

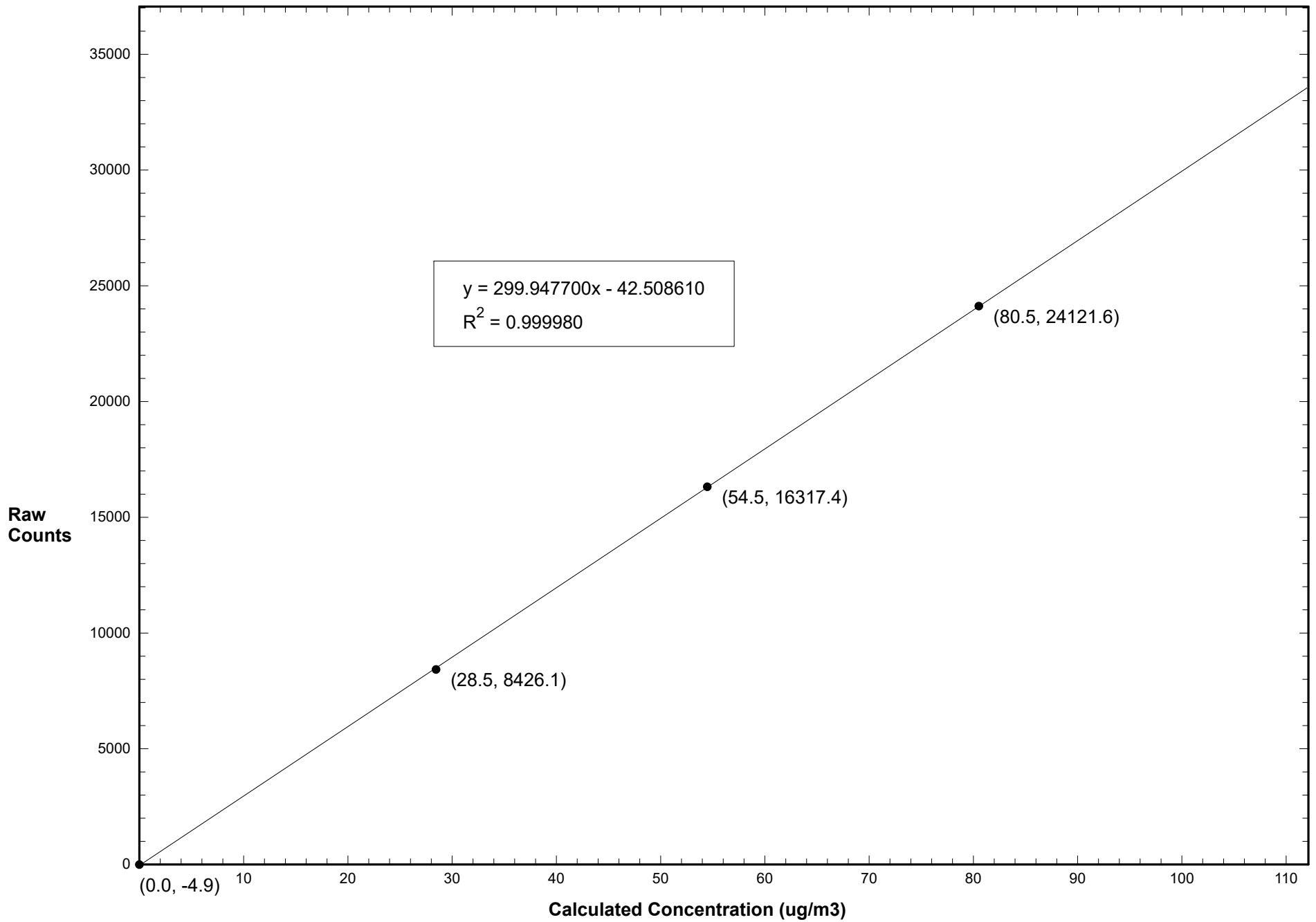
Hinton Pulp
A division of West Fraser Mills Limited
Hinton, Alberta

AIR QUALITY MONITORING
August 2017
Monthly Report

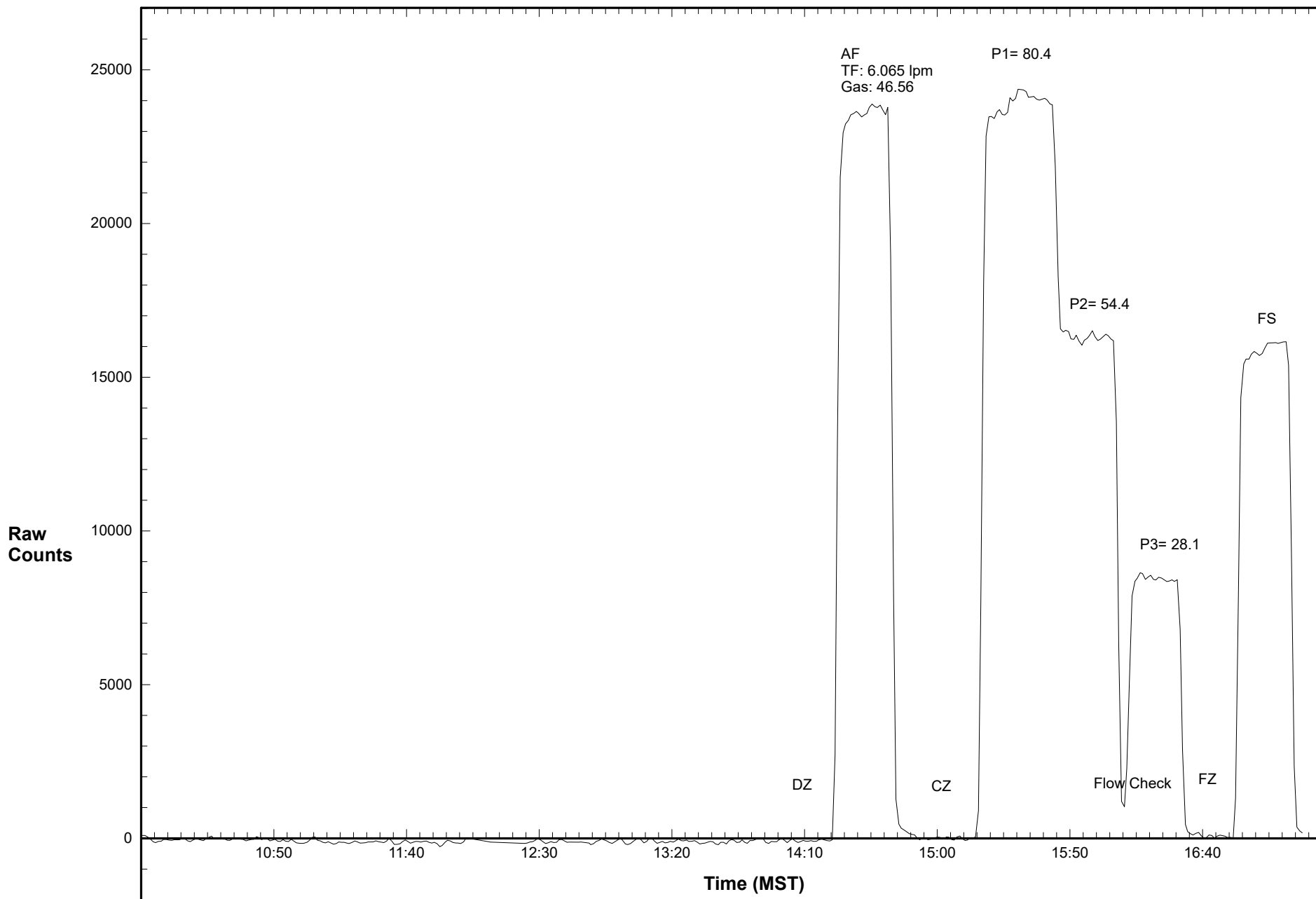
Prepared by:

West Central Airshed Society
Drayton Valley, Alberta

Station 906 H2S August 11, 2017: Linear Regression



Station 906 H2S August 11, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: August 11, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 09505034785

Previous Calibration Date: July 26 2017

Calibration: Routine

Calibration Equipment: SABIO 2010 sn # 04300810

Barometric Pressure: 26.70" Hg

Calibration Method: Std.Gas Dilution / GPT

Cylinder ID: SX17611

Temperature: 20.0° C

Cylinder Concentration: 25.4 ppm NO & NO_x

In Service: Apr 1 2016 exp:Dec 2 2017

Technician: Dean Yustak

Instrument Settings	NO bkg ppb	NO _x bkg ppb	Pre-reactor bkg ppb	NO Coefficient	NO _x Coefficient	NO ₂ Coefficient	Monitoring Range
Previous	15.0	15.0	na	1.340	0.993	0.995	500 ppb
Current	14.8	15.1	na	1.351	0.990	0.995	500 ppb

NO	Final Zero: -0.2 ppb	Final Span: 156.2 ppb	As Found Correction Factor: 1.004
NO ₂	Final Zero: 0.1 ppb	Final Span: 0.2 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.6 ppb	Final Span: 156.0 ppb	As Found Correction Factor: 0.997

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	59.986350	-19.506740	0.999990
		Current	60.020000	38.348020	0.999974
	C _i vs C _c	Current	1.000000	0.000043	0.999974
NO ₂	R _c vs C _c	Previous	59.997930	12.161110	0.999990
		Current	60.689800	-13.787660	0.999965
	C _i vs C _c	Current	1.000000	-0.000012	0.999965
NO _x	R _c vs C _c	Previous	59.884620	3.012950	0.999990
		Current	60.093640	36.389110	0.999972
	C _i vs C _c	Current	1.000000	0.000035	0.999972

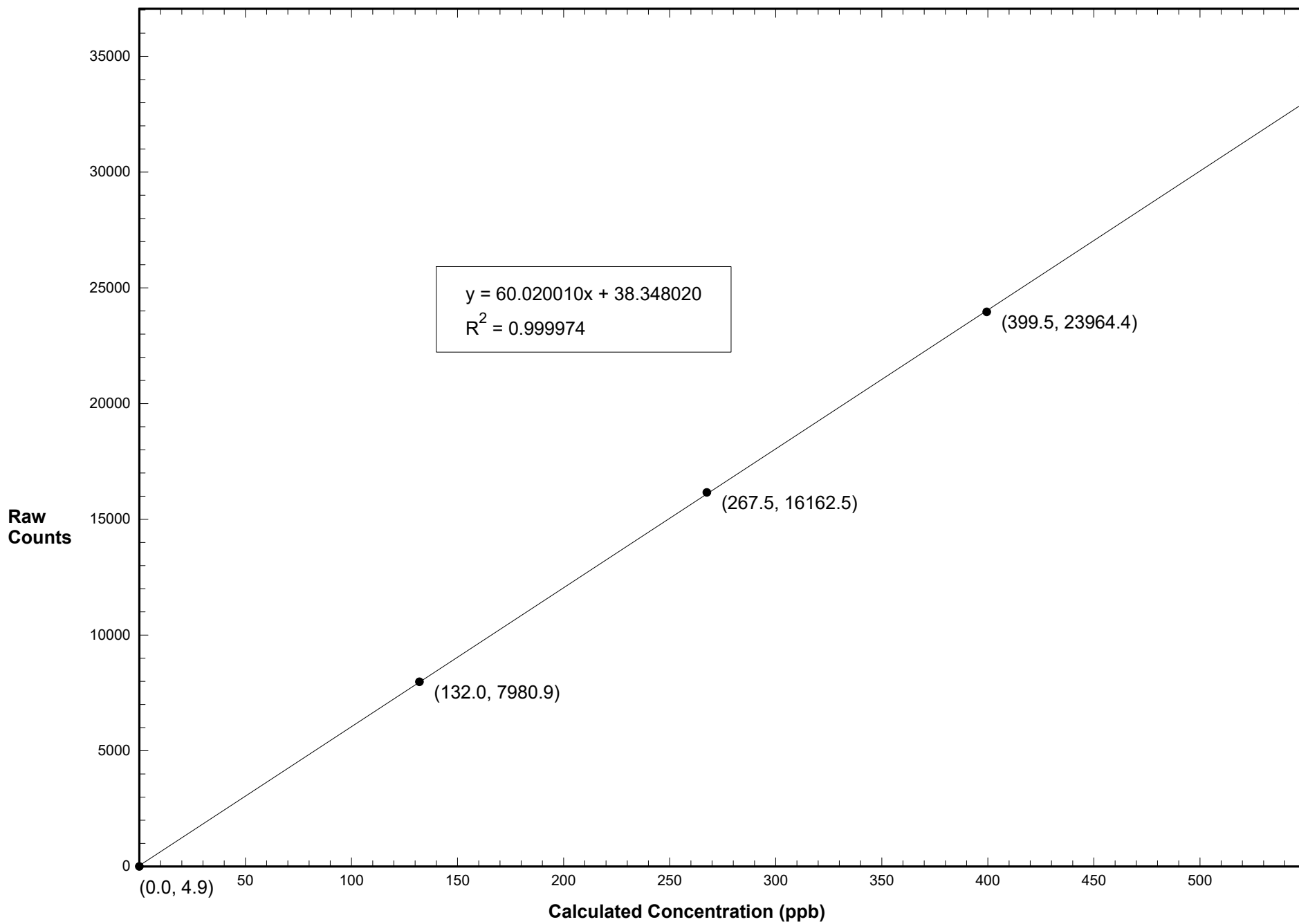
Comments: Sample Flow: 0.460 lpm

Calibration Data Summary (Page 2)

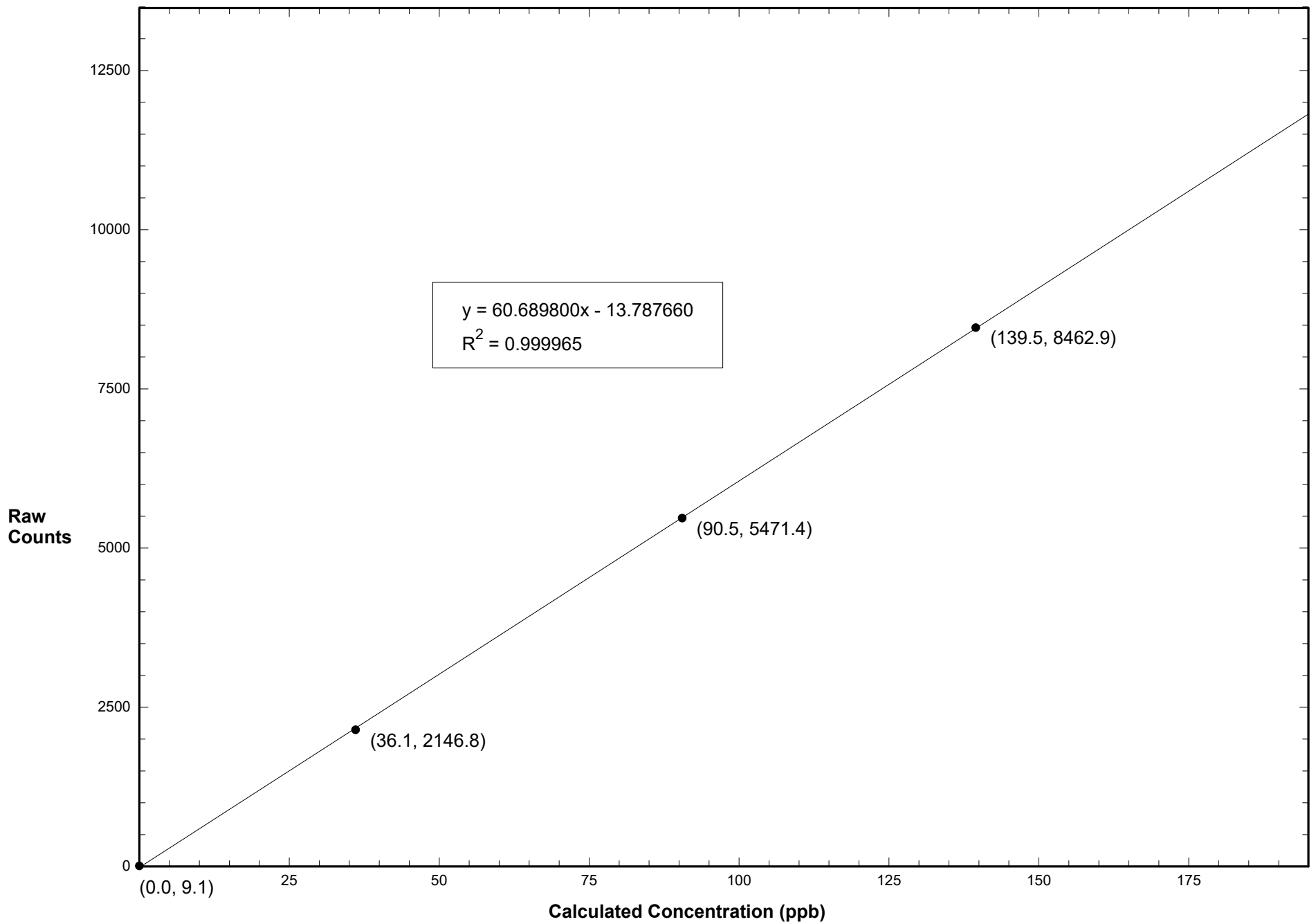
August 11, 2017 - Station 906

NO Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i		
0.07430	4.650	399.5	23964.4	398.6	1.002		
0.04950	4.650	267.5	16162.5	268.6	0.996		
0.02430	4.650	132.0	7980.9	132.3	0.998		
0.00000	4.600	0.0	4.9	-0.6			
NO Calibration					Average Correction Factor:	0.999	
0.07430	4.650	399.5	23990.7	398.6	1.002		
0.04950	4.650	267.5	16178.5	268.6	0.996		
0.02430	4.650	132.0	7995.7	132.4	0.997		
0.00000	4.640	0.0	-1.2	-0.6			
NO _x Calibration					Average Correction Factor:	0.998	
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO ₂ , C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i	Converter Efficiency C _i /C _c
396.6	15472.1	257.1	139.5	8462.9	139.7	0.999	1.001
396.6	18411.7	306.1	90.5	5471.4	90.4	1.001	0.999
396.6	21679.7	360.6	36.1	2146.8	35.6	1.013	0.987
			0.0	9.1	0.4		
						Average Correction Factor:	1.004
NO ₂ Gas Phase Titration					Average Converter Efficiency:	0.996	
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	0.999	1.002	0.3				
NO ₂	1.000	0.999	-0.1				
NO _x	1.000	1.002	0.2				

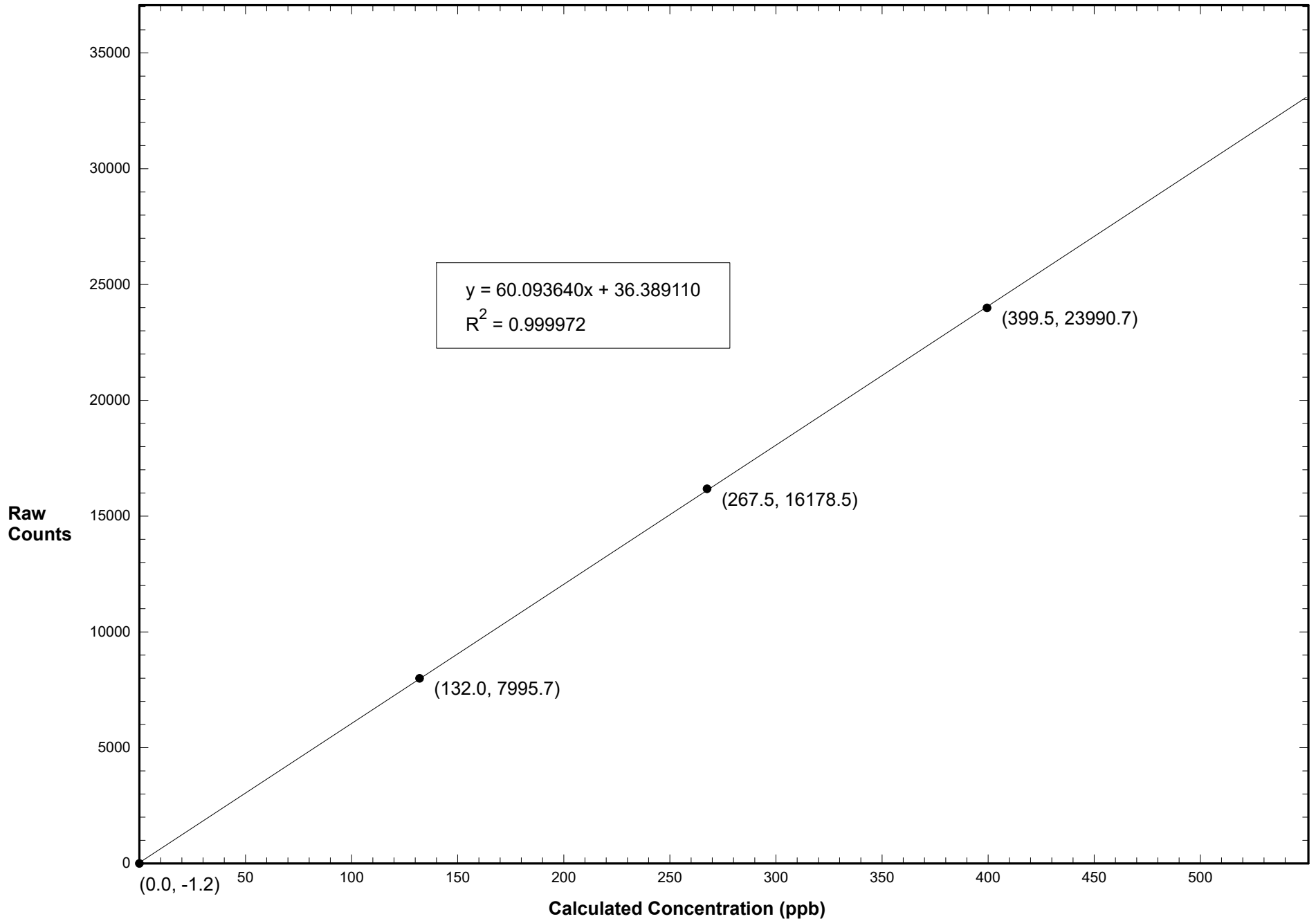
Station 906 NO August 11, 2017: Linear Regression



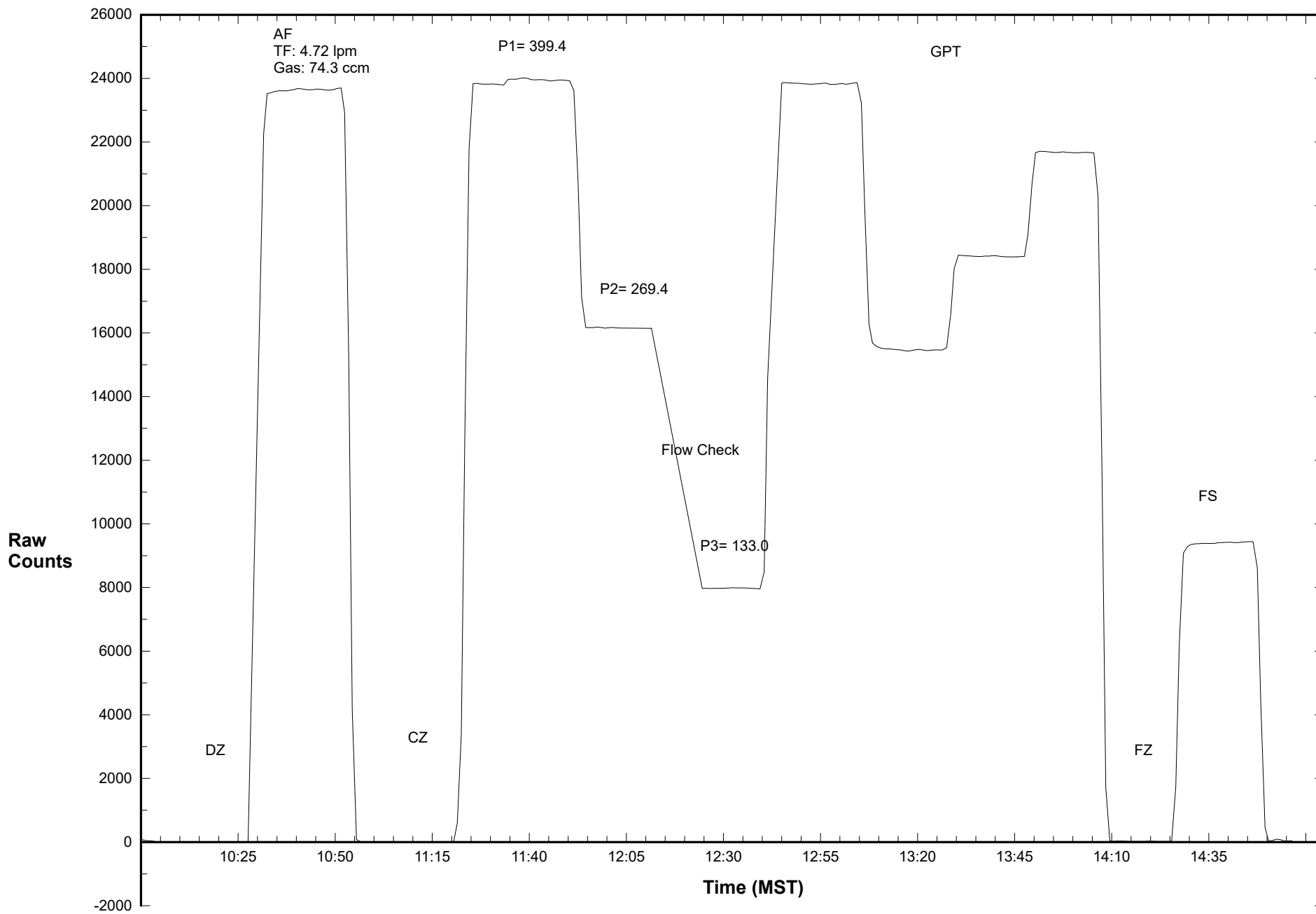
Station 906 NO2 August 11, 2017: Linear Regression



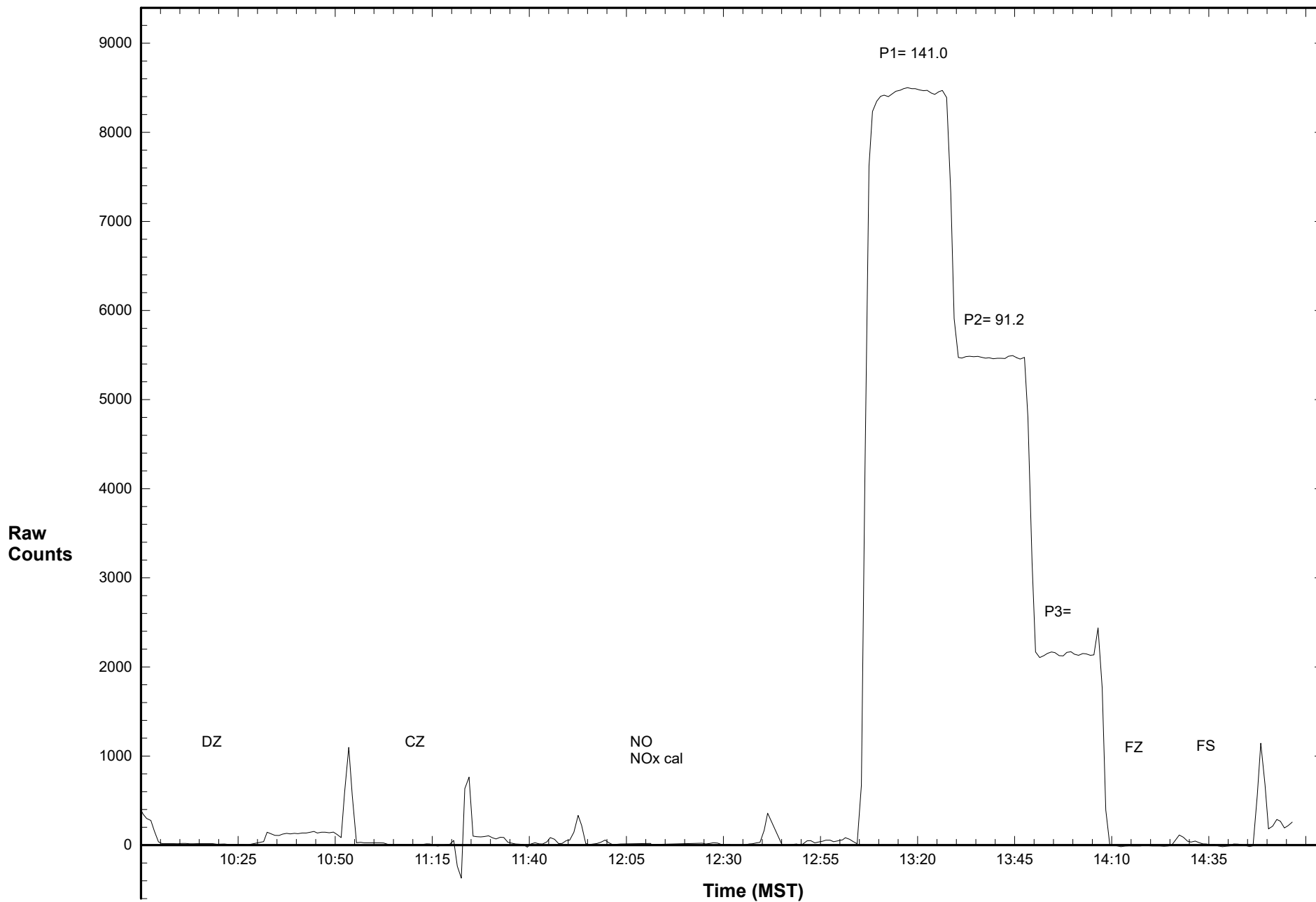
Station 906 NOX August 11, 2017: Linear Regression



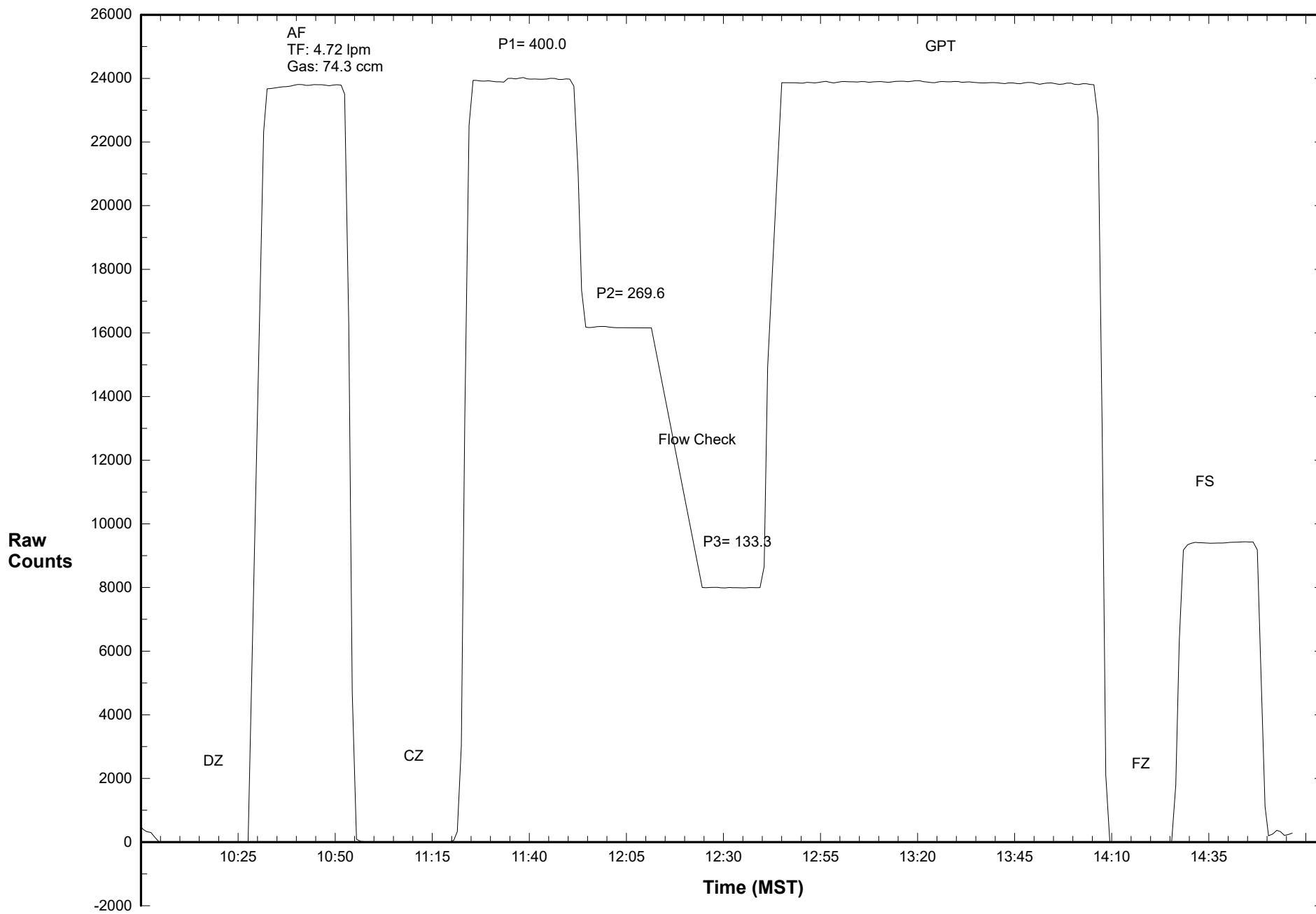
Station 906 NO August 11, 2017: Calibration Graph



Station 906 NO2 August 11, 2017: Calibration Graph



Station 906 NOX August 11, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton

Calibration Date: August 11, 2017

Parameter: O₃

Instrument: Teco 49i

Serial Number: 1150790050

Previous Calibration Date: July 26 2017

Calibration: Routine

Calibration Equipment: 2B Tech 306 SN-135

Barometric Pressure: 26.70" Hg

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

Temperature: 22.0° C

Technician: Dean Yustak

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	0.1	0.982	500 ppb
Current	-0.3	1.022	500 ppb

Final Zero: -1.1 ppb

Final Span: 365.7 ppb

As Found Correction Factor: 1.036

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	24165.6	403.1	1.000
3.000	254.0	15208.8	253.3	1.003
3.000	100.1	6128.4	101.4	0.987
3.000	0.0	17.5	-0.8	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.006890	-11.968000	0.999998
Current	59.793640	62.632740	0.999969
C _i vs C _c			
Current	1.000000	0.000000	0.999970

Average Correction Factor: 0.996

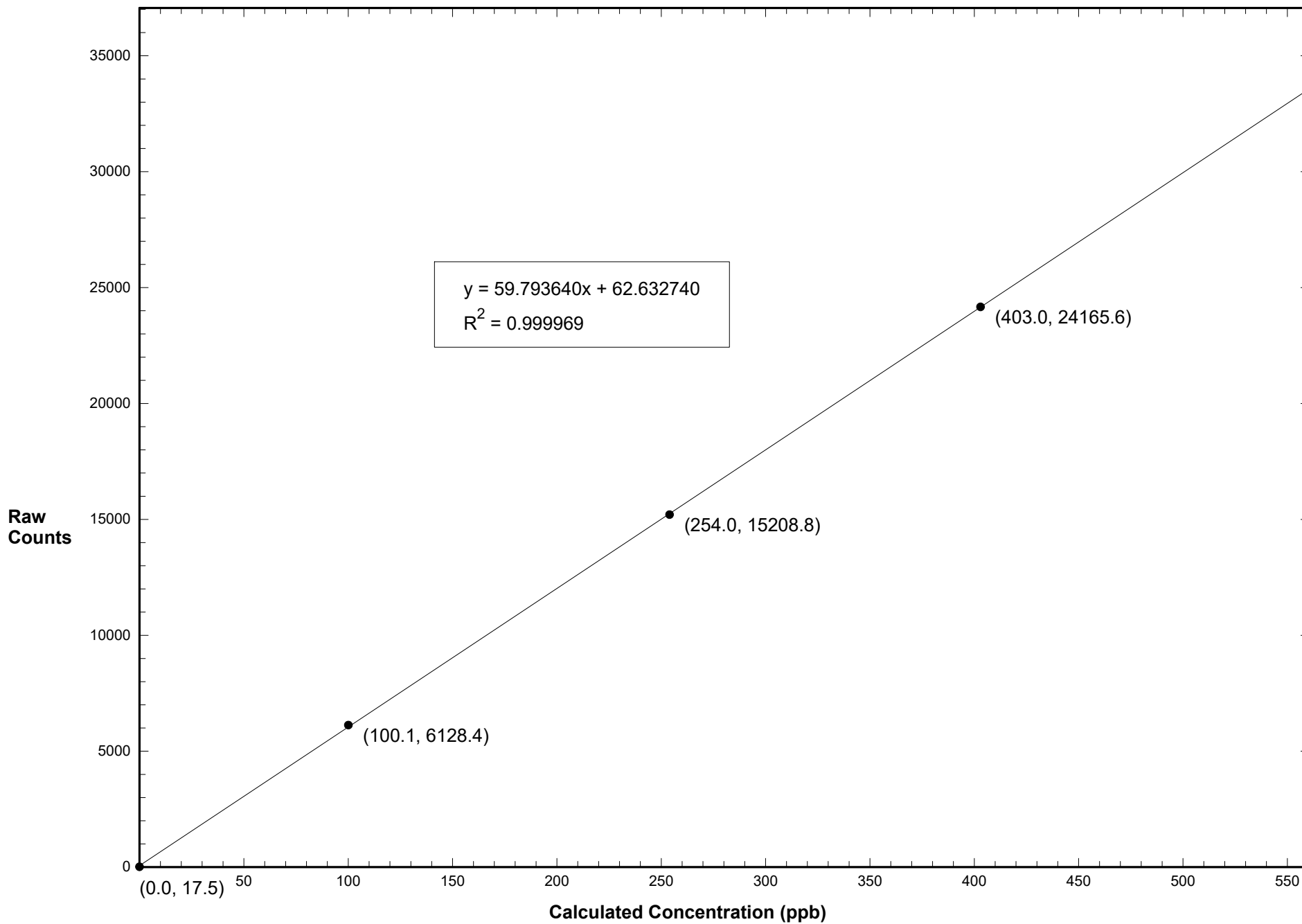
Previous Correction Factor: 0.999

Current Correction Factor: 1.000

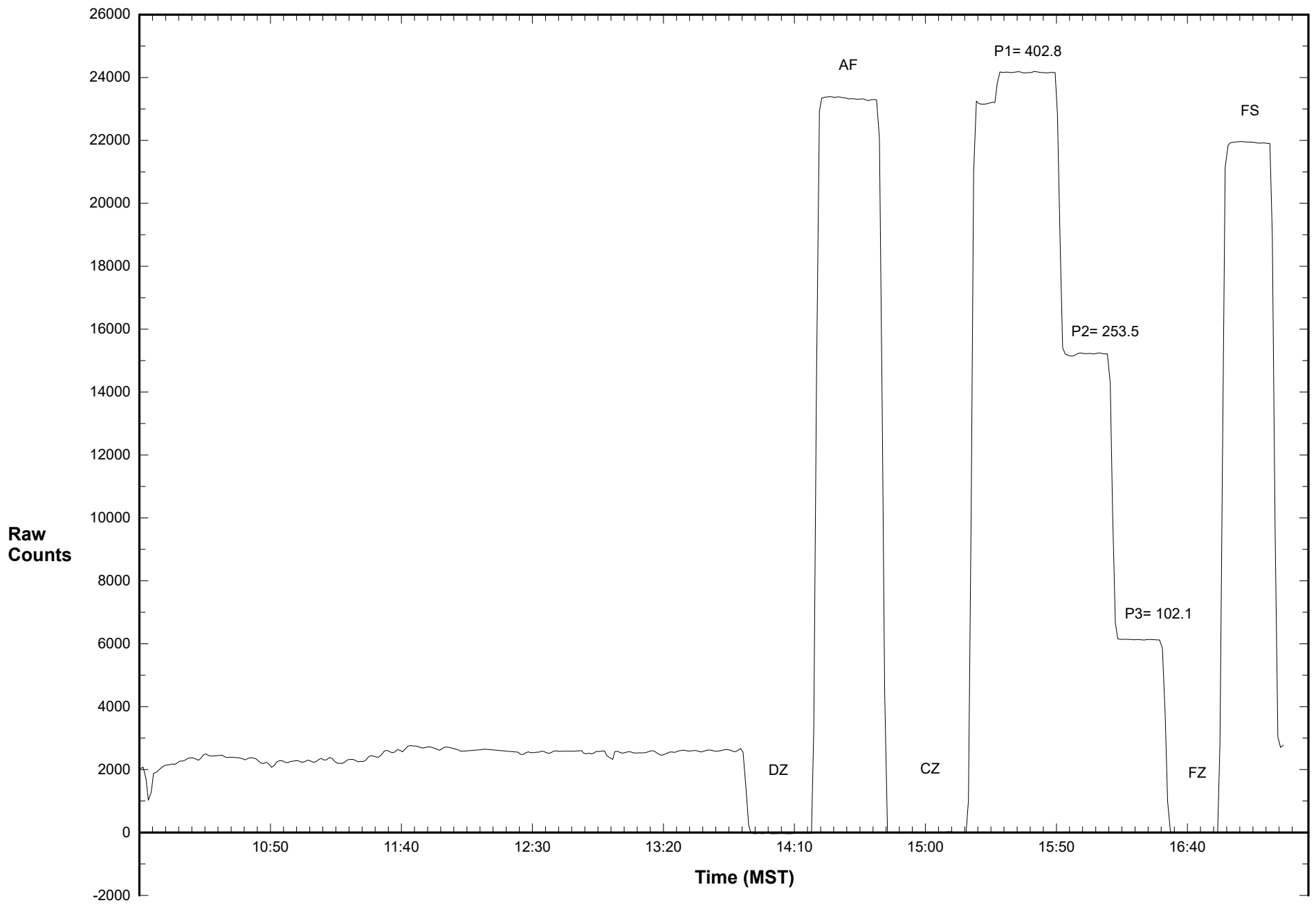
Percent Change of Correction Factor: 0.1

Comments: Sample Flow: 0.700 & 0.680 lpm

Station 906 O3 August 11, 2017: Linear Regression



Station 906 O3 August 11, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 906, Hinton
 Calibration Date: August 11, 2017
 Parameter: SO₂

Instrument: Teco 43i	Serial Number: CM 12499009	Previous Calibration Date: July 26 2017
Calibration: Routine	Calibration Equipment: SABIO 2010 sn # 04300810	Barometric Pressure: 26.70" Hg
Calibration Method: Std.Gas Dilution	Cylinder ID: SX17611	Temperature: 22.0° C
Cylinder Concentration: 25.4 ppm SO ₂	In Service: Apr 1 2016 exp: Dec 2 2017	Technician: Dean Yustak

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	27.4	1.037	500 ppb
Current	28.1	0.998	500 ppb

Final Zero: -0.7 ppm Final Span: 68.1 ppm As Found Correction Factor: 0.968

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
0.0743	4.650	399.5	24004.9	398.5	1.002
0.0495	4.650	267.5	16210.8	269.0	0.994
0.0243	4.650	132.0	7952.8	131.8	1.002
0.0000	4.640	0.0	-2.1	-0.3	

Results of Linear Regression			
R _c vs C _c	Slope	Intercept	R ²
Previous	60.167010	-46.305890	0.999980
Current	60.184820	18.850090	0.999963
C _i vs C _c			
Current	1.000000	0.000078	0.999963

Average Correction Factor: 0.999

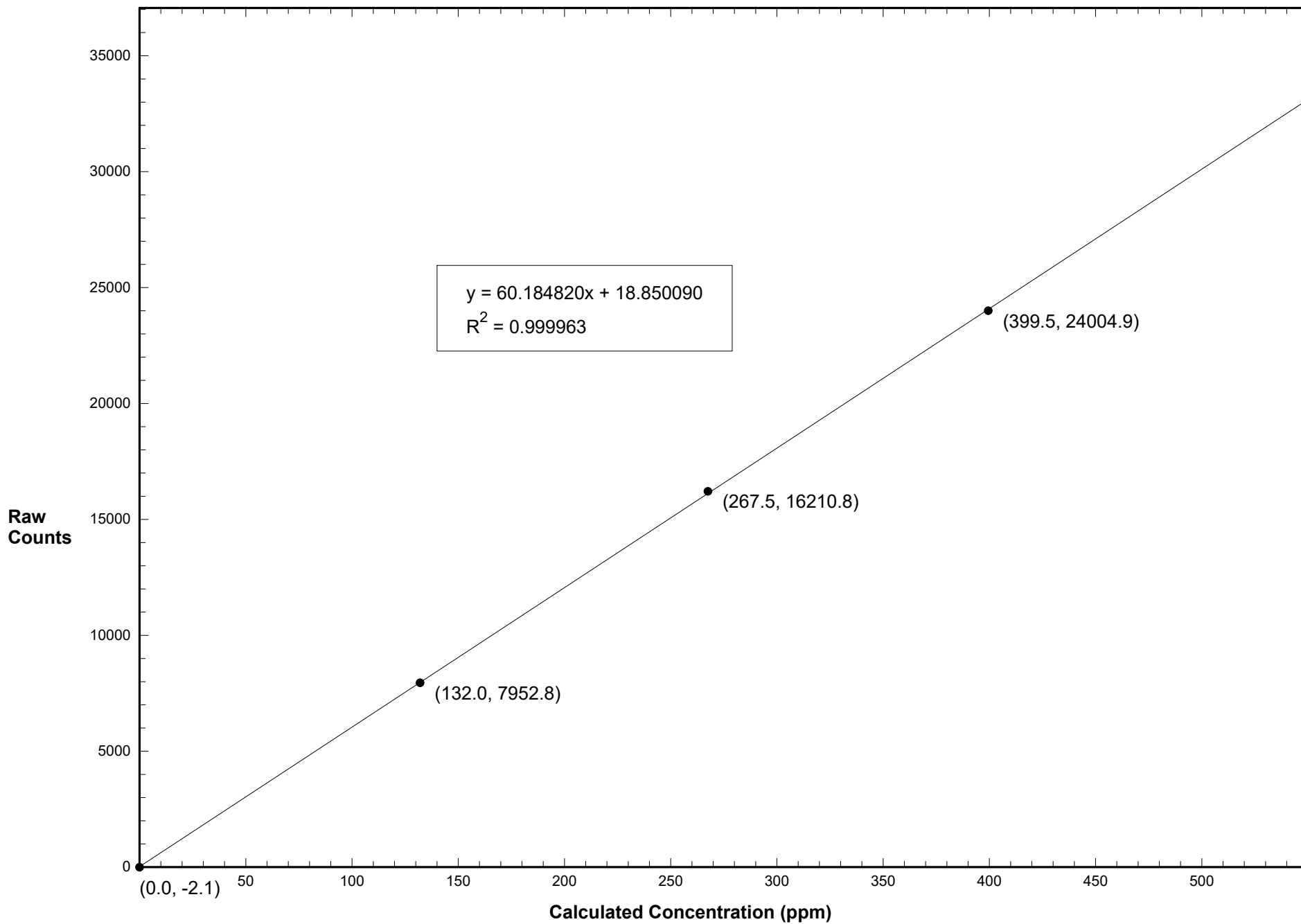
Previous Correction Factor: 0.998

Current Correction Factor: 1.002

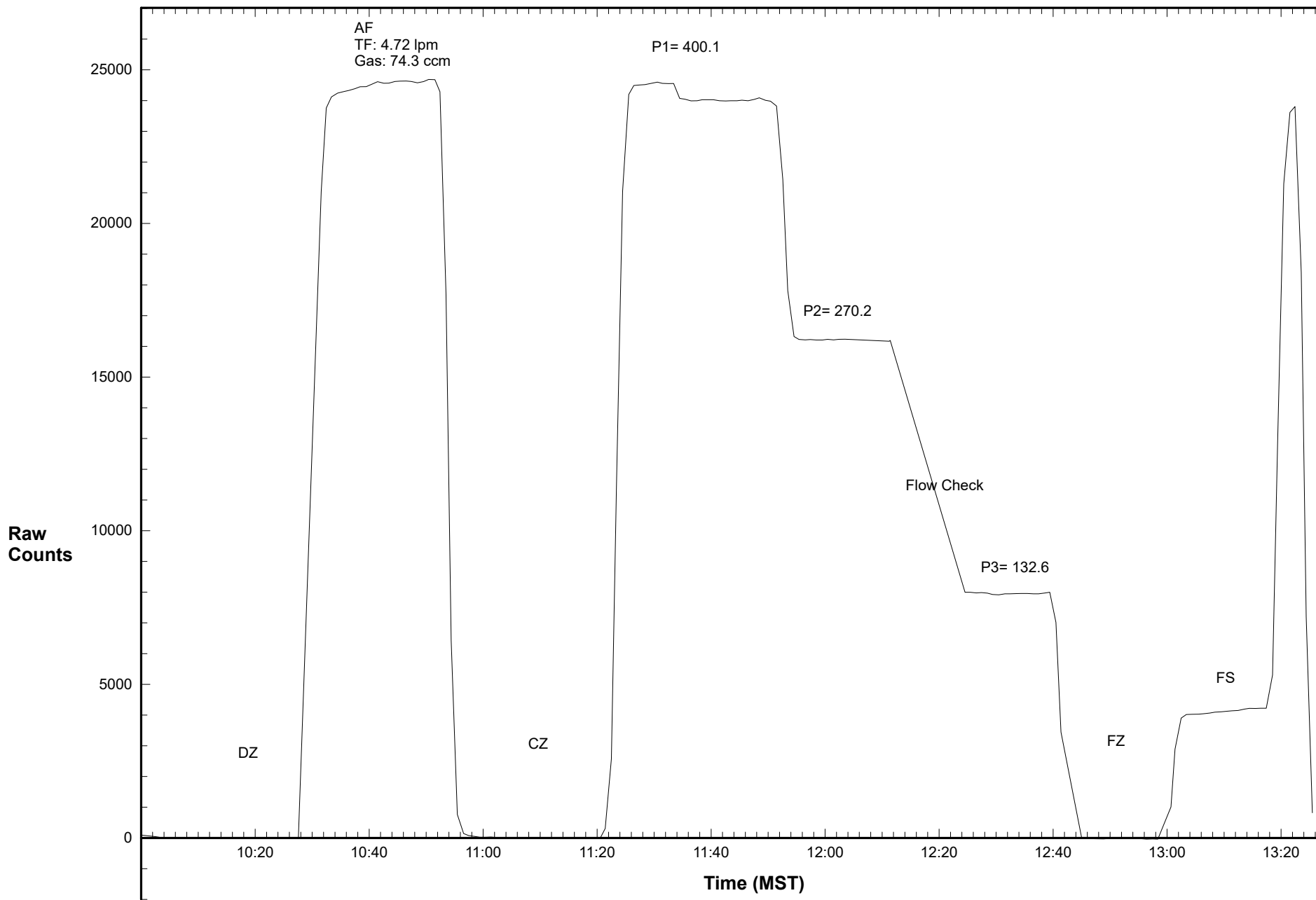
Percent Change of Correction Factor: 0.4

Comments: Sample Flow: 0.397 lpm

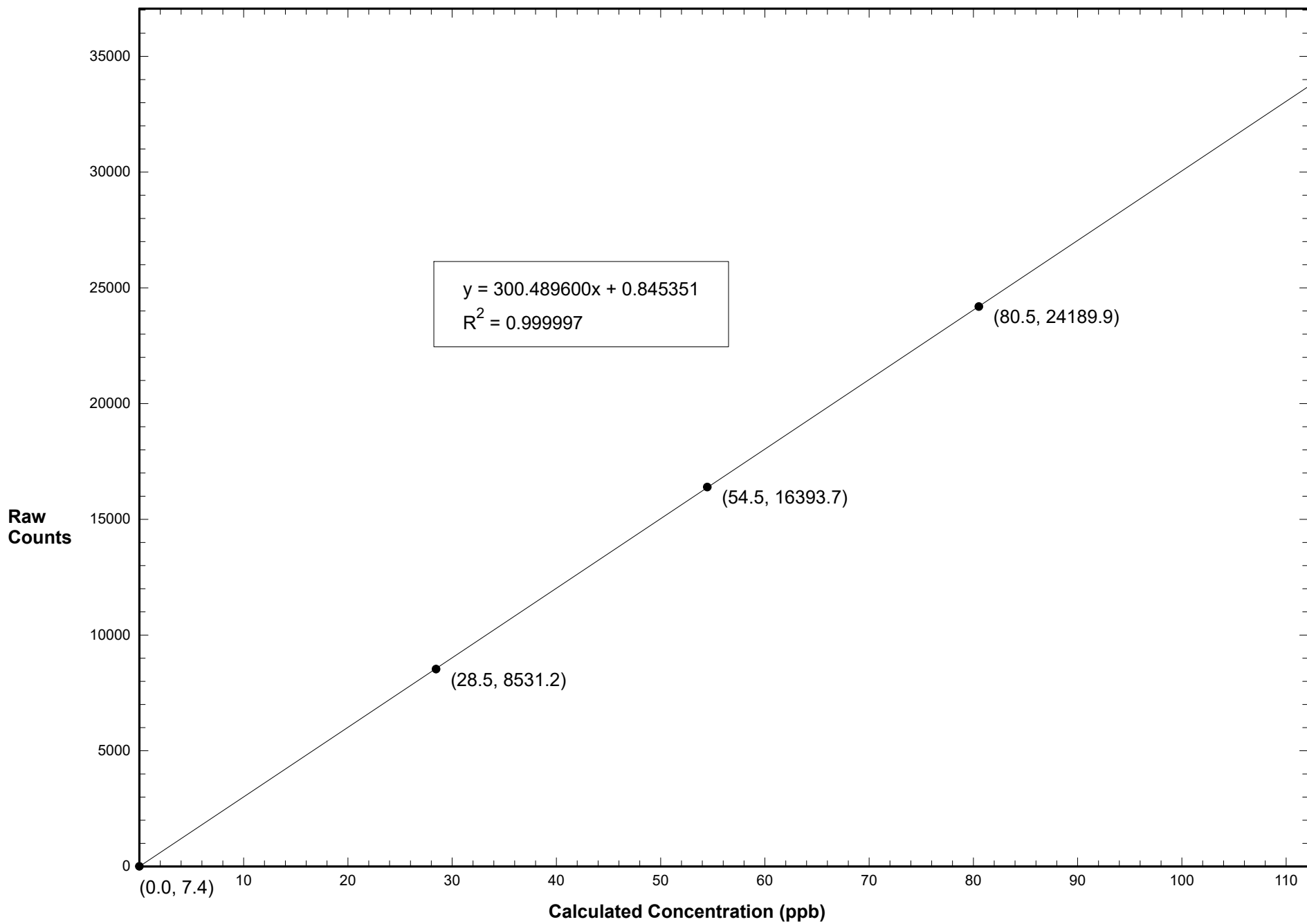
Station 906 SO2 August 11, 2017: Linear Regression



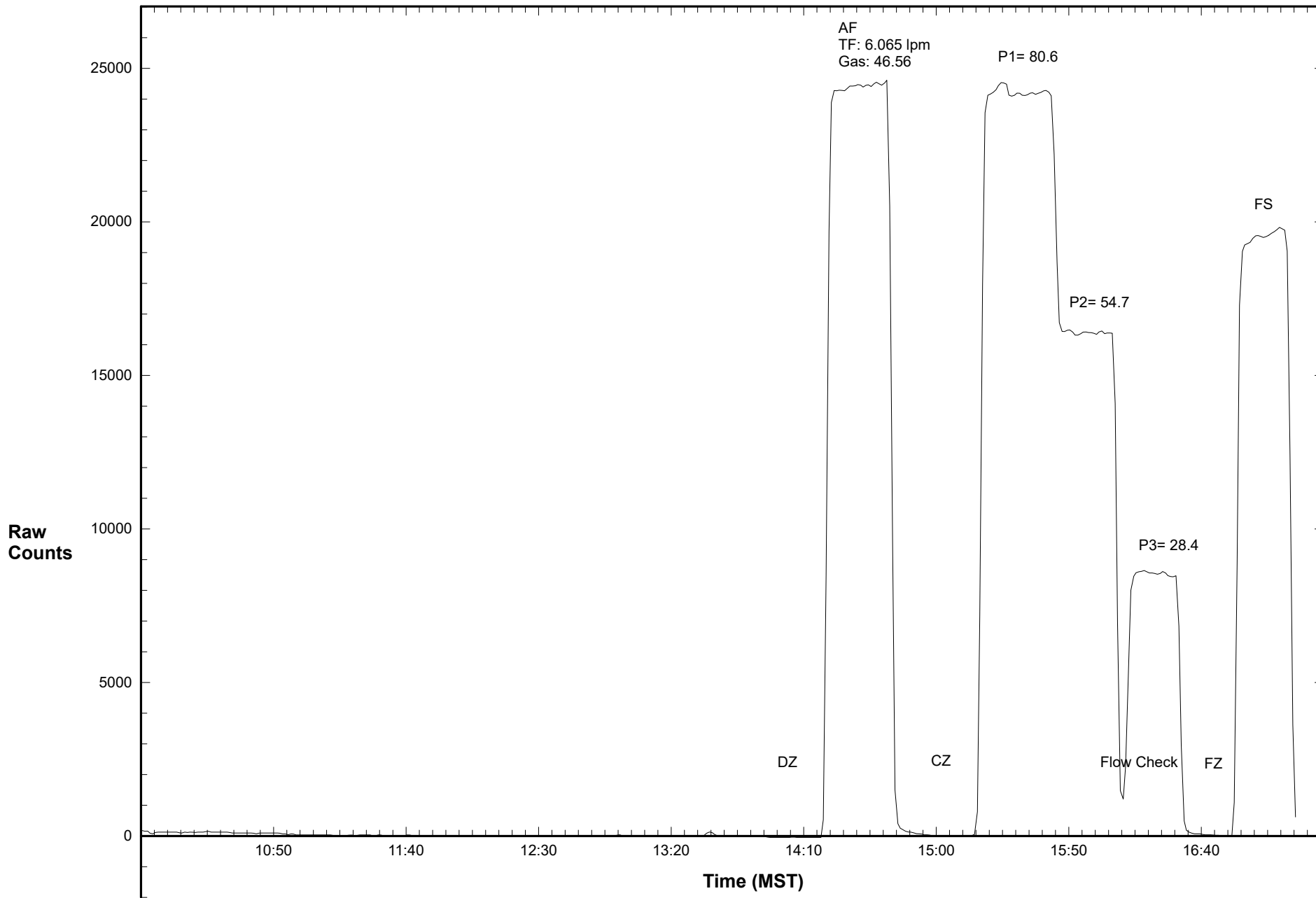
Station 906 SO2 August 11, 2017: Calibration Graph



Station 906 TRS August 11, 2017: Linear Regression



Station 906 TRS August 11, 2017: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

**CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT
METEOROLOGICAL DATA**

**AMS 906
HINTON
AUGUST 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
August 2017

Maximum Value: 29.48 C on Aug 11 17:00 Maximum Daily Average: 19.51 C on Aug 11																						Hours in Service: 744				
Minimum Value: 1.7 C on Aug 15 06:00 Minimum Daily Average: 10.70 C on Aug 20																						Hours of Data: 744				
Maximum Diurnal Average: 22.04 C at hour 17 Minimum Diurnal Average: 7.96 C at hour 6																						Hours of Missing Data: 0				
Monthly Average: 15.243 C Percentiles: P₁ = 2.8 P₁₀ = 7.7 Q₁ = 10.4 Median = 14.5 Q₃ = 20.1 P₉₀ = 24.1 P₉₉ = 27.7																						Hours of Calibration: 0				
																						Percent Operational Time: 100.0				
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	12.1	11.8	11.5	11.3	11.8	12.6	12.8	12.7	12.3	11.8	12.0	12.8	13.7	13.6	15.5	16.9	18.0	18.8	18.0	16.2	14.9	13.2	11.0	9.2	13.53	18.84
2-Aug	8.0	7.0	6.1	5.8	5.6	5.1	5.5	7.0	11.7	15.1	17.7	20.7	22.5	23.7	24.7	25.1	25.9	25.0	23.8	22.2	19.9	17.9	15.8	13.2	15.62	25.86
3-Aug	11.4	10.2	9.0	8.3	7.8	7.1	8.1	11.8	16.2	19.9	22.2	24.4	26.4	27.7	27.1	25.9	25.6	24.4	19.1	16.7	14.3	13.6	13.4	12.2	16.79	27.75
4-Aug	11.2	10.3	10.4	10.4	10.6	10.6	10.8	11.2	11.9	12.6	13.3	14.2	14.9	15.0	16.0	16.8	15.9	17.6	17.1	15.5	14.6	13.4	12.1	10.7	13.21	17.61
5-Aug	10.1	9.2	9.0	8.2	7.8	7.2	7.8	10.7	13.7	16.9	18.8	20.5	21.1	21.7	22.3	22.7	22.9	23.7	22.7	20.9	18.4	16.1	14.5	12.7	15.82	23.70
6-Aug	11.2	10.3	9.1	8.0	7.3	6.7	6.9	9.8	14.1	17.8	20.2	22.8	24.9	25.3	25.8	26.3	25.8	25.6	24.7	22.9	20.6	18.7	18.1	18.0	17.53	26.30
7-Aug	15.4	14.6	13.5	13.3	13.5	13.2	13.1	13.9	15.9	17.5	19.2	20.5	20.8	21.0	20.9	20.6	19.6	19.0	18.7	18.2	16.4	14.4	13.6	13.7	16.69	21.04
8-Aug	12.8	12.6	12.1	12.2	12.2	11.9	11.8	12.0	12.8	13.3	14.2	16.8	20.0	21.9	23.4	24.0	24.5	24.2	22.5	20.8	18.7	16.5	14.5	12.9	16.62	24.46
9-Aug	11.7	10.9	10.3	9.4	8.7	7.9	8.1	11.3	15.6	19.4	21.7	23.7	24.9	24.8	24.6	24.7	24.6	24.1	24.8	22.9	20.0	17.3	15.1	13.4	17.50	24.91
10-Aug	12.2	10.9	10.2	9.5	8.8	8.3	8.7	12.2	16.1	19.7	22.5	25.5	26.1	26.7	27.0	27.7	28.2	27.8	25.9	24.3	22.3	20.4	18.4	15.8	18.98	28.24
11-Aug	14.2	12.3	10.8	9.6	8.5	7.6	7.9	11.9	15.2	18.7	22.2	25.7	27.3	28.0	28.8	29.3	29.5	28.7	27.1	24.9	22.4	21.1	19.4	17.4	19.51	29.48
12-Aug	15.2	13.2	11.7	10.2	9.0	8.2	8.1	9.9	11.0	12.7	15.3	17.3	19.0	20.3	20.7	21.9	22.7	23.3	22.8	21.3	19.4	17.1	15.1	13.6	15.80	23.34
13-Aug	12.7	11.6	11.1	10.3	9.9	9.6	9.7	10.4	11.9	14.2	17.6	19.0	17.7	14.5	14.3	15.2	15.4	15.2	14.9	13.7	12.3	11.4	11.0	10.7	13.09	18.99
14-Aug	10.1	9.7	8.7	7.6	7.4	7.3	7.7	8.3	9.6	11.0	13.7	16.1	17.7	18.0	17.4	16.4	16.3	15.8	15.2	13.8	13.3	12.1	9.8	7.3	12.10	18.04
15-Aug	5.9	4.7	3.7	3.1	2.4	1.7	1.9	4.2	9.2	12.5	16.4	18.3	17.6	18.5	20.2	20.7	19.9	19.1	18.1	16.5	14.9	13.4	12.5	11.4	11.95	20.70
16-Aug	10.6	8.9	7.3	6.0	5.1	4.8	5.2	6.7	10.7	14.7	17.7	19.9	20.9	21.4	21.0	20.5	20.8	20.1	19.0	18.3	16.3	15.6	13.4	11.8	14.04	21.43
17-Aug	9.7	7.9	7.7	7.3	7.1	7.5	7.5	8.4	10.6	14.9	17.5	20.8	22.8	23.4	23.9	23.2	23.3	23.5	22.8	21.1	18.5	15.3	12.9	11.9	15.41	23.94
18-Aug	11.7	10.6	9.7	8.6	8.3	8.6	8.8	9.5	11.1	13.4	17.7	20.1	22.3	20.9	17.5	15.0	13.5	12.8	10.4	10.5	8.8	8.1	7.5	6.2	12.15	22.33
19-Aug	6.5	6.1	5.2	4.7	4.6	3.5	2.9	5.6	10.9	14.7	16.8	18.1	18.4	18.7	18.2	18.6	19.1	17.0	15.5	13.6	11.9	9.5	8.4	7.6	11.50	19.06
20-Aug	6.9	6.8	6.9	6.8	7.0	6.8	6.9	7.2	8.1	9.8	11.3	13.4	14.5	14.9	14.5	15.0	14.3	14.2	14.4	13.6	12.8	11.0	10.0	9.7	10.70	15.01
21-Aug	9.6	9.5	9.4	9.3	9.2	9.2	9.3	10.9	12.3	13.6	14.4	15.5	19.3	21.9	21.5	20.1	20.9	20.2	19.7	19.3	16.6	15.0	13.4	12.0	14.66	21.85
22-Aug	11.4	10.8	10.5	10.2	9.6	9.8	9.7	11.7	15.2	18.2	21.1	23.1	24.6	25.5	27.2	26.5	27.3	27.0	24.8	22.9	21.1	19.3	17.7	15.8	18.37	27.26
23-Aug	14.4	13.4	12.9	12.2	11.4	11.0	11.2	12.6	13.5	15.6	18.1	20.6	22.7	23.2	23.3	23.6	24.0	22.4	20.9	19.2	17.3	15.5	14.2	13.7	16.96	24.01
24-Aug	12.9	12.1	11.5	10.8	10.8	11.1	11.6	12.4	15.4	17.5	19.5	22.2	23.2	14.8	13.3	15.1	16.7	15.3	14.3	13.3	11.4	9.7	8.9	7.7	13.82	23.23
25-Aug	6.6	4.8	4.3	4.6	2.8	2.2	2.1	5.1	11.4	15.8	16.8	17.1	18.6	19.9	20.1	20.3	20.1	19.3	18.4	17.4	15.9	13.9	10.3	8.4	12.34	20.25
26-Aug	7.0	5.6	4.7	3.9	3.1	2.5	2.6	5.7	10.8	15.1	18.7	21.0	22.5	23.8	24.3	25.2	24.4	25.2	24.1	22.2	18.6	15.0	13.4	11.7	14.63	25.19
27-Aug	10.3	9.5	9.2	8.8	8.2	8.2	8.4	9.0	12.1	17.4	22.1	26.4	27.4	27.6	27.9	27.9	27.5	26.5	24.3	23.0	20.5	18.2	16.1	14.1	17.93	27.87
28-Aug	12.7	11.5	10.6	10.2	10.4	10.4	9.7	12.0	15.0	18.1	20.7	22.1	23.3	24.2	24.8	25.1	25.0	24.3	23.3	21.4	19.3	18.6	18.3	17.7	17.88	25.08
29-Aug	16.2	14.6	12.9	11.9	11.1	10.4	10.1	11.1	13.4	14.3	15.7	19.3	22.0	23.8	25.1	25.7	25.8	25.2	23.6	21.5	19.7	18.1	16.3	15.2	17.62	25.81
30-Aug	13.0	11.6	10.3	9.2	8.4	7.6	7.4	7.9	10.4	12.0	14.5	15.8	17.2	19.0	20.7	22.7	24.2	23.7	22.7	20.8	18.4	16.4	14.3	12.6	15.04	24.24
31-Aug	11.1	10.0	9.2	8.7	8.6	8.2	8.4	8.8	10.1	13.4	17.8	21.1	22.9	22.8	21.3	20.8	21.5	20.0	19.3	18.6	16.3	14.5	11.5	10.3	14.78	22.91
																								Diurnal Average		
																								Diurnal Maximum		

