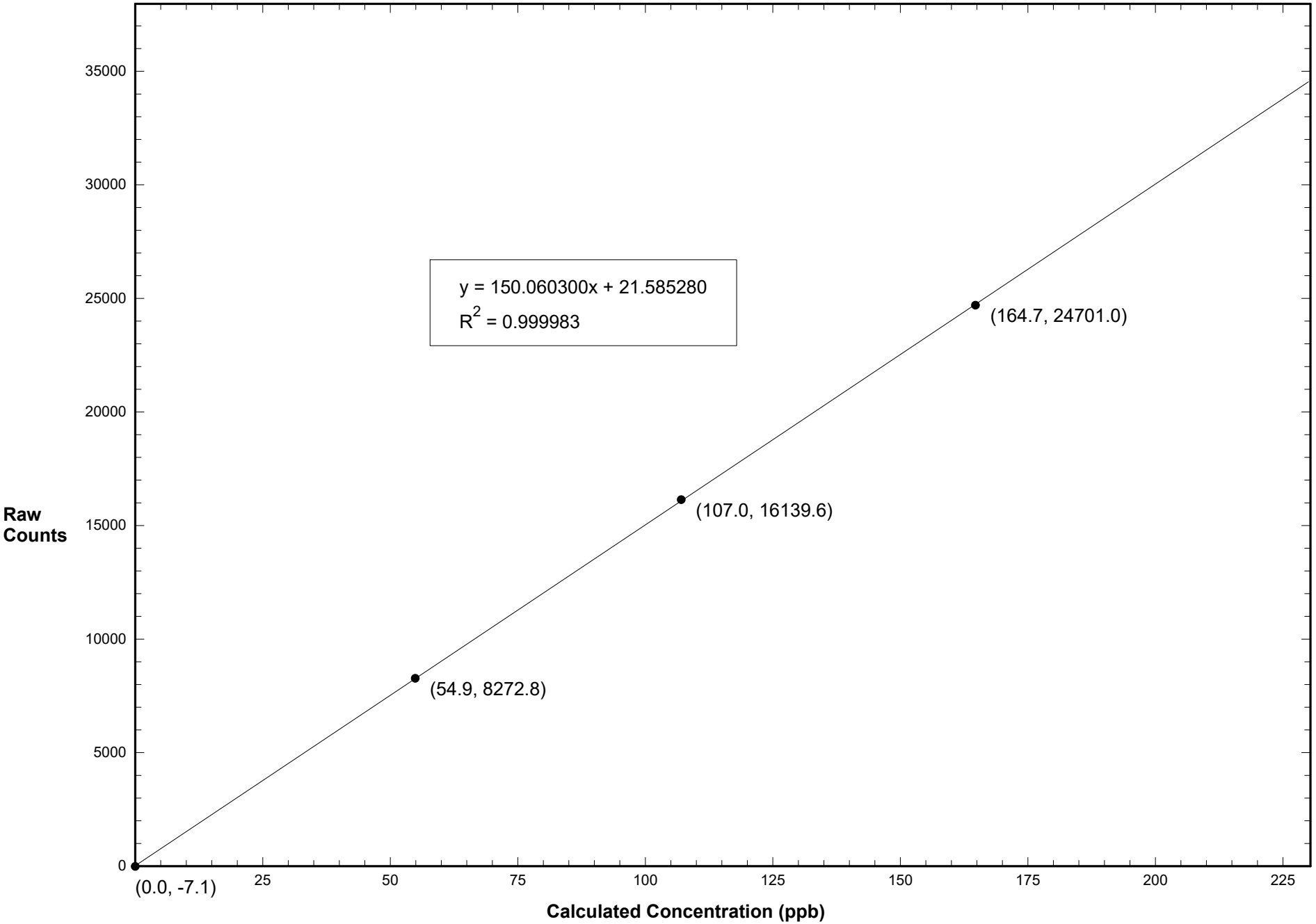
Hinton Pulp
A division of West Fraser Mills Limited
Hinton, Alberta

AIR QUALITY MONITORING
May 2017
Monthly Report

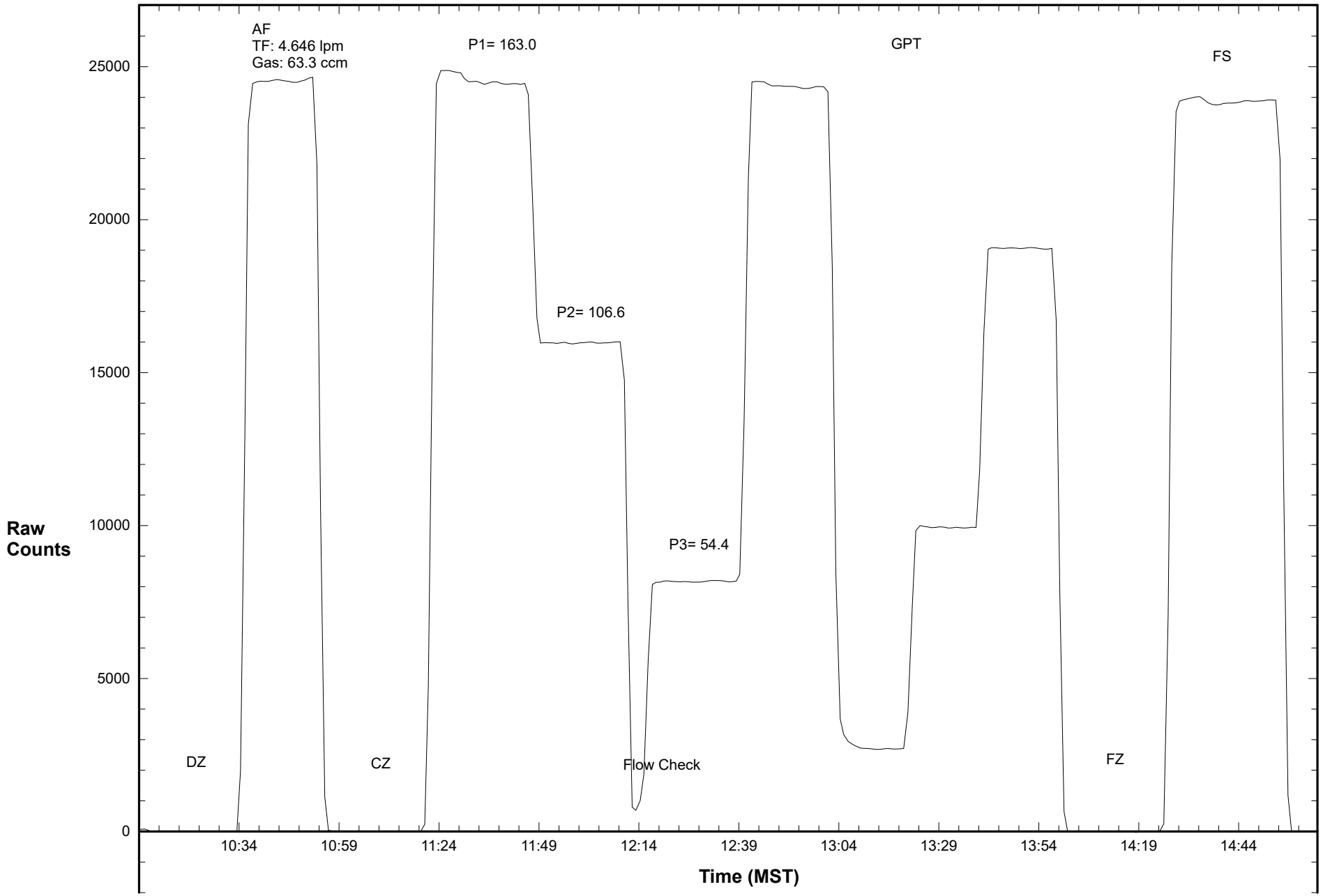
Prepared by:

West Central Airshed Society
Drayton Valley, Alberta

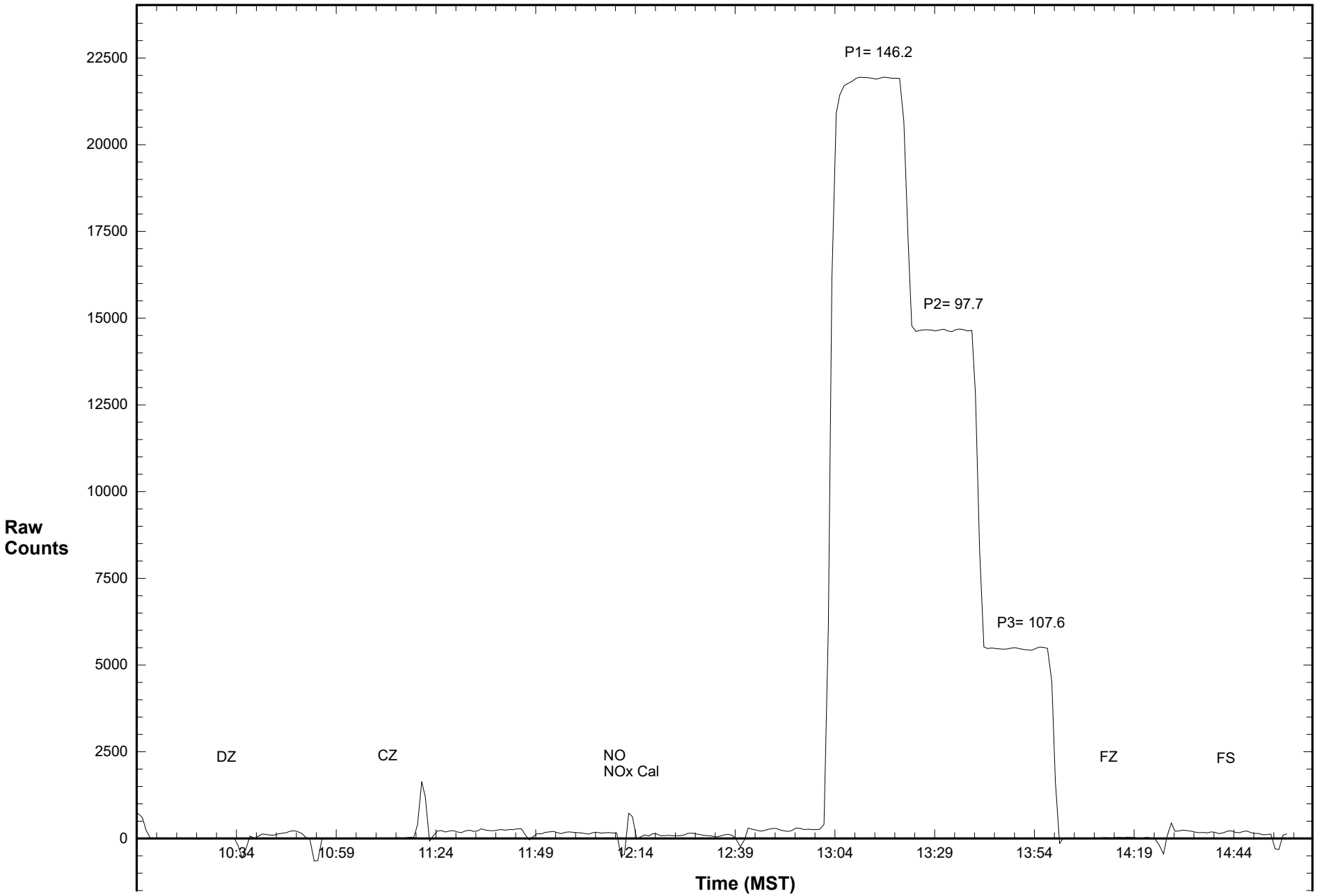
Station 906 NOX May 24, 2017: Linear Regression



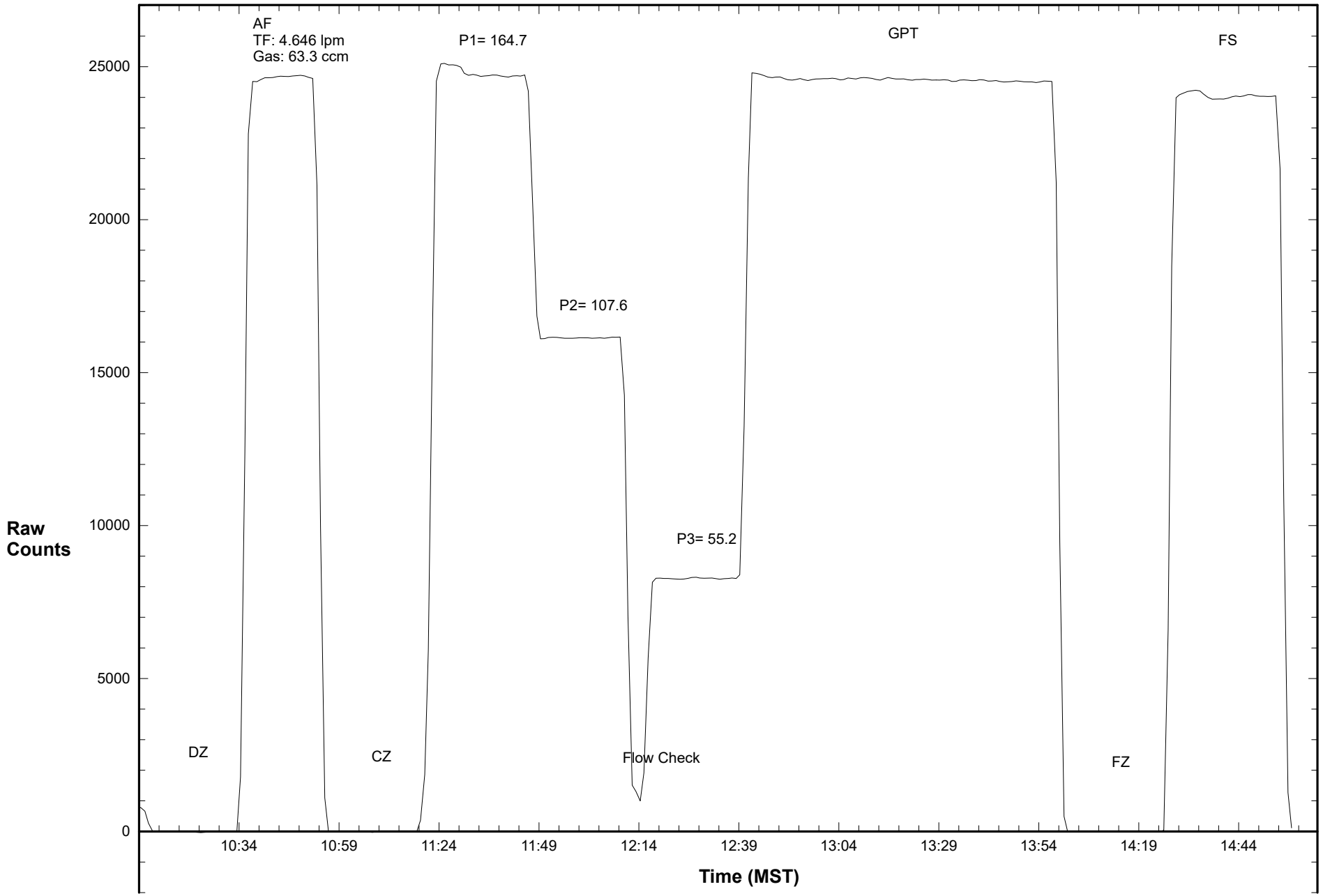
Station 906 NO May 24, 2017: Calibration Graph



Station 906 NO2 May 24, 2017: Calibration Graph



Station 906 NOX May 24, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: May 24, 2017

Parameter: O_3

Instrument: Teco 49i

Serial Number: 1150790050

Previous Calibration Date: April 18 2107

Calibration: Routine

Calibration Equipment: 2B Tech 306 SN-135

Barometric Pressure: 26.20" Hg

Calibration Method: Certified Ozone Generator In service: Jan 16/17

Temperature: 20.0° C

Technician: Dean Yustak

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	-0.1	0.968	500 ppb
Current	0.0	1.011	500 ppb

Final Zero: -1.1 ppb

Final Span: 367.7 ppb

As Found Correction Factor: 1.035

Calibration System Flow Rate (LPM)	Calculated Concentration C_c (ppb)	Raw Count Output R_c	Indicated Concentration C_i (ppb)	Correction Factor C_c/C_i
3.000	403.0	24186.7	403.1	1.000
3.000	254.0	15220.9	253.4	1.002
3.000	100.1	6113.3	101.3	0.988
3.000	0.0	5.0	-0.7	

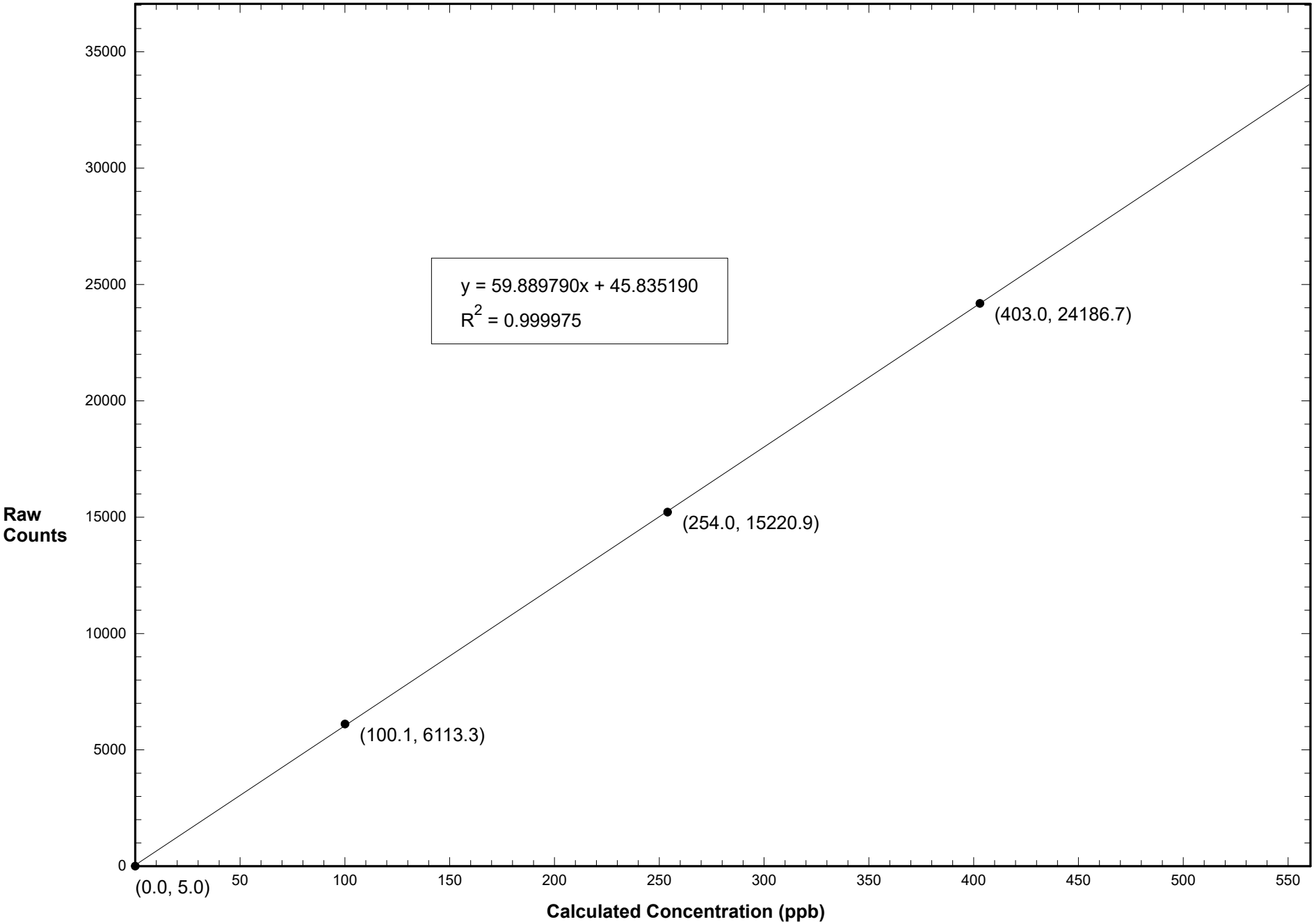
Results of Linear Regression

R_c vs C_c	Slope	Intercept	R^2
Previous	60.123250	27.966890	0.999978
Current	59.889790	45.835190	0.999975
C_i vs C_c			
Current	1.000000	-0.000039	0.999975

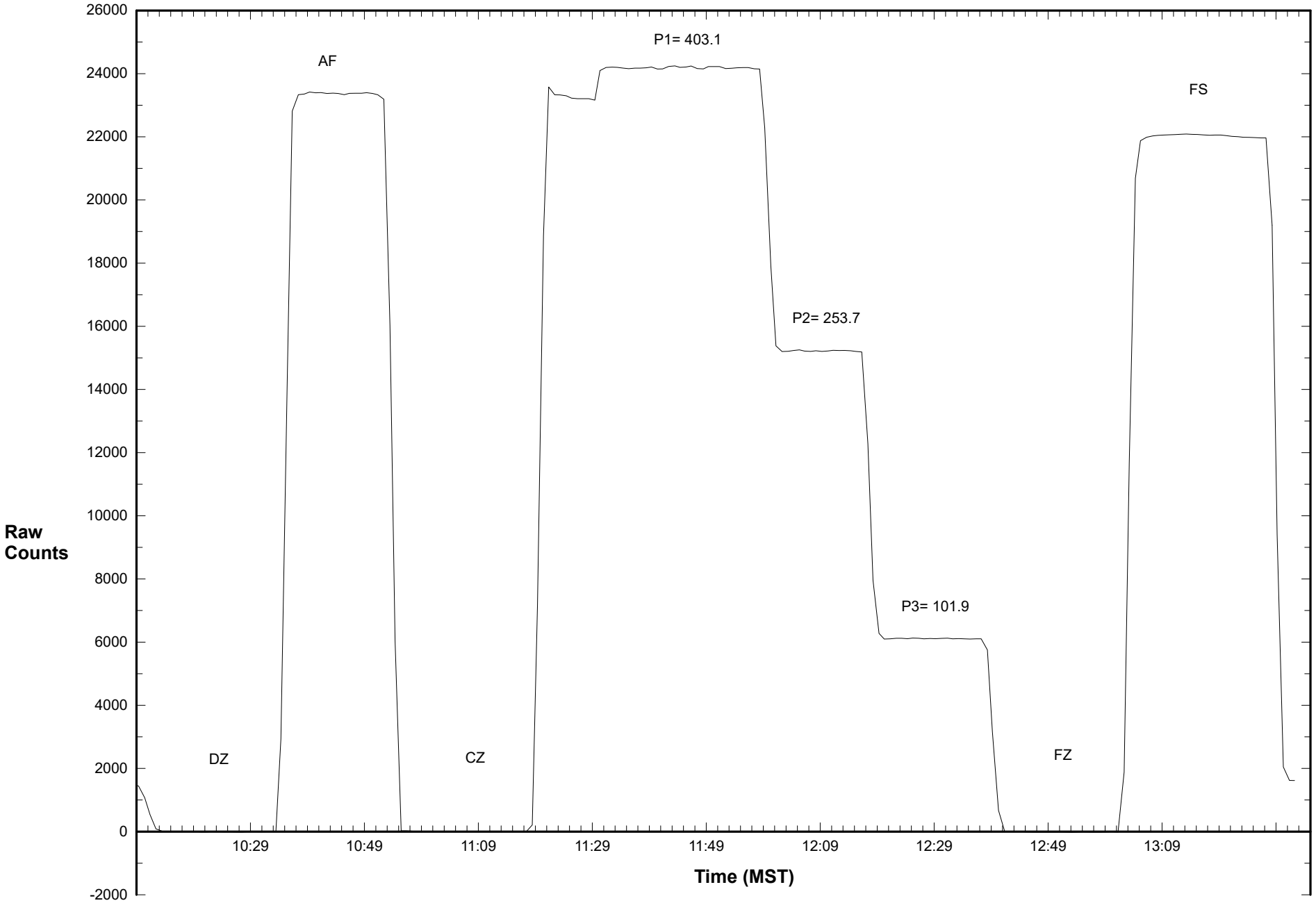
Average Correction Factor:	0.997
Previous Correction Factor:	1.002
Current Correction Factor:	1.000
Percent Change of Correction Factor:	-0.2

Comments: Sample Flows: 0.703 & 0.685 lpm

Station 906 O3 May 24, 2017: Linear Regression



Station 906 O3 May 24, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: May 24, 2017

Parameter: SO_2

Instrument: Teco 43i

Serial Number: CM 12499009

Previous Calibration Date: April 18 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810

Barometric Pressure: 26.20" Hg

Calibration Method: Std.Gas Dilution

Cylinder ID: FF27662

Temperature: 20.0° C

Cylinder Concentration: 5.92 ppm SO2

In Service: June 2 2016; Exp Jan 20 2019

Technician: Dean Yustak

Instrument Settings	SO_2 bkg ppb	SO_2 Coefficient	Monitoring Range
Previous	26.4	1.013	100 ppb
Current	27.4	1.037	100 ppb

Final Zero: -0.1 ppm

Final Span: 75.2 ppm

As Found Correction Factor: 1.018

SO_2 Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C_c (ppm)	Raw Count Output R_c	Indicated Concentration C_i (ppm)	Correction Factor C_c/C_i
0.0640	4.598	81.3	24392.7	81.2	1.001
0.0414	4.600	52.8	15913.1	53.0	0.997
0.0211	4.600	27.1	8070.2	26.9	1.007
0.0000	4.583	0.0	15.0	0.1	

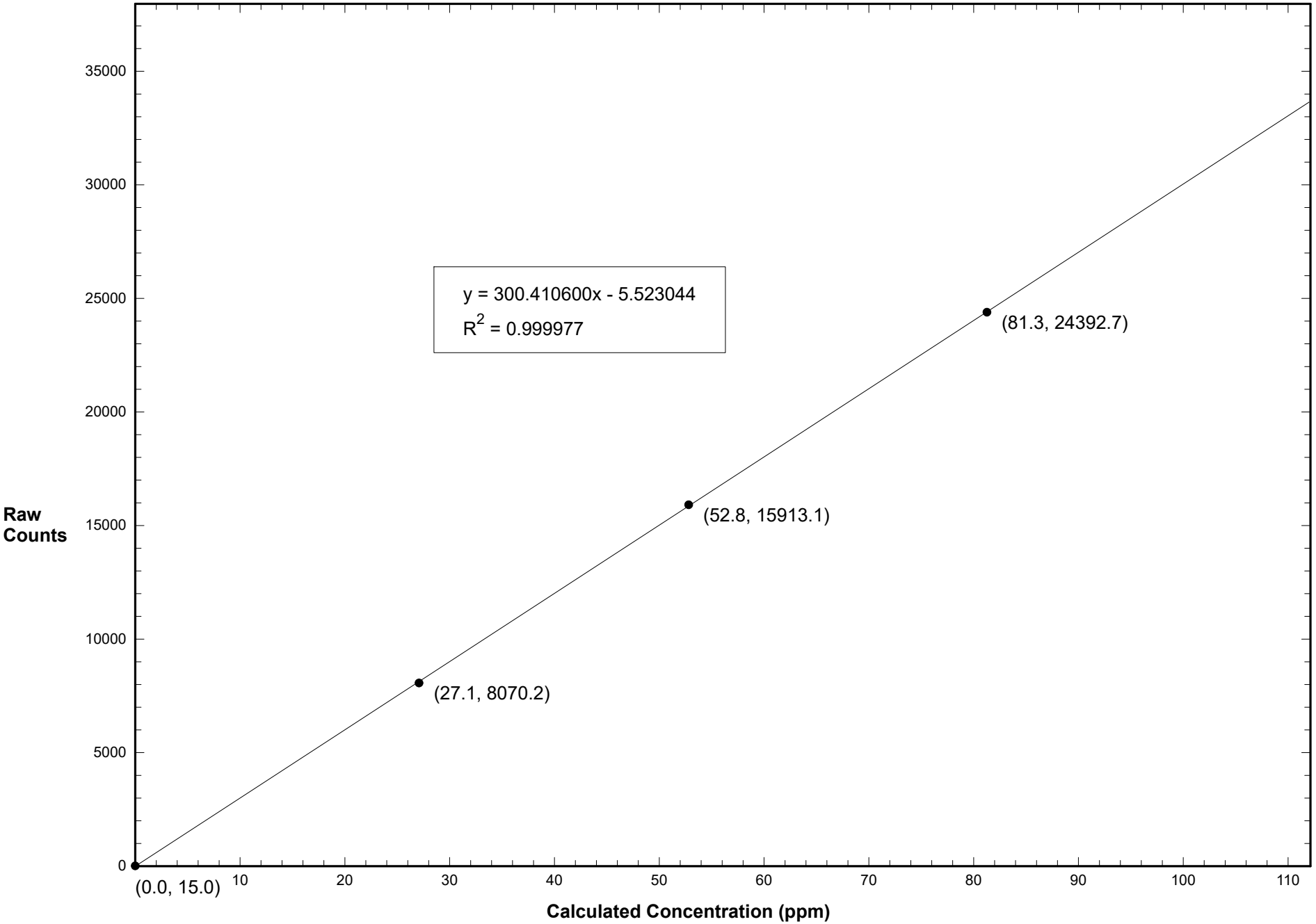
Results of Linear Regression

R_c vs C_c	Slope	Intercept	R^2
Previous	299.567700	82.162950	0.999995
Current	300.410600	-5.523044	0.999977
C_i vs C_c			
Current	1.000000	0.000011	0.999977

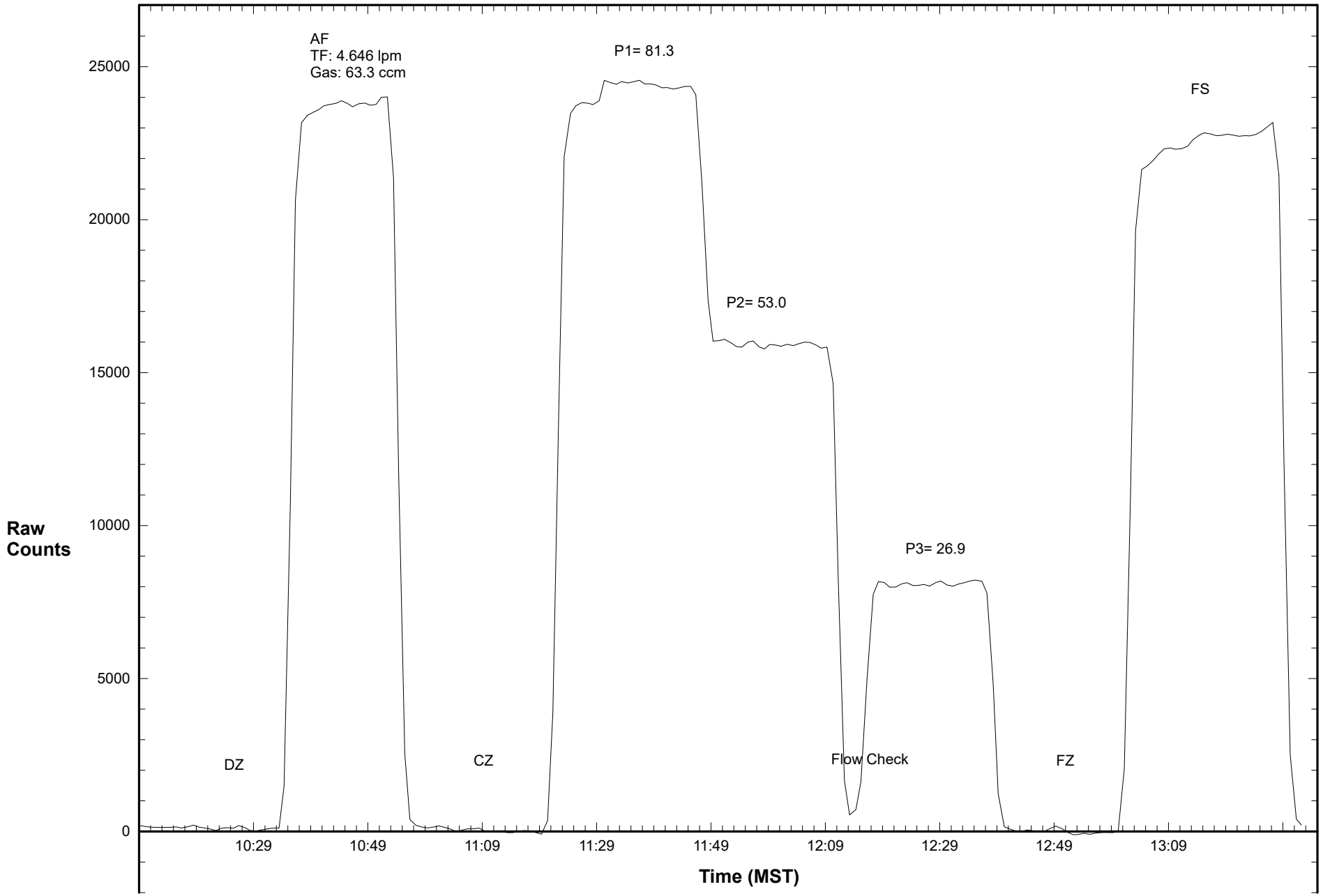
Average Correction Factor:	1.002
Previous Correction Factor:	1.001
Current Correction Factor:	1.001
Percent Change of Correction Factor:	0.0

Comments: Sample Flow: 0.377 lpm

Station 906 SO2 May 24, 2017: Linear Regression



Station 906 SO2 May 24, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: May 24, 2017

Parameter: TRS

Instrument: Teco 43C

Serial Number: 43CTL - 60324 - 326

Previous Calibration Date: April 18 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810

Barometric Pressure: 26.20" Hg

Calibration Method: Std.Gas Dilution

Permeation Device ID: Cyl DT0014794 10.5 ppm H2S

Temperature: 20.0° C

Permeation Rate: 0 ng/min

In Service: Oct 21 2016; Exp Oct 2019

Technician: Dean Yustak

Instrument Settings	H_2S bkg ppb	H_2S Coefficient	Monitoring Range
Previous	1.84	0.813	100 ppb
Current	1.87	0.803	100 ppb

Final Zero: 0.0 ppb

Final Span: 67.5 ppb

As Found Correction Factor: 0.991

Calibration System Flow Rate (LPM)	Calculated Concentration C_c (ppb)	Raw Count Output R_c	Indicated Concentration C_i (ppb)	Correction Factor C_c/C_i
0.046	79.1	23777.3	79.0	1.001
0.031	54.5	16453.7	54.7	0.997
0.016	28.3	8483.1	28.2	1.003
0.000	0.0	-24.0	0.0	

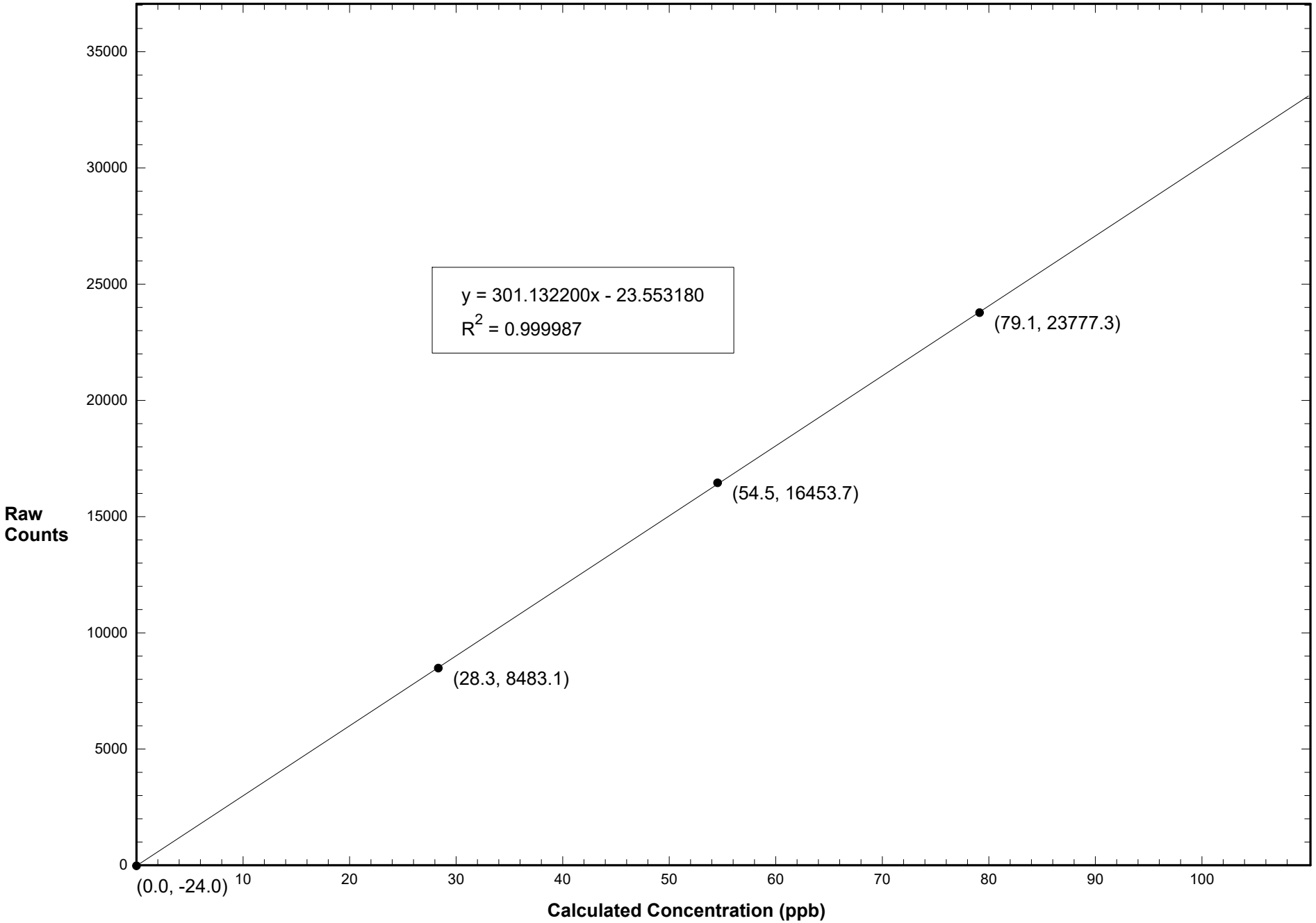
Results of Linear Regression

R_c vs C_c	Slope	Intercept	R^2
Previous	301.354200	19.229640	0.999989
Current	301.132200	-23.553180	0.999987
C_i vs C_c			
Current	1.000000	-0.000011	0.999987

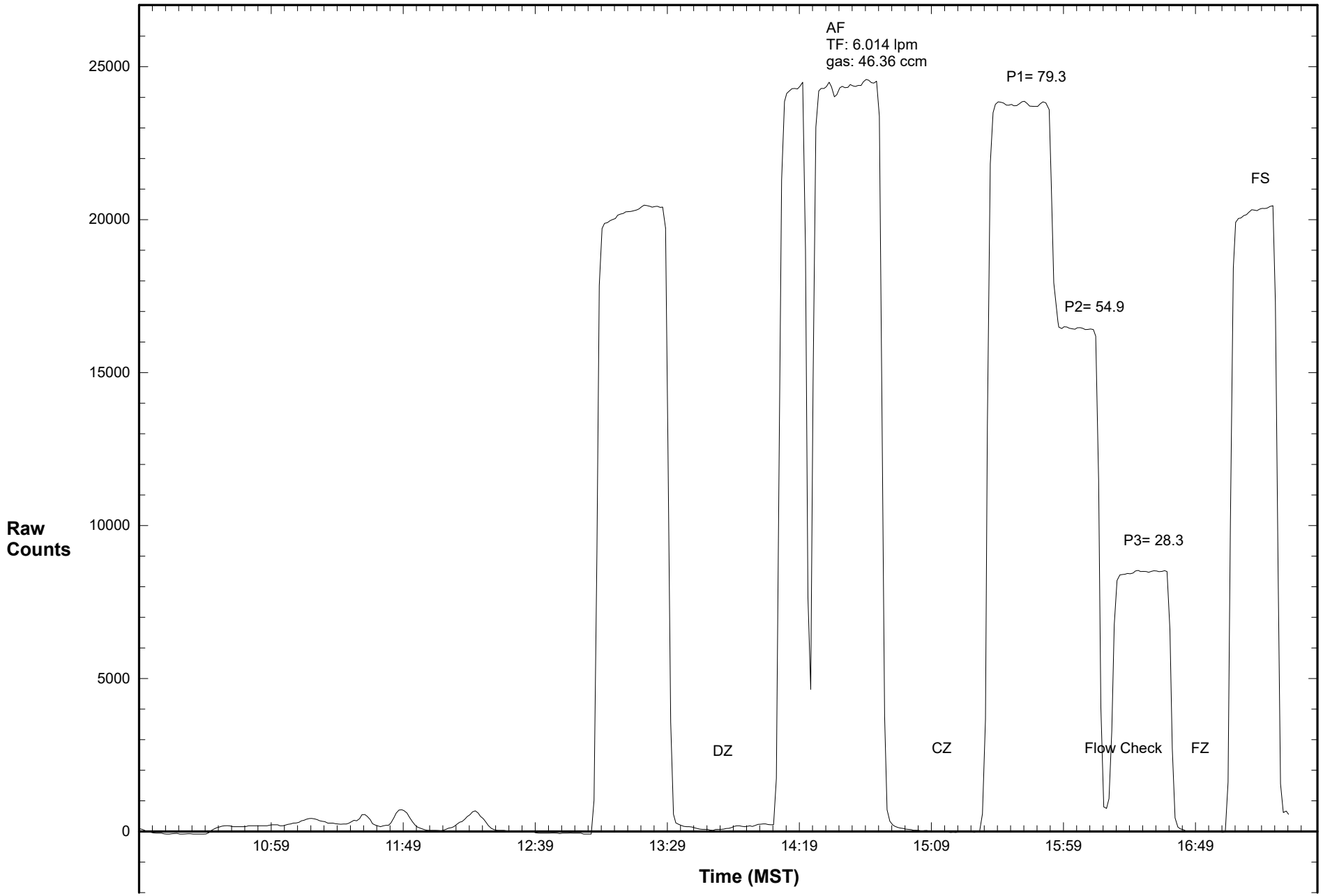
Average Correction Factor:	1.000
Previous Correction Factor:	1.001
Current Correction Factor:	1.001
Percent Change of Correction Factor:	0.0

Comments: Sample flow: 0.334 lpm

Station 906 TRS May 24, 2017: Linear Regression



Station 906 TRS May 24, 2017: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM MONTHLY REPORT METEOROLOGICAL DATA

AMS 906
HINTON
MAY 2017

Operations and Data Collection by:
West Central Airshed Society
Drayton Valley, Alberta

QA/QC, Data Validation and Reporting by:
West Central Airshed Society
Drayton Valley, Alberta

WCAS - Hinton
Summary of Hourly Averages

External Temperature (ET) - C
May 2017

Maximum Value: 28.19 C on May 30 15:00

Maximum Daily Average: 18.32 C on May 30

Minimum Value: -3.5 C on May 1 06:00

Minimum Daily Average: 4.47 C on May 13

Maximum Diurnal Average: 17.40 C at hour 17

Minimum Diurnal Average: 3.34 C at hour 6

Monthly Average: 11.108 C

Percentiles: P_1 = -2.0 P_{10} = 3.1 Q_1 = 5.9 Median = 10.3 Q_3 = 15.7 P_{90} = 21.4 P_{99} = 25.8

Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-May	-0.4	-1.5	-2.0	-2.4	-3.1	-3.5	-2.0	2.2	5.8	8.6	10.1	9.8	8.5	10.1	11.0	10.8	11.3	9.9	8.7	7.8	6.0	5.2	5.1	4.1	5.01	11.31
2-May	3.6	3.3	2.4	1.3	0.1	-0.7	-0.4	1.8	4.7	6.6	8.6	9.5	10.8	11.6	12.8	13.0	13.8	14.0	13.2	12.2	10.3	7.9	7.7	7.5	7.32	14.04
3-May	8.4	8.9	8.0	7.5	7.2	7.0	7.9	10.7	12.1	12.6	13.8	15.3	15.0	15.4	16.3	17.0	17.4	17.1	16.5	15.5	14.1	13.1	11.0	9.8	12.40	17.36
4-May	11.6	10.9	10.3	5.8	5.7	5.1	5.6	7.8	10.3	13.2	16.1	18.8	21.2	22.5	22.9	22.6	23.2	22.4	21.3	20.0	17.6	15.3	12.0	10.6	14.71	23.20
5-May	8.6	7.2	6.7	6.1	6.5	6.7	7.4	10.8	13.5	15.1	16.4	17.3	19.1	21.5	22.8	23.0	23.3	21.2	18.9	17.3	15.9	14.2	12.8	12.1	14.36	23.30
6-May	11.7	10.0	7.9	6.6	5.4	4.5	4.7	7.1	9.0	12.2	14.7	14.5	12.9	10.8	8.9	8.3	8.0	8.1	8.9	8.6	7.7	7.0	6.0	5.1	8.70	14.70
7-May	3.7	1.7	0.5	-0.7	-0.9	-1.1	0.3	5.3	8.4	9.8	10.5	11.7	12.1	13.3	13.8	15.0	15.0	14.5	13.5	12.5	9.7	6.8	5.1	2.6	7.63	14.98
8-May	0.5	-1.1	-2.2	-2.6	-3.0	-2.9	-0.8	3.3	8.5	11.2	13.1	13.9	15.1	16.2	15.0	14.4	14.3	13.4	12.7	12.0	10.4	9.6	9.4	8.8	7.88	16.17
9-May	7.7	6.9	5.9	4.5	3.3	2.9	3.5	5.1	6.8	10.8	12.3	12.7	13.2	14.5	15.0	15.4	15.7	15.9	15.9	14.6	12.8	12.2	11.1	9.0	10.33	15.92
10-May	6.8	5.8	4.6	3.8	3.1	2.9	3.5	4.5	6.6	9.2	12.1	15.5	17.0	16.9	17.6	18.8	19.7	20.0	19.2	18.2	16.6	13.4	11.0	9.1	11.49	19.97
11-May	8.1	7.4	5.8	4.5	3.7	3.6	4.7	7.7	11.5	13.9	17.1	20.0	20.6	21.4	21.1	20.8	21.3	21.1	20.3	19.0	16.6	14.8	13.5	11.9	13.76	21.45
12-May	11.7	10.8	9.5	9.1	8.1	8.0	7.9	8.3	9.7	10.8	11.5	10.5	12.4	14.7	15.1	14.7	14.7	15.0	11.8	10.4	9.4	8.6	7.0	5.7	10.64	15.12
13-May	4.5	3.8	2.5	1.8	1.6	1.8	2.1	2.3	2.6	3.3	4.7	4.9	5.4	6.0	7.3	8.0	6.8	8.2	7.7	7.7	5.8	4.3	2.6	1.4	4.47	8.21
14-May	0.2	-0.5	-0.9	-1.1	-1.6	-1.7	-0.7	1.2	3.6	8.9	10.7	11.6	12.1	10.5	8.8	7.3	7.9	10.4	9.4	9.2	8.0	6.2	4.0	2.7	5.26	12.08
15-May	1.0	-0.4	-1.4	-1.7	-1.5	-1.6	-0.6	2.2	6.0	10.3	11.6	12.3	12.9	13.6	13.3	13.5	13.6	12.6	12.8	11.8	9.1	8.1	7.4	5.6	7.11	13.65
16-May	4.7	4.7	4.5	4.2	3.8	3.6	3.8	3.6	3.7	3.8	4.0	4.0	4.0	4.3	5.3	7.1	8.5	8.7	8.0	6.3	6.0	5.5	4.7	3.9	5.03	8.68
17-May	3.5	3.3	3.0	2.9	3.1	3.4	3.5	4.1	5.0	5.9	6.4	6.3	7.0	7.6	8.3	8.9	9.6	10.4	10.0	9.2	8.1	7.0	4.7	3.8	6.05	10.44
18-May	3.7	3.8	3.4	3.6	3.6	3.2	3.4	4.6	7.7	10.6	13.3	14.0	12.2	13.3	15.5	15.0	14.4	15.7	15.6	14.0	12.3	9.6	7.8	6.2	9.43	15.70
19-May	5.5	4.4	3.6	2.8	1.5	1.2	3.0	6.2	10.1	12.9	14.4	16.0	13.9	12.4	14.0	15.9	17.0	16.5	15.5	15.4	13.0	10.8	8.4	5.8	10.00	16.97
20-May	4.9	3.9	2.7	2.1	1.1	0.7	3.6	8.6	12.1	14.7	16.3	17.4	18.1	19.0	19.7	20.6	20.7	21.7	20.6	19.0	16.2	13.9	11.4	8.6	12.40	21.72
21-May	7.0	5.5	4.1	3.2	2.3	2.2	5.7	10.3	13.7	16.8	18.7	18.9	20.8	22.0	23.9	24.9	24.8	24.6	23.5	21.6	18.4	16.3	14.1	12.0	14.80	24.95
22-May	9.8	8.1	7.0	5.7	4.9	4.3	6.3	9.8	14.0	16.8	20.1	22.3	22.8	23.4	23.6	24.2	24.5	24.1	23.2	21.3	20.2	18.2	15.0	13.5	15.95	24.51
23-May	12.0	10.5	9.6	8.8	8.1	7.5	8.0	9.8	12.7	16.7	19.8	22.9	25.3	26.1	26.0	26.1	25.6	24.8	23.5	22.0	19.1	17.1	15.5	13.3	17.12	26.13
24-May	7.6	6.7	6.4	5.6	4.6	4.4	3.9	3.1	3.1	3.1	3.8	5.0	6.5	8.0	10.3	13.6	13.7	12.8	11.3	9.9	9.5	7.0	8.2	8.4	7.35	13.71
25-May	7.4	6.6	6.5	6.1	5.9	7.0	7.0	8.0	8.2	8.8	10.0	11.6	12.9	12.9	12.9	13.6	12.0	13.0	13.2	13.1	11.6	9.4	6.4	4.9	9.54	13.55
26-May	3.9	2.9	2.1	5.2	6.0	6.1	7.4	9.5	11.9	13.9	15.9	17.4	18.7	19.8	20.4	21.0	21.0	21.0	21.6	20.8	18.2	15.1	12.6	10.1	13.44	21.64
27-May	8.5	7.4	7.0	5.5	5.2	4.9	8.7	13.2	16.0	18.3	21.1	23.1	24.0	24.4	24.2	24.2	23.2	22.9	22.1	21.9	19.9	16.5	13.1	10.6	16.07	24.41
28-May	8.7	7.1	5.8	4.5	3.6	3.5	6.4	10.0	13.7	16.6	18.9	21.1	22.0	23.2	23.9	24.1	24.0	23.4	22.4	20.8	18.9	16.6	15.2	13.7	15.33	24.13
29-May	11.9	9.8	8.2	6.9	6.1	5.9	8.5	12.0	14.1	16.0	18.7	21.2	24.2	23.6	21.4	24.0	24.0	23.1	21.9	21.4	19.1	17.5	14.8	13.0	16.14	24.25
30-May	11.2	9.5	8.4	7.3	6.2	6.1	8.2	11.6	15.8	19.2	22.7	25.6	27.3	28.1	28.2	27.9	27.4	26.4	25.2	24.4	22.6	19.5	16.4	14.3	18.32	28.19
31-May	13.2	12.1	10.9	9.8	9.1	8.6	11.0	16.2	17.8	18.3	17.8	17.4	17.9	19.5	22.0	21.4	22.8	22.0	20.7	19.8	19.0	17.2	14.5	12.6	16.32	22.80
	6.81	5.80	4.87	4.08	3.54	3.34	4.57	7.13	9.64	11.90	13.71	14.92	15.67	16.34	16.81	17.26	17.40	17.26	16.42	15.42	13.61	11.74	9.96	8.41	Diurnal Average	
	13.19	12.14	10.95	9.83	9.14	8.64	10.96	16.22	17.82	19.24	22.67	25.64	27.26	28.10	28.19	27.85	27.37	26.44	25.16	24.42	22.61	19.49	16.40	14.30	Diurnal Maximum	