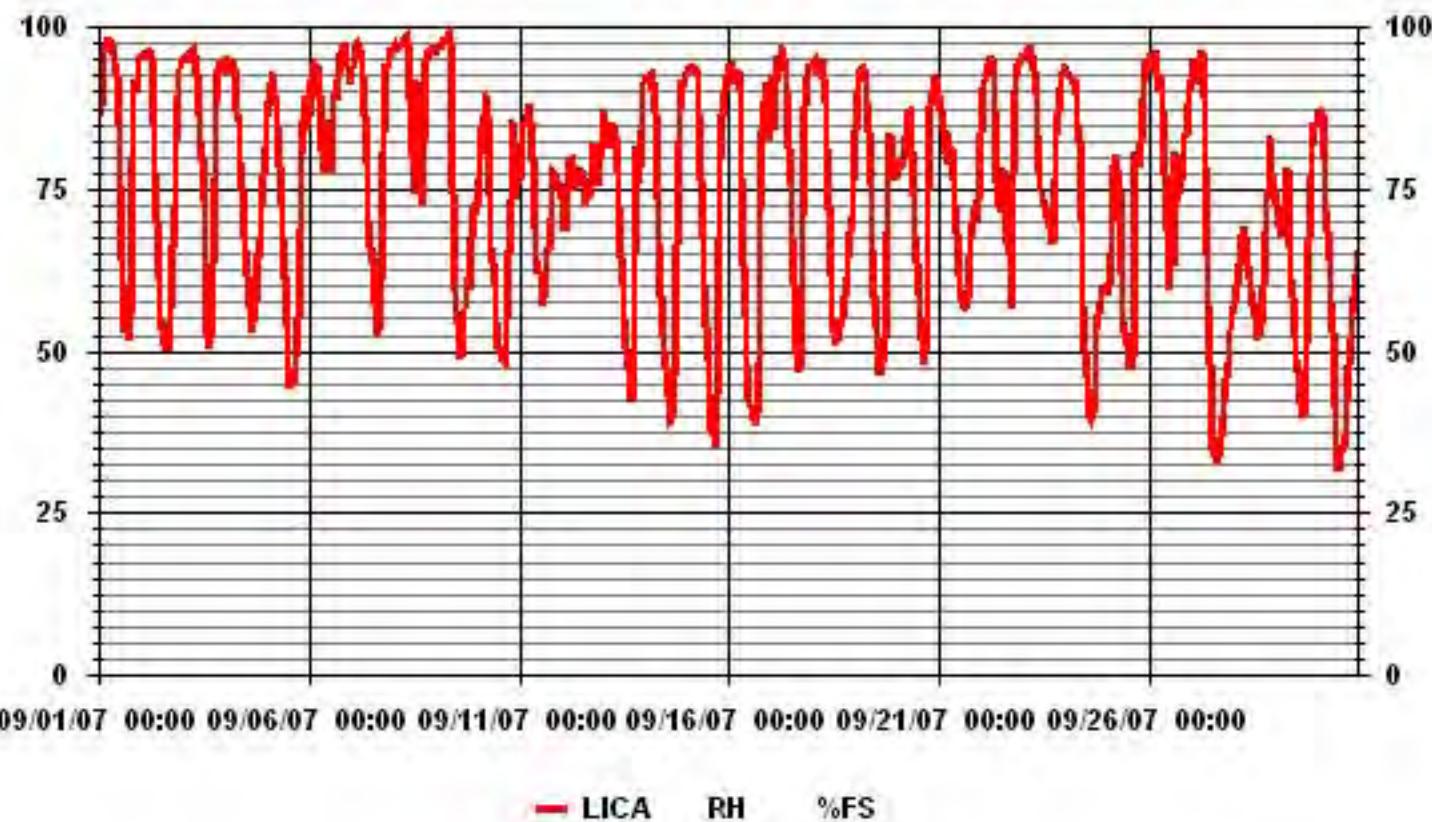
TEMPERATURE

01 Hour Averages



RELATIVE HUMIDITY

01 Hour Averages



SEPTEMBER 2007 CALIBRATION REPORTS

LICA – COLD LAKE

SO₂

SO₂ Calibration Report

Station Information

Calibration Date	September 21, 2007	Previous Calibration	August 7, 2007
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	8:15	End Time (MST)	11:55
Reason:	Monthly Calibration		
Barometric Pressure	706 mmHg	Station Temperature	21 Deg C
Cal Gas	50.2 ppm	Cal Gas Expiry date	06/18/2009
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	TECO 43A	S/N :	43A-4468-272	Method:	Fluorescent
Converter Make / Model:	-	S/N :	-		
Calibrator Make / Model:	API 700	S/N :	690	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	API 700	S/N :	690		

Analyzer Settings

	Before Calibration			After Calibration		
	Concentration Range	0 - 500		ppb	ccm	Deg C
Sample Flow / Box Temp	700 ccm	OK	Deg C	700	OK	845
HVPS / Lamp Setting	OK	846		OK	845	
PMT / RxCell Temp	OK Deg C	OK	50	OK	Deg C	Deg C
Converter / IZS Temp	NA Deg C	OK	40	NA	Deg C	Deg C
Offset / Slope	98	879		98	879	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
ZERO	ZERO	0	0	N/A
4960	39.8	400	401	0.9965
4974	24.9	250	252	0.9923
4985	14.9	150	152	0.9842
ZERO	ZERO	0	0	N/A
Sum of Least Squares				0.9943
New Correction Factor				0.9965

Before Calibration

After Calibration

Auto Zero	0	0
Auto Span	345	344
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.2%

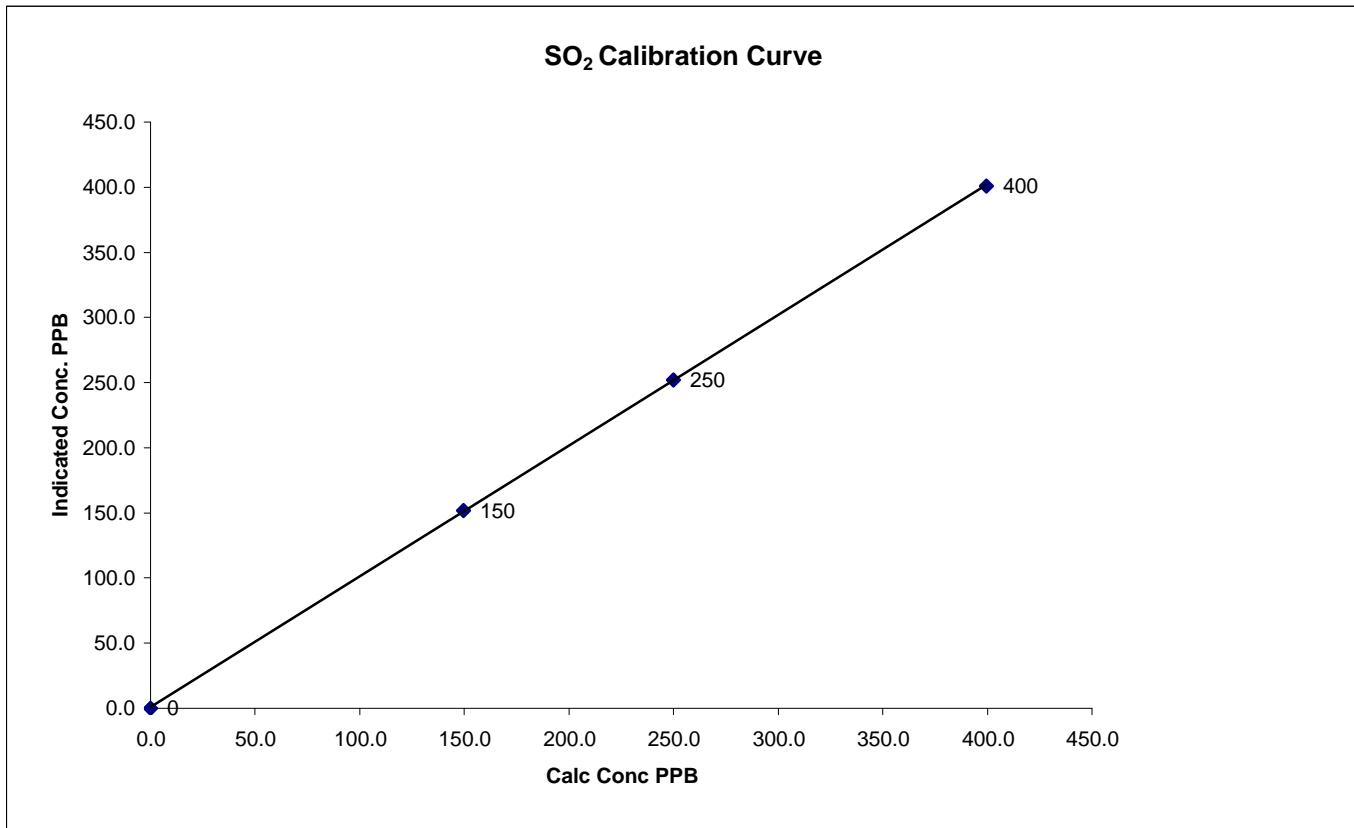
Notes:

Calibration Performed by: Shea Beaton

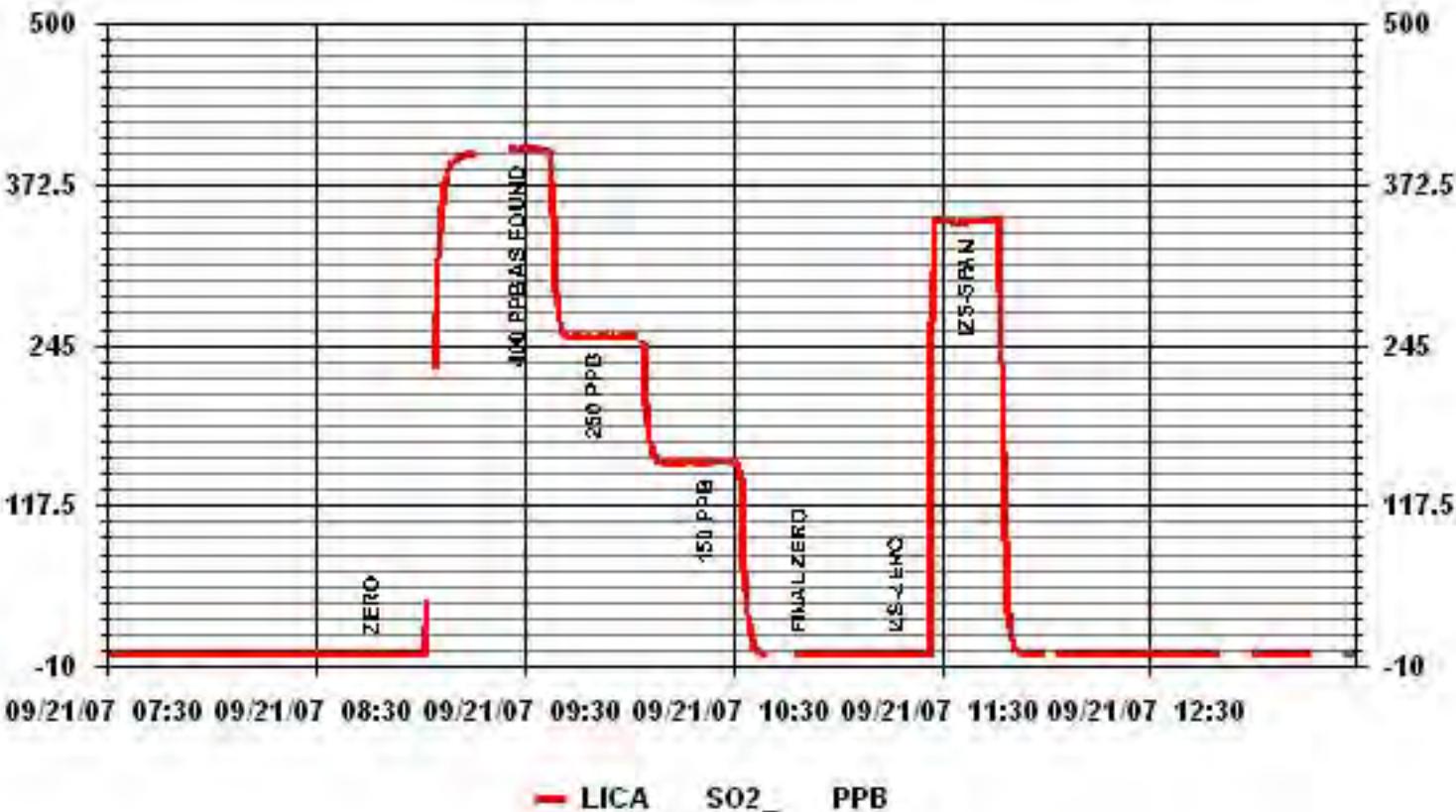
SO₂ Calibration Curve

Calibration Date	September 21, 2007		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	8:15	End Time (MST)	11:55

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995) (0.85 to 1.15)	0.999971
			Slope	(± 3% F.S.)	1.003009
			Intercept		0.834194
0	0	n/a			
150	152	0.9842			
250	252	0.9923			
400	401	0.9965			



01 Minute Averages



TRS

TRS Calibration Report

Station Information

Calibration Date	September 24, 2007	Previous Calibration	August 7, 2007
Lakeland Industry & Community Association			
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:45	End Time (MST)	15:00
Reason:	Monthly Calibration		
Barometric Pressure	714	mm Hg	Station Temperature 24 Deg C
Cal Gas	10.2	ppm	Cal Gas Expiry date 09/05/2007
DAS Output Voltage	0 - 10	Volts	

Equipment Information

Analyzer Make / Model:	TECO 43A	S/N :	43A-35786-254	Method:	Fluorescent
Converter Make / Model:	CD Nova CDN 101	S/N :	250		
Calibrator Make / Model:	Environics 2000	S/N :	1991	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	Environics 2000	S/N :	1991		

Analyzer Settings

Parameter	Before Calibration			After Calibration		
	Setting	Unit	Status	Setting	Unit	Status
Concentration Range				0 - 100	ppb	
Sample Flow / Box Temp	400	ccm	OK	400	ccm	OK
HVPS / Lamp Setting	OK		884	OK		885
PMT / RxCell Temp	OK	Deg C	OK	OK	Deg C	OK
Converter / IZS Temp	851	Deg C	OK	850	Deg C	OK
Offset / Slope	820		836	850		836

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
ZERO	ZERO	0	1	N/A
ZERO	ZERO	0	0	N/A
4960	39.2	80	80	0.9998
4980	19.6	40	40	0.9997
4990	9.8	20	20	0.9996
ZERO	ZERO	0	0	N/A
			Sum of Least Squares	0.9997
			New Correction Factor	0.9998

Before Calibration

After Calibration

Auto Zero	0	0
Auto Span	85	87
Sample Lines Connected		YES
Percent Change from Previous Calibration		0.0%

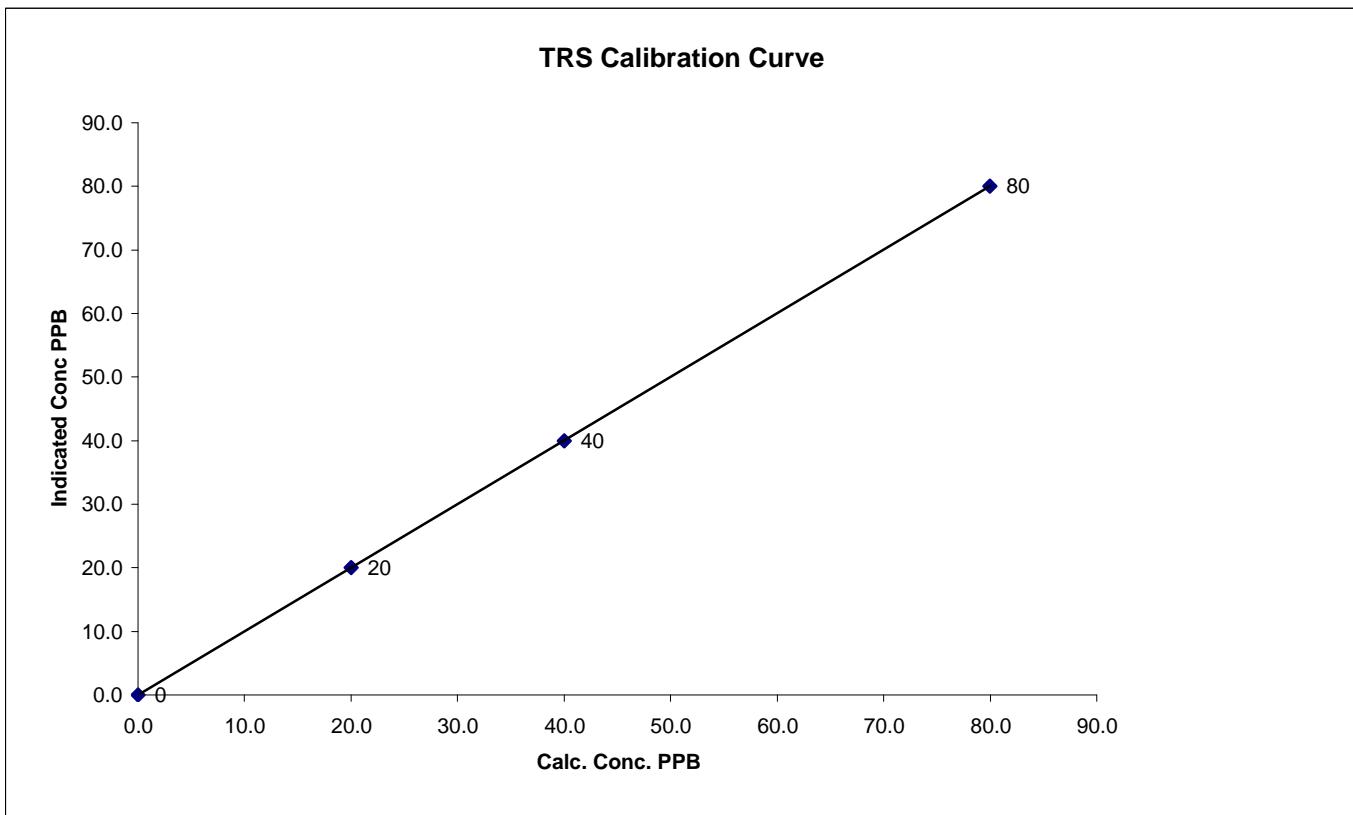
Notes: The "As Found" span was repeated several times due to instability and incorrect conc. These problems were a result of bad calibration gas. Used original gas from previous month's cal.

Calibration Performed by: Shea Beaton

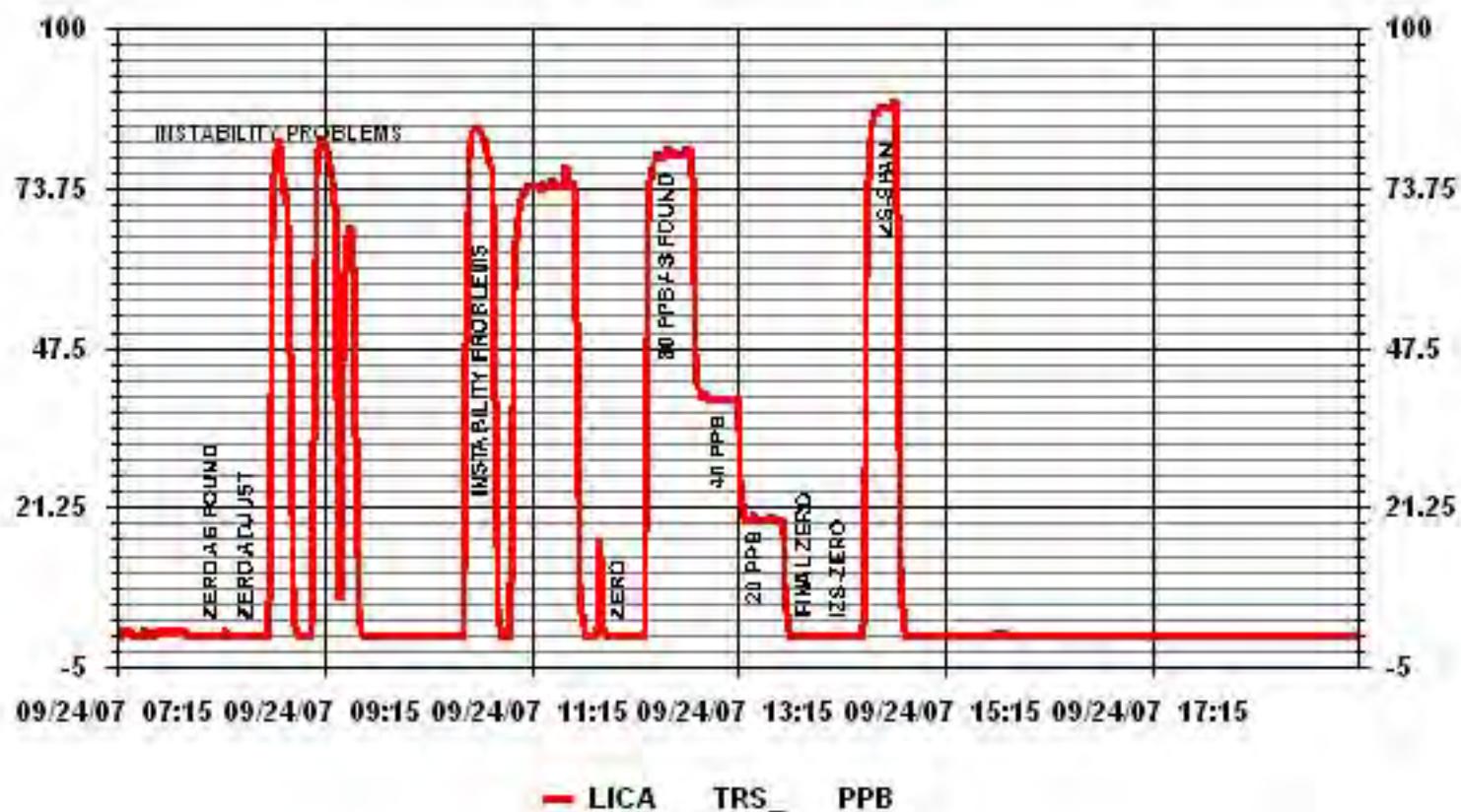
TRS Calibration Curve

Calibration Date	September 24, 2007		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:45	End Time (MST)	15:00

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995) Slope Intercept	1.000000 1.000234 (± 3% F.S.) 0.001600
0	0	n/a		
20	20	0.9996		
40	40	0.9997		
80	80	0.9998		



01 Minute Averages



THC

THC Calibration Report

Station Information

Calibration Date:	September 24, 2007	Previous Calibration	August 7, 2007
Lakeland Industry and Community Association			
LICA1/Cold Lake			
Start Time (MST)	7:45	End Time (MST)	11:40
Reason: Monthly Calibration			
Barometric Pressure:	714 mmHg	Station Temperature:	24 Deg C
Calibrator:	Environics 2000	S/N:	1991
Cal Gas Concentration:	1010 ppm	Cal Gas Expiry Date:	Jan-10
DAS make & Model:	ESC 8832	S/N :	263
Output Voltage Range:	0 - 10 VDC		

Analyzer Information

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

	Before Calibration		After Calibration	
Concentration Range	0 - 50	ppm	0 - 50	ppm
Sample Pressure	6.5	psi	6.5	psi
Hydrogen Pressure	9	psi	9	psi
Air Pressure	18	psi	18	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
ZERO	ZERO	0.0	0.0	N/A
1920	79.2	40.0	41.5	0.9641
1920	79.2	40.0	40.0	1.0003
1960	39.6	20.0	19.4	1.0310
1980	19.8	10.0	9.4	1.0638
ZERO	ZERO	0.0	0.0	N/A
			Correction Factor:	1.0003

Percent Change

Previous Calibration Correction Factor:	0.9953
Current Correction Factor Before Span Adjust:	0.9641
Percent Change:	3.2%

Izs Calibration Data

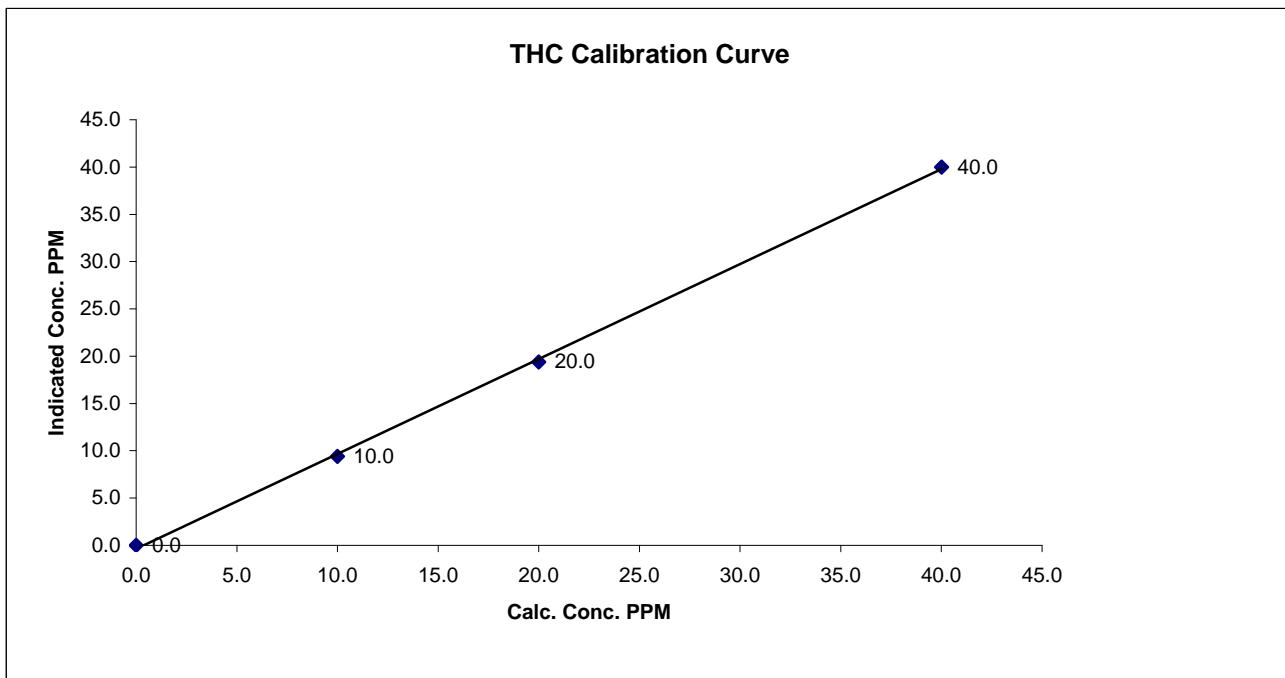
	Before Calibration		After Calibration
Auto Zero	0.0		0.0
Auto Span	28.1		27.1
Sample Lines Connected			YES

Notes:	Cylinder Pressures	
Span	800 psi	
Hydrogen	950 psi	
Zero Air	Maxxam-owned API 701 zero air supply with catalytic oxidizer	

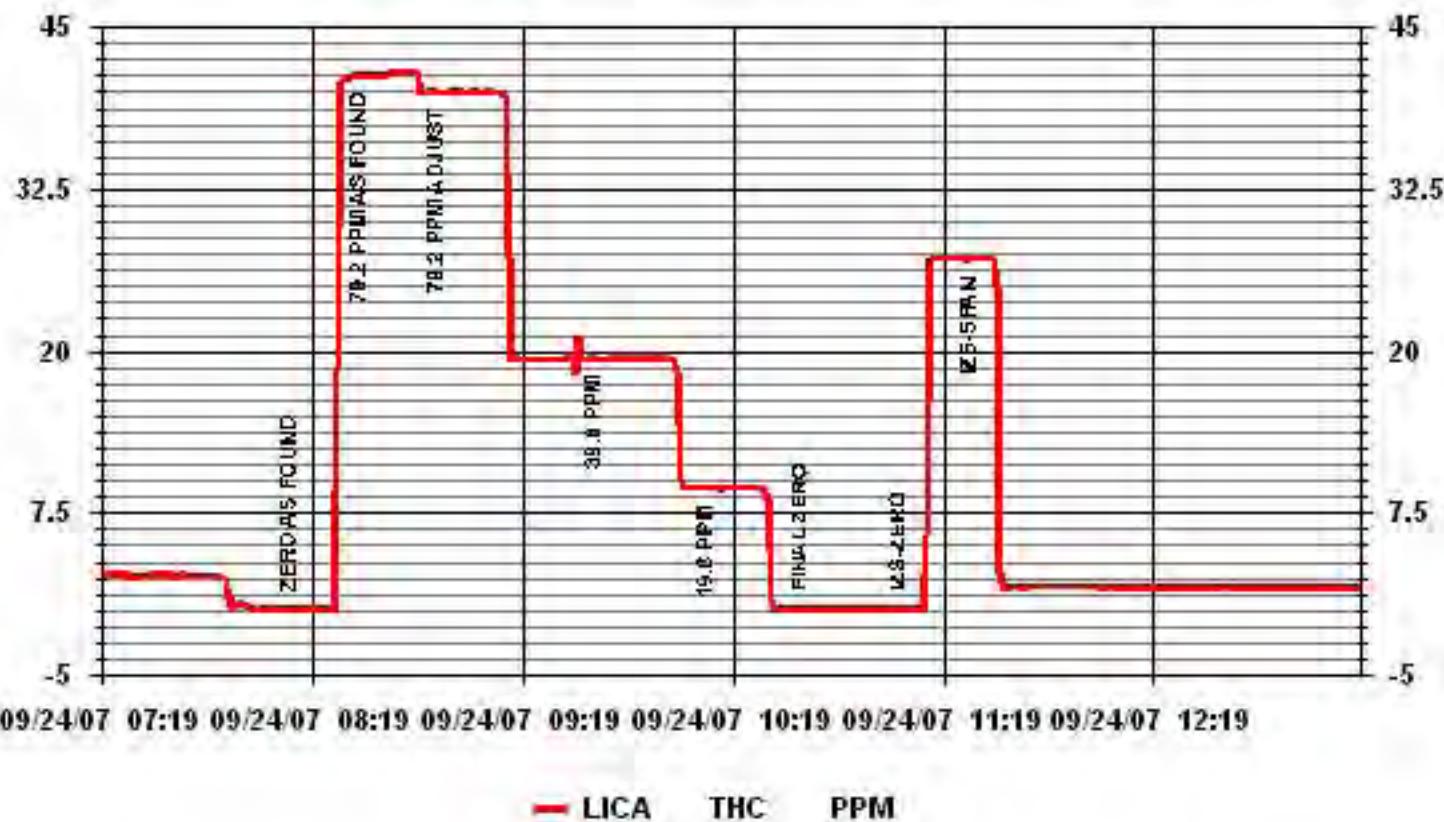
Calibration Performed by: _____ Shea Beaton _____

THC Calibration Curve

Calibration Date	September 24, 2007				
Company	Lakeland Industry and Community Association				
Plant / Location	LICA1/Cold Lake				
Start Time (MST)	7:45	End Time (MST)	11:40		
Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995) Slope Intercept	(0.85 to 1.15) ($\pm 3\%$ F.S.)	0.999608 1.003116 -0.358034
0.0	0.0				
10.0	9.4	1.0638			
20.0	19.4	1.0310			
40.0	40.0	1.0003			



01 Minute Averages



PARTICULATE MATTER

2.5

TEOM® Calibration

Station

Date: September 21, 2007
 Station Name: LICA
 Location: Cold Lake - South
 Operator: Maxxam Analytics

Transfer Standard

Make/Model: Bios DC-2
 Serial Number: 1193
 Cell s/n: 2272
 Thermometer s/n: 2178

Sampler

Make/Model R & P Series 1400 a TEOM
 Unit # AMU 1494
 Control unit s/n 140AB213859701
 Transducer s/n 140AB213859701
 Parameter PM 2.5

Set-up and current Sampler readings

F-Main Set Pt (l/min)	3.00
F-Aux Set Pt (l/min)	13.67
Filter Load (%)	71
K _o Factor	11095
Temp (°C)	7.9
Press (ATM)	0.929

Conversion from mmHg or "Hg to ATM (Atmospheres)

$$\text{ATM} = (\text{mmHg}) \times (1.316 \times 10^{-3}) \quad \text{or} \quad \text{ATM} = ("Hg) \times (3.34207 \times 10^{-2})$$

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

Calibration

Zero flow

Pump Off

F-Main (l/min) 0.06
 F-Aux (l/min) 0.17

Pump On (Time to reach set points)

(45-60 Sec) 41
(45-60 Sec) 54

Temperature/Pressure

Measured Temp ($\pm 1^\circ\text{C}$) 8.4
 Measured Press ($\pm 1.5\%$ ATM) 0.929

$\Delta^\circ\text{C}$ 0.5
 $\Delta\% \text{ATM}$ 0.0%

Flow Audit

Indicated Main/Aux Flow (l/min) 3.00 / 13.65
 Total Flow = Main + Aux (l/min) 16.65
 Measured Total Flow (l/min) 17.34
 Measured Main Flow (l/min) 3.09

$\Delta\% \text{from Set-pt}$

($\pm 2\%$)	0.0%	/	0.1%
($\pm 2\%$)	0.1%		
($\pm 1.0 \text{l/min. (5.65\%)}$)	-4.0%		
($\pm 0.2 \text{l/min. (6.25\%)}$)	-2.9%		

Leak Check

Main (< 0.15 l/min) 0.05
 Aux (< 0.15 l/min) 0.03

Actual leakage = Pump On - Pump Off

0.01

0.14

K_o Factor

Measured NA
 K_o Difference ($\pm 2.5\%$) NA

Start Time: 11:00

Finish Time:

11:45

Sample Inlet Cleaned:

YES

Sample Inlet Connected:

YES

Comments:

Calibrator/s: Shea Beaton

TEOM® Calibration

Station

Date: September 21, 2007
 Station Name: LICA
 Location: Cold Lake - South
 Operator: Maxxam Analytics

Transfer Standard

Make/Model: Bios DC-2
 Serial Number: 1193
 Cell s/n: 2272
 Thermometer s/n: 2178

Sampler

Make/Model R & P Series 1400 a TEOM
 Unit # AMU 1494
 Control unit s/n 140AB213859701
 Transducer s/n 140AB213859701
 Parameter PM 2.5

Set-up and current Sampler readings

F-Main Set Pt (l/min)	3.00
F-Aux Set Pt (l/min)	13.67
Filter Load (%)	15
K _o Factor	11095
Temp (°C)	8.6
Press (ATM)	0.929

Conversion from mmHg or "Hg to ATM (Atmospheres)

$$\text{ATM} = (\text{mmHg}) \times (1.316 \times 10^{-3}) \quad \text{or} \quad \text{ATM} = ("Hg) \times (3.34207 \times 10^{-2})$$

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

Calibration

Zero flow

Pump Off

F-Main (l/min) 0.06
 F-Aux (l/min) 0.17

Pump On (Time to reach set points)

(45-60 Sec) 34
(45-60 Sec) 47

Temperature/Pressure

Measured Temp ($\pm 1^\circ\text{C}$) 9.1
 Measured Press ($\pm 1.5\%$ ATM) 0.929

$\Delta^\circ\text{C}$ 0.5
 $\Delta\% \text{ATM}$ 0.0%

Flow Audit

Indicated Main/Aux Flow (l/min) 3.00 / 13.65
 Total Flow = Main + Aux (l/min) 16.65
 Measured Total Flow (l/min) 16.76
 Measured Main Flow (l/min) 2.99

$\Delta\% \text{from Set-pt}$

($\pm 2\%$)	0.0%	/	0.1%
($\pm 2\%$)	0.1%		
($\pm 1.0 \text{l/min. (5.65\%)}$)	-0.7%		
($\pm 0.2 \text{l/min. (6.25\%)}$)	0.3%		

Leak Check

Main (< 0.15 l/min) 0.08
 Aux (< 0.15 l/min) 0.06

Actual leakage = Pump On - Pump Off

0.02

0.11

K_o Factor

Measured NA
 K_o Difference ($\pm 2.5\%$) NA

Start Time: 11:00

Finish Time:

13:30

Sample Inlet Cleaned:

YES

Sample Inlet Connected:

YES

Comments:

Performed Audit after software flow cal, have ordered parts likely responsible for the slight leak. Fadj Main = 0.945, Fadj Aux = 0.965

Calibrator/s:

Shea Beaton

NO₂

NOx - NO- NO₂ Calibration Report

Station Information

Calibration Date	September 21, 2007	Previous Calibration	August 22, 2007
Company	Lakeland Ind & Comm. Assoc.	Plant/Location	LICA 1 - Cold Lake South
Start Time (MST)	8:15	End Time (MST)	13:50
Reason:	Monthly Calibration		
Barometric Pressure	706 mmHg	Station Temperature	21.0 Deg C
Cal Gas Concentration	NOx 49.8 ppm	NO 49.7 ppm	Cal Gas Expiry date 06/18/2009
DAS Output Voltage	0 - 5 Volts		

Equipment Information

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

Analyzer Settings

Concentration Range	Before Calibration				After Calibration			
	726	ccm	317	Deg C	721	ccm	317	ppb
Ozone Flow / Vacuum	OK	ccm	177.8	"Hg-A	OK	ccm	177.8	"Hg-A
HVPS	-820	Volts			-820	Volts		
Rx/ Temp / PMT Temp	49.9	Deg C	-2.5	Deg C	49.9	Deg C	-2.5	Deg C
Box Temp / IZS Temp	27.2	Deg C	OK	Deg C	28.6	Deg C	OK	Deg C
Offset	3.3	NOx	3.4	NO	2.7	NOx	2.7	NO
Slope	0.998	NOx	0.758	NO	1.003	NOx	0.730	NO

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O ₃ Set Point	Calculated Concentration		Indicated Concentration			Correction Factor	
			NOx	NO	NOx	NO	NO ₂	NOx	NO
ZERO	N/A	N/A	0	0	0	0	0	N/A	N/A
ZERO	N/A	N/A	0	0	0	0	0	N/A	N/A
4959	40.2	N/A	400	400	414	415	-1	0.9673	0.9630
4959	40.2	N/A	400	400	401	400	1	0.9986	0.9991
								Converter Efficiency	
4959	40.2	400	400	N/A	397	58	338	99%	
4959	40.2	250	400	N/A	398	163	235	99%	
4959	40.2	150	400	N/A	400	252	148	99%	
4959	40.2	N/A	400	400	401	399	1	N/A	
								Correction Factor	
4974	25.2	N/A	251	251	250	249	0	1.0041	1.0061
4984	15.1	N/A	150	150	149	148	0	1.0096	1.0143
ZERO	N/A	N/A	0	0	0	0	0	N/A	N/A
Linearity OK?			Yes	No	Sum of Least Squares			1.0010	1.0023
Flows Checked on-site?			Yes	No	New Correction Factor			0.9986	0.9991
					Average Converter Efficiency			99%	

Before Calibration

After Calibration

Auto Zero	0	NOx	0	NO ₂	0	NOx	0	NO ₂
Auto Span	299	NOx	297	NO ₂	290	NOx	287	NO ₂
YES								
Percent Change from Previous Calibration								

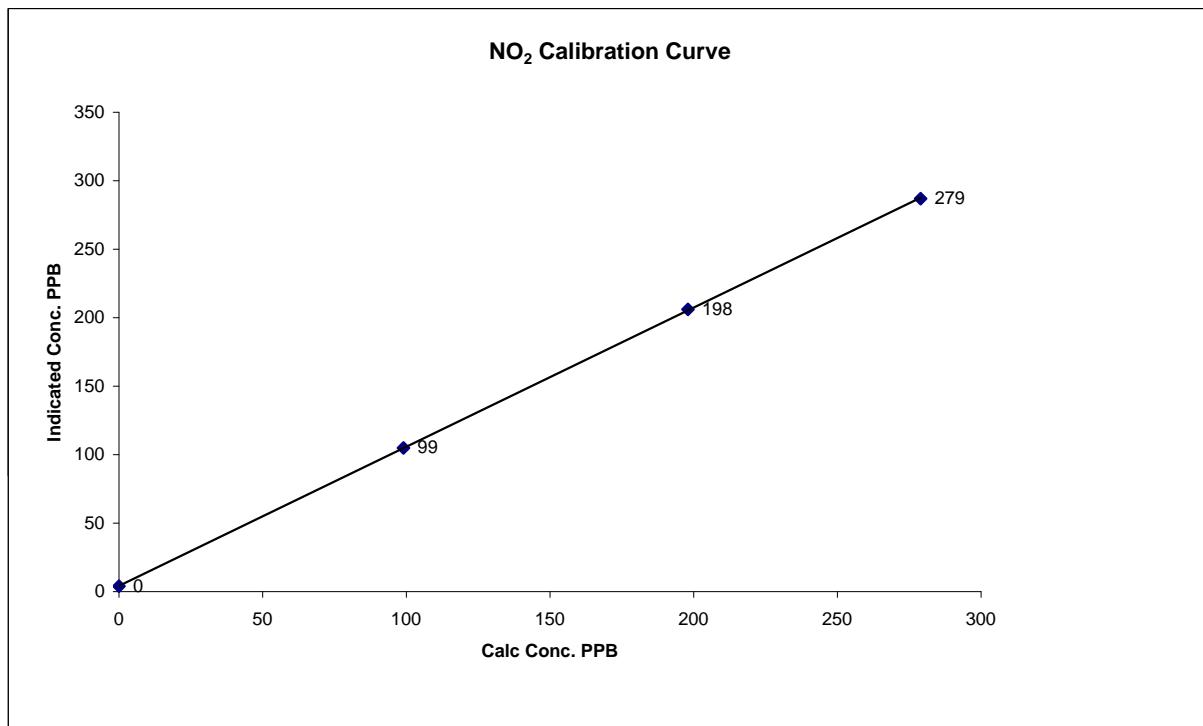
Notes: Power supply voltages +15 @ 15.1v, +5 @ 5.0v, -15 @ -15.1v, battery at 0.2v

Calibration Performed by: Shea Beaton

NO₂ Calibration Curve

Calibration Date	September 21, 2007		
Company	Lakeland Ind & Comm. Assoc.		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	8:15	End Time (MST)	13:50

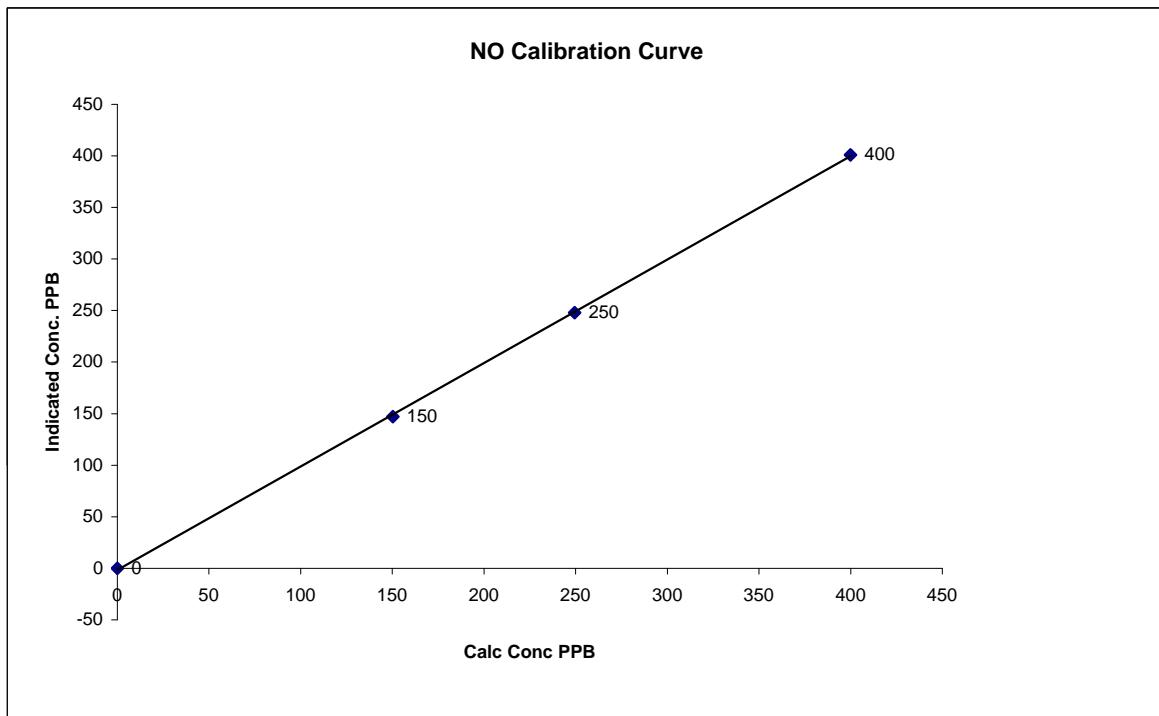
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995) Slope Intercept	0.999985 0.985164 1.446429
0	1	N/A		
148	148	1.0000		
237	235	1.0085		
342	338	1.0118		



NO Calibration Curve

Calibration Date	September 21, 2007		
Company	Lakeland Ind & Comm. Assoc.		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	8:15	End Time (MST)	13:50

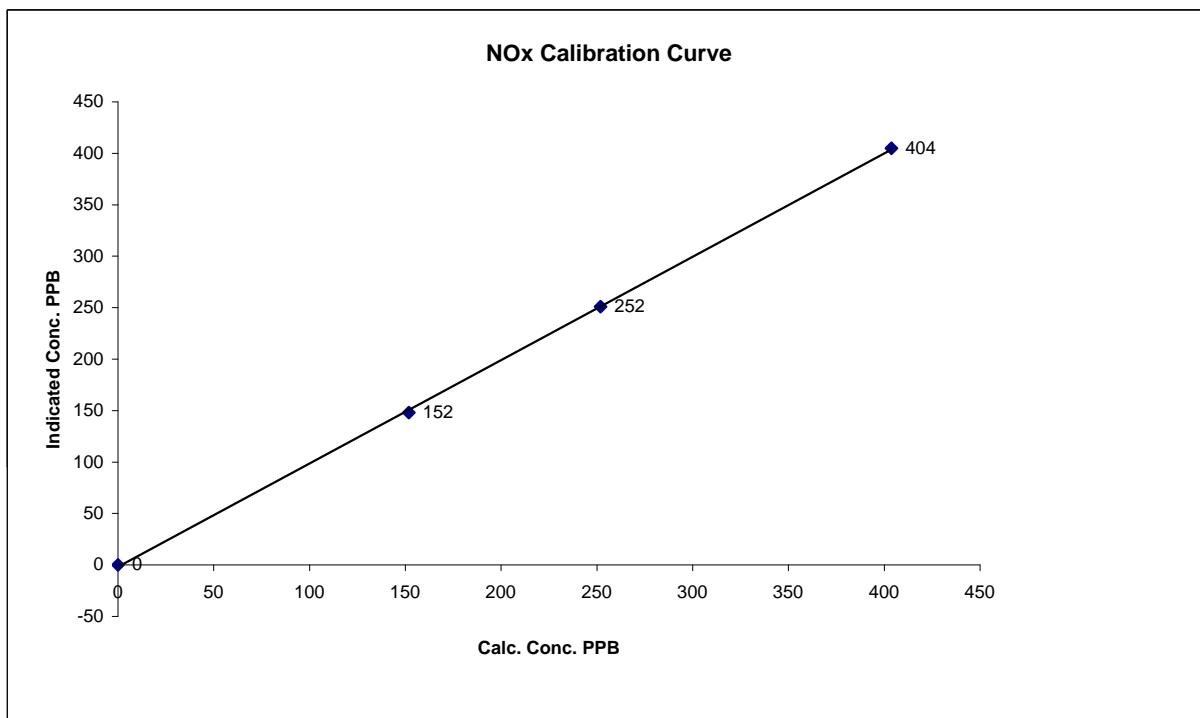
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995) Slope Intercept	0.999952 1.001158 -1.056962
0	0	N/A		
150	148	1.0143		
251	249	1.0061		
400	400	0.9991		



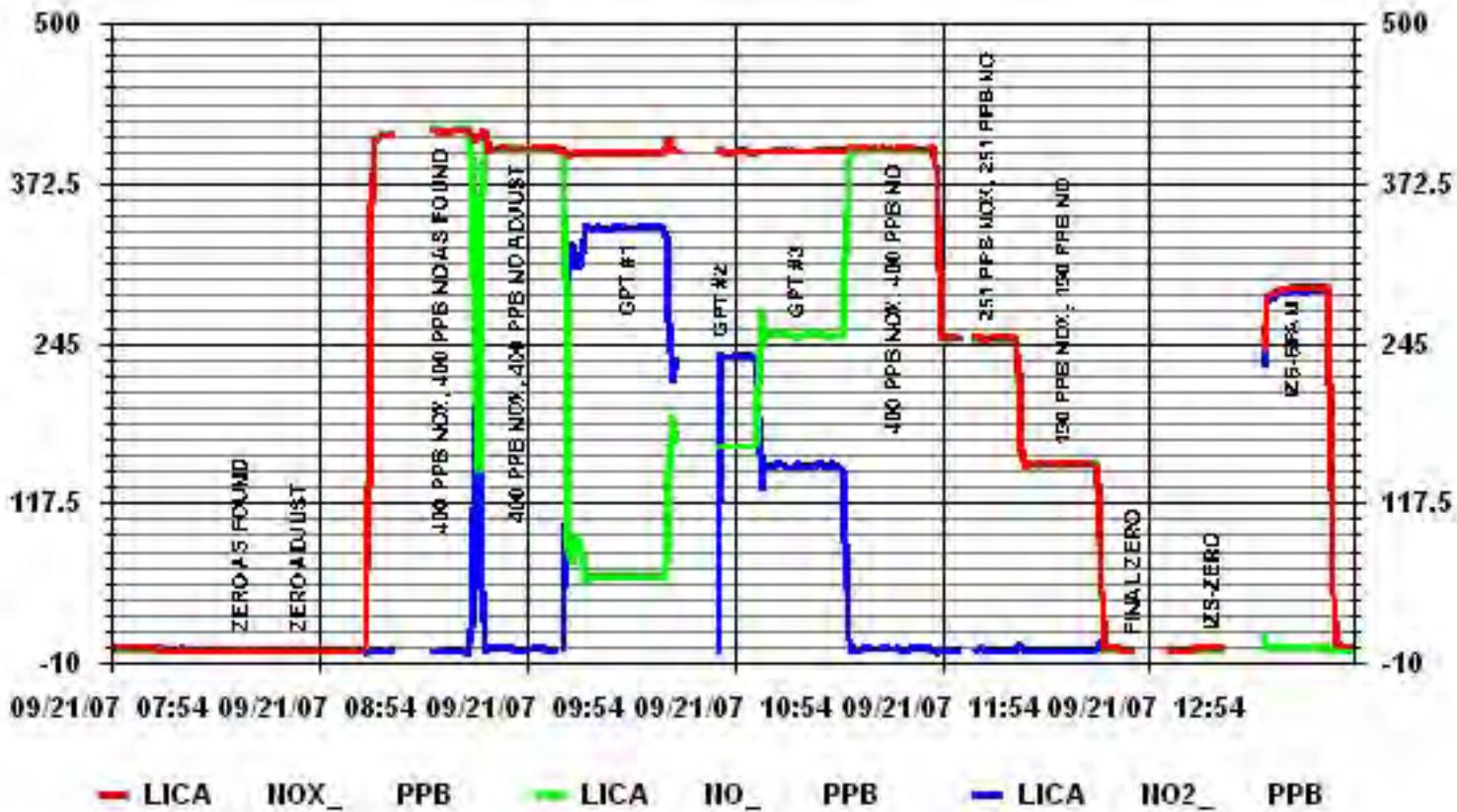
NOx Calibration Curve

Calibration Date	September 21, 2007		
Company	<u>Lakeland Ind & Comm. Assoc.</u>		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	8:15	End Time (MST)	13:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995) Slope (0.85 to 1.15) Intercept ($\pm 3\%$ F.S.)	0.999973 1.001500 -0.778449
0	0	N/A		
150	149	1.0096		
251	250	1.0041		
400	401	0.9986		



01 Minute Averages



OZONE

O₃ Calibration Report

Station Information

Calibration Date	September 24, 2007	Previous Calibration	August 15, 2007
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	14:00	End Time (MST)	17:00
Reason:	Monthly Calibration		
Barometric Pressure	714	mm Hg	Station Temperature
DAS Output Voltage	0 - 10	Volts	24 Deg C

Equipment Information

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

Analyzer Settings

Concentration Range	Before Calibration		After Calibration	
	0 - 500	ppb	0 - 500	ppb
Box Temp/ Pressure	34.2	705	34.1	705
O ₃ Set Level	29%		29%	
Bench Lamp/O ₃ Lamp	53.6	67.7	53.6	67.7
Sample Flow A/B	0.701 LPM	0.709 LPM	0.699 LPM	0.707 LPM
Offset / Slope	0.4	1.061	0.4	1.061

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
ZERO	ZERO	0	0	N/A
5000	400	399	401	0.9950
5000	250	247	247	1.0000
5000	100	97	99	0.9798
ZERO	ZERO	0	0	N/A
			Sum of Least Squares	N/A
			New Correction Factor	0.9950

Before Calibration

After Calibration

Auto Zero	0	0
Auto Span	294	296
Sample Lines Connected		YES
Percent Change from Previous Calibration		0.3%

Notes:

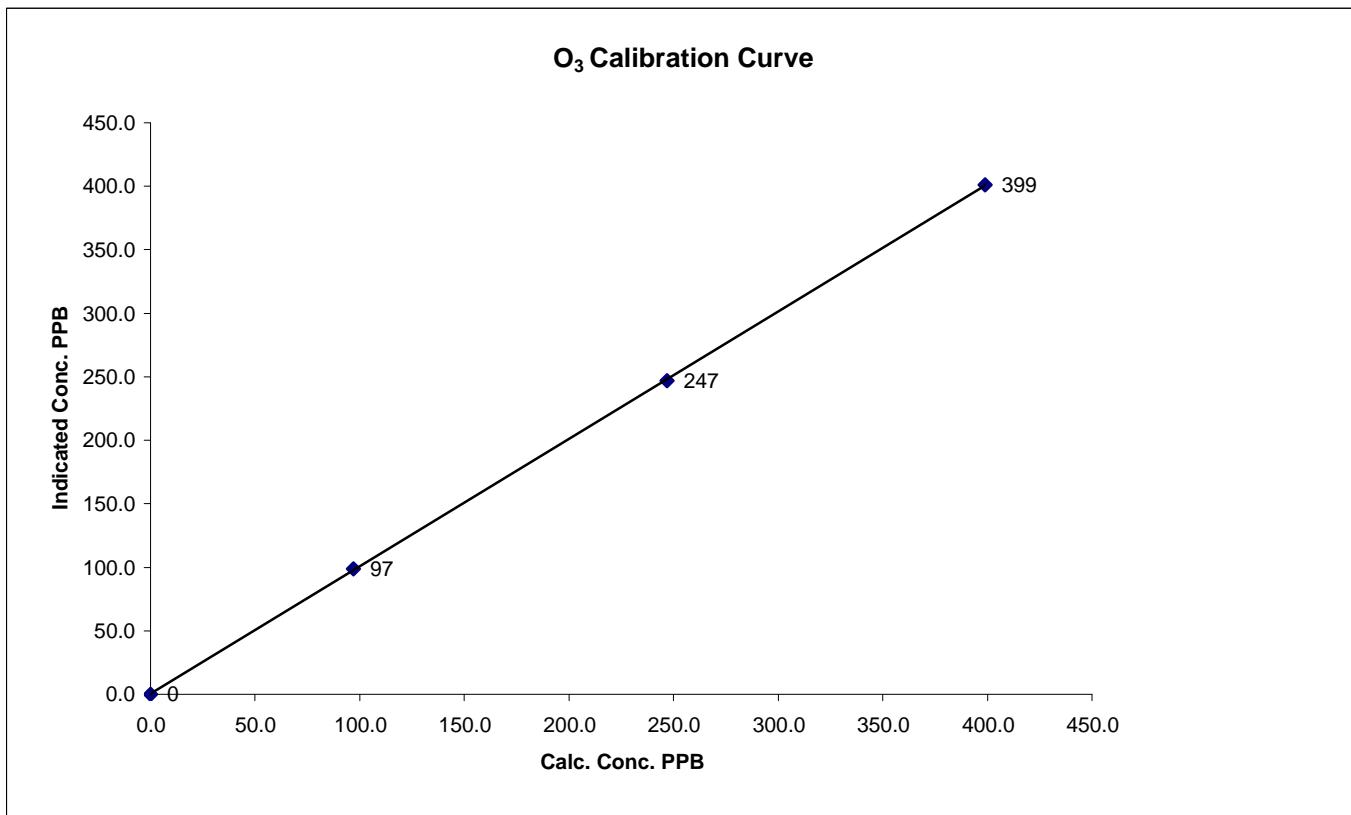
Calibration Performed by:

Shea Beaton

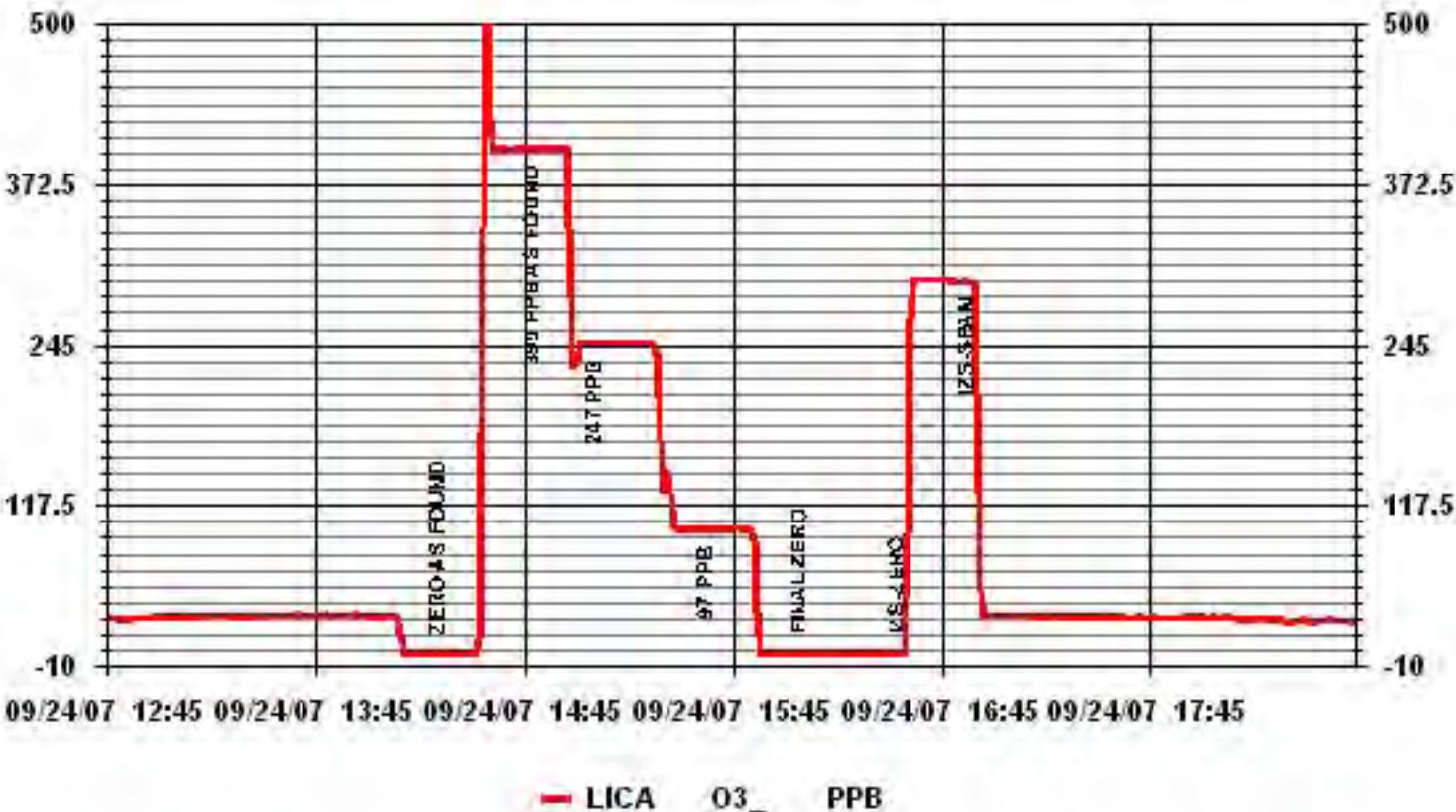
O₃ Calibration Curve

Calibration Date	September 24, 2007		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	14:00	End Time (MST)	17:00

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995) (0.85 to 1.15)	0.999964
			Slope	(± 3% F.S.)	1.002718
			Intercept		0.495105
0	0	n/a			
97	99	0.9798			
247	247	1.0000			
399	401	0.9950			



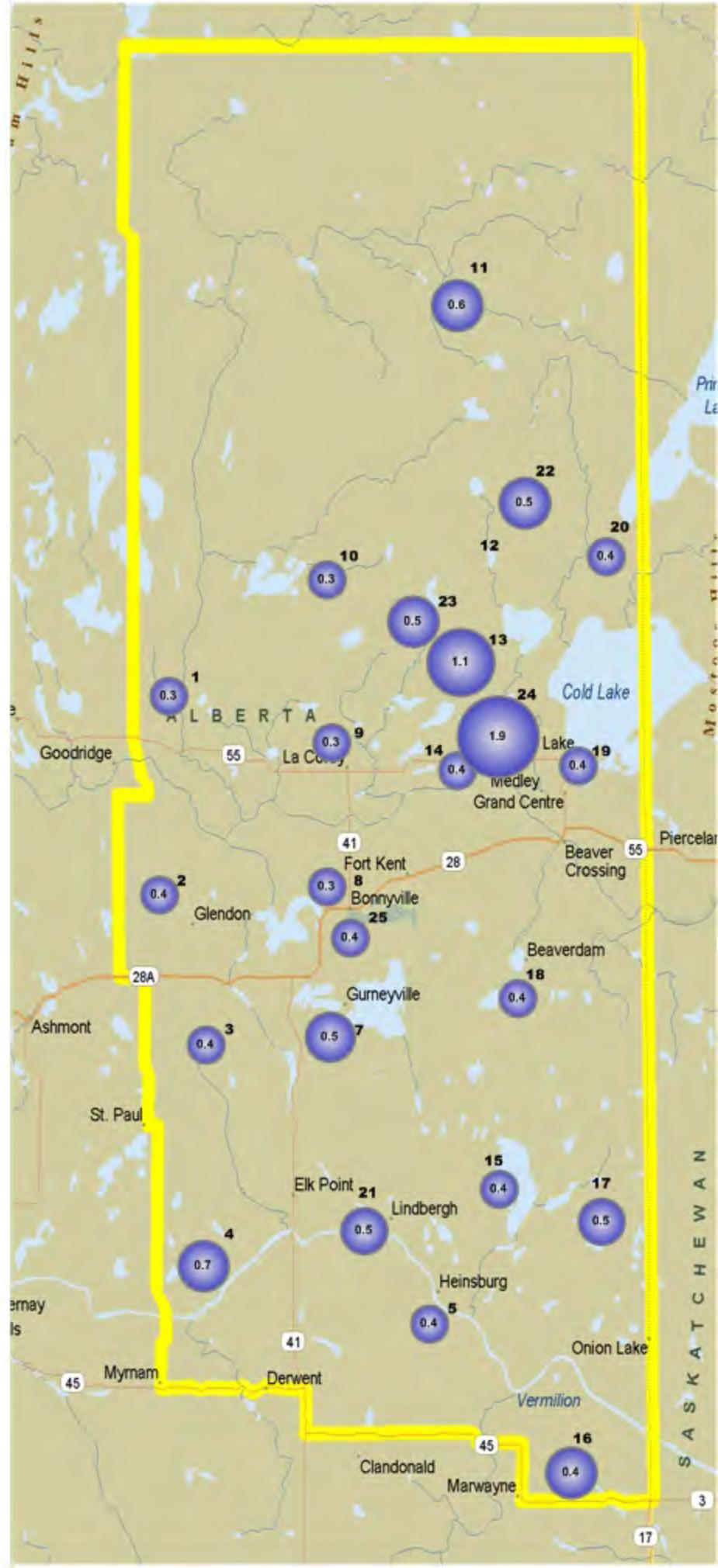
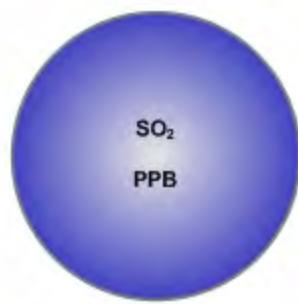
01 Minute Averages



SEPTEMBER 2007
LICA
PASSIVE BUBBLE MAPS

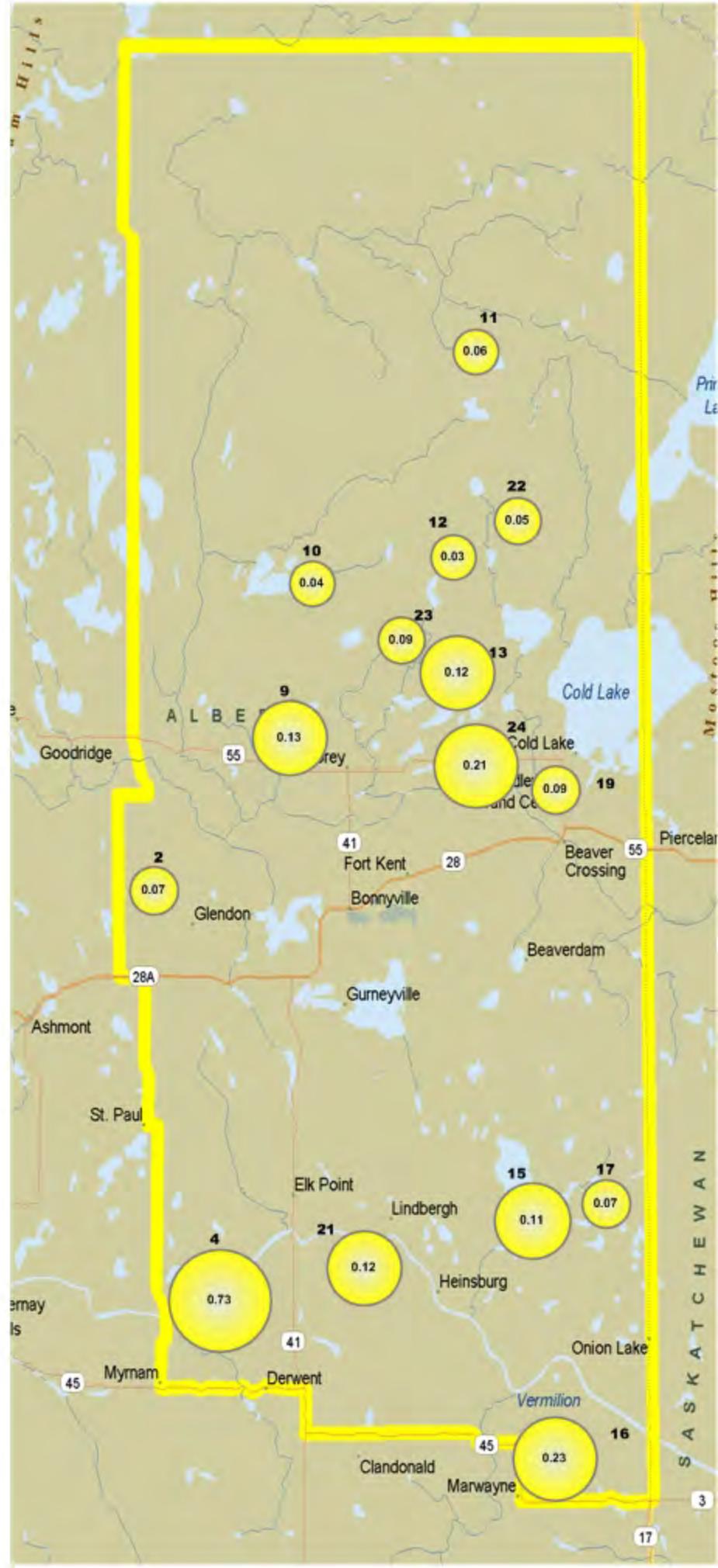
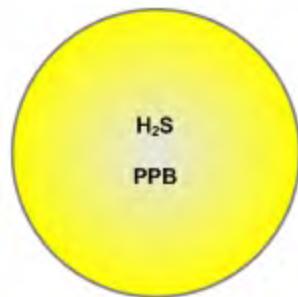
PASSIVE BUBBLE MAP

September 2007



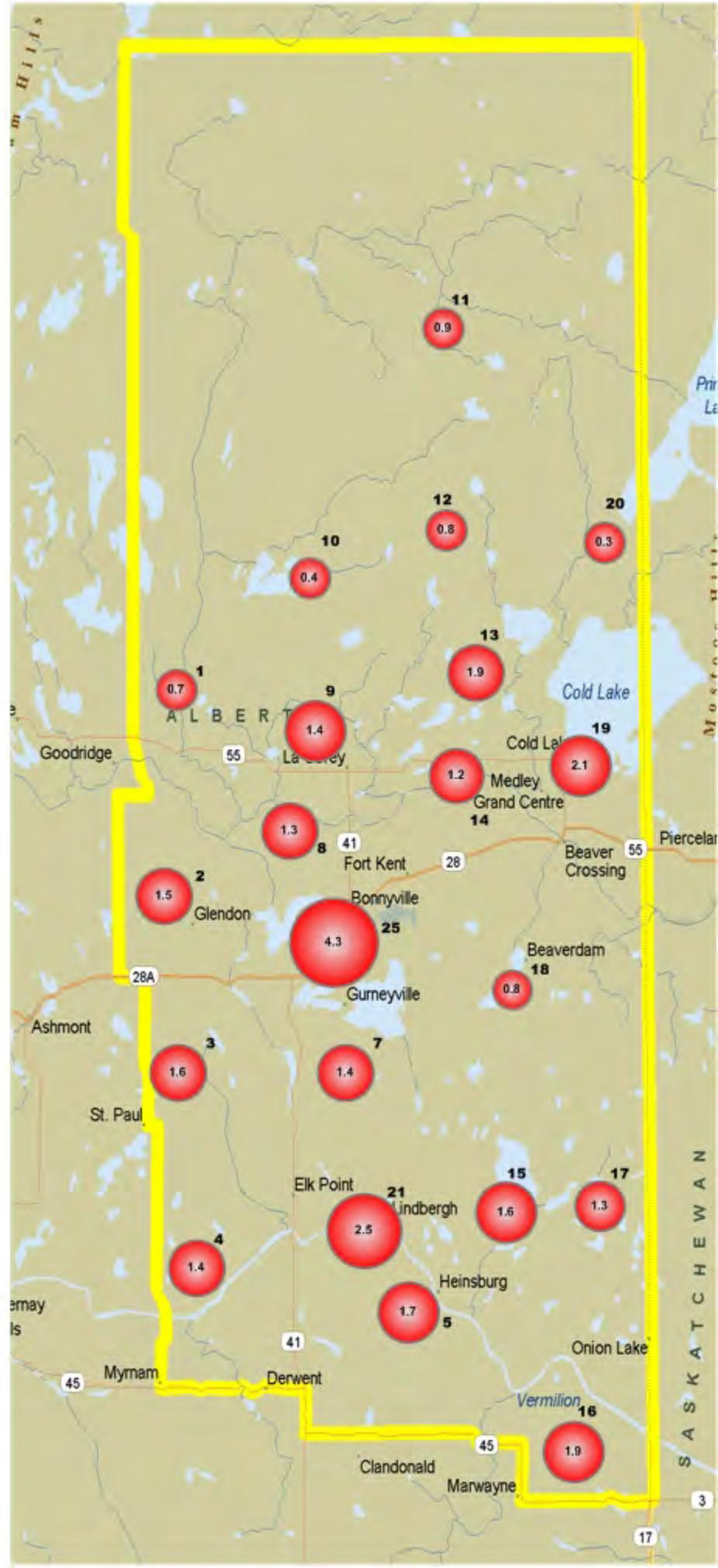
PASSIVE BUBBLE MAP

September 2007



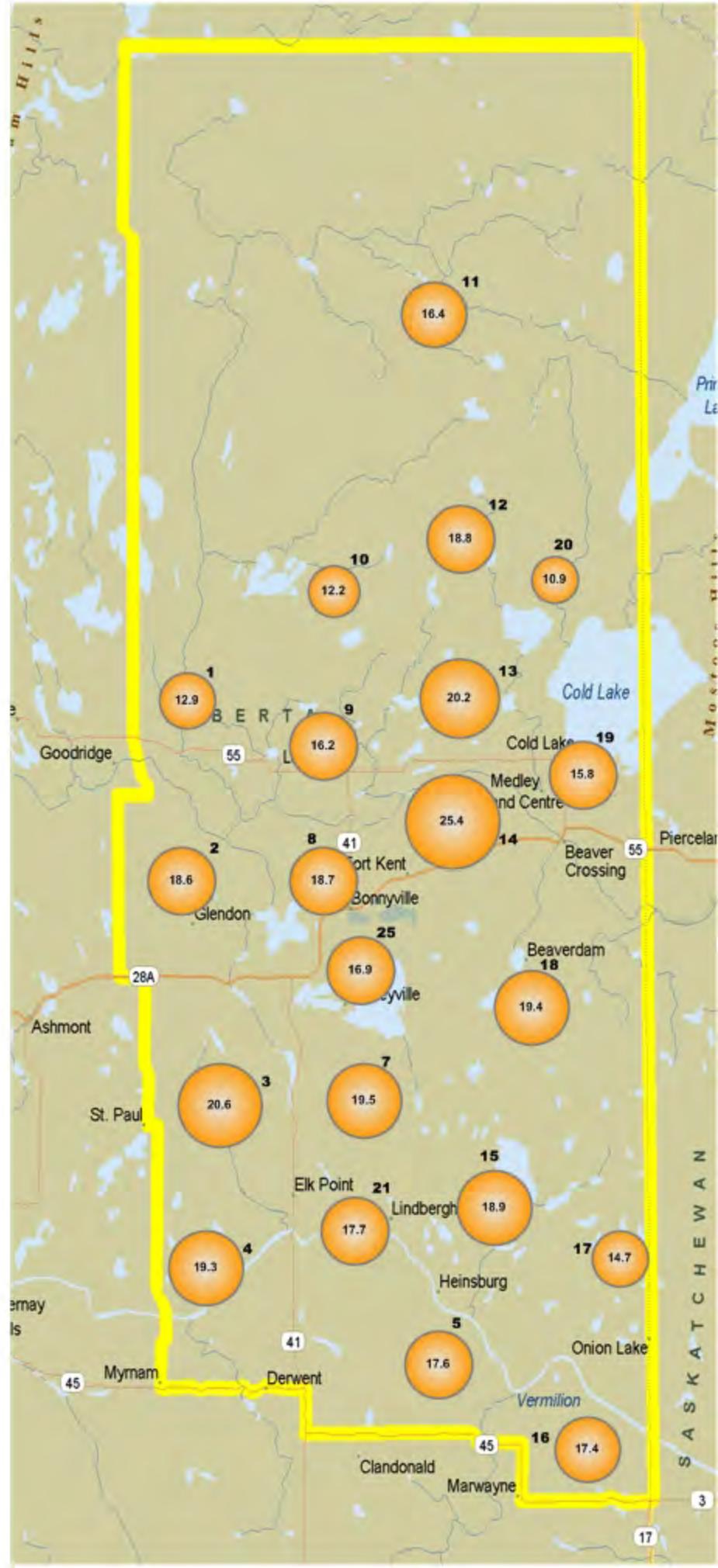
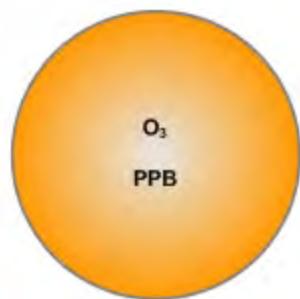
PASSIVE BUBBLE MAP

September 2007



PASSIVE BUBBLE MAP

September 2007



SEPTEMBER 2007

LICA PASSIVE NETWORK

LAB ANALYSIS

Attention: MICHAEL BISAGA

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
PO BOX 8237
5006 - 50TH AVENUE
BONNYVILLE, AB
CANADA T9N 2J5

Report Date: 2007/10/22

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A747415

Received: 2007/10/03, 13:47

Sample Matrix: Air

Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	1	2007/10/11	2007/10/15		EDM SOP-0320
NO2 Passive Analysis (1)	1	2007/10/11	2007/10/15		EDM SOP-0318
O3 Passive Analysis (1)	1	2007/10/11	2007/10/15		EDM SOP-0317
SO2 Passive Analysis (1)	1	2007/10/11	2007/10/15		EDM SOP-0319

Sample Matrix: Air

Samples Received: 25

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	16	2007/10/11	2007/10/15		EDM SOP-0320
NO2 Passive Analysis (1)	22	2007/10/11	2007/10/15		EDM SOP-0318
O3 Passive Analysis (1)	22	2007/10/11	2007/10/15		EDM SOP-0317
SO2 Passive Analysis (1)	25	2007/10/11	2007/10/15		EDM SOP-0319

(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.

JODI HANSON, Project Manager, Customer Service
Email: jodi.hanson@maxxamanalytics.com
Phone# (780) 468-3500

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section

Attention: MICHAEL BISAGA

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
PO BOX 8237
5006 - 50TH AVENUE
BONNYVILLE, AB
CANADA T9N 2J5

Report Date: 2007/10/22

CERTIFICATE OF ANALYSIS

-2-

5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

Total cover pages: 2

Edmonton: 9331 - 48th Street T6B 2R4 Telephone(780) 468-3500 FAX(780) 466-3332

Maxxam Job Number : PA747415
 Report Date : 2007/10/22

Sample Description	Set Number	Matrix	Date Sampled	Calculated H2S ppb	Calculated NO2 ppb	Calculated O3 ppb
1	H25730	Air	2007/08/28	N/A	0.7	12.9
2	H25731	Air	2007/08/28	0.07	1.5	18.6
3	H25732	Air	2007/08/29	N/A	1.6	20.6
4	H25733	Air	2007/08/29	0.77	1.6	20.0
5	H25734	Air	2007/08/29	N/A	1.7	17.6
7	H25735	Air	2007/08/29	N/A	1.4	19.5
8	H25736	Air	2007/08/28	N/A	1.3	18.7
9	H25737	Air	2007/08/28	0.13	1.4	16.2
10	H25738	Air	2007/08/28	0.04	0.4	12.2
11	H25739	Air	2007/08/28	0.06	0.9	16.4
12	H25740	Air	2007/08/28	0.03	0.8	18.8
13	H25741	Air	2007/08/28	0.12	1.9	20.2
14	H25742	Air	2007/08/28	N/A	1.2	25.4
15	H25743	Air	2007/08/29	0.11	1.6	18.9
16	H25744	Air	2007/08/29	0.23	1.9	17.4
17	H25745	Air	2007/08/29	0.07	1.3	14.7
18	H25746	Air	2007/08/29	N/A	0.8	19.4
19	H25747	Air	2007/08/29	0.09	2.1	15.8
20	H25748	Air	2007/08/29	N/A	0.3	10.9
21	H25749	Air	2007/08/29	0.14	2.8	18.2
21A	H25750	Air	2007/08/29	0.10	2.2	17.2
4A	H25751	Air	2007/08/29	0.69	1.2	18.5
22	H25754	Air	2007/08/28	0.05	N/A	N/A
23	H25755	Air	2007/08/28	0.09	N/A	N/A
24	H25756	Air	2007/08/28	0.21	N/A	N/A
25	H25757	Air	2007/08/28	N/A	4.3	16.9

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Attention: MICHAEL BISAGA
 Client Project #: SEPTEMBER 2007
 P.O. #:
 Site Reference: LICA

Maxxam Job Number : PA747415
 Report Date : 2007/10/22

Sample Description	Set Number	Matrix	Date Sampled	Calculated SO2 ppb
1	H25730	Air	2007/08/28	0.3
2	H25731	Air	2007/08/28	0.4
3	H25732	Air	2007/08/29	0.4
4	H25733	Air	2007/08/29	0.7
5	H25734	Air	2007/08/29	0.4
7	H25735	Air	2007/08/29	0.5
8	H25736	Air	2007/08/28	0.3
9	H25737	Air	2007/08/28	0.3
10	H25738	Air	2007/08/28	0.3
11	H25739	Air	2007/08/28	0.6
12	H25740	Air	2007/08/28	DAMAGED
13	H25741	Air	2007/08/28	1.1
14	H25742	Air	2007/08/28	0.4
15	H25743	Air	2007/08/29	0.4
16	H25744	Air	2007/08/29	0.4
17	H25745	Air	2007/08/29	0.5
18	H25746	Air	2007/08/29	0.4
19	H25747	Air	2007/08/29	0.4
20	H25748	Air	2007/08/29	0.4
21	H25749	Air	2007/08/29	0.6
21A	H25750	Air	2007/08/29	0.4
4A	H25751	Air	2007/08/29	0.7
22	H25754	Air	2007/08/28	0.5
23	H25755	Air	2007/08/28	0.5
24	H25756	Air	2007/08/28	1.9
25	H25757	Air	2007/08/28	0.4

Quality Assurance Report

Maxxam Job Number: PA747415

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1897214 KR	Calibration Check	Calculated H2S	2007/10/12		105	%	80 - 120
	SPIKE	Calculated H2S	2007/10/12		98	%	N/A
1897215 DF4	Calibration Check	Calculated NO2	2007/10/11		100	%	76 - 118
	SPIKE	Calculated NO2	2007/10/11		100	%	N/A
	BLANK	Calculated NO2	2007/10/11	<0.1		ppb	
1897216 DF4	Calibration Check	Calculated O3	2007/10/15		101	%	91 - 107
	SPIKE	Calculated O3	2007/10/15		100	%	N/A
	BLANK	Calculated O3	2007/10/15	<0.1		ppb	
1897221 DF4	Calibration Check	Calculated SO2	2007/10/11		99	%	95 - 105
	SPIKE	Calculated SO2	2007/10/11		101	%	N/A
	BLANK	Calculated SO2	2007/10/11	<0.1		ppb	

N/A = Not Applicable

SEPTEMBER 2007

PASSIVE FIELD DATA

**LAKELAND INDUSTRY & COMMUNITY
ASSOCIATION
PASSIVE FIELD DATA**

SAMPLER	ID	START		END		NOTES
		DATE	TIME	DATE	TIME	
SO ₂ /NO ₂ /O ₃	1	08/28/07	10:35	09/27/07	10:00	
H ₂ S/SO ₂ /NO ₂ /O ₃	2	08/28/07	10:00	09/27/07	9:30	
SO ₂ /NO ₂ /O ₃	3	08/29/07	14:40	09/28/07	16:30	
H ₂ S/SO ₂ /NO ₂ /O ₃	4	08/29/07	14:00	09/28/07	15:55	
SO ₂ /NO ₂ /O ₃	5	08/29/07	12:30	09/28/07	14:25	
SO ₂ /NO ₂ /O ₃	7	08/29/07	15:25	09/28/07	17:20	
SO ₂ /NO ₂ /O ₃	8	08/28/07	9:30	09/27/07	8:40	O ₃ CARTRIDGE DAMAGED
H ₂ S/SO ₂ /NO ₂ /O ₃	9	08/28/07	14:35	09/27/07	14:15	
H ₂ S/SO ₂ /NO ₂ /O ₃	10	08/28/07	11:35	09/27/07	11:30	
H ₂ S/SO ₂ /NO ₂ /O ₃	11	08/28/07	13:00	09/27/07	12:45	
H ₂ S/SO ₂ /NO ₂ /O ₃	12	08/28/07	15:55	09/28/07	8:40	SITE VANDALIZED
H ₂ S/SO ₂ /NO ₂ /O ₃	13	08/28/07	16:30	09/27/07	17:00	
SO ₂ /NO ₂ /O ₃	14	08/28/07	8:20	09/27/07	7:45	
H ₂ S/SO ₂ /NO ₂ /O ₃	15	08/29/07	10:50	09/28/07	13:00	
H ₂ S/SO ₂ /NO ₂ /O ₃	16	08/29/07	11:35	09/28/07	13:40	
H ₂ S/SO ₂ /NO ₂ /O ₃	17	08/29/07	10:10	09/28/07	12:15	
SO ₂ /NO ₂ /O ₃	18	08/29/07	9:15	09/28/07	11:15	
H ₂ S/SO ₂ /NO ₂ /O ₃	19	08/29/07	16:45	09/28/07	10:10	
SO ₂ /NO ₂ /O ₃	20	08/29/07	7:50	09/27/07	18:15	
H ₂ S/SO ₂ /NO ₂ /O ₃	21	08/29/07	13:25	09/28/07	15:15	
H ₂ S/SO ₂	22	08/28/07	15:45	09/27/07	15:50	
H ₂ S/SO ₂	23	08/28/07	16:20	09/27/07	16:40	
H ₂ S/SO ₂	24	08/28/07	16:45	09/27/07	17:20	
SO ₂ /NO ₂ /O ₃	25	08/28/07	8:55	09/27/07	8:20	
H ₂ S/SO ₂ /NO ₂ /O ₃	15A	08/29/07	13:25	09/28/07	15:15	
H ₂ S/SO ₂ /NO ₂ /O ₃	16A	08/29/07	14:00	09/28/07	15:55	

SEPTEMBER 2007

PASSIVE FIELD PHOTOS

PHOTO – DAMAGED PASSIVE STATION # 12

