WOOD BUFFALO
ENVIRONMENTAL ASSOCIATION

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Wood Buffalo Environmental Association

OCTOBER 2025

MONTHLY CALIBRATION REPORT

CONTINUOUS MONITORING

November 28, 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS01
BERTHA GANTER - FORT MCKAY
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Bertha Ganter-Fort McKay	Station number:	AMS 01
Calibration Date:	October 20, 2025	Last Cal Date:	September 3, 2025
Start time (MST):	11:45	End time (MST):	14:59
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	49.21	ppm	Cal Gas Exp Date:	March 10, 2031
Cal Gas Cylinder #:	CC418809			
Removed Cal Gas Conc:	49.21	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	3565
Zero Air Gen Model:	Teledyne API T701		Serial Number:	146

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	JC1501301448	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001893	1.000408	Backgd or Offset:	21.6	21.6
Calibration intercept:	-0.333051	-0.613104	Coeff or Slope:	0.879	0.879

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.2	----
As found High point	4918	81.3	800.3	799.6	1.001
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	799.8	Previous response	801.4	*% change	-0.2%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.1	----
High point	4918	81.3	800.3	800.5	1.000
Mid point	4959	40.7	400.6	399.1	1.004
Low point	4979	20.3	199.8	199.3	1.003
As left zero	5000	0.0	0.0	0.0	----
As left span	4918	81.3	800.3	804.2	0.995
				Average Correction Factor:	1.002

Notes: Changed the inlet filter after as founds. No adjustments made.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

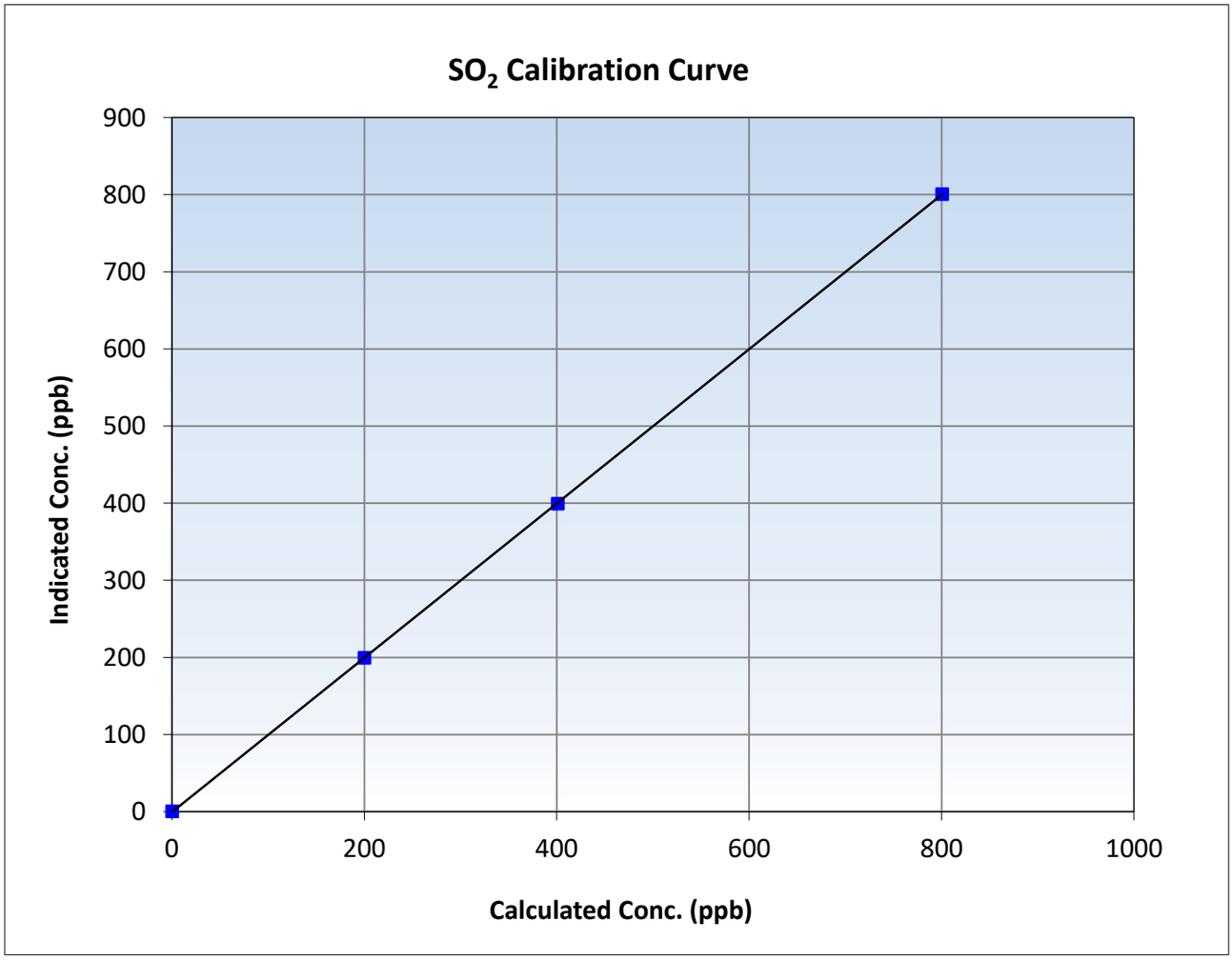
SO_2 Calibration Summary

Station Information

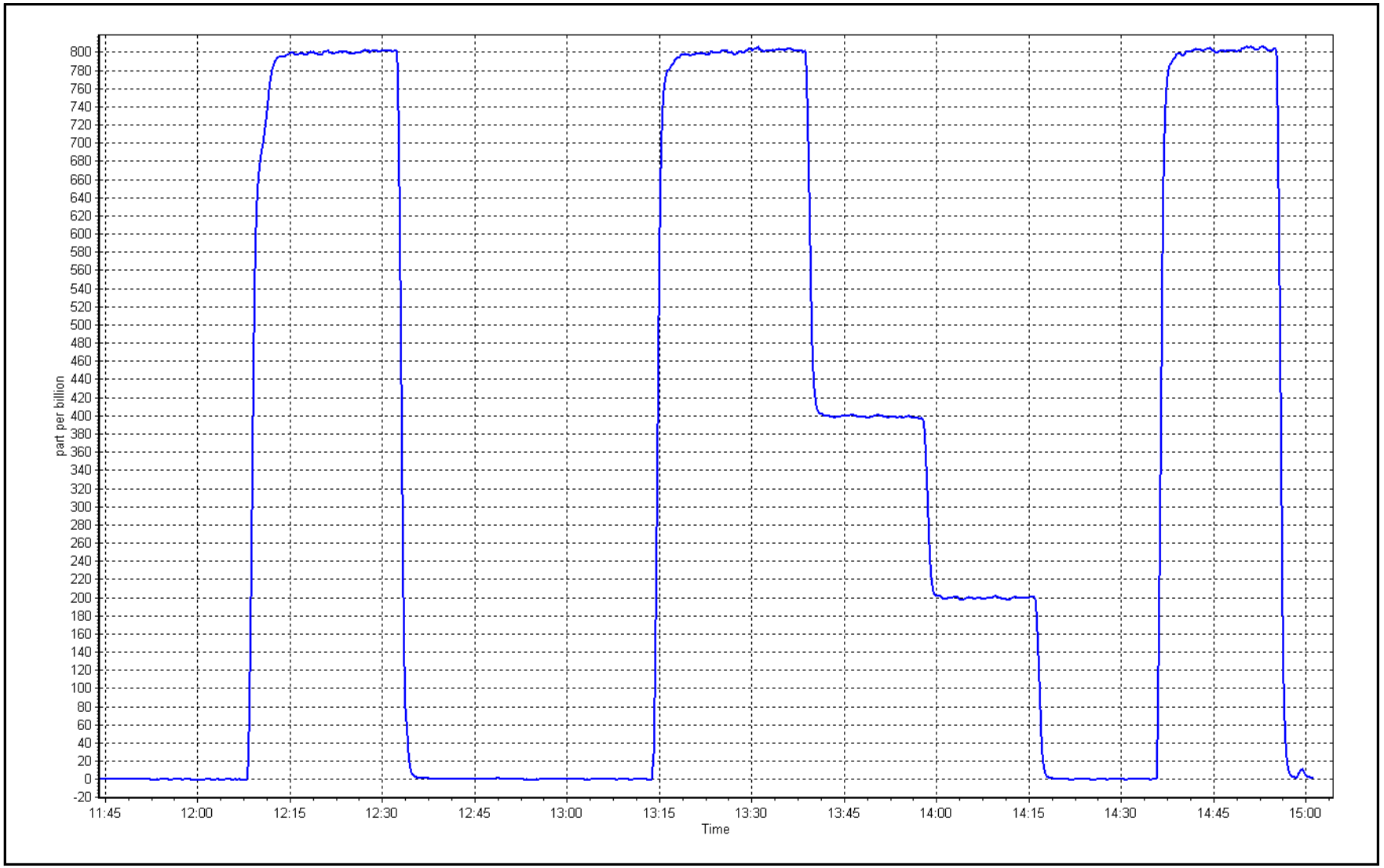
Calibration Date:	October 20, 2025	Previous Calibration:	September 3, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	11:45	End Time (MST):	14:59
Analyzer make:	Thermo 43i	Analyzer serial #:	JC1501301448

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	-0.1	----	Correlation Coefficient	0.999995	*≥0.995*
800.3	800.5	0.9997	Slope	1.000408	*0.90 - 1.10*
400.6	399.1	1.0037			
199.8	199.3	1.0026	Intercept	-0.613104	*+/-30*



SO2 Calibration Plot Date: October 20, 2025 Location: Bertha Ganter-Fort McKay



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Bertha Ganter-Fort McKay	Station number:	AMS 01
Calibration Date:	October 8, 2025	Last Cal Date:	September 8, 2025
Start time (MST):	10:33	End time (MST):	15:17
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.84	ppm	Cal Gas Exp Date:	September 5, 2027
Cal Gas Cylinder #:	CC738239			
Removed Cal Gas Conc:	4.84	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	3565
ZAG Make/Model:	Teledyne API T701		Serial Number:	146

Analyzer Information

Analyzer make:	Thermo 43iQ-TLE		Analyzer serial #:	12113311966
Converter make:	CD Nova		Converter serial #:	580
Analyzer Range	0 - 100 ppb		Converter Temp:	850 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.000671	0.997956	Backgd or Offset:	2.15	2.13
Calibration intercept:	-0.317986	-0.297954	Coeff or Slope:	1.131	1.119

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.1	----
As found High point	4917	82.6	80.0	80.8	0.988
As found Mid point	4959	41.3	40.0	40.3	0.990
As found Low point	4979	20.7	20.0	20.0	0.997
New cylinder response					
Baseline Corr As found:	80.9	Prev response:	79.70	*% change:	1.5%
Baseline Corr 2nd AF pt:	40.4	AF Slope:	1.012395	AF Intercept:	-0.178253
Baseline Corr 3rd AF pt:	20.1	AF Correlation:	0.999995	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.1	----
High point	4917	82.6	80.0	79.6	1.005
Mid point	4959	41.3	40.0	39.5	1.012
Low point	4979	20.7	20.0	19.5	1.028
As left zero	5000	0.0	0.0	0.0	----
As left span	4917	82.6	80.0	78.0	1.025
SO2 Scrubber Check	4919	81.3	813.0	0.1	----
Date of last scrubber change:		December 17, 2021		Ave Corr Factor	1.015
Date of last converter efficiency test:					

Notes: Inlet filter change completed after as founds. Adjusted the span. Scrubber check passed.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

TRS Calibration Summary

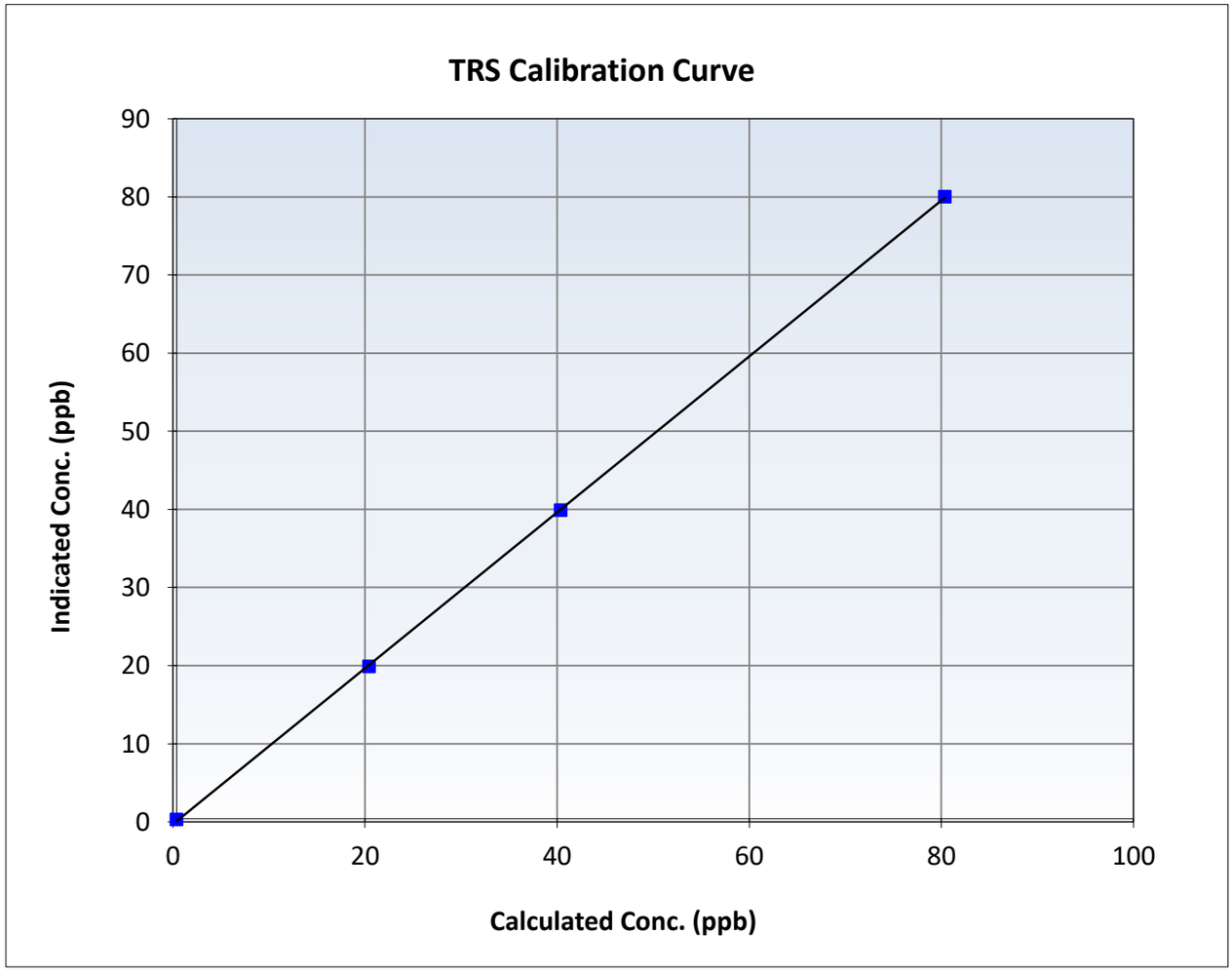
Station Information

Calibration Date:	October 8, 2025	Previous Calibration:	September 8, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:33	End Time (MST):	15:17
Analyzer make:	Thermo 43iQ-TLE	Analyzer serial #:	12113311966

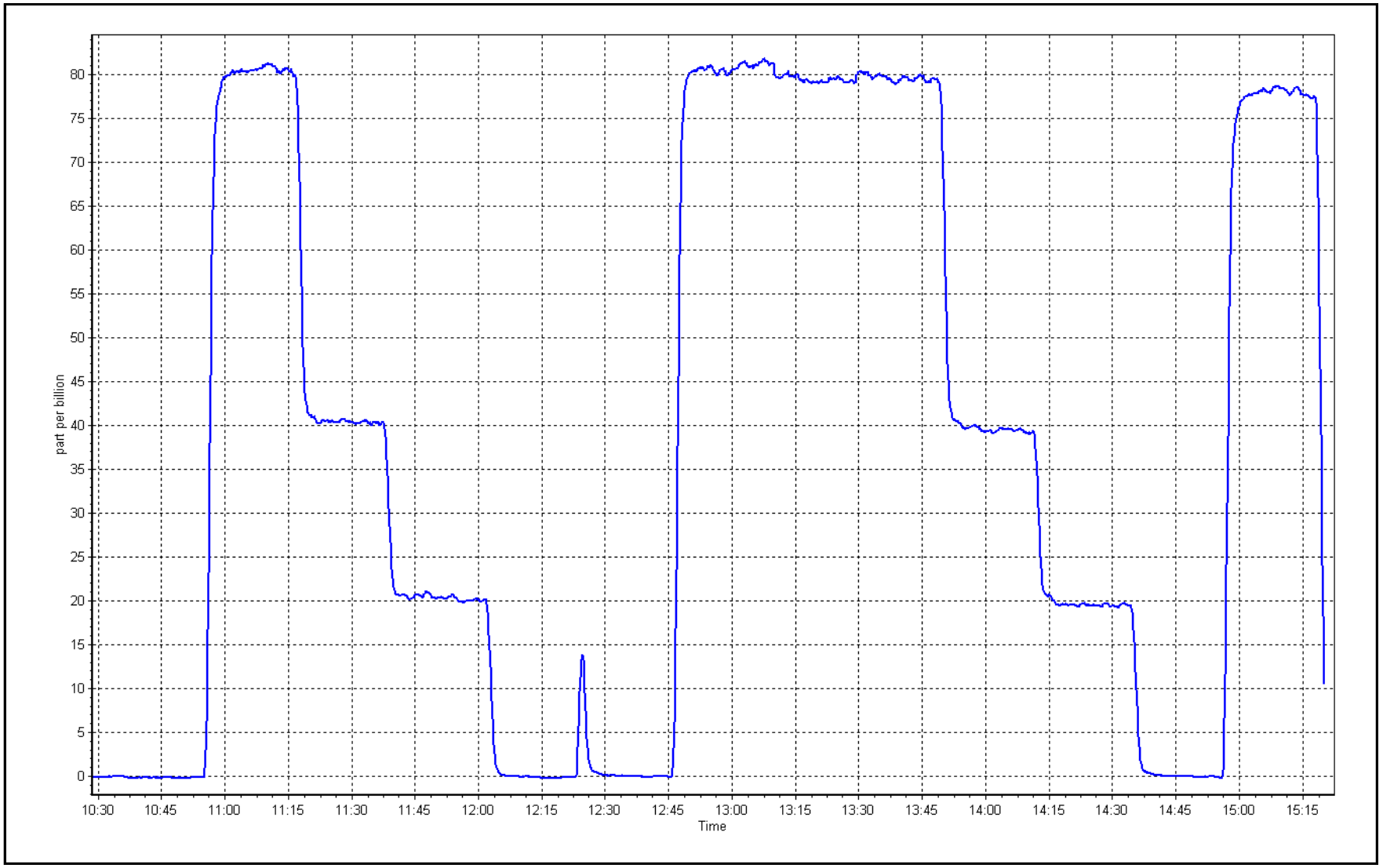
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
80.0	79.6	1.0046
40.0	39.5	1.0121
20.0	19.5	1.0276

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999972	*≥0.995*
Slope	0.997956	*0.90 - 1.10*
Intercept	-0.297954	*+/-3*



TRS Calibration Plot Date: October 8, 2025 Location: Bertha Ganter-Fort McKay



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Bertha Ganter-Fort McKay	Station number:	AMS 01
Calibration Date:	October 8, 2025	Last Cal Date:	September 8, 2025
Start time (MST):	10:33	End time (MST):	15:17
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.84	ppm	Cal Gas Exp Date:	September 5, 2027
Cal Gas Cylinder #:	CC738239			
Removed Cal Gas Conc:	4.84	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	3565
ZAG Make/Model:	Teledyne API T701		Serial Number:	146

Analyzer Information

Analyzer make:	Thermo 43iQ-TL		Analyzer serial #:	1200326167
Converter make:	CD Nova		Converter serial #:	2022-221
Analyzer Range	0 - 100 ppb		Converter Temp:	315 degC

	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.004245	1.005106	Backgd or Offset:	2.01	2.01
Calibration intercept:	-0.318056	-0.098195	Coeff or Slope:	0.977	0.973

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.3	----
As found High point	4917	82.6	80.0	81.0	0.984
As found Mid point	4959	41.3	40.0	40.3	0.985
As found Low point	4979	20.7	20.0	19.8	0.997
New cylinder response					
Baseline Corr As found:	81.3	Prev response:	79.98	*% change:	1.6%
Baseline Corr 2nd AF pt:	40.6	AF Slope:	1.017826	AF Intercept:	-0.418317
Baseline Corr 3rd AF pt:	20.1	AF Correlation:	0.999987	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.2	----
High point	4917	82.6	80.0	80.2	0.997
Mid point	4959	41.3	40.0	40.2	0.994
Low point	4979	20.7	20.0	20.1	0.997
As left zero	5000	0.0	0.0	0.0	----
As left span	4917	82.6	80.0	79.3	1.008
SO2 Scrubber Check	4919	81.3	813.0	-0.1	----
Date of last scrubber change:		January 25, 2024		Ave Corr Factor	0.996
Date of last converter efficiency test:		November 7, 2024		107.9%	efficiency

Notes: Inlet filter change completed after as founds. Adjusted the span. Scrubber check passed.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

H_2S Calibration Summary

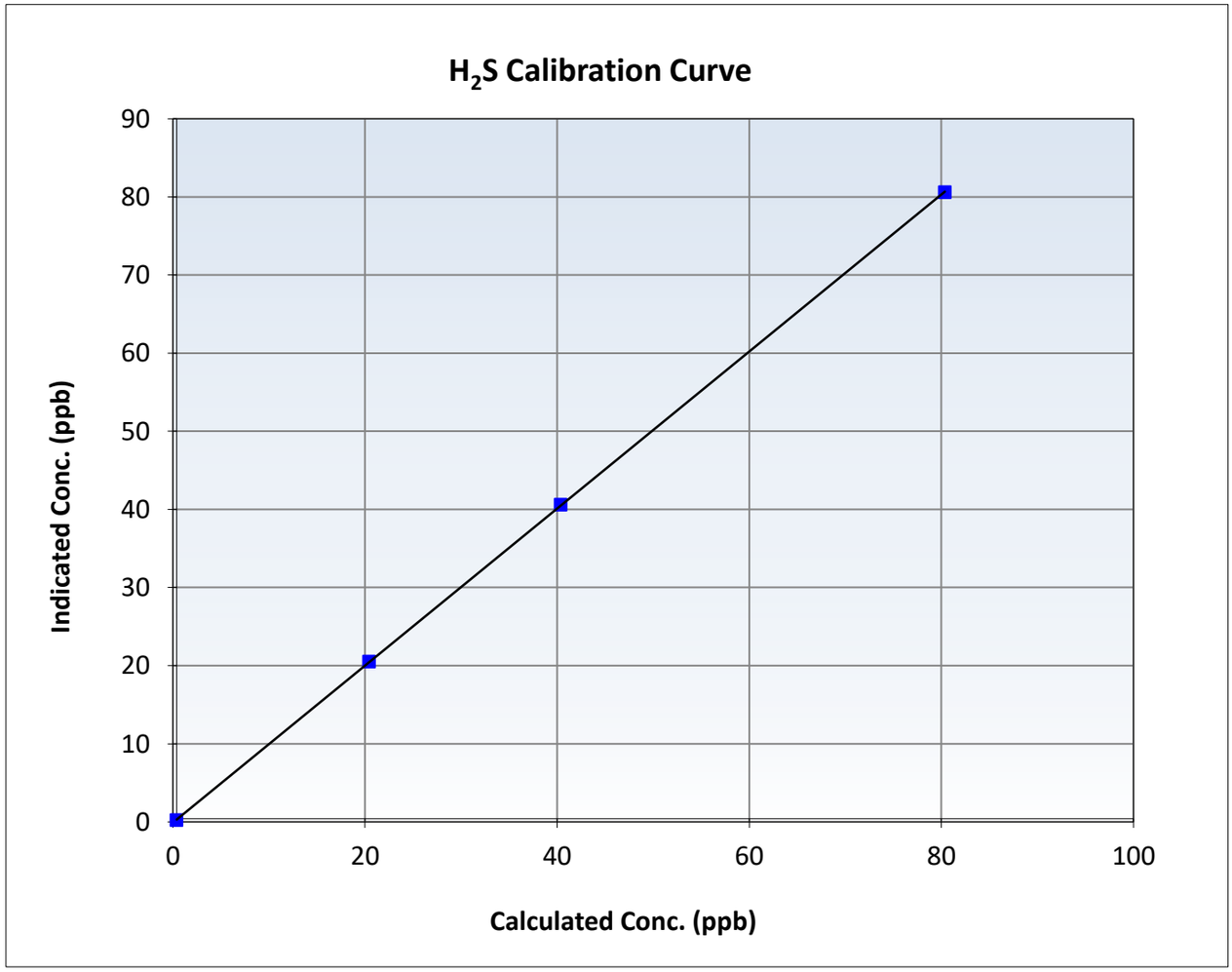
Station Information

Calibration Date:	October 8, 2025	Previous Calibration:	September 8, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:33	End Time (MST):	15:17
Analyzer make:	Thermo 43iQ-TL	Analyzer serial #:	1200326167

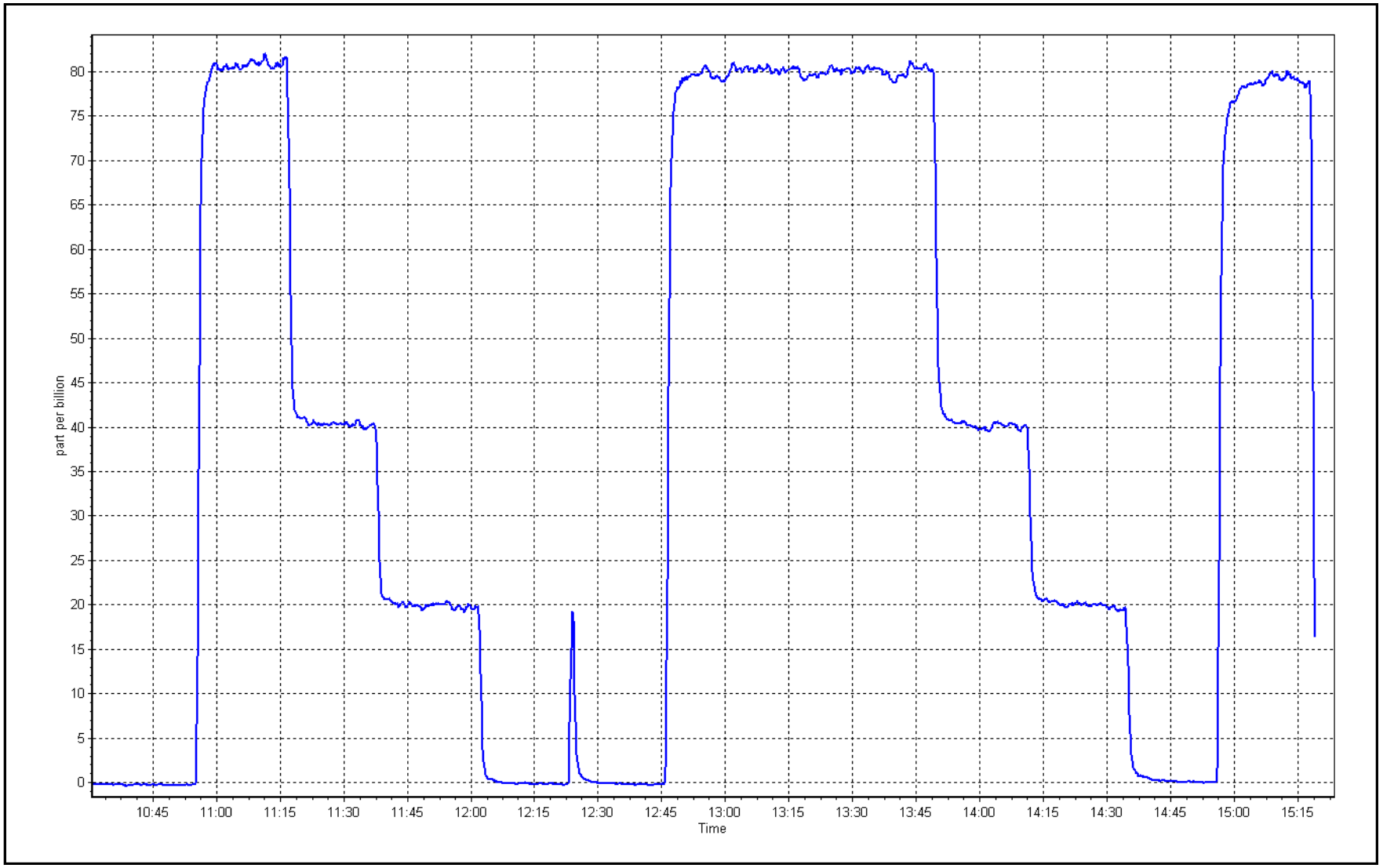
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
80.0	80.2	0.9970
40.0	40.2	0.9944
20.0	20.1	0.9970

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999991	*≥0.995*
Slope	1.005106	*0.90 - 1.10*
Intercept	-0.098195	*+/-3*



H_2S Calibration Plot Date: October 8, 2025 Location: Bertha Ganter-Fort McKay



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Bertha Ganter-Fort McKay	Station number:	AMS 01
Calibration Date:	October 20, 2025	Last Cal Date:	September 3, 2025
Start time (MST):	11:45	End time (MST):	14:59
Reason:	Routine		

Calibration Standards

Gas Cert Reference:		CC418809	Cal Gas Expiry Date:	March 10, 2031	
CH4 Cal Gas Conc.	497.2	ppm	CH4 Equiv Conc.	1061.8	ppm
C3H8 Cal Gas Conc.	205.3	ppm			
Removed Gas Cert:		NA	Removed Gas Expiry:	NA	
Removed CH4 Conc.	497.2	ppm	CH4 Equiv Conc.	1061.8	ppm
Removed C3H8 Conc.	205.3	ppm	Diff between cyl (THC):		
Diff between cyl (CH_4):			Diff between cyl (NM):		
Calibrator Model:	Teledyne API T700		Serial Number:	3565	
Zero Air Gen model:	Teledyne API T701		Serial Number:	146	

Analyzer Information

Analyzer make:	Thermo 55i		Analyzer serial #:	1193585648	
THC Range:	0 - 20 ppm		NMHC/CH4 Range:	0 - 10 ppm	
	Start	***Finish***		***Start***	***Finish***
CH4 SP Ratio:	2.49E-04	2.49E-04	NMHC SP Ratio:	4.95E-05	4.95E-05
CH4 Retention time:	15.0	15.0	NMHC Peak Area:	185423	185423
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4918	81.3	17.27	17.19	1.005
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	17.19	Prev response	17.31	*% change	-0.7%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4918	81.3	17.27	17.21	1.004
Mid point	4959	40.7	8.64	8.62	1.003
Low point	4979	20.3	4.31	4.34	0.994
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	81.3	17.27	17.26	1.001
				Average Correction Factor	1.000

Notes: Changed the inlet filter after as founds. No adjustments made.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4918	81.3	9.18	9.15	1.003
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.15	Prev response	9.24	*% change	-0.9%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4918	81.3	9.18	9.19	0.999
Mid point	4959	40.7	4.60	4.60	1.000
Low point	4979	20.3	2.29	2.32	0.986
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	81.3	9.18	9.24	0.994
				Average Correction Factor	0.995

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4918	81.3	8.09	8.04	1.006
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.04	Prev response	8.07	*% change	-0.4%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4918	81.3	8.09	8.02	1.009
Mid point	4959	40.7	4.05	4.02	1.007
Low point	4979	20.3	2.02	2.01	1.002
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	81.3	8.09	8.02	1.008
				Average Correction Factor	1.006

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	1.001304	0.995697
THC Cal Offset:	0.024732	0.018346
CH4 Cal Slope:	0.998414	0.991109
CH4 Cal Offset:	0.001869	0.006464
NMHC Cal Slope:	1.003352	0.999352
NMHC Cal Offset:	0.023863	0.011683

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

THC Calibration Summary

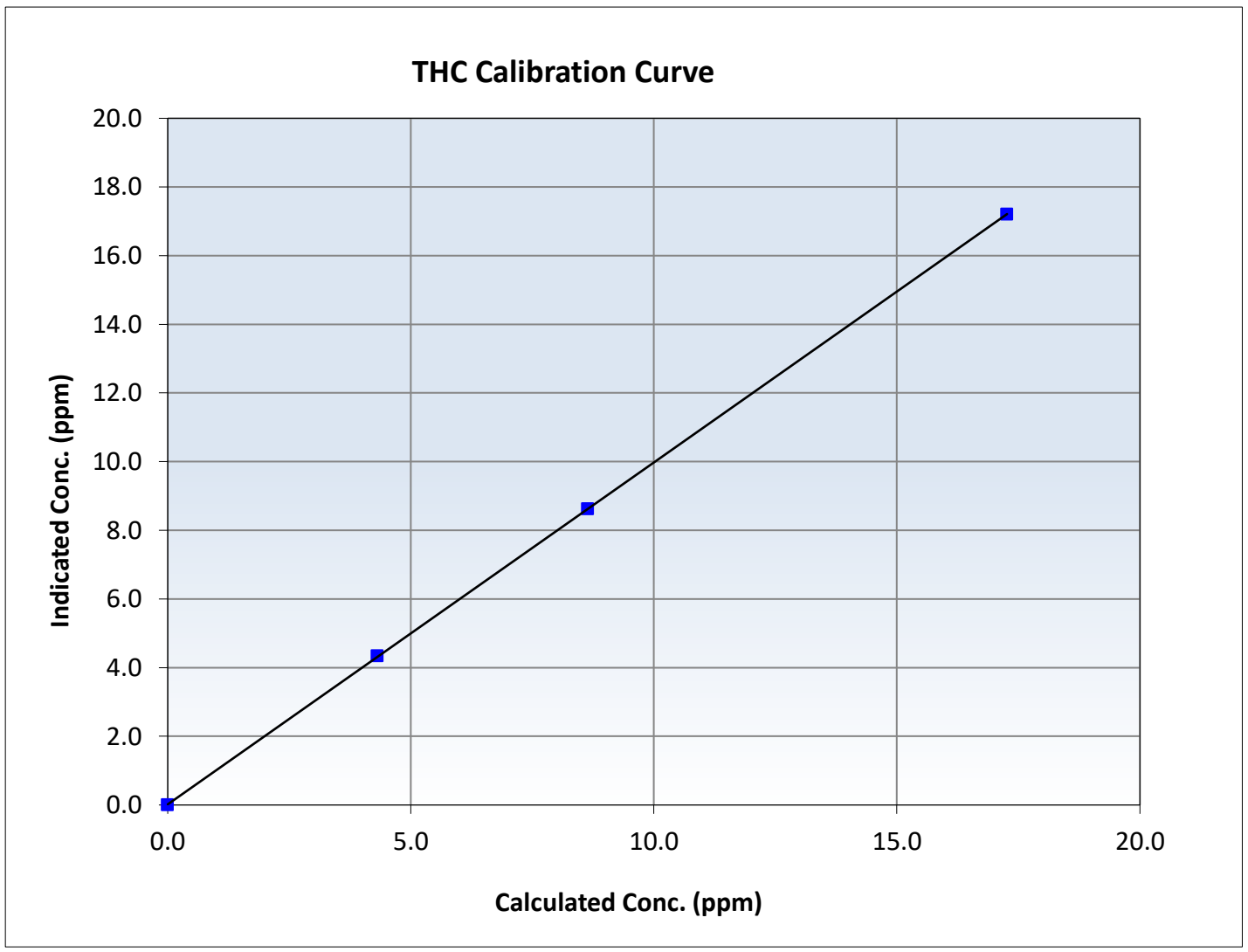
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 3, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	11:45	End Time (MST):	14:59
Analyzer make:	Thermo 55i	Analyzer serial #:	1193585648

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.00	----
17.27	17.21	1.0035
8.64	8.62	1.0026
4.31	4.34	0.9939

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999993	*≥0.995*
Slope	0.995697	*0.90 - 1.10*
Intercept	0.018346	*+/-0.5*



Wood Buffalo Environmental Association

CH_4 Calibration Summary

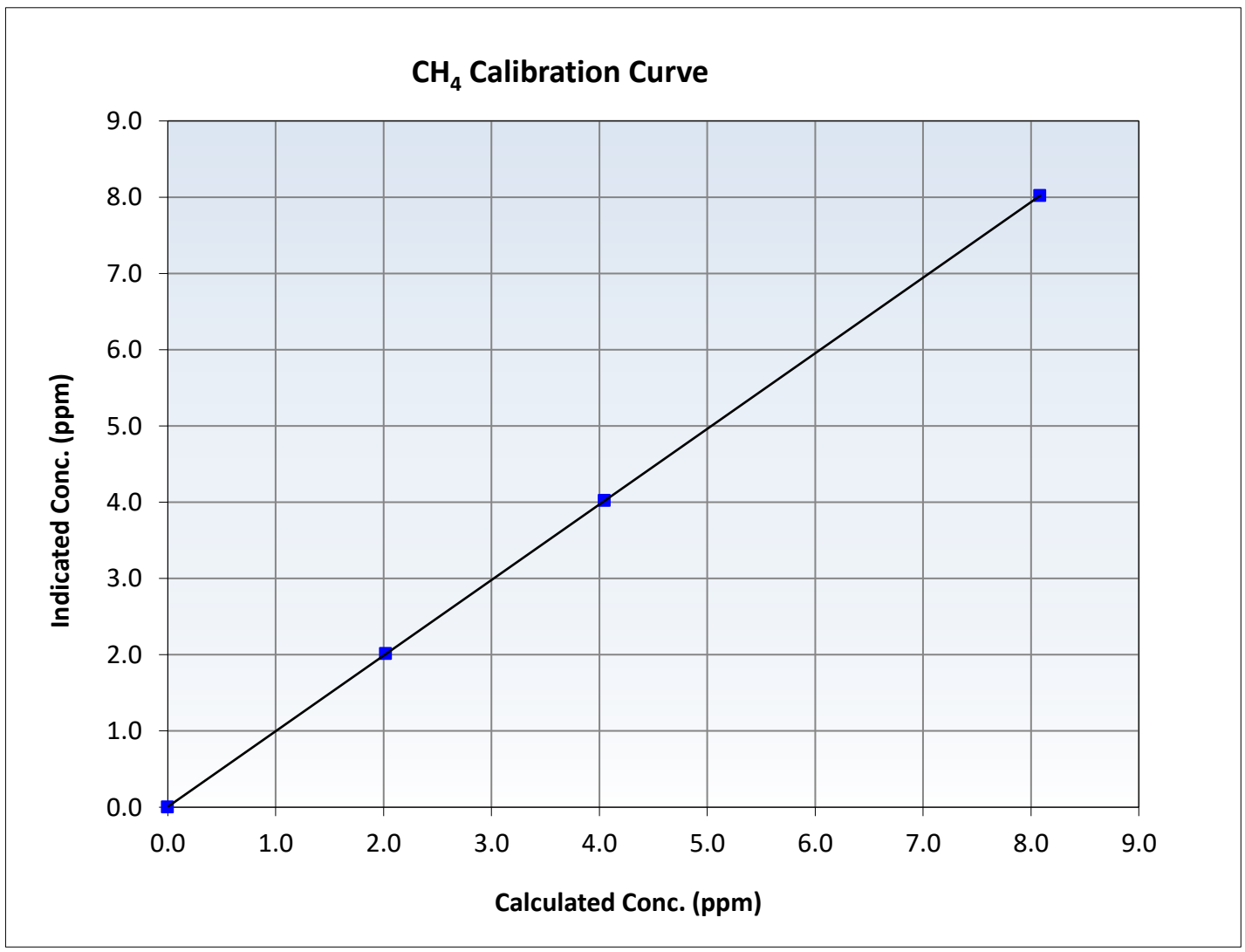
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 3, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	11:45	End Time (MST):	14:59
Analyzer make:	Thermo 55i	Analyzer serial #:	1193585648

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.00	----
8.09	8.02	1.0086
4.05	4.02	1.0066
2.02	2.01	1.0024

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999997	*≥0.995*
Slope	0.991109	*0.90 - 1.10*
Intercept	0.006464	*+/-0.5*



Wood Buffalo Environmental Association

NMHC Calibration Summary

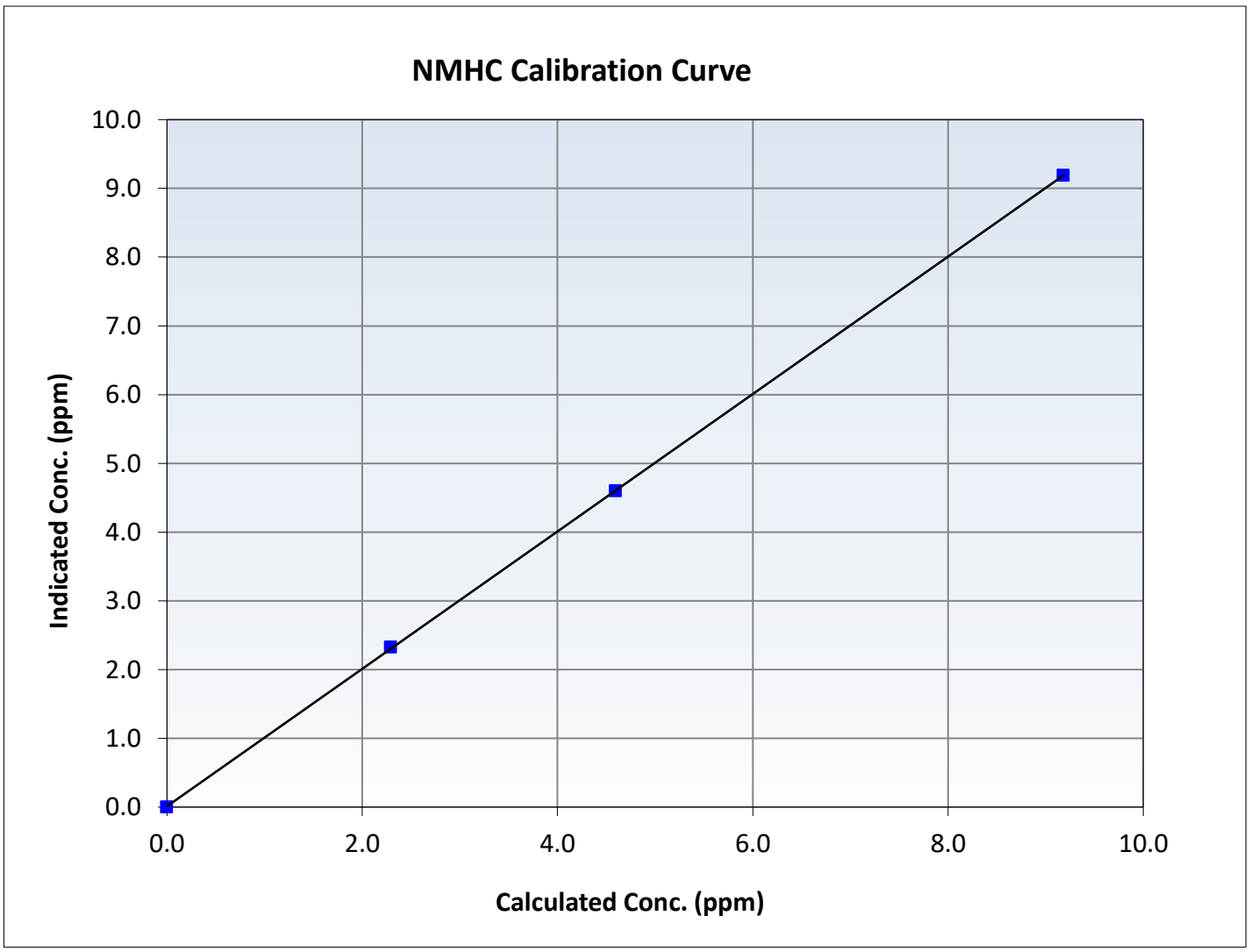
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 3, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	11:45	End Time (MST):	14:59
Analyzer make:	Thermo 55i	Analyzer serial #:	1193585648

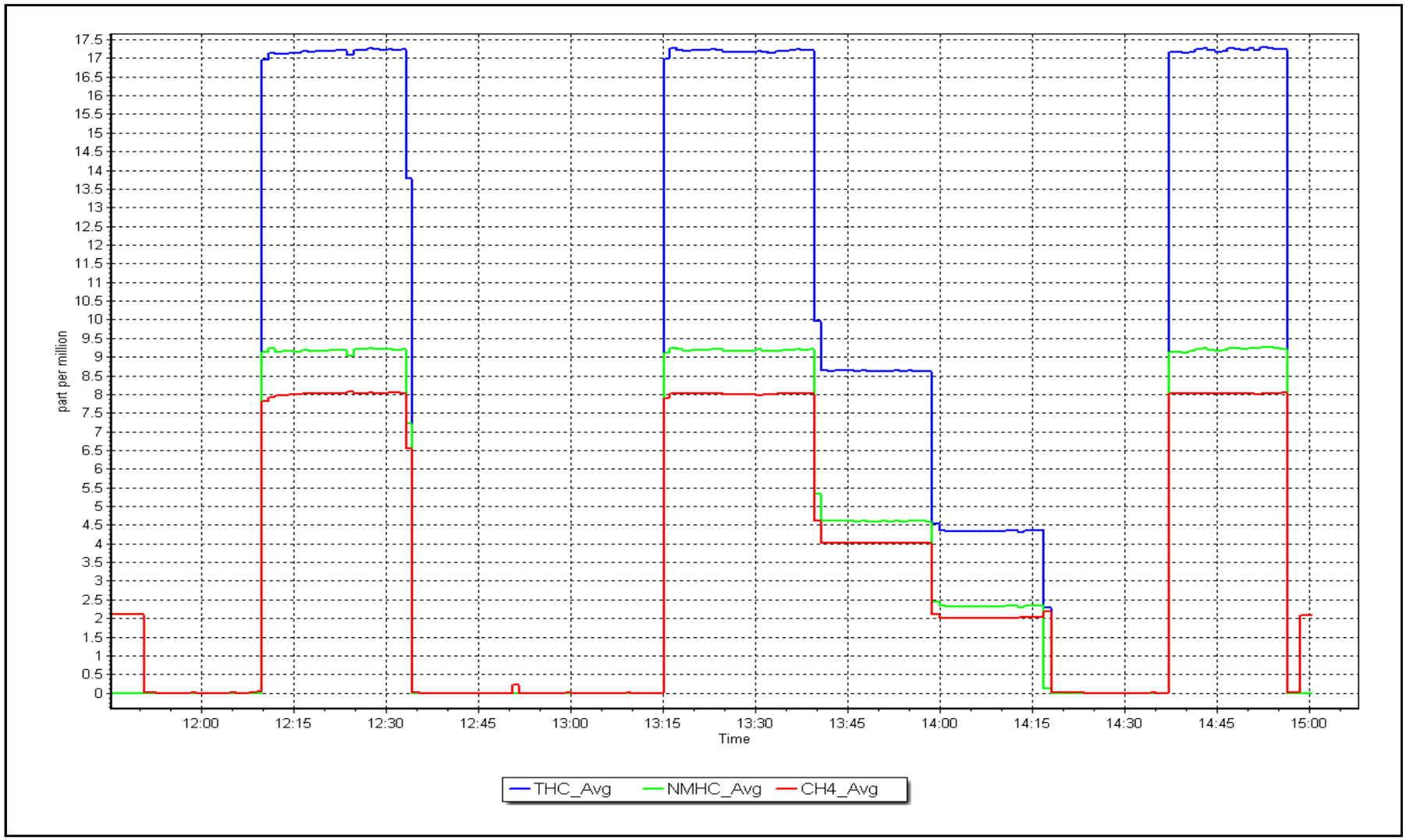
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.00	----
9.18	9.19	0.9995
4.60	4.60	1.0000
2.29	2.32	0.9864

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999986	*≥0.995*
Slope	0.999352	*0.90 - 1.10*
Intercept	0.011683	*+/-0.5*



NMHC Calibration Plot Date: October 20, 2025 Location: Bertha Ganter-Fort McKay



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Bertha Ganter-Fort McKay
Station number:	AMS 01
Calibration Date:	October 14, 2025
Last Cal Date:	September 11, 2025
Start time (MST):	10:01
End time (MST):	12:57
Reason:	Removal

Calibration Standards

NO Gas Cylinder #:	CC335700	Cal Gas Expiry Date:	September 1, 2032
NOX Cal Gas Conc:	59.40 ppm	NO Cal Gas Conc:	59.20 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	59.40 ppm	Removed Gas NO Conc:	59.20 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	3565
ZAG make/model:	Teledyne API T701	Serial Number:	146

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	0.3	0.8	-0.6	----	----
AF High point	4932	67.6	803.1	800.4	2.7	796.3	791.9	4.4	1.0089	1.0117
AF Mid point	4966	33.8	401.5	400.2	1.4	397.9	396.0	1.9	1.0099	1.0126
AF Low point	4983	16.9	200.8	200.1	0.7	199.6	197.4	2.2	1.0074	1.0178
New cyl resp										

Previous Response	NO_X = 802.9 ppb	NO = 799.1 ppb
Baseline Corr 1st pt	NO_X = 796.0 ppb	NO = 791.1 ppb
Baseline Corr 2nd pt	NO_X = 397.6 ppb	NO = 395.2 ppb
Baseline Corr 3rd pt	NO_X = 199.3 ppb	NO = 196.6 ppb

* = > +/-5% change initiates investigation

*Percent Change	NO_X = -0.9%		
*Percent Change	NO = -1.0%		

As Found Statistics

As found	NO_X r^2: 0.999999	Nx Sl: 0.990989	Nx Int: 0.340
As found	NO r^2: 0.999998	NO Sl: 0.988854	NO Int: 0.260
As found	NO_2 r^2: 0.999994	NO2 Sl: 0.998455	NO_2 Int: -1.048

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero	----	----	0.0	-0.6	----	----
As found high GPT point	792.8	388.3	407.2	405.8	1.0035	99.7%
As found mid GPT point	792.8	586.0	209.5	207.8	1.0082	99.2%
As found low GPT point	792.8	688.3	107.2	105.6	1.0152	98.5%

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Teledyne API T200 Serial Number: 7117

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.198		NO bkgnd or offset:	-4.1	
NOX coeff or slope:	1.200		NOX bkgnd or offset:	-3.1	
NO2 coeff or slope:	1.000		Reaction cell Press:	8.5	

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.999542	
NO_X Cal Offset:	0.160000	
NO Cal Slope:	0.999277	
NO Cal Offset:	-0.740000	
NO_2 Cal Slope:	1.002291	
NO_2 Cal Offset:	0.364020	

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero										
High point										
Mid point										
Low point										
As left zero										
As left span										

Average Correction Factor

GPT Calibration Data

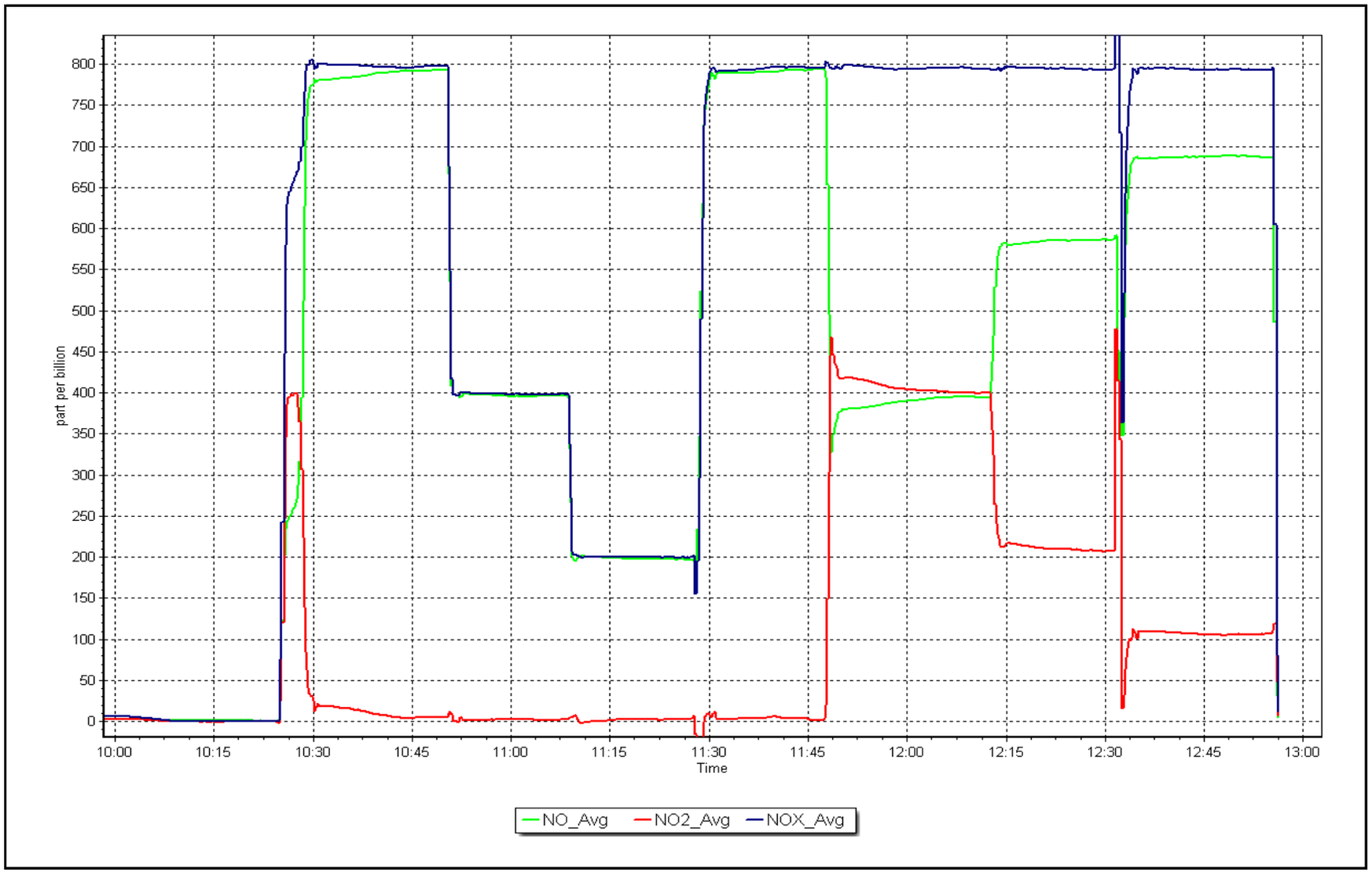
O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero						
High GPT point						
Mid GPT point						
Low GPT point						

Average Correction Factor

Notes: Removing the instrument. Perfoming as founds.

Calibration Performed By: Rene Chamberland

NO_X Calibration Plot Date: October 14, 2025 Location: Bertha Ganter-Fort McKay



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Bertha Ganter-Fort McKay
Station number:	AMS 01
Calibration Date:	October 15, 2025
Last Cal Date:	NA
Start time (MST):	10:50
End time (MST):	15:37
Reason:	Install

Calibration Standards

NO Gas Cylinder #:	CC335700	Cal Gas Expiry Date:	September 1, 2032
NOX Cal Gas Conc:	59.40 ppm	NO Cal Gas Conc:	59.20 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	59.40 ppm	Removed Gas NO Conc:	59.20 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	3565
ZAG make/model:	Teledyne API T701	Serial Number:	146

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero										
AF High point										
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = NA	ppb	NO = NA	ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X =	NA
Baseline Corr 1st pt	NO_X = NA	ppb	NO = NA	ppb	As Found Statistics	*Percent Change	NO =	NA
Baseline Corr 2nd pt	NO_X = NA	ppb	NO = NA	ppb	As found NO_X r^2:	Nx Sl:	Nx Int:	
Baseline Corr 3rd pt	NO_X = NA	ppb	NO = NA	ppb	As found NO r^2:	NO Sl:	NO Int:	
					As found NO_2 r^2:	NO2 Sl:	NO_2 Int:	

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42iQ
Serial Number: 12400232072
NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:		0.819	NO bkgnd or offset:		0.6
NOX coeff or slope:		0.994	NOX bkgnd or offset:		0.7
NO2 coeff or slope:		1.000	Reaction cell Press:		126.0

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:		0.999769
NO_X Cal Offset:		0.980000
NO Cal Slope:		1.002890
NO Cal Offset:		-0.380000
NO_2 Cal Slope:		0.984647
NO_2 Cal Offset:		1.657543

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	----
High point	4932	67.6	803.1	800.4	2.7	802.9	802.0	0.8	1.0002	0.9980
Mid point	4966	33.8	401.5	400.2	1.4	404.4	402.3	2.1	0.9929	0.9948
Low point	4983	16.9	200.8	200.1	0.7	201.7	198.9	2.7	0.9954	1.0060
As left zero	5000	0.0	0.0	0.0	0.0	0.1	0.1	0.0	----	----
As left span	4932	67.6	803.1	400.3	402.8	792.1	400.3	391.8	1.0139	1.0000
							Average Correction Factor		0.9962	0.9996

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.0	----	----
High GPT point	797.7	400.9	399.5	393.7	1.0147	98.5%
Mid GPT point	797.7	588.0	212.4	212.8	0.9981	100.2%
Low GPT point	797.7	693.1	107.3	108.3	0.9908	100.9%
				Average Correction Factor	1.0012	99.9%

Notes: Installing a new instrument. Changed the inlet filter and sample pump. Adjusted the zero and span.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

NO_X Calibration Summary

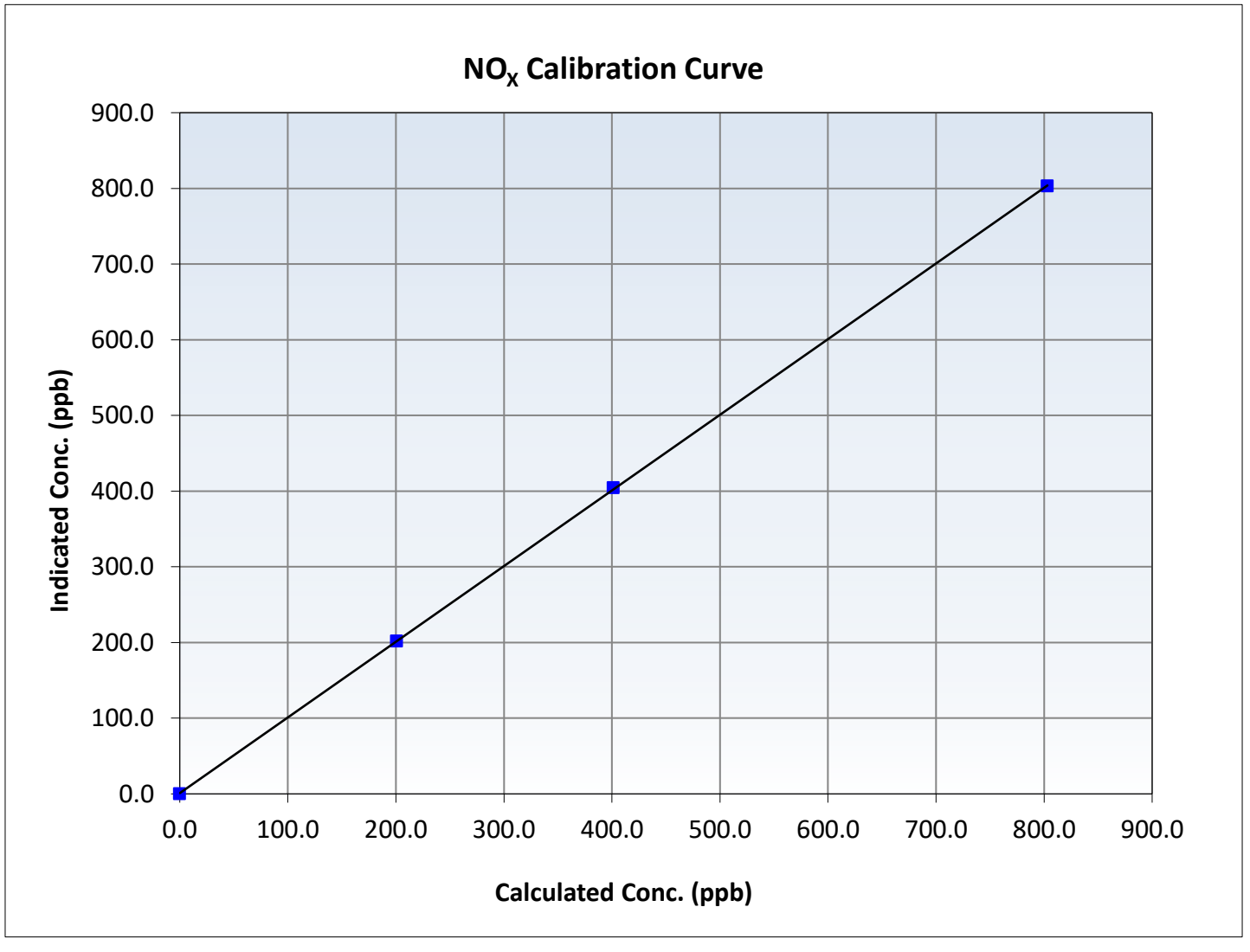
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	NA
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:50	End Time (MST):	15:37
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232072

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
803.1	802.9	1.0002
401.5	404.4	0.9929
200.8	201.7	0.9954

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999984	*≥0.995*
Slope	0.999769	*0.90 - 1.10*
Intercept	0.980000	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

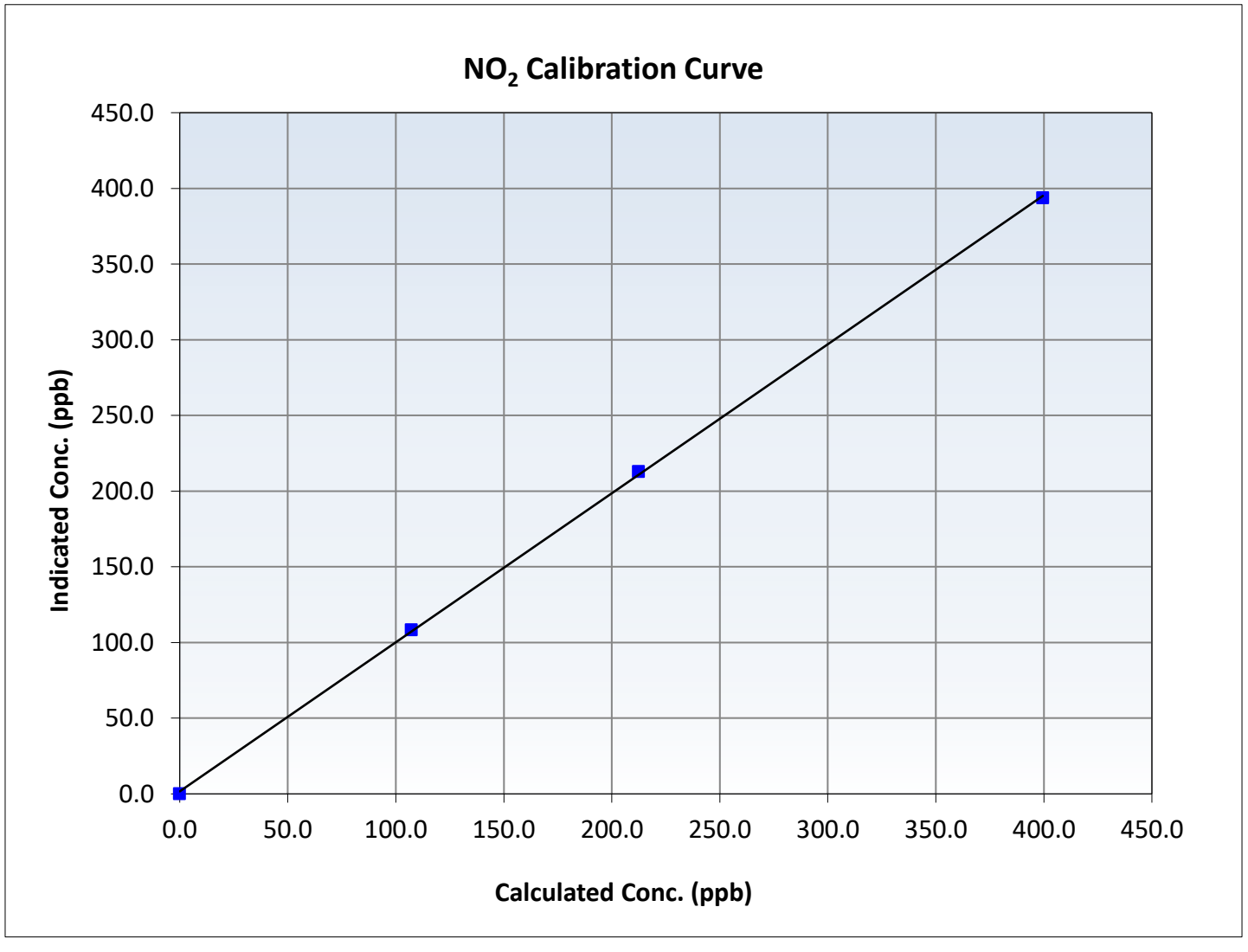
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	NA
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:50	End Time (MST):	15:37
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232072

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
399.5	393.7	1.0147
212.4	212.8	0.9981
107.3	108.3	0.9908

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999888	*≥0.995*
Slope	0.984647	*0.90 - 1.10*
Intercept	1.657543	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

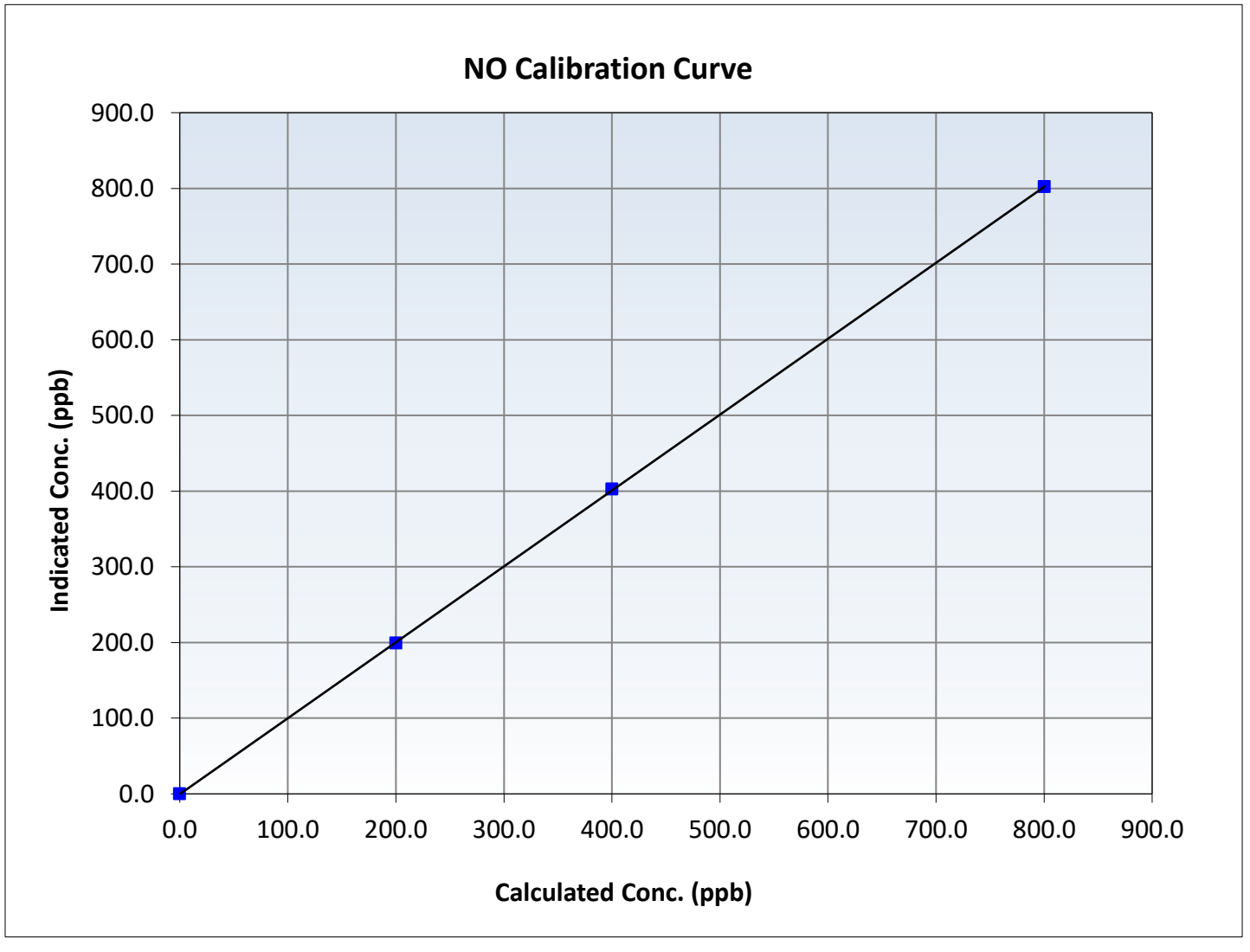
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	NA
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:50	End Time (MST):	15:37
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232072

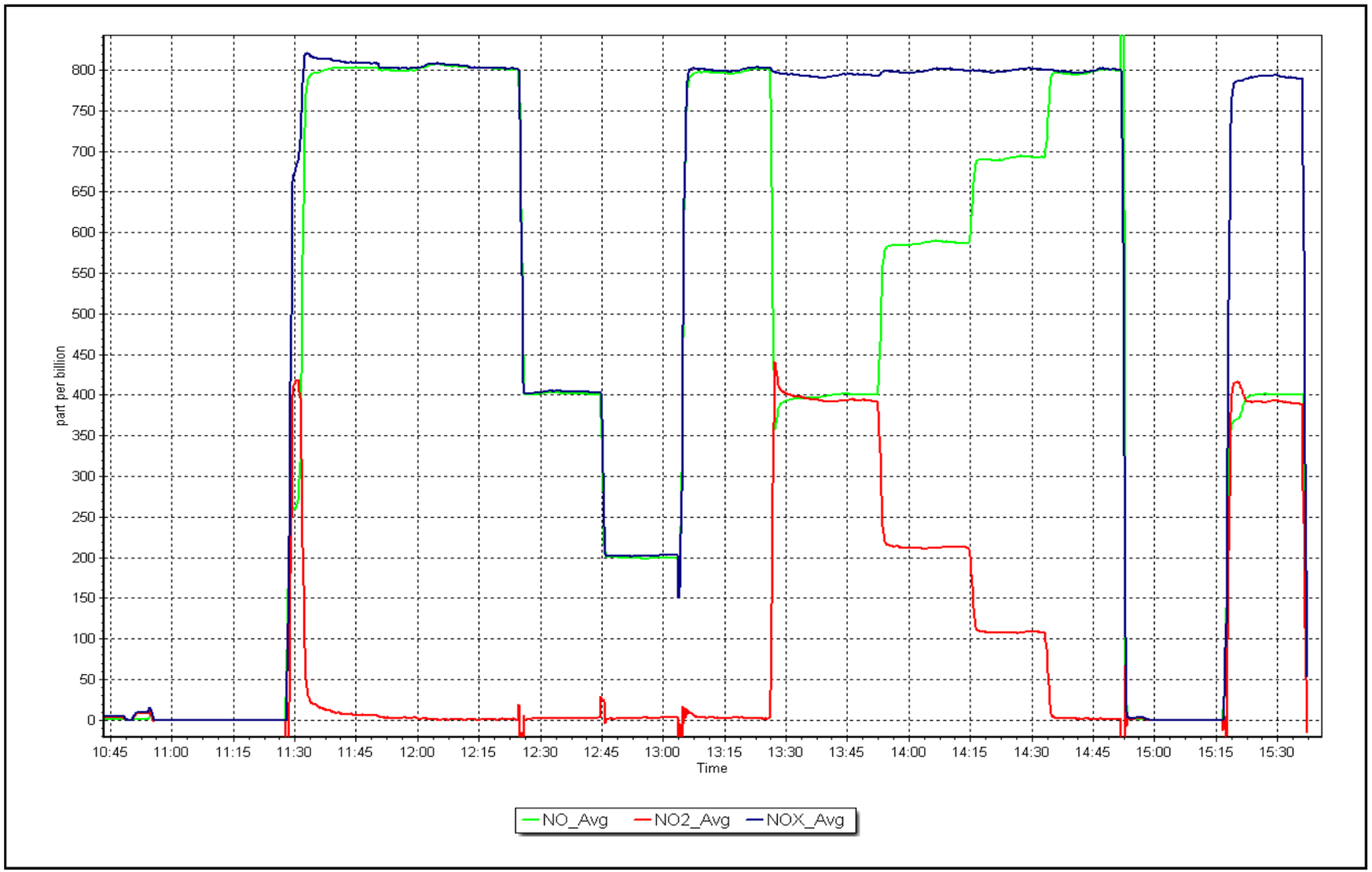
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
800.4	802.0	0.9980
400.2	402.3	0.9948
200.1	198.9	1.0060

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999989	*≥0.995*
Slope	1.002890	*0.90 - 1.10*
Intercept	-0.380000	*+/-20*



NO_X Calibration Plot Date: October 15, 2025 Location: Bertha Ganter-Fort McKay



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Bertha Ganter-Fort McKay	Station number:	AMS 01
Calibration Date:	October 6, 2025	Last Cal Date:	September 2, 2025
Start time (MST):	10:38	End time (MST):	13:27
Reason:	Routine		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	Teledyne API T700	Serial Number:	3565
ZAG Make/Model:	Teledyne API T701	Serial Number:	146

Analyzer Information

Analyzer make:	Teledyne API T400		Analyzer serial #:	1107	
Analyzer Range	0 - 500 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001429	1.001714	Backgd or Offset:	5.6	5.6
Calibration intercept:	-0.400000	-0.800000	Coeff or Slope:	1.006	1.006

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.8	----
As found High point	5000	863.1	400.0	399.6	0.999
As found Mid point					
As found Low point					
Baseline Corr As found:	400.4	Previous response	400.2	*% change	0.1%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

O_3 Calibration Data

Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.1	----
High point	5000	863.1	400.0	400.2	1.000
Mid point	5000	744.0	200.0	199.3	1.004
Low point	5000	651.7	100.0	98.6	1.014
As left zero	5000	0.0	0.0	0.1	----
As left span	5000	863.1	400.0	403.6	0.991
				Average Correction Factor	1.006

Notes: Changed the inlet filter after as founds. No adjustments made.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

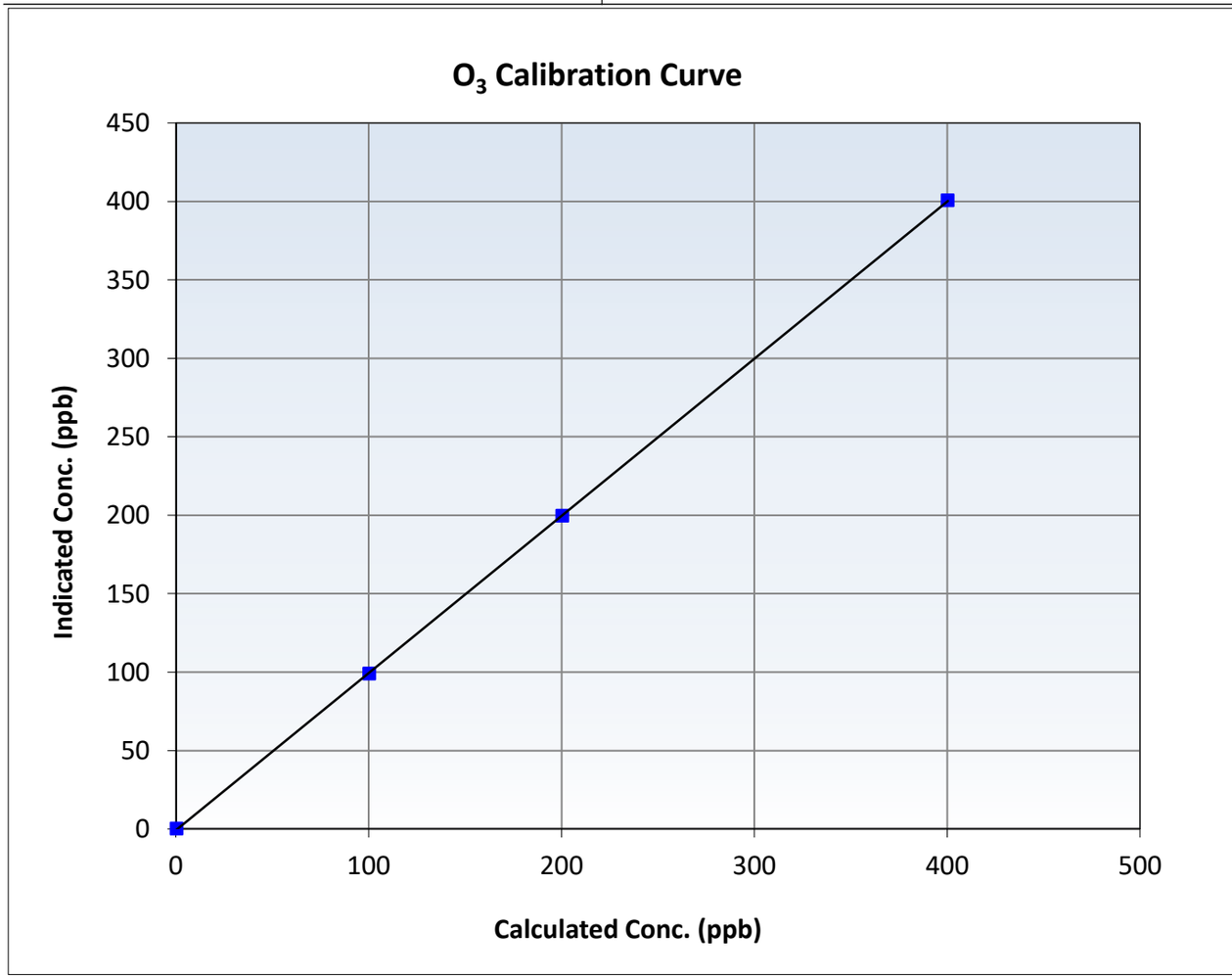
O_3 Calibration Summary

Station Information

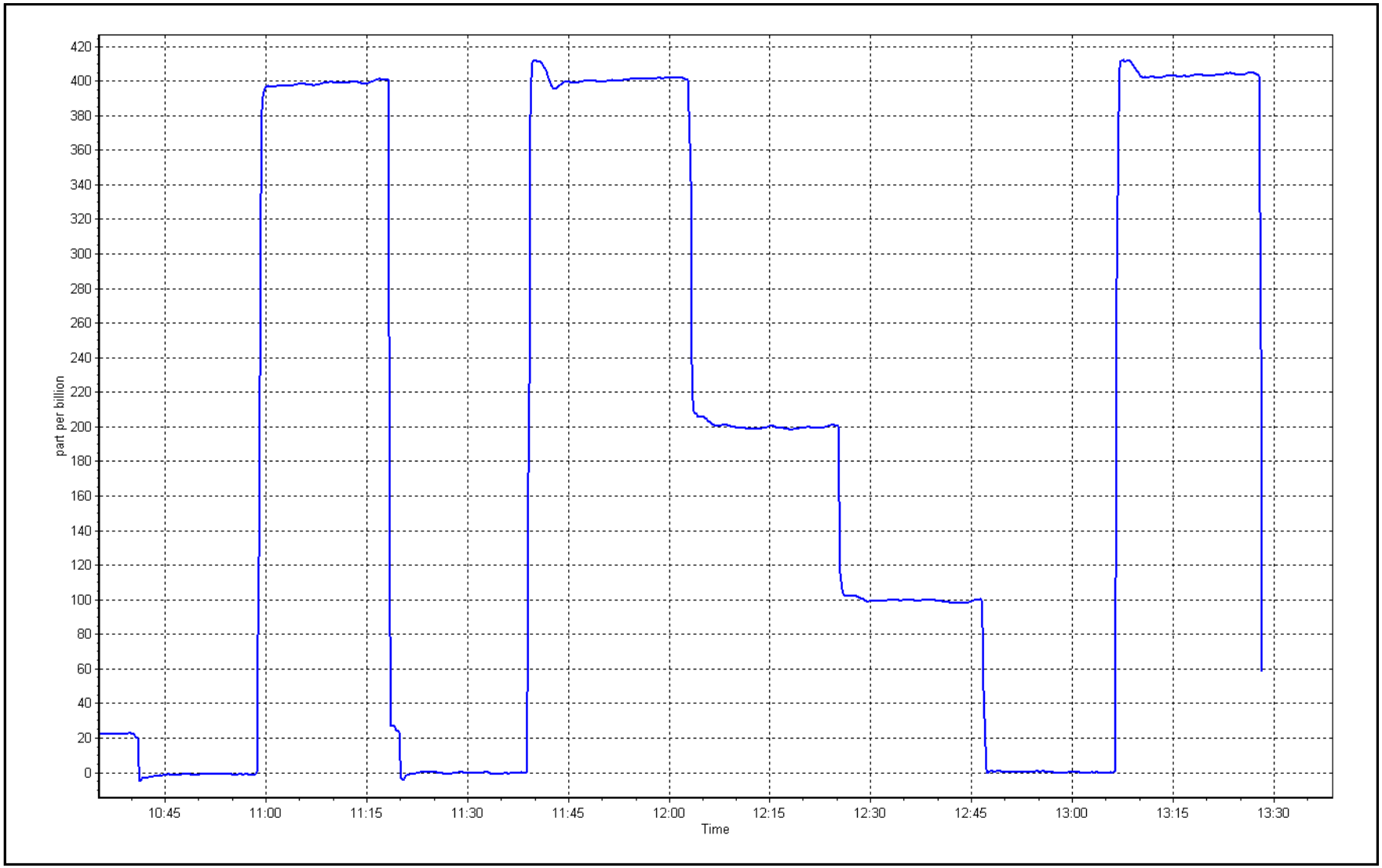
Calibration Date:	October 6, 2025	Previous Calibration:	September 2, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:38	End Time (MST):	13:27
Analyzer make:	Teledyne API T400	Analyzer serial #:	1107

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	-0.1	----	Correlation Coefficient	0.999986	*≥0.995*
400.0	400.2	0.9995	Slope	1.001714	*0.90 - 1.10*
200.0	199.3	1.0035			
100.0	98.6	1.0142	Intercept	-0.800000	*+/- 5*



O_3 Calibration Plot Date: October 6, 2025 Location: Bertha Ganter-Fort McKay



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Fort McKay - Bertha Ganter	Station number:	AMS 01
Calibration Date:	October 22, 2025	Last Cal Date:	September 10, 2025
Start time (MST):	11:28	End time (MST):	13:27
Analyzer Make:	Teledyne API T640	S/N:	322
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388748
Temp/RH standard:	Alicat FP-25BT	S/N:	388748

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (^{o}C)	7.3	7.6	7.3	☐	+/- 2 ^{o}C
P (mmHg)	734.6	737.19	734.6	☐	+/- 10 mmHg
Flow (LPM)	5.02	5.428	4.927	☑	+/- 0.25 LPM
PW% (pump)	37		37	☐	>80%
Zero Verification	PM w/o HEPA:	7.1	PM w/ HEPA:	0.0	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.9 — Expiry Date: June 10, 2024 — Lot No.: 100128-050-042

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test	11.1	10.7	10.7	☐	10.9 +/- 0.5

Date Optical Chamber Cleaned: October 22, 2025

Date Disposable Filter Changed: August 20, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0.0 <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: August 20, 2025

Date RH/T Sensor Cleaned: October 22, 2025

Notes: Flow, temperature, and pressure were verified. Flow was adjusted. Leak check passed. Optical chamber and RH/T sensor cleaned. PMT peak test verified.

Calibration by: Rene Chamberland

Wood Buffalo Environmental Association

Nt - NOX - NH3 Calibration Report

Station Information

Station Name:	Bertha Ganter-Fort McKay	Station number:	AMS 01
NOX Cal Date:	October 9, 2025	Last Cal Date:	September 4, 2025
Start time (MST):	10:32	End time (MST):	15:21
NH3 Cal Date:	October 10, 2025	Last Cal Date:	September 5, 2025
Start time (MST):	10:19	End time (MST):	14:08
Reason:	Routine		

Calibration Standards

NOX Cal Gas Conc:	59.40	ppm	NO Gas Cylinder #:	CC335700
NO Cal Gas Conc:	59.20	ppm	NO Cal Gas Expiry:	September 1, 2032
Removed NOX Conc:	59.40	ppm	Removed Cylinder #:	NA
Removed NO Conc:	59.20	ppm	Removed cyl Expiry:	NA
NOX gas Diff:			NO gas Diff:	
NH3 Cal Gas Conc:	77.80	ppm	NH3 Gas Cylinder #:	CC711249
			NH3 Cal Gas Expiry:	December 31, 2025
Removed NH3 Conc:	77.80	ppm	Removed Cylinder #:	NA
NH3 gas Diff:			Removed cyl Expiry:	NA
Calibrator Model:	API T700		Serial Number:	3565
ZAG make/model:	API T701		Serial Number:	146

Analyzer Information

Analyzer model:	API T201		Analyzer serial #:	475
Converter model:	API T501		Converter serial #:	824
NH3 Range (ppb):	0 - 2000 ppb		Reaction cell Press:	6.20
NOX Range (ppb):	0 - 1000 ppb		Sample Flow:	526

	Start	*Finish*		*Start*	*Finish*
NO coefficient:	0.984	0.961	Nt coefficient:	0.997	0.975
NOX coefficient:	0.989	0.967	NO bkgrnd:	-3.0	-3.0
NO2 coefficient:	1.000	1.000	NOX bkgrnd:	-2.8	-2.8
NH3 coefficient:	0.987	0.987	Nt bkgrnd:	-1.9	-1.9

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.997535	0.998731
NO_X Cal Offset:	-0.960000	-1.880000
NO Cal Slope:	0.998878	0.999249
NO Cal Offset:	-2.800000	-2.780000
NO_2 Cal Slope:	0.997147	1.004249
NO_2 Cal Offset:	-0.284956	0.465952
NH3 Cal Slope:	0.998912	1.000028
NH3 Cal Offset:	6.194453	3.573310
Nt Cal Slope:	1.002428	1.003803
Nt Cal Offset:	6.567914	3.958139

Wood Buffalo Environmental Association

NO_X - NO - NO_2 Calibration Report

NOx / NO / Nt As Found Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated Nt concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated Nt concentration (ppb) (Ic)	Baseline corr NOx Correction factor (Cc/Ic) *Limit = 0.9 - 1.0*	Baseline corr NO Correction factor (Cc/Ic) *Limit = 0.9 - 1.0*
As found zero	5000	0.0	0.0	0.0	0.0	0.7	0.7	0.6	----	----
As found span	4932	67.6	803.2	800.4	803.2	824.6	815.9	824.6	0.9740	0.9811
AF GPT span	4932	67.6	803.2	-----	803.2	804.2	-----	803.3	0.9987	-----
new NO cyl rp										

Baseline Corr As Fd	Nt =	824	ppb	NO_X =	823.9	ppb	NO =	815.2	ppb	
Previous Response	Nt =	811.67	ppb	NO_X =	800.2	ppb	NO =	796.7	ppb	

**NO_X Δ (NO to GPT response) = -2.5%

* *= > +/-2% difference initiates investigation

*Percent Change $Nt_{(NO)}$ = 1.5%

*Percent Change NO_X = 2.9%

*Percent Change NO = 2.3%

* = > +/-5% change initiates investigation

NOx / NO / Nt Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated Nt concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated Nt concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibration zero	5000	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.2	----	----
High point	4932	67.6	803.1	800.4	803.1	801.4	798.6	802.0	1.0021	1.0022
Mid point	4966	33.8	401.5	400.2	401.5	397.3	395.0	398.1	1.0107	1.0131
Low point	4983	16.9	200.8	200.1	200.8	197.5	195.0	198.8	1.0166	1.0261
							Average Correction Factor		1.0098	1.0138

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
As Found zero	----	----	0.0	0.0	----	----
Calibration zero	----	----	0.0	0.0	----	----
High GPT point (400 ppb O3)	791.6	392.2	402.1	404.3	0.9946	100.5%
Mid GPT point (200 ppb O3)	791.6	588.8	205.5	206.3	0.9961	100.4%
Low GPT point (100 ppb O3)	791.6	690.1	104.2	106.1	0.9821	101.8%
				Average Correction Factor	0.9909	100.9%

Wood Buffalo Environmental Association
NH_3 - N_T Calibration Report

NH3 As Found Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated Nt concentration (ppb) (Cc)	Calculated NOX concentration (ppb) (Cc)	Calculated NH3 concentration (ppb) (Cc)	Indicated Nt concentration (ppb) (Ic)	Indicated NOX concentration (ppb) (Ic)	Indicated NH3 concentration (ppb) (Ic)	Baseline corr Nt Correction factor (Cc/(Ic-zero)) *Limit = 0.9 - 1.1*	Baseline corr NH3 Correction factor (Cc/(Ic-zero)) *Limit = 0.9 - 1.1*
As found zero	5000	0.0	0.0	0.0	0.0	-1.1	-1.1	-0.1	----	----
AF High point	2931	69.4	1799.5	0.0	1799.5	1808.2	6.9	1801.3	0.995	0.999
AF Mid point										
AF Low point										
new NH3 cyl rp										

Baseline Corr As Fd Nt = 1809.3 ppb NH3 = 1801.4 ppb *Percent Change $Nt_{(NH3)}$ = -0.1%

Previous Response Nt = 1810.5 ppb NH3 = 1803.8 ppb * = > +/-5% change initiates investigation *Percent Change NH3 = -0.1%

NH3 Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated Nt concentration (ppb) (Cc)	Calculated NOX concentration (ppb) (Cc)	Calculated NH3 concentration (ppb) (Cc)	Indicated Nt concentration (ppb) (Ic)	Indicated NOX concentration (ppb) (Ic)	Indicated NH3 concentration (ppb) (Ic)	Nt Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NH3 Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibration zero	5000	0.0	0.0	0.0	0.0	-0.2	-0.1	-0.1	----	----
High point	2931	69.4	1799.8	0.0	1799.8	1808.2	6.9	1801.3	0.995	0.999
Mid point	2961	38.6	1001.0	0.0	1001.0	1010.8	4.3	1006.4	0.990	0.995
Low point	2981	19.3	500.5	0.0	500.5	510.9	2.8	508.1	0.980	0.985
								Average Correction Factor	0.9884	0.9930

NH3 Previous Converter Efficiency = 98.7 %

NH3 Current Converter Efficiency = 98.7 %

Notes: Changed the inlet filter after as founds. Adjusted the NOx, NO, NT span.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

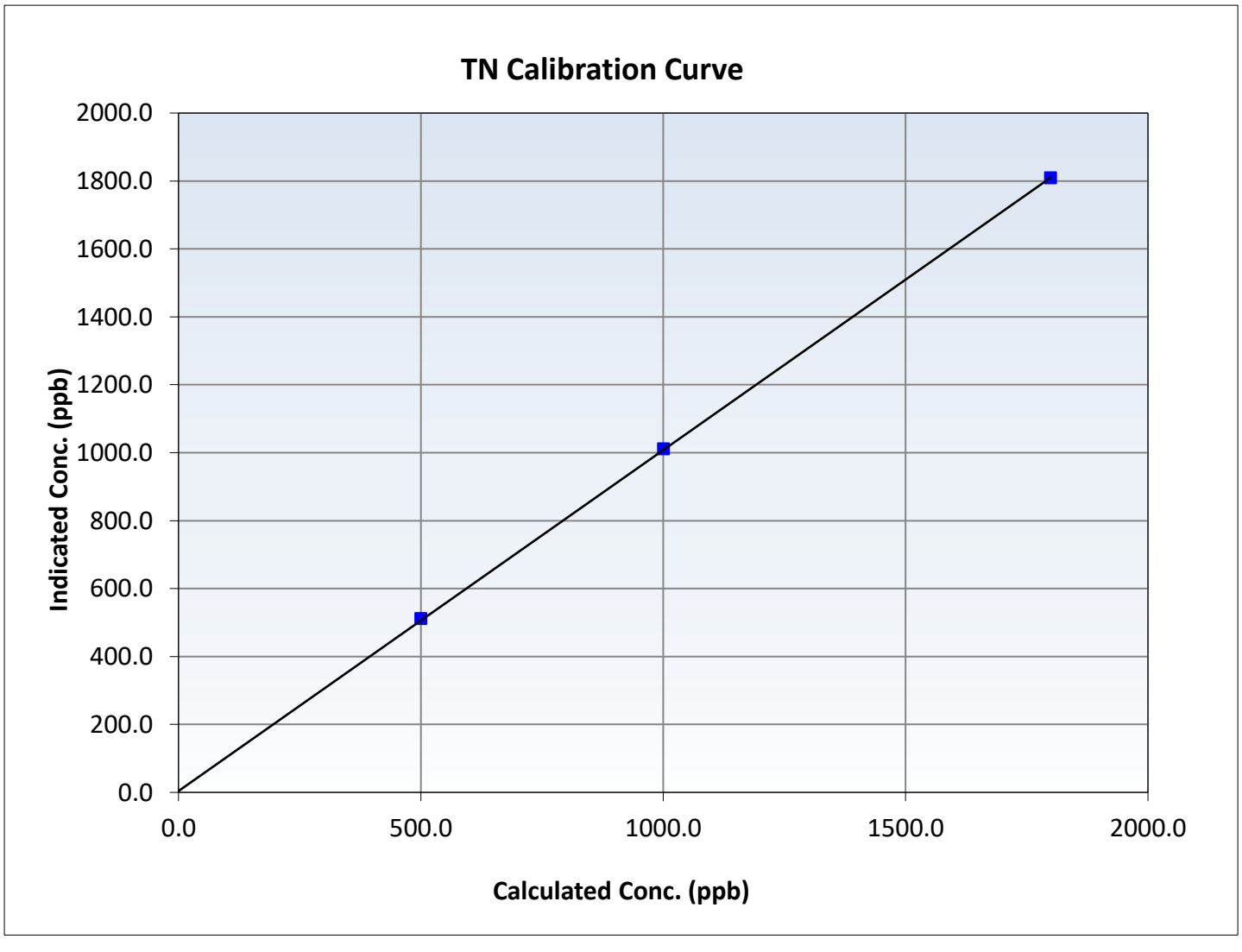
Nt Calibration Summary

Station Information

Calibration Date:	October 10, 2025	Previous Calibration:	September 4, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:32	End Time (MST):	15:21
Analyzer make:	API T201	Analyzer serial #:	475

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	-0.2	----	Correlation Coefficient	0.999973	*≥0.995*
1799.8	1808.2	0.9953	Slope	1.003803	*0.90 - 1.10*
1001.0	1010.8	0.9903			
500.5	510.9	0.9797	Intercept	3.958139	*+/-20*



Wood Buffalo Environmental Association

NH_3 Calibration Summary

Station Information

Calibration Date:	October 10, 2025	Previous Calibration:	September 4, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:32	End Time (MST):	15:21
Analyzer make:	API T201	Analyzer serial #:	475

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
1799.8	1801.3	0.9992
1001.0	1006.4	0.9947
500.5	508.1	0.9851

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999979	*≥0.995*
Slope	1.000028	*0.90 - 1.10*
Intercept	3.573310	*+/-20*

Wood Buffalo Environmental Association

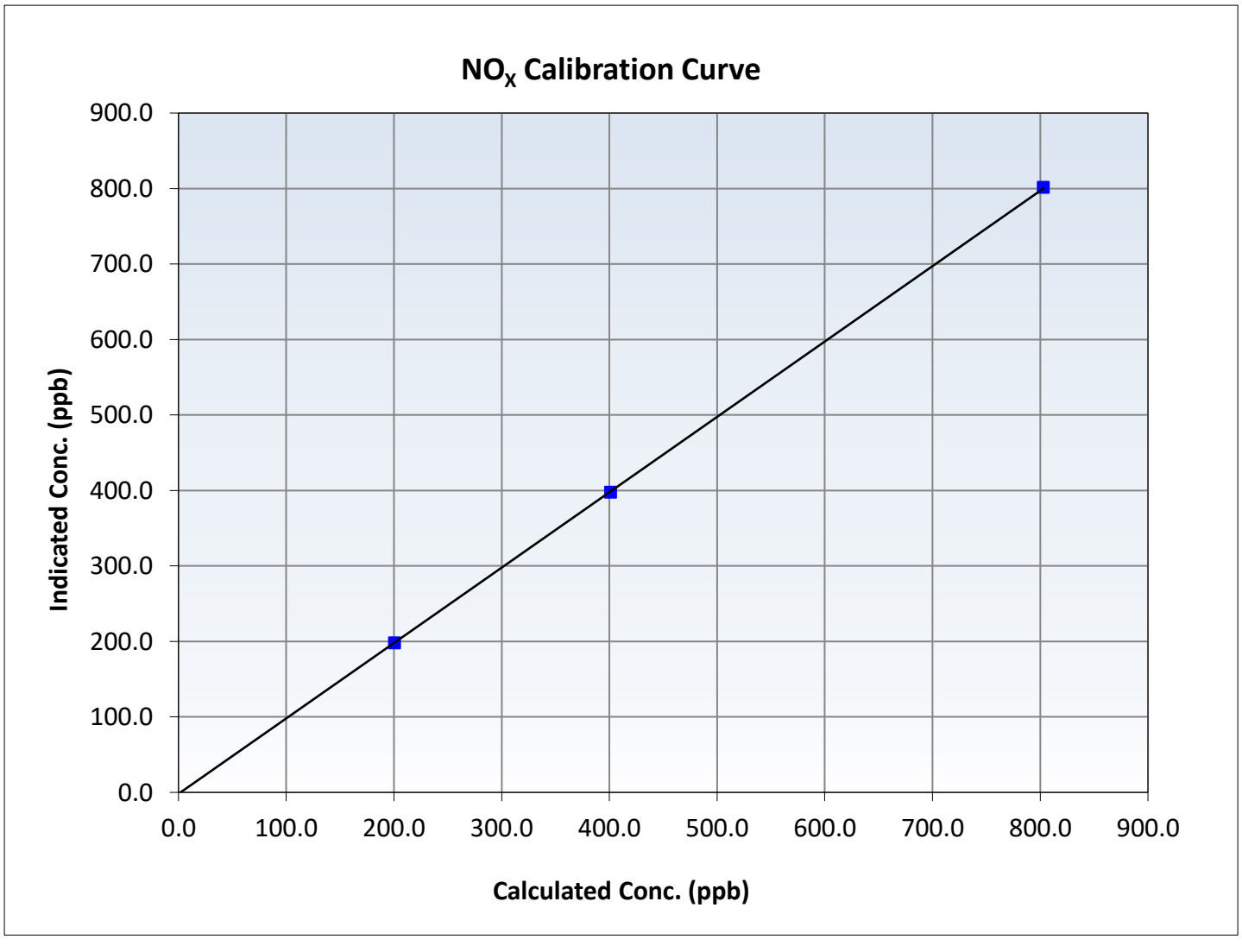
NO_X Calibration Summary

Station Information

Calibration Date:	October 9, 2025	Previous Calibration:	September 4, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:32	End Time (MST):	15:21
Analyzer make:	API T201	Analyzer serial #:	475

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	-0.1	----	Correlation Coefficient	0.999973	*≥0.995*
803.1	801.4	1.0021	Slope	0.998731	*0.90 - 1.10*
401.5	397.3	1.0107			
200.8	197.5	1.0166	Intercept	-1.880000	*+/-20*



Wood Buffalo Environmental Association

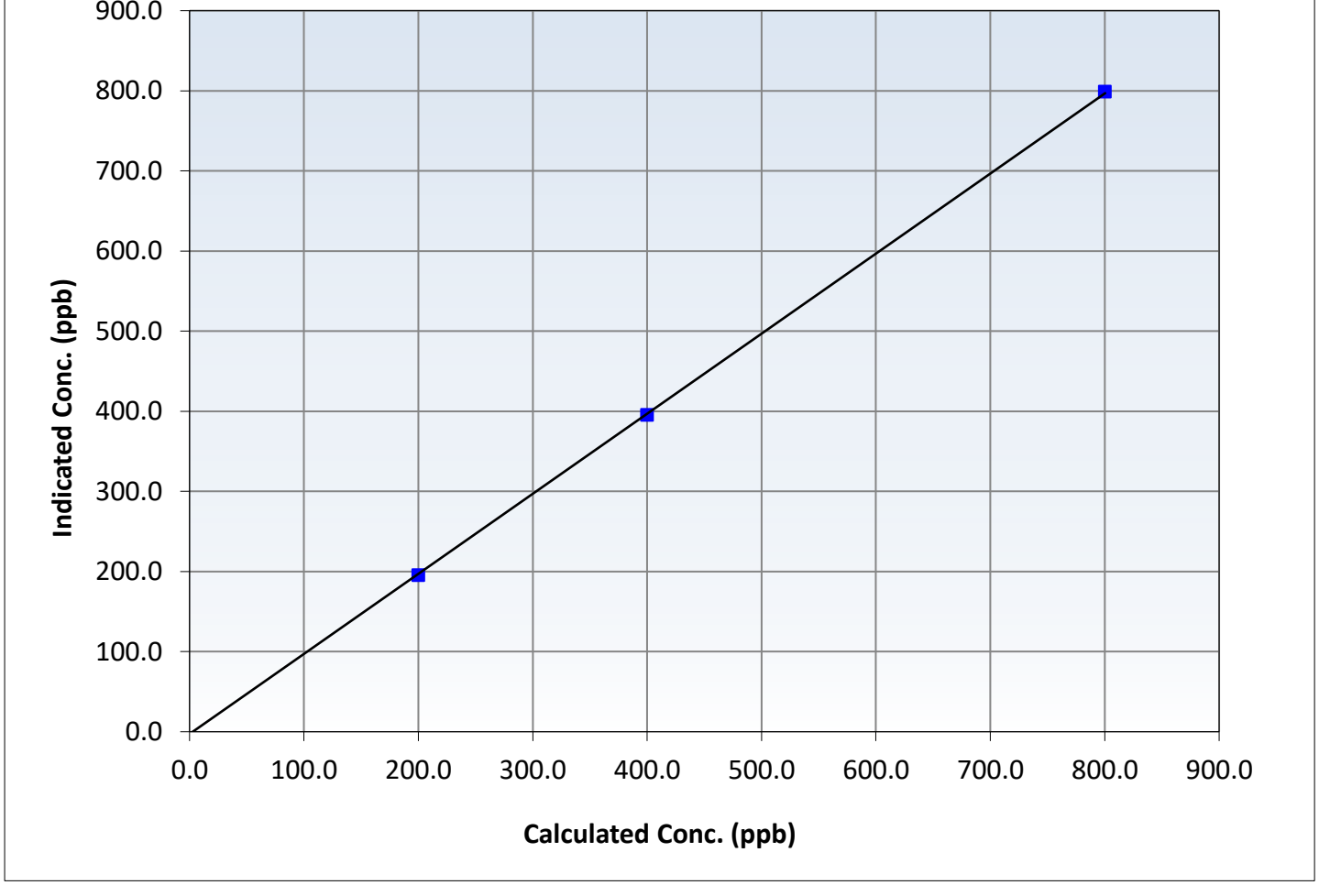
NO Calibration Summary

Station Information

Calibration Date:	October 9, 2025	Previous Calibration:	September 4, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:32	End Time (MST):	15:21
Analyzer make:	API T201	Analyzer serial #:	475

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	-0.1	----	Correlation Coefficient	0.999946	*≥0.995*
800.4	798.6	1.0022	Slope	0.999249	*0.90 - 1.10*
400.2	395.0	1.0131			
200.1	195.0	1.0261	Intercept	-2.780000	*+/-20*



Wood Buffalo Environmental Association

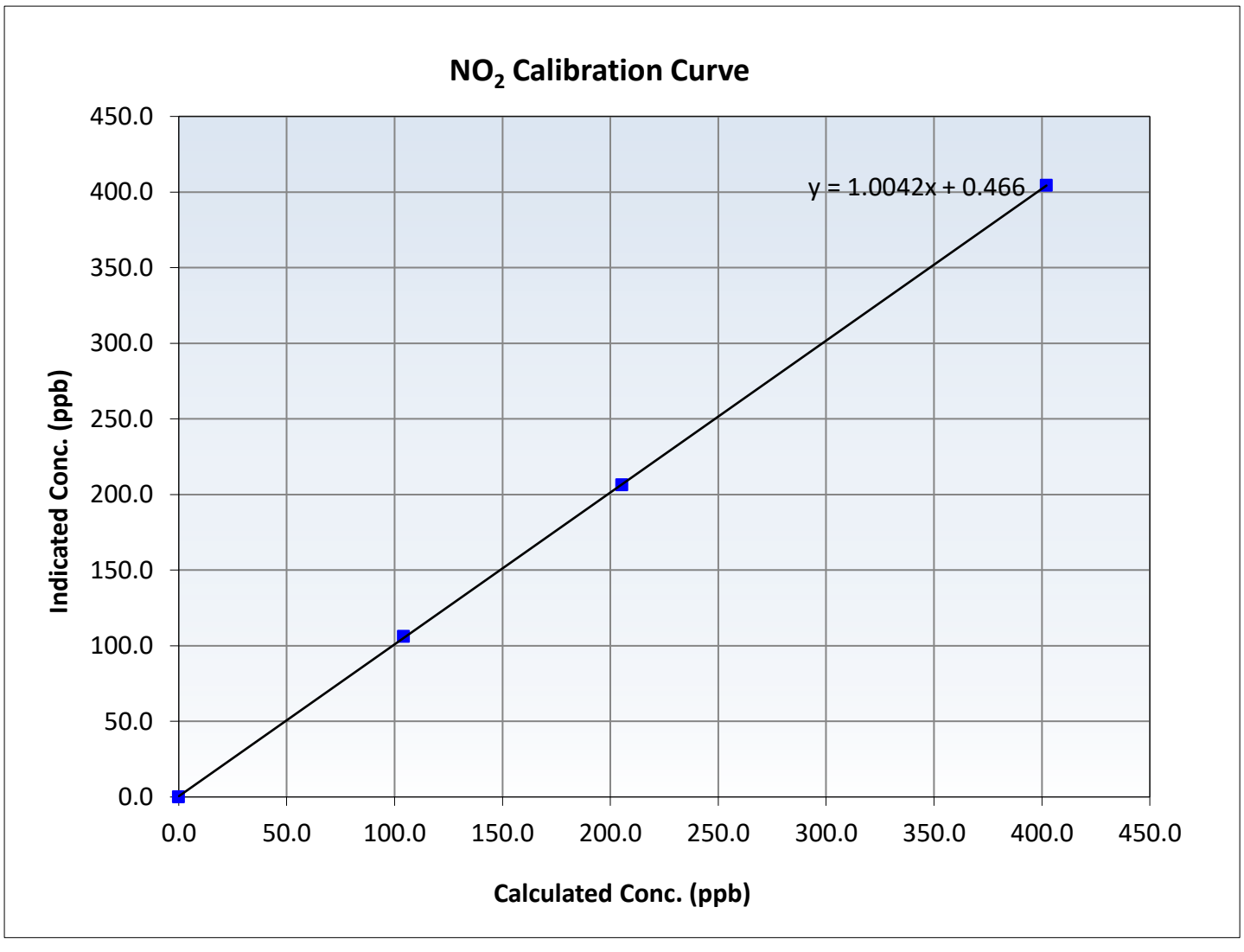
NO_2 Calibration Summary

Station Information

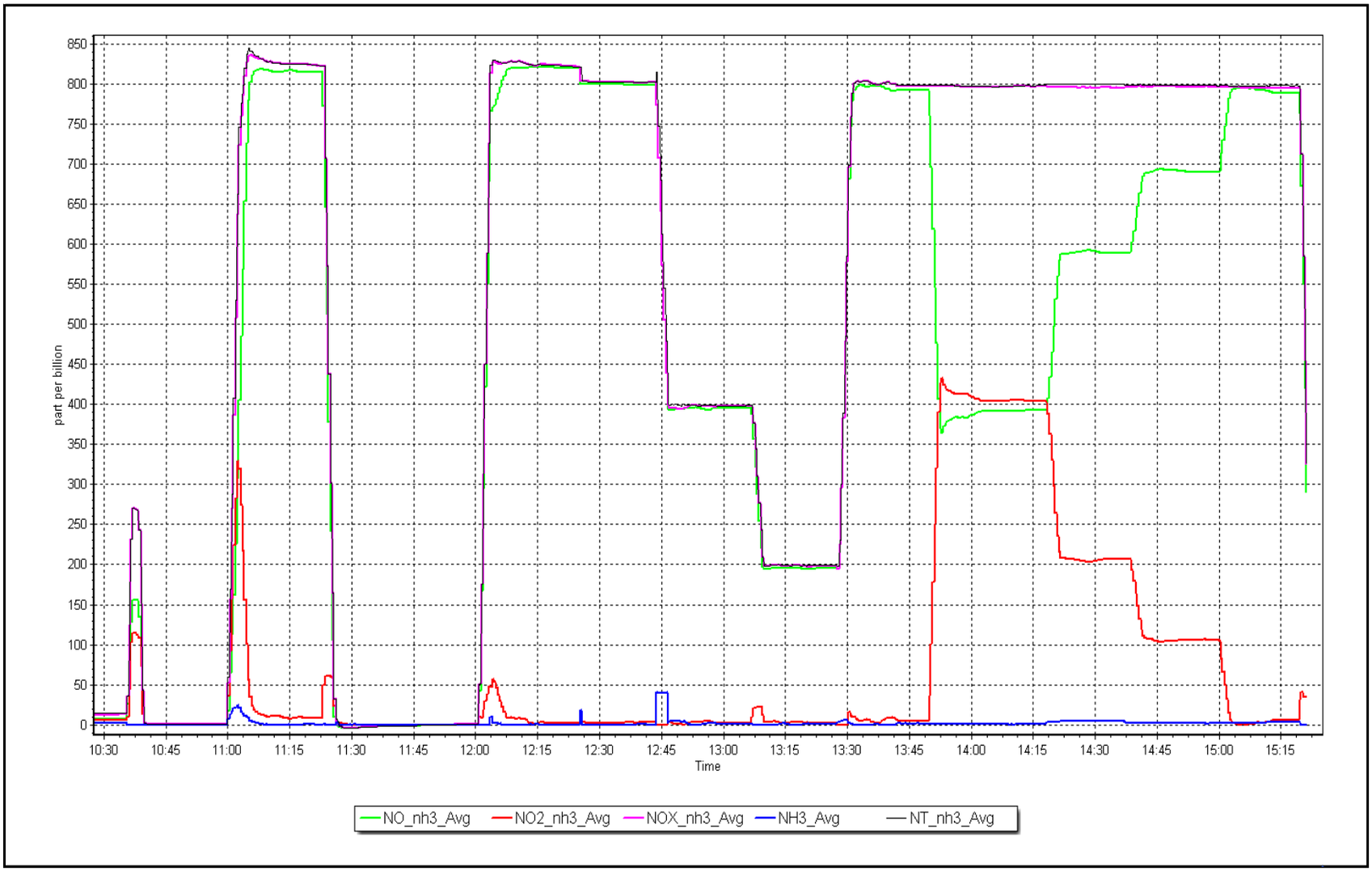
Calibration Date:	October 9, 2025	Previous Calibration:	September 4, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:32	End Time (MST):	15:21
Analyzer make:	API T201	Analyzer serial #:	475

Calibration Data

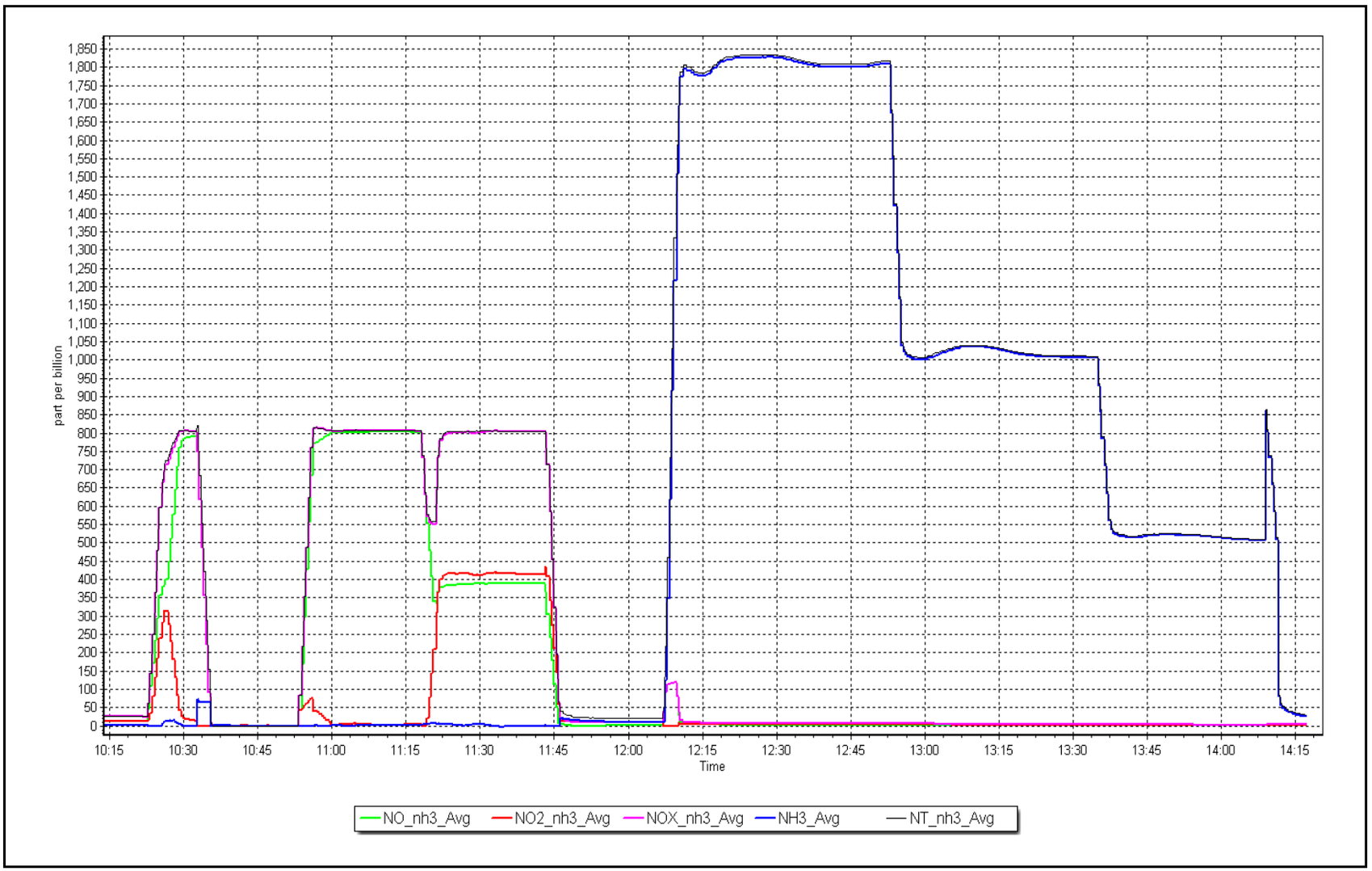
Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.0	----	Correlation Coefficient	0.999983	*≥0.995*
402.1	404.3	0.9946	Slope	1.004249	*0.90 - 1.10*
205.5	206.3	0.9961			
104.2	106.1	0.9821	Intercept	0.465952	*+/-20*



NO_X Calibration Plot Date: October 9, 2025 Location: Bertha Ganter-Fort McKay



NH_3 Calibration Plot Date: October 10, 2025 Location: Bertha Ganter-Fort McKay



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS02
MILDRED LAKE
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Mildred Lake	Station number:	AMS 02
Calibration Date:	October 30, 2025	Last Cal Date:	September 8, 2025
Start time (MST):	10:08	End time (MST):	14:44
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.99	ppm	Cal Gas Exp Date:	October 9, 2032
Cal Gas Cylinder #:	EB0112903			
Removed Cal Gas Conc:	50.99	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	1185
Zero Air Gen Model:	Teledyne API T701		Serial Number:	4891

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	JC1404901075	
Analyzer Range:	0-1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.007336	1.001740	Backgd or Offset:	24.8	24.2
Calibration intercept:	-1.470446	-0.210939	Coeff or Slope:	0.762	0.762

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.6	----
As found High point	4913	78.6	803.0	801.0	1.002
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	801.6	Previous response	807.4	*% change	-0.7%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4913	78.4	801.0	802.0	0.999
Mid point	4961	39.2	399.8	401.1	0.997
Low point	4980	19.6	199.9	198.9	1.005
As left zero	5000	0.0	0.0	0.1	----
As left span	4913	78.4	801.0	804.0	0.996
				Average Correction Factor:	1.000

Notes: Changed sample inlet filter after as founds. Adjusted zero.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

SO_2 Calibration Summary

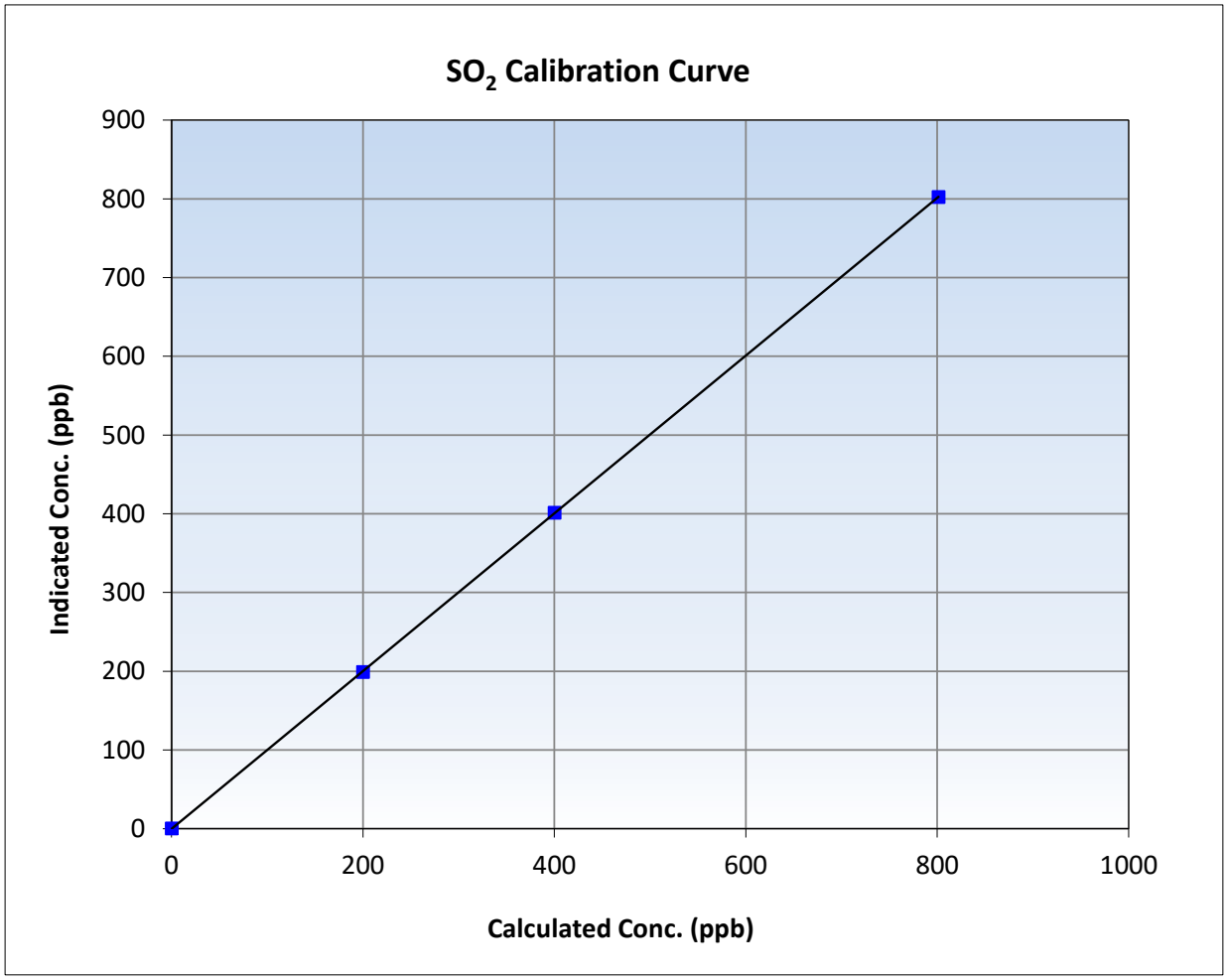
Station Information

Calibration Date:	October 30, 2025	Previous Calibration:	September 8, 2025
Station Name:	Mildred Lake	Station Number:	AMS 02
Start Time (MST):	10:08	End Time (MST):	14:44
Analyzer make:	Thermo 43i	Analyzer serial #:	JC1404901075

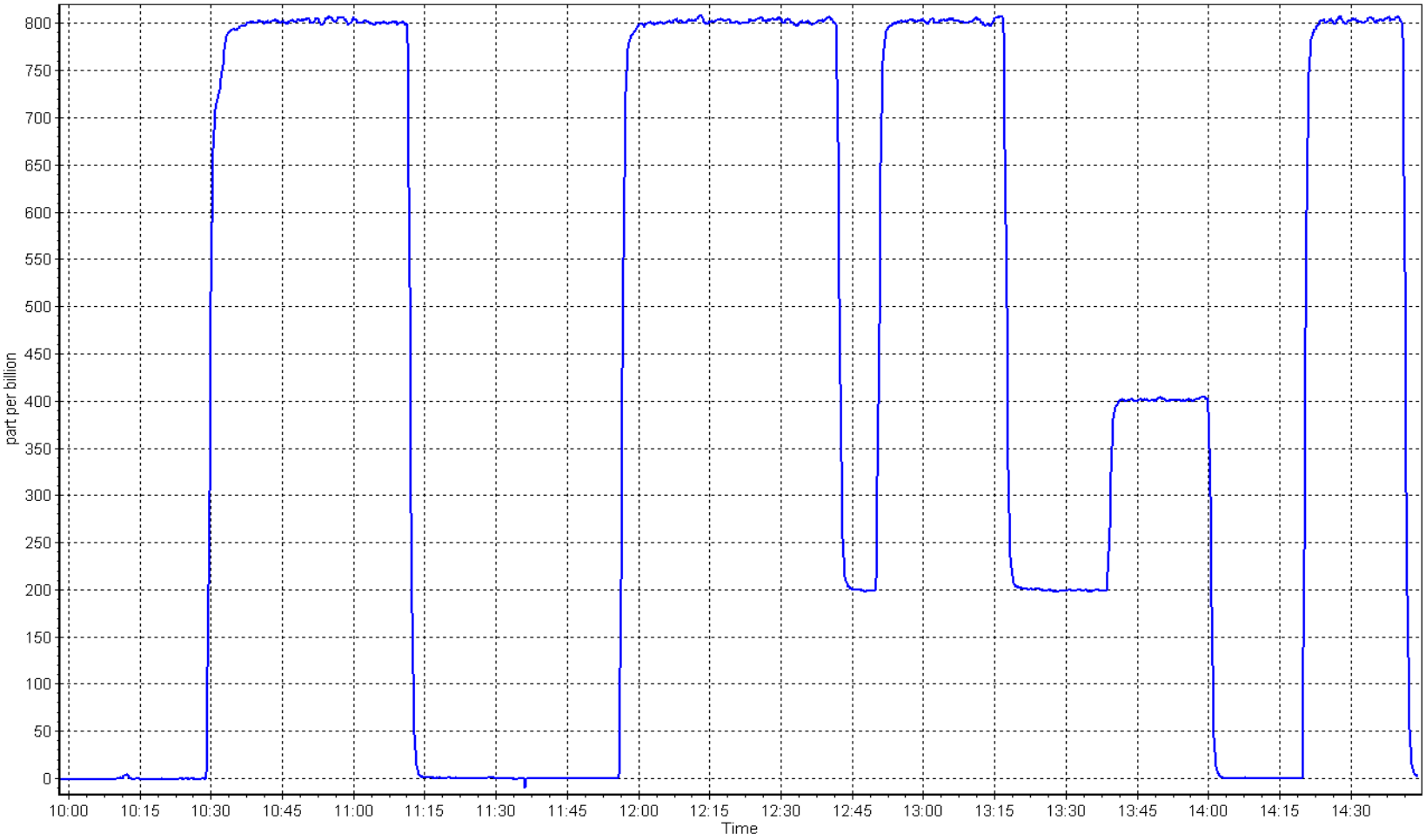
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
801.0	802.0	0.9987
399.8	401.1	0.9967
199.9	198.9	1.0049

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999994	*≥0.995*
Slope	1.001740	*0.90 - 1.10*
Intercept	-0.210939	*+/-30*



SO2 Calibration Plot Date: October 30, 2025 Location: Mildred Lake



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Mildred Lake	Station number:	AMS 02
Calibration Date:	October 22, 2025	Last Cal Date:	September 25, 2025
Start time (MST):	9:10	End time (MST):	13:29
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.75	ppm	Cal Gas Exp Date:	August 28, 2027
Cal Gas Cylinder #:	CC700774			
Removed Cal Gas Conc:	4.75	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	1185
ZAG Make/Model:	Teledyne API T701		Serial Number:	4891

Analyzer Information

Analyzer make:	Thermo 43iQTL		Analyzer serial #:	12333331546
Converter make:	Global G150		Converter serial #:	2023-267
Analyzer Range	0 - 100 ppb		Converter Temp:	325 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	0.997268	1.000125	Backgd or Offset:	1.39	1.39
Calibration intercept:	0.100000	0.000000	Coeff or Slope:	0.957	0.957

H2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.1	----
As found High point	4916	84.2	80.0	80.4	0.996
As found Mid point	4958	42.1	40.0	40.5	0.990
As found Low point	4979	21.1	20.0	20.1	1.000
New cylinder response					

Baseline Corr As found:	80.3	Prev response:	79.87	*% change:	0.5%
Baseline Corr 2nd AF pt:	40.4	AF Slope:	1.004554	AF Intercept:	0.120000
Baseline Corr 3rd AF pt:	20.0	AF Correlation:	0.999983	* = > +/-5% change initiates investigation	

H2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.1	----
High point	4916	84.2	80.0	80.1	0.999
Mid point	4958	42.1	40.0	39.8	1.005
Low point	4979	21.1	20.0	20.0	1.000
As left zero	5000	0.0	0.0	0.1	----
As left span	4916	84.2	80.0	80.4	0.995
SO2 Scrubber Check	4922	78.4	783.9	0.0	----
Date of last scrubber change:		July 16, 2024		Ave Corr Factor	1.001
Date of last converter efficiency test:		NA			

Notes: Changed sample inlet filter after multipoint as founds. SO2 scrubber check done and passed. No adjustments made.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

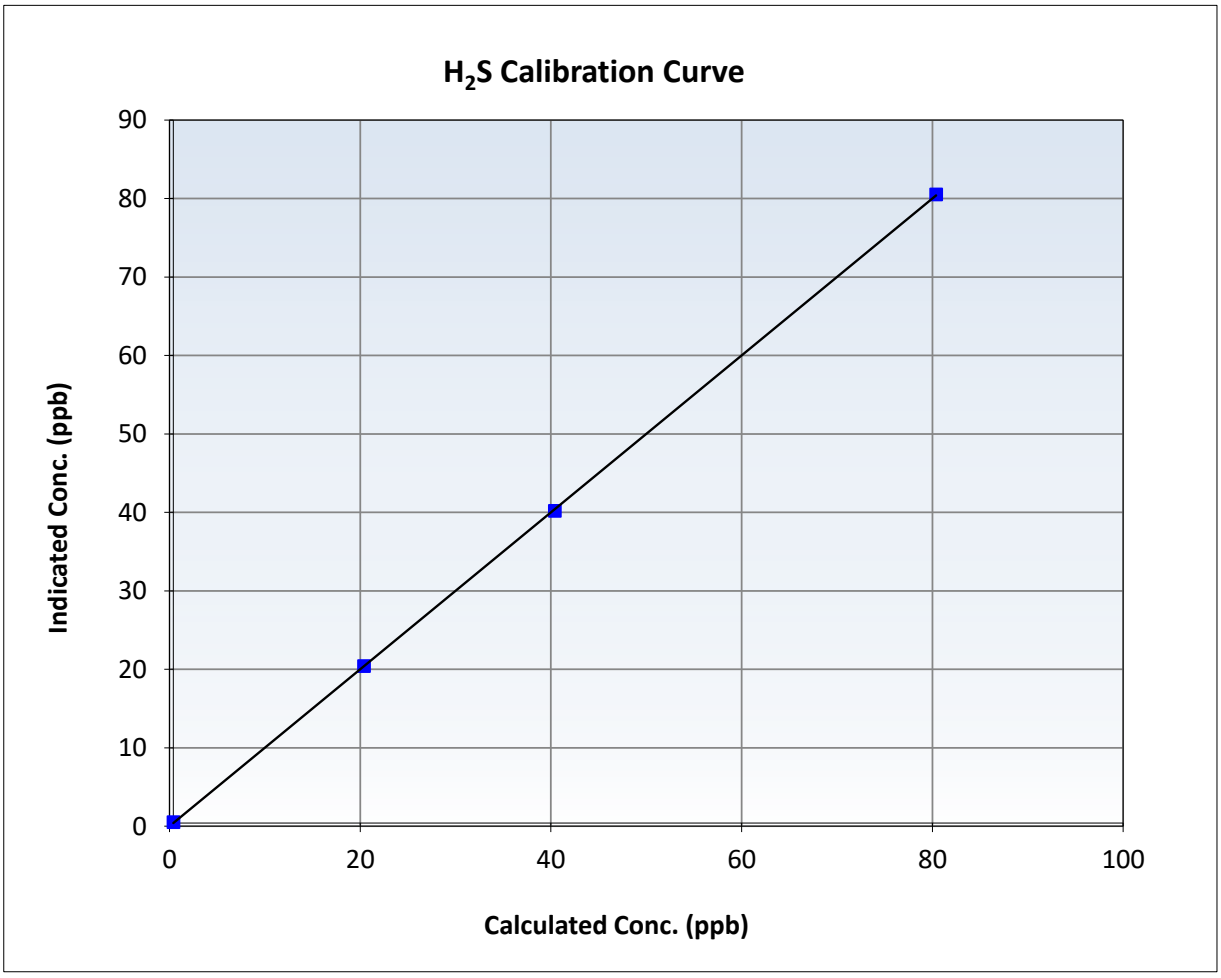
H2S Calibration Summary

Station Information

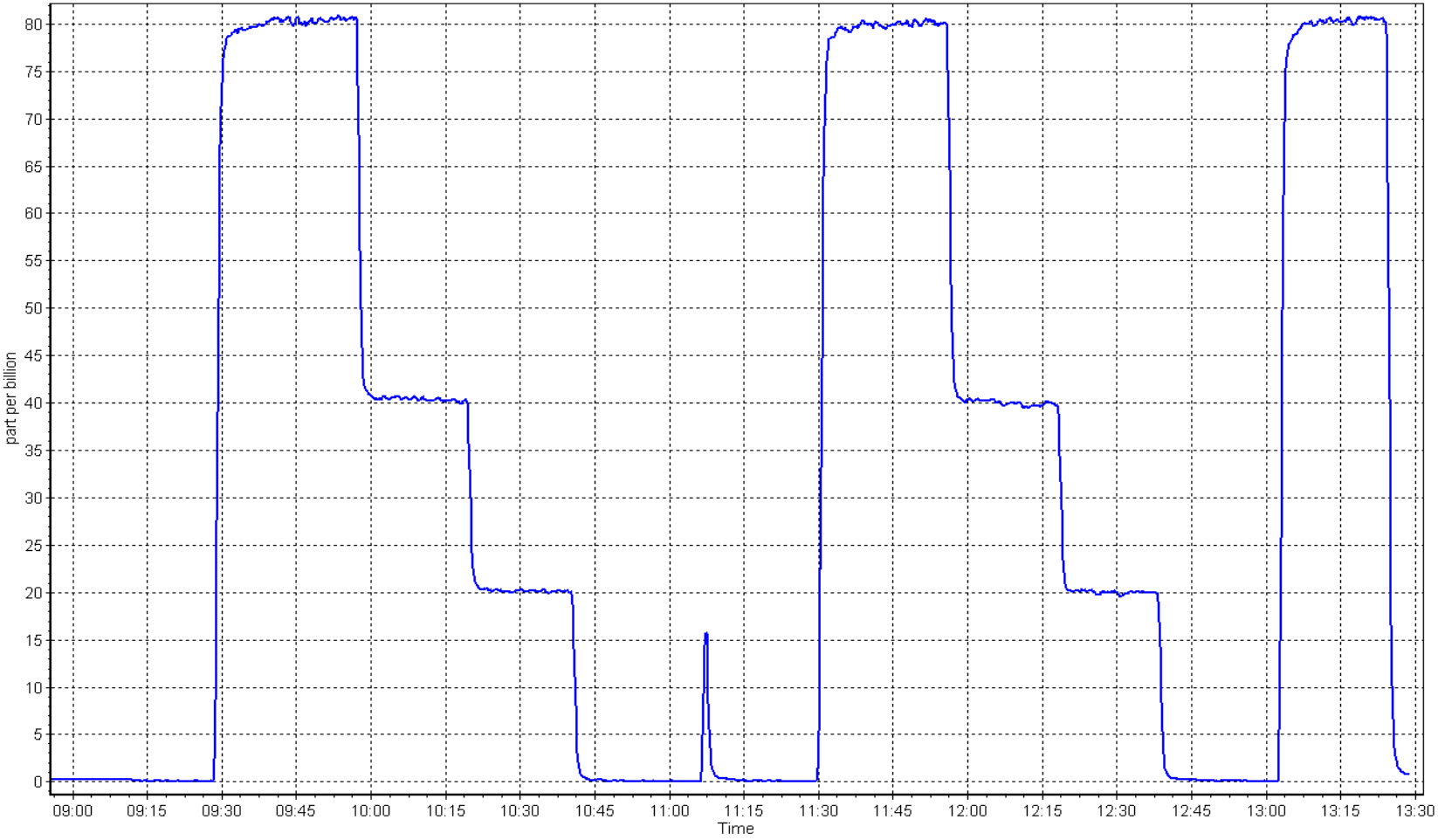
Calibration Date:	October 22, 2025	Previous Calibration:	September 25, 2025
Station Name:	Mildred Lake	Station Number:	AMS 02
Start Time (MST):	9:10	End Time (MST):	13:29
Analyzer make:	Thermo 43iQTL	Analyzer serial #:	12333331546

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999983	*≥0.995*
80.0	80.1	0.9986	Slope	1.000125	*0.90 - 1.10*
40.0	39.8	1.0049			
20.0	20.0	0.9999	Intercept	0.000000	*+/-3*



H2S Calibration Plot Date: October 22, 2025 Location: Mildred Lake



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Mildred Lake	Station number:	AMS 02
Calibration Date:	October 30, 2025	Last Cal Date:	September 24, 2025
Start time (MST):	10:08	End time (MST):	14:44
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	EB0112903	Cal Gas Expiry Date:	October 9, 2032
CH4 Cal Gas Conc.	503.1 ppm	CH4 Equiv Conc.	1067.1 ppm
C3H8 Cal Gas Conc.	205.1 ppm		
Removed Gas Cert:		Removed Gas Expiry:	
Removed CH4 Conc.	503.1 ppm	CH4 Equiv Conc.	1067.1 ppm
Removed C3H8 Conc.	205.1 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	Teledyne API T700	Serial Number:	1185
Zero Air Gen model:	Teledyne API T701	Serial Number:	4891

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1180320040
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	4.77E-04	5.10E-04	NMHC SP Ratio:	7.77E-05	7.72E-05
CH4 Retention time:	15.9	15.9	NMHC Peak Area:	113819	114549
Zero Chromatogram:	ON	ON	Flat Baseline:	ON	ON

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4922	78.4	16.73	16.13	1.037
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.13	Prev response	16.61	*% change	-3.0%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	
High point	4922	78.4	16.73	16.75	0.999
Mid point	4961	39.2	8.37	8.42	0.994
Low point	4980	19.6	4.18	4.10	1.021
As left zero	5000	0.0	0.00	0.00	----
As left span	4922	78.4	16.73	16.80	0.996
				Average Correction Factor	1.004

Notes: Changed sample inlet filter and nitrogen cylinder after as founds. Adjusted zero and span.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4922	78.4	8.84	8.82	1.003
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.82	Prev response	8.78	*% change	0.5%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4922	78.4	8.84	8.81	1.004
Mid point	4961	39.2	4.42	4.45	0.993
Low point	4980	19.6	2.21	2.17	1.021
As left zero	5000	0.0	0.00	0.00	----
As left span	4922	78.4	8.84	8.78	1.007
				Average Correction Factor	1.006

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4922	78.4	7.89	7.31	1.079
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.31	Prev response	7.83	*% change	-7.2%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4922	78.4	7.89	7.94	0.993
Mid point	4961	39.2	3.94	3.97	0.994
Low point	4980	19.6	1.97	1.93	1.020
As left zero	5000	0.0	0.00	0.00	----
As left span	4922	78.4	7.89	8.02	0.984
				Average Correction Factor	1.003

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	0.994593	1.003248
THC Cal Offset:	-0.031065	-0.026669
CH4 Cal Slope:	0.997093	1.008814
CH4 Cal Offset:	-0.032325	-0.021527
NMHC Cal Slope:	0.992144	0.998283
NMHC Cal Offset:	0.002860	-0.005142

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

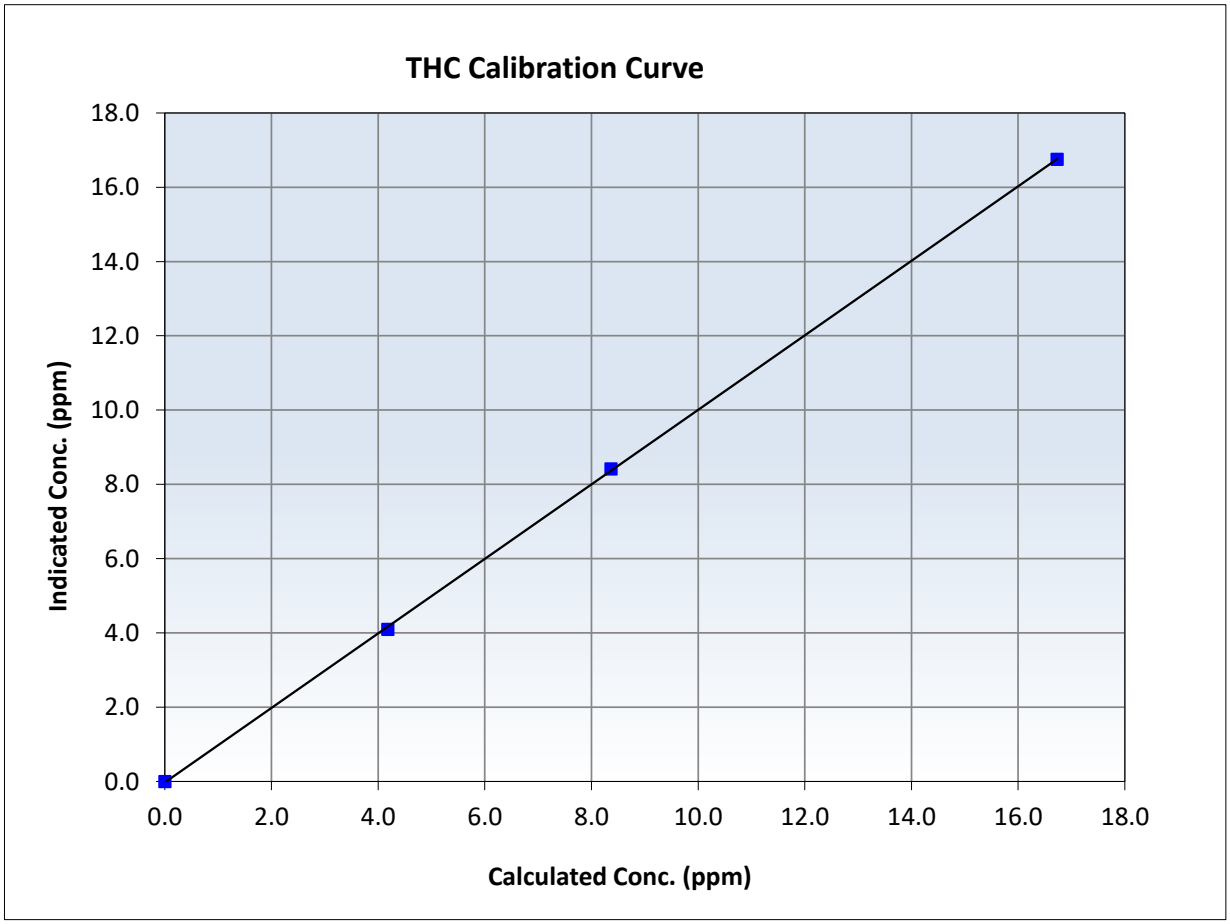
THC Calibration Summary

Station Information

Calibration Date:	October 30, 2025	Previous Calibration:	September 24, 2025
Station Name:	Mildred Lake	Station Number:	AMS 02
Start Time (MST):	10:08	End Time (MST):	14:44
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320040

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999944	≥0.995
16.73	16.75	0.9989	Slope	1.003248	0.90 - 1.10
8.37	8.42	0.9936			
4.18	4.10	1.0205	Intercept	-0.026669	+/-0.5



Wood Buffalo Environmental Association

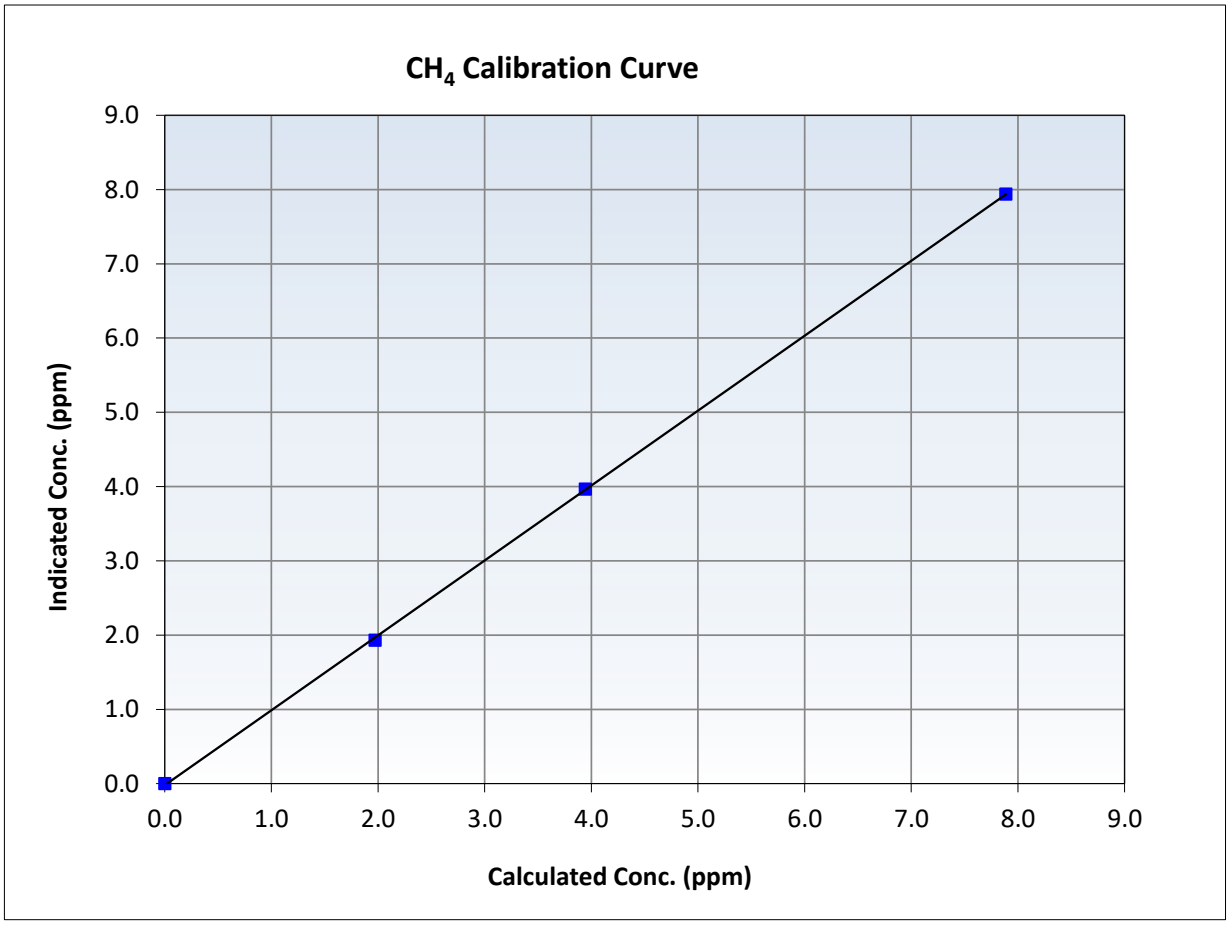
CH_4 Calibration Summary

Station Information

Calibration Date:	October 30, 2025	Previous Calibration:	September 24, 2025
Station Name:	Mildred Lake	Station Number:	AMS 02
Start Time (MST):	10:08	End Time (MST):	14:44
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320040

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999948	*≥0.995*
7.89	7.94	0.9934	Slope	1.008814	*0.90 - 1.10*
3.94	3.97	0.9943			
1.97	1.93	1.0203	Intercept	-0.021527	*+/-0.5*



Wood Buffalo Environmental Association

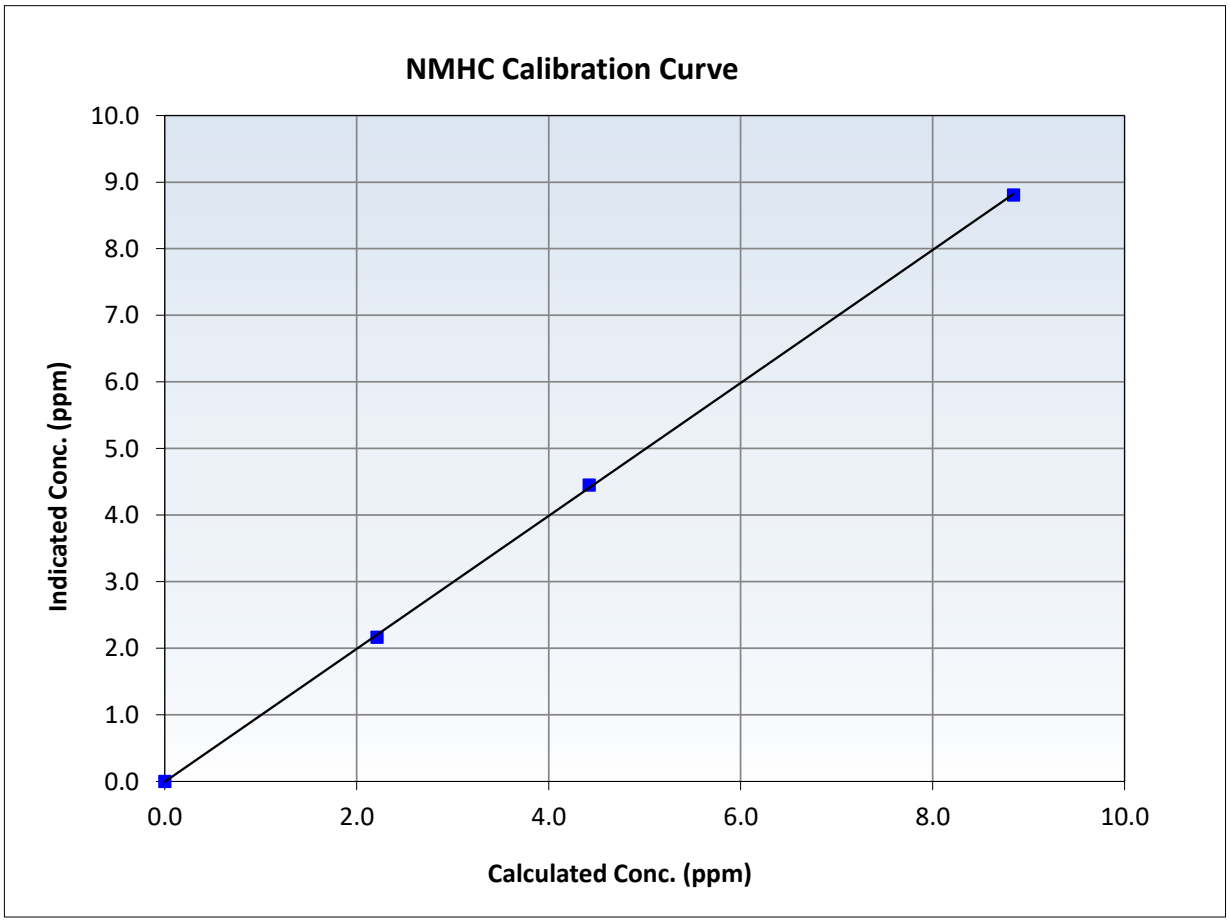
NMHC Calibration Summary

Station Information

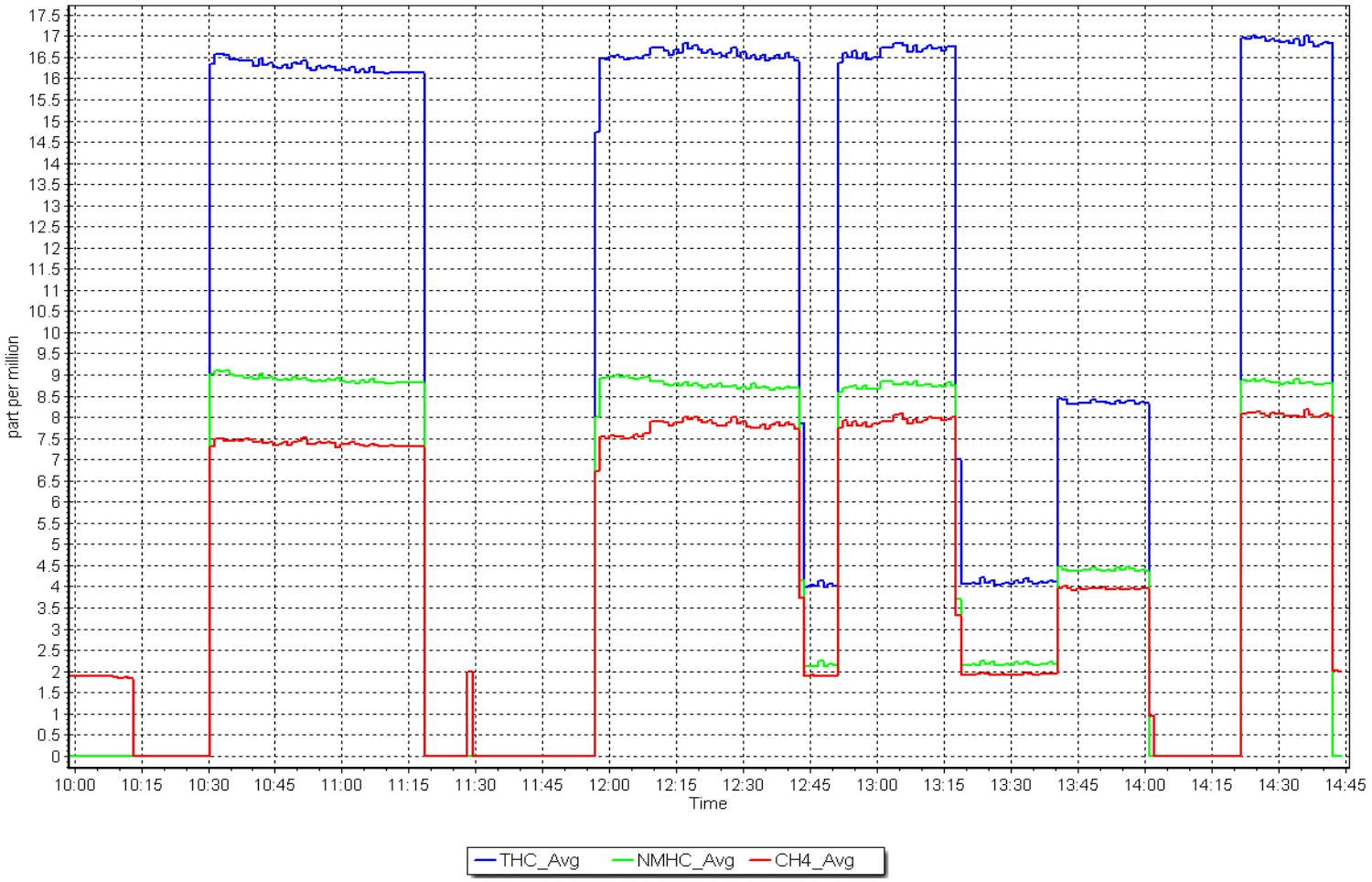
Calibration Date:	October 30, 2025	Previous Calibration:	September 24, 2025
Station Name:	Mildred Lake	Station Number:	AMS 02
Start Time (MST):	10:08	End Time (MST):	14:44
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320040

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999920	≥0.995
8.84	8.81	1.0038	Slope	0.998283	0.90 - 1.10
4.42	4.45	0.9930	Intercept	-0.005142	+/-0.5
2.21	2.17	1.0208			



NMHC Calibration Plot Date: October 30, 2025 Location: Mildred Lake



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS04
BUFFALO VIEWPOINT
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Buffalo Viewpoint	Station number:	AMS 04
Calibration Date:	October 22, 2025	Last Cal Date:	September 8, 2025
Start time (MST):	6:43	End time (MST):	8:05
Reason:	Removal		

Calibration Standards

Cal Gas Concentration:	50.87	ppm	Cal Gas Exp Date:	March 10, 2031
Cal Gas Cylinder #:	CC446753			
Removed Cal Gas Conc:	50.87	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	3808
Zero Air Gen Model:	Teledyne API T701		Serial Number:	362

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	JC1327300932	
Analyzer Range:	0-1000ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.000929		Backgd or Offset:	27.5	27.5
Calibration intercept:	0.454838		Coeff or Slope:	0.875	0.875

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.6	----
As found High point	4921	78.6	799.7	792.4	1.010
As found Mid point	4961	39.3	399.8	396.6	1.010
As found Low point	4980	19.6	199.4	198.6	1.007
New cylinder response					
Baseline Corr As found:	791.8	Previous response	800.9	*% change	-1.2%
Baseline Corr 2nd AF pt:	396.0	AF Slope:	0.989856	AF Intercept:	0.852689
Baseline Corr 3rd AF pt:	198.0	AF Correlation:	0.999999	* = > +/-5% change initiates investigation	

SO_2 Calibration Data

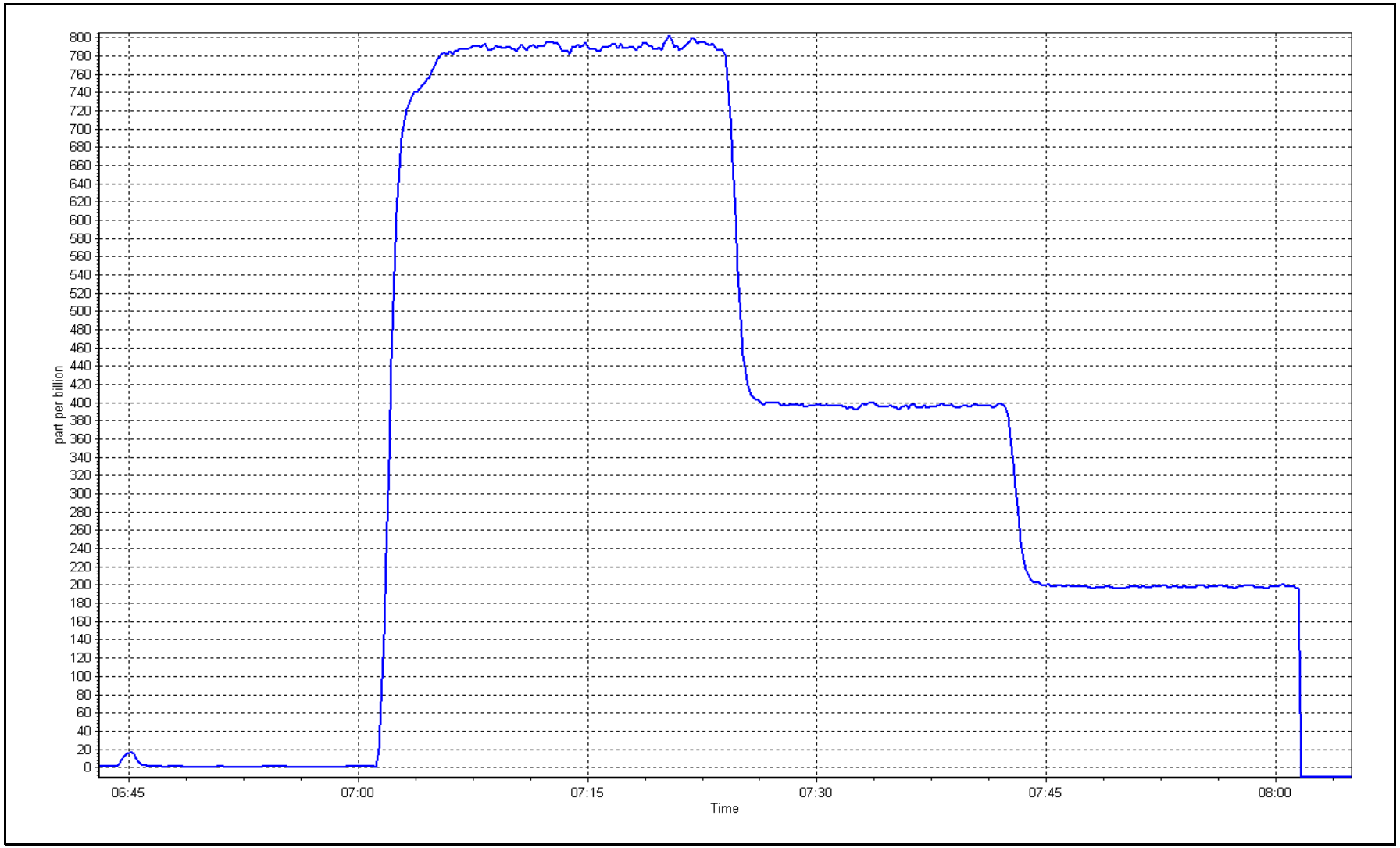
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero					
As left span					

Average Correction Factor:

Notes: Removed Due to lamp intensitynot being stable and going from 83-102%.

Calibration Performed By: Melissa Lemay

SO2 Calibration Plot Date: October 22, 2025 Location: Buffalo Viewpoint



Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Buffalo Viewpoint	Station number:	AMS 04
Calibration Date:	October 22, 2025	Last Cal Date:	
Start time (MST):	8:40	End time (MST):	10:44
Reason:	Install		

Calibration Standards

Cal Gas Concentration:	50.87	ppm	Cal Gas Exp Date:	March 10, 2031
Cal Gas Cylinder #:	CC446753			
Removed Cal Gas Conc:	50.87	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	3808
Zero Air Gen Model:	Teledyne API T701		Serial Number:	362

Analyzer Information

Analyzer make:	Thermo 43i-LTE		Serial Number:	1410661331	
Analyzer Range:	0-1000ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:		0.997583	Backgd or Offset:		1.9
Calibration intercept:		1.875213	Coeff or Slope:		1.013

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	NA	Previous response	NA	*% change	NA
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.1	----
High point	4921	78.6	799.7	798.9	1.001
Mid point	4961	39.3	399.8	401.3	0.996
Low point	4980	19.6	199.4	202.8	0.983
As left zero	5000	0.0	0.0	0.1	----
As left span	4921	78.6	799.7	799.8	1.000
				Average Correction Factor:	0.994

Notes: Install Due to old Thermo 43i not working properly. Zero and Span Adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

SO_2 Calibration Summary

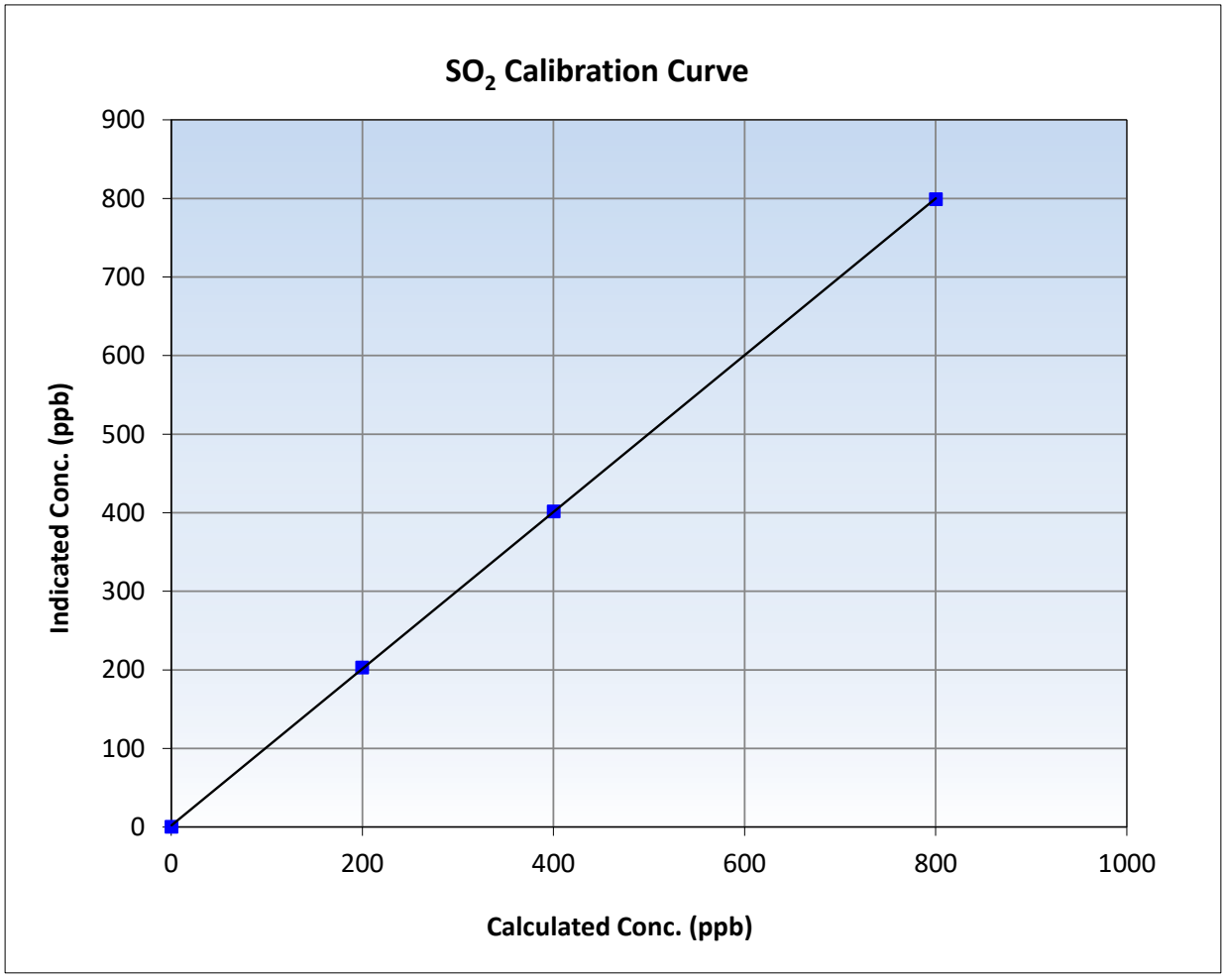
Station Information

Calibration Date:	October 22, 2025	Previous Calibration:	
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	8:40	End Time (MST):	10:44
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1410661331

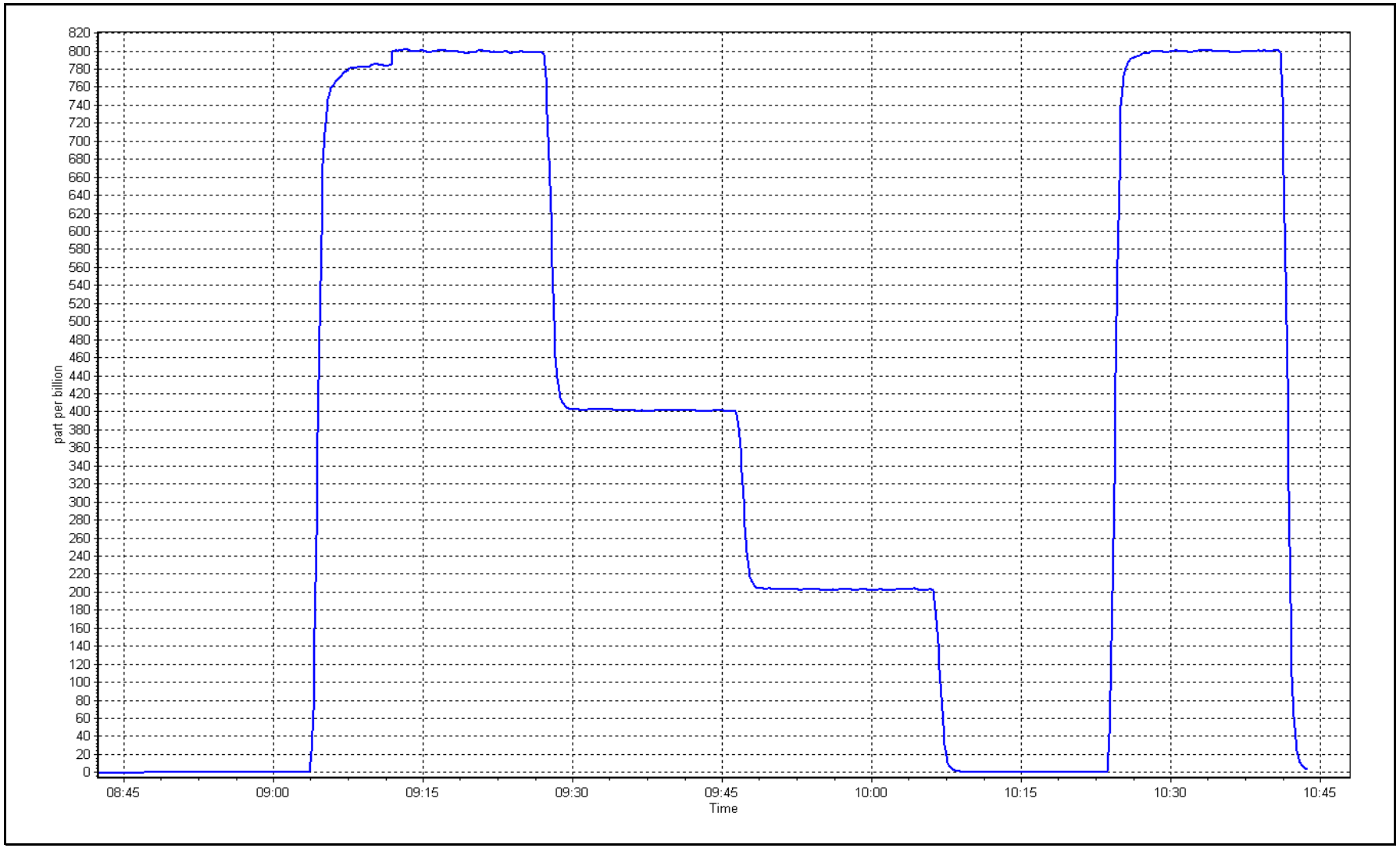
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
799.7	798.9	1.0011
399.8	401.3	0.9963
199.4	202.8	0.9834

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999977	*≥0.995*
Slope	0.997583	*0.90 - 1.10*
Intercept	1.875213	*+/-30*



SO2 Calibration Plot Date: October 22, 2025 Location: Buffalo Viewpoint



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Buffalo Viewpoint	Station number:	AMS 04
Calibration Date:	October 3, 2025	Last Cal Date:	September 3, 2025
Start time (MST):	5:55	End time (MST):	10:22
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.80	ppm	Cal Gas Exp Date:	August 28, 2027
Cal Gas Cylinder #:	DT0037528			
Removed Cal Gas Conc:	4.80	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	3808
ZAG Make/Model:	Teledyne API T701H		Serial Number:	362

Analyzer Information

Analyzer make:	Thermo 43i-LTE		Analyzer serial #:	1008841400	
Converter make:	Global		Converter serial #:	2022-200	
Analyzer Range	0 - 100 ppb		Converter Temp:	325	degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	0.998433	0.993002	Backgd or Offset:	1.86	1.86
Calibration intercept:	0.138223	-0.021732	Coeff or Slope:	1.077	1.077

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.0	----
As found High point	4917	83.3	80.0	80.7	0.991
As found Mid point	4958	41.7	40.0	40.4	0.991
As found Low point	4979	20.8	20.0	20.1	0.993
New cylinder response					

Baseline Corr As found:	80.7	Prev response:	79.98	*% change:	0.9%
Baseline Corr 2nd AF pt:	40.4	AF Slope:	1.009436	AF Intercept:	-0.021789
Baseline Corr 3rd AF pt:	20.1	AF Correlation:	0.999999	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4917	83.3	80.0	79.4	1.007
Mid point	4958	41.7	40.0	39.7	1.008
Low point	4979	20.8	20.0	19.8	1.009
As left zero	5000	0.0	0.0	0.1	----
As left span	4917	83.3	80.0	78.0	1.025
SO2 Scrubber Check	4920	80.0	800.0	0.0	----
Date of last scrubber change:		16-May-23		Ave Corr Factor	1.008
Date of last converter efficiency test:					

Notes: Sox scrubber checked after calibrator zero. No adjustments done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

H_2S Calibration Summary

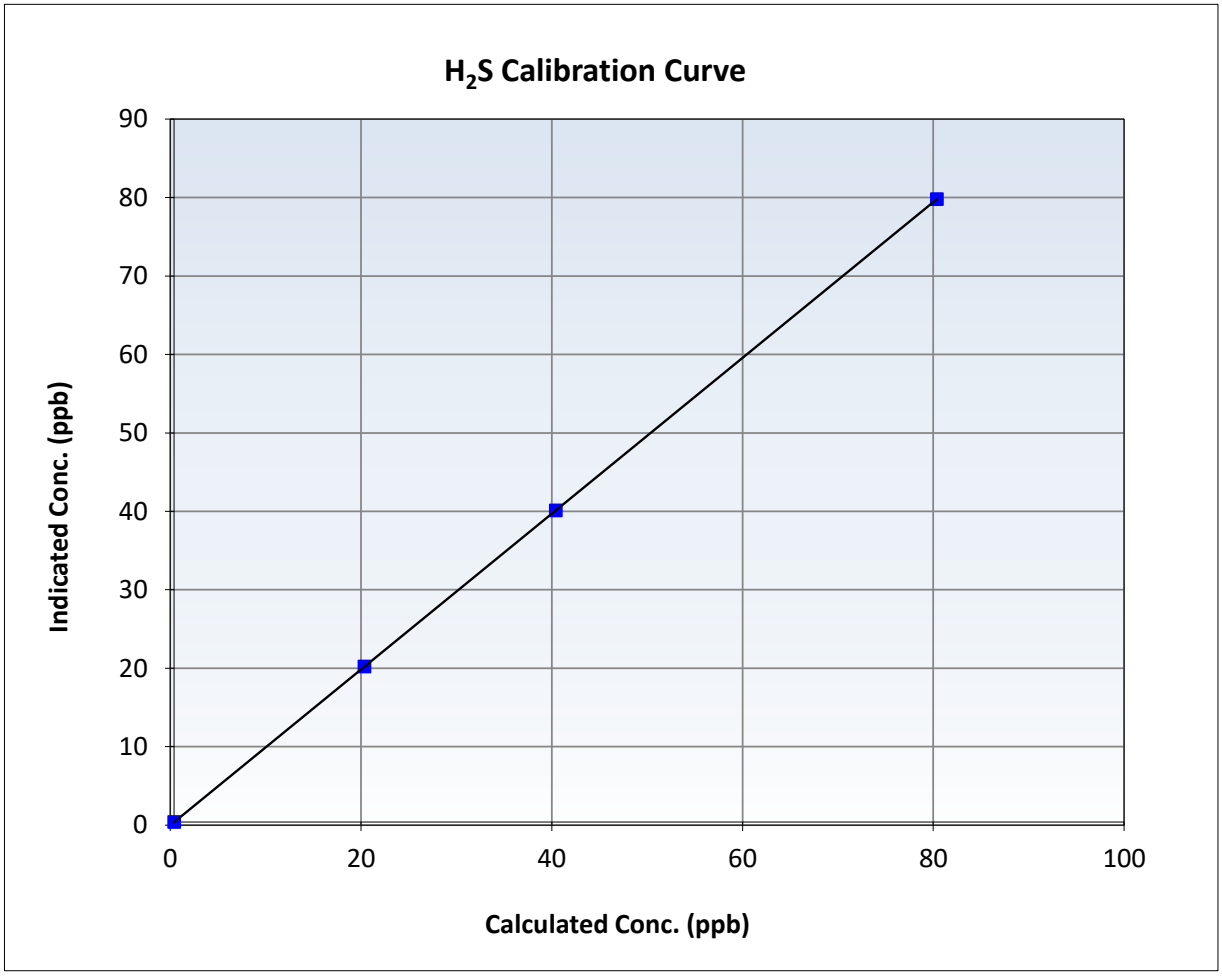
Station Information

Calibration Date:	October 3, 2025	Previous Calibration:	September 3, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	5:55	End Time (MST):	10:22
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1008841400

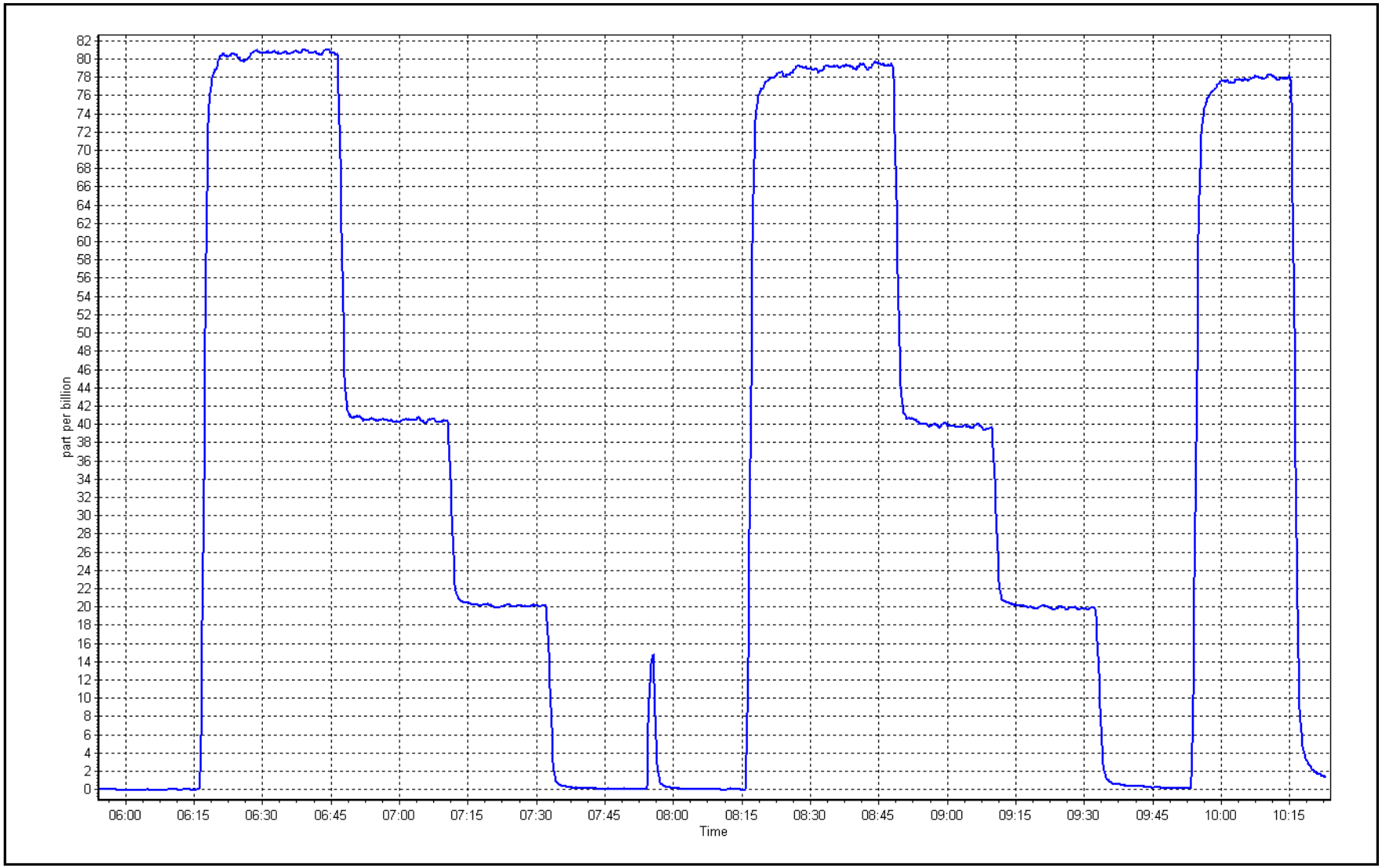
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
80.0	79.4	1.0071
40.0	39.7	1.0084
20.0	19.8	1.0085

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	0.993002	*0.90 - 1.10*
Intercept	-0.021732	*+/-3*



H_2S Calibration Plot Date: October 3, 2025 Location: Buffalo Viewpoint



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Buffalo Viewpoint	Station number:	AMS 04
Calibration Date:	October 7, 2025	Last Cal Date:	September 8, 2025
Start time (MST):	6:00	End time (MST):	8:48
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC446753	Cal Gas Expiry Date:	March 10, 2031
CH4 Cal Gas Conc.	497.2 ppm	CH4 Equiv Conc.	1058.2 ppm
C3H8 Cal Gas Conc.	204.0 ppm		
Removed Gas Cert:		Removed Gas Expiry:	
Removed CH4 Conc.	497.2 ppm	CH4 Equiv Conc.	1058.2 ppm
Removed C3H8 Conc.	204.0 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	Teledyne API T700	Serial Number:	3808
Zero Air Gen model:	Teledyne API T701	Serial Number:	362

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1180320038
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	3.35E-04	3.41E-04	NMHC SP Ratio:	5.73E-04	5.81E-04
CH4 Retention time:	15.4	15.2	NMHC Peak Area:	153813	151711
Zero Chromatogram:	OFF	OFF	Flat Baseline:	ON	ON

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	78.6	16.64	16.42	1.013
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	16.42	Prev response	16.62	*% change	-1.3%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	78.6	16.64	16.65	0.999
Mid point	4961	39.3	8.32	8.26	1.007
Low point	4980	19.6	4.15	4.12	1.008
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.6	16.64	16.64	1.000
				Average Correction Factor	1.005

Notes: Span adjusted. No maintenance done.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	78.6	8.82	8.71	1.012
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.71	Prev response	8.82	*% change	-1.2%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	78.6	8.82	8.82	1.001
Mid point	4961	39.3	4.41	4.40	1.003
Low point	4980	19.6	2.20	2.20	0.998
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.6	8.82	8.80	1.002
				Average Correction Factor	1.000

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	78.6	7.82	7.70	1.015
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.70	Prev response	7.80	*% change	-1.3%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	78.6	7.82	7.83	0.998
Mid point	4961	39.3	3.91	3.86	1.012
Low point	4980	19.6	1.95	1.91	1.019
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.6	7.82	7.84	0.997
				Average Correction Factor	1.010

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	1.001007	1.001164
THC Cal Offset:	-0.029740	-0.027136
CH4 Cal Slope:	1.001396	1.003179
CH4 Cal Offset:	-0.025908	-0.027504
NMHC Cal Slope:	1.000584	0.999132
NMHC Cal Offset:	-0.004032	0.000568

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

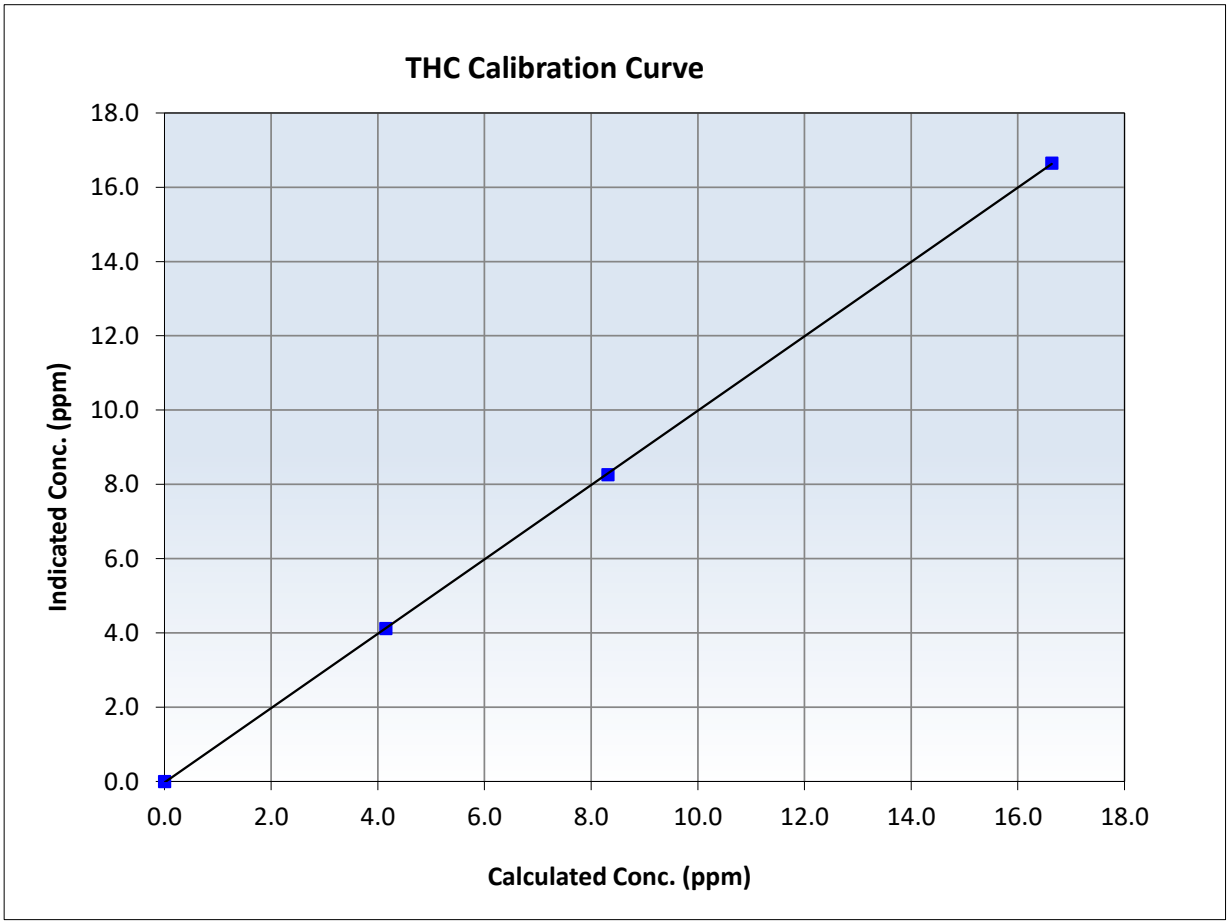
THC Calibration Summary

Station Information

Calibration Date:	October 7, 2025	Previous Calibration:	September 8, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	6:00	End Time (MST):	8:48
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320038

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999980	*≥0.995*
16.64	16.65	0.9991	Slope	1.001164	*0.90 - 1.10*
8.32	8.26	1.0070	Intercept	-0.027136	*+/-0.5*
4.15	4.12	1.0076			



Wood Buffalo Environmental Association

CH_4 Calibration Summary

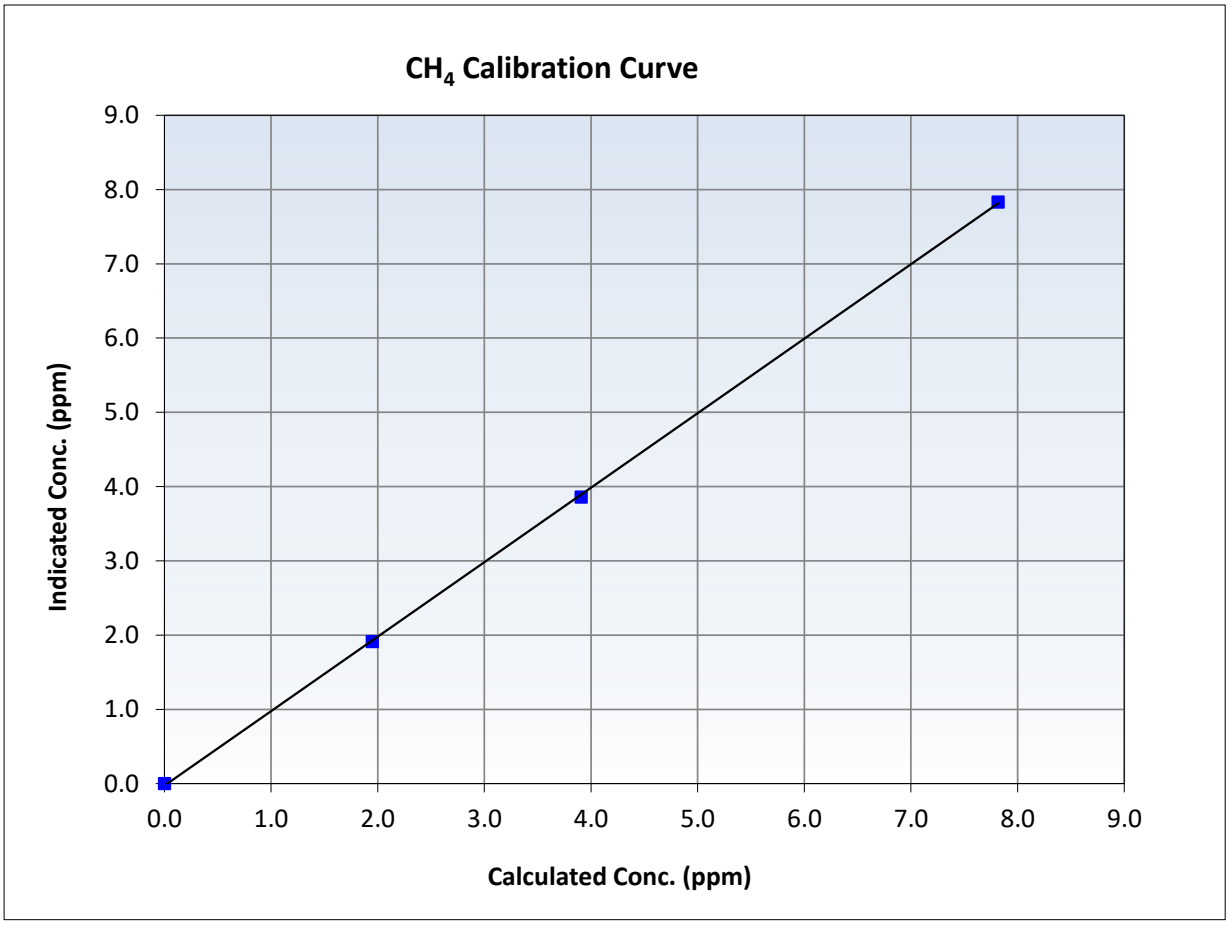
Station Information

Calibration Date:	October 7, 2025	Previous Calibration:	September 8, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	6:00	End Time (MST):	8:48
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320038

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.00	----
7.82	7.83	0.9978
3.91	3.86	1.0124
1.95	1.91	1.0189

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999927	*≥0.995*
Slope	1.003179	*0.90 - 1.10*
Intercept	-0.027504	*+/-0.5*



Wood Buffalo Environmental Association

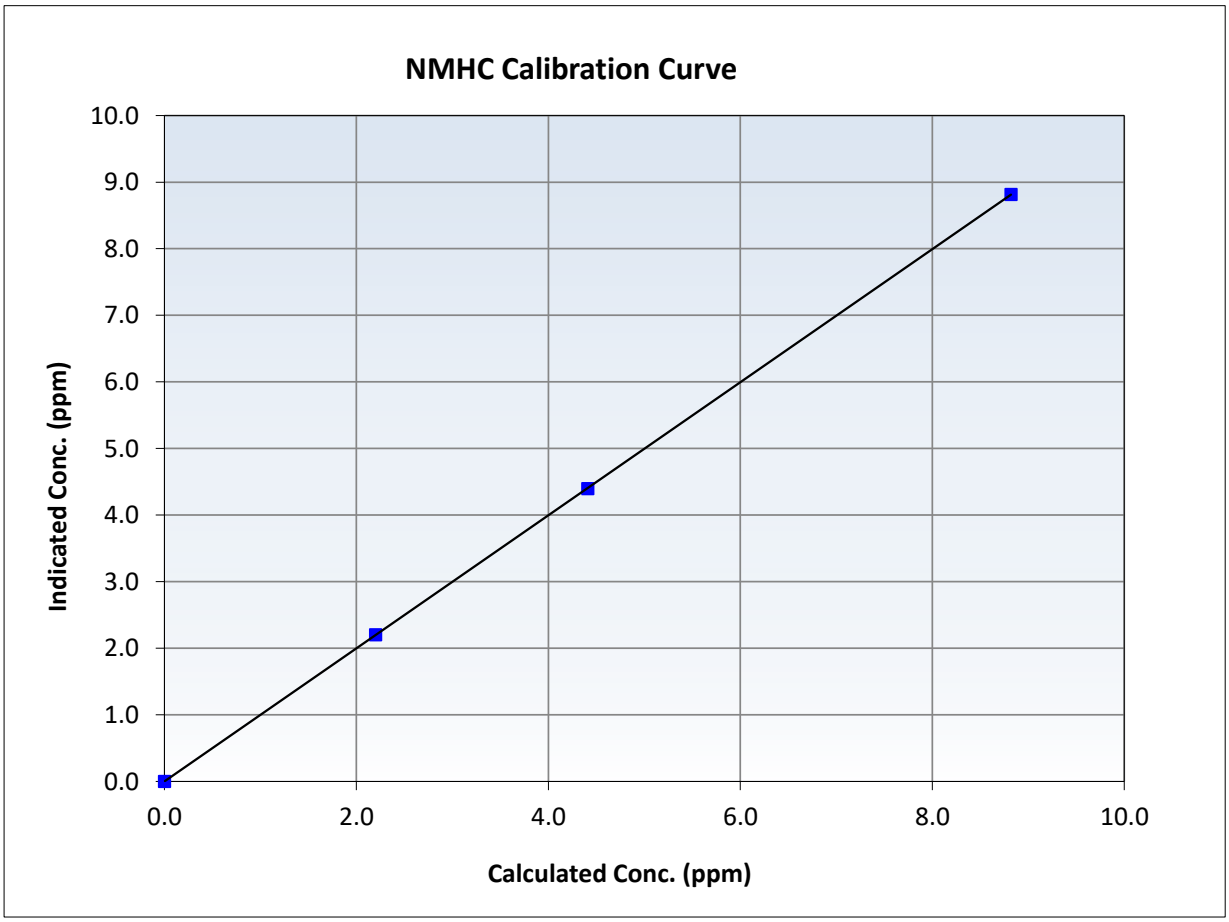
NMHC Calibration Summary

Station Information

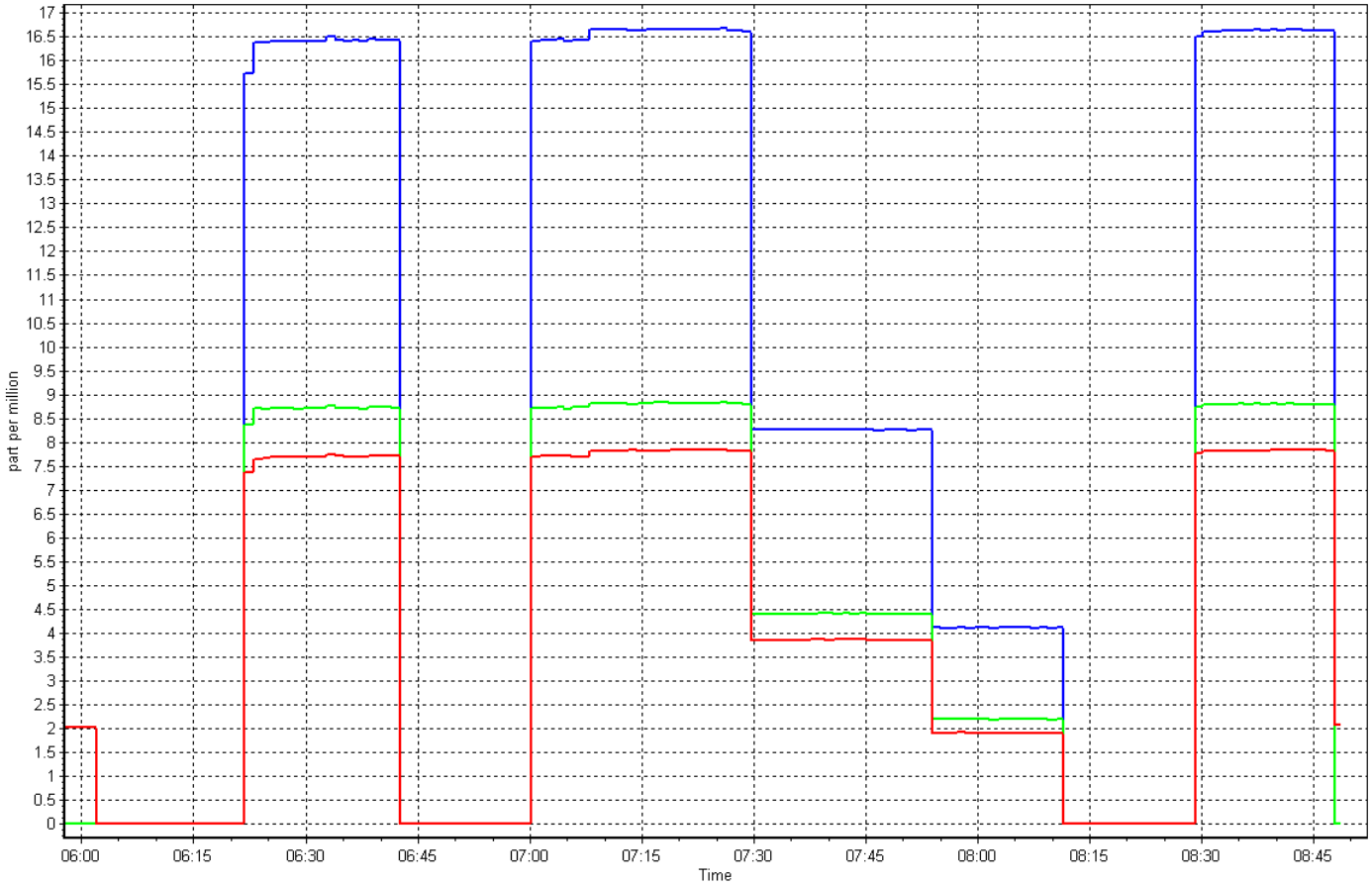
Calibration Date:	October 7, 2025	Previous Calibration:	September 8, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	6:00	End Time (MST):	8:48
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320038

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999998	≥0.995
8.82	8.82	1.0005	Slope	0.999132	0.90 - 1.10
4.41	4.40	1.0025	Intercept	0.000568	+/-0.5
2.20	2.20	0.9979			



NMHC Calibration Plot Date: October 7, 2025 Location: Buffalo Viewpoint



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Buffalo Viewpoint	Station number:	AMS 04
Calibration Date:	October 23, 2025	Last Cal Date:	October 7, 2025
Start time (MST):	7:50	End time (MST):	9:20
Reason:	Cylinder Change		

Calibration Standards

Gas Cert Reference:	CC446753	Cal Gas Expiry Date:	March 10, 2031
CH4 Cal Gas Conc.	497.2 ppm	CH4 Equiv Conc.	1058.2 ppm
C3H8 Cal Gas Conc.	204.0 ppm		
Removed Gas Cert:		Removed Gas Expiry:	
Removed CH4 Conc.	497.2 ppm	CH4 Equiv Conc.	1058.2 ppm
Removed C3H8 Conc.	204.0 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	Teledyne API T700	Serial Number:	3808
Zero Air Gen model:	Teledyne API T701	Serial Number:	362

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1180320038
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	3.41E-04	3.41E-04	NMHC SP Ratio:	5.81E-04	5.81E-04
CH4 Retention time:	15.2	15.2	NMHC Peak Area:	151711	151711
Zero Chromatogram:	OFF	OFF	Flat Baseline:	ON	ON

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	78.6	16.64	16.56	1.004
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.56	Prev response	16.62	*% change	-0.4%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.6	16.64	16.51	1.007
				Average Correction Factor	

Notes: Hydrogen Cylinder Change.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	78.6	8.82	8.78	1.005
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.78	Prev response	8.82	*% change	-0.5%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.6	8.82	8.73	1.011
				Average Correction Factor	

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	78.6	7.82	7.79	1.003
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.79	Prev response	7.80	*% change	-0.1%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

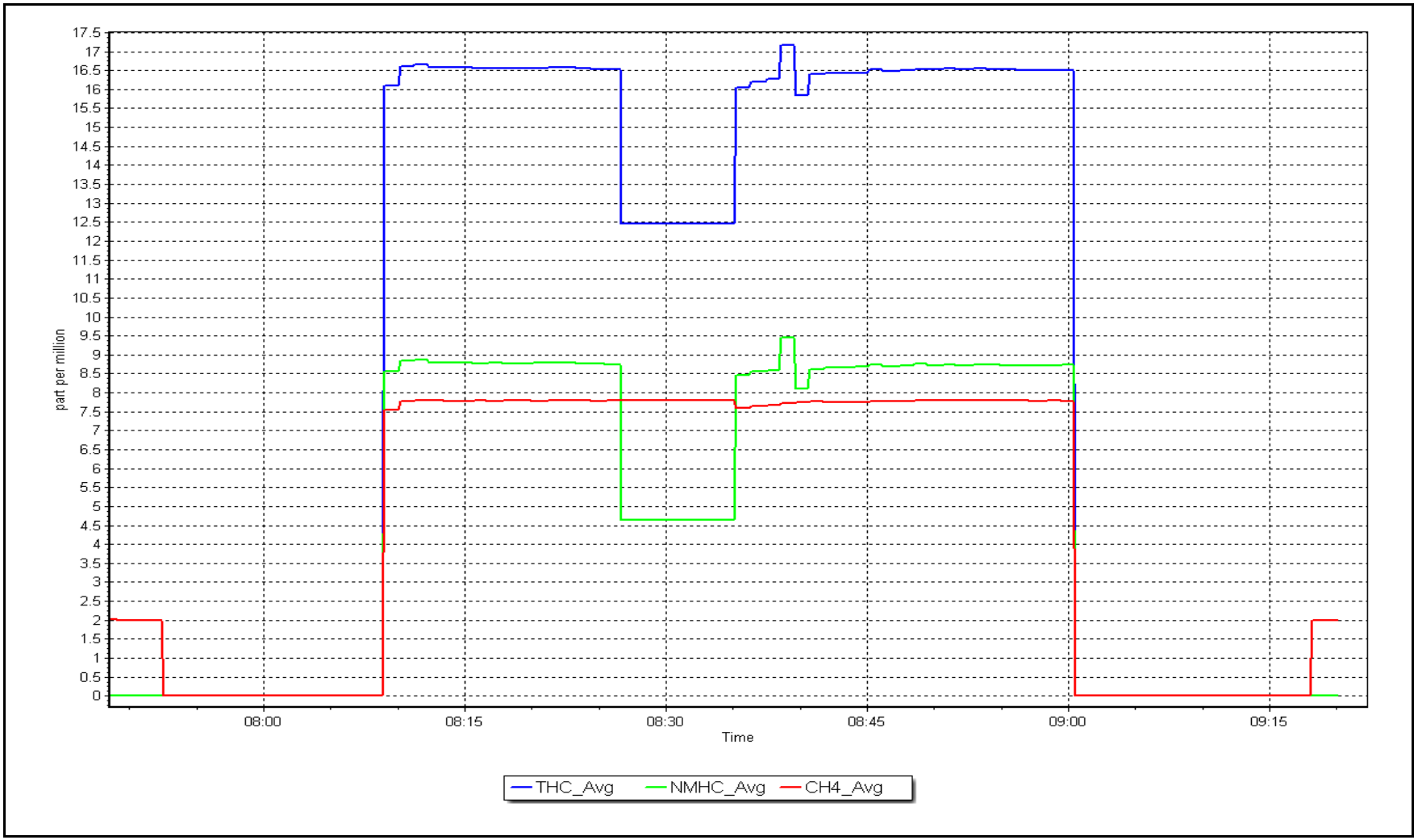
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.6	7.82	7.79	1.003
				Average Correction Factor	

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.001007	
THC Cal Offset:	-0.029740	
CH4 Cal Slope:	1.001396	
CH4 Cal Offset:	-0.025908	
NMHC Cal Slope:	1.000584	
NMHC Cal Offset:	-0.004032	

Calibration Performed By: Melissa Lemay

NMHC Calibration Plot Date: October 23, 2025 Location: Buffalo Viewpoint



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Buffalo Viewpoint
Station number:	AMS 04
Calibration Date:	October 1, 2025
Last Cal Date:	September 25, 2025
Start time (MST):	5:53
End time (MST):	10:46
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	CC324979	Cal Gas Expiry Date:	November 3, 2032
NOX Cal Gas Conc:	48.90 ppm	NO Cal Gas Conc:	48.80 ppm
Removed Cylinder #:		Removed Gas Exp Date:	
Removed Gas NOX Conc:	48.90 ppm	Removed Gas NO Conc:	48.80 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	3808
ZAG make/model:	Teledyne API T701	Serial Number:	362

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	3.3	3.2	0.1	----	----
AF High point	4918	81.8	800.0	798.4	1.6	794.4	794.1	0.3	1.0113	1.0095
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 802.5 ppb	NO = 799.8 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = -1.4%
Baseline Corr 1st pt	NO_X = 791.1 ppb	NO = 790.9 ppb	As Found Statistics	*Percent Change	NO = -1.1%
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb	As found NO_X r^2:	Nx Sl:	Nx Int:
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb	As found NO r^2:	NO Sl:	NO Int:
			As found NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Teledyne API T200 Serial Number: 721

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.920	0.927	NO bkgnd or offset:	-9.8	-0.6
NOX coeff or slope:	0.910	0.918	NOX bkgnd or offset:	-9.7	-0.7
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	4.8	4.8

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.001578	0.998122
NO_X Cal Offset:	1.187429	0.646580
NO Cal Slope:	1.001914	0.998738
NO Cal Offset:	-0.113474	-0.754295
NO_2 Cal Slope:	0.993706	0.992875
NO_2 Cal Offset:	-1.794650	0.593151

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	-0.5	-0.5	0.1	----	----
High point	4918	81.8	800.0	798.4	1.6	798.2	796.5	1.7	1.0023	1.0024
Mid point	4959	40.9	400.0	399.2	0.8	401.7	398.6	3.2	0.9958	1.0015
Low point	4980	20.4	199.5	199.1	0.4	200.1	197.3	2.7	0.9970	1.0091
As left zero	5000	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	----	----
As left span	4918	81.8	800.0	402.0	800.0	788.3	402.0	386.3	1.0149	1.0000
							Average Correction Factor		0.9984	1.0043

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.1	----	----
High GPT point	793.0	401.4	393.2	390.1	1.0080	99.2%
Mid GPT point	793.0	600.8	193.8	195.4	0.9920	100.8%
Low GPT point	793.0	696.7	97.9	96.9	1.0107	98.9%
				Average Correction Factor	1.0036	99.7%

Notes: No Maintenance done. Zero and Span adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

NO_X Calibration Summary

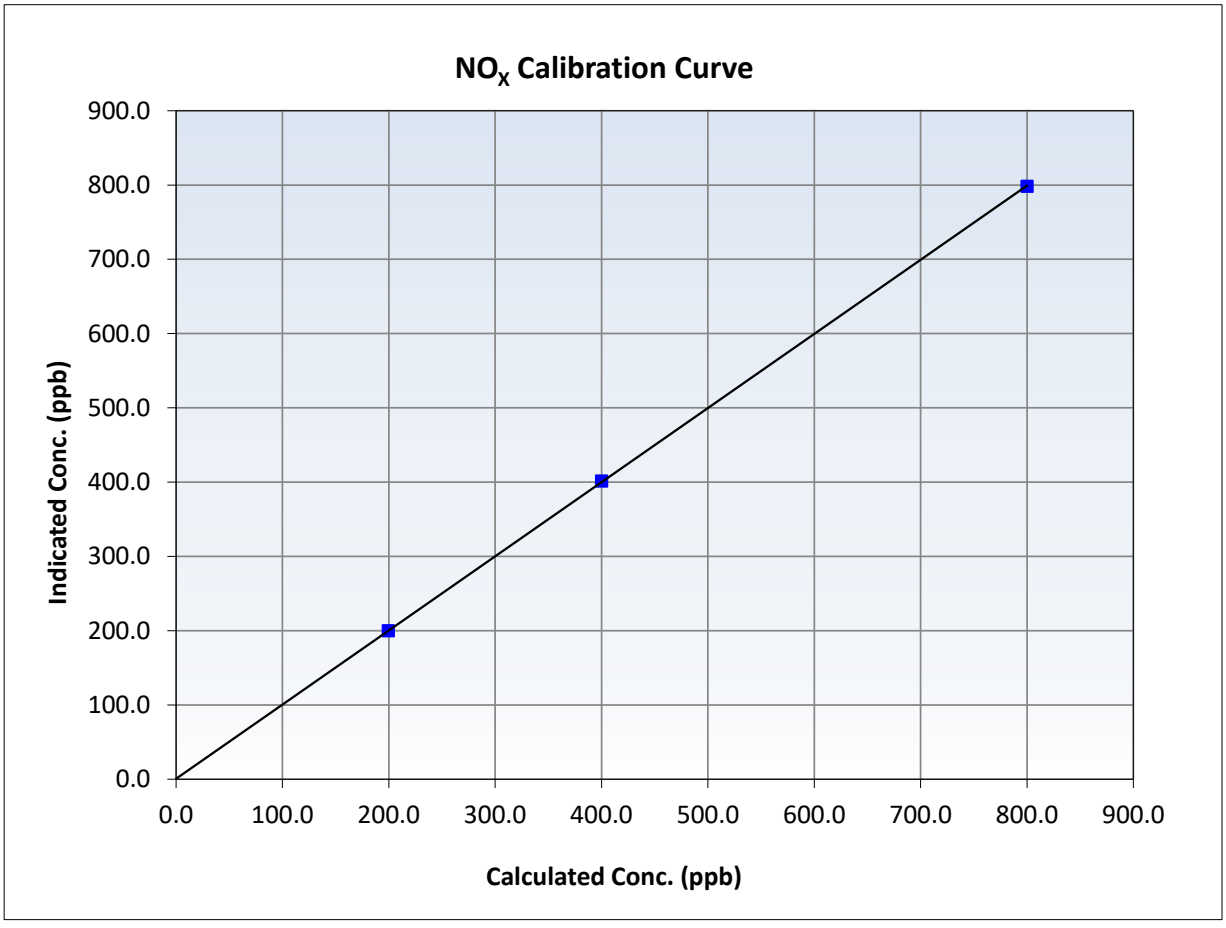
Station Information

Calibration Date:	October 1, 2025	Previous Calibration:	September 25, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	5:53	End Time (MST):	10:46
Analyzer make:	Teledyne API T200	Analyzer serial #:	721

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.5	----
800.0	798.2	1.0023
400.0	401.7	0.9958
199.5	200.1	0.9970

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999984	*≥0.995*
Slope	0.998122	*0.90 - 1.10*
Intercept	0.646580	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

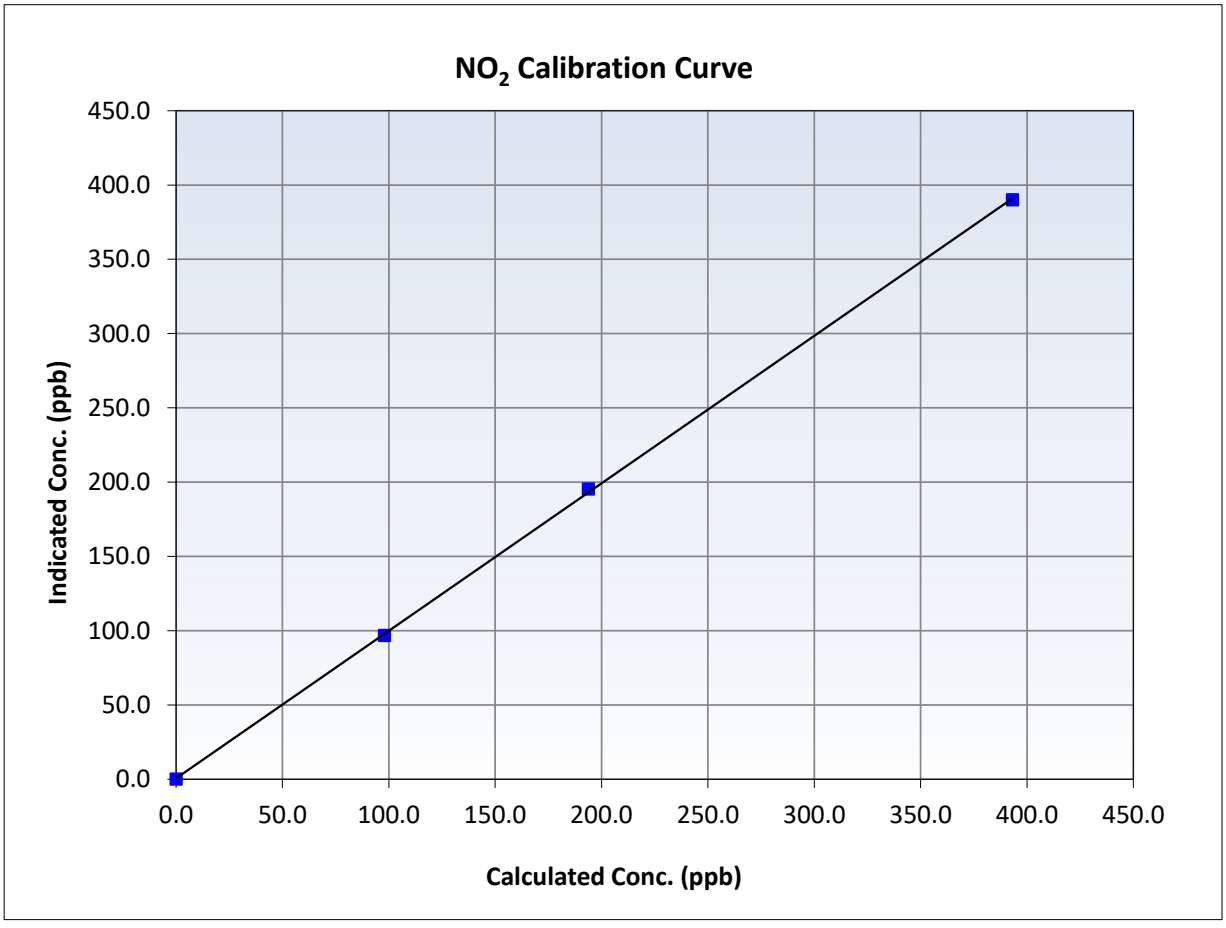
Station Information

Calibration Date:	October 1, 2025	Previous Calibration:	September 25, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	5:53	End Time (MST):	10:46
Analyzer make:	Teledyne API T200	Analyzer serial #:	721

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
393.2	390.1	1.0080
193.8	195.4	0.9920
97.9	96.9	1.0107

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999910	*≥0.995*
Slope	0.992875	*0.90 - 1.10*
Intercept	0.593151	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

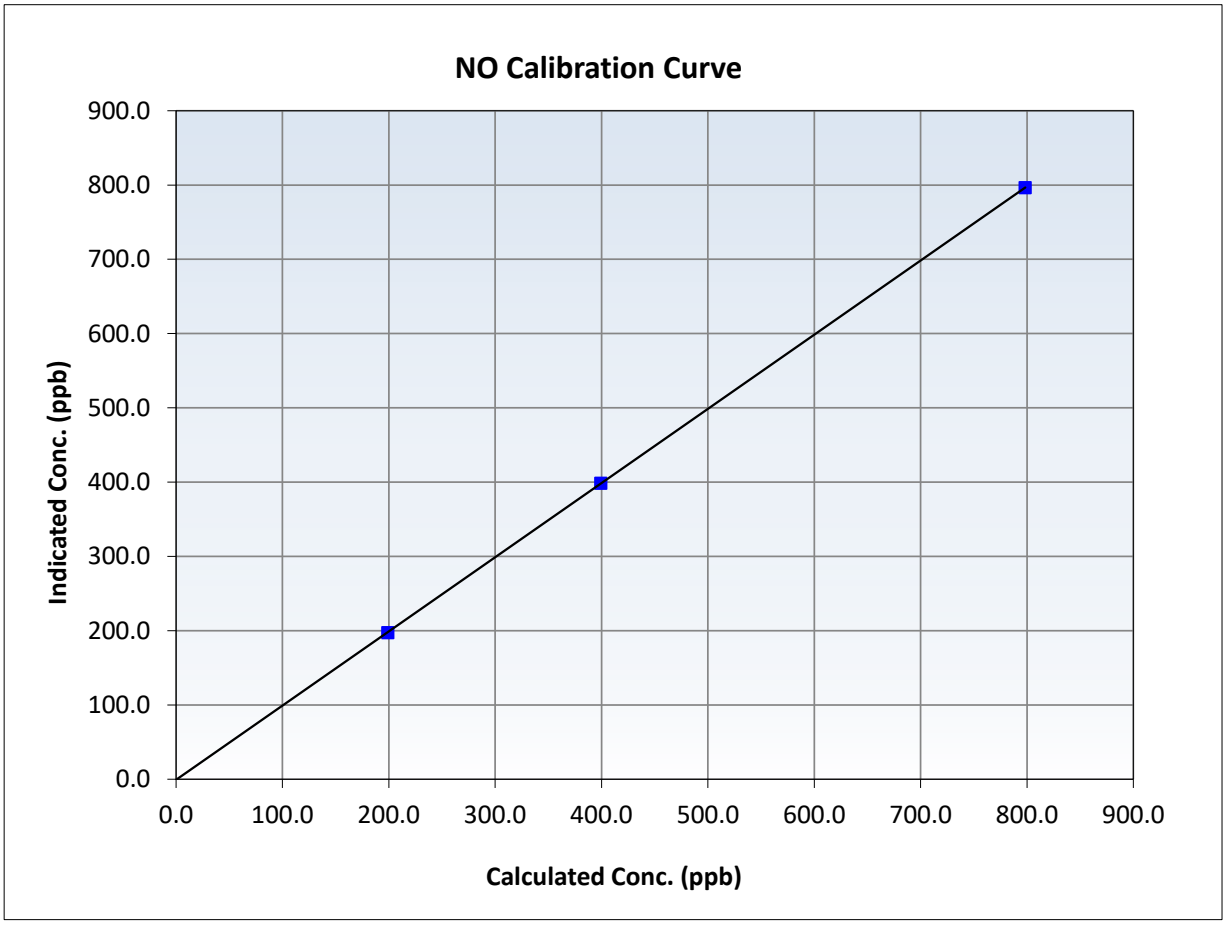
Station Information

Calibration Date:	October 1, 2025	Previous Calibration:	September 25, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	5:53	End Time (MST):	10:46
Analyzer make:	Teledyne API T200	Analyzer serial #:	721

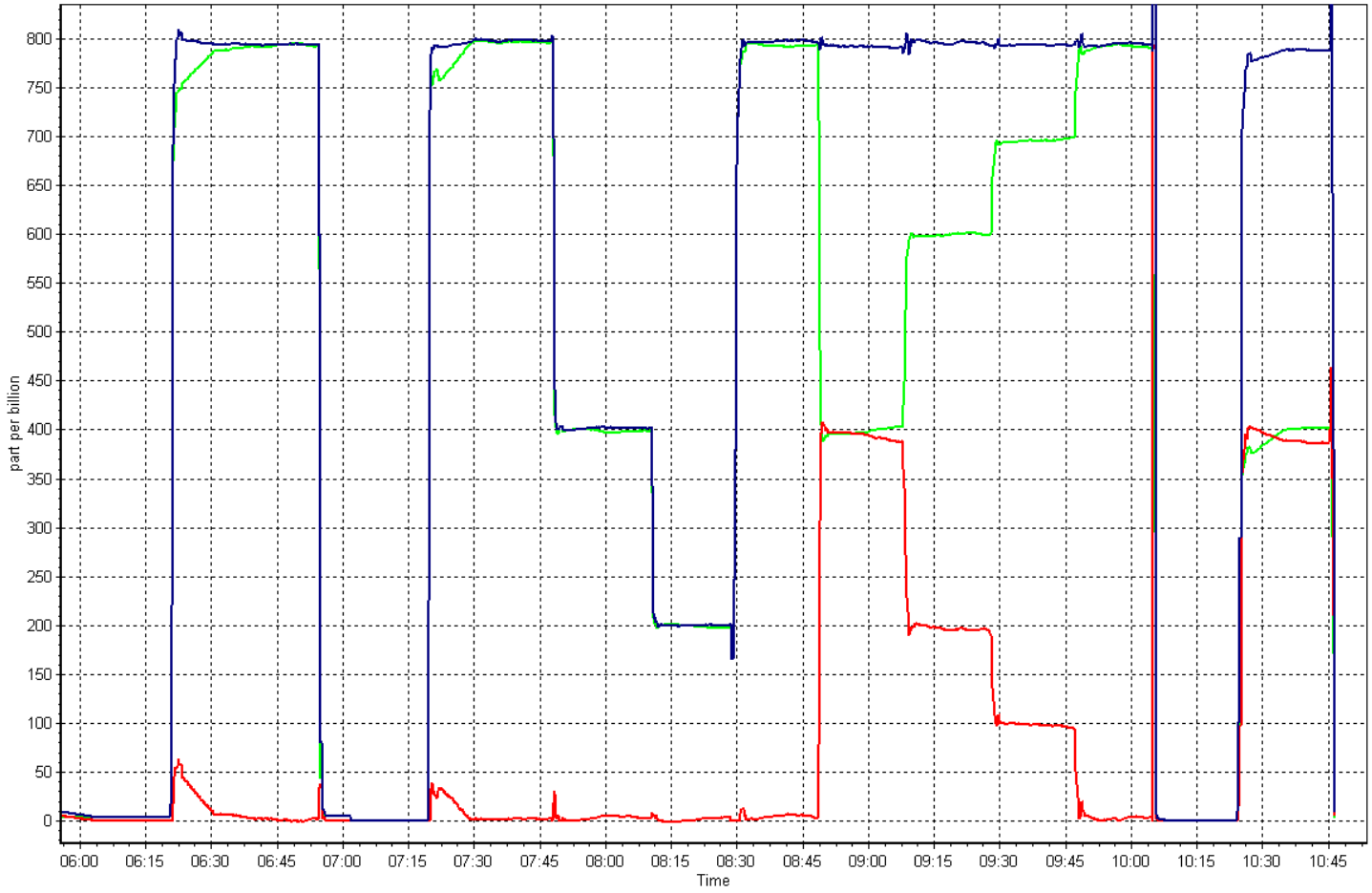
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.5	----
798.4	796.5	1.0024
399.2	398.6	1.0015
199.1	197.3	1.0091

Statistical Evaluation		Limits
Correlation Coefficient	0.999997	≥0.995
Slope	0.998738	0.90 - 1.10
Intercept	-0.754295	+/-20



NO_X Calibration Plot Date: October 1, 2025 Location: Buffalo Viewpoint



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Buffalo Viewpoint	Station number:	AMS 04
Calibration Date:	October 7, 2025	Last Cal Date:	September 26, 2025
Start time (MST):	8:47	End time (MST):	11:02
Reason:	Routine		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	Teledyne API T700	Serial Number:	3808
ZAG Make/Model:	Teledyne API T701	Serial Number:	362

Analyzer Information

Analyzer make:	Teledyne API T400		Analyzer serial #:	2961	
Analyzer Range	0 - 500 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	0.999114	1.002086	Backgd or Offset:	-1.0	-1.0
Calibration intercept:	0.880000	0.060000	Coeff or Slope:	1.022	1.022

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.2	----
As found High point	5000	1013.8	400.0	400.2	0.999
As found Mid point					
As found Low point					
Baseline Corr As found:	400.4	Previous response	400.5	*% change	0.0%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

O_3 Calibration Data

Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	5000	1011.7	400.0	401.0	0.998
Mid point	5000	832.5	200.0	200.3	0.999
Low point	5000	719.2	100.0	100.2	0.998
As left zero	5000	0.0	0.0	-0.4	----
As left span	5000	1013.5	400.0	403.0	0.993
				Average Correction Factor	0.998

Notes: No miantenance or adjustments done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

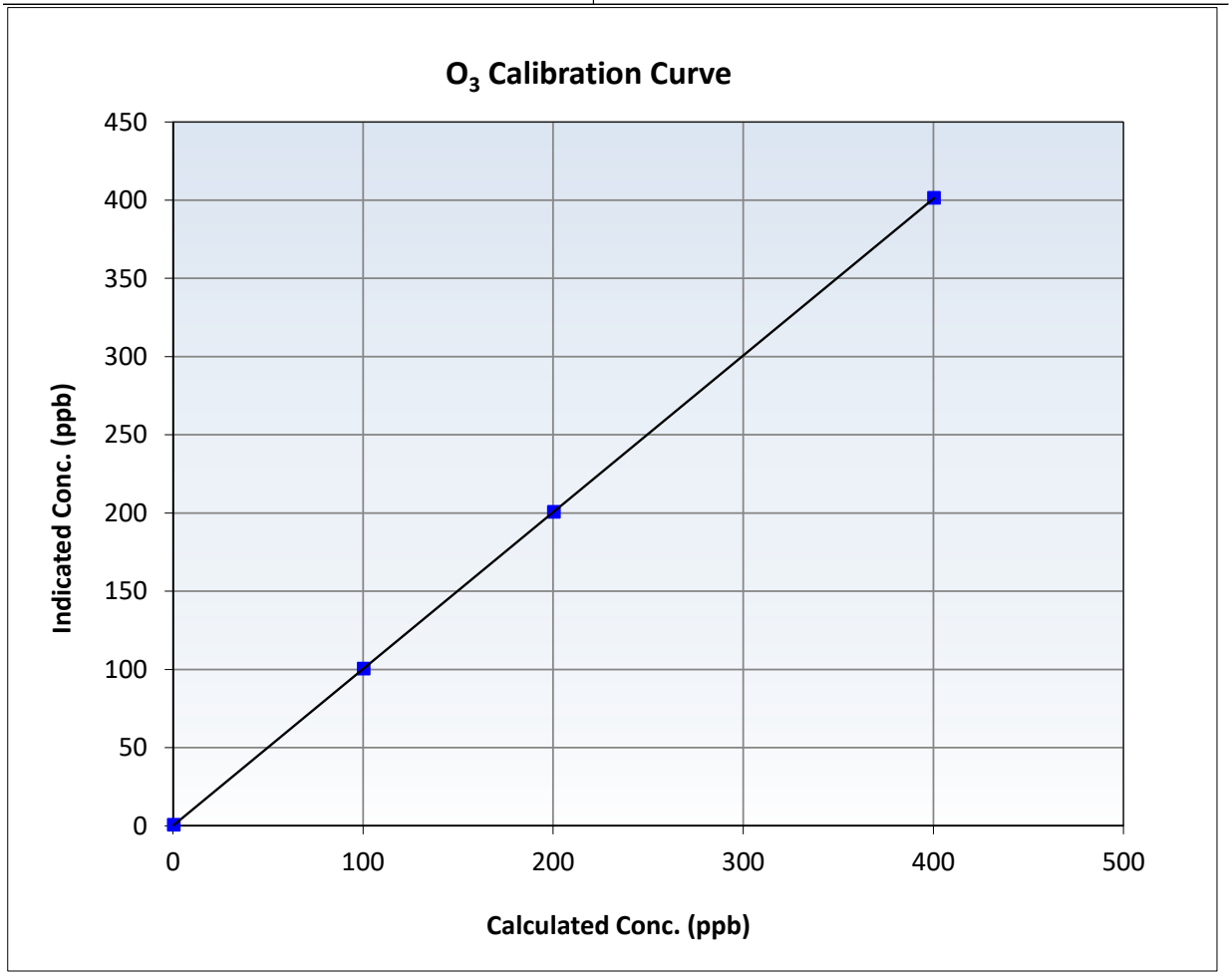
O_3 Calibration Summary

Station Information

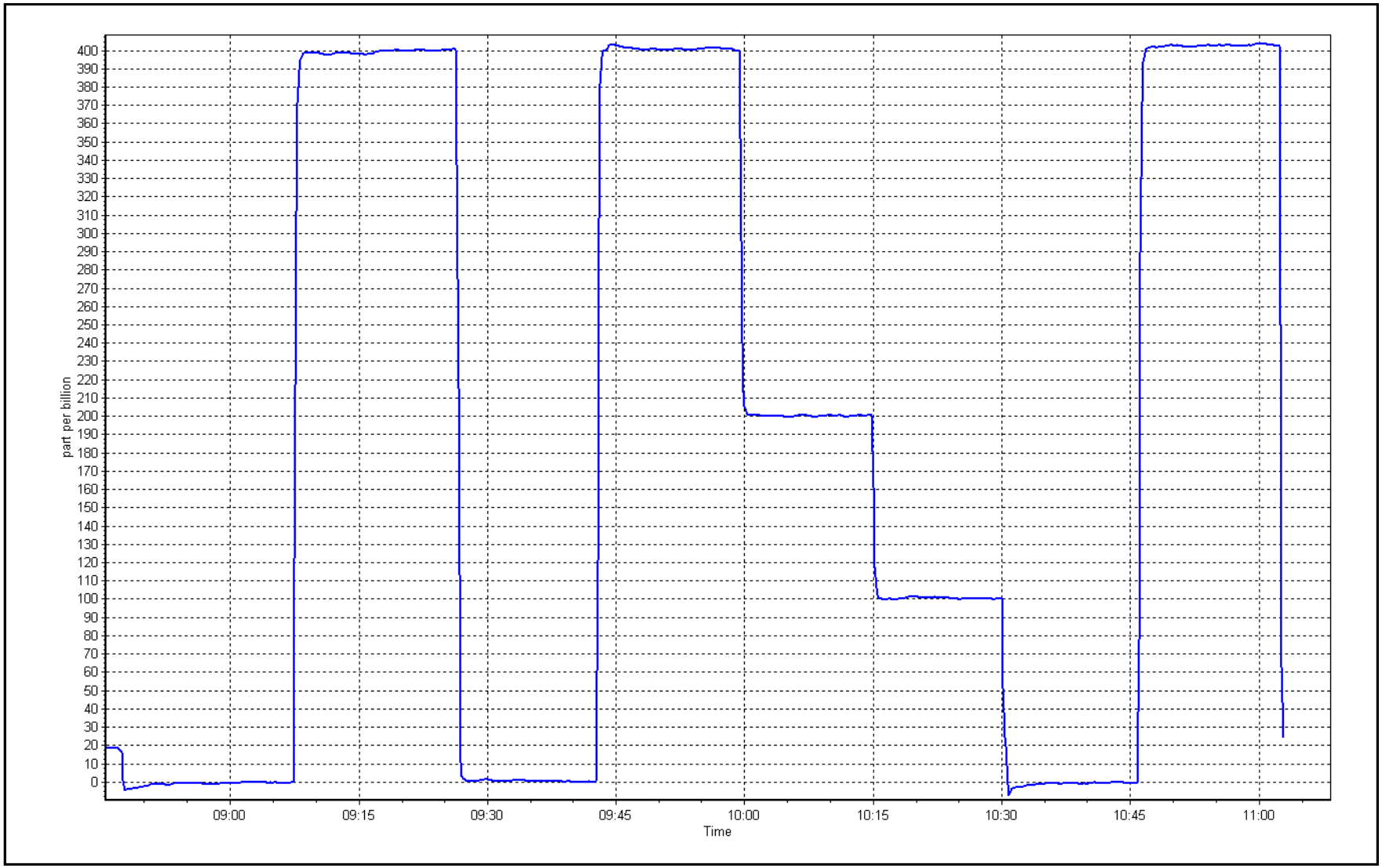
Calibration Date:	October 7, 2025	Previous Calibration:	September 26, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	8:47	End Time (MST):	11:02
Analyzer make:	Teledyne API T400	Analyzer serial #:	2961

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.2	----	Correlation Coefficient	0.999999	*≥0.995*
400.0	401.0	0.9975	Slope	1.002086	*0.90 - 1.10*
200.0	200.3	0.9985			
100.0	100.2	0.9980	Intercept	0.060000	*+/- 5*



O_3 Calibration Plot Date: October 7, 2025 Location: Buffalo Viewpoint



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Buffalo Viewpoint	Station number:	AMS 04
Calibration Date:	October 23, 2025	Last Cal Date:	September 26, 2025
Start time (MST):	7:16	End time (MST):	7:38
Analyzer Make:	Teledyne API T640	S/N:	321
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388753
Temp/RH standard:	Alicat FP-25BT	S/N:	388753

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (°C)	5.6	5.2	5.6	☐	+/- 2 °C
P (mmHg)	724.4	726.3	724.4	☐	+/- 10 mmHg
Flow (LPM)	5.00	5.06	5.00	☐	+/- 0.25 LPM
PW% (pump)	37	-----	37	☐	>80%
Zero Verification	PM w/o HEPA:	3.8	PM w/ HEPA:	0.0	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.9 — Expiry Date: 30-Jan-27 — Lot No.: 100128-050-051

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test				☐	+/- 0.5

Date Optical Chamber Cleaned: September 26, 2025

Date Disposable Filter Changed: September 26, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0 <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: September 26, 2025

Date RH/T Sensor Cleaned: September 26, 2025

No adjustments done.

Notes:

Calibration by: Melissa Lemay

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS05
MANNIX
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Mannix	Station number:	AMS 05
Calibration Date:	October 17, 2025	Last Cal Date:	September 15, 2025
Start time (MST):	10:42	End time (MST):	14:15
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.06	ppm	Cal Gas Exp Date:	October 22, 2032	
Cal Gas Cylinder #:	CC308040				
Removed Cal Gas Conc:	50.06	ppm	Rem Gas Exp Date:	October 22, 2032	
Removed Gas Cyl #:			Diff between cyl:		
Calibrator Model:	API T700		Serial Number:	5470	
Zero Air Gen Model:	API T701		Serial Number:	361	

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1008841399	
Analyzer Range:	1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001595	1.001237	Backgd or Offset:	10.1	11.1
Calibration intercept:	-0.657151	-0.856898	Coeff or Slope:	0.939	0.946

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.1	----
As found High point	4920	79.9	800.0	799.9	1.000
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	800.0	Previous response	800.6	*% change	-0.1%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4920	79.9	800.0	800.5	0.999
Mid point	4960	40.0	400.5	400.0	1.001
Low point	4980	20.0	200.2	198.3	1.010
As left zero	5000	0.0	0.0	0.3	----
As left span	4920	79.9	800.0	799.9	1.000
				Average Correction Factor:	1.003

Notes: Changed the inlet filter after as founds. Adjusted the span.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

SO_2 Calibration Summary

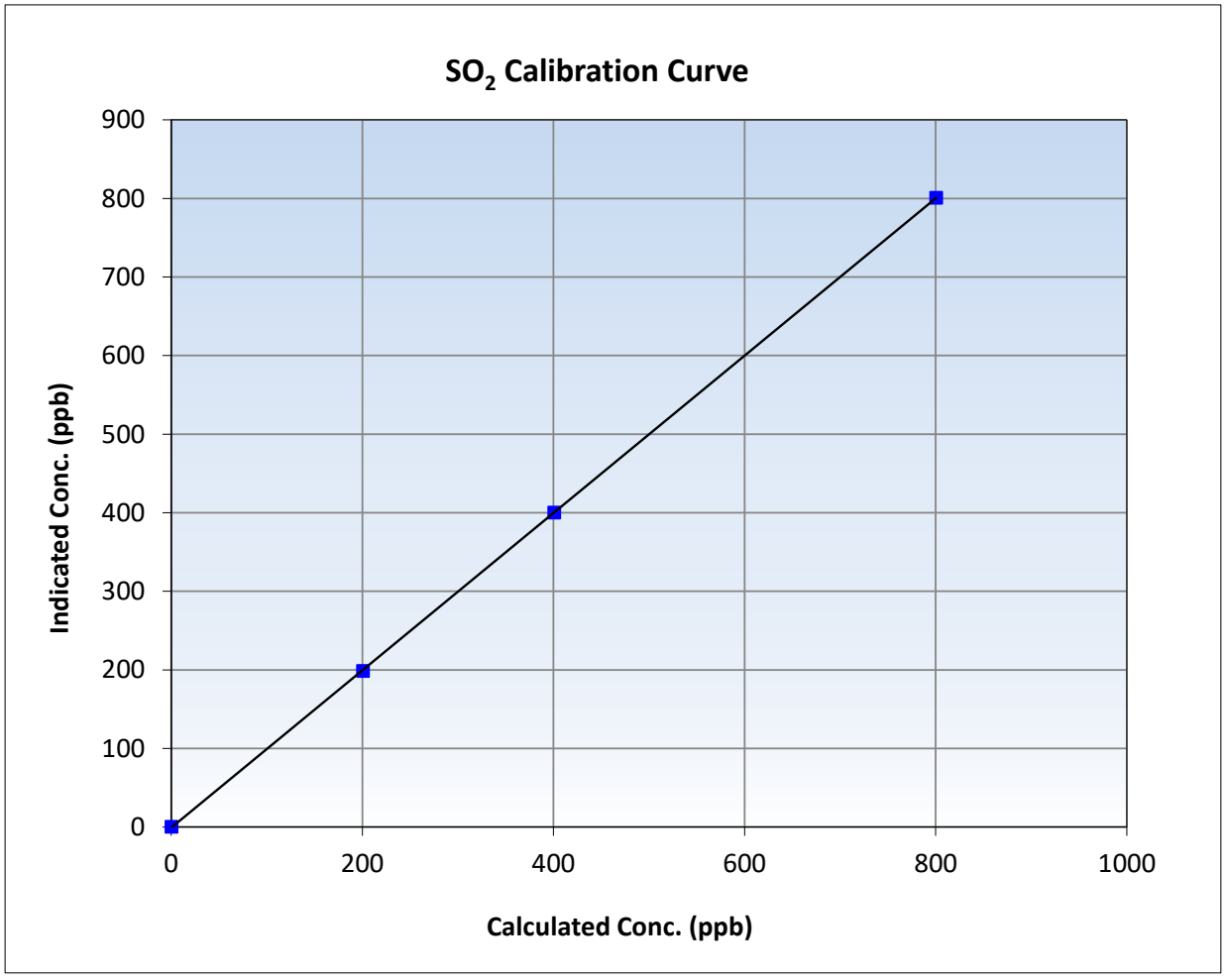
Station Information

Calibration Date:	October 17, 2025	Previous Calibration:	September 15, 2025
Station Name:	Mannix	Station Number:	AMS 05
Start Time (MST):	10:42	End Time (MST):	14:15
Analyzer make:	Thermo 43i	Analyzer serial #:	1008841399

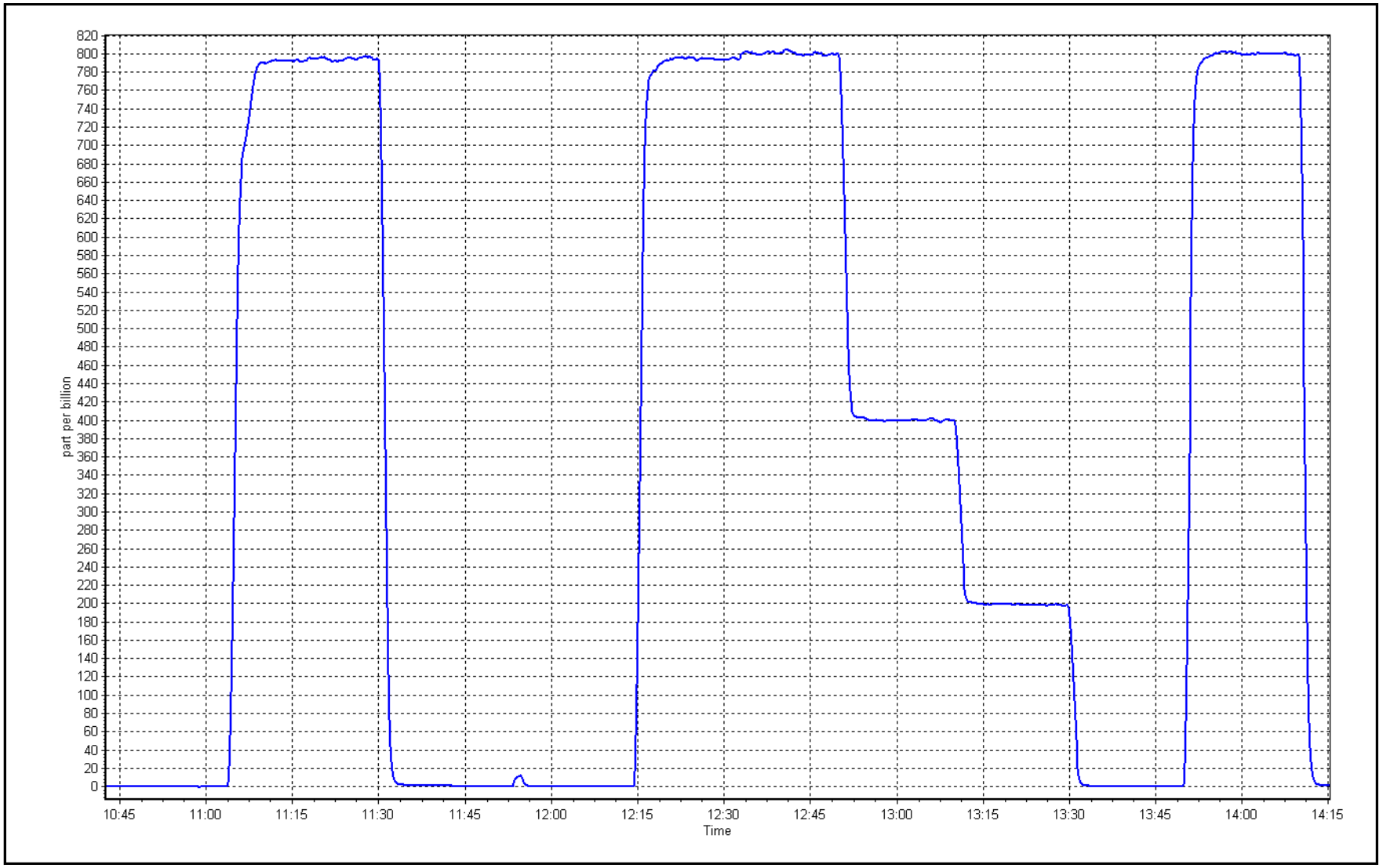
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
800.0	800.5	0.9993
400.5	400.0	1.0012
200.2	198.3	1.0098

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999991	*≥0.995*
Slope	1.001237	*0.90 - 1.10*
Intercept	-0.856898	*+/-30*



SO2 Calibration Plot Date: October 17, 2025 Location: Mannix



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Mannix	Station number:	AMS 05
Calibration Date:	October 6, 2025	Last Cal Date:	September 3, 2025
Start time (MST):	9:54	End time (MST):	14:10
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.96	ppm	Cal Gas Exp Date:	November 15, 2026
Cal Gas Cylinder #:	DT0037363			
Removed Cal Gas Conc:	4.96	ppm	Rem Gas Exp Date:	N/A
Removed Gas Cyl #:	N/A		Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	5470
ZAG Make/Model:	API T701		Serial Number:	361

Analyzer Information

Analyzer make:	Thermo 43iQ		Analyzer serial #:	1200326169	
Converter make:	Global		Converter serial #:	2022-225	
Analyzer Range	0 - 100 ppb		Converter Temp:	325	degC
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.005691	1.005833	Backgd or Offset:	1.25	1.25
Calibration intercept:	0.082267	0.002268	Coeff or Slope:	1.017	1.017

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.1	----
As found High point	4919	80.6	80.0	81.2	0.986
As found Mid point	4960	40.3	40.0	40.6	0.987
As found Low point	4980	20.2	20.0	20.1	1.002
New cylinder response					
Baseline Corr As found:	81.1	Prev response:	80.50	*% change:	0.7%
Baseline Corr 2nd AF pt:	40.5	AF Slope:	1.015555	AF Intercept:	-0.037934
Baseline Corr 3rd AF pt:	20.0	AF Correlation:	0.999982	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.1	----
High point	4919	80.6	80.0	80.4	0.995
Mid point	4960	40.3	40.0	40.4	0.989
Low point	4980	20.2	20.0	19.9	1.007
As left zero	5000	0.0	0.0	0.2	----
As left span	4919	80.6	80.0	79.3	1.008
SO2 Scrubber Check	4920	80.3	803.0	0.1	----
Date of last scrubber change:				Ave Corr Factor	0.997
Date of last converter efficiency test:					

Notes: Changed the inlet filter after as founds. Ran a SO2 scrubber check after calibrator zero. No adjustments made.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

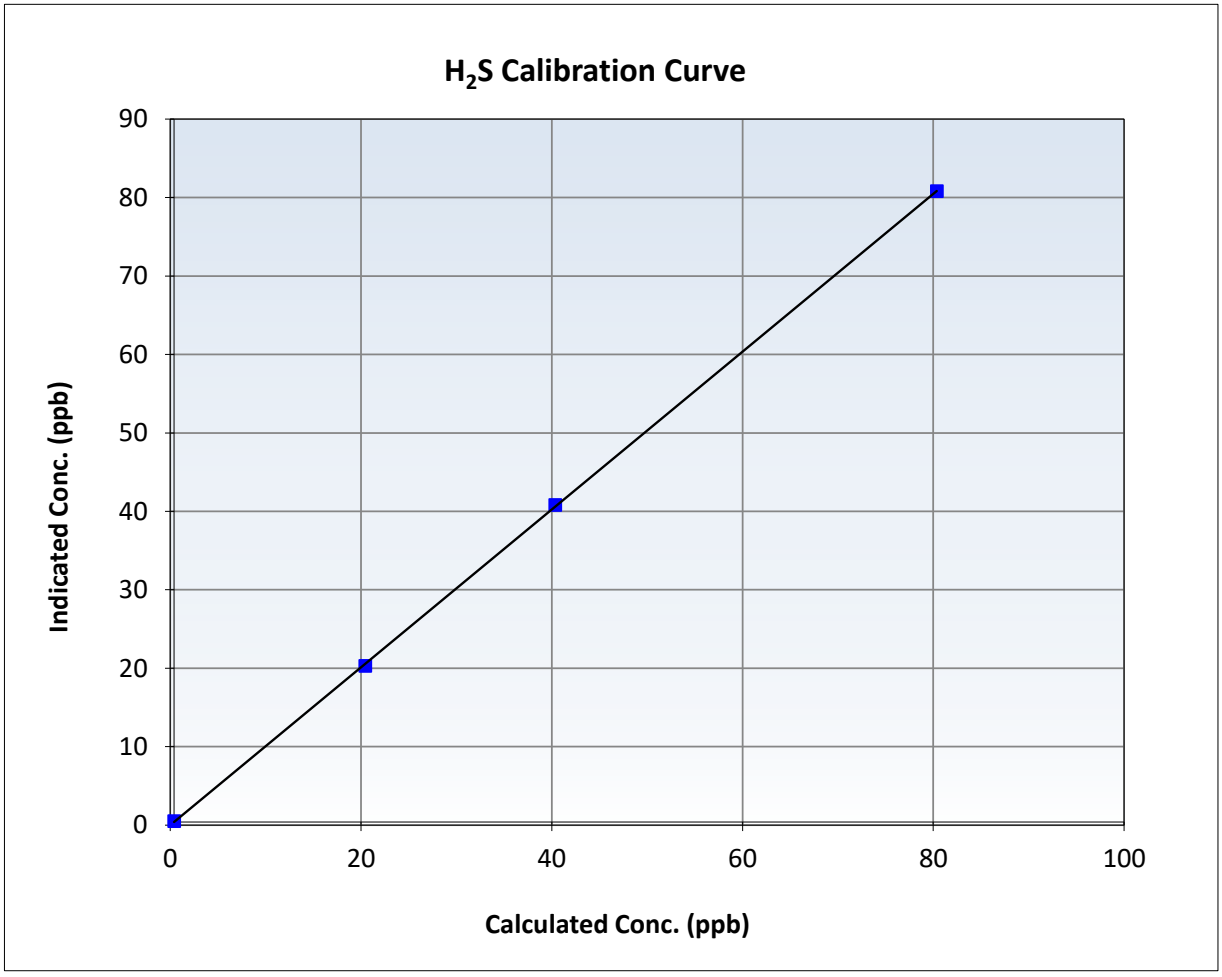
H_2S Calibration Summary

Station Information

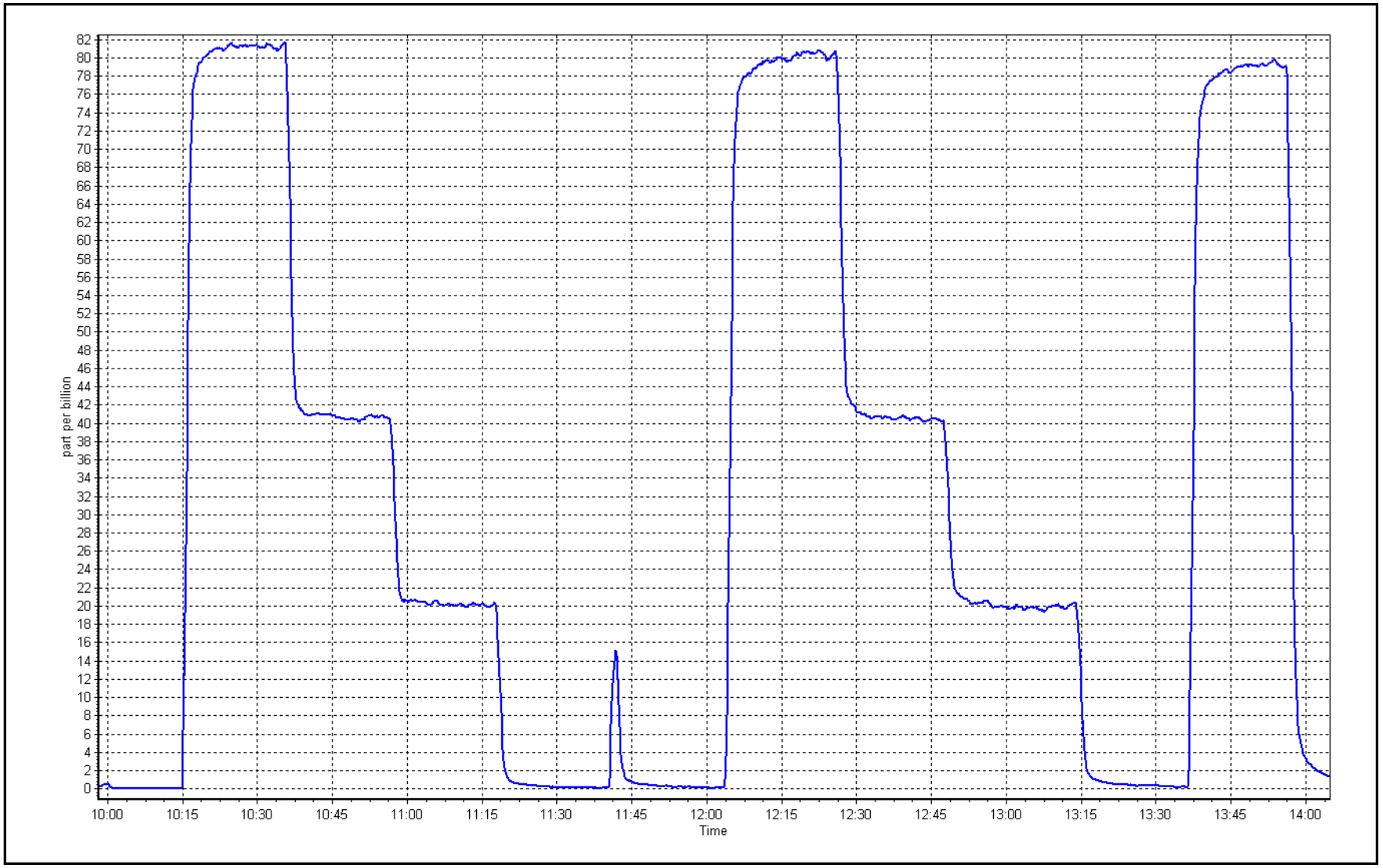
Calibration Date:	October 6, 2025	Previous Calibration:	September 3, 2025
Station Name:	Mannix	Station Number:	AMS 05
Start Time (MST):	9:54	End Time (MST):	14:10
Analyzer make:	Thermo 43iQ	Analyzer serial #:	1200326169

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999968	*≥0.995*
80.0	80.4	0.9945	Slope	1.005833	*0.90 - 1.10*
40.0	40.4	0.9895			
20.0	19.9	1.0069	Intercept	0.002268	*+/-3*



H_2S Calibration Plot Date: October 6, 2025 Location: Mannix



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Mannix	Station number:	AMS 05
Calibration Date:	October 17, 2025	Last Cal Date:	September 15, 2025
Start time (MST):	10:42	End time (MST):	14:15
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC308040	Cal Gas Expiry Date:	October 22, 2032
CH4 Cal Gas Conc.	500.3 ppm	CH4 Equiv Conc.	1047.6 ppm
C3H8 Cal Gas Conc.	199.0 ppm		
Removed Gas Cert:		Removed Gas Expiry:	
Removed CH4 Conc.	500.3 ppm	CH4 Equiv Conc.	1047.6 ppm
Removed C3H8 Conc.	199.0 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	API T700	Serial Number:	5470
Zero Air Gen model:	API T701	Serial Number:	361

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	15005164381
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	2.68E-04	2.61E-04	NMHC SP Ratio:	5.04E-05	4.91E-05
CH4 Retention time:	13.9	13.7	NMHC Peak Area:	173725	173301
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.9	16.74	17.14	0.977
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	17.14	Prev response	16.78	*% change	2.1%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.9	16.74	16.69	1.003
Mid point	4960	40.0	8.38	8.41	0.997
Low point	4980	20.0	4.19	4.18	1.003
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.9	16.74	16.76	0.999
				Average Correction Factor	1.001

Notes: Changed the inlet filter after as founds. Adjusted the span.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.9	8.75	8.95	0.978
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.95	Prev response	8.77	*% change	2.0%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.9	8.75	8.74	1.001
Mid point	4960	40.0	4.38	4.40	0.996
Low point	4980	20.0	2.19	2.18	1.003
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.9	8.75	8.78	0.996
				Average Correction Factor	1.000

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.9	7.99	8.20	0.975
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.20	Prev response	8.01	*% change	2.3%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.9	7.99	7.96	1.005
Mid point	4960	40.0	4.00	4.01	0.999
Low point	4980	20.0	2.00	2.00	1.003
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.9	7.99	7.97	1.003
				Average Correction Factor	1.002

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.001732	0.997173
THC Cal Offset:	0.007862	0.010273
CH4 Cal Slope:	1.000925	0.995208
CH4 Cal Offset:	0.005623	0.006632
NMHC Cal Slope:	1.002456	0.999308
NMHC Cal Offset:	0.002039	0.002841

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

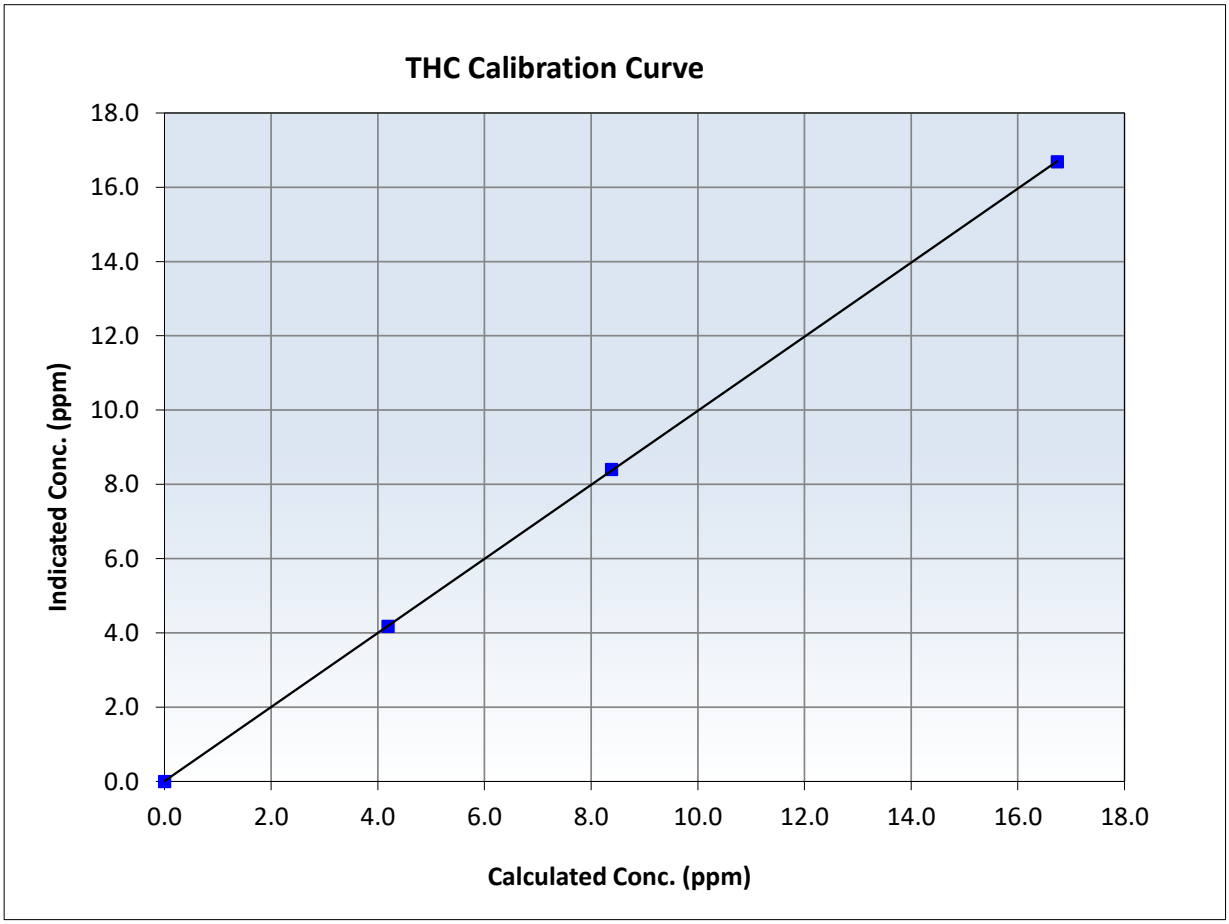
THC Calibration Summary

Station Information

Calibration Date:	October 17, 2025	Previous Calibration:	September 15, 2025
Station Name:	Mannix	Station Number:	AMS 05
Start Time (MST):	10:42	End Time (MST):	14:15
Analyzer make:	Thermo 55i	Analyzer serial #:	15005164381

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999987	≥0.995
16.74	16.69	1.0032	Slope	0.997173	0.90 - 1.10
8.38	8.41	0.9971	Intercept	0.010273	+/-0.5
4.19	4.18	1.0032			



Wood Buffalo Environmental Association

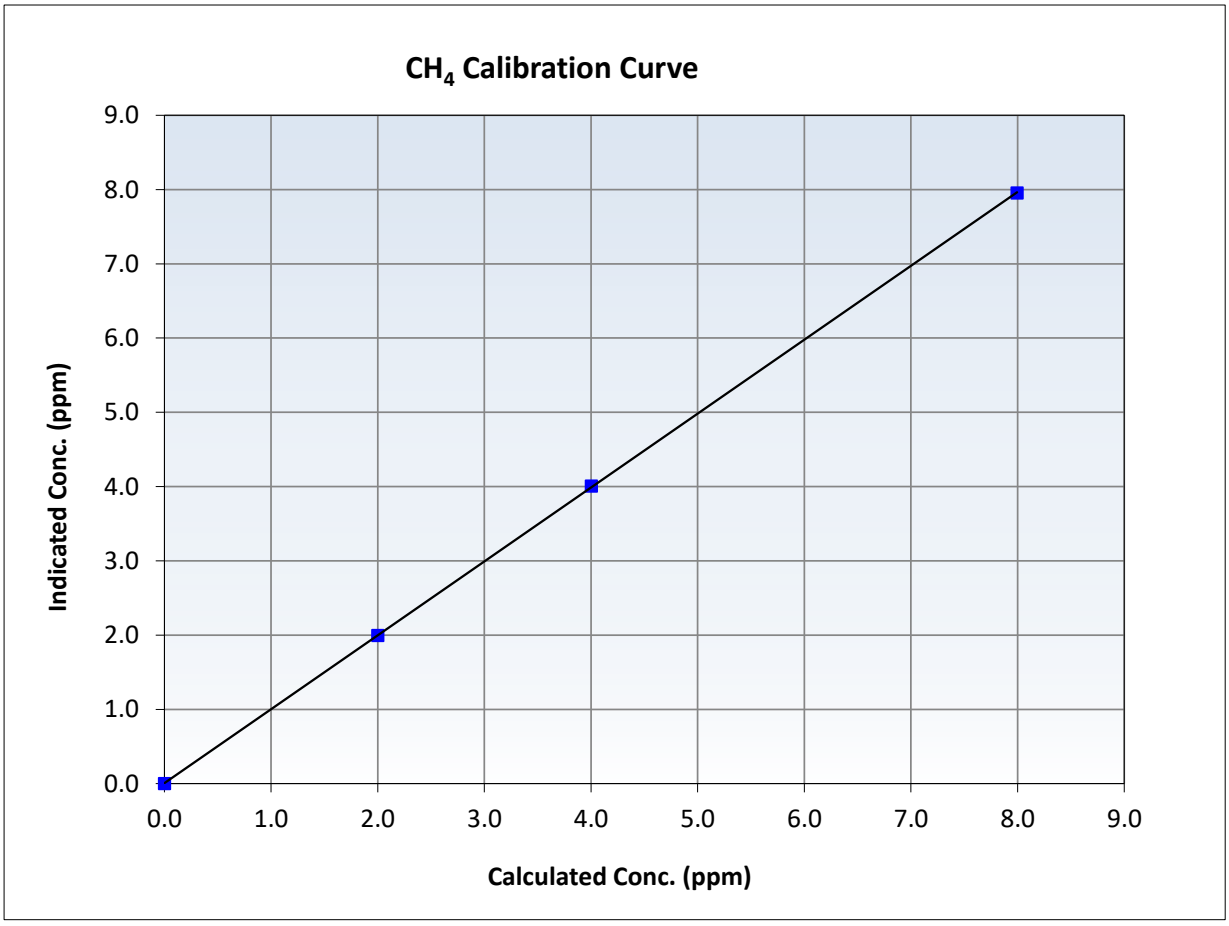
CH_4 Calibration Summary

Station Information

Calibration Date:	October 17, 2025	Previous Calibration:	September 15, 2025
Station Name:	Mannix	Station Number:	AMS 05
Start Time (MST):	10:42	End Time (MST):	14:15
Analyzer make:	Thermo 55i	Analyzer serial #:	15005164381

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999987	*≥0.995*
7.99	7.96	1.0050	Slope	0.995208	*0.90 - 1.10*
4.00	4.01	0.9986	Intercept	0.006632	*+/-0.5*
2.00	2.00	1.0031			



Wood Buffalo Environmental Association

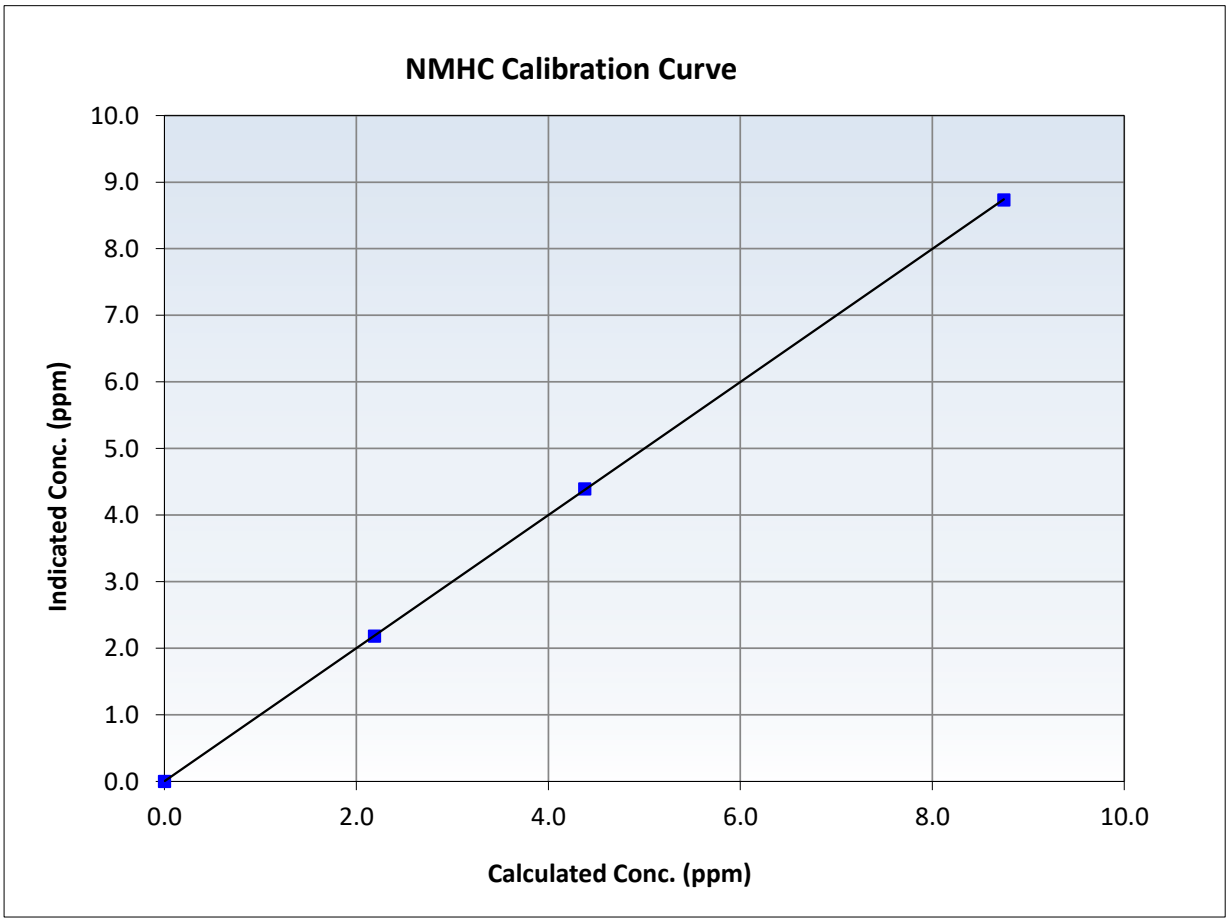
NMHC Calibration Summary

Station Information

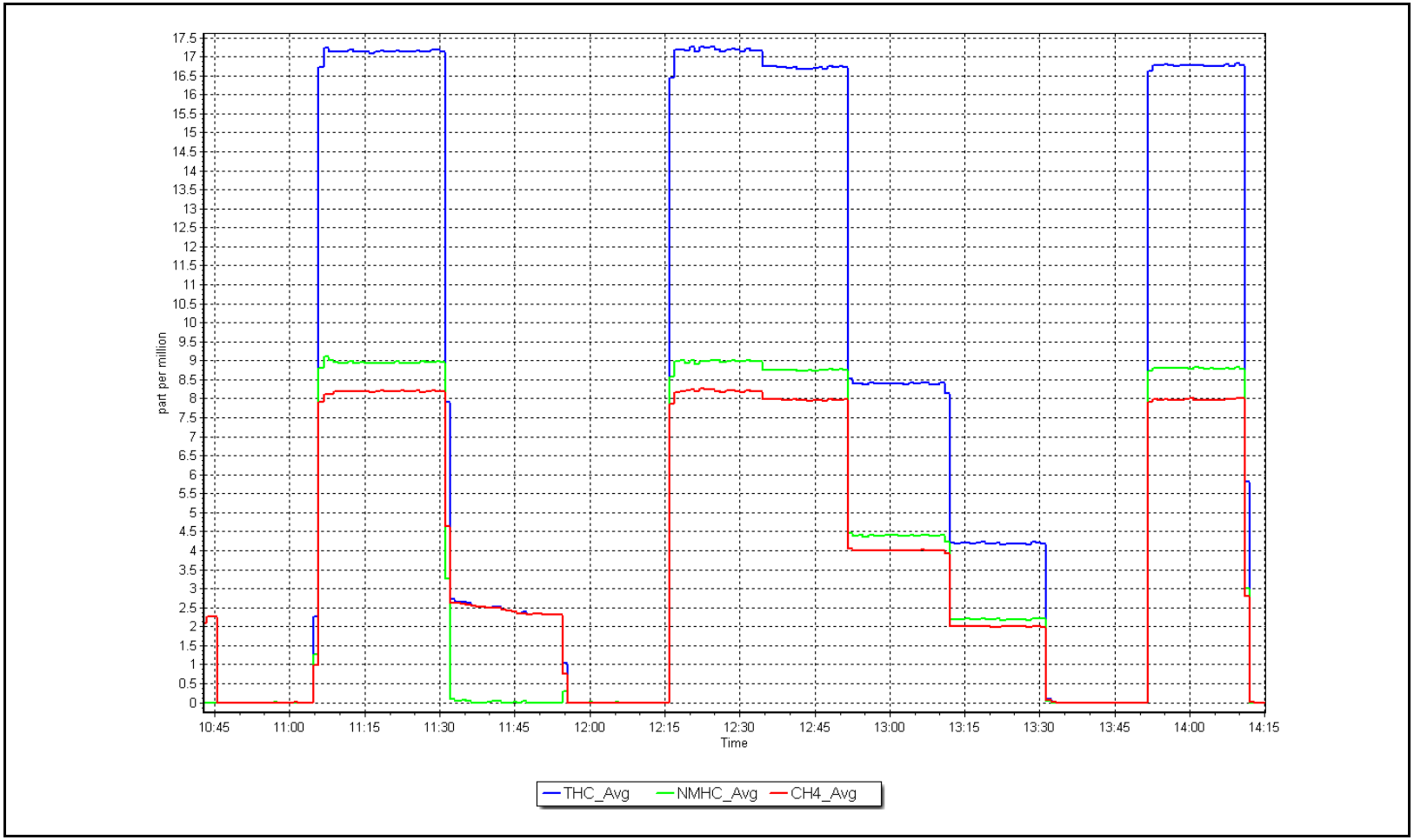
Calibration Date:	October 17, 2025	Previous Calibration:	September 15, 2025
Station Name:	Mannix	Station Number:	AMS 05
Start Time (MST):	10:42	End Time (MST):	14:15
Analyzer make:	Thermo 55i	Analyzer serial #:	15005164381

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999989	*≥0.995*
8.75	8.74	1.0012	Slope	0.999308	*0.90 - 1.10*
4.38	4.40	0.9959	Intercept	0.002841	*+/-0.5*
2.19	2.18	1.0032			



NMHC Calibration Plot Date: October 17, 2025 Location: Mannix



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Mannix	Station number:	AMS 05
Calibration Date:	October 24, 2025	Last Cal Date:	October 17, 2025
Start time (MST):	9:55	End time (MST):	11:45
Reason:	Cylinder Change		

Calibration Standards

Gas Cert Reference:	CC308040	Cal Gas Expiry Date:	October 22, 2032
CH4 Cal Gas Conc.	500.3 ppm	CH4 Equiv Conc.	1047.6 ppm
C3H8 Cal Gas Conc.	199.0 ppm		
Removed Gas Cert:		Removed Gas Expiry:	
Removed CH4 Conc.	500.3 ppm	CH4 Equiv Conc.	1047.6 ppm
Removed C3H8 Conc.	199.0 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	API T700	Serial Number:	5470
Zero Air Gen model:	API T701	Serial Number:	361

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	15005164381
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	2.61E-04	2.61E-04	NMHC SP Ratio:	4.91E-05	4.91E-05
CH4 Retention time:	13.7	13.7	NMHC Peak Area:	173301	173301
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.9	16.74	16.96	0.987
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	16.96	Prev response	16.70	*% change	1.5%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.9	16.74	17.00	0.985
				Average Correction Factor	

Notes: Changed the N2 cylinder after as founds.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.9	8.75	8.90	0.983
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.90	Prev response	8.74	*% change	1.7%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.9	8.75	8.92	0.981
				Average Correction Factor	

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.9	7.99	8.07	0.991
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.07	Prev response	7.96	*% change	1.3%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

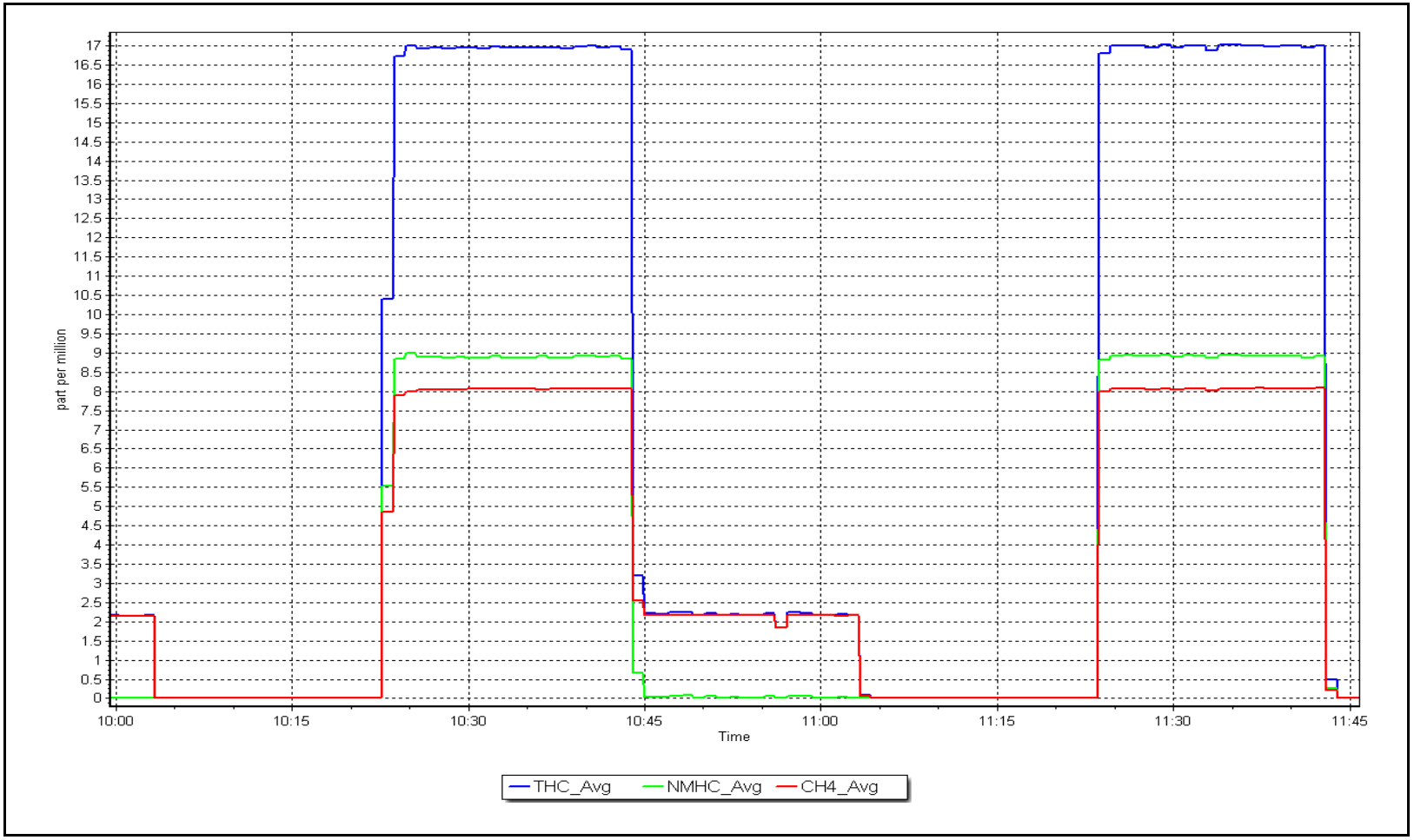
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.9	7.99	8.07	0.990
				Average Correction Factor	

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	0.997173	
THC Cal Offset:	0.010273	
CH4 Cal Slope:	0.995208	
CH4 Cal Offset:	0.006632	
NMHC Cal Slope:	0.999308	
NMHC Cal Offset:	0.002841	

Calibration Performed By: Max Farrell

NMHC Calibration Plot Date: October 24, 2025 Location: Mannix



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS06
PATRICIA MCINNES
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Patricia McInnes	Station number:	AMS 06
Calibration Date:	October 22, 2025	Last Cal Date:	September 11, 2025
Start time (MST):	8:32	End time (MST):	12:15
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.08	ppm	Cal Gas Exp Date:	October 22, 2032
Cal Gas Cylinder #:	CC255448			
Removed Cal Gas Conc:	50.08	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Model:	API T700		Serial Number:	3566
Zero Air Gen Model:	API T701		Serial Number:	4602

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1160290013	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.000135	1.002395	Backgd or Offset:	18.2	18.1
Calibration intercept:	1.019135	1.378488	Coeff or Slope:	0.907	0.919

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.1	----
As found High point	4920.2	79.8	799.3	791.9	1.009
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	792.0	Previous response	800.4	*% change	-1.1%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4920.2	79.8	799.3	802.1	0.996
Mid point	4960.1	39.9	399.6	402.2	0.994
Low point	4980	20.0	200.3	203.6	0.984
As left zero	5000	0.0	0.0	0.2	----
As left span	4919.7	80.3	804.3	800.5	1.005
				Average Correction Factor:	0.991

Notes: Changed the inlet filter after as founds. Adjusted the span.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

SO_2 Calibration Summary

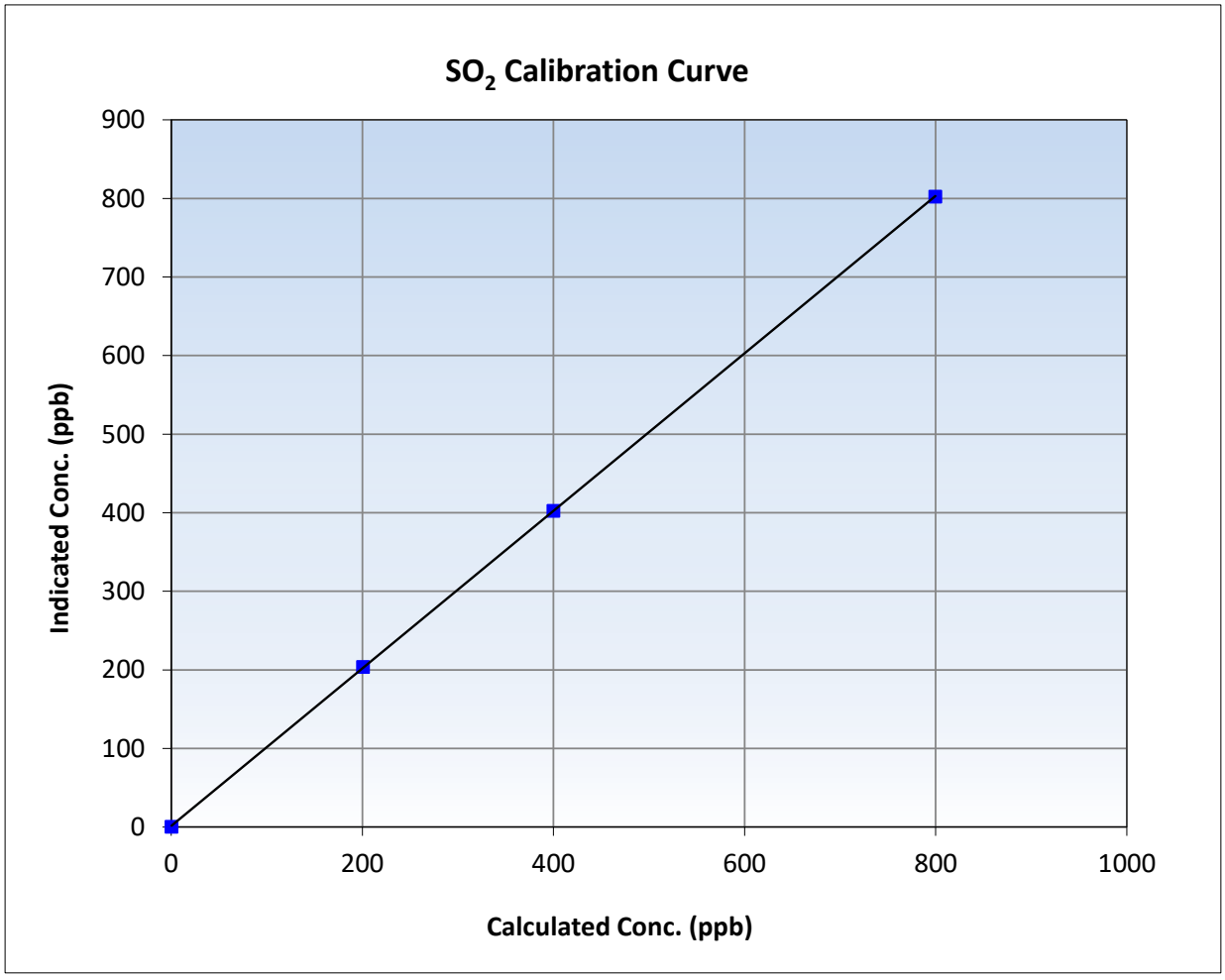
Station Information

Calibration Date:	October 22, 2025	Previous Calibration:	September 11, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	8:32	End Time (MST):	12:15
Analyzer make:	Thermo 43i	Analyzer serial #:	1160290013

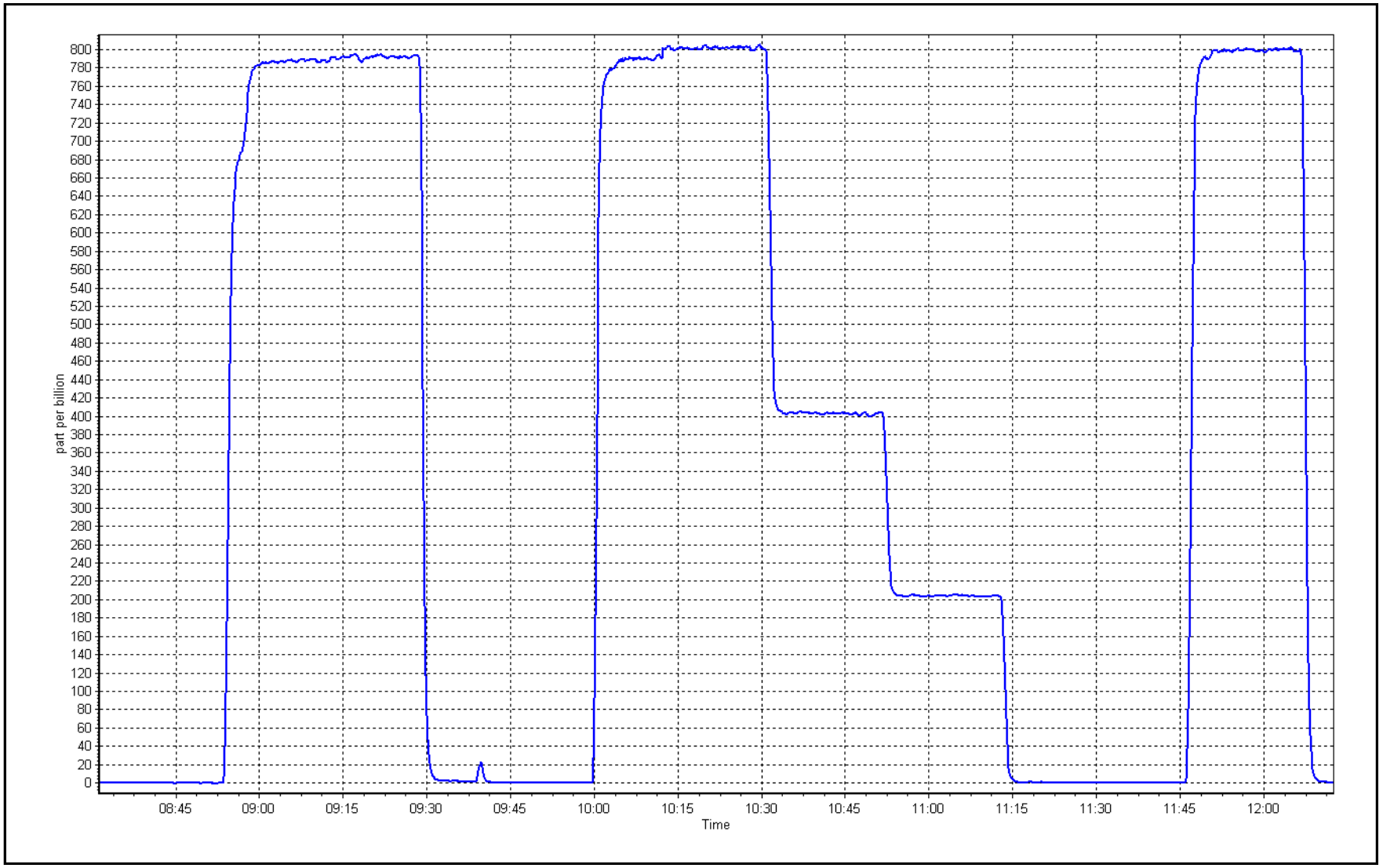
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
799.3	802.1	0.9965
399.6	402.2	0.9936
200.3	203.6	0.9839

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999990	*≥0.995*
Slope	1.002395	*0.90 - 1.10*
Intercept	1.378488	*+/-30*



SO2 Calibration Plot Date: October 22, 2025 Location: Patricia McInnes



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Patricia McInnes	Station number:	AMS 06
Calibration Date:	October 7, 2025	Last Cal Date:	September 10, 2025
Start time (MST):	9:24	End time (MST):	14:00
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.760	ppm	Cal Gas Exp Date:	August 28, 2027
Cal Gas Cylinder #:	DT0014585			
Removed Cal Gas Conc:	4.760	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	3566
ZAG Make/Model:	API T701		Serial Number:	4602

Analyzer Information

Analyzer make:	Thermo 43i TLE		Analyzer serial #:	1218153358	
Converter make:	CDN-101		Converter serial #:	517	
Analyzer Range	0 - 100 ppb		Converter Temp:	800	degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	0.993969	1.000686	Backgd or Offset:	1.99	1.99
Calibration intercept:	0.200000	0.140000	Coeff or Slope:	1.146	1.146

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.1	----
As found High point	4916	84.0	80.0	82.1	0.975
As found Mid point	4958	42.0	40.0	41.5	0.966
As found Low point	4979	21.0	20.0	20.6	0.975
New cylinder response					

Baseline Corr As found:	82.0	Prev response:	79.69	*% change:	2.8%
Baseline Corr 2nd AF pt:	41.4	AF Slope:	1.025982	AF Intercept:	0.180000
Baseline Corr 3rd AF pt:	20.5	AF Correlation:	0.999968	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4916	84.0	80.0	80.1	0.998
Mid point	4958	42.0	40.0	40.4	0.990
Low point	4979	21.0	20.0	19.9	1.005
As left zero	5000	0.0	0.0	0.4	----
As left span	4916	84.0	80.0	79.5	1.006
SO2 Scrubber Check				0.1	
Date of last scrubber change:		Monday, December 20, 2021		Ave Corr Factor	0.998
Date of last converter efficiency test:					

Notes: Changed the inlet filter after as founds. Ran a SO2 scrubber check after calibrator zero. No adjustments made.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

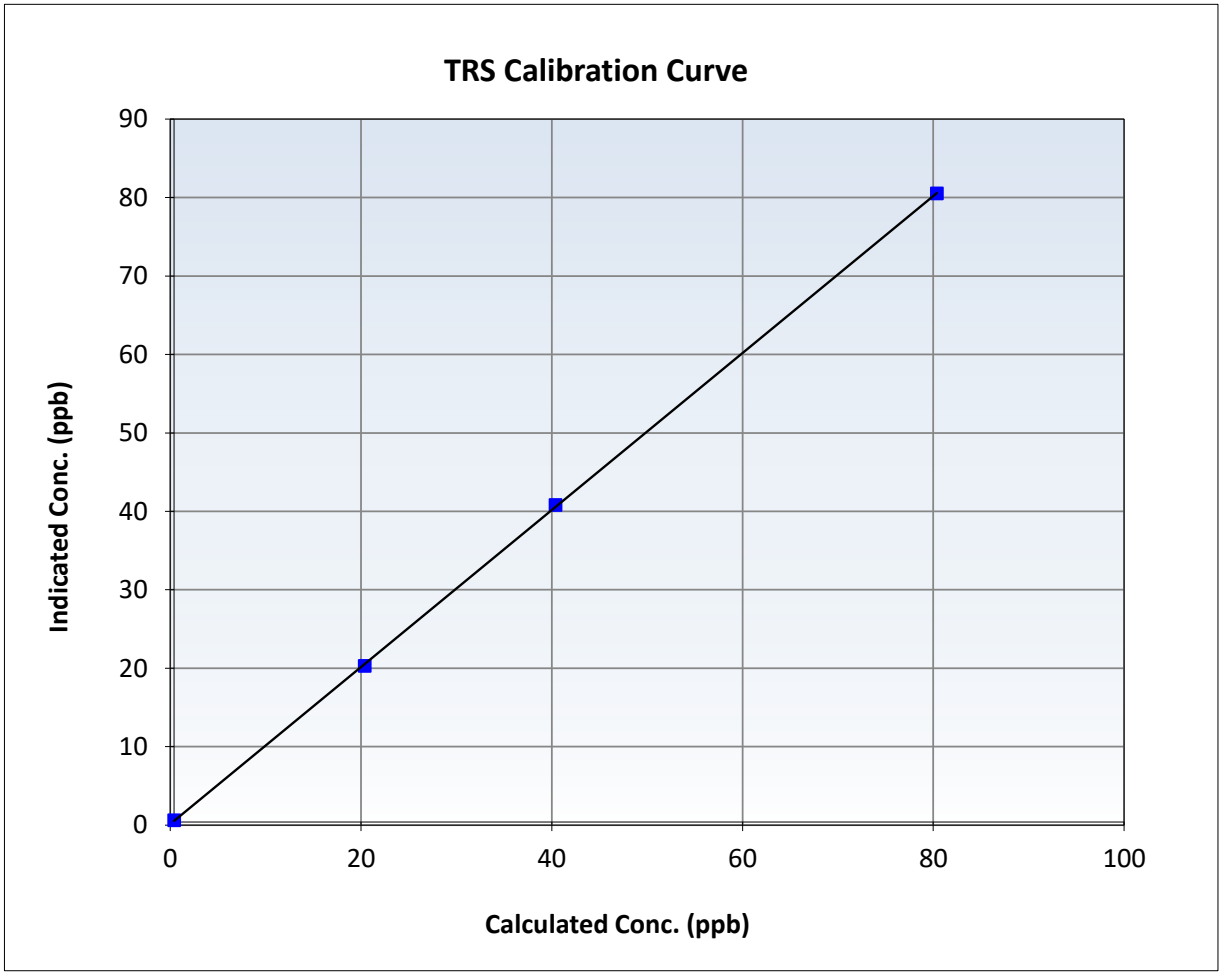
TRS Calibration Summary

Station Information

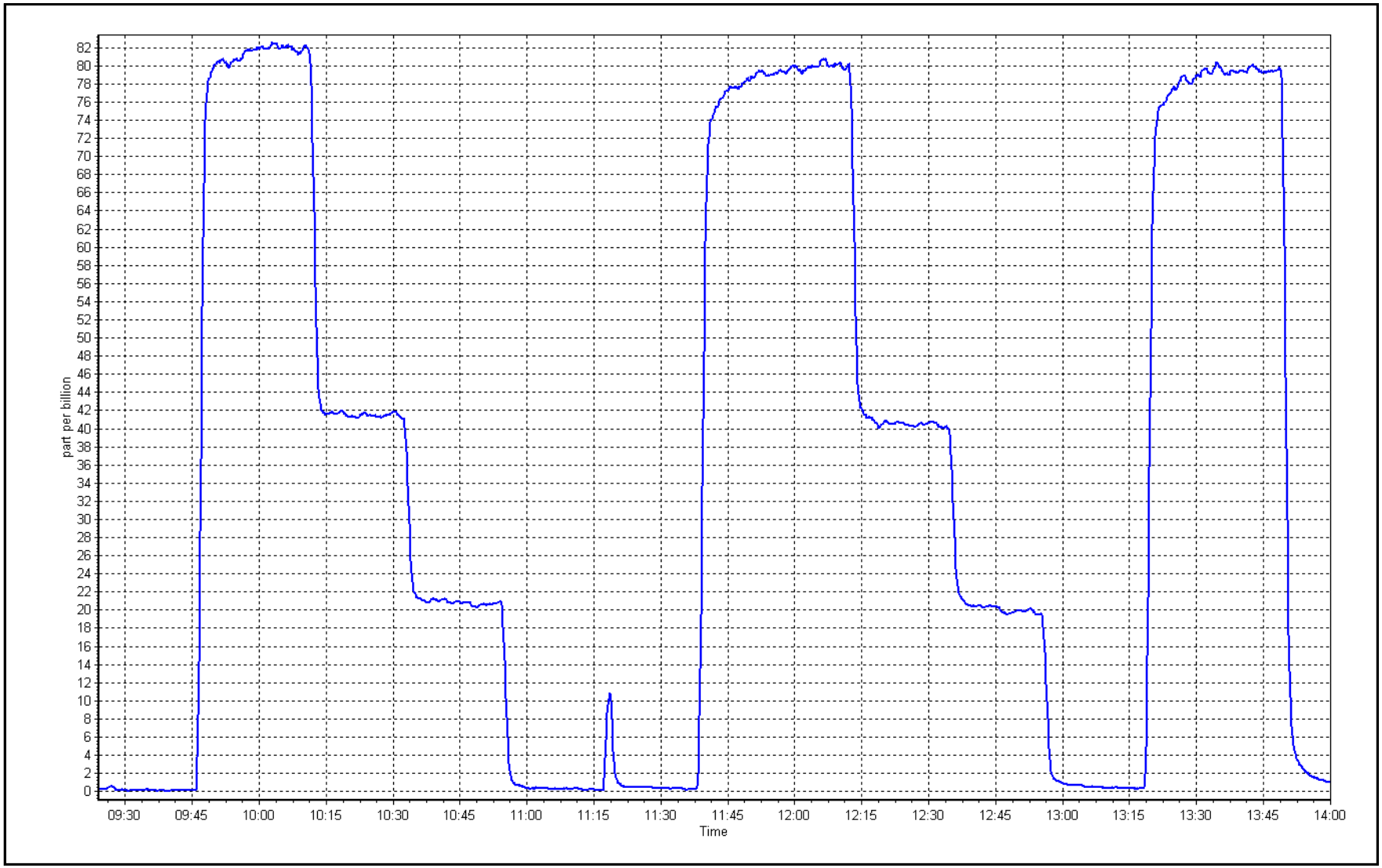
Calibration Date:	October 7, 2025	Previous Calibration:	September 10, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:24	End Time (MST):	14:00
Analyzer make:	Thermo 43i TLE	Analyzer serial #:	1218153358

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.2	----	Correlation Coefficient	0.999963	*≥0.995*
80.0	80.1	0.9984	Slope	1.000686	*0.90 - 1.10*
40.0	40.4	0.9897			
20.0	19.9	1.0046	Intercept	0.140000	*+/-3*



TRS Calibration Plot Date: October 7, 2025 Location: Patricia McInnes



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Patricia McInnes	Station number:	AMS 06
Calibration Date:	October 22, 2025	Last Cal Date:	September 11, 2025
Start time (MST):	8:32	End time (MST):	12:15
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC255448		Cal Gas Expiry Date:	October 22, 2032	
CH4 Cal Gas Conc.	501.4	ppm	CH4 Equiv Conc.	1049.5	ppm
C3H8 Cal Gas Conc.	199.3	ppm			
Removed Gas Cert:			Removed Gas Expiry:		
Removed CH4 Conc.	501.4	ppm	CH4 Equiv Conc.	1049.5	ppm
Removed C3H8 Conc.	199.3	ppm	Diff between cyl (THC):		
Diff between cyl (CH_4):			Diff between cyl (NM):		
Calibrator Model:	API T700		Serial Number:	3566	
Zero Air Gen model:	API T701		Serial Number:	4602	

Analyzer Information

Analyzer make:	Thermo 55i		Analyzer serial #:	1118148494	
THC Range:	0 - 20 ppm		NMHC/CH4 Range:	0 - 10 ppm	
	Start	***Finish***		***Start***	***Finish***
CH4 SP Ratio:	2.61E-04	2.60E-04	NMHC SP Ratio:	5.23E-05	5.19E-05
CH4 Retention time:	14.4	14.2	NMHC Peak Area:	167771	169079
Zero Chromatogram:	ON	ON	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	16.75	16.74	1.001
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	16.74	Prev response	16.75	*% change	-0.1%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.8	16.75	16.78	0.998
Mid point	4960	39.9	8.37	8.35	1.003
Low point	4980	20.0	4.20	4.18	1.003
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	16.75	16.75	1.000
				Average Correction Factor	1.001

Notes: Changed the inlet filter after as founds. Changed the H2 cylinder after as founds. Adjusted the span.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	8.75	8.82	0.991
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.82	Prev response	8.77	*% change	0.6%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.8	8.75	8.78	0.996
Mid point	4960.1	39.9	4.37	4.40	0.994
Low point	4980	20.0	2.19	2.24	0.981
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	8.75	8.81	0.993
				Average Correction Factor	0.991

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	8.00	7.91	1.012
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.91	Prev response	7.98	*% change	-0.9%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.8	8.00	8.00	1.000
Mid point	4960.1	39.9	4.00	3.95	1.012
Low point	4980	20.0	2.01	1.95	1.029
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	8.00	7.95	1.007
				Average Correction Factor	1.014

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	0.999600	1.002063
THC Cal Offset:	0.010600	-0.016203
CH4 Cal Slope:	0.999220	1.001703
CH4 Cal Offset:	-0.011799	-0.031995
NMHC Cal Slope:	1.000182	1.002391
NMHC Cal Offset:	0.021998	0.015792

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

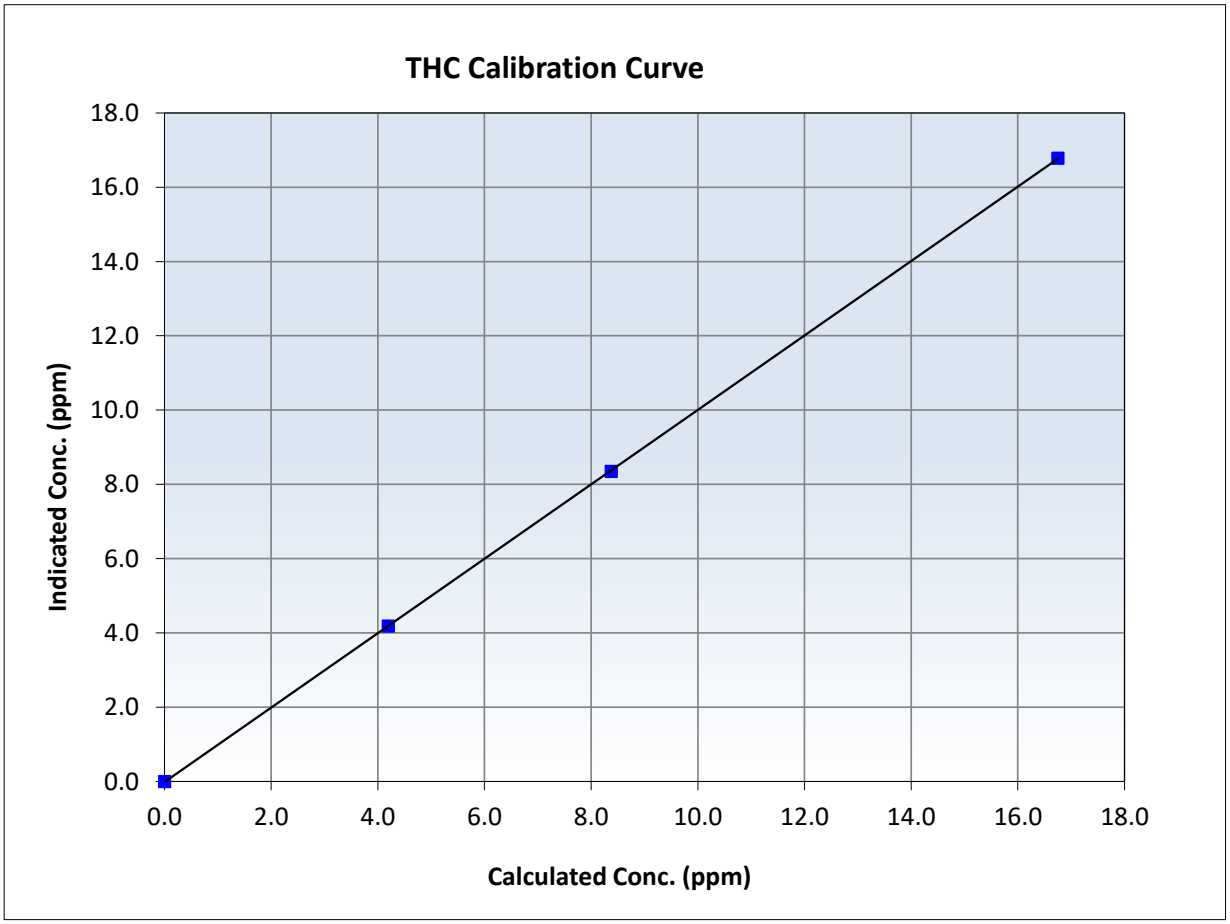
THC Calibration Summary

Station Information

Calibration Date:	October 22, 2025	Previous Calibration:	September 11, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	8:32	End Time (MST):	12:15
Analyzer make:	Thermo 55i	Analyzer serial #:	1118148494

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999994	*≥0.995*
16.75	16.78	0.9981	Slope	1.002063	*0.90 - 1.10*
8.37	8.35	1.0026			
4.20	4.18	1.0033	Intercept	-0.016203	*+/-0.5*



Wood Buffalo Environmental Association

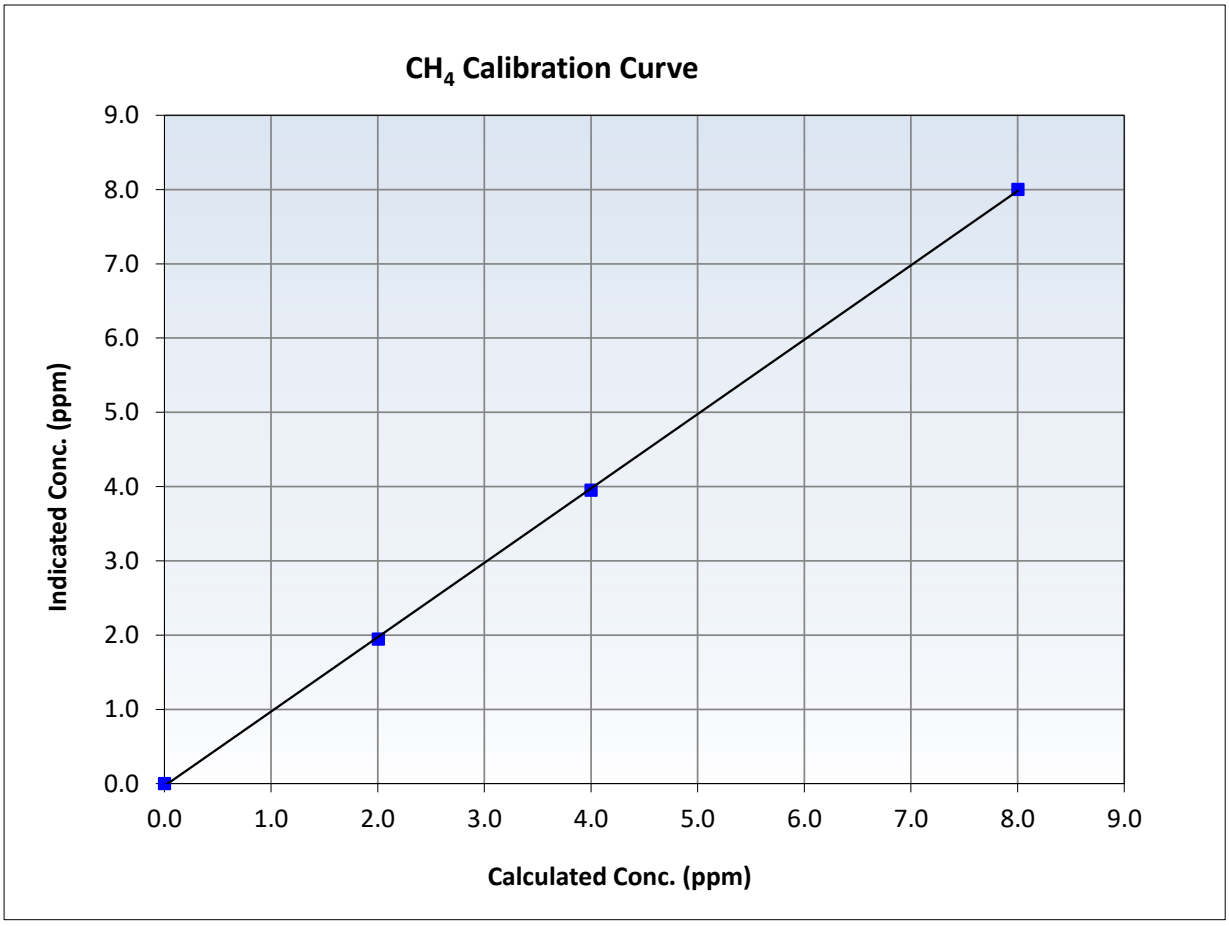
CH_4 Calibration Summary

Station Information

Calibration Date:	October 22, 2025	Previous Calibration:	September 11, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	8:32	End Time (MST):	12:15
Analyzer make:	Thermo 55i	Analyzer serial #:	1118148494

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999925	≥0.995
8.00	8.00	1.0000	Slope	1.001703	0.90 - 1.10
4.00	3.95	1.0119			
2.01	1.95	1.0290	Intercept	-0.031995	+/-0.5



Wood Buffalo Environmental Association

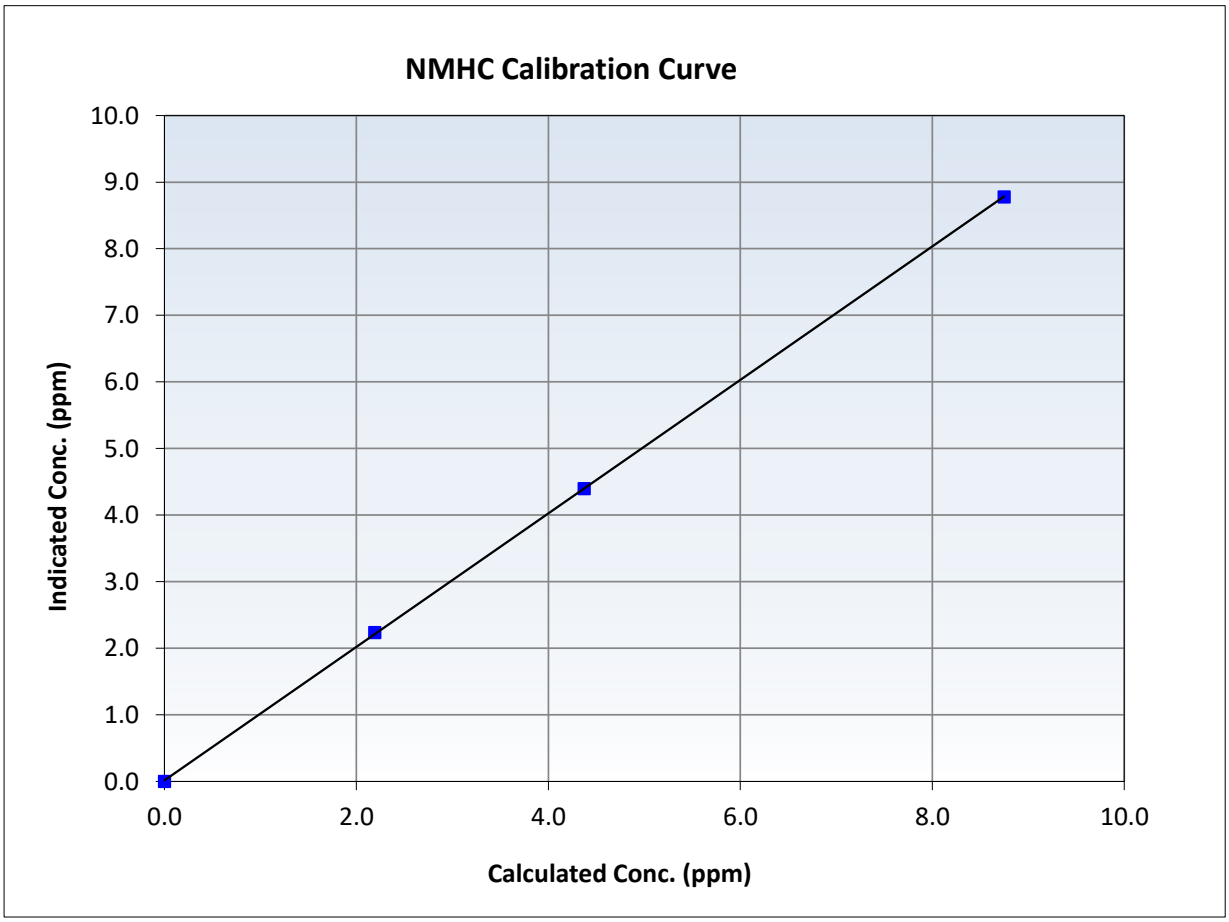
NMHC Calibration Summary

Station Information

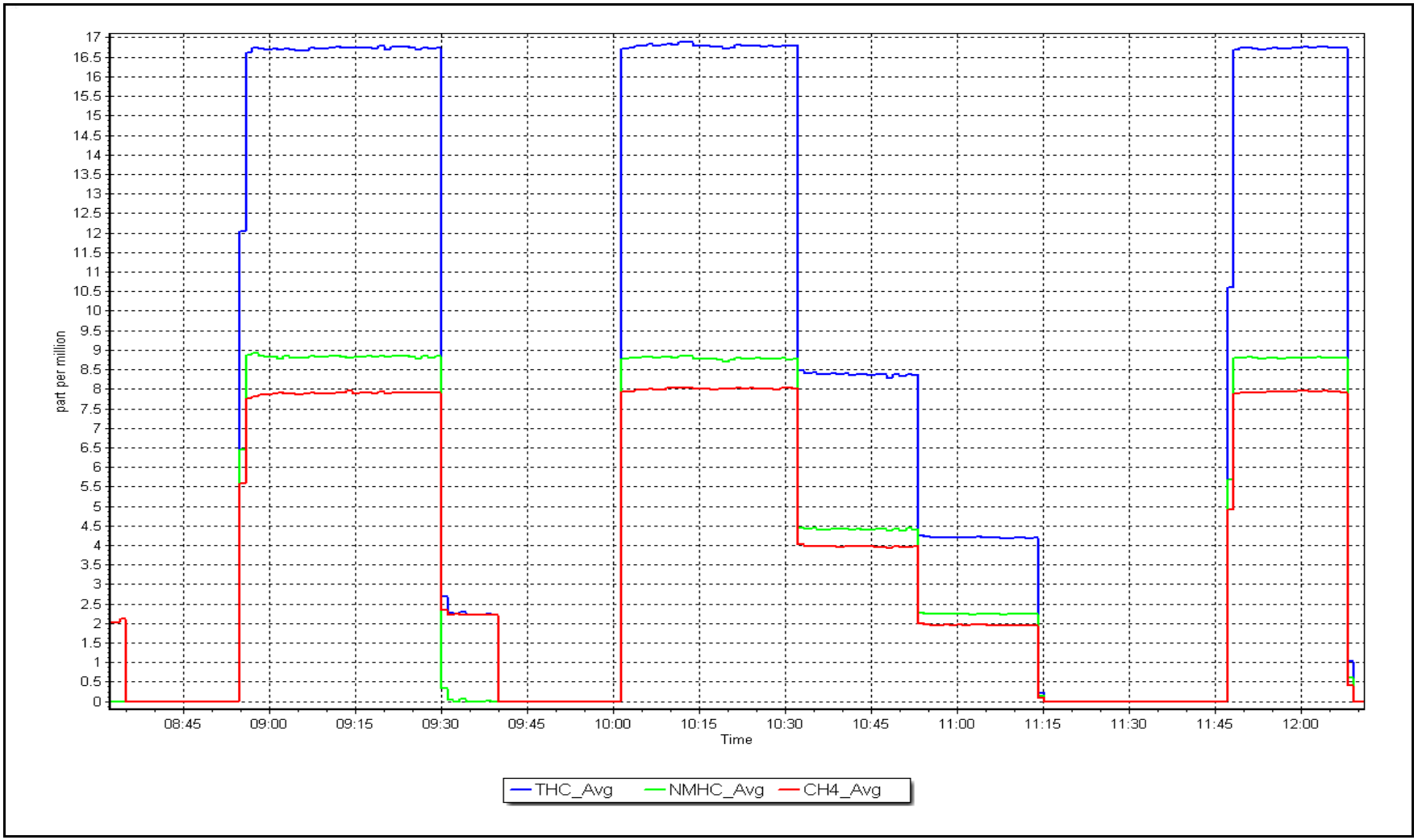
Calibration Date:	October 22, 2025	Previous Calibration:	September 11, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	8:32	End Time (MST):	12:15
Analyzer make:	Thermo 55i	Analyzer serial #:	1118148494

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999982	≥0.995
8.75	8.78	0.9964	Slope	1.002391	0.90 - 1.10
4.37	4.40	0.9942			
2.19	2.24	0.9809	Intercept	0.015792	+/-0.5



NMHC Calibration Plot Date: October 22, 2025 Location: Patricia McInnes



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Patricia McInnes
Station number:	AMS 06
Calibration Date:	October 2, 2025
Last Cal Date:	September 4, 2025
Start time (MST):	9:00
End time (MST):	14:05
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0036234	Cal Gas Expiry Date:	July 22, 2032
NOX Cal Gas Conc:	62.2 ppm	NO Cal Gas Conc:	61.90 ppm
Removed Cylinder #:		Removed Gas Exp Date:	
Removed Gas NOX Conc:	62.20 ppm	Removed Gas NO Conc:	61.90 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	3566
ZAG make/model:	Teledyne API T701	Serial Number:	4602

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	0.4	0.2	0.2	----	----
AF High point	4935	64.6	803.7	799.8	3.9	799.5	792.3	7.2	1.0057	1.0097
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	801.9 ppb	NO =	798.1 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = -0.3%
Baseline Corr 1st pt	NO_X =	799.1 ppb	NO =	792.1 ppb	As Found Statistics	*Percent Change	NO = -0.8%
Baseline Corr 2nd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO_X r^2:	Nx Sl:	Nx Int:
Baseline Corr 3rd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO r^2:	NO Sl:	NO Int:
					As found NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1172750022

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.887	0.893	NO bkgnd or offset:	3.5	3.6
NOX coeff or slope:	0.993	0.997	NOX bkgnd or offset:	3.9	3.9
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	160.9	160.9

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.993669	0.998122
NO_X Cal Offset:	3.252938	2.911651
NO Cal Slope:	0.997225	0.999055
NO Cal Offset:	0.493970	1.153160
NO_2 Cal Slope:	0.996503	1.004883
NO_2 Cal Offset:	-0.455577	1.204514

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.8	0.5	0.4	----	----
High point	4935	64.6	803.7	799.8	3.9	803.8	799.8	3.9	0.9999	1.0000
Mid point	4968	32.3	401.8	399.9	1.9	405.7	401.2	4.6	0.9904	0.9966
Low point	4984	16.2	201.5	200.5	1.0	205.7	202.0	3.8	0.9797	0.9928
As left zero	5000	0.0	0.0	0.0	0.0	0.5	0.3	0.3	----	----
As left span	4935	64.6	803.7	394.9	408.8	805.5	394.9	410.6	0.9978	1.0000
							Average Correction Factor		0.9900	0.9965

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.4	----	----
High GPT point	797.0	393.4	407.5	410.3	0.9931	100.7%
Mid GPT point	797.0	600.4	200.5	203.0	0.9876	101.3%
Low GPT point	797.0	701.7	99.2	101.7	0.9752	102.5%
				Average Correction Factor	0.9853	101.5%

Notes: Changed the inlet filter after as founds. Adjusted the span.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

NO_X Calibration Summary

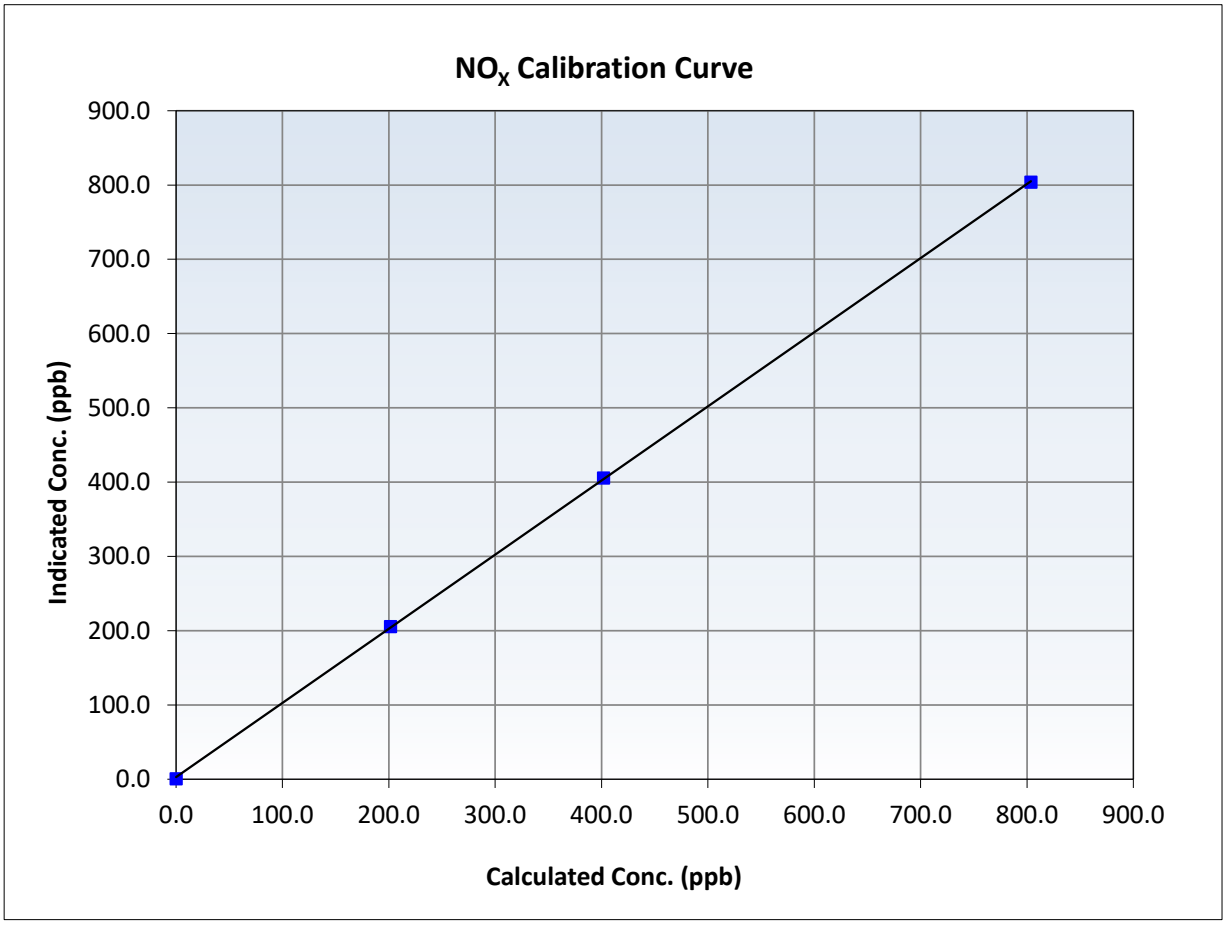
Station Information

Calibration Date:	October 2, 2025	Previous Calibration:	September 4, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:00	End Time (MST):	14:05
Analyzer make:	Thermo 42i	Analyzer serial #:	1172750022

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.8	----
803.7	803.8	0.9999
401.8	405.7	0.9904
201.5	205.7	0.9797

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999966	*≥0.995*
Slope	0.998122	*0.90 - 1.10*
Intercept	2.911651	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

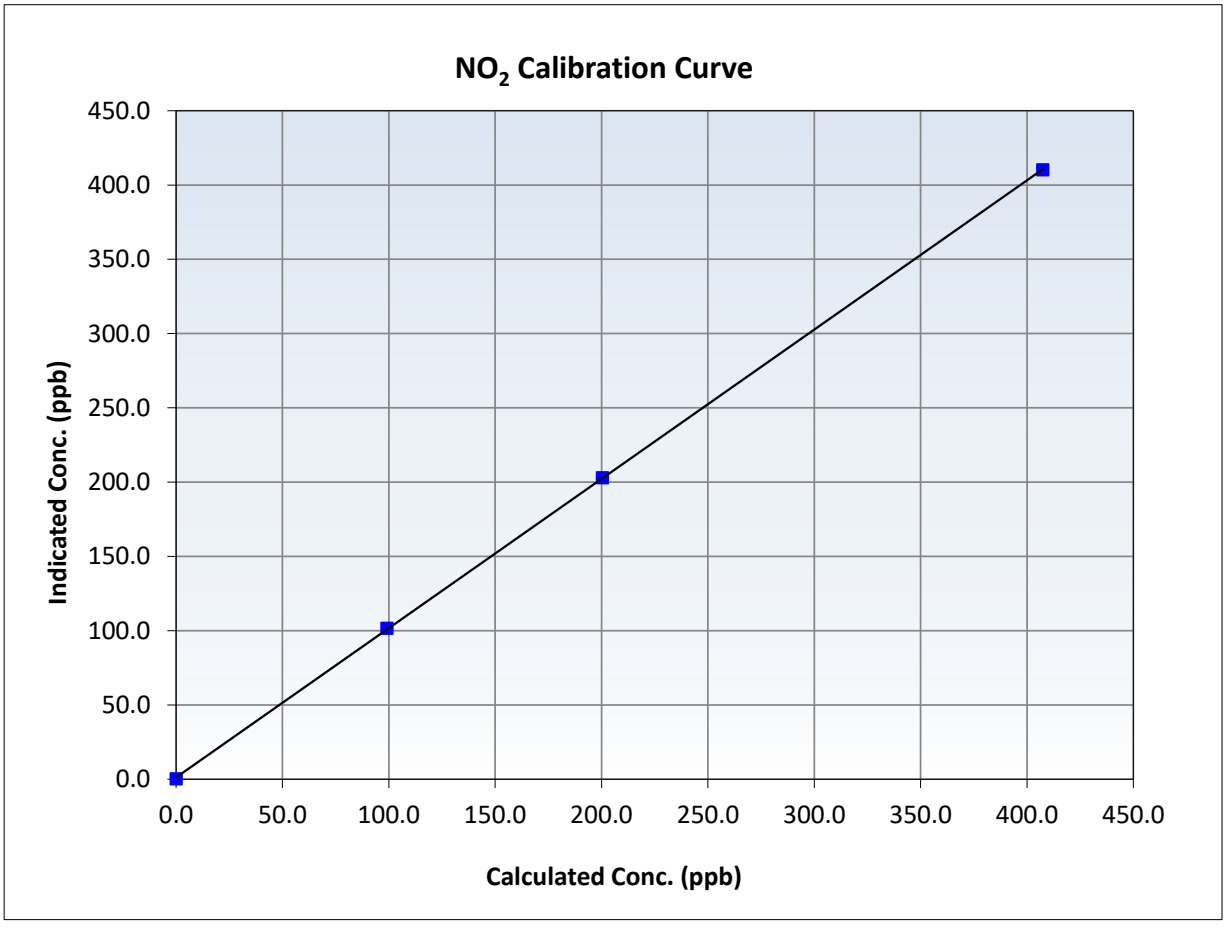
Station Information

Calibration Date:	October 2, 2025	Previous Calibration:	September 4, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:00	End Time (MST):	14:05
Analyzer make:	Thermo 42i	Analyzer serial #:	1172750022

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
407.5	410.3	0.9931
200.5	203.0	0.9876
99.2	101.7	0.9752

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999983	*≥0.995*
Slope	1.004883	*0.90 - 1.10*
Intercept	1.204514	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

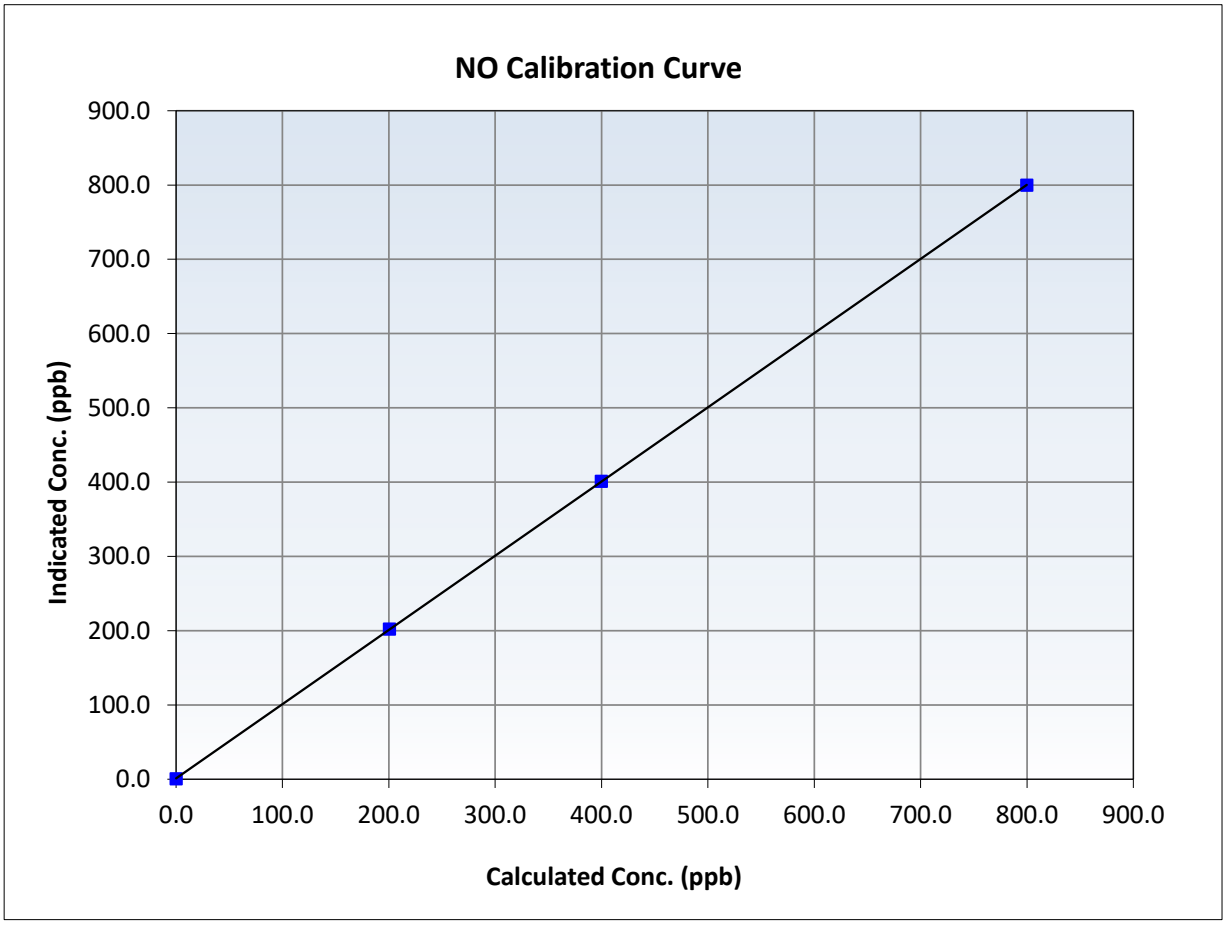
Station Information

Calibration Date:	October 2, 2025	Previous Calibration:	September 4, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:00	End Time (MST):	14:05
Analyzer make:	Thermo 42i	Analyzer serial #:	1172750022

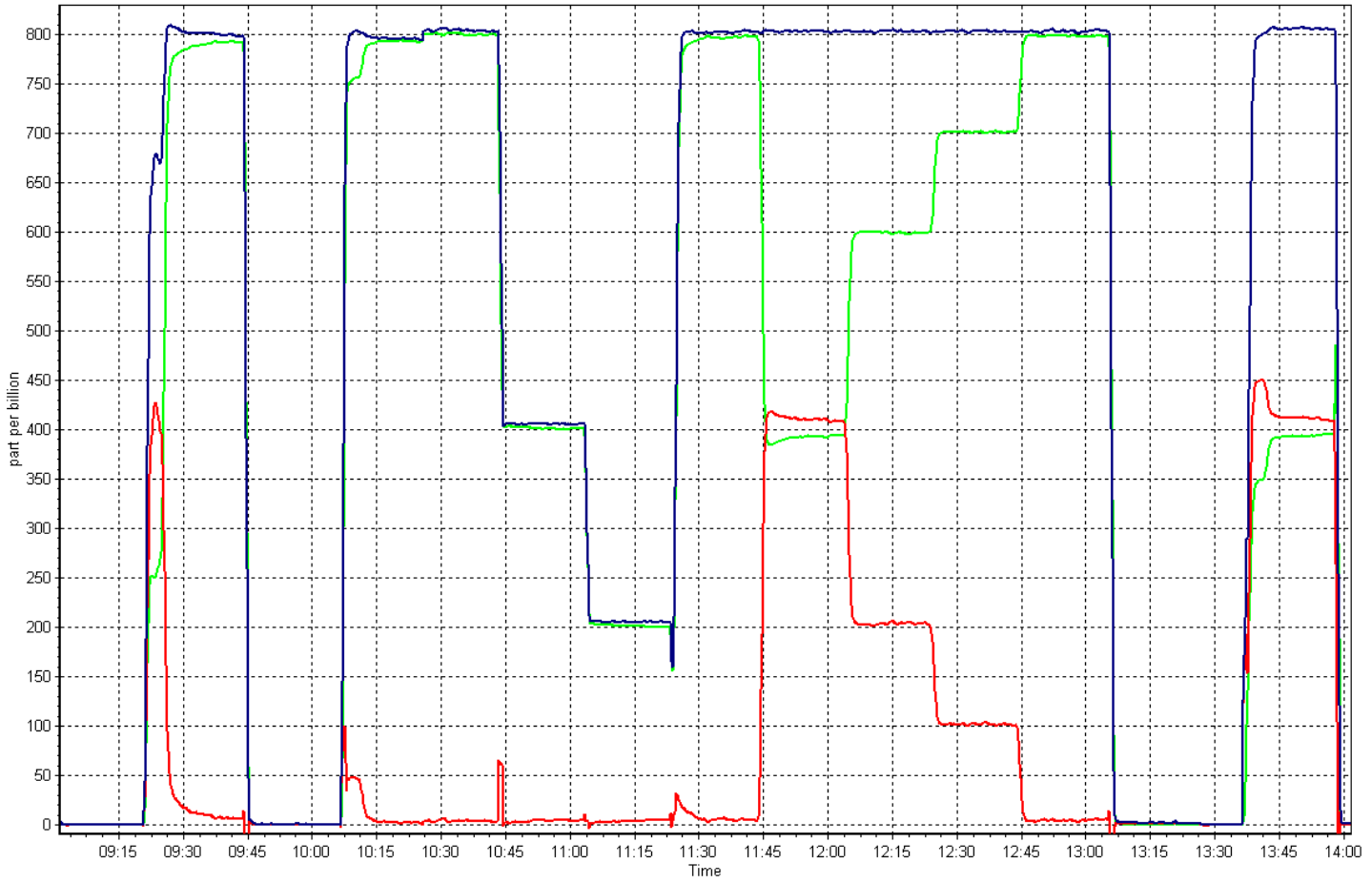
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.5	----
799.8	799.8	1.0000
399.9	401.2	0.9966
200.5	202.0	0.9928

Statistical Evaluation		Limits
Correlation Coefficient	0.999997	≥0.995
Slope	0.999055	0.90 - 1.10
Intercept	1.153160	+/-20



NO_X Calibration Plot Date: October 2, 2025 Location: Patricia McInnes



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Patricia McInnes	Station number:	AMS 06
Calibration Date:	October 3, 2025	Last Cal Date:	September 16, 2025
Start time (MST):	10:00	End time (MST):	13:15
Reason:	Routine		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	API T700	Serial Number:	3566
ZAG Make/Model:	API T701	Serial Number:	4602

Analyzer Information

Analyzer make:	Thermo 49i	Analyzer serial #:	1300156234
Analyzer Range	0 - 500 ppb		

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.001800	1.002886	Backgd or Offset:	-0.5	-0.5
Calibration intercept:	-0.040000	0.220000	Coeff or Slope:	1.020	1.020

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	800.0	0.0	-0.5	----
As found High point	5000	1031.0	400.0	401.0	0.996
As found Mid point					
As found Low point					
Baseline Corr As found:	401.5	Previous response	400.7	*% change	0.2%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

O_3 Calibration Data

Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	800.0	0.0	-0.1	----
High point	5000	1031.0	400.0	401.3	0.997
Mid point	5000	821.4	200.0	200.7	0.997
Low point	5000	699.5	100.0	101.0	0.990
As left zero	5000	800.0	0.0	0.2	----
As left span	5000	1031.0	400.0	402.3	0.994
				Average Correction Factor	0.994

Notes: Changed the inlet filter after as founds. No adjustments made.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

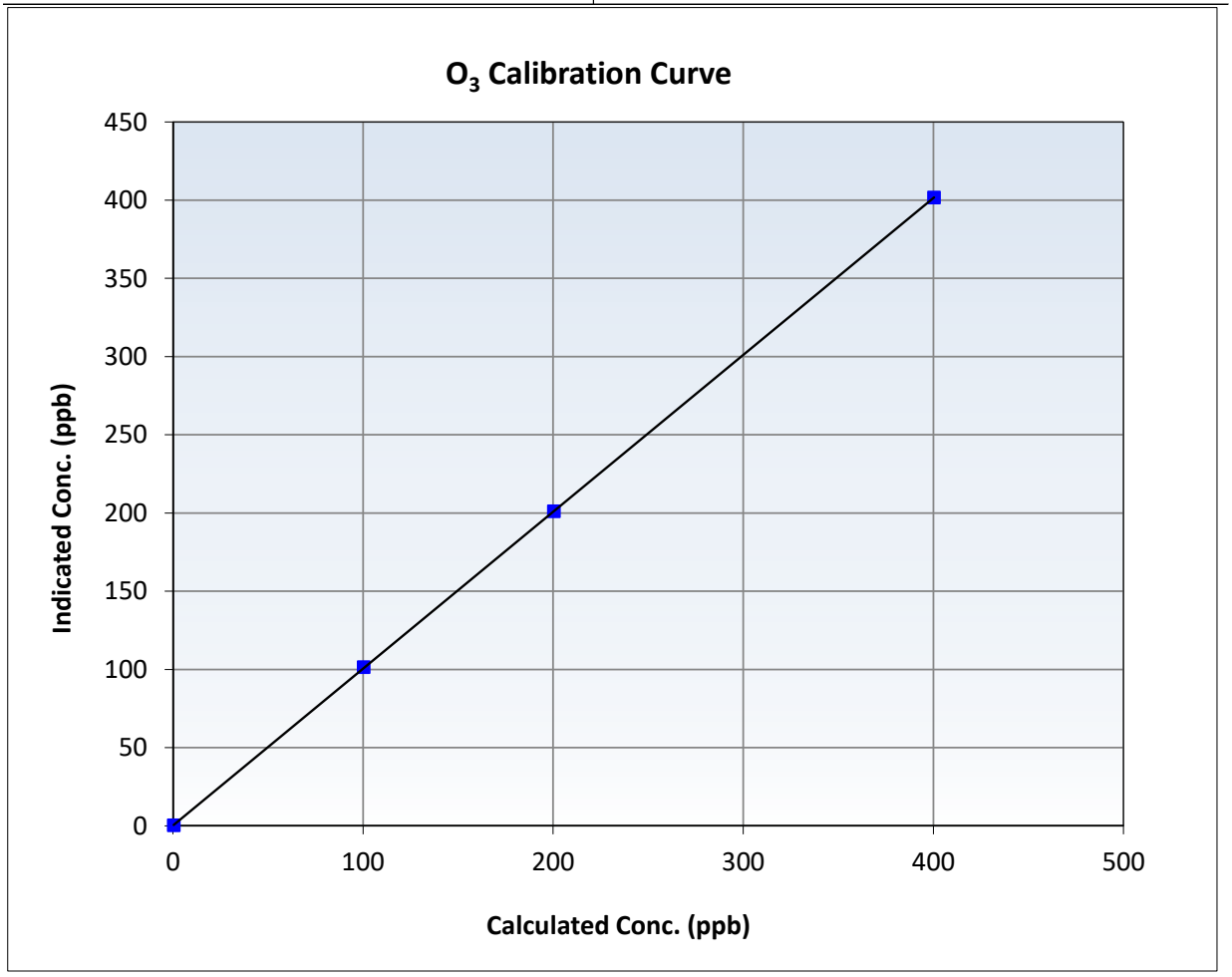
O_3 Calibration Summary

Station Information

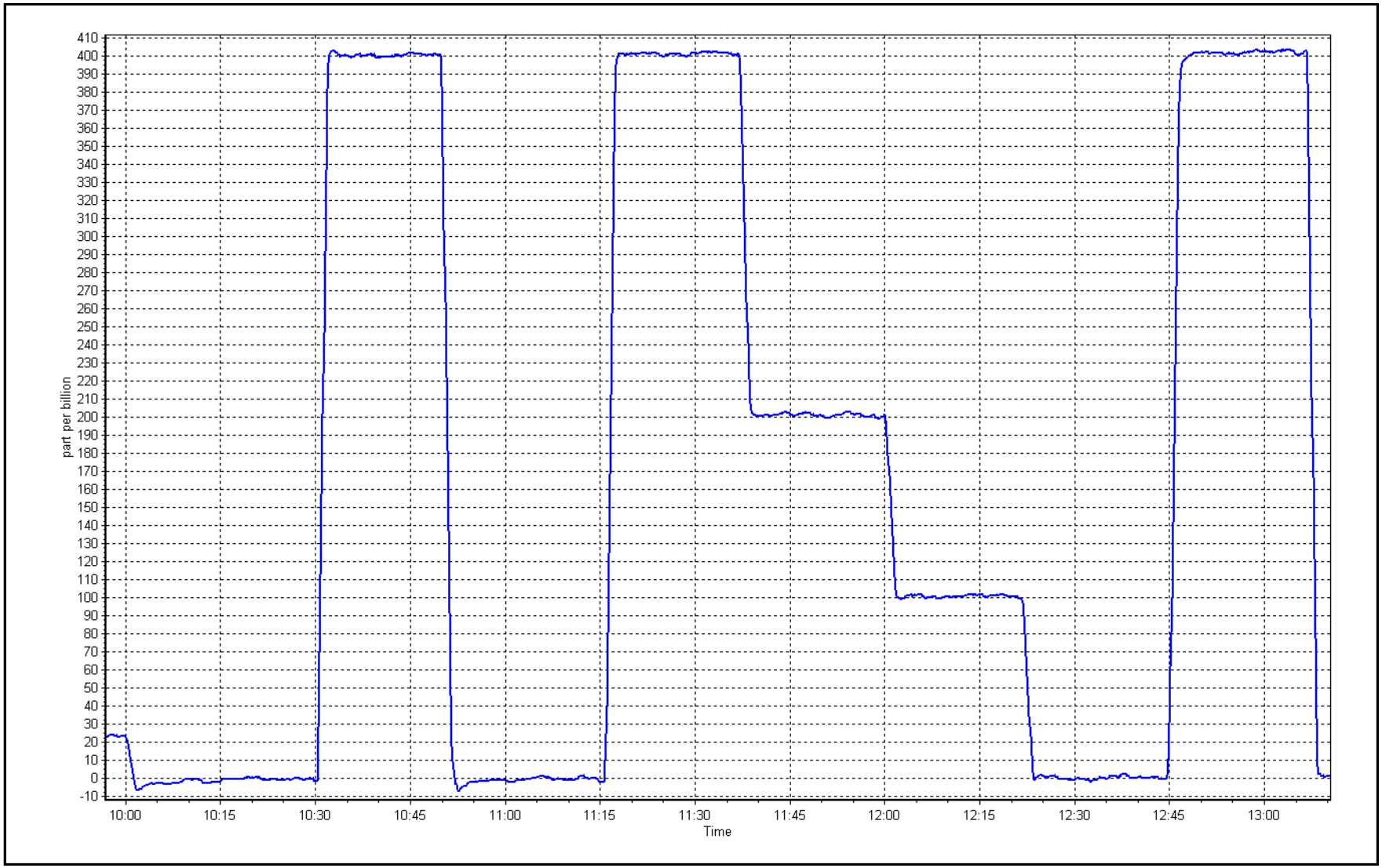
Calibration Date:	October 3, 2025	Previous Calibration:	September 16, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	10:00	End Time (MST):	13:15
Analyzer make:	Thermo 49i	Analyzer serial #:	1300156234

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	-0.1	----	Correlation Coefficient	0.999996	*≥0.995*
400.0	401.3	0.9968	Slope	1.002886	*0.90 - 1.10*
200.0	200.7	0.9965			
100.0	101.0	0.9901	Intercept	0.220000	*+/- 5*



O_3 Calibration Plot Date: October 3, 2025 Location: Patricia McInnes



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Patricia McInnes	Station number:	AMS 06
Calibration Date:	October 3, 2025	Last Cal Date:	September 16, 2025
Start time (MST):	13:30	End time (MST):	14:22
Analyzer Make:	API T640	S/N:	1547
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388755
Temp/RH standard:	Alicat FP-25BT	S/N:	388755

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (^{o}C)	17.1	16.8	17.1	☐	+/- 2 ^{o}C
P (mmHg)	721.60	720.50	721.60	☐	+/- 10 mmHg
Flow (LPM)	4.99	4.94	4.99	☐	+/- 0.25 LPM
PW% (pump)	30	-----	30	☐	>80%
Zero Verification	PM w/o HEPA:	5.4	PM w/ HEPA:	0.0	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.9 — Expiry Date: 07-16-2026 — Lot No.: 100128-050-050

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test				☐	+/- 0.5

Date Optical Chamber Cleaned: September 16, 2025

Date Disposable Filter Changed: September 16, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0.00 <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: April 4, 2025

Date RH/T Sensor Cleaned: April 4, 2025

Notes: Quarterly calibration completed last month. No adjustments made.

Calibration by: Max Farrell

Wood Buffalo Environmental Association

Nt - NOX - NH3 Calibration Report

Station Information

Station Name:	Patricia McInnes	Station number:	AMS 06
NOX Cal Date:	October 8, 2025	Last Cal Date:	September 18, 2025
Start time (MST):	8:47	End time (MST):	14:50
NH3 Cal Date:	October 8, 2025	Last Cal Date:	September 18, 2025
Start time (MST):	14:55	End time (MST):	15:05
Reason:	Routine		

Calibration Standards

NOX Cal Gas Conc:	62.20	ppm	NO Gas Cylinder #:	DT0036234
NO Cal Gas Conc:	61.90	ppm	NO Cal Gas Expiry:	July 22, 2032
Removed NOX Conc:	62.20	ppm	Removed Cylinder #:	N/A
Removed NO Conc:	61.90	ppm	Removed cyl Expiry:	N/A
NOX gas Diff:			NO gas Diff:	
NH3 Cal Gas Conc:	75.0	ppm	NH3 Gas Cylinder #:	CC709372
			NH3 Cal Gas Expiry:	December 31, 2025
Removed NH3 Conc:	75.0	ppm	Removed Cylinder #:	
NH3 gas Diff:			Removed cyl Expiry:	
Calibrator Model:	API T700		Serial Number:	3566
ZAG make/model:	API T701		Serial Number:	4602

Analyzer Information

Analyzer model:	API T201		Analyzer serial #:	215
Converter model:	API T501		Converter serial #:	147
NH3 Range (ppb):	0 - 2000 ppb		Reaction cell Press:	6.20
NOX Range (ppb):	0 - 1000 ppb		Sample Flow:	25.4

	Start	*Finish*		*Start*	*Finish*
NO coefficient:	1.033	1.033	Nt coefficient:	1.027	1.027
NOX coefficient:	1.028	1.028	NO bkgrnd:	0.2	0.2
NO2 coefficient:	1.000	1.000	NOX bkgrnd:	-0.1	-0.1
NH3 coefficient:	0.956	0.956	Nt bkgrnd:	1.7	1.7

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.002769	1.005416
NO_X Cal Offset:	1.651917	1.471046
NO Cal Slope:	1.007657	1.004684
NO Cal Offset:	-1.307779	-0.067219
NO_2 Cal Slope:	0.997044	0.988675
NO_2 Cal Offset:	-0.069871	1.369665
NH3 Cal Slope:	0.995041	0.992894
NH3 Cal Offset:	6.993465	6.488525
Nt Cal Slope:	0.998870	0.996556
Nt Cal Offset:	7.386406	7.069139

Wood Buffalo Environmental Association

NO_X - NO - NO_2 Calibration Report

NOx / NO / Nt As Found Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated Nt concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated Nt concentration (ppb) (Ic)	Baseline corr NOx Correction factor (Cc/Ic) *Limit = 0.9 - 1.0*	Baseline corr NO Correction factor (Cc/Ic) *Limit = 0.9 - 1.0*
As found zero	5000	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.5	----	----
As found span	4935	64.6	803.7	799.8	803.7	808.2	798.1	810.6	0.9944	1.0021
AF GPT span										
new NO cyl rp										

Baseline Corr As Fd	Nt =	811.1	ppb	NO_X =	808.3	ppb	NO =	798.3 ppb
Previous Response	Nt =	810.17	ppb	NO_X =	807.6	ppb	NO =	804.6 ppb

**NO_X Δ (NO to GPT response) =

* *= > +/-2% difference initiates investigation

*Percent Change $Nt_{(NO)}$ = 0.1%

*Percent Change NO_X = 0.1%

*Percent Change NO = -0.8%

* = > +/-5% change initiates investigation

NOx / NO / Nt Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated Nt concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated Nt concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibration zero	5000	0.0	0.0	0.0	0.0	0.4	-0.2	-0.2	----	----
High point	4935	64.6	803.7	799.8	803.7	808.4	802.9	808.5	0.9942	0.9962
Mid point	4968	32.3	401.8	399.9	401.8	407.7	403.3	407.5	0.9855	0.9914
Low point	4984	16.2	201.5	200.5	201.5	204.0	200.5	205.8	0.9878	1.0002
								Average Correction Factor	0.9892	0.9959

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
As Found zero	----	----	0.0	0.1	----	----
Calibration zero	----	----	0.0	0.6	----	----
High GPT point (400 ppb O3)	800.7	393.3	411.3	407.3	1.0098	99.0%
Mid GPT point (200 ppb O3)	800.7	602.5	202.1	202.5	0.9979	100.2%
Low GPT point (100 ppb O3)	800.7	702.0	102.6	102.9	0.9969	100.3%
				Average Correction Factor	1.0015	99.9%

Wood Buffalo Environmental Association
NH_3 - N_T Calibration Report

NH3 As Found Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated Nt concentration (ppb) (Cc)	Calculated NOX concentration (ppb) (Cc)	Calculated NH3 concentration (ppb) (Cc)	Indicated Nt concentration (ppb) (Ic)	Indicated NOX concentration (ppb) (Ic)	Indicated NH3 concentration (ppb) (Ic)	Baseline corr Nt Correction factor (Cc/(Ic-zero)) *Limit = 0.9 - 1.1*	Baseline corr NH3 Correction factor (Cc/(Ic-zero)) *Limit = 0.9 - 1.1*
As found zero	5000	0.0	0.0	0.0	0.0	-0.5	-0.1	-0.4	----	----
AF High point	3416	84.0	1799.0	0.0	1799.0	1795.5	7.0	1788.5	1.002	1.006
AF Mid point										
AF Low point										
new NH3 cyl rp										

Baseline Corr As Fd Nt = 1796.0 ppb NH3 = 1788.9 ppb *Percent Change $Nt_{(NH3)}$ = -0.5%

Previous Response Nt = 1804.4 ppb NH3 = 1797.1 ppb * = > +/-5% change initiates investigation *Percent Change NH3 = -0.5%

NH3 Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated Nt concentration (ppb) (Cc)	Calculated NOX concentration (ppb) (Cc)	Calculated NH3 concentration (ppb) (Cc)	Indicated Nt concentration (ppb) (Ic)	Indicated NOX concentration (ppb) (Ic)	Indicated NH3 concentration (ppb) (Ic)	Nt Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NH3 Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibration zero	5000	0.0	0.0	0.0	0.0	-0.2	0.4	-0.6	----	----
High point	3416	84.0	1799.0	0.0	1799.0	1795.5	7.0	1788.5	1.002	1.006
Mid point	3453	46.7	1000.3	0.0	1000.3	1008.1	4.3	1003.6	0.992	0.997
Low point	3477	23.3	499.0	0.0	499.0	511.8	2.5	509.3	0.975	0.980
								Average Correction Factor	0.9897	0.9941

NH3 Previous Converter Efficiency = 95.6 %
NH3 Current Converter Efficiency = 95.6 %

Notes: Changed the inlet filter after as founds. No adjustmenst made.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

Nt Calibration Summary

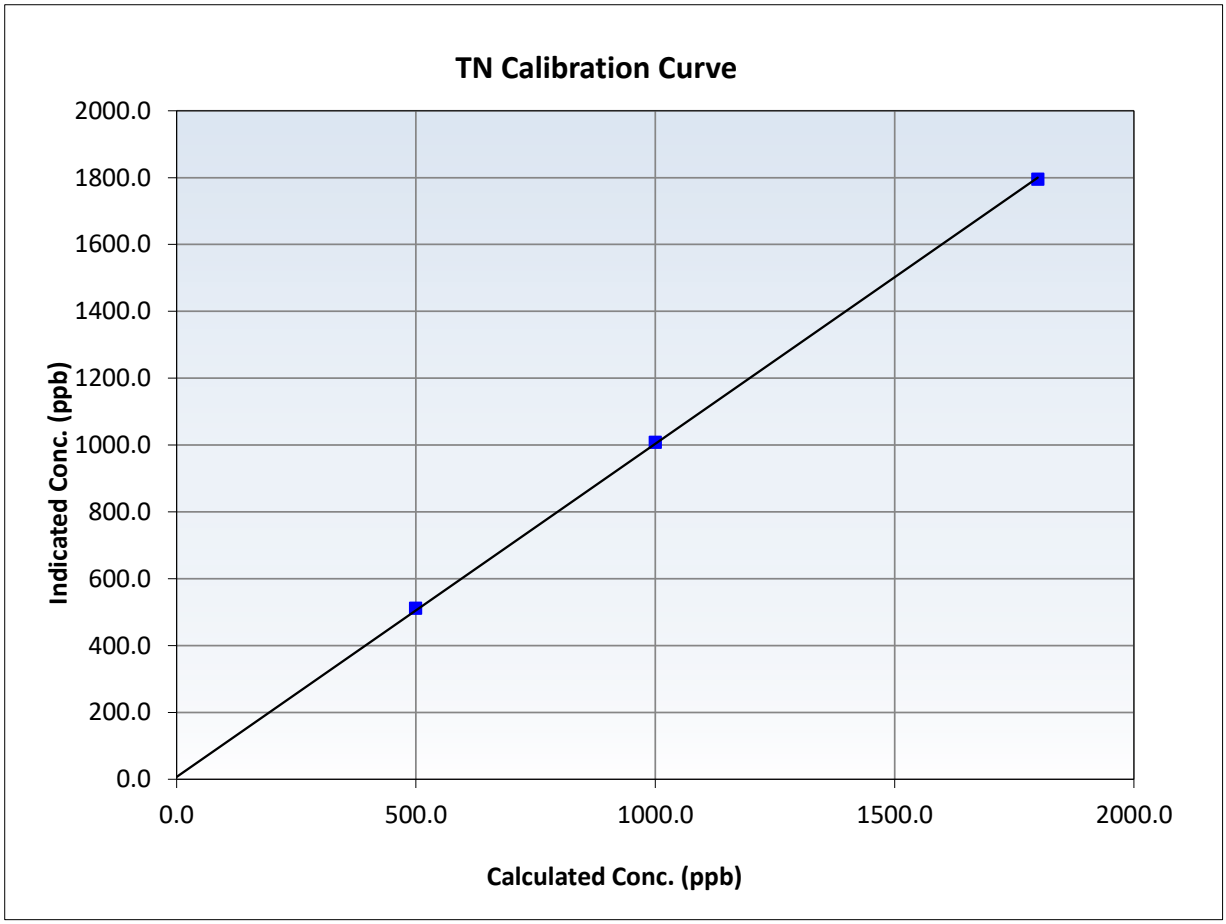
Station Information

Calibration Date:	October 8, 2025	Previous Calibration:	September 18, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	8:47	End Time (MST):	14:50
Analyzer make:	API T201	Analyzer serial #:	215

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
1799.0	1795.5	1.0020
1000.3	1008.1	0.9922
499.0	511.8	0.9749

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999917	*≥0.995*
Slope	0.996556	*0.90 - 1.10*
Intercept	7.069139	*+/-20*



Wood Buffalo Environmental Association

NH_3 Calibration Summary

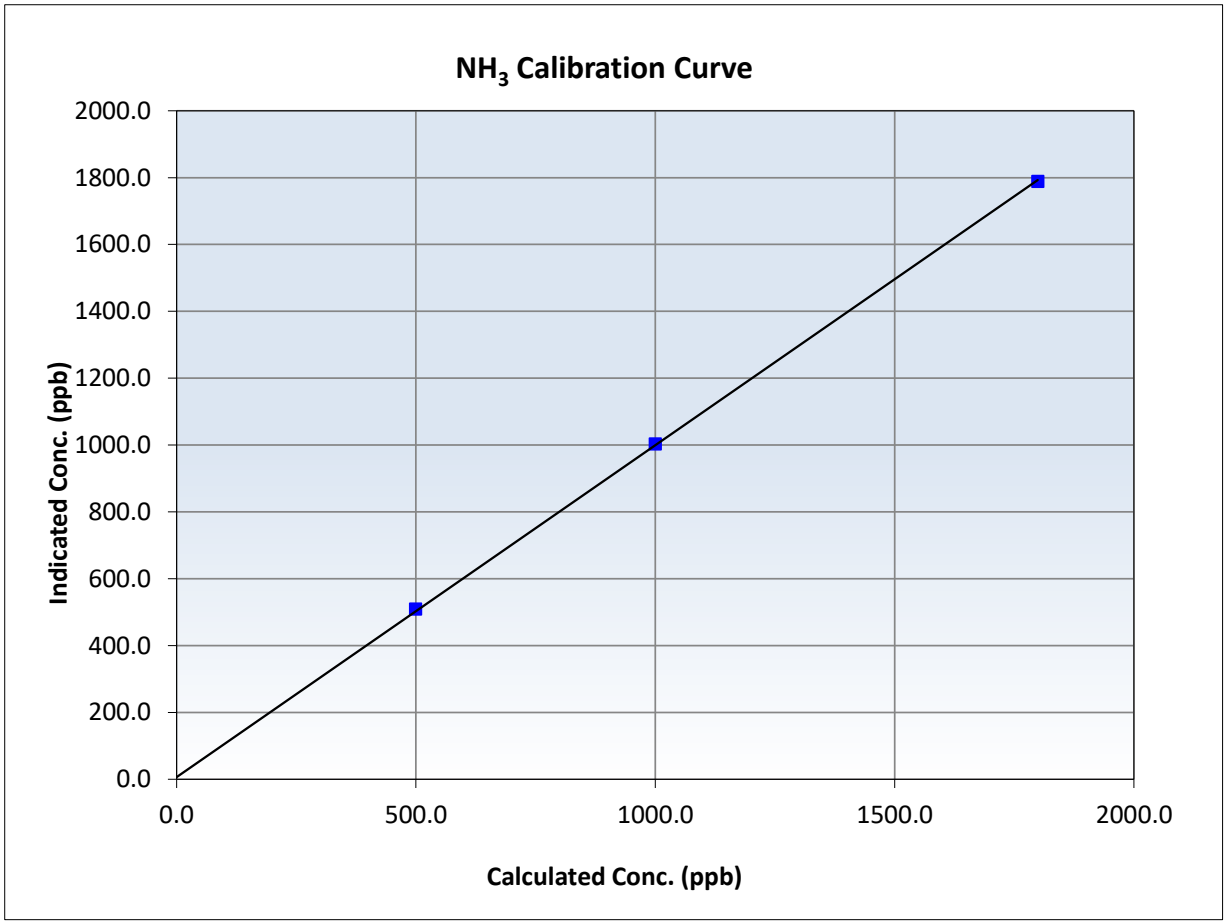
Station Information

Calibration Date:	October 8, 2025	Previous Calibration:	September 18, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	8:47	End Time (MST):	14:50
Analyzer make:	API T201	Analyzer serial #:	215

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.6	----
1799.0	1788.5	1.0059
1000.3	1003.6	0.9967
499.0	509.3	0.9797

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999921	*≥0.995*
Slope	0.992894	*0.90 - 1.10*
Intercept	6.488525	*+/-20*



Wood Buffalo Environmental Association

NO_X Calibration Summary

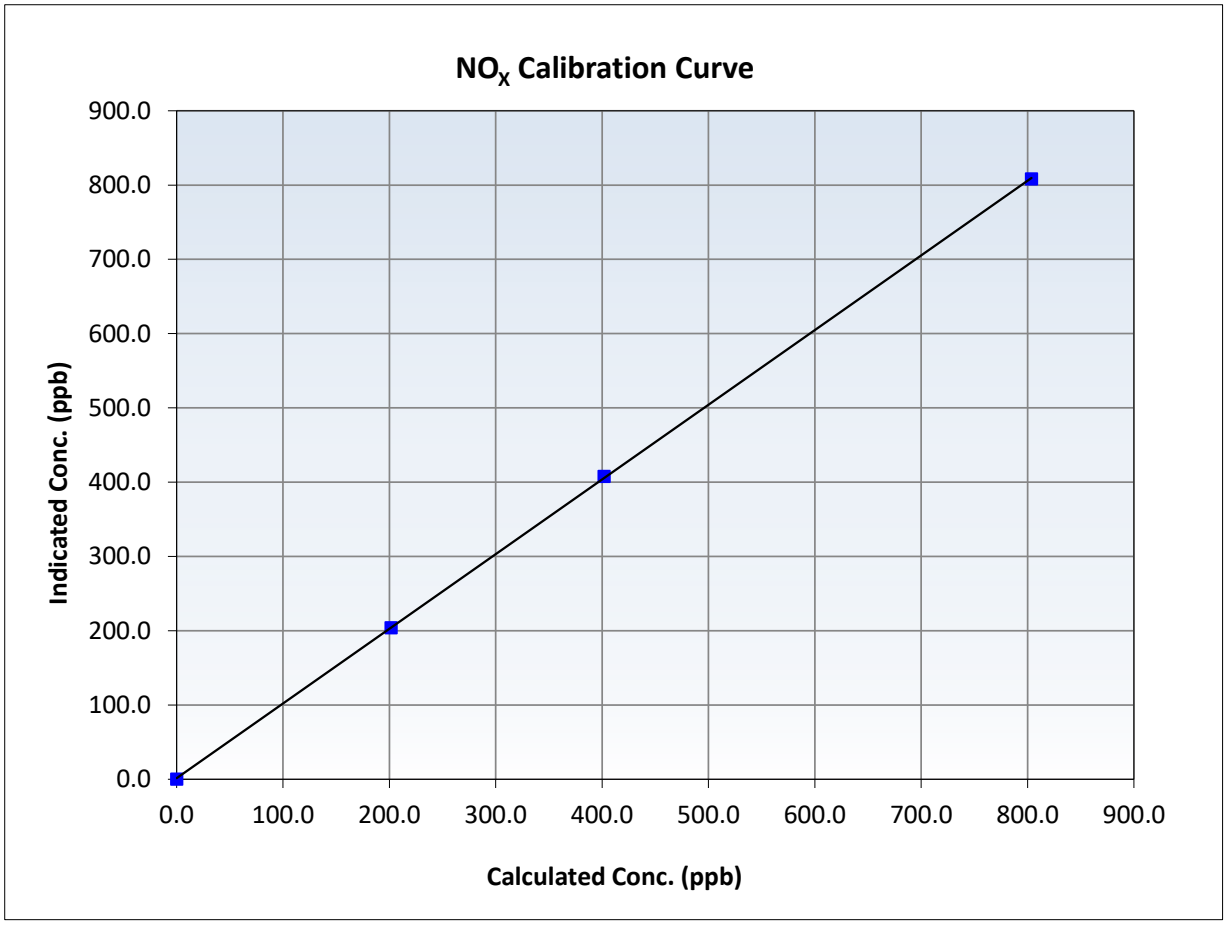
Station Information

Calibration Date:	October 8, 2025	Previous Calibration:	September 18, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	8:47	End Time (MST):	14:50
Analyzer make:	API T201	Analyzer serial #:	215

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
803.7	808.4	0.9942
401.8	407.7	0.9855
201.5	204.0	0.9878

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999979	*≥0.995*
Slope	1.005416	*0.90 - 1.10*
Intercept	1.471046	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

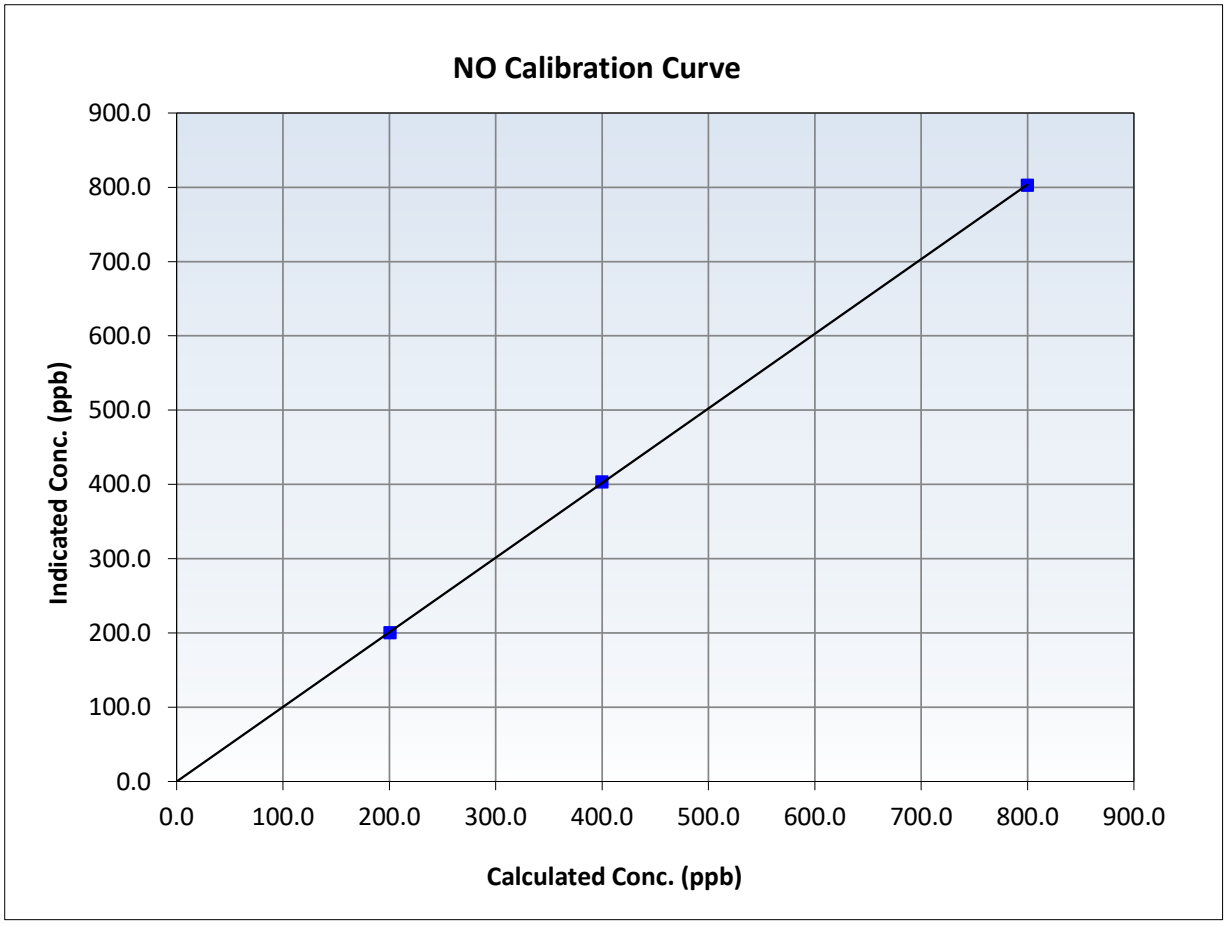
Station Information

Calibration Date:	October 8, 2025	Previous Calibration:	September 18, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	8:47	End Time (MST):	14:50
Analyzer make:	API T201	Analyzer serial #:	215

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
799.8	802.9	0.9962
399.9	403.3	0.9914
200.5	200.5	1.0002

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999989	*≥0.995*
Slope	1.004684	*0.90 - 1.10*
Intercept	-0.067219	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

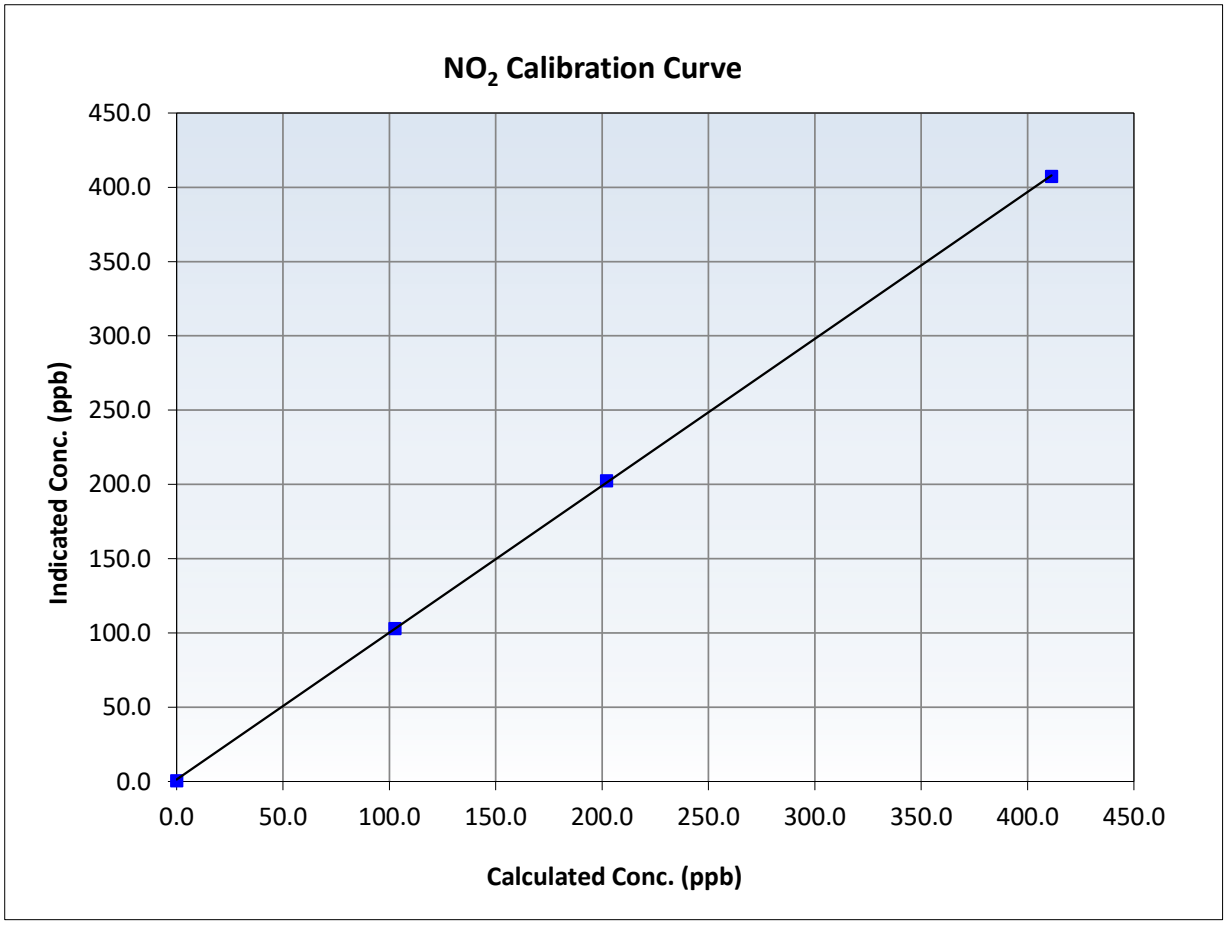
Station Information

Calibration Date:	October 8, 2025	Previous Calibration:	September 18, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	8:47	End Time (MST):	14:50
Analyzer make:	API T201	Analyzer serial #:	215

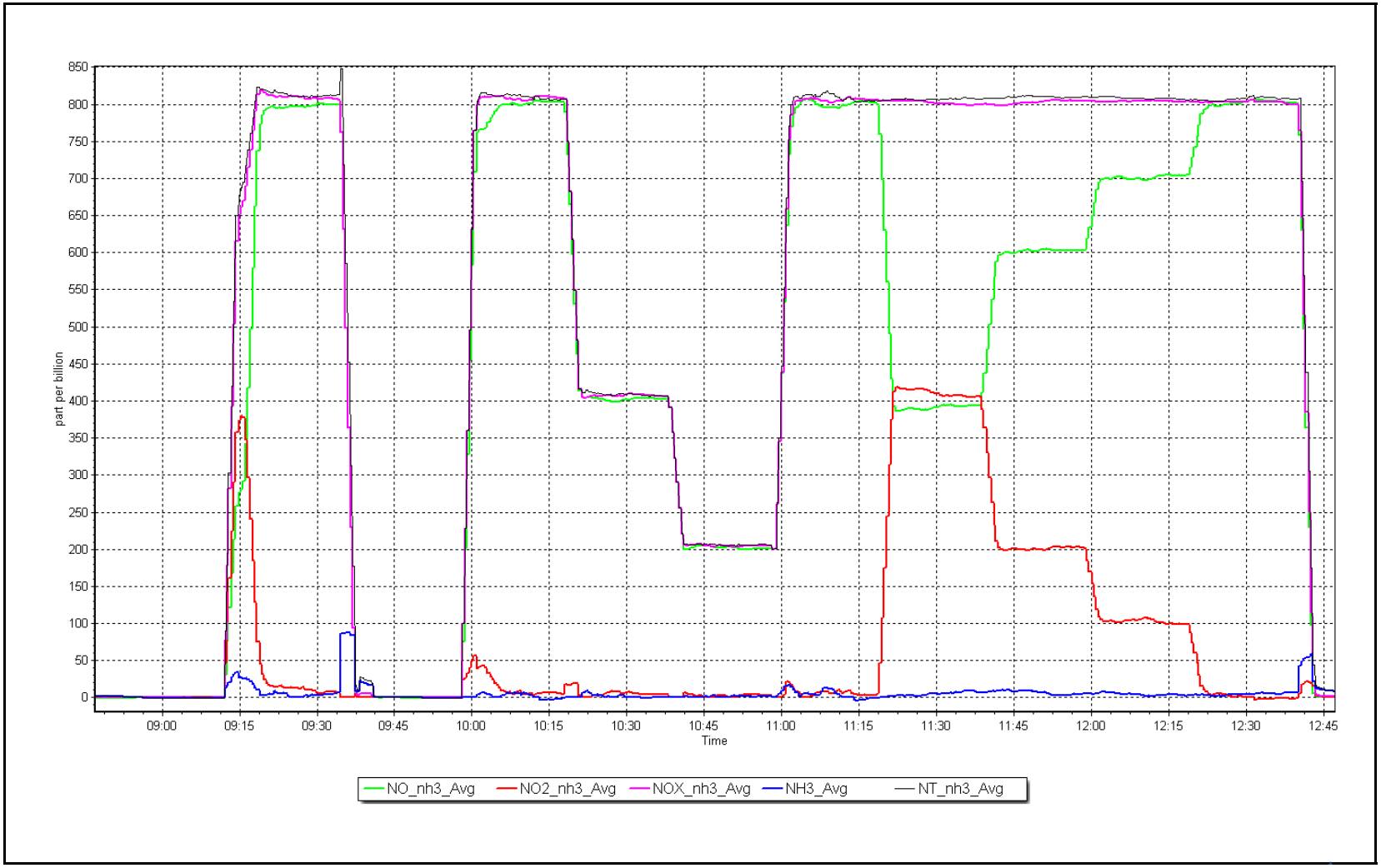
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.6	----
411.3	407.3	1.0098
202.1	202.5	0.9979
102.6	102.9	0.9969

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999968	*≥0.995*
Slope	0.988675	*0.90 - 1.10*
Intercept	1.369665	*+/-20*



NO_X Calibration Plot Date: October 8, 2025 Location: Patricia McInnes



NH_3 Calibration Plot Date: October 8, 2025 Location: Patricia McInnes

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS07
ATHABASCA VALLEY
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Athabasca Valley	Station number:	AMS07
Calibration Date:	October 9, 2025	Last Cal Date:	September 12, 2025
Start time (MST):	9:35	End time (MST):	14:51
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.06	ppm	Cal Gas Exp Date:	March 10, 2031
Cal Gas Cylinder #:	CC320556			
Removed Cal Gas Conc:	50.06	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	API T700		Serial Number:	3805
Zero Air Gen Model:	API 701H		Serial Number:	198

Analyzer Information

Analyzer make:	Thermo 43i-LTE		Serial Number:	1507864683	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	0.998074	0.996572	Backgd or Offset:	2.57	2.66
Calibration intercept:	2.844516	1.544588	Coeff or Slope:	0.829	0.843

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.2	----
As found High point	4920	79.8	799.0	793.9	1.007
As found Mid point	4960	39.9	399.5	402.5	0.993
As found Low point	4980	20.0	200.2	203.2	0.986
New cylinder response					
Baseline Corr As found:	793.7	Previous response	800.3	*% change	-0.8%
Baseline Corr 2nd AF pt:	402.3	AF Slope:	0.992409	AF Intercept:	2.925296
Baseline Corr 3rd AF pt:	203.0	AF Correlation:	0.999932	* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4920	79.8	799.0	797.1	1.002
Mid point	4960	39.9	399.5	400.4	0.998
Low point	4980	20.0	200.2	202.4	0.989
As left zero	5000	0.0	0.0	0.2	----
As left span	4920	79.8	799.0	795.8	1.004
				Average Correction Factor:	0.996

Notes: Pump changed out after MPAF. Span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

SO_2 Calibration Summary

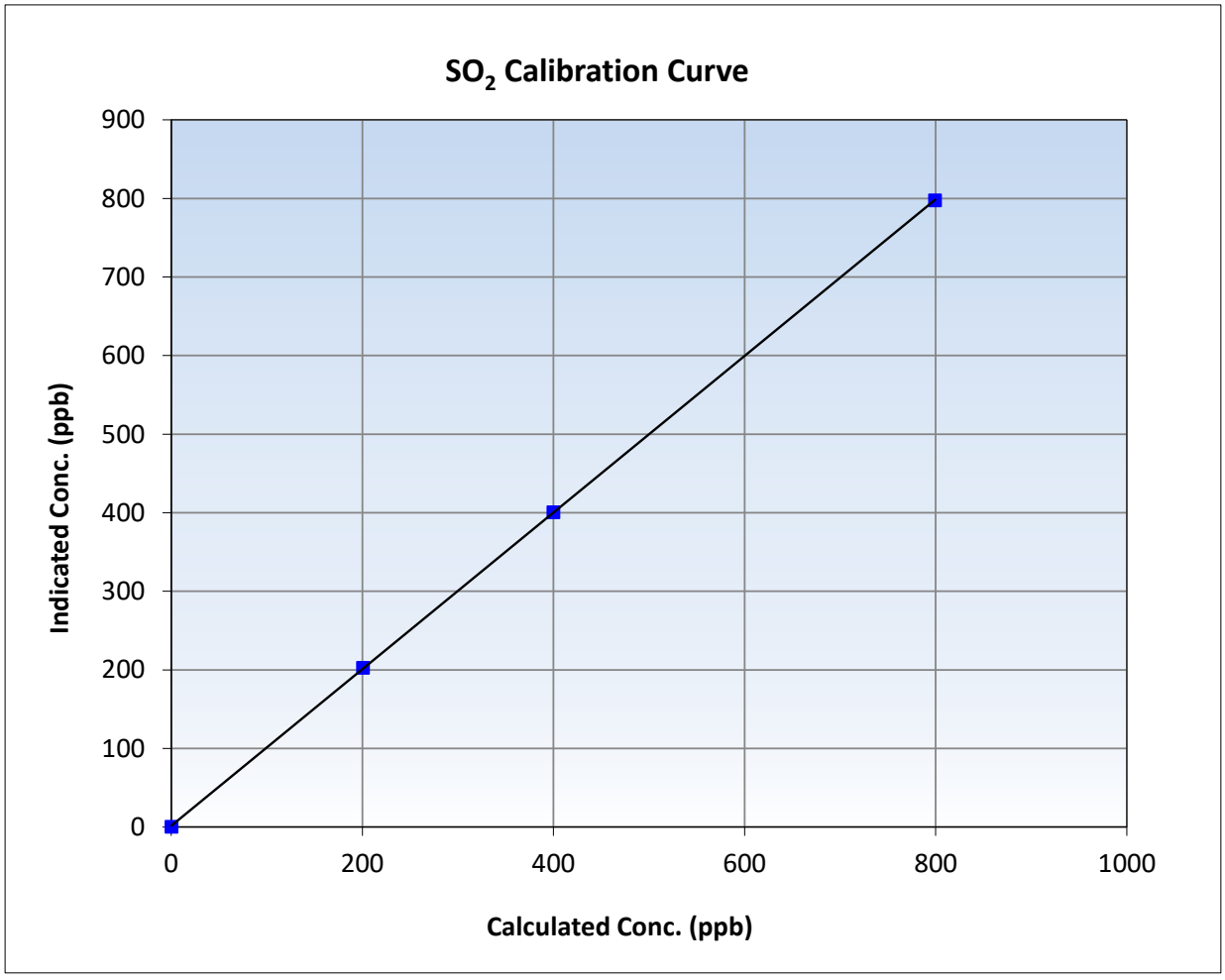
Station Information

Calibration Date:	October 9, 2025	Previous Calibration:	September 12, 2025
Station Name:	Athabasca Valley	Station Number:	AMS07
Start Time (MST):	9:35	End Time (MST):	14:51
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1507864683

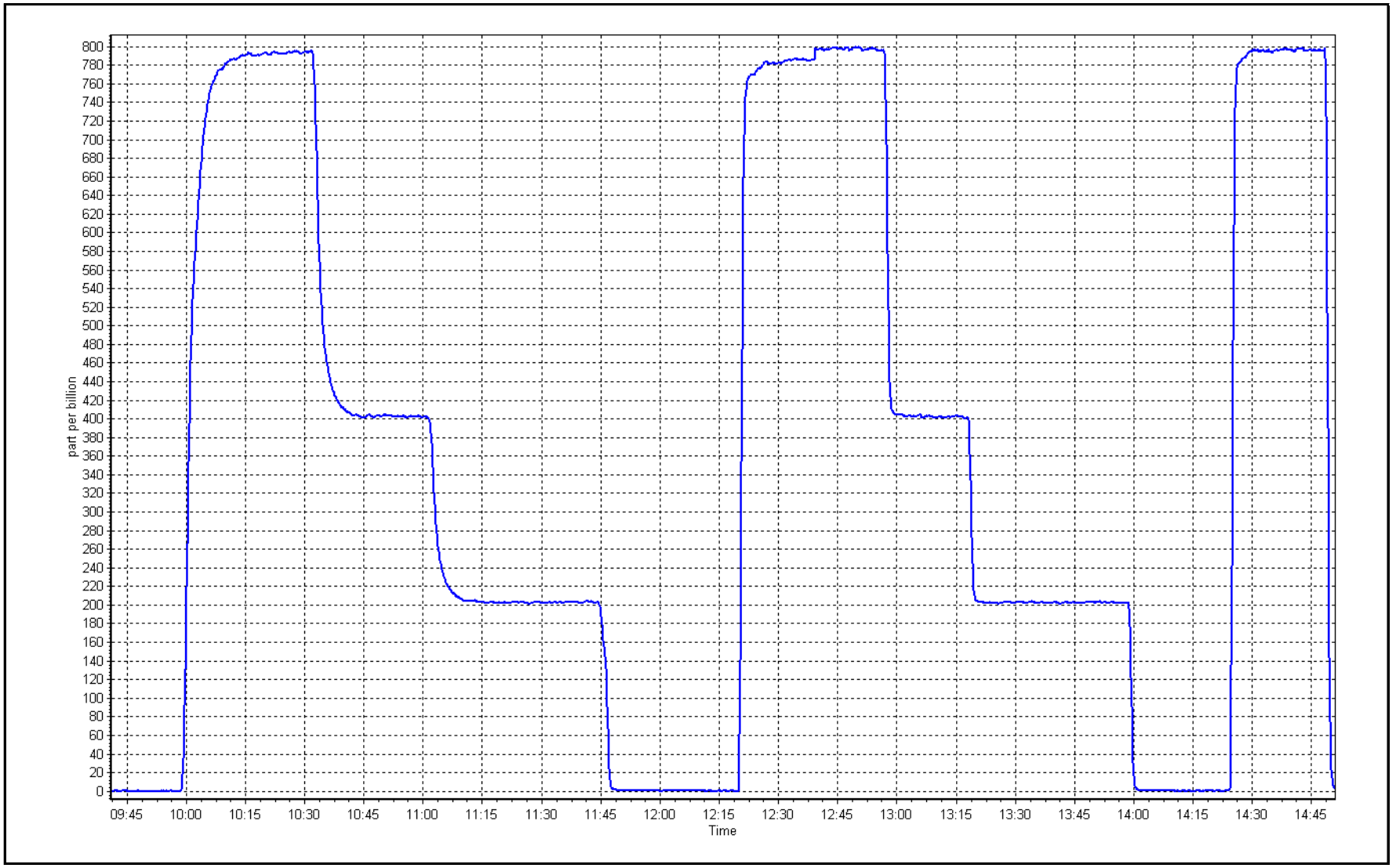
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
799.0	797.1	1.0024
399.5	400.4	0.9977
200.2	202.4	0.9893

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999987	*≥0.995*
Slope	0.996572	*0.90 - 1.10*
Intercept	1.544588	*+/-30*



SO2 Calibration Plot Date: October 9, 2025 Location: Athabasca Valley



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Athabasca Valley	Station number:	AMS07
Calibration Date:	October 23, 2025	Last Cal Date:	September 10, 2025
Start time (MST):	10:14	End time (MST):	14:35
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.25	ppm	Cal Gas Exp Date:	January 3, 2026
Cal Gas Cylinder #:	CC504080			
Removed Cal Gas Conc:	5.25	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	3805
ZAG Make/Model:	API T701H		Serial Number:	198

Analyzer Information

Analyzer make:	Thermo 43i LTE		Analyzer serial #:	1180540018
Converter make:	CDN-101		Converter serial #:	551
Analyzer Range	0 - 100 ppb		Converter Temp:	840 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.012751	1.004105	Backgd or Offset:	2.7	2.7
Calibration intercept:	-0.062166	-0.162212	Coeff or Slope:	0.949	0.884

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.2	----
As found High point	4925	75.5	79.3	84.8	0.933
As found Mid point	4962	37.7	39.6	42.5	0.927
As found Low point	4981	18.9	19.8	21.1	0.932
New cylinder response					

Baseline Corr As found:	85.0	Prev response:	80.22	*% change:	5.6%
Baseline Corr 2nd AF pt:	42.7	AF Slope:	1.072598	AF Intercept:	-0.142283
Baseline Corr 3rd AF pt:	21.3	AF Correlation:	0.999989	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.1	----
High point	4925	75.5	79.3	79.5	0.998
Mid point	4962	37.7	39.6	39.6	1.000
Low point	4981	18.9	19.9	19.7	1.008
As left zero	5000	0.0	0.0	0.0	----
As left span	4925	75.5	79.3	79.3	1.000
SO2 Scrubber Check	4920	79.2	792.1	0.1	----

Date of last scrubber change:	8-Aug-25	Ave Corr Factor	1.002
Date of last converter efficiency test:	Friday, April 22, 2022		

Notes: Span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

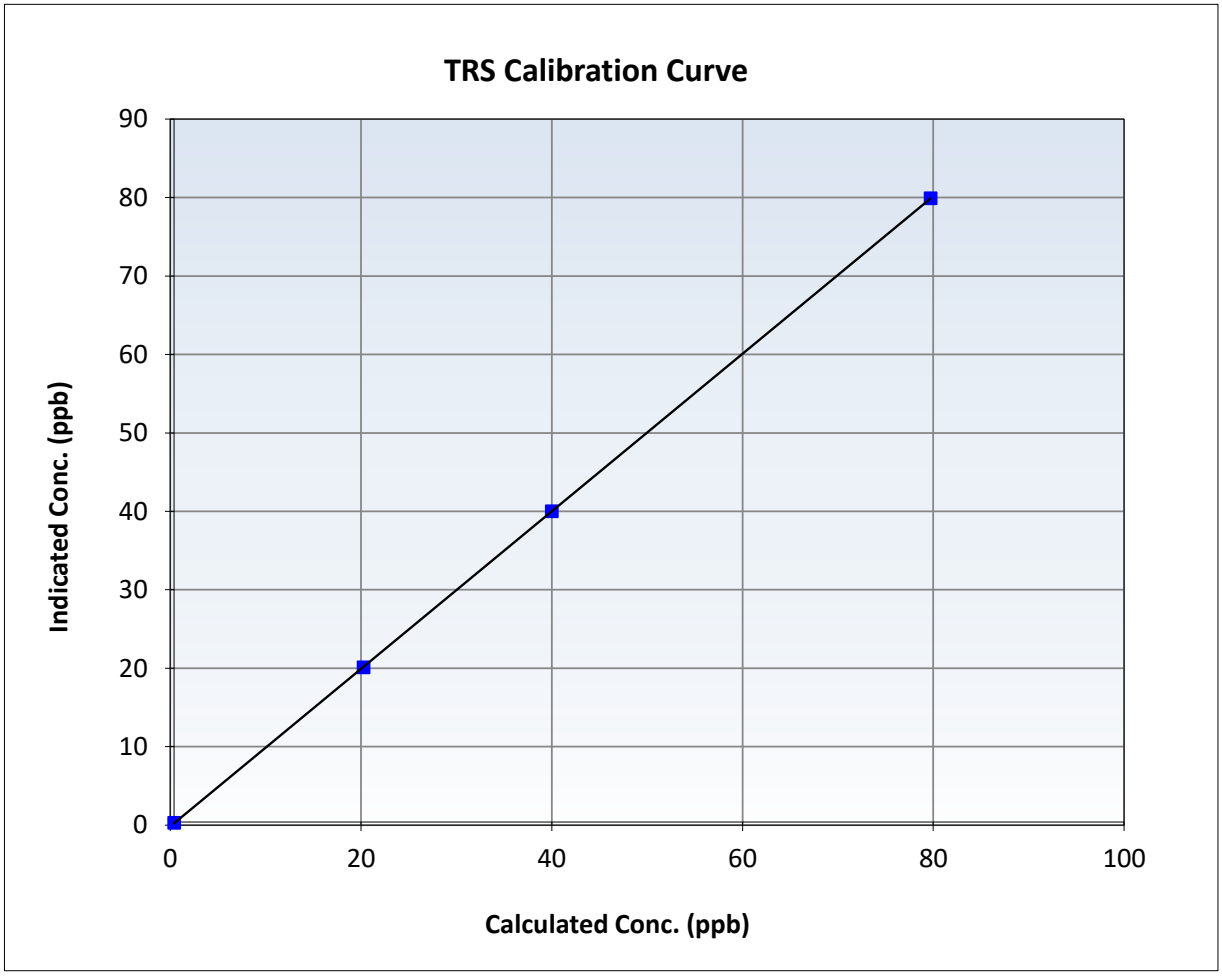
TRS Calibration Summary

Station Information

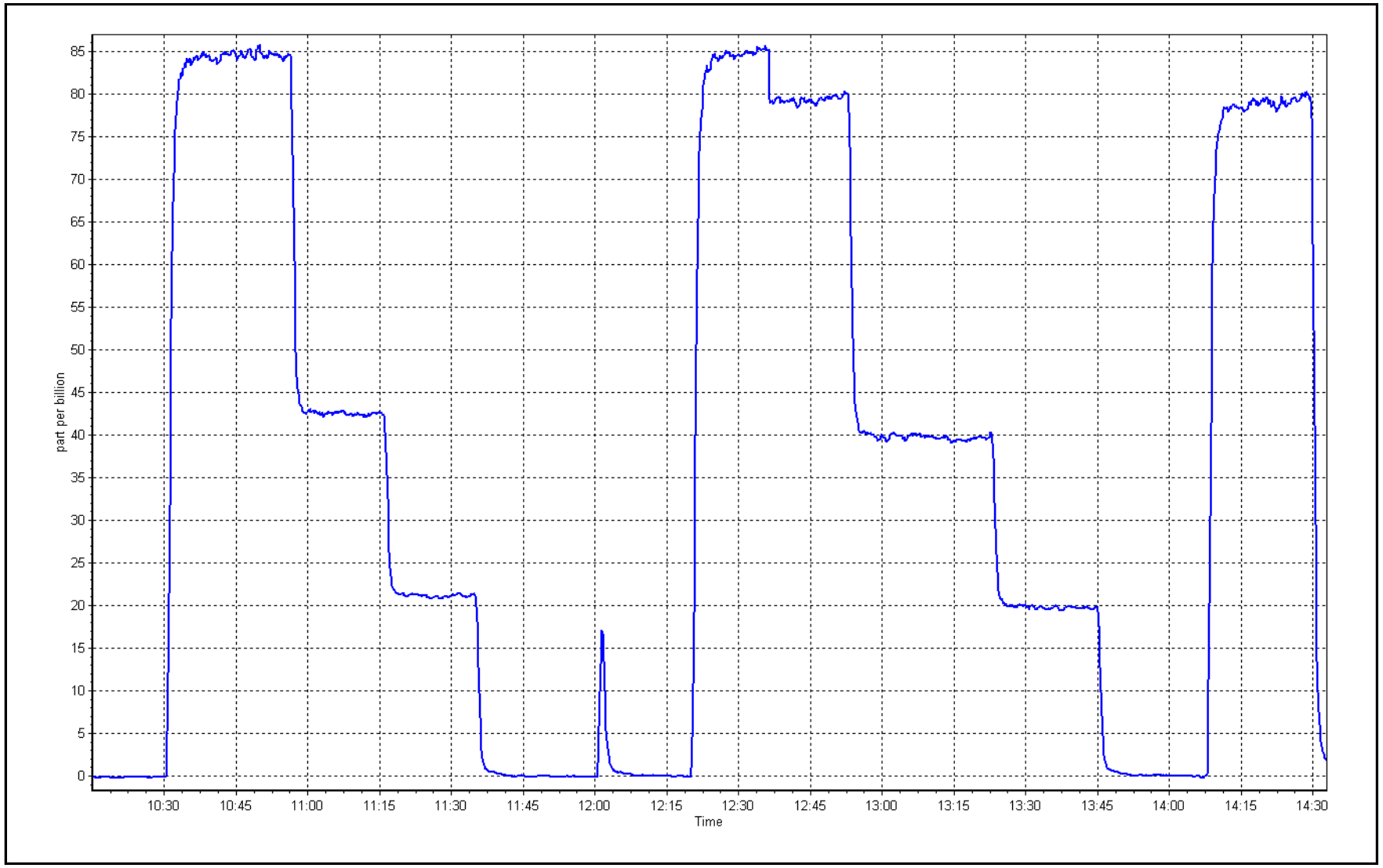
Calibration Date:	October 23, 2025	Previous Calibration:	September 10, 2025
Station Name:	Athabasca Valley	Station Number:	AMS07
Start Time (MST):	10:14	End Time (MST):	14:35
Analyzer make:	Thermo 43i LTE	Analyzer serial #:	1180540018

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	-0.1	----	Correlation Coefficient	0.999997	*≥0.995*
79.3	79.5	0.9976	Slope	1.004105	*0.90 - 1.10*
39.6	39.6	1.0003			
19.9	19.7	1.0080	Intercept	-0.162212	*+/-3*



TRS Calibration Plot Date: October 23, 2025 Location: Athabasca Valley



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	MacKay River	Station number:	AMS 20
Calibration Date:	October 15, 2025	Last Cal Date:	September 4, 2025
Start time (MST):	7:06	End time (MST):	11:00
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.12	ppm	Cal Gas Exp Date:	January 3, 2026
Cal Gas Cylinder #:	CC515997			
Removed Cal Gas Conc:	5.12	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	5706
ZAG Make/Model:	API 701		Serial Number:	4888

Analyzer Information

Analyzer make:	Thermo 43i TLE		Analyzer serial #:	1236656117
Converter make:	Global		Converter serial #:	2022-226
Analyzer Range	0 - 100 ppb		Converter Temp:	325 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.002025	1.003598	Backgd or Offset:	3.77	3.77
Calibration intercept:	-0.040503	-0.020530	Coeff or Slope:	1.071	1.071

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.1	----
As found High point	4922	78.1	80.0	81.5	0.980
As found Mid point	4961	39.0	39.9	40.5	0.984
As found Low point	4980	19.5	20.0	20.2	0.984
New cylinder response					

Baseline Corr As found:	81.6	Prev response:	80.09	*% change:	1.8%
Baseline Corr 2nd AF pt:	40.6	AF Slope:	1.020463	AF Intercept:	-0.160294
Baseline Corr 3rd AF pt:	20.3	AF Correlation:	0.999996	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.1	----
High point	4922	78.1	80.0	80.2	0.997
Mid point	4961	39.0	39.9	40.1	0.996
Low point	4980	19.5	20.0	20.1	0.994
As left zero	5000	0.0	0.0	0.1	----
As left span	4922	78.1	80.0	79.0	1.012
SO2 Scrubber Check	4982	81.3	802.8	0.0	----
Date of last scrubber change:		25-May-23		Ave Corr Factor	0.996
Date of last converter efficiency test:					

Notes: Sox scrubber checked after the calibrator zero. No adjustments done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

H_2S Calibration Summary

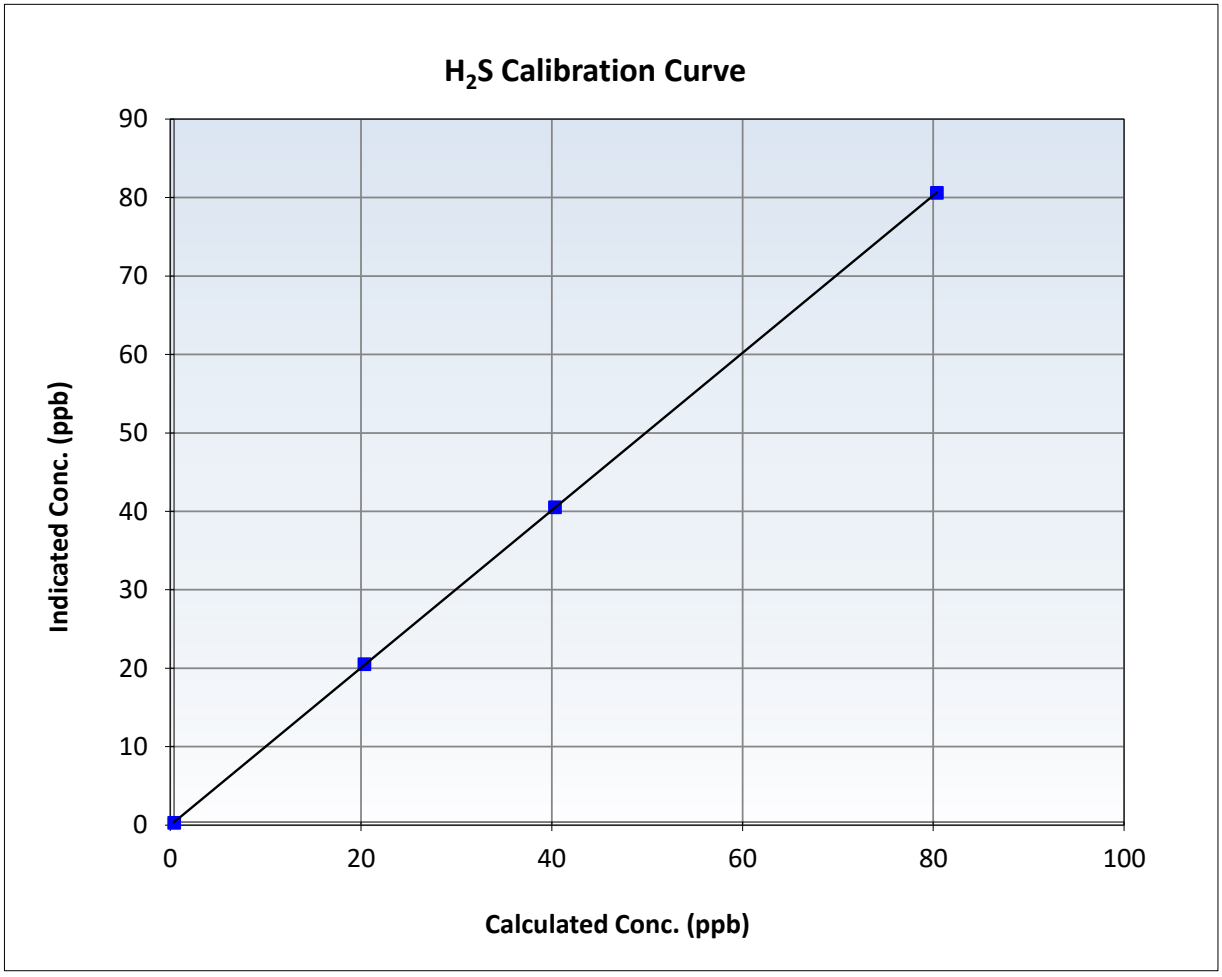
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 4, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	7:06	End Time (MST):	11:00
Analyzer make:	Thermo 43i TLE	Analyzer serial #:	1236656117

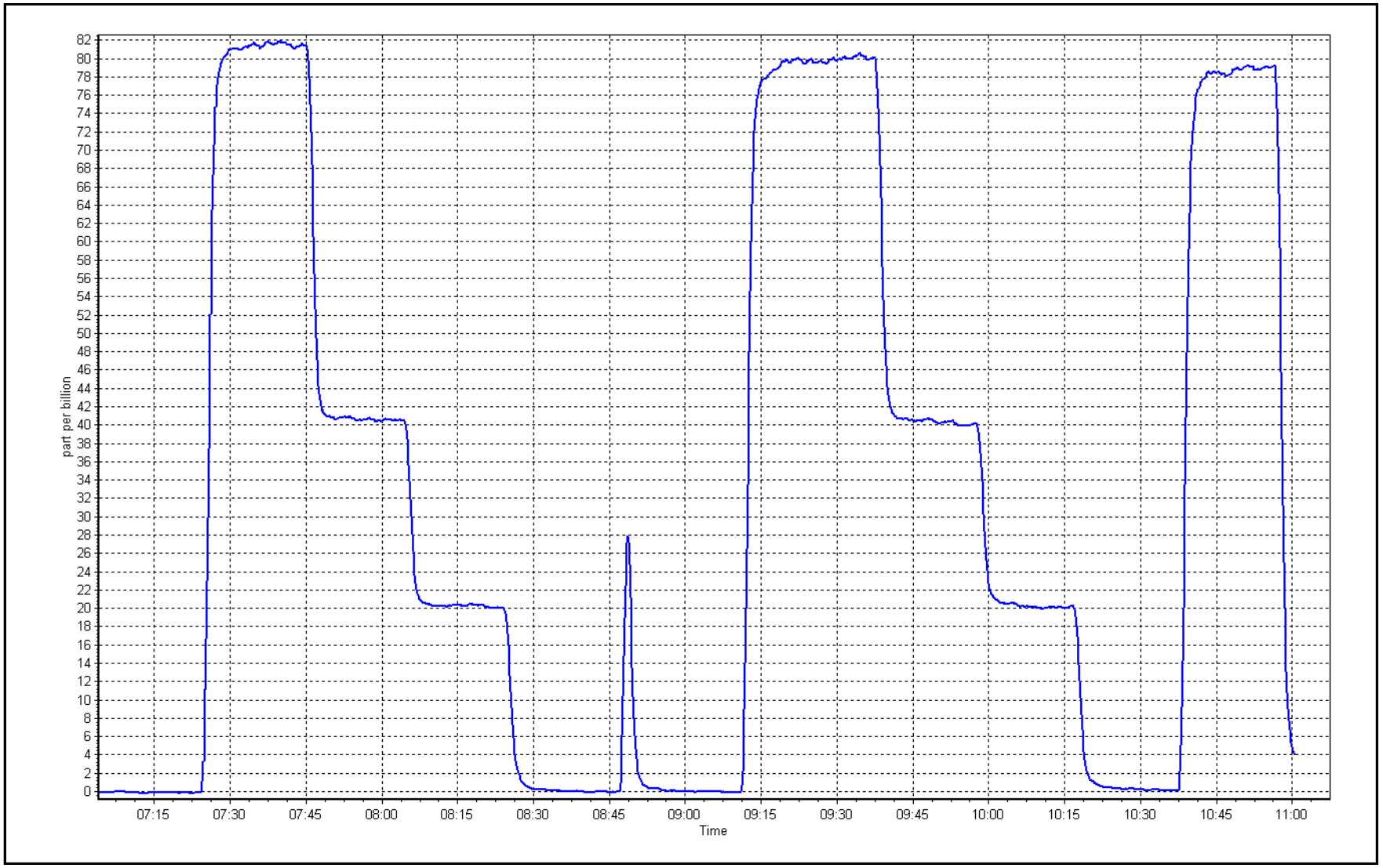
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
80.0	80.2	0.9972
39.9	40.1	0.9959
20.0	20.1	0.9935

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	1.003598	*0.90 - 1.10*
Intercept	-0.020530	*+/-3*



H_2S Calibration Plot Date: October 15, 2025 Location: MacKay River



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Athabasca Valley	Station number:	AMS 07
Calibration Date:	October 9, 2025	Last Cal Date:	September 12, 2025
Start time (MST):	9:35	End time (MST):	14:51
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC320556	Cal Gas Expiry Date:	Monday, March 10, 2031
CH4 Cal Gas Conc.	496.0 ppm	CH4 Equiv Conc.	1059.8 ppm
C3H8 Cal Gas Conc.	205.0 ppm		
Removed Gas Cert:	NA	Removed Gas Expiry:	NA
Removed CH4 Conc.	496.0 ppm	CH4 Equiv Conc.	1059.8 ppm
Removed C3H8 Conc.	205.0 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	Teledyne API T700	Serial Number:	3805
Zero Air Gen model:	Teledyne API T701H	Serial Number:	198

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1331259520
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	2.72E-04	2.72E-04	NMHC SP Ratio:	5.19E-05	5.19E-05
CH4 Retention time:	14.4	14.4	NMHC Peak Area:	173304	173304
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	16.91	16.98	0.996
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	16.98	Prev response	16.97	*% change	0.0%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.8	16.91	16.90	1.001
Mid point	4960	39.9	8.46	8.50	0.995
Low point	4980	20.0	4.24	4.32	0.981
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	16.91	16.95	0.998
				Average Correction Factor	0.992

Notes: No adjustments made.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	9.00	9.06	0.994
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.06	Prev response	9.05	*% change	0.0%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.8	9.00	9.01	0.999
Mid point	4960	39.9	4.50	4.54	0.992
Low point	4980	20.0	2.26	2.33	0.970
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	9.00	9.02	0.998
				Average Correction Factor	0.987

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	7.92	7.92	0.999
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.92	Prev response	7.92	*% change	0.1%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.8	7.92	7.89	1.004
Mid point	4960	39.9	3.96	3.96	0.999
Low point	4980	20.0	1.98	2.00	0.993
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	7.92	7.93	0.998
				Average Correction Factor	0.999

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.001796	0.997742
THC Cal Offset:	0.025640	0.044648
CH4 Cal Slope:	0.999605	0.995779
CH4 Cal Offset:	0.002461	0.011467
NMHC Cal Slope:	1.003432	0.999216
NMHC Cal Offset:	0.023580	0.033182

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

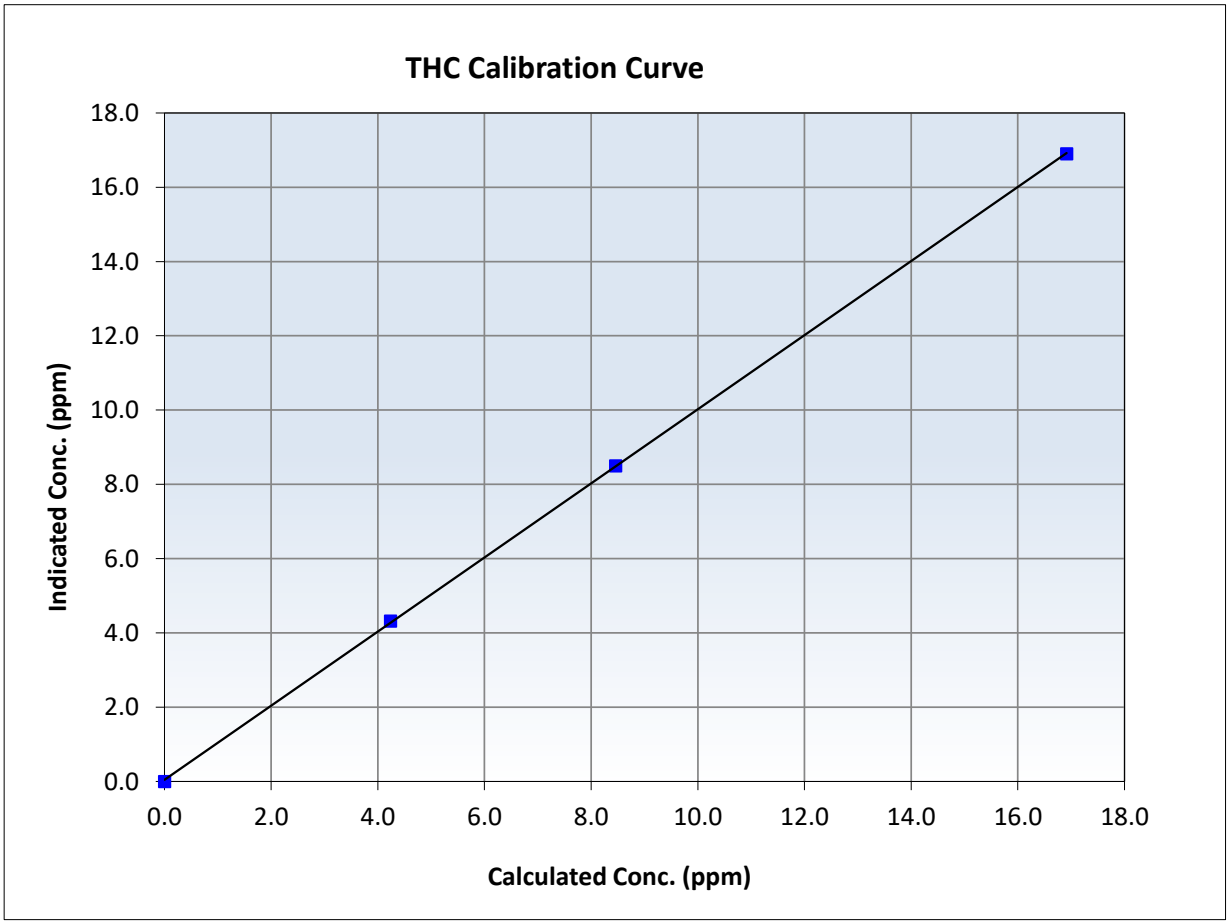
THC Calibration Summary

Station Information

Calibration Date:	October 9, 2025	Previous Calibration:	September 12, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	9:35	End Time (MST):	14:51
Analyzer make:	Thermo 55i	Analyzer serial #:	1331259520

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999968	*≥0.995*
16.91	16.90	1.0008	Slope	0.997742	*0.90 - 1.10*
8.46	8.50	0.9949	Intercept	0.044648	*+/-0.5*
4.24	4.32	0.9808			



Wood Buffalo Environmental Association

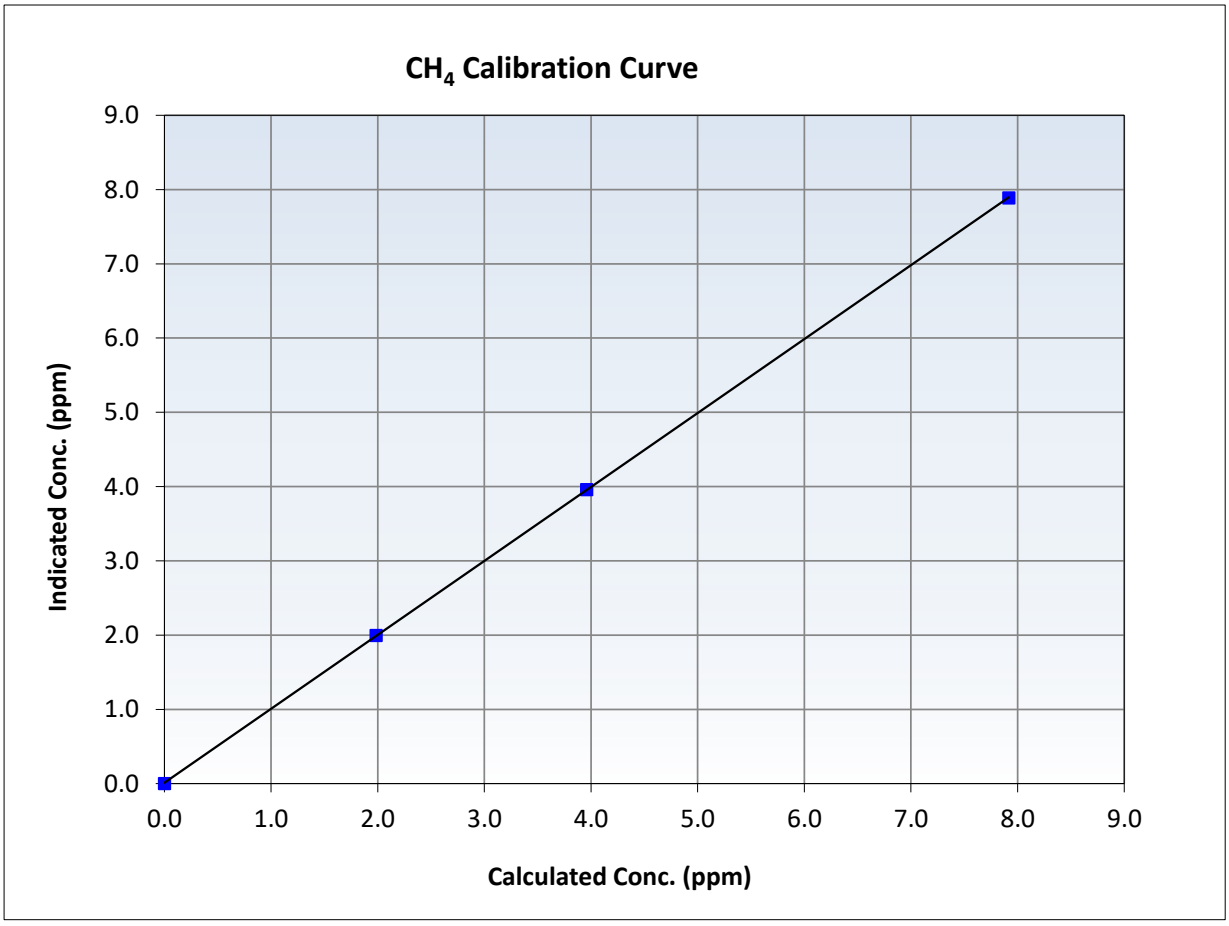
CH_4 Calibration Summary

Station Information

Calibration Date:	October 9, 2025	Previous Calibration:	September 12, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	9:35	End Time (MST):	14:51
Analyzer make:	Thermo 55i	Analyzer serial #:	1331259520

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999990	≥0.995
7.92	7.89	1.0036	Slope	0.995779	0.90 - 1.10
3.96	3.96	0.9993			
1.98	2.00	0.9935	Intercept	0.011467	+/-0.5



Wood Buffalo Environmental Association

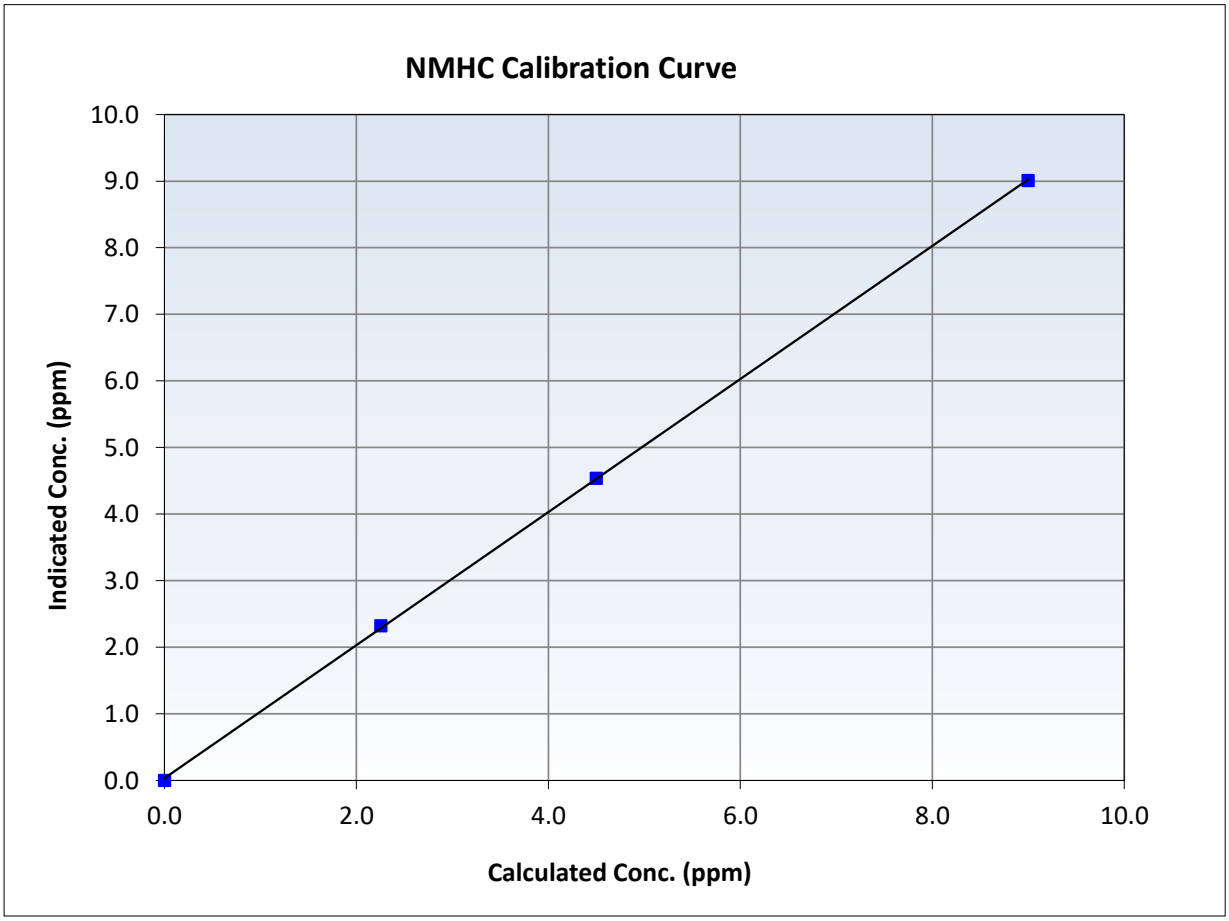
NMHC Calibration Summary

Station Information

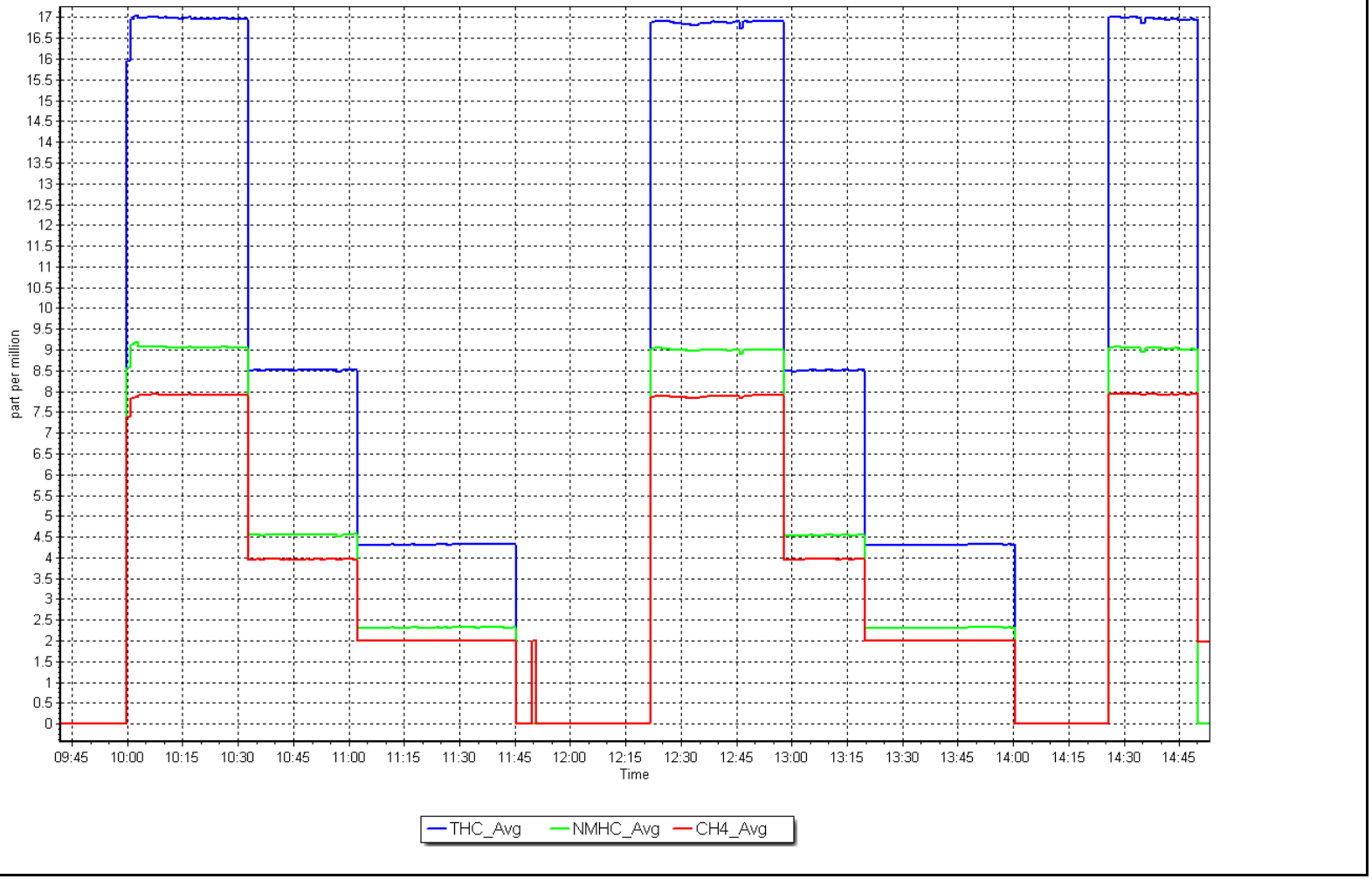
Calibration Date:	October 9, 2025	Previous Calibration:	September 12, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	9:35	End Time (MST):	14:51
Analyzer make:	Thermo 55i	Analyzer serial #:	1331259520

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999935	≥0.995
9.00	9.01	0.9986	Slope	0.999216	0.90 - 1.10
4.50	4.54	0.9916			
2.26	2.33	0.9699	Intercept	0.033182	+/-0.5



NMHC Calibration Plot Date: October 9, 2025 Location: Athabasca Valley



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Athabasca Valley	Station number:	AMS 07
Calibration Date:	October 23, 2025	Last Cal Date:	October 9, 2025
Start time (MST):	14:30	End time (MST):	15:22
Reason:	Cylinder Change		

Calibration Standards

Gas Cert Reference:	CC320556	Cal Gas Expiry Date:	Monday, March 10, 2031
CH4 Cal Gas Conc.	496.0 ppm	CH4 Equiv Conc.	1059.8 ppm
C3H8 Cal Gas Conc.	205.0 ppm		
Removed Gas Cert:	NA	Removed Gas Expiry:	NA
Removed CH4 Conc.	496.0 ppm	CH4 Equiv Conc.	1059.8 ppm
Removed C3H8 Conc.	205.0 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	Teledyne API T700	Serial Number:	3805
Zero Air Gen model:	Teledyne API T701H	Serial Number:	198

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1331259520
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	2.72E-04	2.72E-04	NMHC SP Ratio:	5.19E-05	5.19E-05
CH4 Retention time:	14.4	14.4	NMHC Peak Area:	173304	173304
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	16.91	16.94	0.998
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	16.94	Prev response	16.97	*% change	-0.2%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	16.91	16.82	1.005
				Average Correction Factor	

Notes: H2 cylinder changed out after as founds.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	9.00	9.01	0.998
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.01	Prev response	9.05	*% change	-0.4%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	9.00	8.95	1.006
				Average Correction Factor	

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	7.92	7.93	0.999
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.93	Prev response	7.92	*% change	0.1%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

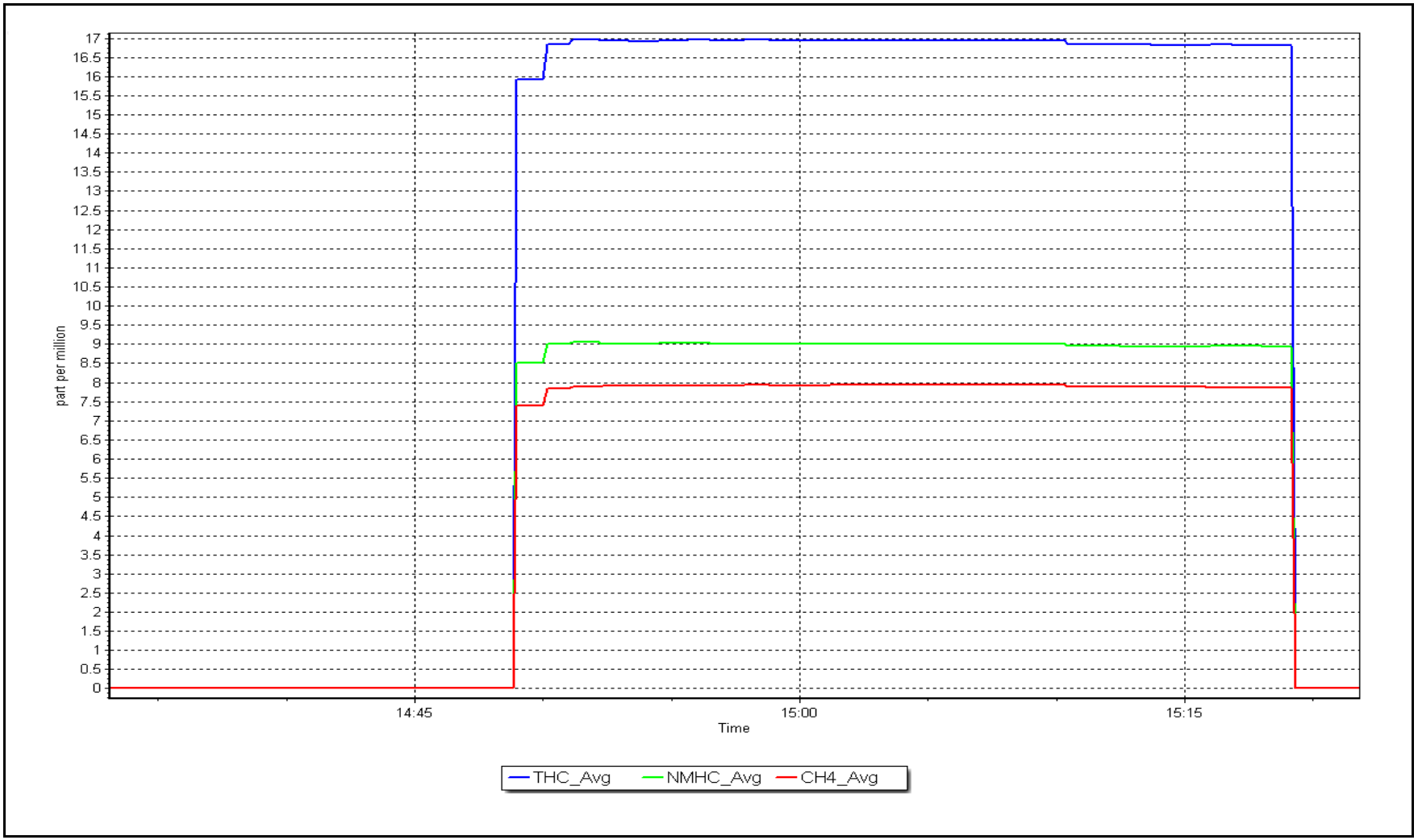
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	7.92	7.88	1.005
				Average Correction Factor	

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.001796	
THC Cal Offset:	0.025640	
CH4 Cal Slope:	0.999605	
CH4 Cal Offset:	0.002461	
NMHC Cal Slope:	1.003432	
NMHC Cal Offset:	0.023580	

Calibration Performed By: Aswin Sasi Kumar

NMHC Calibration Plot Date: October 23, 2025 Location: Athabasca Valley



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Athabasca Valley
Station number:	AMS 07
Calibration Date:	October 17, 2025
Last Cal Date:	September 9, 2025
Start time (MST):	9:35
End time (MST):	14:01
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0033919	Cal Gas Expiry Date:	January 9, 2032
NOX Cal Gas Conc:	60.10 ppm	NO Cal Gas Conc:	59.90 ppm
Removed Cylinder #:	N/A	Removed Gas Exp Date:	N/A
Removed Gas NOX Conc:	60.10 ppm	Removed Gas NO Conc:	59.90 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	API T700	Serial Number:	3805
ZAG make/model:	API T701H	Serial Number:	198

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	----	----
AF High point	4933	66.8	803.0	800.3	2.7	800.0	796.3	3.7	1.0037	1.0049
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	803.2 ppb	NO =	801.6 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = -0.4%
Baseline Corr 1st pt	NO_X =	800.0 ppb	NO =	796.4 ppb	As Found Statistics	*Percent Change	NO = -0.7%
Baseline Corr 2nd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO_X r^2:	Nx Sl:	Nx Int:
Baseline Corr 3rd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO r^2:	NO Sl:	NO Int:
					As found NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1160120024

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.917	0.917	NO bkgnd or offset:	6.4	6.4
NOX coeff or slope:	1.002	1.002	NOX bkgnd or offset:	6.6	6.6
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	185.1	185.1

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.997995	0.996059
NO_X Cal Offset:	1.871926	2.251931
NO Cal Slope:	0.999699	0.997028
NO Cal Offset:	1.591942	1.951944
NO_2 Cal Slope:	0.999879	1.000683
NO_2 Cal Offset:	0.292038	0.151290

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.2	0.1	0.1	----	----
High point	4933	66.8	803.0	800.3	2.7	800.7	798.5	2.2	1.0028	1.0022
Mid point	4966	33.4	401.5	400.2	1.3	404.2	403.2	1.1	0.9934	0.9925
Low point	4983	16.7	200.7	200.1	0.7	203.6	202.4	1.2	0.9860	0.9885
As left zero	5000	0.0	0.0	0.0	0.0	0.1	0.1	0.0	----	----
As left span	4933	66.8	803.0	398.7	404.3	800.7	398.7	402.0	1.0028	1.0000
								Average Correction Factor	0.9941	0.9944

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.1	----	----
High GPT point	796.9	399.2	400.4	400.7	0.9992	100.1%
Mid GPT point	796.9	599.7	199.9	200.4	0.9974	100.3%
Low GPT point	796.9	698.8	100.8	100.9	0.9987	100.1%
				Average Correction Factor	0.9984	100.2%

Notes: No adjustments made.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

NO_X Calibration Summary

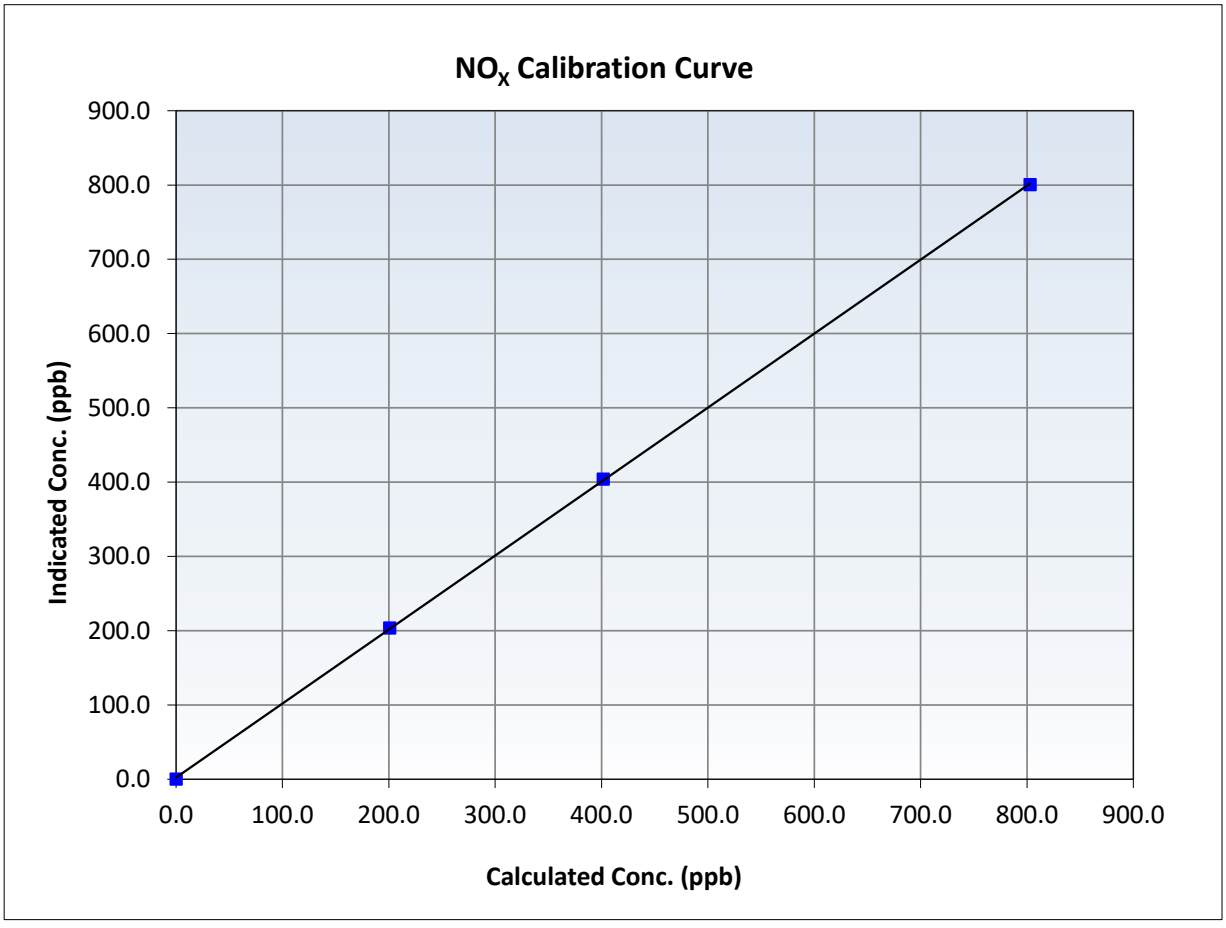
Station Information

Calibration Date:	October 17, 2025	Previous Calibration:	September 9, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	9:35	End Time (MST):	14:01
Analyzer make:	Thermo 42i	Analyzer serial #:	1160120024

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
803.0	800.7	1.0028
401.5	404.2	0.9934
200.7	203.6	0.9860

Statistical Evaluation		Limits
Correlation Coefficient	0.999966	≥0.995
Slope	0.996059	0.90 - 1.10
Intercept	2.251931	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

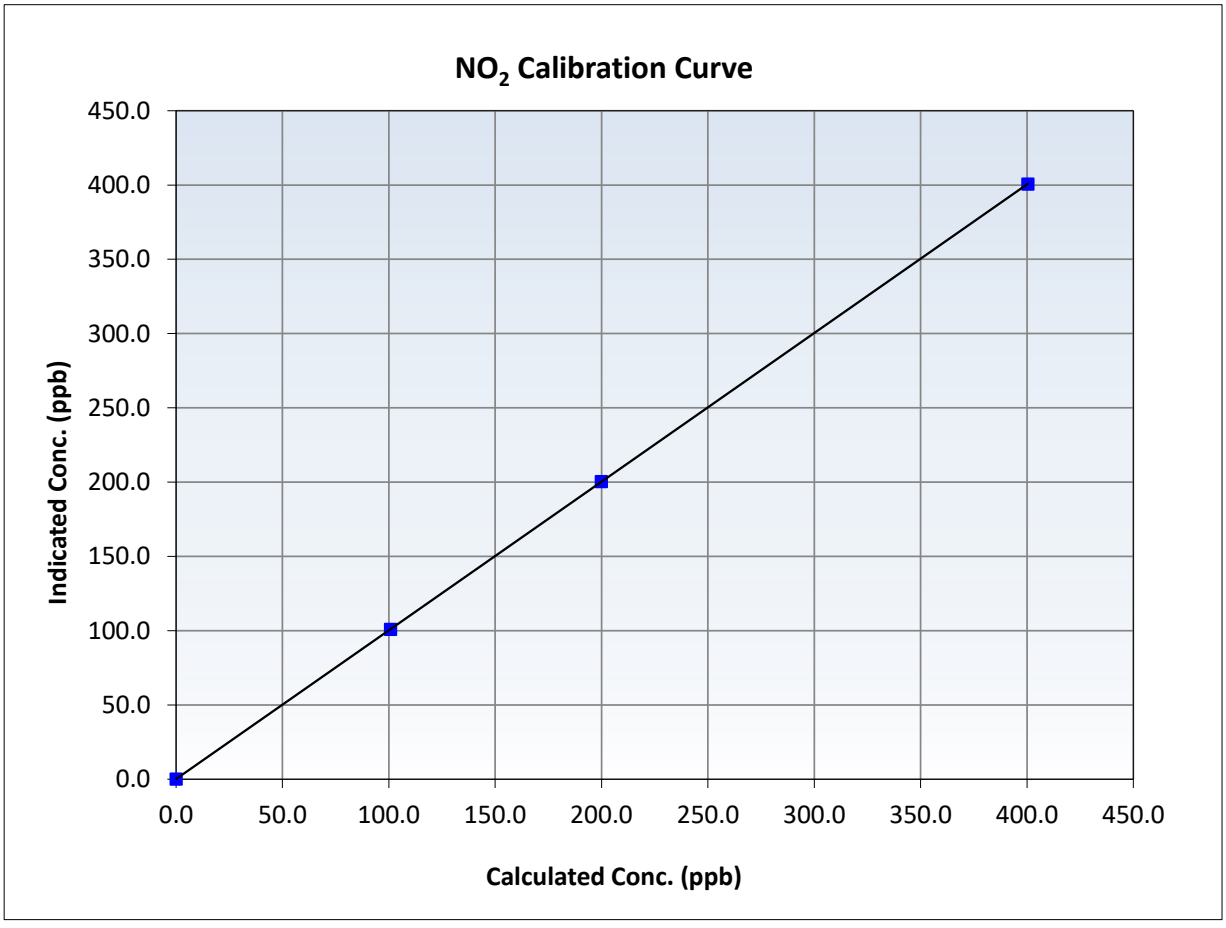
Station Information

Calibration Date:	October 17, 2025	Previous Calibration:	September 9, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	9:35	End Time (MST):	14:01
Analyzer make:	Thermo 42i	Analyzer serial #:	1160120024

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
400.4	400.7	0.9992
199.9	200.4	0.9974
100.8	100.9	0.9987

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	1.000683	*0.90 - 1.10*
Intercept	0.151290	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

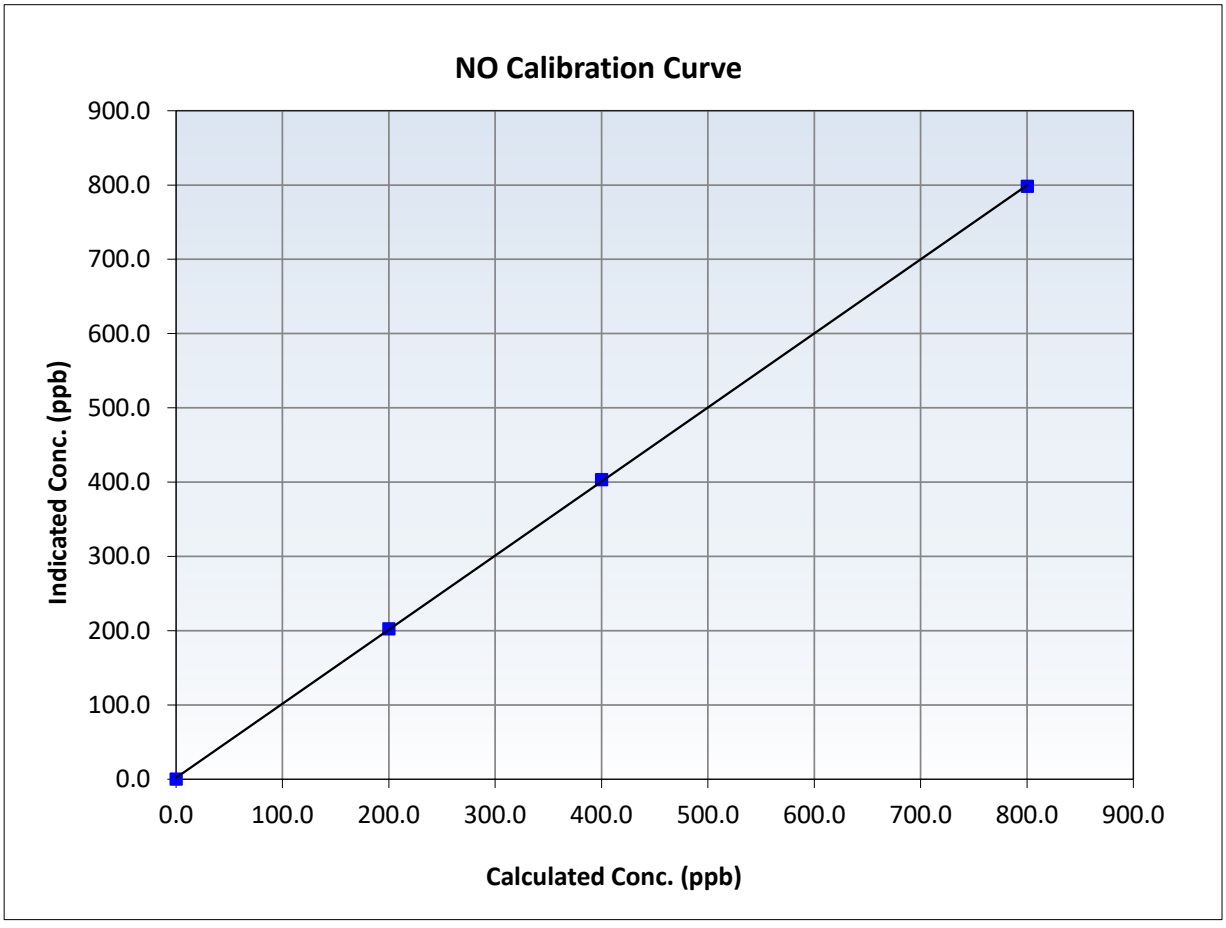
Station Information

Calibration Date:	October 17, 2025	Previous Calibration:	September 9, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	9:35	End Time (MST):	14:01
Analyzer make:	Thermo 42i	Analyzer serial #:	1160120024

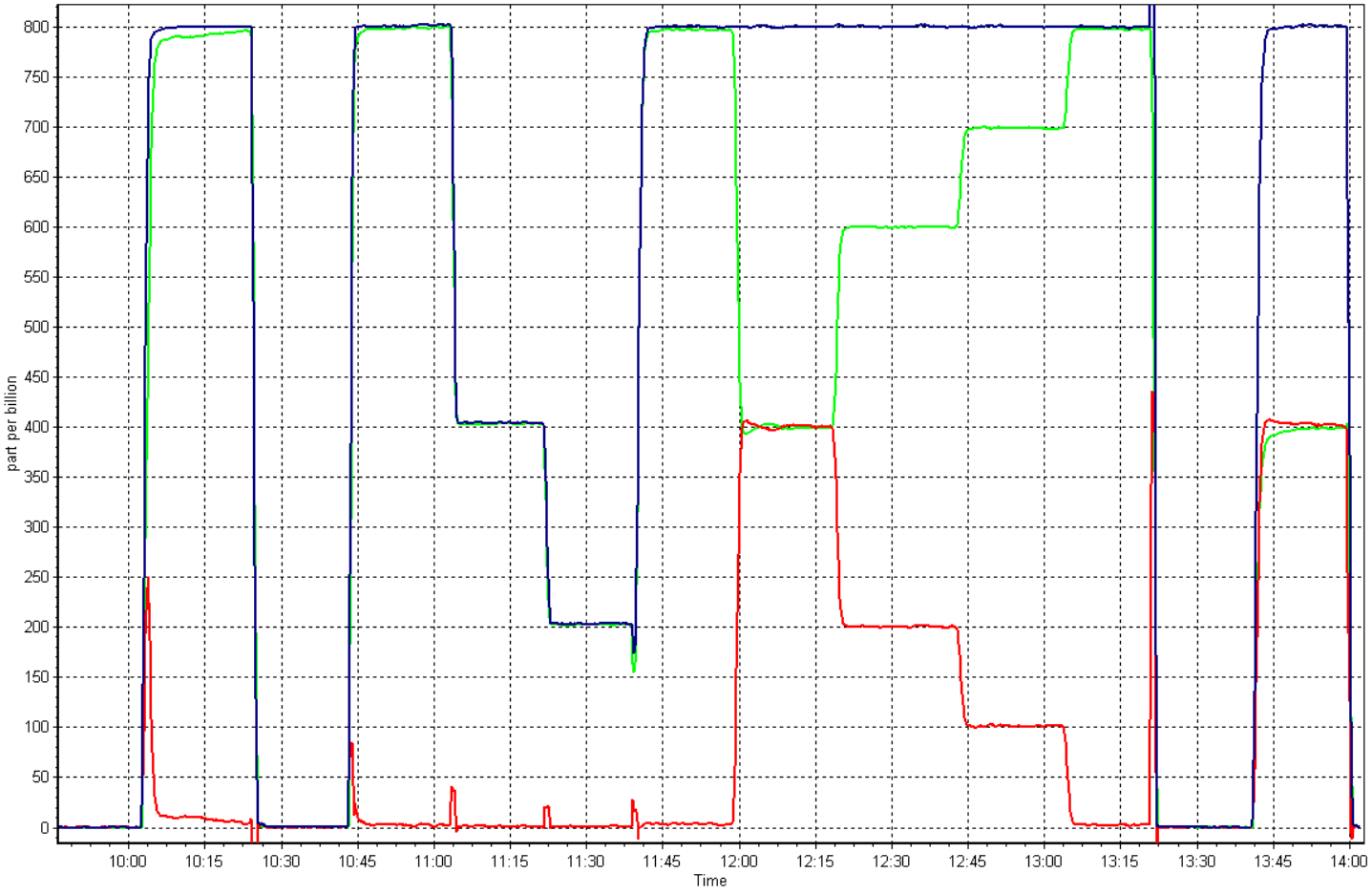
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
800.3	798.5	1.0022
400.2	403.2	0.9925
200.1	202.4	0.9885

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999967	*≥0.995*
Slope	0.997028	*0.90 - 1.10*
Intercept	1.951944	*+/-20*



NO_X Calibration Plot Date: October 17, 2025 Location: Athabasca Valley



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Athabasca Valley	Station number:	AMS07
Calibration Date:	October 1, 2025	Last Cal Date:	September 19, 2025
Start time (MST):	10:00	End time (MST):	12:05
Reason:	Removal		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	T700	Serial Number:	3805
ZAG Make/Model:	T701H	Serial Number:	198

Analyzer Information

Analyzer make:	Thermo 49i	Analyzer serial #:	1152220023
Analyzer Range	0 - 500 ppb		

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.002600		Backgd or Offset:	-1.8	N/A
Calibration intercept:	1.120000		Coeff or Slope:	1.556	N/A

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	NA	0.0	-0.6	----
As found High point	5000	1725.3	400.0	402.0	0.994
As found Mid point	5000	1172.8	200.0	201.1	0.992
As found Low point	5000	921.2	100.0	101.3	0.981

Baseline Corr As found:	402.6	Previous response	402.2	*% change	0.1%
Baseline Corr 2nd AF pt:	201.7	AF Slope:	1.005543	AF Intercept:	-0.020000
Baseline Corr 3rd AF pt:	101.9	AF Correlation:	0.999989	* = > +/-5% change initiates investigation	

O_3 Calibration Data

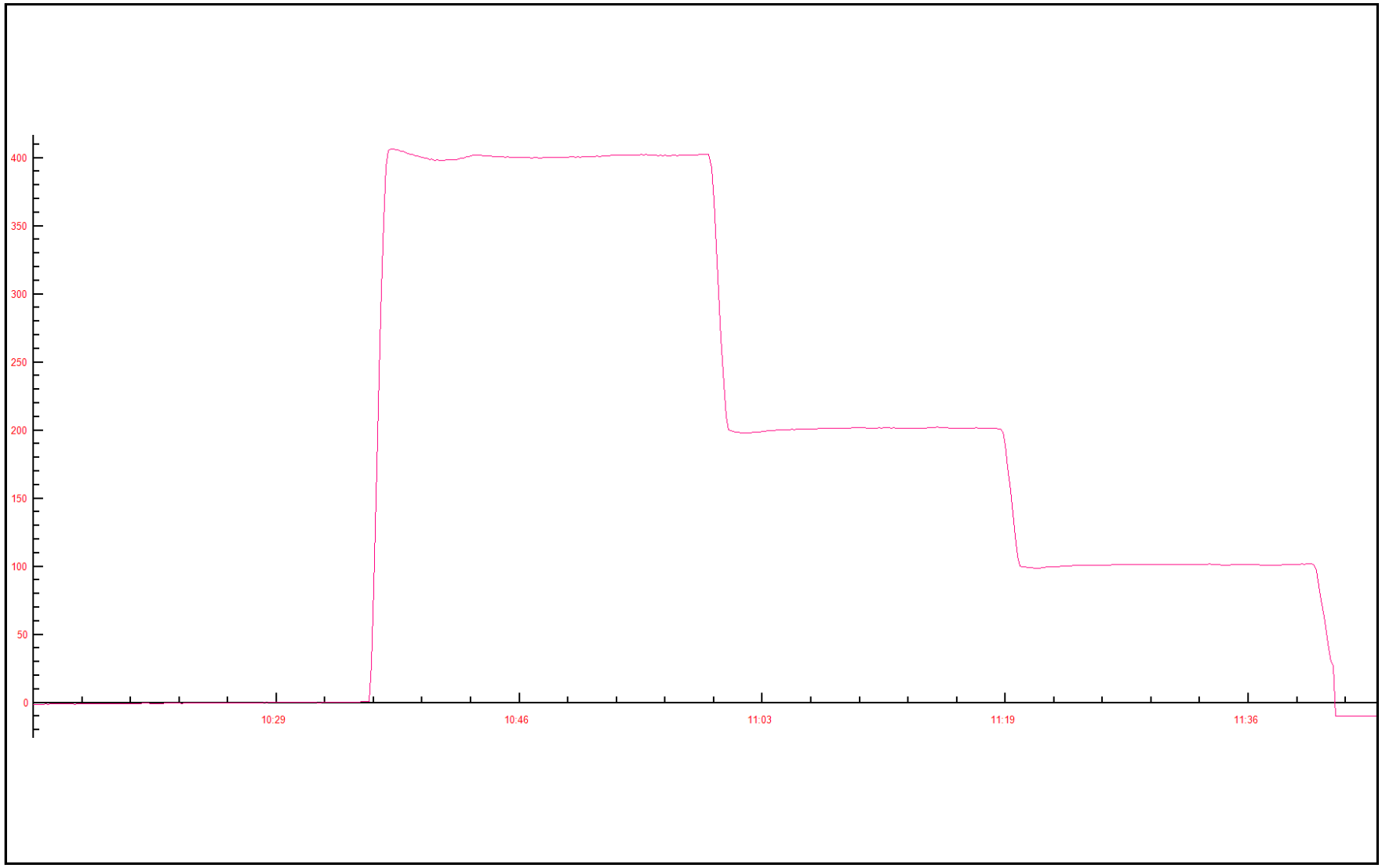
Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero					
As left span					

Average Correction Factor

Notes: Removal calibration.

Calibration Performed By: Aswin Sasi Kumar

O_3 Calibration Plot Date: October 1, 2025 Location: Athabasca Valley



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Athabasca Valley	Station number:	AMS07
Calibration Date:	October 1, 2025	Last Cal Date:	N/A
Start time (MST):	12:10	End time (MST):	14:55
Reason:	Install		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	T700	Serial Number:	3805
ZAG Make/Model:	T701H	Serial Number:	198

Analyzer Information

Analyzer make:	Thermo 49i	Analyzer serial #:	1507964700
Analyzer Range	0 - 500 ppb		

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	N/A	1.005086	Backgd or Offset:	N/A	-1.8
Calibration intercept:	N/A	-0.240000	Coeff or Slope:	N/A	1.556

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero					
As found High point					
As found Mid point					
As found Low point					

Baseline Corr As found:	NA	Previous response	NA	*% change	NA
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

O_3 Calibration Data

Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	NA	0.0	-0.7	----
High point	5000	1705.1	400.0	401.5	0.996
Mid point	5000	1172.8	200.0	201.2	0.994
Low point	5000	921.2	100.0	100.6	0.994
As left zero	5000	NA	0.0	0.0	----
As left span	5000	1582.6	400.0	406.0	0.985
				Average Correction Factor	0.995

Notes: Install calibration. Span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

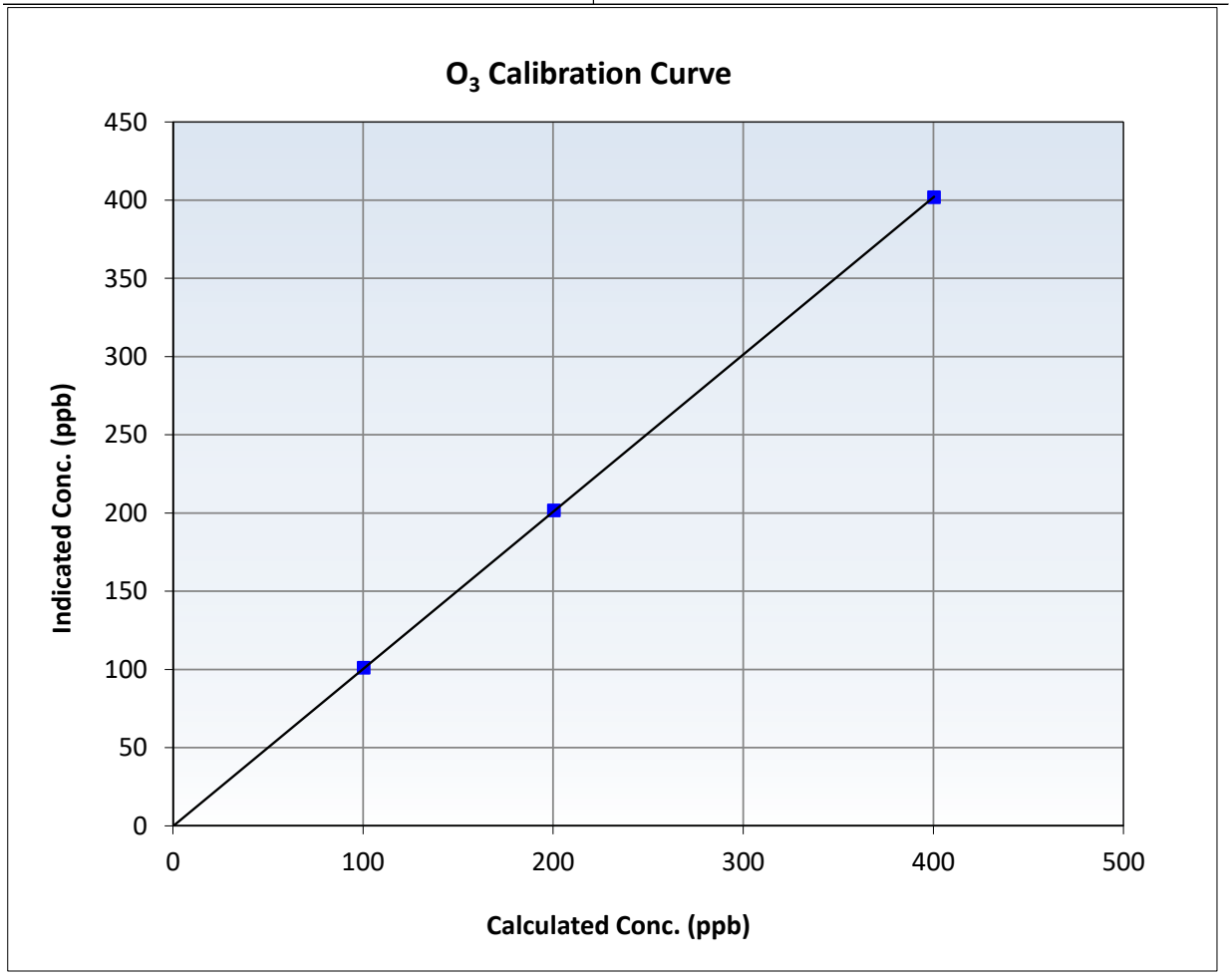
O_3 Calibration Summary

Station Information

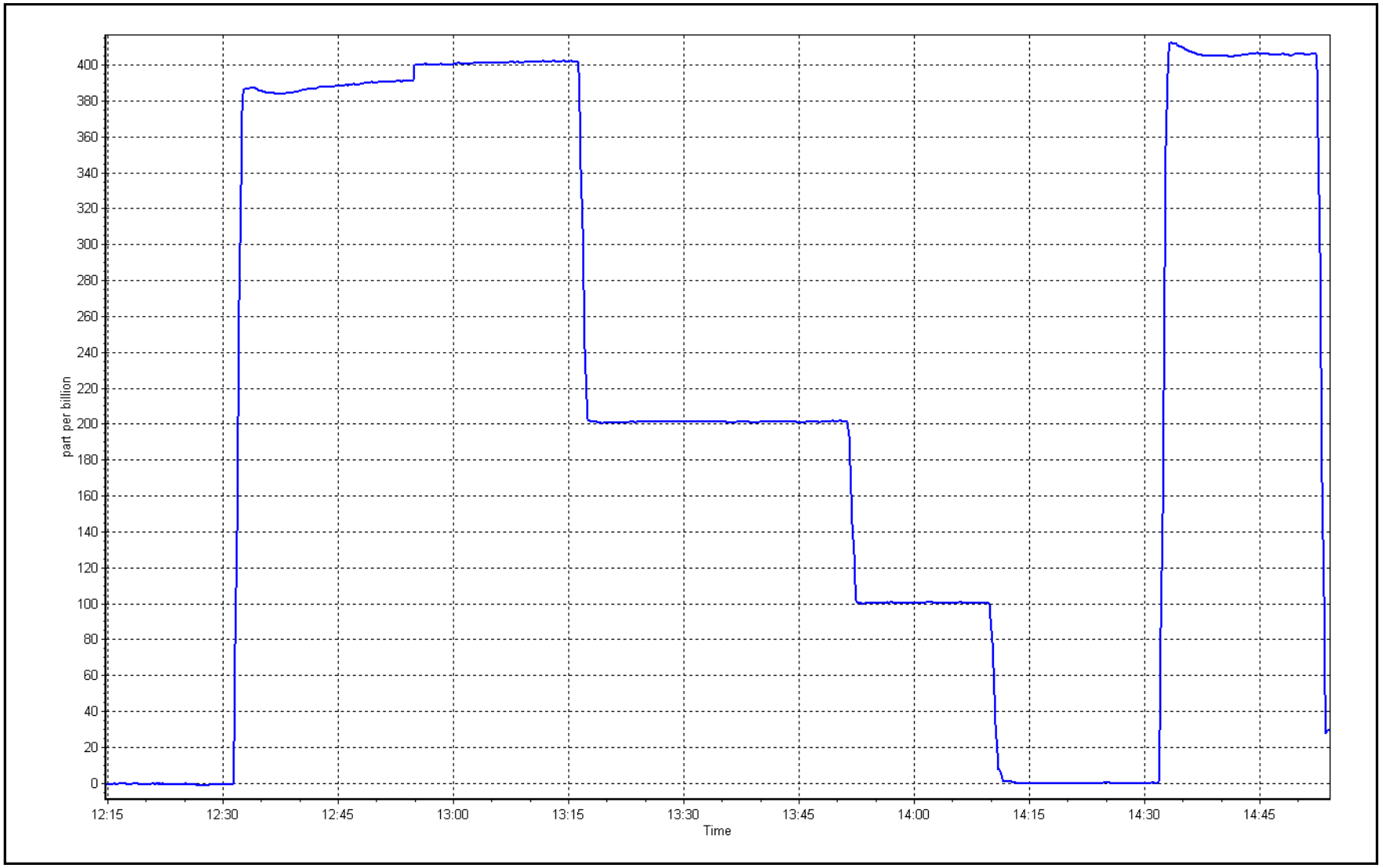
Calibration Date:	October 1, 2025	Previous Calibration:	N/A
Station Name:	Athabasca Valley	Station Number:	AMS07
Start Time (MST):	12:10	End Time (MST):	14:55
Analyzer make:	Thermo 49i	Analyzer serial #:	1507964700

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	-0.7	----	Correlation Coefficient	0.999993	≥0.995
400.0	401.5	0.9963	Slope	1.005086	0.90 - 1.10
200.0	201.2	0.9940			
100.0	100.6	0.9940	Intercept	-0.240000	+/- 5



O_3 Calibration Plot Date: October 1, 2025 Location: Athabasca Valley



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Athabasca Valley	Station number:	AMS 07
Calibration Date:	October 9, 2025	Last Cal Date:	September 19, 2025
Start time (MST):	13:30	End time (MST):	14:45
Analyzer Make:	API T640	S/N:	2235
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388748
Temp/RH standard:	Alicat FP-25BT	S/N:	388748

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	(Limits)
T (^{o}C)	16.4	15.4	16.4	☐	+/- 2 ^{o}C
P (mmHg)	740.3	739.84	740.3	☐	+/- 10 mmHg
Flow (LPM)	5.03	4.85	5.03	☐	+/- 0.25 LPM
PW% (pump)	32	-----	32	☐	>80%
Zero Verification	PM w/o HEPA:	1.2	PM w/ HEPA:	0.0	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.9 — Expiry Date: July 16, 2026 — Lot No.: 100128-050-050

Parameter	As found	Post maintenance	As left	Adjusted	(Limits)
PMT Peak Test	11.0	11.0	11.0	☐	+/- 0.5

Date Optical Chamber Cleaned: October 9, 2025

Date Disposable Filter Changed: October 9, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0.0 <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: October 9, 2025

Date RH/T Sensor Cleaned: October 9, 2025

Notes: Temp, pressure and flow checked. Leak check passed. Quarterly and annual checks done.

Calibration by: Aswin Sasi Kumar

Wood Buffalo Environmental Association

CO Calibration Report

Station Information

Station Name:	Athabasca Valley	Station number:	AMS 07
Calibration Date:	October 24, 2025	Last Cal Date:	September 5, 2025
Start time (MST):	10:02	End time (MST):	14:15
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	2,953	ppm	Cal Gas Exp Date:	September 30, 2029
Cal Gas Cylinder #:	T1TWKRN			
Removed Cal Gas Conc:	2,953	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	3805
ZAG Make/Model:	Teledyne API 701H		Serial Number:	198

Analyzer Information

Analyzer make:	Thermo 48i-TLE		Analyzer serial #:	1408761381	
Analyzer Range:	0 - 50 ppm				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	0.995870	0.998381	Backgd or Offset:	5.731	5.170
Calibration intercept:	0.227985	0.144014	Coeff or Slope:	1.074	1.077

CO As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.1	----
As found High point	4932	67.8	40.0	40.2	0.999
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	40.08	Prev response:	40.11	*% change:	-0.1%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CO Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4932	67.8	40.0	40.0	1.001
Mid point	4966	33.9	20.0	20.3	0.987
Low point	4983	16.9	10.0	10.2	0.978
As left zero	5000	0.0	0.0	0.0	----
As left span	4932	67.8	40.0	40.0	1.002
				Average Correction Factor	0.988

Notes: Zero and span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

CO Calibration Summary

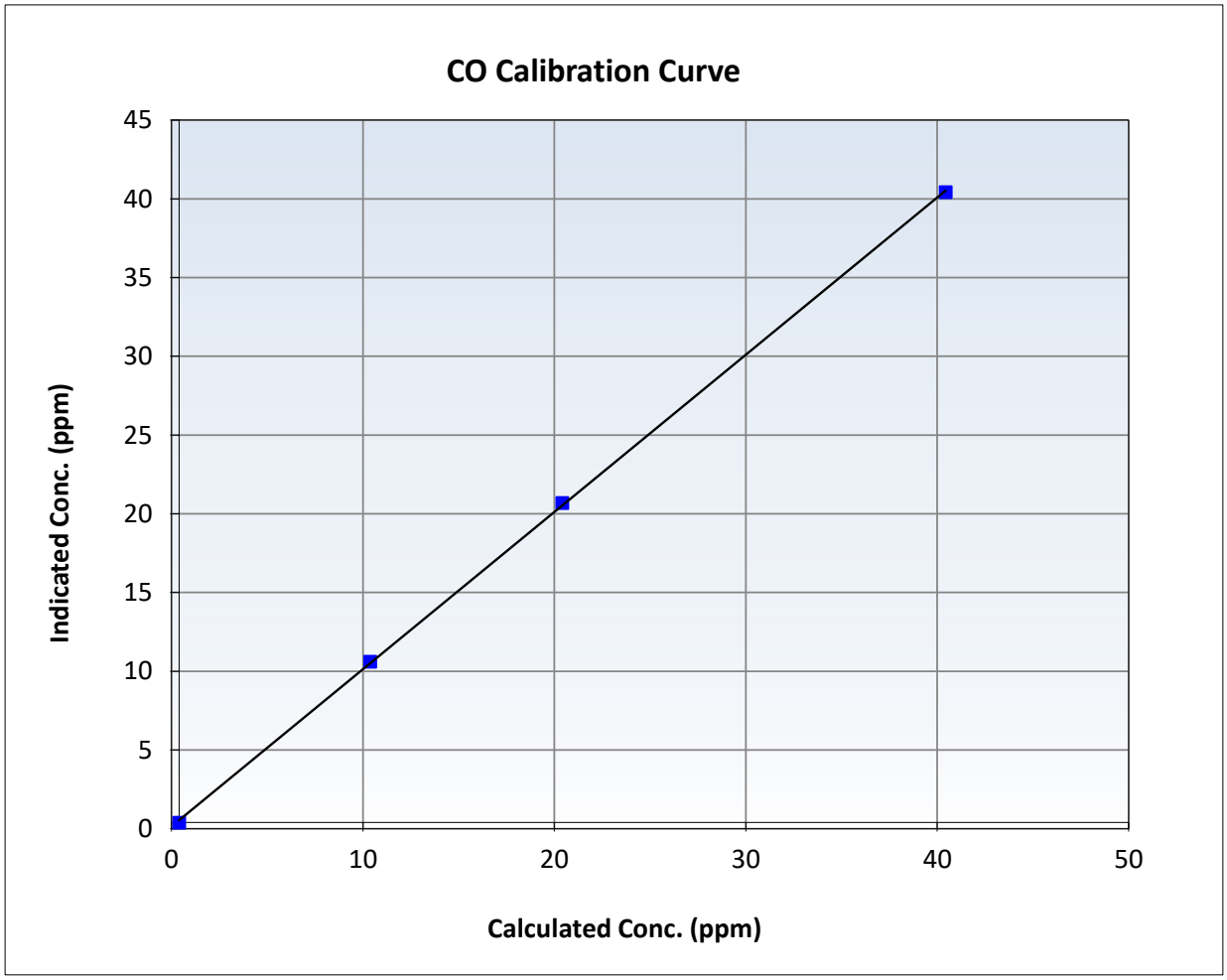
Station Information

Calibration Date:	October 24, 2025	Previous Calibration:	September 5, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	10:02	End Time (MST):	14:15
Analyzer make:	Thermo 48i-TLE	Analyzer serial #:	1408761381

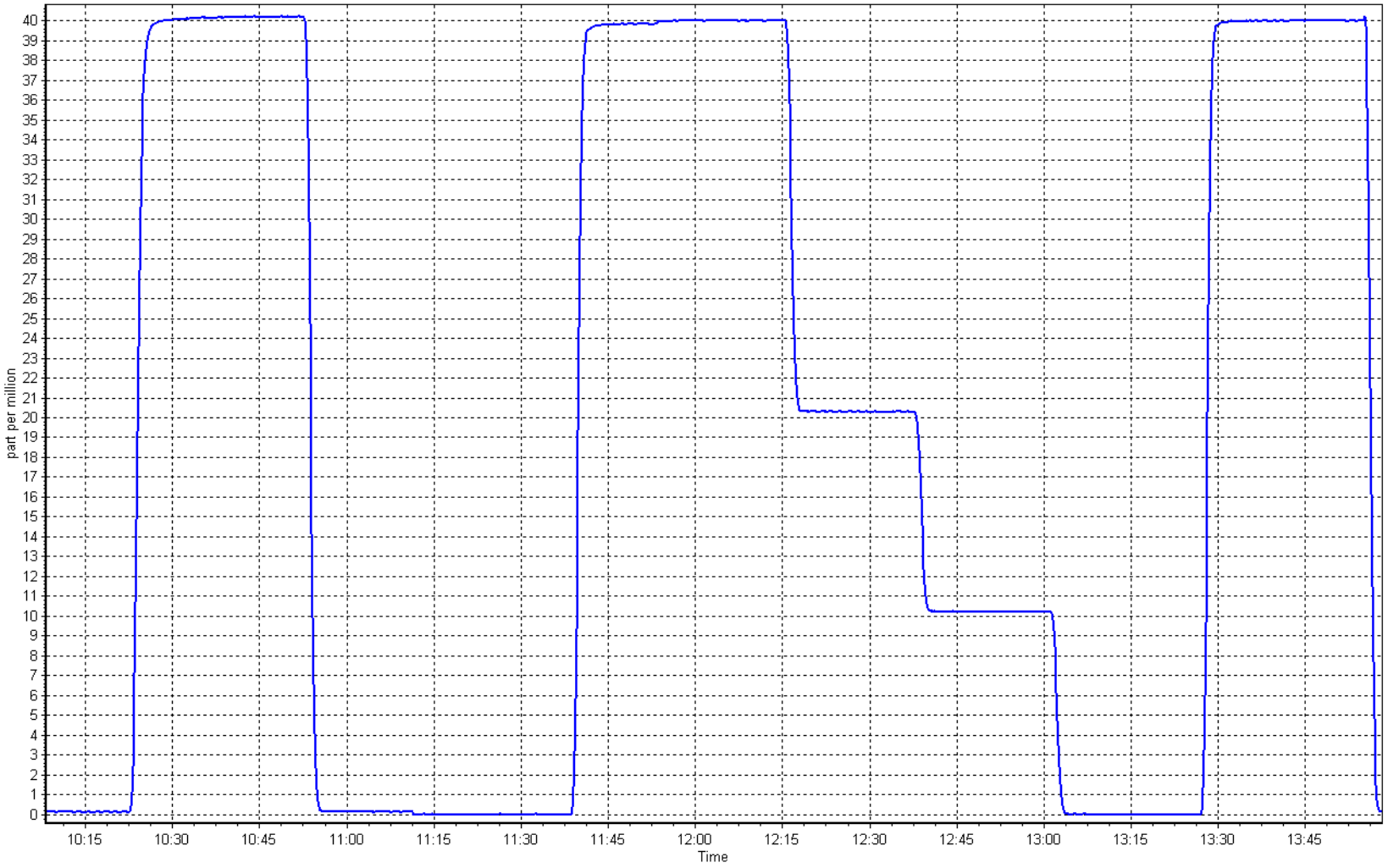
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
40.0	40.0	1.0006
20.0	20.3	0.9868
10.0	10.2	0.9776

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999921	*≥0.995*
Slope	0.998381	*0.90 - 1.10*
Intercept	0.144014	*+/-1.5*



CO Calibration Plot Date: October 24, 2025 Location: Athabasca Valley



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS08
FORT CHIPEWYAN
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Fort Chipewyan	Station number:	AMS 08
Calibration Date:	October 16 2025	Last Cal Date:	September 16, 2025
Start time (MST):	10:30	End time (MST):	13:48
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	49.84	ppm	Cal Gas Exp Date:	January 6, 2030
Cal Gas Cylinder #:	CC196697			
Removed Cal Gas Conc:	49.84	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	3810
Zero Air Gen Model:	Teledyne API T701		Serial Number:	135

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Serial Number:	1236656116	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.003816	0.999773	Backgd or Offset:	1.9	1.9
Calibration intercept:	-0.145224	-0.603699	Coeff or Slope:	1.029	1.029

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.2	----
As found High point	4920	80.3	800.4	799.3	1.002
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	799.1	Previous response	803.3	*% change	-0.5%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.3	----
High point	4920	80.3	800.4	800.0	1.000
Mid point	4960	40.2	400.7	399.7	1.002
Low point	4980	20.1	200.4	198.7	1.008
As left zero	5000	0.0	0.0	0.1	----
As left span	4920	80.3	800.4	799.5	1.001
				Average Correction Factor:	1.004

Notes: Changed out inlet filter after as founds. No adjustments made.

Calibration Performed By: Jeremy cardinal

Wood Buffalo Environmental Association

SO_2 Calibration Summary

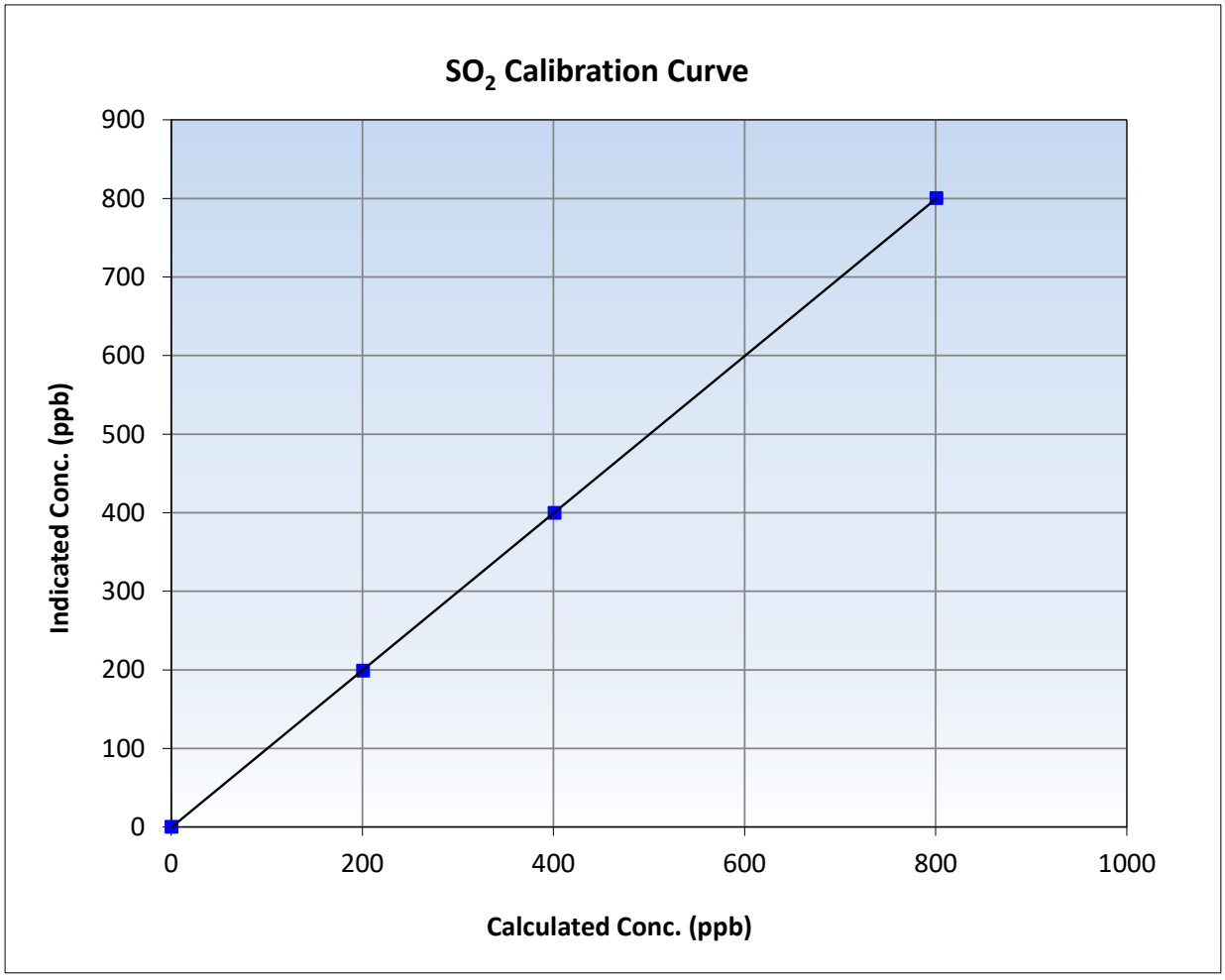
Station Information

Calibration Date:	October 16 2025	Previous Calibration:	September 16, 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	10:30	End Time (MST):	13:48
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1236656116

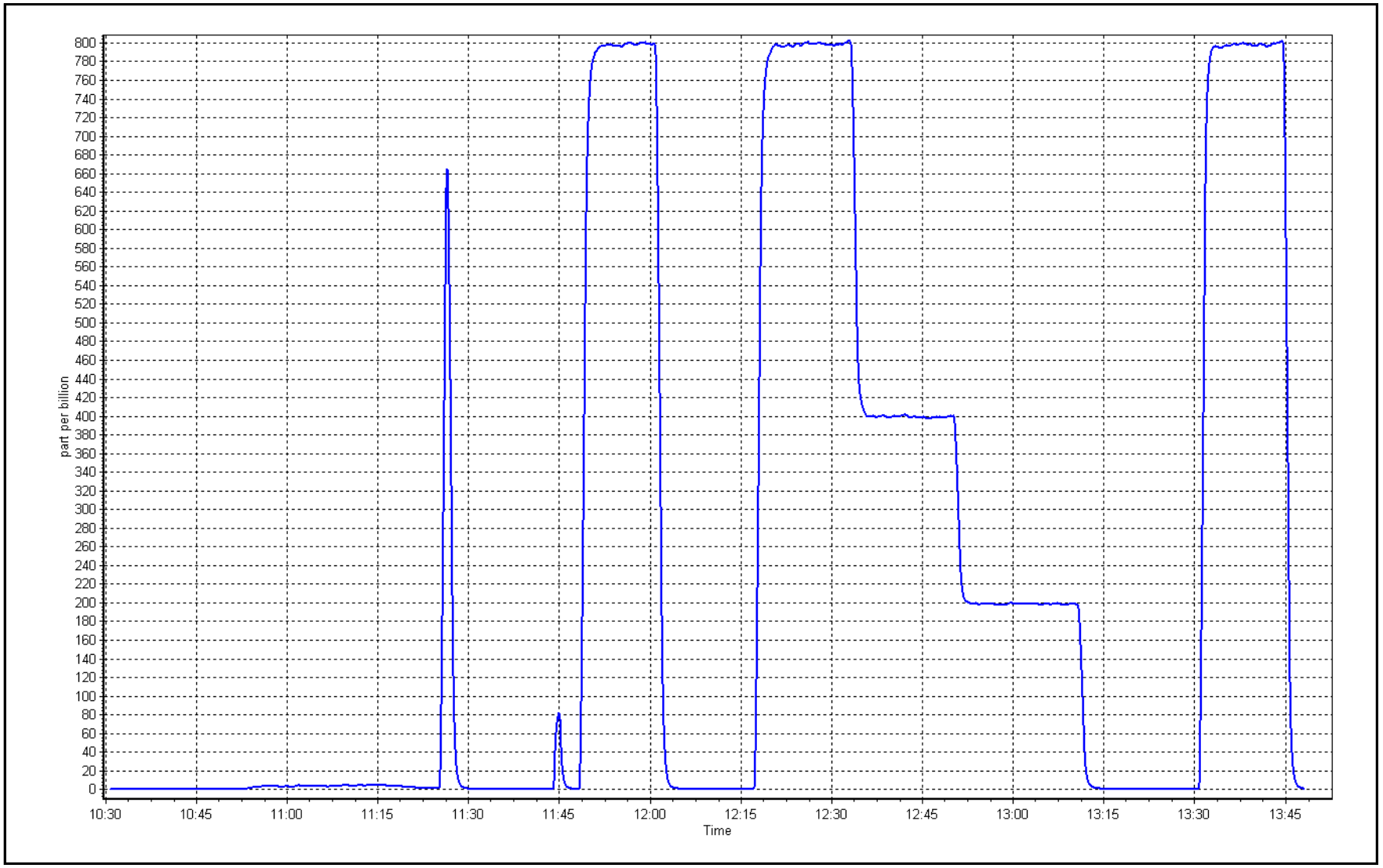
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
800.4	800.0	1.0005
400.7	399.7	1.0025
200.4	198.7	1.0083

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999994	*≥0.995*
Slope	0.999773	*0.90 - 1.10*
Intercept	-0.603699	*+/-30*



SO2 Calibration Plot Date: October 16 2025 Location: Fort Chipewyan



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Fort Chipewyan	Station number:	AMS 08
Calibration Date:	October 23, 2025	Last Cal Date:	Sepember 15 2025
Start time (MST):	11:36	End time (MST):	14:58
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.84	ppm	Cal Gas Exp Date:	August 28, 2027
Cal Gas Cylinder #:	SA7549			
Removed Cal Gas Conc:	4.84	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	3810
ZAG Make/Model:	Teledyne API T701		Serial Number:	135

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Analyzer serial #:	1218153461
Converter make:	CDN-101		Converter serial #:	630
Analyzer Range	0 - 100 ppb		Converter Temp:	800 degC

	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001244	0.997099	Backgd or Offset:	2.8	2.8
Calibration intercept:	0.061962	0.082015	Coeff or Slope:	1.158	1.158

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.2	----
As found High point	4917	82.6	80.0	80.9	0.986
As found Mid point	4959	41.3	40.0	40.5	0.982
As found Low point	4979	20.7	20.0	20.0	0.992
New cylinder response					

Baseline Corr As found:	81.1	Prev response:	80.12	*% change:	1.2%
Baseline Corr 2nd AF pt:	40.7	AF Slope:	1.014968	AF Intercept:	-0.218287
Baseline Corr 3rd AF pt:	20.2	AF Correlation:	0.999990	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4917	82.6	80.0	79.7	1.003
Mid point	4959	41.3	40.0	40.2	0.994
Low point	4979	20.7	20.0	20.0	1.002
As left zero	5000	0.0	0.0	0.3	----
As left span	4917	82.6	80.0	81.3	0.984
SO2 Scrubber Check	4920	80.3	803.0	-0.1	----

Date of last scrubber change:	May 15, 2025	Ave Corr Factor	1.000
Date of last converter efficiency test:			

Notes: No adjustments made.

Calibration Performed By: jermey cardinal

Wood Buffalo Environmental Association

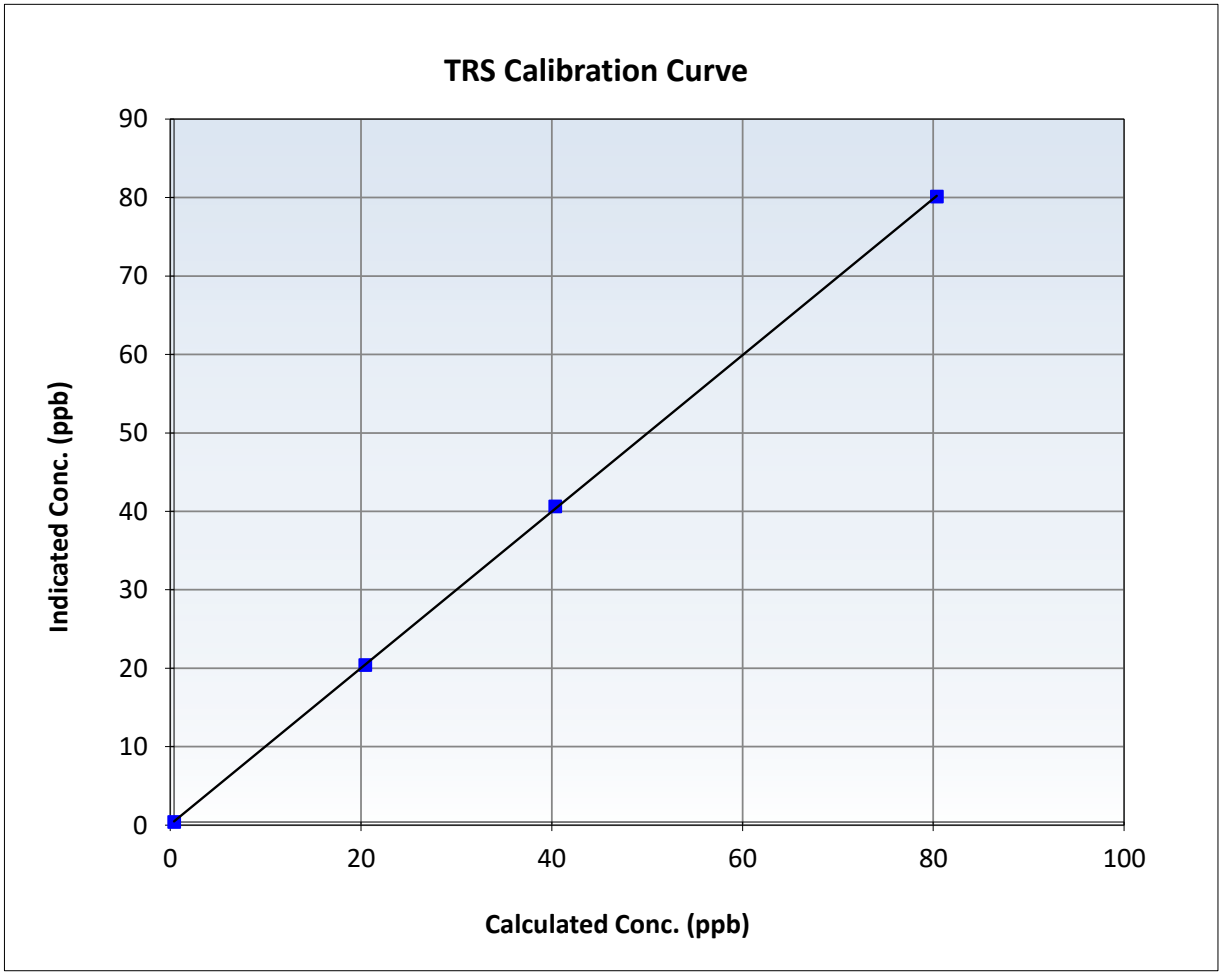
TRS Calibration Summary

Station Information

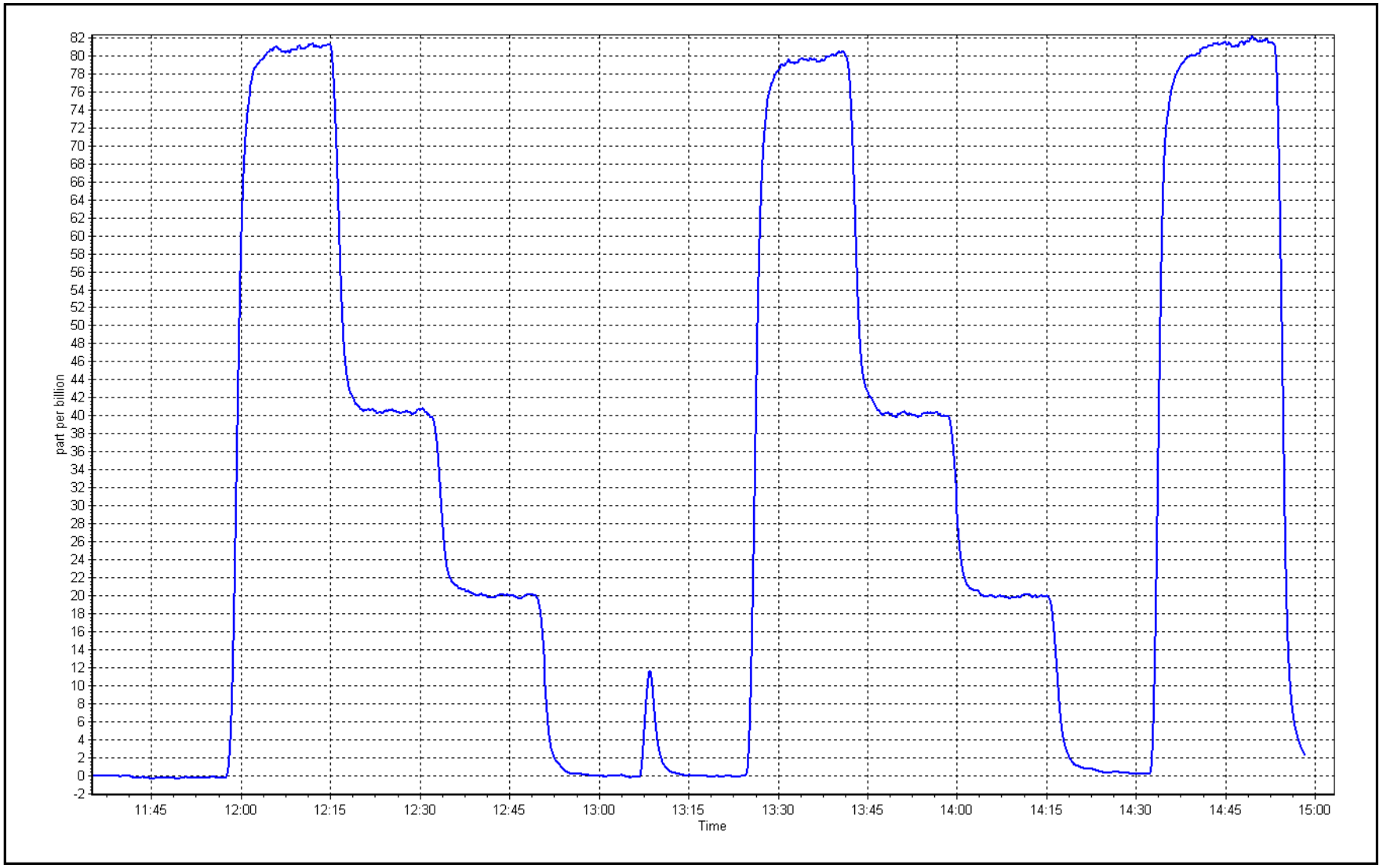
Calibration Date:	October 23, 2025	Previous Calibration:	Sepember 15 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	11:36	End Time (MST):	14:58
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1218153461

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.0	----	Correlation Coefficient	0.999974	*≥0.995*
80.0	79.7	1.0033	Slope	0.997099	*0.90 - 1.10*
40.0	40.2	0.9944			
20.0	20.0	1.0019	Intercept	0.082015	*+/-3*



TRS Calibration Plot Date: October 23, 2025 Location: Fort Chipewyan



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Fort Chipewyan
Station number:	AMS 08
Calibration Date:	October 17, 2025
Last Cal Date:	September 17, 2025
Start time (MST):	7:28
End time (MST):	12:28
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	CC358100	Cal Gas Expiry Date:	January 5,2032
NOX Cal Gas Conc:	60.10 ppm	NO Cal Gas Conc:	60.00 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	60.10 ppm	Removed Gas NO Conc:	60.00 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	3810
ZAG make/model:	Teledyne API T701H	Serial Number:	197

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-1.0	-0.2	-0.7	----	----
AF High point	4933	66.7	801.8	800.4	1.3	741.4	736.2	5.3	1.0800	1.0870
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	803.5 ppb	NO =	800.1 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = -8.2%
Baseline Corr 1st pt	NO_X =	742.4 ppb	NO =	736.4 ppb	As Found Statistics	*Percent Change	NO = -8.7%
Baseline Corr 2nd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO_X r^2:	Nx Sl:	Nx Int:
Baseline Corr 3rd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO r^2:	NO Sl:	NO Int:
					As found NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42iQ Serial Number: 12124313137

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.743	0.806	NO bkgnd or offset:	0.8	0.8
NOX coeff or slope:	0.998	0.996	NOX bkgnd or offset:	1.7	1.6
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	149.3	159.2

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.003197	0.998321
NO_X Cal Offset:	-0.885527	-0.825795
NO Cal Slope:	1.000955	0.999327
NO Cal Offset:	-1.065293	-1.145428
NO_2 Cal Slope:	1.008496	1.005011
NO_2 Cal Offset:	0.885220	-1.625691

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	-0.8	-0.1	-0.7	----	----
High point	4933	66.7	801.8	800.4	1.3	799.7	799.2	0.6	1.0026	1.0016
Mid point	4967	33.3	400.2	399.6	0.7	398.5	397.9	1.7	1.0044	1.0042
Low point	4983	16.7	200.7	200.4	0.3	199.7	197.9	1.8	1.0052	1.0126
As left zero	5000	0.0	0.0	0.0	0.0	-0.8	-0.1	-0.7	----	----
As left span	4933	66.7	801.8	384.1	417.7	787.7	384.1	403.6	1.0179	1.0000
							Average Correction Factor		1.0041	1.0061

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	-0.7	----	----
High GPT point	794.8	384.3	411.8	412.4	0.9986	100.1%
Mid GPT point	794.8	606.8	189.3	189.2	1.0007	99.9%
Low GPT point	794.8	698.8	97.3	94.6	1.0289	97.2%
				Average Correction Factor	1.0094	99.1%

Notes: Changed filer after as found. Performed span adjustment.

Calibration Performed By: Mrgan Voyageur, Jermey Cardinal

Wood Buffalo Environmental Association

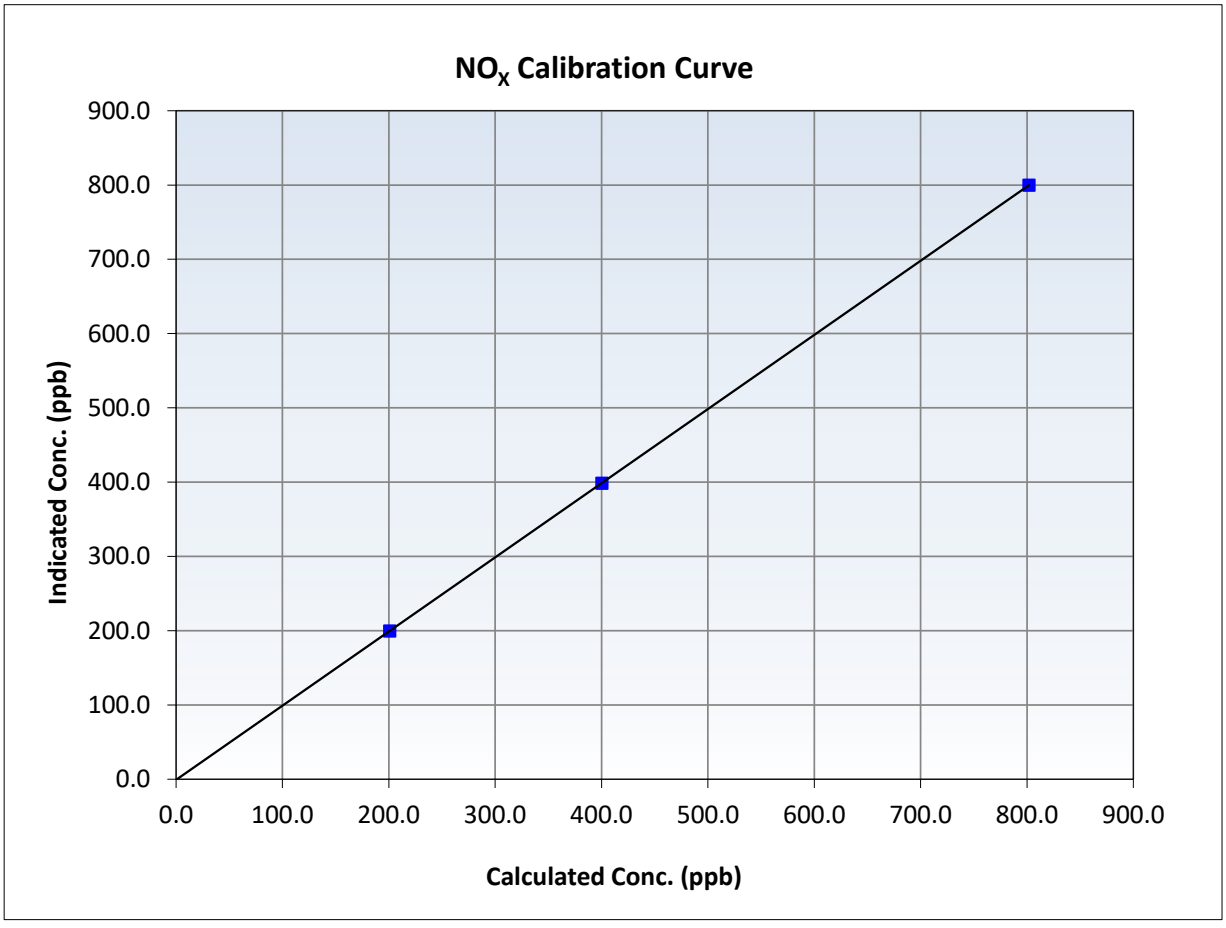
NO_X Calibration Summary

Station Information

Calibration Date:	October 17, 2025	Previous Calibration:	September 17, 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	7:28	End Time (MST):	12:28
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12124313137

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	-0.8	----	Correlation Coefficient	1.000000	≥0.995
801.8	799.7	1.0026	Slope	0.998321	0.90 - 1.10
400.2	398.5	1.0044	Intercept	-0.825795	+/-20
200.7	199.7	1.0052			



Wood Buffalo Environmental Association

NO_2 Calibration Summary

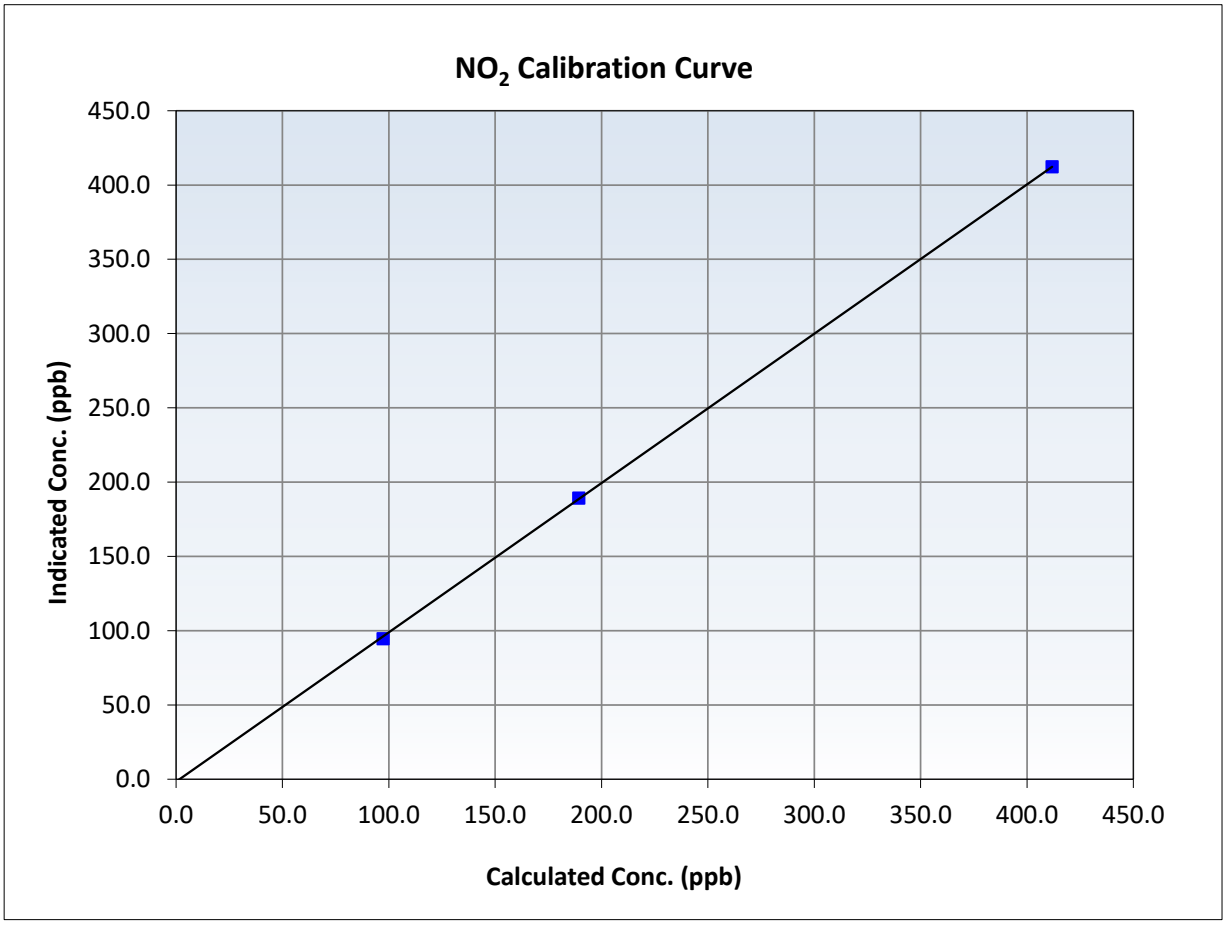
Station Information

Calibration Date:	October 17, 2025	Previous Calibration:	September 17, 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	7:28	End Time (MST):	12:28
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12124313137

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.7	----
411.8	412.4	0.9986
189.3	189.2	1.0007
97.3	94.6	1.0289

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999960	*≥0.995*
Slope	1.005011	*0.90 - 1.10*
Intercept	-1.625691	*+/-20*



Wood Buffalo Environmental Association

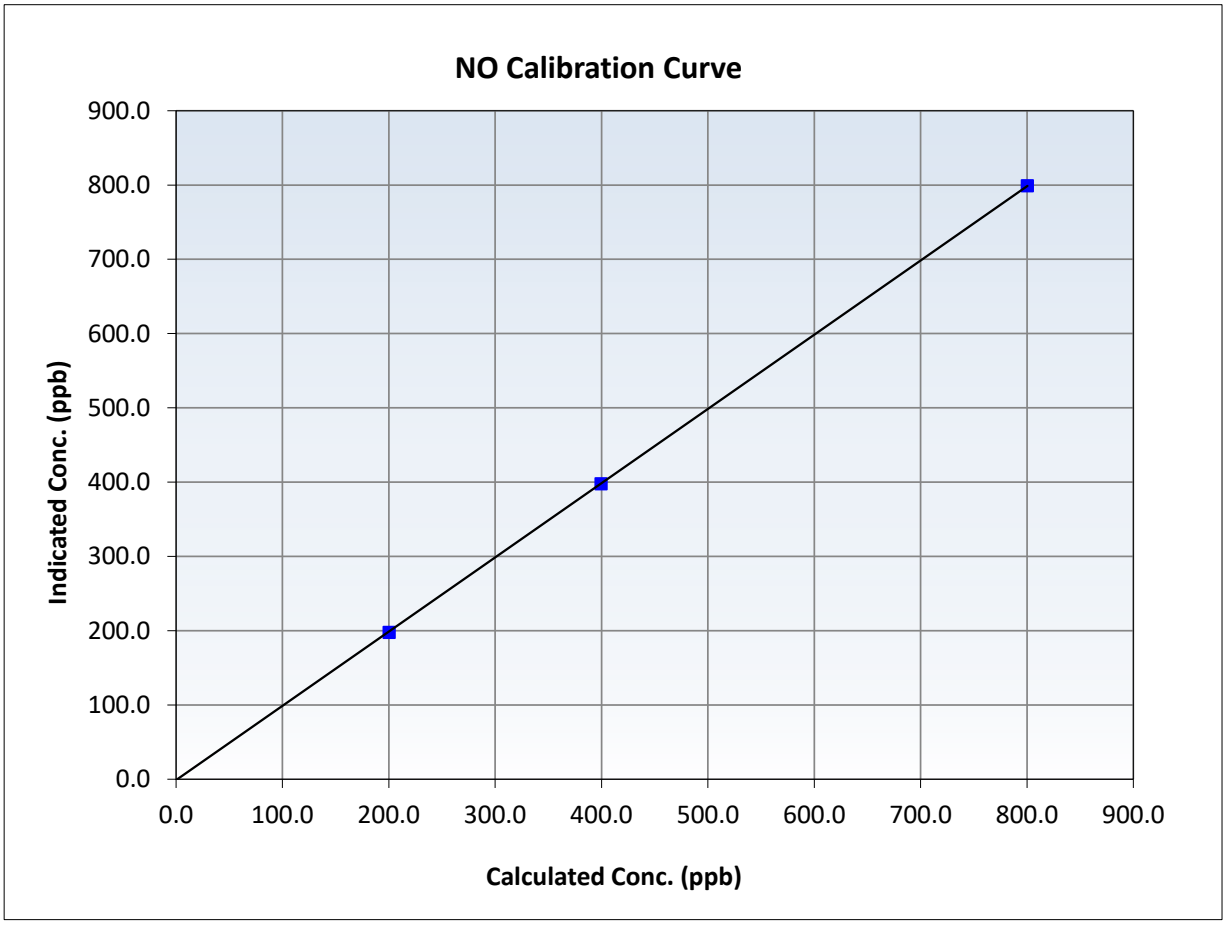
NO Calibration Summary

Station Information

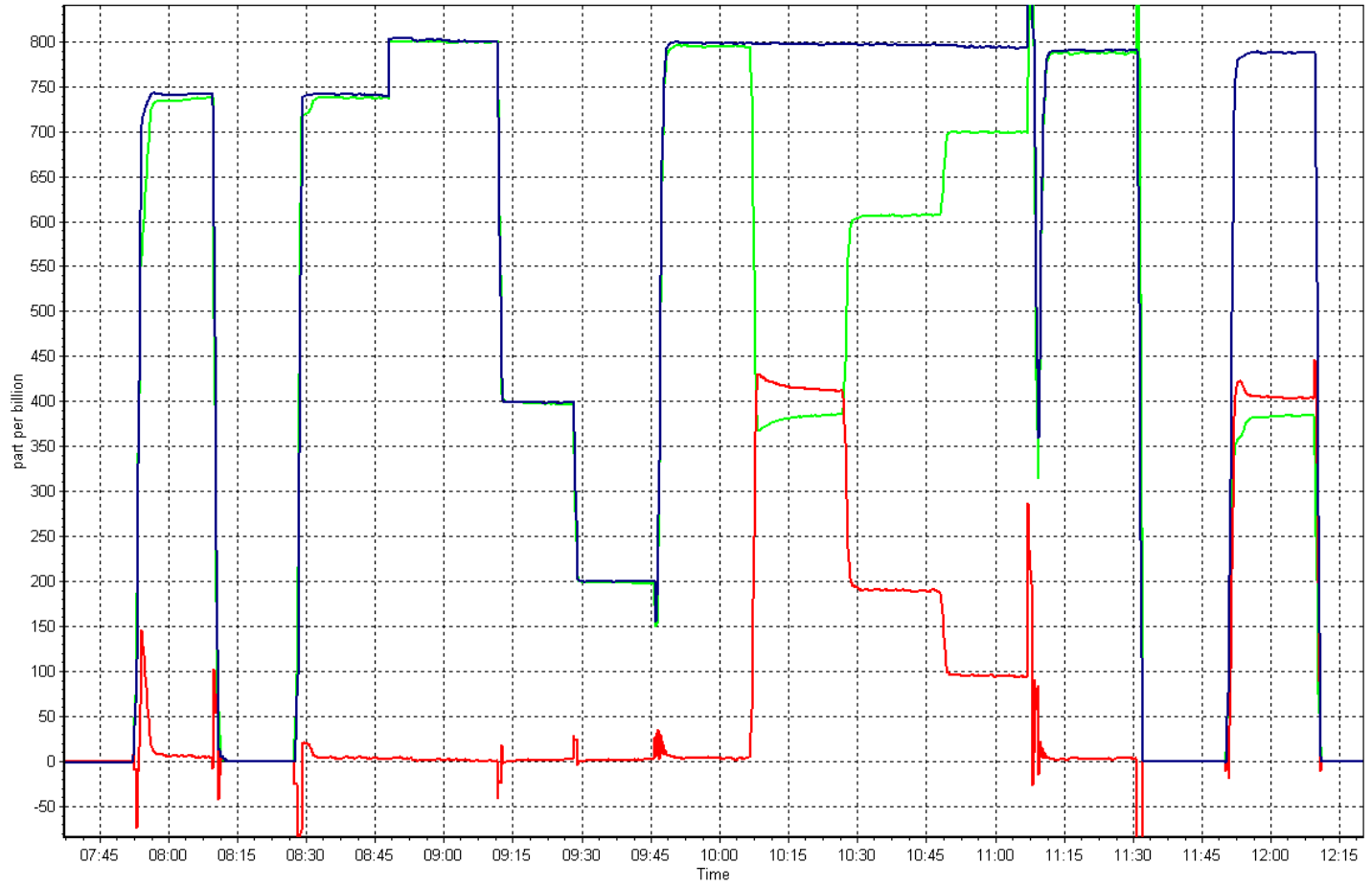
Calibration Date:	October 17, 2025	Previous Calibration:	September 17, 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	7:28	End Time (MST):	12:28
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12124313137

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	-0.1	----	Correlation Coefficient	0.999992	≥0.995
800.4	799.2	1.0016	Slope	0.999327	0.90 - 1.10
399.6	397.9	1.0042			
200.4	197.9	1.0126	Intercept	-1.145428	+/-20



NO_X Calibration Plot Date: October 17, 2025 Location: Fort Chipewyan



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Fort Chipewyan	Station number:	AMS 08
Calibration Date:	October 23, 2025	Last Cal Date:	September 16, 2025
Start time (MST):	8:09	End time (MST):	11:04
Reason:	Routine		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	Teledyne API T700	Serial Number:	3810
ZAG Make/Model:	Teledyne API T701	Serial Number:	135

Analyzer Information

Analyzer make:	Thermo 49i		Analyzer serial #:	1152220026	
Analyzer Range	0 - 500 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	0.997800	1.002629	Backgd or Offset:	-0.3	-2.6
Calibration intercept:	1.060000	0.740000	Coeff or Slope:	1.029	0.995

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.3	----
As found High point	5000	968.7	400.0	400.3	0.999
As found Mid point					
As found Low point					
Baseline Corr As found:	400.6	Previous response	400.2	*% change	0.1%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

O_3 Calibration Data

Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.1	----
High point	5000	968.7	400.0	401.5	0.996
Mid point	5000	820.5	200.0	201.5	0.993
Low point	5000	720.0	100.0	101.7	0.983
As left zero					
As left span					
				Average Correction Factor	0.991

Notes: Changed Filter after as founds. Adjustments made to Zero and then span high point. As lefts not captured.

Calibration Performed By: Jermey cardinal

Wood Buffalo Environmental Association

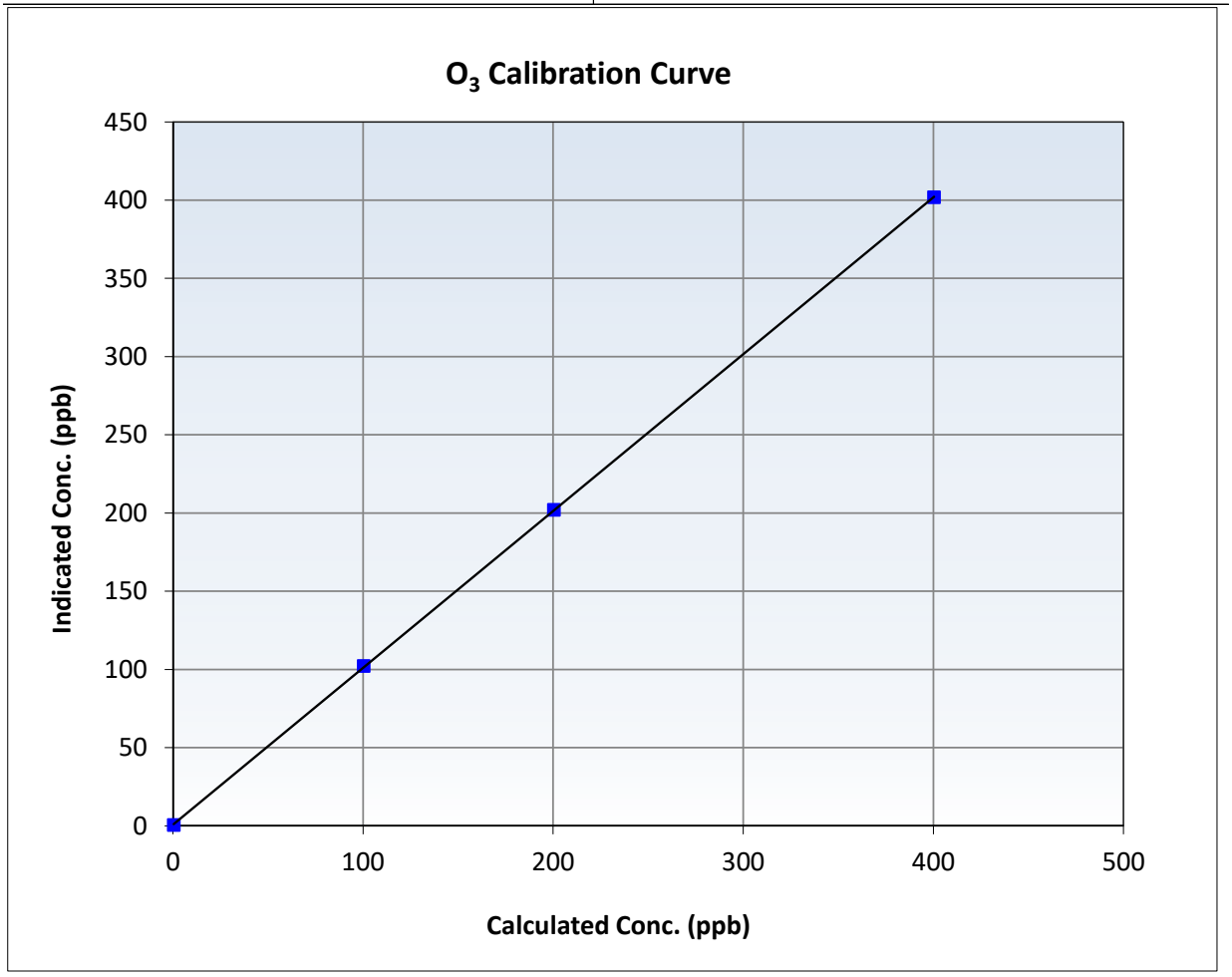
O_3 Calibration Summary

Station Information

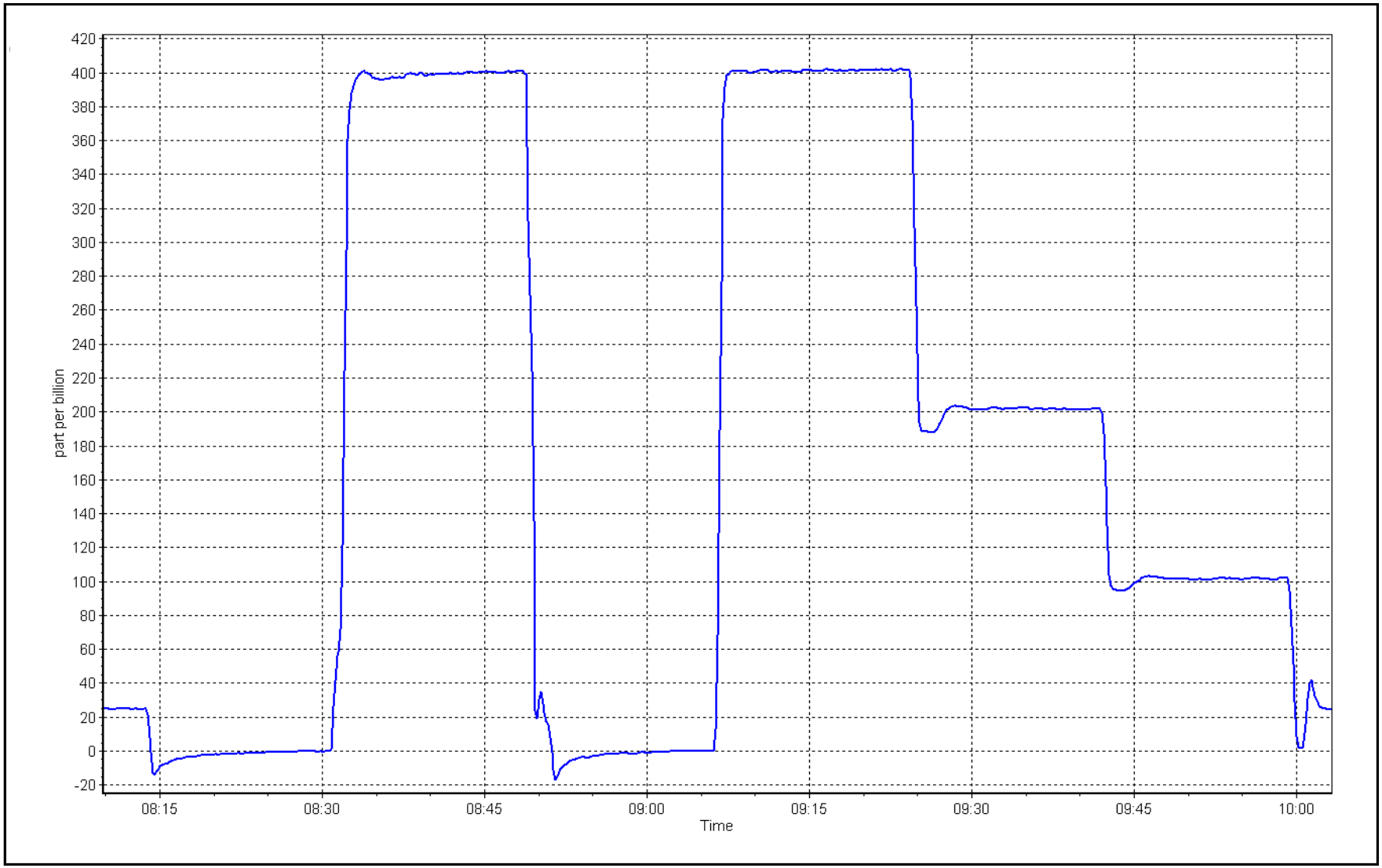
Calibration Date:	October 23, 2025	Previous Calibration:	September 16, 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	8:09	End Time (MST):	11:04
Analyzer make:	Thermo 49i	Analyzer serial #:	1152220026

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999988	*≥0.995*
400.0	401.5	0.9963	Slope	1.002629	*0.90 - 1.10*
200.0	201.5	0.9926			
100.0	101.7	0.9833	Intercept	0.740000	*+/- 5*



O_3 Calibration Plot Date: October 23 2025 Location: Fort Chipewyan



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Fort Chipewyan	Station number:	AMS 08
Calibration Date:	October 30, 2025	Last Cal Date:	September 23, 2025
Start time (MST):	13:44	End time (MST):	15:35
Analyzer Make:	Teledyne API T640	S/N:	319
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388744
Temp/RH standard:	Alicat FP-25BT	S/N:	388744

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (°C)	0.4	-0.80	0.4	☐	+/- 2 °C
P (mmHg)	742.8	745.50	742.8	☐	+/- 10 mmHg
Flow (LPM)	5.01	5.03	5.01	☐	+/- 0.25 LPM
PW% (pump)	30%		30%	☐	>80%

Zero Verification — PM w/o HEPA: 0.90 — PM w/ HEPA: 0.00 — <0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☐ Alignment Factor On : ☐

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.90 — Expiry Date: 10-Jun-24 — Lot No.: 100128-050-042

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test				☐	+/- 0.5

Date Optical Chamber Cleaned: August 19, 2025

Date Disposable Filter Changed: August 19, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0.00 <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: August 29, 2024

Date RH/T Sensor Cleaned: August 29, 2024

Notes: No adjustments made.

Calibration by: Morgan Voyageur

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS09
BARGE LANDING
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Barge Landing	Station number:	AMS 09
Calibration Date:	October 3, 2025	Last Cal Date:	September 15, 2025
Start time (MST):	9:37	End time (MST):	12:28
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.56	ppm	Cal Gas Exp Date:	October 9, 2032
Cal Gas Cylinder #:	CC705748			
Removed Cal Gas Conc:	50.56	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	API T700		Serial Number:	3812
Zero Air Gen Model:	APIT701		Serial Number:	4888

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1118148498	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.000887	0.995670	Backgd or Offset:	11.1	11.5
Calibration intercept:	0.001592	0.401753	Coeff or Slope:	0.985	0.985

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.1	----
As found High point	4921	79.1	799.8	797.3	1.003
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	797.2	Previous response	800.6	*% change	-0.4%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4921	79.1	799.8	796.5	1.004
Mid point	4961	39.5	399.4	398.5	1.002
Low point	4980	19.8	200.2	200.0	1.001
As left zero	5000	0.0	0.0	-0.1	----
As left span	4921	79.1	799.8	797.5	1.003
				Average Correction Factor:	1.003

Notes: Sample inlet filter was changed after as founds. Adjusted zero only.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

SO_2 Calibration Summary

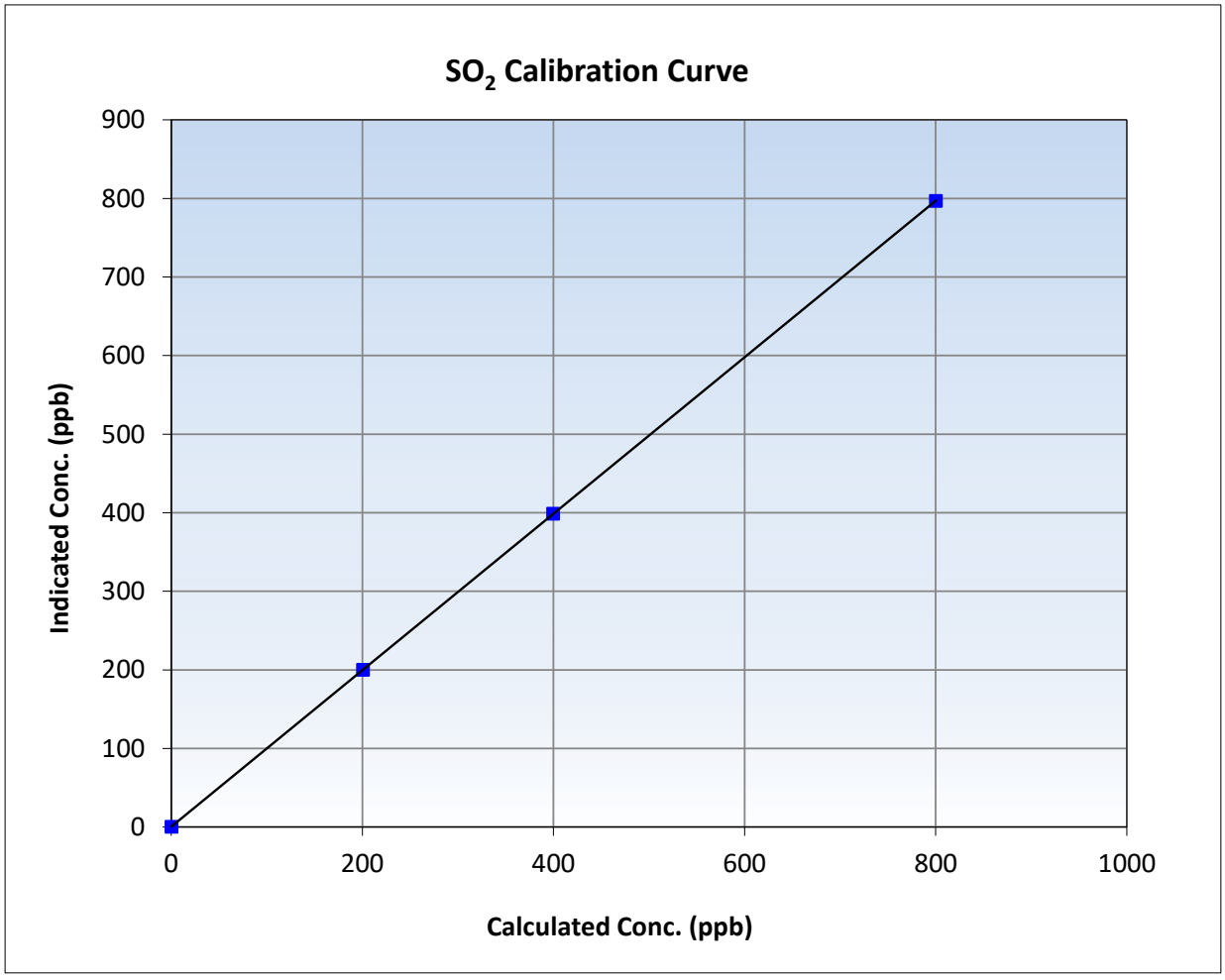
Station Information

Calibration Date:	October 3, 2025	Previous Calibration:	September 15, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	9:37	End Time (MST):	12:28
Analyzer make:	Thermo 43i	Analyzer serial #:	1118148498

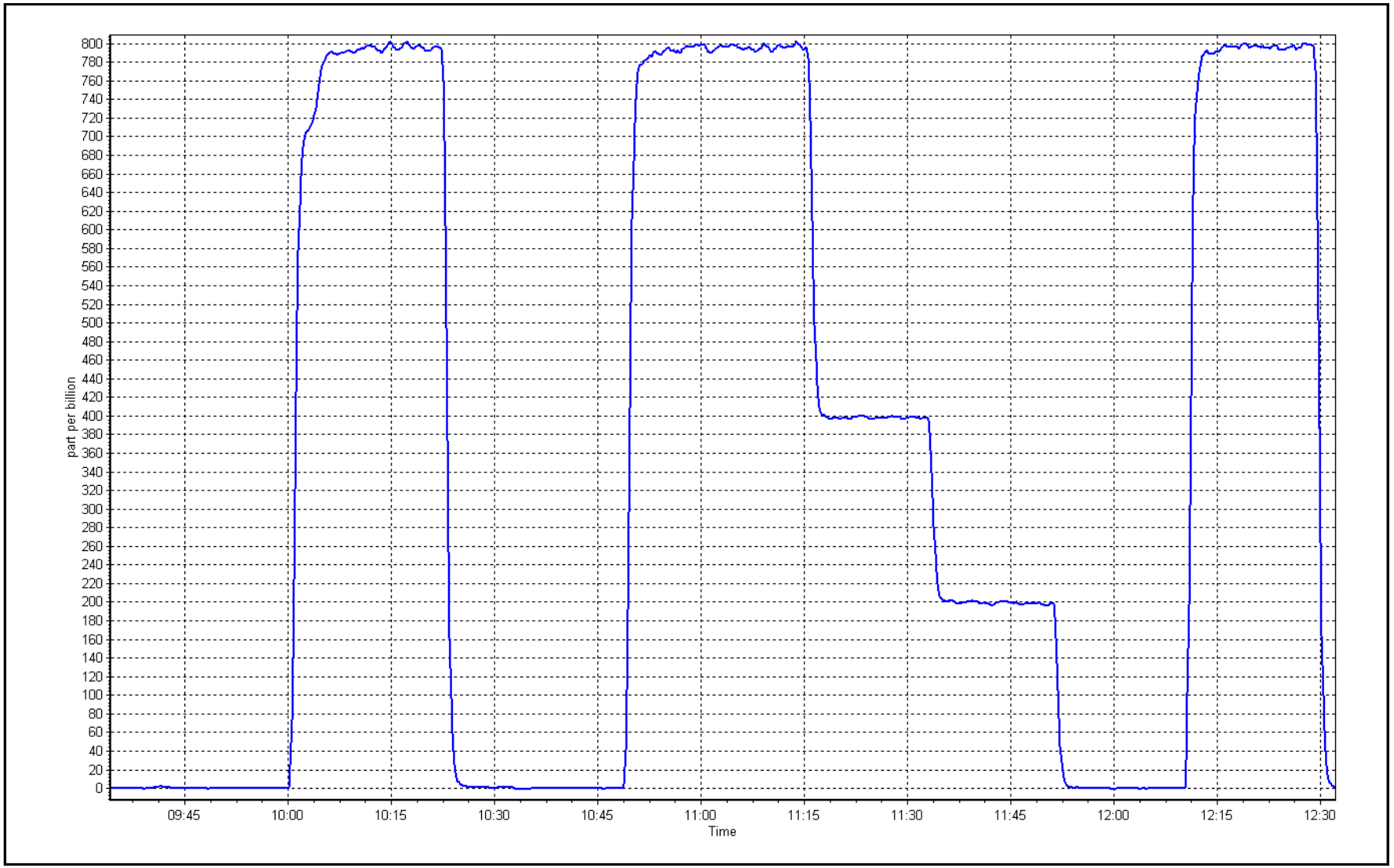
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
799.8	796.5	1.0042
399.4	398.5	1.0022
200.2	200.0	1.0011

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	0.995670	*0.90 - 1.10*
Intercept	0.401753	*+/-30*



SO2 Calibration Plot Date: October 3, 2025 Location: Barge Landing



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Barge Landing	Station number:	AMS 09
Calibration Date:	October 8, 2025	Last Cal Date:	September 3, 2025
Start time (MST):	8:41	End time (MST):	13:21
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.17	ppm	Cal Gas Exp Date:	August 22, 2026
Cal Gas Cylinder #:	CC511415			
Removed Cal Gas Conc:	5.17	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	3812
ZAG Make/Model:	API T701		Serial Number:	5613

Analyzer Information

Analyzer make:	Thermo 43iQ-TLE		Analyzer serial #:	1203169744
Converter make:	CDN-101		Converter serial #:	519
Analyzer Range	0 - 100 ppb		Converter Temp:	830 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	0.998261	1.004685	Backgd or Offset:	2.070	2.260
Calibration intercept:	-0.220501	-0.320371	Coeff or Slope:	0.798	0.871

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.2	----
As found High point	4923	77.4	80.0	78.2	1.021
As found Mid point	4961	38.7	40.0	38.0	1.048
As found Low point	4981	19.3	20.0	18.3	1.079
New cylinder response					

Baseline Corr As found:	78.4	Prev response:	79.68	*% change:	-1.6%
Baseline Corr 2nd AF pt:	38.2	AF Slope:	0.982569	AF Intercept:	-0.821159
Baseline Corr 3rd AF pt:	18.5	AF Correlation:	0.999697	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4923	77.4	80.0	80.5	0.994
Mid point	4961	38.7	40.0	39.0	1.026
Low point	4981	19.3	20.0	19.9	1.003
As left zero	5000	0.0	0.0	0.5	----
As left span	4923	77.4	80.0	78.2	1.024
SO2 Scrubber Check	4920	80.2	802.0	-0.1	----

Date of last scrubber change:	8-Jul-25	Ave Corr Factor	1.008
Date of last converter efficiency test:			

Notes: Changed inlet filter after as founds. Scrubber check passed and done after calibrator zero. Adjusted span only.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

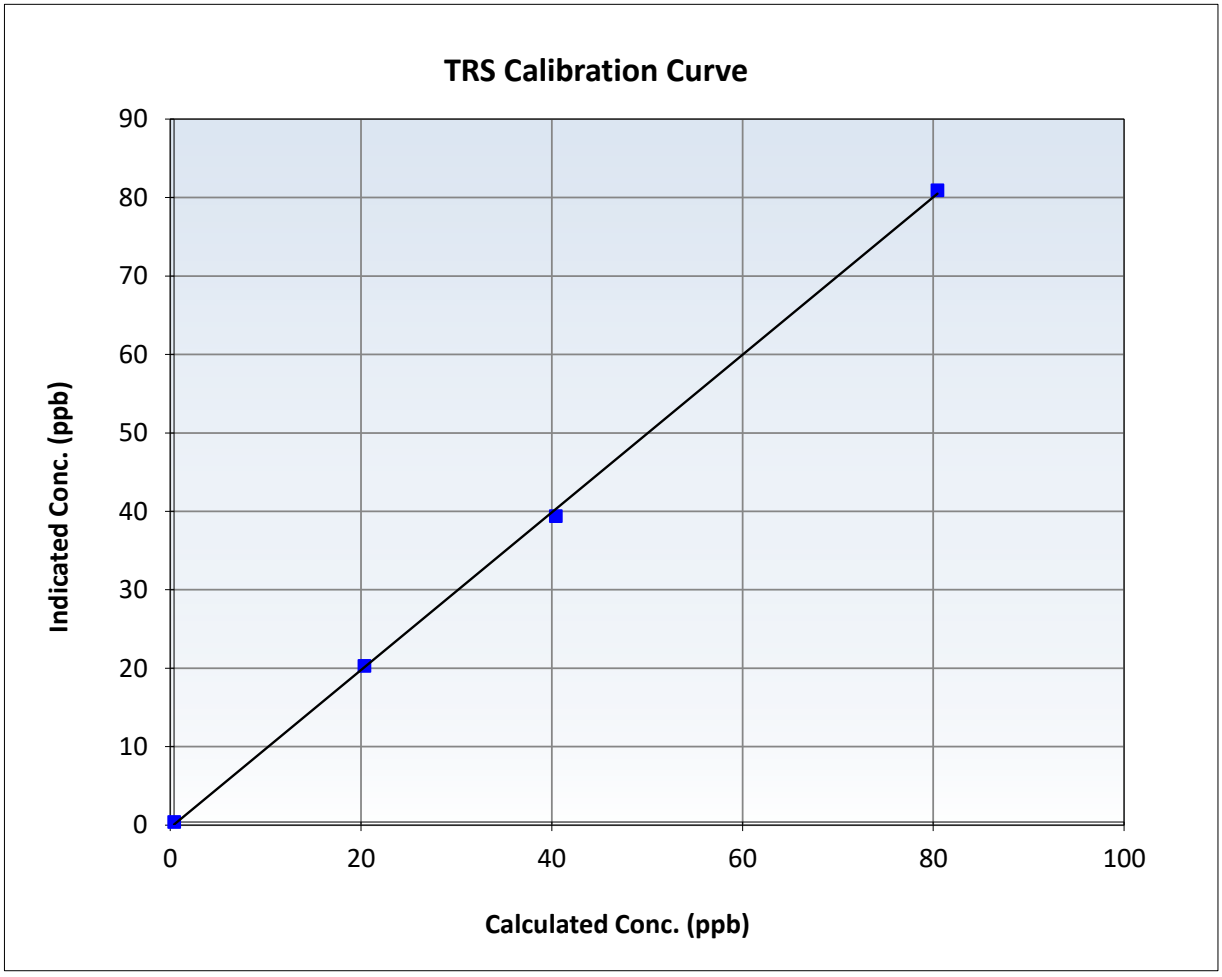
TRS Calibration Summary

Station Information

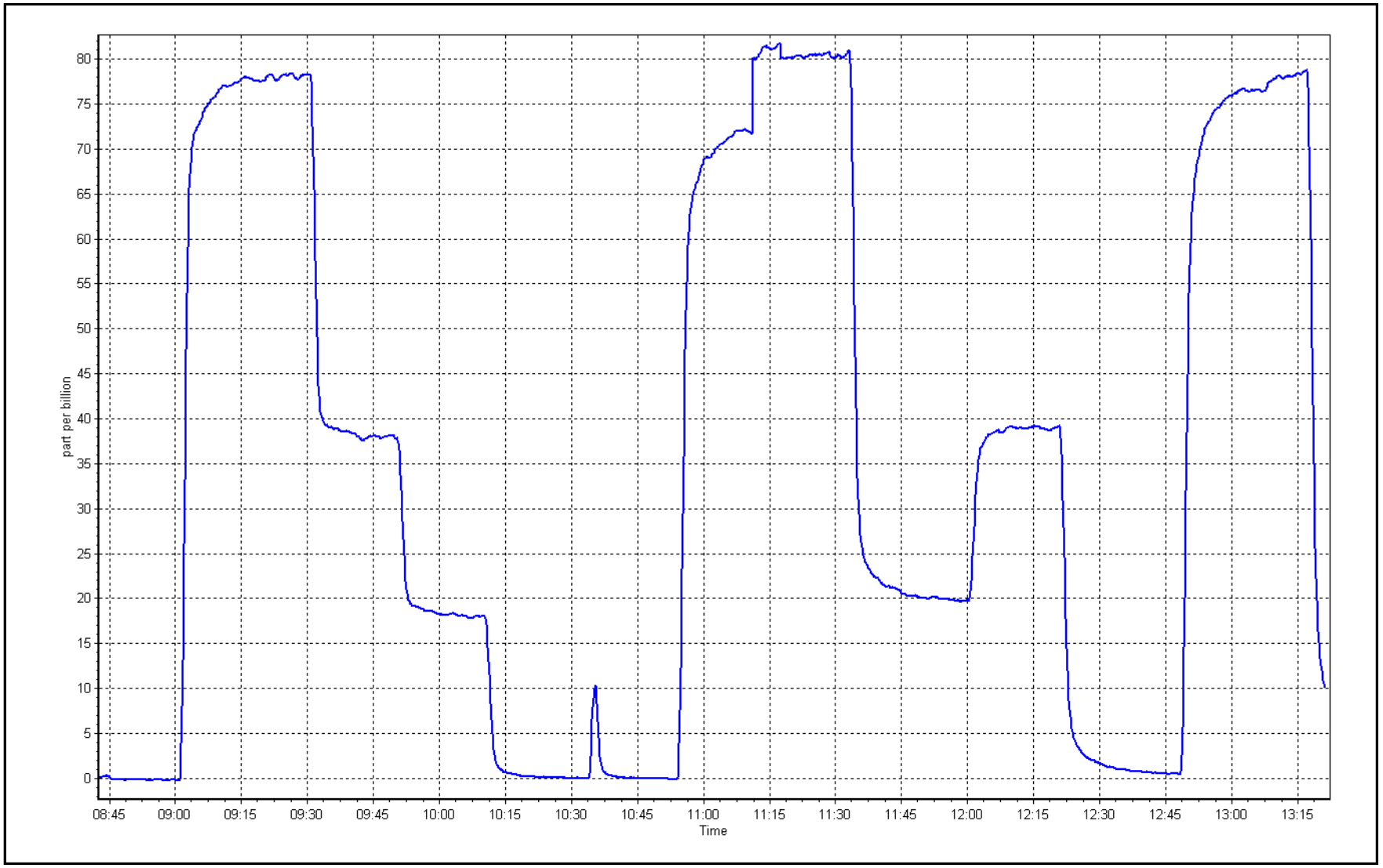
Calibration Date:	October 8, 2025	Previous Calibration:	September 3, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	8:41	End Time (MST):	13:21
Analyzer make:	Thermo 43iQ-TLE	Analyzer serial #:	1203169744

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.0	----	Correlation Coefficient	0.999691	*≥0.995*
80.0	80.5	0.9943	Slope	1.004685	*0.90 - 1.10*
40.0	39.0	1.0263			
20.0	19.9	1.0030	Intercept	-0.320371	*+/-3*



TRS Calibration Plot Date: October 8, 2025 Location: Barge Landing



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Barge Landing	Station number:	AMS 09
Calibration Date:	October 3, 2025	Last Cal Date:	September 15, 2025
Start time (MST):	9:37	End time (MST):	12:28
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC705748	Cal Gas Expiry Date:	October 9, 2032
CH4 Cal Gas Conc.	505.6 ppm	CH4 Equiv Conc.	1068.8 ppm
C3H8 Cal Gas Conc.	204.8 ppm		
Removed Gas Cert:	CC151285	Removed Gas Expiry:	January 5, 2025
Removed CH4 Conc.	505.6 ppm	CH4 Equiv Conc.	1068.8 ppm
Removed C3H8 Conc.	204.8 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	API T700	Serial Number:	3812
Zero Air Gen model:	APIT701	Serial Number:	5613

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1193585650
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	2.24E-04	2.26E-04	NMHC SP Ratio:	5.16E+05	5.30E-05
CH4 Retention time:	14.4	14.4	NMHC Peak Area:	172810	168197
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.1	16.91	16.65	1.016
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.65	Prev response	16.92	*% change	-1.6%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.1	16.91	16.94	0.998
Mid point	4961	39.5	8.44	8.39	1.006
Low point	4980	19.8	4.23	4.16	1.017
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	16.91	16.93	0.998
				Average Correction Factor	1.007

Notes: Sample inlet filter was changed after as founds. Adjusted span only.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.1	8.91	8.72	1.022
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.72	Prev response	8.94	*% change	-2.5%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.1	8.91	8.95	0.996
Mid point	4961	39.5	4.45	4.43	1.005
Low point	4980	19.8	2.23	2.19	1.018
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	8.91	8.93	0.997
				Average Correction Factor	1.006

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.1	8.00	7.93	1.009
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.93	Prev response	7.98	*% change	-0.7%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.1	8.00	8.00	1.000
Mid point	4961	39.5	3.99	3.97	1.007
Low point	4980	19.8	2.00	1.97	1.016
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	8.00	8.00	1.000
				Average Correction Factor	1.008

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	1.002991	1.003134
THC Cal Offset:	-0.037963	-0.045773
CH4 Cal Slope:	1.001017	1.001330
CH4 Cal Offset:	-0.022190	-0.018787
NMHC Cal Slope:	1.004994	1.005356
NMHC Cal Offset:	-0.016174	-0.027585

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

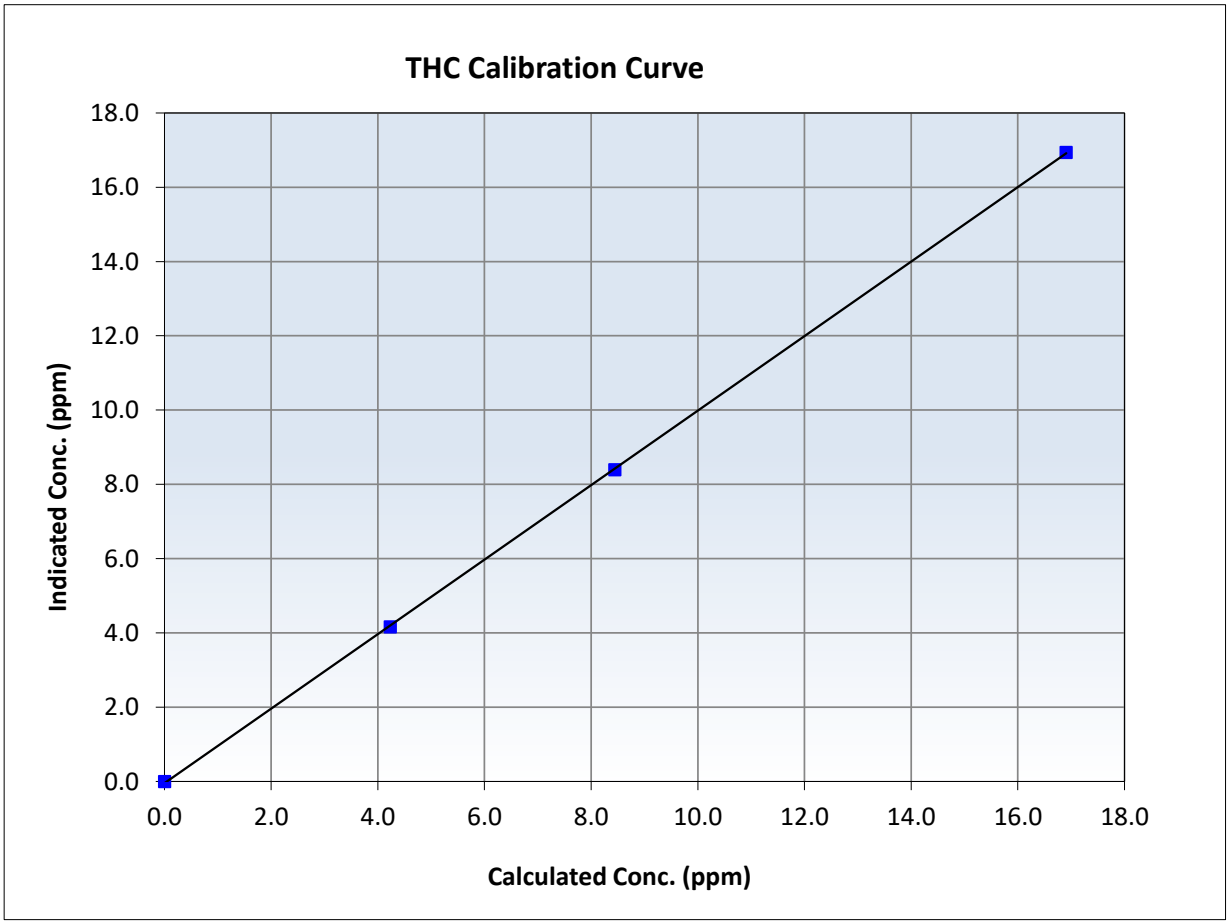
THC Calibration Summary

Station Information

Calibration Date:	October 3, 2025	Previous Calibration:	September 15, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	9:37	End Time (MST):	12:28
Analyzer make:	Thermo 55i	Analyzer serial #:	1193585650

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999966	≥0.995
16.91	16.94	0.9981	Slope	1.003134	0.90 - 1.10
8.44	8.39	1.0060			
4.23	4.16	1.0175	Intercept	-0.045773	+/-0.5



Wood Buffalo Environmental Association

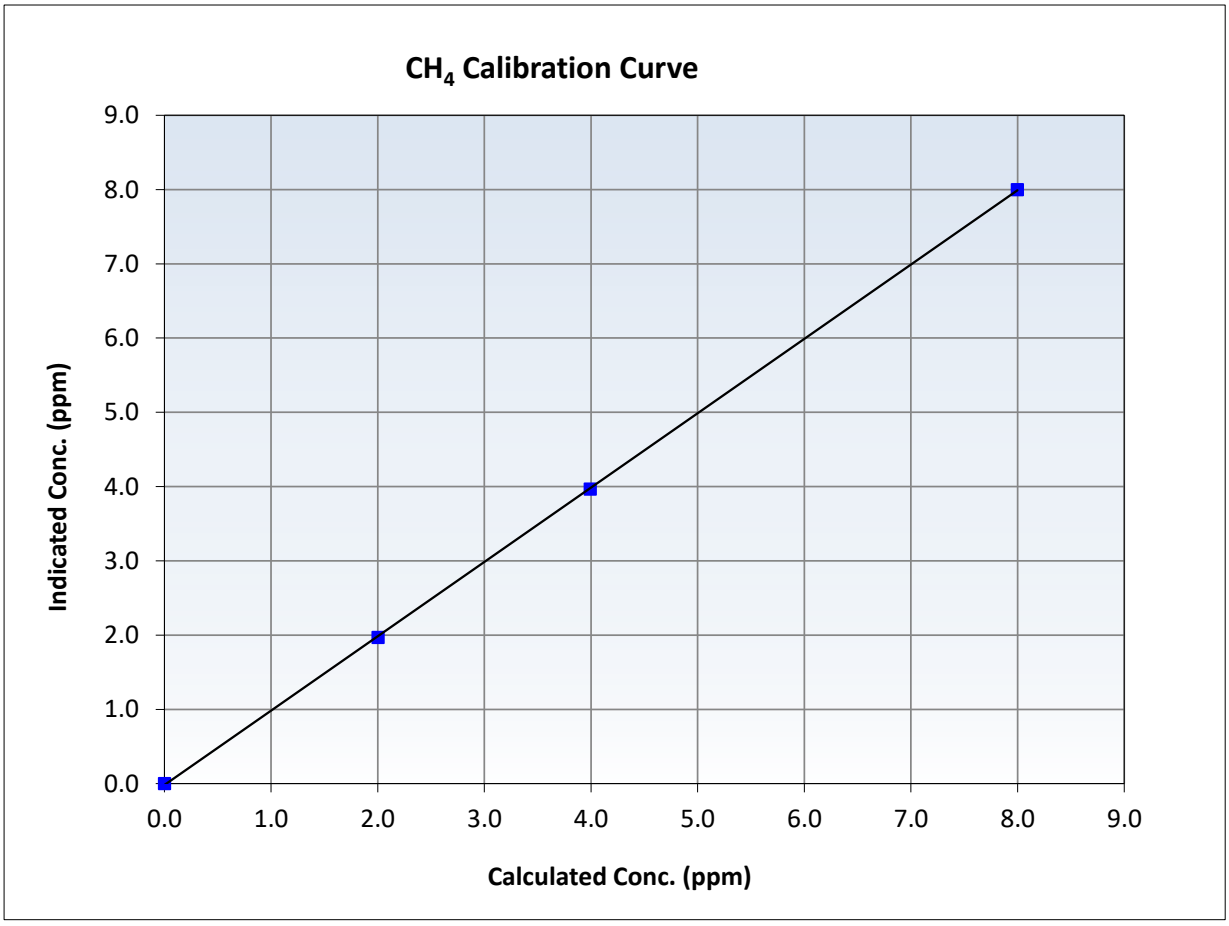
CH_4 Calibration Summary

Station Information

Calibration Date:	October 3, 2025	Previous Calibration:	September 15, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	9:37	End Time (MST):	12:28
Analyzer make:	Thermo 55i	Analyzer serial #:	1193585650

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999974	≥0.995
8.00	8.00	0.9997	Slope	1.001330	0.90 - 1.10
3.99	3.97	1.0068			
2.00	1.97	1.0164	Intercept	-0.018787	+/-0.5



Wood Buffalo Environmental Association

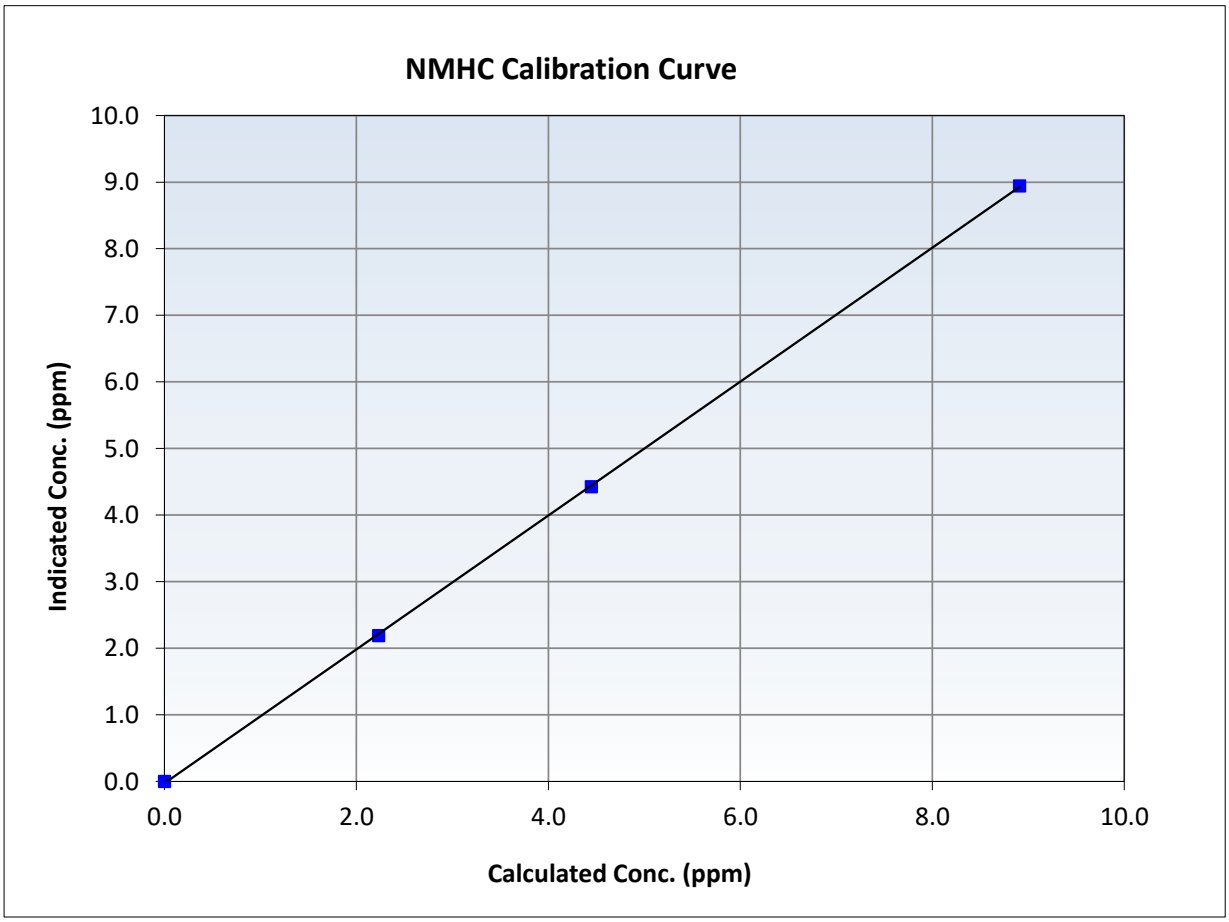
NMHC Calibration Summary

Station Information

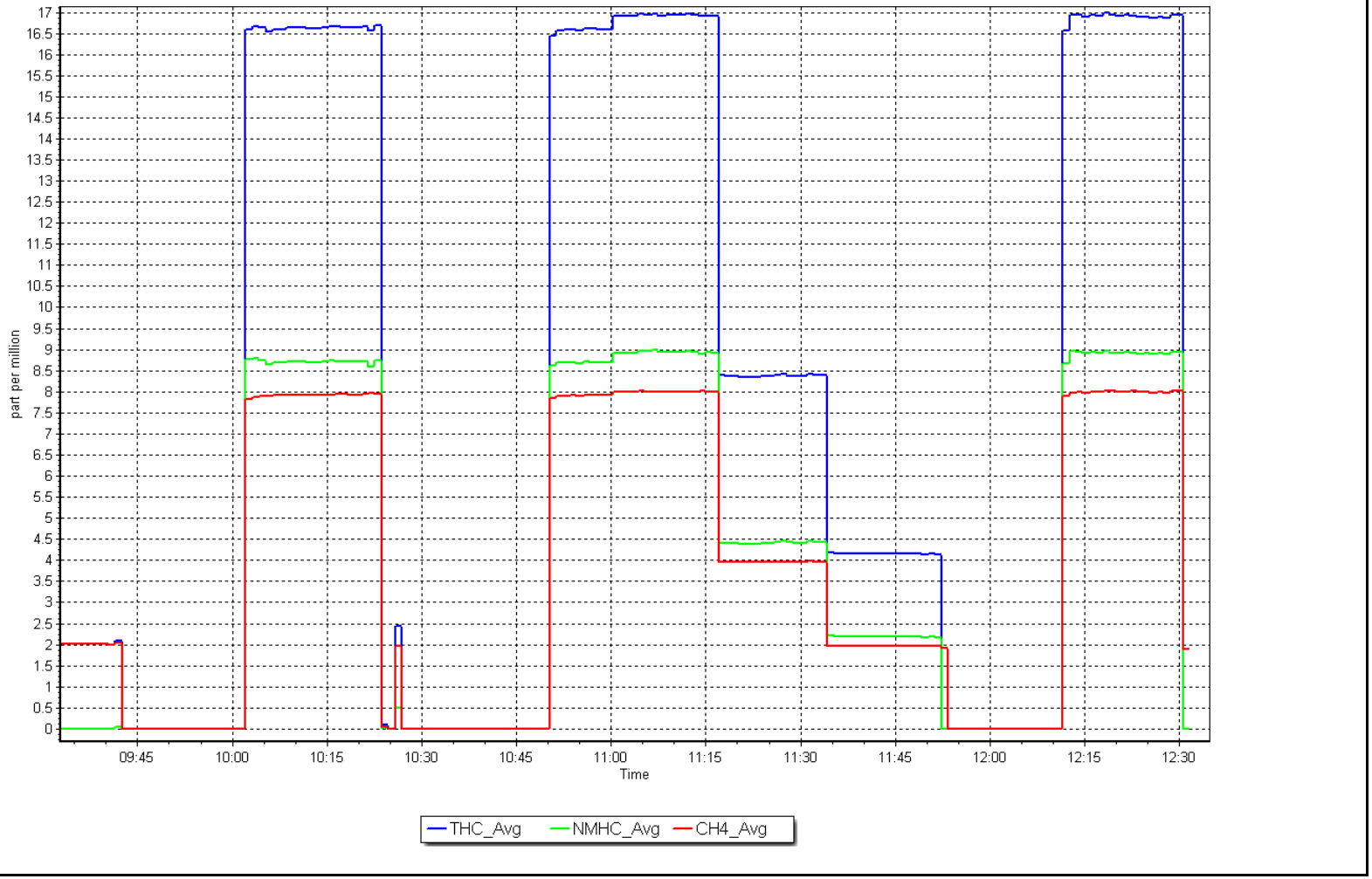
Calibration Date:	October 3, 2025	Previous Calibration:	September 15, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	9:37	End Time (MST):	12:28
Analyzer make:	Thermo 55i	Analyzer serial #:	1193585650

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999956	≥0.995
8.91	8.95	0.9960	Slope	1.005356	0.90 - 1.10
4.45	4.43	1.0049			
2.23	2.19	1.0184	Intercept	-0.027585	+/-0.5



NMHC Calibration Plot Date: October 3, 2025 Location: Barge Landing



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Barge Landing	Station number:	AMS 09
Calibration Date:	October 24, 2025	Last Cal Date:	October 3, 2025
Start time (MST):	9:40	End time (MST):	11:19
Reason:	Cylinder Change		

Calibration Standards

Gas Cert Reference:	CC705748	Cal Gas Expiry Date:	October 9, 2032
CH4 Cal Gas Conc.	505.6 ppm	CH4 Equiv Conc.	1068.8 ppm
C3H8 Cal Gas Conc.	204.8 ppm		
Removed Gas Cert:	CC151285	Removed Gas Expiry:	January 5, 2025
Removed CH4 Conc.	505.6 ppm	CH4 Equiv Conc.	1068.8 ppm
Removed C3H8 Conc.	204.8 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	API T700	Serial Number:	3812
Zero Air Gen model:	APIT701	Serial Number:	5613

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1193585650
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	2.24E-04	2.26E-04	NMHC SP Ratio:	5.16E+05	5.30E-05
CH4 Retention time:	14.4	14.4	NMHC Peak Area:	172810	168197
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.1	16.91	16.92	0.999
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.92	Prev response	16.92	*% change	0.0%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	16.91	16.86	1.003
				Average Correction Factor	

Notes: N2/ H2 was changed after as founds. No adjustmend made.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.1	8.91	8.97	0.994
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.97	Prev response	8.93	*% change	0.4%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	8.91	8.92	0.999
				Average Correction Factor	

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.1	8.00	7.95	1.006
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.95	Prev response	7.99	*% change	-0.5%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

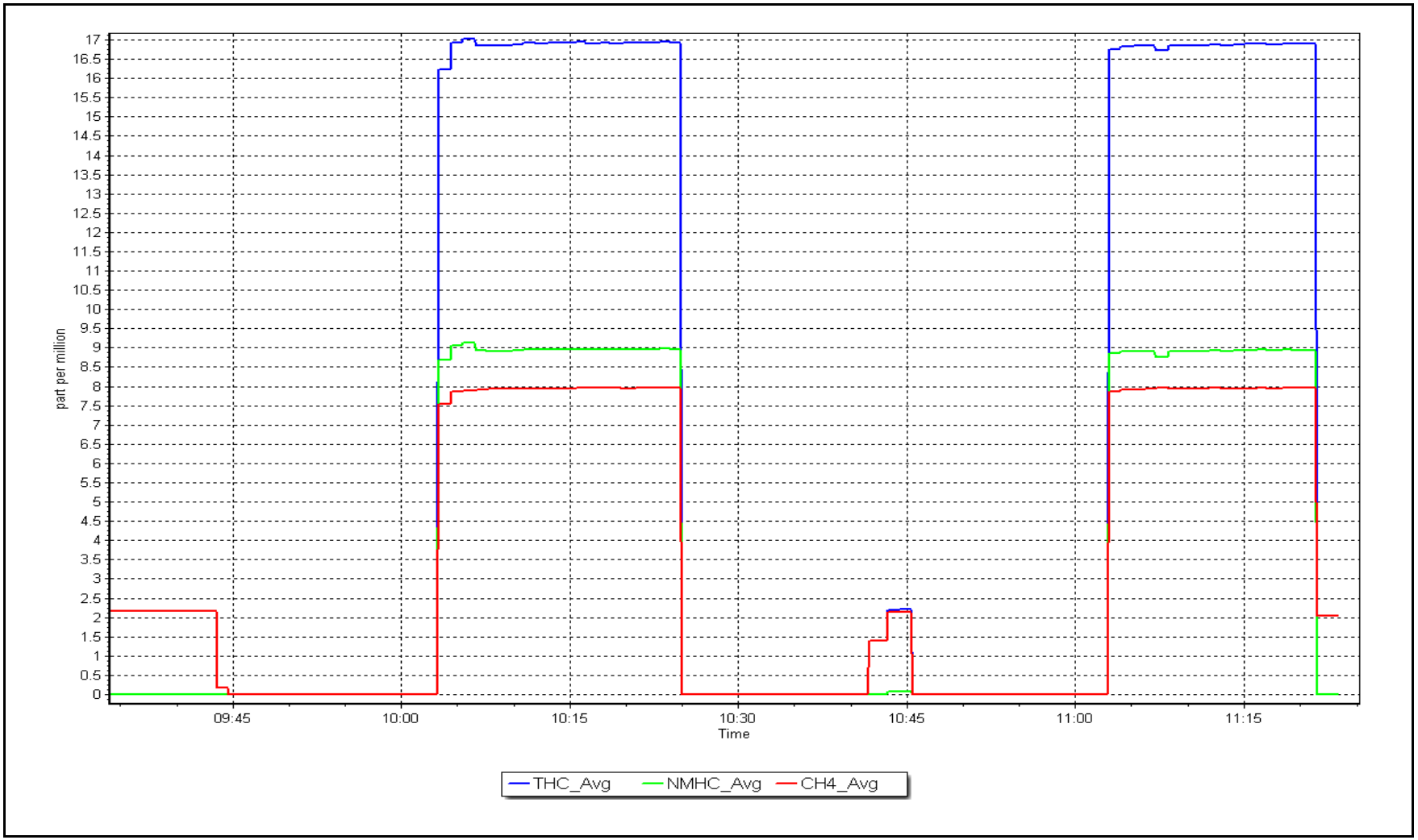
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	8.00	7.95	1.006
				Average Correction Factor	

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.003134	
THC Cal Offset:	-0.045773	
CH4 Cal Slope:	1.001330	
CH4 Cal Offset:	-0.018787	
NMHC Cal Slope:	1.005356	
NMHC Cal Offset:	-0.027585	

Calibration Performed By: Jan Castro

NMHC Calibration Plot Date: October 24, 2025 Location: Barge Landing



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Barge Landing
Station number:	AMS 09
Calibration Date:	October 20, 2025
Last Cal Date:	September 9, 2025
Start time (MST):	10:16
End time (MST):	14:22
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	T2Y1KDH	Cal Gas Expiry Date:	November 17, 2026
NOX Cal Gas Conc:	47.38 ppm	NO Cal Gas Conc:	46.94 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	47.38 ppm	Removed Gas NO Conc:	46.94 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	API T700	Serial Number:	3812
ZAG make/model:	Api T701	Serial Number:	4888

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.4	-0.2	-0.2	----	----
AF High point	4915	85.3	808.3	800.7	7.5	810.9	800.4	10.5	0.9962	1.0002
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 810.0 ppb	NO = 802.4 ppb
Baseline Corr 1st pt	NO_X = 811.3 ppb	NO = 800.6 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

*Percent Change NO_X = 0.2%

*Percent Change NO = -0.2%

As Found Statistics

As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1426262593

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.103	1.103	NO bkgnd or offset:	10.1	10.1
NOX coeff or slope:	0.999	0.999	NOX bkgnd or offset:	10.4	10.4
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	176.2	176.2

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.001255	0.998597
NO_X Cal Offset:	0.758641	0.098064
NO Cal Slope:	1.002550	0.998568
NO Cal Offset:	-0.383252	-0.664019
NO_2 Cal Slope:	1.000667	0.999032
NO_2 Cal Offset:	-0.442357	0.158236

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	-0.2	0.0	-0.2	----	----
High point	4915	85.3	808.3	800.7	7.5	807.1	799.3	7.8	1.0014	1.0018
Mid point	4957	42.6	403.7	400.0	3.7	403.3	398.3	5.0	1.0010	1.0042
Low point	4979	21.3	201.8	200.0	1.9	202.0	198.4	3.6	0.9991	1.0078
As left zero	5000	0.0	0.0	0.0	0.0	-0.2	0.0	-0.2	----	----
As left span	4915	85.3	808.3	419.2	389.1	805.0	419.2	385.7	1.0040	1.0000
								Average Correction Factor	1.0005	1.0046

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	-0.2	----	----
High GPT point	794.6	416.7	385.4	385.0	1.0011	99.9%
Mid GPT point	794.6	612.5	189.6	189.8	0.9990	100.1%
Low GPT point	794.6	705.1	97.0	97.4	0.9960	100.4%
				Average Correction Factor	0.9987	100.1%

Notes: Inlet filter changed after as founds. No adjustment.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

NO_X Calibration Summary

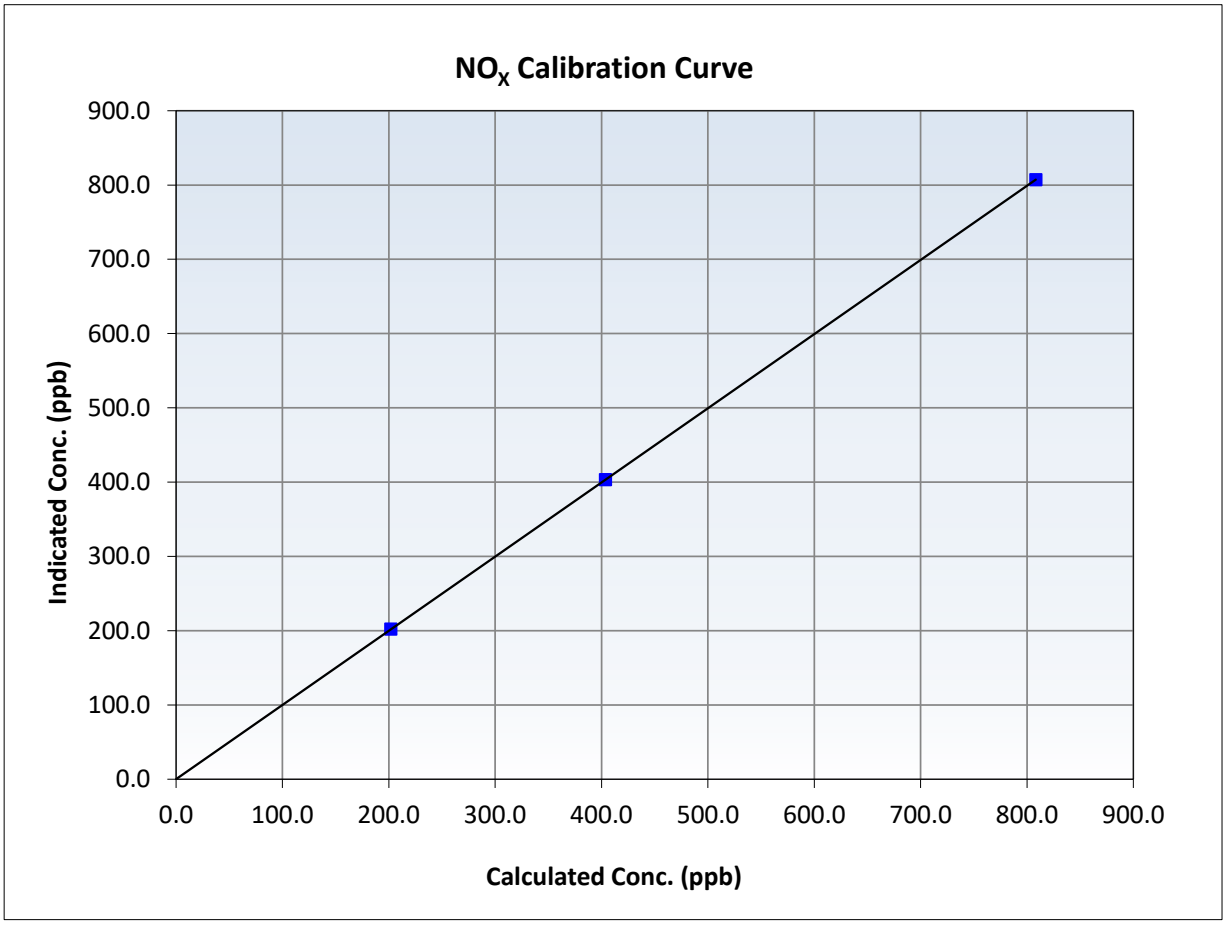
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 9, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	10:16	End Time (MST):	14:22
Analyzer make:	Thermo 42i	Analyzer serial #:	1426262593

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
808.3	807.1	1.0014
403.7	403.3	1.0010
201.8	202.0	0.9991

Statistical Evaluation		Limits
Correlation Coefficient	0.999999	≥0.995
Slope	0.998597	0.90 - 1.10
Intercept	0.098064	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

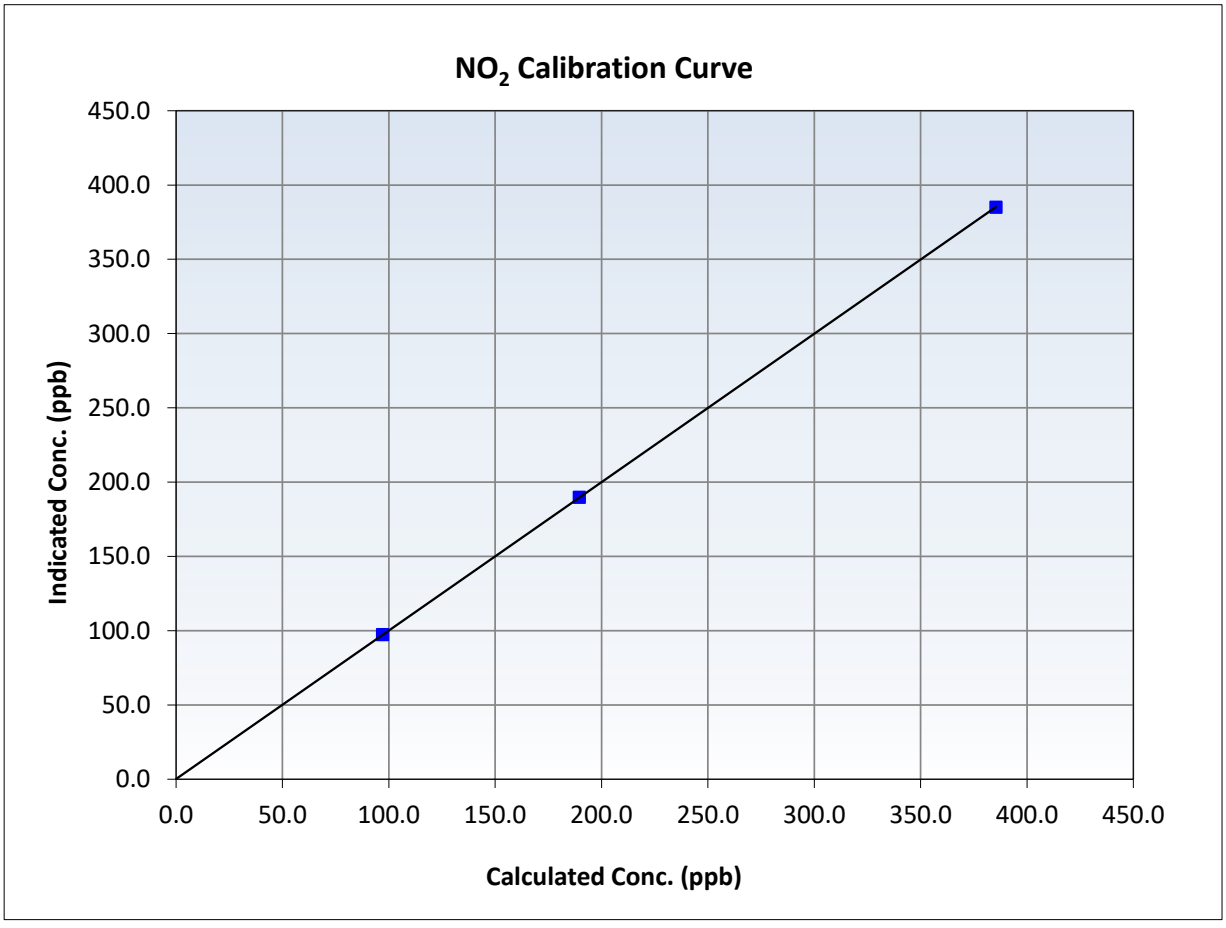
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 9, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	10:16	End Time (MST):	14:22
Analyzer make:	Thermo 42i	Analyzer serial #:	1426262593

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
385.4	385.0	1.0011
189.6	189.8	0.9990
97.0	97.4	0.9960

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	0.999032	*0.90 - 1.10*
Intercept	0.158236	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

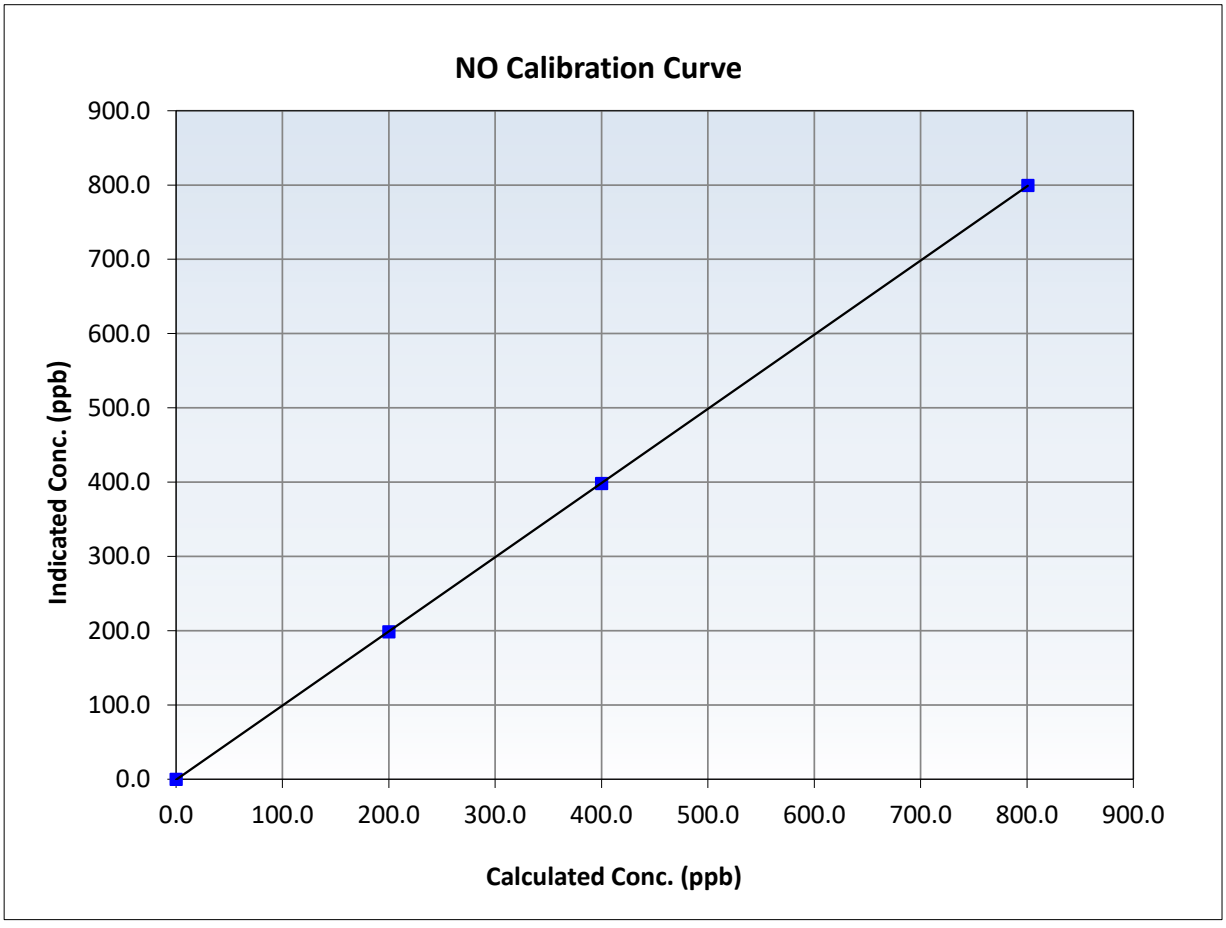
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 9, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	10:16	End Time (MST):	14:22
Analyzer make:	Thermo 42i	Analyzer serial #:	1426262593

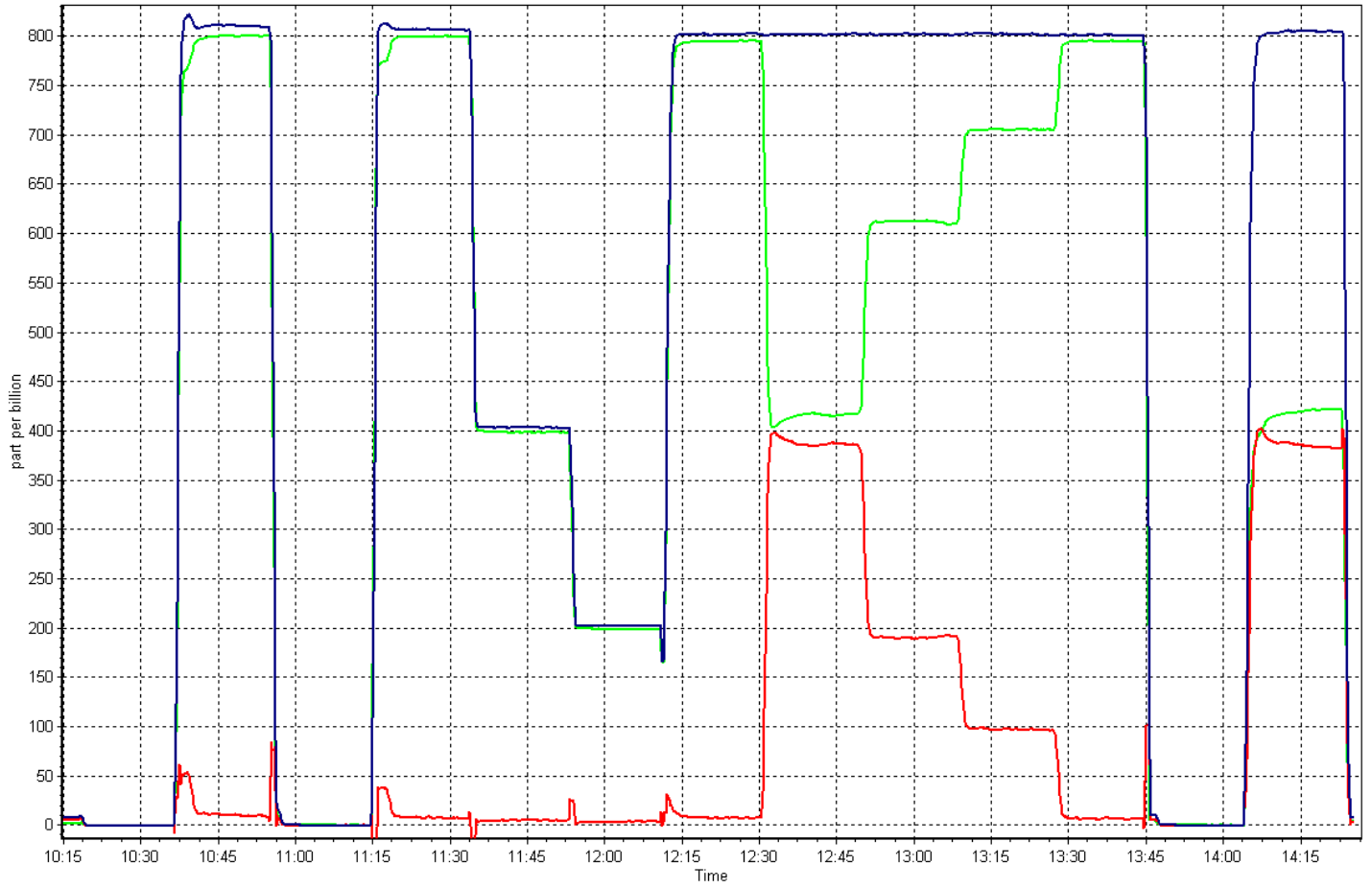
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
800.7	799.3	1.0018
400.0	398.3	1.0042
200.0	198.4	1.0078

Statistical Evaluation		Limits
Correlation Coefficient	0.999997	≥0.995
Slope	0.998568	0.90 - 1.10
Intercept	-0.664019	+/-20



NO_X Calibration Plot Date: October 20, 2025 Location: Barge Landing



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Barge Landing	Station number:	AMS 09
Calibration Date:	October 20, 2025	Last Cal Date:	September 15, 2025
Start time (MST):	12:29	End time (MST):	13:21
Analyzer Make:	API T640	S/N:	2237
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25	S/N:	388754
Temp/RH standard:	Alicat FP-25	S/N:	388754

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (°C)	3.40	3.43	3.40	☐	+/- 2 °C
P (mmHg)	736.30	734.44	736.30	☐	+/- 10 mmHg
Flow (LPM)	5.00	4.96	5.00	☐	+/- 0.25 LPM
PW% (pump)	32	-----	32	☐	>80%
Zero Verification	PM w/o HEPA:	5.60	PM w/ HEPA:	0.00	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.9 — Expiry Date: January 30, 2027 — Lot No.: 100128-050-042

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test	9.2	10.8	10.8	☐	+/- 0.5

Date Optical Chamber Cleaned: October 20, 2025

Date Disposable Filter Changed: October 20, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0.0 <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: July 22, 2025

Date RH/T Sensor Cleaned: July 22, 2025

Notes: Verified flow, pressure, temperature and pump power. No adjustment needed . Leak check passed.

Calibration by: Jan Castro

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS11
LOWER CAMP
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Lower Camp	Station number:	AMS 11
Calibration Date:	October 14, 2025	Last Cal Date:	September 2, 2025
Start time (MST):	10:34	End time (MST):	15:01
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	48.75	ppm	Cal Gas Exp Date:	October 9, 2032
Cal Gas Cylinder #:	CC741503			
Removed Cal Gas Conc:	48.75	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:	CC741503		Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	3811
Zero Air Gen Model:	Teledyne API T701		Serial Number:	196

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	100841398	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	0.996537	1.003586	Backgd or Offset:	18.2	18.4
Calibration intercept:	-0.159945	-0.402252	Coeff or Slope:	1.045	1.057

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.3	----
As found High point	4932	82.2	799.2	790.5	1.011
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	790.2	Previous response	796.3	*% change	-0.8%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.5	----
High point	4932	82.2	799.2	802.4	0.996
Mid point	4971	41.2	400.7	400.4	1.001
Low point	4996	20.6	200.2	200.2	1.000
As left zero	5000	0.0	0.0	0.5	----
As left span	4932	82.2	799.2	802.4	0.996
				Average Correction Factor:	0.999

Notes: Changed sample inlet filter after as founds. Adjusted span only.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

SO_2 Calibration Summary

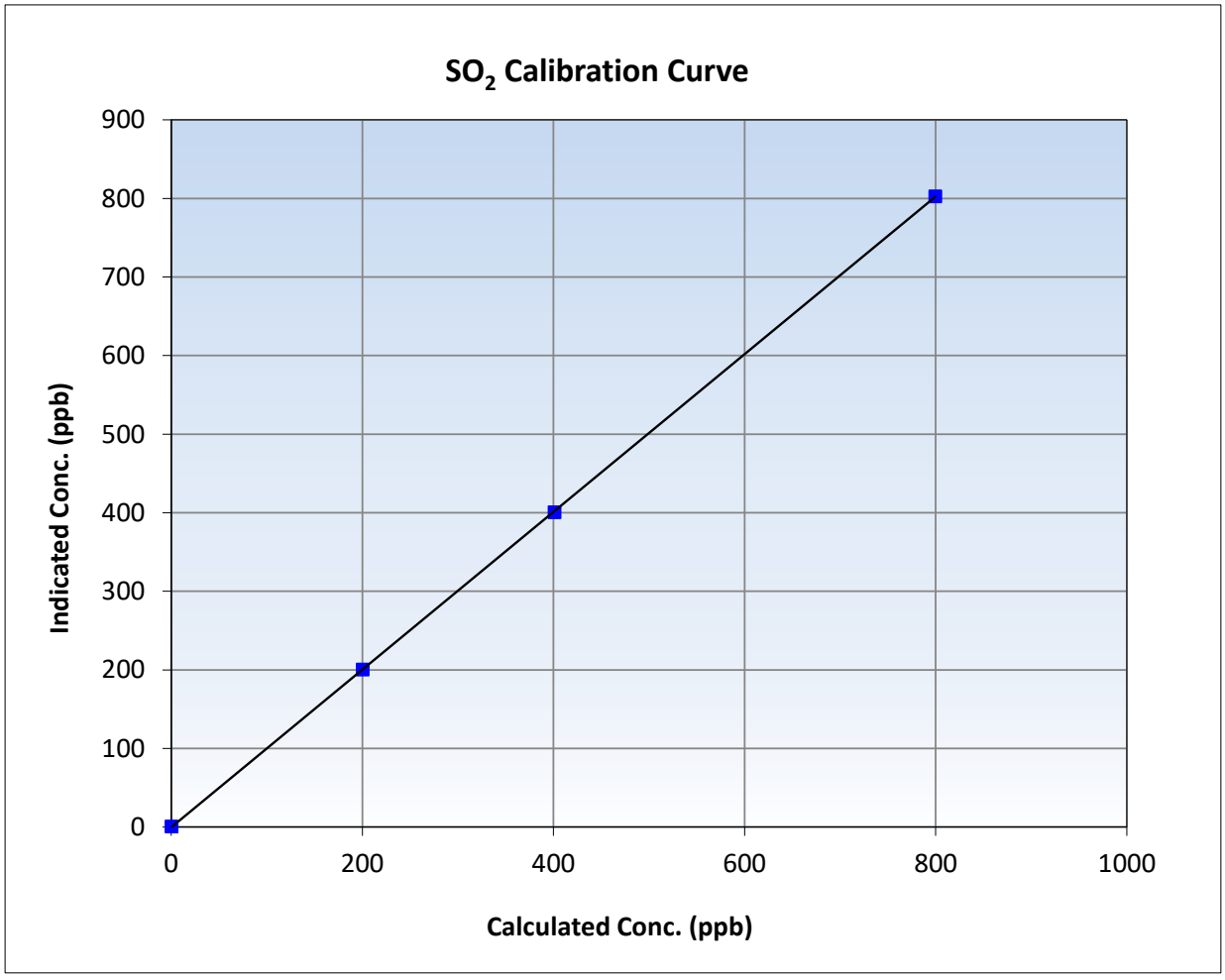
Station Information

Calibration Date:	October 14, 2025	Previous Calibration:	September 2, 2025
Station Name:	Lower Camp	Station Number:	AMS 11
Start Time (MST):	10:34	End Time (MST):	15:01
Analyzer make:	Thermo 43i	Analyzer serial #:	100841398

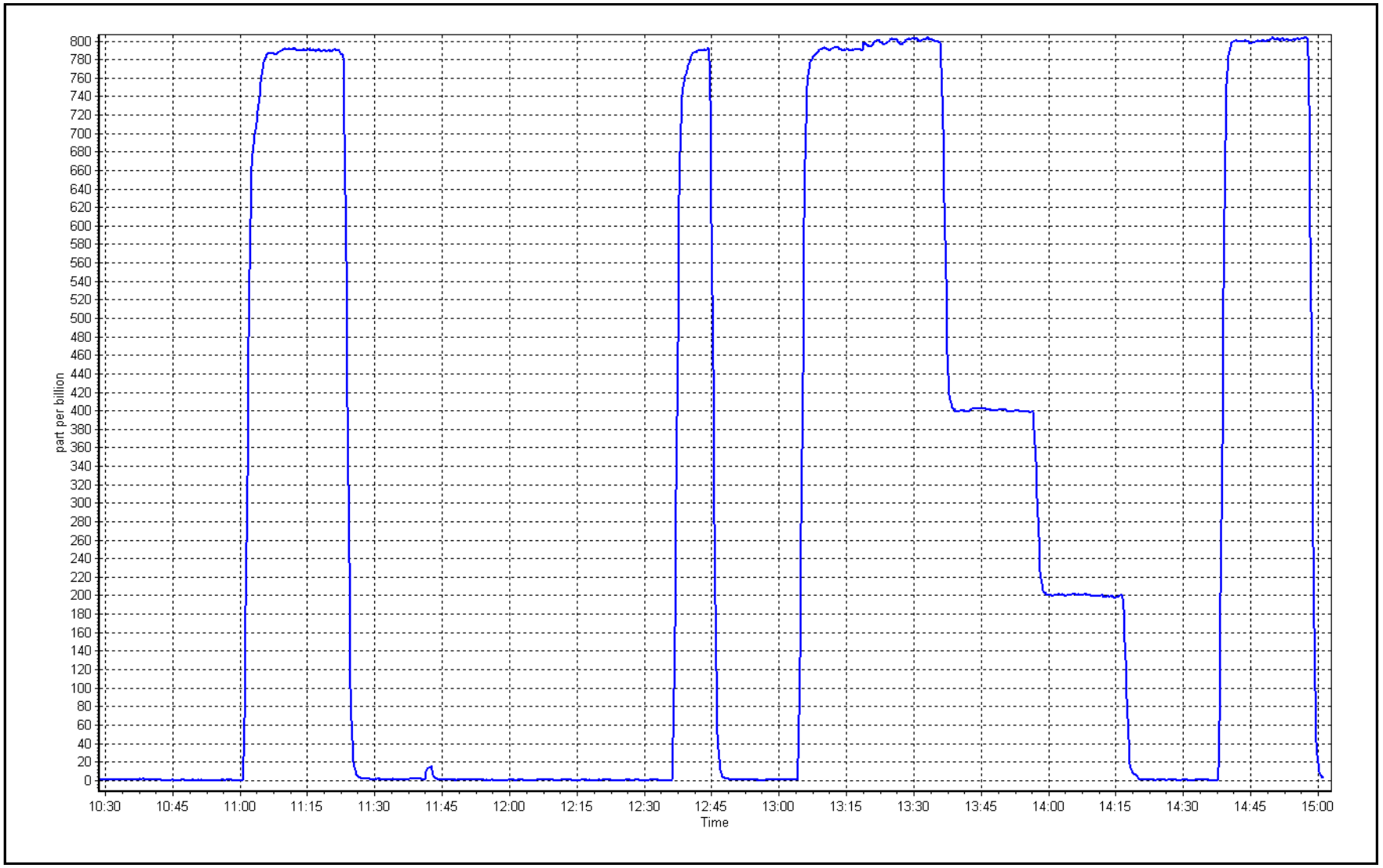
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.5	----
799.2	802.4	0.9960
400.7	400.4	1.0008
200.2	200.2	0.9999

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999991	*≥0.995*
Slope	1.003586	*0.90 - 1.10*
Intercept	-0.402252	*+/-30*



SO2 Calibration Plot Date: October 14, 2025 Location: Lower Camp



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Lower Camp	Station number:	AMS 11
Calibration Date:	October 8, 2025	Last Cal Date:	September 23, 2025
Start time (MST):	11:14	End time (MST):	15:29
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.83	ppm	Cal Gas Exp Date:	August 28, 2028
Cal Gas Cylinder #:	CC737863			
Removed Cal Gas Conc:	4.83	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	3811
ZAG Make/Model:	API T701H		Serial Number:	196

Analyzer Information

Analyzer make:	Thermo 43iQ		Analyzer serial #:	1203169745	
Converter make:	Global G150		Converter serial #:	2022-223	
Analyzer Range	0 - 100 ppb		Converter Temp:	325	degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.004138	1.012008	Backgd or Offset:	2.5	2.5
Calibration intercept:	0.148573	0.048287	Coeff or Slope:	0.808	0.808

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.1	----
As found High point	4923	82.8	79.9	80.8	0.988
As found Mid point	4967	41.5	40.0	40.5	0.986
As found Low point	4999	20.8	20.0	20.4	0.976
New cylinder response					

Baseline Corr As found:	80.9	Prev response:	80.37	*% change:	0.7%
Baseline Corr 2nd AF pt:	40.6	AF Slope:	1.011719	AF Intercept:	0.008389
Baseline Corr 3rd AF pt:	20.5	AF Correlation:	0.999991	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.1	----
High point	4923	82.8	79.9	80.8	0.989
Mid point	4967	41.5	40.0	40.7	0.983
Low point	4999	20.8	20.0	20.4	0.981
As left zero	5000	0.0	0.0	0.1	----
As left span	4923	82.8	79.9	80.5	0.992
SO2 Scrubber Check	4932	82.2	819.7	0.2	----
Date of last scrubber change:				Ave Corr Factor	0.984
Date of last converter efficiency test:					

Notes: Changed sample inlet filter after as founds. Ran scrubber check after calibrator zero and it passed. No adjustments made.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

H_2S Calibration Summary

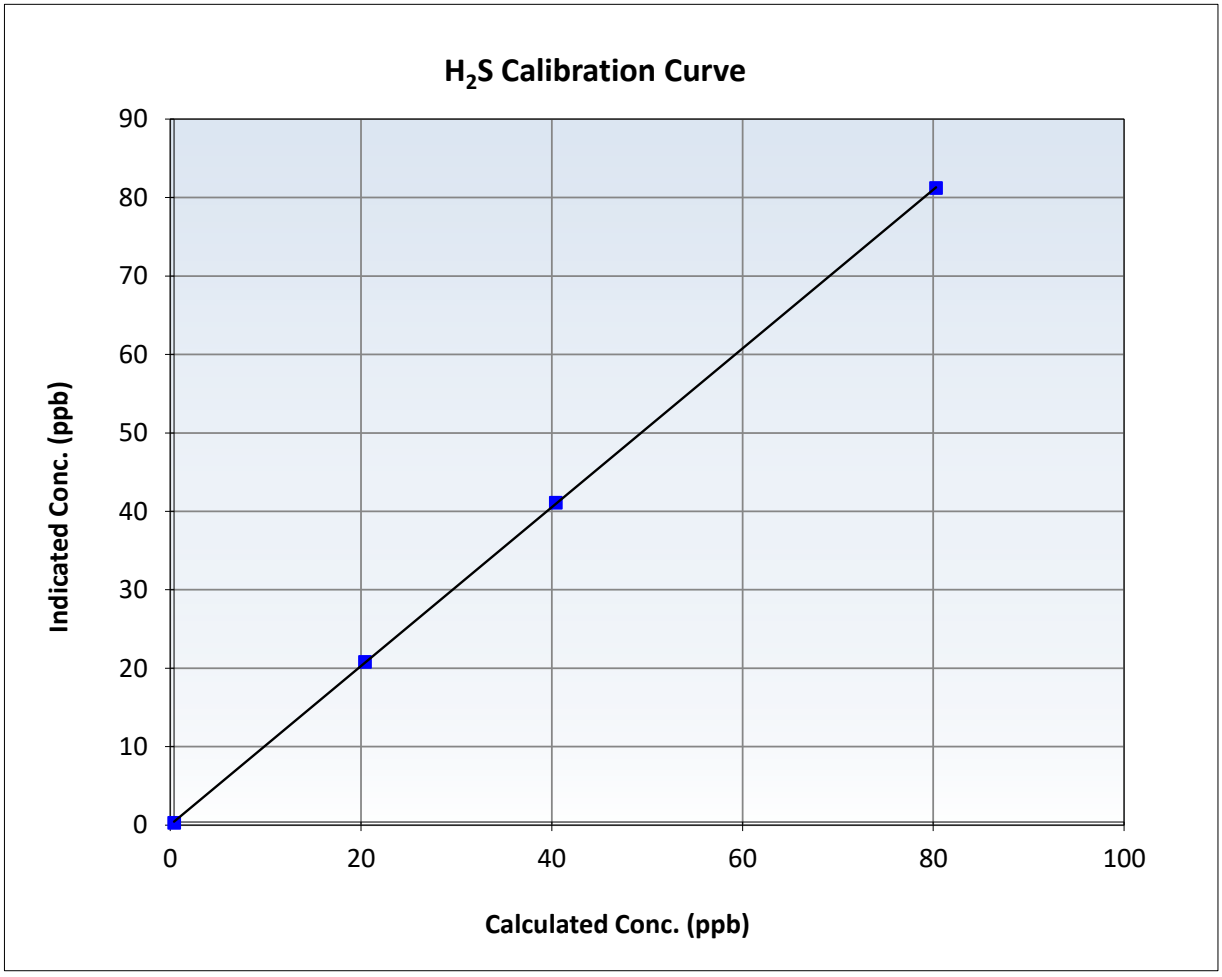
Station Information

Calibration Date:	October 8, 2025	Previous Calibration:	September 23, 2025
Station Name:	Lower Camp	Station Number:	AMS 11
Start Time (MST):	11:14	End Time (MST):	15:29
Analyzer make:	Thermo 43iQ	Analyzer serial #:	1203169745

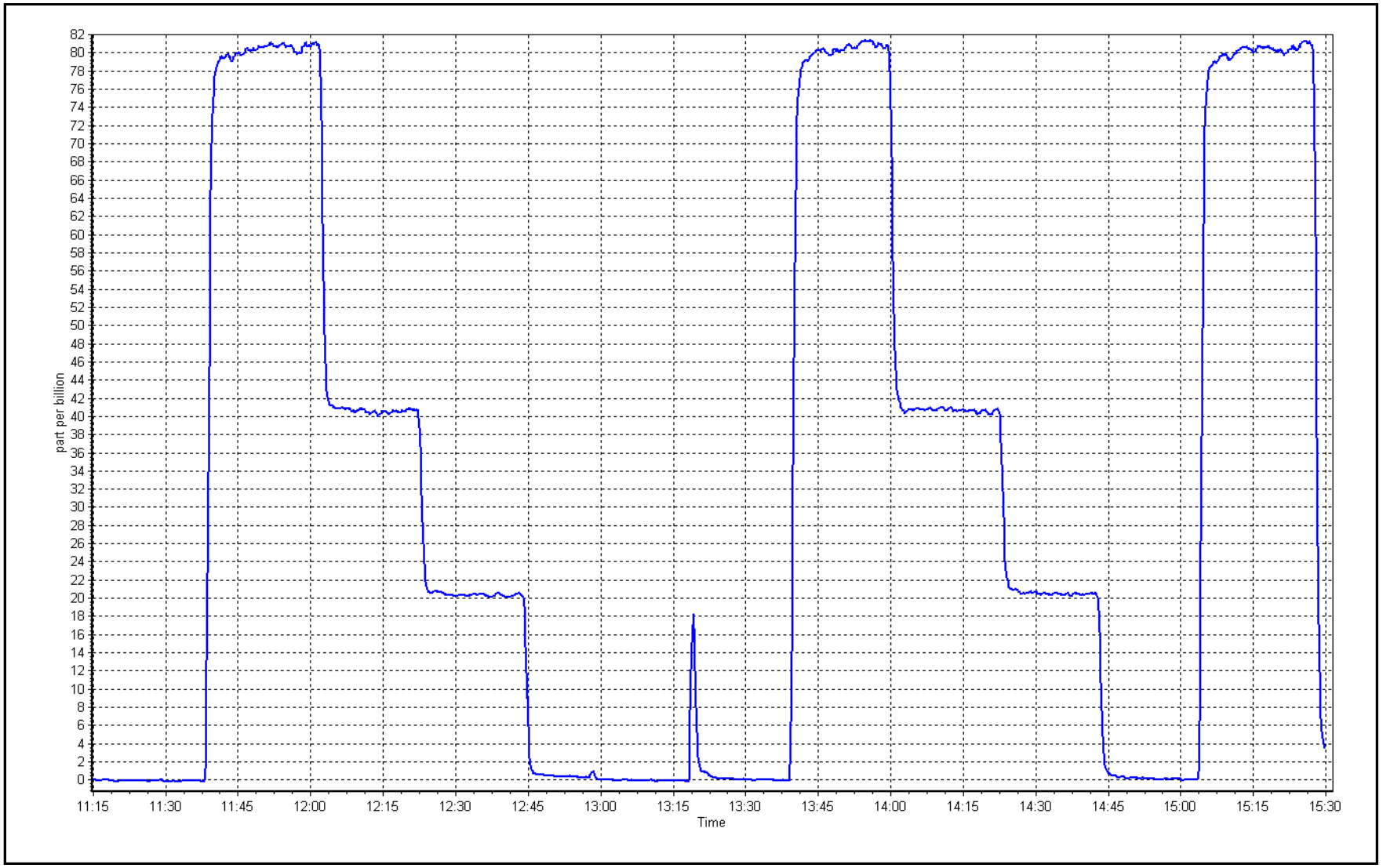
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
79.9	80.8	0.9888
40.0	40.7	0.9833
20.0	20.4	0.9811

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999982	*≥0.995*
Slope	1.012008	*0.90 - 1.10*
Intercept	0.048287	*+/-3*



H_2S Calibration Plot Date: October 8, 2025 Location: Lower Camp



Wood Buffalo Environmental Association

THC / CH4 / NMHC Calibration Report

Station Information

Station Name:	Lower Camp	Station number:	AMS 11
Calibration Date:	October 14, 2025	Last Cal Date:	September 2, 2025
Start time (MST):	10:34	End time (MST):	15:01
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC741503	Cal Gas Expiry Date:	October 9, 2032	
CH4 Cal Gas Conc.	504.8 ppm	CH4 Equiv Conc.	1071.9	ppm
C3H8 Cal Gas Conc.	206.2 ppm			
Removed Gas Cert:		Removed Gas Expiry:		
Removed CH4 Conc.	504.8 ppm	CH4 Equiv Conc.	1071.9	ppm
Removed C3H8 Conc.	206.2 ppm	Diff between cyl (THC):		
Diff between cyl (CH_4):		Diff between cyl (NM):		
Calibrator Model:	API T700	Serial Number:	3811	
Zero Air Gen model:	API T701	Serial Number:	196	

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1118148495
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	2.65E-04	2.82E-04	NMHC SP Ratio:	4.62E-05	4.79E-05
CH4 Retention time:	14.8	15.0	NMHC Peak Area:	201460	194321
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	ON

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4932	82.2	17.57	16.94	1.038
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.94	Prev response	17.58	*% change	-3.8%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4932	82.2	17.57	17.65	0.996
Mid point	4971	41.2	8.81	8.76	1.006
Low point	4996	20.6	4.40	4.36	1.010
As left zero	5000	0.0	0.00	0.00	----
As left span	4932	82.2	17.57	17.49	1.005
				Average Correction Factor	1.004

Notes: No alarms were detected during the investigation. Diagnostics were consistent, and the chromatograms showed no significant discrepancies. Changed sample inlet filter after as founds. Adjusted zero and span.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4932	82.2	9.30	9.10	1.022
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.10	Prev response	9.33	*% change	-2.5%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4932	82.2	9.30	9.33	0.997
Mid point	4971	41.2	4.66	4.63	1.006
Low point	4996	20.6	2.33	2.30	1.012
As left zero	5000	0.0	0.00	0.00	----
As left span	4932	82.2	9.30	9.25	1.005
				Average Correction Factor	1.005

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4932	82.2	8.28	7.84	1.056
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.84	Prev response	8.25	*% change	-5.3%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4932	82.2	8.28	8.33	0.994
Mid point	4971	41.2	4.15	4.12	1.007
Low point	4996	20.6	2.07	2.06	1.006
As left zero	5000	0.0	0.00	0.00	----
As left span	4932	82.2	8.28	8.24	1.004
				Average Correction Factor	1.002

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	1.002581	1.004855
THC Cal Offset:	-0.037176	-0.042179
CH4 Cal Slope:	0.996443	1.006101
CH4 Cal Offset:	0.007460	-0.019544
NMHC Cal Slope:	1.008057	1.004041
NMHC Cal Offset:	-0.044437	-0.022835

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

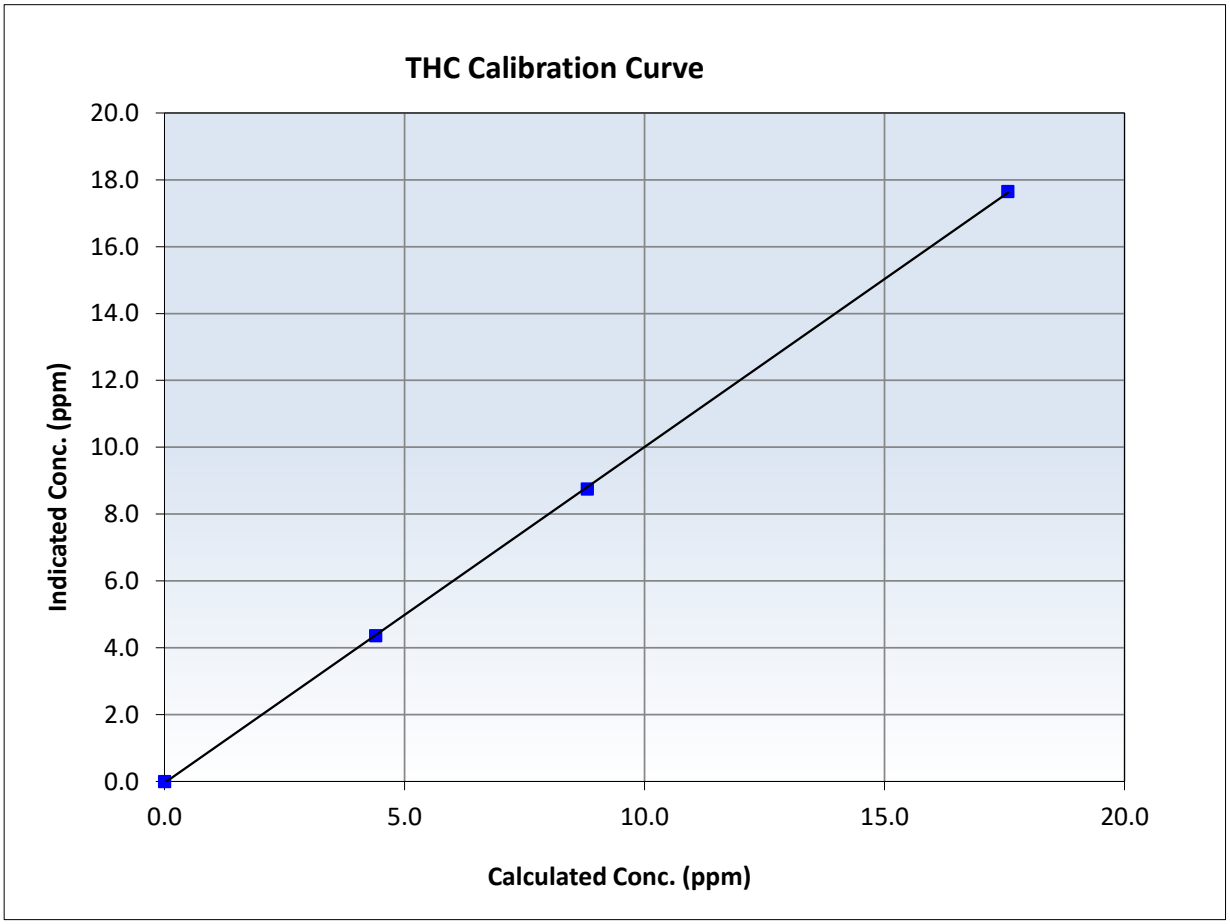
THC Calibration Summary

Station Information

Calibration Date:	October 14, 2025	Previous Calibration:	September 2, 2025
Station Name:	Lower Camp	Station Number:	AMS 11
Start Time (MST):	10:34	End Time (MST):	15:01
Analyzer make:	Thermo 55i	Analyzer serial #:	1118148495

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999961	*≥0.995*
17.57	17.65	0.9957	Slope	1.004855	*0.90 - 1.10*
8.81	8.76	1.0063	Intercept	-0.042179	*+/-0.5*
4.40	4.36	1.0097			



Wood Buffalo Environmental Association

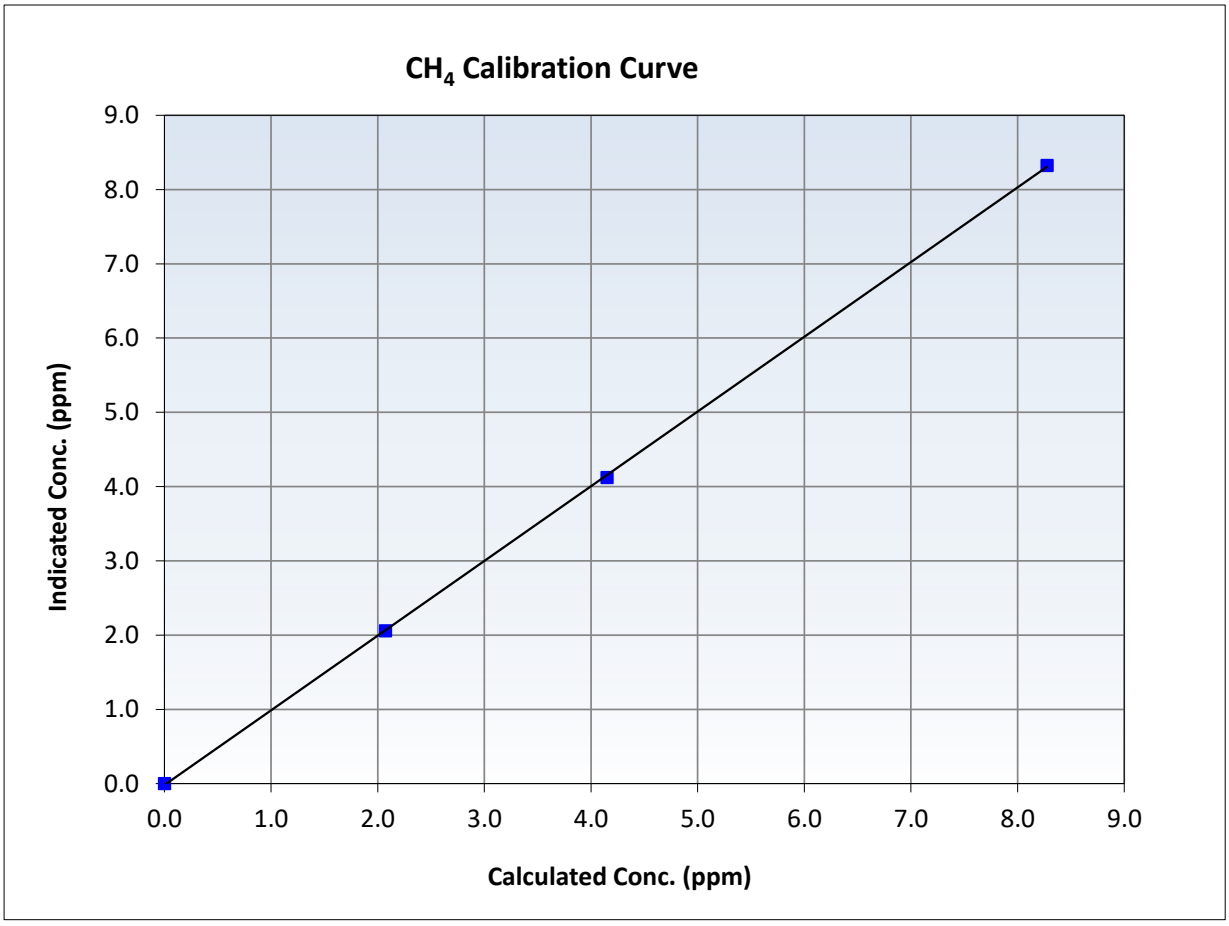
CH_4 Calibration Summary

Station Information

Calibration Date:	October 14, 2025	Previous Calibration:	September 2, 2025
Station Name:	Lower Camp	Station Number:	AMS 11
Start Time (MST):	10:34	End Time (MST):	15:01
Analyzer make:	Thermo 55i	Analyzer serial #:	1118148495

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999947	≥0.995
8.28	8.33	0.9940	Slope	1.006101	0.90 - 1.10
4.15	4.12	1.0069			
2.07	2.06	1.0063	Intercept	-0.019544	+/-0.5



Wood Buffalo Environmental Association

NMHC Calibration Summary

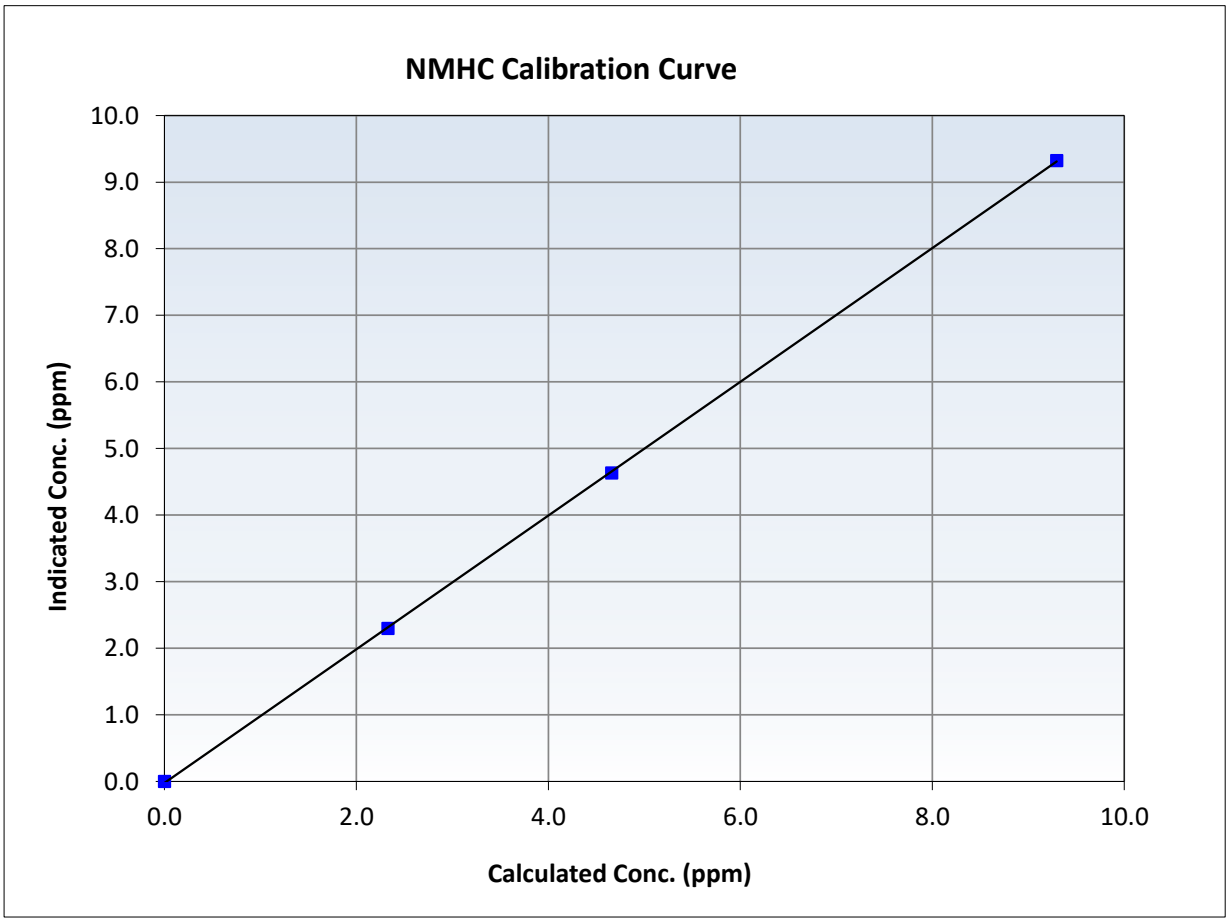
Station Information

Calibration Date:	October 14, 2025	Previous Calibration:	September 2, 2025
Station Name:	Lower Camp	Station Number:	AMS 11
Start Time (MST):	10:34	End Time (MST):	15:01
Analyzer make:	Thermo 55i	Analyzer serial #:	1118148495

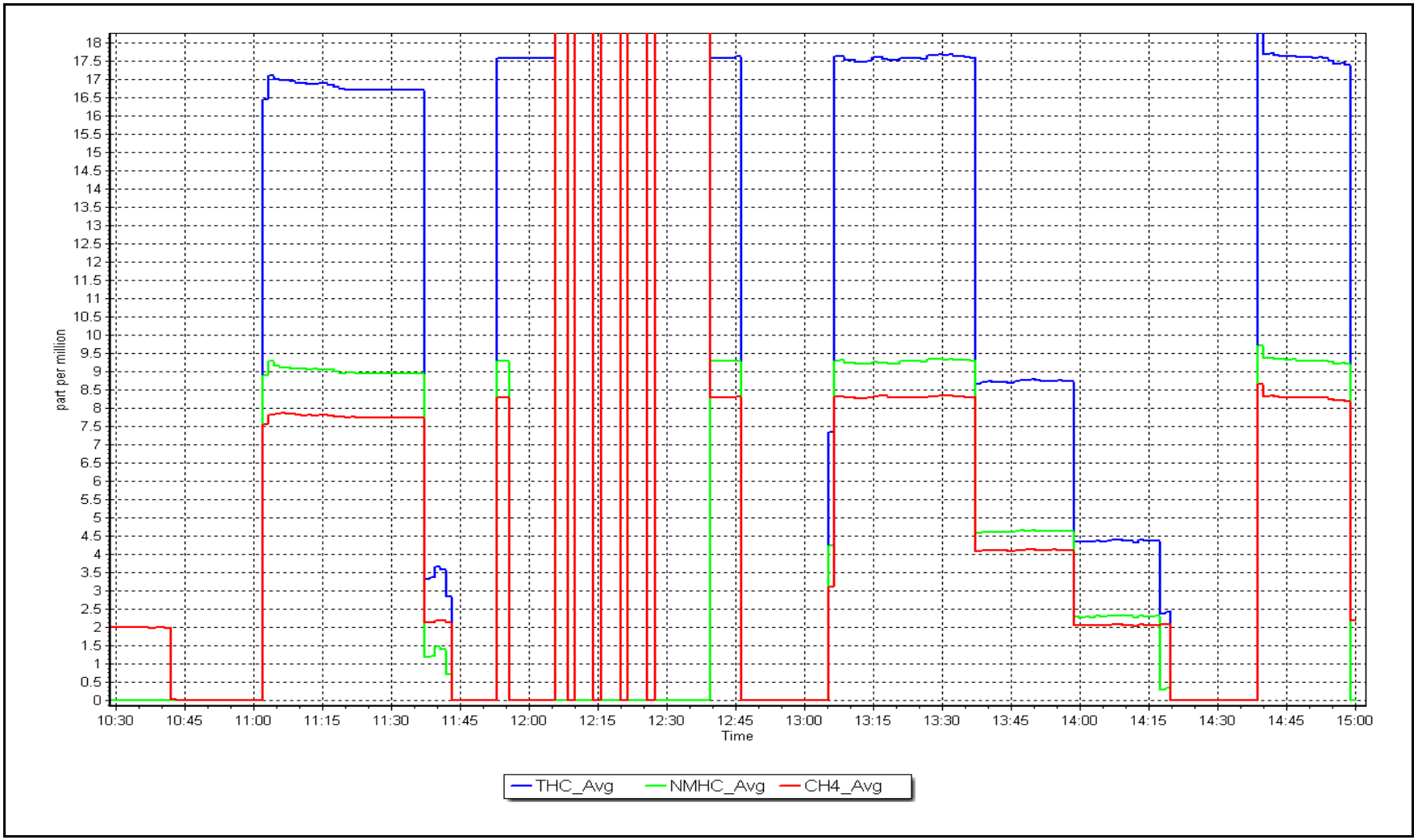
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.00	----
9.30	9.33	0.9968
4.66	4.63	1.0059
2.33	2.30	1.0124

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999968	*≥0.995*
Slope	1.004041	*0.90 - 1.10*
Intercept	-0.022835	*+/-0.5*



NMHC Calibration Plot Date: October 14, 2025 Location: Lower Camp



Wood Buffalo Environmental Association

THC / CH4 / NMHC Calibration Report

Station Information

Station Name:	Lower Camp	Station number:	AMS 11
Calibration Date:	October 15, 2025	Last Cal Date:	October 14, 2025
Start time (MST):	10:55	End time (MST):	12:55
Reason:	Cylinder Change		

Calibration Standards

Gas Cert Reference:	CC741503	Cal Gas Expiry Date:	October 9, 2032	
CH4 Cal Gas Conc.	504.8 ppm	CH4 Equiv Conc.	1071.9	ppm
C3H8 Cal Gas Conc.	206.2 ppm			
Removed Gas Cert:		Removed Gas Expiry:		
Removed CH4 Conc.	504.8 ppm	CH4 Equiv Conc.	1071.9	ppm
Removed C3H8 Conc.	206.2 ppm	Diff between cyl (THC):		
Diff between cyl (CH_4):		Diff between cyl (NM):		
Calibrator Model:	API T700	Serial Number:	3811	
Zero Air Gen model:	API T701	Serial Number:	196	

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1118148495
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	***Finish***		***Start***	***Finish***
CH4 SP Ratio:	2.82E-04	2.82E-04	NMHC SP Ratio:	4.79E-05	4.79E-05
CH4 Retention time:	15.0	15.0	NMHC Peak Area:	194321	194321
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4932	82.2	17.57	17.64	0.996
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	17.64	Prev response	17.61	*% change	0.1%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.01	----
High point	4932	82.2	17.57	17.47	1.006
Mid point					
Low point					
As left zero					
As left span					

Average Correction Factor: 1.006

Notes: Changed H2 cylinder.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4932	82.2	9.30	9.34	0.995
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.34	Prev response	9.31	*% change	0.3%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4932	82.2	9.30	9.26	1.004
Mid point					
Low point					
As left zero					
As left span					
				Average Correction Factor	1.004

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4932	82.2	8.28	8.30	0.997
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.30	Prev response	8.31	*% change	-0.1%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

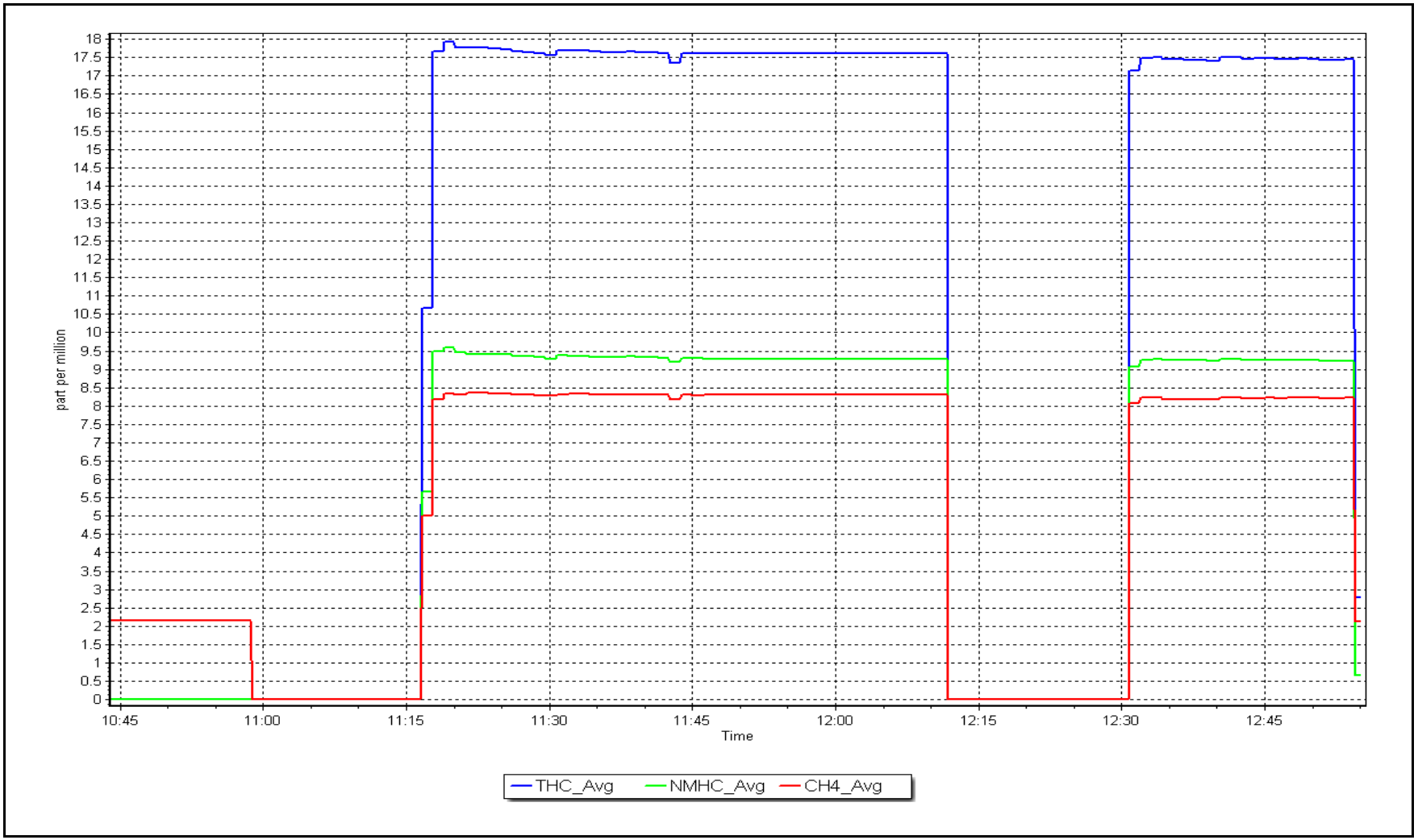
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.01	----
High point	4932	82.2	8.28	8.21	1.008
Mid point					
Low point					
As left zero					
As left span					
				Average Correction Factor	1.008

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.004855	0.993779
THC Cal Offset:	-0.042179	0.005000
CH4 Cal Slope:	1.006101	0.991733
CH4 Cal Offset:	-0.019544	0.005000
NMHC Cal Slope:	1.004041	0.995600
NMHC Cal Offset:	-0.022835	0.000000

Calibration Performed By: Mohammed Kashif

NMHC Calibration Plot Date: October 15, 2025 Location: Lower Camp



Wood Buffalo Environmental Association

Wind Speed/Direction Calibration Report

Station Information

Station Name:	Lower Camp	Station Number:	AMS 11
Calibration Date:	October 15, 2025	Prev Cal Date:	September 24, 2024
Start Time (MST):	13:04	End Time (MST):	15:56
Tower Height (m):	10.0	Reason:	Routine

Wind Speed Calibration

Sensor make/model:	Met One 010C-1	Serial Number:	X16480
WS Calibrator:	MetOne 053	Serial Number:	R10866

Shaft RPM (Hz)	Calculated Speed (K/hr) (Cv)	Indicated Speed (K/hr) (Iv)	% Error *Limit = +/- 1.5%*
0	0.0	0.0	---
200	20.2	20.3	0.5%
400	39.4	39.4	0.1%
600	58.6	58.7	0.2%
800	77.8	77.8	0.1%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)	0.999997	0.999999	*≥0.9995*
Calculated slope	1.000125	0.998854	*0.98 - 1.02*
Calculated intercept	-0.035284	-0.028010	*+/- 2*

Wind Direction Calibration

Sensor make/model:	Met One 020C-1	Serial Number:	X16480
As Found Declination (deg east of True North):	14	As Left Declination (deg east of True North):	13
Solar noon (MST):	13:11	Calc Declination*:	13.3 Degrees
WD Calibrator:	Met One 040		* - calculated declination as per NOAA website

Physical Direction (Degrees) (Cv)	Indicated Direction (Degrees) (Iv)	% Error (based on 360° FS) *Limit = +/- 1%*
10	12.5	0.7%
90	91.2	0.3%
180	180.0	0.0%
270	272.9	0.8%
350	351.4	0.4%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)	0.999987	0.999965	*≥0.9995*
Calculated slope	0.993333	1.000422	*0.97 - 1.03*
Calculated intercept	-0.195681	-1.663187	*+/- 5*

Notes: Bearings still good. Cross arm was aligned using compass after calibration.

Calibration Performed By: Mohammed Kashif

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS13
FORT MCKAY SOUTH
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Fort McKay South	Station number:	AMS 13
Calibration Date:	October 14, 2025	Last Cal Date:	September 10, 2025
Start time (MST):	9:42	End time (MST):	12:39
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.55	ppm	Cal Gas Exp Date:	December 29, 2028
Cal Gas Cylinder #:	CC260812			
Removed Cal Gas Conc:	50.55	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	Teledyne API T750		Serial Number:	281
Zero Air Gen Model:	Teledyne API 751H		Serial Number:	321

Analyzer Information

Analyzer make:	Teledyne API T100		Serial Number:	599	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.007647	1.003832	Backgd or Offset:	111.3	111.3
Calibration intercept:	-2.914135	-3.054307	Coeff or Slope:	0.662	0.658

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.4	----
As found High point	4921	79.1	799.7	805.4	0.992
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	805.8	Previous response	802.9	*% change	0.4%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.4	----
High point	4921	79.1	799.7	801.0	0.998
Mid point	4960	39.5	399.4	396.6	1.007
Low point	4980	19.8	200.2	195.2	1.026
As left zero	5000	0.0	0.0	-0.4	----
As left span	4921	79.1	799.7	802.0	0.997
				Average Correction Factor:	1.010

Notes: Adjusted span only.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

SO_2 Calibration Summary

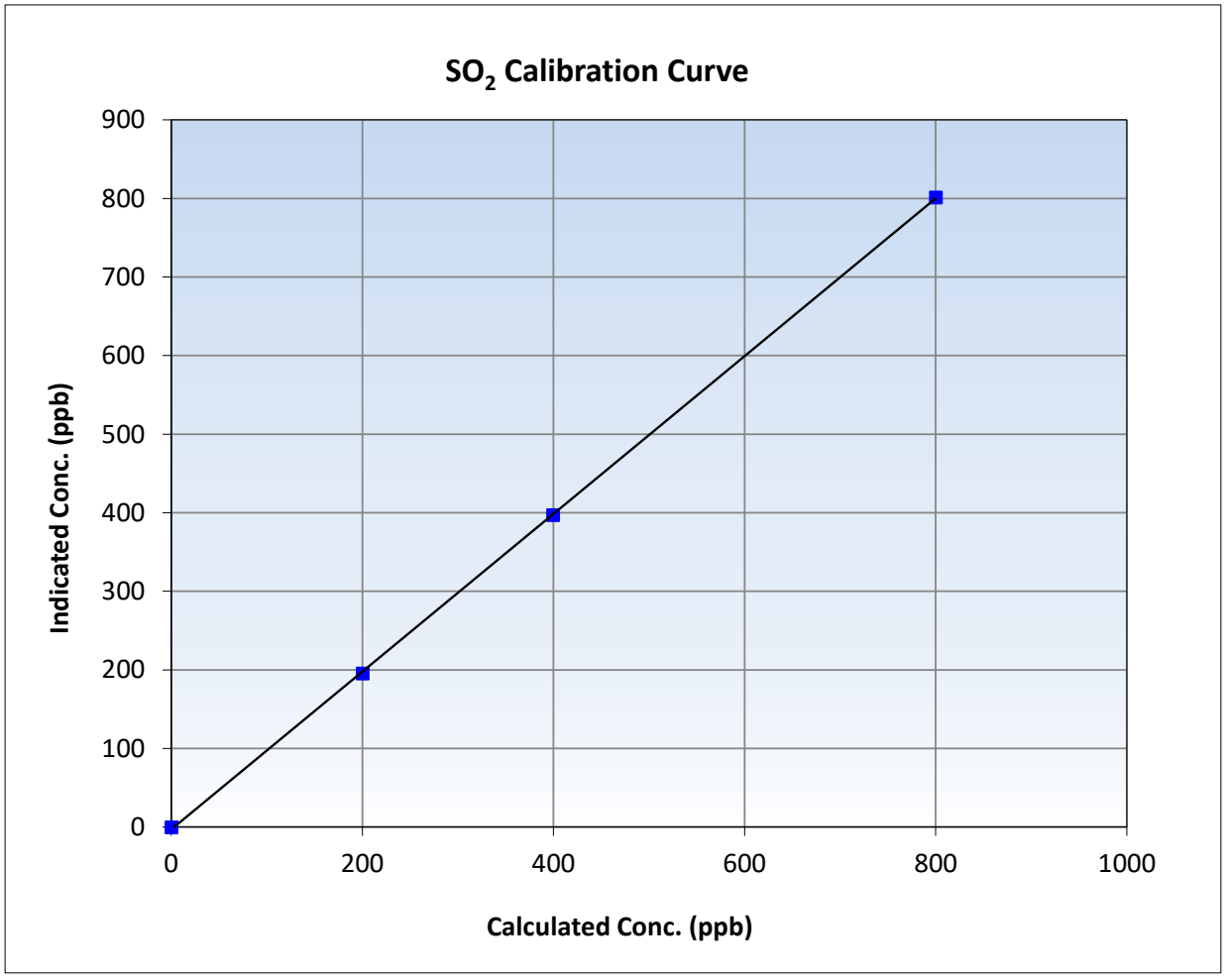
Station Information

Calibration Date:	October 14, 2025	Previous Calibration:	September 10, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:42	End Time (MST):	12:39
Analyzer make:	Teledyne API T100	Analyzer serial #:	599

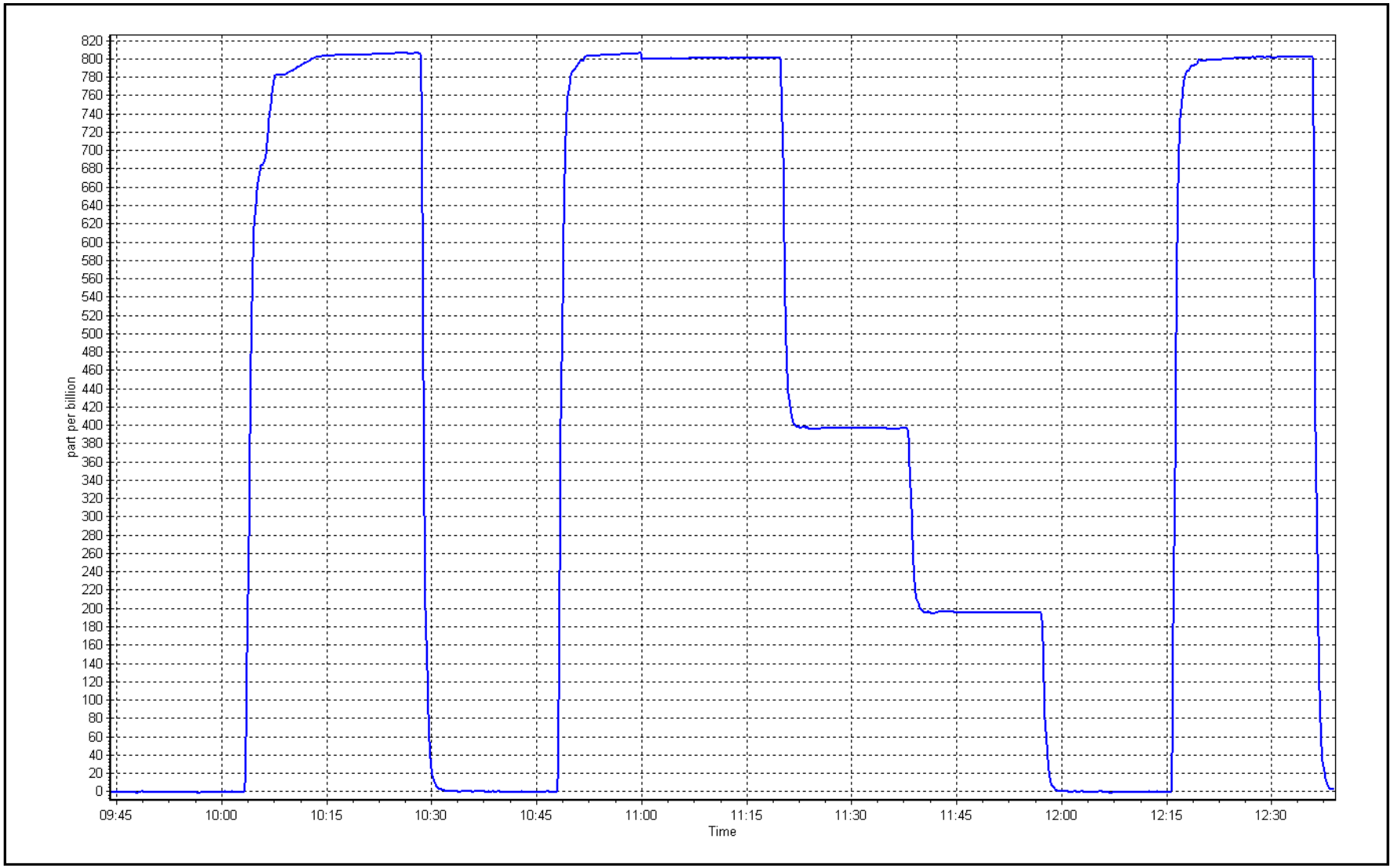
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.4	----
799.7	801.0	0.9984
399.4	396.6	1.0070
200.2	195.2	1.0255

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999950	*≥0.995*
Slope	1.003832	*0.90 - 1.10*
Intercept	-3.054307	*+/-30*



SO2 Calibration Plot Date: October 14, 2025 Location: Fort McKay South



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Fort McKay South	Station number:	AMS 13
Calibration Date:	October 7, 2025	Last Cal Date:	September 4, 2025
Start time (MST):	8:43	End time (MST):	12:33
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.88	ppm	Cal Gas Exp Date:	September 5, 2027
Cal Gas Cylinder #:	CC500241			
Removed Cal Gas Conc:	4.88	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:	CC500241		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	2657
ZAG Make/Model:	Teledyne API T701		Serial Number:	1118

Analyzer Information

Analyzer make:	Thermo 43i TLE		Analyzer serial #:	1180540017
Converter make:	CDN-101		Converter serial #:	521
Analyzer Range	0 - 100 ppb		Converter Temp:	800 degC

	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.008570	0.999674	Backgd or Offset:	3.36	3.36
Calibration intercept:	-0.018403	-0.058418	Coeff or Slope:	1.09	1.09

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.2	----
As found High point	4918	81.6	79.6	78.4	1.019
As found Mid point	4959	40.8	39.8	39.0	1.026
As found Low point	4980	20.4	19.9	19.4	1.037
New cylinder response					

Baseline Corr As found:	78.2	Prev response:	80.31	*% change:	-2.7%
Baseline Corr 2nd AF pt:	38.8	AF Slope:	0.982886	AF Intercept:	0.001558
Baseline Corr 3rd AF pt:	19.2	AF Correlation:	0.999970	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4918	81.6	79.6	79.7	0.999
Mid point	4959	40.8	39.8	39.6	1.006
Low point	4980	20.4	19.9	19.6	1.016
As left zero	5000	0.0	0.0	0.2	----
As left span	4918	81.6	79.6	79.8	0.998
SO2 Scrubber Check	4921	79.1	791.0	0.0	----

Date of last scrubber change:	7-Aug-25	Ave Corr Factor	1.007
Date of last converter efficiency test:			

Notes: Changed inlet filter after as found. SO2 scrubber check after calibrator zero and passed. No adjustment.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

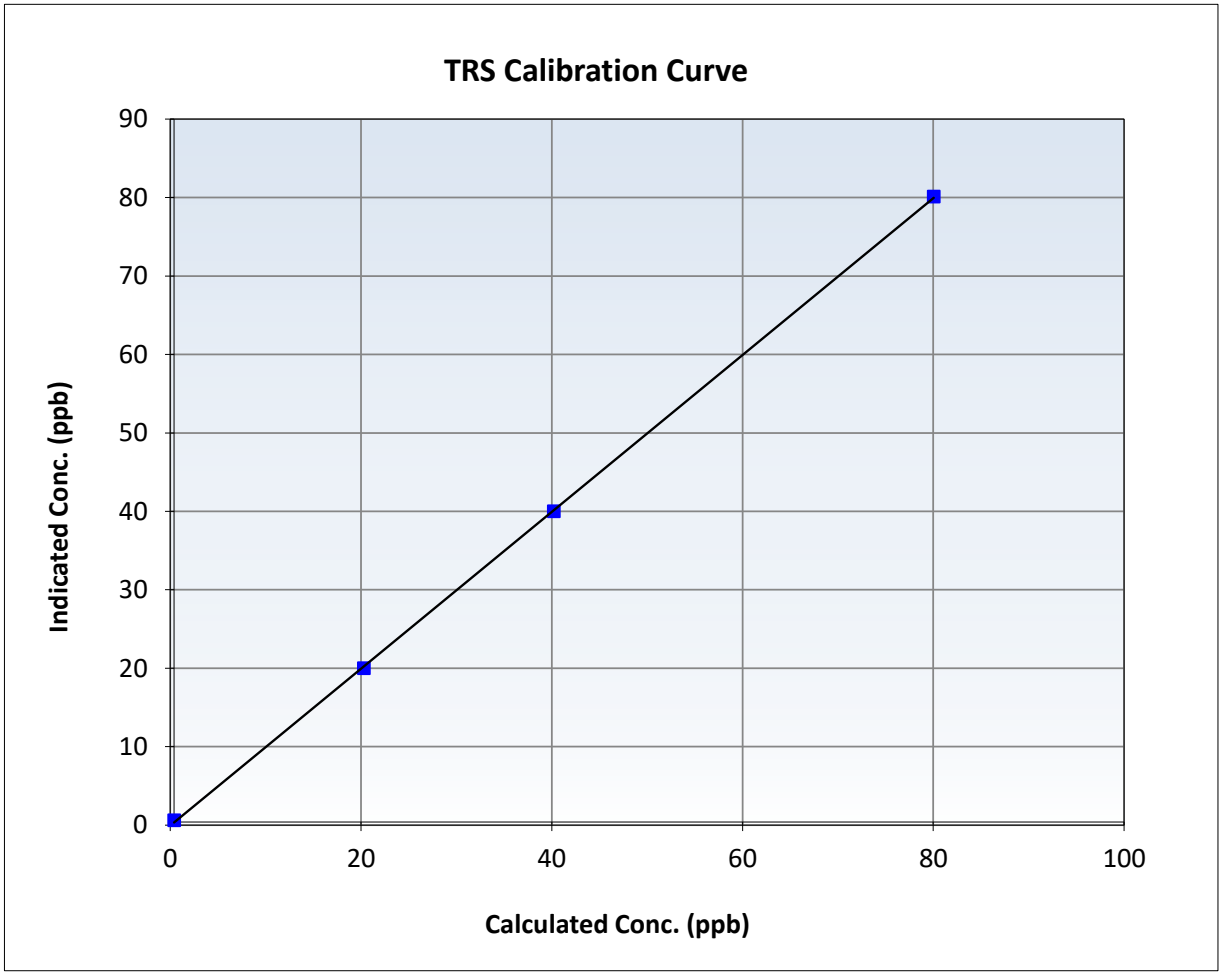
TRS Calibration Summary

Station Information

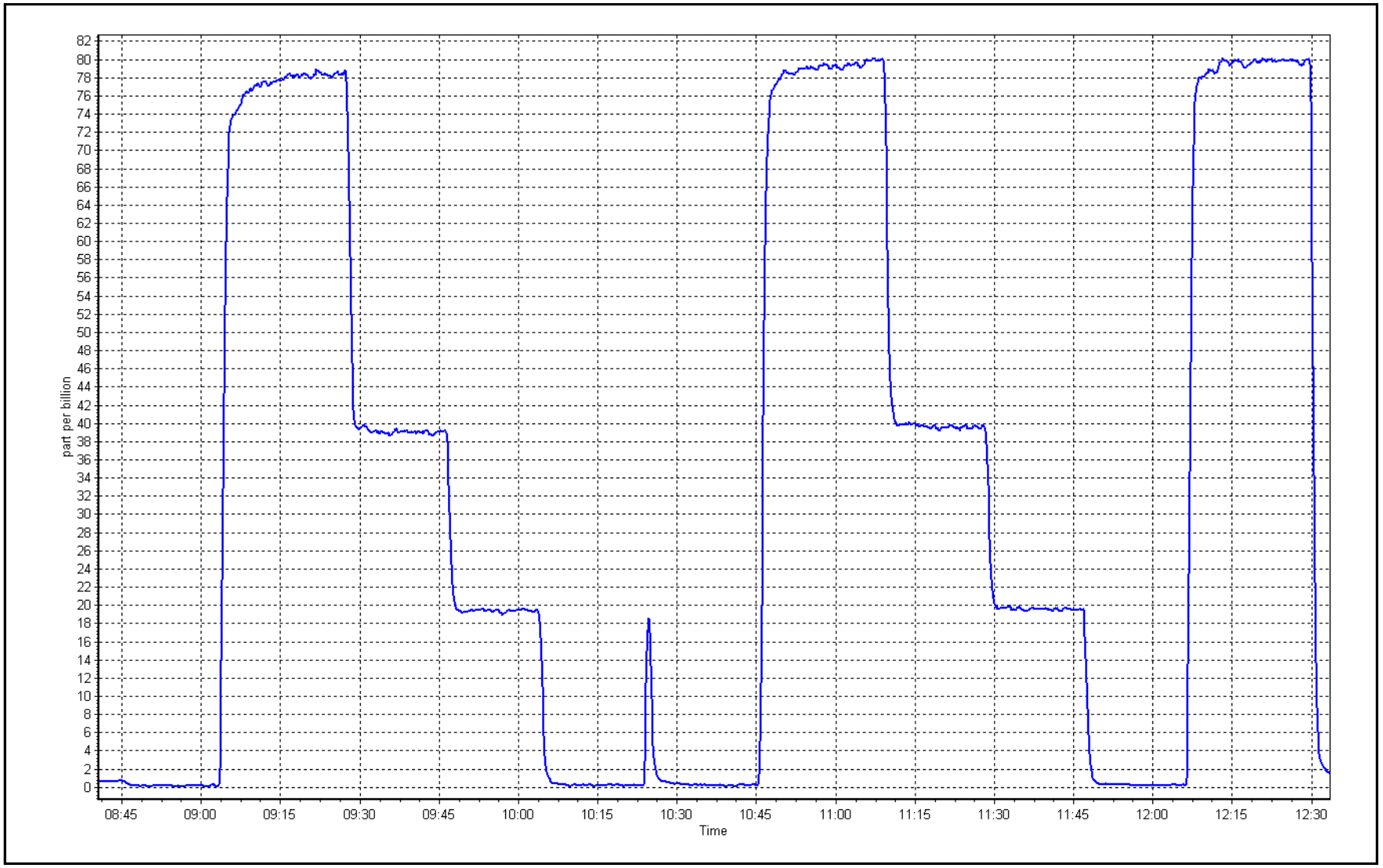
Calibration Date:	October 7, 2025	Previous Calibration:	September 4, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	8:43	End Time (MST):	12:33
Analyzer make:	Thermo 43i TLE	Analyzer serial #:	1180540017

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.2	----	Correlation Coefficient	0.999952	*≥0.995*
79.6	79.7	0.9993	Slope	0.999674	*0.90 - 1.10*
39.8	39.6	1.0056			
19.9	19.6	1.0158	Intercept	-0.058418	*+/-3*



TRS Calibration Plot Date: October 7, 2025 Location: Fort McKay South



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Fort McKay South	Station number:	AMS 13
Calibration Date:	October 14, 2025	Last Cal Date:	September 10, 2025
Start time (MST):	9:42	End time (MST):	12:39
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC260812	Cal Gas Expiry Date:	Friday, December 29, 2028
CH4 Cal Gas Conc.	503.6 ppm	CH4 Equiv Conc.	1077.5 ppm
C3H8 Cal Gas Conc.	208.7 ppm		
Removed Gas Cert:	NA	Removed Gas Expiry:	
Removed CH4 Conc.	503.6 ppm	CH4 Equiv Conc.	1077.5 ppm
Removed C3H8 Conc.	208.7 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	Teledyne API T750	Serial Number:	281
Zero Air Gen model:	Teledyne API 751H	Serial Number:	321

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1181490018
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	3.04E-04	3.00E-04	NMHC SP Ratio:	4.59E-05	4.62E-05
CH4 Retention time:	16.20	16.20	NMHC Peak Area:	197639	196731
Zero Chromatogram:	ON	ON	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.1	17.05	17.16	0.993
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	17.16	Prev response	17.01	*% change	0.9%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.1	17.05	17.11	0.996
Mid point	4960	39.5	8.51	8.50	1.001
Low point	4980	19.8	4.27	4.18	1.022
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	17.05	17.15	0.994
				Average Correction Factor	1.006

Notes: Changed inlet filter after as founds. Adjusted span only.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.1	9.08	9.07	1.002
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.07	Prev response	9.06	*% change	0.0%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.1	9.08	9.10	0.998
Mid point	4960	39.5	4.53	4.53	1.002
Low point	4980	19.8	2.27	2.22	1.024
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	9.08	9.11	0.997
				Average Correction Factor	1.008

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.1	7.97	8.10	0.984
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.10	Prev response	7.95	*% change	1.7%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.1	7.97	8.01	0.995
Mid point	4960	39.5	3.98	3.98	1.000
Low point	4980	19.8	1.99	1.96	1.019
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	7.97	8.04	0.991
				Average Correction Factor	1.005

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.000317	1.005364
THC Cal Offset:	-0.037504	-0.049894
CH4 Cal Slope:	1.001350	1.007187
CH4 Cal Offset:	-0.023945	-0.023539
NMHC Cal Slope:	0.999738	1.003878
NMHC Cal Offset:	-0.014359	-0.026555

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

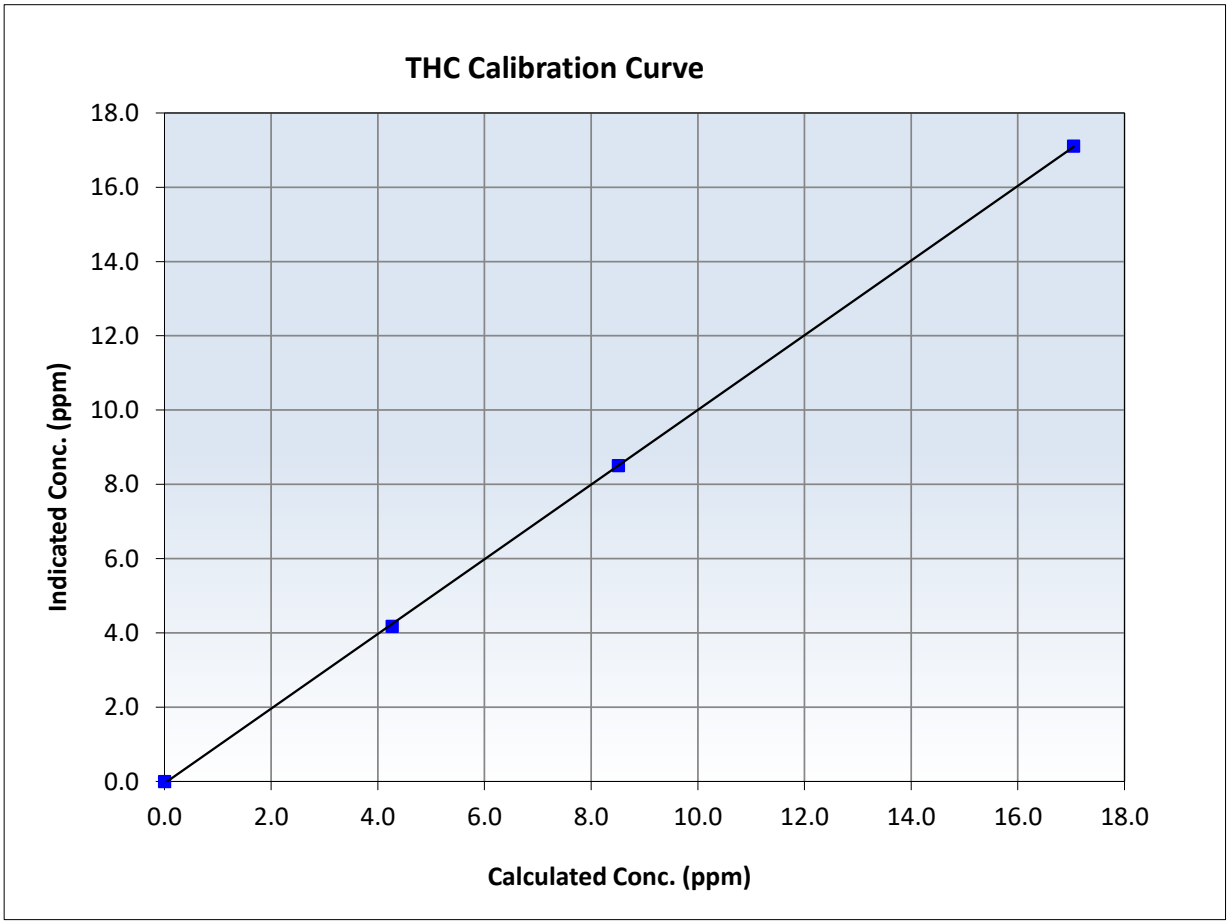
THC Calibration Summary

Station Information

Calibration Date:	October 14, 2025	Previous Calibration:	September 10, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:42	End Time (MST):	12:39
Analyzer make:	Thermo 55i	Analyzer serial #:	1181490018

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999957	≥0.995
17.05	17.11	0.9965	Slope	1.005364	0.90 - 1.10
8.51	8.50	1.0011			
4.27	4.18	1.0216	Intercept	-0.049894	+/-0.5



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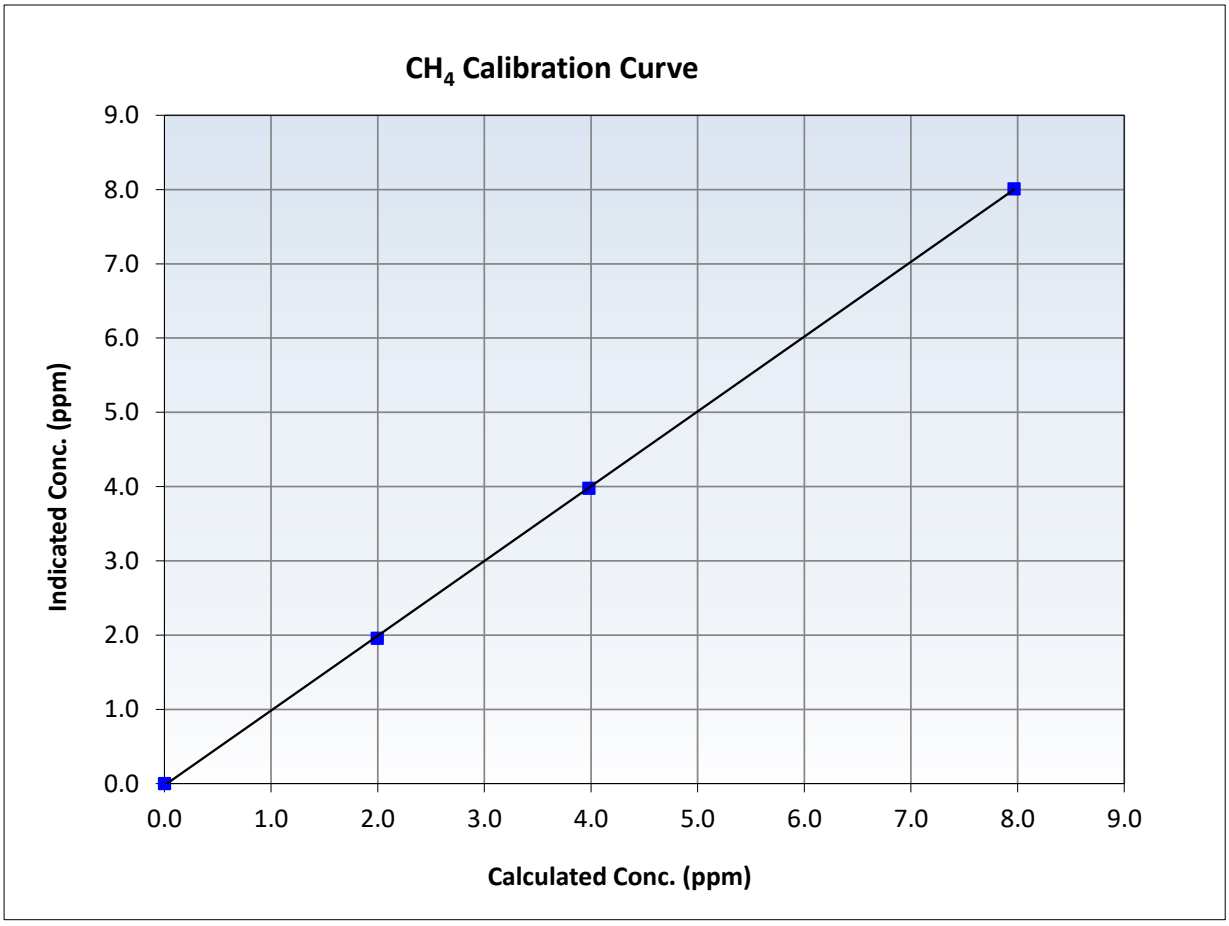
CH_4 Calibration Summary

Station Information

Calibration Date:	October 14, 2025	Previous Calibration:	September 10, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:42	End Time (MST):	12:39
Analyzer make:	Thermo 55i	Analyzer serial #:	1181490018

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999959	≥0.995
7.97	8.01	0.9946	Slope	1.007187	0.90 - 1.10
3.98	3.98	1.0000			
1.99	1.96	1.0191	Intercept	-0.023539	+/-0.5



Wood Buffalo Environmental Association

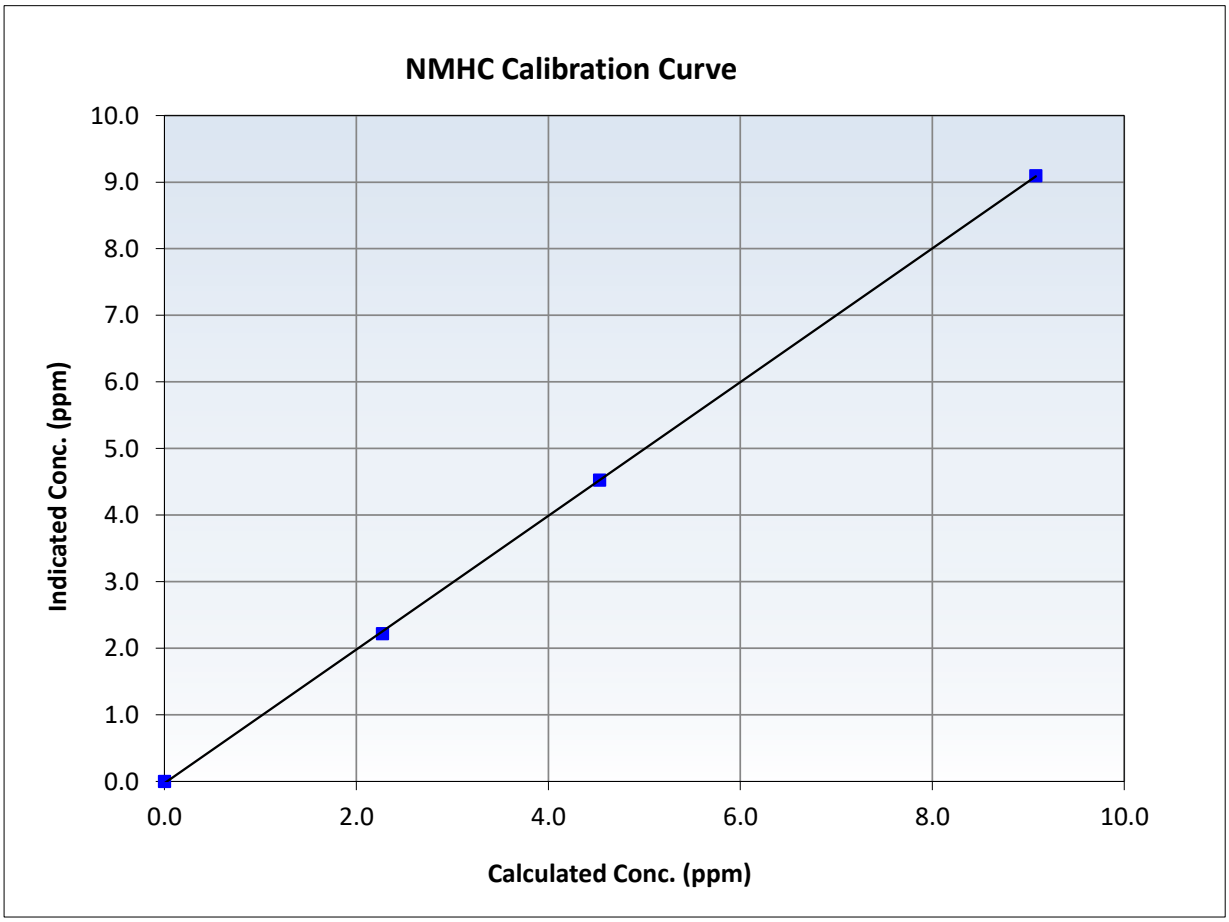
NMHC Calibration Summary

Station Information

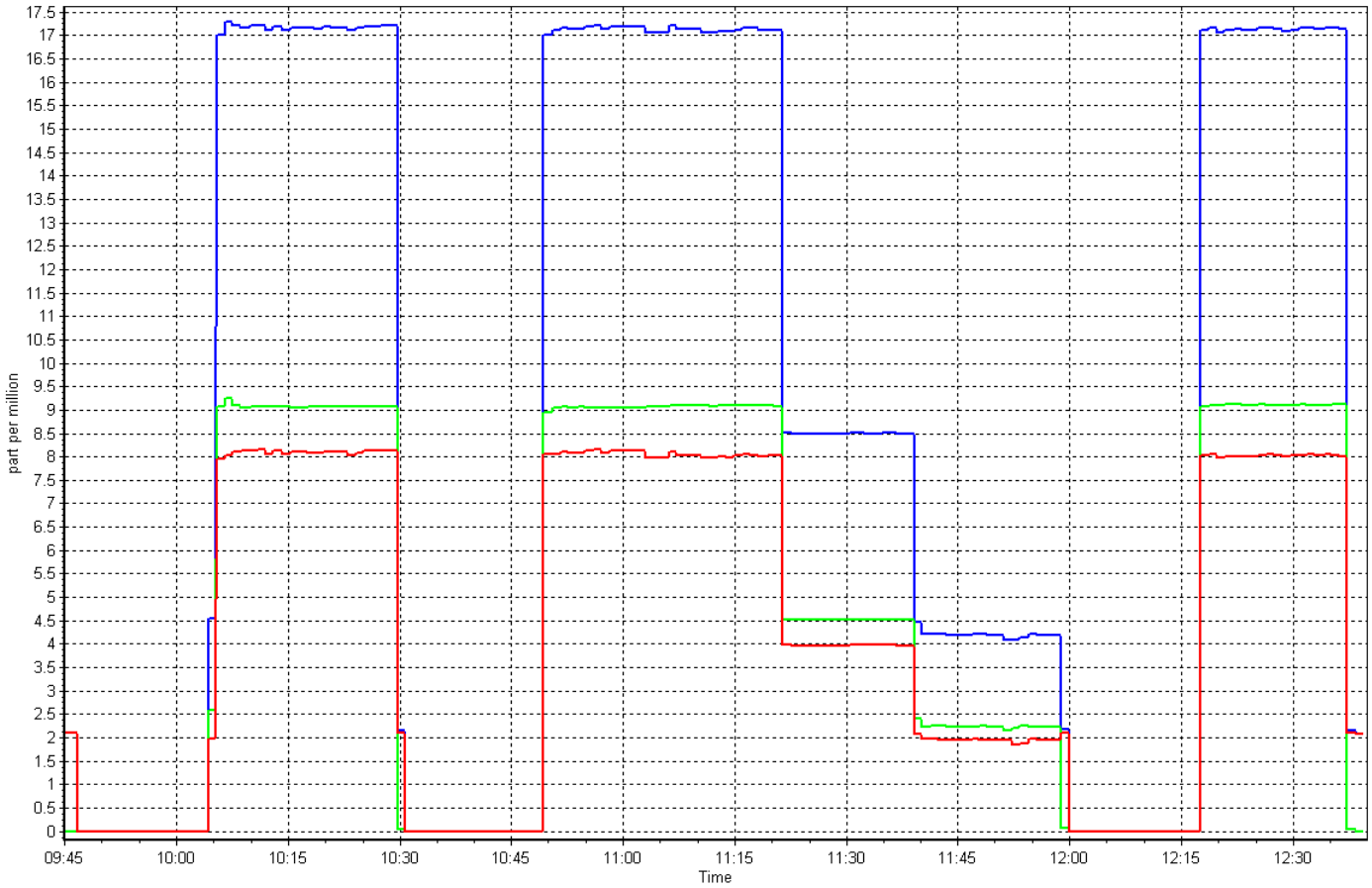
Calibration Date:	October 14, 2025	Previous Calibration:	September 10, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:42	End Time (MST):	12:39
Analyzer make:	Thermo 55i	Analyzer serial #:	1181490018

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999956	≥0.995
9.08	9.10	0.9981	Slope	1.003878	0.90 - 1.10
4.53	4.53	1.0021			
2.27	2.22	1.0238	Intercept	-0.026555	+/-0.5



NMHC Calibration Plot Date: October 14, 2025 Location: Fort McKay South



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Fort McKay South
Station number:	AMS 13
Calibration Date:	October 20, 2025
Last Cal Date:	September 23, 2025
Start time (MST):	10:05
End time (MST):	14:34
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	T2UP1RP	Cal Gas Expiry Date:	November 17, 2026
NOX Cal Gas Conc:	48.25 ppm	NO Cal Gas Conc:	47.88 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	48.25 ppm	Removed Gas NO Conc:	47.88 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	2657
ZAG make/model:	Teledyne APIT701	Serial Number:	1118

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-1.0	-0.3	-0.7	----	----
AF High point	4917	83.5	805.7	799.5	6.2	745.4	740.3	5.1	1.0794	1.0796
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 802.9 ppb	NO = 798.4 ppb
Baseline Corr 1st pt	NO_X = 746.4 ppb	NO = 740.6 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

*Percent Change NO_X = -7.6%

*Percent Change NO = -7.8%

As Found Statistics

As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42iQ

Serial Number: 12300522720

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.144	1.240	NO bkgnd or offset:	3.1	8.1
NOX coeff or slope:	0.997	0.997	NOX bkgnd or offset:	3.4	8.1
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	145.5	345.0

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.001033	1.002566
NO_X Cal Offset:	-3.631831	-3.472366
NO Cal Slope:	1.004878	1.006494
NO Cal Offset:	-4.970210	-5.010714
NO_2 Cal Slope:	0.982117	0.998355
NO_2 Cal Offset:	-1.008395	0.110833

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	----	----
High point	4917	83.5	805.7	799.5	6.2	806.3	802.5	3.9	0.9992	0.9963
Mid point	4958	41.8	403.4	400.3	3.1	398.4	394.4	4.1	1.0125	1.0149
Low point	4979	20.9	201.7	200.1	1.5	195.8	192.2	3.6	1.0301	1.0413
As left zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	----	----
As left span	4917	83.5	805.7	397.9	407.8	802.2	397.9	404.3	1.0044	1.0000
							Average Correction Factor		1.0139	1.0175

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.0	----	----
High GPT point	797.8	395.4	408.6	407.8	1.0019	99.8%
Mid GPT point	797.8	600.1	203.9	204.2	0.9984	100.2%
Low GPT point	797.8	700.1	103.9	103.6	1.0027	99.7%
				Average Correction Factor	1.0010	99.9%

Notes: Adjusted zero and span.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

NO_X Calibration Summary

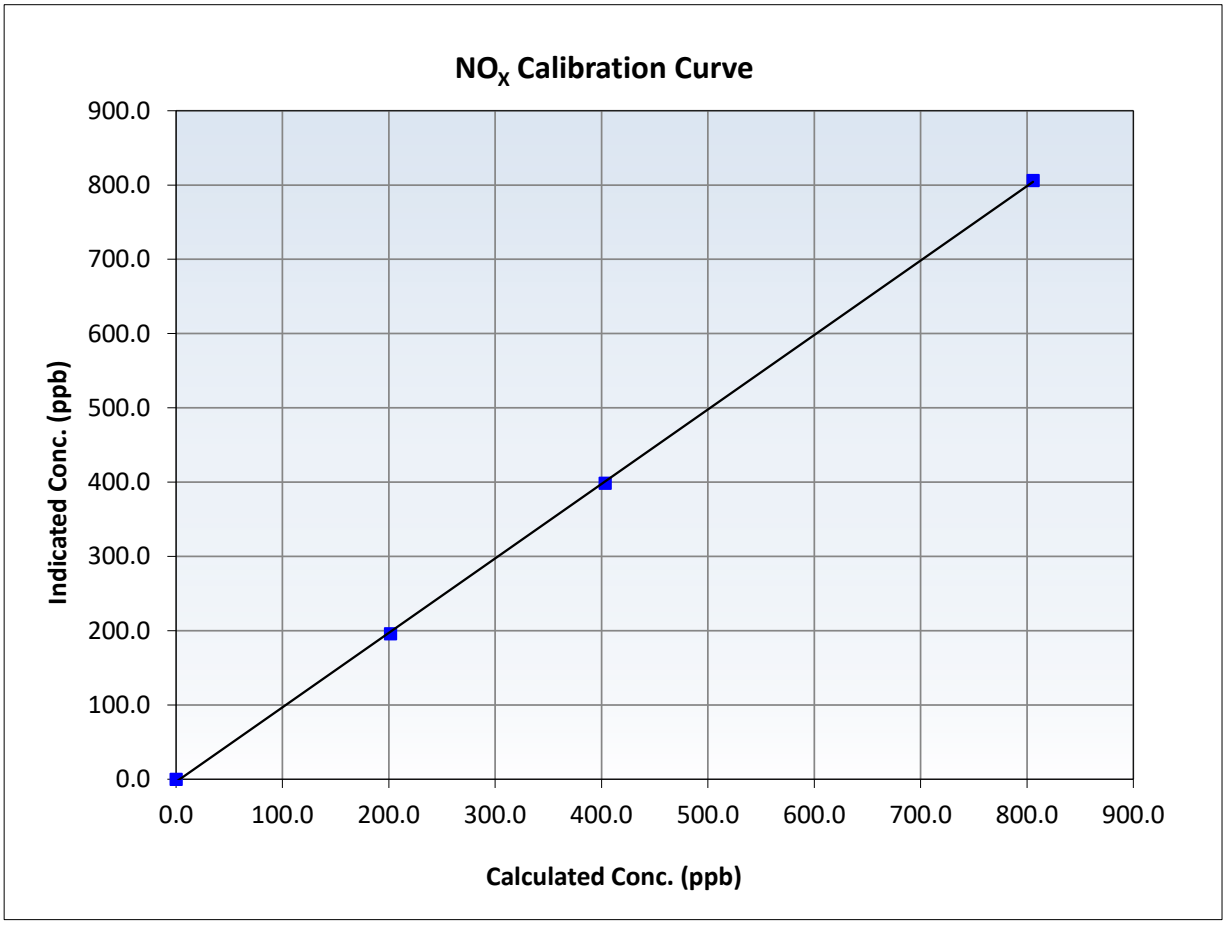
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 23, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	10:05	End Time (MST):	14:34
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12300522720

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
805.7	806.3	0.9992
403.4	398.4	1.0125
201.7	195.8	1.0301

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999913	*≥0.995*
Slope	1.002566	*0.90 - 1.10*
Intercept	-3.472366	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

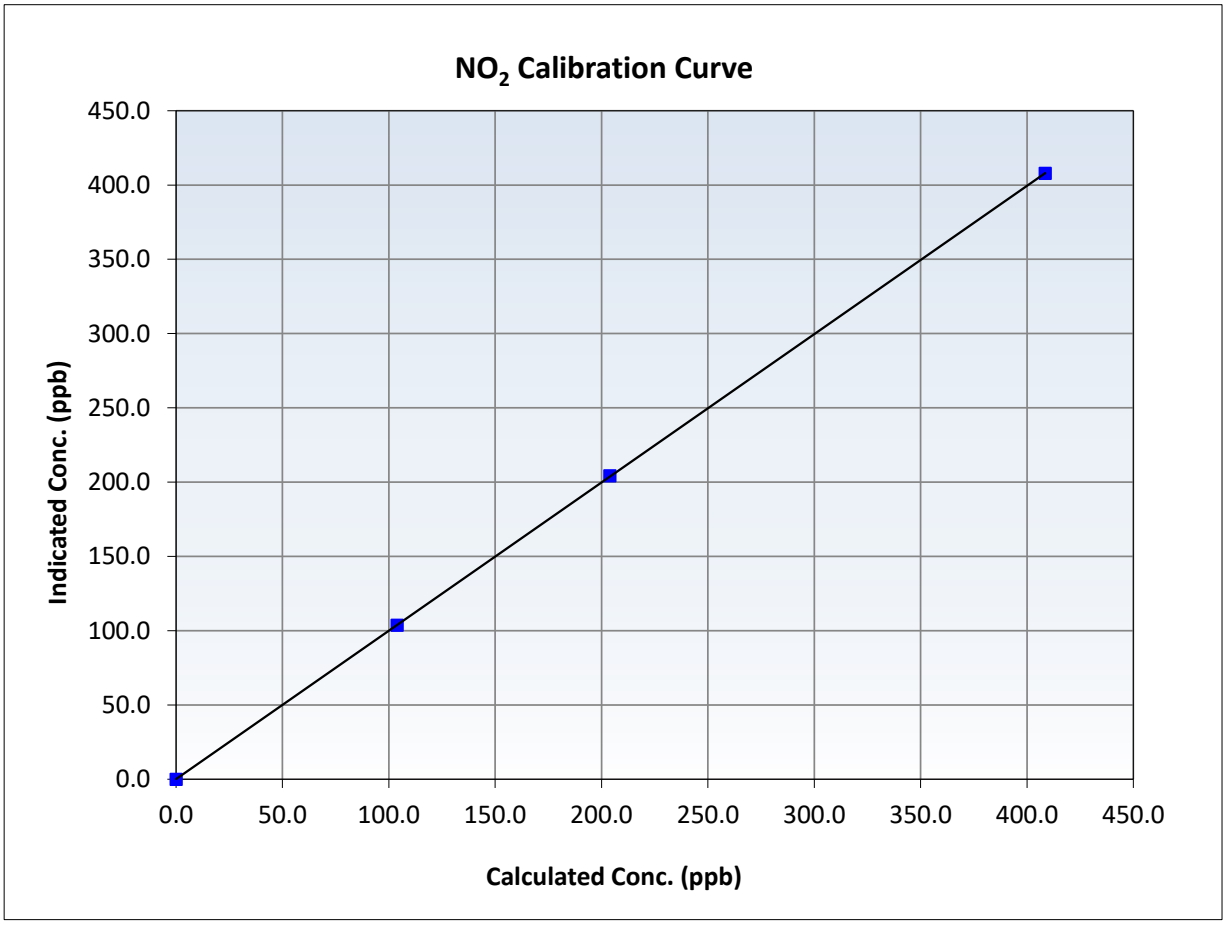
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 23, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	10:05	End Time (MST):	14:34
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12300522720

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
408.6	407.8	1.0019
203.9	204.2	0.9984
103.9	103.6	1.0027

Statistical Evaluation		Limits
Correlation Coefficient	0.999996	≥0.995
Slope	0.998355	0.90 - 1.10
Intercept	0.110833	+/-20



Wood Buffalo Environmental Association

NO Calibration Summary

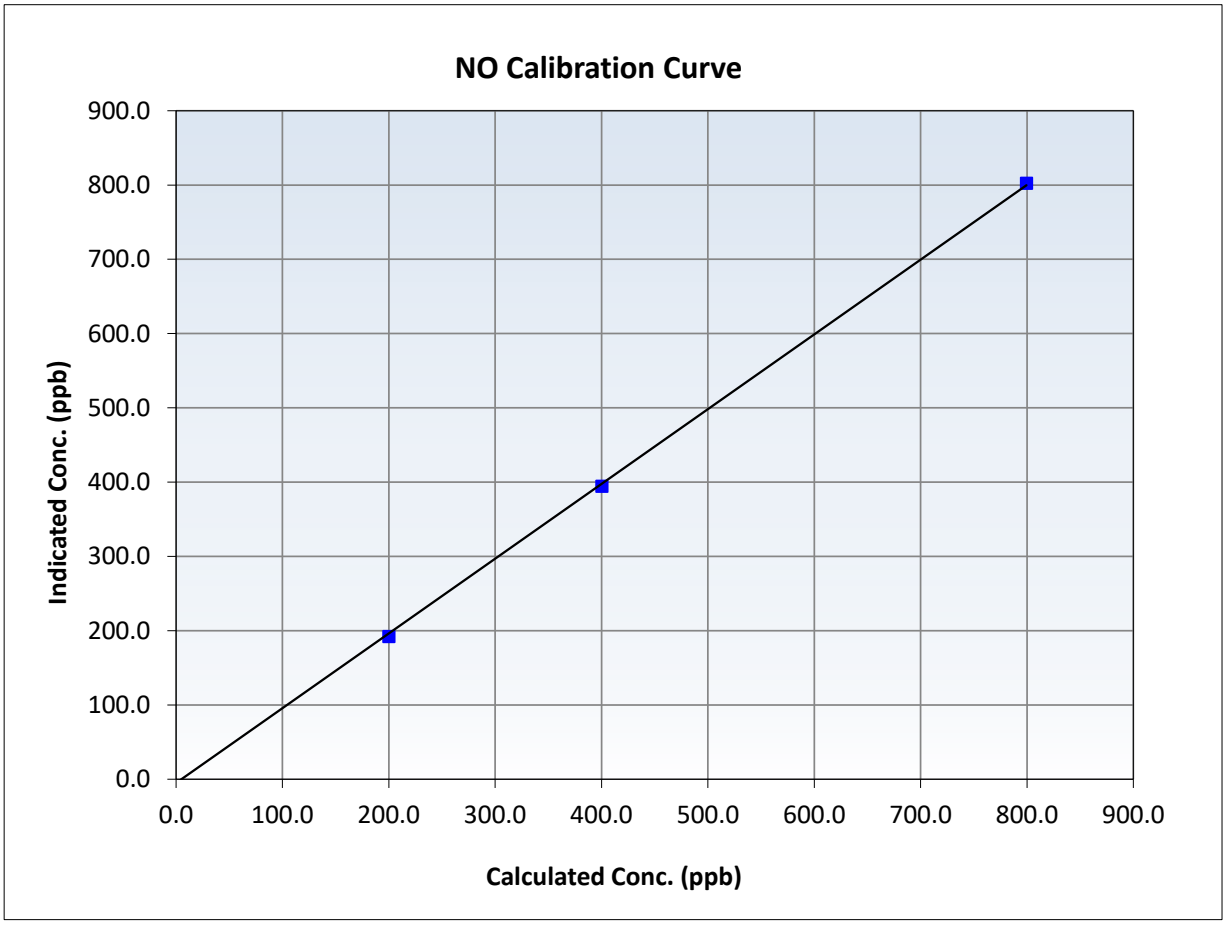
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 23, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	10:05	End Time (MST):	14:34
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12300522720

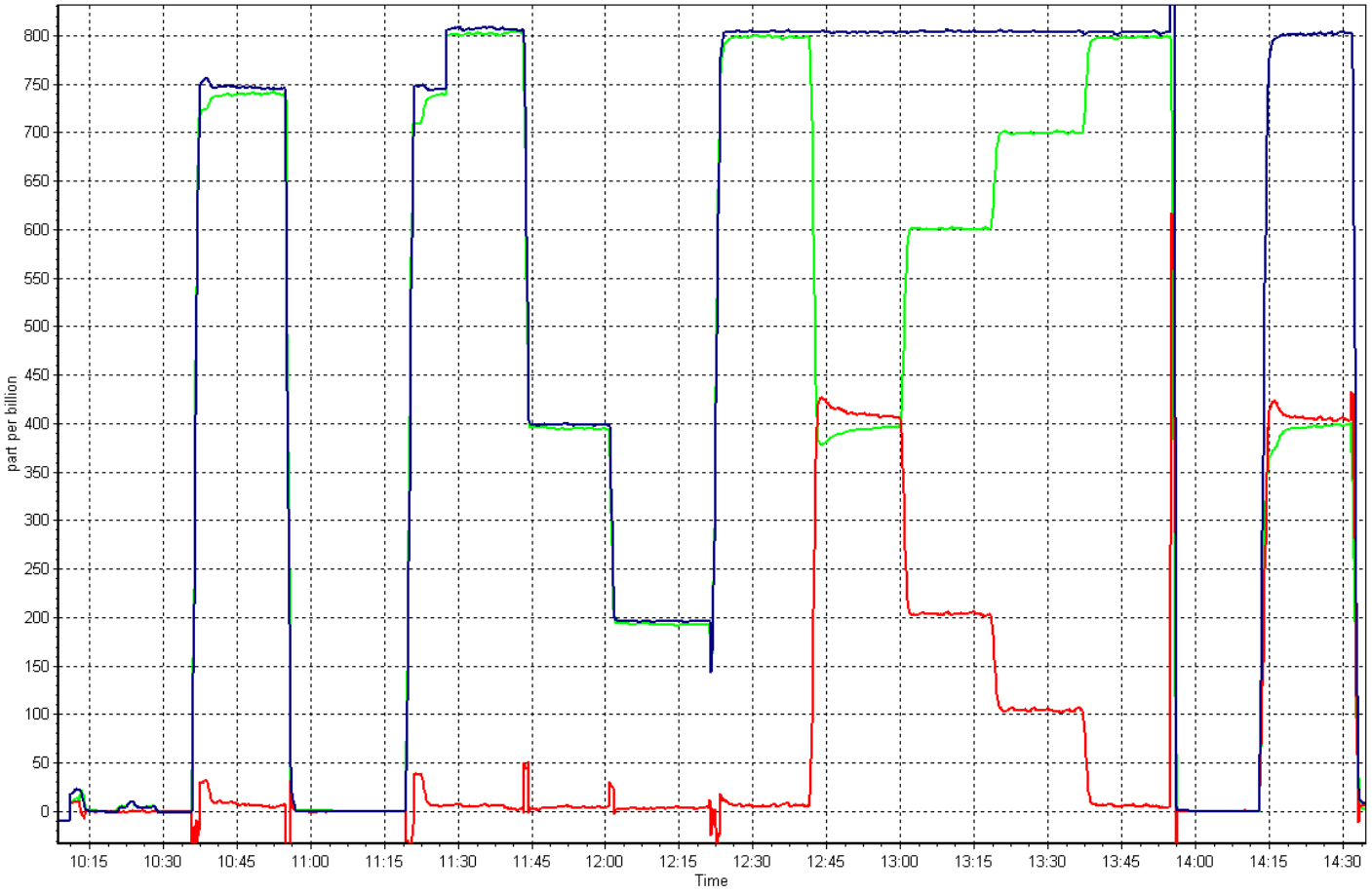
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
799.5	802.5	0.9963
400.3	394.4	1.0149
200.1	192.2	1.0413

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999825	*≥0.995*
Slope	1.006494	*0.90 - 1.10*
Intercept	-5.010714	*+/-20*



NO_X Calibration Plot Date: October 20, 2025 Location: Fort McKay South



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Fort McKay South
Station number:	AMS 13
Calibration Date:	October 21, 2025
Last Cal Date:	October 20, 2025
Start time (MST):	8:40
End time (MST):	13:37
Reason:	Maintenance

Calibration Standards

NO Gas Cylinder #:	T2UP1RP	Cal Gas Expiry Date:	November 17, 2026
NOX Cal Gas Conc:	48.25 ppm	NO Cal Gas Conc:	47.88 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	48.25 ppm	Removed Gas NO Conc:	47.88 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	2657
ZAG make/model:	Teledyne APIT701	Serial Number:	1118

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.2	-0.1	-0.1	----	----
AF High point	4917	83.5	805.7	799.5	6.2	804.3	798.7	5.6	1.0015	1.0009
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 804.3 ppb	NO = 799.7 ppb
Baseline Corr 1st pt	NO_X = 804.5 ppb	NO = 798.8 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

*Percent Change	NO_X = 0.0%	As Found Statistics	
*Percent Change	NO = -0.1%	As found	NO_X r^2:
Nx Sl:	Nx Int:	As found	NO r^2:
NO Sl:	NO Int:	As found	NO_2 r^2:
NO2 Sl:	NO_2 Int:		

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42iQ

Serial Number: 12300522720

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.240	1.126	NO bkgnd or offset:	8.1	3.0
NOX coeff or slope:	0.997	0.998	NOX bkgnd or offset:	8.1	3.2
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	345.0	162.1

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.002566	1.001701
NO_X Cal Offset:	-3.472366	-3.392379
NO Cal Slope:	1.006494	1.002536
NO Cal Offset:	-5.010714	-4.350297
NO_2 Cal Slope:	0.998355	0.988647
NO_2 Cal Offset:	0.110833	1.598208

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.1	0.2	0.0	----	----
High point	4917	83.5	805.7	799.5	6.2	805.5	799.6	5.8	1.0002	0.9999
Mid point	4958	41.8	403.4	400.3	3.1	398.7	394.3	4.4	1.0118	1.0152
Low point	4979	20.9	201.7	200.1	1.5	195.3	192.0	3.3	1.0327	1.0424
As left zero	5000	0.0	0.0	0.0	0.0	0.3	0.4	-0.1	----	----
As left span	4917	83.5	805.7	397.9	407.8	802.2	397.9	404.3	1.0044	1.0000
							Average Correction Factor		1.0149	1.0192

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.0	----	----
High GPT point	799.1	398.1	407.2	402.8	1.0109	98.9%
Mid GPT point	799.1	601.3	204.0	205.7	0.9916	100.8%
Low GPT point	799.1	700.5	104.8	105.7	0.9913	100.9%
				Average Correction Factor	0.9979	100.2%

Notes: Adjusted zero and span.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

NO_X Calibration Summary

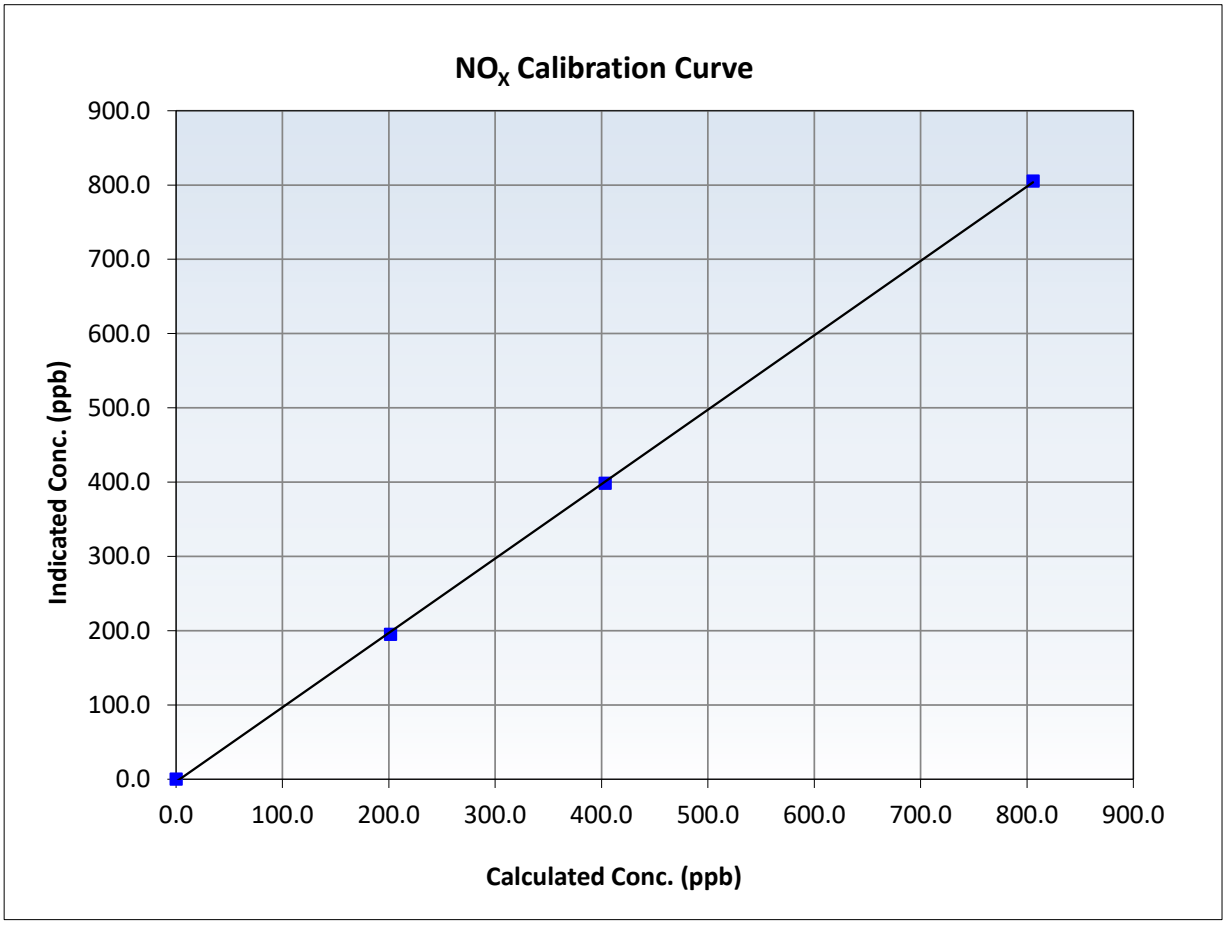
Station Information

Calibration Date:	October 21, 2025	Previous Calibration:	October 20, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	8:40	End Time (MST):	13:37
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12300522720

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
805.7	805.5	1.0002
403.4	398.7	1.0118
201.7	195.3	1.0327

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999914	*≥0.995*
Slope	1.001701	*0.90 - 1.10*
Intercept	-3.392379	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

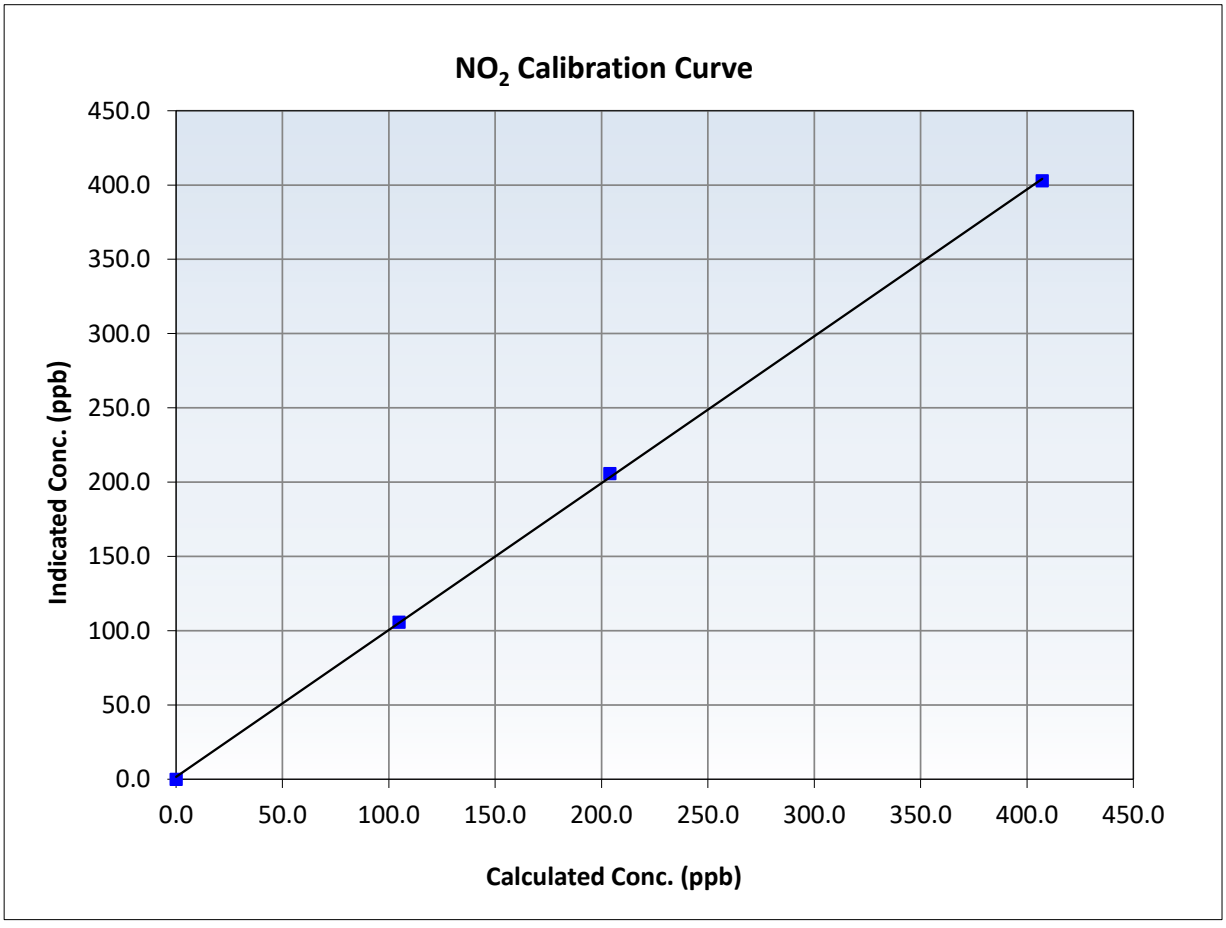
Station Information

Calibration Date:	October 21, 2025	Previous Calibration:	October 20, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	8:40	End Time (MST):	13:37
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12300522720

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
407.2	402.8	1.0109
204.0	205.7	0.9916
104.8	105.7	0.9913

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999880	*≥0.995*
Slope	0.988647	*0.90 - 1.10*
Intercept	1.598208	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

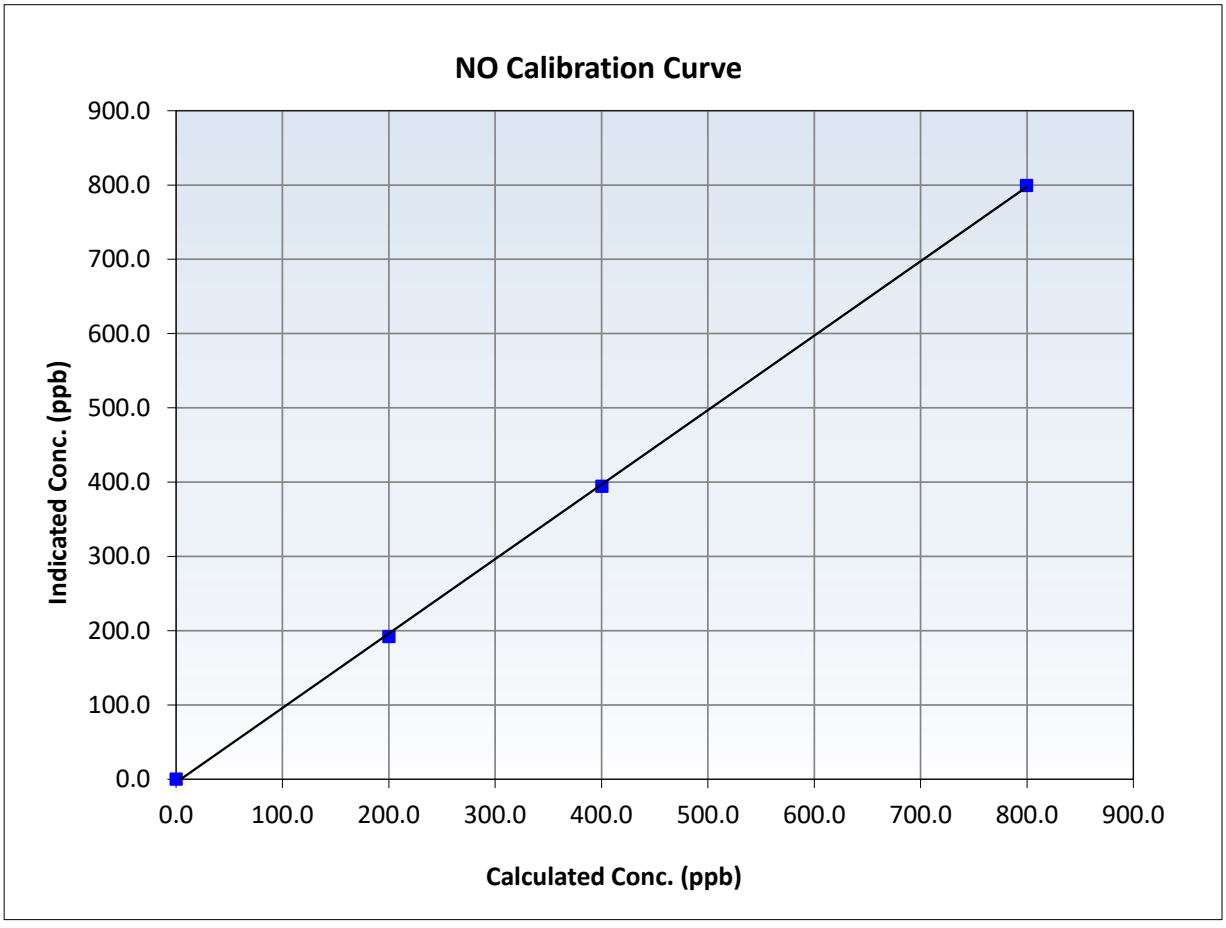
Station Information

Calibration Date:	October 21, 2025	Previous Calibration:	October 20, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	8:40	End Time (MST):	13:37
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12300522720

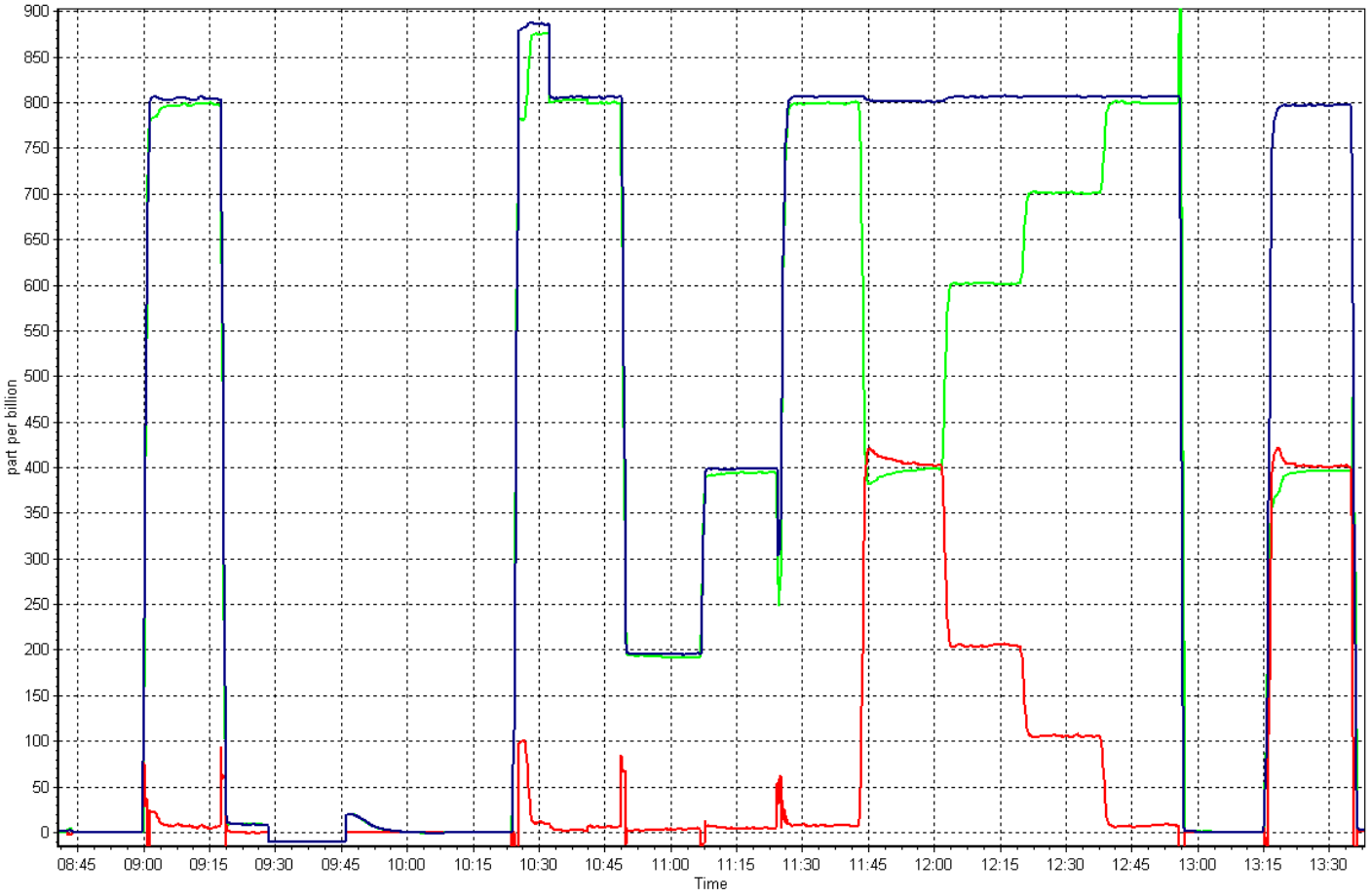
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
799.5	799.6	0.9999
400.3	394.3	1.0152
200.1	192.0	1.0424

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999852	*≥0.995*
Slope	1.002536	*0.90 - 1.10*
Intercept	-4.350297	*+/-20*



NO_X Calibration Plot Date: October 21, 2025 Location: Fort McKay South



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Fort McKay South	Station number:	AMS 13
Calibration Date:	October 6, 2025	Last Cal Date:	September 2, 2025
Start time (MST):	9:59	End time (MST):	12:54
Reason:	Routine		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	Teledyne API T750	Serial Number:	281
ZAG Make/Model:	Teledyne API 751H	Serial Number:	321

Analyzer Information

Analyzer make:	Teledyne API T400	Analyzer serial #:	7413
Analyzer Range	0 - 500 ppb		

	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001257	1.001486	Backgd or Offset:	-3.6	-3.6
Calibration intercept:	1.680000	1.140000	Coeff or Slope:	1.030	1.030

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	800.0	0.0	0.6	----
As found High point	5000	966.7	400.0	401.7	0.997
As found Mid point					
As found Low point					
Baseline Corr As found:	401.1	Previous response	402.2	*% change	-0.3%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

O_3 Calibration Data

Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	800.0	0.0	0.6	----
High point	5000	970.7	400.0	401.5	0.996
Mid point	5000	792.7	200.0	201.6	0.992
Low point	5000	677.1	100.0	101.9	0.981
As left zero	5000	800.0	0.0	0.8	----
As left span	5000	970.7	400.0	405.5	0.986
				Average Correction Factor	0.990

Notes: Sample inlet filter was changed after as founds. No adjustment.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

O_3 Calibration Summary

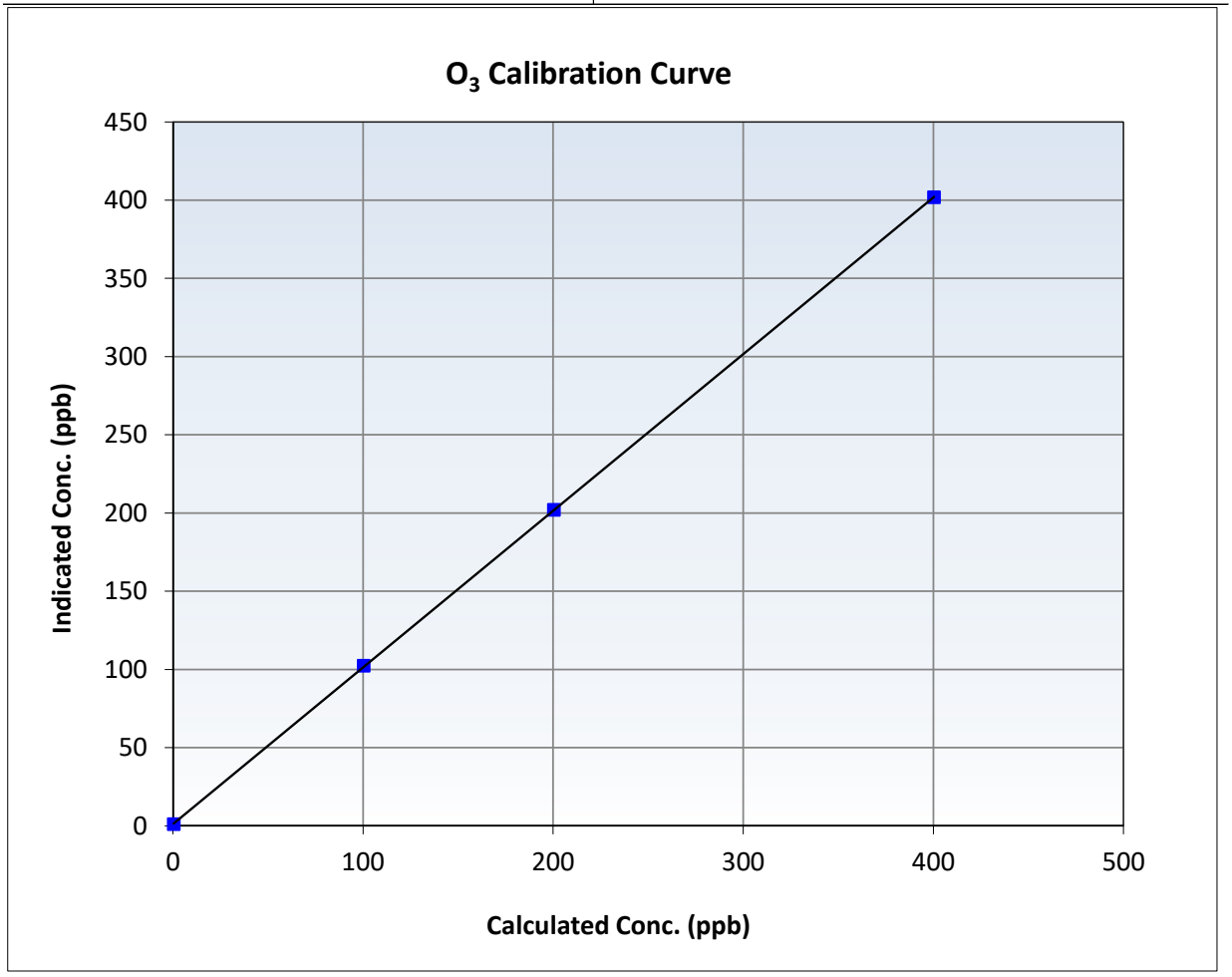
Station Information

Calibration Date:	October 6, 2025	Previous Calibration:	September 2, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:59	End Time (MST):	12:54
Analyzer make:	Teledyne API T400	Analyzer serial #:	7413

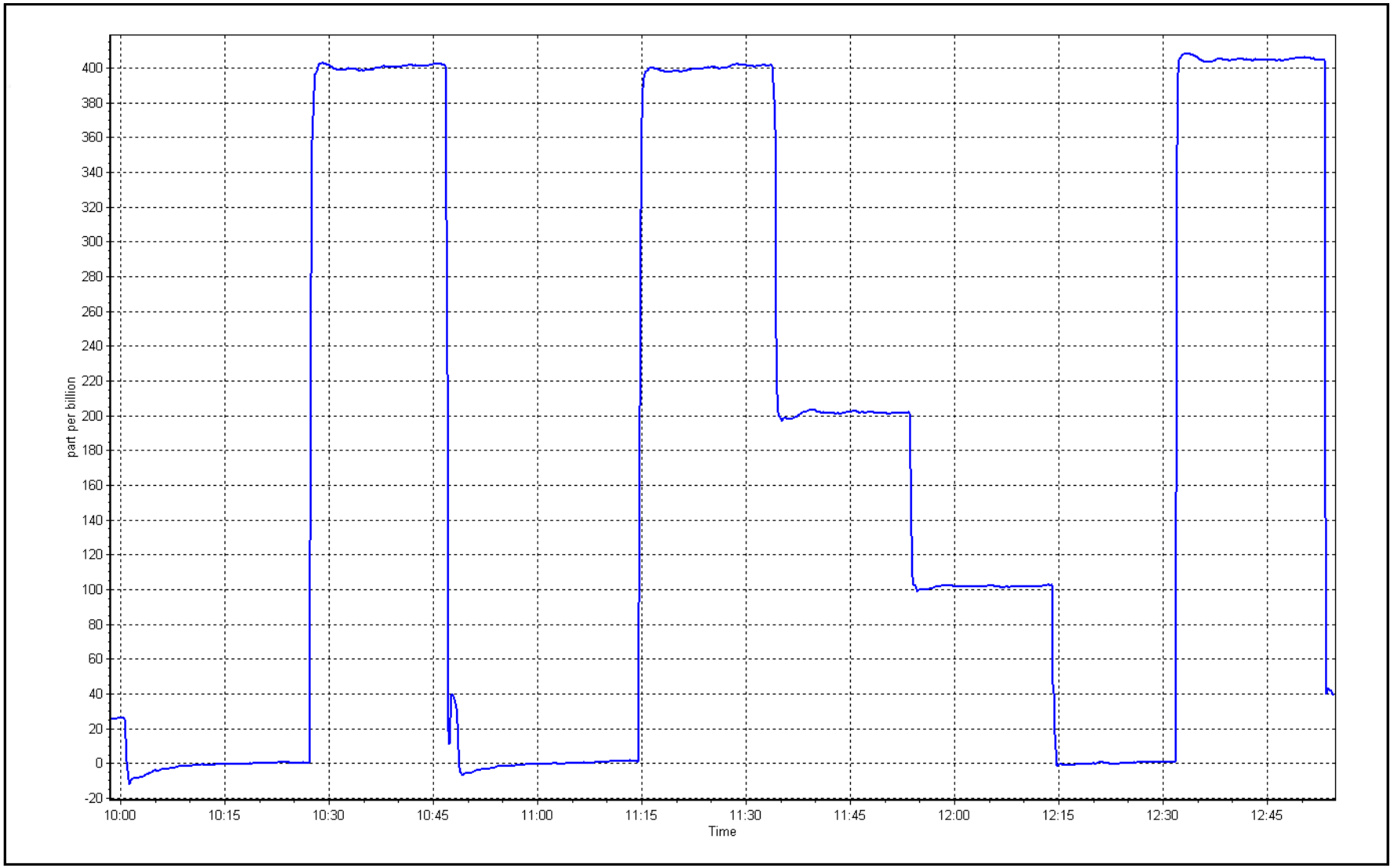
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.6	----
400.0	401.5	0.9963
200.0	201.6	0.9921
100.0	101.9	0.9814

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999991	*≥0.995*
Slope	1.001486	*0.90 - 1.10*
Intercept	1.140000	*+/- 5*



O_3 Calibration Plot Date: October 6, 2025 Location: Fort McKay South



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Fort McKay South	Station number:	AMS 13
Calibration Date:	October 30, 2025	Last Cal Date:	September 23, 2025
Start time (MST):	12:14	End time (MST):	12:33
Analyzer Make:	Teledyne API T640	S/N:	1335
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25	S/N:	388746
Temp/RH standard:	Alicat FP-25	S/N:	388746

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (^{o}C)	1.8	1.31	1.8	☐	+/- 2 ^{o}C
P (mmHg)	740.3	742.64	740.3	☐	+/- 10 mmHg
Flow (LPM)	4.98	5.04	4.98	☐	+/- 0.25 LPM
PW% (pump)	43	-----	43	☐	>80%
Zero Verification	PM w/o HEPA:	3.7	PM w/ HEPA:	0.0	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.9 — Expiry Date: June 10, 2024 — Lot No.: 100128-050-042

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test				☐	+/- 0.5

Date Optical Chamber Cleaned: September 23, 2025

Date Disposable Filter Changed: September 23, 2025

Post- maintenance Zero Verification: PM w/ HEPA: _____ <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: June 2, 2025

Date RH/T Sensor Cleaned: June 2, 2025

Notes: PMT peak test adjusted.

Calibration by: Sean Bala

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS14
ANZAC
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Anzac	Station number:	AMS 14
Calibration Date:	October 16, 2025	Last Cal Date:	September 8, 2025
Start time (MST):	8:46	End time (MST):	12:16
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.32	ppm	Cal Gas Exp Date:	October 9, 2032
Cal Gas Cylinder #:	CC462030			
Removed Cal Gas Conc:	50.32	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	API T700		Serial Number:	3060
Zero Air Gen Model:	API T701H		Serial Number:	357

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	0710321322	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.013794	1.013696	Backgd or Offset:	25.5	25.7
Calibration intercept:	-1.021986	-1.262634	Coeff or Slope:	1.111	1.111

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.2	----
As found High point	4937	79.6	798.4	805.3	0.992
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	805.1	Previous response	808.4	*% change	-0.4%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4937	79.6	798.4	809.1	0.987
Mid point	4977	39.7	398.2	400.7	0.994
Low point	4992	19.7	197.8	198.7	0.995
As left zero	5000	0.0	0.0	0.4	----
As left span	4937	79.6	798.4	808.1	0.988
				Average Correction Factor:	0.992

Notes: Changed the sample inlet filter after as founds. No adjustments made.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

SO_2 Calibration Summary

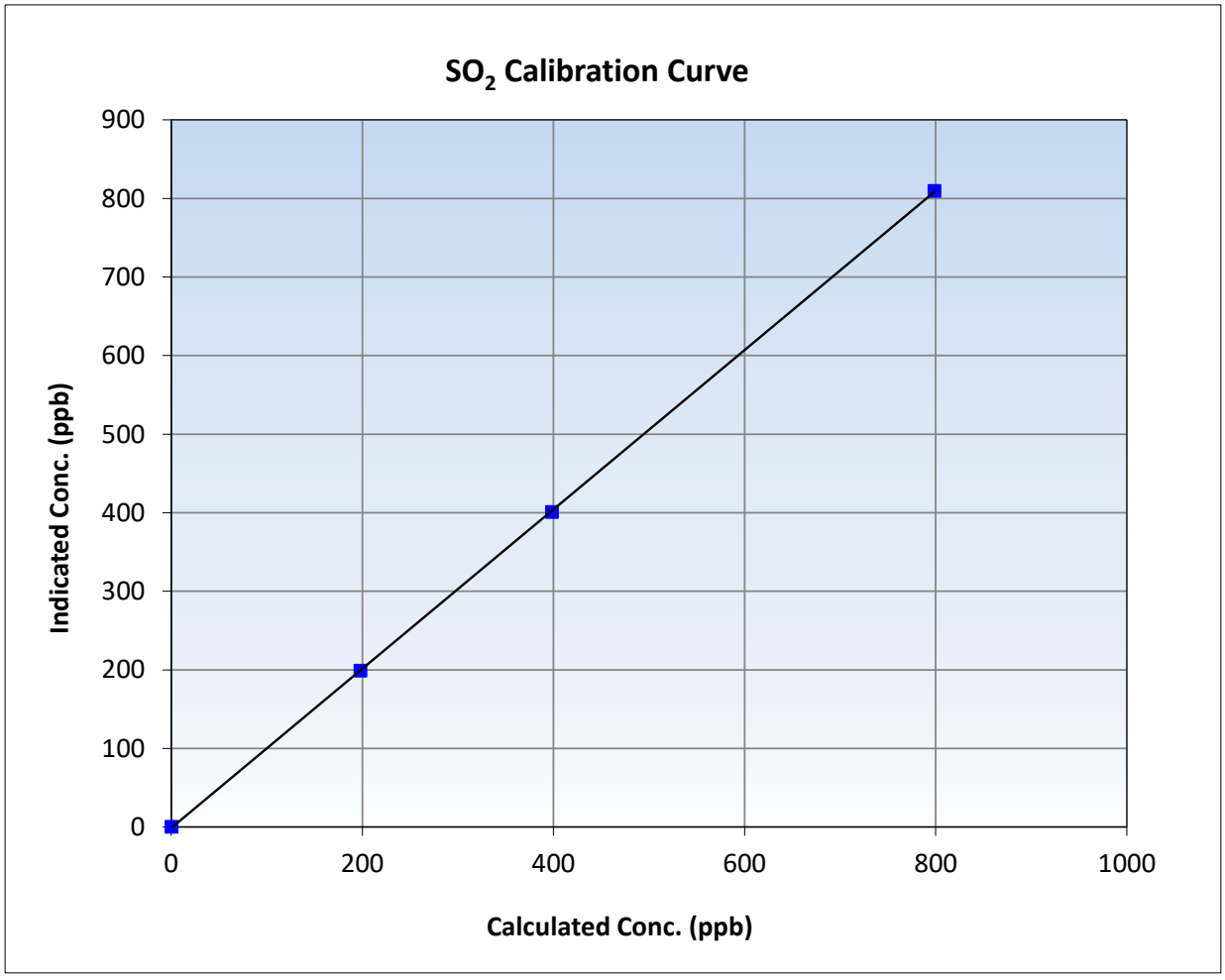
Station Information

Calibration Date:	October 16, 2025	Previous Calibration:	September 8, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	8:46	End Time (MST):	12:16
Analyzer make:	Thermo 43i	Analyzer serial #:	0710321322

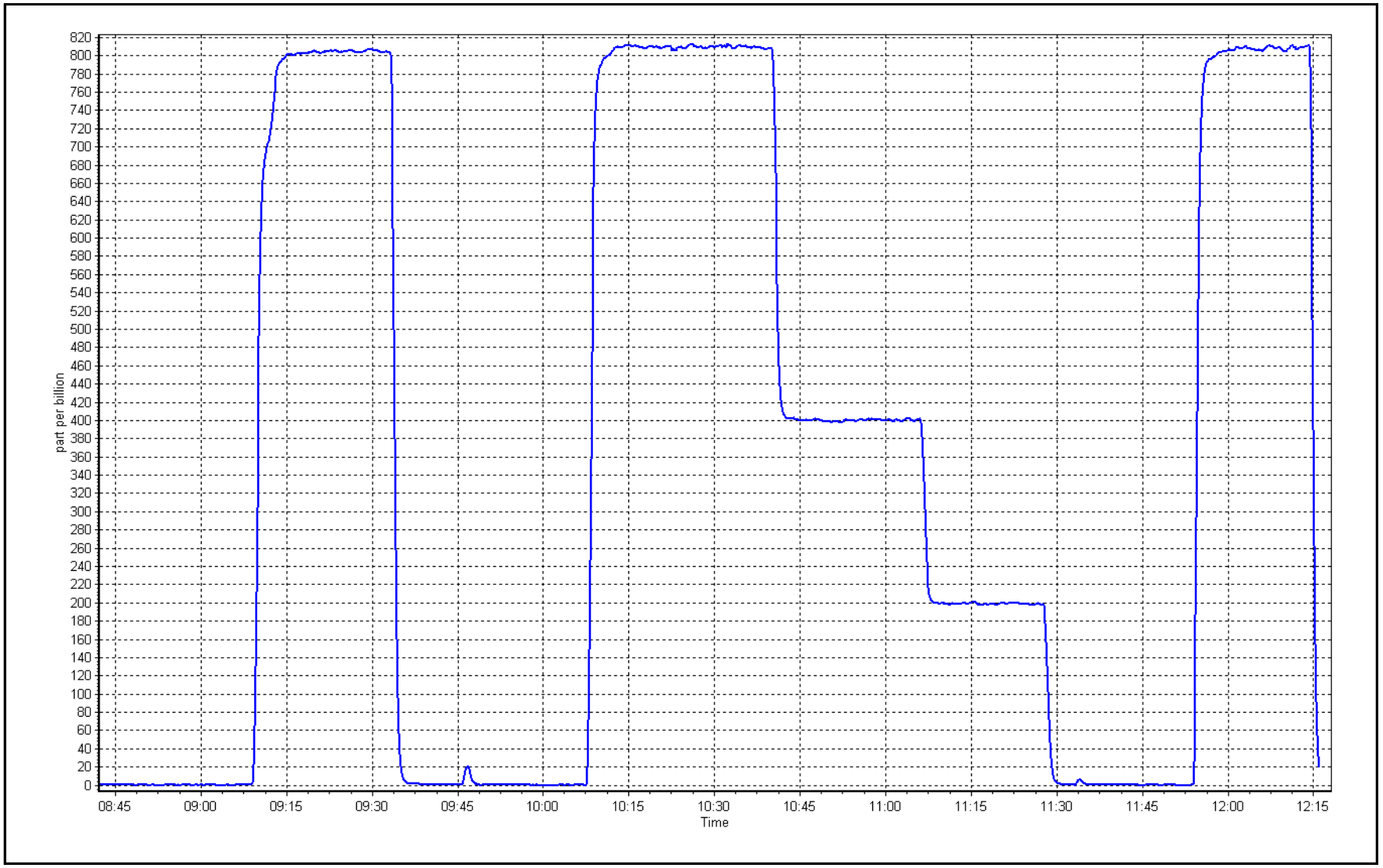
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
798.4	809.1	0.9868
398.2	400.7	0.9938
197.8	198.7	0.9955

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999984	*≥0.995*
Slope	1.013696	*0.90 - 1.10*
Intercept	-1.262634	*+/-30*



SO2 Calibration Plot Date: October 16, 2025 Location: Anzac



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Anzac	Station number:	AMS 14
Calibration Date:	October 28, 2025	Last Cal Date:	September 25, 2025
Start time (MST):	9:50	End time (MST):	15:22
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.15	ppm	Cal Gas Exp Date:	January 3, 2026	
Cal Gas Cylinder #:	CC510379				
Removed Cal Gas Conc:	5.15	ppm	Rem Gas Exp Date:	NA	
Removed Gas Cyl #:	NA		Diff between cyl:		
Calibrator Make/Model:	API T700		Serial Number:	3060	
ZAG Make/Model:	API 701H		Serial Number:	357	

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Analyzer serial #:	1218153582	
Converter make:	CD Nova CDN-101		Converter serial #:	631	
Analyzer Range	0 - 100 ppb		Converter Temp:	800	degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.001176	1.001464	Backgd or Offset:	2.25	2.31
Calibration intercept:	0.001442	-0.058652	Coeff or Slope:	0.957	0.990

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.1	----
As found High point	4922	77.7	80.0	78.8	1.014
As found Mid point	4961	38.9	40.1	39.2	1.020
As found Low point	4981	19.4	20.0	19.3	1.030
New cylinder response					

Baseline Corr As found:	78.9	Prev response:	80.13	*% change:	-1.6%
Baseline Corr 2nd AF pt:	39.3	AF Slope:	0.986796	AF Intercept:	-0.258585
Baseline Corr 3rd AF pt:	19.4	AF Correlation:	0.999982	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.1	----
High point	4922	77.7	80.0	80.1	0.999
Mid point	4961	38.9	40.1	40.1	0.999
Low point	4981	19.4	20.0	19.7	1.014
As left zero	5000	0.0	0.0	0.3	----
As left span	4922	77.7	80.0	78.7	1.017
SO2 Scrubber Check	4921	79.5	794.9	0.0	----

Date of last scrubber change:	28-May-25	Ave Corr Factor	1.004	
Date of last converter efficiency test:	September 16, 2025	103.4%	efficiency	

Notes: Changed sample inlet filter after as founds. Ran scrubber check after calibrator zero and it passed. Adjusted span only.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

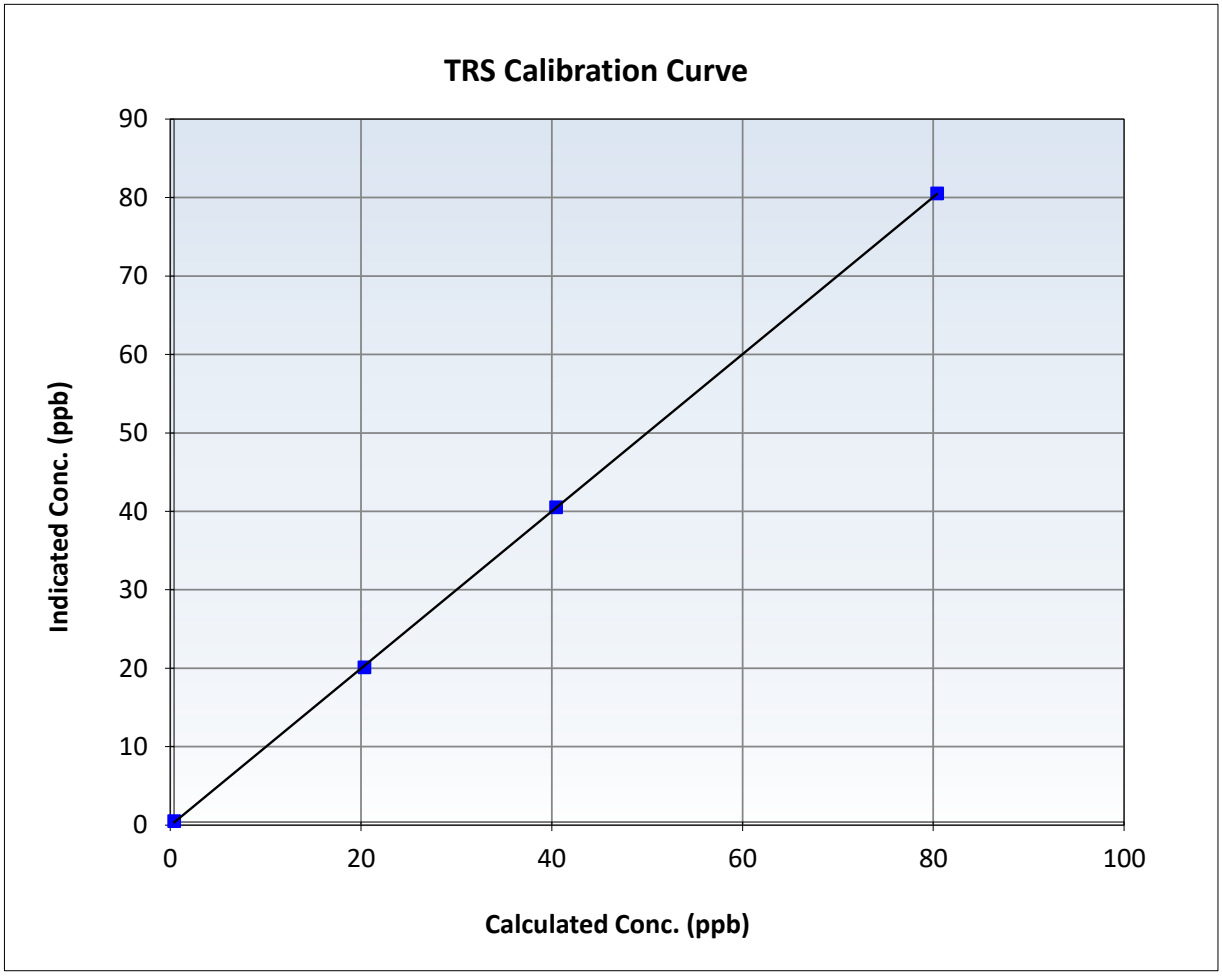
TRS Calibration Summary

Station Information

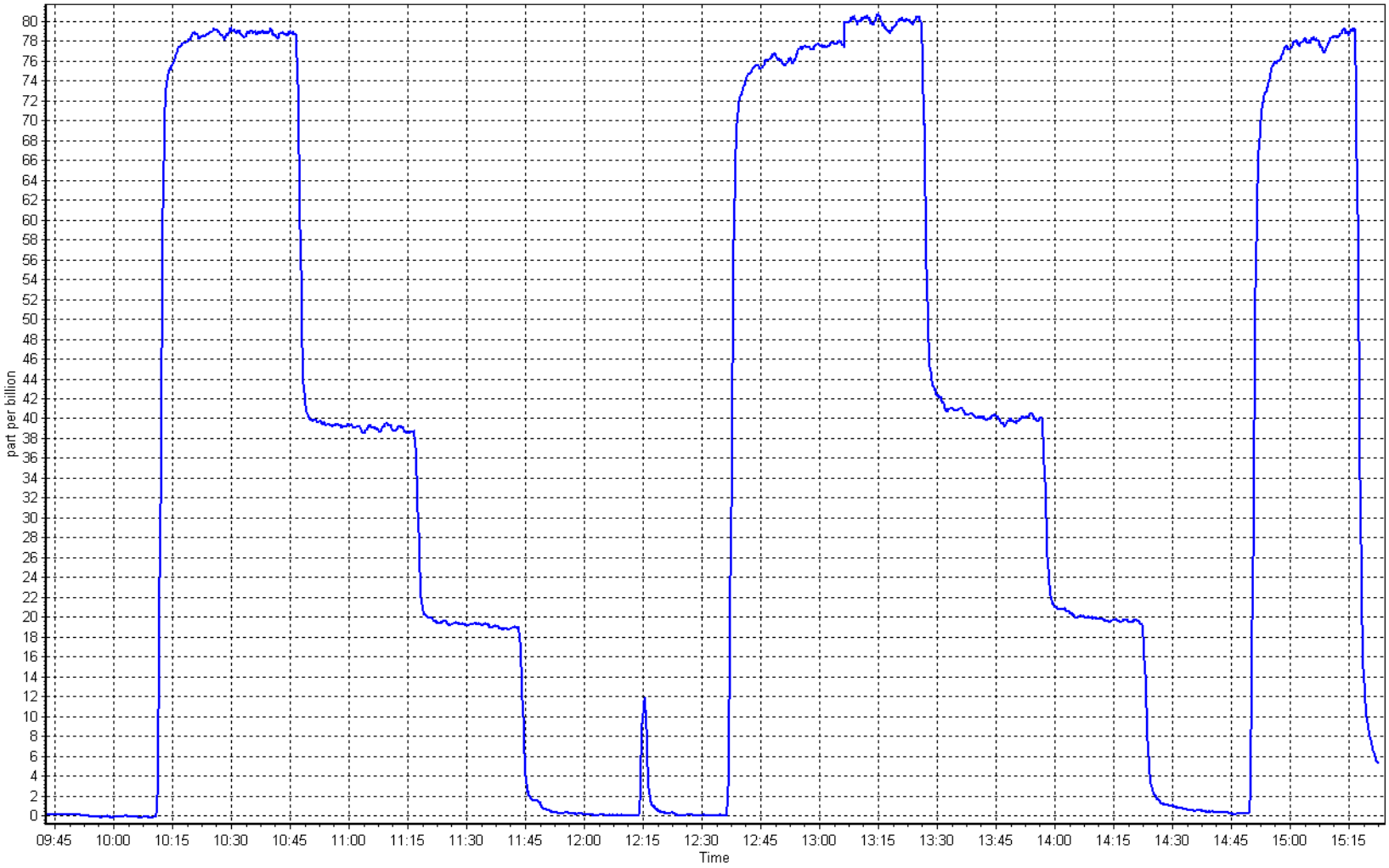
Calibration Date:	October 28, 2025	Previous Calibration:	September 25, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	9:50	End Time (MST):	15:22
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1218153582

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999975	*≥0.995*
80.0	80.1	0.9988	Slope	1.001464	*0.90 - 1.10*
40.1	40.1	0.9988			
20.0	19.7	1.0138	Intercept	-0.058652	*+/-3*



TRS Calibration Plot Date: October 28, 2025 Location: Anzac



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Anzac	Station number:	AMS 14
Calibration Date:	October 16, 2025	Last Cal Date:	September 8, 2025
Start time (MST):	8:46	End time (MST):	12:16
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC462030	Cal Gas Expiry Date:	October 9, 2032
CH4 Cal Gas Conc.	505.3 ppm	CH4 Equiv Conc.	1068.8 ppm
C3H8 Cal Gas Conc.	204.9 ppm		
Removed Gas Cert:	NA	Removed Gas Expiry:	NA
Removed CH4 Conc.	505.3 ppm	CH4 Equiv Conc.	1068.8 ppm
Removed C3H8 Conc.	204.9 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	API T700	Serial Number:	3060
Zero Air Gen model:	API 701H	Serial Number:	357

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1331259521
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	2.99E-04	2.98E-04	NMHC SP Ratio:	5.88E-05	5.95E-05
CH4 Retention time:	15.1	15.1	NMHC Peak Area:	152010	150178
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4937	79.6	16.96	16.75	1.012
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.75	Prev response	16.88	*% change	-0.8%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4937	79.6	16.96	16.99	0.998
Mid point	4977	39.7	8.46	8.29	1.020
Low point	4992	19.7	4.20	4.07	1.032
As left zero	5000	0.0	0.00	0.00	----
As left span	4937	79.6	16.96	16.91	1.003
				Average Correction Factor	1.003

Notes: Changed the sample inlet filter and H2 cylinder after as founds. Adjusted span only.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4937	79.6	8.94	8.83	1.013
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.83	Prev response	8.95	*% change	-1.4%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4937	79.6	8.94	8.95	1.000
Mid point	4977	39.7	4.46	4.41	1.012
Low point	4992	19.7	2.21	2.17	1.022
As left zero	5000	0.0	0.00	0.00	----
As left span	4937	79.6	8.94	8.90	1.005
				Average Correction Factor	1.011

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4937	79.6	8.02	7.93	1.011
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.93	Prev response	7.94	*% change	-0.2%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4937	79.6	8.02	8.05	0.996
Mid point	4977	39.7	4.00	3.89	1.029
Low point	4992	19.7	1.99	1.90	1.044
As left zero	5000	0.0	0.00	0.00	----
As left span	4937	79.6	8.02	8.01	1.001
				Average Correction Factor	1.023

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.000314	1.003531
THC Cal Offset:	-0.080469	-0.092035
CH4 Cal Slope:	0.996730	1.005653
CH4 Cal Offset:	-0.052231	-0.061970
NMHC Cal Slope:	1.003798	1.001628
NMHC Cal Offset:	-0.029037	-0.030065

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

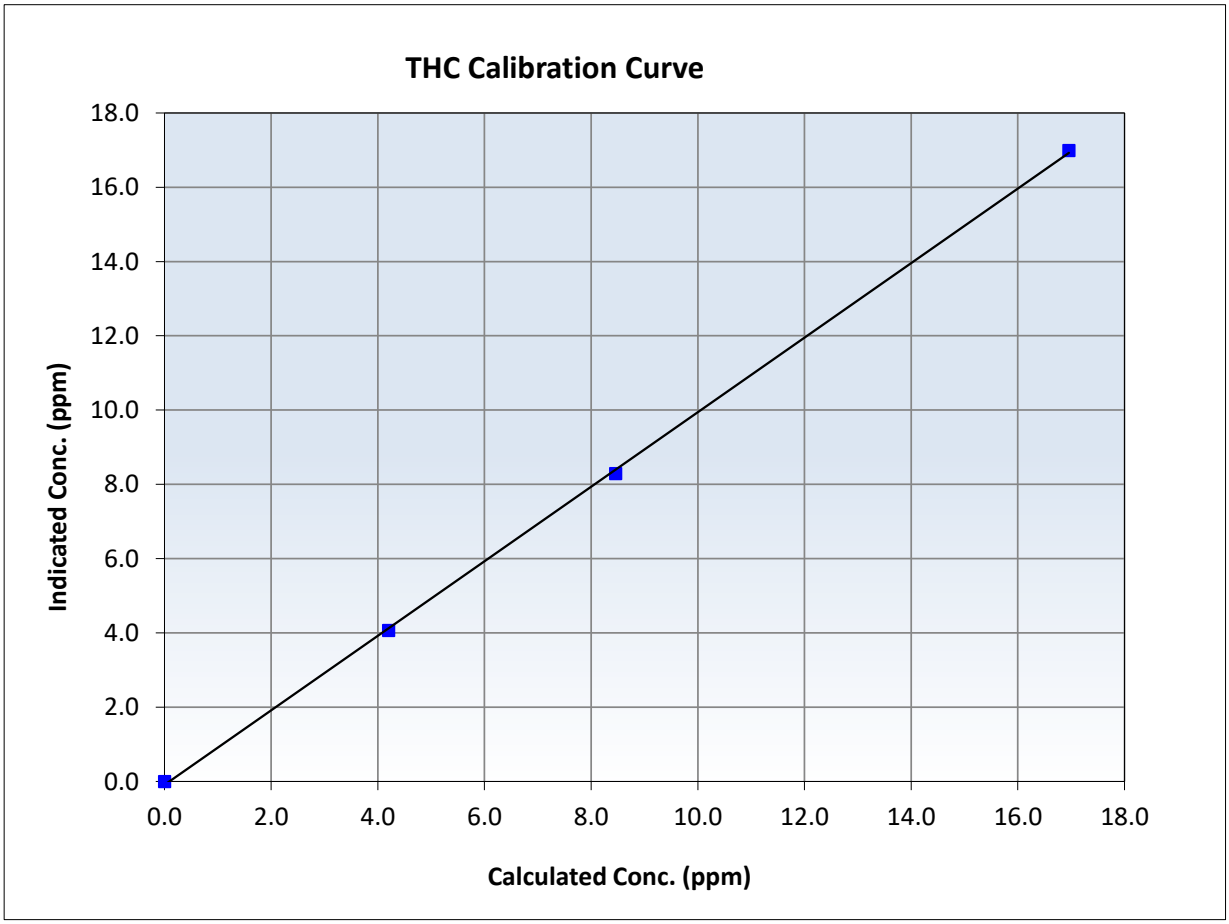
THC Calibration Summary

Station Information

Calibration Date:	October 16, 2025	Previous Calibration:	September 8, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	8:46	End Time (MST):	12:16
Analyzer make:	Thermo 55i	Analyzer serial #:	1331259521

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999836	≥0.995
16.96	16.99	0.9981	Slope	1.003531	0.90 - 1.10
8.46	8.29	1.0199			
4.20	4.07	1.0322	Intercept	-0.092035	+/-0.5



Wood Buffalo Environmental Association

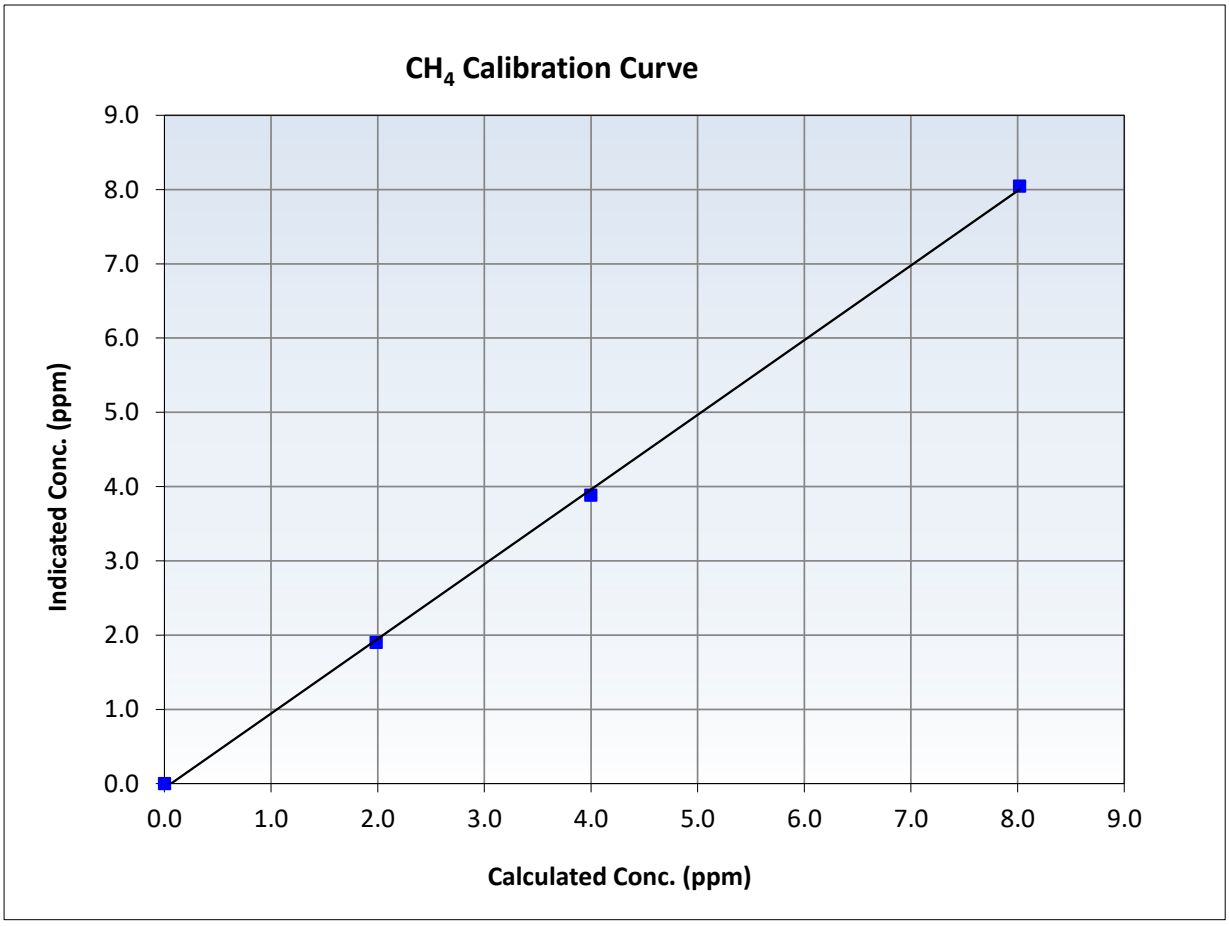
CH_4 Calibration Summary

Station Information

Calibration Date:	October 16, 2025	Previous Calibration:	September 8, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	8:46	End Time (MST):	12:16
Analyzer make:	Thermo 55i	Analyzer serial #:	1331259521

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999653	≥0.995
8.02	8.05	0.9965	Slope	1.005653	0.90 - 1.10
4.00	3.89	1.0290			
1.99	1.90	1.0443	Intercept	-0.061970	+/-0.5



Wood Buffalo Environmental Association

NMHC Calibration Summary

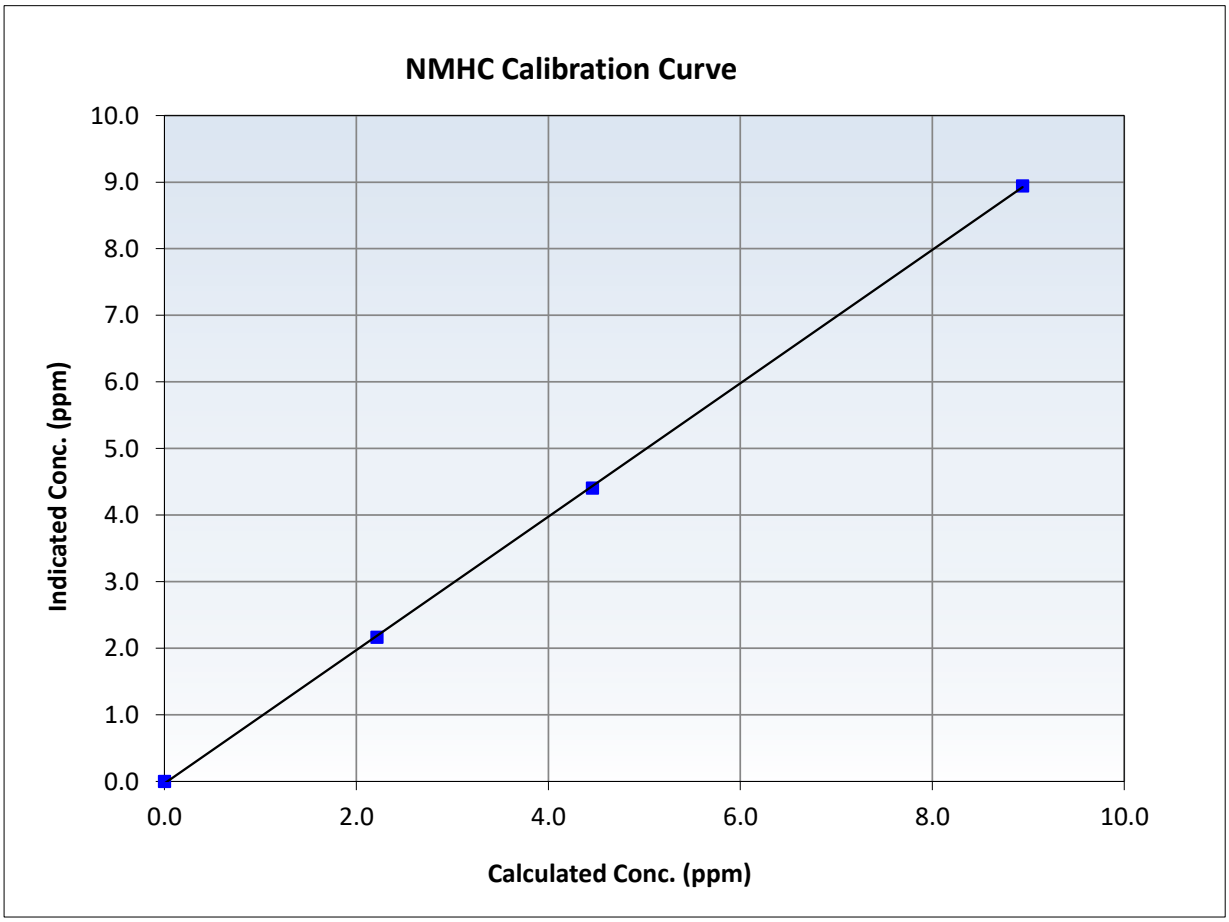
Station Information

Calibration Date:	October 16, 2025	Previous Calibration:	September 8, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	8:46	End Time (MST):	12:16
Analyzer make:	Thermo 55i	Analyzer serial #:	1331259521

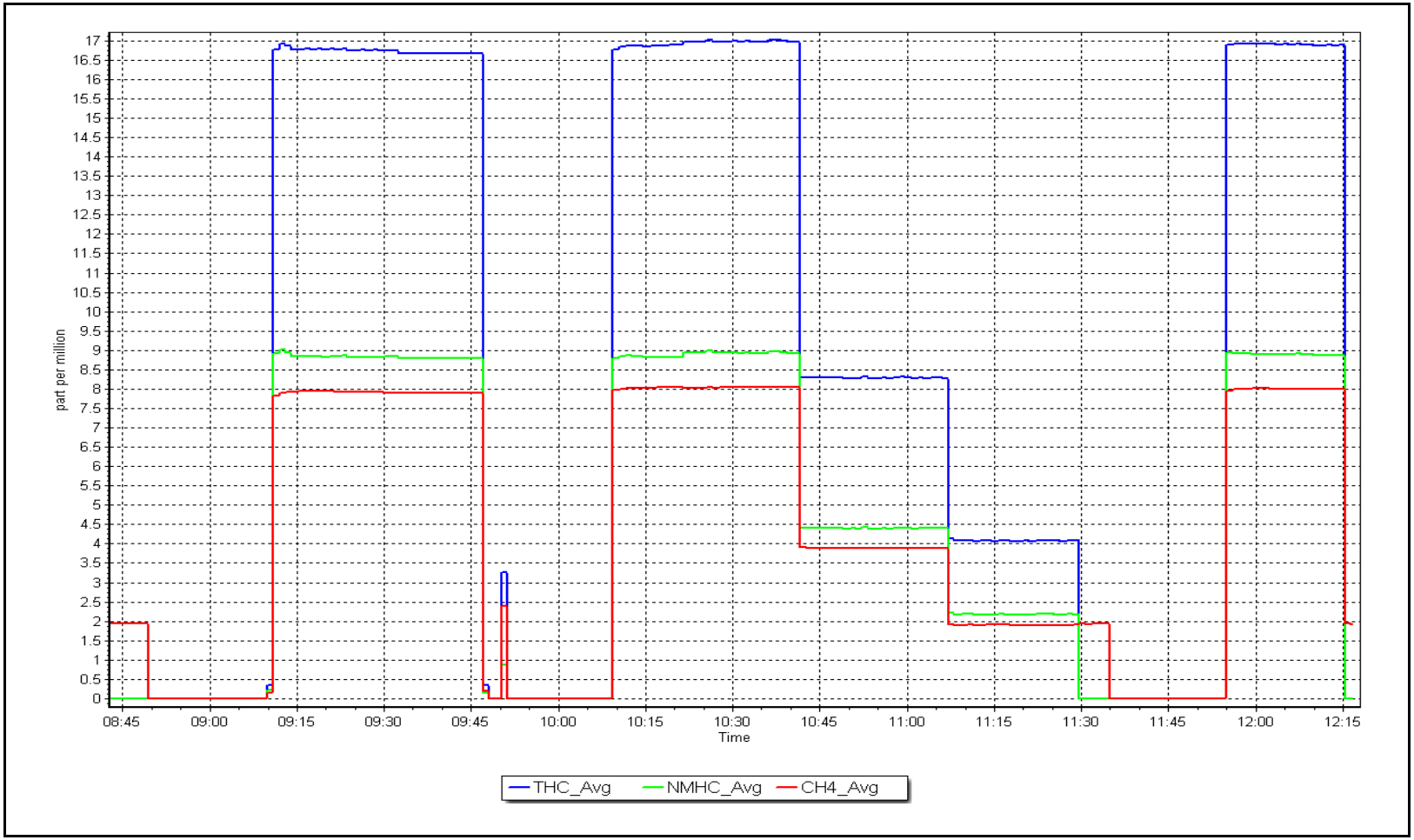
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.00	----
8.94	8.95	0.9995
4.46	4.41	1.0118
2.21	2.17	1.0216

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999942	*≥0.995*
Slope	1.001628	*0.90 - 1.10*
Intercept	-0.030065	*+/-0.5*



NMHC Calibration Plot Date: October 16, 2025 Location: Anzac



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Anzac
Station number:	AMS 14
Calibration Date:	October 21, 2025
Last Cal Date:	September 10, 2025
Start time (MST):	10:27
End time (MST):	15:18
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0037092		Cal Gas Expiry Date:	May 16, 2031	
NOX Cal Gas Conc:	60.7	ppm	NO Cal Gas Conc:	60.40	ppm
Removed Cylinder #:	NA		Removed Gas Exp Date:	NA	
Removed Gas NOX Conc:	60.70	ppm	Removed Gas NO Conc:	60.40	ppm
NOX gas Diff:			NO gas Diff:		
Calibrator Model:	Teledyne API T700		Serial Number:	3060	
ZAG make/model:	Teledyne API T700H		Serial Number:	357	

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	----	----
AF High point	4934	66.3	804.8	800.9	4.0	805.2	801.2	4.0	0.9995	0.9994
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	803.4 ppb	NO =	801.4 ppb	
Baseline Corr 1st pt	NO_X =	805.2 ppb	NO =	801.3 ppb	
Baseline Corr 2nd pt	NO_X =	NA ppb	NO =	NA ppb	
Baseline Corr 3rd pt	NO_X =	NA ppb	NO =	NA ppb	

* = > +/-5% change initiates investigation

*Percent Change	NO_X =	0.2%	
*Percent Change	NO =	0.0%	

As Found Statistics

As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1152430008

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.435	1.435	NO bkgnd or offset:	3.9	3.9
NOX coeff or slope:	0.996	0.996	NOX bkgnd or offset:	3.9	3.9
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	157.5	156.3

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.998607	0.999346
NO_X Cal Offset:	-0.289967	-0.650114
NO Cal Slope:	1.003538	1.003009
NO Cal Offset:	-2.329840	-2.169606
NO_2 Cal Slope:	0.994357	0.996014
NO_2 Cal Offset:	-1.018568	-0.692405

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.3	0.1	0.2	----	----
High point	4934	66.3	804.8	800.9	4.0	803.9	802.0	2.0	1.0012	0.9986
Mid point	4985	33.2	401.6	399.6	2.0	400.9	398.2	2.7	1.0017	1.0035
Low point	5004	16.7	201.9	200.9	1.0	199.7	196.6	3.2	1.0110	1.0219
As left zero	5000	0.0	0.0	0.0	0.0	0.3	0.1	0.2	----	----
As left span	4934	66.3	804.8	408.9	395.9	804.4	408.9	395.5	1.0005	1.0000
								Average Correction Factor	1.0046	1.0080

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.2	----	----
High GPT point	799.3	406.8	396.5	394.8	1.0042	99.6%
Mid GPT point	799.3	605.6	197.7	195.3	1.0122	98.8%
Low GPT point	799.3	704.1	99.2	97.5	1.0172	98.3%
				Average Correction Factor	1.0112	98.9%

Notes: Sample inlet filter changed after as founds. No adjustments made.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

NO_X Calibration Summary

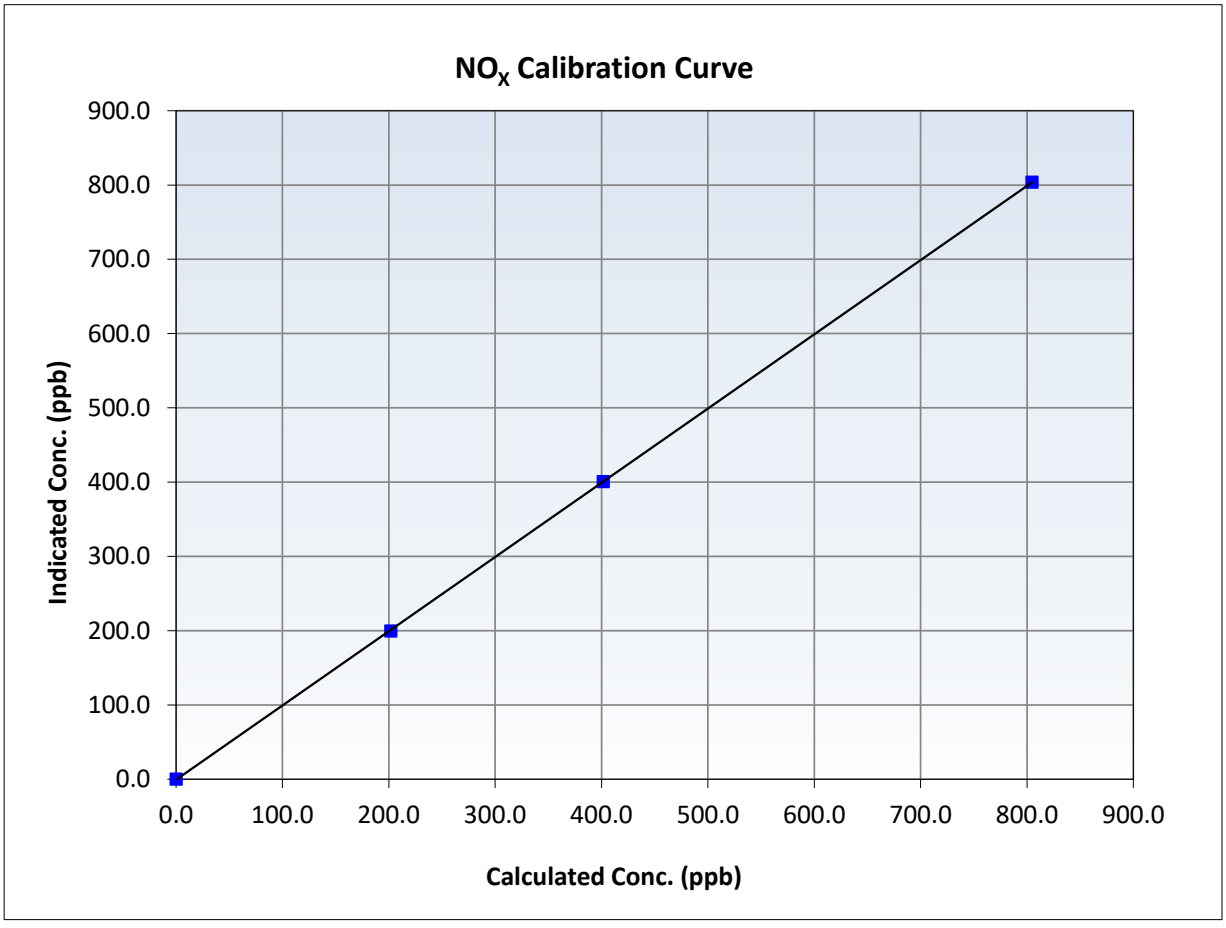
Station Information

Calibration Date:	October 21, 2025	Previous Calibration:	September 10, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	10:27	End Time (MST):	15:18
Analyzer make:	Thermo 42i	Analyzer serial #:	1152430008

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
804.8	803.9	1.0012
401.6	400.9	1.0017
201.9	199.7	1.0110

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999991	*≥0.995*
Slope	0.999346	*0.90 - 1.10*
Intercept	-0.650114	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

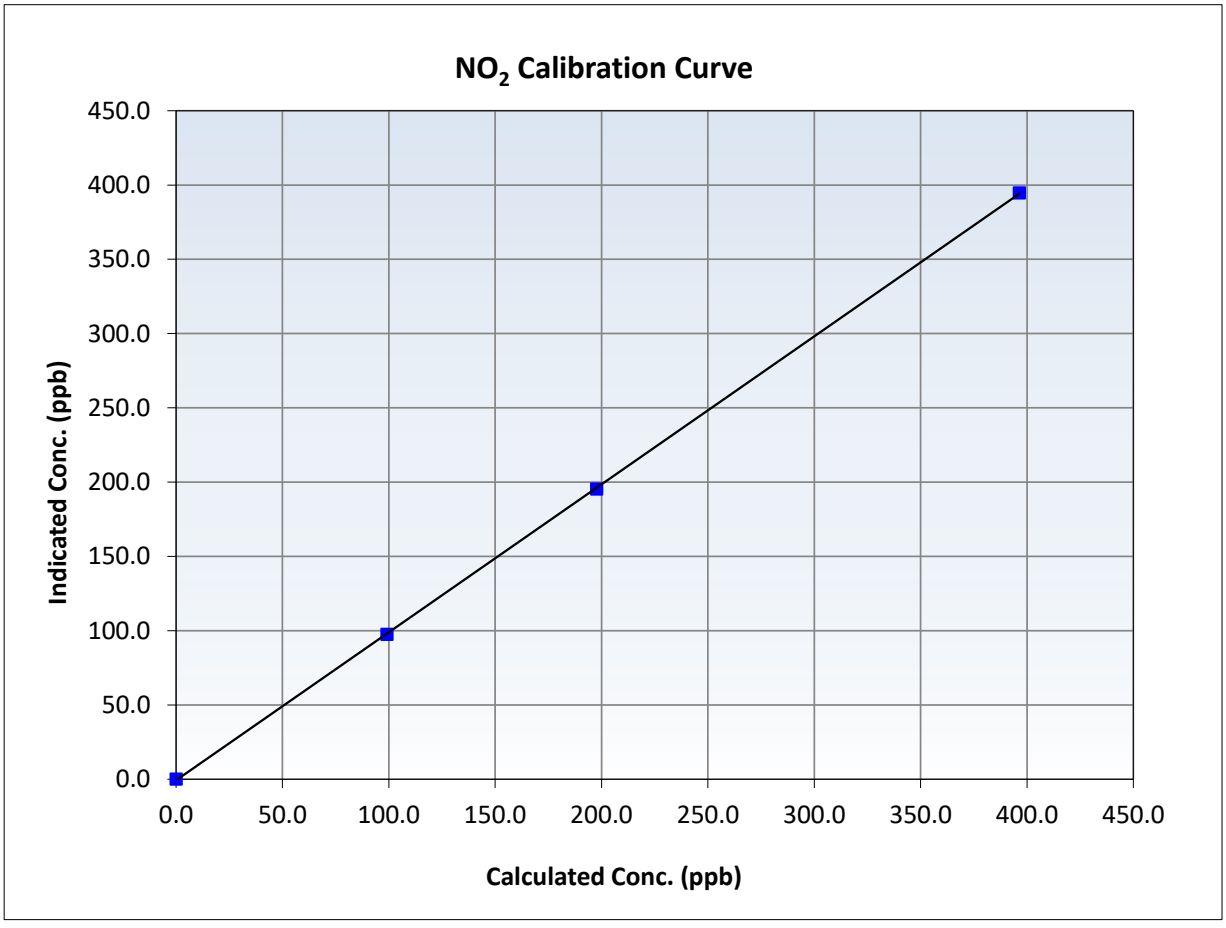
Station Information

Calibration Date:	October 21, 2025	Previous Calibration:	September 10, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	10:27	End Time (MST):	15:18
Analyzer make:	Thermo 42i	Analyzer serial #:	1152430008

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
396.5	394.8	1.0042
197.7	195.3	1.0122
99.2	97.5	1.0172

Statistical Evaluation		Limits
Correlation Coefficient	0.999973	≥0.995
Slope	0.996014	0.90 - 1.10
Intercept	-0.692405	+/-20



Wood Buffalo Environmental Association

NO Calibration Summary

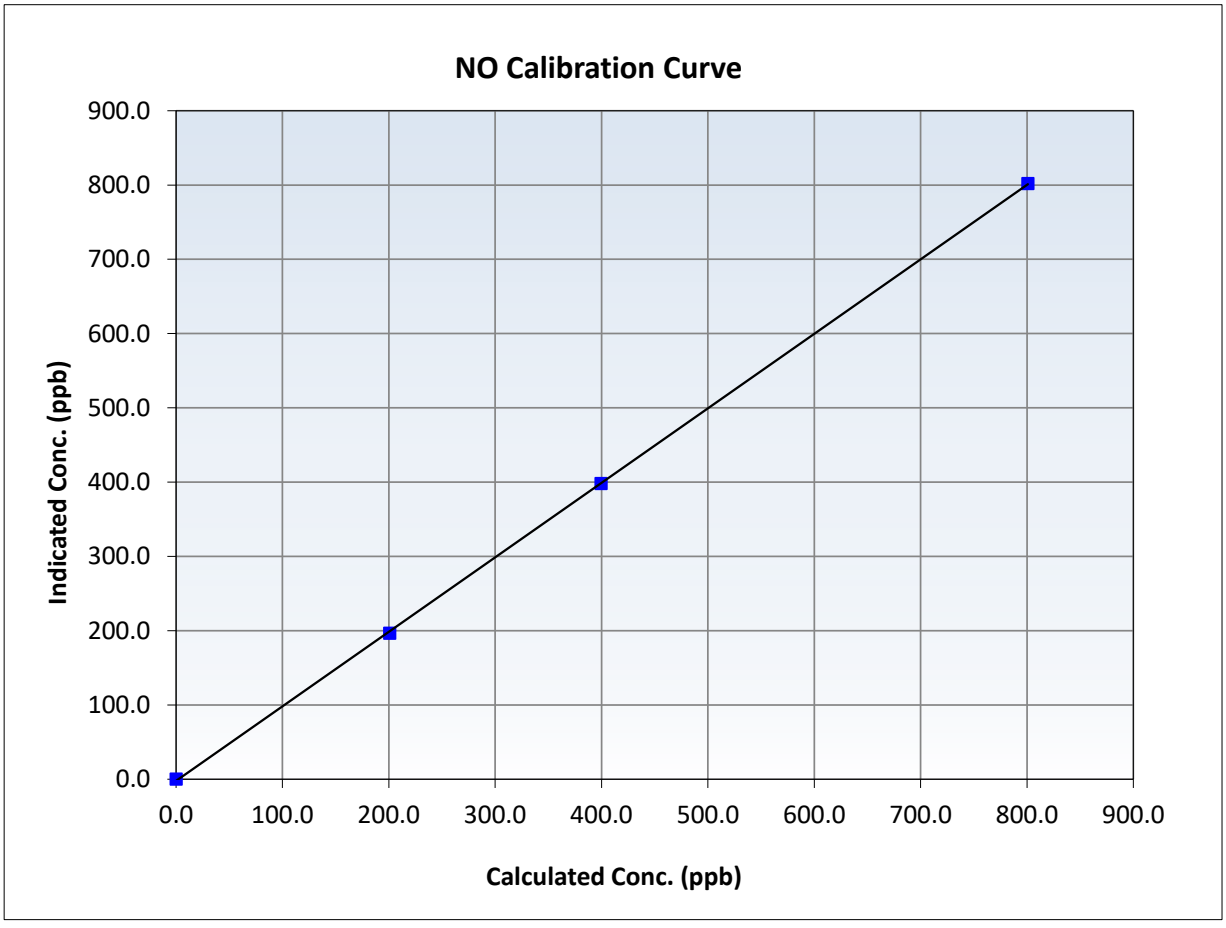
Station Information

Calibration Date:	October 21, 2025	Previous Calibration:	September 10, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	10:27	End Time (MST):	15:18
Analyzer make:	Thermo 42i	Analyzer serial #:	1152430008

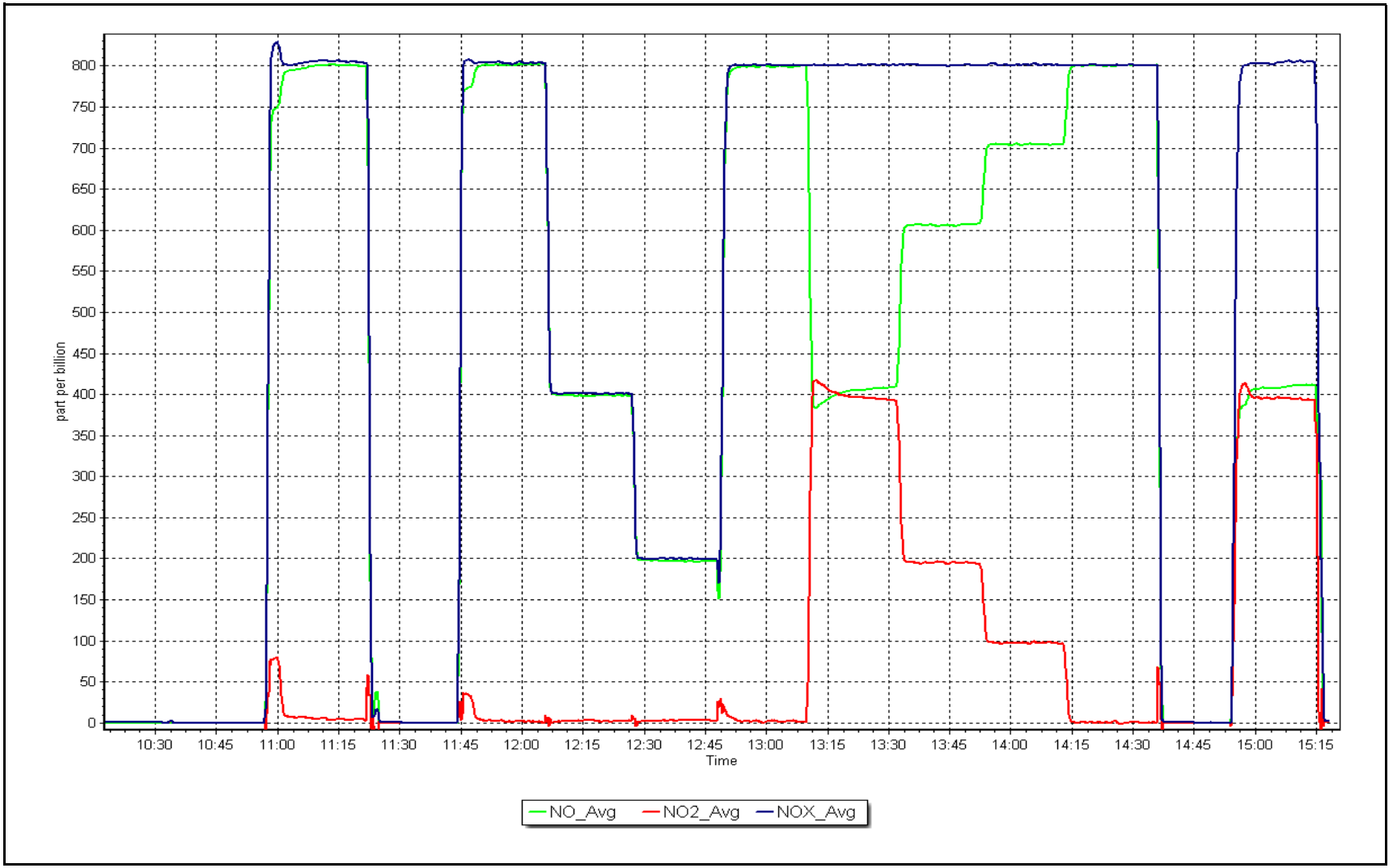
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
800.9	802.0	0.9986
399.6	398.2	1.0035
200.9	196.6	1.0219

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999961	*≥0.995*
Slope	1.003009	*0.90 - 1.10*
Intercept	-2.169606	*+/-20*



NO_X Calibration Plot Date: October 21, 2025 Location: Anzac



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Anzac	Station number:	AMS 14
Calibration Date:	October 1, 2025	Last Cal Date:	September 3, 2025
Start time (MST):	10:14	End time (MST):	13:14
Reason:	Routine		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	API T700	Serial Number:	3060
ZAG Make/Model:	API 701H	Serial Number:	357

Analyzer Information

Analyzer make:	Thermo 49i	Analyzer serial #:	1426262595
Analyzer Range	0 - 500 ppb		

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.001743	1.001171	Backgd or Offset:	1.6	1.6
Calibration intercept:	0.020000	0.620000	Coeff or Slope:	1.712	1.712

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.9	----
As found High point	5000	935.9	400.0	400.6	1.001
As found Mid point					
As found Low point					
Baseline Corr As found:	399.7	Previous response	400.7	*% change	-0.3%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

O_3 Calibration Data

Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.9	----
High point	5000	935.9	400.0	401.3	0.997
Mid point	5000	817.5	200.0	200.5	0.998
Low point	5000	722.8	100.0	100.6	0.994
As left zero	5000	0.0	0.0	0.3	----
As left span	5000	935.9	400.0	404.3	0.989
				Average Correction Factor	0.996

Notes: Sample inlet filter changed after asfounds. No adjustments made.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

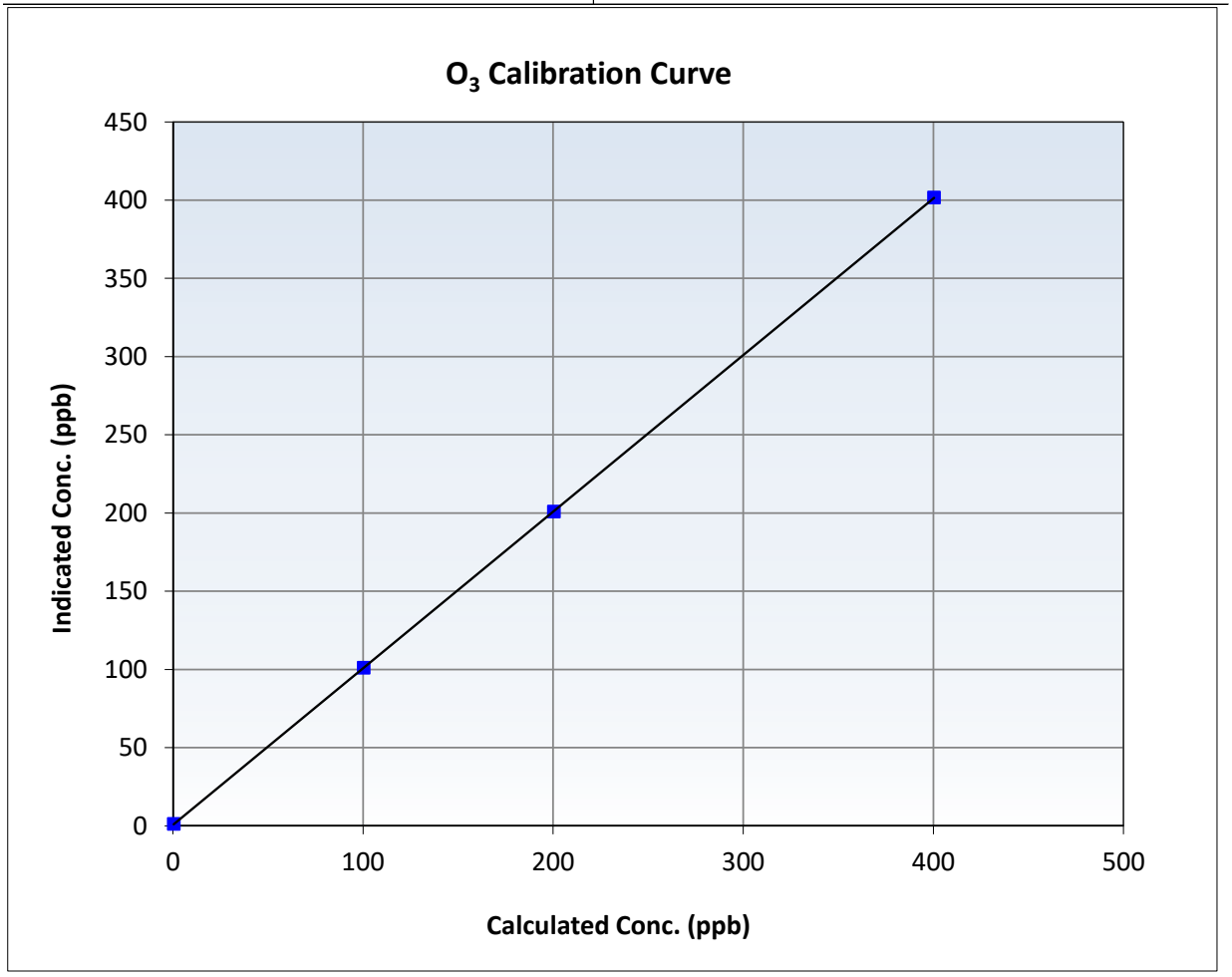
O_3 Calibration Summary

Station Information

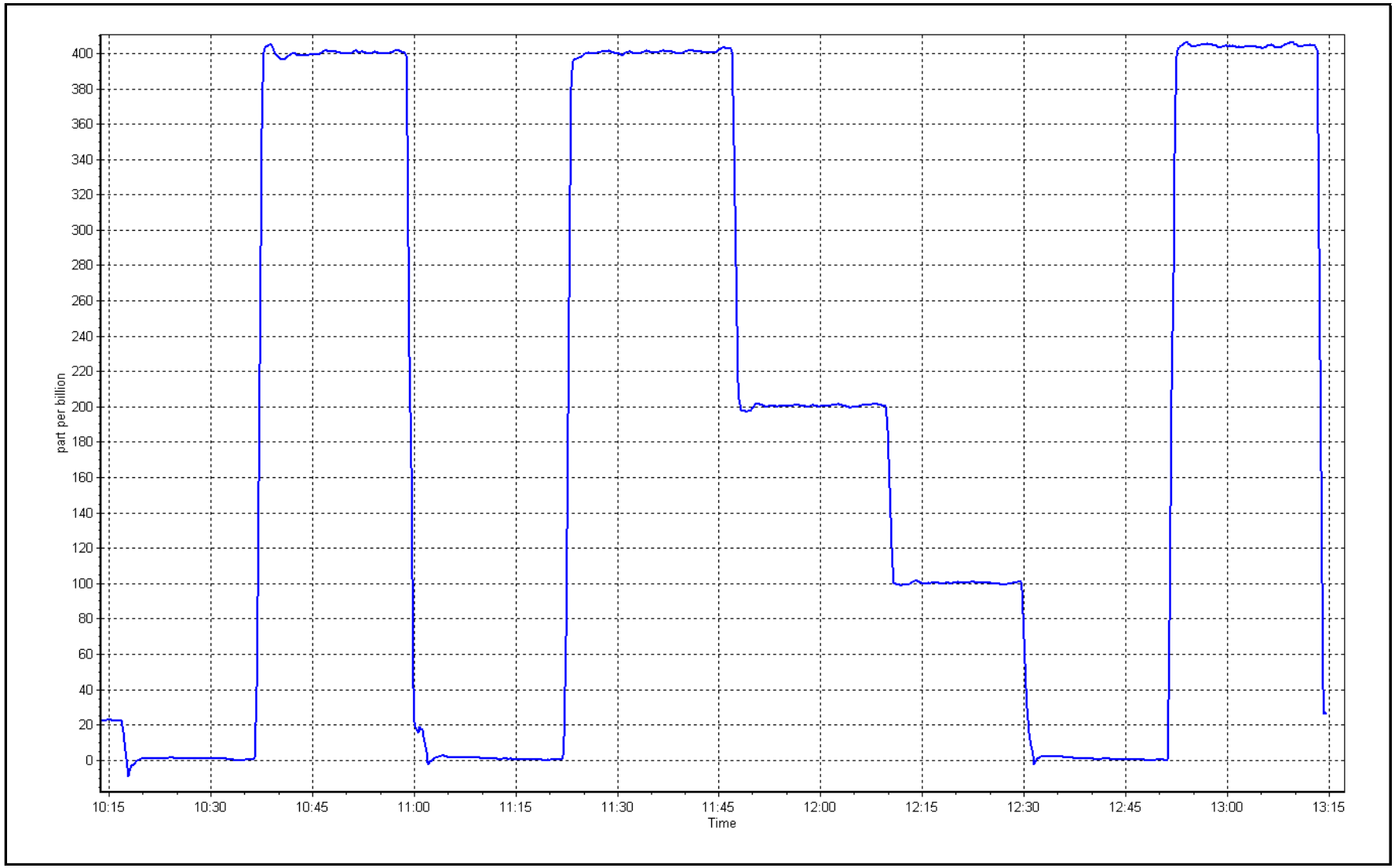
Calibration Date:	October 1, 2025	Previous Calibration:	September 3, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	10:14	End Time (MST):	13:14
Analyzer make:	Thermo 49i	Analyzer serial #:	1426262595

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	0.9	----	Correlation Coefficient	0.999997	≥0.995
400.0	401.3	0.9968	Slope	1.001171	0.90 - 1.10
200.0	200.5	0.9975			
100.0	100.6	0.9940	Intercept	0.620000	+/- 5



O_3 Calibration Plot Date: October 1, 2025 Location: Anzac



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Anzac	Station number:	AMS 14
Calibration Date:	October 6, 2025	Last Cal Date:	September 16, 2025
Start time (MST):	14:05	End time (MST):	14:19
Analyzer Make:	AP T640	S/N:	825
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388749
Temp/RH standard:	Alicat FP-25BT	S/N:	388749

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (^{o}C)	5.5	3.66	5.5	☐	+/- 2 ^{o}C
P (mmHg)	718.1	719.25	718.1	☐	+/- 10 mmHg
Flow (LPM)	5.020	4.95	5.020	☐	+/- 0.25 LPM
PW% (pump)	37	-----	37	☐	>80%
Zero Verification	PM w/o HEPA:	3.7	PM w/ HEPA:	0.0	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: — Lot No.: — Expiry Date:

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test				☐	+/- 0.5

Date Optical Chamber Cleaned: August 26, 2025

Date Disposable Filter Changed: August 26, 2025

Post- maintenance Zero Verification: PM w/ HEPA: _____ <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: August 26, 2025

Date RH/T Sensor Cleaned: August 26, 2025

Notes: No adjustments made. Leak check passed. Head cleaned

Calibration by: Mohammed Kashif

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS17
WAPASU
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Wapasu	Station number:	AMS17
Calibration Date:	October 15, 2025	Last Cal Date:	September 15, 2025
Start time (MST):	10:17	End time (MST):	13:18
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.12	ppm	Cal Gas Exp Date:	April 9, 2033
Cal Gas Cylinder #:	CC422255			
Removed Cal Gas Conc:	50.12	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:	N/A		Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	2449
Zero Air Gen Model:	Teledyne API 701H		Serial Number:	1238

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1218153459	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.011892	1.007363	Backgd or Offset:	14.2	15.8
Calibration intercept:	-1.009539	-2.875904	Coeff or Slope:	1.133	1.133

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.5	----
As found High point	4920	79.8	799.9	803.3	0.996
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	802.8	Previous response	808.5	*% change	-0.7%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.6	----
High point	4920	79.8	799.9	804.0	0.995
Mid point	4960	39.9	400.0	399.2	1.002
Low point	4980	20.0	200.5	196.6	1.020
As left zero	5000	0.0	0.0	-0.8	----
As left span	4920	79.8	799.9	803.2	0.996
				Average Correction Factor:	1.006

Notes: Zero adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

SO_2 Calibration Summary

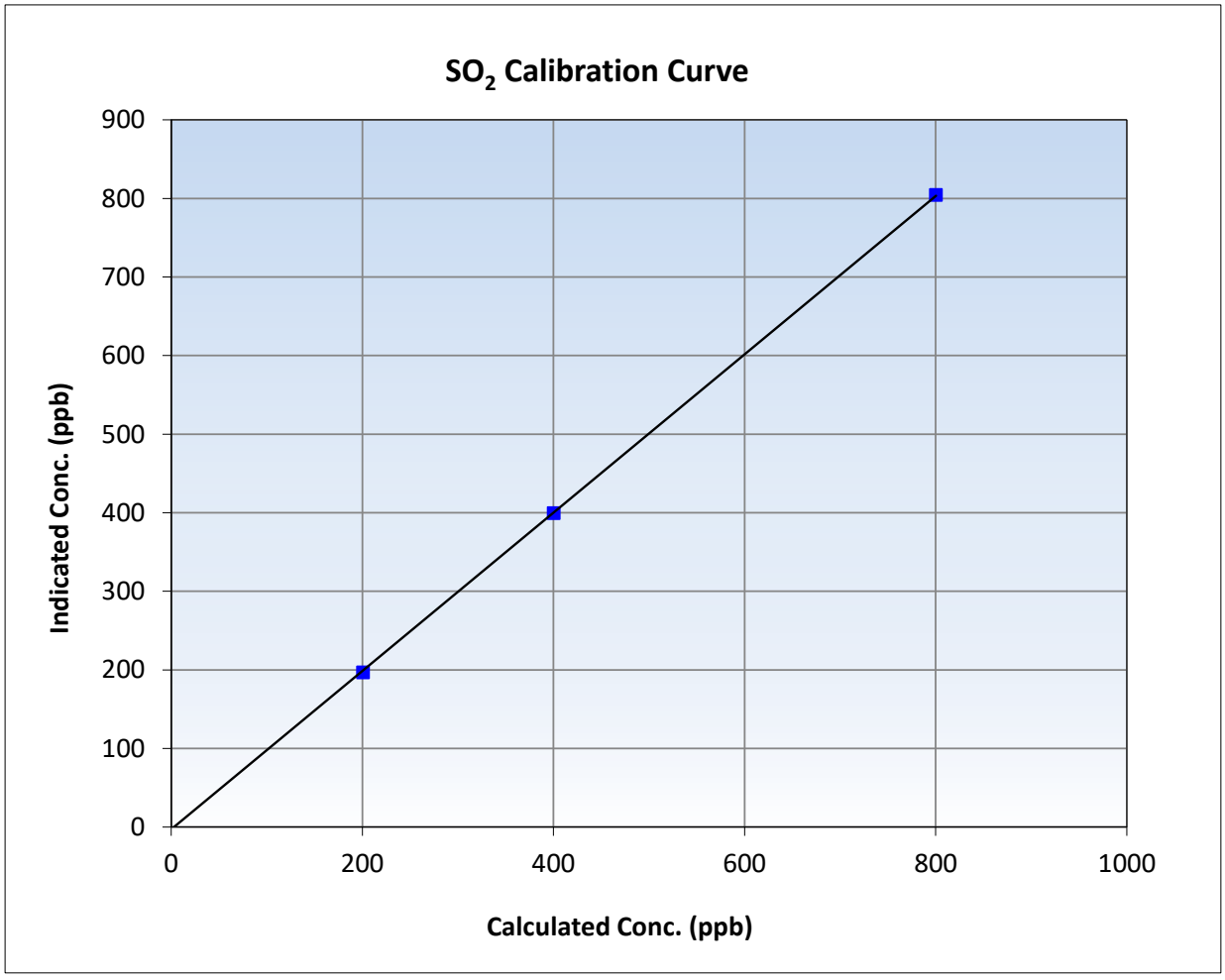
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 15, 2025
Station Name:	Wapasu	Station Number:	AMS17
Start Time (MST):	10:17	End Time (MST):	13:18
Analyzer make:	Thermo 43i	Analyzer serial #:	1218153459

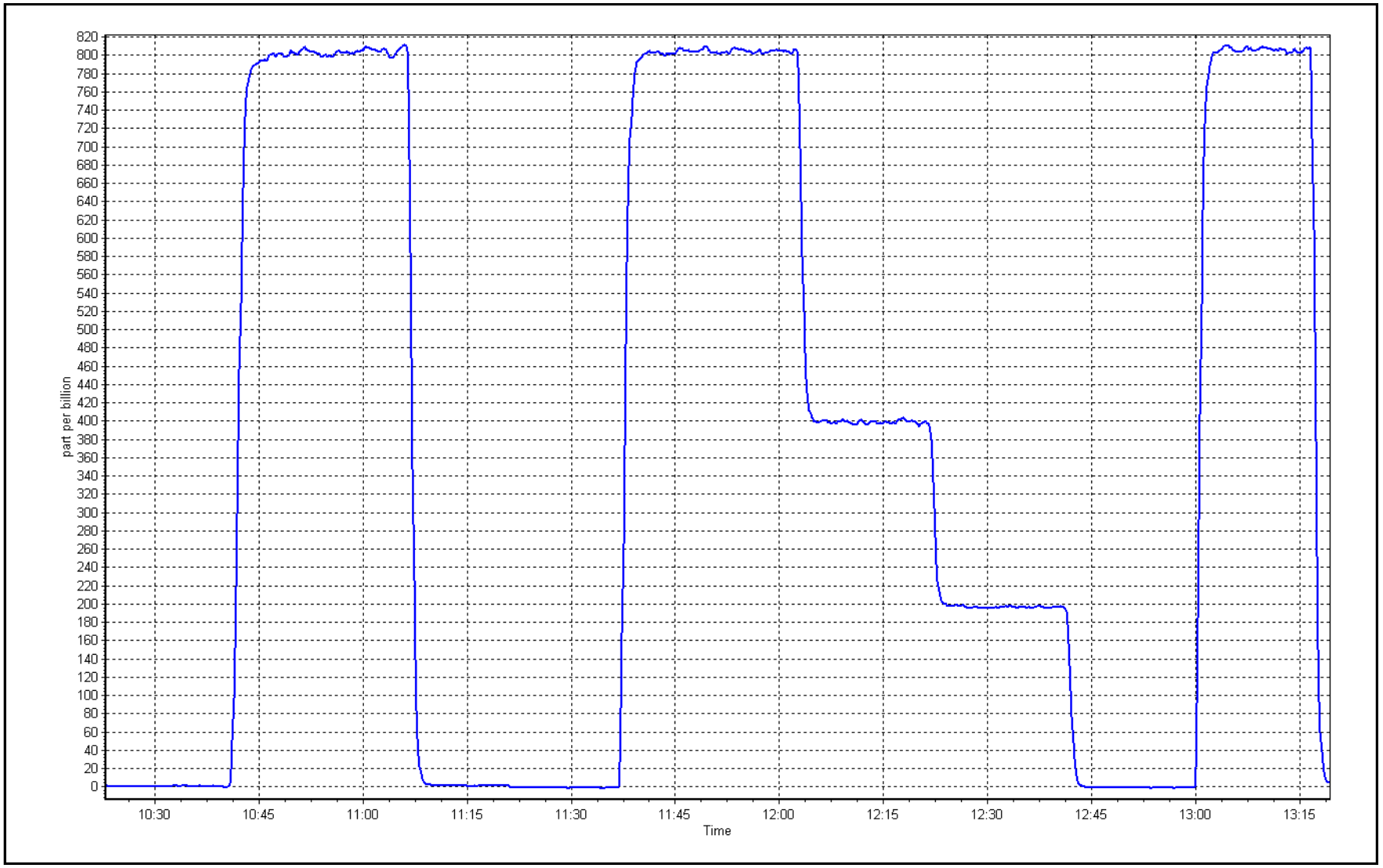
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.6	----
799.9	804.0	0.9950
400.0	399.2	1.0019
200.5	196.6	1.0197

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999963	*≥0.995*
Slope	1.007363	*0.90 - 1.10*
Intercept	-2.875904	*+/-30*



SO2 Calibration Plot Date: October 15, 2025 Location: Wapasu



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Wapasu	Station number:	AMS 17
Calibration Date:	October 20, 2025	Last Cal Date:	September 24, 2025
Start time (MST):	10:00	End time (MST):	14:33
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.77	ppm	Cal Gas Exp Date:	August 28, 2027
Cal Gas Cylinder #:	DT20029267			
Removed Cal Gas Conc:	4.77	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	2449
ZAG Make/Model:	API T701H		Serial Number:	359

Analyzer Information

Analyzer make:	Thermo 450i		Analyzer serial #:	1218153583
Converter make:	CD Nova		Converter serial #:	N/A
Analyzer Range	0 - 100 ppb		Converter Temp:	340 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.001068	0.989072	Backgd or Offset:	13.1	13.1
Calibration intercept:	0.000213	0.020210	Coeff or Slope:	1.099	1.099

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.1	----
As found High point	4921	83.9	80.0	80.3	0.995
As found Mid point	4961	41.9	39.9	39.9	0.999
As found Low point	4980	21.0	20.0	19.7	1.012
New cylinder response					

Baseline Corr As found:	80.4	Prev response:	80.05	*% change:	0.4%
Baseline Corr 2nd AF pt:	40.0	AF Slope:	1.006689	AF Intercept:	-0.269437
Baseline Corr 3rd AF pt:	19.8	AF Correlation:	0.999979	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.3	----
High point	4916	83.9	80.0	79.3	1.009
Mid point	4958	41.9	40.0	39.5	1.012
Low point	4979	21.0	20.0	19.5	1.027
As left zero	5000	0.0	0.0	0.4	----
As left span	4916	83.9	80.0	76.5	1.046
SO2 Scrubber Check	4921	79.4	793.9	-0.1	----
Date of last scrubber change:		N/A		Ave Corr Factor	1.016
Date of last converter efficiency test:		N/A			

Notes: No adjustments made.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

H_2S Calibration Summary

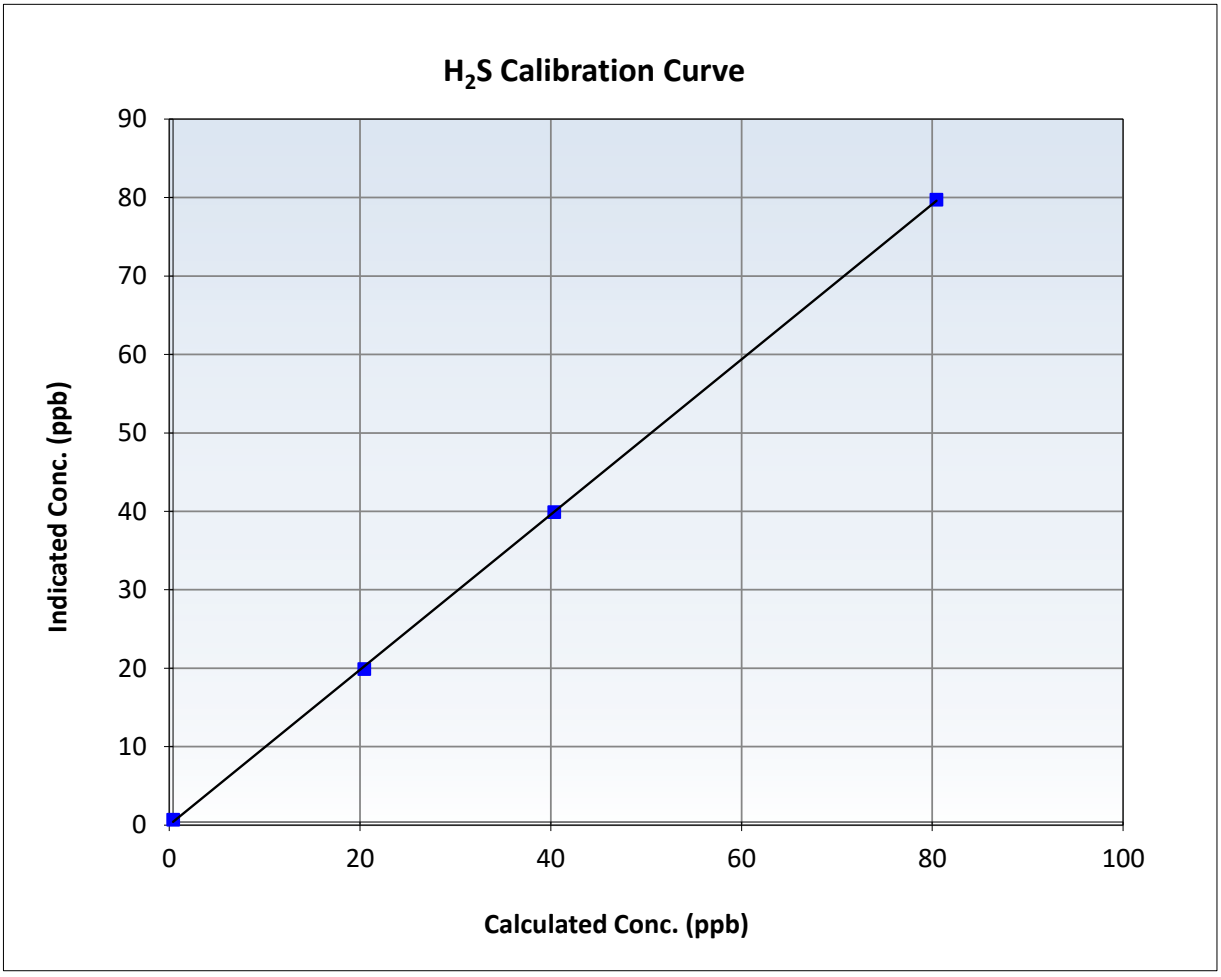
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 24, 2025
Station Name:	Wapasu	Station Number:	AMS 17
Start Time (MST):	10:00	End Time (MST):	14:33
Analyzer make:	Thermo 450i	Analyzer serial #:	1218153583

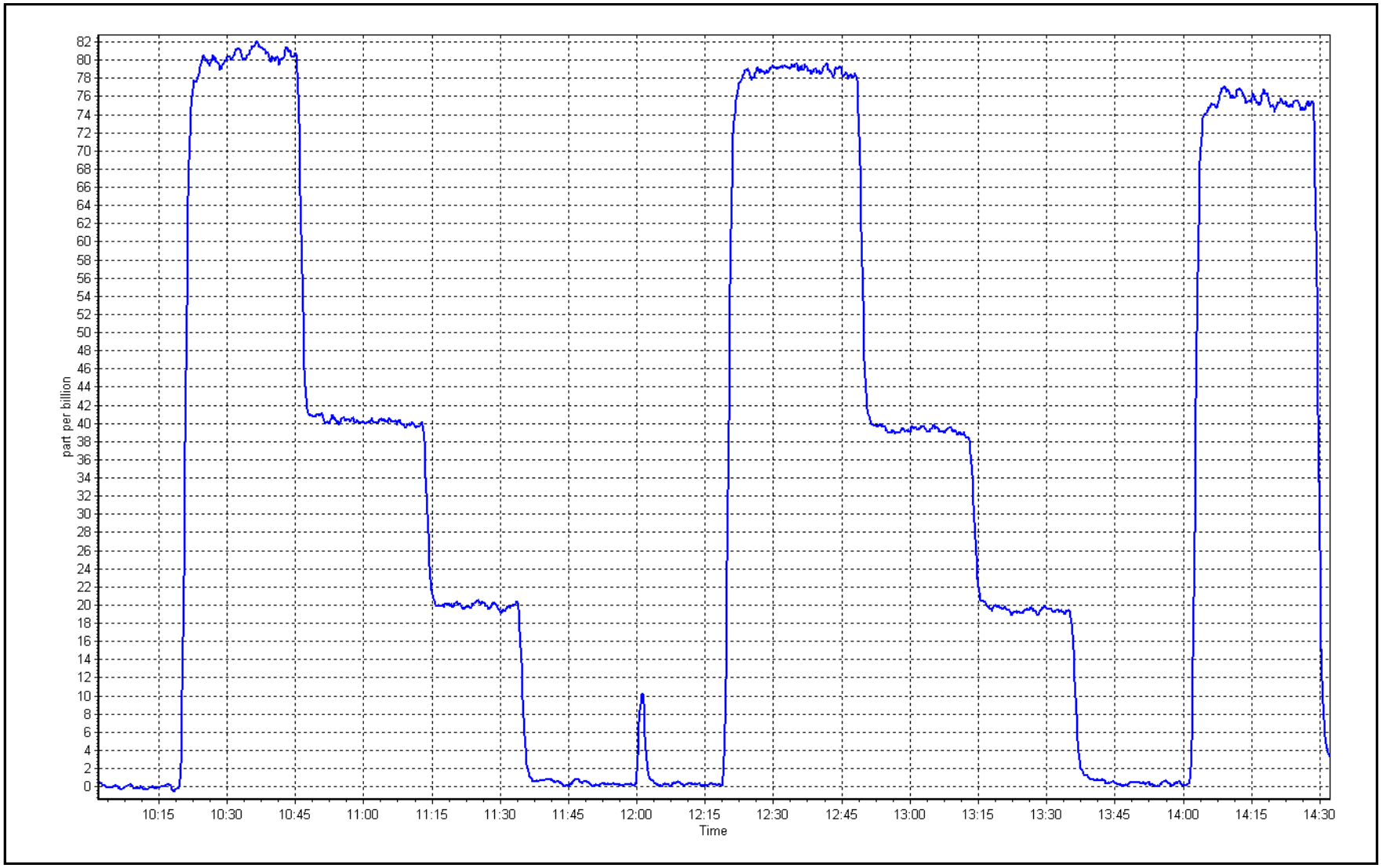
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
80.0	79.3	1.0094
40.0	39.5	1.0120
20.0	19.5	1.0274

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999940	*≥0.995*
Slope	0.989072	*0.90 - 1.10*
Intercept	0.020210	*+/-3*



H_2S Calibration Plot Date: October 20, 2025 Location: Wapasu



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Wapasu	Station number:	AMS17
Calibration Date:	October 15, 2025	Last Cal Date:	September 9, 2025
Start time (MST):	10:17	End time (MST):	13:18
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC422255		Cal Gas Expiry Date:	April 9, 2033	
CH4 Cal Gas Conc.	499.6	ppm	CH4 Equiv Conc.	1059.0	ppm
C3H8 Cal Gas Conc.	203.4	ppm			
Removed Gas Cert:		n/a	Removed Gas Expiry:		
Removed CH4 Conc.	499.6	ppm	CH4 Equiv Conc.	1059.0	ppm
Removed C3H8 Conc.	203.4	ppm	Diff between cyl:		
Calibrator Make/Model:	Teledyne API T700		Serial Number:	2449	
ZAG Make/Model:	Teledyne API 701H		Serial Number:	1238	

Analyzer Information

Analyzer make:	Thermo 51i-LT		Analyzer serial #:	1218153352	
Analyzer Range:	0 - 20 ppm				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.013335	1.000596	Background:	3.280	3.200
Calibration intercept:	-0.086557	-0.100133	Coefficient:	4.477	4.376

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	-0.04	----
As found High point	4920	79.8	16.90	17.28	0.976
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	17.32	Previous response	17.04	*% change	1.6%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	-0.07	----
High point	4920	79.8	16.90	16.84	1.004
Mid point	4960	39.9	8.45	8.30	1.018
Low point	4980	20.0	4.24	4.13	1.026
As left zero	5000	0.0	0.00	-0.03	----
As left span	4921	79.4	16.81	16.95	0.992
				Average Correction Factor	1.016

Notes: Span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

THC Calibration Summary

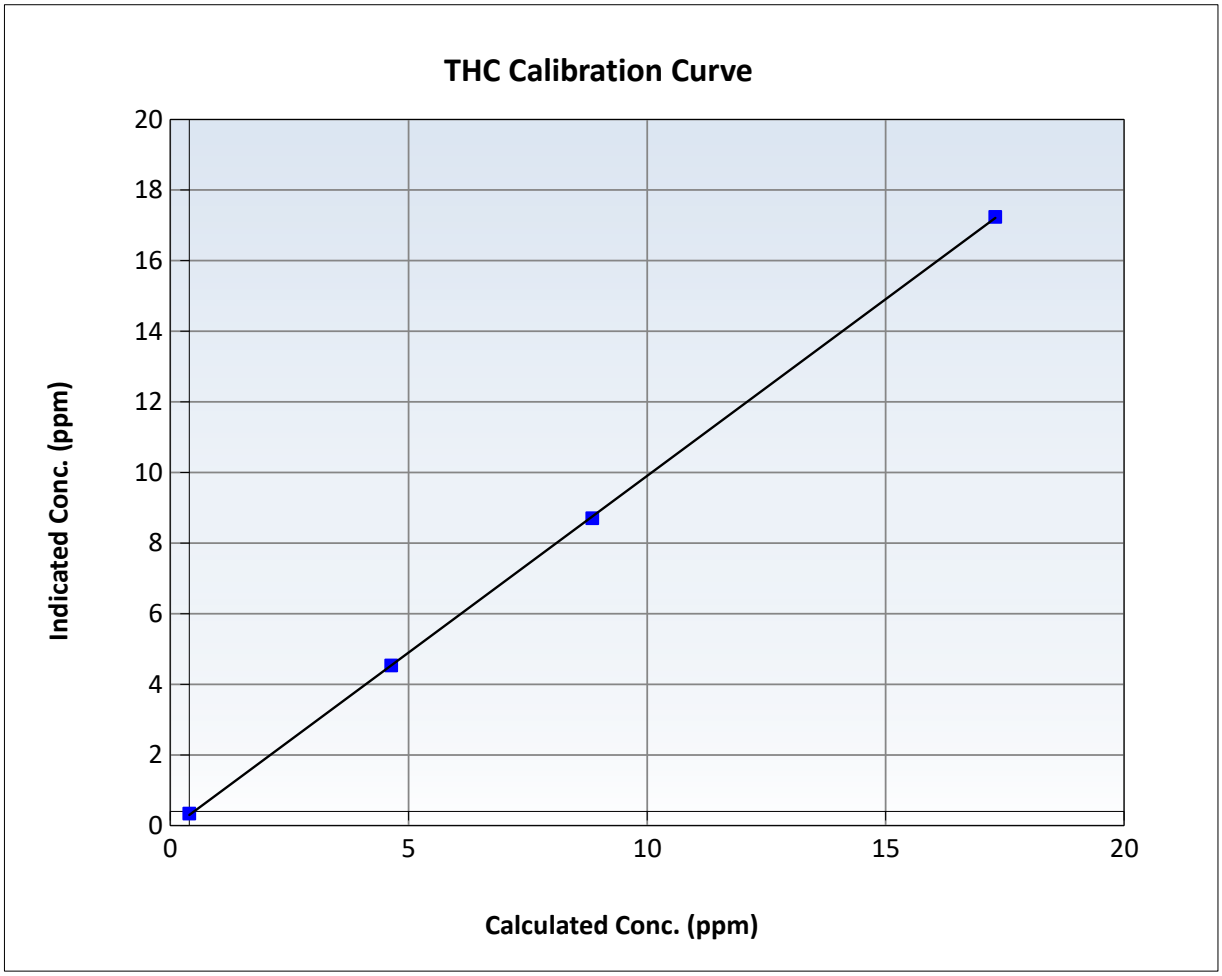
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 9, 2025
Station Name:	Wapasu	Station Number:	AMS17
Start Time (MST):	10:17	End Time (MST):	13:18
Analyzer make:	Thermo 51i-LT	Analyzer serial #:	1218153352

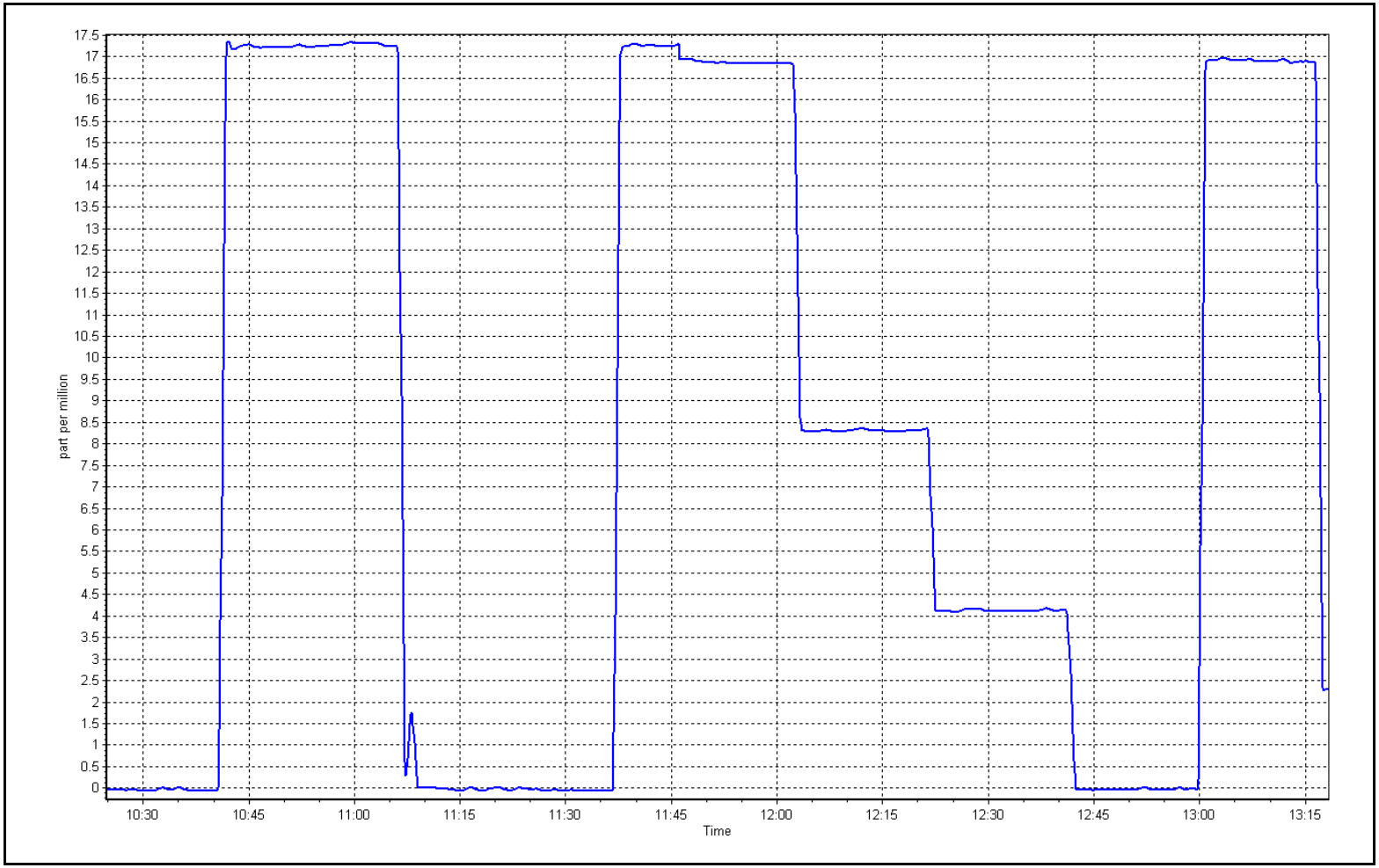
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	-0.07	----
16.90	16.84	1.0036
8.45	8.30	1.0180
4.24	4.13	1.0259

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999967	*≥0.995*
Slope	1.000596	*0.90 - 1.10*
Intercept	-0.100133	*+/-1.5*



THC Calibration Plot Date: October 15, 2025 Location: Wapasu



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Wapasu
Station number:	AMS 17
Calibration Date:	October 30, 2025
Last Cal Date:	September 25, 2025
Start time (MST):	10:47
End time (MST):	16:00
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0045177	Cal Gas Expiry Date:	July 19, 2032
NOX Cal Gas Conc:	61.30 ppm	NO Cal Gas Conc:	61.00 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	
Removed Gas NOX Conc:	61.30 ppm	Removed Gas NO Conc:	61.00 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	API T700	Serial Number:	2449
ZAG make/model:	API T701H	Serial Number:	359

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.4	-0.1	-0.3	----	----
AF High point	4934	65.6	804.3	800.4	3.9	779.3	775.7	3.6	1.0316	1.0317
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 803.5 ppb	NO = 800.0 ppb
Baseline Corr 1st pt	NO_X = 779.7 ppb	NO = 775.8 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

*Percent Change	NO_X = -3.1%		
*Percent Change	NO = -3.1%		

As Found Statistics

As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo Scientific 42i
Serial Number: 1218153460
NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.827	0.855	NO bkgnd or offset:	2.8	2.9
NOX coeff or slope:	0.994	0.997	NOX bkgnd or offset:	3.1	3.2
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	191.0	195.1

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.000474	1.000389
NO_X Cal Offset:	-1.180012	-1.400017
NO Cal Slope:	1.002753	1.002210
NO Cal Offset:	-2.580010	-2.640011
NO_2 Cal Slope:	0.997456	0.999619
NO_2 Cal Offset:	-0.113201	-0.134470

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	-0.2	0.0	-0.3	----	----
High point	4934	65.6	804.3	800.4	3.9	804.1	801.0	3.2	1.0003	0.9992
Mid point	4967	32.8	402.1	400.2	2.0	399.5	396.6	2.9	1.0066	1.0090
Low point	4983	16.4	201.1	200.1	1.0	199.1	195.6	3.5	1.0100	1.0230
As left zero	5000	0.0	0.0	0.0	0.0	0.2	0.0	0.2	----	----
As left span	4934	65.6	804.3	398.6	405.7	805.6	398.6	406.9	0.9984	1.0000
							Average Correction Factor		1.0056	1.0104

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	-0.3	----	----
High GPT point	799.0	395.4	407.5	407.1	1.0011	99.9%
Mid GPT point	799.0	599.4	203.5	203.6	0.9997	100.0%
Low GPT point	799.0	701.7	101.2	101.1	1.0013	99.9%
				Average Correction Factor	1.0007	99.9%

Notes: Span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

NO_X Calibration Summary

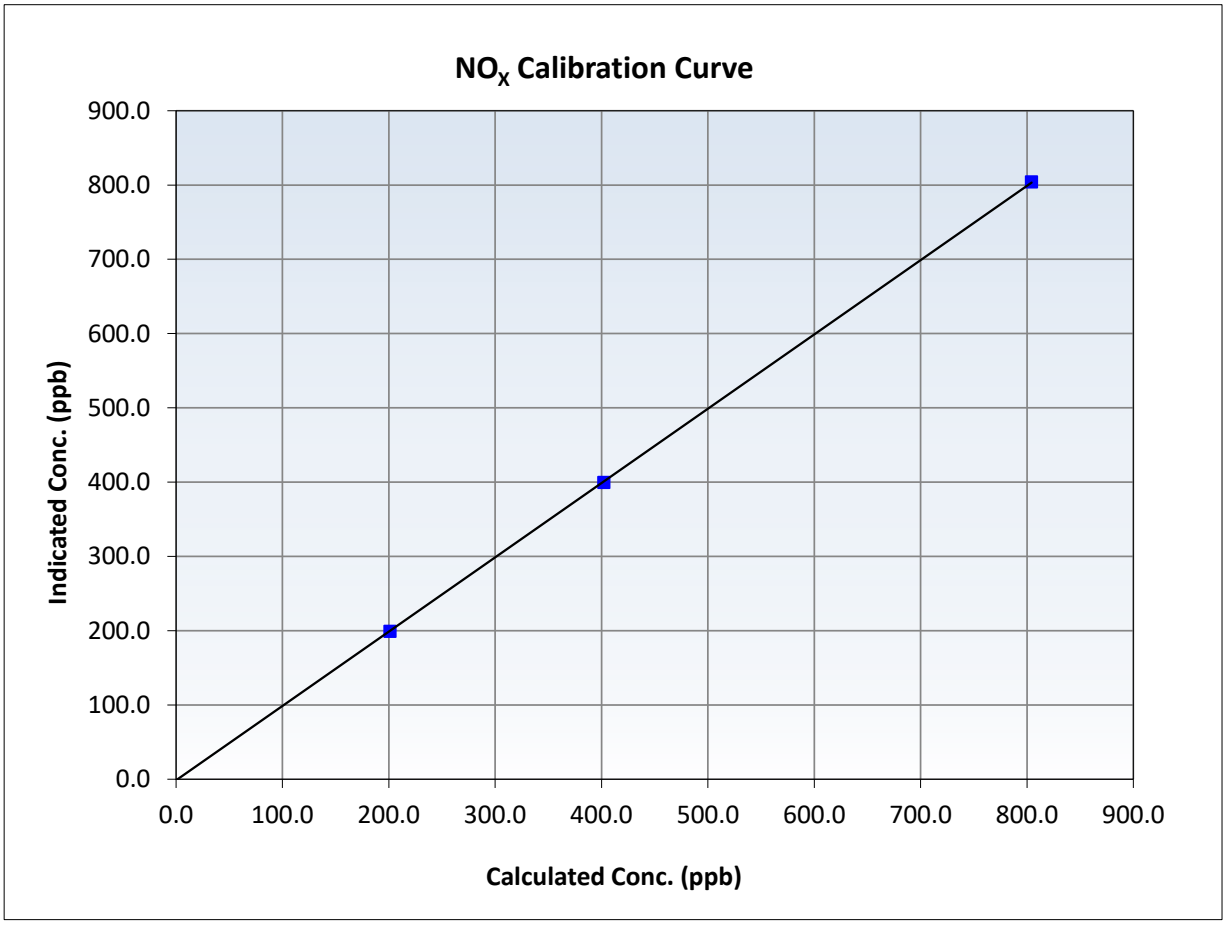
Station Information

Calibration Date:	October 30, 2025	Previous Calibration:	September 25, 2025
Station Name:	Wapasu	Station Number:	AMS 17
Start Time (MST):	10:47	End Time (MST):	16:00
Analyzer make:	Thermo Scientific 42i	Analyzer serial #:	1218153460

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
804.3	804.1	1.0003
402.1	399.5	1.0066
201.1	199.1	1.0100

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999987	*≥0.995*
Slope	1.000389	*0.90 - 1.10*
Intercept	-1.400017	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

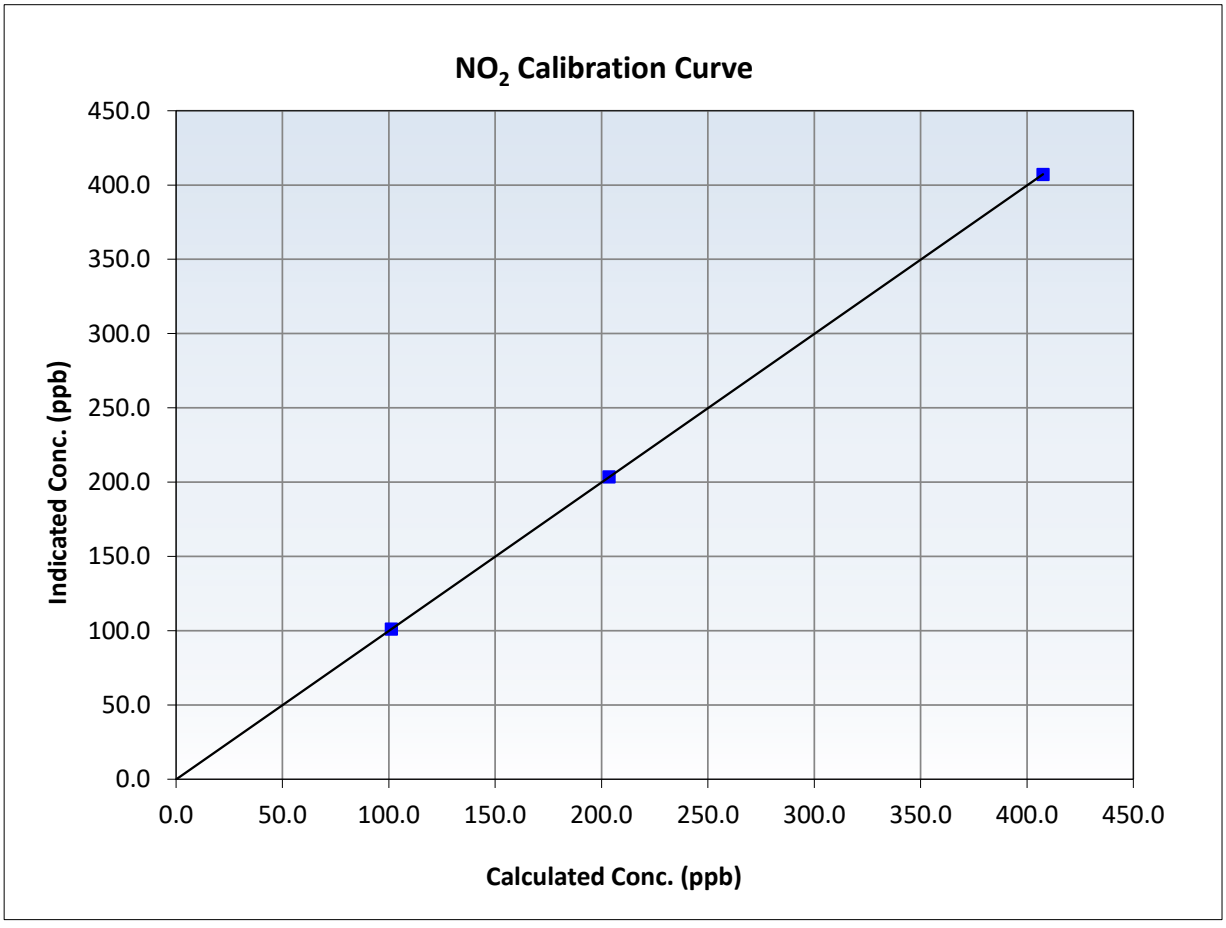
Station Information

Calibration Date:	October 30, 2025	Previous Calibration:	September 25, 2025
Station Name:	Wapasu	Station Number:	AMS 17
Start Time (MST):	10:47	End Time (MST):	16:00
Analyzer make:	Thermo Scientific 42i	Analyzer serial #:	1218153460

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.3	----
407.5	407.1	1.0011
203.5	203.6	0.9997
101.2	101.1	1.0013

Statistical Evaluation		Limits
Correlation Coefficient	0.999999	≥0.995
Slope	0.999619	0.90 - 1.10
Intercept	-0.134470	+/-20



Wood Buffalo Environmental Association

NO Calibration Summary

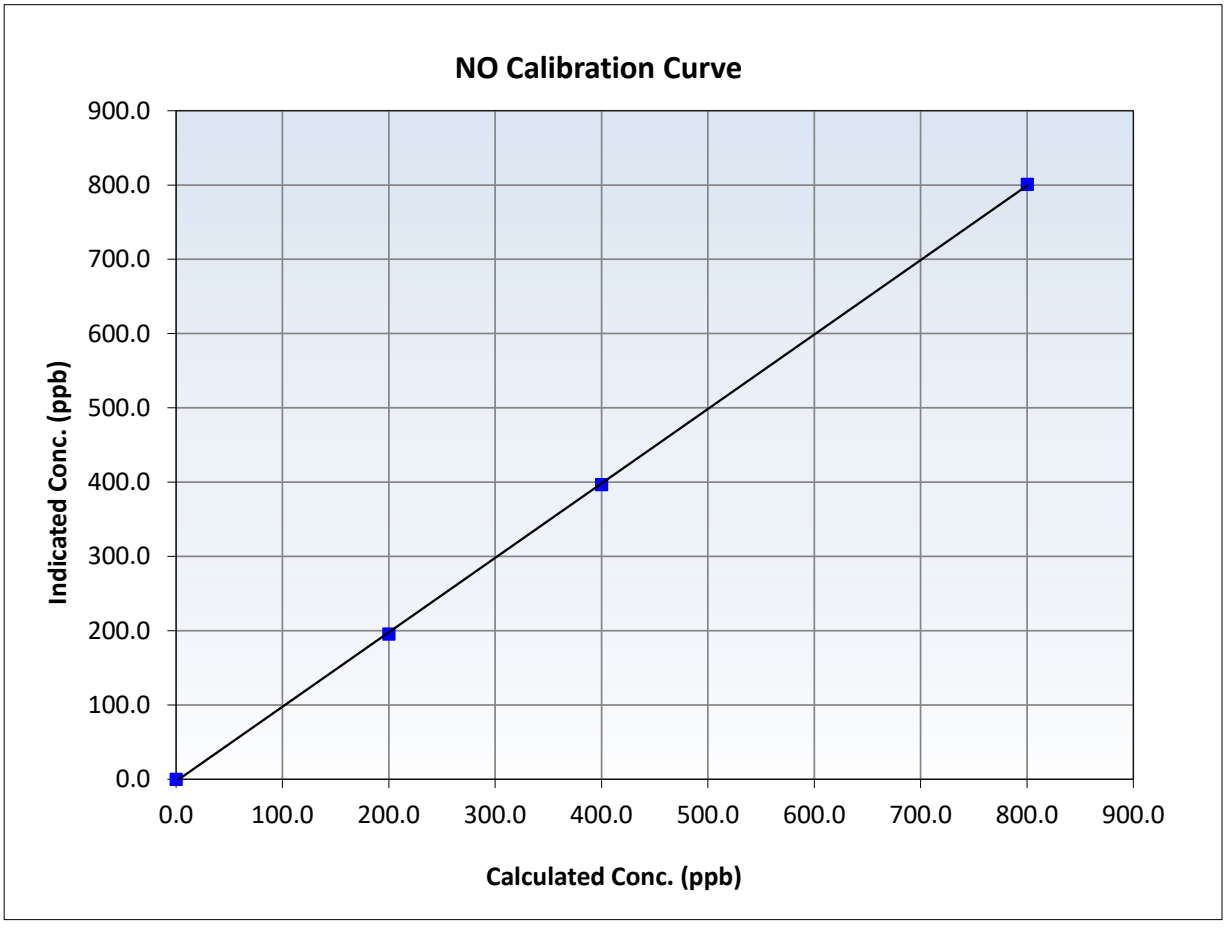
Station Information

Calibration Date:	October 30, 2025	Previous Calibration:	September 25, 2025
Station Name:	Wapasu	Station Number:	AMS 17
Start Time (MST):	10:47	End Time (MST):	16:00
Analyzer make:	Thermo Scientific 42i	Analyzer serial #:	1218153460

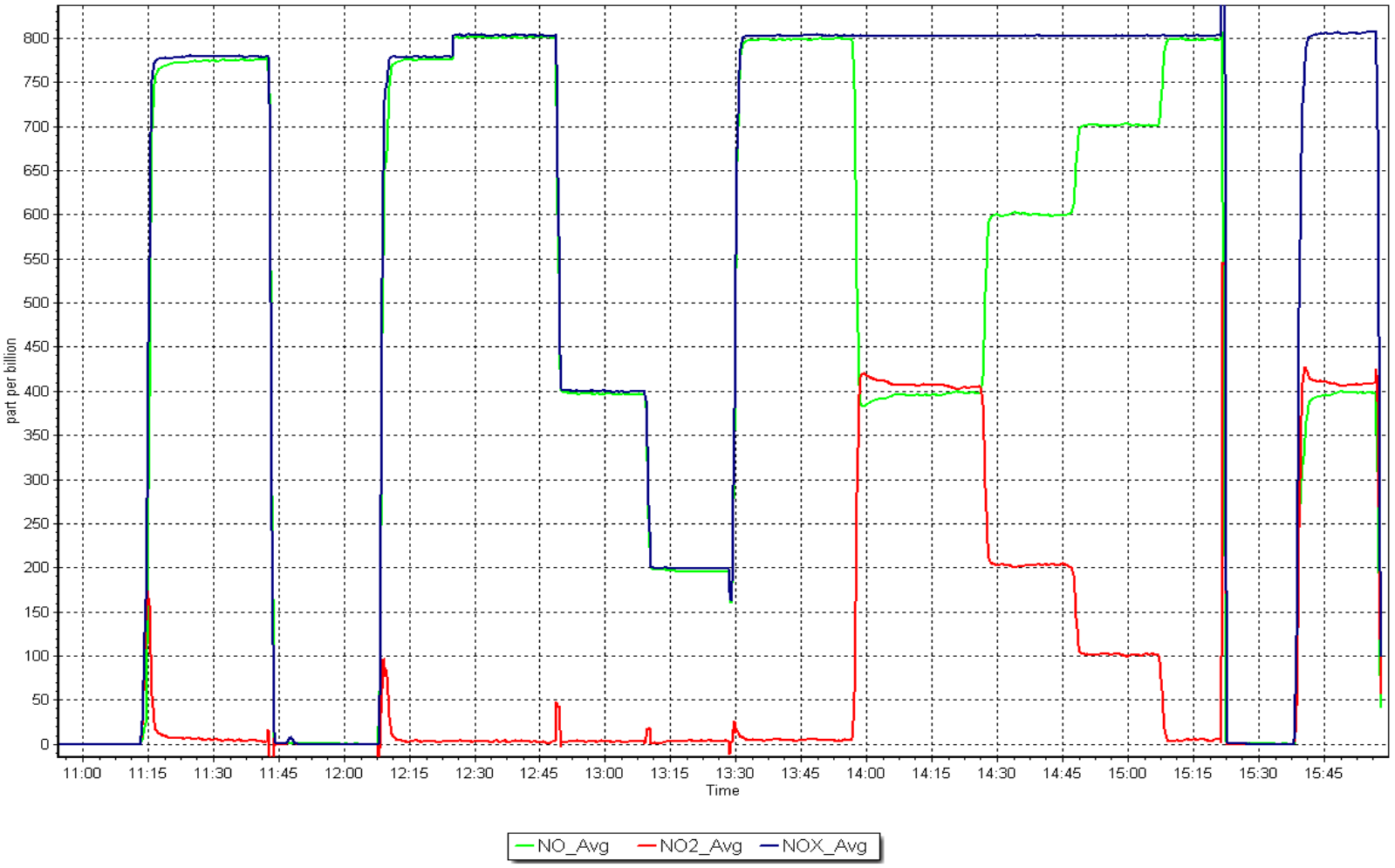
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
800.4	801.0	0.9992
400.2	396.6	1.0090
200.1	195.6	1.0230

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999949	*≥0.995*
Slope	1.002210	*0.90 - 1.10*
Intercept	-2.640011	*+/-20*



NO_X Calibration Plot Date: October 30, 2025 Location: Wapasu



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Wapasu	Station number:	AMS17
Calibration Date:	October 2, 2025	Last Cal Date:	September 4, 2025
Start time (MST):	10:02	End time (MST):	13:02
Reason:	Routine		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	API T700	Serial Number:	2449
ZAG Make/Model:	API T701H	Serial Number:	359

Analyzer Information

Analyzer make:	Thermo Scientific 49i	Analyzer serial #:	1501663734
Analyzer Range	0 - 500 ppb		

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.003629	1.010714	Backgd or Offset:	0.1	0.1
Calibration intercept:	-1.260000	-1.700000	Coeff or Slope:	1.043	1.043

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.5	----
As found High point	5000	1104.7	400.0	400.8	0.997
As found Mid point					
As found Low point					
Baseline Corr As found:	401.3	Previous response	400.2	*% change	0.3%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

O_3 Calibration Data

Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.3	----
High point	5000	1104.7	400.0	403.2	0.992
Mid point	5000	917.3	200.0	200.0	1.000
Low point	5000	797.9	100.0	97.8	1.022
As left zero	5000	0.0	0.0	-0.2	----
As left span	5000	1104.7	400.0	408.5	0.979
				Average Correction Factor	1.005

Notes: No adjustments made.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

O_3 Calibration Summary

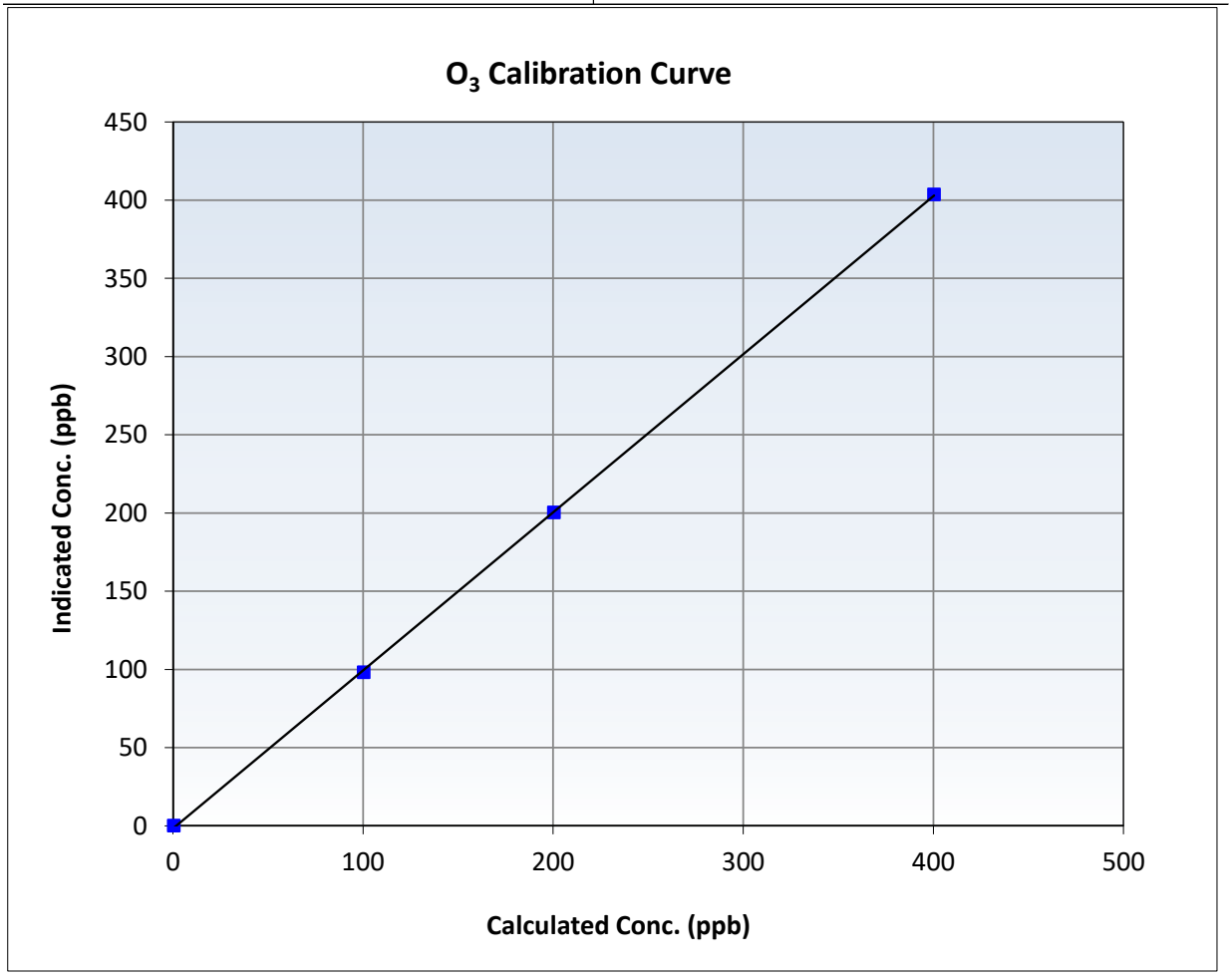
Station Information

Calibration Date:	October 2, 2025	Previous Calibration:	September 4, 2025
Station Name:	Wapasu	Station Number:	AMS17
Start Time (MST):	10:02	End Time (MST):	13:02
Analyzer make:	Thermo Scientific 49i	Analyzer serial #:	1501663734

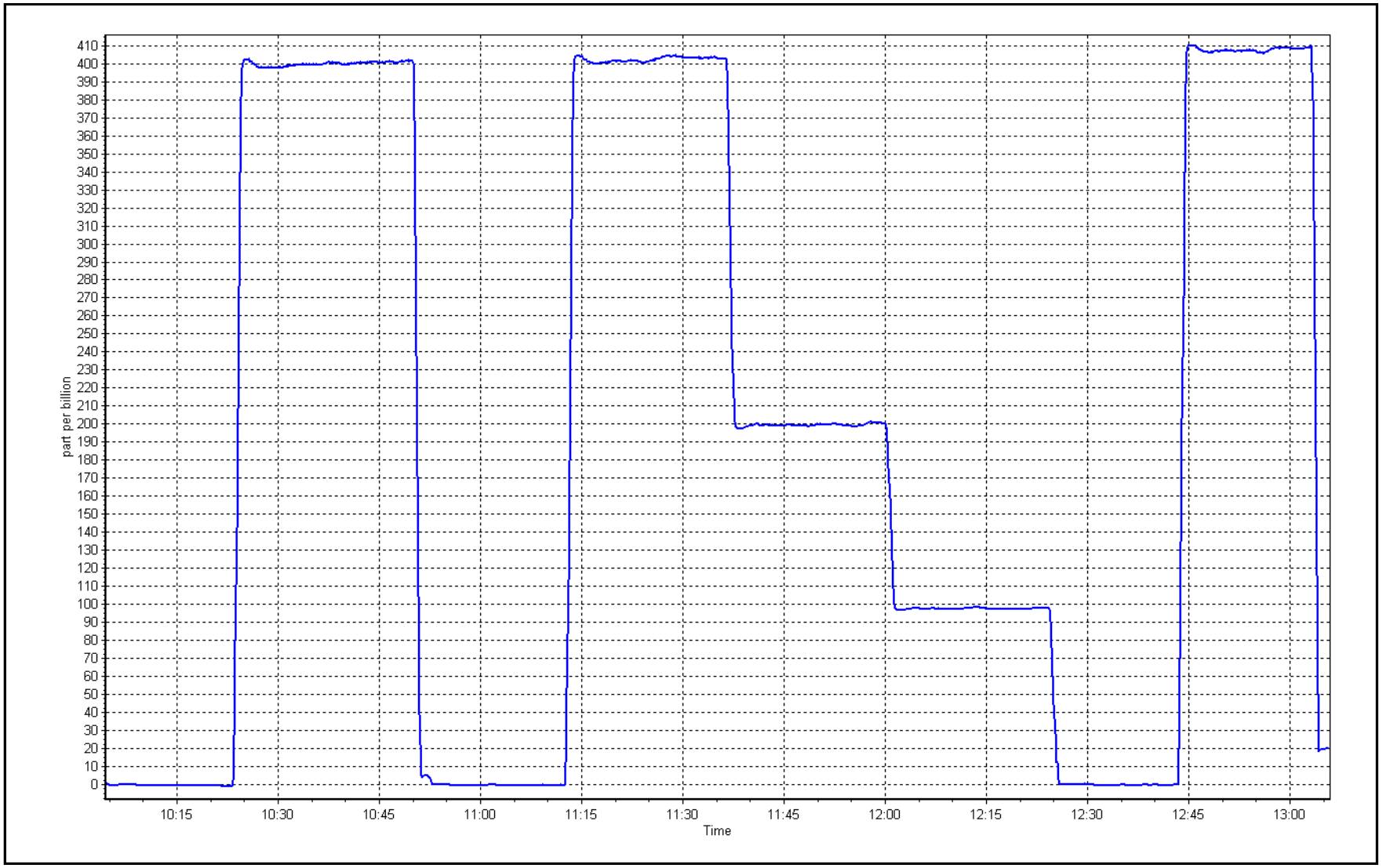
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.3	----
400.0	403.2	0.9921
200.0	200.0	1.0000
100.0	97.8	1.0225

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999944	*≥0.995*
Slope	1.010714	*0.90 - 1.10*
Intercept	-1.700000	*+/- 5*



O_3 Calibration Plot Date: October 2, 2025 Location: Wapasu



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Wapasu	Station number:	AMS 17
Calibration Date:	October 30, 2025	Last Cal Date:	September 25, 2025
Start time (MST):	13:35	End time (MST):	15:17
Analyzer Make:	Teledyne API T640	S/N:	1183
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388749
Temp/RH standard:	Alicat FP-25BT	S/N:	388749

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (°C)	-0.80	-1.00	-0.80	☐	+/- 2 °C
P (mmHg)	718.40	719.30	718.40	☐	+/- 10 mmHg
Flow (LPM)	5.00	5.07	5.00	☐	+/- 0.25 LPM
PW% (pump)	39	-----	39	☐	>80%
Zero Verification	PM w/o HEPA:	7.5	PM w/ HEPA:	0.0	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.9 — Expiry Date: October 6, 2024 — Lot No.: 100128-050-042

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test				☐	+/- 0.5

Date Optical Chamber Cleaned: September 25, 2025

Date Disposable Filter Changed: October 30, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0.00 <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: July 21, 2025

Date RH/T Sensor Cleaned: July 21, 2025

Notes:

Monthly checks done. DFU filter changed out.

Calibration by: Aswin Sasi Kumar

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS18
STONY MOUNTAIN
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Stony Mountain	Station number:	AMS 18
Calibration Date:	October 23, 2025	Last Cal Date:	September 18, 2025
Start time (MST):	11:15	End time (MST):	14:30
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	51.22	ppm	Cal Gas Exp Date:	October 9, 2032
Cal Gas Cylinder #:	CC417455			
Removed Cal Gas Conc:	51.22	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	CC417455		Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	2658
Zero Air Gen Model:	Teledyne API 701		Serial Number:	4890

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	JC1501301453	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.008031	1.000714	Backgd or Offset:	25.9	25.9
Calibration intercept:	-3.345346	-1.637815	Coeff or Slope:	0.816	0.816

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.3	----
As found High point	4921	78.1	800.2	796.8	1.004
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	797.1	Previous response	803.3	*% change	-0.8%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4921	78.1	800.2	799.9	1.000
Mid point	4960	39.1	400.6	398.6	1.005
Low point	4981	19.5	199.7	196.5	1.016
As left zero	5000	0.0	0.0	0.0	----
As left span	4921	78.1	800.2	799.7	1.001
				Average Correction Factor:	1.007

Notes: Changed the inlet filter after as founds. No adjustments made.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

SO_2 Calibration Summary

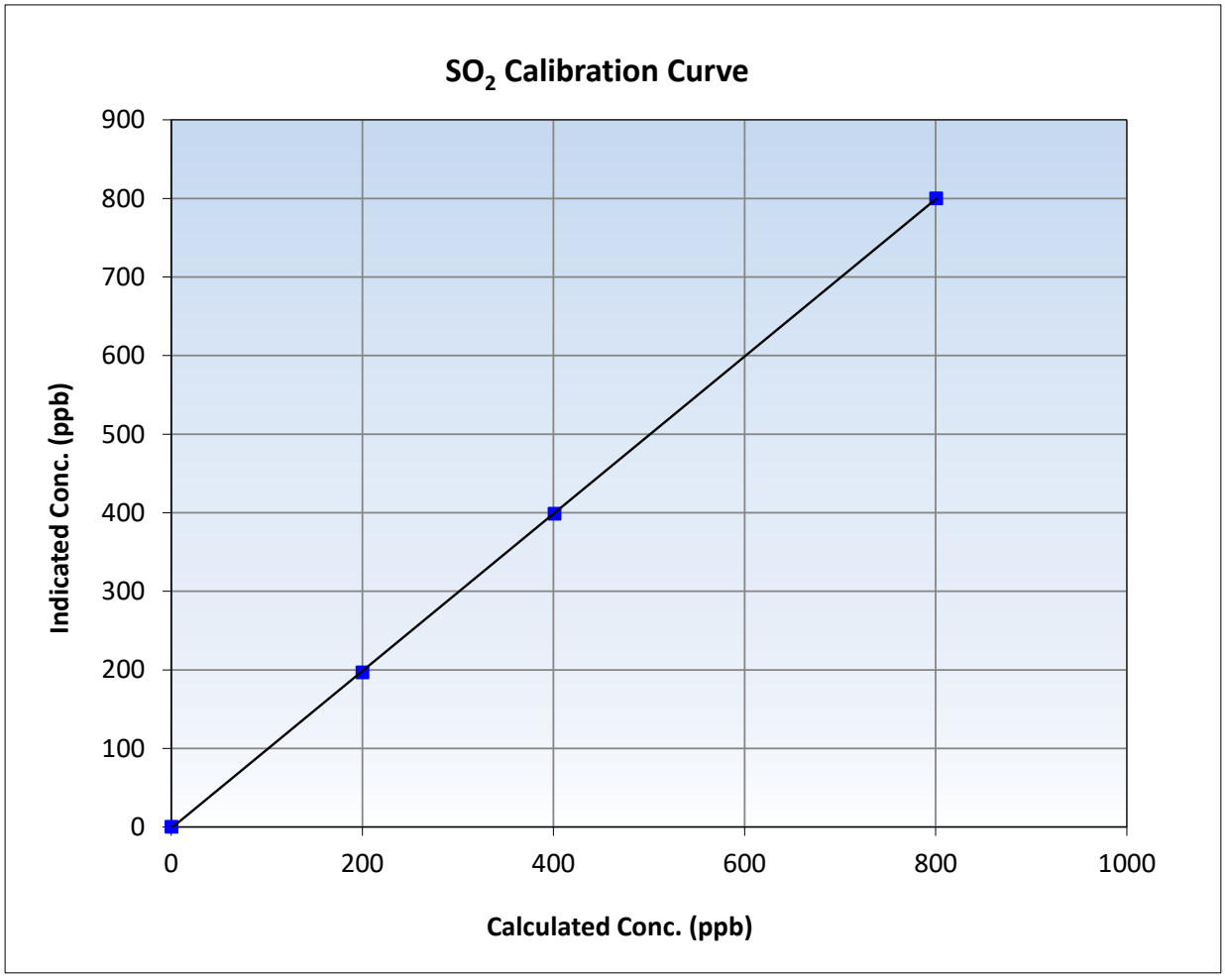
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 18, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	11:15	End Time (MST):	14:30
Analyzer make:	Thermo 43i	Analyzer serial #:	JC1501301453

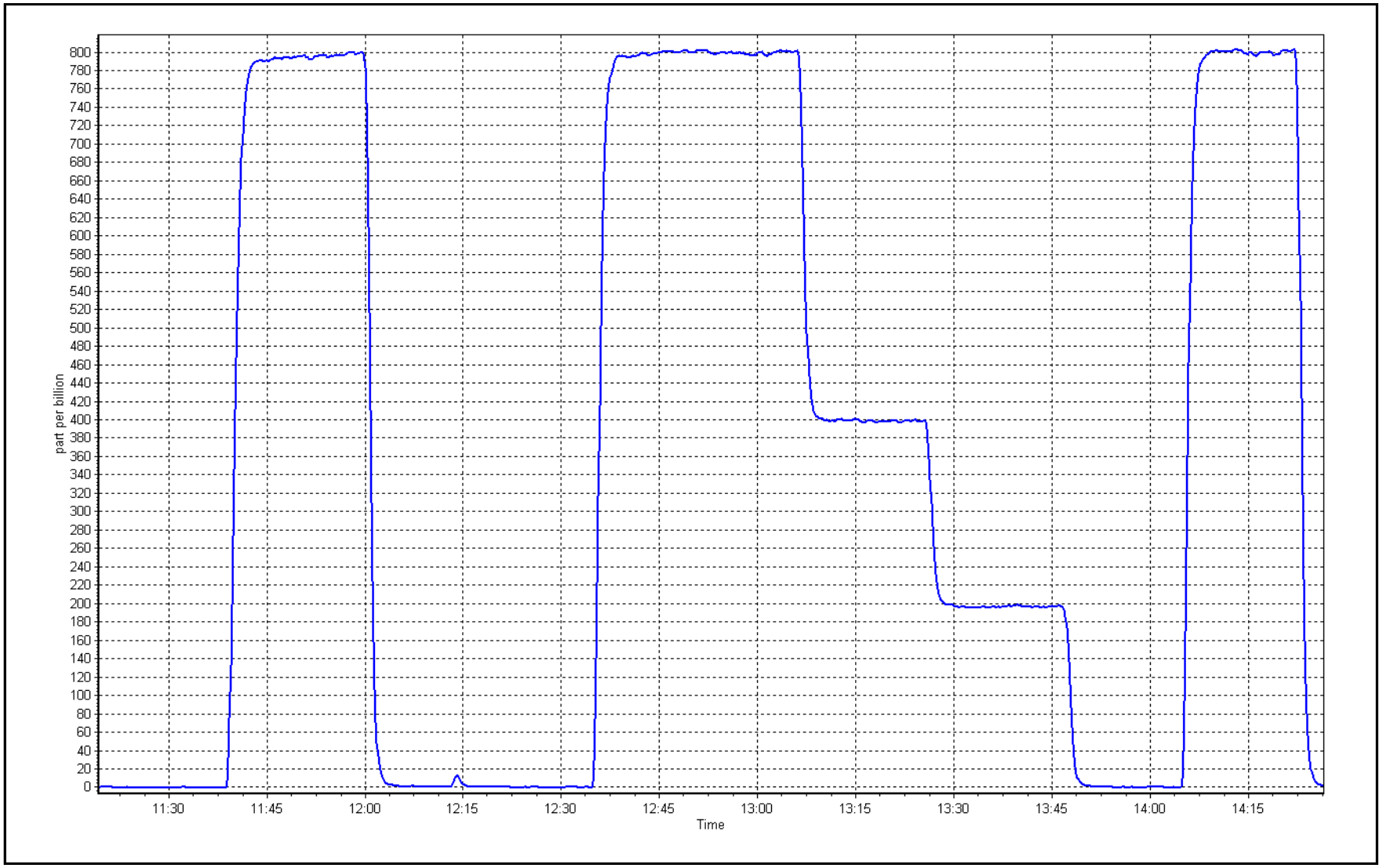
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
800.2	799.9	1.0004
400.6	398.6	1.0050
199.7	196.5	1.0165

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999981	*≥0.995*
Slope	1.000714	*0.90 - 1.10*
Intercept	-1.637815	*+/-30*



SO2 Calibration Plot Date: October 23, 2025 Location: Stony Mountain



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Stony Mountain	Station number:	AMS18
Calibration Date:	October 29, 2025	Last Cal Date:	September 17, 2025
Start time (MST):	10:21	End time (MST):	15:45
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.86	ppm	Cal Gas Exp Date:	May 9, 2027
Cal Gas Cylinder #:	CC523103			
Removed Cal Gas Conc:	4.86	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	2658
ZAG Make/Model:	Teledyne API T701		Serial Number:	360

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Analyzer serial #:	1218153359	
Converter make:	CD Nova CDN-101		Converter serial #:	555	
Analyzer Range	0 - 100 ppb		Converter Temp:	800	degC

	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.010081	0.992077	Backgd or Offset:	2.94	2.94
Calibration intercept:	-0.099139	-0.018635	Coeff or Slope:	1.181	1.181

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.1	----
As found High point	4917	82.3	80.0	83.5	0.959
As found Mid point	4958	41.2	40.1	41.7	0.963
As found Low point	4979	20.6	20.0	20.3	0.991
New cylinder response					

Baseline Corr As found:	83.4	Prev response:	80.71	*% change:	3.2%
Baseline Corr 2nd AF pt:	41.6	AF Slope:	1.045081	AF Intercept:	-0.199906
Baseline Corr 3rd AF pt:	20.2	AF Correlation:	0.999926	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.3	----
High point	4917	82.3	80.0	79.7	1.004
Mid point	4958	41.2	40.1	39.2	1.022
Low point	4979	20.6	20.0	19.5	1.027
As left zero	5000	0.0	0.0	0.3	----
As left span	4917	82.3	80.0	77.6	1.031
SO2 Scrubber Check	4923	77.1	771.0	-0.2	----
Date of last scrubber change:		17-Dec-21		Ave Corr Factor	1.018
Date of last converter efficiency test:					

Notes: No adjustment made. SOX scrubber tested post filter change, no issues to note.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

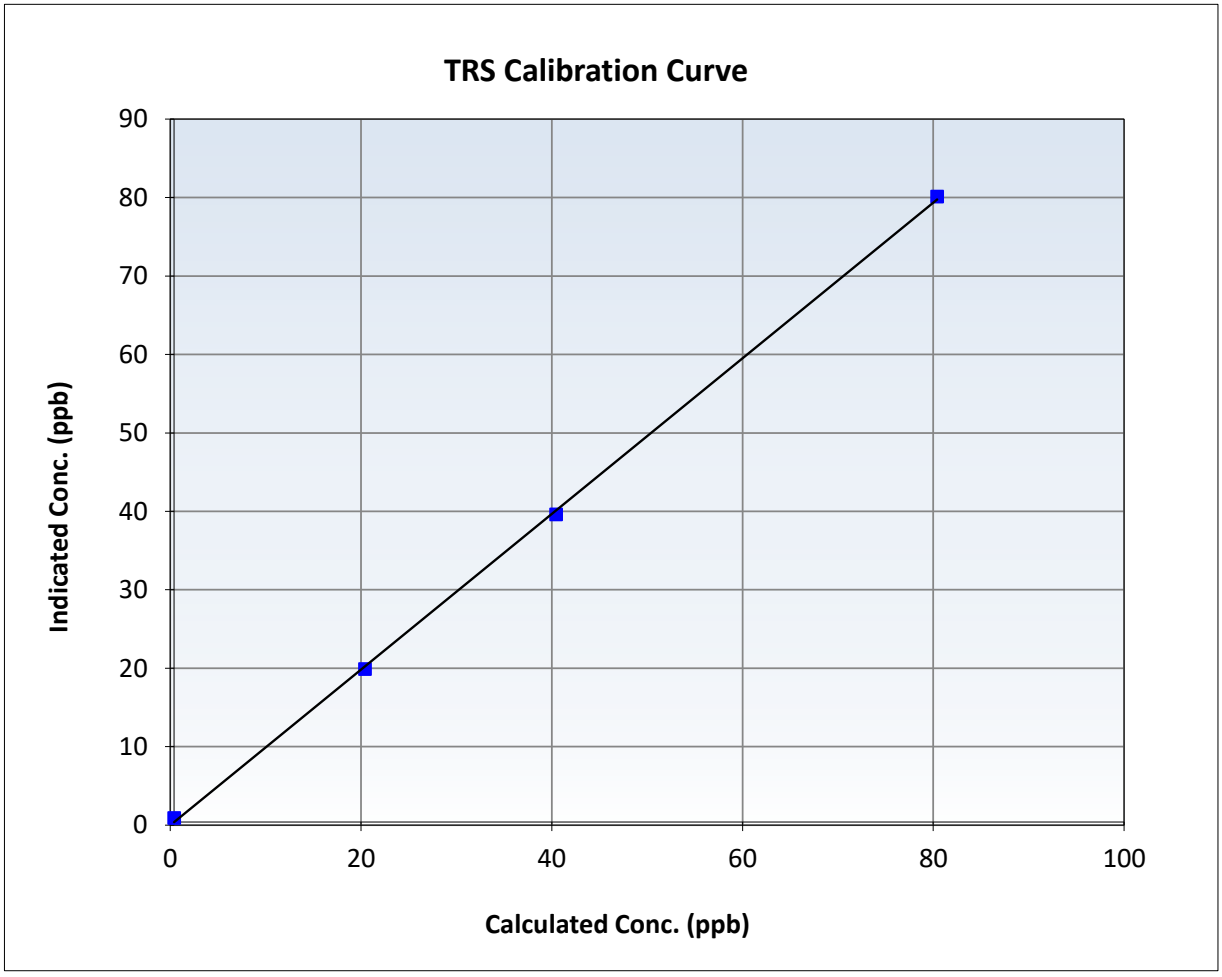
TRS Calibration Summary

Station Information

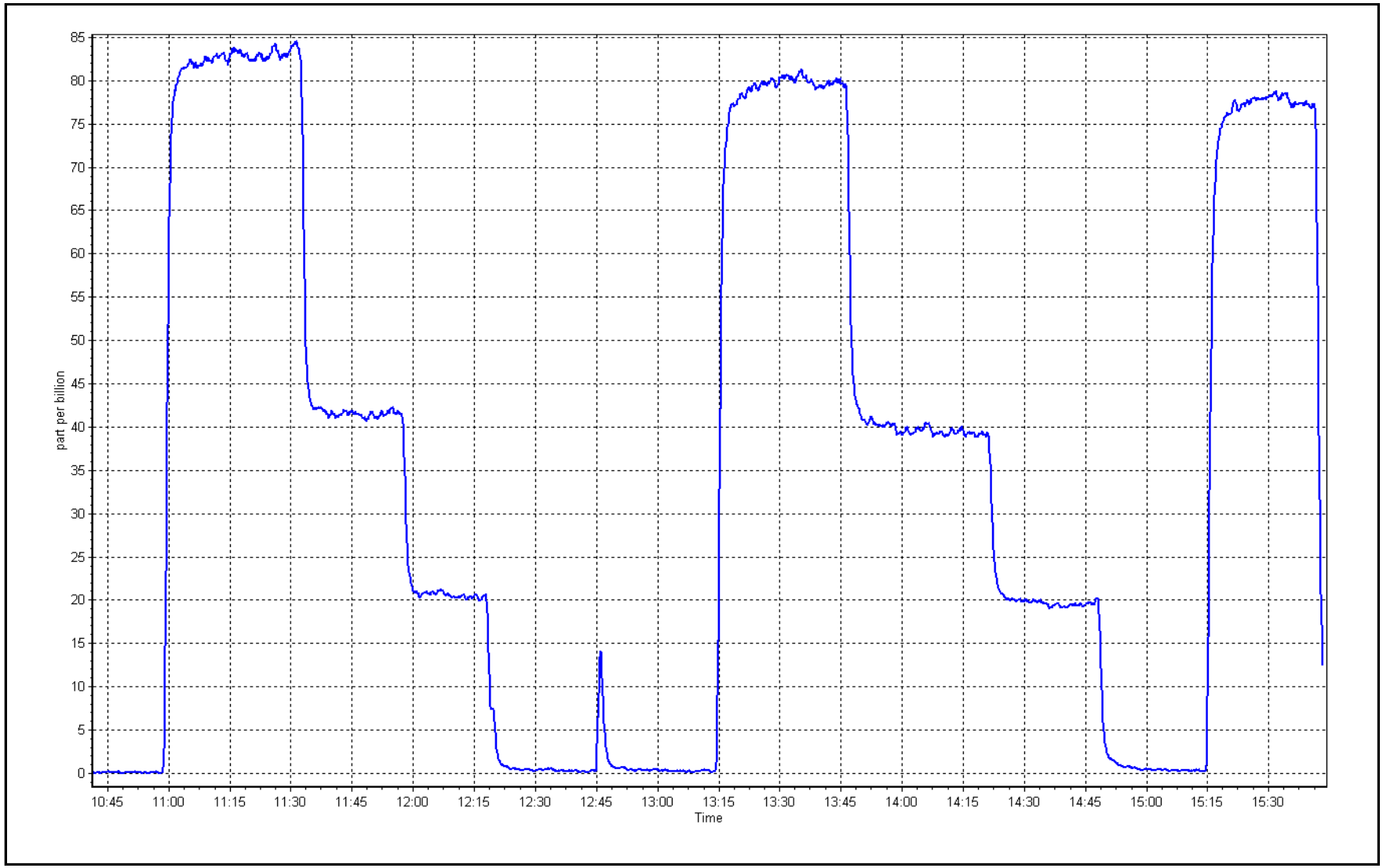
Calibration Date:	October 29, 2025	Previous Calibration:	September 17, 2025
Station Name:	Stony Mountain	Station Number:	AMS18
Start Time (MST):	10:21	End Time (MST):	15:45
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1218153359

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.5	----	Correlation Coefficient	0.999775	*≥0.995*
80.0	79.7	1.0038	Slope	0.992077	*0.90 - 1.10*
40.1	39.2	1.0218			
20.0	19.5	1.0269	Intercept	-0.018635	*+/-3*



TRS Calibration Plot Date: October 29, 2025 Location: Stony Mountain



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Stony Mountain	Station number:	AMS 18
Calibration Date:	October 23, 2025	Last Cal Date:	September 18, 2025
Start time (MST):	11:15	End time (MST):	14:31
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	XC026809B	Cal Gas Expiry Date:	January 12, 2029
CH4 Cal Gas Conc.	504.9 ppm	CH4 Equiv Conc.	1076.6 ppm
C3H8 Cal Gas Conc.	207.9 ppm		
Removed Gas Cert:	NA	Removed Gas Expiry:	NA
Removed CH4 Conc.	504.9 ppm	CH4 Equiv Conc.	1076.6 ppm
Removed C3H8 Conc.	207.9 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	Teledyne API T700	Serial Number:	2658
Zero Air Gen model:	Teledyne API T701	Serial Number:	4890

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1170050130
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	2.65E-04	2.68E-04	NMHC SP Ratio:	4.88E-05	5.04E-05
CH4 Retention time:	14.8	14.8	NMHC Peak Area:	183174	177024
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.01	----
As found High point	4921	78.1	16.82	16.45	1.023
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.44	Prev response	16.78	*% change	-2.1%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.02	----
High point	4921	78.1	16.82	16.85	0.998
Mid point	4960	39.1	8.42	8.40	1.003
Low point	4981	19.5	4.20	4.17	1.008
As left zero	5000	0.0	0.00	0.02	----
As left span	4921	78.1	16.82	16.80	1.001
				Average Correction Factor	1.003

Notes: Changed the inlet filter and the N2 cylinder after as founds. Adjusted the span.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	78.1	8.93	8.64	1.034
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.64	Prev response	8.90	*% change	-3.1%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	78.1	8.93	8.96	0.997
Mid point	4960	39.1	4.47	4.45	1.004
Low point	4981	19.5	2.23	2.21	1.010
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.1	8.93	8.94	0.999
				Average Correction Factor	1.004

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.01	----
As found High point	4921	78.1	7.89	7.81	1.011
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.80	Prev response	7.88	*% change	-1.0%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.02	----
High point	4921	78.1	7.89	7.89	0.999
Mid point	4960	39.1	3.95	3.94	1.001
Low point	4981	19.5	1.97	1.96	1.005
As left zero	5000	0.0	0.00	0.02	----
As left span	4921	78.1	7.89	7.86	1.004
				Average Correction Factor	1.002

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	1.000104	1.001524
THC Cal Offset:	-0.044554	-0.012726
CH4 Cal Slope:	1.001469	0.999248
CH4 Cal Offset:	-0.023484	0.004620
NMHC Cal Slope:	0.999092	1.003865
NMHC Cal Offset:	-0.021076	-0.018145

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

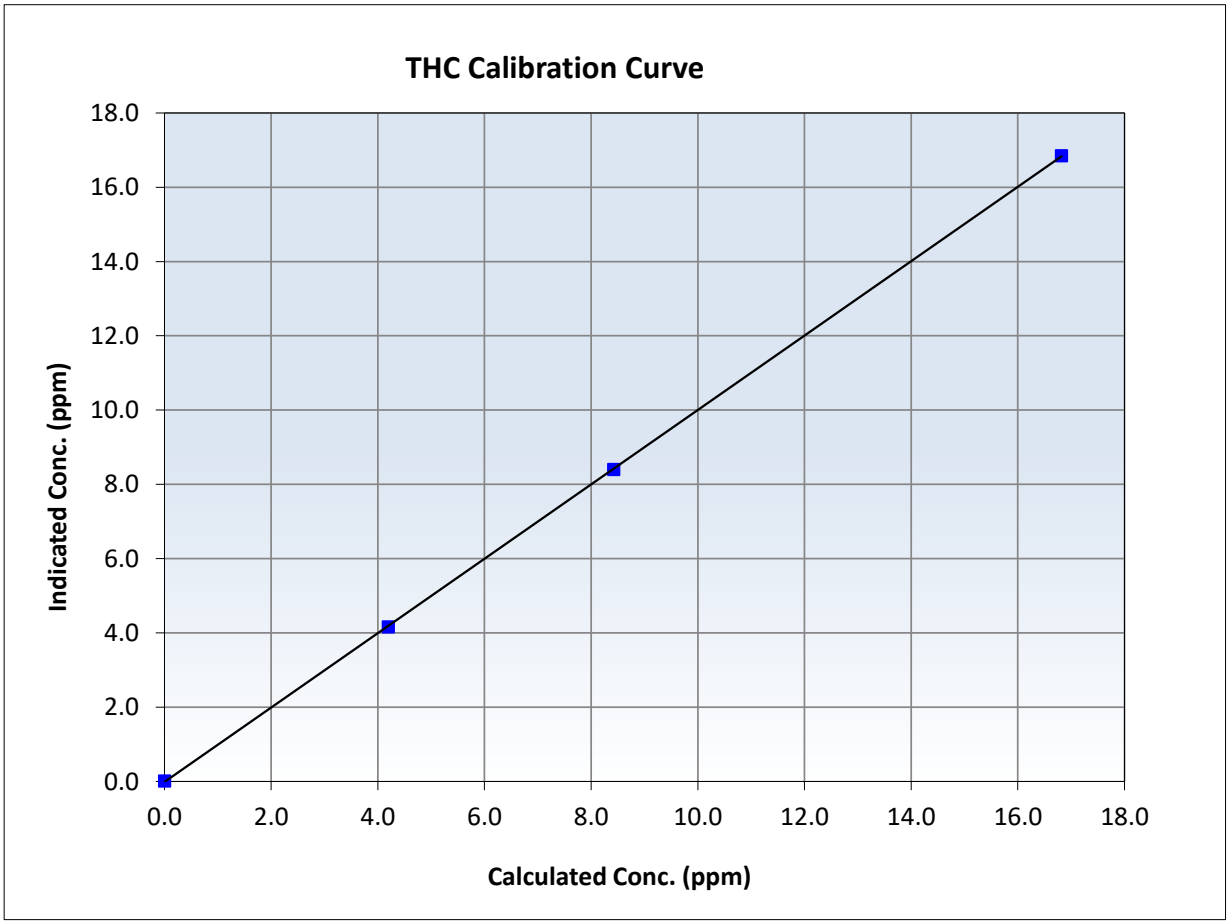
THC Calibration Summary

Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 18, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	11:15	End Time (MST):	14:31
Analyzer make:	Thermo 55i	Analyzer serial #:	1170050130

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.02	----	Correlation Coefficient	0.999985	≥0.995
16.82	16.85	0.9982	Slope	1.001524	0.90 - 1.10
8.42	8.40	1.0026			
4.20	4.17	1.0075	Intercept	-0.012726	+/-0.5



Wood Buffalo Environmental Association

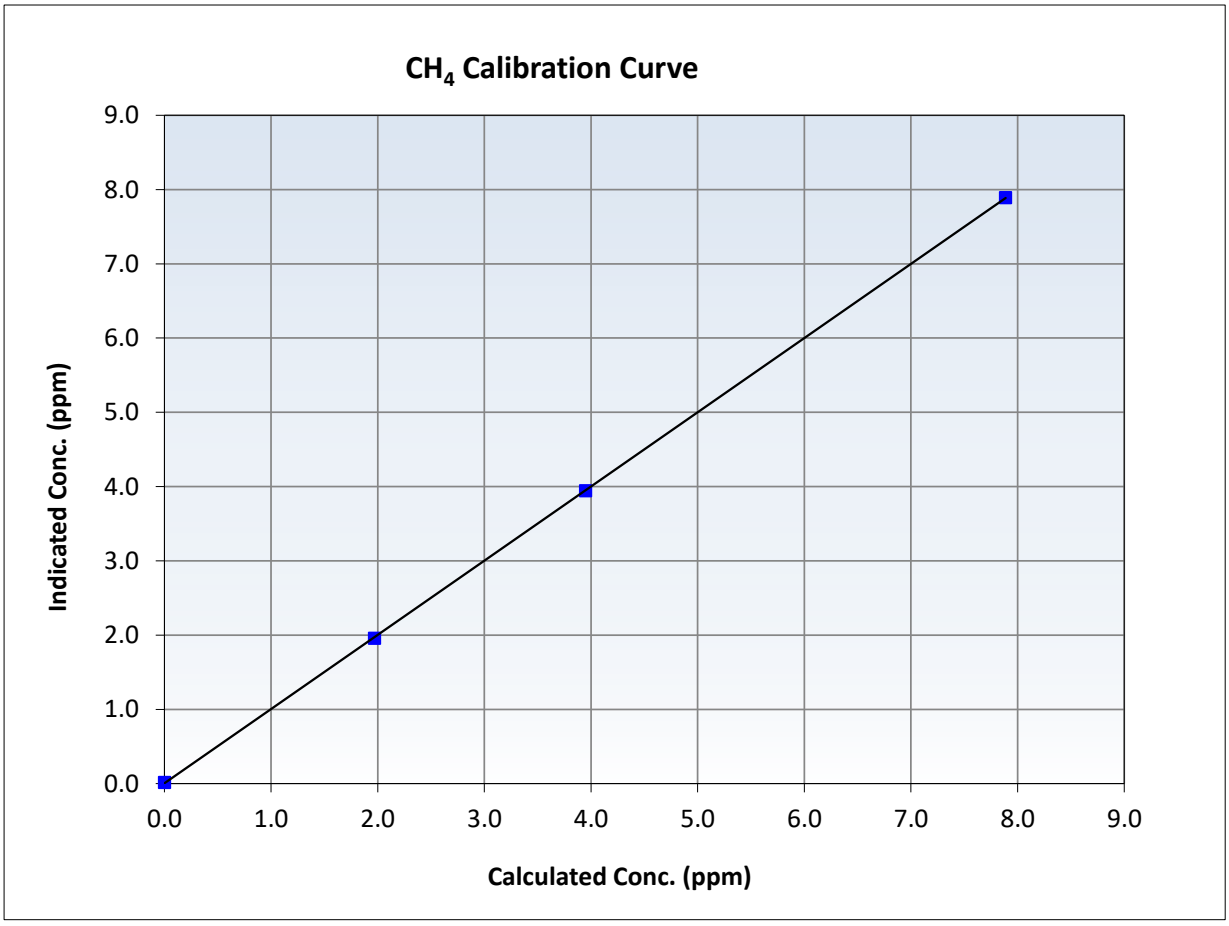
CH_4 Calibration Summary

Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 18, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	11:15	End Time (MST):	14:31
Analyzer make:	Thermo 55i	Analyzer serial #:	1170050130

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.02	----	Correlation Coefficient	0.999989	≥0.995
7.89	7.89	0.9994	Slope	0.999248	0.90 - 1.10
3.95	3.94	1.0013	Intercept	0.004620	+/-0.5
1.97	1.96	1.0045			



Wood Buffalo Environmental Association

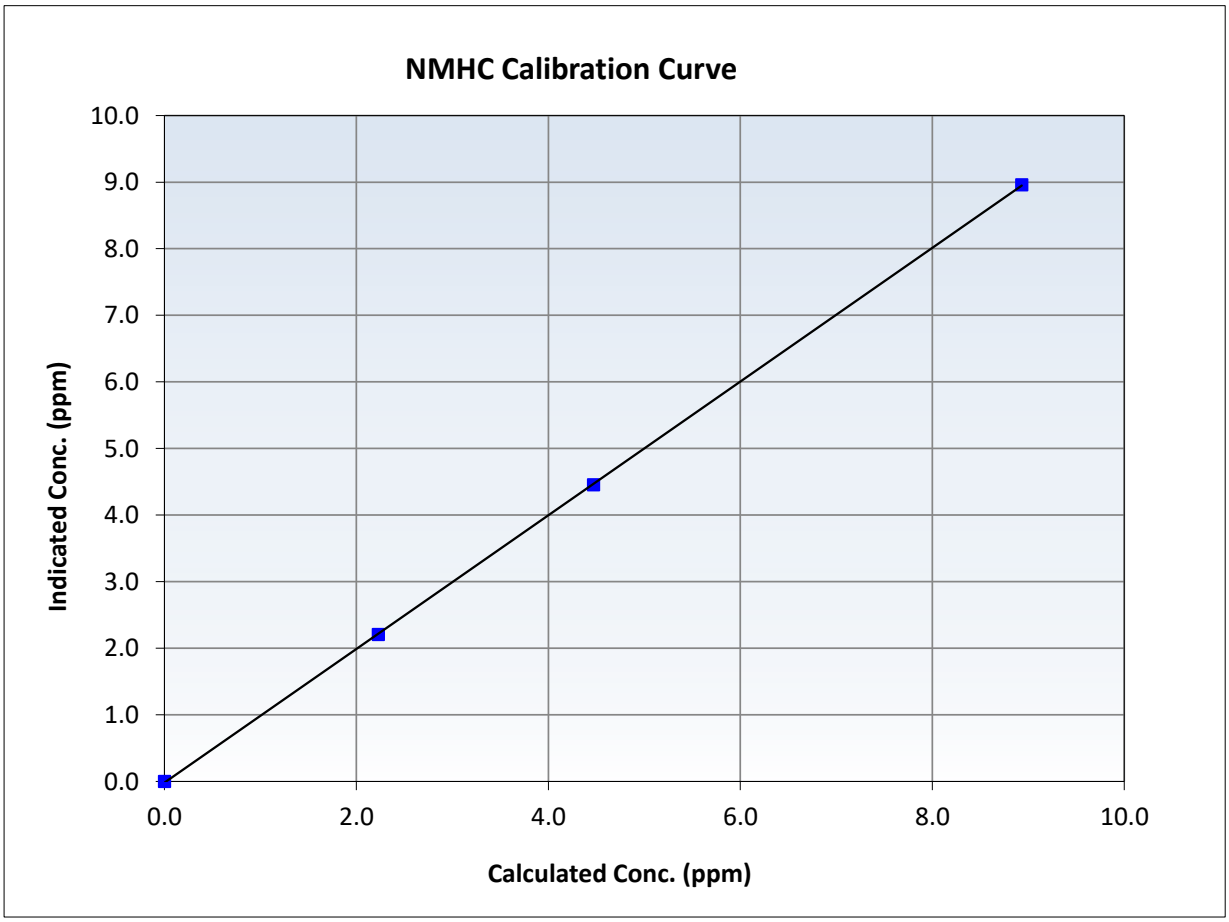
NMHC Calibration Summary

Station Information

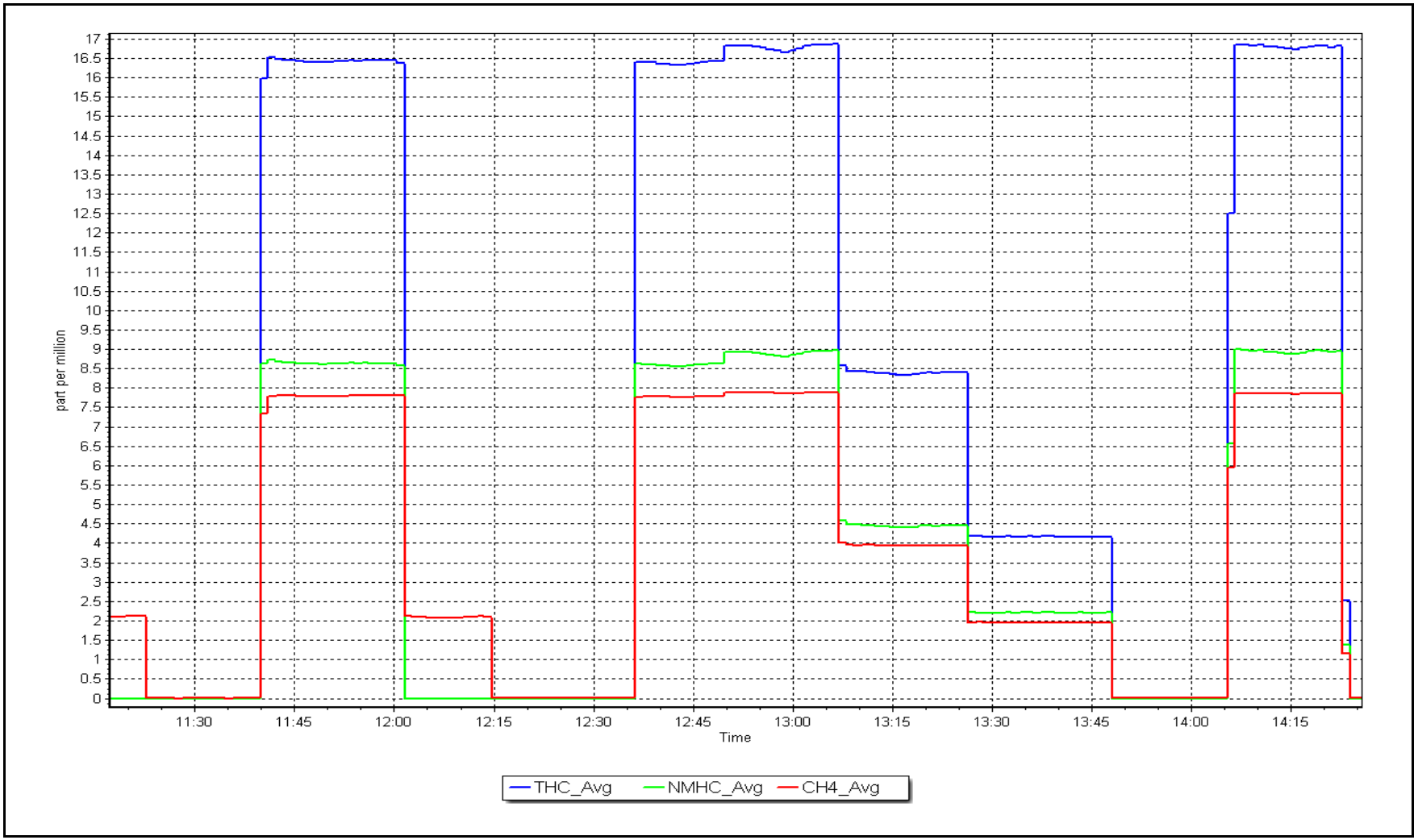
Calibration Date:	October 23, 2025	Previous Calibration:	September 18, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	11:15	End Time (MST):	14:31
Analyzer make:	Thermo 55i	Analyzer serial #:	1170050130

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999979	≥0.995
8.93	8.96	0.9969	Slope	1.003865	0.90 - 1.10
4.47	4.45	1.0040			
2.23	2.21	1.0102	Intercept	-0.018145	+/-0.5



NMHC Calibration Plot Date: October 23, 2025 Location: Stony Mountain



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Stony Mountain
Station number:	AMS 18
Calibration Date:	October 31, 2025
Last Cal Date:	September 22, 2025
Start time (MST):	10:21
End time (MST):	15:18
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0045516	Cal Gas Expiry Date:	November 17, 2026
NOX Cal Gas Conc:	60.30 ppm	NO Cal Gas Conc:	60.10 ppm
Removed Cylinder #:	N/A	Removed Gas Exp Date:	N/A
Removed Gas NOX Conc:	60.30 ppm	Removed Gas NO Conc:	60.10 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	2658
ZAG make/model:	Teledyne API 701	Serial Number:	4890

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	----
AF High point	4933	66.6	803.3	800.6	2.7	802.7	798.3	4.4	1.0007	1.0029
AF Mid point										
AF Low point										
New cyl resp										

Previous Respo	4933	NO_X =	801.8 ppb	NO =	799.4 ppb		
Baseline Corr 1st pt		NO_X =	802.7 ppb	NO =	798.3 ppb		
Baseline Corr 2nd pt		NO_X =	NA ppb	NO =	NA ppb		
Baseline Corr 3rd pt		NO_X =	NA ppb	NO =	NA ppb		

* = > +/-5% change initiates investigation

*Percent Change	NO_X =	0.1%	
*Percent Change	NO =	-0.1%	
As Found Statistics			
As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo Scientific 42i Serial Number: 1501663731

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.060	1.059	NO bkgnd or offset:	10.4	10.4
NOX coeff or slope:	0.999	0.999	NOX bkgnd or offset:	10.5	10.6
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	220.7	218.9

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.998994	0.999094
NO_X Cal Offset:	-0.608232	-0.868433
NO Cal Slope:	1.000822	0.999139
NO Cal Offset:	-1.809363	-1.969984
NO_2 Cal Slope:	1.000029	0.998329
NO_2 Cal Offset:	1.371521	0.878481

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.2	0.3	-0.1	----	----
High point	4933	66.6	803.3	800.6	2.7	802.2	799.1	3.1	1.0013	1.0019
Mid point	4967	33.3	401.6	400.2	1.3	399.8	396.7	3.1	1.0044	1.0089
Low point	4983	16.6	200.2	199.5	0.7	198.1	195.2	3.0	1.0107	1.0223
As left zero	5000	0.0	0.0	0.0	0.0	0.2	0.1	0.1	----	----
As left span	4933	66.6	803.3	386.4	416.9	803.2	386.4	416.9	1.0001	1.0000
							Average Correction Factor		1.0055	1.0110

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	-0.1	----	----
High GPT point	798.6	385.3	416.0	415.7	1.0006	99.9%
Mid GPT point	798.6	597.4	203.9	204.8	0.9954	100.5%
Low GPT point	798.6	699.1	102.2	103.9	0.9833	101.7%
				Average Correction Factor	0.9931	100.7%

Notes: Span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

NO_X Calibration Summary

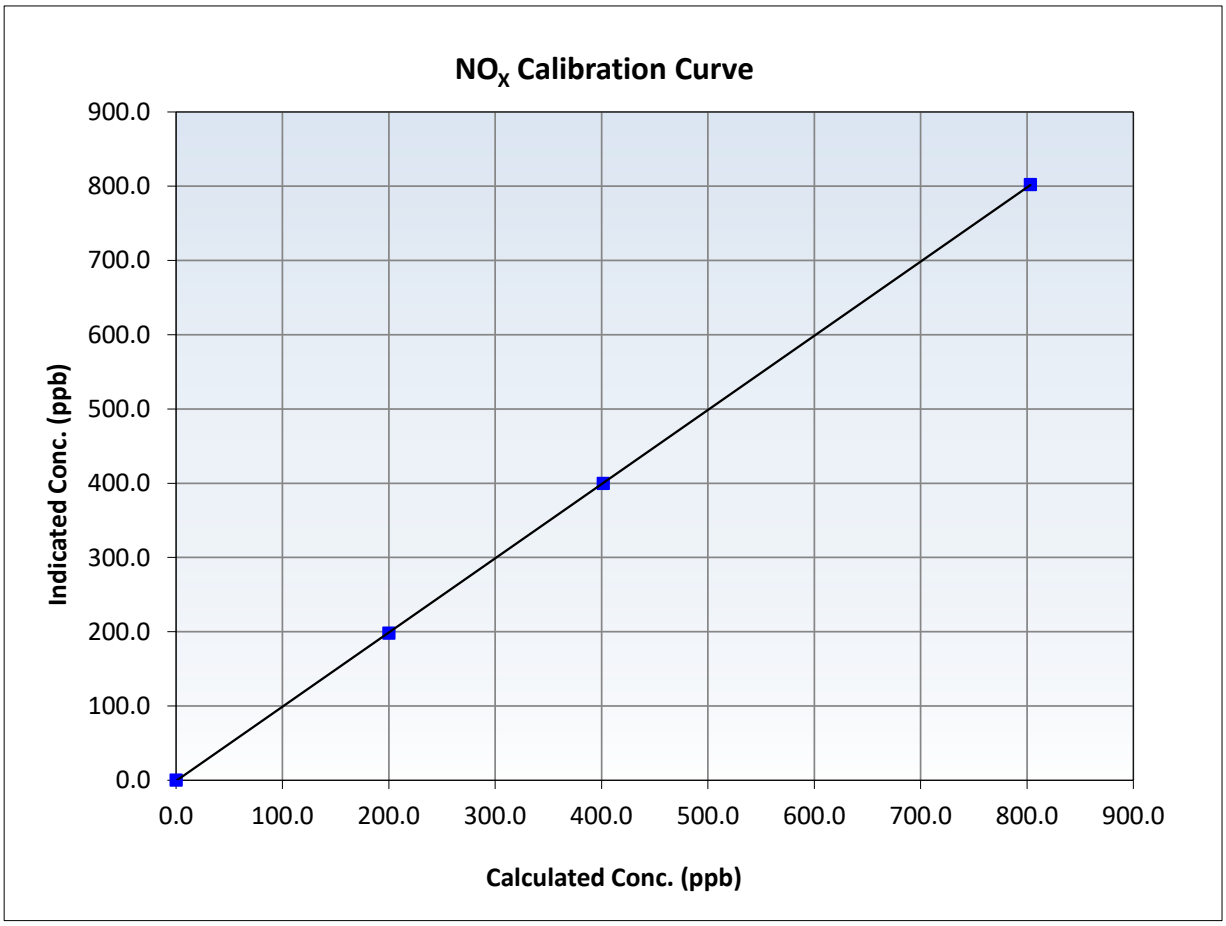
Station Information

Calibration Date:	October 31, 2025	Previous Calibration:	September 22, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	10:21	End Time (MST):	15:18
Analyzer make:	Thermo Scientific 42i	Analyzer serial #:	1501663731

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
803.3	802.2	1.0013
401.6	399.8	1.0044
200.2	198.1	1.0107

Statistical Evaluation		Limits
Correlation Coefficient	0.999992	≥0.995
Slope	0.999094	0.90 - 1.10
Intercept	-0.868433	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

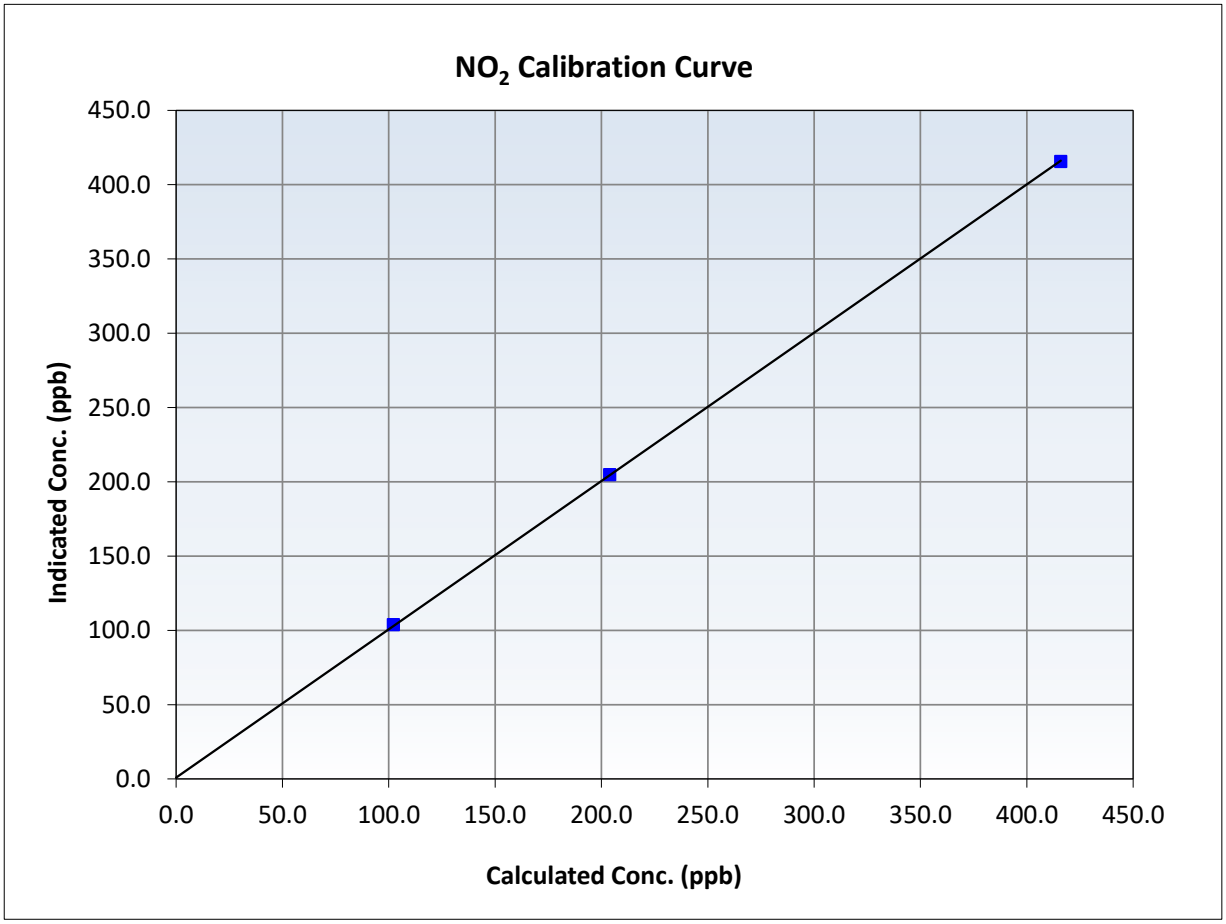
Station Information

Calibration Date:	October 31, 2025	Previous Calibration:	September 22, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	10:21	End Time (MST):	15:18
Analyzer make:	Thermo Scientific 42i	Analyzer serial #:	1501663731

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
416.0	415.7	1.0006
203.9	204.8	0.9954
102.2	103.9	0.9833

Statistical Evaluation		Limits
Correlation Coefficient	0.999975	≥0.995
Slope	0.998329	0.90 - 1.10
Intercept	0.878481	+/-20



Wood Buffalo Environmental Association

NO Calibration Summary

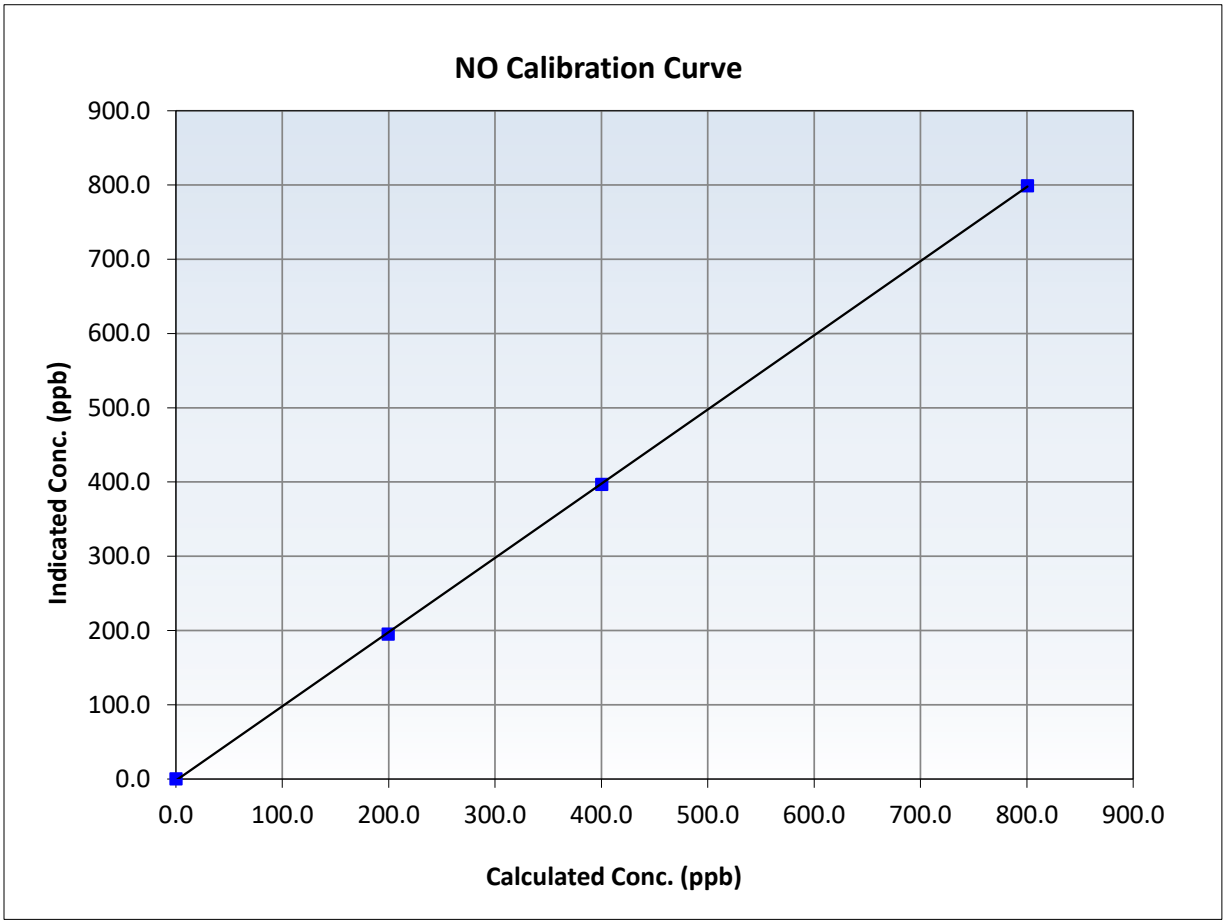
Station Information

Calibration Date:	October 31, 2025	Previous Calibration:	September 22, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	10:21	End Time (MST):	15:18
Analyzer make:	Thermo Scientific 42i	Analyzer serial #:	1501663731

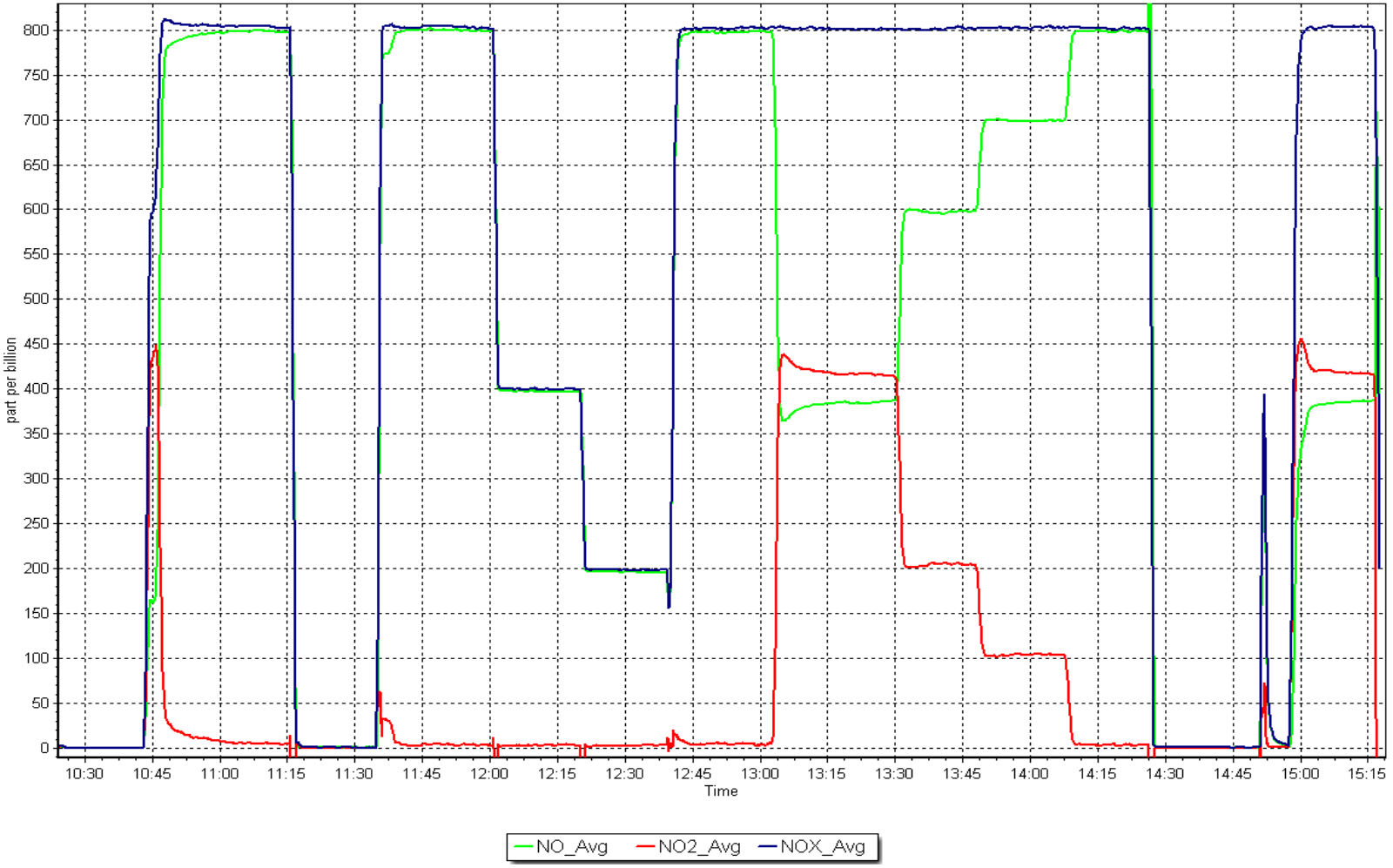
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
800.6	799.1	1.0019
400.2	396.7	1.0089
199.5	195.2	1.0223

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999963	*≥0.995*
Slope	0.999139	*0.90 - 1.10*
Intercept	-1.969984	*+/-20*



NO_X Calibration Plot Date: October 31, 2025 Location: Stony Mountain



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Stony Mountain	Station number:	AMS 18
Calibration Date:	October 22, 2025	Last Cal Date:	September 11, 2025
Start time (MST):	11:10	End time (MST):	14:34
Reason:	Routine		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	Teledyne API T700	Serial Number:	2658
ZAG Make/Model:	Teledyne API 701H	Serial Number:	4890

Analyzer Information

Analyzer make:	API T400		Analyzer serial #:	825	
Analyzer Range	0 - 500 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.003086	0.995086	Backgd or Offset:	2.3	2.3
Calibration intercept:	0.460000	-0.040000	Coeff or Slope:	0.991	0.991

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	NA	0.0	-0.1	----
As found High point	4888	1138.1	400.0	398.7	1.003
As found Mid point					
As found Low point					
Baseline Corr As found:	398.8	Previous response	401.7	*% change	-0.7%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

O_3 Calibration Data

Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	NA	0.0	-0.5	----
High point	4888	1138.1	400.0	397.4	1.007
Mid point	4888	884.5	200.0	200.3	0.999
Low point	4888	741.4	100.0	99.2	1.008
As left zero	5000	NA	0.0	0.6	----
As left span	4812	1097.9	400.0	398.9	1.003
				Average Correction Factor	1.004

Notes: No adjustments needed.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

O_3 Calibration Summary

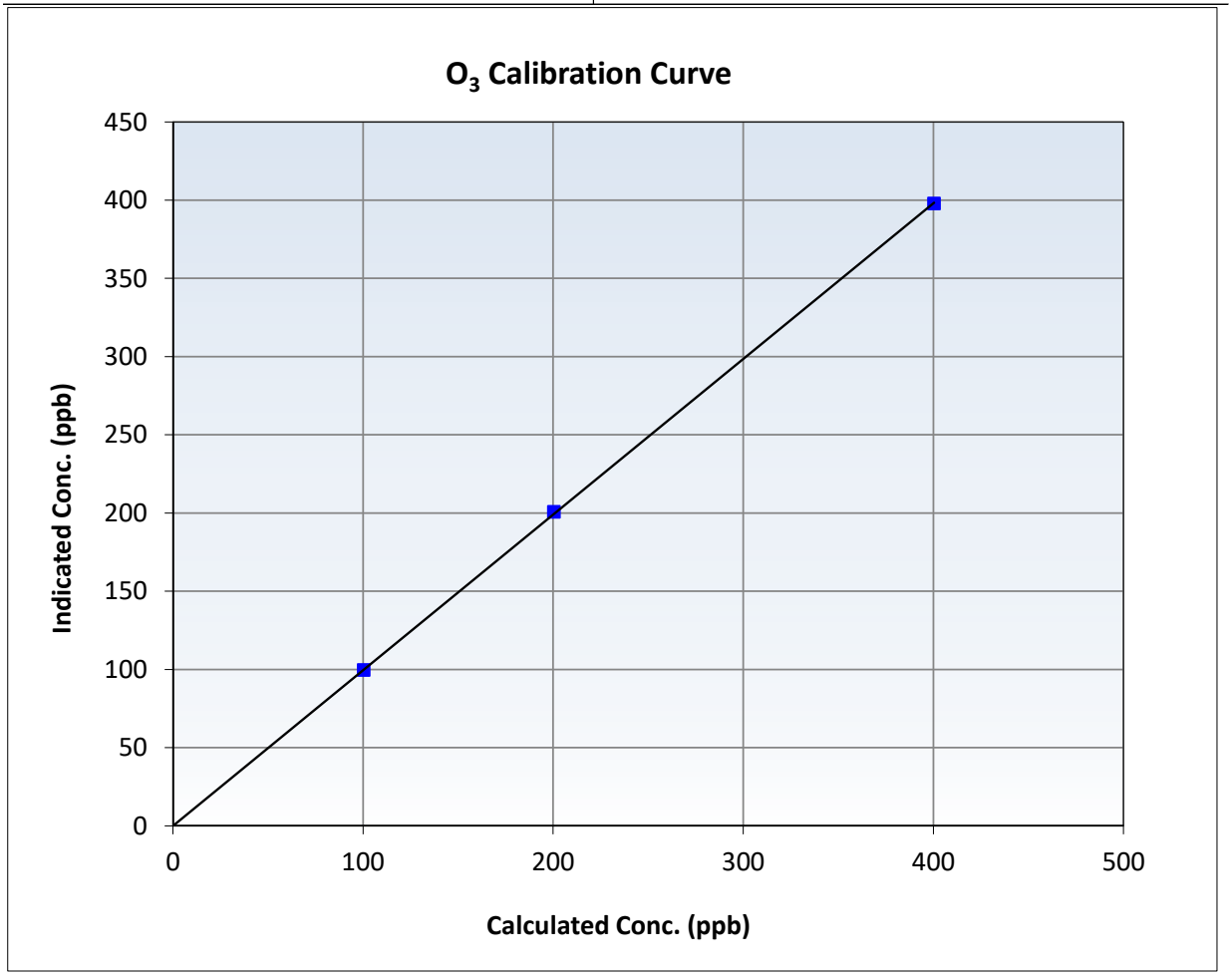
Station Information

Calibration Date:	October 22, 2025	Previous Calibration:	September 11, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	11:10	End Time (MST):	14:34
Analyzer make:	API T400	Analyzer serial #:	825

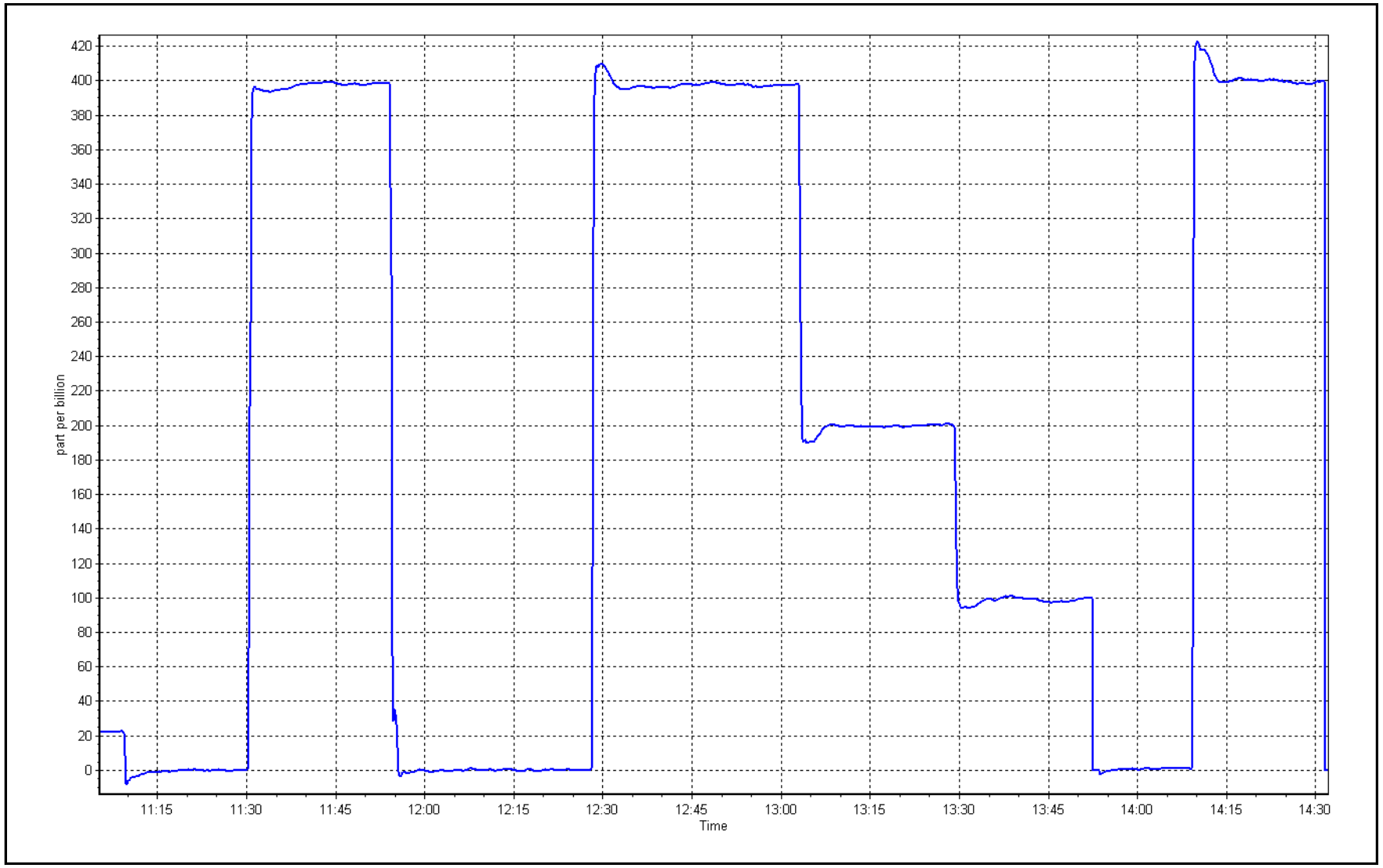
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.5	----
400.0	397.4	1.0065
200.0	200.3	0.9985
100.0	99.2	1.0081

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999972	*≥0.995*
Slope	0.995086	*0.90 - 1.10*
Intercept	-0.040000	*+/- 5*



O_3 Calibration Plot Date: October 22, 2025 Location: Stony Mountain



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Stony Mountain	Station number:	AMS 18
Calibration Date:	October 31, 2025	Last Cal Date:	September 23, 2025
Start time (MST):	13:31	End time (MST):	15:07
Analyzer Make:	API T640	S/N:	324
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388749
Temp/RH standard:	Alicat FP-25BT	S/N:	388749

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (°C)	2.3	1.7	2.3	☐	+/- 2 °C
P (mmHg)	699.3	699.80	699.3	☐	+/- 10 mmHg
Flow (LPM)	5.02	4.98	5.02	☐	+/- 0.25 LPM
PW% (pump)	32	-----	32	☐	>80%
Zero Verification	PM w/o HEPA:	5.1	PM w/ HEPA:	0.0	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.9 — Expiry Date: October 10, 2024 — Lot No.: 100128-050-042

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test				☐	+/- 0.5

Date Optical Chamber Cleaned: August 28, 2025

Date Disposable Filter Changed: October 31, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0.0 <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: September 23, 2025

Date RH/T Sensor Cleaned: September 23, 2025

Notes: Flow, pressure and temp checked. Leak check passed. DFU filter changed out.

Calibration by: Aswin Sasi Kumar

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS19
FIREBAG
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Firebag	Station number:	AMS 19
Calibration Date:	October 6, 2025	Last Cal Date:	September 15, 2025
Start time (MST):	11:06	End time (MST):	14:23
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.97	ppm	Cal Gas Exp Date:	October 9, 2032
Cal Gas Cylinder #:	CC705799			
Removed Cal Gas Conc:	50.97	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	1607
Zero Air Gen Model:	Teledyne API T701H		Serial Number:	201

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1410661308	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.002290	1.002734	Backgd or Offset:	11.9	11.8
Calibration intercept:	0.620000	0.740000	Coeff or Slope:	1.030	1.015

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	4999	0.0	0.0	-0.5	----
As found High point	4922	78.4	799.2	810.0	0.986
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	810.5	Previous response	801.7	*% change	1.1%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	4999	0.0	0.0	0.0	----
High point	4922	78.4	799.2	802.0	0.997
Mid point	4961	39.2	399.6	401.1	0.996
Low point	4980	19.6	199.8	202.3	0.988
As left zero	4999	0.0	0.0	-0.4	----
As left span	4922	78.4	799.2	804.0	0.994
				Average Correction Factor:	0.993

Notes: Changed sample inlet filter after as founds. Adjusted span.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

SO_2 Calibration Summary

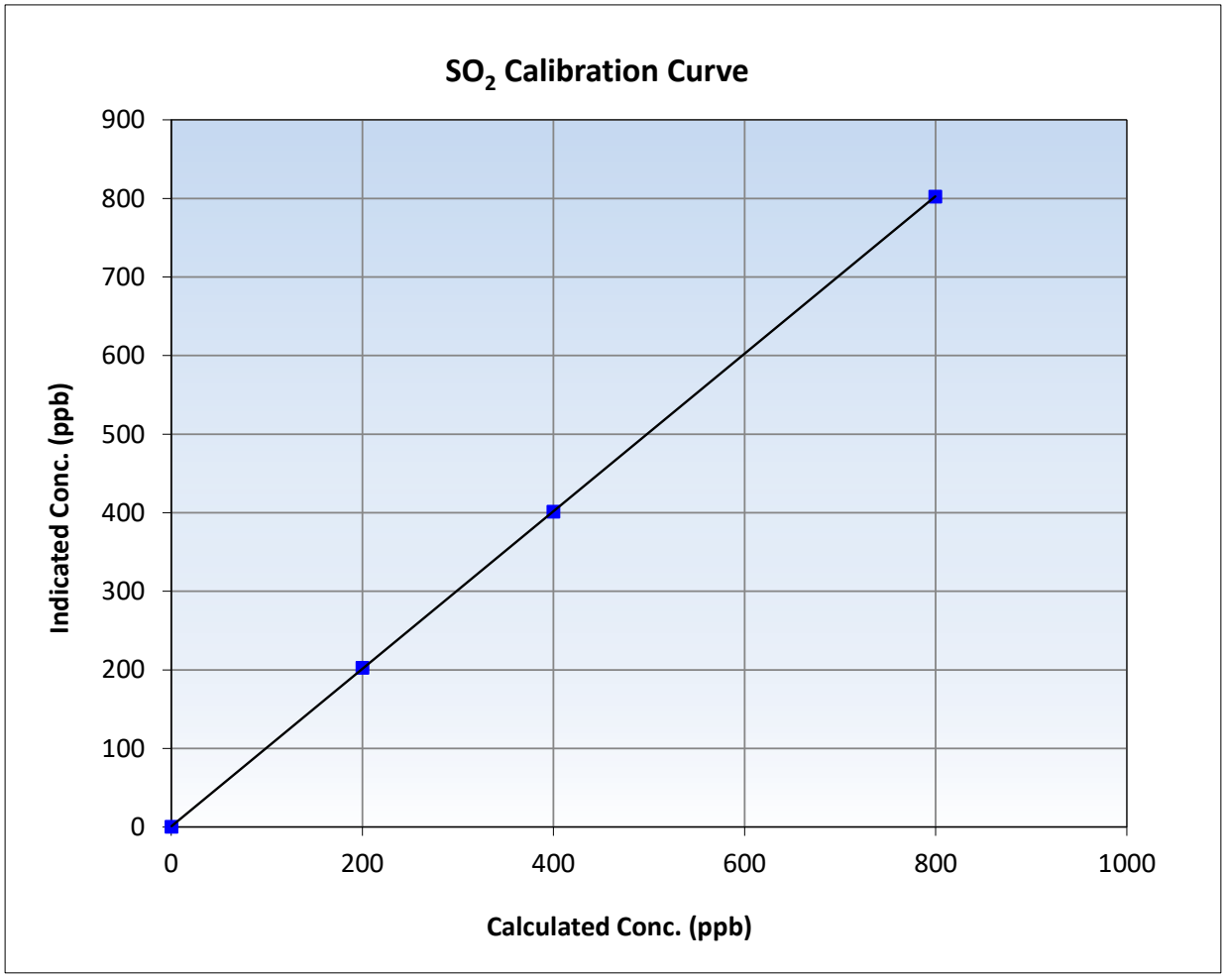
Station Information

Calibration Date:	October 6, 2025	Previous Calibration:	September 15, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	11:06	End Time (MST):	14:23
Analyzer make:	Thermo 43i	Analyzer serial #:	1410661308

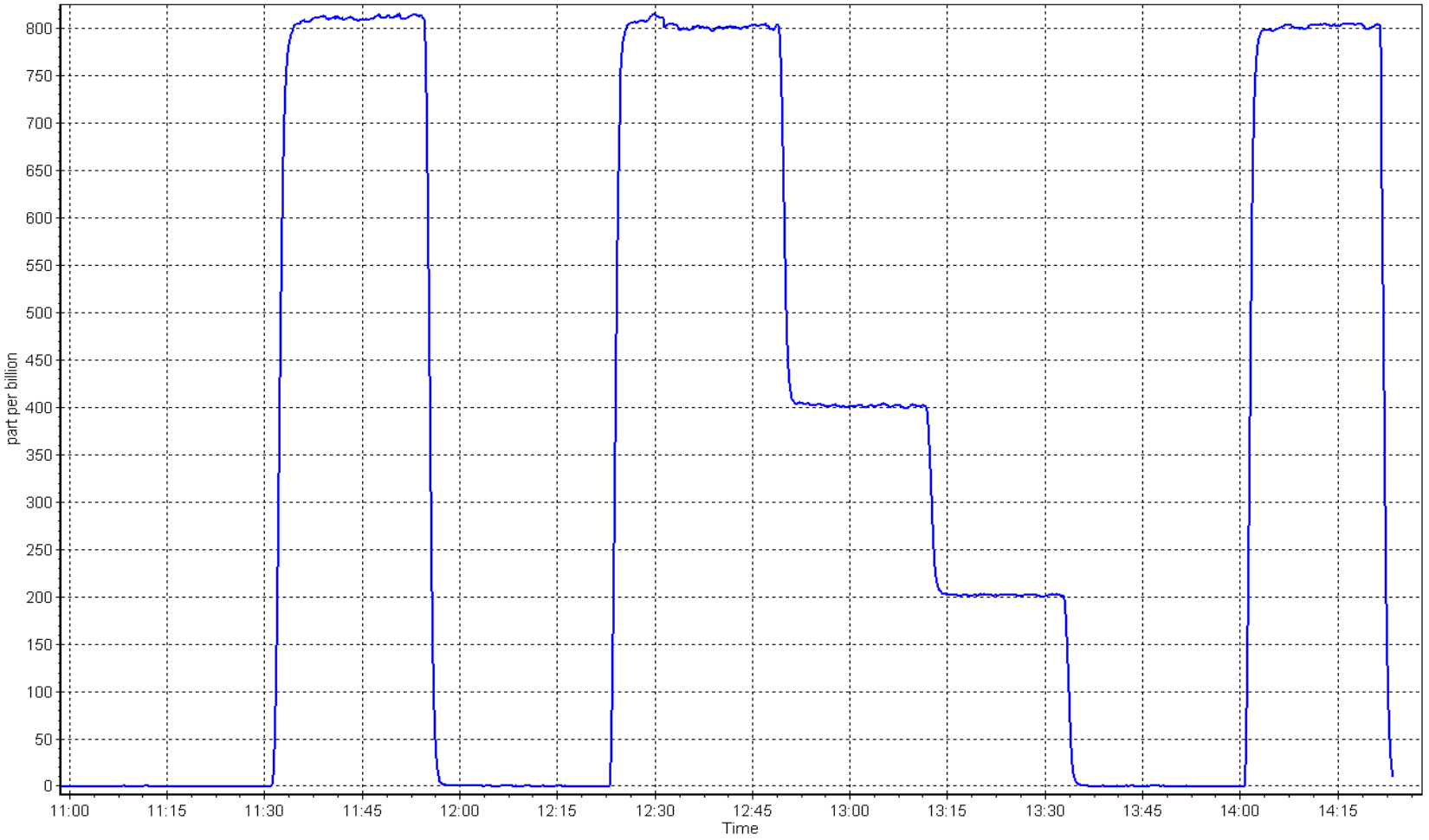
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
799.2	802.0	0.9965
399.6	401.1	0.9963
199.8	202.3	0.9877

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999994	*≥0.995*
Slope	1.002734	*0.90 - 1.10*
Intercept	0.740000	*+/-30*



SO2 Calibration Plot Date: October 6, 2025 Location: Firebag



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Firebag	Station number:	AMS 19
Calibration Date:	October 7, 2025	Last Cal Date:	September 10, 2025
Start time (MST):	10:50	End time (MST):	16:34
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.29	ppm	Cal Gas Exp Date:	March 19, 2027
Cal Gas Cylinder #:	DT0010492			
Removed Cal Gas Conc:	5.29	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	1607
ZAG Make/Model:	Teledyne API T701		Serial Number:	201

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Analyzer serial #:	1151680032
Converter make:	Global		Converter serial #:	2022-222
Analyzer Range	0 - 100 ppb		Converter Temp:	325 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.001333	0.980615	Backgd or Offset:	2.64	2.66
Calibration intercept:	0.060000	0.060000	Coeff or Slope:	1.190	1.190

H2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.0	----
As found High point	4924	75.6	80.0	80.3	0.996
As found Mid point	4962	37.8	40.0	40.3	0.992
As found Low point	4981	18.9	20.0	20.2	0.990
New cylinder response					

Baseline Corr As found:	80.3	Prev response:	80.15	*% change:	0.2%
Baseline Corr 2nd AF pt:	40.3	AF Slope:	1.003619	AF Intercept:	0.080000
Baseline Corr 3rd AF pt:	20.2	AF Correlation:	0.999995	* = > +/-5% change initiates investigation	

H2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.1	----
High point	4924	75.6	80.0	78.5	1.019
Mid point	4962	37.8	40.0	39.3	1.018
Low point	4981	18.9	20.0	19.6	1.020
As left zero	5000	0.0	0.0	0.2	----
As left span	4924	75.6	80.0	77.6	1.031
SO2 Scrubber Check				0.0	

Date of last scrubber change:	18-Jan-23	Ave Corr Factor	1.019
Date of last converter efficiency test:	November 26, 2024	106.2%	efficiency

Notes: Changed sample inlet filter after as founds. No adjustments made.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

H2S Calibration Summary

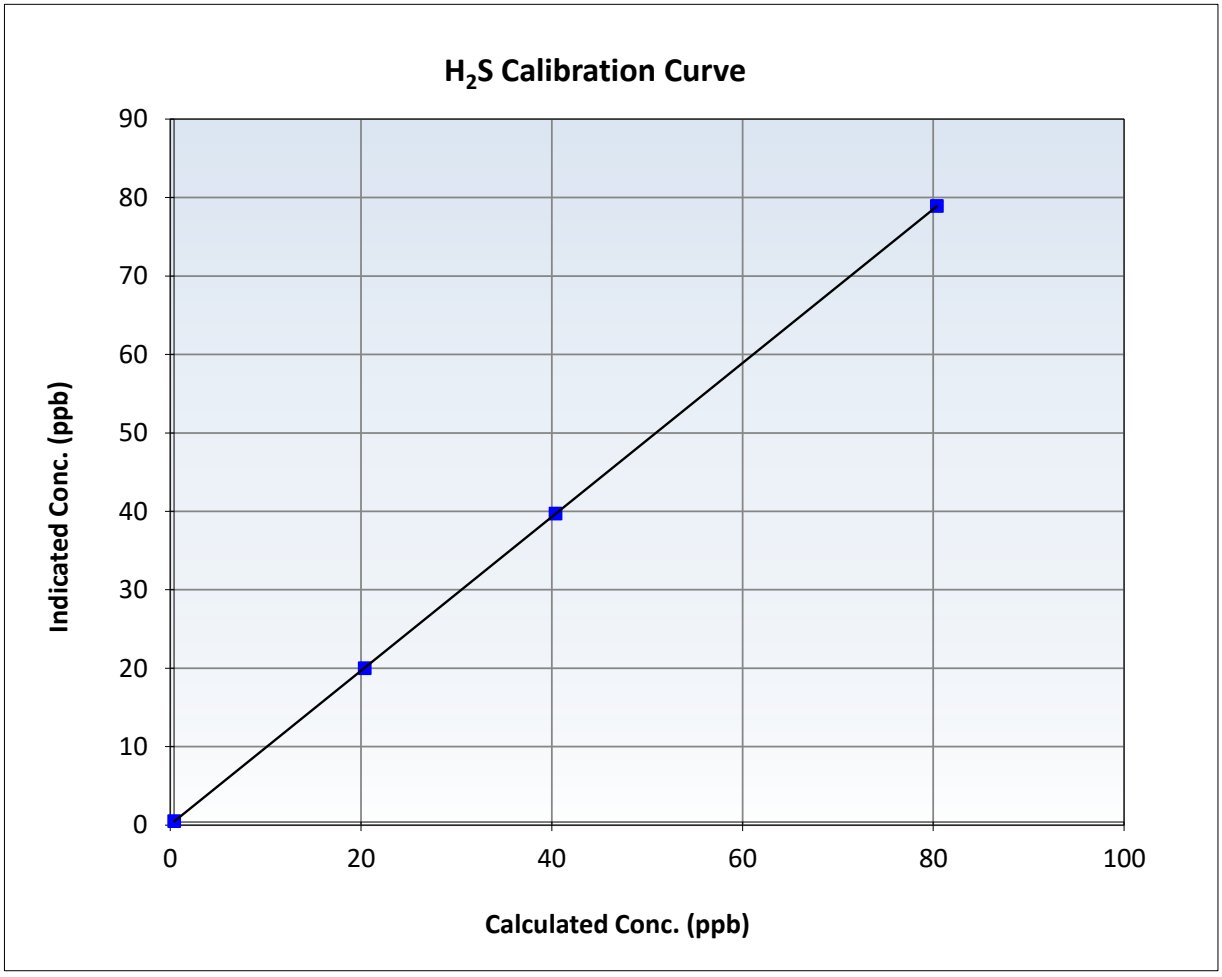
Station Information

Calibration Date:	October 7, 2025	Previous Calibration:	September 10, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	10:50	End Time (MST):	16:34
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1151680032

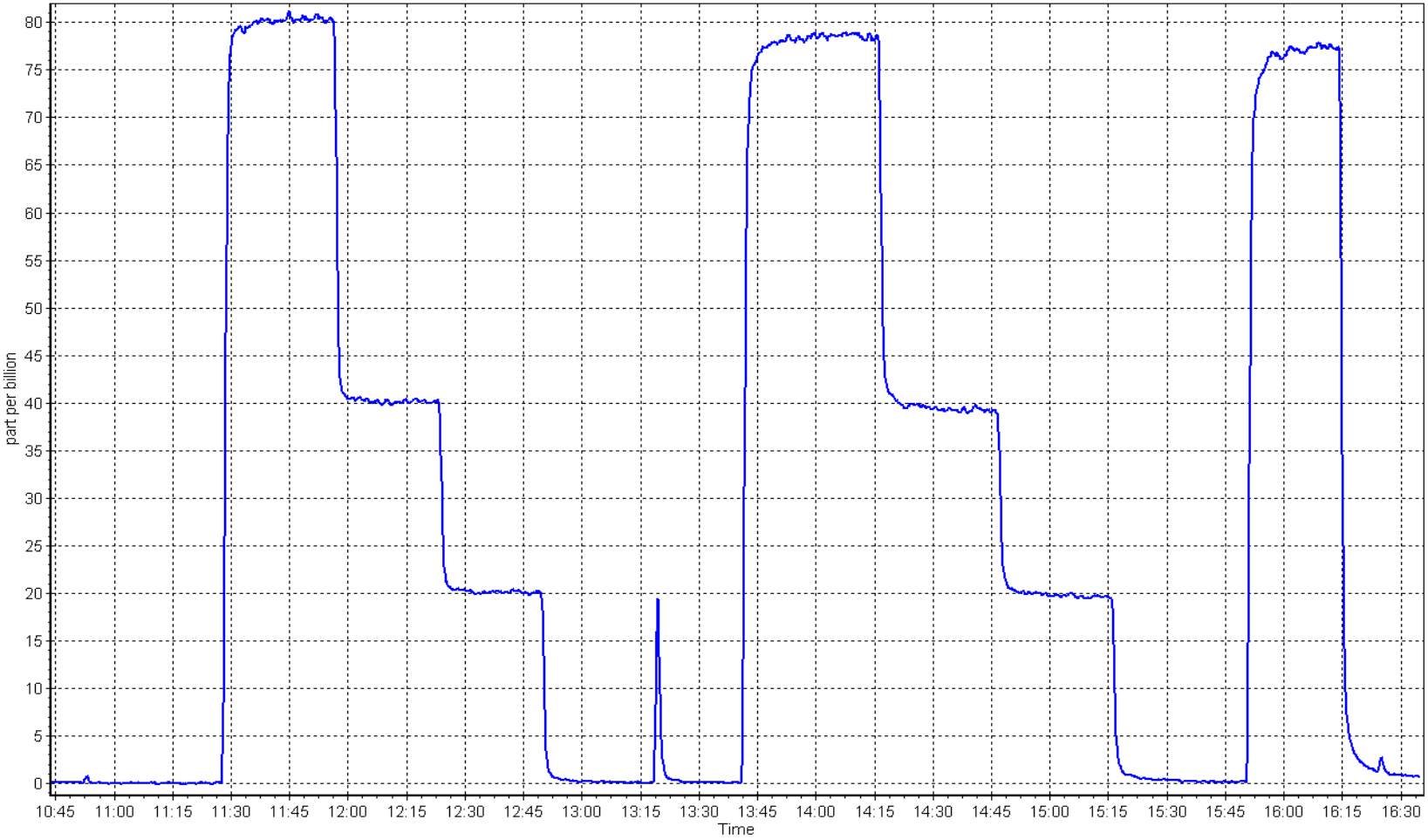
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
80.0	78.5	1.0189
40.0	39.3	1.0176
20.0	19.6	1.0202

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	0.980615	*0.90 - 1.10*
Intercept	0.060000	*+/-3*



H2S Calibration Plot Date: October 7, 2025 Location: Firebag



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Firebag	Station number:	AMS 19
Calibration Date:	October 6, 2025	Last Cal Date:	September 15, 2025
Start time (MST):	11:06	End time (MST):	14:23
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC705799		Cal Gas Expiry Date:	October 9, 2032	
CH4 Cal Gas Conc.	505.1	ppm	CH4 Equiv Conc.	1066.9	ppm
C3H8 Cal Gas Conc.	204.3	ppm			
Removed Gas Cert:			Removed Gas Expiry:		
Removed CH4 Conc.	505.1	ppm	CH4 Equiv Conc.	1066.9	ppm
Removed C3H8 Conc.	204.3	ppm	Diff between cyl:		
Calibrator Make/Model:	Teledyne API T700		Serial Number:	1607	
ZAG Make/Model:	Teledyne API T701H		Serial Number:	201	

Analyzer Information

Analyzer make:	Thermo 51i-LT		Analyzer serial #:	1336160089	
Analyzer Range:	0 - 20 ppm				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	0.994254	0.995149	Background:	2.30	2.16
Calibration intercept:	-0.025133	-0.015933	Coefficient:	3.841	3.860

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	4999	0.0	0.00	-0.16	----
As found High point	4922	78.4	16.73	16.55	1.001
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	16.71	Previous response	16.61	*% change	0.6%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	4999	0.0	0.00	0.02	----
High point	4922	78.4	16.73	16.66	1.004
Mid point	4961	39.2	8.36	8.26	1.013
Low point	4980	19.6	4.18	4.13	1.012
As left zero	4999	0.0	0.00	-0.03	----
As left span	4922	78.4	16.73	16.79	0.996
				Average Correction Factor	1.010

Notes: Changed sample inlet filter after as founds. Adjusted zero and span.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

THC Calibration Summary

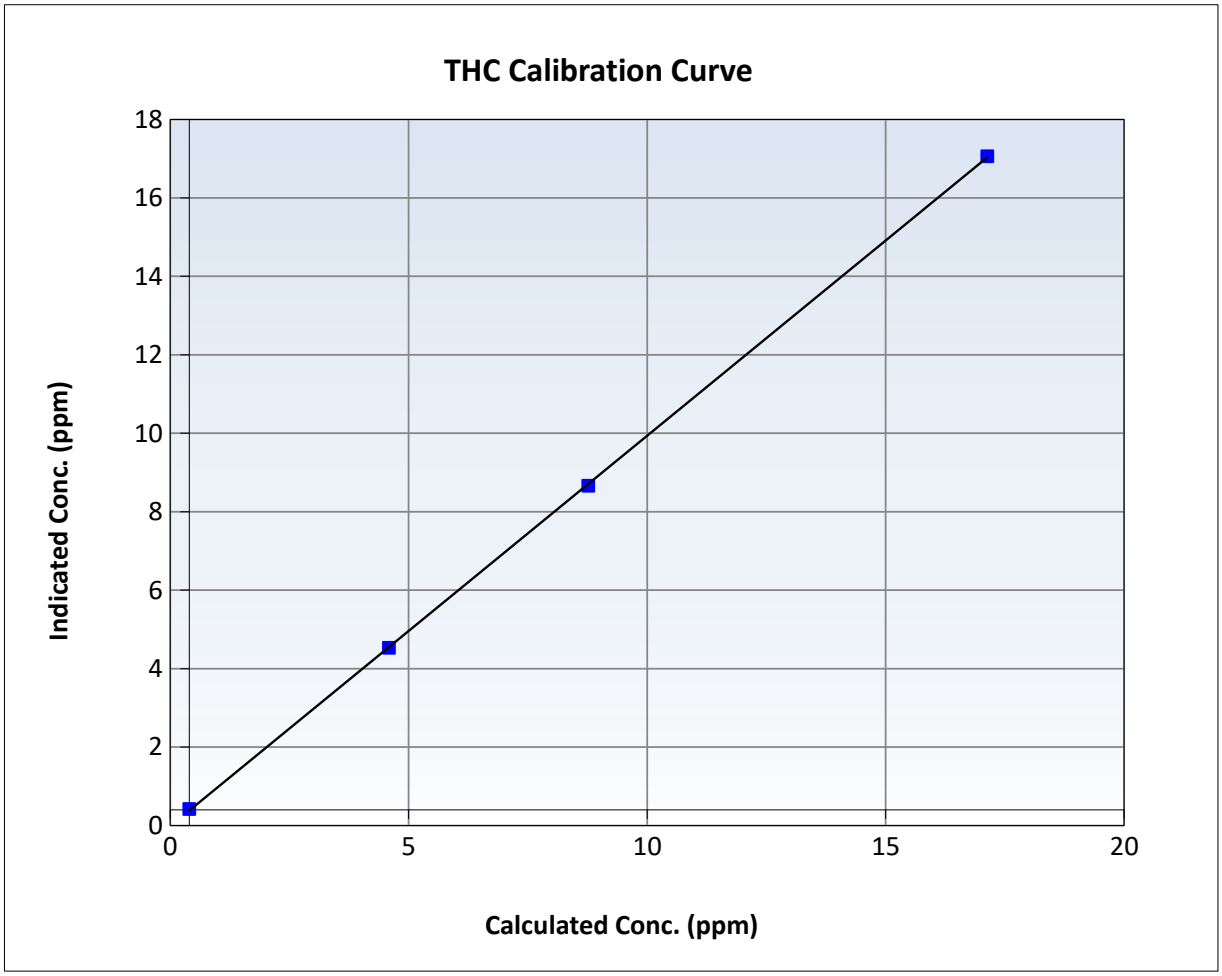
Station Information

Calibration Date:	October 6, 2025	Previous Calibration:	September 15, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	11:06	End Time (MST):	14:23
Analyzer make:	Thermo 51i-LT	Analyzer serial #:	1336160089

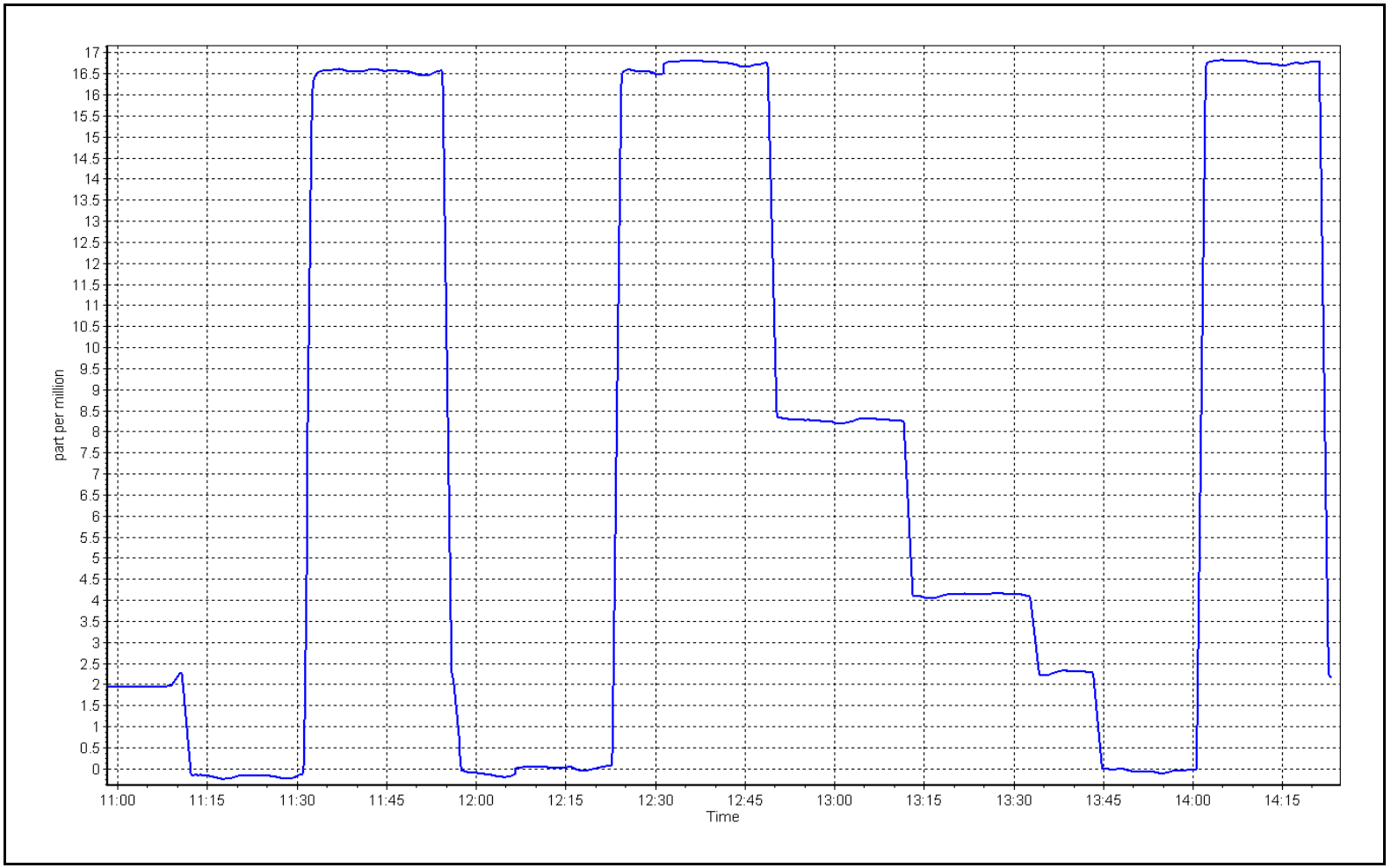
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.02	----
16.73	16.66	1.0042
8.36	8.26	1.0127
4.18	4.13	1.0123

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999970	*≥0.995*
Slope	0.995149	*0.90 - 1.10*
Intercept	-0.015933	*+/-1.5*



THC Calibration Plot Date: October 6, 2025 Location: Firebag



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Firebag
Station number:	AMS 19
Calibration Date:	October 29, 2025
Last Cal Date:	September 11, 2025
Start time (MST):	9:26
End time (MST):	14:06
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0044018	Cal Gas Expiry Date:	November 3, 2031
NOX Cal Gas Conc:	48.90 ppm	NO Cal Gas Conc:	48.70 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	48.90 ppm	Removed Gas NO Conc:	48.70 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	1607
ZAG make/model:	Teledyne API T701H	Serial Number:	201

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.2	-0.2	0.0	----	----
AF High point	4918	82.1	802.9	799.7	3.3	815.0	812.0	2.7	0.9850	0.9846
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 802.9 ppb	NO = 801.6 ppb
Baseline Corr 1st pt	NO_X = 815.2 ppb	NO = 812.2 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

As Found Statistics

As found	NO_X r^2:	*Percent Change	NO_X = 1.5%
As found	NO r^2:	*Percent Change	NO = 1.3%
As found	NO_2 r^2:	Nx Sl:	Nx Int:
		NO Sl:	NO Int:
		NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1410661309

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.938	0.922	NO bkgnd or offset:	4.7	4.6
NOX coeff or slope:	0.991	0.993	NOX bkgnd or offset:	4.7	4.6
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	165.1	163.0

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.997477	0.998175
NO_X Cal Offset:	1.940035	1.319743
NO Cal Slope:	1.001331	0.998416
NO Cal Offset:	0.899770	0.719909
NO_2 Cal Slope:	0.996705	1.003548
NO_2 Cal Offset:	-0.099258	-0.371604

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	----
High point	4918	82.1	802.9	799.7	3.3	802.0	798.7	3.1	1.0012	1.0012
Mid point	4959	41.1	402.0	400.3	1.6	403.6	400.9	2.7	0.9959	0.9985
Low point	4980	20.5	200.5	199.7	0.8	202.5	200.7	1.9	0.9901	0.9949
As left zero	5000	0	0.0	0.0	0.0	0.0	-0.1	0.1	----	----
As left span	4918	82.1	802.9	391.9	411.0	802.0	391.9	410.3	1.0012	1.0000
								Average Correction Factor	0.9957	0.9982

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.0	----	----
High GPT point	797.6	391.4	409.5	410.9	0.9966	100.3%
Mid GPT point	797.6	596.7	204.2	203.9	1.0014	99.9%
Low GPT point	797.6	700.3	100.6	100.5	1.0008	99.9%
				Average Correction Factor	0.9996	100.0%

Notes: Changed sample inlet filter after as founds. Adjusted span.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

NO_X Calibration Summary

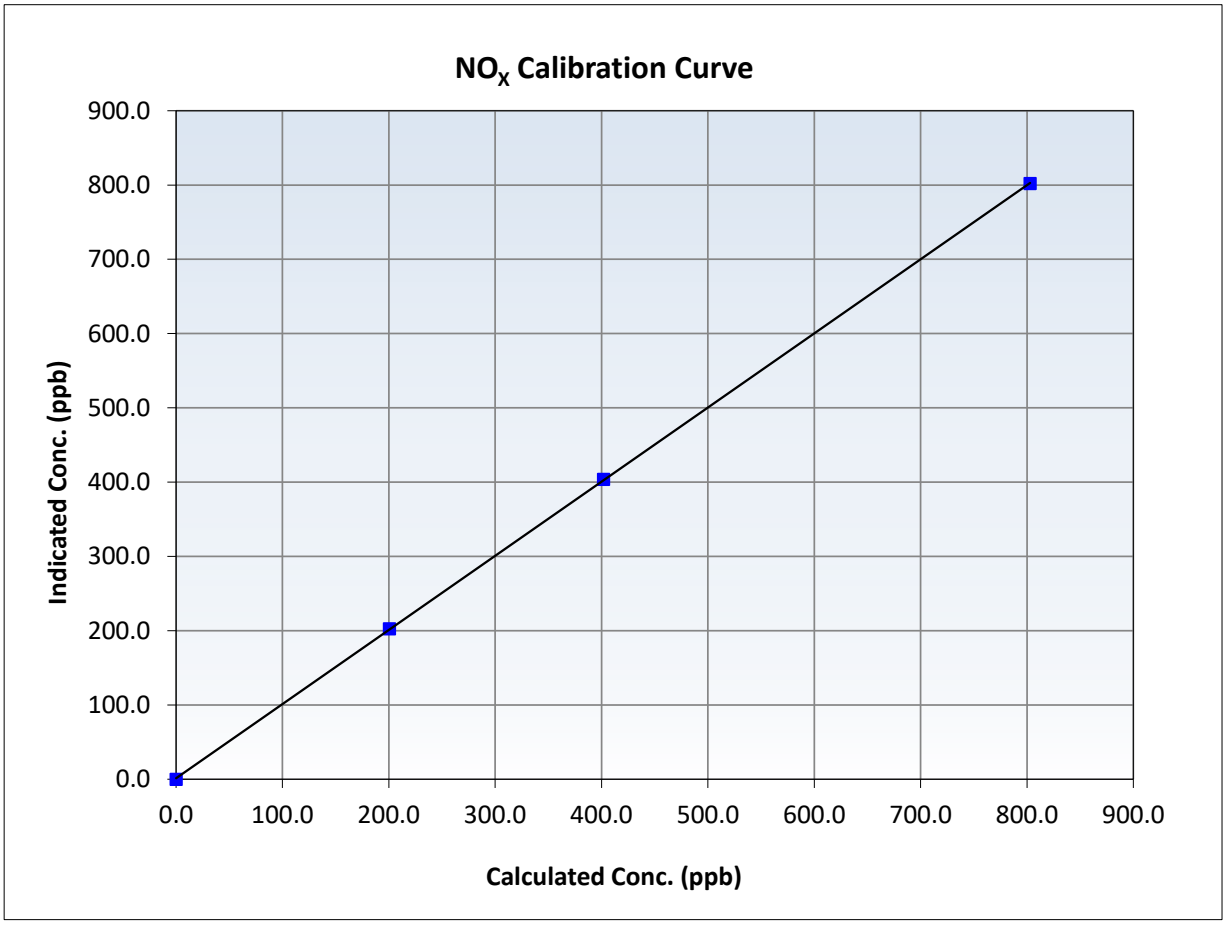
Station Information

Calibration Date:	October 29, 2025	Previous Calibration:	September 11, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	9:26	End Time (MST):	14:06
Analyzer make:	Thermo 42i	Analyzer serial #:	1410661309

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
802.9	802.0	1.0012
402.0	403.6	0.9959
200.5	202.5	0.9901

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999987	*≥0.995*
Slope	0.998175	*0.90 - 1.10*
Intercept	1.319743	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

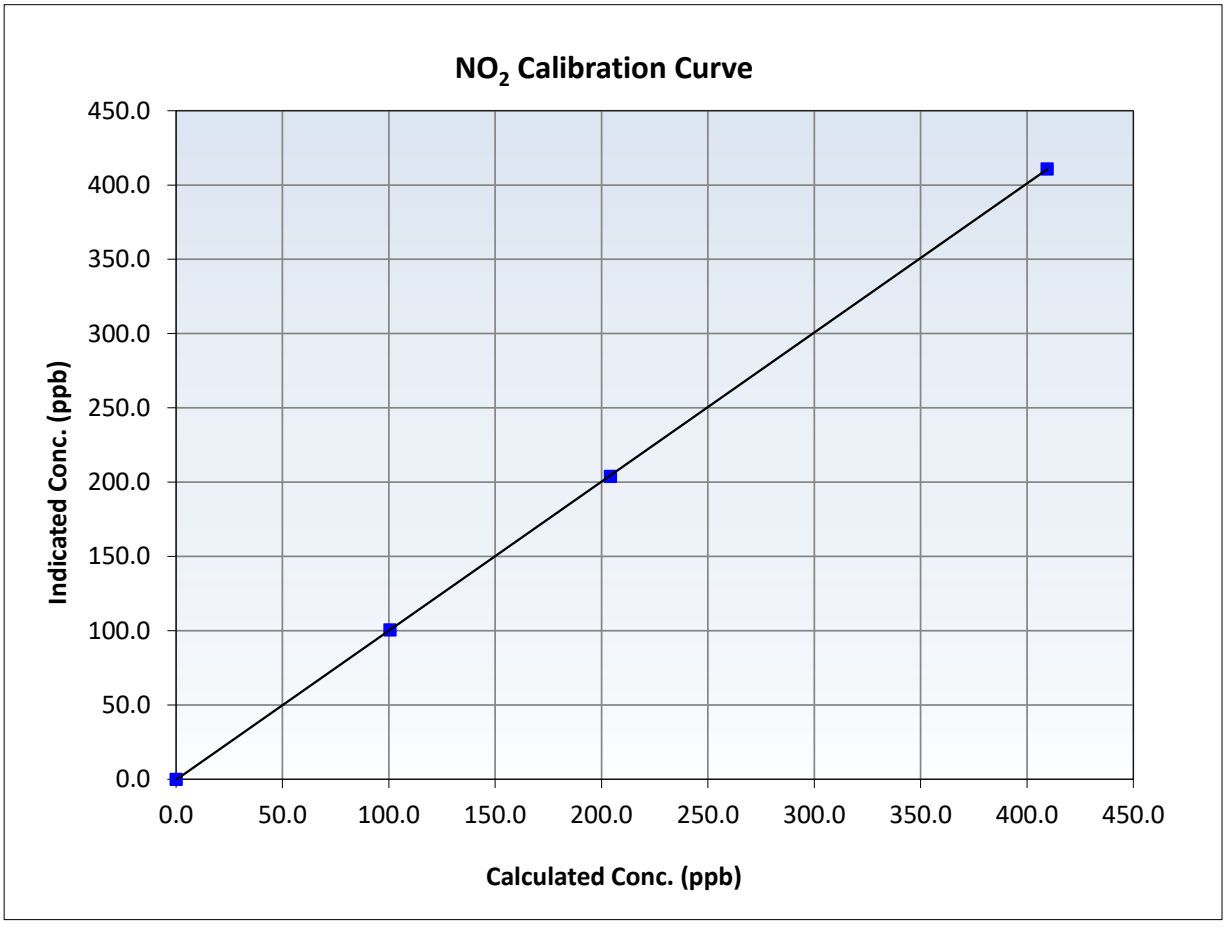
Station Information

Calibration Date:	October 29, 2025	Previous Calibration:	September 11, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	9:26	End Time (MST):	14:06
Analyzer make:	Thermo 42i	Analyzer serial #:	1410661309

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
409.5	410.9	0.9966
204.2	203.9	1.0014
100.6	100.5	1.0008

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999993	*≥0.995*
Slope	1.003548	*0.90 - 1.10*
Intercept	-0.371604	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

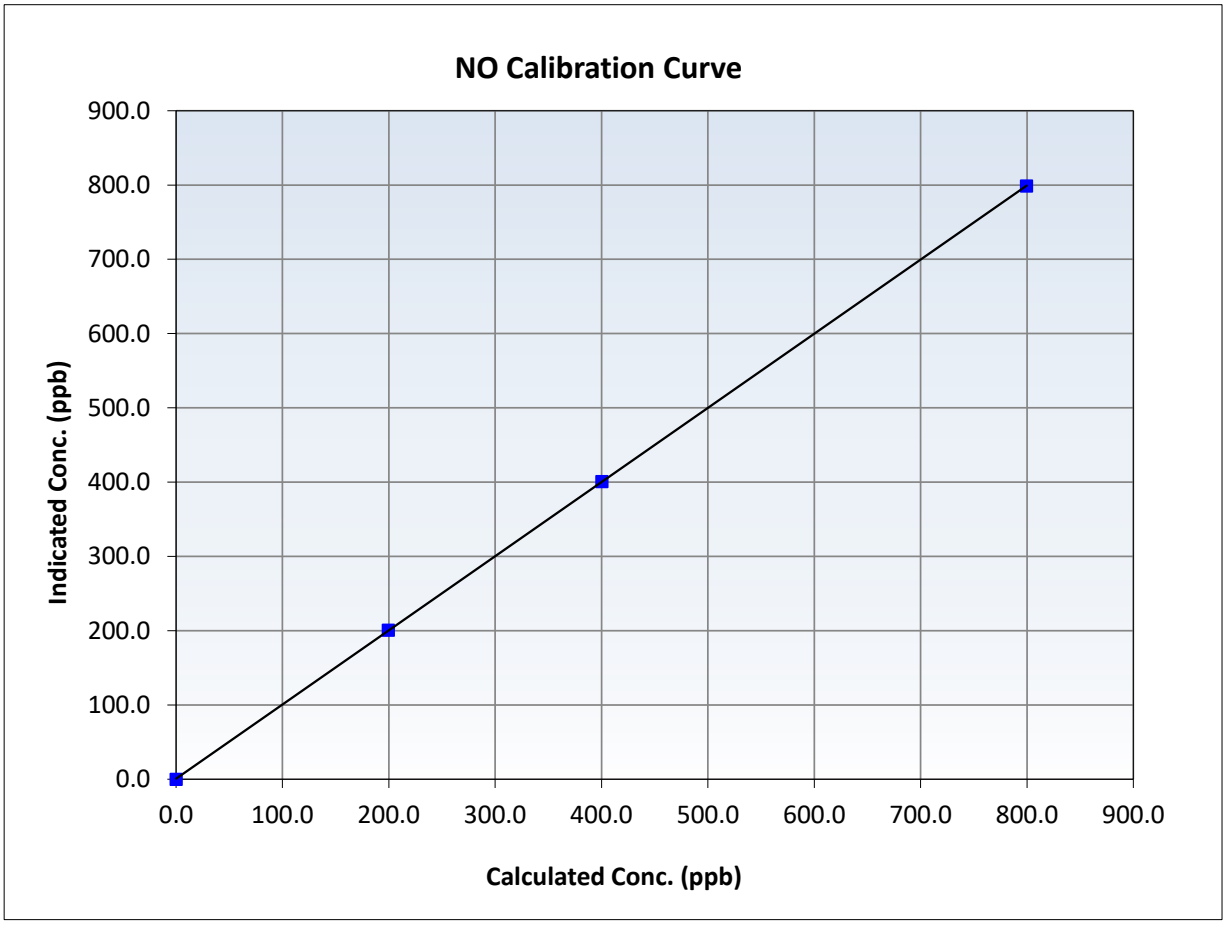
Station Information

Calibration Date:	October 29, 2025	Previous Calibration:	September 11, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	9:26	End Time (MST):	14:06
Analyzer make:	Thermo 42i	Analyzer serial #:	1410661309

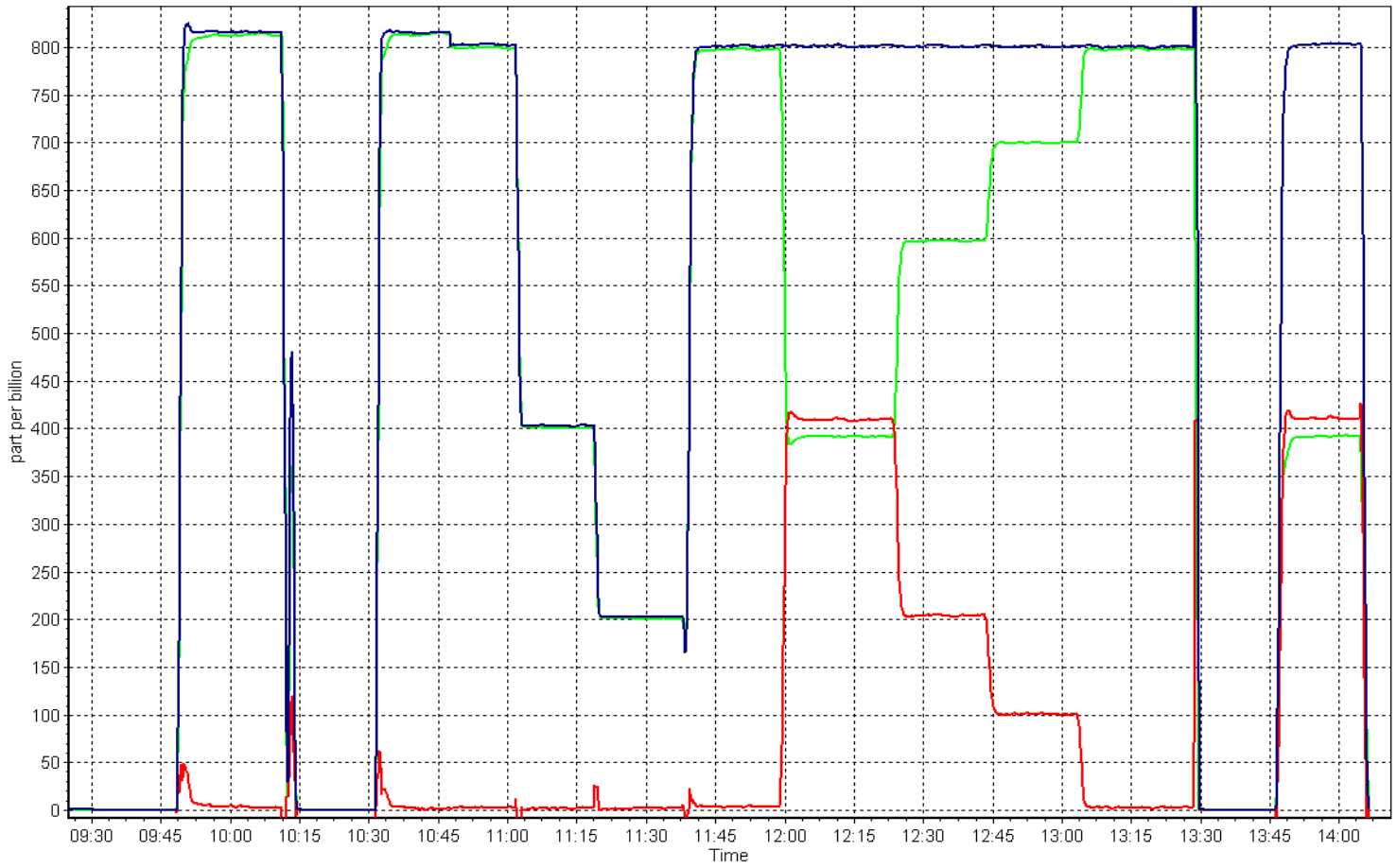
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
799.7	798.7	1.0012
400.3	400.9	0.9985
199.7	200.7	0.9949

Statistical Evaluation		Limits
Correlation Coefficient	0.999996	≥0.995
Slope	0.998416	0.90 - 1.10
Intercept	0.719909	+/-20



NO_X Calibration Plot Date: October 29, 2025 Location: Firebag



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS20
MACKAY RIVER
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	MacKay River	Station number:	AMS 20
Calibration Date:	October 16, 2025	Last Cal Date:	September 5, 2025
Start time (MST):	7:34	End time (MST):	10:06
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	49.15	ppm	Cal Gas Exp Date:	October 9, 2032
Cal Gas Cylinder #:	CC409669			
Removed Cal Gas Conc:	49.15	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Model:	API T700		Serial Number:	5706
Zero Air Gen Model:	API 701		Serial Number:	4888

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1501301450	
Analyzer Range:	0-1000ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	0.999303	0.995748	Backgd or Offset:	19.2	20.4
Calibration intercept:	0.183886	0.303078	Coeff or Slope:	0.923	0.932

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.8	----
As found High point	4919	81.4	800.1	794.3	1.008
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	793.5	Previous response	799.7	*% change	-0.8%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.1	----
High point	4919	81.4	800.1	796.7	1.004
Mid point	4959	40.7	400.1	399.2	1.002
Low point	4980	20.3	199.5	199.2	1.002
As left zero	5000	0.0	0.0	0.2	----
As left span	4919	81.4	800.1	800.0	1.000
				Average Correction Factor:	1.003

Notes: No Maintenance done. Zero and Span adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

SO_2 Calibration Summary

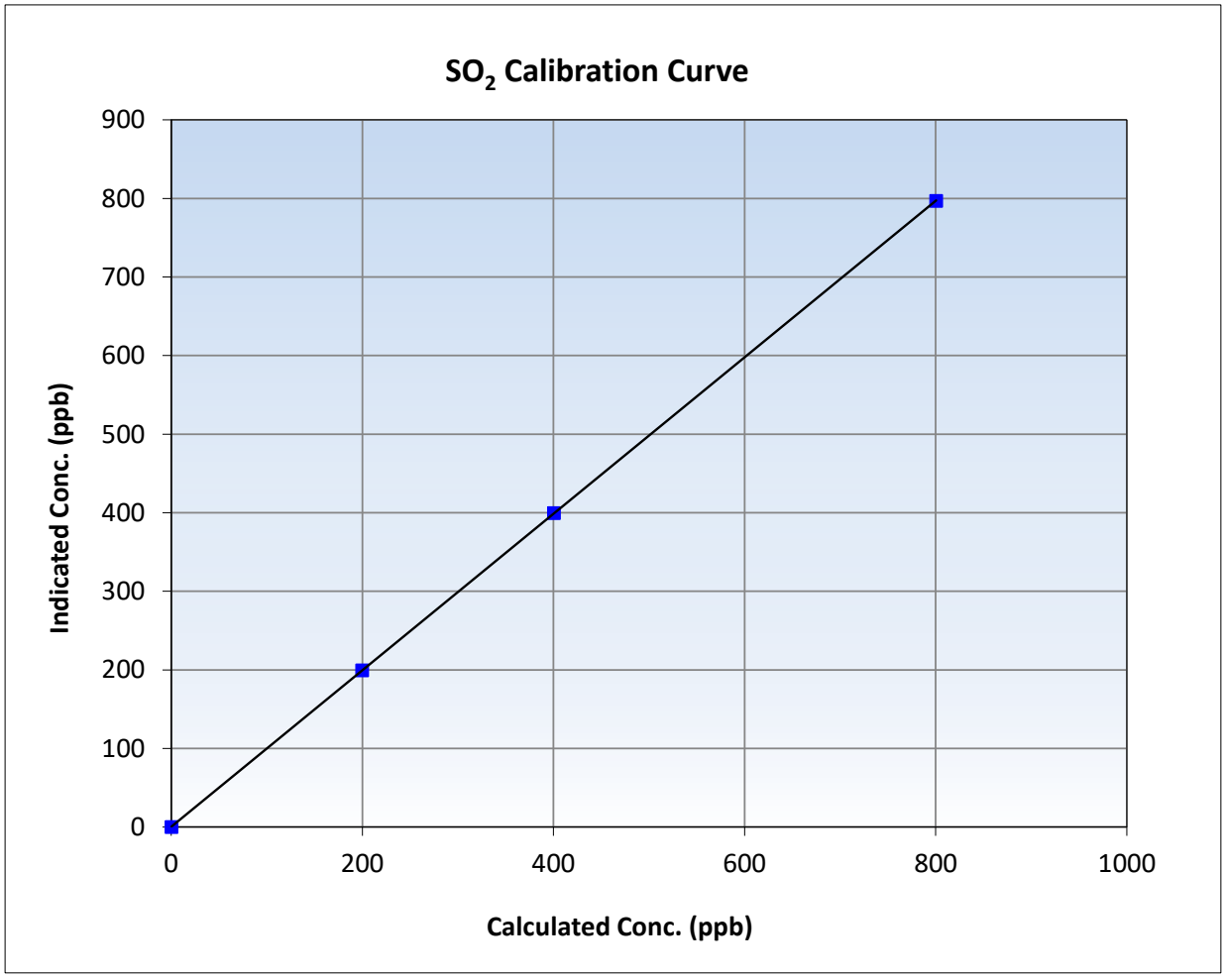
Station Information

Calibration Date:	October 16, 2025	Previous Calibration:	September 5, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	7:34	End Time (MST):	10:06
Analyzer make:	Thermo 43i	Analyzer serial #:	1501301450

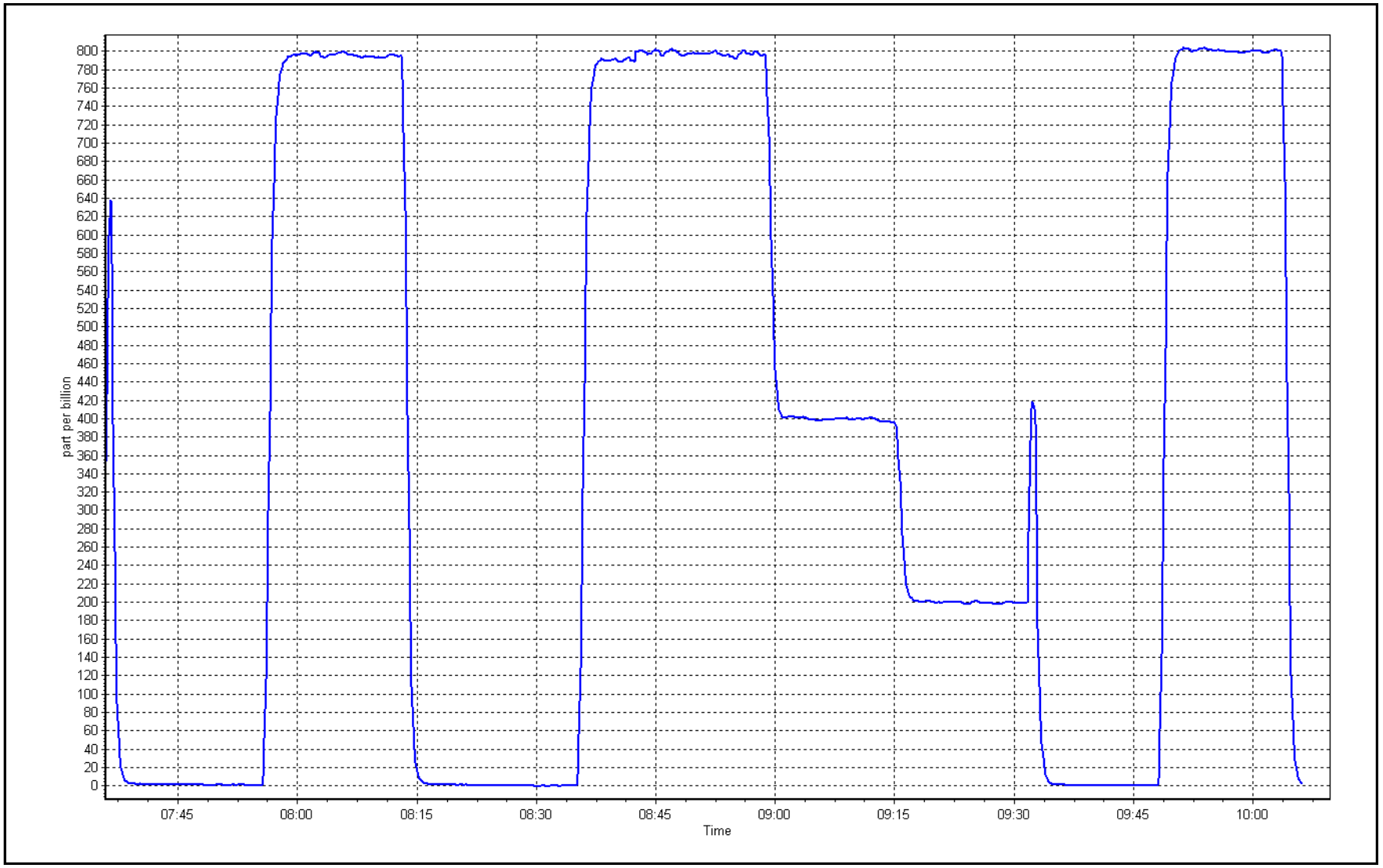
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
800.1	796.7	1.0043
400.1	399.2	1.0023
199.5	199.2	1.0017

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	0.995748	*0.90 - 1.10*
Intercept	0.303078	*+/-30*



SO2 Calibration Plot Date: October 16, 2025 Location: MacKay River



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	MacKay River	Station number:	AMS 20
Calibration Date:	October 15, 2025	Last Cal Date:	September 4, 2025
Start time (MST):	7:06	End time (MST):	11:00
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.12	ppm	Cal Gas Exp Date:	January 3, 2026
Cal Gas Cylinder #:	CC515997			
Removed Cal Gas Conc:	5.12	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	5706
ZAG Make/Model:	API 701		Serial Number:	4888

Analyzer Information

Analyzer make:	Thermo 43i TLE		Analyzer serial #:	1236656117
Converter make:	Global		Converter serial #:	2022-226
Analyzer Range	0 - 100 ppb		Converter Temp:	325 degC

	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.002025	1.003598	Backgd or Offset:	3.77	3.77
Calibration intercept:	-0.040503	-0.020530	Coeff or Slope:	1.071	1.071

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.1	----
As found High point	4922	78.1	80.0	81.5	0.980
As found Mid point	4961	39.0	39.9	40.5	0.984
As found Low point	4980	19.5	20.0	20.2	0.984
New cylinder response					

Baseline Corr As found:	81.6	Prev response:	80.09	*% change:	1.8%
Baseline Corr 2nd AF pt:	40.6	AF Slope:	1.020463	AF Intercept:	-0.160294
Baseline Corr 3rd AF pt:	20.3	AF Correlation:	0.999996	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.1	----
High point	4922	78.1	80.0	80.2	0.997
Mid point	4961	39.0	39.9	40.1	0.996
Low point	4980	19.5	20.0	20.1	0.994
As left zero	5000	0.0	0.0	0.1	----
As left span	4922	78.1	80.0	79.0	1.012
SO2 Scrubber Check	4982	81.3	802.8	0.0	----
Date of last scrubber change:		25-May-23		Ave Corr Factor	0.996
Date of last converter efficiency test:					

Notes: Sox scrubber checked after the calibrator zero. No adjustments done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

H_2S Calibration Summary

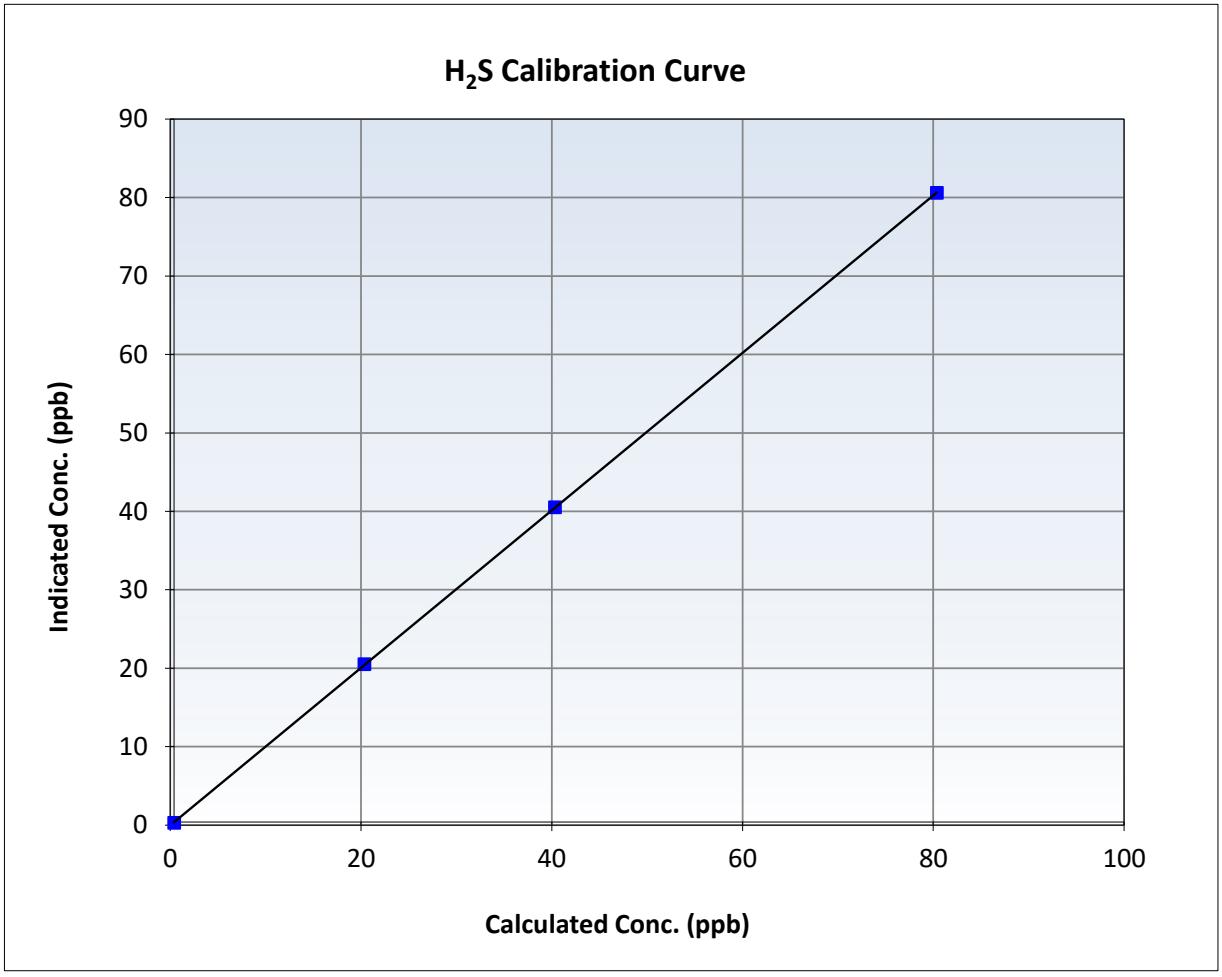
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 4, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	7:06	End Time (MST):	11:00
Analyzer make:	Thermo 43i TLE	Analyzer serial #:	1236656117

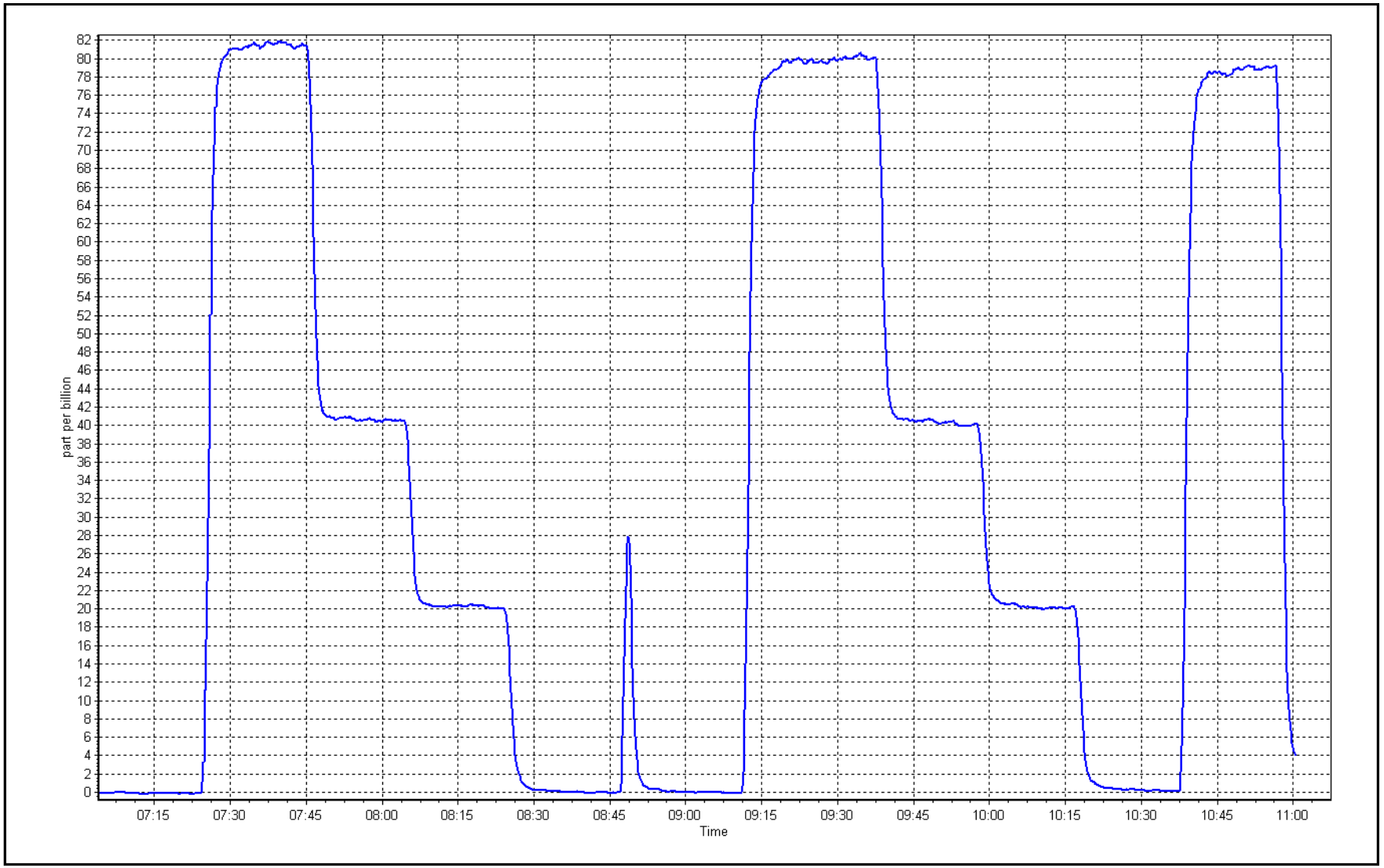
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
80.0	80.2	0.9972
39.9	40.1	0.9959
20.0	20.1	0.9935

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	1.003598	*0.90 - 1.10*
Intercept	-0.020530	*+/-3*



H_2S Calibration Plot Date: October 15, 2025 Location: MacKay River



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	MacKay River	Station number:	AMS 20
Calibration Date:	October 16, 2025	Last Cal Date:	September 5, 2025
Start time (MST):	7:34	End time (MST):	10:05
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC409669		Cal Gas Expiry Date:	October 9, 2032	
CH4 Cal Gas Conc.	505.1	ppm	CH4 Equiv Conc.	1072.7	ppm
C3H8 Cal Gas Conc.	206.4	ppm			
Removed Gas Cert:			Removed Gas Expiry:		
Removed CH4 Conc.	505.1	ppm	CH4 Equiv Conc.	1072.7	ppm
Removed C3H8 Conc.	206.4	ppm	Diff between cyl:		
Calibrator Make/Model:	API T700		Serial Number:	5706	
ZAG Make/Model:	API 701		Serial Number:	4888	

Analyzer Information

Analyzer make:	Thermo 51i-LT		Analyzer serial #:	1501663727	
Analyzer Range:	0 - 20 ppm				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001159	0.994146	Background:	2.930	2.990
Calibration intercept:	-0.101189	0.003372	Coefficient:	4.900	5.000

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.10	----
As found High point	4919	81.4	17.46	17.23	1.019
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	17.13	Previous response	17.38	*% change	-1.5%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.04	----
High point	4919	81.4	17.46	17.39	1.004
Mid point	4959	40.7	8.73	8.66	1.009
Low point	4980	20.3	4.35	4.30	1.013
As left zero	5000	0.0	0.00	-0.07	----
As left span	4919	81.4	17.46	17.43	1.002
				Average Correction Factor	1.009

Notes: No Maintenance done. Span adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

THC Calibration Summary

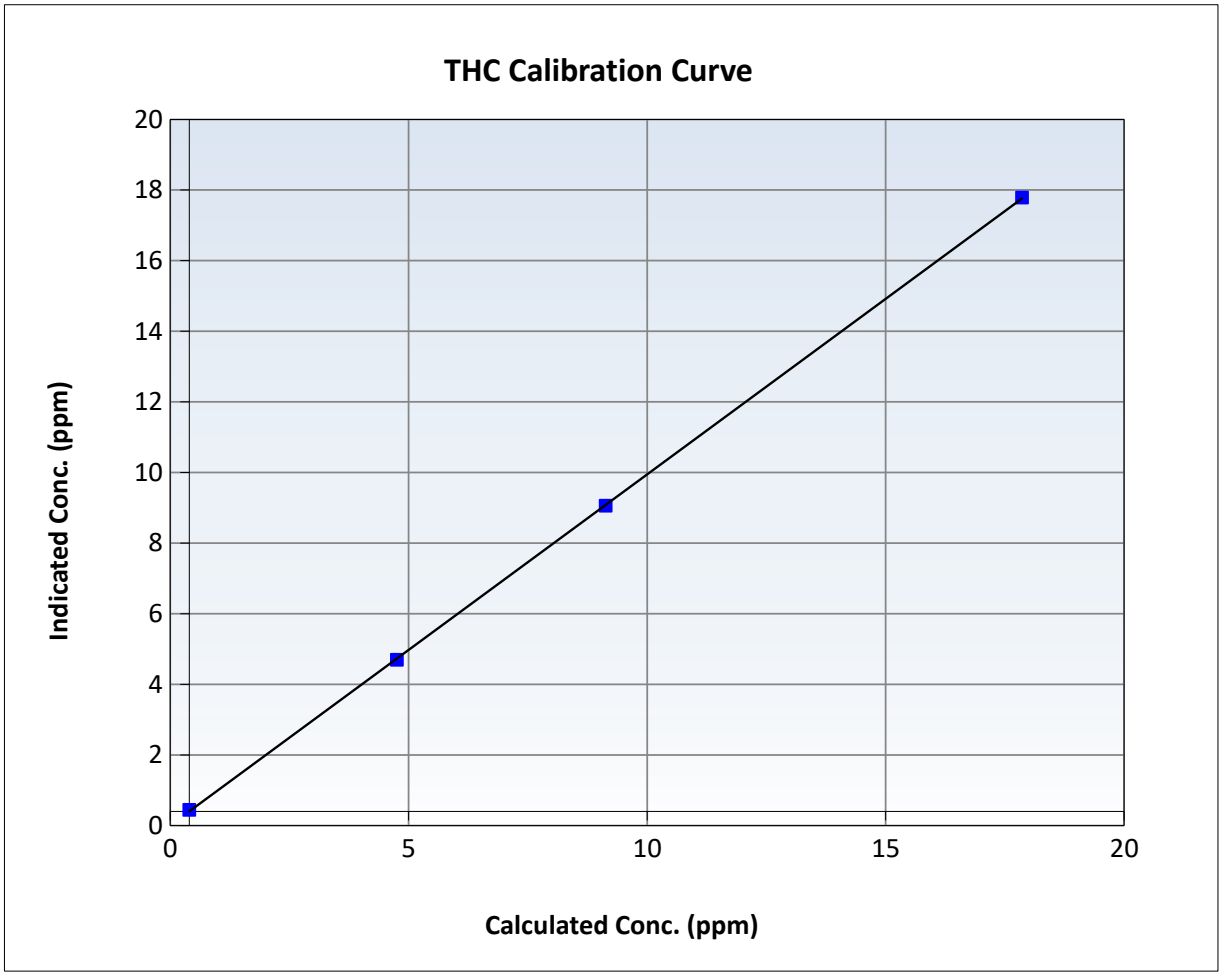
Station Information

Calibration Date:	October 16, 2025	Previous Calibration:	September 5, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	7:34	End Time (MST):	10:05
Analyzer make:	Thermo 51i-LT	Analyzer serial #:	1501663727

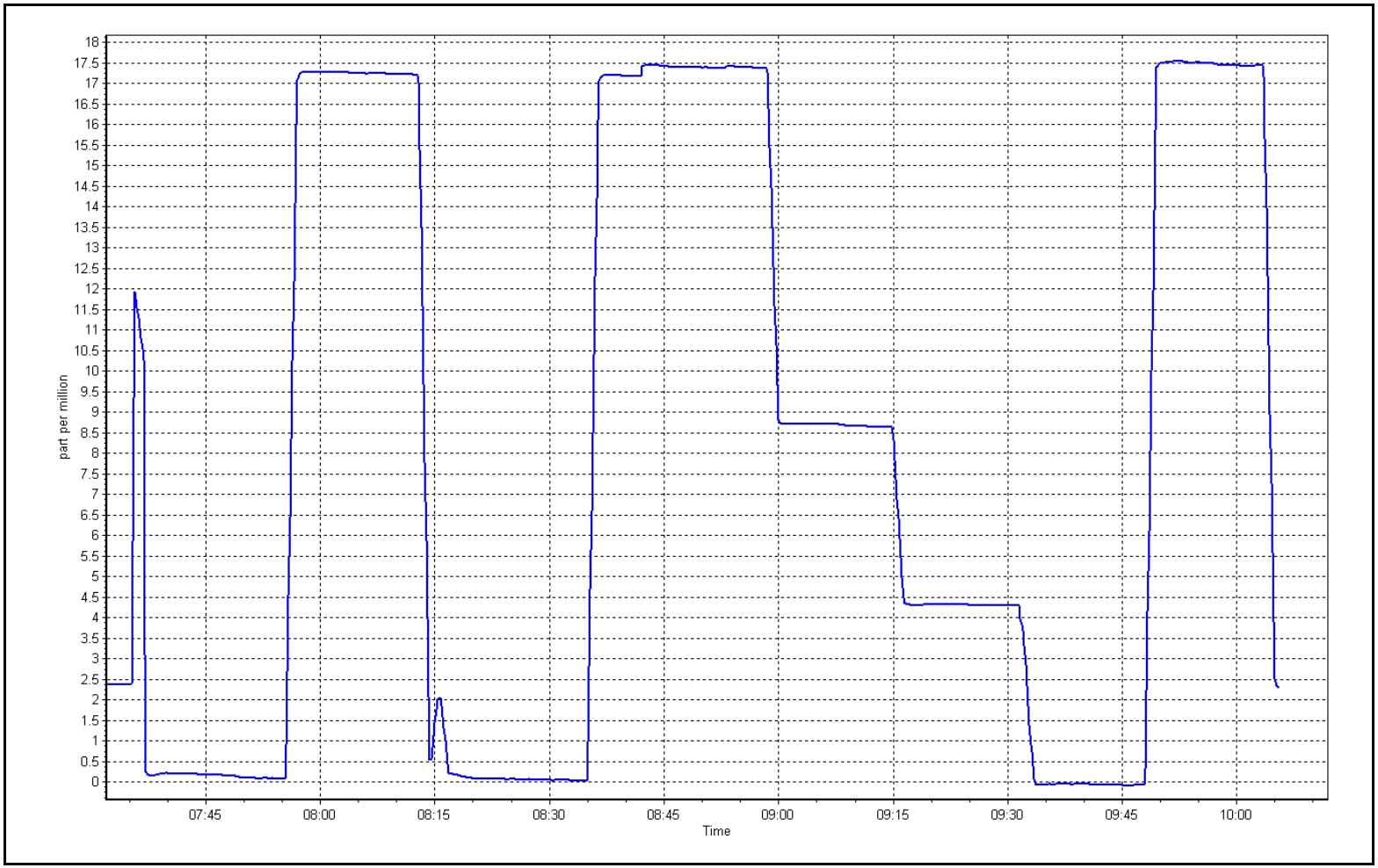
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.04	----
17.46	17.39	1.0044
8.73	8.66	1.0087
4.35	4.30	1.0135

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999974	*≥0.995*
Slope	0.994146	*0.90 - 1.10*
Intercept	0.003372	*+/-1.5*



THC Calibration Plot Date: October 16, 2025 Location: MacKay River



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	MacKay River
Station number:	AMS 20
Calibration Date:	October 8, 2025
Last Cal Date:	September 2, 2025
Start time (MST):	6:42
End time (MST):	9:53
Reason:	As Found

Calibration Standards

NO Gas Cylinder #:	DT0037393	Cal Gas Expiry Date:	July 22, 2032
NOX Cal Gas Conc:	62.00 ppm	NO Cal Gas Conc:	61.90 ppm
Removed Cylinder #:		Removed Gas Exp Date:	
Removed Gas NOX Conc:	62.00 ppm	Removed Gas NO Conc:	61.90 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	API T700	Serial Number:	5706
ZAG make/model:	API T701	Serial Number:	4888

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	----	----
AF High point	4935	64.6	801.1	799.8	1.3	801.3	800.4	0.9	0.9996	0.9993
AF Mid point	4968	32.3	400.5	399.9	0.6	402.8	400.1	2.7	0.9940	0.9994
AF Low point	4984	16.2	200.9	200.5	0.3	202.5	199.0	3.6	0.9915	1.0078
New cyl resp										

Previous Response	NO_X = 802.7 ppb	NO = 803.7 ppb
Baseline Corr 1st pt	NO_X = 801.4 ppb	NO = 800.4 ppb
Baseline Corr 2nd pt	NO_X = 402.9 ppb	NO = 400.1 ppb
Baseline Corr 3rd pt	NO_X = 202.6 ppb	NO = 199.0 ppb

* = > +/-5% change initiates investigation

*Percent Change NO_X = -0.2%

*Percent Change NO = -0.4%

As Found Statistics

As found	NO_X r^2: 0.999989	Nx Sl: 0.999984	Nx Int: 1.013
As found	NO r^2: 0.999994	NO Sl: 1.001454	NO Int: -0.686
As found	NO_2 r^2: 0.999948	NO2 Sl: 0.997895	NO_2 Int: -1.339

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero	----	----	0.0	-0.1	----	----
As found high GPT point	798.3	417.5	382.1	380.7	1.0037	99.6%
As found mid GPT point	798.3	604.8	194.8	192.1	1.0140	98.6%
As found low GPT point	798.3	701.0	98.6	96.0	1.0270	97.4%

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1505164379

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.016	1.016	NO bkgnd or offset:	2.8	2.8
NOX coeff or slope:	1.000	1.000	NOX bkgnd or offset:	3.0	3.0
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	158.8	158.8

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.000283	
NO_X Cal Offset:	1.332750	
NO Cal Slope:	1.005655	
NO Cal Offset:	-0.607201	
NO_2 Cal Slope:	0.997997	
NO_2 Cal Offset:	-1.292479	

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero										
High point										
Mid point										
Low point										
As left zero										
As left span										
								Average Correction Factor		

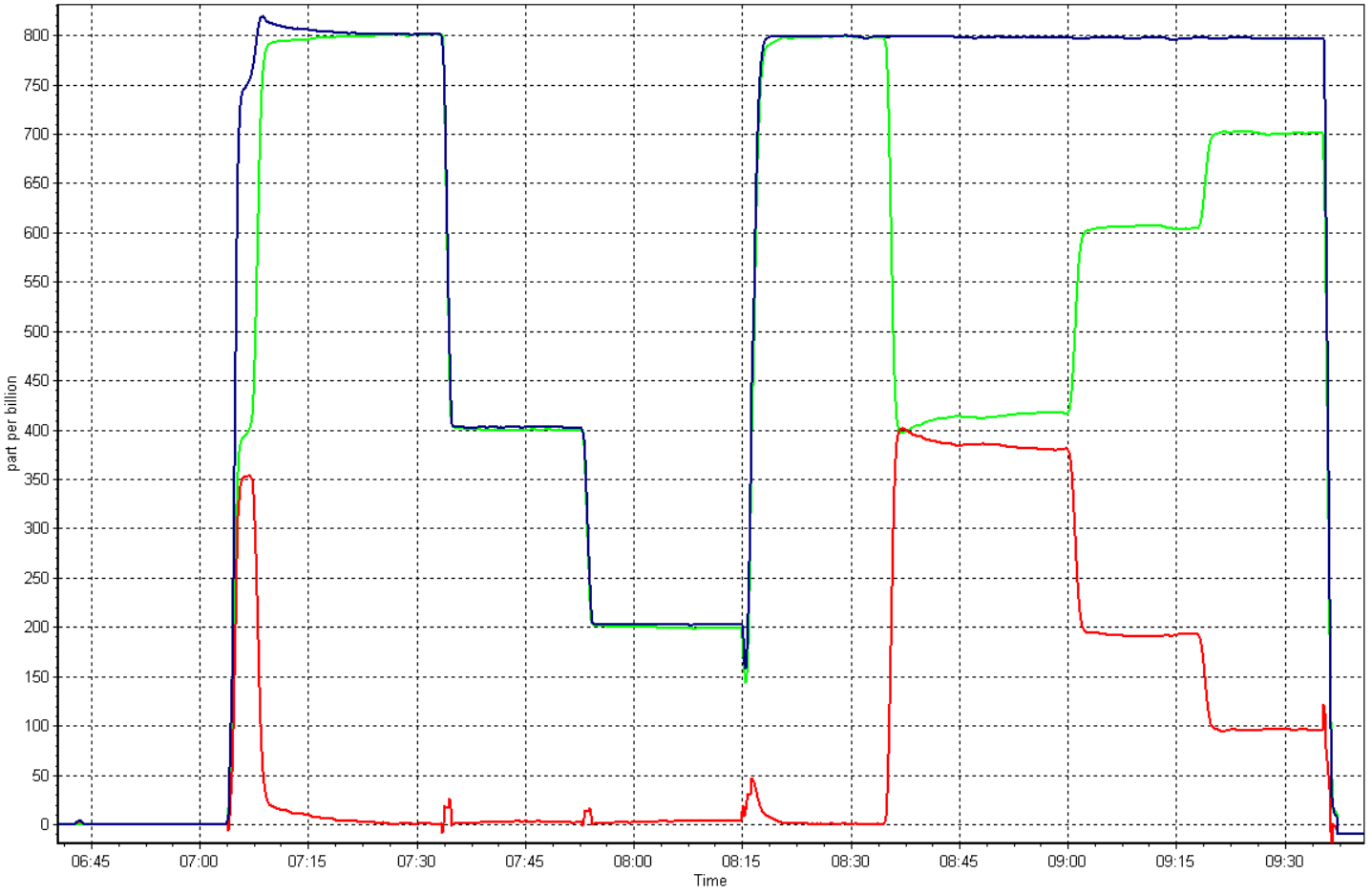
GPT Calibration Data

	O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero							
High GPT point							
Mid GPT point							
Low GPT point							
					Average Correction Factor		

Notes: As founds for Dryer to be replaced.

Calibration Performed By: Melissa Lemay

NO_X Calibration Plot Date: October 8, 2025 Location: MacKay River



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	MacKay River
Station number:	AMS 20
Calibration Date:	October 9, 2025
Last Cal Date:	October 8, 2025
Start time (MST):	6:46
End time (MST):	10:53
Reason:	As Found

Calibration Standards

NO Gas Cylinder #:	DT0037393		Cal Gas Expiry Date:	July 22, 2032	
NOX Cal Gas Conc:	62.00	ppm	NO Cal Gas Conc:	61.90	ppm
Removed Cylinder #:			Removed Gas Exp Date:		
Removed Gas NOX Conc:	62.00	ppm	Removed Gas NO Conc:	61.90	ppm
NOX gas Diff:			NO gas Diff:		
Calibrator Model:	API T700		Serial Number:	5706	
ZAG make/model:	API T701		Serial Number:	4888	

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero										
AF High point										
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	NA	ppb	NO =	NA	ppb		
Baseline Corr 1st pt	NO_X =	NA	ppb	NO =	NA	ppb		
Baseline Corr 2nd pt	NO_X =	NA	ppb	NO =	NA	ppb		
Baseline Corr 3rd pt	NO_X =	NA	ppb	NO =	NA	ppb		

* = > +/-5% change initiates investigation

*Percent Change	NO_X =	NA		
*Percent Change	NO =	NA		

As Found Statistics

As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1505164379

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	Finish		Start	Finish
NO coeff or slope:	1.016	1.033	NO bkgnd or offset:	2.8	2.9
NOX coeff or slope:	1.000	0.988	NOX bkgnd or offset:	3.0	3.1
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	155.8	155.8

Calibration Statistics

	Start	Finish
NO_X Cal Slope:	1.000283	0.998314
NO_X Cal Offset:	1.332750	0.773119
NO Cal Slope:	1.005655	1.001682
NO Cal Offset:	-0.607201	-0.666357
NO_2 Cal Slope:	0.997997	0.994991
NO_2 Cal Offset:	-1.292479	-1.666155

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	----	----
High point	4935	64.6	801.1	799.8	1.3	799.8	800.5	-0.8	1.0016	0.9991
Mid point	4968	32.3	400.5	399.9	0.6	401.9	400.5	1.4	0.9965	0.9984
Low point	4984	16.2	200.9	200.5	0.3	201.6	198.9	2.7	0.9964	1.0083
As left zero	5000	0.0	0.0	0.0	0.0	0.3	0.4	0.0	----	----
As left span	4935	64.6	801.1	414.8	386.3	798.7	414.8	384.0	1.0030	1.0000
								Average Correction Factor	0.9982	1.0019

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	-0.1	----	----
High GPT point	798.4	414.7	385.0	382.2	1.0073	99.3%
Mid GPT point	798.4	603.9	195.8	192.4	1.0176	98.3%
Low GPT point	798.4	699.3	100.4	96.6	1.0393	96.2%
				Average Correction Factor	1.0214	97.9%

Notes: Calibration after dryer was replaced. Span adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

NO_X Calibration Summary

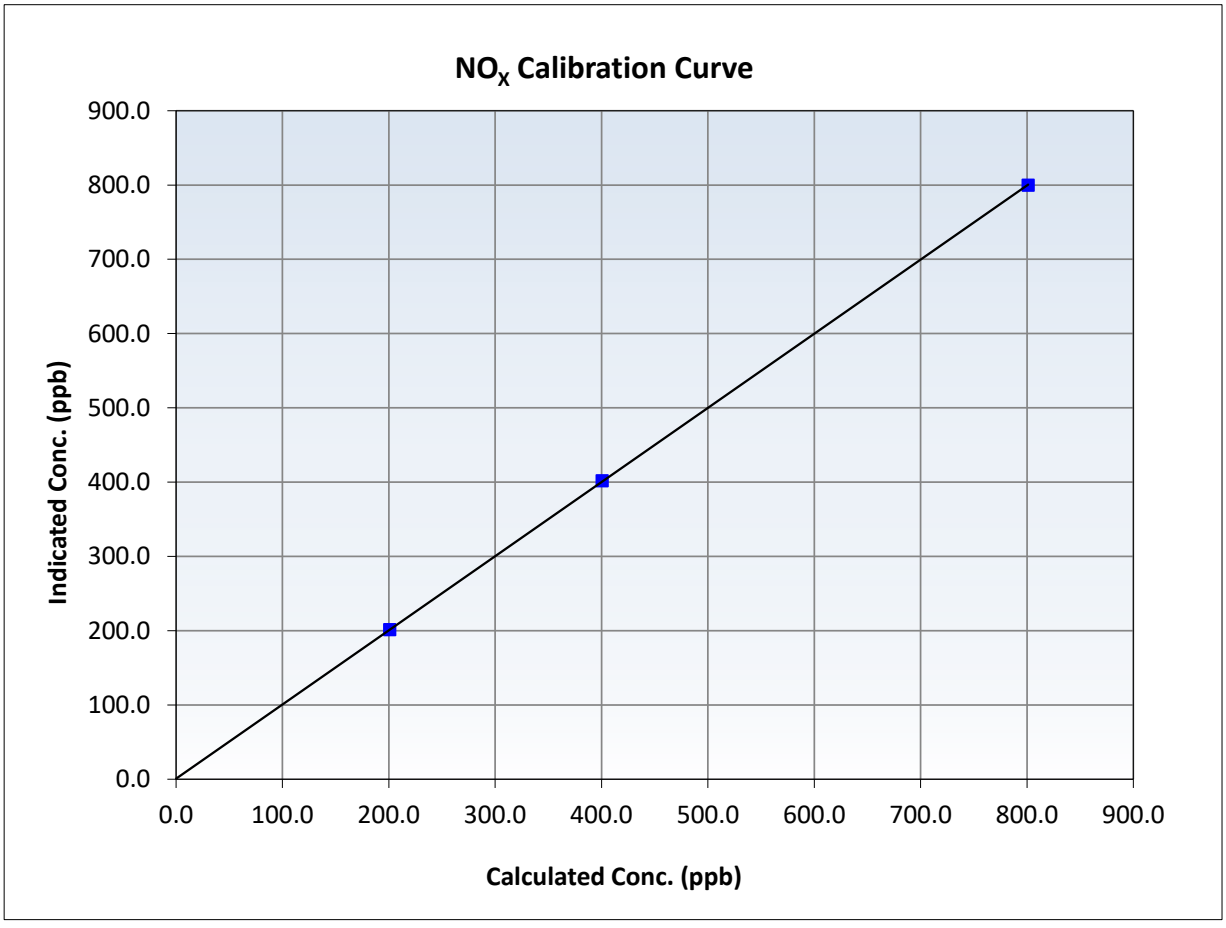
Station Information

Calibration Date:	October 9, 2025	Previous Calibration:	October 8, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	6:46	End Time (MST):	10:53
Analyzer make:	Thermo 42i	6:50:00 AM	1505164379

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
801.1	799.8	1.0016
400.5	401.9	0.9965
200.9	201.6	0.9964

Statistical Evaluation		Limits
Correlation Coefficient	0.999991	≥0.995
Slope	0.998314	0.90 - 1.10
Intercept	0.773119	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

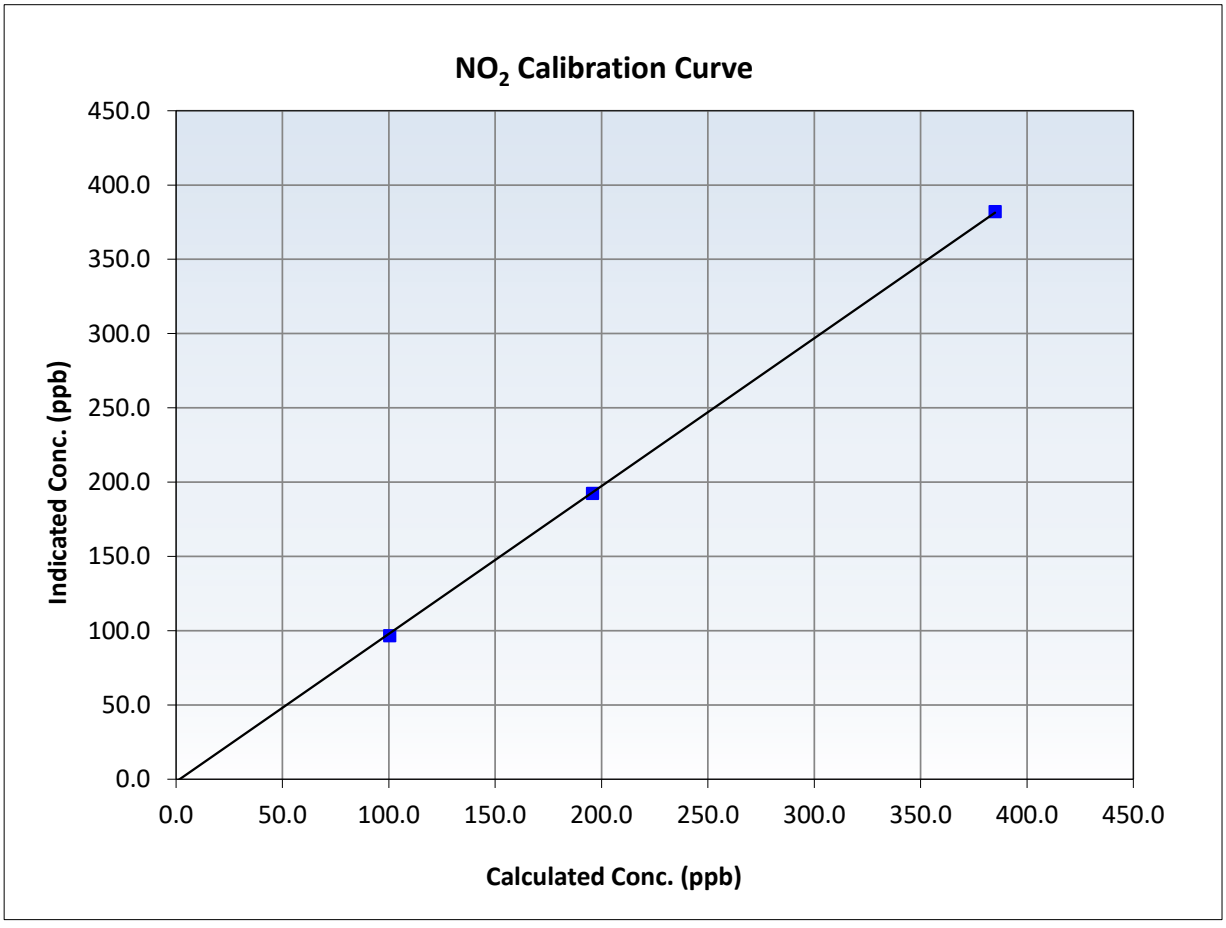
Station Information

Calibration Date:	October 9, 2025	Previous Calibration:	October 8, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	6:46	End Time (MST):	10:53
Analyzer make:	Thermo 42i	6:50:00 AM	1505164379

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
385.0	382.2	1.0073
195.8	192.4	1.0176
100.4	96.6	1.0393

Statistical Evaluation		Limits
Correlation Coefficient	0.999921	≥0.995
Slope	0.994991	0.90 - 1.10
Intercept	-1.666155	+/-20



Wood Buffalo Environmental Association

NO Calibration Summary

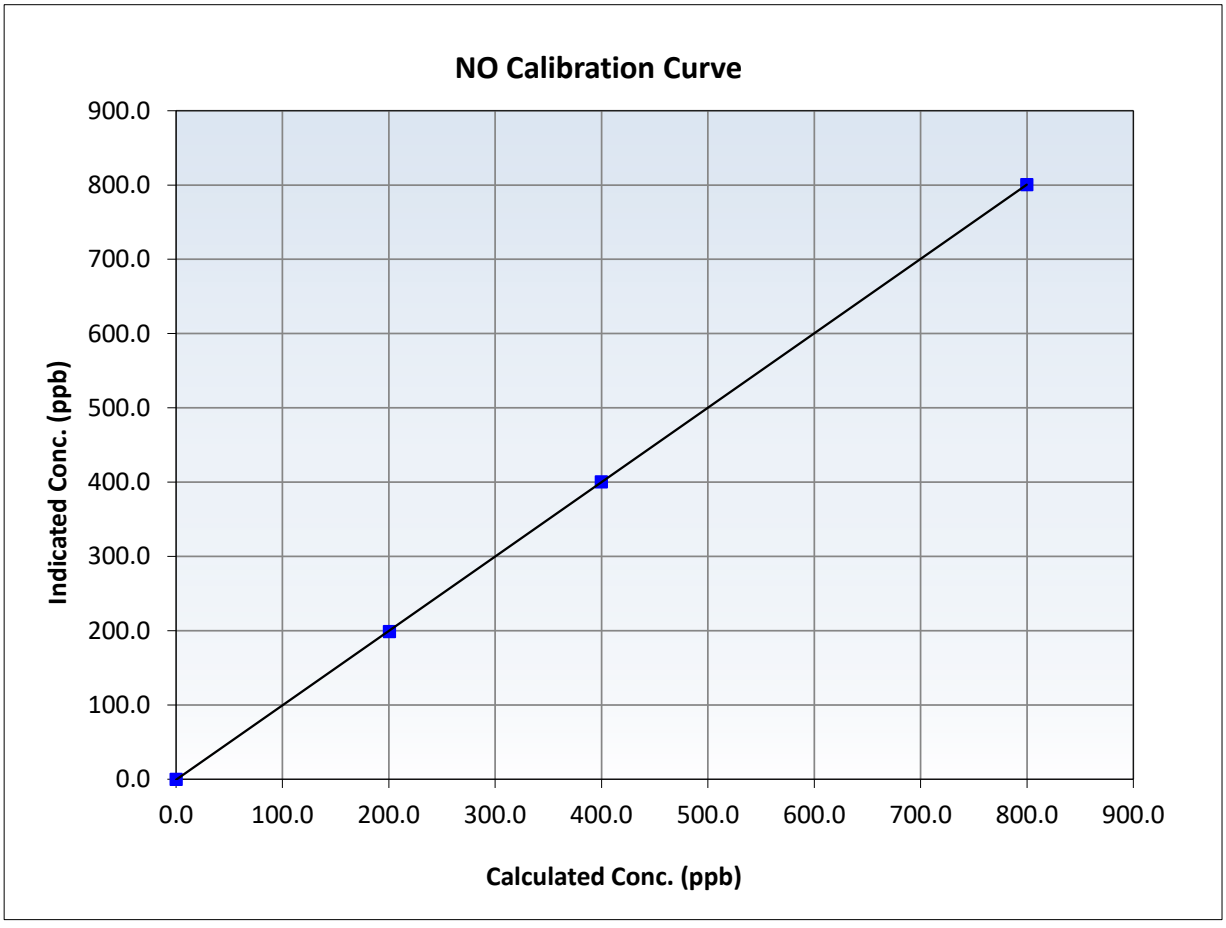
Station Information

Calibration Date:	October 9, 2025	Previous Calibration:	October 8, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	6:46	End Time (MST):	10:53
Analyzer make:	Thermo 42i	6:50:00 AM	1505164379

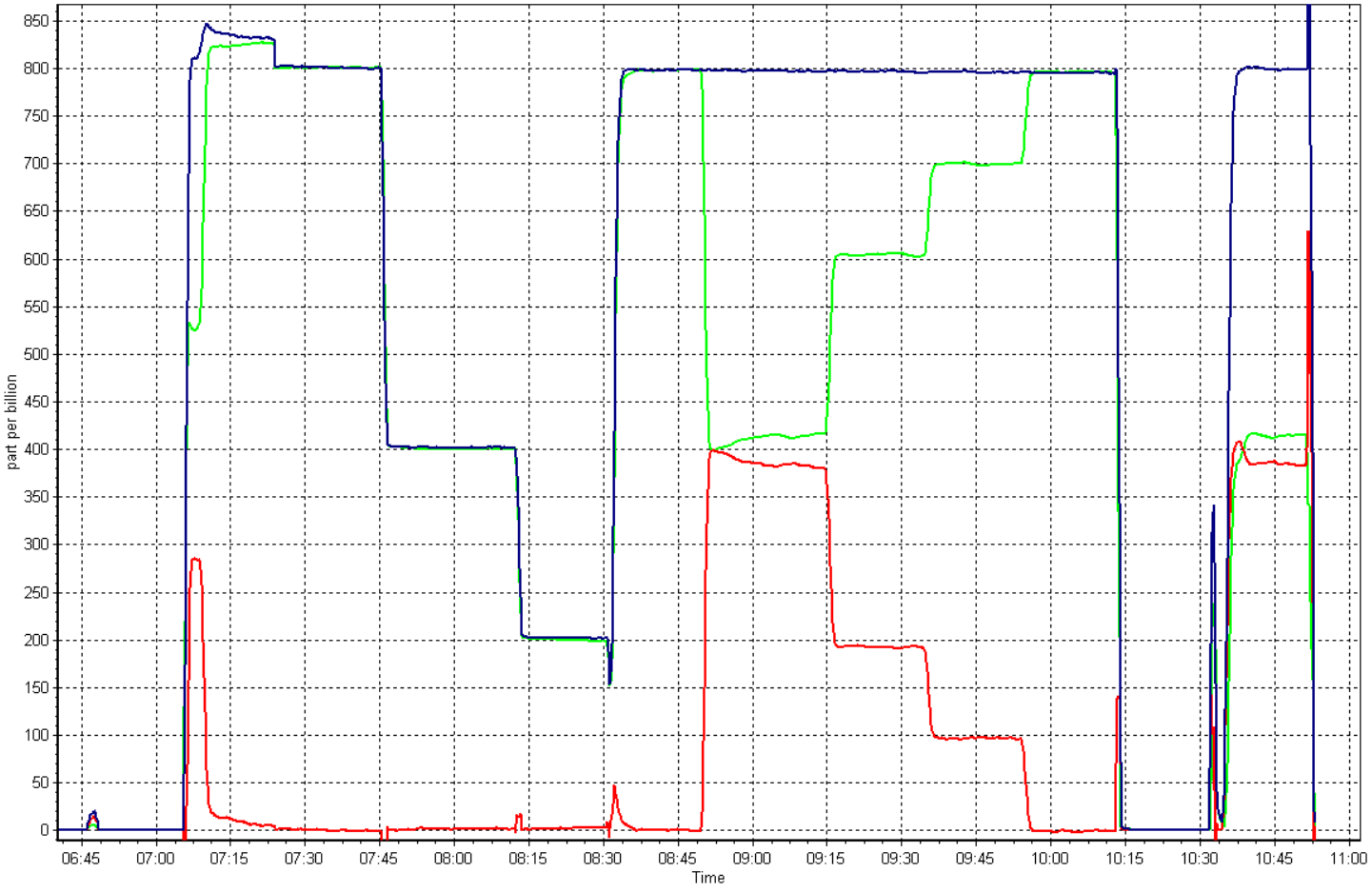
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
799.8	800.5	0.9991
399.9	400.5	0.9984
200.5	198.9	1.0083

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999993	*≥0.995*
Slope	1.001682	*0.90 - 1.10*
Intercept	-0.666357	*+/-20*



NO_X Calibration Plot Date: October 9, 2025 Location: MacKay River



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS21
CONKLIN
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Conklin	Station number:	AMS 21
Calibration Date:	October 15, 2025	Last Cal Date:	September 23, 2025
Start time (MST):	10:28	End time (MST):	13:32
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.34	ppm	Cal Gas Exp Date:	October 9, 2032
Cal Gas Cylinder #:	CC340840			
Removed Cal Gas Conc:	50.34	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	Teledyne API T700P		Serial Number:	2656
Zero Air Gen Model:	Teledyne API T701H		Serial Number:	355

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1428701363	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001290	0.994307	Backgd or Offset:	29.3	29.9
Calibration intercept:	2.496595	2.718110	Coeff or Slope:	0.891	0.891

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.2	----
As found High point	4921	79.5	800.3	796.5	1.005
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	796.3	Previous response	803.9	*% change	-0.9%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.3	----
High point	4921	79.5	800.3	797.6	1.003
Mid point	4960	39.8	400.7	401.4	0.998
Low point	4980	19.9	200.4	205.0	0.977
As left zero	5000	0.0	0.0	0.1	----
As left span	4921	79.5	800.3	798.2	1.003
				Average Correction Factor:	0.993

Notes: Sample inlet filter was changed after as founds. No adjustment made.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

SO_2 Calibration Summary

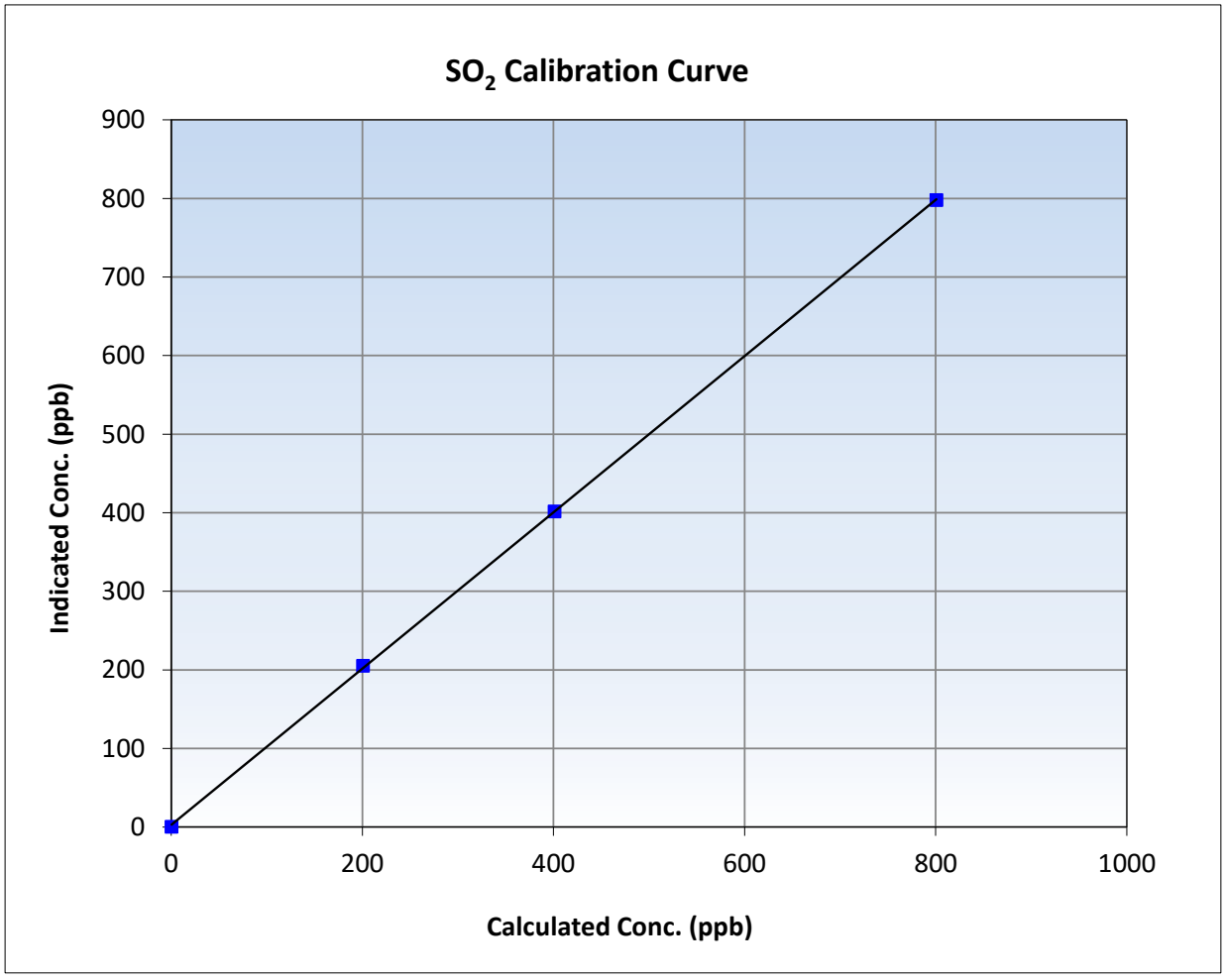
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 23, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:28	End Time (MST):	13:32
Analyzer make:	Thermo 43i	Analyzer serial #:	1428701363

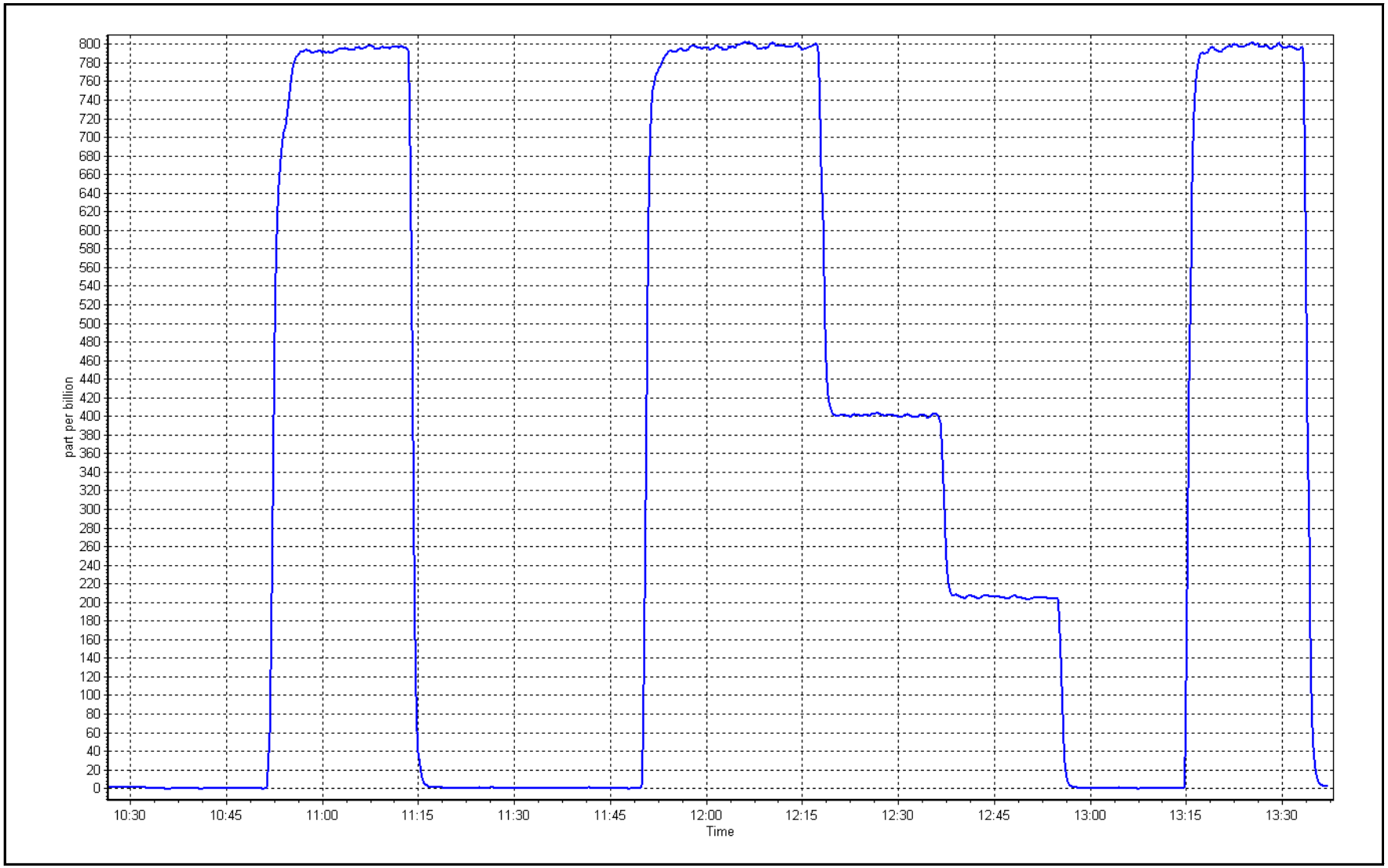
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
800.3	797.6	1.0034
400.7	401.4	0.9983
200.4	205.0	0.9774

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999954	*≥0.995*
Slope	0.994307	*0.90 - 1.10*
Intercept	2.718110	*+/-30*



SO2 Calibration Plot Date: October 15, 2025 Location: Conklin



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Conklin	Station number:	AMS 21
Calibration Date:	October 7, 2025	Last Cal Date:	September 24, 2025
Start time (MST):	9:01	End time (MST):	15:07
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.14	ppm	Cal Gas Exp Date:	January 3, 2026
Cal Gas Cylinder #:	CC501204			
Removed Cal Gas Conc:	5.14	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne T700P		Serial Number:	2656
ZAG Make/Model:	Teledyne T701H		Serial Number:	355

Analyzer Information

Analyzer make:	Thermo 43i-QTL		Analyzer serial #:	12228021058
Converter make:	CD-Nova 101		Converter serial #:	565
Analyzer Range	0 - 100 ppb		Converter Temp:	825 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	0.997811	0.994549	Backgd or Offset:	2.8	2.8
Calibration intercept:	0.318383	0.158394	Coeff or Slope:	1.467	1.470

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.1	----
As found High point	4922	78.4	80.6	78.8	1.024
As found Mid point	4961	39.2	40.3	40.0	1.010
As found Low point	4980	19.6	20.2	20.4	0.993
New cylinder response					

Baseline Corr As found:	78.7	Prev response:	80.73	*% change:	-2.6%
Baseline Corr 2nd AF pt:	39.9	AF Slope:	0.974696	AF Intercept:	0.458415
Baseline Corr 3rd AF pt:	20.3	AF Correlation:	0.999901	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.1	----
High point	4922	78.4	80.6	80.3	1.004
Mid point	4961	39.2	40.3	40.2	1.002
Low point	4980	19.6	20.2	20.3	0.993
As left zero	5000	0.0	0.0	0.2	----
As left span	4922	78.4	80.6	80.6	1.000
SO2 Scrubber Check	4921	79.5	794.9	0.1	----

Date of last scrubber change:	August 6, 2025	Ave Corr Factor	1.000
Date of last converter efficiency test:	October 7, 2025	98.8%	efficiency

Notes: Sample inlet filter was changed after multipoint as founds. Converter efficiency test done. SO2 scrubber check done and passed. Adjusted span only.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

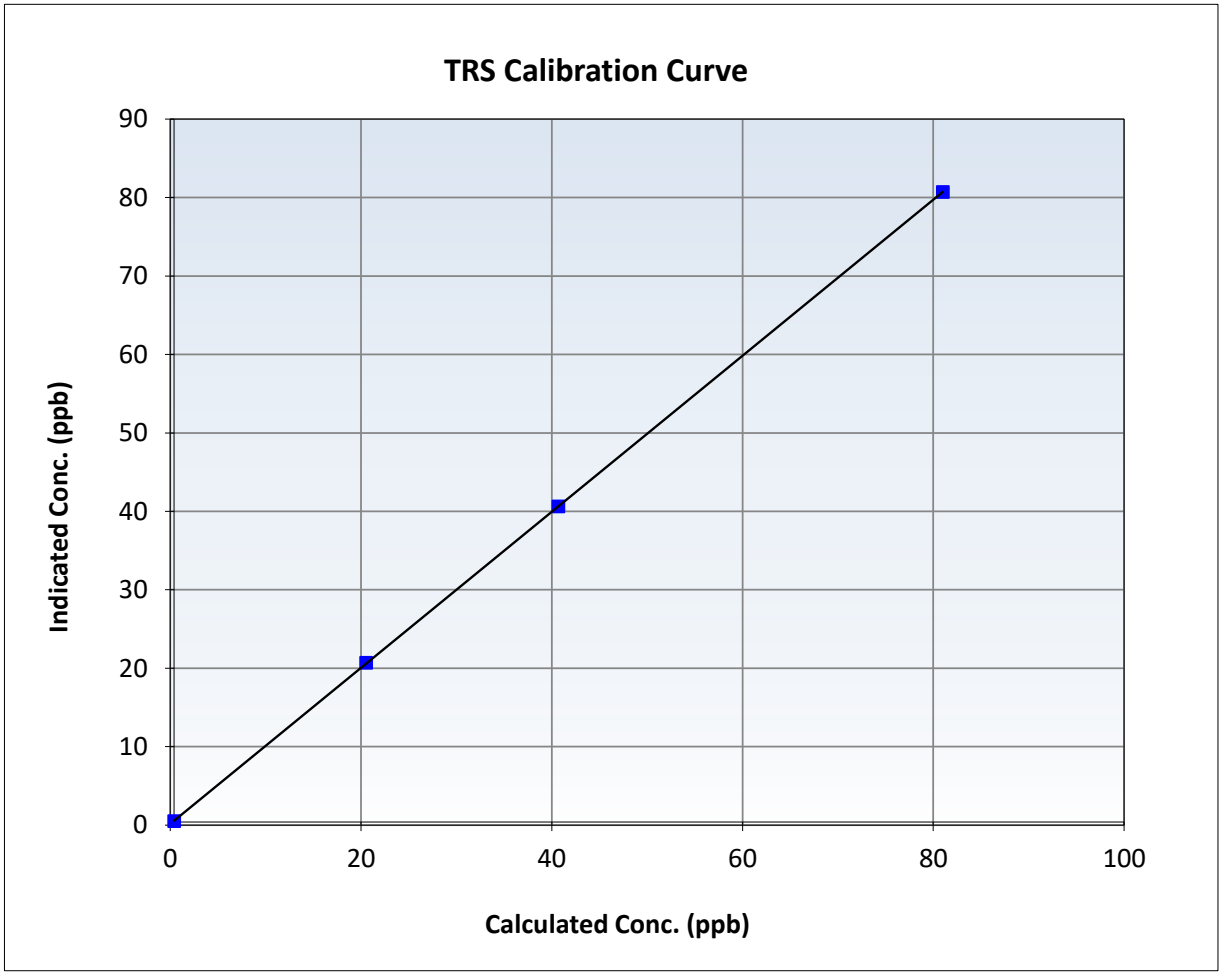
TRS Calibration Summary

Station Information

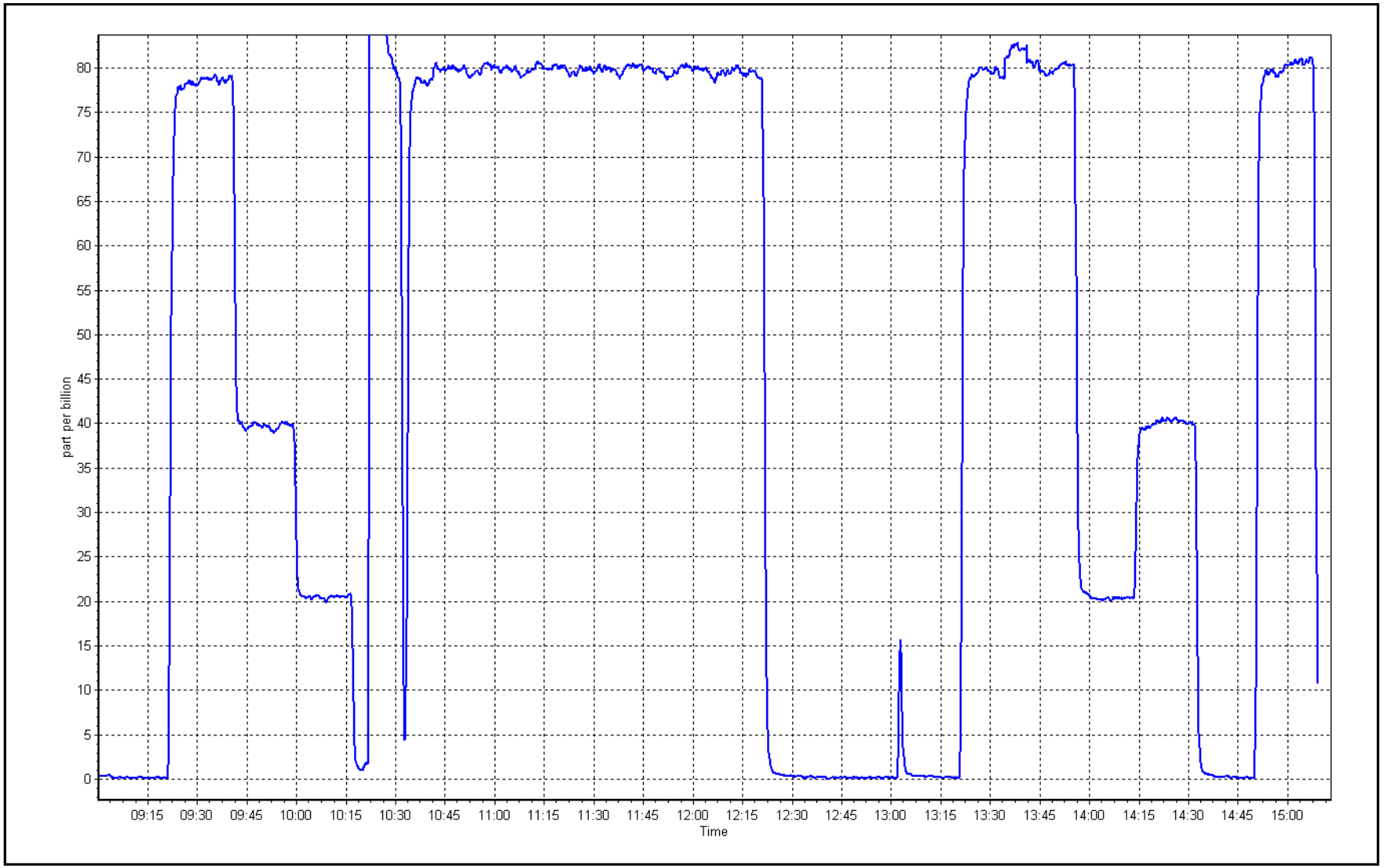
Calibration Date:	October 7, 2025	Previous Calibration:	September 24, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	9:01	End Time (MST):	15:07
Analyzer make:	Thermo 43i-QTL	Analyzer serial #:	12228021058

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999996	*≥0.995*
80.6	80.3	1.0036	Slope	0.994549	*0.90 - 1.10*
40.3	40.2	1.0024			
20.2	20.3	0.9926	Intercept	0.158394	*+/-3*



TRS Calibration Plot Date: October 7, 2025 Location: Conklin



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Conklin	Station number:	AMS 21
Calibration Date:	October 15, 2025	Last Cal Date:	September 23, 2025
Start time (MST):	10:28	End time (MST):	13:32
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC340840	Cal Gas Expiry Date:	October 9, 2032
CH4 Cal Gas Conc.	503.8 ppm	CH4 Equiv Conc.	1067.6 ppm
C3H8 Cal Gas Conc.	205.0 ppm		
Removed Gas Cert:	NA	Removed Gas Expiry:	NA
Removed CH4 Conc.	503.8 ppm	CH4 Equiv Conc.	1067.6 ppm
Removed C3H8 Conc.	205.0 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	Teledyne API T700P	Serial Number:	2656
Zero Air Gen model:	Teledyne API T701H	Serial Number:	355

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1180320039
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	2.28E-04	2.34E-04	NMHC SP Ratio:	4.84E-05	4.97E-05
CH4 Retention time:	15.2	15.2	NMHC Peak Area:	185126	180338
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.5	16.97	16.55	1.026
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.55	Prev response	16.81	*% change	-1.6%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.5	16.97	16.96	1.000
Mid point	4960	39.8	8.50	8.51	0.998
Low point	4980	19.9	4.25	4.34	0.979
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.5	16.97	16.97	1.000
				Average Correction Factor	0.993

Notes: Sample inlet filter and H2/N2 cylinder was changed after as founds. Adjusted span only.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.5	8.96	8.74	1.025
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.74	Prev response	8.89	*% change	-1.7%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.5	8.96	8.94	1.002
Mid point	4960	39.8	4.49	4.50	0.996
Low point	4980	19.9	2.24	2.30	0.976
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.5	8.96	8.95	1.002
				Average Correction Factor	0.991

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.5	8.01	7.81	1.026
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.81	Prev response	7.91	*% change	-1.3%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.5	8.01	8.02	0.999
Mid point	4960	39.8	4.01	4.01	1.000
Low point	4980	19.9	2.01	2.04	0.983
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.5	8.01	8.02	0.999
				Average Correction Factor	0.994

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	0.987939	0.997750
THC Cal Offset:	0.044532	0.040887
CH4 Cal Slope:	0.986167	0.999822
CH4 Cal Offset:	0.014206	0.011577
NMHC Cal Slope:	0.988528	0.995912
NMHC Cal Offset:	0.031728	0.029509

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

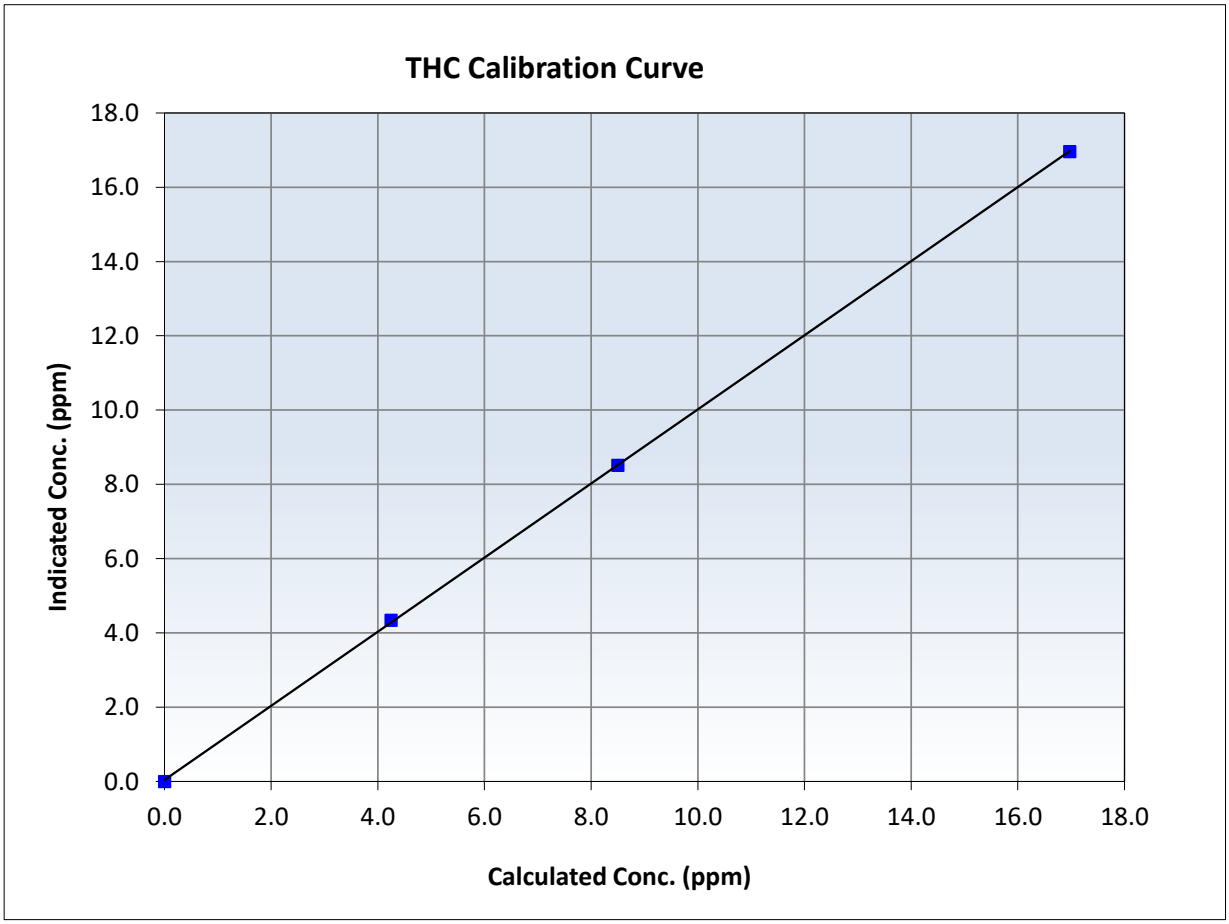
THC Calibration Summary

Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 23, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:28	End Time (MST):	13:32
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320039

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999965	*≥0.995*
16.97	16.96	1.0005	Slope	0.997750	*0.90 - 1.10*
8.50	8.51	0.9984	Intercept	0.040887	*+/-0.5*
4.25	4.34	0.9790			



Wood Buffalo Environmental Association

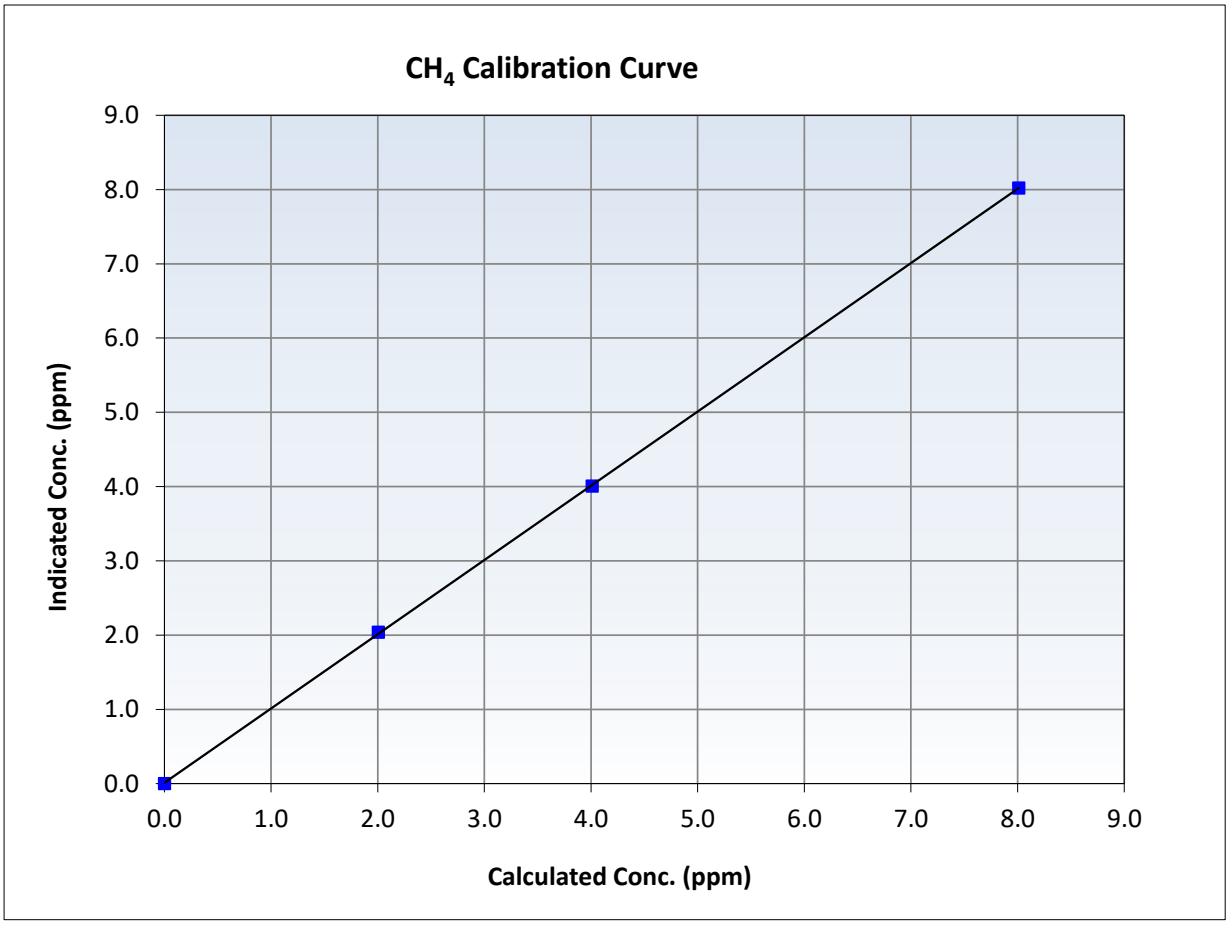
CH_4 Calibration Summary

Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 23, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:28	End Time (MST):	13:32
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320039

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999976	*≥0.995*
8.01	8.02	0.9987	Slope	0.999822	*0.90 - 1.10*
4.01	4.01	1.0004	Intercept	0.011577	*+/-0.5*
2.01	2.04	0.9829			



Wood Buffalo Environmental Association

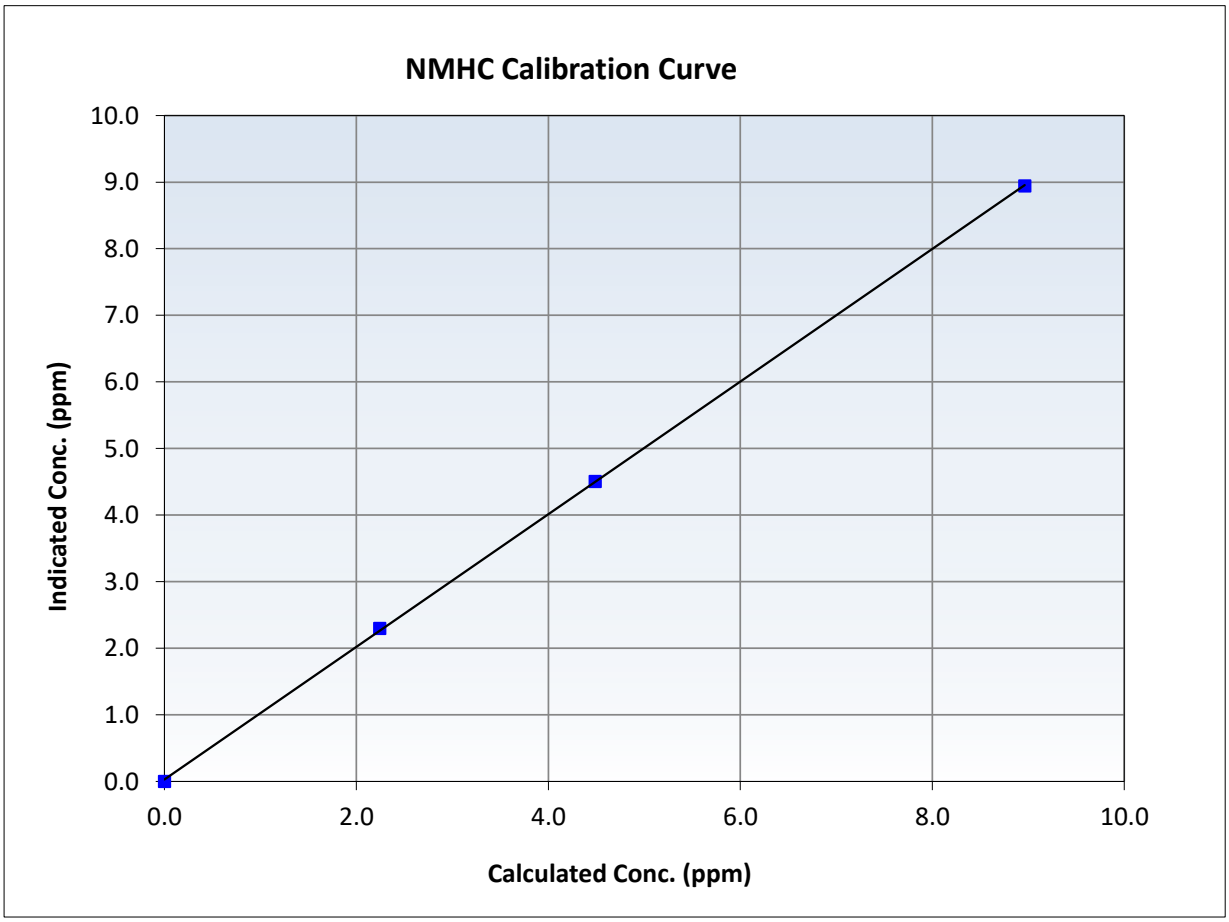
NMHC Calibration Summary

Station Information

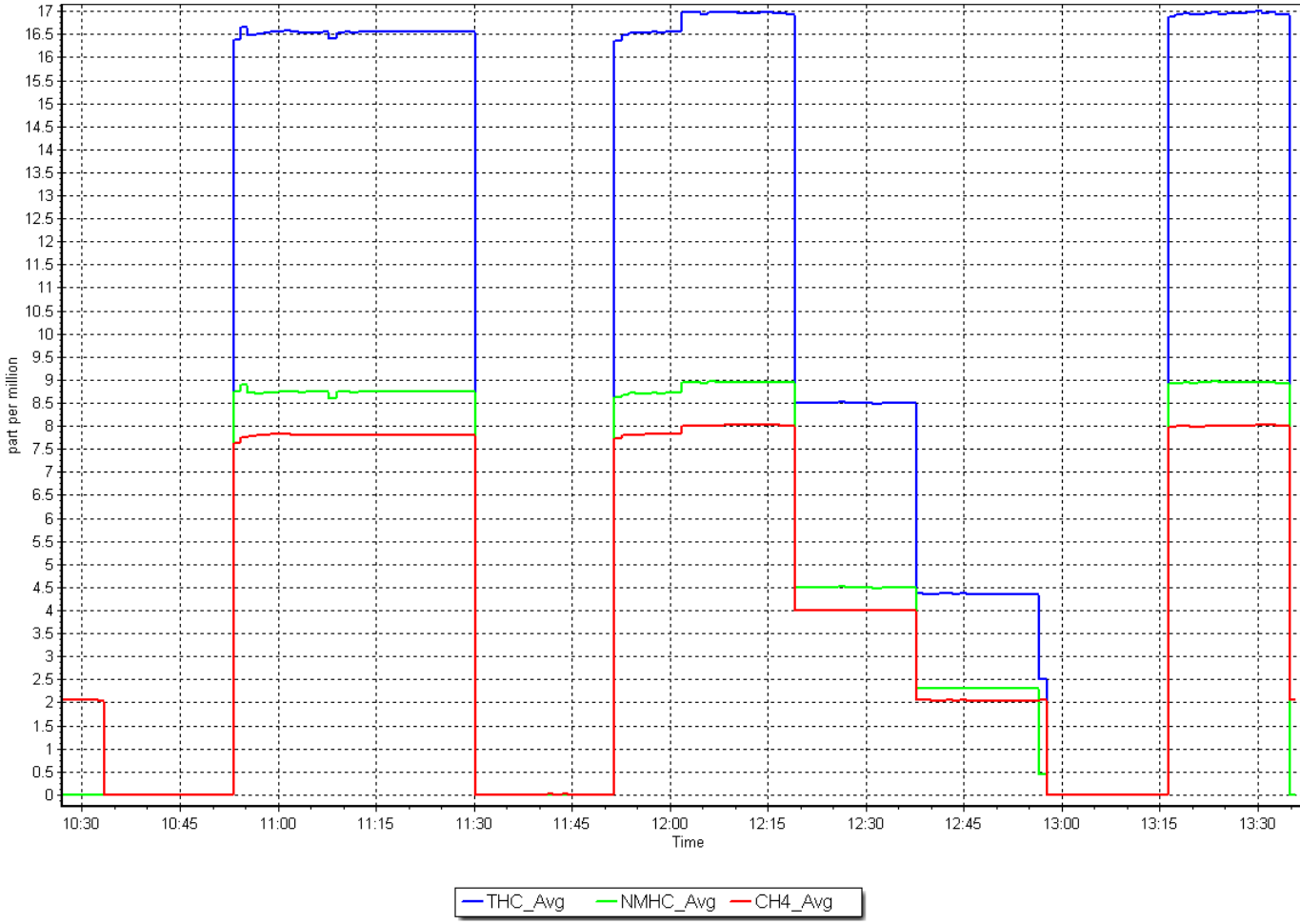
Calibration Date:	October 15, 2025	Previous Calibration:	September 23, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:28	End Time (MST):	13:32
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320039

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999947	*≥0.995*
8.96	8.94	1.0021	Slope	0.995912	*0.90 - 1.10*
4.49	4.50	0.9964	Intercept	0.029509	*+/-0.5*
2.24	2.30	0.9756			



NMHC Calibration Plot Date: October 15, 2025 Location: Conklin



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Conklin
Station number:	AMS 21
Calibration Date:	October 8, 2025
Last Cal Date:	September 16, 2025
Start time (MST):	8:30
End time (MST):	12:35
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	SA18828	Cal Gas Expiry Date:	November 3, 2031
NOX Cal Gas Conc:	48.90 ppm	NO Cal Gas Conc:	48.80 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	48.90 ppm	Removed Gas NO Conc:	48.80 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700P	Serial Number:	2659
ZAG make/model:	Teledyne API T701	Serial Number:	953

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.2	-0.3	0.1	----	----
AF High point	4918	82.0	802.0	800.3	1.6	807.2	803.7	3.4	0.9933	0.9954
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	802.7	ppb	NO =	800.8	ppb	
Baseline Corr 1st pt	NO_X =	807.4	ppb	NO =	804.0	ppb	
Baseline Corr 2nd pt	NO_X =	NA	ppb	NO =	NA	ppb	
Baseline Corr 3rd pt	NO_X =	NA	ppb	NO =	NA	ppb	

* = > +/-5% change initiates investigation

*Percent Change NO_X = 0.6%

*Percent Change NO = 0.4%

As Found Statistics

As found NO_X r^2: Nx Sl: Nx Int:

As found NO r^2: NO Sl: NO Int:

As found NO_2 r^2: NO2 Sl: NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1218153356

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.648	0.648	NO bkgnd or offset:	3.7	3.7
NOX coeff or slope:	0.994	0.994	NOX bkgnd or offset:	3.6	3.6
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	165.6	163.8

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.998174	1.006212
NO_X Cal Offset:	2.188064	2.868139
NO Cal Slope:	0.999434	1.007774
NO Cal Offset:	0.888035	1.568103
NO_2 Cal Slope:	0.999907	0.999764
NO_2 Cal Offset:	-0.013101	0.063265

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.0	-0.2	0.1	----	----
High point	4918	82.0	802.0	800.3	1.6	808.7	807.3	1.4	0.9917	0.9914
Mid point	4959	41.0	401.0	400.2	0.8	406.8	405.5	1.3	0.9857	0.9868
Low point	4980	20.5	200.5	200.1	0.4	208.1	205.1	3.0	0.9633	0.9754
As left zero	5000	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	----	----
As left span	4918	82.0	802.0	390.3	411.7	810.0	390.3	419.7	0.9901	1.0000
							Average Correction Factor		0.9802	0.9845

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.1	----	----
High GPT point	808.5	392.0	418.1	418.2	0.9999	100.0%
Mid GPT point	808.5	601.9	208.2	208.0	1.0012	99.9%
Low GPT point	808.5	703.5	106.6	106.8	0.9985	100.2%
				Average Correction Factor	0.9998	100.0%

Notes: Sample inlet filter was changed after as founds. No adjustment made.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

NO_X Calibration Summary

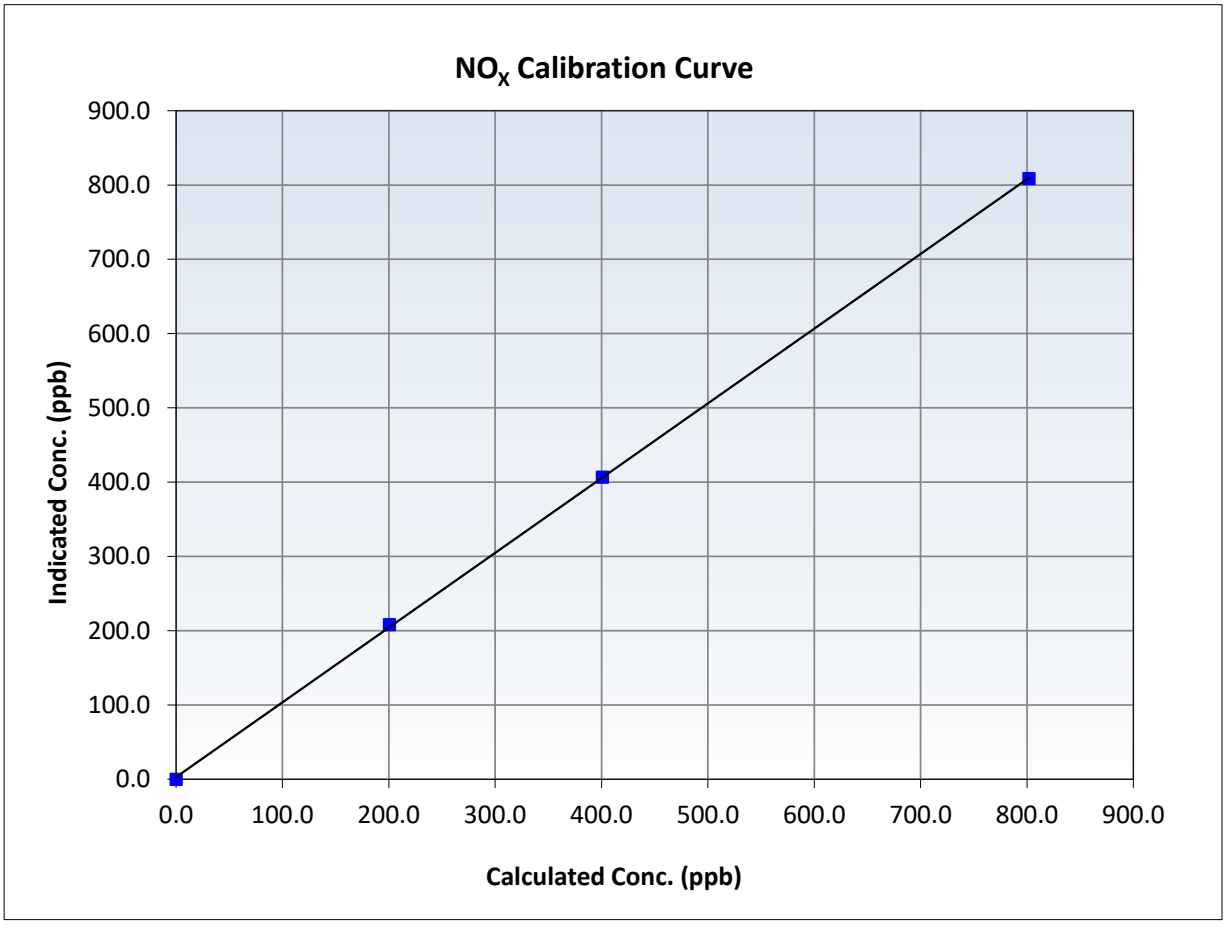
Station Information

Calibration Date:	October 8, 2025	Previous Calibration:	September 16, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	8:30	End Time (MST):	12:35
Analyzer make:	Thermo 42i	Analyzer serial #:	1218153356

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
802.0	808.7	0.9917
401.0	406.8	0.9857
200.5	208.1	0.9633

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999938	*≥0.995*
Slope	1.006212	*0.90 - 1.10*
Intercept	2.868139	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

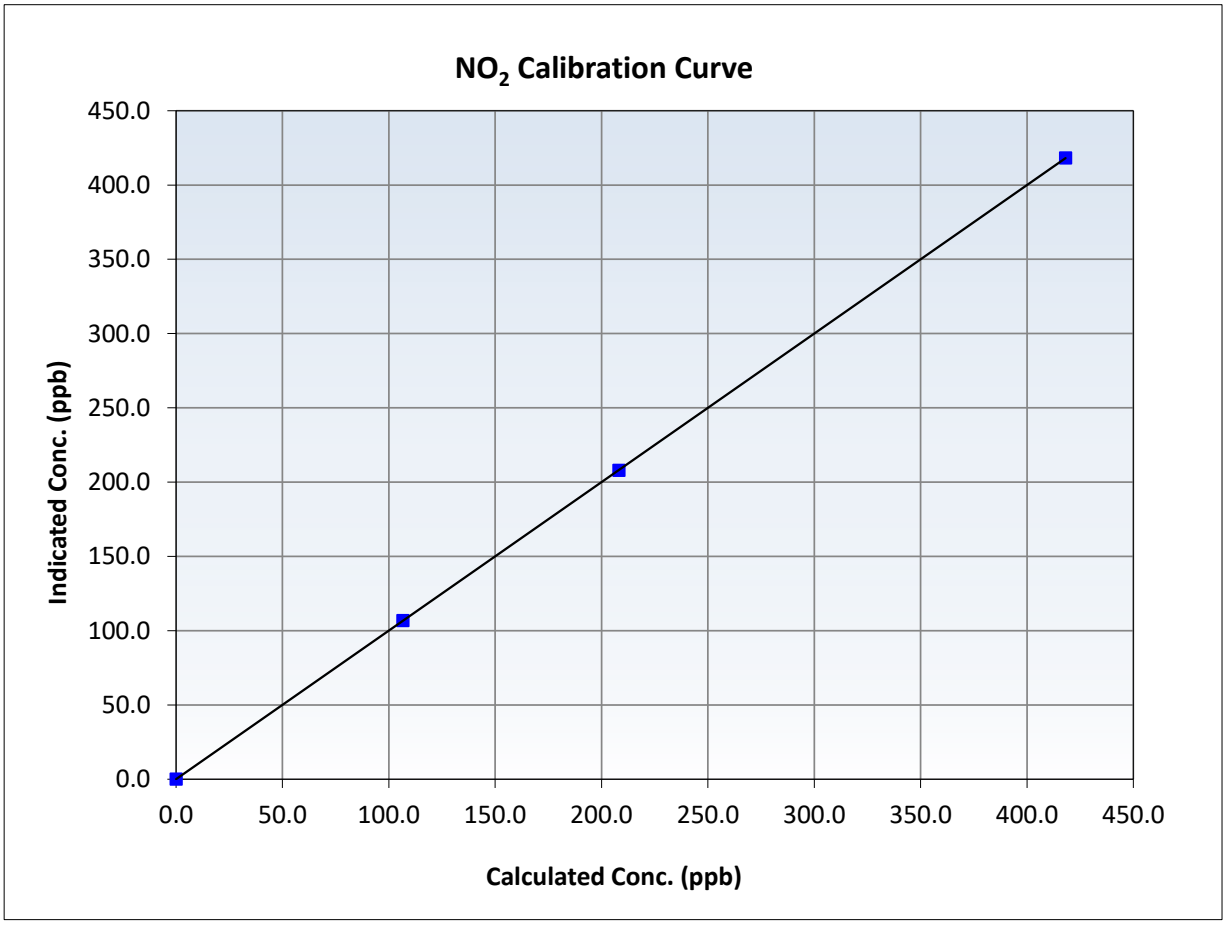
Station Information

Calibration Date:	October 8, 2025	Previous Calibration:	September 16, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	8:30	End Time (MST):	12:35
Analyzer make:	Thermo 42i	Analyzer serial #:	1218153356

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
418.1	418.2	0.9999
208.2	208.0	1.0012
106.6	106.8	0.9985

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	0.999764	*0.90 - 1.10*
Intercept	0.063265	*+/-20*



Wood Buffalo Environmental Association

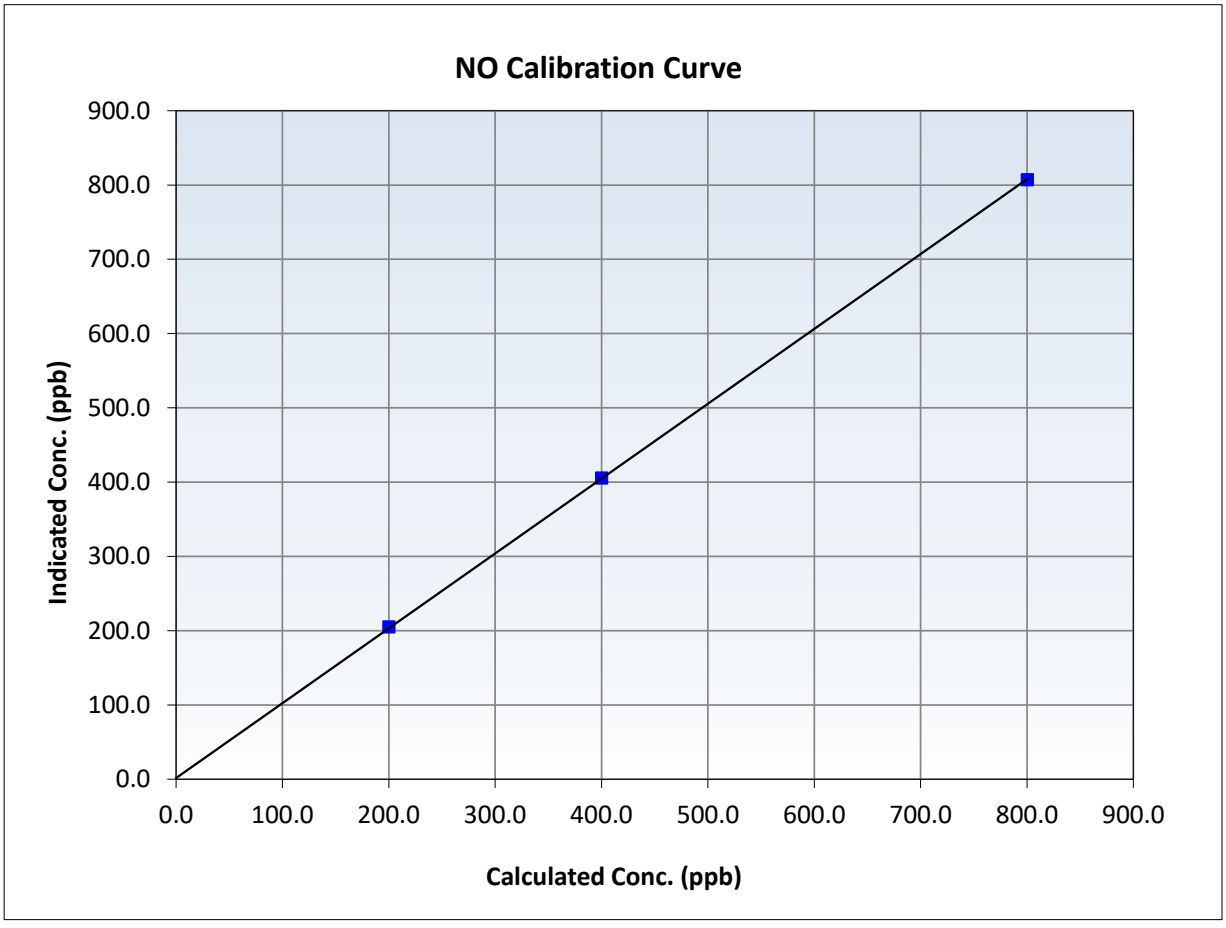
NO Calibration Summary

Station Information

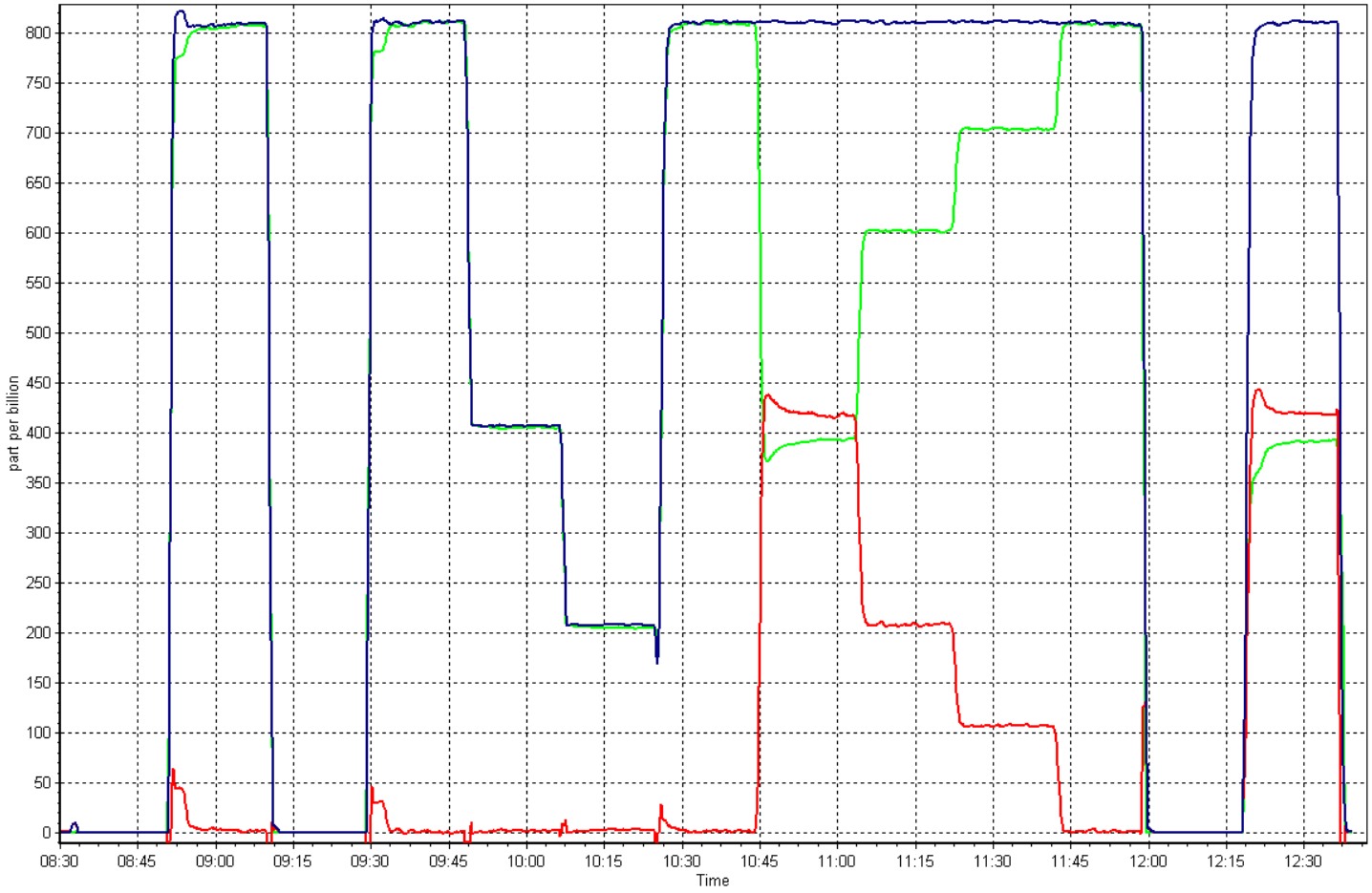
Calibration Date:	October 8, 2025	Previous Calibration:	September 16, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	8:30	End Time (MST):	12:35
Analyzer make:	Thermo 42i	Analyzer serial #:	1218153356

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	-0.2	----	Correlation Coefficient	0.999978	≥0.995
800.3	807.3	0.9914	Slope	1.007774	0.90 - 1.10
400.2	405.5	0.9868	Intercept	1.568103	+/-20
200.1	205.1	0.9754			



NO_X Calibration Plot Date: October 8, 2025 Location: Conklin



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Conklin	Station number:	AMS 21
Calibration Date:	October 2, 2025	Last Cal Date:	September 3, 2025
Start time (MST):	10:49	End time (MST):	13:24
Reason:	Routine		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	Teledyne API T700P	Serial Number:	2656
ZAG Make/Model:	Teledyne API T701H	Serial Number:	355

Analyzer Information

Analyzer make:	Thermo 49i	Analyzer serial #:	1300156233
Analyzer Range	0 - 500 ppb		

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	0.998771	1.007229	Backgd or Offset:	0.0	-0.2
Calibration intercept:	0.940000	2.260000	Coeff or Slope:	1.229	1.229

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	800.0	0.0	-0.5	----
As found High point	5000	1176.6	400.0	402.0	0.994
As found Mid point					
As found Low point					

Baseline Corr As found:	402.5	Previous response	400.4	*% change	0.5%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

O_3 Calibration Data

Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	800.0	0.0	0.1	----
High point	5000	1175.9	400.0	404.0	0.990
Mid point	5000	939.1	200.0	205.0	0.976
Low point	5000	809.5	100.0	105.0	0.952
As left zero	5000	800.0	0.0	0.5	----
As left span	5000	1173.8	400.0	409.0	0.978
				Average Correction Factor	0.973

Notes: Sample inlet filter was changed after as founds. Adjusted zero only.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

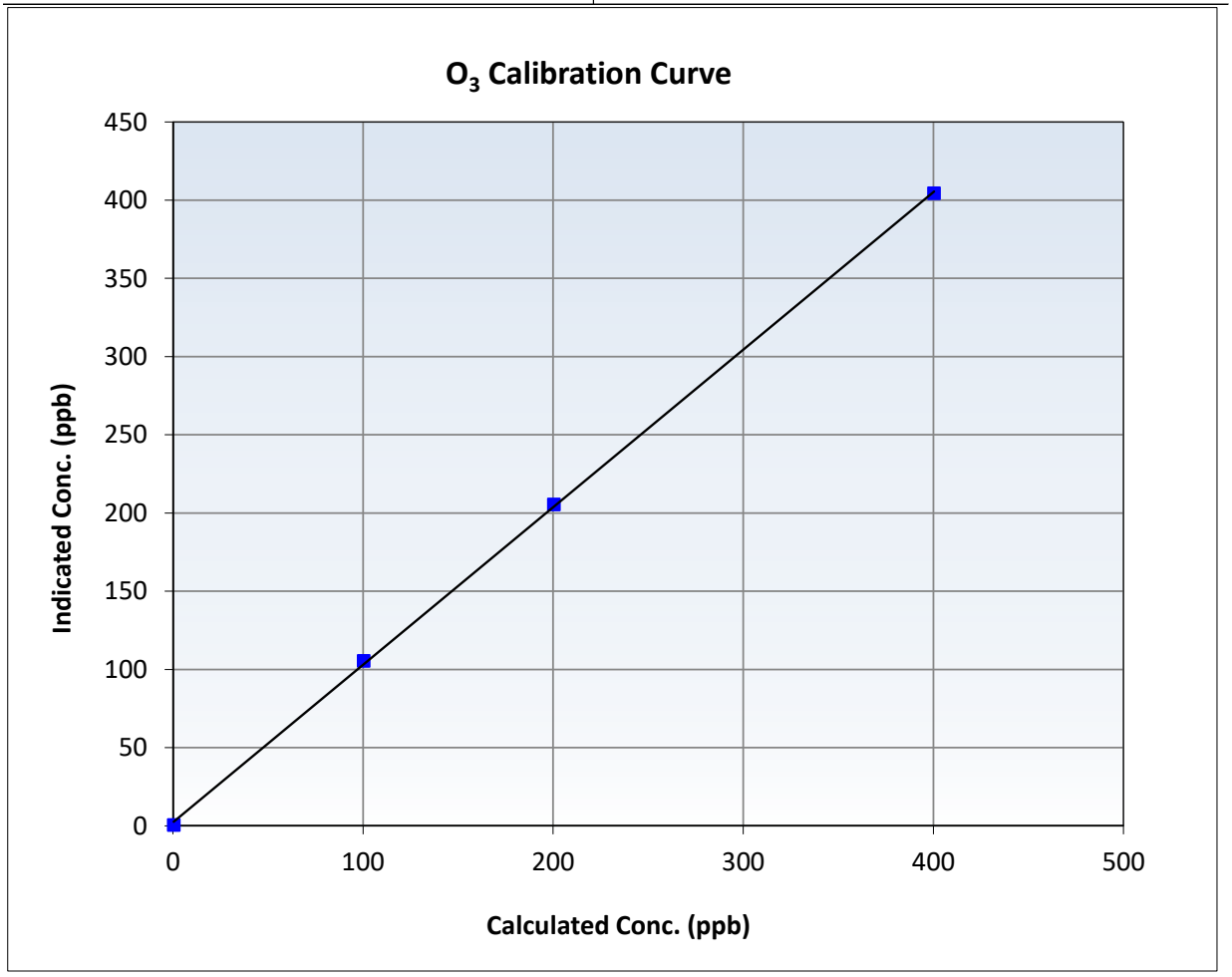
O_3 Calibration Summary

Station Information

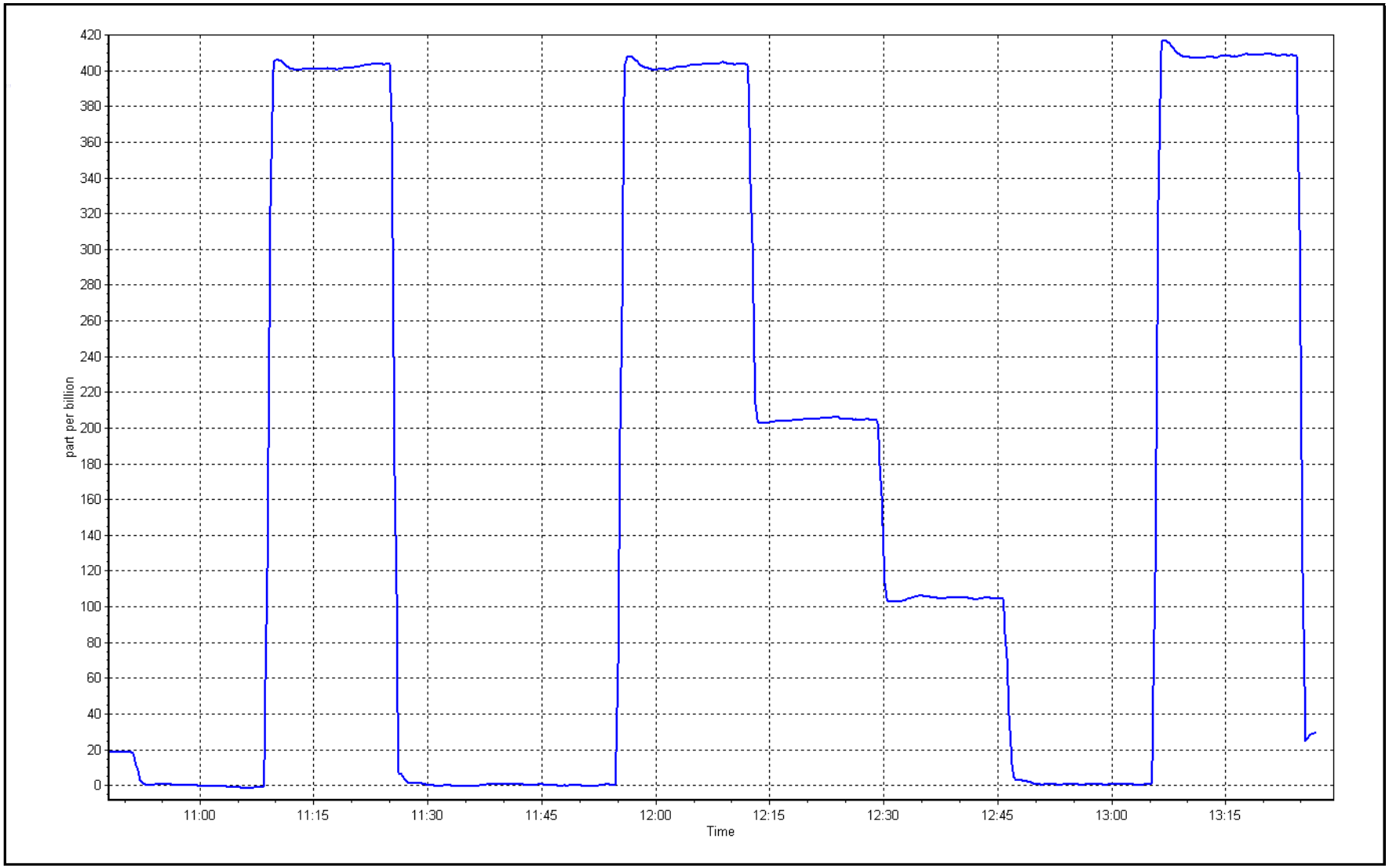
Calibration Date:	October 2, 2025	Previous Calibration:	September 3, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:49	End Time (MST):	13:24
Analyzer make:	Thermo 49i	Analyzer serial #:	1300156233

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999868	*≥0.995*
400.0	404.0	0.9901	Slope	1.007229	*0.90 - 1.10*
200.0	205.0	0.9756			
100.0	105.0	0.9524	Intercept	2.260000	*+/- 5*



O_3 Calibration Plot Date: October 2, 2025 Location: Conklin



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Conklin	Station number:	AMS 21
Calibration Date:	October 8, 2025	Last Cal Date:	September 23, 2025
Start time (MST):	10:49	End time (MST):	11:02
Analyzer Make:	API T640	S/N:	1266
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388754
Temp/RH standard:	Alicat FP-25BT	S/N:	388754

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (°C)	10.90	10.00	10.90	☐	+/- 2 °C
P (mmHg)	705.80	707.70	705.80	☐	+/- 10 mmHg
Flow (LPM)	5.00	5.12	5.00	☐	+/- 0.25 LPM
PW% (pump)	39	-----	39	☐	>80%
Zero Verification	PM w/o HEPA:	5.20	PM w/ HEPA:	0.00	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.90 — Expiry Date: July 16, 2026 — Lot No.: 100128-050-040

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test				☐	+/- 0.5

Date Optical Chamber Cleaned: August 6, 2025

Date Disposable Filter Changed: August 6, 2025

Post- maintenance Zero Verification: PM w/ HEPA: _____ <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: June 4, 2025

Date RH/T Sensor Cleaned: June 30, 2025

Notes: Verified flow, pressure, temperature and pump power. Leak check passed. No adjustment needed.

Calibration by: Jan Castro

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS22
JANVIER
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Janvier	Station number:	AMS 22
Calibration Date:	October 24, 2025	Last Cal Date:	September 22, 2025
Start time (MST):	11:32	End time (MST):	14:55
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.11	ppm	Cal Gas Exp Date:	January 18, 2029
Cal Gas Cylinder #:	CC281519			
Removed Cal Gas Conc:	50.11	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	3806
Zero Air Gen Model:	Teledyne API T701		Serial Number:	691

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1152430006	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	0.999707	1.001164	Backgd or Offset:	26.4	26.9
Calibration intercept:	0.624279	0.064348	Coeff or Slope:	1.000	1.010

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.2	----
As found High point	4920	79.8	799.8	792.5	1.009
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	792.3	Previous response	800.2	*% change	-1.0%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.3	----
High point	4920	79.8	799.8	800.8	0.999
Mid point	4960	39.9	399.9	400.6	0.998
Low point	4980	20.0	200.4	200.3	1.001
As left zero	5000	0.0	0.0	0.5	----
As left span	4920	79.8	799.8	800.4	0.999
				Average Correction Factor:	0.999

Notes: Changed the inlet filter after as founds. Adjusted the span.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

SO_2 Calibration Summary

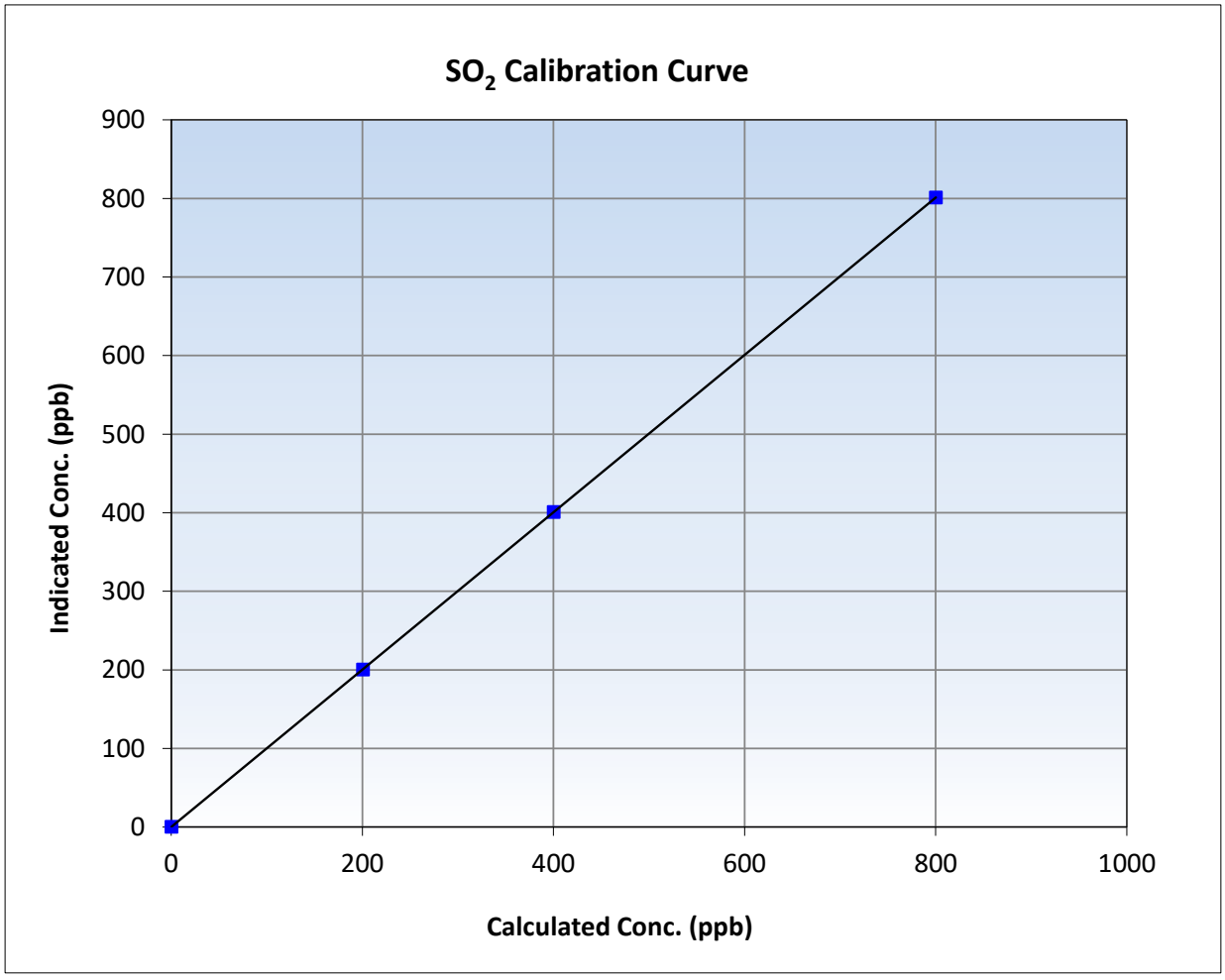
Station Information

Calibration Date:	October 24, 2025	Previous Calibration:	September 22, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	11:32	End Time (MST):	14:55
Analyzer make:	Thermo 43i	Analyzer serial #:	1152430006

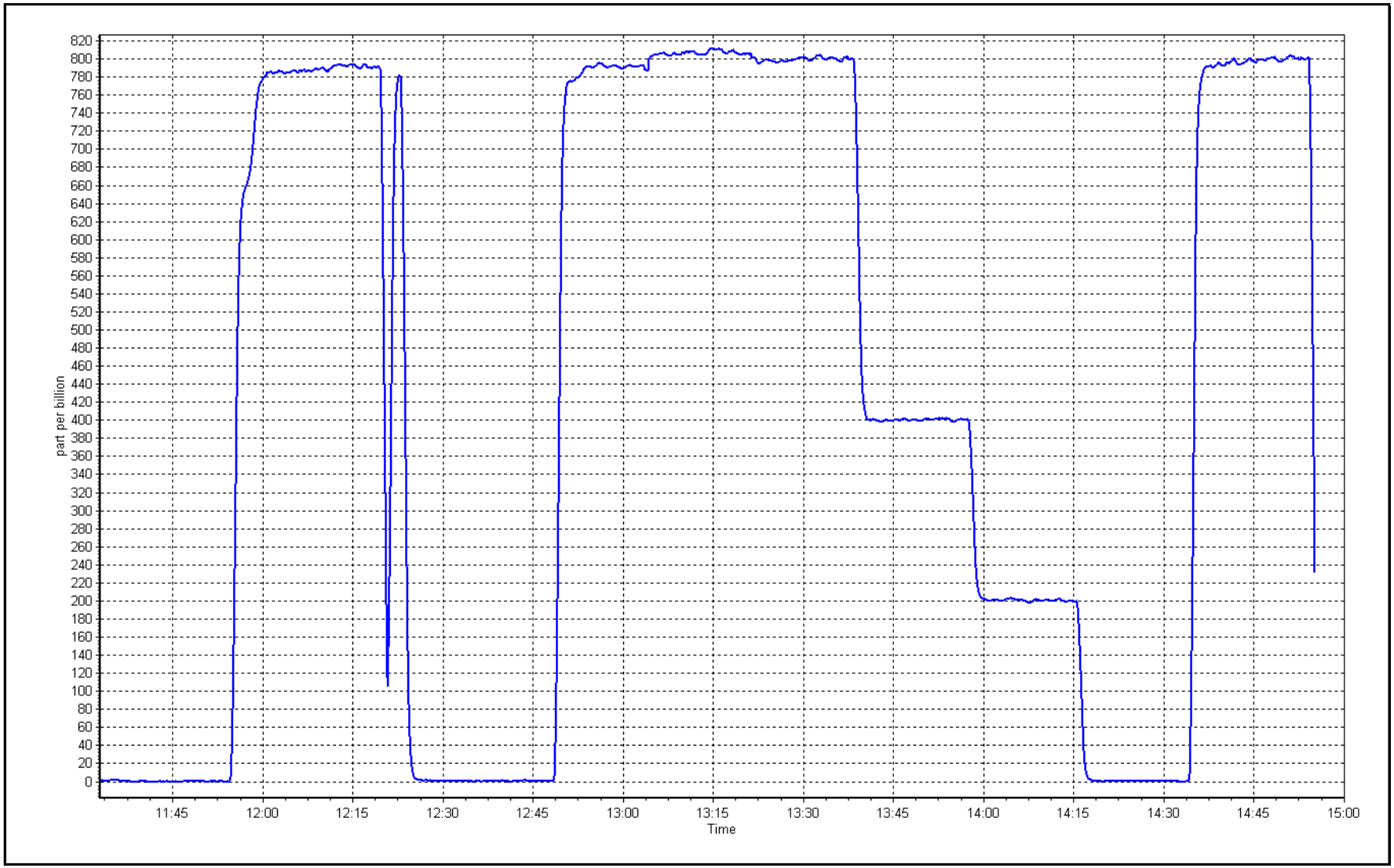
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
799.8	800.8	0.9987
399.9	400.6	0.9982
200.4	200.3	1.0007

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	1.001164	*0.90 - 1.10*
Intercept	0.064348	*+/-30*



SO2 Calibration Plot Date: October 24, 2025 Location: Janvier



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Janvier	Station number:	AMS 22
Calibration Date:	October 28, 2025	Last Cal Date:	September 18, 2025
Start time (MST):	11:39	End time (MST):	16:28
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.02	ppm	Cal Gas Exp Date:	November 15, 2026
Cal Gas Cylinder #:	CC424047			
Removed Cal Gas Conc:	5.02	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	3806
ZAG Make/Model:	Teledyne API T701		Serial Number:	691

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Analyzer serial #:	1151680031
Converter make:	CDN-101		Converter serial #:	620
Analyzer Range	0 - 100 ppb		Converter Temp:	850 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.003379	0.961388	Backgd or Offset:	3.43	3.39
Calibration intercept:	0.140666	0.459964	Coeff or Slope:	1.180	1.180

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.2	----
As found High point	4920	79.7	80.0	79.7	1.007
As found Mid point	4960	39.8	40.0	40.0	1.004
As found Low point	4980	19.9	20.0	20.1	1.004
New cylinder response					

Baseline Corr As found:	79.5	Prev response:	80.43	*% change:	-1.2%
Baseline Corr 2nd AF pt:	39.8	AF Slope:	0.993382	AF Intercept:	0.240460
Baseline Corr 3rd AF pt:	19.9	AF Correlation:	0.999998	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.3	----
High point	4920	79.7	80.0	77.2	1.037
Mid point	4960	39.8	40.0	39.3	1.017
Low point	4980	19.9	20.0	19.6	1.019
As left zero	5000	0.0	0.0	0.7	----
As left span	4920	79.7	80.0	76.0	1.053
SO2 Scrubber Check	4920	79.8	798.0	0.0	----
Date of last scrubber change:				Ave Corr Factor	1.024
Date of last converter efficiency test:					

Notes: Changed the inlet filter after as founds. Scrubber test performed, no issues. No adjustments made.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

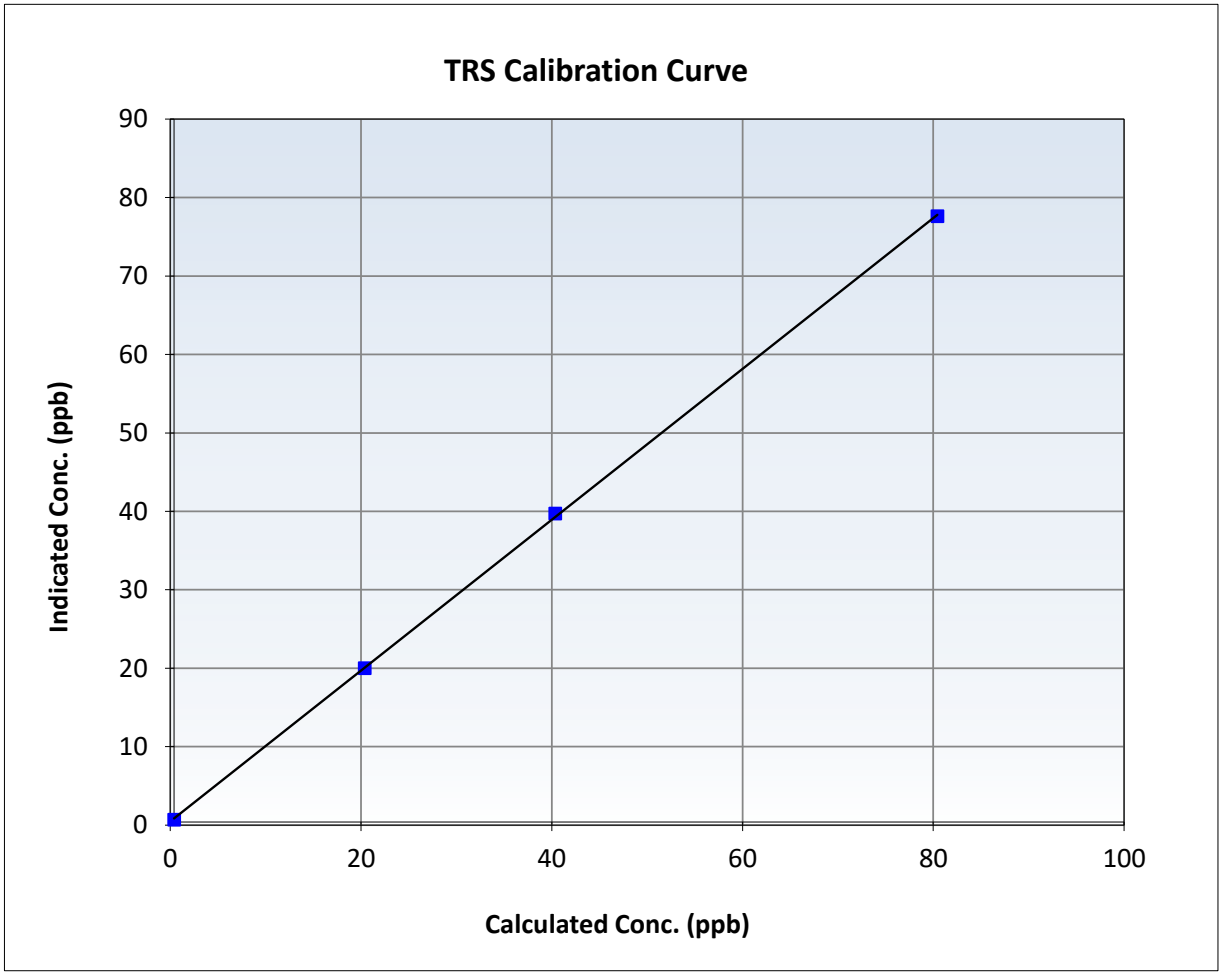
TRS Calibration Summary

Station Information

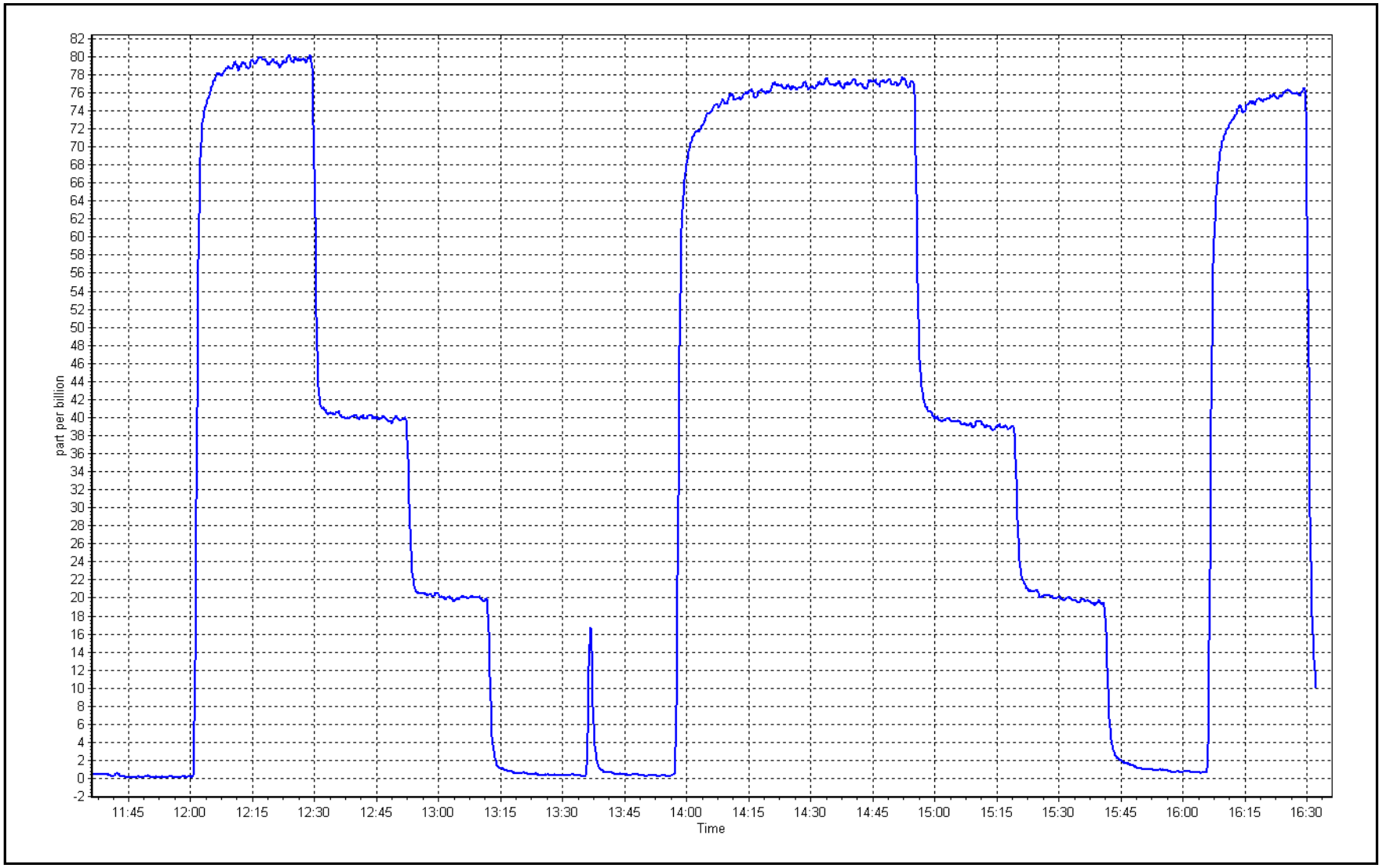
Calibration Date:	October 28, 2025	Previous Calibration:	September 18, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	11:39	End Time (MST):	16:28
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1151680031

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.3	----	Correlation Coefficient	0.999924	*≥0.995*
80.0	77.2	1.0366	Slope	0.961388	*0.90 - 1.10*
40.0	39.3	1.0168			
20.0	19.6	1.0194	Intercept	0.459964	*+/-3*



TRS Calibration Plot Date: October 28, 2025 Location: Janvier



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Janvier	Station number:	AMS 22
Calibration Date:	October 24, 2025	Last Cal Date:	September 22, 2025
Start time (MST):	11:32	End time (MST):	14:55
Reason:	Routine		

Calibration Standards

Gas Cert Reference:		CC281519	Cal Gas Expiry Date:	January 18, 2029	
CH4 Cal Gas Conc.	502.8	ppm	CH4 Equiv Conc.	1075.9	ppm
C3H8 Cal Gas Conc.	208.4	ppm			
Removed Gas Cert:		NA	Removed Gas Expiry:	NA	
Removed CH4 Conc.	502.8	ppm	CH4 Equiv Conc.	1075.9	ppm
Removed C3H8 Conc.	208.4	ppm	Diff between cyl (THC):		
Diff between cyl (CH_4):			Diff between cyl (NM):		
Calibrator Model:	Teledyne API 700		Serial Number:	3806	
Zero Air Gen model:	Teledyne API 701		Serial Number:	691	

Analyzer Information

Analyzer make:	Thermo 55i		Analyzer serial #:	1317958219	
THC Range:	0 - 20 ppm		NMHC/CH4 Range:	0 - 10 ppm	
	Start	***Finish***		***Start***	***Finish***
CH4 SP Ratio:	2.54E-04	2.58E-04	NMHC SP Ratio:	6.13E-05	6.19E-05
CH4 Retention time:	11.6	11.6	NMHC Peak Area:	149196	147887
Zero Chromatogram:	OFF	OFF	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	17.17	17.04	1.008
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	17.04	Prev response	17.17	*% change	-0.8%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.8	17.17	17.13	1.002
Mid point	4960	39.9	8.59	8.49	1.011
Low point	4980	20.0	4.30	4.25	1.012
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	17.17	17.10	1.004
				Average Correction Factor	1.009

Notes: Changed the inlet filter after as founds. Adjusted the span.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	9.15	9.11	1.004
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.11	Prev response	9.23	*% change	-1.3%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.8	9.15	9.10	1.005
Mid point	4960	39.9	4.57	4.54	1.007
Low point	4980	20.0	2.29	2.28	1.004
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	9.15	9.10	1.006
				Average Correction Factor	1.005

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4920	79.8	8.03	7.93	1.013
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.93	Prev response	7.94	*% change	-0.1%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4920	79.8	8.03	8.02	1.000
Mid point	4960	39.9	4.01	3.95	1.016
Low point	4980	20.0	2.01	1.97	1.022
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	8.03	8.00	1.003
				Average Correction Factor	1.013

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	1.002326	0.998025
THC Cal Offset:	-0.044604	-0.031787
CH4 Cal Slope:	0.992807	1.000840
CH4 Cal Offset:	-0.032144	-0.029357
NMHC Cal Slope:	1.010515	0.995131
NMHC Cal Offset:	-0.012060	-0.001228

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

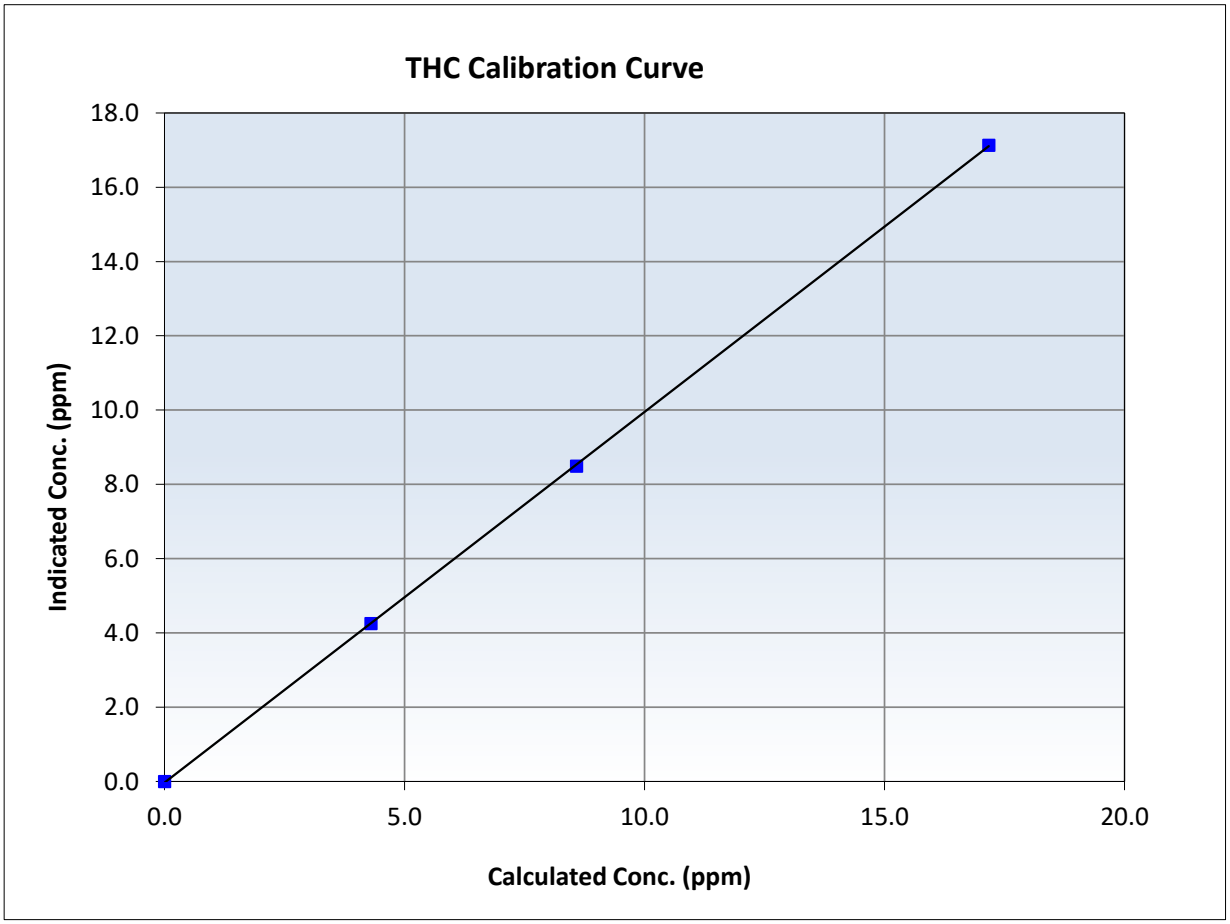
THC Calibration Summary

Station Information

Calibration Date:	October 24, 2025	Previous Calibration:	September 22, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	11:32	End Time (MST):	14:55
Analyzer make:	Thermo 55i	Analyzer serial #:	1317958219

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999976	≥0.995
17.17	17.13	1.0023	Slope	0.998025	0.90 - 1.10
8.59	8.49	1.0111	Intercept	-0.031787	+/-0.5
4.30	4.25	1.0124			



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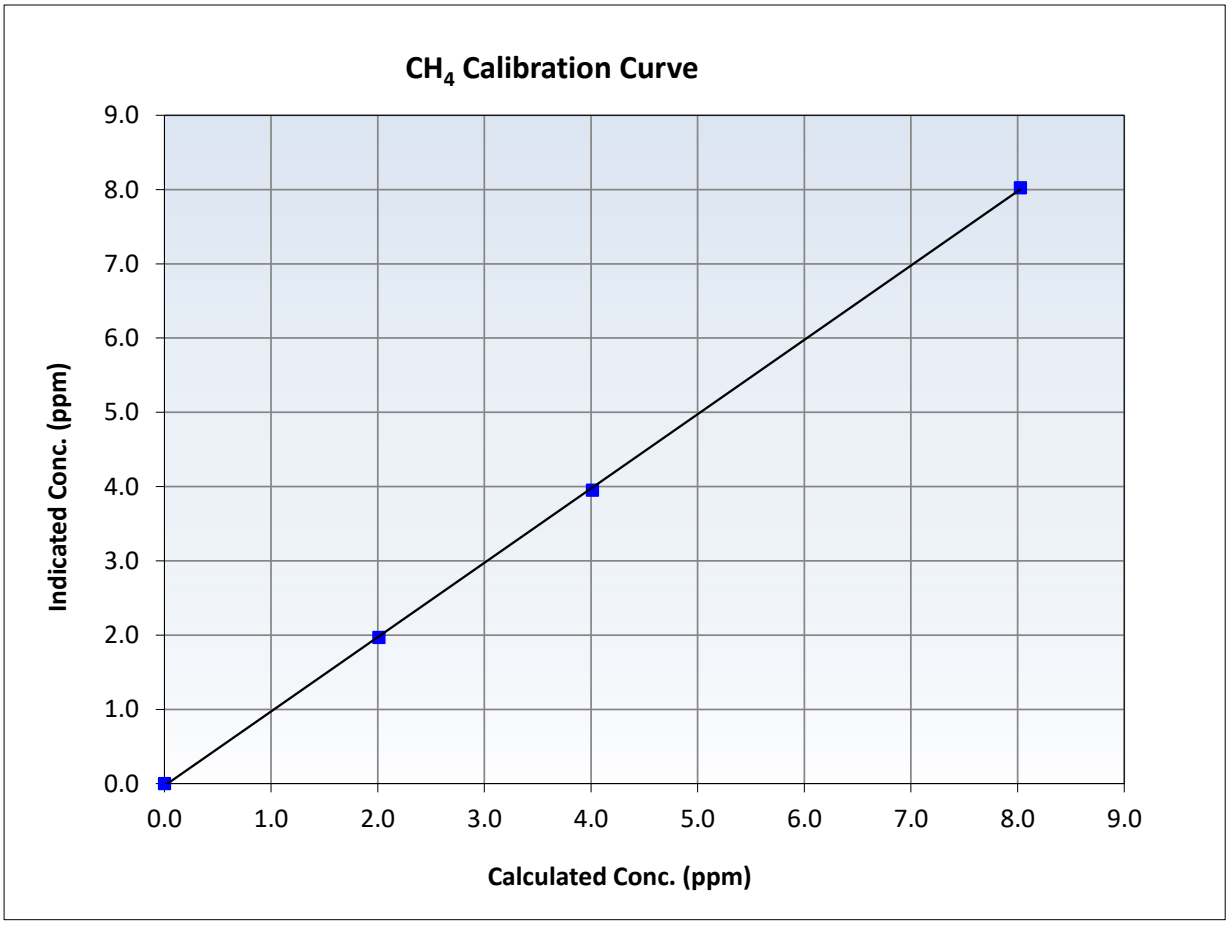
CH_4 Calibration Summary

Station Information

Calibration Date:	October 24, 2025	Previous Calibration:	September 22, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	11:32	End Time (MST):	14:55
Analyzer make:	Thermo 55i	Analyzer serial #:	1317958219

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999920	≥0.995
8.03	8.02	1.0001	Slope	1.000840	0.90 - 1.10
4.01	3.95	1.0155			
2.01	1.97	1.0220	Intercept	-0.029357	+/-0.5



Wood Buffalo Environmental Association

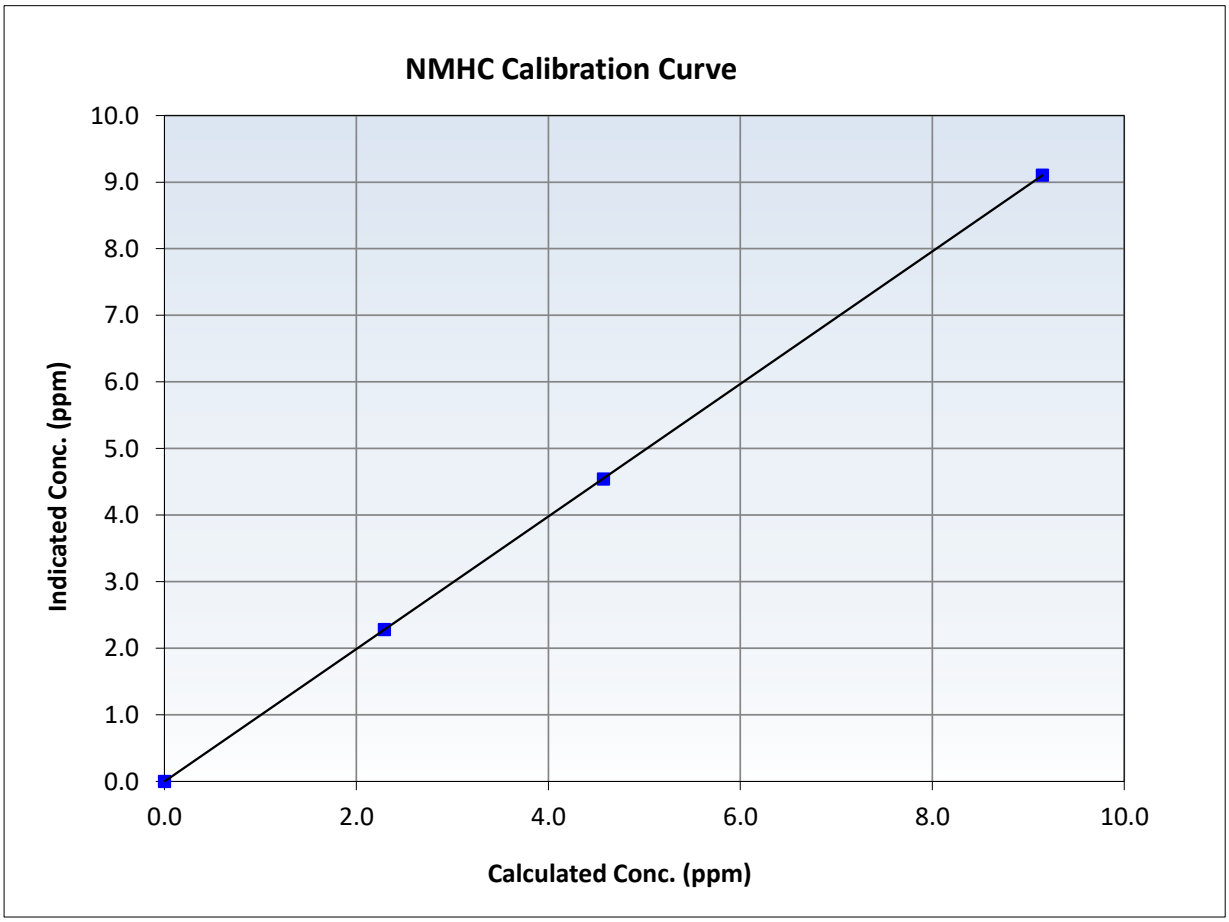
NMHC Calibration Summary

Station Information

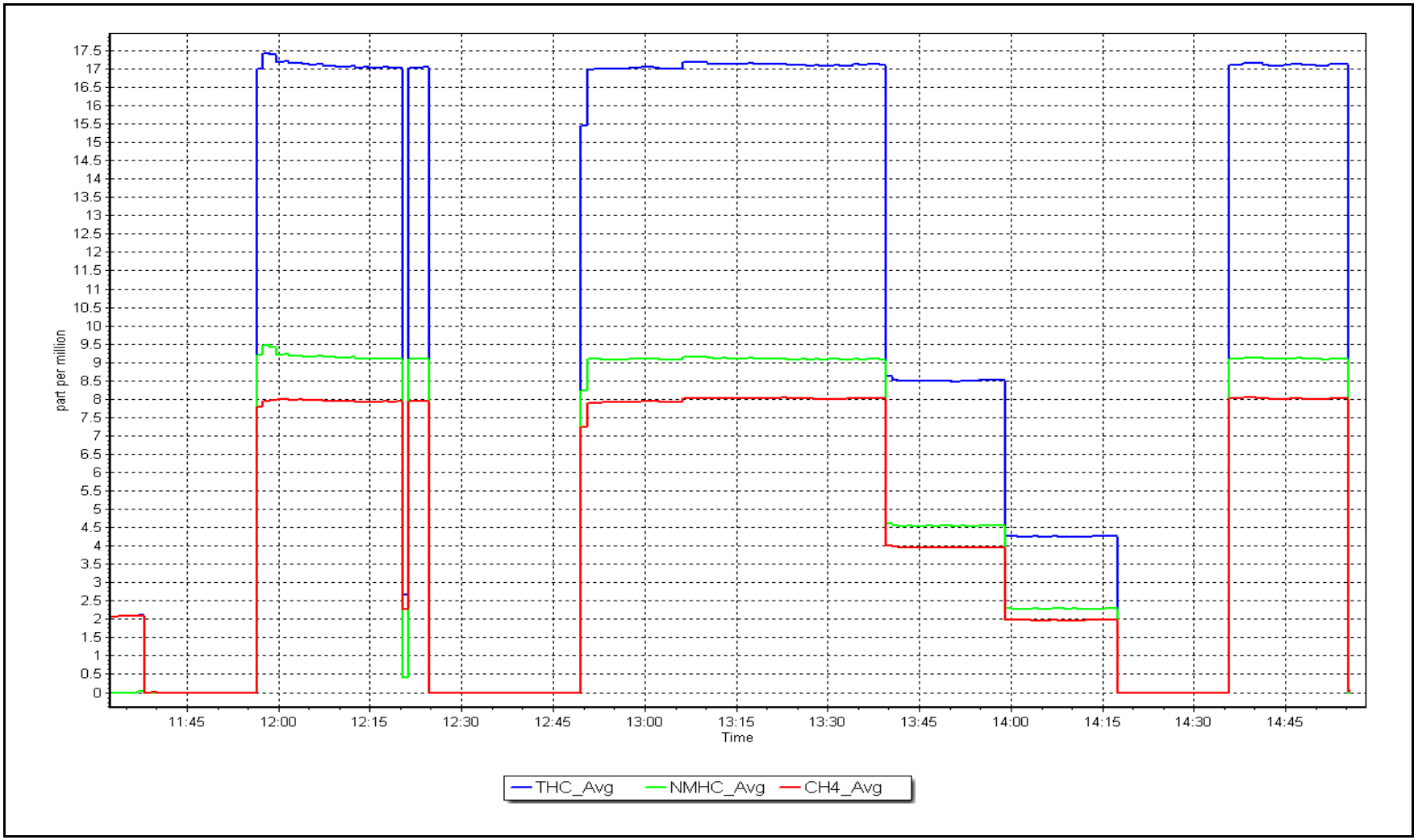
Calibration Date:	October 24, 2025	Previous Calibration:	September 22, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	11:32	End Time (MST):	14:55
Analyzer make:	Thermo 55i	Analyzer serial #:	1317958219

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999999	≥0.995
9.15	9.10	1.0047	Slope	0.995131	0.90 - 1.10
4.57	4.54	1.0067	Intercept	-0.001228	+/-0.5
2.29	2.28	1.0041			



NMHC Calibration Plot Date: October 24, 2025 Location: Janvier



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Janvier
Station number:	AMS 22
Calibration Date:	October 23, 2025
Last Cal Date:	September 19, 2025
Start time (MST):	11:31
End time (MST):	15:53
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0047765	Cal Gas Expiry Date:	March 11, 2031
NOX Cal Gas Conc:	48.90 ppm	NO Cal Gas Conc:	48.80 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	48.90 ppm	Removed Gas NO Conc:	48.80 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	3806
ZAG make/model:	Teledyne API T701	Serial Number:	691

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.2	-0.2	0.0	----	----
AF High point	4918	82.0	802.0	800.3	1.6	802.5	796.5	6.0	0.9991	1.0045
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	803.7 ppb	NO =	800.2 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = -0.1%
Baseline Corr 1st pt	NO_X =	802.7 ppb	NO =	796.7 ppb	As Found Statistics	*Percent Change	NO = -0.4%
Baseline Corr 2nd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO_X r^2:	Nx Sl:	Nx Int:
Baseline Corr 3rd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO r^2:	NO Sl:	NO Int:
					As found NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1229254994

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.012	1.012	NO bkgnd or offset:	2.7	2.8
NOX coeff or slope:	0.997	0.997	NOX bkgnd or offset:	2.9	2.9
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	172.6	172.9

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.001535	1.000138
NO_X Cal Offset:	0.504115	-0.255953
NO Cal Slope:	1.001288	0.999346
NO Cal Offset:	-1.116032	-1.536101
NO_2 Cal Slope:	1.004012	1.002701
NO_2 Cal Offset:	1.010979	0.717283

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	----	----
High point	4918	82.0	802.0	800.3	1.6	801.9	799.0	2.9	1.0001	1.0017
Mid point	4960	41.0	400.9	400.1	0.8	400.6	397.5	3.1	1.0007	1.0065
Low point	4980	20.5	200.5	200.1	0.4	200.1	197.0	3.1	1.0018	1.0155
As left zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	----
As left span	4918	82.0	802.0	395.8	406.2	801.2	395.8	405.3	1.0009	1.0000
							Average Correction Factor		1.0009	1.0079

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.0	----	----
High GPT point	796.2	395.3	402.5	404.0	0.9964	100.4%
Mid GPT point	796.2	595.7	202.1	203.7	0.9923	100.8%
Low GPT point	796.2	695.0	102.8	104.6	0.9832	101.7%
				Average Correction Factor	0.9906	100.9%

Notes: Inlet filter was changed after as founds. No adjustments made.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

NO_X Calibration Summary

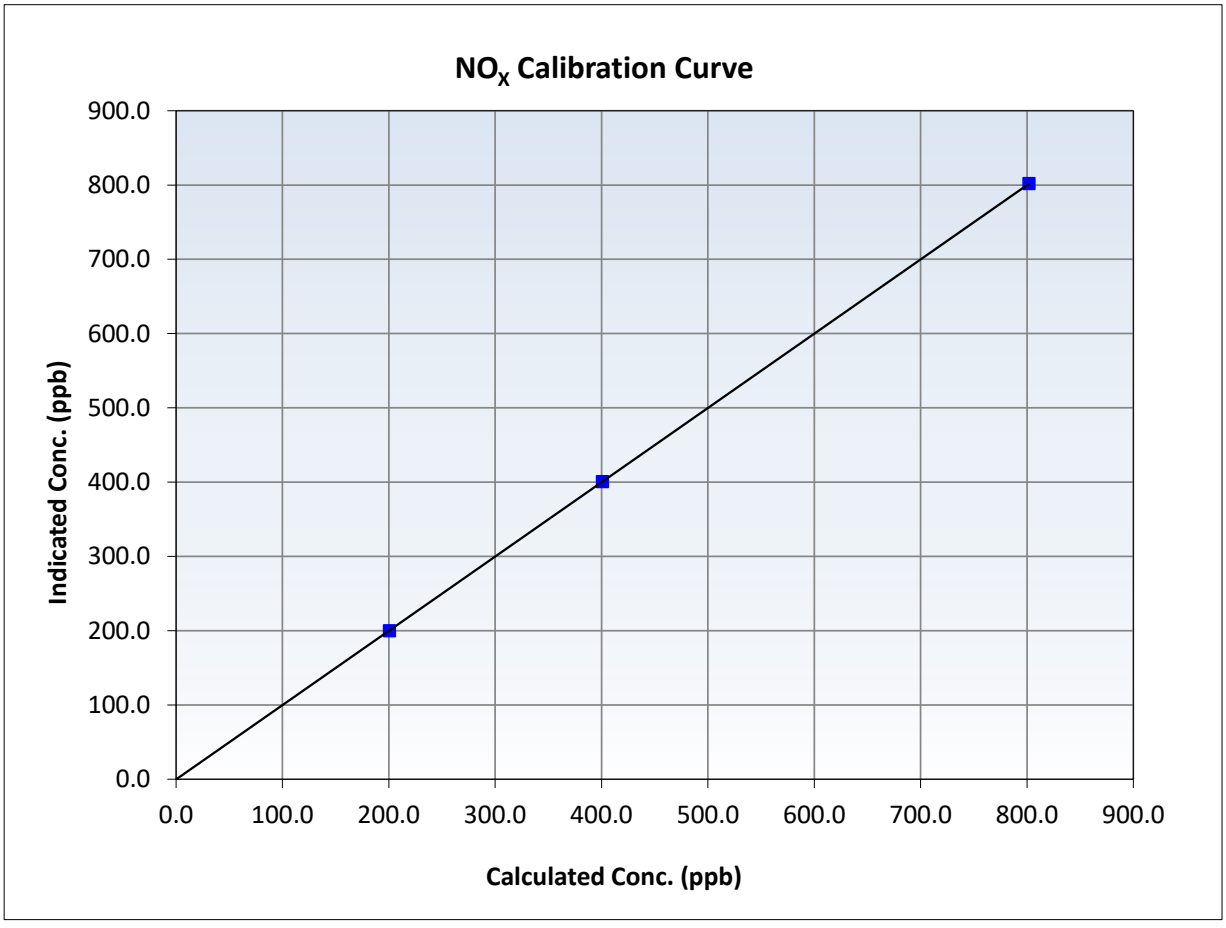
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 19, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	11:31	End Time (MST):	15:53
Analyzer make:	Thermo 42i	Analyzer serial #:	1229254994

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
802.0	801.9	1.0001
400.9	400.6	1.0007
200.5	200.1	1.0018

Statistical Evaluation		Limits
Correlation Coefficient	1.000000	≥0.995
Slope	1.000138	0.90 - 1.10
Intercept	-0.255953	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

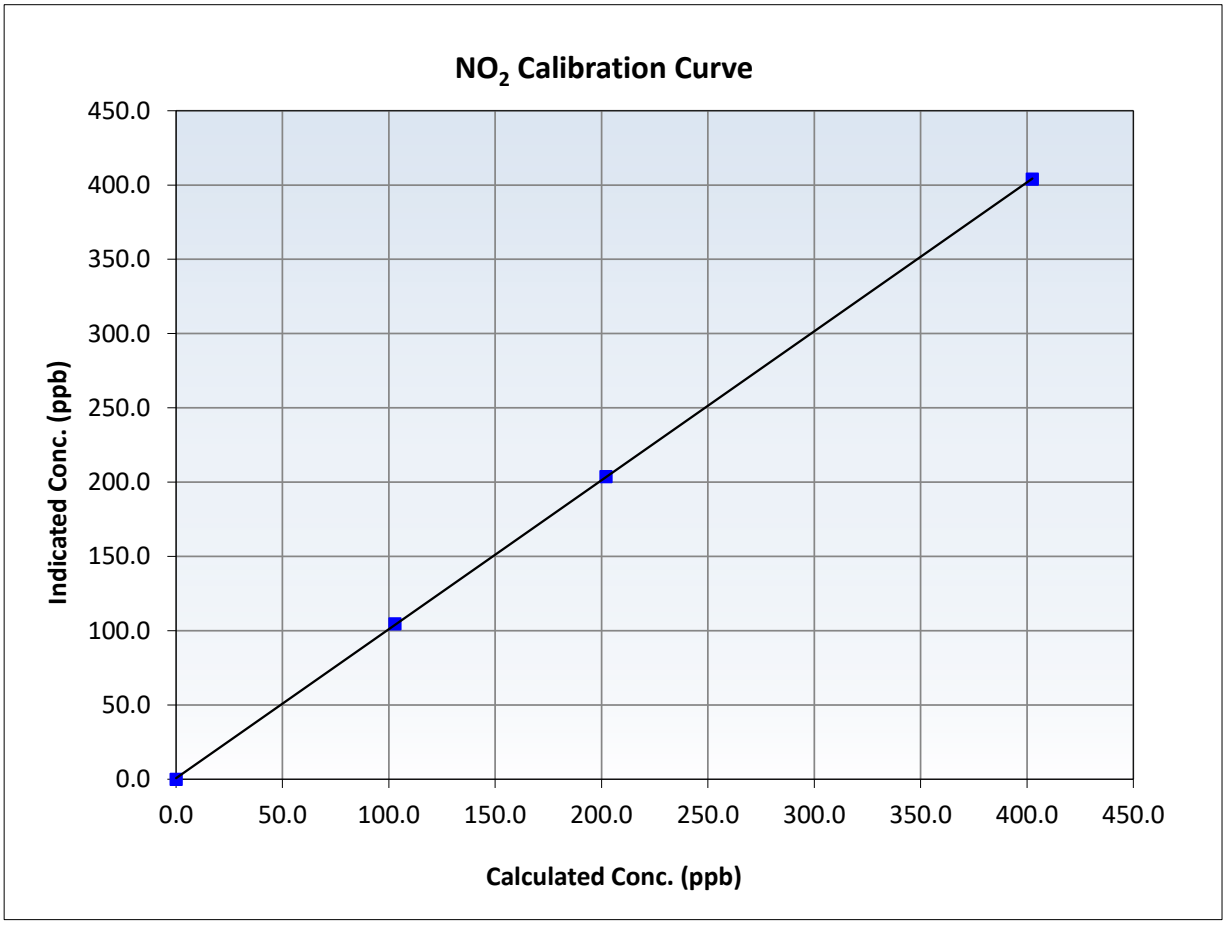
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 19, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	11:31	End Time (MST):	15:53
Analyzer make:	Thermo 42i	Analyzer serial #:	1229254994

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
402.5	404.0	0.9964
202.1	203.7	0.9923
102.8	104.6	0.9832

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999985	*≥0.995*
Slope	1.002701	*0.90 - 1.10*
Intercept	0.717283	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

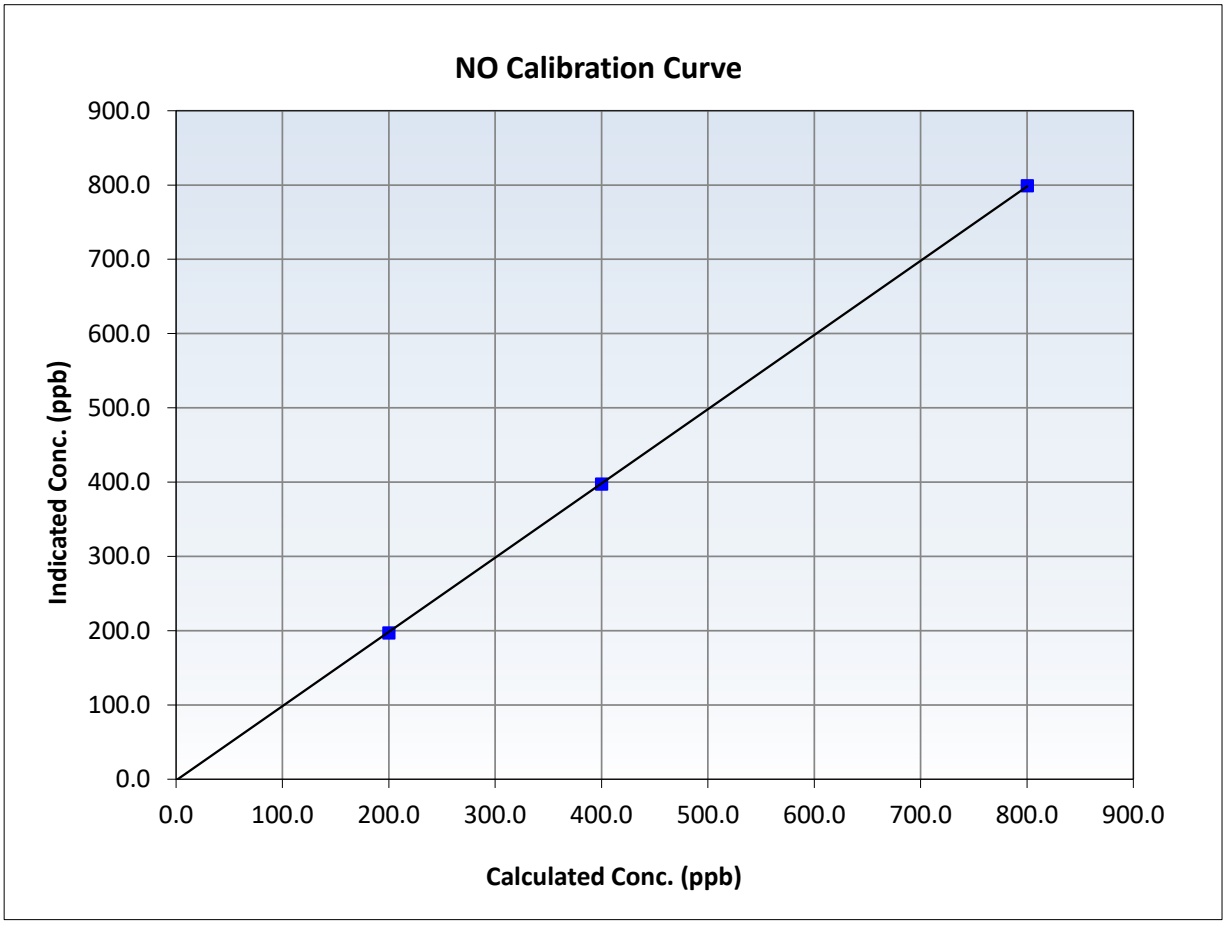
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 19, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	11:31	End Time (MST):	15:53
Analyzer make:	Thermo 42i	Analyzer serial #:	1229254994

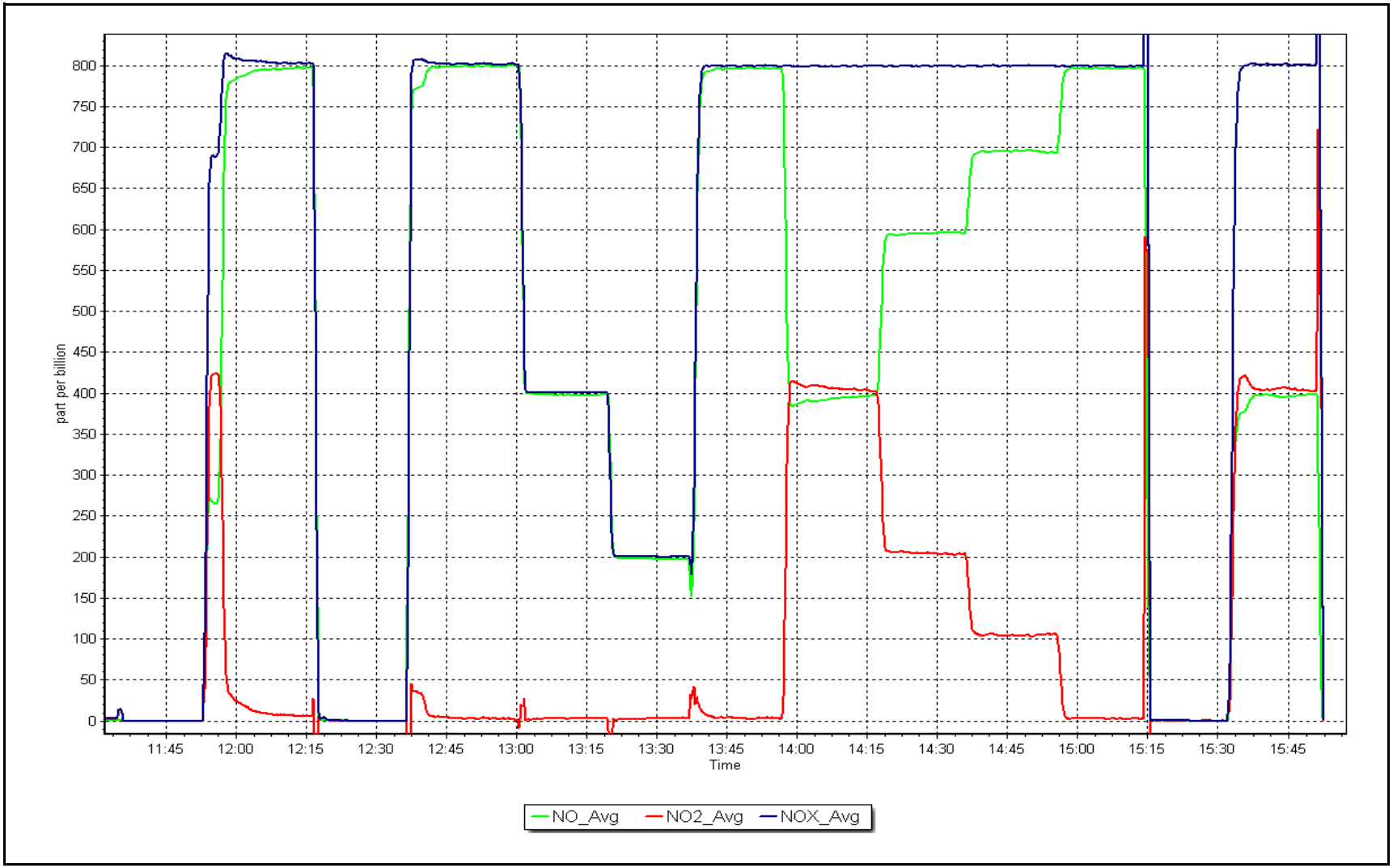
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
800.3	799.0	1.0017
400.1	397.5	1.0065
200.1	197.0	1.0155

Statistical Evaluation		Limits
Correlation Coefficient	0.999985	≥0.995
Slope	0.999346	0.90 - 1.10
Intercept	-1.536101	+/-20



NO_X Calibration Plot Date: October 23, 2025 Location: Janvier



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Janvier	Station number:	AMS 22
Calibration Date:	October 17, 2025	Last Cal Date:	September 9, 2025
Start time (MST):	11:45	End time (MST):	14:31
Reason:	Routine		

Calibration Standards

O3 generation mode:	Photometer		
Calibrator Make/Model:	Teledyne API T700	Serial Number:	3806
ZAG Make/Model:	Teledyne API T701H	Serial Number:	691

Analyzer Information

Analyzer make:	Thermo 49i	Analyzer serial #:	1227254861
Analyzer Range	0 - 500 ppb		

	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.000400	0.998829	Backgd or Offset:	-0.2	-0.2
Calibration intercept:	0.980000	0.980000	Coeff or Slope:	1.553	1.553

O_3 As Found Data

Set Point	Dilution air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	800.0	0.0	-0.1	----
As found High point	5000	926.2	400.0	399.1	1.002
As found Mid point					
As found Low point					
Baseline Corr As found:	399.2	Previous response	401.1	*% change	-0.5%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

O_3 Calibration Data

Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	800.0	0.0	0.1	----
High point	5000	926.2	400.0	400.0	1.000
Mid point	5000	768.9	200.0	201.4	0.993
Low point	5000	666.4	100.0	101.6	0.984
As left zero	5000	800.0	0.0	0.2	----
As left span	5000	926.2	400.0	404.4	0.989
				Average Correction Factor	0.992

Notes: Changed the inlet filter after the as founds. No adjustments made.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

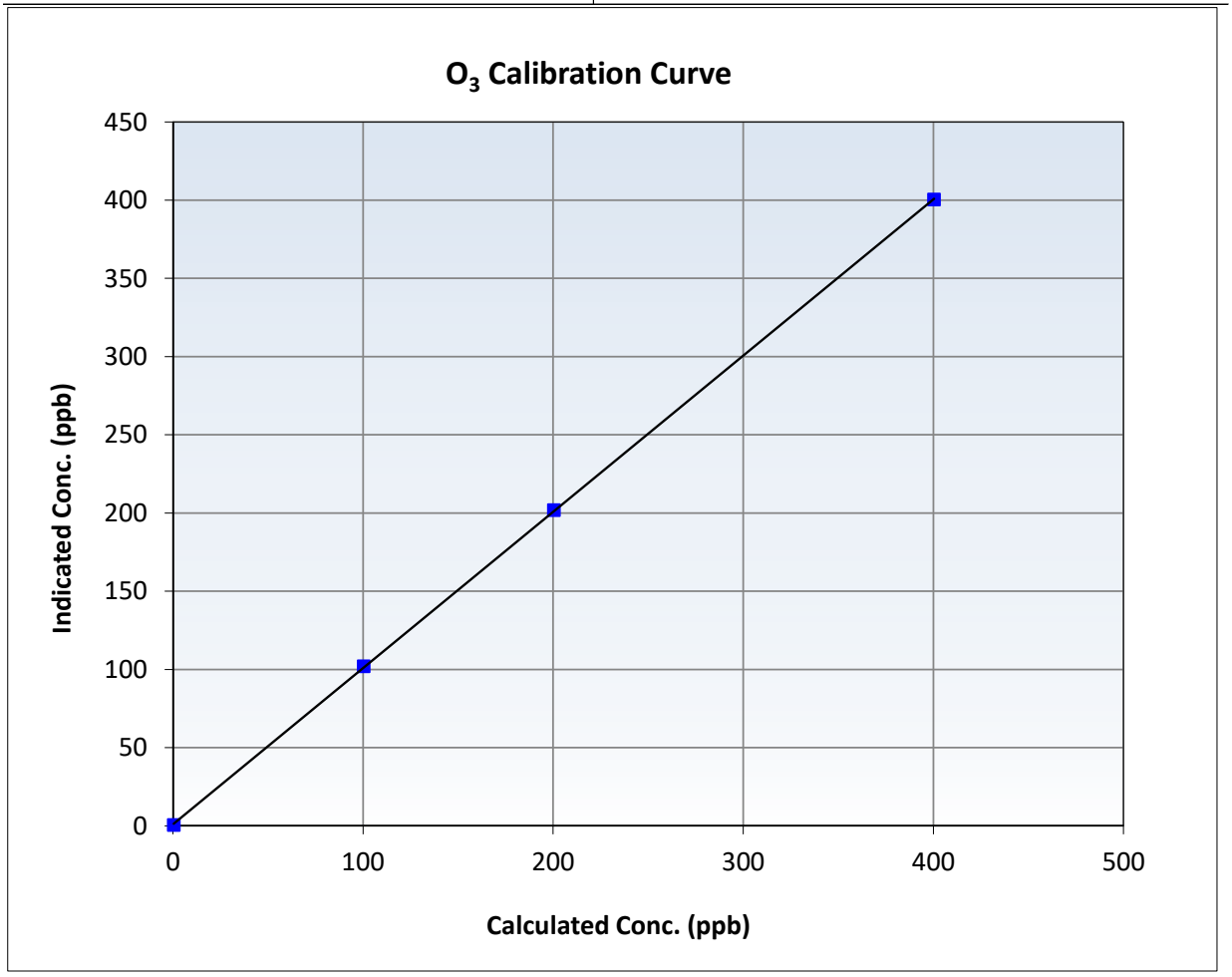
O_3 Calibration Summary

Station Information

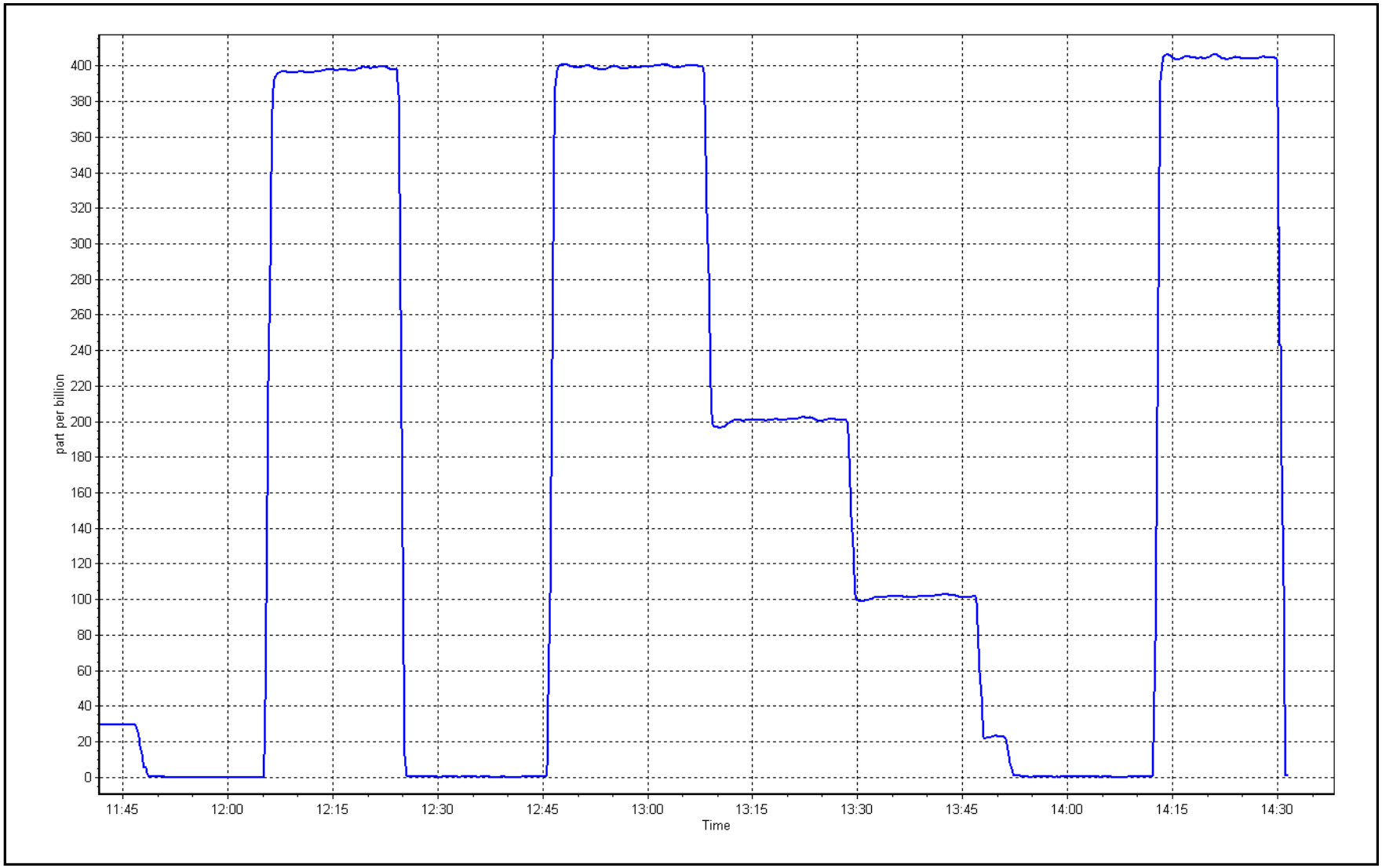
Calibration Date:	October 17, 2025	Previous Calibration:	September 9, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	11:45	End Time (MST):	14:31
Analyzer make:	Thermo 49i	Analyzer serial #:	1227254861

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	0.1	----	Correlation Coefficient	0.999977	≥0.995
400.0	400.0	1.0000	Slope	0.998829	0.90 - 1.10
200.0	201.4	0.9930			
100.0	101.6	0.9843	Intercept	0.980000	+/- 5



O_3 Calibration Plot Date: October 17, 2025 Location: Janvier



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Janvier	Station number:	AMS 22
Calibration Date:	October 28, 2025	Last Cal Date:	September 19, 2025
Start time (MST):	12:18	End time (MST):	13:44
Analyzer Make:	Teledyne API T640	S/N:	325
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388749
Temp/RH standard:	Alicat FP-25BT	S/N:	388749

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (°C)	1.6	1.02	1.6	☐	+/- 2 °C
P (mmHg)	721.4	722.64	721.4	☐	+/- 10 mmHg
Flow (LPM)	4.99	4.99	4.99	☐	+/- 0.25 LPM
PW% (pump)	38	-----	38	☐	>80%
Zero Verification	PM w/o HEPA:	4.1	PM w/ HEPA:	0.0	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.9 — Expiry Date: October 6, 2024 — Lot No.: 100128-050-042

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test				☑	10.9 +/- 0.5

Date Optical Chamber Cleaned: August 26, 2025

Date Disposable Filter Changed: August 26, 2025

Post- maintenance Zero Verification: PM w/ HEPA: _____ <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: May 28, 2025

Date RH/T Sensor Cleaned: August 26, 2025

Notes: Verified flow, temperature, and pressure. Leak check passed.

Calibration by: Rene Chamberland

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS23
FORT HILLS
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Fort Hills	Station number:	AMS 23
Calibration Date:	October 10, 2025	Last Cal Date:	September 11, 2025
Start time (MST):	6:40	End time (MST):	9:36
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.35	ppm	Cal Gas Exp Date:	October 9, 2032
Cal Gas Cylinder #:	CC484463			
Removed Cal Gas Conc:	50.35	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Model:	API T700		Serial Number:	1222
Zero Air Gen Model:	API T701		Serial Number:	1117

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1160290012	
Analyzer Range:	0-1000ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	0.998675	0.995531	Backgd or Offset:	18.5	18.5
Calibration intercept:	0.040494	0.239920	Coeff or Slope:	1.063	1.063

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.3	----
As found High point	4921	79.4	799.5	795.3	1.006
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	795.0	Previous response	798.5	*% change	-0.4%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.4	----
High point	4921	79.4	799.5	796.4	1.004
Mid point	4960	39.7	399.8	397.7	1.005
Low point	4980	19.8	199.4	198.9	1.002
As left zero	5000	0.0	0.0	0.4	----
As left span	4921	79.4	799.5	800.5	0.999
				Average Correction Factor:	1.004

Notes: No maintenance or adjustments done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

SO_2 Calibration Summary

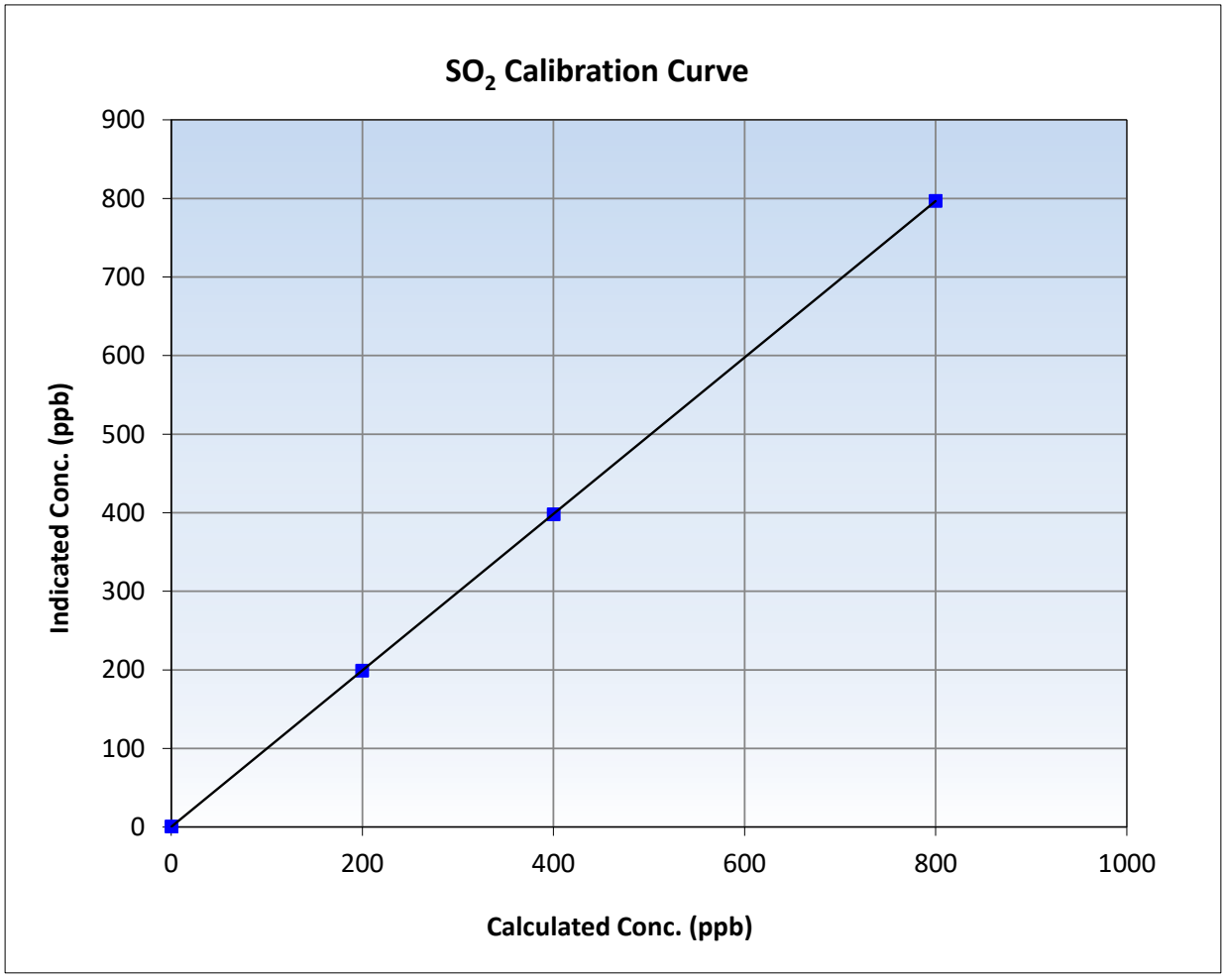
Station Information

Calibration Date:	October 10, 2025	Previous Calibration:	September 11, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	6:40	End Time (MST):	9:36
Analyzer make:	Thermo 43i	Analyzer serial #:	1160290012

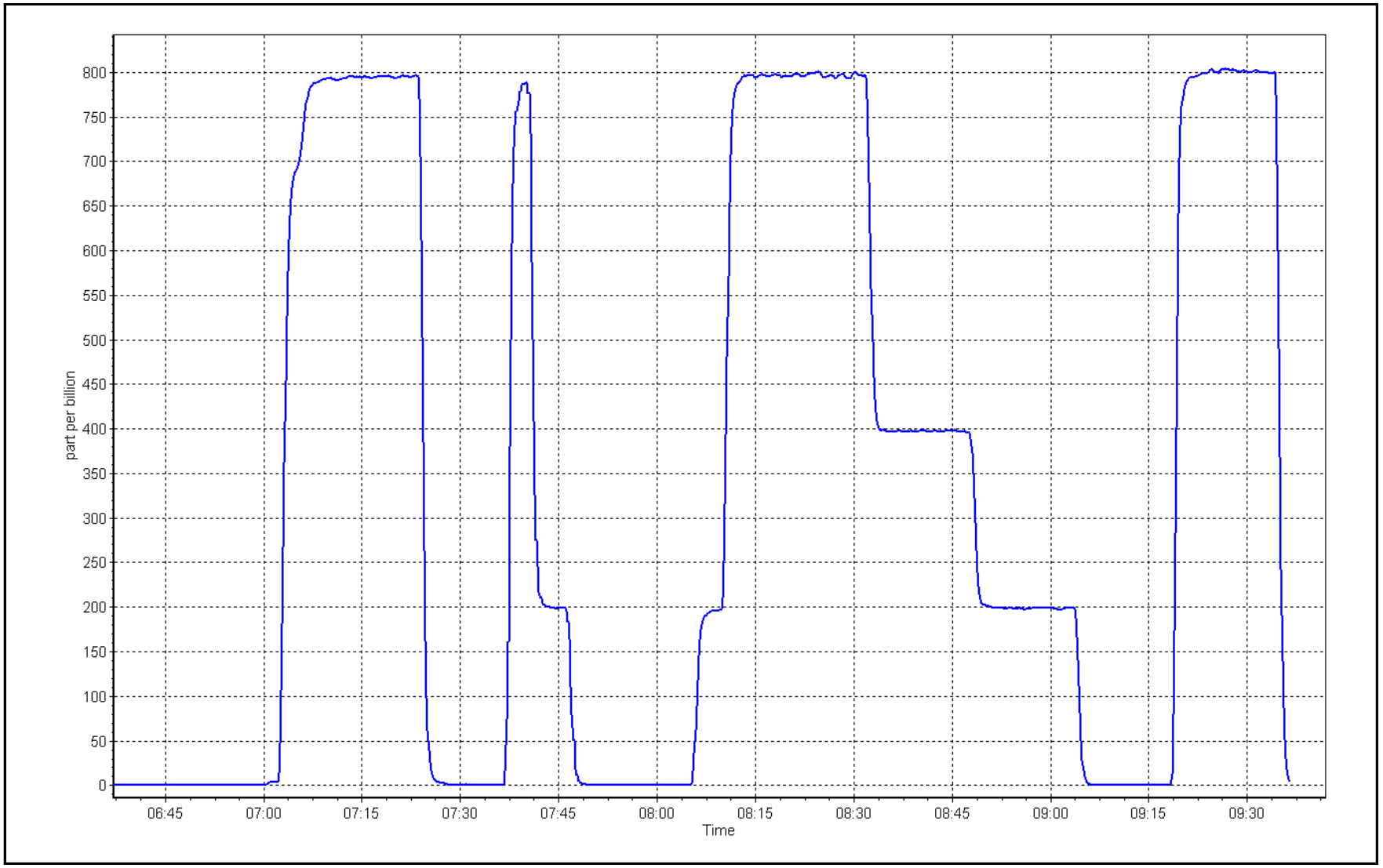
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
799.5	796.4	1.0039
399.8	397.7	1.0053
199.4	198.9	1.0025

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	0.995531	*0.90 - 1.10*
Intercept	0.239920	*+/-30*



SO2 Calibration Plot Date: October 10, 2025 Location: Fort Hills



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Fort Hills	Station number:	AMS 23
Calibration Date:	October 2, 2025	Last Cal Date:	September 12, 2025
Start time (MST):	6:32	End time (MST):	10:42
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.84	ppm	Cal Gas Exp Date:	August 28, 2027
Cal Gas Cylinder #:	DT0021910			
Removed Cal Gas Conc:	4.84	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	1222
ZAG Make/Model:	API T701		Serial Number:	1117

Analyzer Information

Analyzer make:	Thermo 43i TLE		Analyzer serial #:	1300156232	
Converter make:	CDN-101		Converter serial #:	594	
Analyzer Range	0 - 100 ppb		Converter Temp:	800	degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.012537	1.011534	Backgd or Offset:	1.94	1.96
Calibration intercept:	-0.058229	-0.298114	Coeff or Slope:	0.985	0.990

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.1	----
As found High point	4917	82.6	80.0	79.2	1.008
As found Mid point	4959	41.3	40.0	39.5	1.009
As found Low point	4979	20.7	20.0	19.5	1.022
New cylinder response					

Baseline Corr As found:	79.3	Prev response:	80.91	*% change:	-2.0%
Baseline Corr 2nd AF pt:	39.6	AF Slope:	0.992809	AF Intercept:	-0.217865
Baseline Corr 3rd AF pt:	19.6	AF Correlation:	0.999986	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4917	82.6	80.0	80.7	0.991
Mid point	4959	41.3	40.0	40.1	0.997
Low point	4979	20.7	20.0	19.6	1.022
As left zero	5000	0.0	0.0	0.0	----
As left span	4917	82.6	80.0	82.9	0.965
SO2 Scrubber Check	4920	80.3	803.0	0.0	----
Date of last scrubber change:				Ave Corr Factor	1.003
Date of last converter efficiency test:		March 13, 2024		110.3%	efficiency

Notes: SOx scrubber checked after the calibrator zero. Span adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

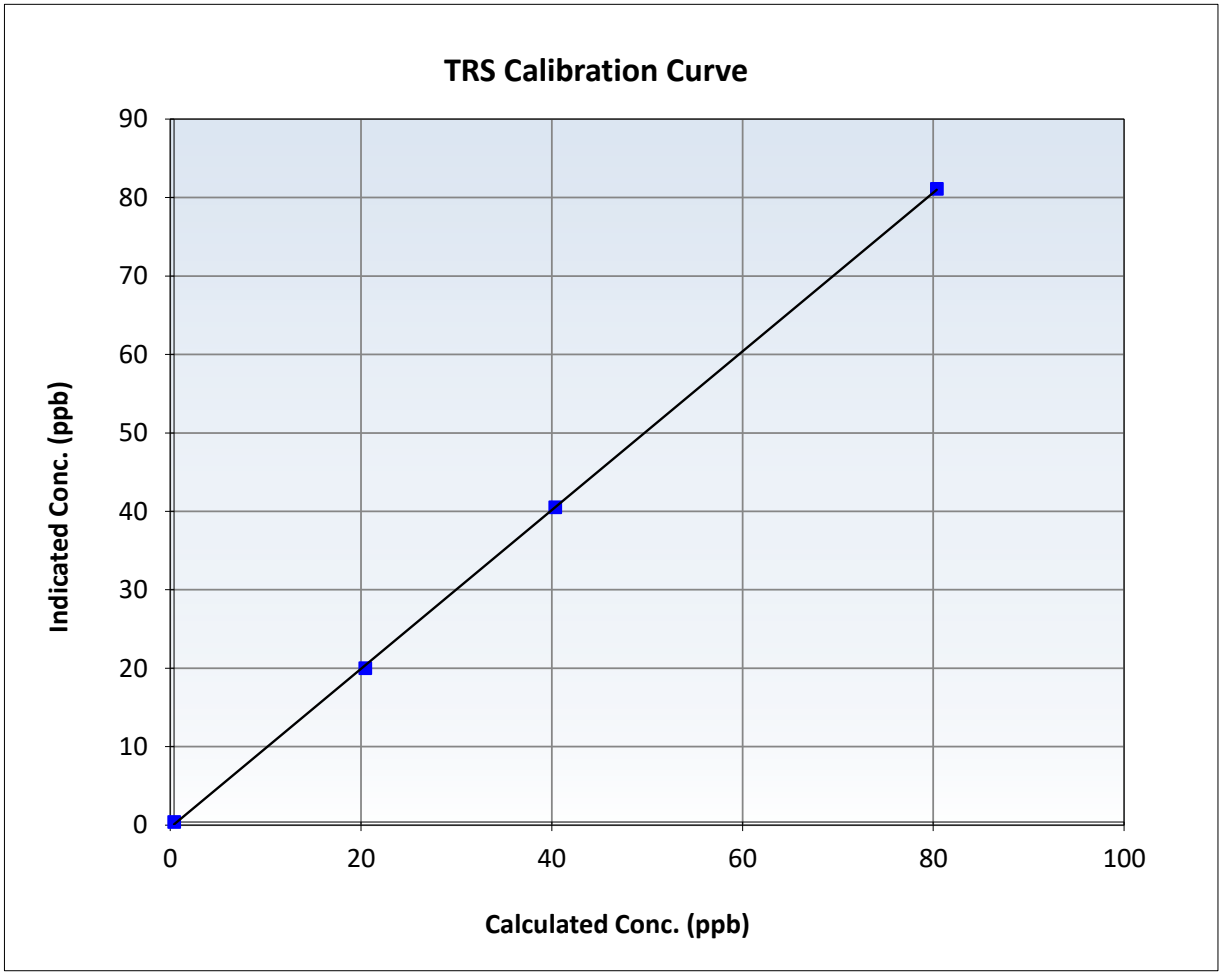
TRS Calibration Summary

Station Information

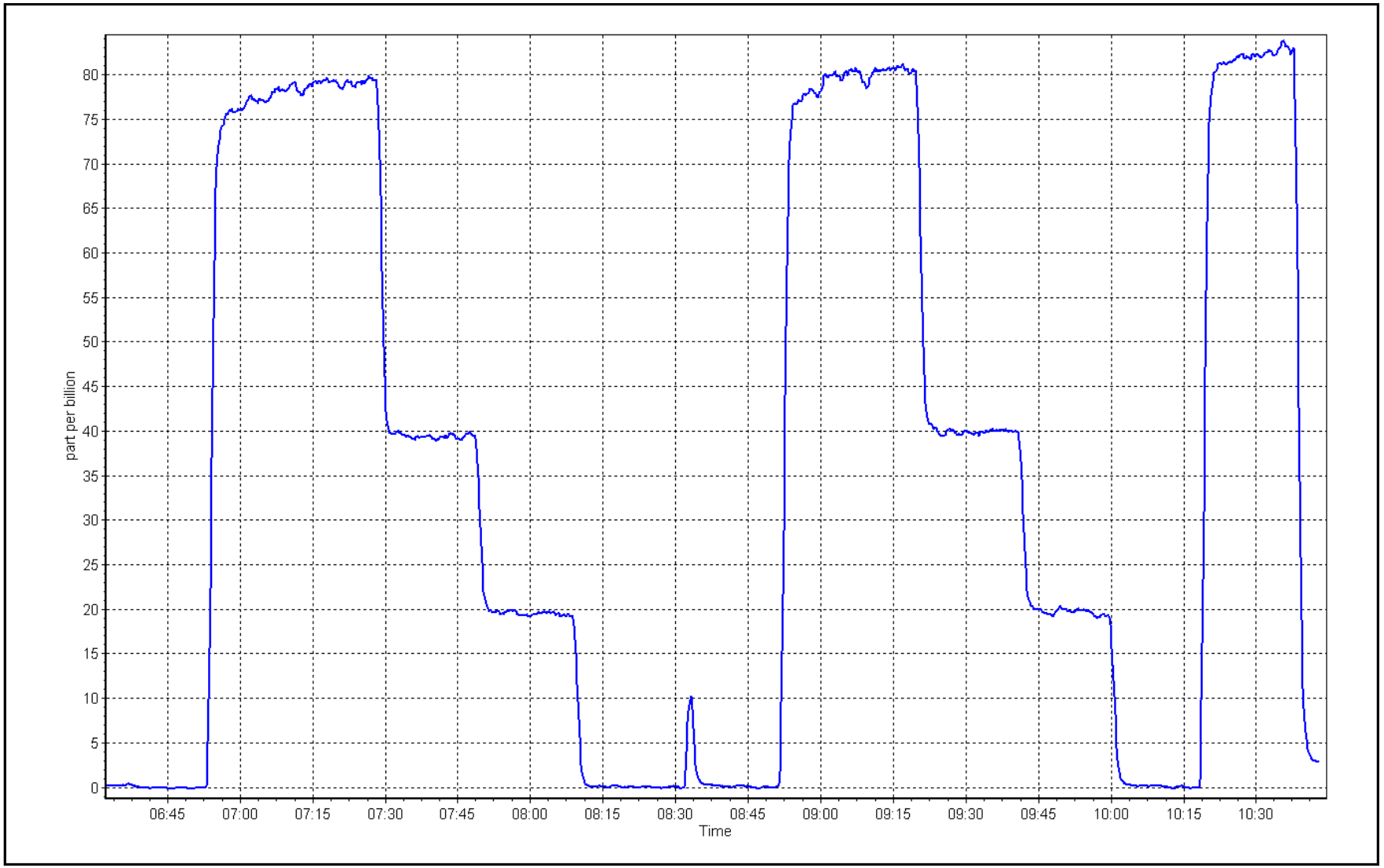
Calibration Date:	October 2, 2025	Previous Calibration:	September 12, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	6:32	End Time (MST):	10:42
Analyzer make:	Thermo 43i TLE	Analyzer serial #:	1300156232

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.0	----	Correlation Coefficient	0.999933	*≥0.995*
80.0	80.7	0.9909	Slope	1.011534	*0.90 - 1.10*
40.0	40.1	0.9969			
20.0	19.6	1.0224	Intercept	-0.298114	*+/-3*



TRS Calibration Plot Date: October 2, 2025 Location: Fort Hills



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Fort Hills	Station number:	AMS 23
Calibration Date:	October 10, 2025	Last Cal Date:	September 11, 2025
Start time (MST):	6:40	End time (MST):	9:36
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC484463	Cal Gas Expiry Date:	October 9, 2032
CH4 Cal Gas Conc.	504.3 ppm	CH4 Equiv Conc.	1065.6 ppm
C3H8 Cal Gas Conc.	204.1 ppm		
Removed Gas Cert:		Removed Gas Expiry:	
Removed CH4 Conc.	504.3 ppm	CH4 Equiv Conc.	1065.6 ppm
Removed C3H8 Conc.	204.1 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	API T700	Serial Number:	1222
Zero Air Gen model:	API T701	Serial Number:	1117

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	3.66E-04	3.70E-04	NMHC SP Ratio:	5.66E-05	5.69E-05
CH4 Retention time:	15.2	15.2	NMHC Peak Area:	157300	157134
Zero Chromatogram:	OFF	ON	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.04	----
As found High point	4921	79.4	16.92	17.03	0.996
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.99	Prev response	16.79	*% change	1.2%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.4	16.92	16.89	1.002
Mid point	4960	39.7	8.46	8.34	1.014
Low point	4980	19.8	4.22	4.18	1.011
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	16.92	16.91	1.000
				Average Correction Factor	1.009

Notes: Zero Chromatogram turned on. Zero and Span adjusted.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.4	8.91	9.00	0.990
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.00	Prev response	8.85	*% change	1.7%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.4	8.91	8.89	1.003
Mid point	4960	39.7	4.46	4.40	1.013
Low point	4980	19.8	2.22	2.21	1.004
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	8.91	8.90	1.001
				Average Correction Factor	1.007

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.04	----
As found High point	4921	79.4	8.01	8.03	1.002
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.99	Prev response	7.94	*% change	0.6%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.4	8.01	8.00	1.001
Mid point	4960	39.7	4.00	3.94	1.016
Low point	4980	19.8	2.00	1.96	1.018
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	8.01	8.01	1.000
				Average Correction Factor	1.012

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	0.993891	0.998099
THC Cal Offset:	-0.029794	-0.035182
CH4 Cal Slope:	0.994366	0.999561
CH4 Cal Offset:	-0.023801	-0.024995
NMHC Cal Slope:	0.993580	0.996953
NMHC Cal Offset:	-0.006192	-0.010587

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

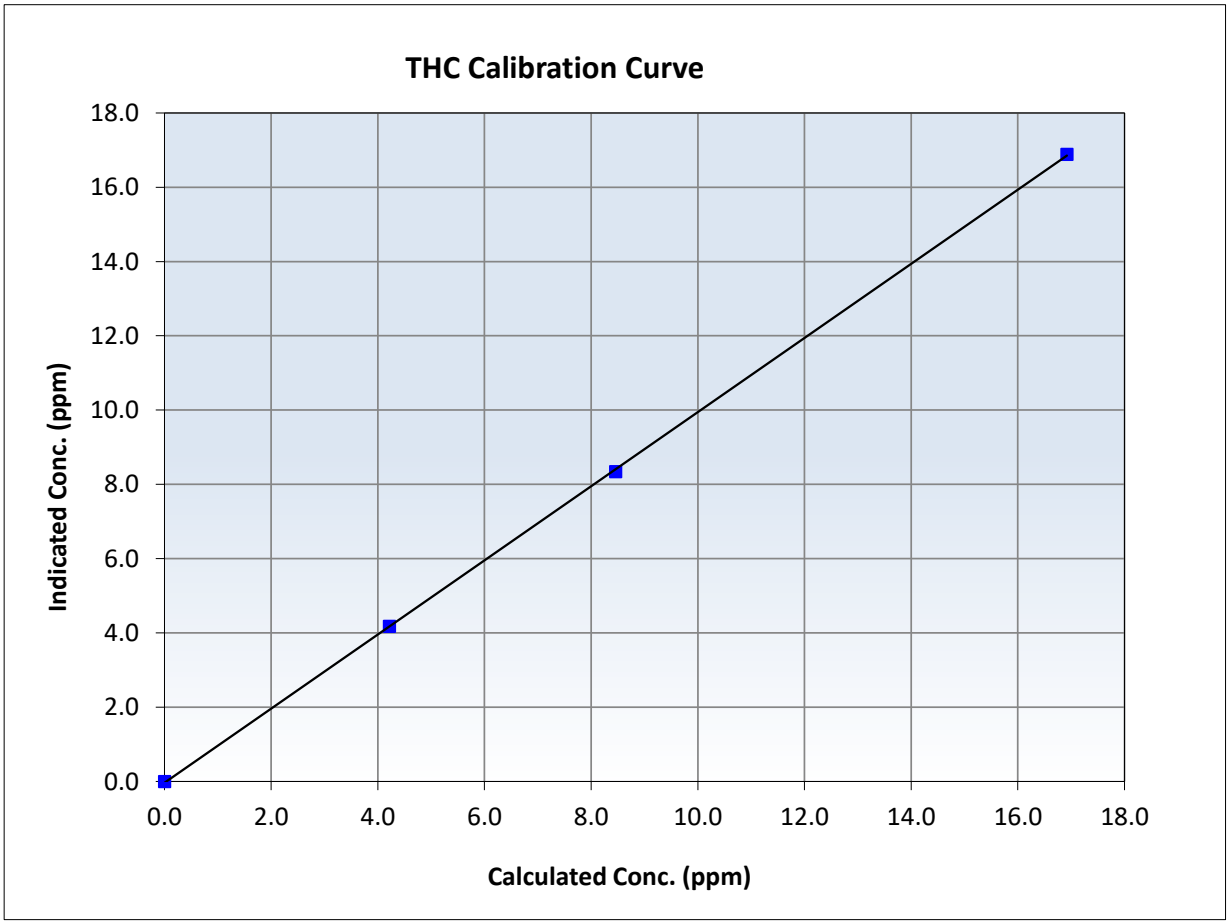
THC Calibration Summary

Station Information

Calibration Date:	October 10, 2025	Previous Calibration:	September 11, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	6:40	End Time (MST):	9:36
Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999955	≥0.995
16.92	16.89	1.0020	Slope	0.998099	0.90 - 1.10
8.46	8.34	1.0143	Intercept	-0.035182	+/-0.5
4.22	4.18	1.0107			



Wood Buffalo Environmental Association

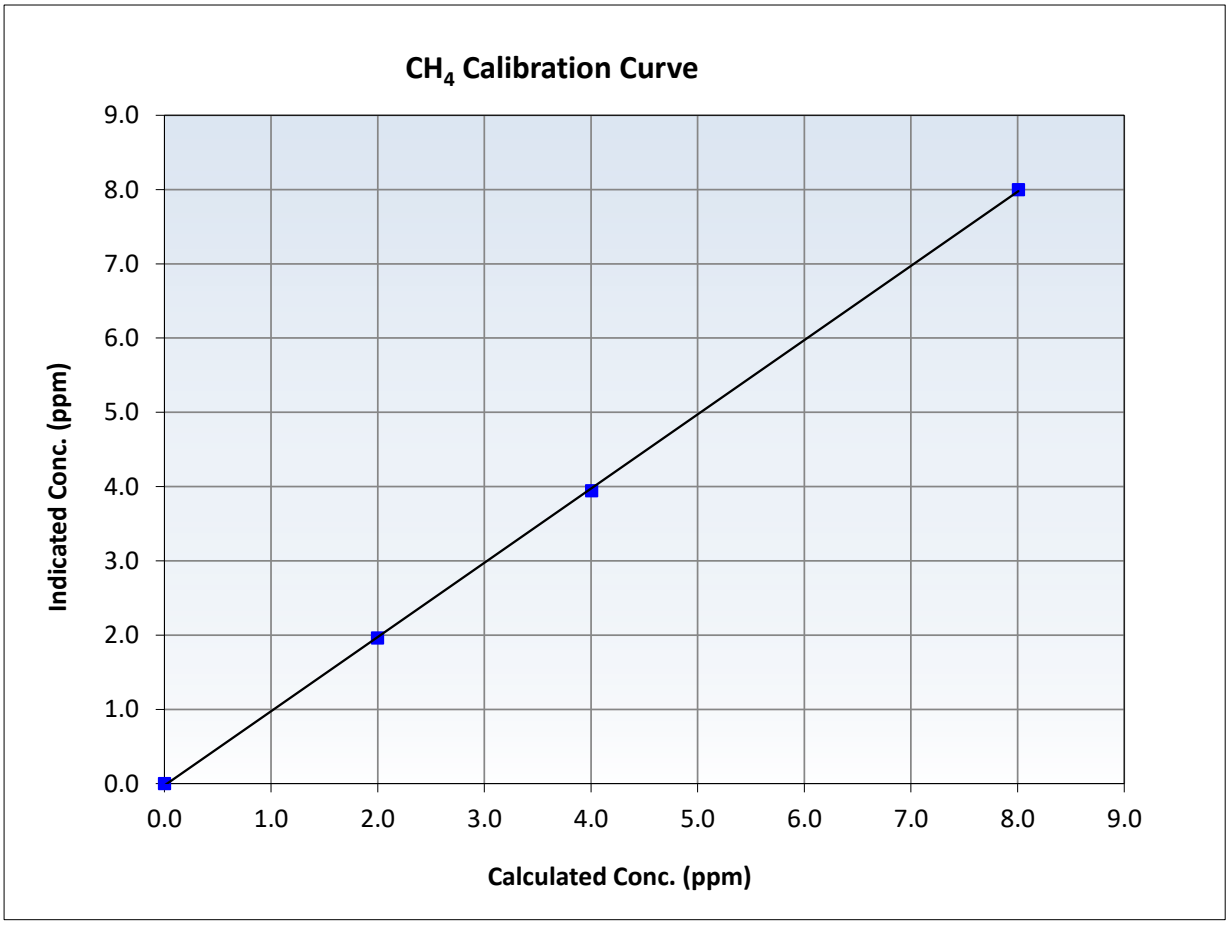
CH_4 Calibration Summary

Station Information

Calibration Date:	October 10, 2025	Previous Calibration:	September 11, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	6:40	End Time (MST):	9:36
Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999934	≥0.995
8.01	8.00	1.0011	Slope	0.999561	0.90 - 1.10
4.00	3.94	1.0156			
2.00	1.96	1.0184	Intercept	-0.024995	+/-0.5



Wood Buffalo Environmental Association

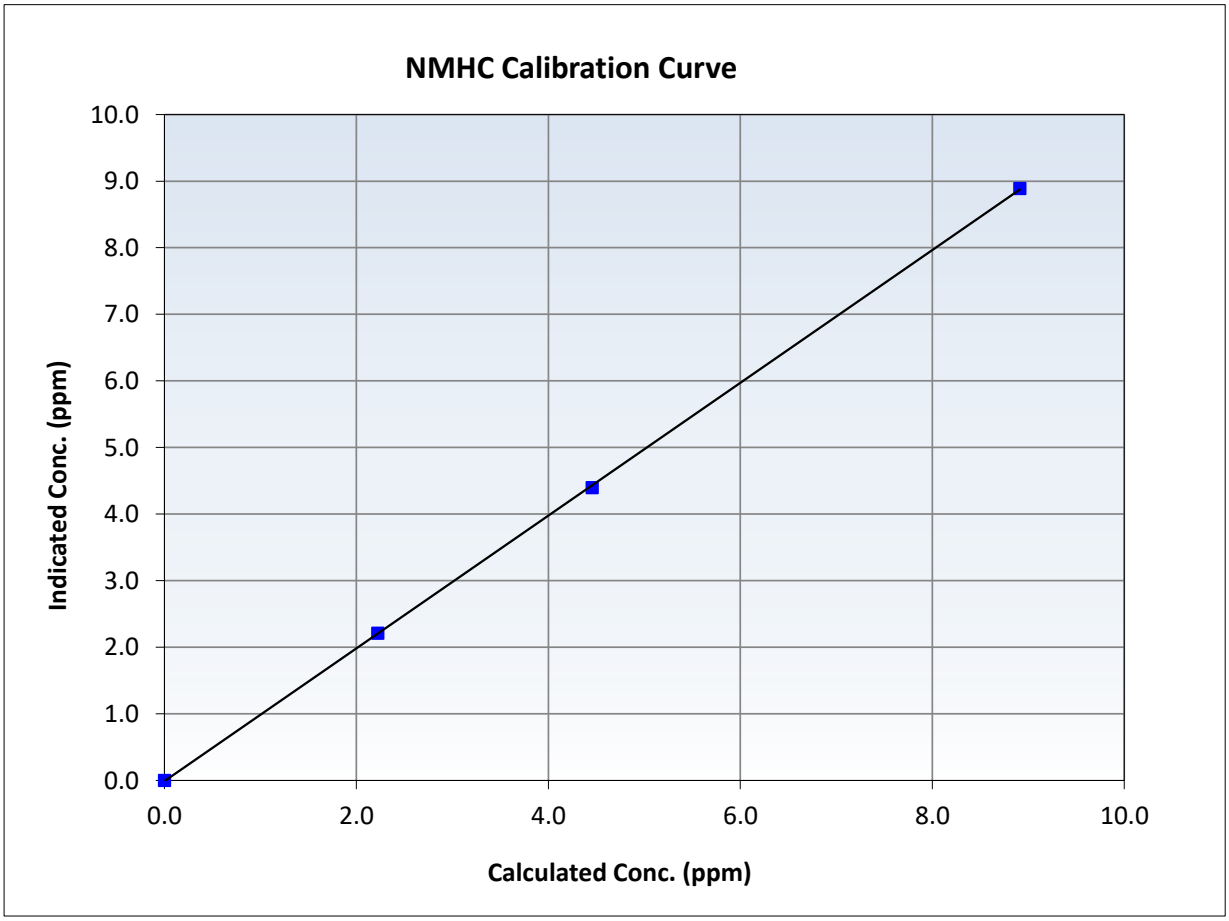
NMHC Calibration Summary

Station Information

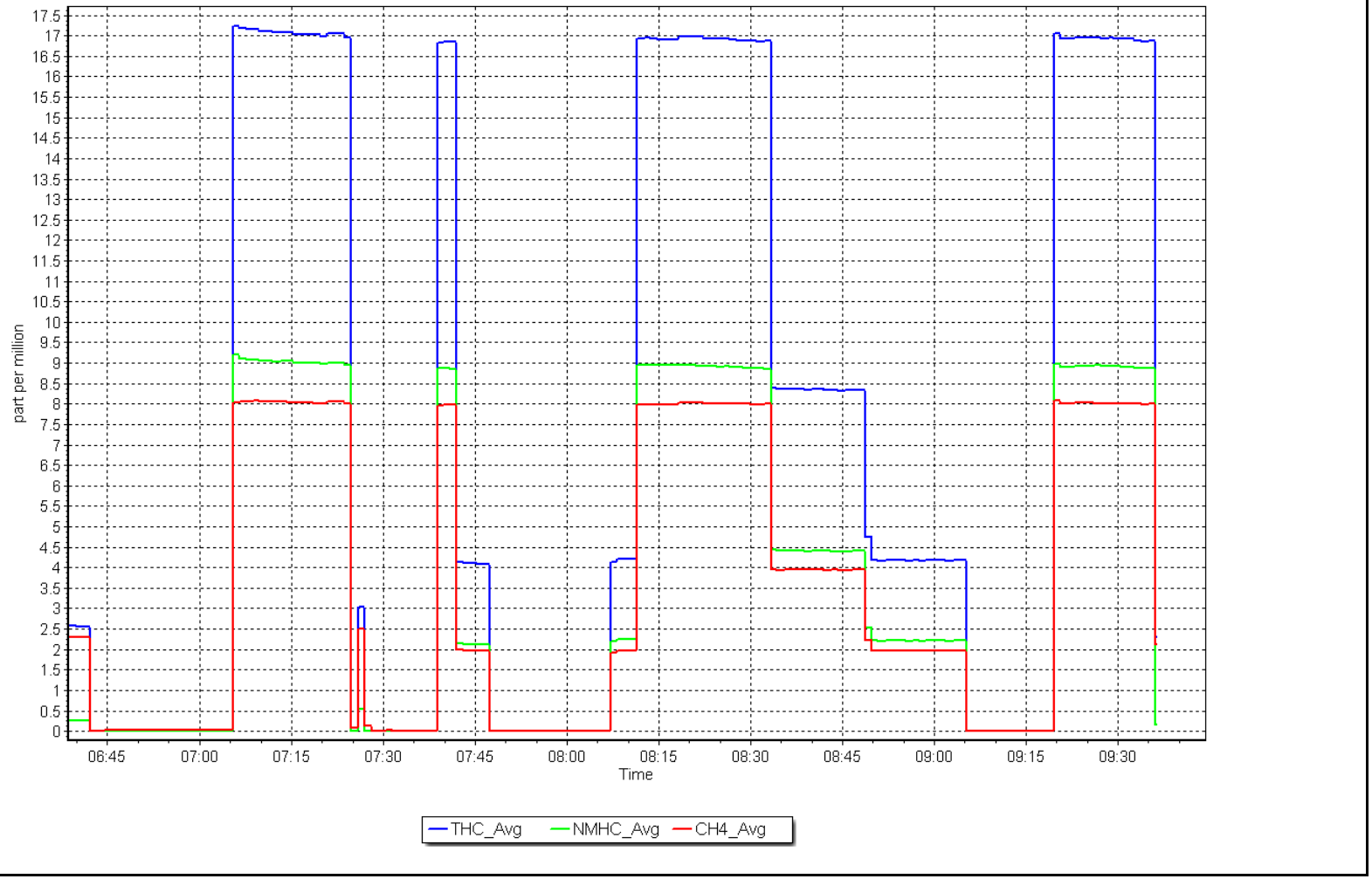
Calibration Date:	October 10, 2025	Previous Calibration:	September 11, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	6:40	End Time (MST):	9:36
Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999967	*≥0.995*
8.91	8.89	1.0026	Slope	0.996953	*0.90 - 1.10*
4.46	4.40	1.0129	Intercept	-0.010587	*+/-0.5*
2.22	2.21	1.0044			



NMHC Calibration Plot Date: October 10, 2025 Location: Fort Hills



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Fort Hills	Station number:	AMS 23
Calibration Date:	October 26, 2025	Last Cal Date:	October 10, 2025
Start time (MST):	7:40	End time (MST):	9:59
Reason:	Maintenance		

Calibration Standards

Gas Cert Reference:	CC484463	Cal Gas Expiry Date:	October 9, 2032
CH4 Cal Gas Conc.	504.3 ppm	CH4 Equiv Conc.	1065.6 ppm
C3H8 Cal Gas Conc.	204.1 ppm		
Removed Gas Cert:		Removed Gas Expiry:	
Removed CH4 Conc.	504.3 ppm	CH4 Equiv Conc.	1065.6 ppm
Removed C3H8 Conc.	204.1 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	API T700	Serial Number:	1222
Zero Air Gen model:	API T701	Serial Number:	1117

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	3.70E-04	3.73E-04	NMHC SP Ratio:	5.69E-05	5.65E-05
CH4 Retention time:	15.2	15.6	NMHC Peak Area:	157134	158335
Zero Chromatogram:	ON	ON	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.06	----
As found High point	4921	79.4	16.92	16.64	1.020
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.58	Prev response	16.79	*% change	-1.2%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.4	16.92	16.90	1.001
Mid point	4960	39.7	8.46	8.35	1.014
Low point	4980	19.8	4.22	4.16	1.014
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	16.92	16.94	0.999
				Average Correction Factor	1.010

Notes: Baseline is dipping Chromatograms slightly moved. Zero and Span adjusted.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.4	8.91	9.05	0.984
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.05	Prev response	8.85	*% change	2.3%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.4	8.91	8.88	1.004
Mid point	4960	39.7	4.46	4.40	1.013
Low point	4980	19.8	2.22	2.21	1.007
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	8.91	8.88	1.004
				Average Correction Factor	1.008

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.06	----
As found High point	4921	79.4	8.01	7.59	1.063
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.53	Prev response	7.94	*% change	-5.4%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.4	8.01	8.02	0.999
Mid point	4960	39.7	4.00	3.95	1.015
Low point	4980	19.8	2.00	1.96	1.021
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	8.01	8.06	0.994
				Average Correction Factor	1.011

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	0.993891	0.998924
THC Cal Offset:	-0.029794	-0.040784
CH4 Cal Slope:	0.994366	1.002272
CH4 Cal Offset:	-0.023801	-0.029992
NMHC Cal Slope:	0.993580	0.995569
NMHC Cal Offset:	-0.006192	-0.010192

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

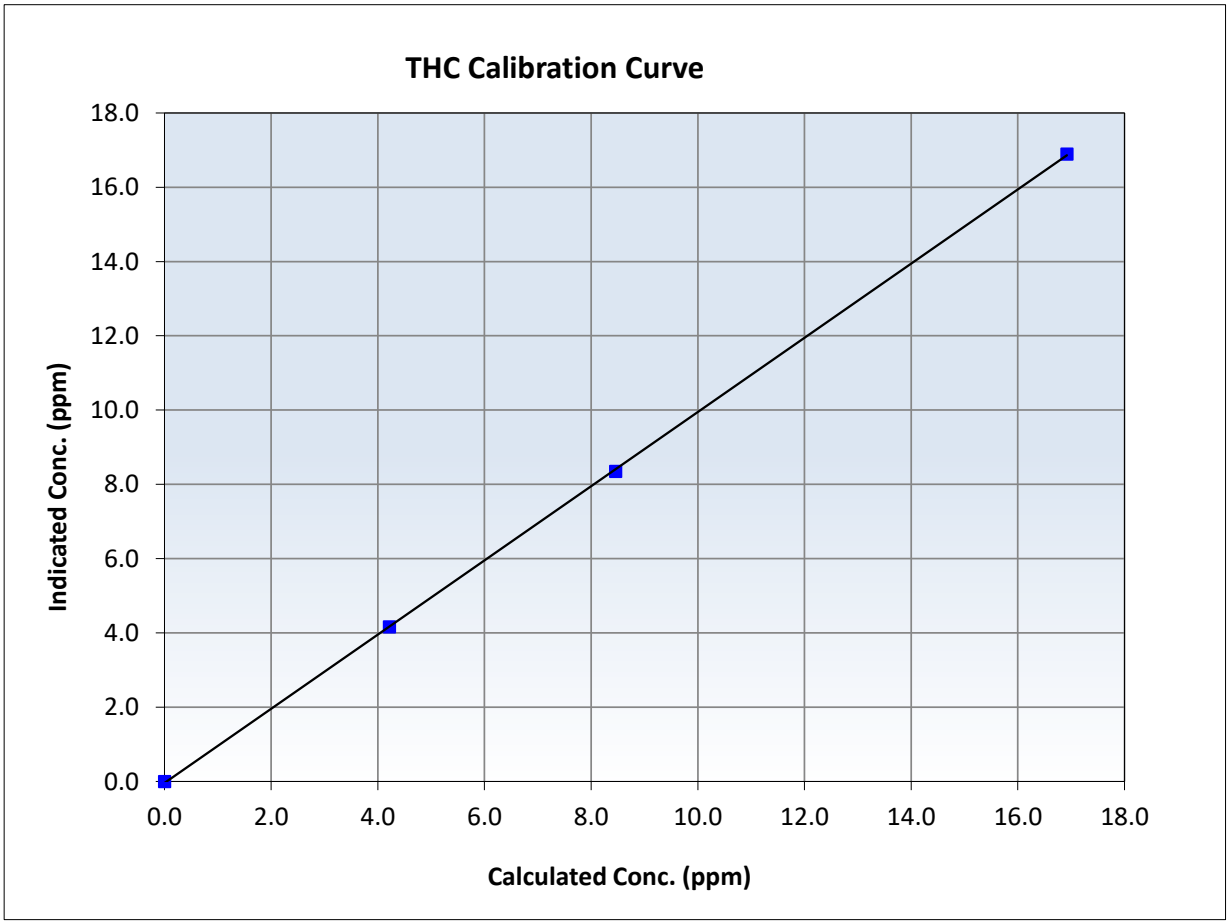
THC Calibration Summary

Station Information

Calibration Date:	October 26, 2025	Previous Calibration:	October 10, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	7:40	End Time (MST):	9:59
Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999954	≥0.995
16.92	16.90	1.0014	Slope	0.998924	0.90 - 1.10
8.46	8.35	1.0137	Intercept	-0.040784	+/-0.5
4.22	4.16	1.0137			



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CH_4 Calibration Summary

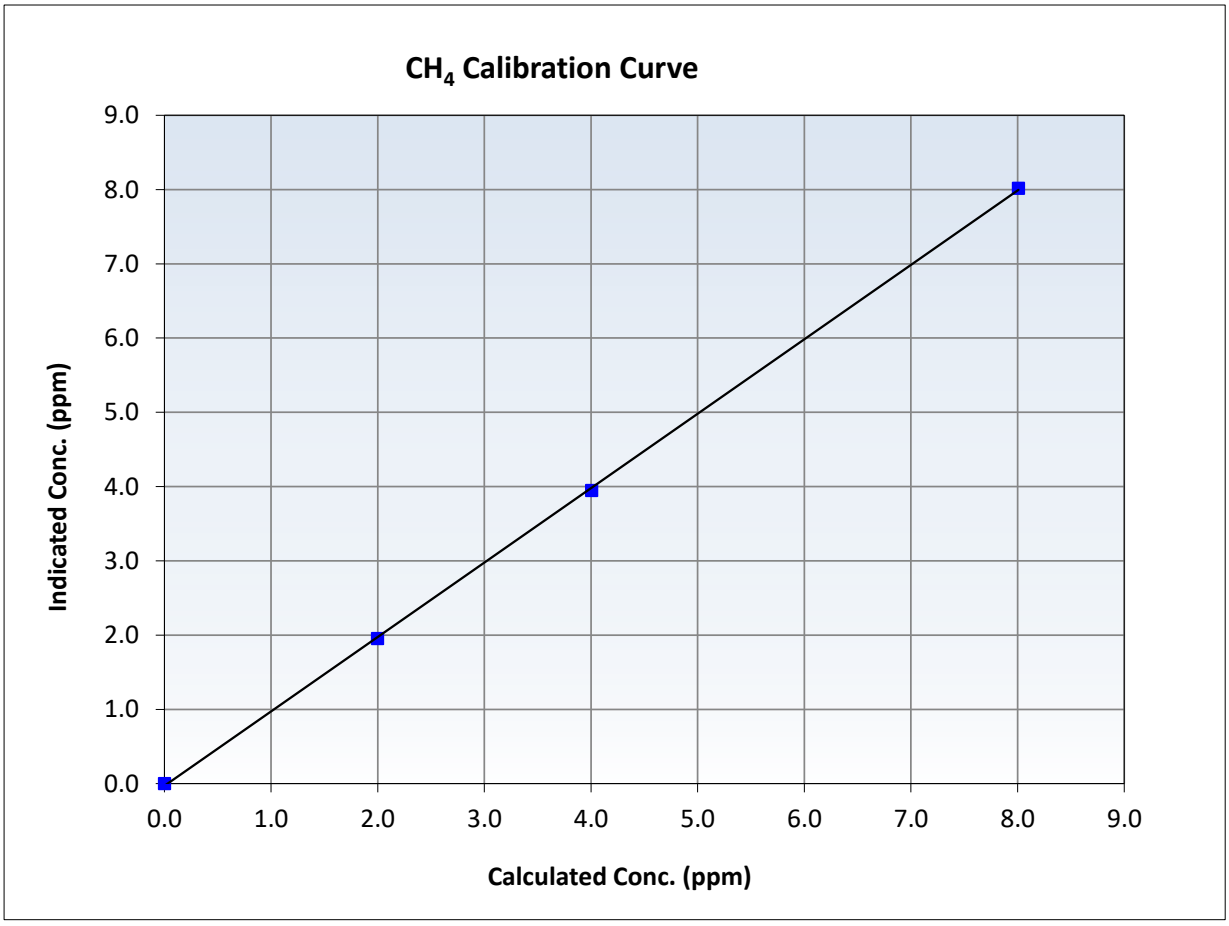
Station Information

Calibration Date:	October 26, 2025	Previous Calibration:	October 10, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	7:40	End Time (MST):	9:59
Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.00	----
8.01	8.02	0.9987
4.00	3.95	1.0145
2.00	1.96	1.0210

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999916	*≥0.995*
Slope	1.002272	*0.90 - 1.10*
Intercept	-0.029992	*+/-0.5*



Wood Buffalo Environmental Association

NMHC Calibration Summary

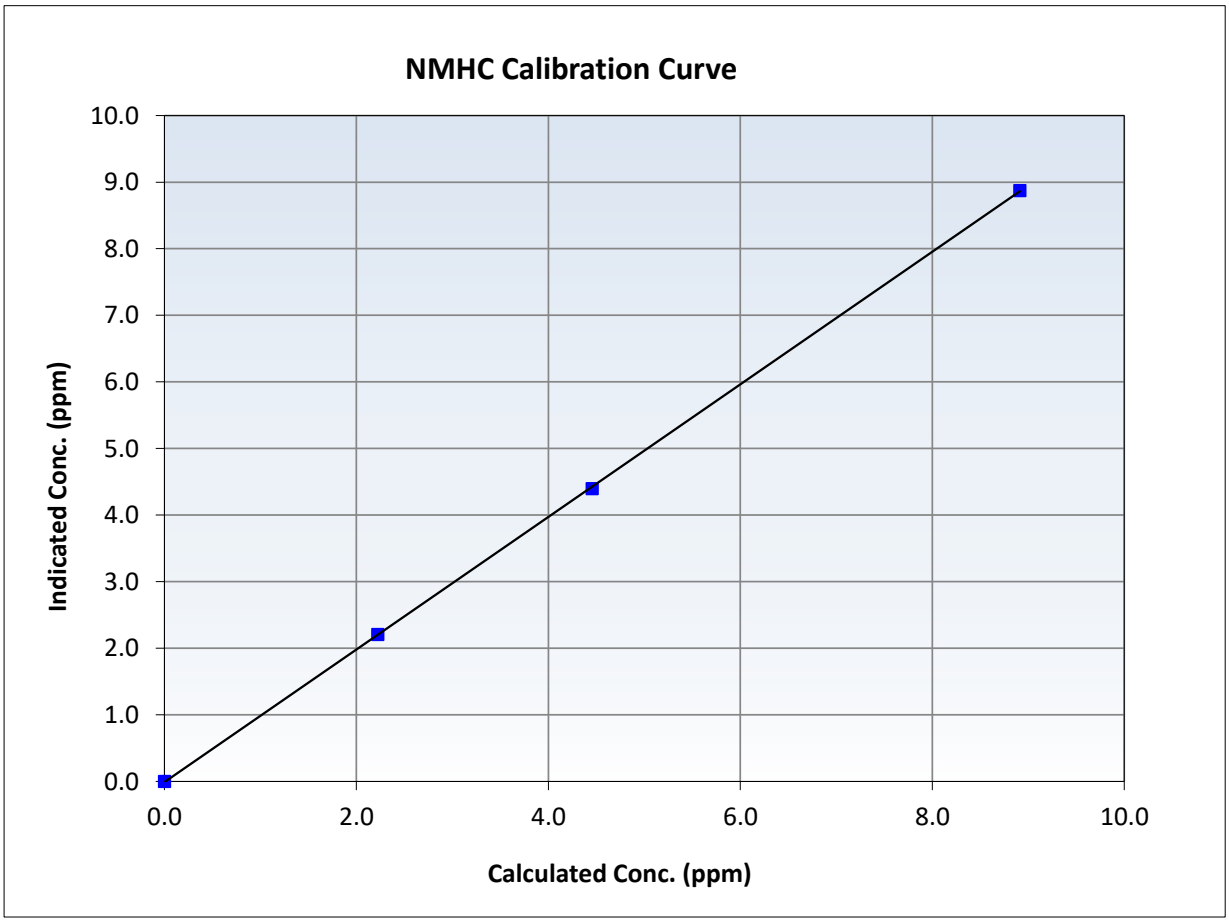
Station Information

Calibration Date:	October 26, 2025	Previous Calibration:	October 10, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	7:40	End Time (MST):	9:59
Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777

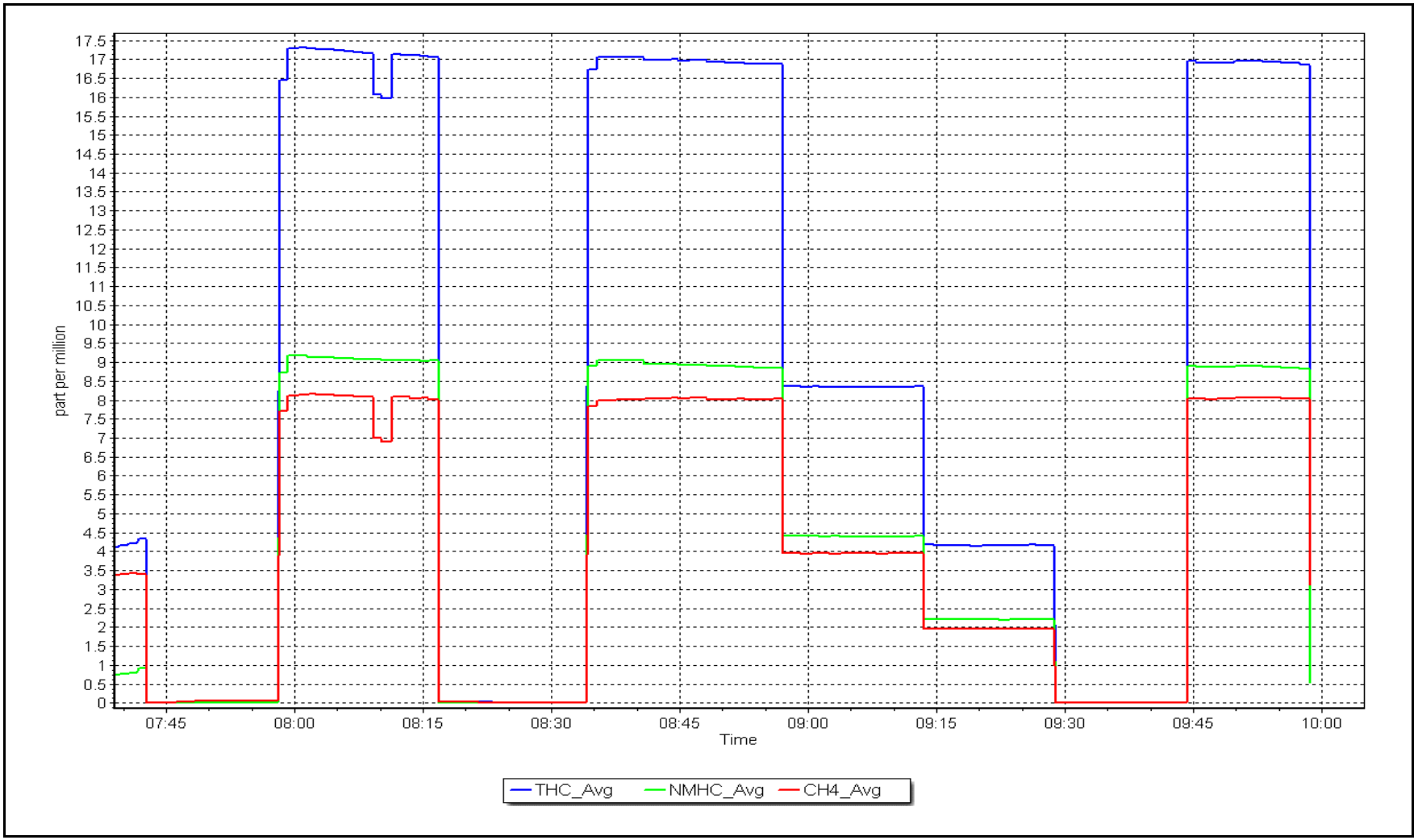
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.00	----
8.91	8.88	1.0042
4.46	4.40	1.0129
2.22	2.21	1.0071

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999977	*≥0.995*
Slope	0.995569	*0.90 - 1.10*
Intercept	-0.010192	*+/-0.5*



NMHC Calibration Plot Date: October 26, 2025 Location: Fort Hills



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Fort Hills	Station number:	AMS 23
Calibration Date:	October 29, 2025	Last Cal Date:	October 26, 2025
Start time (MST):	7:28	End time (MST):	10:05
Reason:	Maintenance	Increase Carrier Pressure	

Calibration Standards

Gas Cert Reference:	CC484463	Cal Gas Expiry Date:	October 9, 2032
CH4 Cal Gas Conc.	504.3 ppm	CH4 Equiv Conc.	1065.6 ppm
C3H8 Cal Gas Conc.	204.1 ppm		
Removed Gas Cert:		Removed Gas Expiry:	
Removed CH4 Conc.	504.3 ppm	CH4 Equiv Conc.	1065.6 ppm
Removed C3H8 Conc.	204.1 ppm	Diff between cyl (THC):	
Diff between cyl (CH_4):		Diff between cyl (NM):	
Calibrator Model:	API T700	Serial Number:	1222
Zero Air Gen model:	API T701	Serial Number:	1117

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	3.73E-04	3.54E-04	NMHC SP Ratio:	5.65E-05	5.68E-05
CH4 Retention time:	15.6	15.0	NMHC Peak Area:	158335	157420
Zero Chromatogram:	ON	ON	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.4	16.92	17.01	0.995
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	17.01	Prev response	16.86	*% change	0.9%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.4	16.92	16.83	1.005
Mid point	4960	39.7	8.46	8.26	1.025
Low point	4980	19.8	4.22	4.12	1.024
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	16.92	16.85	1.004
				Average Correction Factor	1.018

Notes: Unstable zero. Carrier pressure increased from 25.5-26.5PSI. Span adjusted.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.4	8.91	8.92	0.999
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.92	Prev response	8.86	*% change	0.6%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.4	8.91	8.84	1.008
Mid point	4960	39.7	4.46	4.37	1.021
Low point	4980	19.8	2.22	2.20	1.012
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	8.91	8.86	1.006
				Average Correction Factor	1.013

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.4	8.01	8.09	0.990
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.09	Prev response	8.00	*% change	1.2%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.4	8.01	7.99	1.003
Mid point	4960	39.7	4.00	3.89	1.029
Low point	4980	19.8	2.00	1.92	1.038
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	8.01	7.98	1.003
				Average Correction Factor	1.023

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	0.998924	0.995176
THC Cal Offset:	-0.040784	-0.062798
CH4 Cal Slope:	1.002272	0.998720
CH4 Cal Offset:	-0.029992	-0.047801
NMHC Cal Slope:	0.995569	0.991991
NMHC Cal Offset:	-0.010192	-0.014998

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

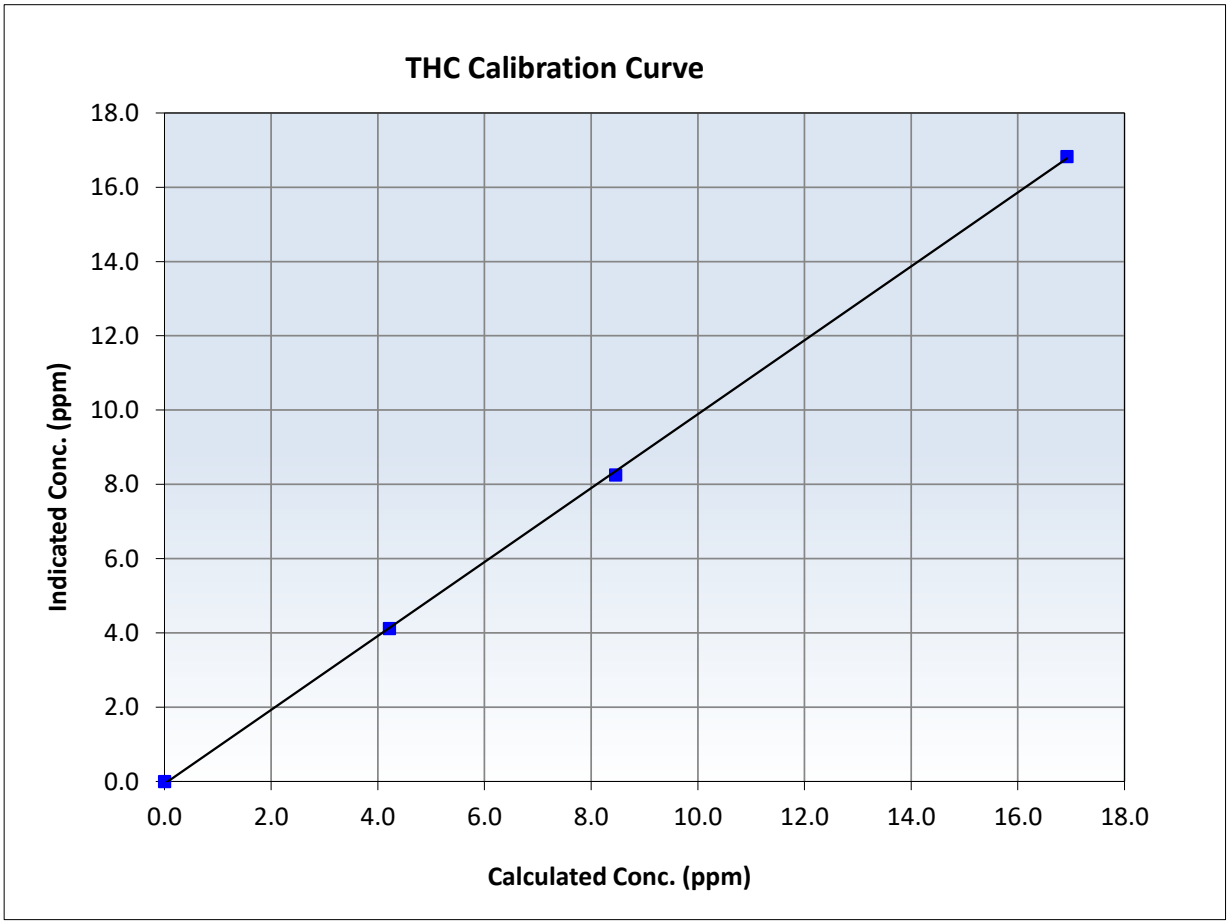
THC Calibration Summary

Station Information

Calibration Date:	October 29, 2025	Previous Calibration:	October 26, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	7:28	End Time (MST):	10:05
Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999888	≥0.995
16.92	16.83	1.0053	Slope	0.995176	0.90 - 1.10
8.46	8.26	1.0247			
4.22	4.12	1.0242	Intercept	-0.062798	+/-0.5



Wood Buffalo Environmental Association

CH_4 Calibration Summary

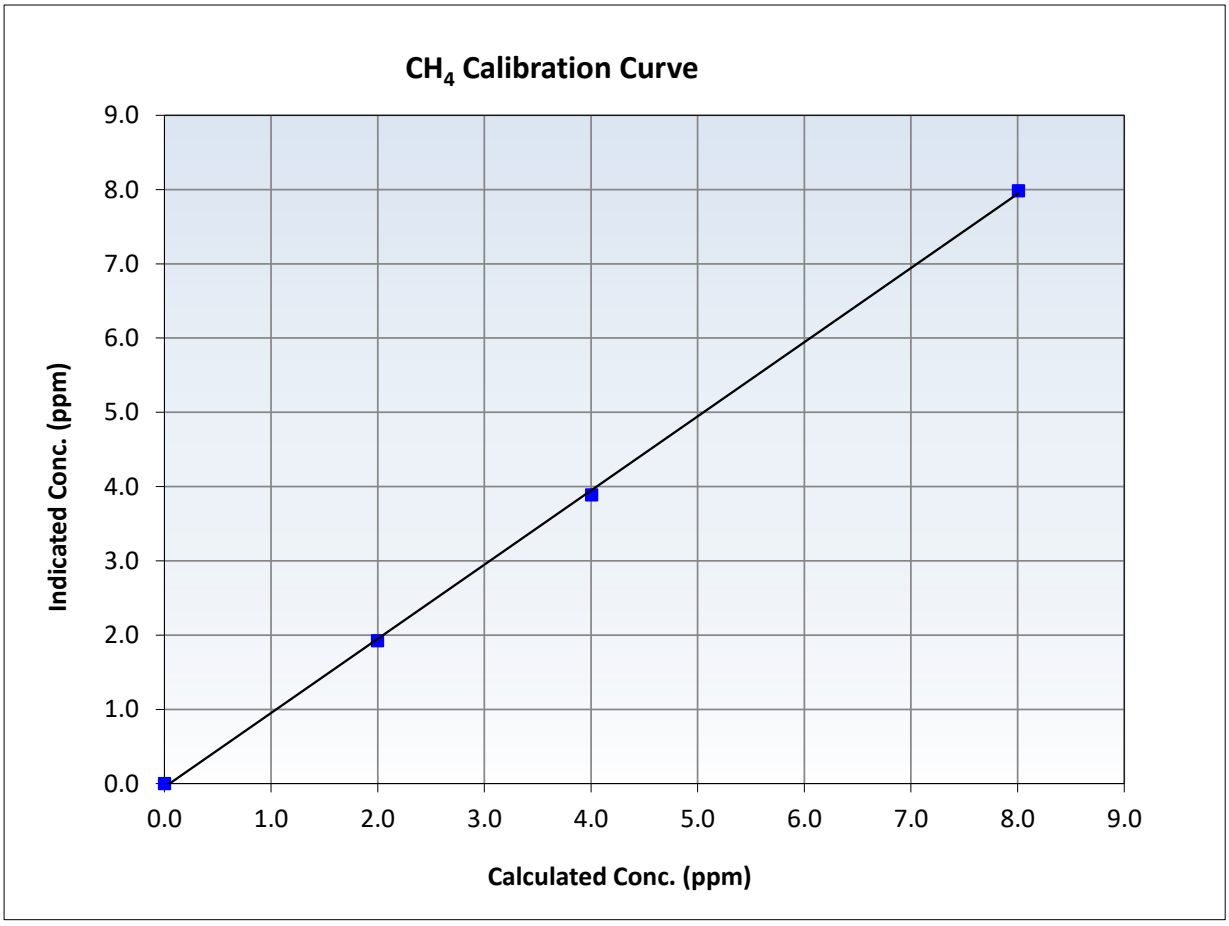
Station Information

Calibration Date:	October 29, 2025	Previous Calibration:	October 26, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	7:28	End Time (MST):	10:05
Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.00	----
8.01	7.99	1.0027
4.00	3.89	1.0294
2.00	1.92	1.0380

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999774	*≥0.995*
Slope	0.998720	*0.90 - 1.10*
Intercept	-0.047801	*+/-0.5*



Wood Buffalo Environmental Association

NMHC Calibration Summary

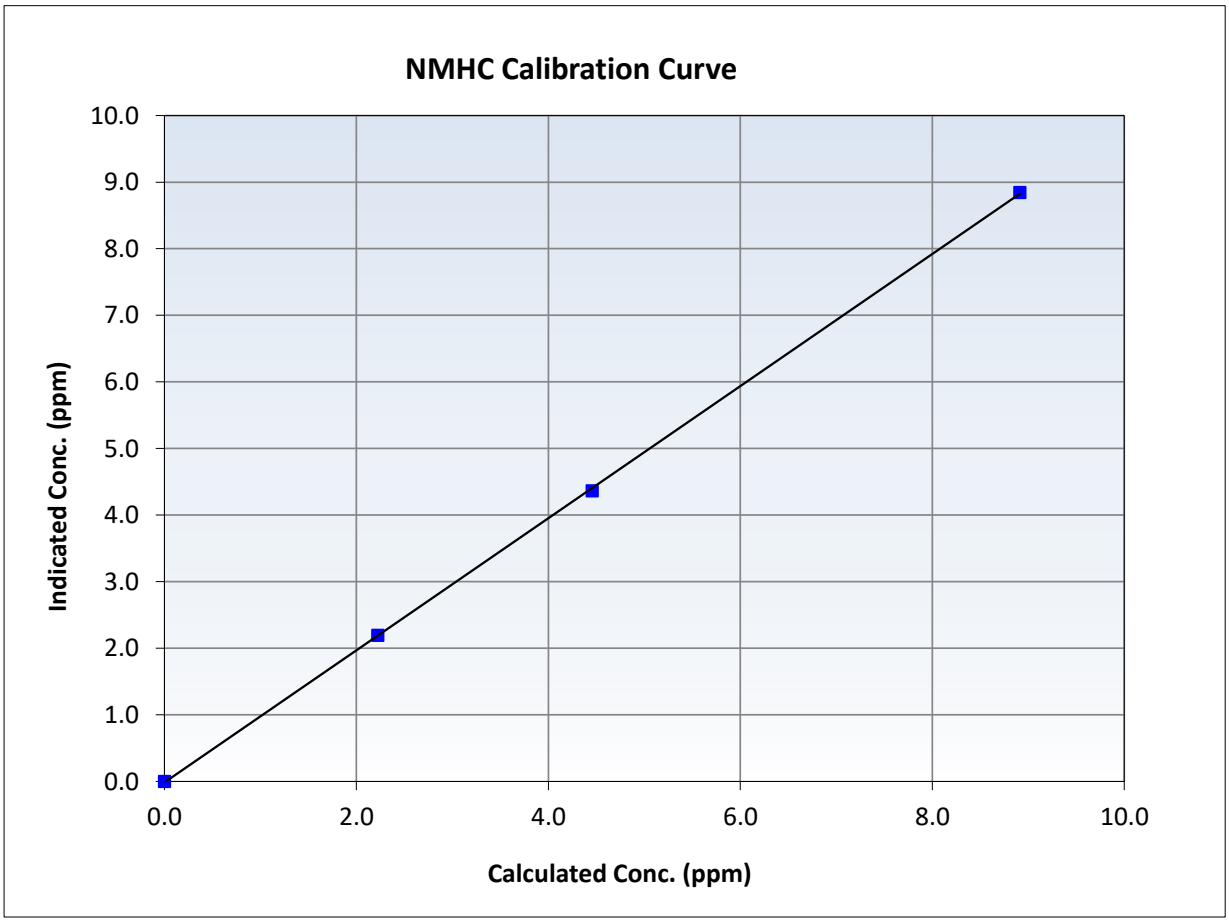
Station Information

Calibration Date:	October 29, 2025	Previous Calibration:	October 26, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	7:28	End Time (MST):	10:05
Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777

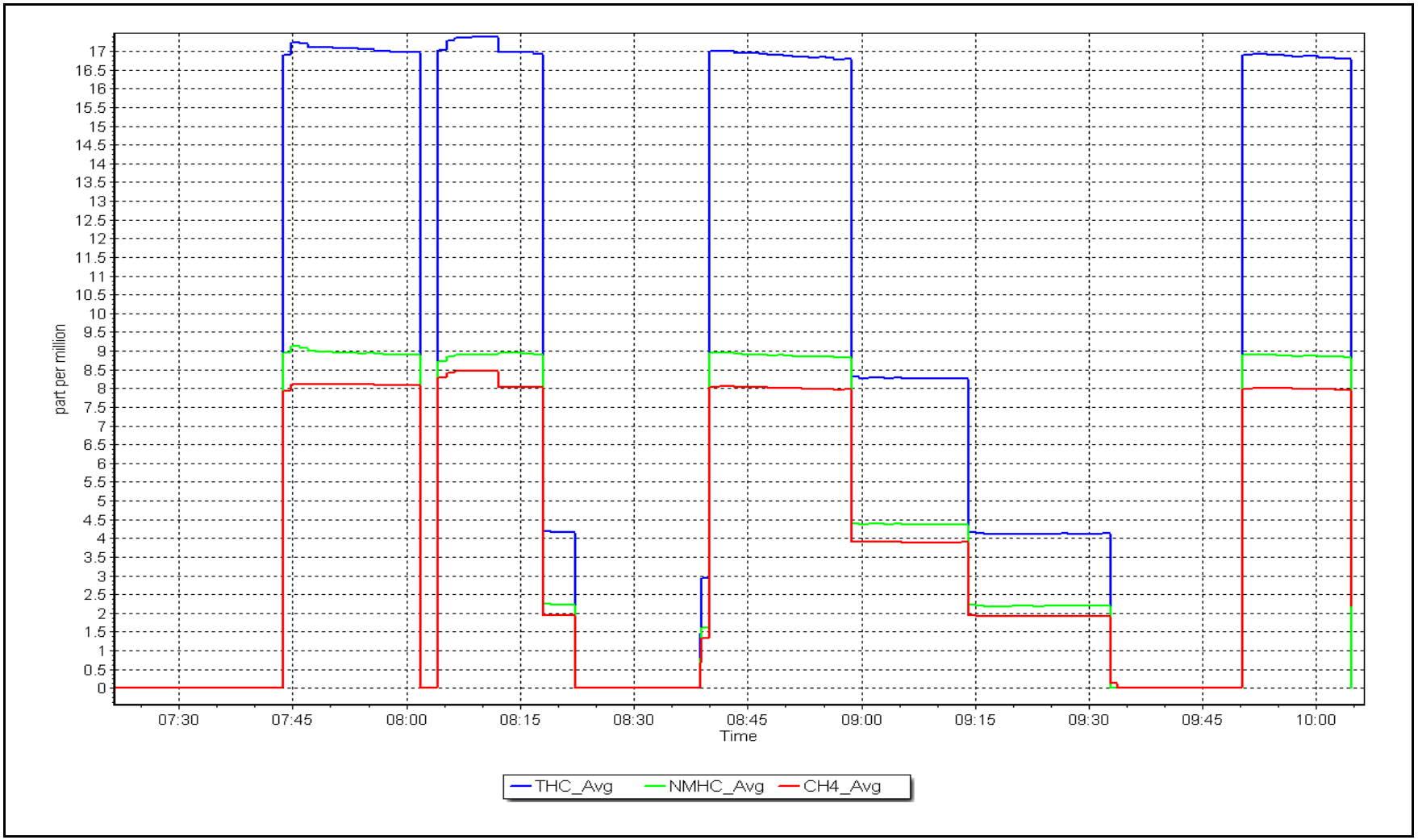
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.00	----
8.91	8.84	1.0077
4.46	4.37	1.0206
2.22	2.20	1.0122

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999951	*≥0.995*
Slope	0.991991	*0.90 - 1.10*
Intercept	-0.014998	*+/-0.5*



NMHC Calibration Plot Date: October 29, 2025 Location: Fort Hills



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Fort Hills
Station number:	AMS 23
Calibration Date:	October 20, 2025
Last Cal Date:	September 9, 2025
Start time (MST):	6:33
End time (MST):	11:07
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	CC358149	Cal Gas Expiry Date:	January 5, 2032
NOX Cal Gas Conc:	60.30 ppm	NO Cal Gas Conc:	60.10 ppm
Removed Cylinder #:		Removed Gas Exp Date:	
Removed Gas NOX Conc:	60.30 ppm	Removed Gas NO Conc:	60.10 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	API T700	Serial Number:	1222
ZAG make/model:	API T701	Serial Number:	1117

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.3	0.0	-0.3	----	----
AF High point	4934	66.3	799.5	796.9	2.7	806.0	802.0	4.0	0.9916	0.9936
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 800.3 ppb	NO = 797.4 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = 0.7%
Baseline Corr 1st pt	NO_X = 806.3 ppb	NO = 802.0 ppb	As Found Statistics	*Percent Change	NO = 0.6%
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb	As found NO_X r^2:	Nx Sl:	Nx Int:
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb	As found NO r^2:	NO Sl:	NO Int:
			As found NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1152430007

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.975	0.975	NO bkgnd or offset:	2.8	2.8
NOX coeff or slope:	0.992	0.992	NOX bkgnd or offset:	3.2	3.2
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	147.2	147.2

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.001155	1.005887
NO_X Cal Offset:	-0.133957	-0.015171
NO Cal Slope:	1.002620	1.008514
NO Cal Offset:	-1.532494	-1.513884
NO_2 Cal Slope:	0.998169	0.997104
NO_2 Cal Offset:	-0.341510	-0.955955

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	-0.1	0.1	-0.2	----	----
High point	4934	66.3	799.5	796.9	2.7	804.5	803.3	1.4	0.9938	0.9920
Mid point	4967	33.2	400.4	399.0	1.3	401.8	399.1	2.7	0.9965	0.9999
Low point	4983	16.6	200.2	199.5	0.7	202.1	198.8	3.3	0.9907	1.0038
As left zero	5000	0.0	0.0	0.0	0.0	-0.2	0.0	-0.2	----	----
As left span	4934	66.3	799.5	407.4	392.1	805.1	407.4	397.7	0.9931	1.0000
								Average Correction Factor	0.9936	0.9985

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	-0.2	----	----
High GPT point	799.9	403.0	399.6	398.1	1.0036	99.6%
Mid GPT point	799.9	602.0	200.6	197.8	1.0139	98.6%
Low GPT point	799.9	701.1	101.5	100.0	1.0145	98.6%
				Average Correction Factor	1.0107	98.9%

Notes: No maintenance or adjustments done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

NO_X Calibration Summary

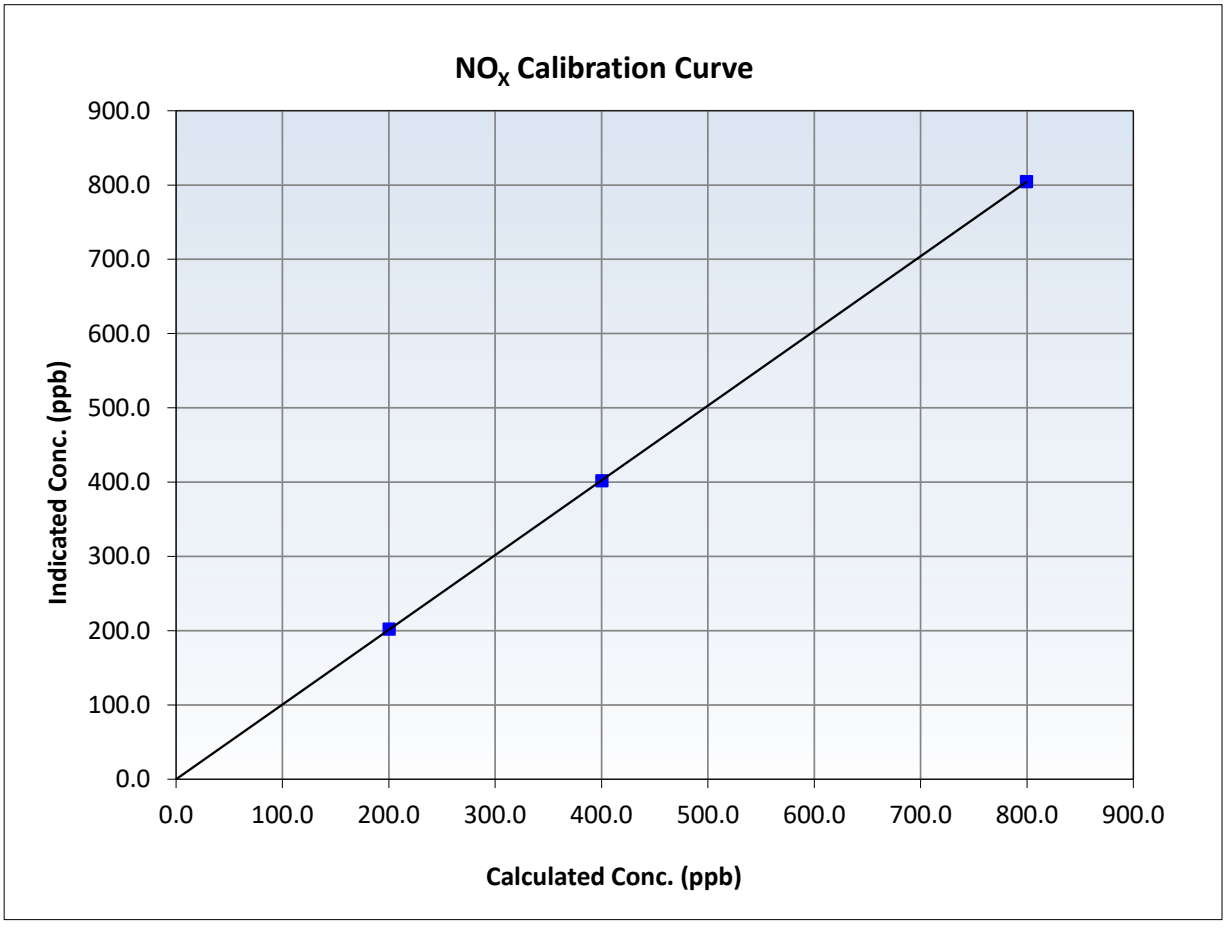
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 9, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	6:33	End Time (MST):	11:07
Analyzer make:	Thermo 42i	Analyzer serial #:	1152430007

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
799.5	804.5	0.9938
400.4	401.8	0.9965
200.2	202.1	0.9907

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	1.005887	*0.90 - 1.10*
Intercept	-0.015171	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

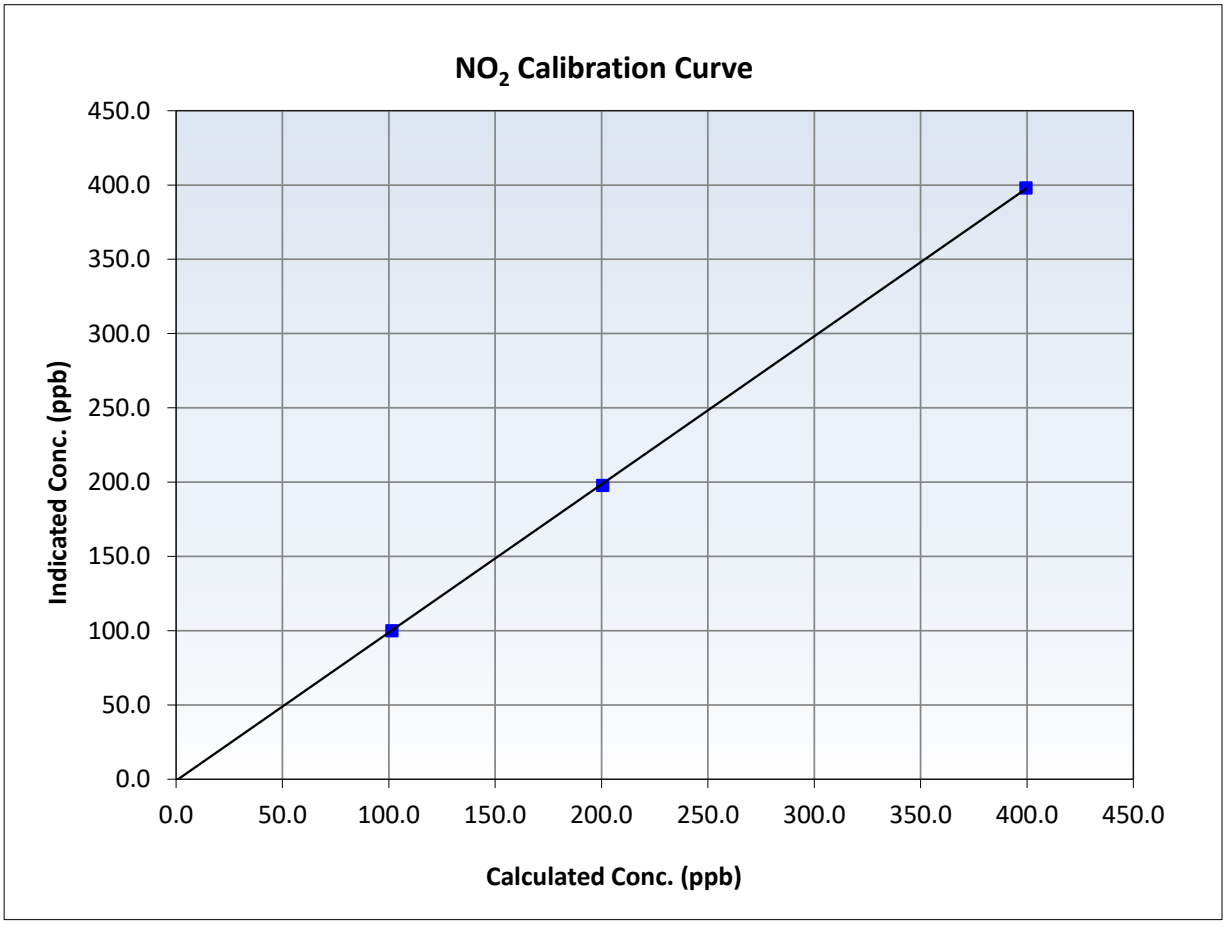
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 9, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	6:33	End Time (MST):	11:07
Analyzer make:	Thermo 42i	Analyzer serial #:	1152430007

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
399.6	398.1	1.0036
200.6	197.8	1.0139
101.5	100.0	1.0145

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999971	*≥0.995*
Slope	0.997104	*0.90 - 1.10*
Intercept	-0.955955	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

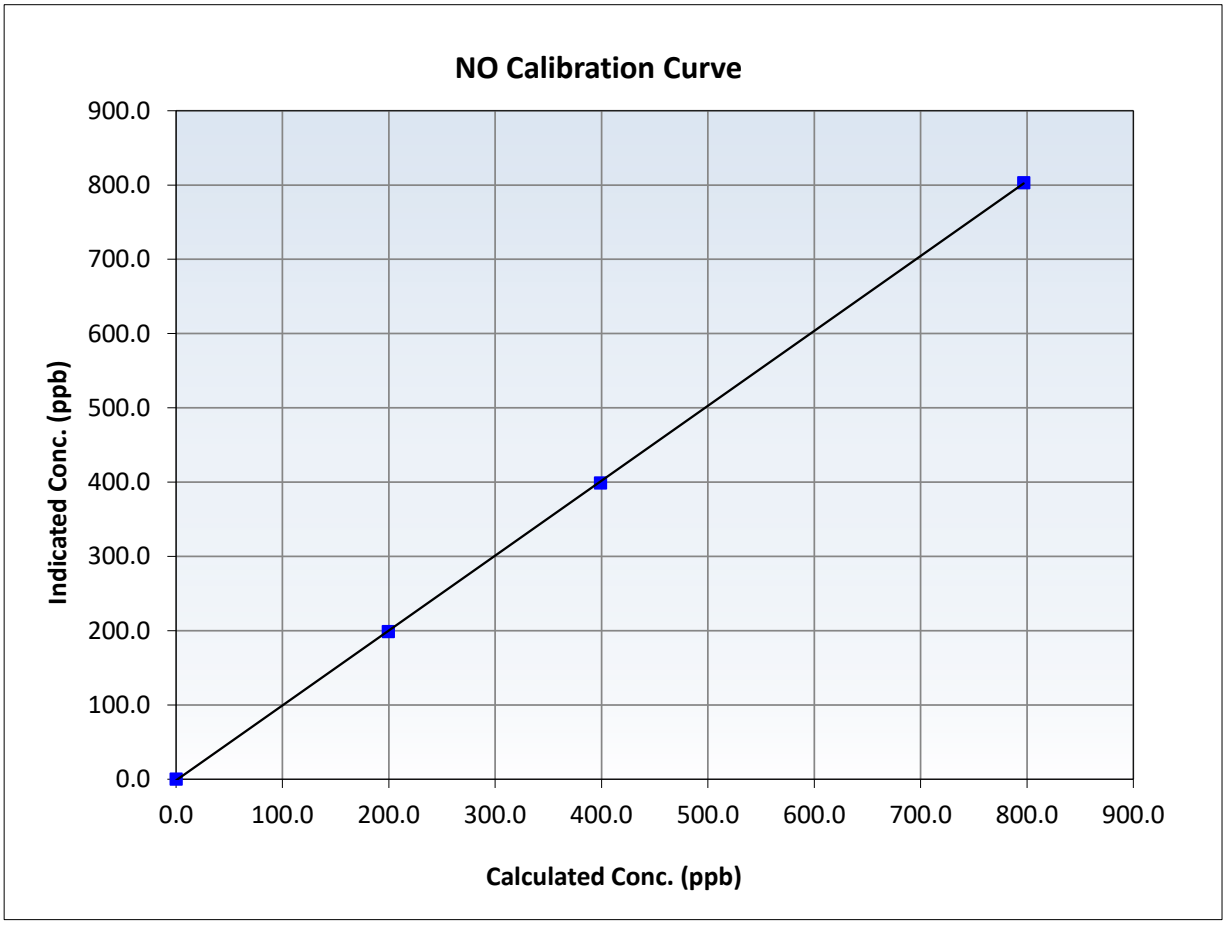
Station Information

Calibration Date:	October 20, 2025	Previous Calibration:	September 9, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	6:33	End Time (MST):	11:07
Analyzer make:	Thermo 42i	Analyzer serial #:	1152430007

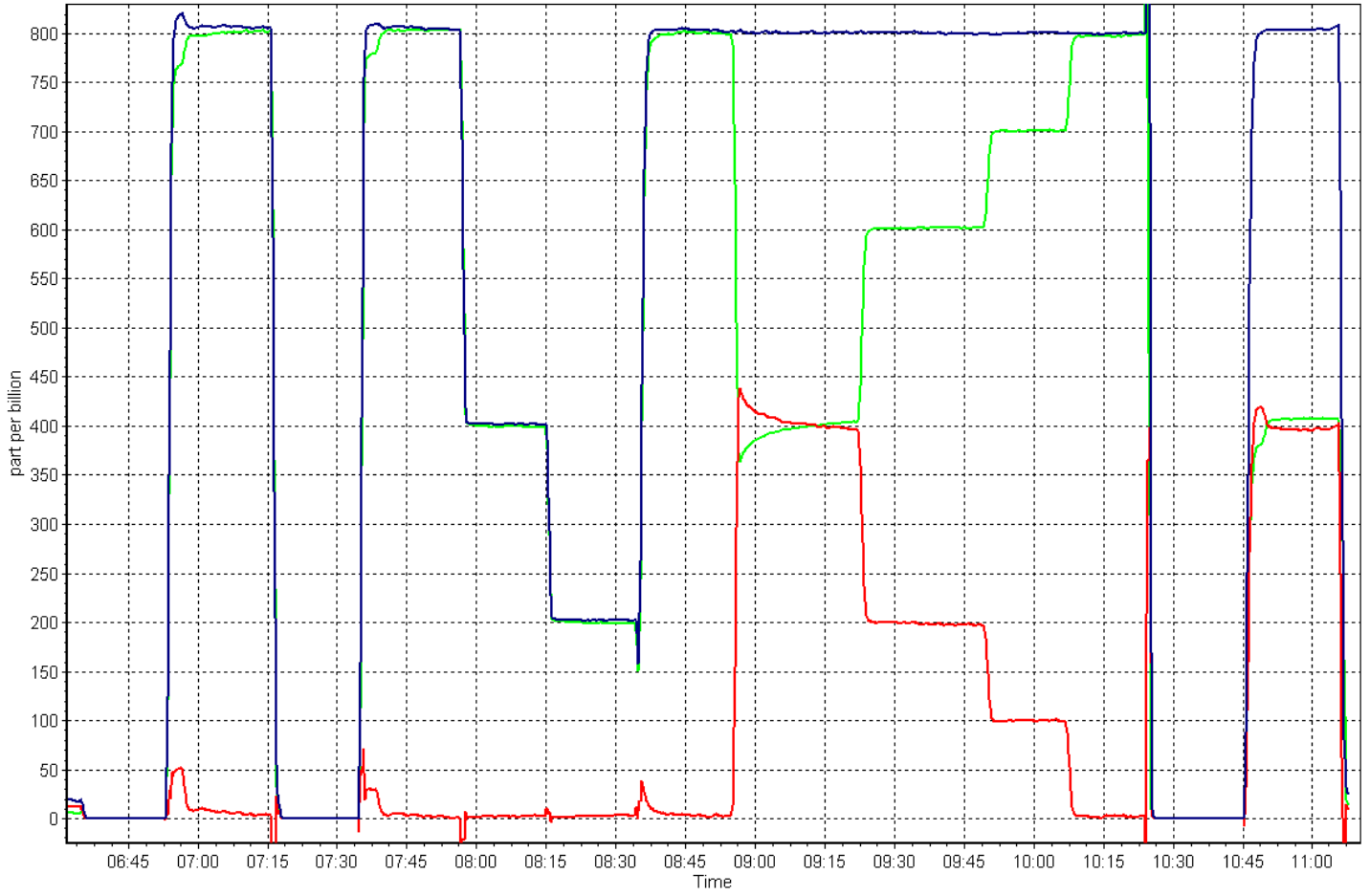
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
796.9	803.3	0.9920
399.0	399.1	0.9999
199.5	198.8	1.0038

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999977	*≥0.995*
Slope	1.008514	*0.90 - 1.10*
Intercept	-1.513884	*+/-20*



NO_X Calibration Plot Date: October 20, 2025 Location: Fort Hills



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Fort Hills	Station number:	AMS 23
Calibration Date:	October 20, 2025	Last Cal Date:	September 11, 2025
Start time (MST):	7:35	End time (MST):	8:35
Analyzer Make:	API T640	S/N:	320
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388744
Temp/RH standard:	Alicat FP-25BT	S/N:	388744

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (°C)	2.0	1.3	2.0	☐	+/- 2 °C
P (mmHg)	734.6	733.7	734.6	☐	+/- 10 mmHg
Flow (LPM)	5.01	4.76	5.08	☑	+/- 0.25 LPM
PW% (pump)	59	-----	62	☐	>80%

Zero Verification — PM w/o HEPA: 2.8 — PM w/ HEPA: 0.0 — <0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.9 — Expiry Date: 16-Jul-26 — Lot No.: 100128-050-050

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test	10.1	11.4	11.4	☐	+/- 0.5

Date Optical Chamber Cleaned: October 20, 2025

Date Disposable Filter Changed: October 20, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0 <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: October 20, 2025

Date RH/T Sensor Cleaned: October 20, 2025

Notes: Flow was adjusted. Leak Check, Flow and PMT checked before and after cleaning.

Calibration by: Melissa Lemay

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS25
WASKŌW OHCI PIMÂTISIWIN
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Waskow ohci Pimatisiwin	Station number:	AMS 25
Calibration Date:	October 24, 2025	Last Cal Date:	September 23, 2025
Start time (MST):	6:15	End time (MST):	9:12
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	49.70	ppm	Cal Gas Exp Date:	March 10, 2031
Cal Gas Cylinder #:	CC342445			
Removed Cal Gas Conc:	49.70	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Model:	API T700		Serial Number:	621
Zero Air Gen Model:	API T701		Serial Number:	4765

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1118148497	
Analyzer Range:	0-1000ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001884	0.997669	Backgd or Offset:	10.5	11.1
Calibration intercept:	0.027877	0.327490	Coeff or Slope:	1.038	1.046

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.3	----
As found High point	4920	80.5	800.1	792.2	1.010
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	791.9	Previous response	801.6	*% change	-1.2%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4920	80.5	800.1	798.2	1.002
Mid point	4960	40.2	399.6	399.7	1.000
Low point	4980	20.1	199.8	199.6	1.001
As left zero	5000	0.0	0.0	0.3	----
As left span	4920	80.5	800.1	801.3	0.998
				Average Correction Factor:	1.001

Notes: No maintenance done. Zero and Span adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

SO_2 Calibration Summary

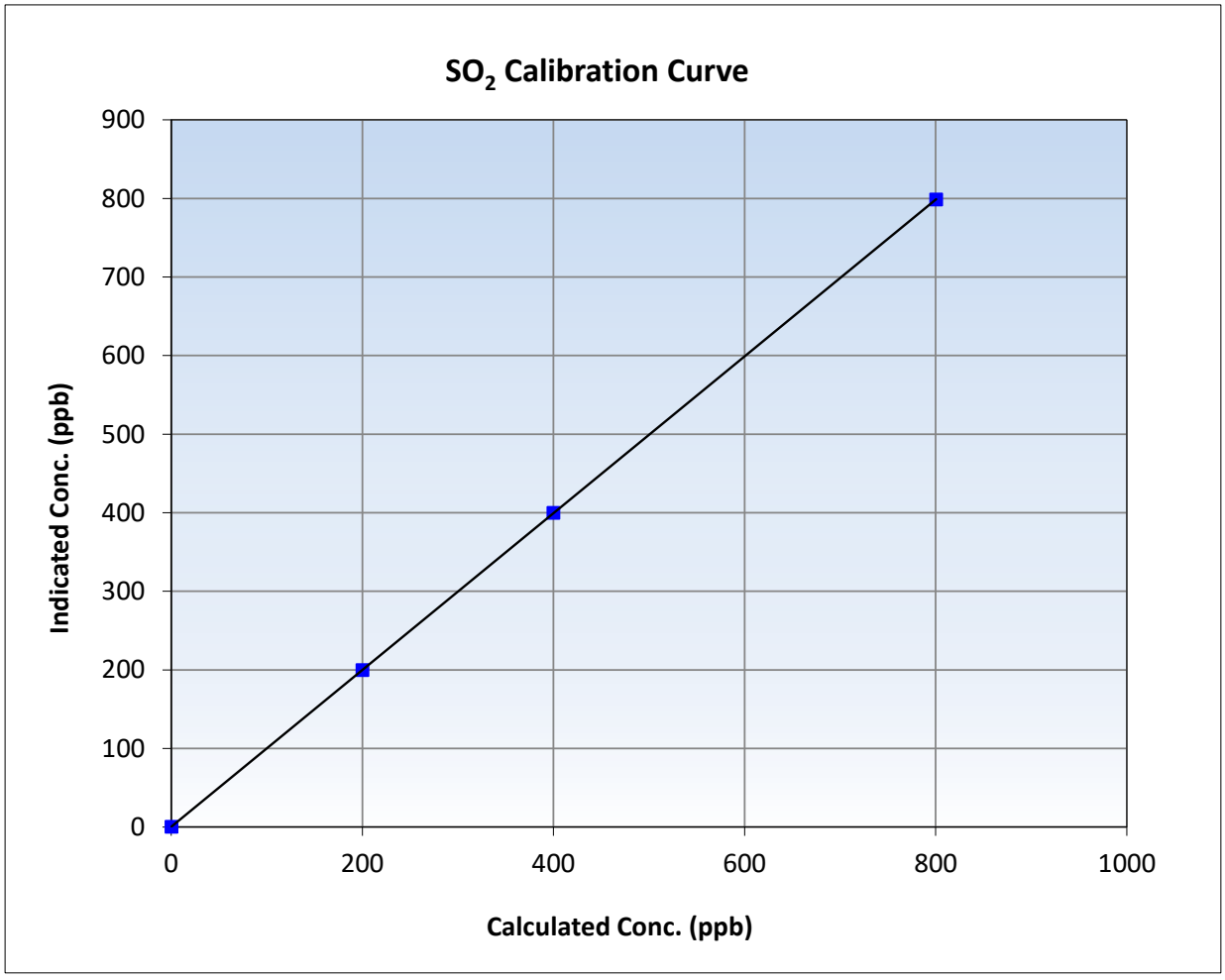
Station Information

Calibration Date:	October 24, 2025	Previous Calibration:	September 23, 2025
Station Name:	Waskow ohci Pimatisiwin	Station Number:	AMS 25
Start Time (MST):	6:15	End Time (MST):	9:12
Analyzer make:	Thermo 43i	Analyzer serial #:	1118148497

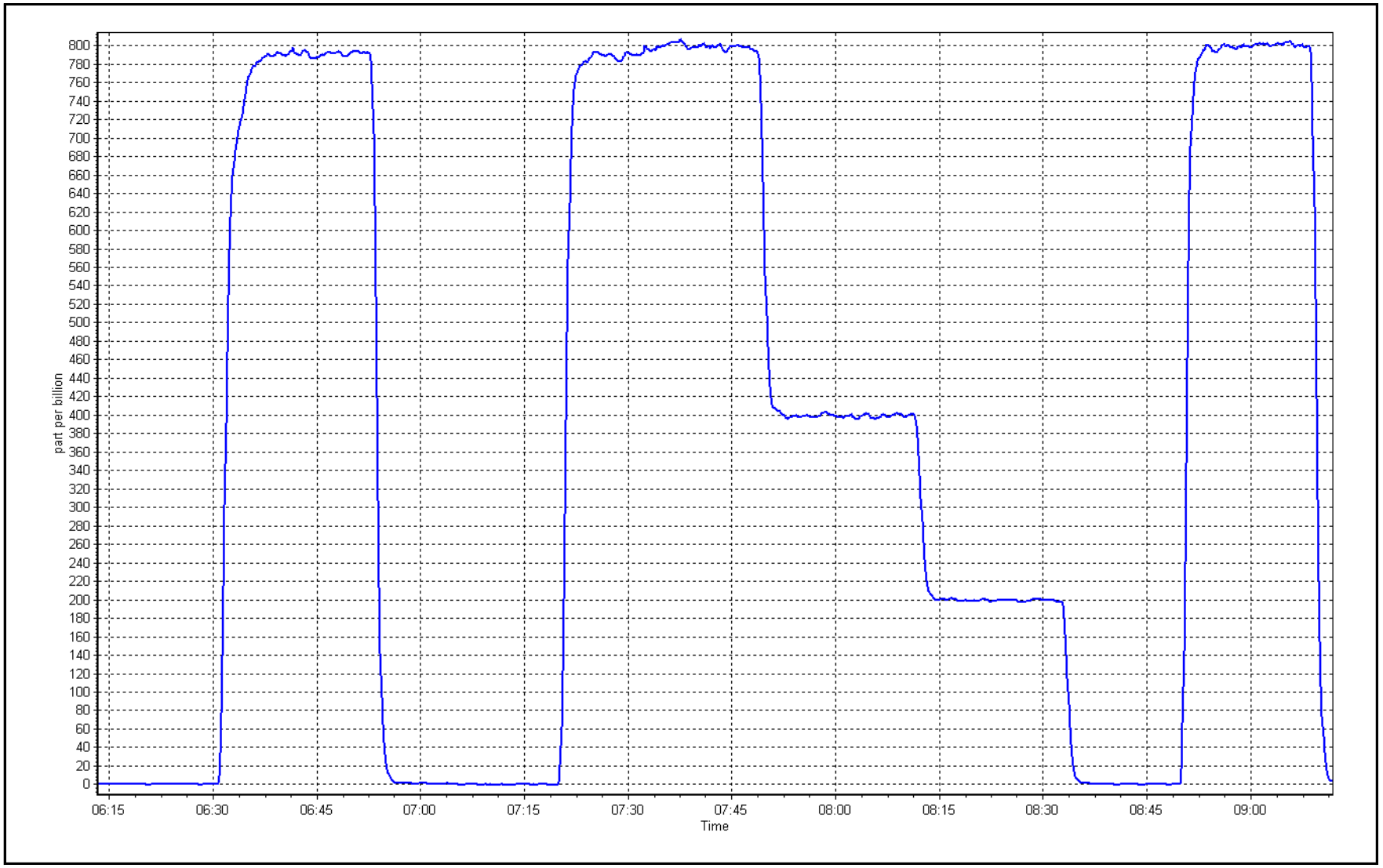
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
800.1	798.2	1.0024
399.6	399.7	0.9997
199.8	199.6	1.0010

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	0.997669	*0.90 - 1.10*
Intercept	0.327490	*+/-30*



SO2 Calibration Plot Date: October 24, 2025 Location: Waskow ohci Pimatisiwin



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Waskow ohci Pimatisiwin	Station number:	AMS 25
Calibration Date:	October 21, 2025	Last Cal Date:	September 10, 2025
Start time (MST):	8:50	End time (MST):	11:23
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.97	ppm	Cal Gas Exp Date:	January 3, 2026
Cal Gas Cylinder #:	CC517099			
Removed Cal Gas Conc:	4.97	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	747
ZAG Make/Model:	API T701		Serial Number:	261

Analyzer Information

Analyzer make:	Thermo 43i-LTE		Analyzer serial #:	1170050146
Converter make:	Global G-150		Converter serial #:	2024-287
Analyzer Range	0 - 100 ppb		Converter Temp:	325 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	0.984518	0.987943	Backgd or Offset:	3.32	3.41
Calibration intercept:	0.302144	0.582216	Coeff or Slope:	1.102	1.129

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	NA	Prev response:	NA	*% change:	NA
Baseline Corr 2nd AF pt:	NA	AF Slope:	NA	AF Intercept:	NA
Baseline Corr 3rd AF pt:	NA	AF Correlation:	NA	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.5	----
High point	4919	80.5	80.0	79.6	1.005
Mid point	4960	40.3	40.1	40.2	0.996
Low point	4980	20.1	20.0	20.4	0.979
As left zero	5000	0.0	0.0	0.7	----
As left span	4920	80.0	800.0	807.6	0.991
SO2 Scrubber Check	4920	80.0	800.0	-0.1	----
Date of last scrubber change:				Ave Corr Factor	0.994
Date of last converter efficiency test:		February 12, 2025		111.0%	efficiency

Notes: No as founds as external converter would not turn on after power spike. Converter changed out..
SOx Scrubber checked after the calibrator zero. Span adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

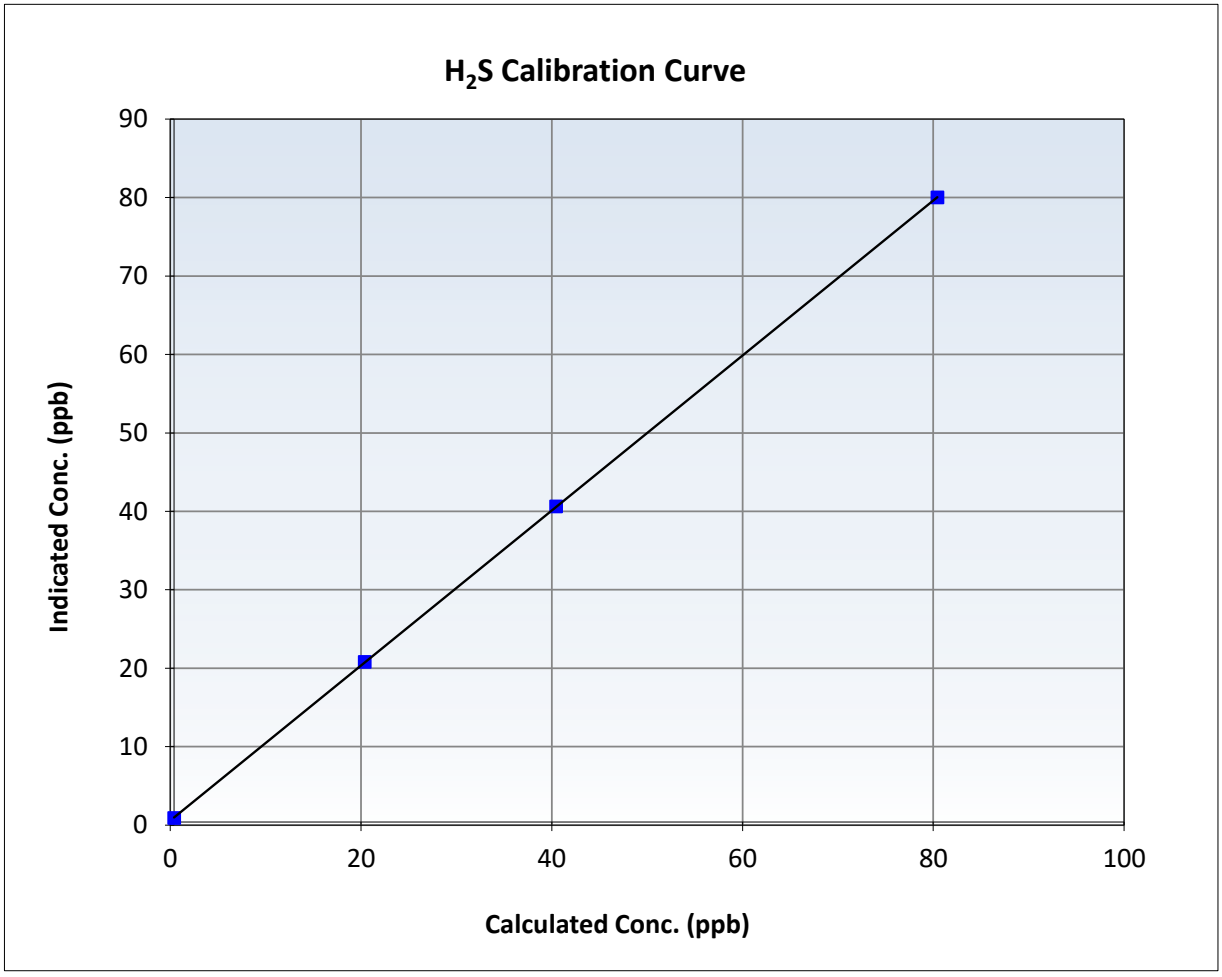
H_2S Calibration Summary

Station Information

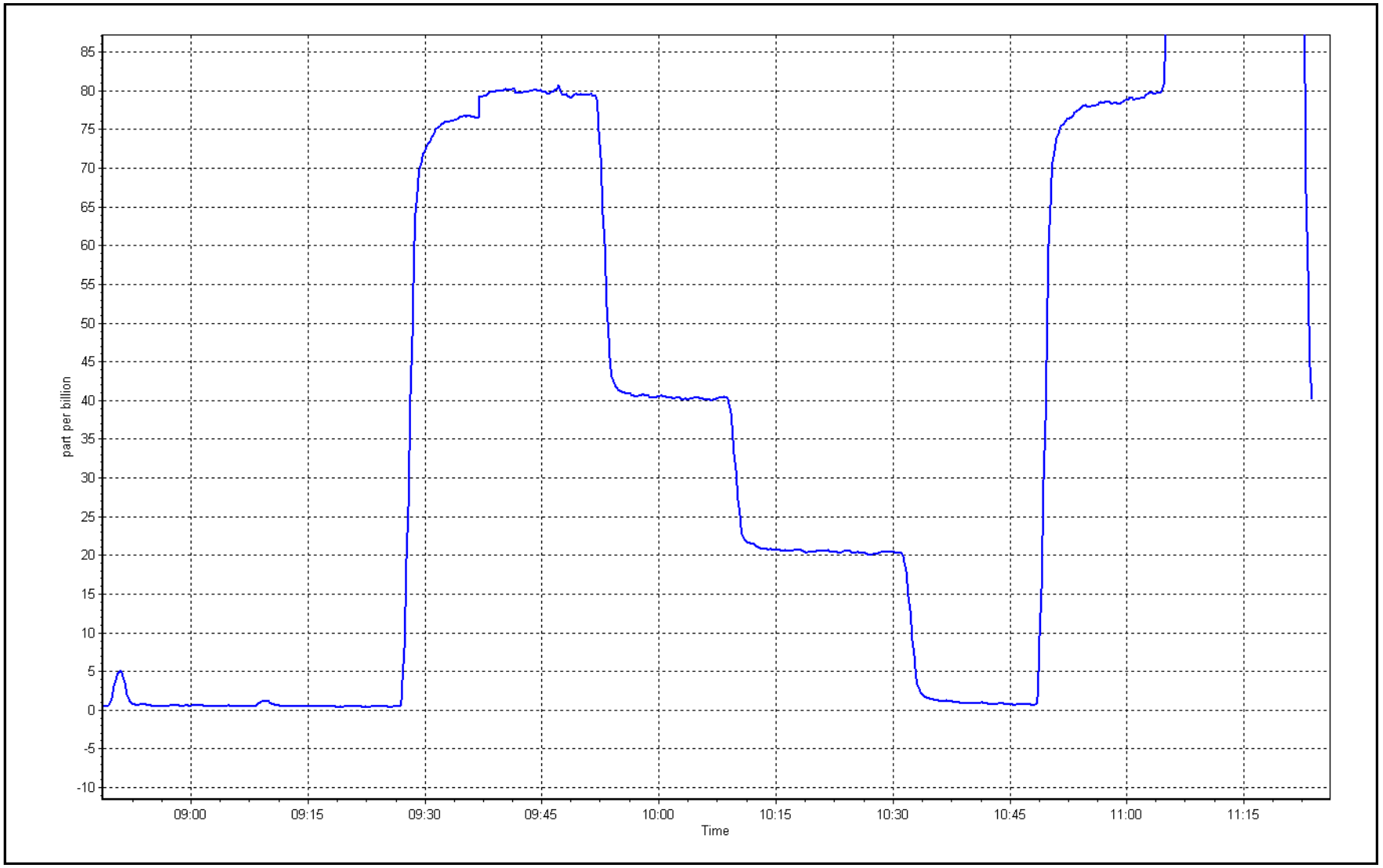
Calibration Date:	October 21, 2025	Previous Calibration:	September 10, 2025
Station Name:	Waskow ohci Pimatisiwin	Station Number:	10:47:00 AM
Start Time (MST):	8:50	End Time (MST):	11:23
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1170050146

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.5	----	Correlation Coefficient	0.999995	*≥0.995*
80.0	79.6	1.0053	Slope	0.987943	*0.90 - 1.10*
40.1	40.2	0.9964			
20.0	20.4	0.9794	Intercept	0.582216	*+/-3*



H_2S Calibration Plot Date: October 21, 2025 Location: Waskow ohci Pimatisiwin



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Waskow ohci Pimatisiwin	Station number:	AMS 25
Calibration Date:	October 27, 2025	Last Cal Date:	October 21, 2025
Start time (MST):	6:46	End time (MST):	10:40
Reason:	Maintenance	Calibration to lower zero	

Calibration Standards

Cal Gas Concentration:	4.97	ppm	Cal Gas Exp Date:	January 3, 2026
Cal Gas Cylinder #:	CC517099			
Removed Cal Gas Conc:	4.97	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	747
ZAG Make/Model:	API T701		Serial Number:	261

Analyzer Information

Analyzer make:	Thermo 43i-LTE		Analyzer serial #:	1170050146
Converter make:	Global G-150		Converter serial #:	2024-287
Analyzer Range	0 - 100 ppb		Converter Temp:	325 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	0.987943	1.000081	Backgd or Offset:	3.41	3.66
Calibration intercept:	0.582216	0.182210	Coeff or Slope:	1.129	1.129

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.2	----
As found High point	4919	80.5	80.0	81.0	0.990
As found Mid point	4960	40.3	40.1	40.5	0.994
As found Low point	4980	20.1	20.0	20.4	0.989
New cylinder response					

Baseline Corr As found:	80.8	Prev response:	79.64	*% change:	1.4%
Baseline Corr 2nd AF pt:	40.3	AF Slope:	1.009360	AF Intercept:	0.182325
Baseline Corr 3rd AF pt:	20.2	AF Correlation:	0.999995	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4919	80.5	80.0	80.1	0.999
Mid point	4960	40.3	40.1	40.4	0.991
Low point	4980	20.1	20.0	20.3	0.984
As left zero	5000	0.0	0.0	0.3	----
As left span	4920	80.0	800.0	812.0	0.985
SO2 Scrubber Check	4920	80.0	800.0	0.1	----

Date of last scrubber change:		Ave Corr Factor	0.992
Date of last converter efficiency test:	February 12, 2025	111.0%	efficiency

Notes: Converter replaced last calibration. Zero is high. Calibration to lower zero. Zero adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

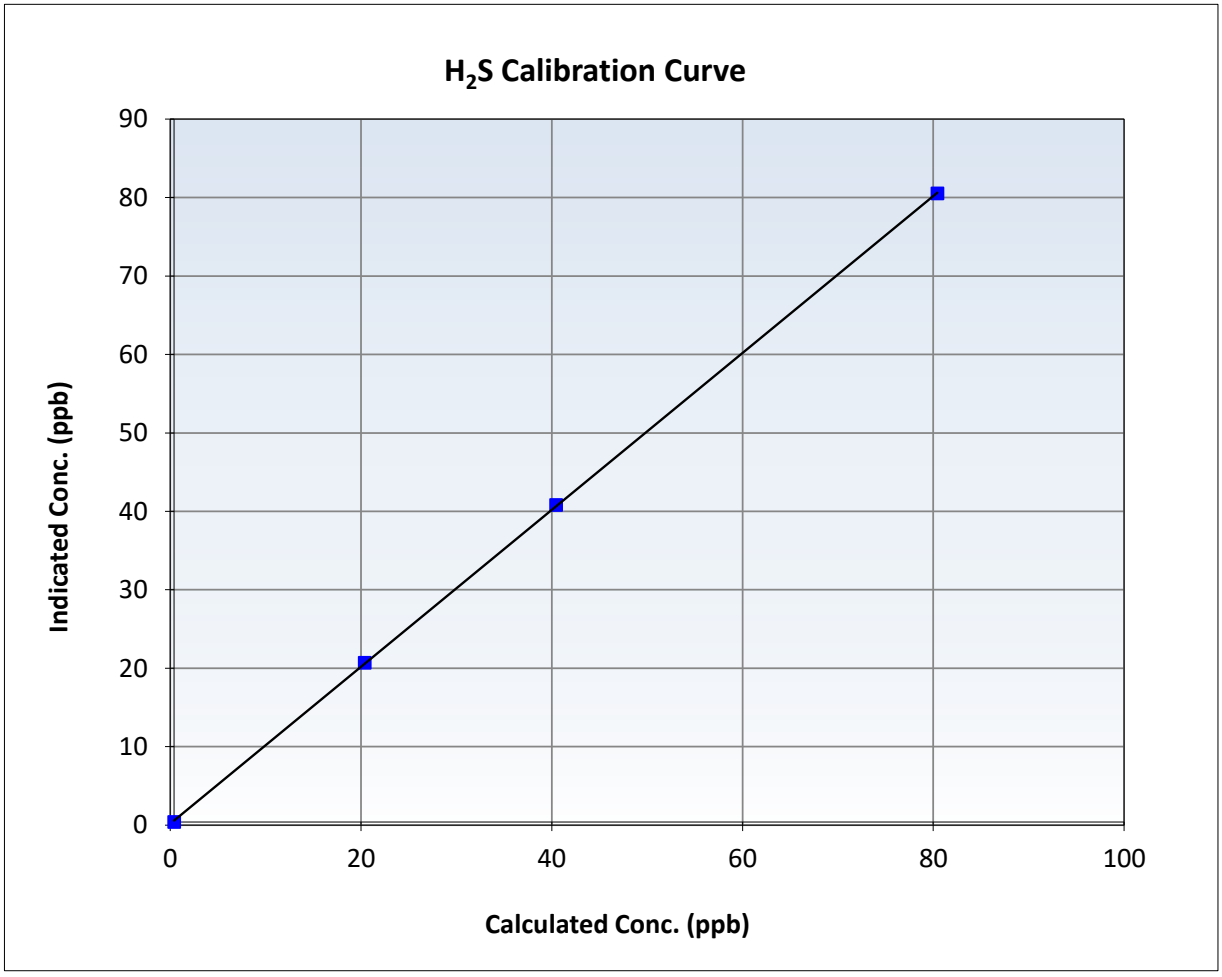
H_2S Calibration Summary

Station Information

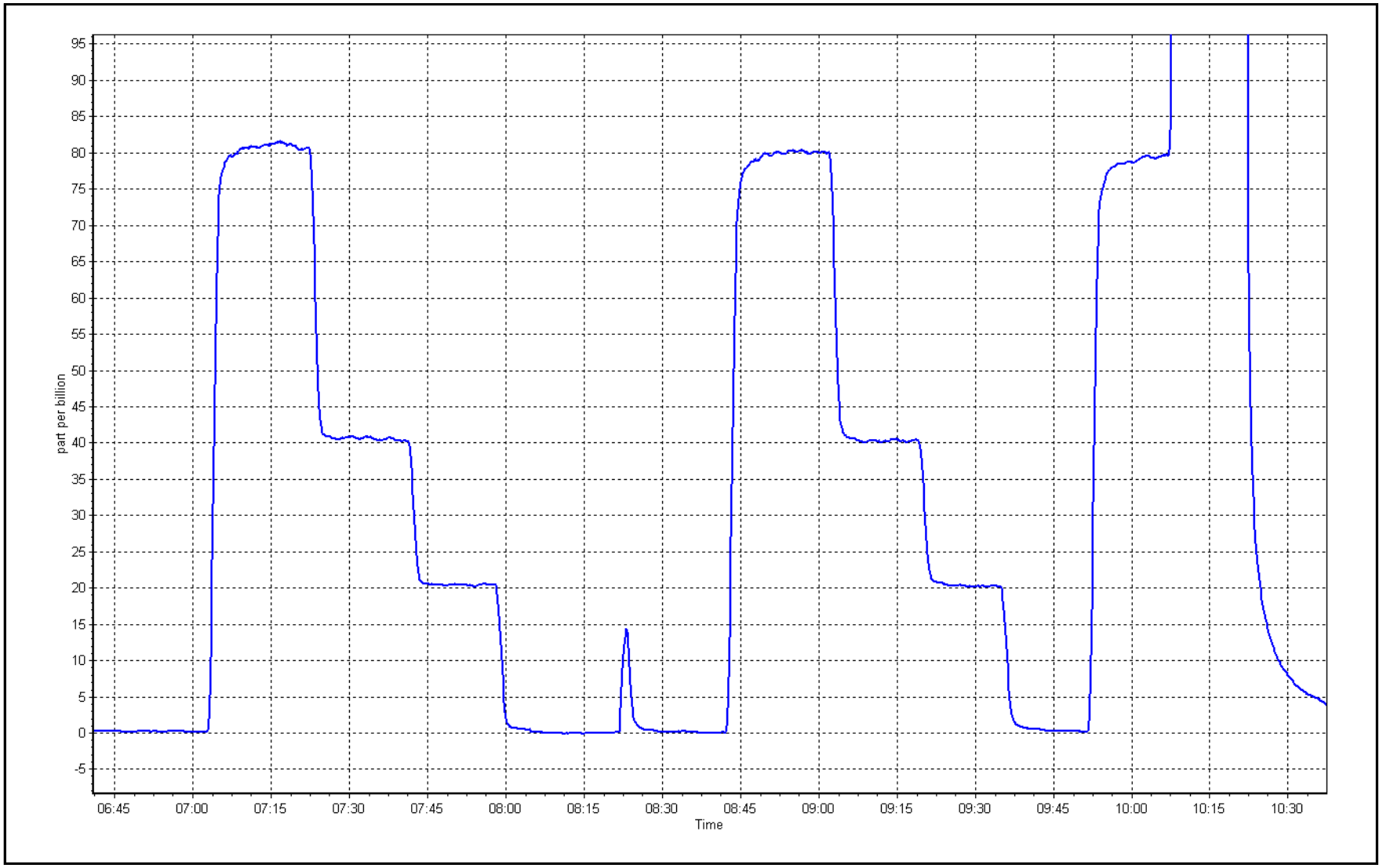
Calibration Date:	October 27, 2025	Previous Calibration:	October 21, 2025
Station Name:	Waskow ohci Pimatisiwin	Station Number:	10:47:00 AM
Start Time (MST):	6:46	End Time (MST):	10:40
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1170050146

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.0	----	Correlation Coefficient	0.999974	*≥0.995*
80.0	80.1	0.9991	Slope	1.000081	*0.90 - 1.10*
40.1	40.4	0.9915			
20.0	20.3	0.9842	Intercept	0.182210	*+/-3*



H_2S Calibration Plot Date: October 27, 2025 Location: Waskow ohci Pimatisiwin



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS27
JACKFISH 2/3
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Jackfish 2/3	Station number:	AMS 27
Calibration Date:	October 3, 2025	Last Cal Date:	September 9, 2025
Start time (MST):	11:24	End time (MST):	14:49
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.58	ppm	Cal Gas Exp Date:	December 29, 2028
Cal Gas Cylinder #:	SG9133974BAL			
Removed Cal Gas Conc:	50.58	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	API T700		Serial Number:	5252
Zero Air Gen Model:	API 701		Serial Number:	268

Analyzer Information

Analyzer make:	Thermo 43iQ-TL		Serial Number:	12124313138	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.005262	1.001333	Backgd or Offset:	9.3	9.3
Calibration intercept:	0.502931	0.202353	Coeff or Slope:	0.907	0.907

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.2	----
As found High point	4913	78.9	799.4	800.4	0.999
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	800.2	Previous response	804.2	*% change	-0.5%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4913	78.9	799.4	800.6	0.999
Mid point	4955	39.5	400.0	401.1	0.997
Low point	4971	19.7	199.7	199.9	0.999
As left zero	5000	0.0	0.0	0.1	----
As left span	4913	78.9	799.4	803.5	0.995
				Average Correction Factor:	0.998

Notes: Changed the sample inlet filter after as founds. No adjustments made.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

SO_2 Calibration Summary

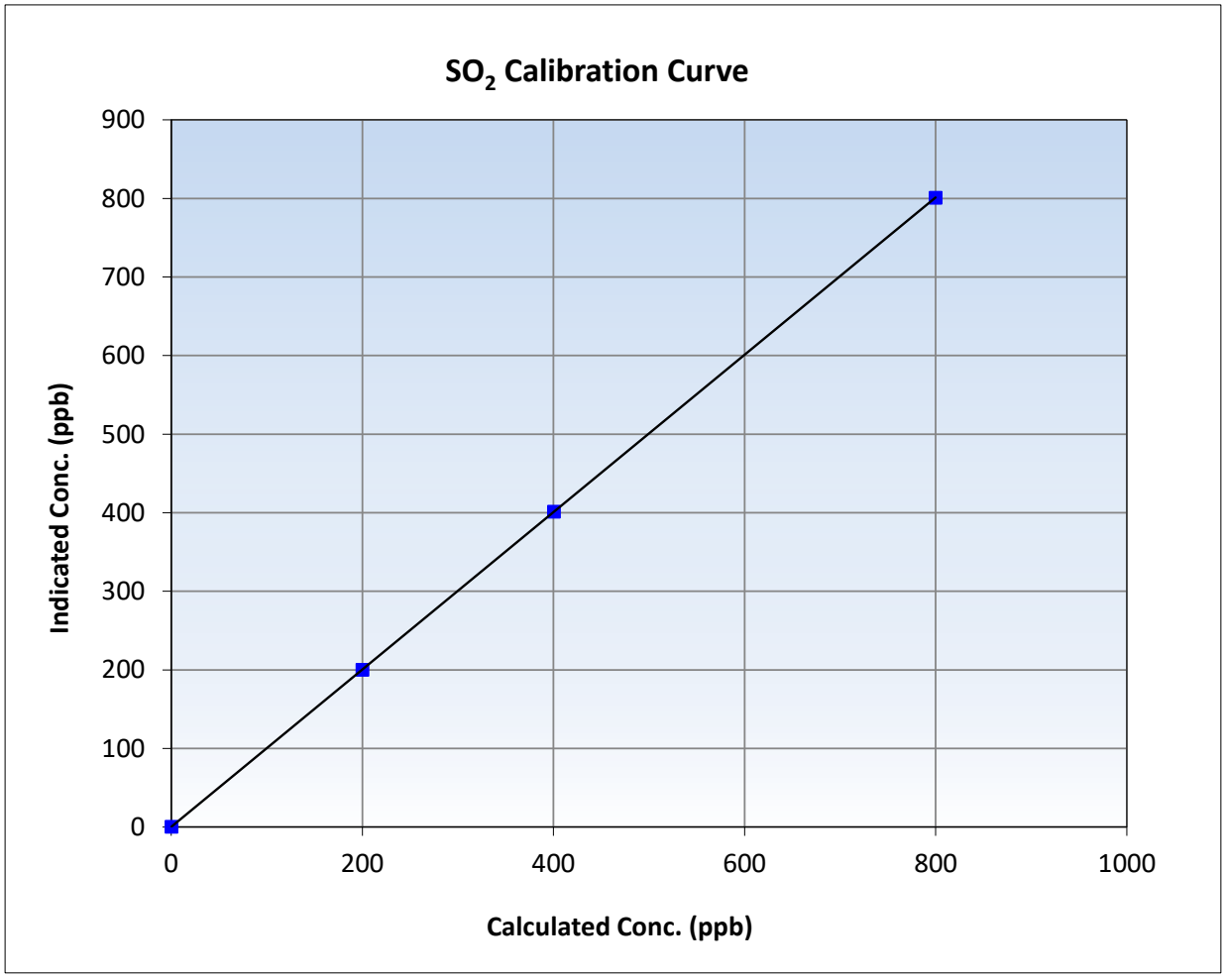
Station Information

Calibration Date:	October 3, 2025	Previous Calibration:	September 9, 2025
Station Name:	Jackfish 2/3	Station Number:	AMS 27
Start Time (MST):	11:24	End Time (MST):	14:49
Analyzer make:	Thermo 43iQ-TL	Analyzer serial #:	12124313138

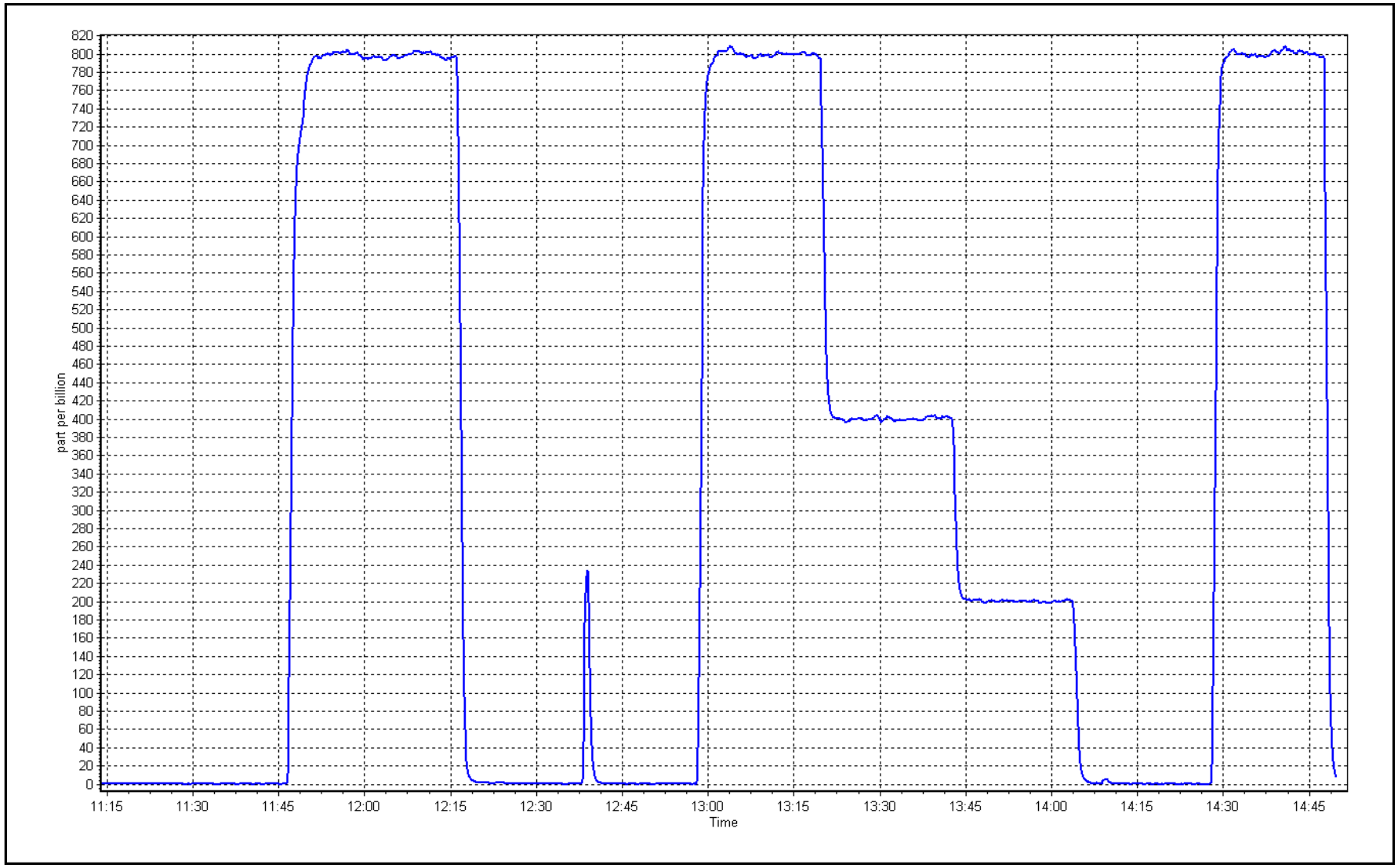
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
799.4	800.6	0.9986
400.0	401.1	0.9973
199.7	199.9	0.9988

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	1.001333	*0.90 - 1.10*
Intercept	0.202353	*+/-30*



SO2 Calibration Plot Date: October 3, 2025 Location: Jackfish 2/3



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Jackfish 2/3	Station number:	AMS 27
Calibration Date:	October 24, 2025	Last Cal Date:	September 18, 2025
Start time (MST):	9:22	End time (MST):	14:35
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.87	ppm	Cal Gas Exp Date:	September 5, 2027
Cal Gas Cylinder #:	CC523090			
Removed Cal Gas Conc:	4.87	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	5252
ZAG Make/Model:	Teledyne API T701H		Serial Number:	268

Analyzer Information

Analyzer make:	Thermo 43iQ		Analyzer serial #:	12228021055	
Converter make:	Global G150		Converter serial #:	2022-195	
Analyzer Range	0 - 100 ppb		Converter Temp:	325	degC
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.015588	1.004522	Backgd or Offset:	3.26	3.26
Calibration intercept:	0.115904	0.196003	Coeff or Slope:	1.228	1.228

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.0	----
As found High point	4911	82.0	80.0	80.3	0.996
As found Mid point	4950	41.0	40.0	40.1	0.998
As found Low point	4972	20.5	20.0	19.9	1.005
New cylinder response					
Baseline Corr As found:	80.3	Prev response:	81.34	*% change:	-1.3%
Baseline Corr 2nd AF pt:	40.1	AF Slope:	1.004666	AF Intercept:	-0.084021
Baseline Corr 3rd AF pt:	19.9	AF Correlation:	0.999995	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4911	82.0	80.0	80.6	0.992
Mid point	4950	41.0	40.0	40.2	0.995
Low point	4972	20.5	20.0	20.4	0.980
As left zero	5000	0.0	0.0	0.3	----
As left span	4911	82.0	80.0	86.0	0.930
SO2 Scrubber Check	4915	78.9	790.0	0.1	----
Date of last scrubber change:		21-Feb-25		Ave Corr Factor	0.989
Date of last converter efficiency test:		April 23, 2025		91.4%	efficiency

Notes: Changed sample inlet filter after as founds. Scrubber check passed. No adjustments made.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

H_2S Calibration Summary

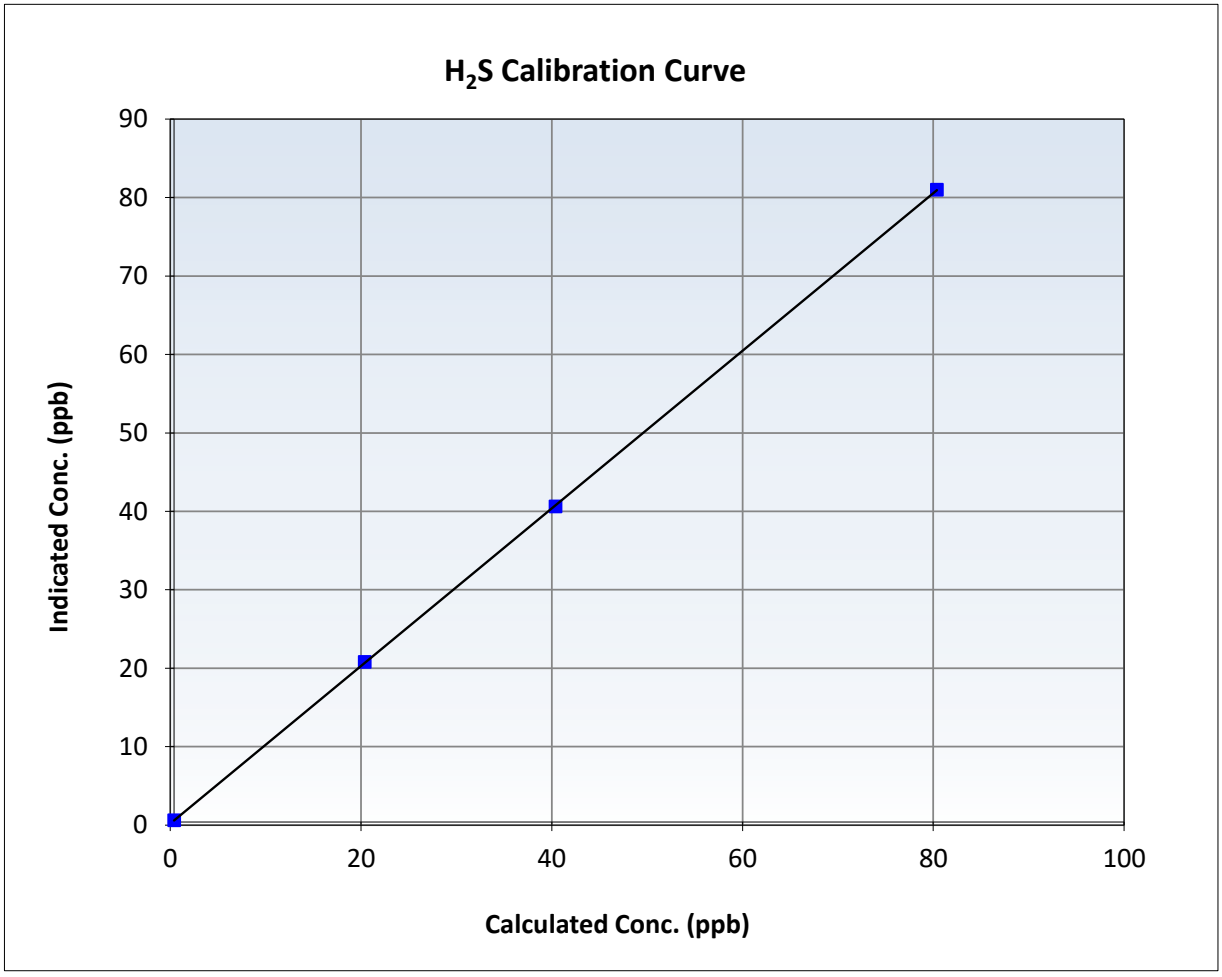
Station Information

Calibration Date:	October 24, 2025	Previous Calibration:	September 18, 2025
Station Name:	Jackfish 2/3	Station Number:	AMS 27
Start Time (MST):	9:22	End Time (MST):	14:35
Analyzer make:	Thermo 43iQ	Analyzer serial #:	12228021055

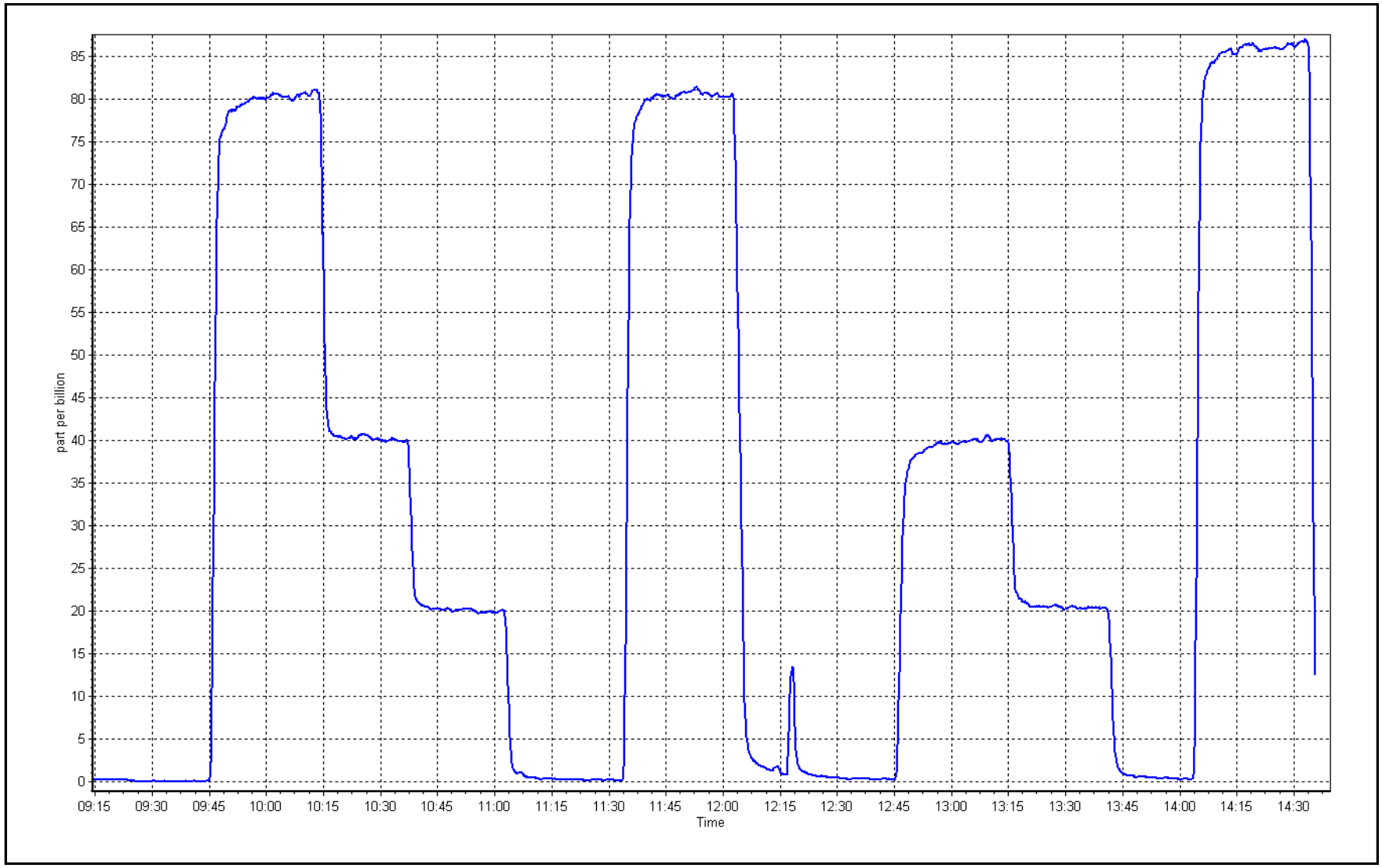
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
80.0	80.6	0.9923
40.0	40.2	0.9952
20.0	20.4	0.9802

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999986	*≥0.995*
Slope	1.004522	*0.90 - 1.10*
Intercept	0.196003	*+/-3*



H_2S Calibration Plot Date: October 24, 2025 Location: Jackfish 2/3



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Jackfish 2/3
Station number:	AMS 27
Calibration Date:	October 23, 2025
Last Cal Date:	September 19, 2025
Start time (MST):	10:38
End time (MST):	16:00
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	CC757838	Cal Gas Expiry Date:	January 9, 2032
NOX Cal Gas Conc:	60.30 ppm	NO Cal Gas Conc:	60.20 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	60.30 ppm	Removed Gas NO Conc:	60.20 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	5252
ZAG make/model:	Teledyne API T701	Serial Number:	268

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	----
AF High point	4924	66.3	801.1	799.8	1.3	723.2	719.4	3.8	1.1078	1.1118
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 800.1 ppb	NO = 797.6 ppb
Baseline Corr 1st pt	NO_X = 723.2 ppb	NO = 719.4 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

*Percent Change NO_X = -10.6%

*Percent Change NO = -10.9%

As Found Statistics

As found NO_X r^2: Nx Sl: Nx Int:

As found NO r^2: NO Sl: NO Int:

As found NO_2 r^2: NO2 Sl: NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1218153357

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.379	1.524	NO bkgnd or offset:	5.6	6.1
NOX coeff or slope:	0.996	0.996	NOX bkgnd or offset:	5.7	6.2
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	173.2	179.7

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.997431	0.997189
NO_X Cal Offset:	1.070038	0.630204
NO Cal Slope:	0.997915	0.999286
NO Cal Offset:	-0.569212	-1.049205
NO_2 Cal Slope:	1.005946	0.999326
NO_2 Cal Offset:	0.227357	0.407685

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.3	0.2	0.2	----	----
High point	4924	66.3	801.1	799.8	1.3	799.4	798.8	0.7	1.0022	1.0013
Mid point	4958	33.2	401.1	400.4	0.7	400.6	398.5	2.0	1.0012	1.0049
Low point	4976	16.6	200.5	200.2	0.3	201.0	197.7	3.4	0.9975	1.0124
As left zero	5000	0.0	0.0	0.0	0.0	1.3	0.1	1.2	----	----
As left span	4924	66.3	801.1	365.6	435.5	797.3	365.6	431.7	1.0048	1.0000
							Average Correction Factor		1.0003	1.0062

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.2	----	----
High GPT point	795.0	364.3	432.0	432.2	0.9996	100.0%
Mid GPT point	795.0	576.1	220.2	220.1	1.0006	99.9%
Low GPT point	795.0	682.2	114.1	115.0	0.9924	100.8%
				Average Correction Factor	0.9975	100.2%

Notes: An investigation was conducted, diagnostics were consistent with previous calibration results except for a slight decrease in flow (from 0.52 L/min to 0.49 L/min). No issues were identified with the setup, and the flow remained within acceptable limits. Changed sample inlet filter after as founds. Adjusted span only.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

NO_X Calibration Summary

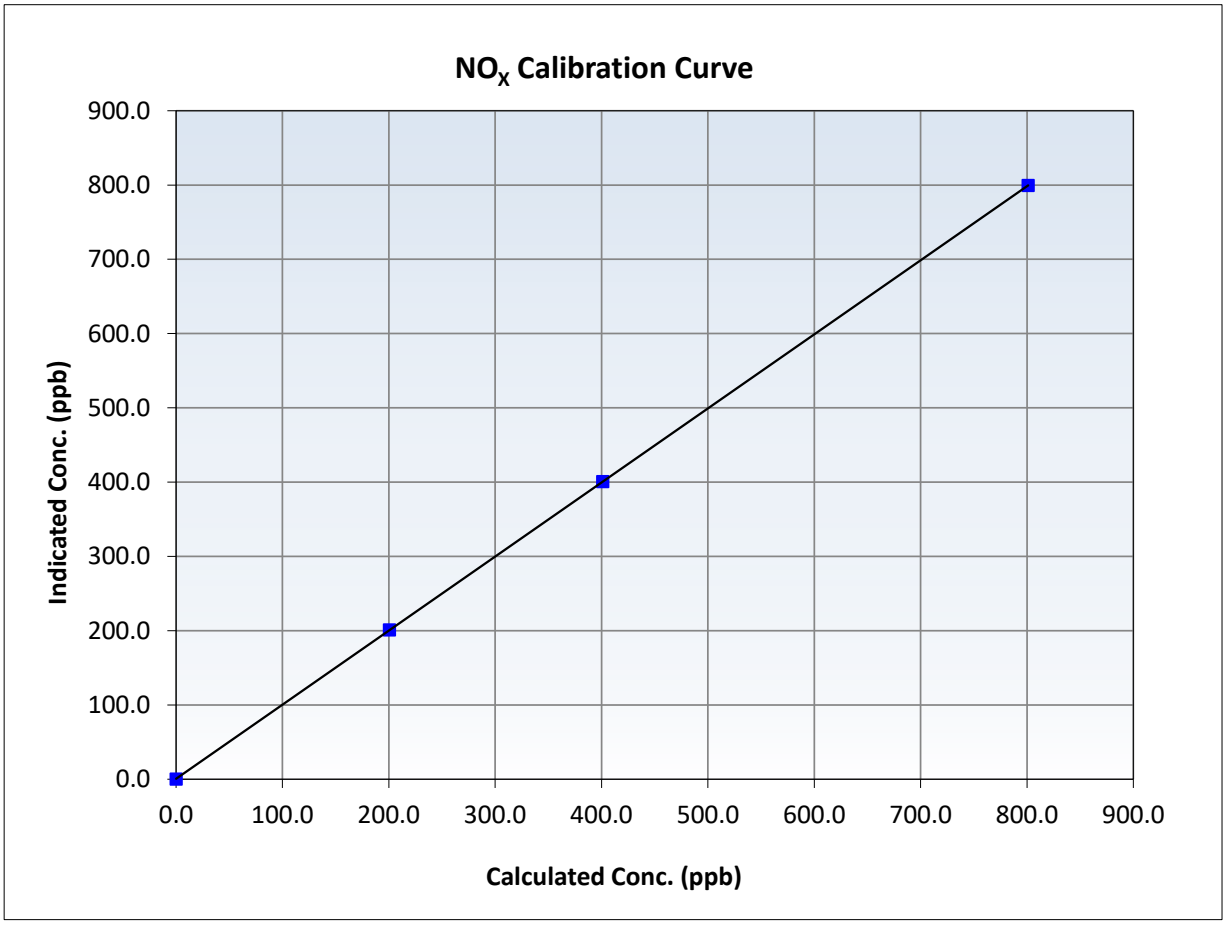
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 19, 2025
Station Name:	Jackfish 2/3	Station Number:	AMS 27
Start Time (MST):	10:38	End Time (MST):	16:00
Analyzer make:	Thermo 42i	Analyzer serial #:	1218153357

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
801.1	799.4	1.0022
401.1	400.6	1.0012
200.5	201.0	0.9975

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	0.997189	*0.90 - 1.10*
Intercept	0.630204	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

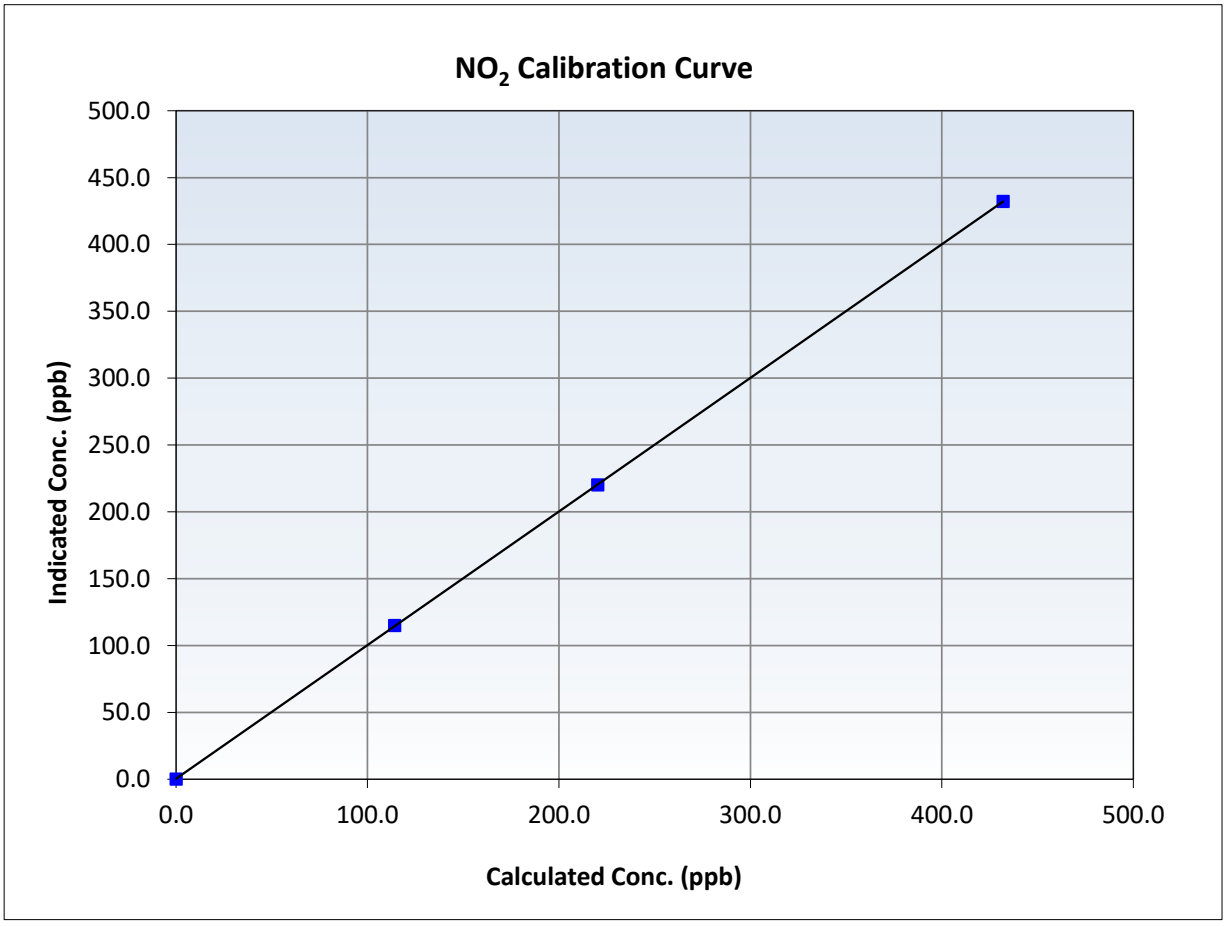
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 19, 2025
Station Name:	Jackfish 2/3	Station Number:	AMS 27
Start Time (MST):	10:38	End Time (MST):	16:00
Analyzer make:	Thermo 42i	Analyzer serial #:	1218153357

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
432.0	432.2	0.9996
220.2	220.1	1.0006
114.1	115.0	0.9924

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999995	*≥0.995*
Slope	0.999326	*0.90 - 1.10*
Intercept	0.407685	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

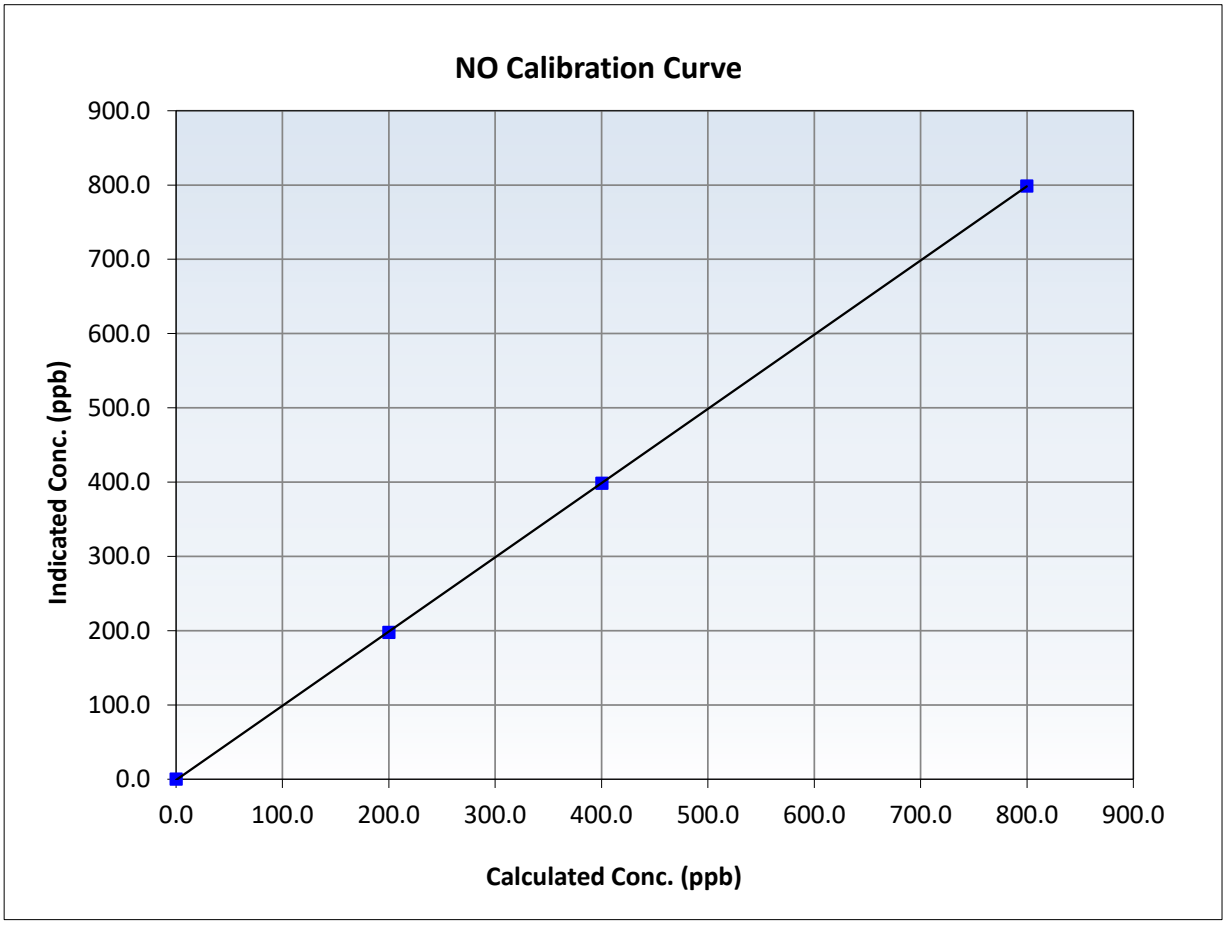
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 19, 2025
Station Name:	Jackfish 2/3	Station Number:	AMS 27
Start Time (MST):	10:38	End Time (MST):	16:00
Analyzer make:	Thermo 42i	Analyzer serial #:	1218153357

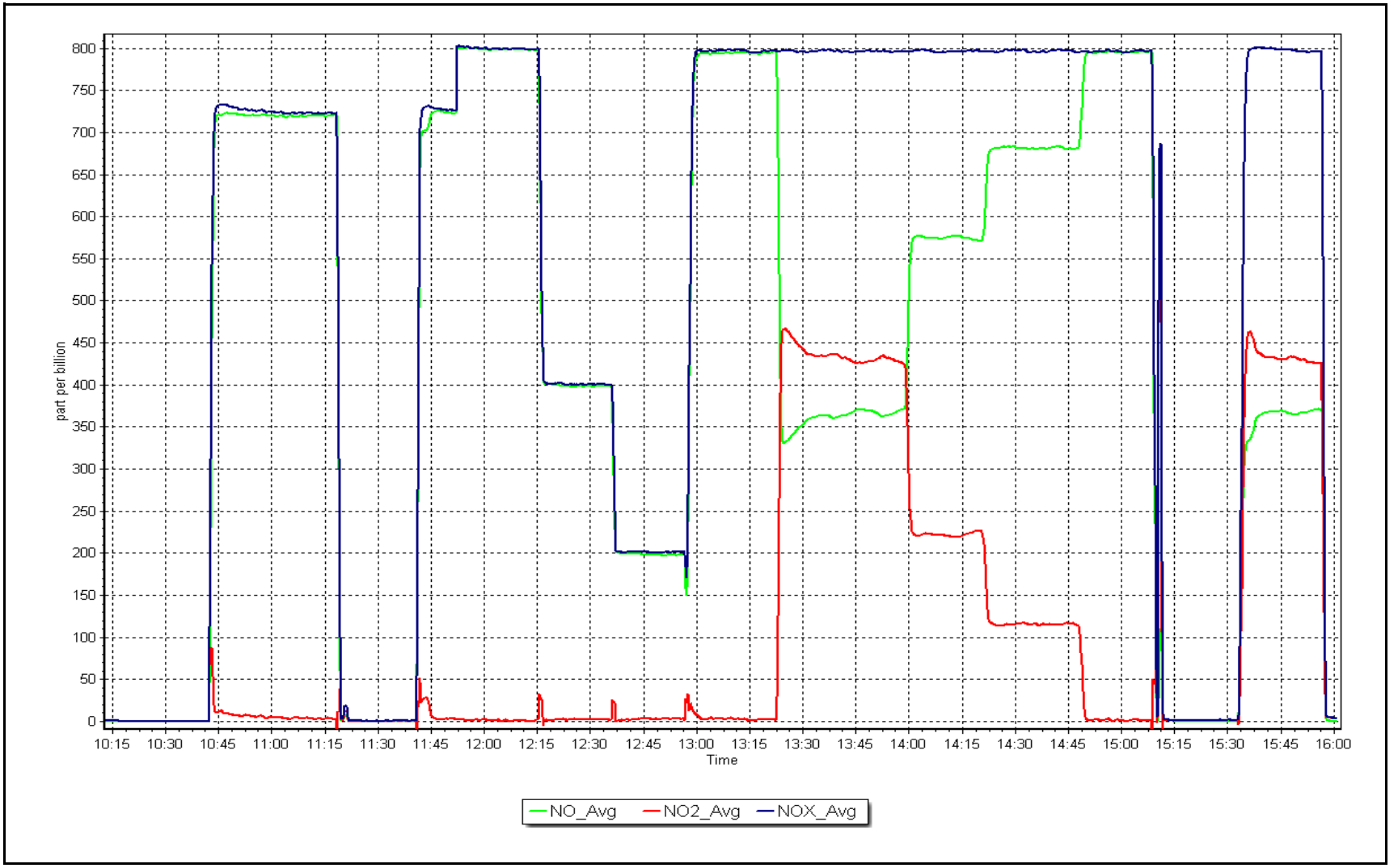
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
799.8	798.8	1.0013
400.4	398.5	1.0049
200.2	197.7	1.0124

Statistical Evaluation		Limits
Correlation Coefficient	0.999989	≥0.995
Slope	0.999286	0.90 - 1.10
Intercept	-1.049205	+/-20



NO_X Calibration Plot Date: October 23, 2025 Location: Jackfish 2/3



Wood Buffalo Environmental Association

Wind Speed/Direction Calibration Report

Station Information

Station Name:	Jackfish	Station Number:	AMS 27
Calibration Date:	October 3, 2025	Prev Cal Date:	October 15, 2024
Start Time (MST):	12:45	End Time (MST):	15:07
Tower Height (m):	10.0	Reason:	Routine

Wind Speed Calibration

Sensor make/model:	Met One 010C-1	Serial Number:	X16480
WS Calibrator:	MetOne 053	Serial Number:	R10866

Shaft RPM (Hz)	Calculated Speed (K/hr) (Cv)	Indicated Speed (K/hr) (Iv)	% Error *Limit = +/- 1.5%*
0	0.0	0.0	---
200	20.2	20.1	-0.3%
400	39.4	39.4	0.1%
600	58.6	58.7	0.2%
800	77.8	77.8	0.1%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)	0.999999	0.999999	*≥0.9995*
Calculated slope	0.998137	0.998121	*0.98 - 1.02*
Calculated intercept	0.030641	0.030255	*+/- 2*

Wind Direction Calibration

Sensor make/model:	Met One 020C-1	Serial Number:	X16480
As Found Declination (deg east of True North):	13	As Left Declination (deg east of True North):	13
Solar noon (MST):	1:12:55 PM	Calc Declination*:	12.78 Degrees
WD Calibrator:	Met One 040		* - calculated declination as per NOAA website

Physical Direction (Degrees) (Cv)	Indicated Direction (Degrees) (Iv)	% Error (based on 360° FS) *Limit = +/- 1%*
0	2.1	0.6%
90	91.6	0.5%
180	180.6	0.2%
270	270.6	0.2%
355	357.1	0.6%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)	0.999977	0.999987	*≥0.9995*
Calculated slope	0.994058	1.000975	*0.97 - 1.03*
Calculated intercept	0.184524	-1.597477	*+/- 5*

Notes: Bearings still good. Cross arm was aligned using compass after calibration.

Calibration Performed By: Mohammed Kashif

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS29
SURMONT 2
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Surmont 2	Station number:	AMS 29
Calibration Date:	October 24, 2025	Last Cal Date:	September 5, 2025
Start time (MST):	10:13	End time (MST):	14:34
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	49.95	ppm	Cal Gas Exp Date:	October 9, 2032
Cal Gas Cylinder #:	CC356229			
Removed Cal Gas Conc:	49.95	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	5472
Zero Air Gen Model:	Teledyne API T701		Serial Number:	135

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1170050150	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001760	0.996831	Backgd or Offset:	14.3	14.5
Calibration intercept:	-1.340582	-0.740911	Coeff or Slope:	0.940	0.940

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.2	----
As found High point	4920	80.1	800.2	804.0	0.995
As found Mid point	4960	40.0	399.6	400.6	0.997
As found Low point	4980	20.0	199.8	199.3	1.002
New cylinder response					
Baseline Corr As found:	804.2	Previous response	800.3	*% change	0.5%
Baseline Corr 2nd AF pt:	400.8	AF Slope:	1.005444	AF Intercept:	-0.879437
Baseline Corr 3rd AF pt:	199.5	AF Correlation:	0.999997	* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.2	----
High point	4920	80.1	800.2	797.0	1.004
Mid point	4960	40.0	399.6	397.9	1.004
Low point	4980	20.0	199.8	197.5	1.012
As left zero	5000	0.0	0.0	0.1	----
As left span	4920	80.1	800.2	796.8	1.004
				Average Correction Factor:	1.007

Notes: Changed sample inlet filter and external pump after as founds. No adjustments made.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

SO_2 Calibration Summary

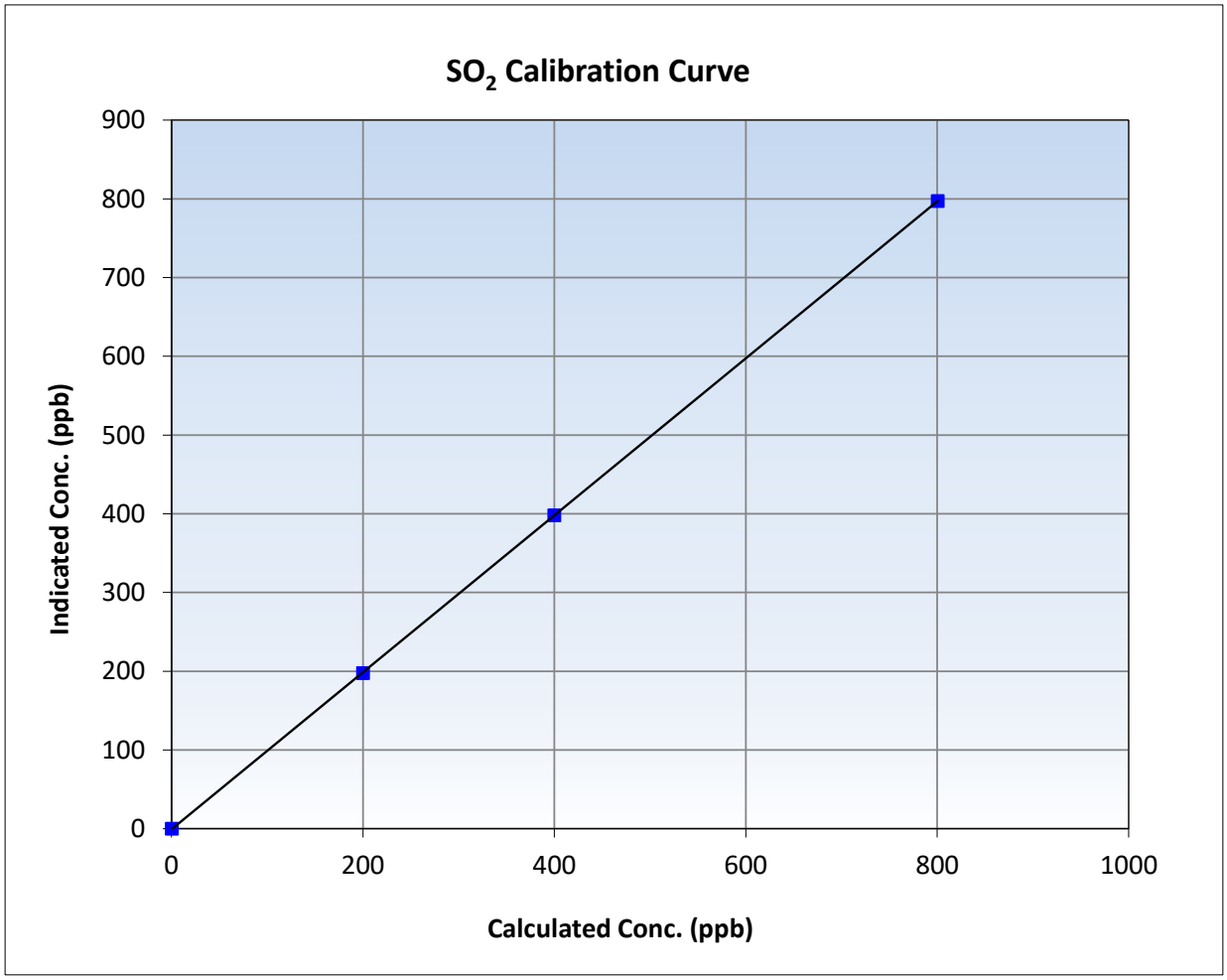
Station Information

Calibration Date:	October 24, 2025	Previous Calibration:	September 5, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	10:13	End Time (MST):	14:34
Analyzer make:	Thermo 43i	Analyzer serial #:	1170050150

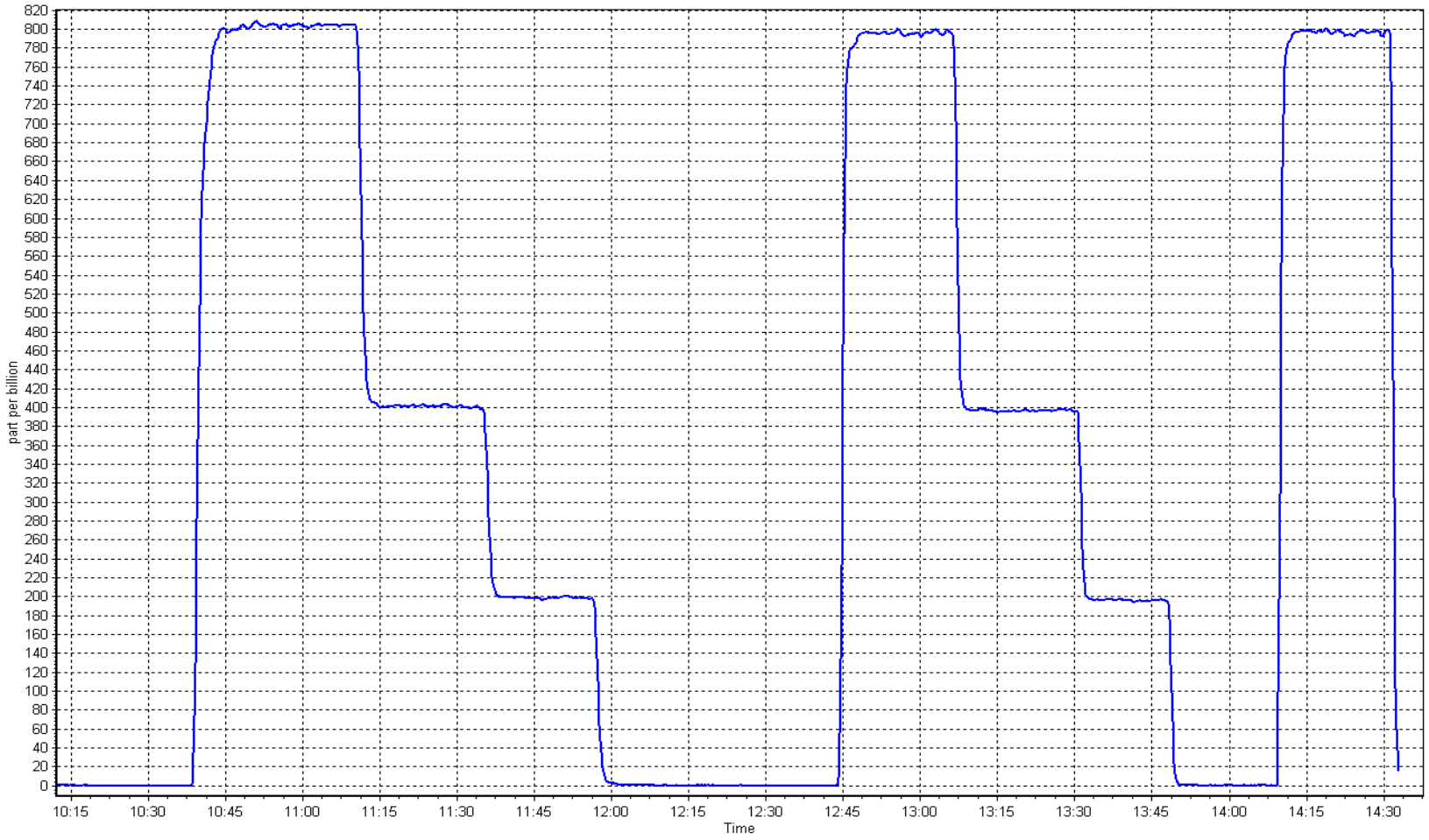
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
800.2	797.0	1.0040
399.6	397.9	1.0043
199.8	197.5	1.0116

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	0.996831	*0.90 - 1.10*
Intercept	-0.740911	*+/-30*



SO2 Calibration Plot Date: October 24, 2025 Location: Surmont 2



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Surmont 2	Station number:	AMS 29
Calibration Date:	October 2, 2025	Last Cal Date:	September 9, 2025
Start time (MST):	9:29	End time (MST):	14:42
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.750	ppm	Cal Gas Exp Date:	August 28, 2027
Cal Gas Cylinder #:	CC737848			
Removed Cal Gas Conc:	4.750	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	5472
ZAG Make/Model:	Teledyne API T701		Serial Number:	4428

Analyzer Information

Analyzer make:	Thermo 43iQ-TLE		Analyzer serial #:	1200326170
Converter make:	Global		Converter serial #:	2022-220
Analyzer Range	0 - 100 ppb		Converter Temp:	325.0 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	0.988594	0.996738	Backgd or Offset:	0.82	0.82
Calibration intercept:	-0.020475	-0.080477	Coeff or Slope:	1.040	1.040

H2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.0	----
As found High point	4916	84.2	80.0	80.8	0.990
As found Mid point	4958	42.1	40.0	40.3	0.992
As found Low point	4979	21.1	20.0	20.2	0.990
New cylinder response					

Baseline Corr As found:	80.8	Prev response:	79.05	*% change:	2.2%
Baseline Corr 2nd AF pt:	40.3	AF Slope:	1.010026	AF Intercept:	-0.020484
Baseline Corr 3rd AF pt:	20.2	AF Correlation:	0.999998	* = > +/-5% change initiates investigation	

H2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4916	84.2	80.0	79.7	1.004
Mid point	4958	42.1	40.0	39.7	1.007
Low point	4979	21.1	20.0	19.8	1.010
As left zero	5000	0.0	0.0	0.2	----
As left span	4916	84.2	80.0	78.4	1.020
SO2 Scrubber Check	4919	81.3	813.0	0.1	----

Date of last scrubber change:				Ave Corr Factor	1.007
Date of last converter efficiency test:		December 5, 2024		108.1%	efficiency

Notes: Changed sample inlet filter after as founds. Ran SOx scrubber check after cal zero, passed. No adjustments made.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

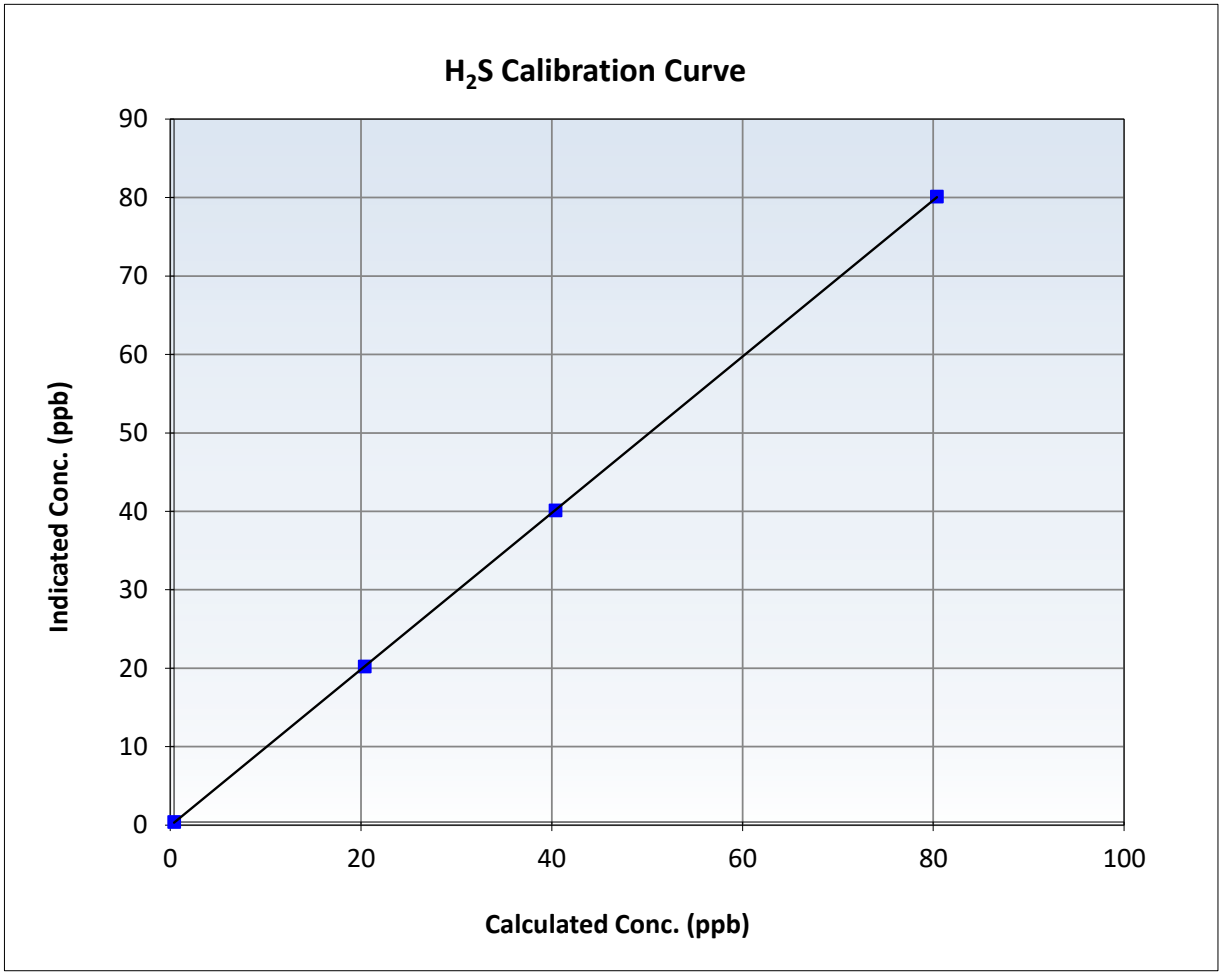
H2S Calibration Summary

Station Information

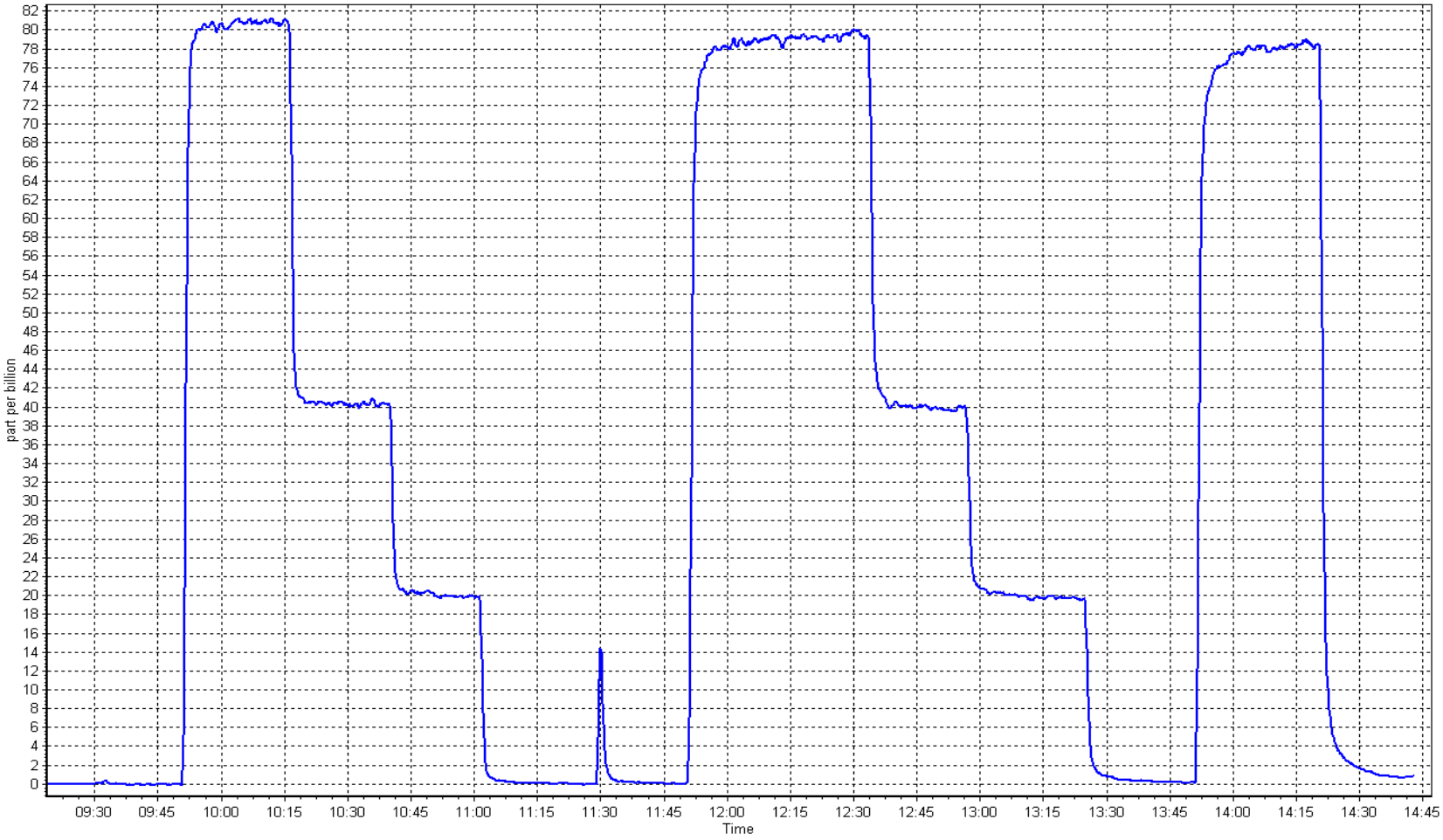
Calibration Date:	October 2, 2025	Previous Calibration:	September 9, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	9:29	End Time (MST):	14:42
Analyzer make:	Thermo 43iQ-TLE	Analyzer serial #:	1200326170

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.0	----	Correlation Coefficient	0.999995	*≥0.995*
80.0	79.7	1.0036	Slope	0.996738	*0.90 - 1.10*
40.0	39.7	1.0074			
20.0	19.8	1.0100	Intercept	-0.080477	*+/-3*



H2S Calibration Plot Date: October 2, 2025 Location: Surmont 2



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Surmont 2	Station number:	AMS 29
Calibration Date:	October 24, 2025	Last Cal Date:	September 5, 2025
Start time (MST):	10:12	End time (MST):	14:34
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC356229		Cal Gas Expiry Date:	October 9, 2032	
CH4 Cal Gas Conc.	503.7	ppm	CH4 Equiv Conc.	1066.9	ppm
C3H8 Cal Gas Conc.	204.8	ppm			
Removed Gas Cert:	NA		Removed Gas Expiry:	NA	
Removed CH4 Conc.	503.7	ppm	CH4 Equiv Conc.	1066.9	ppm
Removed C3H8 Conc.	204.8	ppm	Diff between cyl:		
Calibrator Make/Model:	Teledyne API T700		Serial Number:	5472	
ZAG Make/Model:	Teledyne API T701		Serial Number:	135	

Analyzer Information

Analyzer make: Thermo 51i-LT Analyzer serial #: 1170050149

Analyzer Range: 0 - 20 ppm

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.004862	0.998037	Background:	3.68	3.56
Calibration intercept:	-0.055723	-0.023967	Coefficient:	4.114	4.113

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	-0.13	----
As found High point	4920	80.1	17.09	16.81	1.009
As found Mid point	4960	40.0	8.54	8.26	1.017
As found Low point	4980	20.0	4.27	4.01	1.031
New cylinder response					
Baseline Corr As found:	16.94	Previous response	17.12	*% change	-1.0%
Baseline Corr 2nd AF pt:	8.39	AF Slope:	0.992642	AF Intercept:	-0.182390
Baseline Corr 3rd AF pt:	4.14	AF Correlation:	0.999961	* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.03	----
High point	4920	80.1	17.09	17.06	1.002
Mid point	4960	40.0	8.54	8.47	1.008
Low point	4980	20.0	4.27	4.18	1.021
As left zero	5000	0.0	0.00	0.02	----
As left span	4920	80.1	17.09	17.12	0.998
				Average Correction Factor	1.010

Notes: Changed sample inlet filter after as founds. Adjusted zero and span.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

THC Calibration Summary

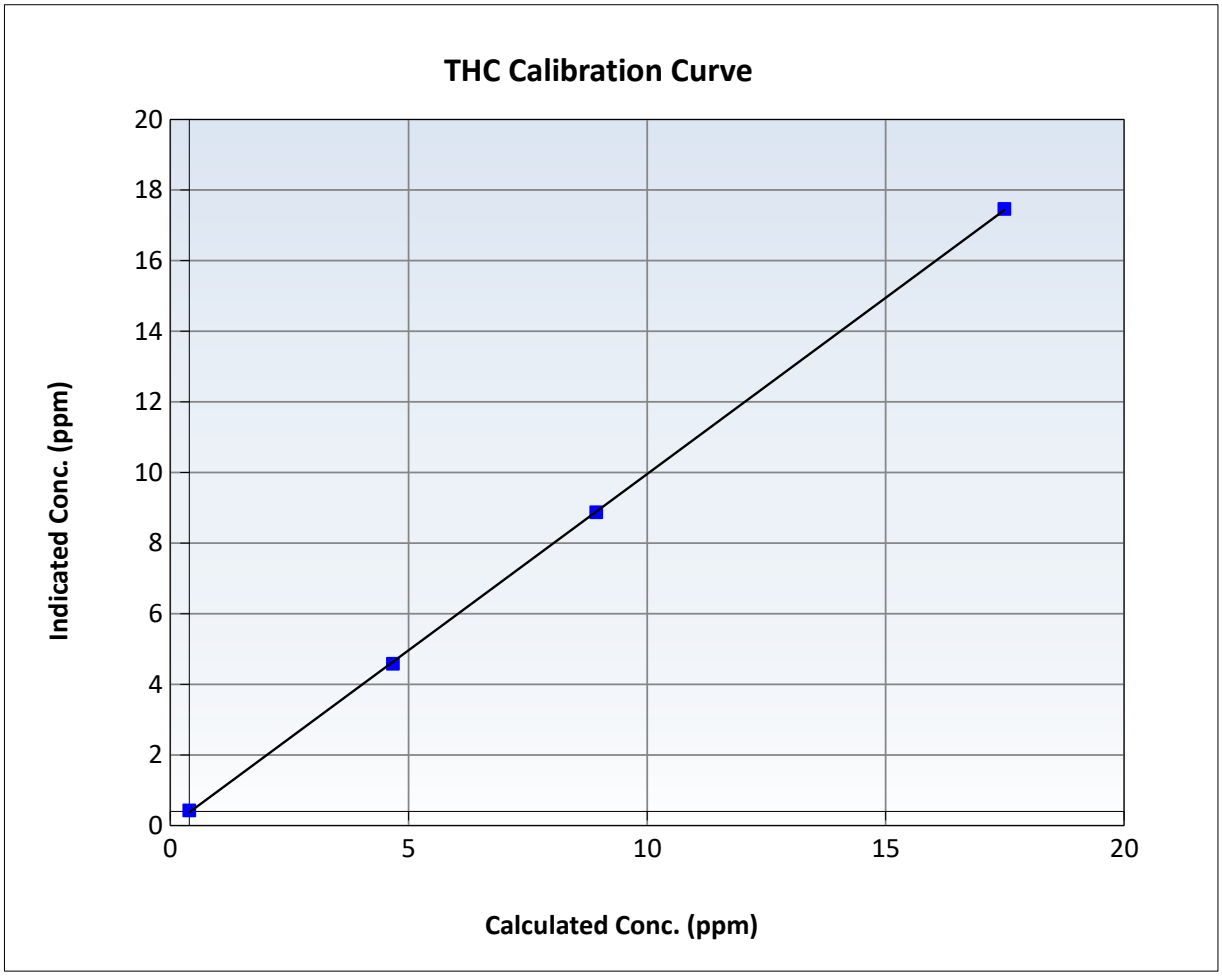
Station Information

Calibration Date:	October 24, 2025	Previous Calibration:	September 5, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	10:12	End Time (MST):	14:34
Analyzer make:	Thermo 51i-LT	Analyzer serial #:	1170050149

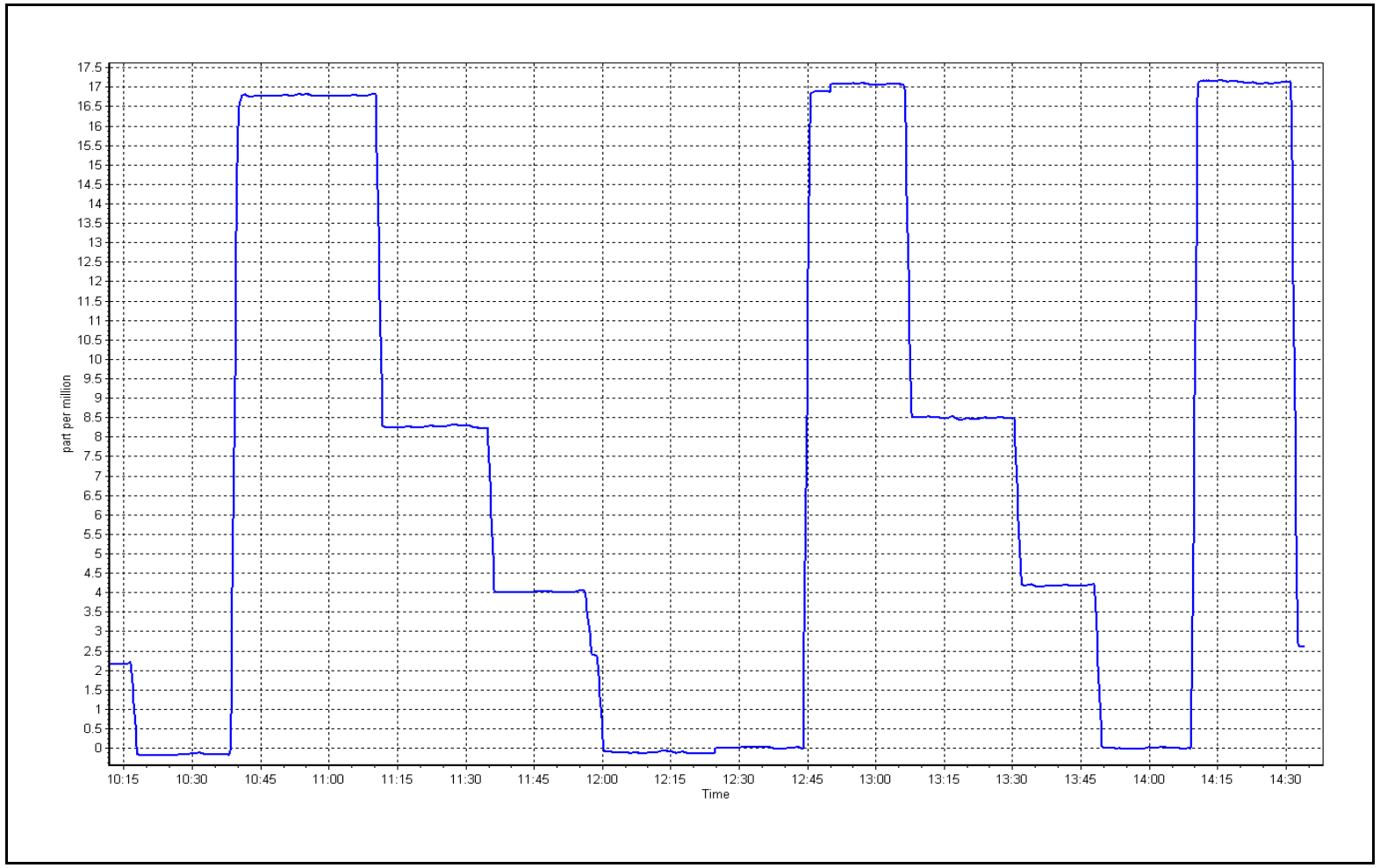
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.03	----
17.09	17.06	1.0019
8.54	8.47	1.0077
4.27	4.18	1.0207

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999956	*≥0.995*
Slope	0.998037	*0.90 - 1.10*
Intercept	-0.023967	*+/-1.5*



THC Calibration Plot Date: October 24, 2025 Location: Surmont 2



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Surmont 2
Station number:	AMS 29
Calibration Date:	October 3, 2025
Last Cal Date:	September 4, 2025
Start time (MST):	9:36
End time (MST):	16:30
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	CC218007	Cal Gas Expiry Date:	January 9, 2032
NOX Cal Gas Conc:	60.20 ppm	NO Cal Gas Conc:	60.00 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	60.20 ppm	Removed Gas NO Conc:	60.00 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	5472
ZAG make/model:	Teledyne API T701	Serial Number:	4428

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0	0.0	0.0	0.0	-0.5	-0.3	-0.2	----	----
AF High point	4933	66.7	803.1	800.4	2.7	813.0	805.0	7.9	0.9872	0.9940
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	801.4 ppb	NO =	797.7 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = 1.5%
Baseline Corr 1st pt	NO_X =	813.5 ppb	NO =	805.3 ppb	As Found Statistics	*Percent Change	NO = 0.9%
Baseline Corr 2nd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO_X r^2:	Nx Sl:	Nx Int:
Baseline Corr 3rd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO r^2:	NO Sl:	NO Int:
					As found NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1170050148

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.042	1.036	NO bkgnd or offset:	1.5	1.3
NOX coeff or slope:	0.996	0.992	NOX bkgnd or offset:	1.9	1.5
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	151.0	149.8

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.998556	0.984898
NO_X Cal Offset:	-0.568938	2.354041
NO Cal Slope:	0.999656	0.989195
NO Cal Offset:	-2.488482	-0.025951
NO_2 Cal Slope:	1.005325	1.001984
NO_2 Cal Offset:	-0.127845	0.056024

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	----
High point	4933	66.7	803.1	800.4	2.7	790.4	790.0	0.4	1.0161	1.0132
Mid point	4967	33.3	400.9	399.6	1.3	403.7	400.6	3.1	0.9931	0.9974
Low point	4983	16.7	201.1	200.4	0.7	199.2	194.6	4.6	1.0094	1.0299
As left zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	----
As left span	4933	66.7	803.1	433.1	370.0	803.0	433.1	369.7	1.0001	1.0000
								Average Correction Factor	1.0062	1.0135

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.0	----	----
High GPT point	796.0	422.7	376.0	376.5	0.9986	100.1%
Mid GPT point	796.0	622.2	176.5	177.7	0.9931	100.7%
Low GPT point	796.0	710.3	88.4	88.1	1.0030	99.7%
				Average Correction Factor	0.9982	100.2%

Notes: Changed sample inlet filter after as founds. Adjusted zero and span.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

NO_X Calibration Summary

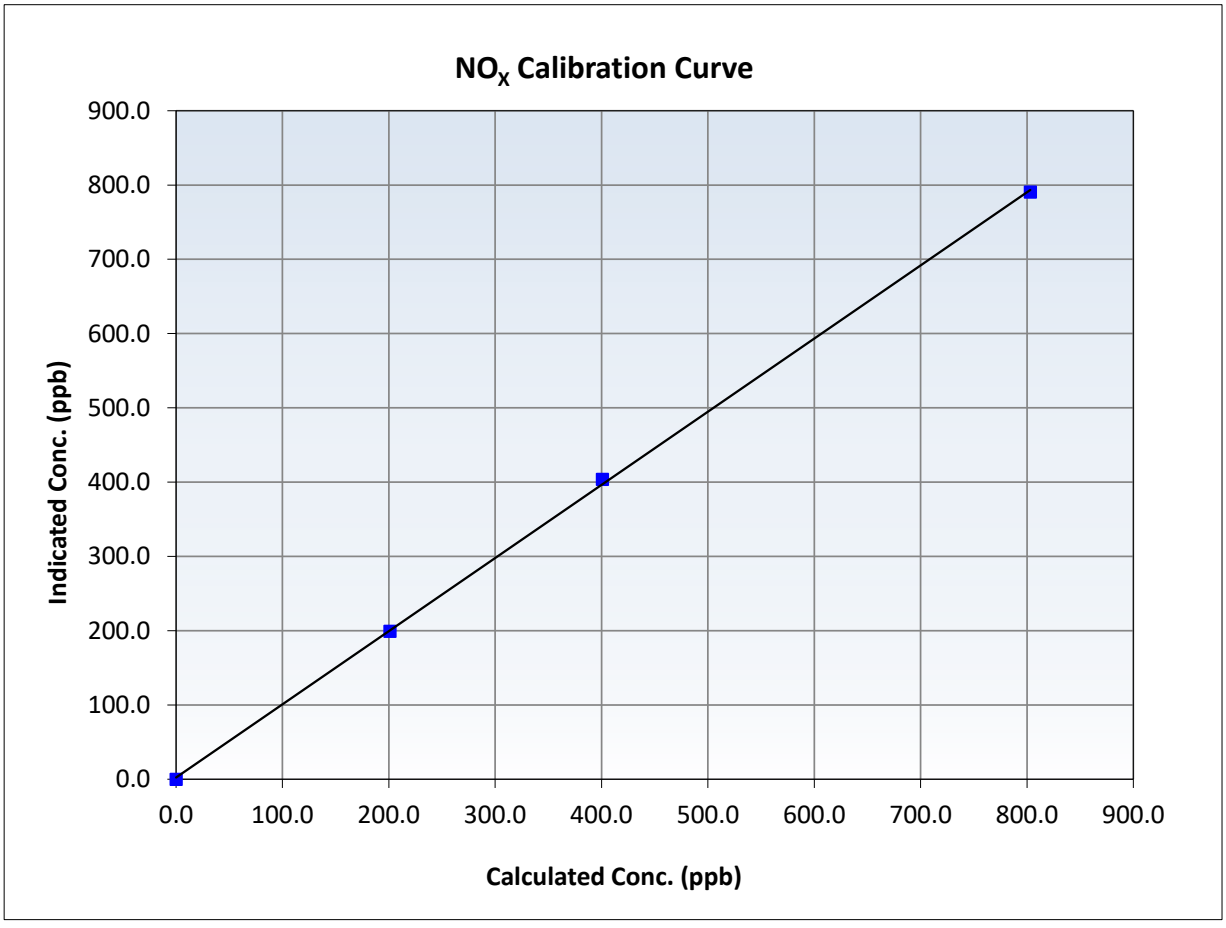
Station Information

Calibration Date:	October 3, 2025	Previous Calibration:	September 4, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	9:36	End Time (MST):	16:30
Analyzer make:	Thermo 42i	Analyzer serial #:	1170050148

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
803.1	790.4	1.0161
400.9	403.7	0.9931
201.1	199.2	1.0094

Statistical Evaluation		Limits
Correlation Coefficient	0.999831	≥0.995
Slope	0.984898	0.90 - 1.10
Intercept	2.354041	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

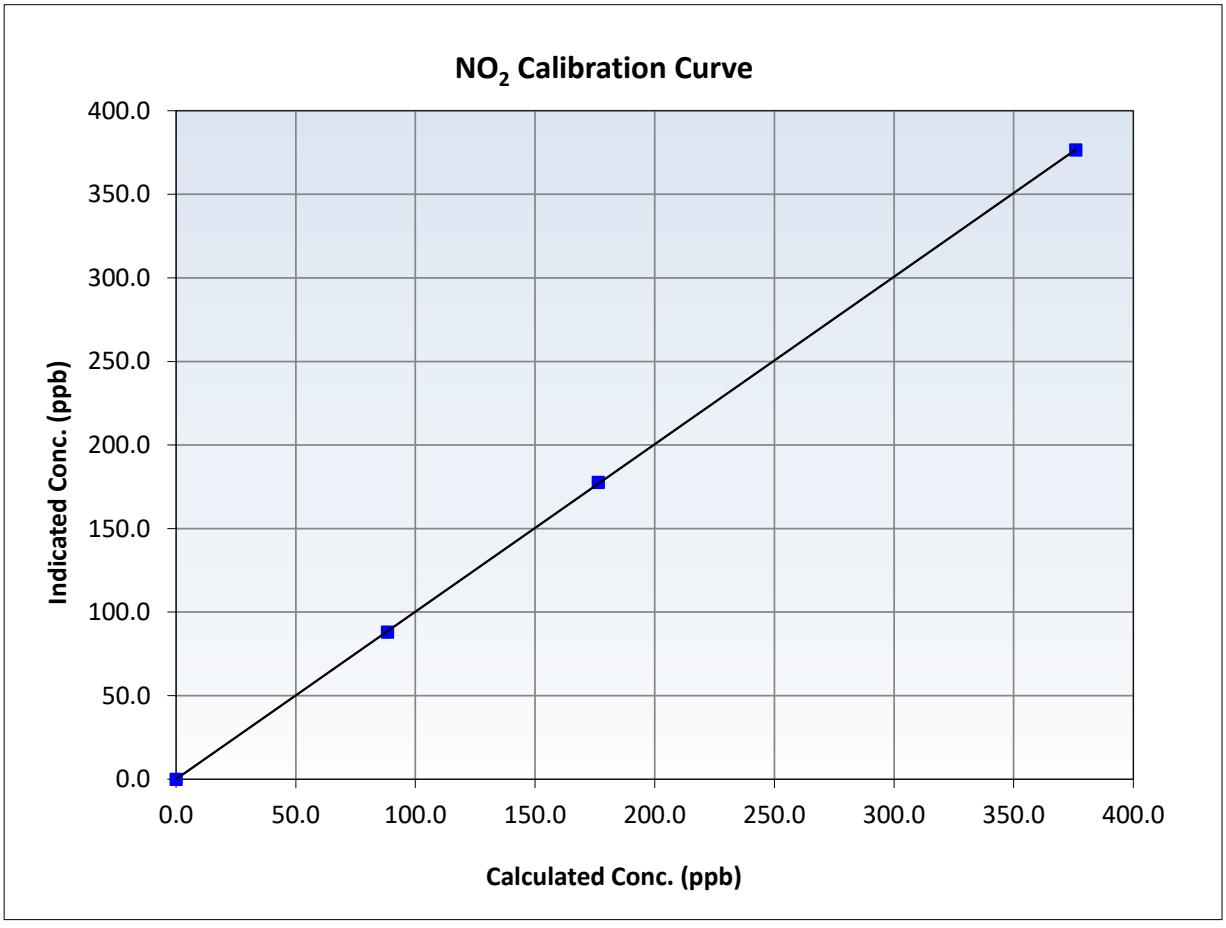
Station Information

Calibration Date:	October 3, 2025	Previous Calibration:	September 4, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	9:36	End Time (MST):	16:30
Analyzer make:	Thermo 42i	Analyzer serial #:	1170050148

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
376.0	376.5	0.9986
176.5	177.7	0.9931
88.4	88.1	1.0030

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999987	*≥0.995*
Slope	1.001984	*0.90 - 1.10*
Intercept	0.056024	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

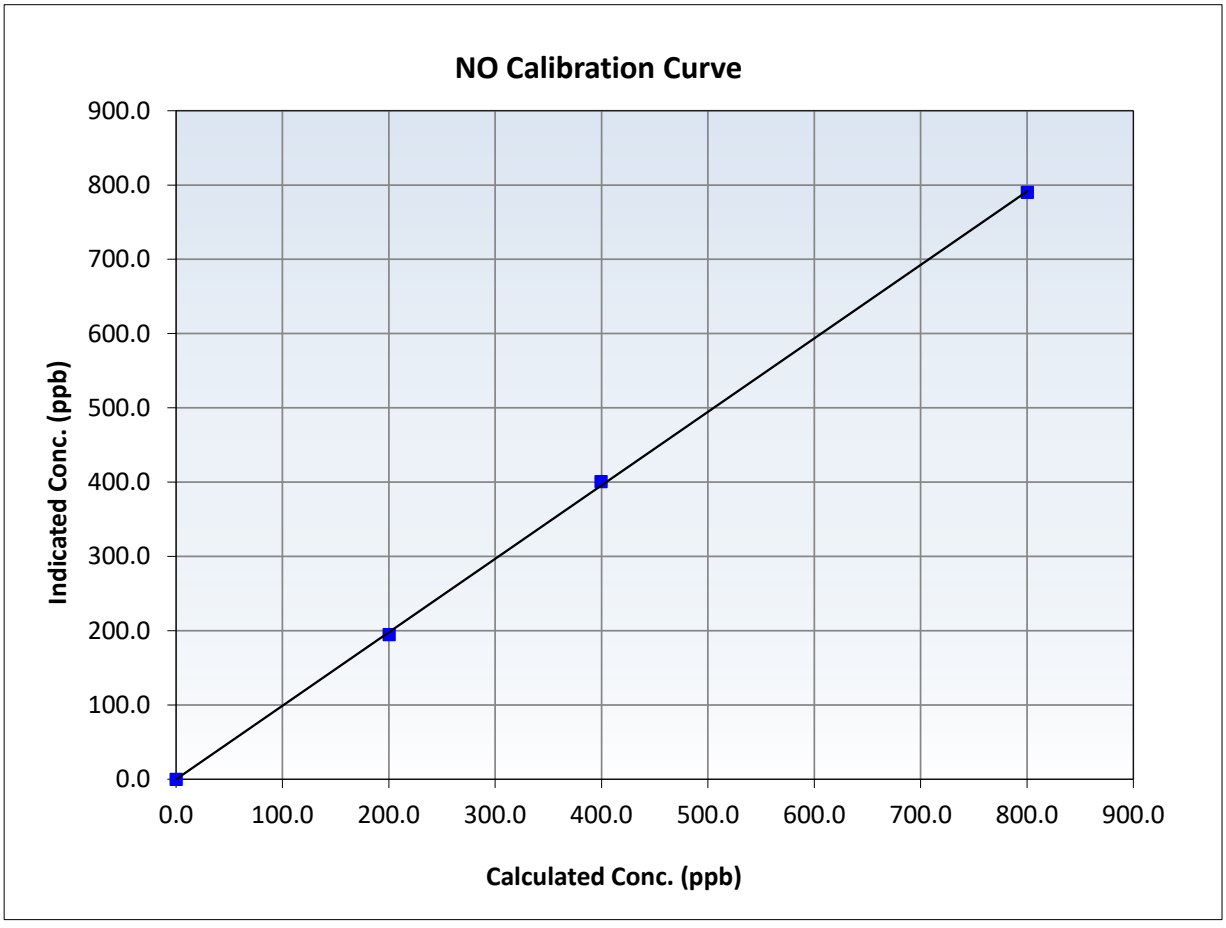
Station Information

Calibration Date:	October 3, 2025	Previous Calibration:	September 4, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	9:36	End Time (MST):	16:30
Analyzer make:	Thermo 42i	Analyzer serial #:	1170050148

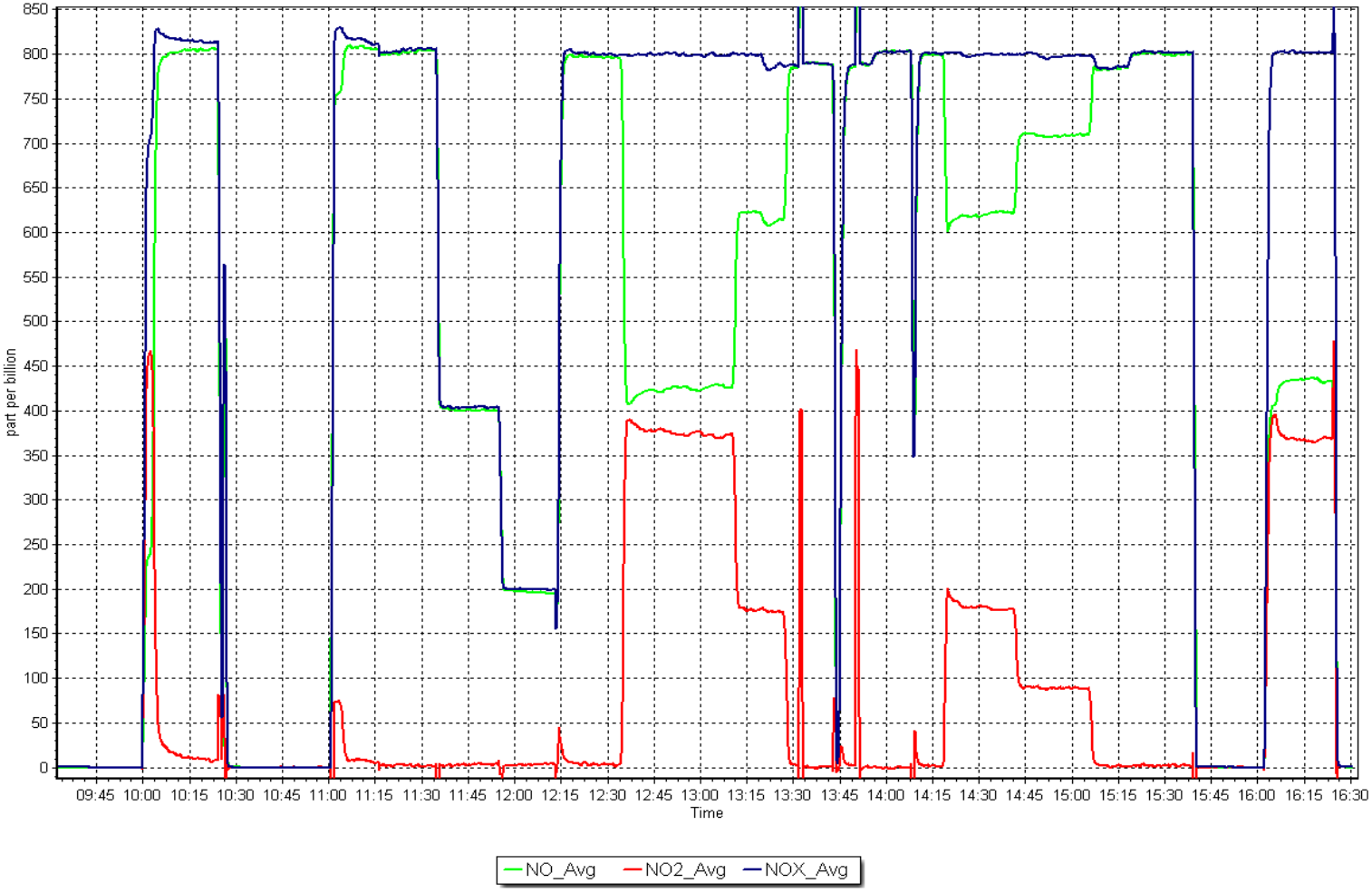
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
800.4	790.0	1.0132
399.6	400.6	0.9974
200.4	194.6	1.0299

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999869	*≥0.995*
Slope	0.989195	*0.90 - 1.10*
Intercept	-0.025951	*+/-20*



NO_X Calibration Plot Date: October 3, 2025 Location: Surmont 2



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Surmont 2	Station number:	AMS 29
Calibration Date:	October 24, 2025	Last Cal Date:	September 9, 2025
Start time (MST):	10:25	End time (MST):	12:15
Analyzer Make:	API T640	S/N:	2236
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388754
Temp/RH standard:	Alicat FP-25BT	S/N:	388754

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (°C)	7.3	7.55	7.3	☐	+/- 2 °C
P (mmHg)	704.0	702.4	704.0	☐	+/- 10 mmHg
Flow (LPM)	5.00	4.952	5.00	☐	+/- 0.25 LPM
PW% (pump)	50	-----	50	☐	>80%
Zero Verification	PM w/o HEPA:	3.1	PM w/ HEPA:	0.0	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.9 — Expiry Date: July 16, 2026 — Lot No.: 100128-050-050

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test	10.7	10.9	10.9	☐	+/- 0.5

Date Optical Chamber Cleaned: October 24, 2025

Date Disposable Filter Changed: October 24, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0.0 <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: April 14, 2025

Date RH/T Sensor Cleaned: July 15, 2025

Notes: Verified temperature, pressure and flow. Leak check passed. Noted high pump PW% change, will replace next month.

Calibration by: Braiden Boutilier

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS30
ELLS RIVER
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Ells River	Station number:	AMS 30
Calibration Date:	October 14, 2025	Last Cal Date:	September 8, 2025
Start time (MST):	9:49	End time (MST):	12:28
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	48.75	ppm	Cal Gas Exp Date:	March 10, 2031
Cal Gas Cylinder #:	CC350110			
Removed Cal Gas Conc:	48.75	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	API T700		Serial Number:	3061
Zero Air Gen Model:	API T701H		Serial Number:	358

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1008841397	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	0.998444	0.994713	Backgd or Offset:	10.6	10.6
Calibration intercept:	-3.132072	-2.552091	Coeff or Slope:	0.991	0.991

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.4	----
As found High point	4918	82.0	799.5	793.6	1.007
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	794.0	Previous response	795.1	*% change	-0.1%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.1	----
High point	4918	82.0	799.5	794.3	1.007
Mid point	4959	41.0	399.8	393.0	1.017
Low point	4980	20.5	199.9	194.1	1.030
As left zero	5000	0.0	0.0	-0.1	----
As left span	4918	82.0	799.5	796.6	1.004
				Average Correction Factor:	1.018

Notes: Sample inlet filter was changed after as founds. No adjustment made.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

SO_2 Calibration Summary

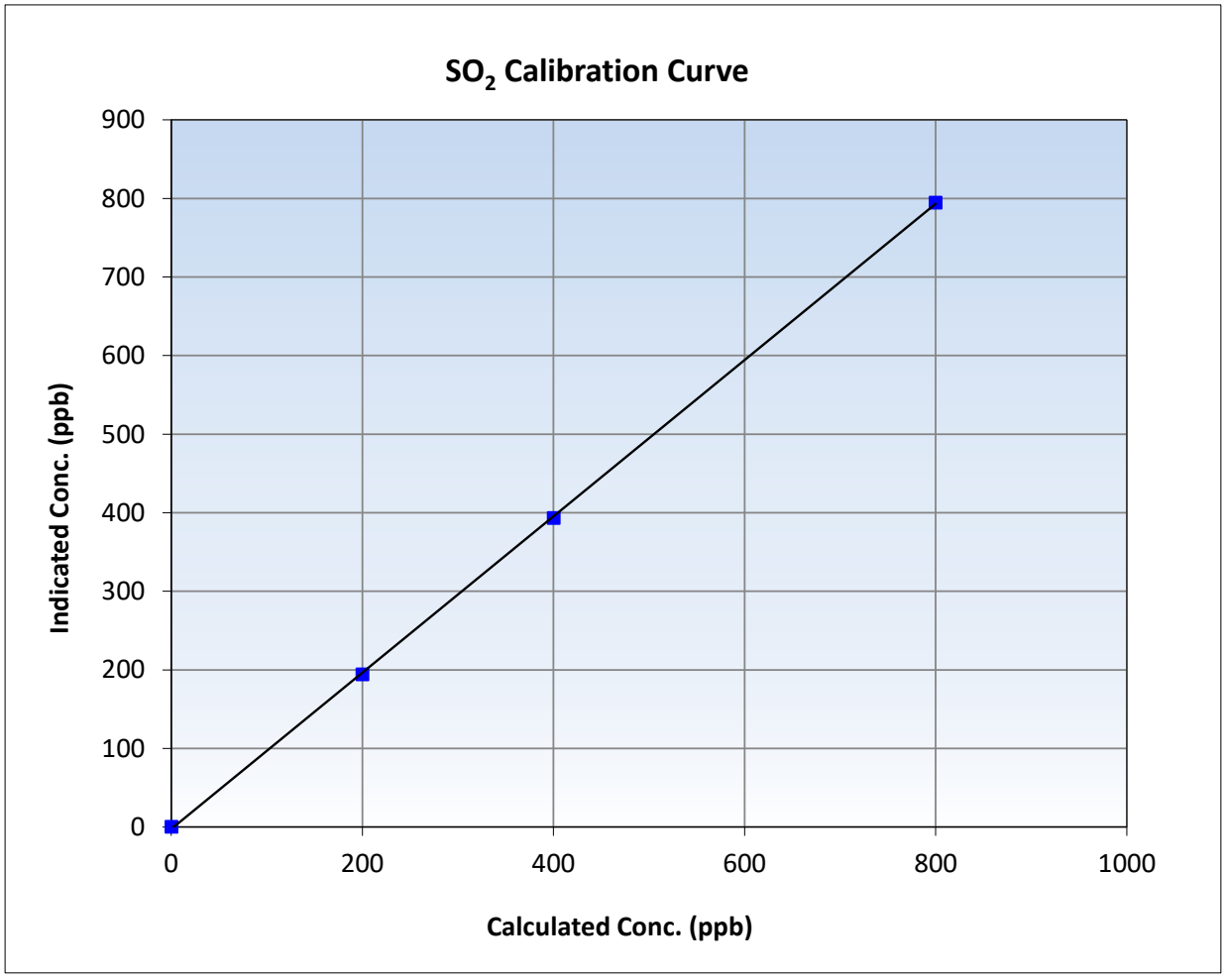
Station Information

Calibration Date:	October 14, 2025	Previous Calibration:	September 8, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	9:49	End Time (MST):	12:28
Analyzer make:	Thermo 43i	Analyzer serial #:	1008841397

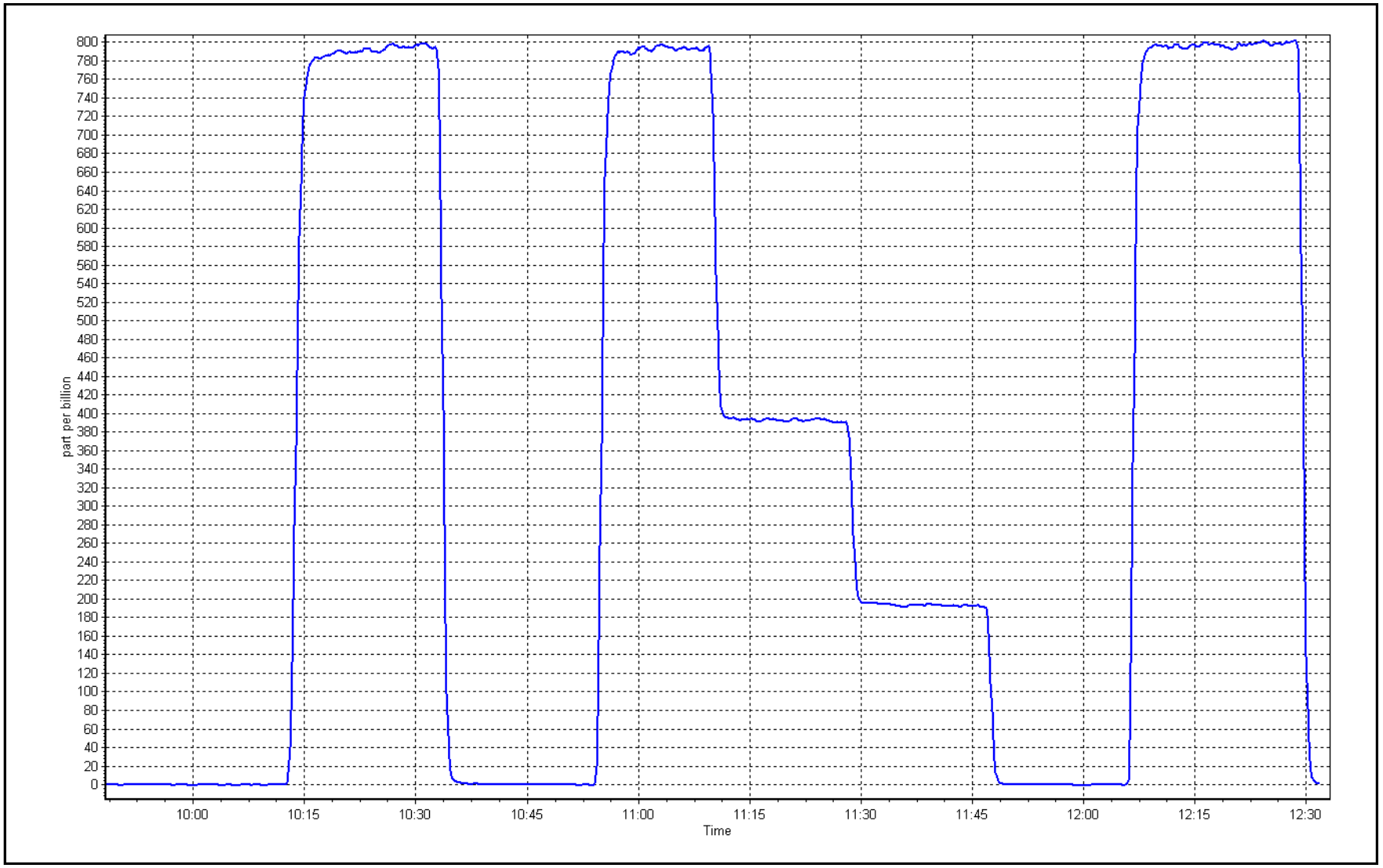
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
799.5	794.3	1.0065
399.8	393.0	1.0172
199.9	194.1	1.0296

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999947	*≥0.995*
Slope	0.994713	*0.90 - 1.10*
Intercept	-2.552091	*+/-30*



SO2 Calibration Plot Date: October 14, 2025 Location: Ells River



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Ells River	Station number:	AMS 30
Calibration Date:	October 1, 2025	Last Cal Date:	September 15, 2025
Start time (MST):	9:55	End time (MST):	13:38
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.99	ppm	Cal Gas Exp Date:	November 15, 2026
Cal Gas Cylinder #:	CC505806			
Removed Cal Gas Conc:	4.99	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	3061
ZAG Make/Model:	API 701H		Serial Number:	358

Analyzer Information

Analyzer make:	Thermo 43iq TL		Analyzer serial #:	12426335708
Converter make:	CDN- 101		Converter serial #:	562
Analyzer Range	0 - 100 ppb		Converter Temp:	800 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	0.998054	1.000049	Backgd or Offset:	1.5	1.19
Calibration intercept:	-0.360734	0.019440	Coeff or Slope:	1.057	1.095

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.4	----
As found High point	4920	80.2	80.0	76.0	1.048
As found Mid point	4960	40.1	40.0	38.0	1.042
As found Low point	4980	20.0	20.0	18.6	1.051
New cylinder response					
Baseline Corr As found:	76.4	Prev response:	79.52	*% change:	-4.1%
Baseline Corr 2nd AF pt:	38.4	AF Slope:	0.955079	AF Intercept:	-0.381437
Baseline Corr 3rd AF pt:	19.0	AF Correlation:	0.999989	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4920	80.2	80.0	80.0	1.000
Mid point	4960	40.1	40.0	40.2	0.995
Low point	4980	20.0	20.0	19.9	1.003
As left zero	5000	0.0	0.0	0.1	----
As left span	4920	80.2	80.0	81.2	0.986
SO2 Scrubber Check	4918	82.0	820.0	0.1	----
Date of last scrubber change:		13-Aug-25		Ave Corr Factor	1.000
Date of last converter efficiency test:					

Notes: Sample inlet filter was changed after multipoint as founds. Adjusted zero and span. SO2 scrubber check done and passed.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

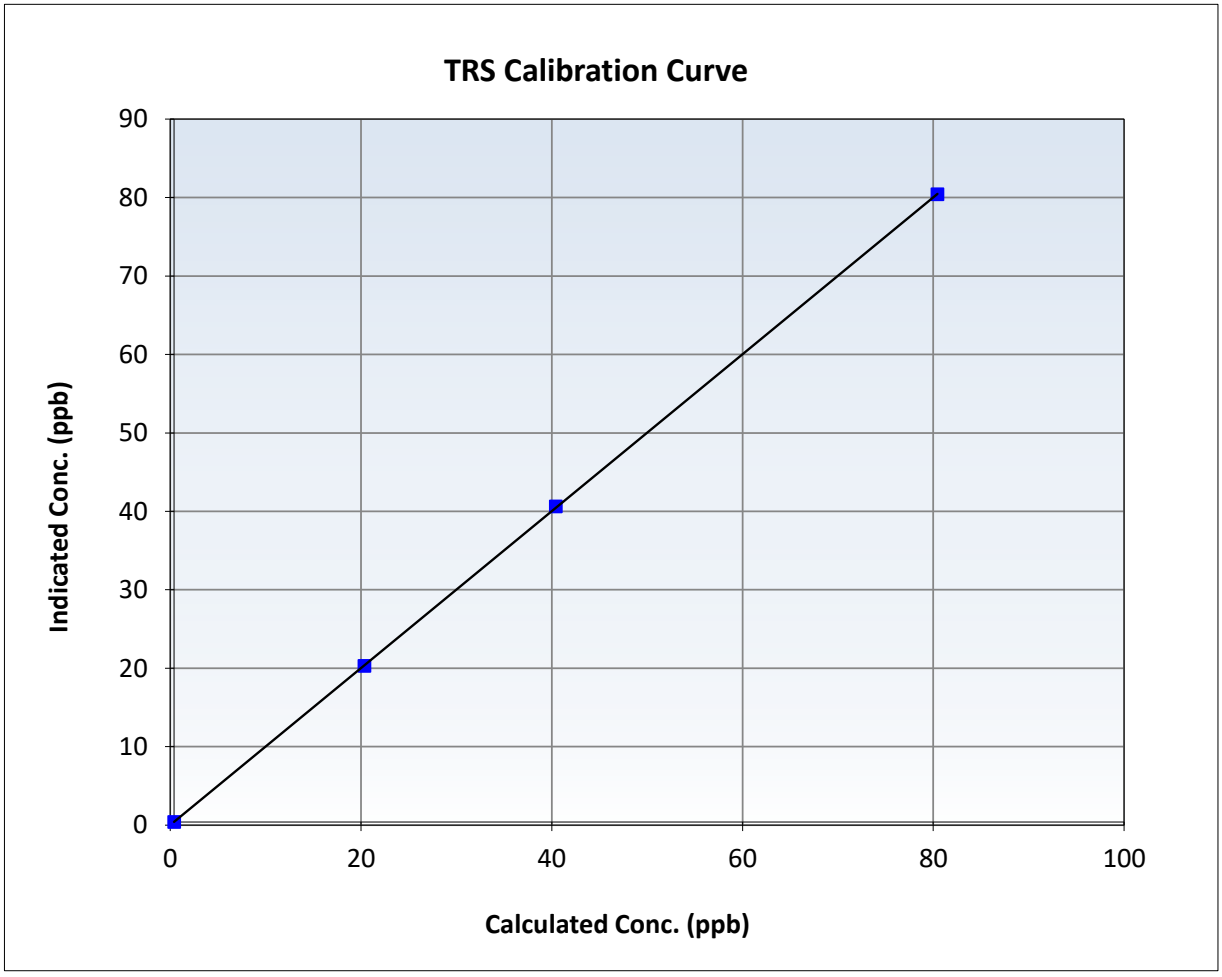
TRS Calibration Summary

Station Information

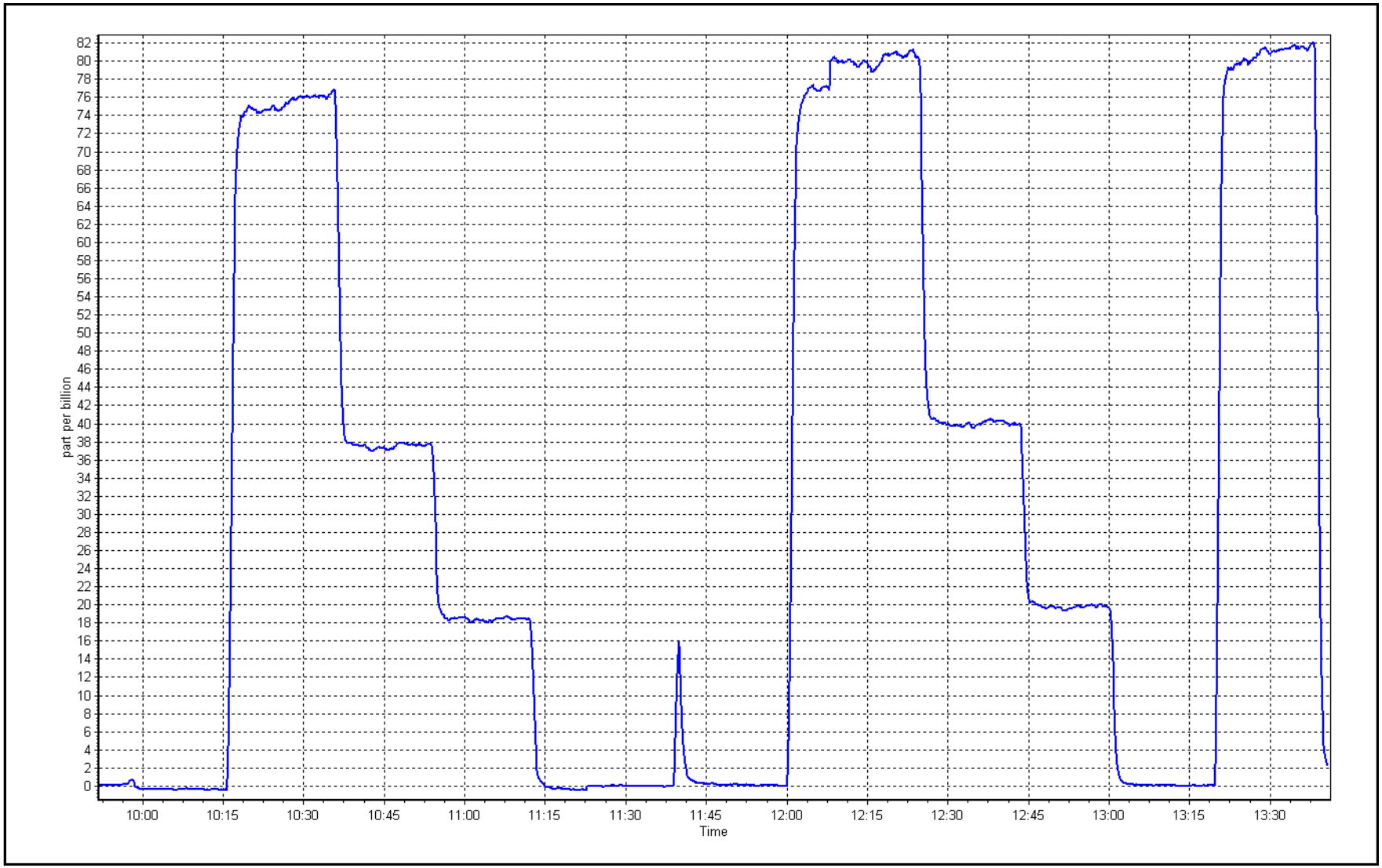
Calibration Date:	October 1, 2025	Previous Calibration:	September 15, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	9:55	End Time (MST):	13:38
Analyzer make:	Thermo 43iq TL	Analyzer serial #:	12426335708

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.0	----	Correlation Coefficient	0.999990	*≥0.995*
80.0	80.0	1.0005	Slope	1.000049	*0.90 - 1.10*
40.0	40.2	0.9955	Intercept	0.019440	*+/-3*
20.0	19.9	1.0030			



TRS Calibration Plot Date: October 1, 2025 Location: Ells River



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Ells River	Station number:	AMS 30
Calibration Date:	October 28, 2025	Last Cal Date:	October 1, 2025
Start time (MST):	8:30	End time (MST):	9:46
Reason:	Removal		

Calibration Standards

Cal Gas Concentration:	4.99	ppm	Cal Gas Exp Date:	November 15, 2026
Cal Gas Cylinder #:	CC505806			
Removed Cal Gas Conc:	4.99	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	3061
ZAG Make/Model:	API 701H		Serial Number:	358

Analyzer Information

Analyzer make:	Thermo 43iq TL		Analyzer serial #:	12426335708
Converter make:	CDN- 101		Converter serial #:	562
Analyzer Range	0 - 100 ppb		Converter Temp:	800 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.000049		Backgd or Offset:	1.2	NA
Calibration intercept:	0.019440		Coeff or Slope:	1.095	NA

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.0	----
As found High point	4920	80.2	80.0	81.3	0.984
As found Mid point	4960	40.1	40.0	40.4	0.991
As found Low point	4980	20.0	20.0	20.0	0.998
New cylinder response					

Baseline Corr As found:	81.3	Prev response:	80.06	*% change:	1.5%
Baseline Corr 2nd AF pt:	40.4	AF Slope:	1.016610	AF Intercept:	-0.160260
Baseline Corr 3rd AF pt:	20.0	AF Correlation:	0.999981	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero					
As left span					
SO2 Scrubber Check					

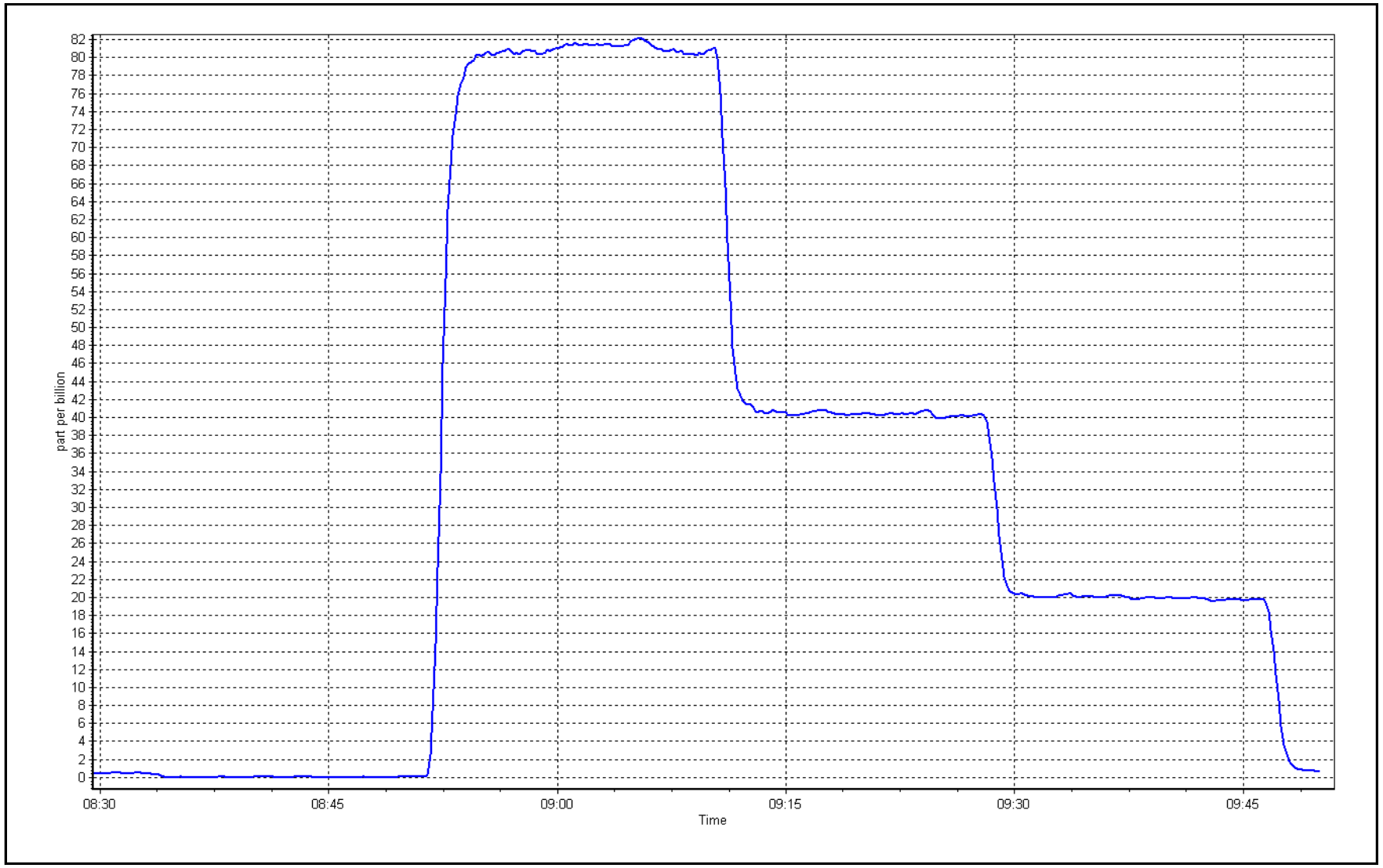
Date of last scrubber change: 13-Aug-25 Ave Corr Factor

Date of last converter efficiency test:

Notes: Removal calibrations done to do further troubleshooting at the shop.

Calibration Performed By: Jan Castro

TRS Calibration Plot Date: October 28, 2025 Location: Ells River



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Ells River	Station number:	AMS 30
Calibration Date:	October 30, 2025	Last Cal Date:	
Start time (MST):	9:25	End time (MST):	11:41
Reason:	Install		

Calibration Standards

Cal Gas Concentration:	4.99	ppm	Cal Gas Exp Date:	November 15, 2026
Cal Gas Cylinder #:	CC505806			
Removed Cal Gas Conc:	4.99	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	3061
ZAG Make/Model:	API 701H		Serial Number:	358

Analyzer Information

Analyzer make:	Thermo 43i-LTE		Analyzer serial #:	1170050152	
Converter make:	CDN- 101		Converter serial #:	CDN606	
Analyzer Range	0 - 100 ppb		Converter Temp:	860	degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:		0.997762	Backgd or Offset:		3.83
Calibration intercept:		-0.100519	Coeff or Slope:		1.140

TRS As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	NA	Prev response:	NA	*% change:	NA
Baseline Corr 2nd AF pt:	NA	AF Slope:	NA	AF Intercept:	NA
Baseline Corr 3rd AF pt:	NA	AF Correlation:	NA	* = > +/-5% change initiates investigation	

TRS Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4920	80.2	80.0	79.9	1.002
Mid point	4960	40.1	40.0	39.5	1.013
Low point	4980	20.0	20.0	19.9	1.003
As left zero	5000	0.0	0.0	-0.2	----
As left span	4920	80.2	80.0	81.7	0.980
SO2 Scrubber Check	5000	80.0	787.4	-0.1	----
Date of last scrubber change:		13-Aug-25		Ave Corr Factor	1.006
Date of last converter efficiency test:					

Notes: Install of new analyzer and converter. All lines replaced. Sox scrubber checked after calibrator zero. Zero and Span adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

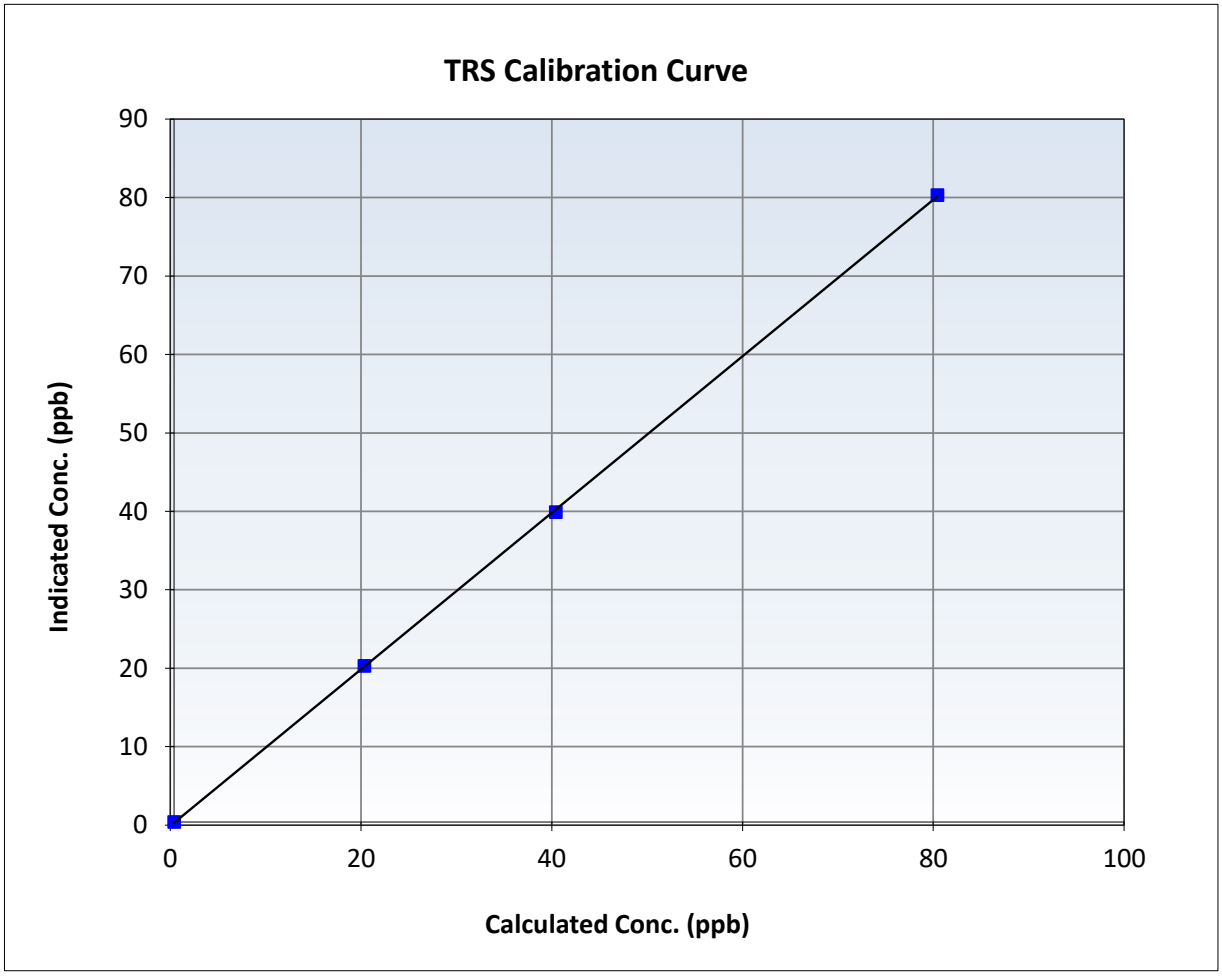
TRS Calibration Summary

Station Information

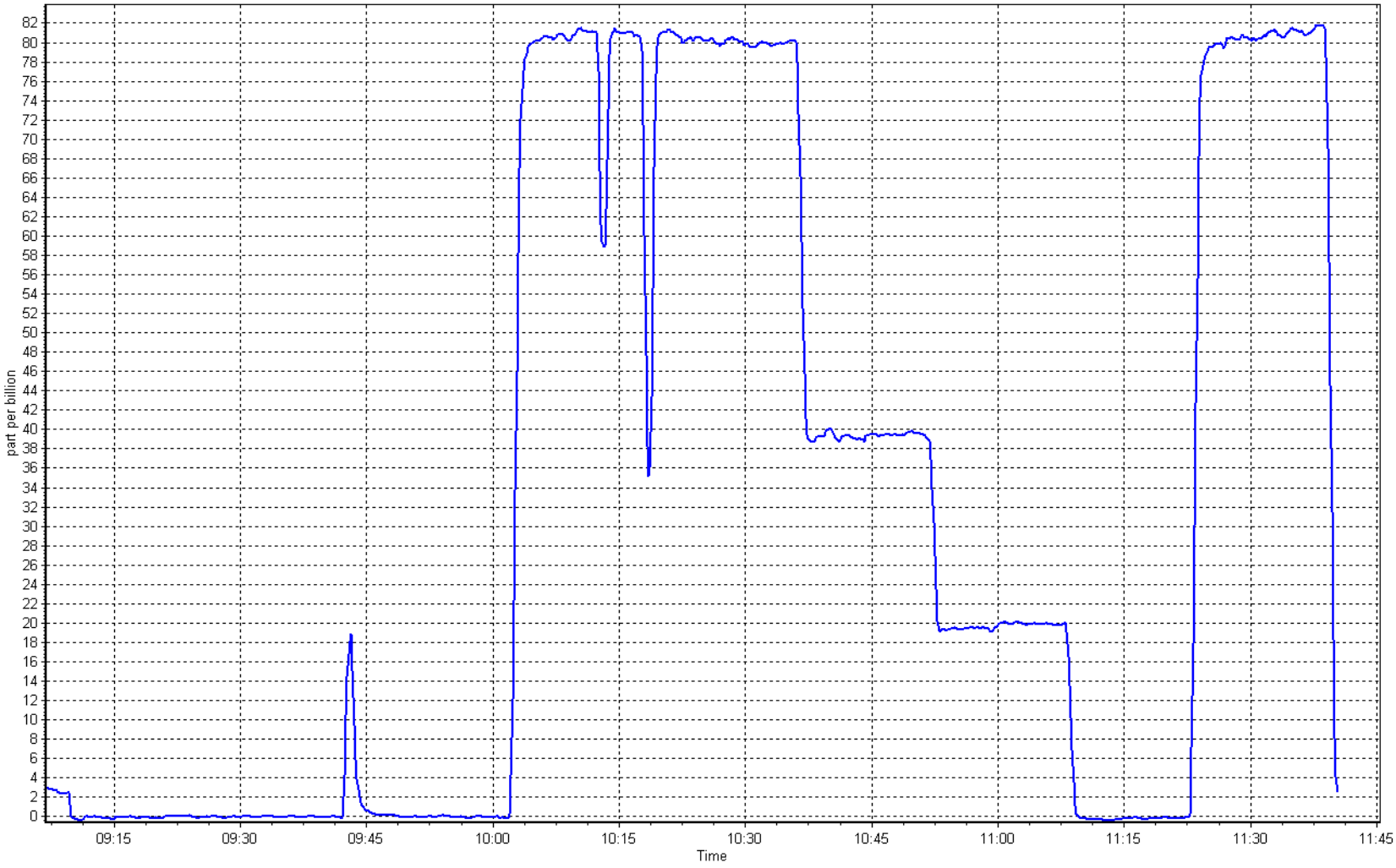
Calibration Date:	October 30, 2025	Previous Calibration:	
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	9:25	End Time (MST):	11:41
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1170050152

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.0	----	Correlation Coefficient	0.999958	*≥0.995*
80.0	79.9	1.0017	Slope	0.997762	*0.90 - 1.10*
40.0	39.5	1.0131			
20.0	19.9	1.0030	Intercept	-0.100519	*+/-3*



TRS Calibration Plot Date: October 30, 2025 Location: Ells River



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Ells River	Station number:	AMS 30
Calibration Date:	October 14, 2025	Last Cal Date:	September 8, 2025
Start time (MST):	9:49	End time (MST):	12:28
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC350110		Cal Gas Expiry Date:	Monday, March 10, 2031	
CH4 Cal Gas Conc.	496.6	ppm	CH4 Equiv Conc.	1066.4	ppm
C3H8 Cal Gas Conc.	207.2	ppm			
Removed Gas Cert:	NA		Removed Gas Expiry:	NA	
Removed CH4 Conc.	496.6	ppm	CH4 Equiv Conc.	1066.4	ppm
Removed C3H8 Conc.	207.2	ppm	Diff between cyl (THC):		
Diff between cyl (CH_4):			Diff between cyl (NM):		
Calibrator Model:	API T700		Serial Number:	3061	
Zero Air Gen model:	API T701H		Serial Number:	358	

Analyzer Information

Analyzer make:	Thermo 55i		Analyzer serial #:	1152430011	
THC Range:	0 - 20 ppm		NMHC/CH4 Range:	0 - 10 ppm	
	Start	***Finish***		***Start***	***Finish***
CH4 SP Ratio:	3.12E-04	3.12E-04	NMHC SP Ratio:	5.89E-05	5.89E-05
CH4 Retention time:	17.4	17.4	NMHC Peak Area:	157597	157597
Zero Chromatogram:	ON	ON	Flat Baseline:	OFF	OFF

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4918	82.0	17.49	17.43	1.003
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	17.43	Prev response	17.48	*% change	-0.3%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/(Ic-AFzero)) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4918	82.0	17.49	17.43	1.003
Mid point	4959	41.0	8.74	8.63	1.014
Low point	4980	20.5	4.37	4.25	1.028
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	82.0	17.49	17.37	1.007
				Average Correction Factor	1.015

Notes: Sample inlet filter was changed after as founds. No adjustment made.

Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

NMHC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4918	82.0	9.34	9.31	1.004
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.31	Prev response	9.37	*% change	-0.7%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

NMHC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4918	82.0	9.34	9.33	1.001
Mid point	4959	41.0	4.67	4.62	1.010
Low point	4980	20.5	2.34	2.29	1.018
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	82.0	9.34	9.27	1.008
				Average Correction Factor	1.010

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.00	----
As found High point	4918	82.0	8.14	8.12	1.002
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.12	Prev response	8.12	*% change	0.1%
Baseline Corr 2nd AF:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

CH4 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4918	82.0	8.14	8.10	1.005
Mid point	4959	41.0	4.07	4.00	1.017
Low point	4980	20.5	2.04	1.96	1.040
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	82.0	8.14	8.10	1.006
				Average Correction Factor	1.021

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	1.003028	0.998290
THC Cal Offset:	-0.059225	-0.060226
CH4 Cal Slope:	1.001618	0.997226
CH4 Cal Offset:	-0.041319	-0.036919
NMHC Cal Slope:	1.004280	0.999437
NMHC Cal Offset:	-0.018506	-0.023707

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

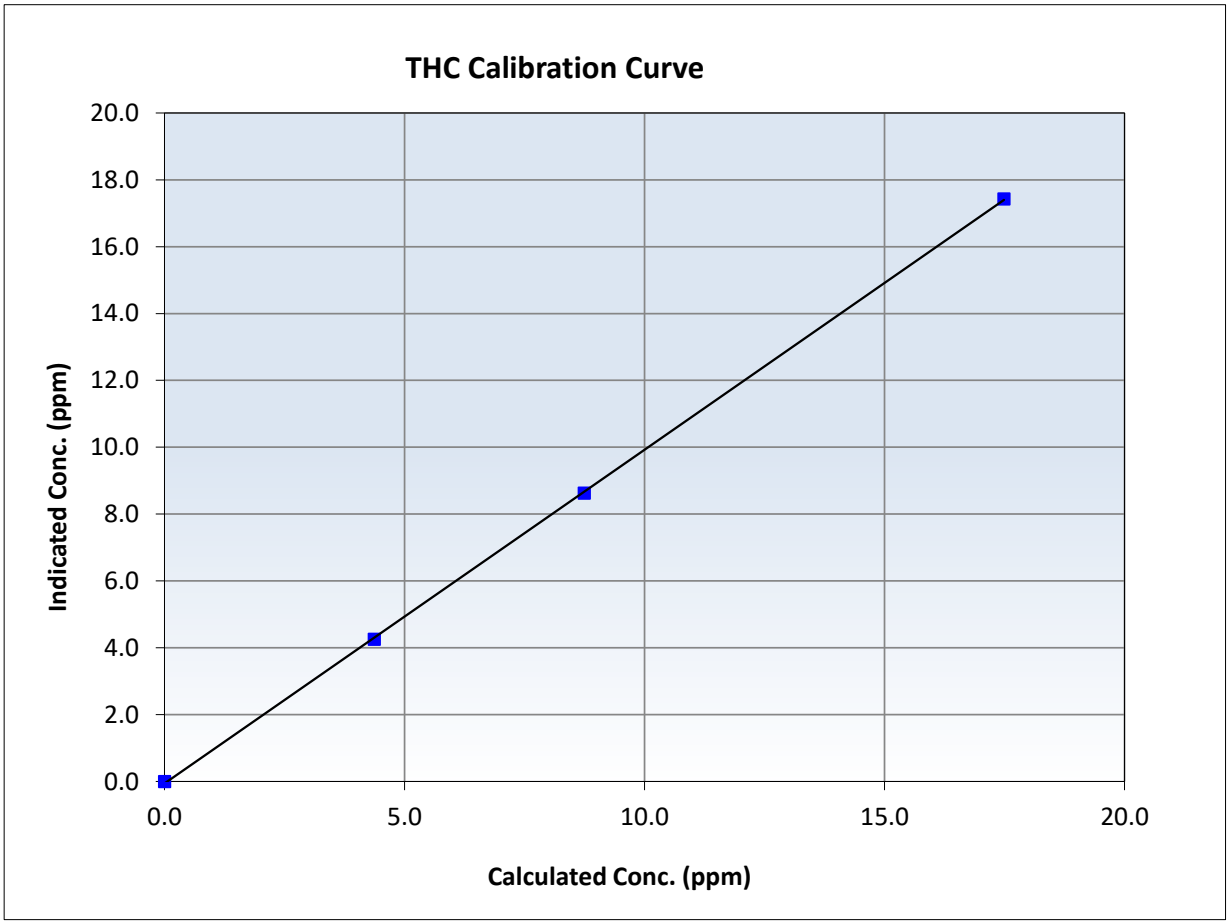
THC Calibration Summary

Station Information

Calibration Date:	October 14, 2025	Previous Calibration:	September 8, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	9:49	End Time (MST):	12:28
Analyzer make:	Thermo 55i	Analyzer serial #:	1152430011

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999944	*≥0.995*
17.49	17.43	1.0032	Slope	0.998290	*0.90 - 1.10*
8.74	8.63	1.0136	Intercept	-0.060226	*+/-0.5*
4.37	4.25	1.0282			



Wood Buffalo Environmental Association

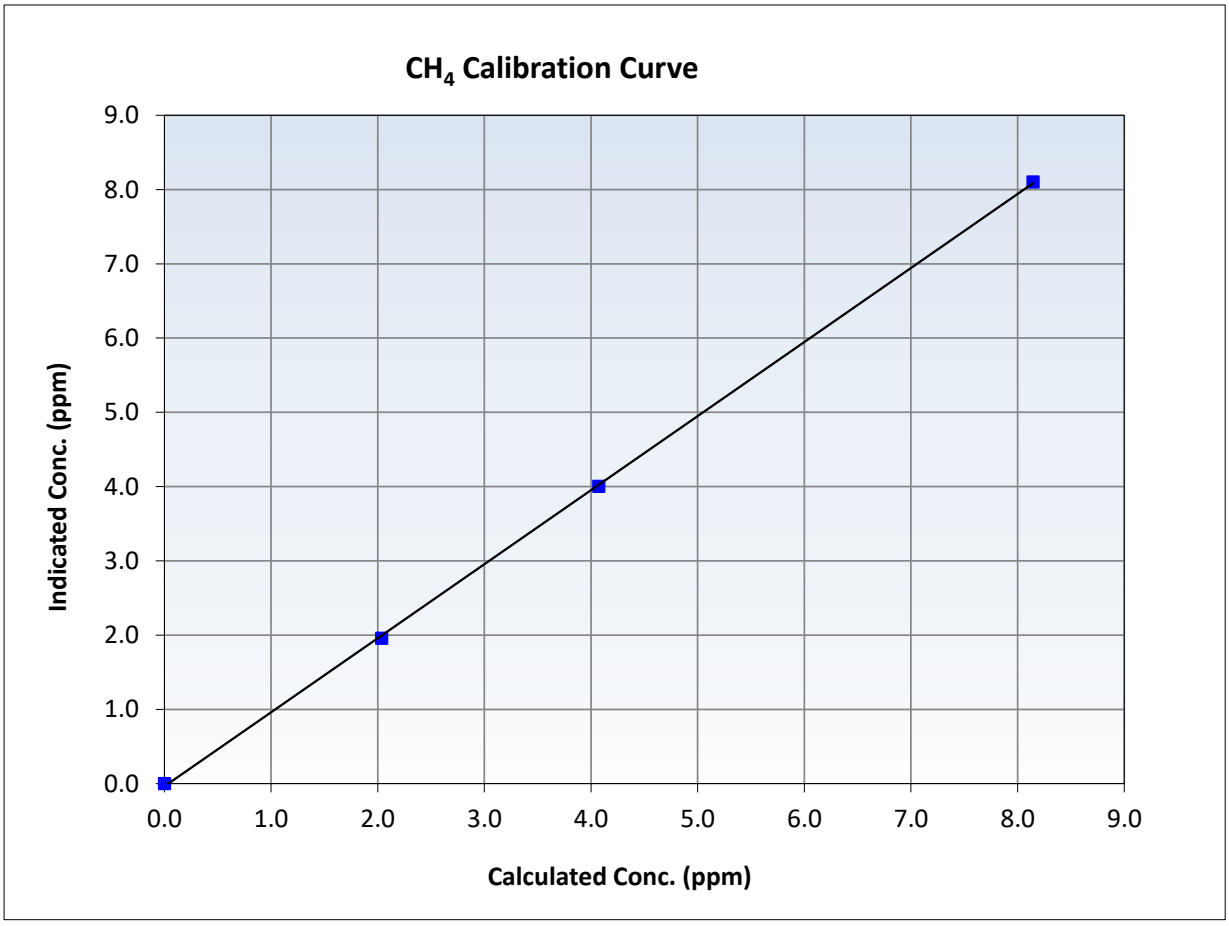
CH_4 Calibration Summary

Station Information

Calibration Date:	October 14, 2025	Previous Calibration:	September 8, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	9:49	End Time (MST):	12:28
Analyzer make:	Thermo 55i	Analyzer serial #:	1152430011

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999905	≥0.995
8.14	8.10	1.0050	Slope	0.997226	0.90 - 1.10
4.07	4.00	1.0173			
2.04	1.96	1.0398	Intercept	-0.036919	+/-0.5



Wood Buffalo Environmental Association

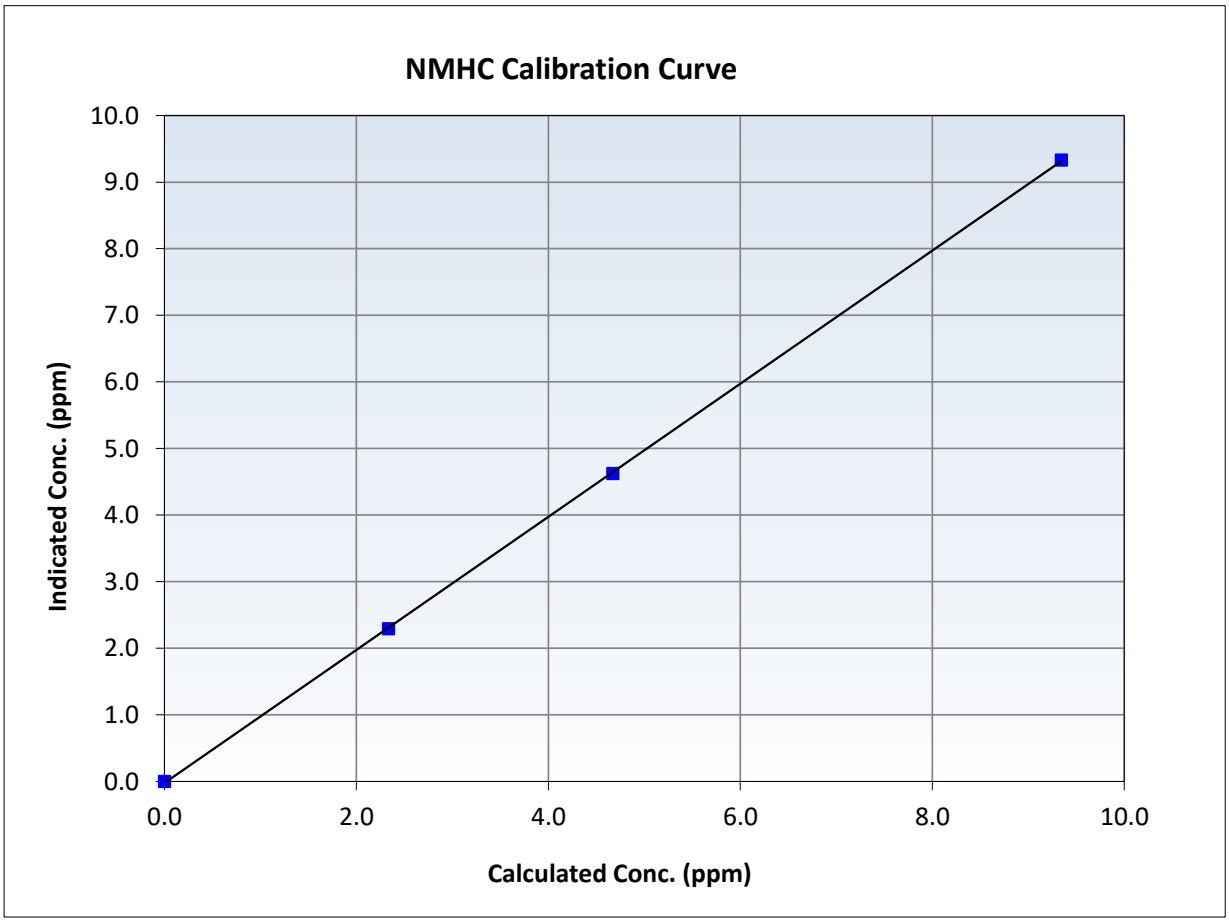
NMHC Calibration Summary

Station Information

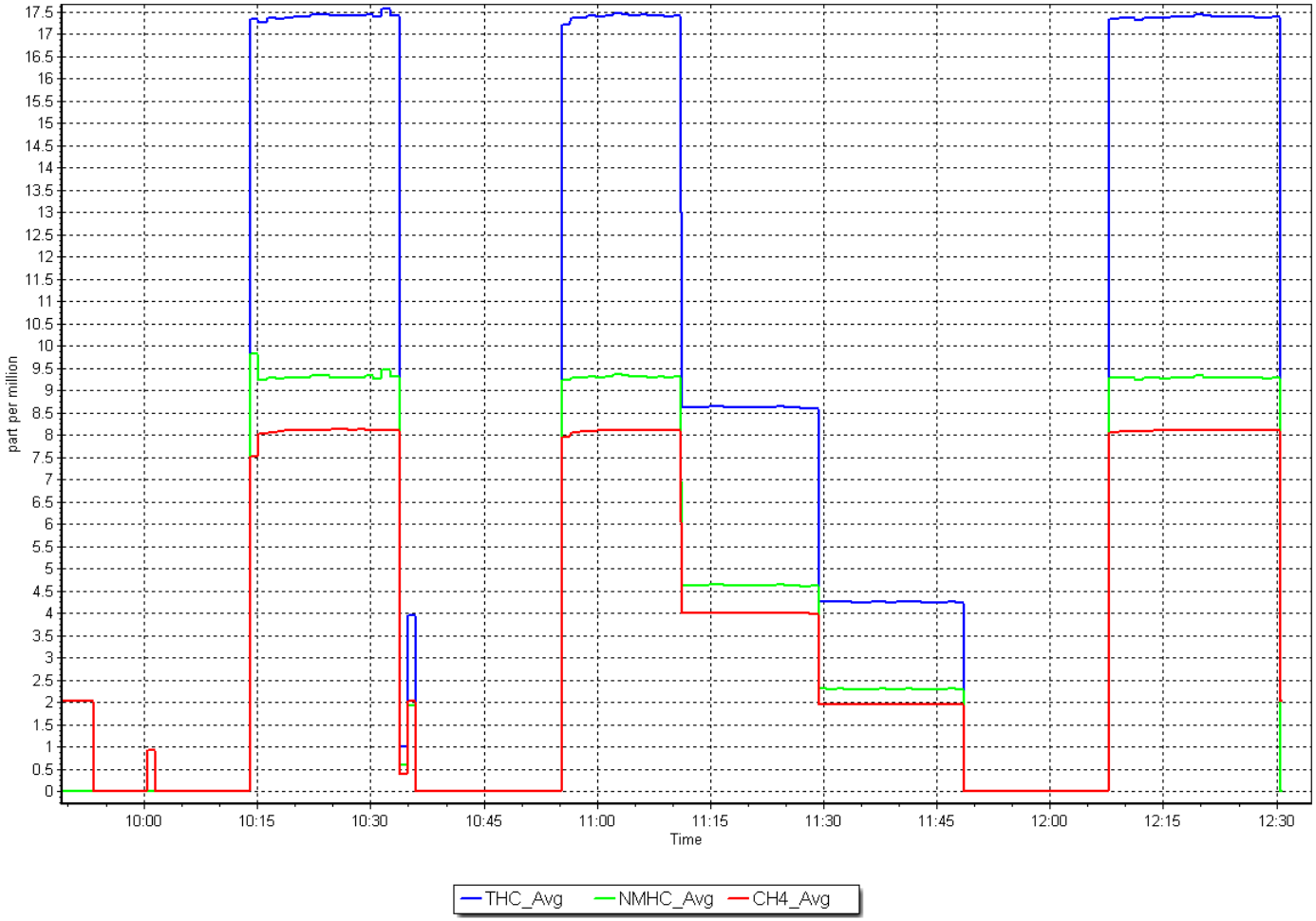
Calibration Date:	October 14, 2025	Previous Calibration:	September 8, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	9:49	End Time (MST):	12:28
Analyzer make:	Thermo 55i	Analyzer serial #:	1152430011

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999967	*≥0.995*
9.34	9.33	1.0015	Slope	0.999437	*0.90 - 1.10*
4.67	4.62	1.0105			
2.34	2.29	1.0183	Intercept	-0.023707	*+/-0.5*



NMHC Calibration Plot Date: October 14, 2025 Location: Ells River



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Ells River
Station number:	AMS 30
Calibration Date:	October 6, 2025
Last Cal Date:	September 4, 2025
Start time (MST):	10:01
End time (MST):	14:02
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0027487	Cal Gas Expiry Date:	January 9, 2032
NOX Cal Gas Conc:	59.30 ppm	NO Cal Gas Conc:	59.10 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	59.30 ppm	Removed Gas NO Conc:	59.10 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	API T700	Serial Number:	3061
ZAG make/model:	API T701H	Serial Number:	358

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.3	0.0	-0.2	----	----
AF High point	4932	67.7	803.0	800.3	2.7	796.0	788.1	7.9	1.0084	1.0154
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 801.1 ppb	NO = 796.6 ppb
Baseline Corr 1st pt	NO_X = 796.3 ppb	NO = 788.1 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

As Found Statistics

As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

*Percent Change	NO_X = -0.6%
*Percent Change	NO = -1.1%

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 710321429

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.335	1.356	NO bkgnd or offset:	15.6	15.6
NOX coeff or slope:	0.995	0.992	NOX bkgnd or offset:	15.8	15.8
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	202.6	206.5

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.000644	0.999406
NO_X Cal Offset:	-2.399282	-2.239384
NO Cal Slope:	1.000320	1.000405
NO Cal Offset:	-3.900988	-3.180739
NO_2 Cal Slope:	1.003151	0.999890
NO_2 Cal Offset:	0.343802	0.136766

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	----	----
High point	4932	67.7	803.0	800.3	2.7	801.3	799.1	2.1	1.0021	1.0015
Mid point	4966	33.8	400.9	399.5	1.4	397.5	394.7	2.8	1.0085	1.0122
Low point	4983	16.9	200.4	199.8	0.7	195.7	193.5	2.2	1.0242	1.0324
As left zero	5000	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	----	----
As left span	4932	67.7	803.0	429.6	373.4	802.1	429.6	372.6	1.0011	1.0000
							Average Correction Factor		1.0116	1.0154

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	-0.1	----	----
High GPT point	794.9	426.3	371.3	371.2	1.0003	100.0%
Mid GPT point	794.9	612.3	185.3	185.8	0.9974	100.3%
Low GPT point	794.9	702.3	95.3	95.5	0.9980	100.2%
				Average Correction Factor	0.9985	100.1%

Notes: Sample inlet filter was changed after as founds. Adjusted span only.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

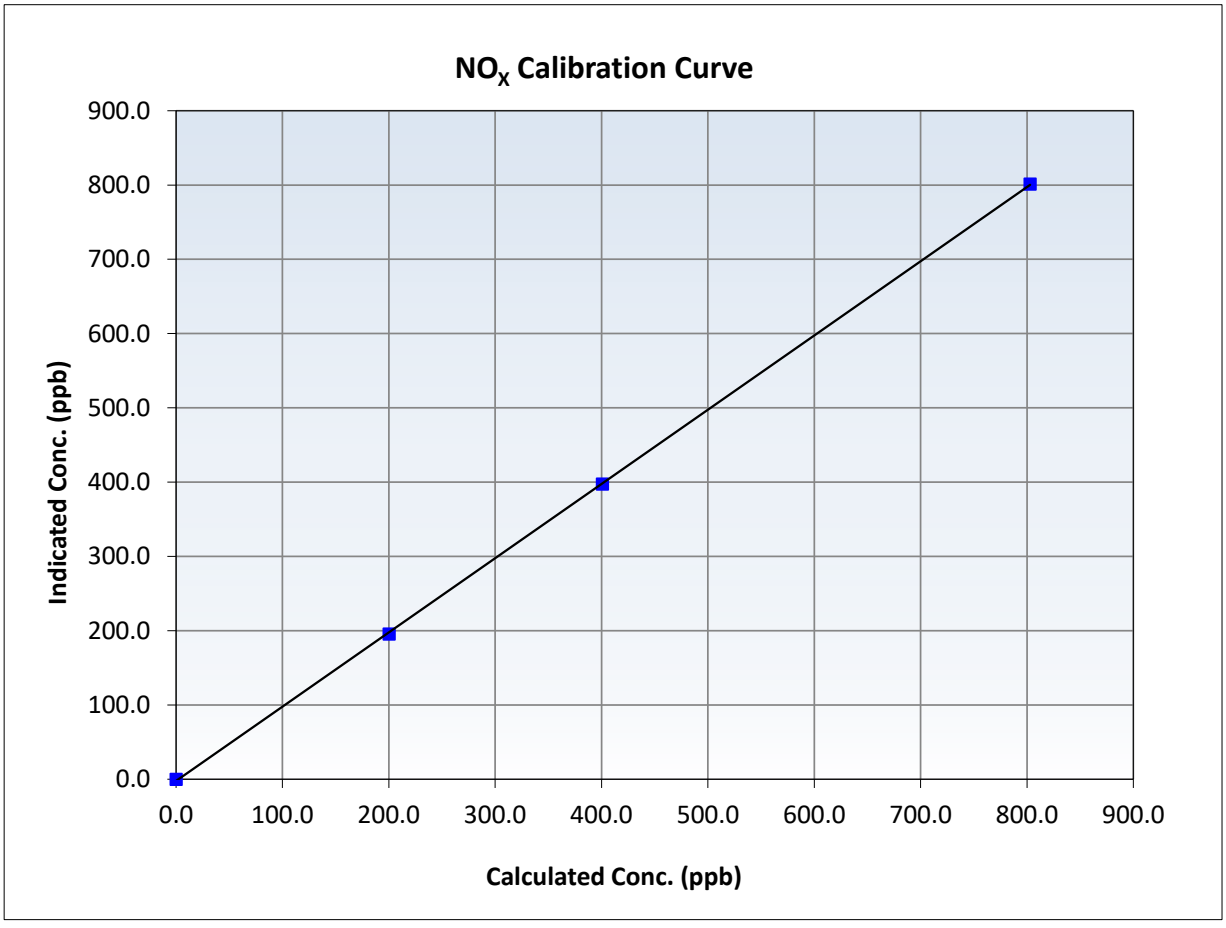
NO_X Calibration Summary

Station Information

Calibration Date:	October 6, 2025	Previous Calibration:	September 4, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	10:01	End Time (MST):	14:02
Analyzer make:	Thermo 42i	Analyzer serial #:	710321429

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	0.0	----	Correlation Coefficient	0.999964	≥0.995
803.0	801.3	1.0021	Slope	0.999406	0.90 - 1.10
400.9	397.5	1.0085	Intercept	-2.239384	+/-20
200.4	195.7	1.0242			



Wood Buffalo Environmental Association

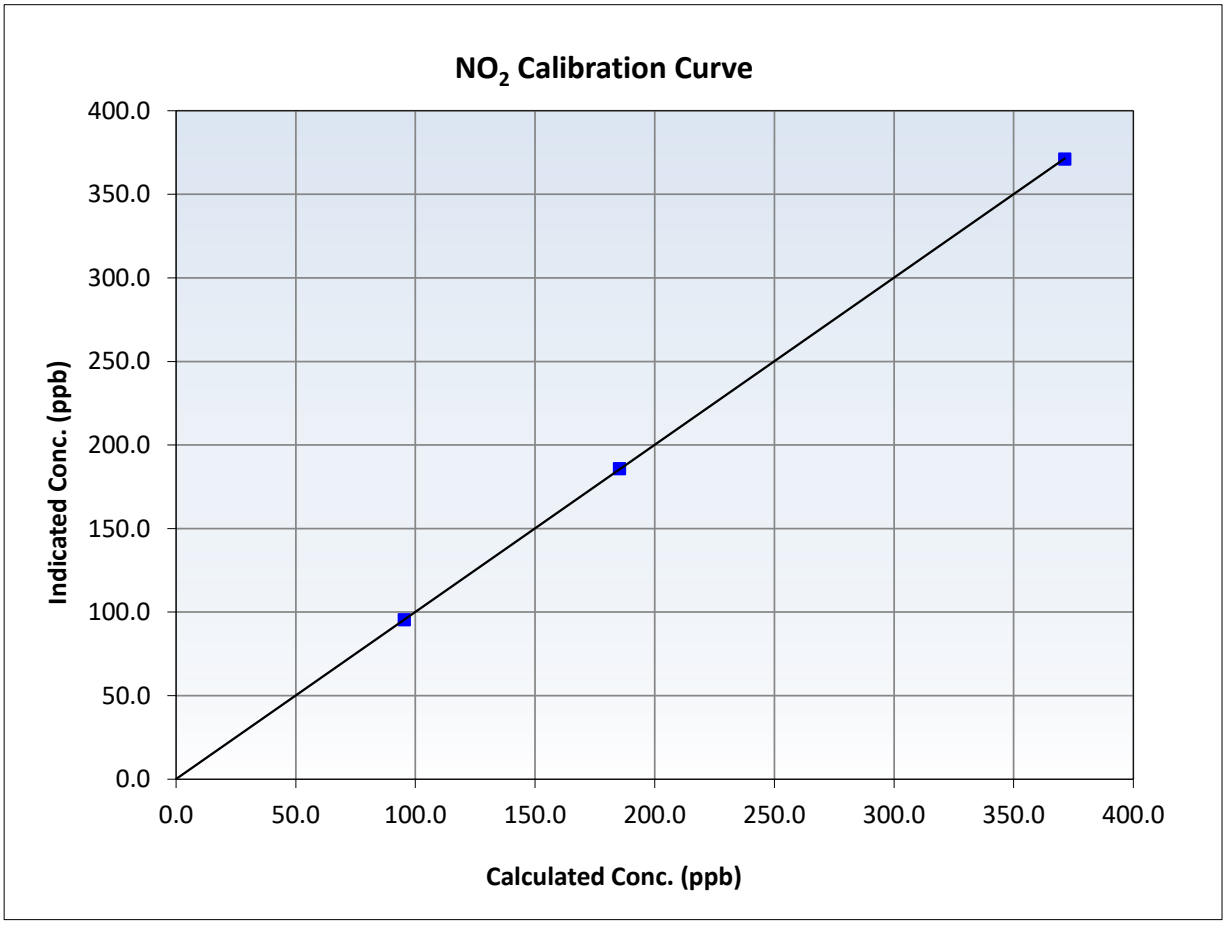
NO_2 Calibration Summary

Station Information

Calibration Date:	October 6, 2025	Previous Calibration:	September 4, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	10:01	End Time (MST):	14:02
Analyzer make:	Thermo 42i	Analyzer serial #:	710321429

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	-0.1	----	Correlation Coefficient	0.999997	*≥0.995*
371.3	371.2	1.0003	Slope	0.999890	*0.90 - 1.10*
185.3	185.8	0.9974	Intercept	0.136766	*+/-20*
95.3	95.5	0.9980			



Wood Buffalo Environmental Association

NO Calibration Summary

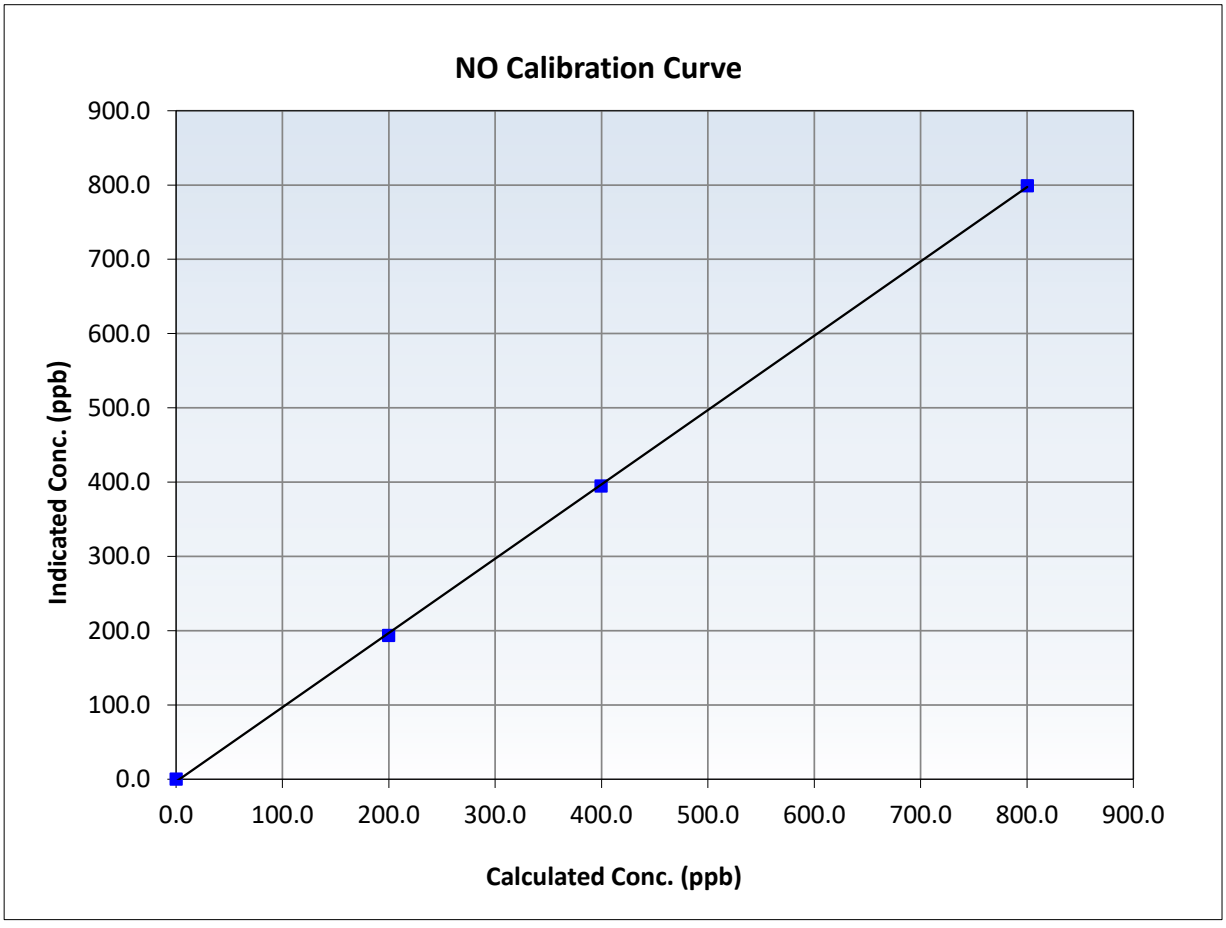
Station Information

Calibration Date:	October 6, 2025	Previous Calibration:	September 4, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	10:01	End Time (MST):	14:02
Analyzer make:	Thermo 42i	Analyzer serial #:	710321429

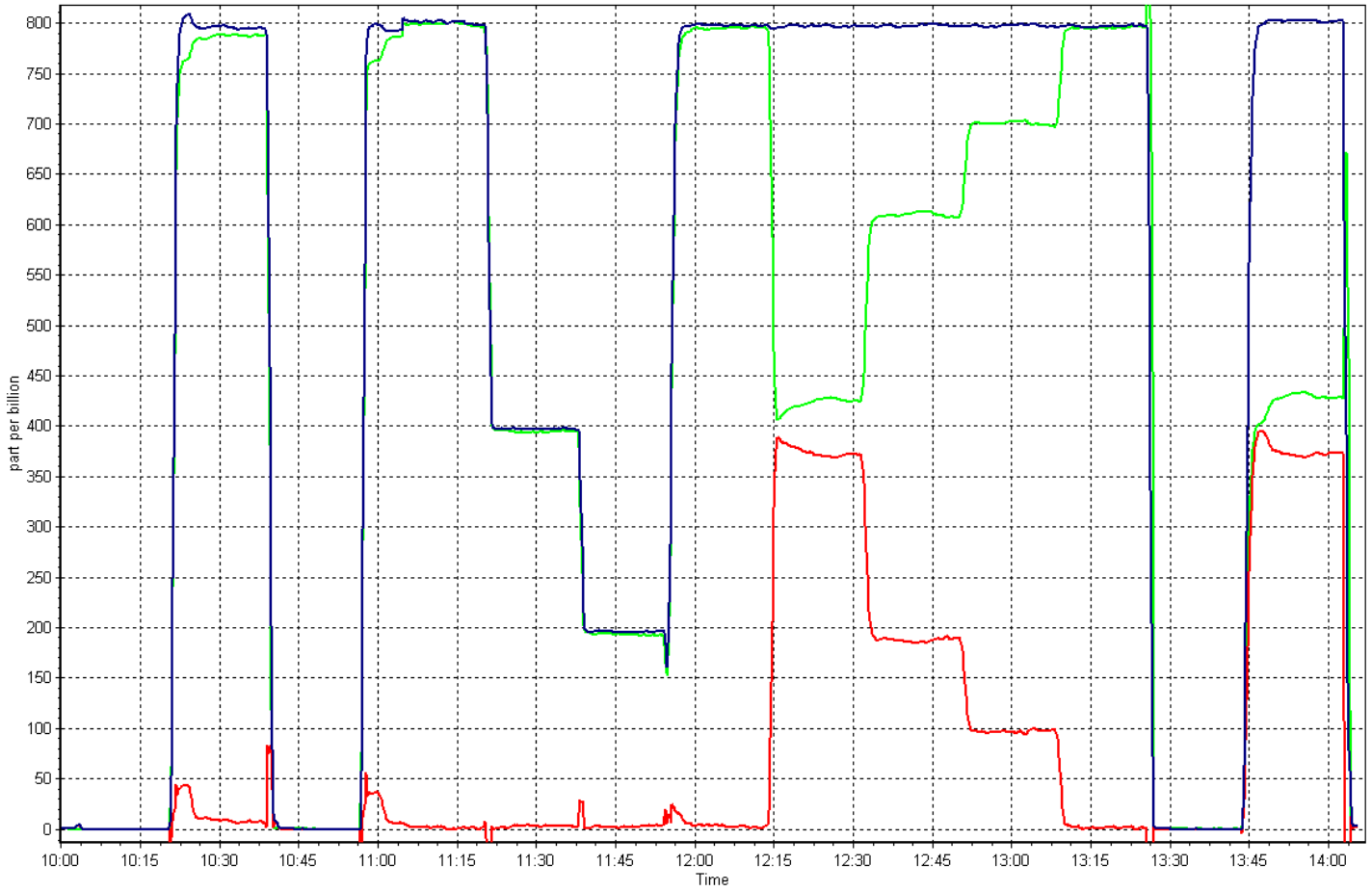
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
800.3	799.1	1.0015
399.5	394.7	1.0122
199.8	193.5	1.0324

Statistical Evaluation		Limits
Correlation Coefficient	0.999923	≥0.995
Slope	1.000405	0.90 - 1.10
Intercept	-3.180739	+/-20



NO_X Calibration Plot Date: October 6, 2025 Location: Ells River



Wood Buffalo Environmental Association

T640 $PM_{2.5}$ CALIBRATION

Version-01-2024

Station Information

Station Name:	Ells River	Station number:	AMS 30
Calibration Date:	October 14, 2025	Last Cal Date:	September 2, 2025
Start time (MST):	11:13	End time (MST):	11:32
Analyzer Make:	API T640	S/N:	875
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388754
Temp/RH standard:	Alicat FP-25BT	S/N:	388754

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (°C)	6.20	5.68	6.20	☐	+/- 2 °C
P (mmHg)	731.10	733.10	731.10	☐	+/- 10 mmHg
Flow (LPM)	5.04	5.03	5.04	☐	+/- 0.25 LPM
PW% (pump)	32	-----	32	☐	>80%
Zero Verification	PM w/o HEPA:	1.60	PM w/ HEPA:	0.00	<0.2 ug/m3

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check

PM Inlet observation : Inlet Head Clean ☑ Alignment Factor On : ☑

Quarterly Calibration Test

SPAN DUST — Refractive Index: 10.90 — Expiry Date: January 30, 2027 — Lot No.: 100128-050-040

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test				☐	+/- 0.5

Date Optical Chamber Cleaned: September 2, 2025

Date Disposable Filter Changed: September 2, 2025

Post- maintenance Zero Verification: PM w/ HEPA: _____ <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: June 18, 2025

Date RH/T Sensor Cleaned: June 18, 2025

Notes: Verified flow, temperature, pump power and pressure. No adjustment made. Leak check passed.

Calibration by: Jan Castro

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS31
BLACKROD
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Blackrod	Station number:	AMS 31
Calibration Date:	October 30, 2025	Last Cal Date:	September 8, 2025
Start time (MST):	10:51	End time (MST):	13:40
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.25	ppm	Cal Gas Exp Date:	March 10, 2031
Cal Gas Cylinder #:	CC327023			
Removed Cal Gas Conc:	50.25	ppm	Rem Gas Exp Date:	N/A
Removed Gas Cyl #:	N/A		Diff between cyl:	
Calibrator Model:	Teledyne T700		Serial Number:	1220
Zero Air Gen Model:	Teledyne N701H		Serial Number:	72

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1160290014	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.010356	1.003523	Backgd or Offset:	37.7	39.7
Calibration intercept:	-0.011908	-0.682143	Coeff or Slope:	0.980	0.997

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.9	----
As found High point	4920	79.6	800.0	788.9	1.015
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	788.0	Previous response	808.3	*% change	-2.6%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.3	----
High point	4921	79.5	798.9	801.4	0.997
Mid point	4960	39.8	400.0	400.0	1.000
Low point	4980	19.9	200.0	200.0	1.000
As left zero	5000	0.0	0.0	-0.3	----
As left span	4921	79.5	798.9	801.0	0.997
				Average Correction Factor:	0.999

Notes: Sample inlet filter was changed after as founds. Adjusted zero and span.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

SO_2 Calibration Summary

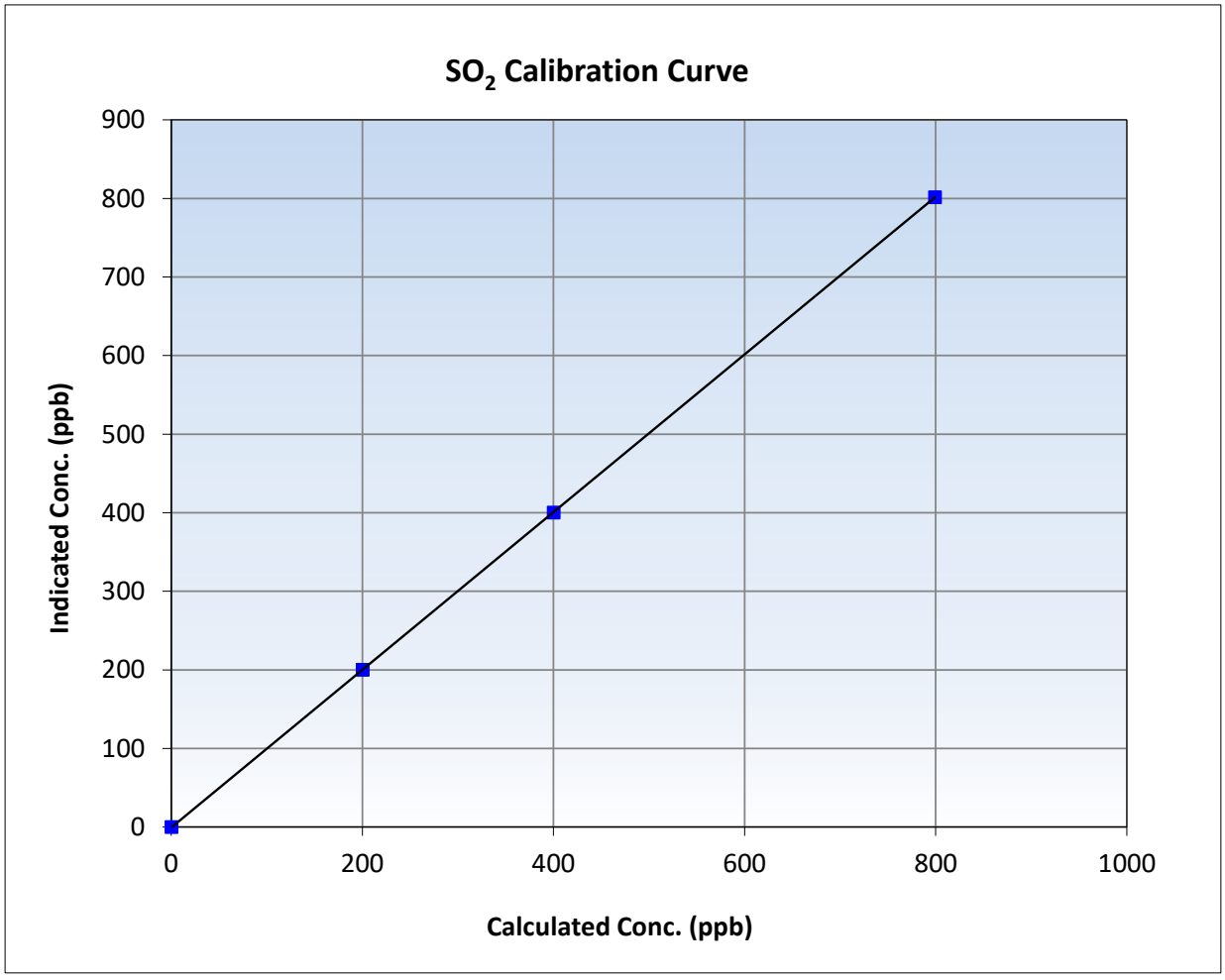
Station Information

Calibration Date:	October 30, 2025	Previous Calibration:	September 8, 2025
Station Name:	Blackrod	Station Number:	AMS 31
Start Time (MST):	10:51	End Time (MST):	13:40
Analyzer make:	Thermo 43i	Analyzer serial #:	1160290014

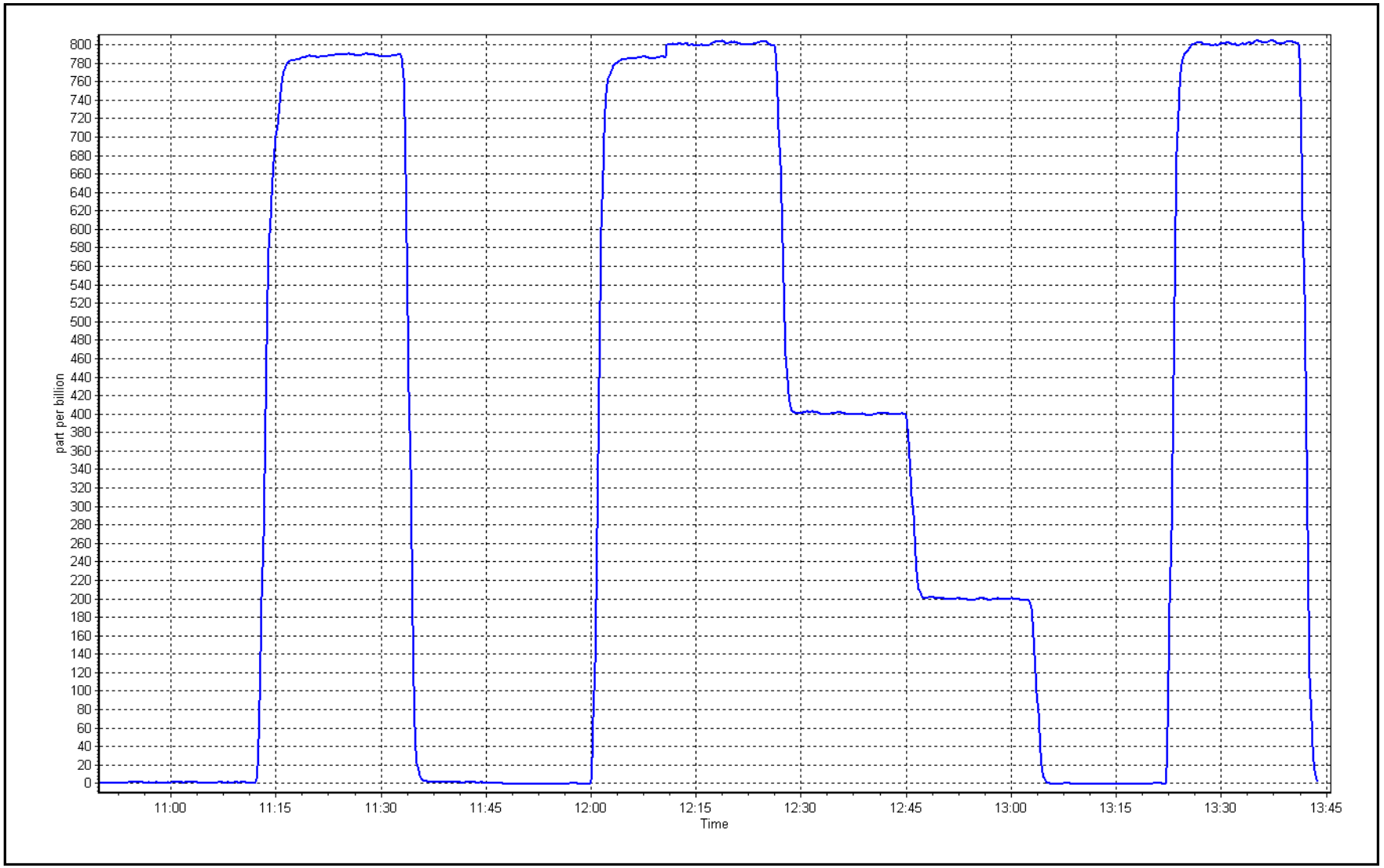
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.3	----
798.9	801.4	0.9969
400.0	400.0	1.0000
200.0	200.0	1.0000

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	1.003523	*0.90 - 1.10*
Intercept	-0.682143	*+/-30*



SO2 Calibration Plot Date: October 30, 2025 Location: Blackrod



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Blackrod	Station number:	AMS 31
Calibration Date:	October 9, 2025	Last Cal Date:	September 17, 2025
Start time (MST):	10:15	End time (MST):	14:46
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.42	ppm	Cal Gas Exp Date:	March 19, 2027
Cal Gas Cylinder #:	DT0016926			
Removed Cal Gas Conc:	5.42	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	1220
ZAG Make/Model:	Teledyne API N701H		Serial Number:	72

Analyzer Information

Analyzer make:	Thermo 43iQTL		Analyzer serial #:	12228021056	
Converter make:	Global		Converter serial #:	2023-266	
Analyzer Range	0 - 100 ppb		Converter Temp:	325	degC
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.003618	1.006763	Backgd or Offset:	2.48	2.54
Calibration intercept:	-0.140377	-0.000490	Coeff or Slope:	0.921	0.944

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.0	----
As found High point	4926	73.8	80.0	78.6	1.018
As found Mid point	4963	36.9	40.0	39.4	1.015
As found Low point	4982	18.5	20.1	19.6	1.023
New cylinder response					

Baseline Corr As found:	78.6	Prev response:	80.15	*% change:	-2.0%
Baseline Corr 2nd AF pt:	39.4	AF Slope:	0.983044	AF Intercept:	-0.020004
Baseline Corr 3rd AF pt:	19.6	AF Correlation:	0.999994	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.0	----
High point	4926	73.8	80.0	80.5	0.994
Mid point	4963	36.9	40.0	40.4	0.990
Low point	4982	18.5	20.1	20.1	0.998
As left zero	5000	0.0	0.0	0.1	----
As left span	4926	73.8	80.0	80.4	0.995
SO2 Scrubber Check	4921	79.5	794.9	0.0	----

Date of last scrubber change:	27-Aug-25	Ave Corr Factor	0.994	
Date of last converter efficiency test:	October 9, 2025	97.9%	efficiency	

Notes: Sample inlet filter was changed after multipoint as founds. Converter efficiency done. SO2 scrubber check done and passed. Adjusted span only.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

H_2S Calibration Summary

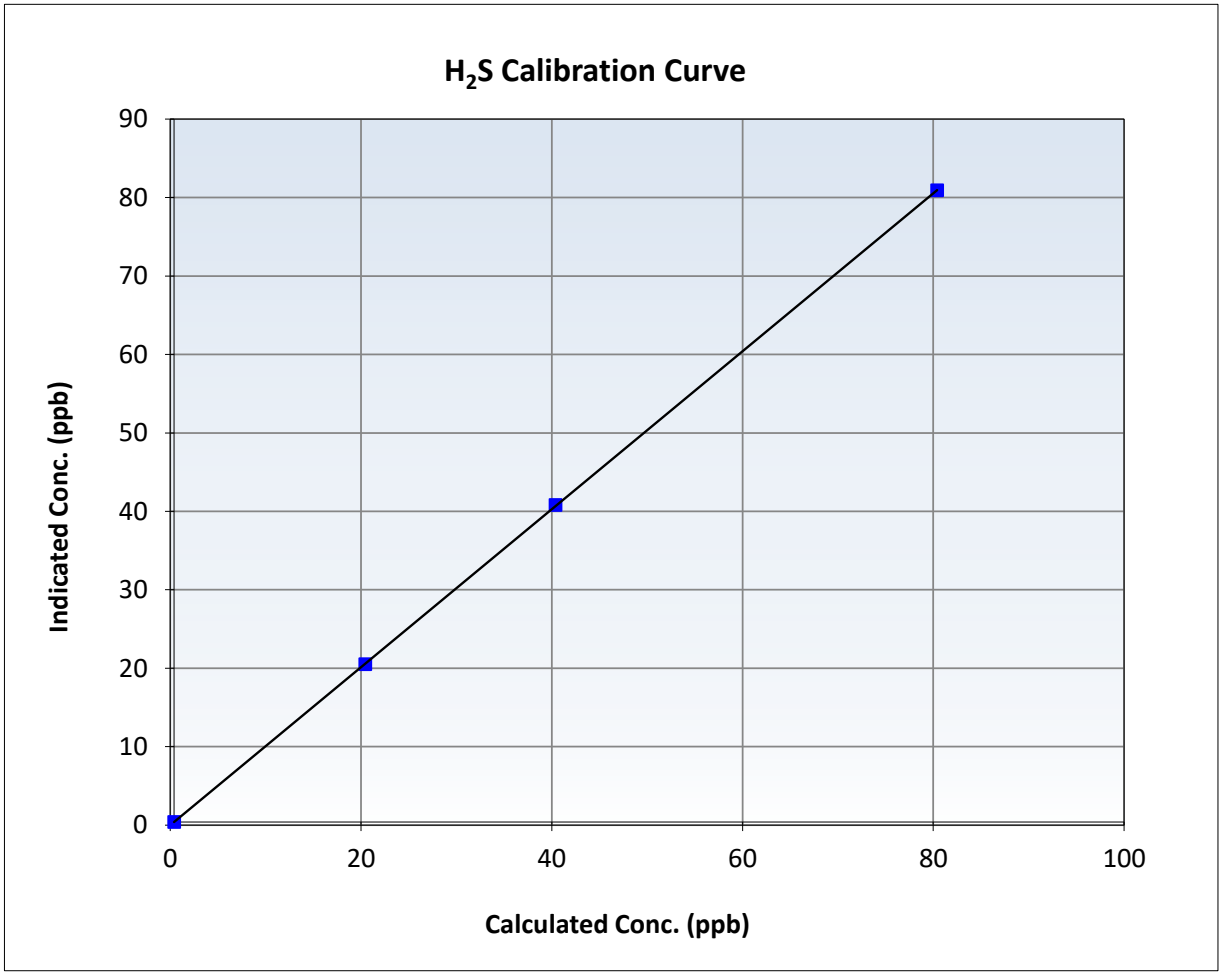
Station Information

Calibration Date:	October 9, 2025	Previous Calibration:	September 17, 2025
Station Name:	Blackrod	Station Number:	AMS 31
Start Time (MST):	10:15	End Time (MST):	14:46
Analyzer make:	Thermo 43iQTL	Analyzer serial #:	12228021056

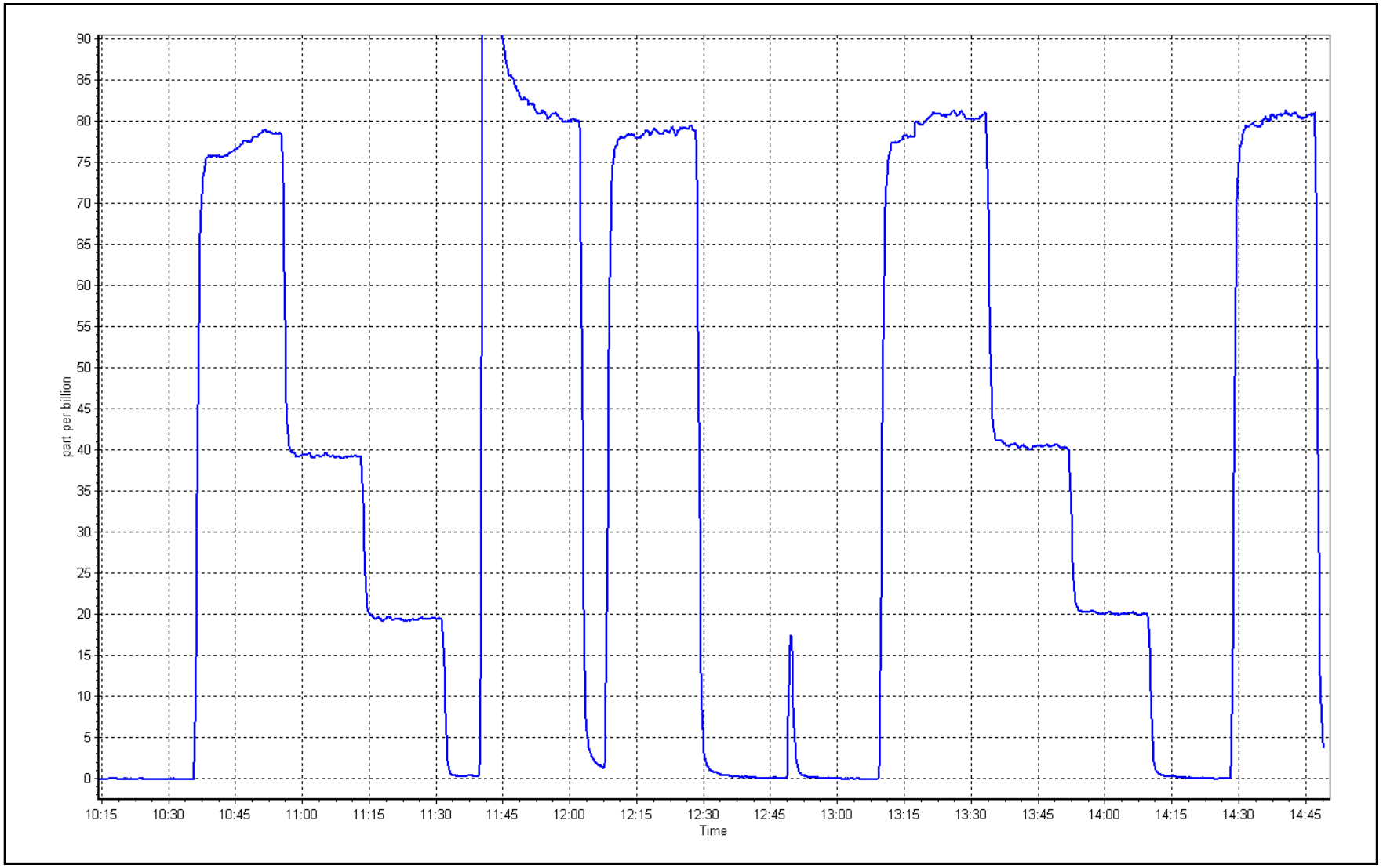
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
80.0	80.5	0.9938
40.0	40.4	0.9901
20.1	20.1	0.9976

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999993	*≥0.995*
Slope	1.006763	*0.90 - 1.10*
Intercept	-0.000490	*+/-3*



H_2S Calibration Plot Date: October 9, 2025 Location: Blackrod



CALS_502

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Blackrod
Station number:	AMS 31
Calibration Date:	October 21, 2025
Last Cal Date:	September 9, 2025
Start time (MST):	10:12
End time (MST):	14:33
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0035071	Cal Gas Expiry Date:	January 9, 2032
NOX Cal Gas Conc:	59.30 ppm	NO Cal Gas Conc:	59.10 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	59.30 ppm	Removed Gas NO Conc:	59.10 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	1220
ZAG make/model:	Teledyne API N701H	Serial Number:	72

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.5	-0.4	-0.1	----	----
AF High point	4932	67.7	803.0	800.3	2.7	719.2	711.4	7.7	1.1157	1.1243
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 805.1 ppb	NO = 802.1 ppb
Baseline Corr 1st pt	NO_X = 719.7 ppb	NO = 711.8 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

As Found Statistics

As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

*Percent Change	NO_X = -11.9%
*Percent Change	NO = -12.7%

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1426262592

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	Finish		Start	Finish
NO coeff or slope:	1.059	1.205	NO bkgnd or offset:	15.8	17.9
NOX coeff or slope:	0.997	0.995	NOX bkgnd or offset:	15.9	18.1
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	143.6	141.2

Calibration Statistics

	Start	Finish
NO_X Cal Slope:	1.003173	1.000210
NO_X Cal Offset:	-0.437111	1.903333
NO Cal Slope:	1.003814	1.001497
NO Cal Offset:	-1.198337	0.862201
NO_2 Cal Slope:	1.004641	0.974019
NO_2 Cal Offset:	-0.688005	3.859945

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	-0.1	-0.3	0.1	----	----
High point	4932	67.7	803.0	800.3	2.7	804.0	801.8	2.3	0.9987	0.9981
Mid point	4966	33.8	400.9	399.5	1.4	404.0	401.4	2.6	0.9923	0.9953
Low point	4983	16.9	200.4	199.8	0.7	204.3	202.2	2.1	0.9811	0.9879
As left zero	5000	0.0	0.0	0.0	0.0	-0.2	-0.2	0.0	----	----
As left span	4825	67.7	820.5	421.1	381.9	823.1	421.1	401.9	0.9969	1.0000
							Average Correction Factor		0.9907	0.9938

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.1	----	----
High GPT point	815.4	414.6	403.5	393.6	1.0252	97.5%
Mid GPT point	815.4	618.7	199.4	204.3	0.9761	102.5%
Low GPT point	815.4	714.2	103.9	105.9	0.9812	101.9%
				Average Correction Factor	0.9941	100.6%

Notes: Sample inlet filter was changed after as founds. Adjusted span only. Used 2nd NO point because of drift.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

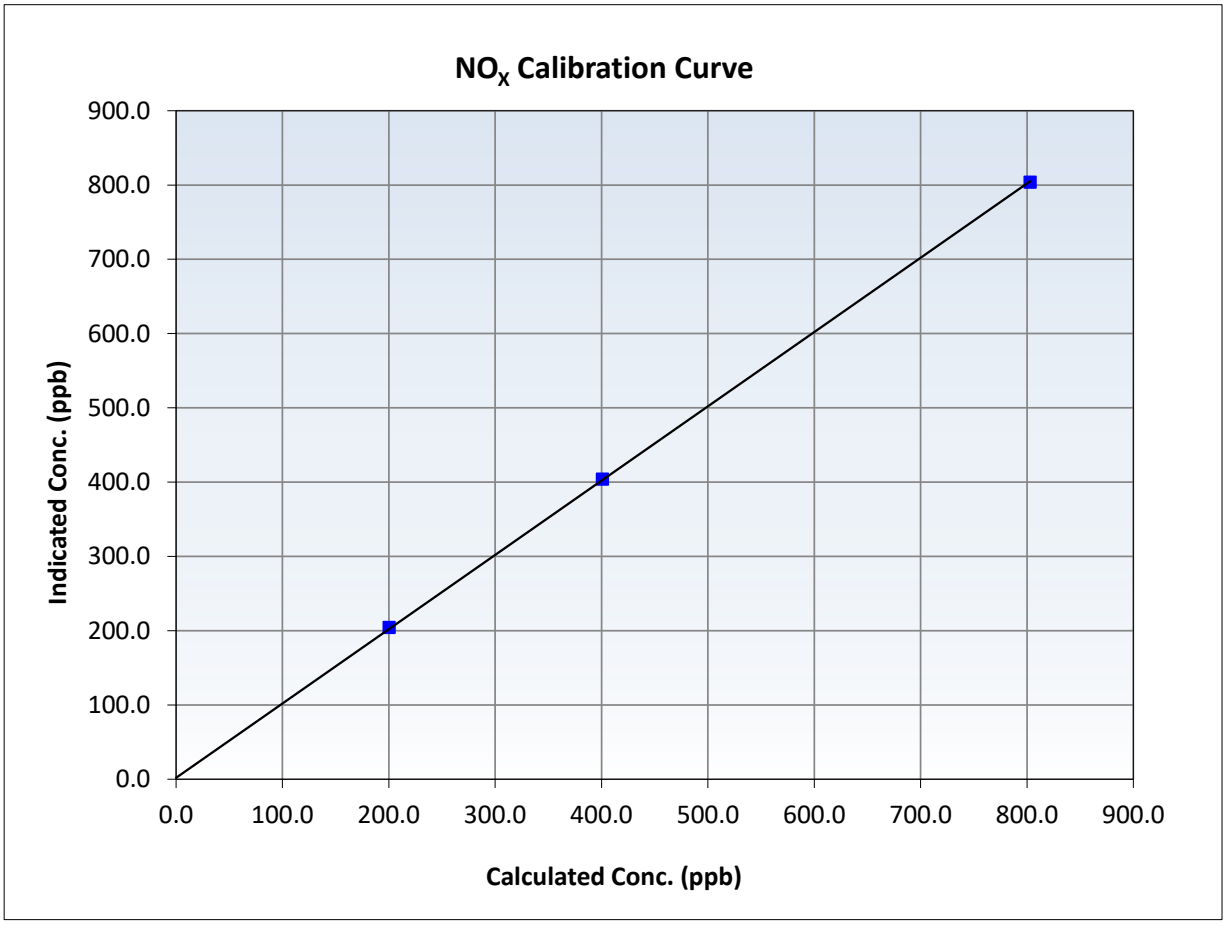
NO_X Calibration Summary

Station Information

Calibration Date:	October 21, 2025	Previous Calibration:	September 9, 2025
Station Name:	Blackrod	Station Number:	AMS 31
Start Time (MST):	10:12	End Time (MST):	14:33
Analyzer make:	Thermo 42i	Analyzer serial #:	1426262592

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	-0.1	----	Correlation Coefficient	0.999972	≥0.995
803.0	804.0	0.9987	Slope	1.000210	0.90 - 1.10
400.9	404.0	0.9923	Intercept	1.903333	+/-20
200.4	204.3	0.9811			



Wood Buffalo Environmental Association

NO_2 Calibration Summary

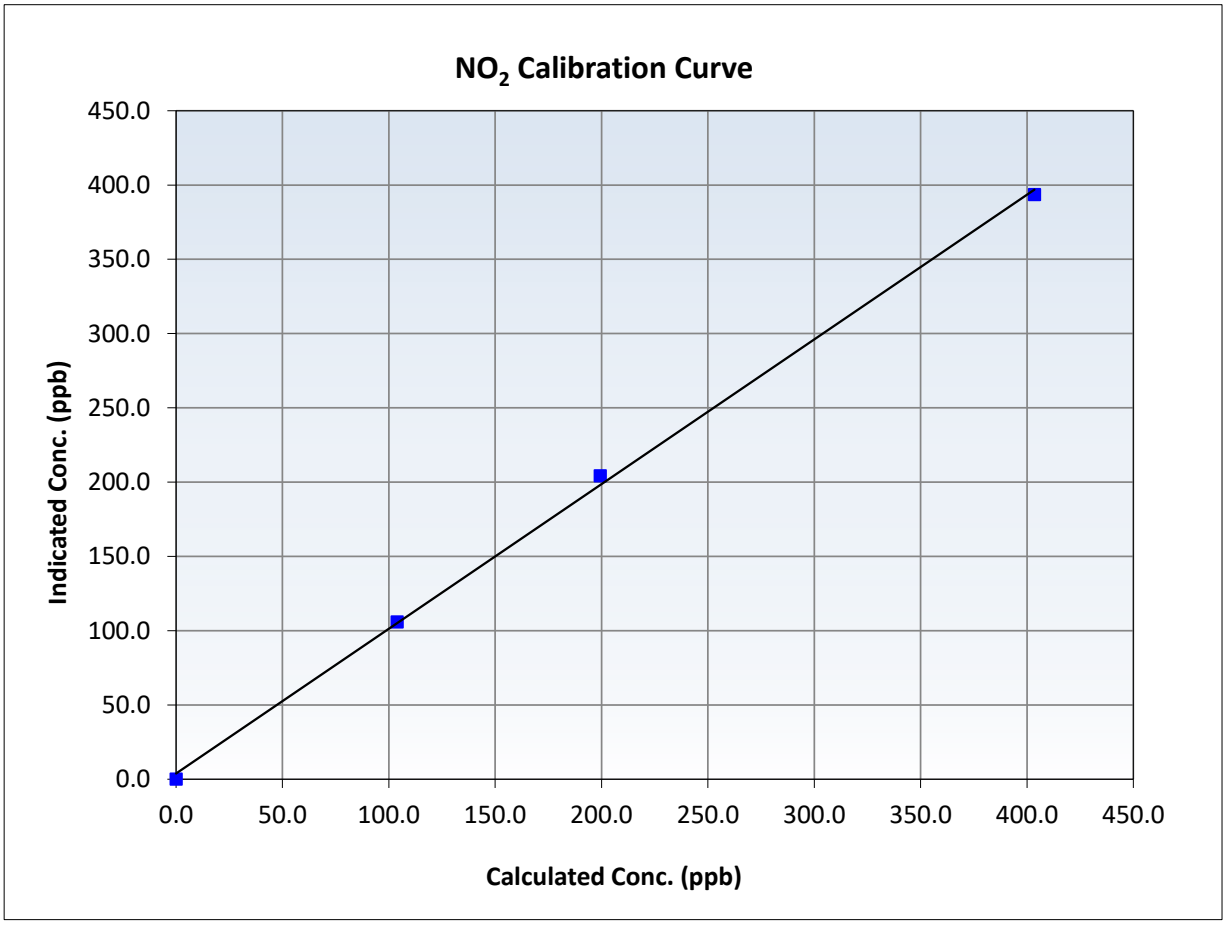
Station Information

Calibration Date:	October 21, 2025	Previous Calibration:	September 9, 2025
Station Name:	Blackrod	Station Number:	AMS 31
Start Time (MST):	10:12	End Time (MST):	14:33
Analyzer make:	Thermo 42i	Analyzer serial #:	1426262592

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
403.5	393.6	1.0252
199.4	204.3	0.9761
103.9	105.9	0.9812

Statistical Evaluation		Limits
Correlation Coefficient	0.999236	≥0.995
Slope	0.974019	0.90 - 1.10
Intercept	3.859945	+/-20



Wood Buffalo Environmental Association

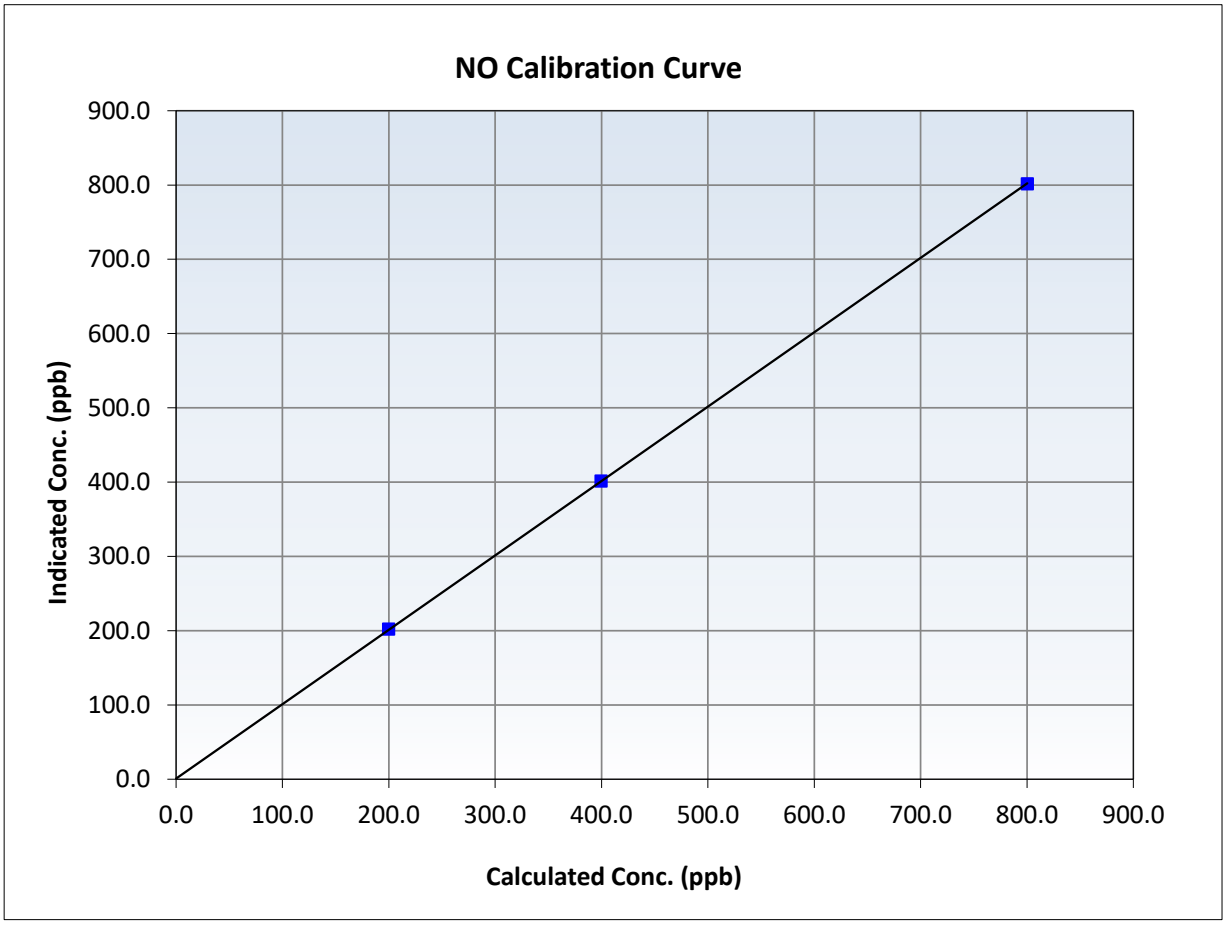
NO Calibration Summary

Station Information

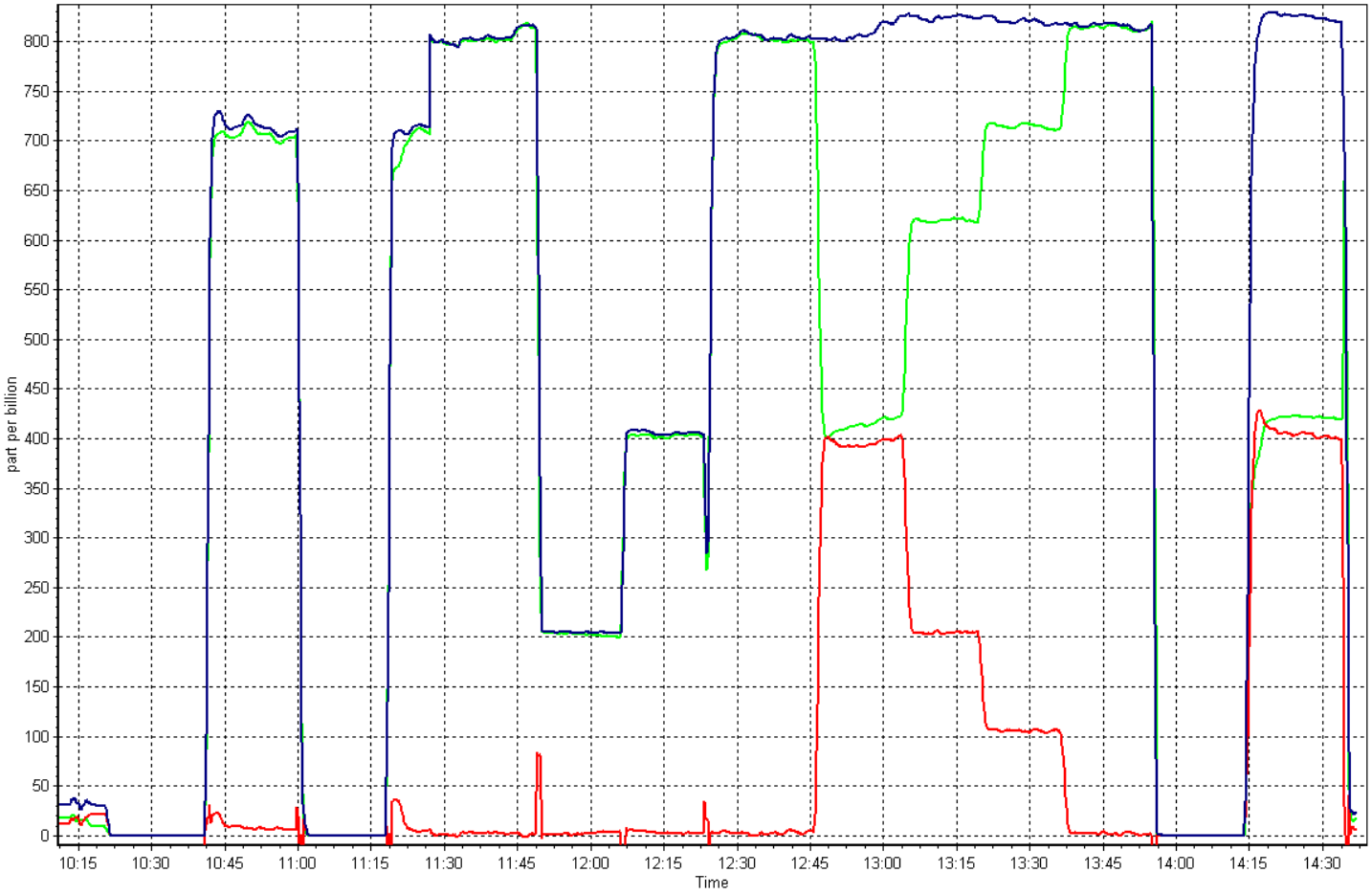
Calibration Date:	October 21, 2025	Previous Calibration:	September 9, 2025
Station Name:	Blackrod	Station Number:	AMS 31
Start Time (MST):	10:12	End Time (MST):	14:33
Analyzer make:	Thermo 42i	Analyzer serial #:	1426262592

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	-0.3	----	Correlation Coefficient	0.999990	≥0.995
800.3	801.8	0.9981	Slope	1.001497	0.90 - 1.10
399.5	401.4	0.9953			
199.8	202.2	0.9879	Intercept	0.862201	+/-20



NO_X Calibration Plot Date: October 21, 2025 Location: Blackrod



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS33
MONDAY CREEK
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Monday Creek	Station number:	AMS 33
Calibration Date:	October 23, 2025	Last Cal Date:	September 25, 2025
Start time (MST):	10:05	End time (MST):	12:46
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.62	ppm	Cal Gas Exp Date:	March 10, 2031
Cal Gas Cylinder #:	EB0008522			
Removed Cal Gas Conc:	50.62	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	Teledyne T700		Serial Number:	3253
Zero Air Gen Model:	Teledyne T701H		Serial Number:	832

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1152430005	
Analyzer Range:	0- 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.003381	0.996658	Backgd or Offset:	31.0	31.0
Calibration intercept:	-0.137802	0.442201	Coeff or Slope:	0.970	0.970

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.3	----
As found High point	4921	79.1	800.8	798.0	1.003
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	798.3	Previous response	803.4	*% change	-0.6%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.1	----
High point	4921	79.1	800.8	798.1	1.003
Mid point	4961	39.5	399.9	400.0	1.000
Low point	4980	19.8	200.5	200.0	1.002
As left zero	5000	0.0	0.0	-0.2	----
As left span	4921	79.1	800.8	800.3	1.001
				Average Correction Factor:	1.002

Notes: Sample inlet filter was changed after as founds. No adjustment made.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

SO_2 Calibration Summary

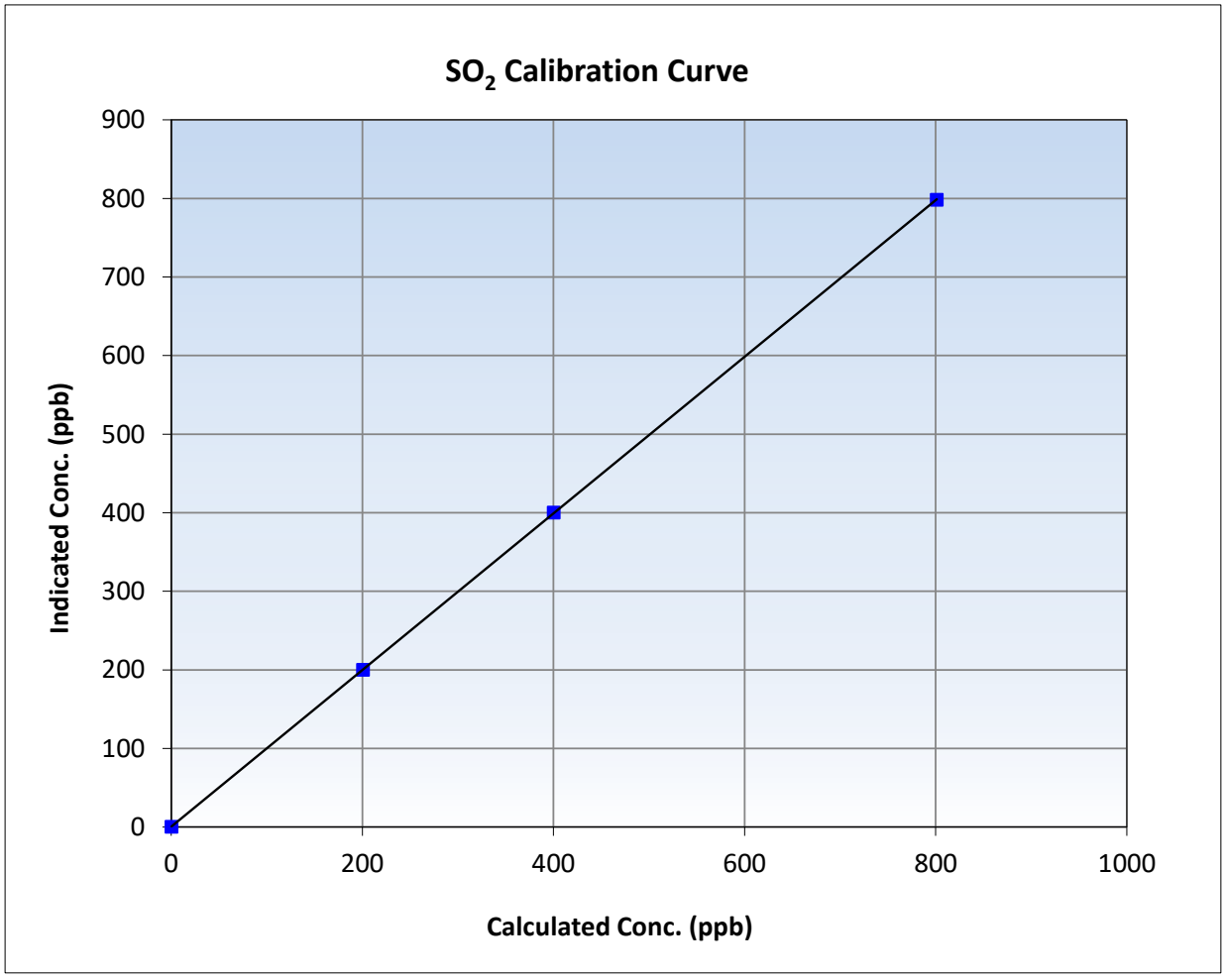
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 25, 2025
Station Name:	Monday Creek	Station Number:	AMS 33
Start Time (MST):	10:05	End Time (MST):	12:46
Analyzer make:	Thermo 43i	Analyzer serial #:	1152430005

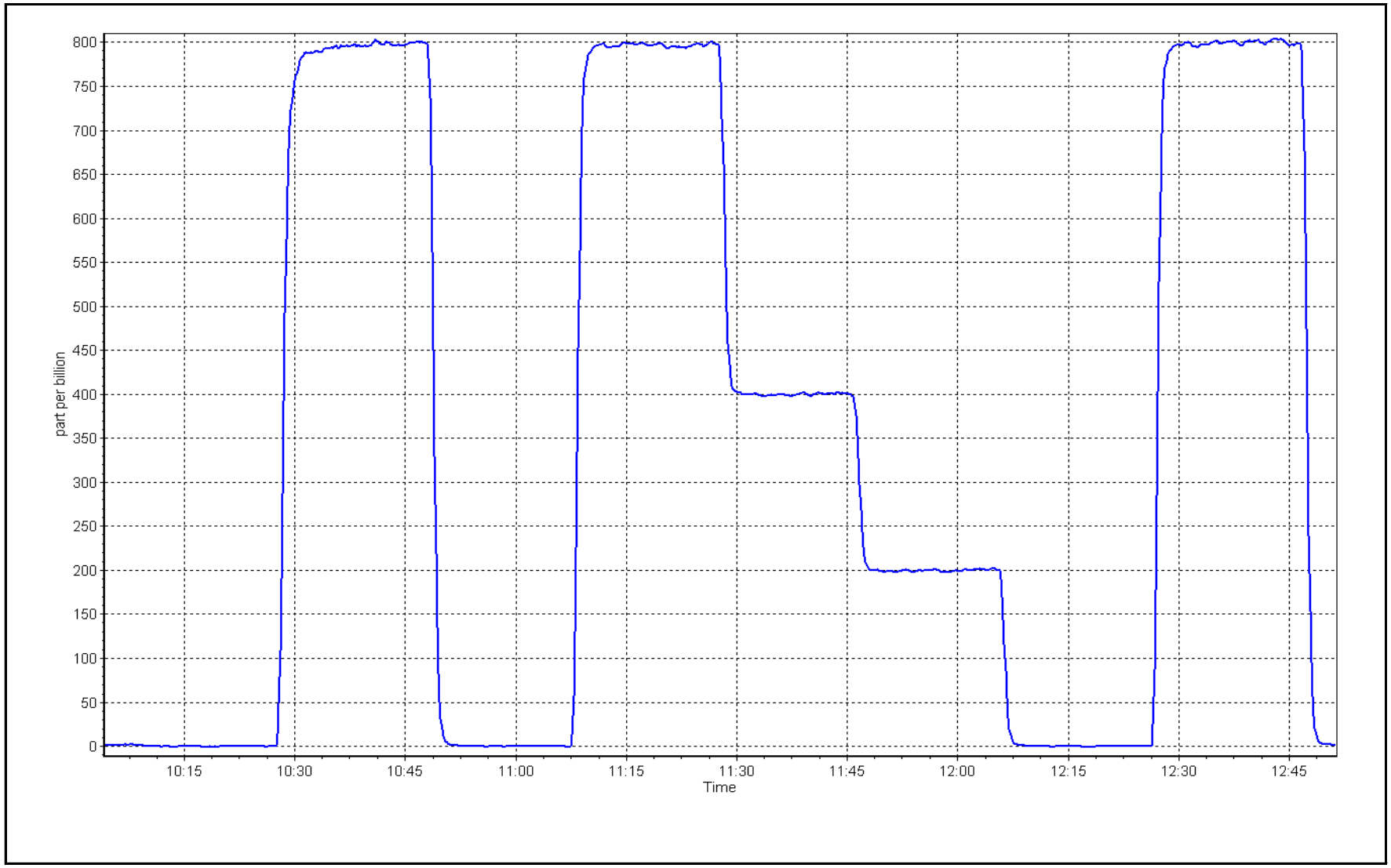
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
800.8	798.1	1.0034
399.9	400.0	0.9996
200.5	200.0	1.0023

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	0.996658	*0.90 - 1.10*
Intercept	0.442201	*+/-30*



SO2 Calibration Plot Date: October 23, 2025 Location: Monday Creek



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Monday Creek	Station number:	AMS 33
Calibration Date:	October 22, 2025	Last Cal Date:	September 10, 2025
Start time (MST):	9:59	End time (MST):	14:13
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.05	ppm	Cal Gas Exp Date:	November 15, 2026
Cal Gas Cylinder #:	DT0014831			
Removed Cal Gas Conc:	5.05	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T700		Serial Number:	3253
ZAG Make/Model:	Teledyne T701H		Serial Number:	832

Analyzer Information

Analyzer make:	Thermo 43iQTL		Analyzer serial #:	12333331547
Converter make:	Global 150		Converter serial #:	2022-196
Analyzer Range	0 - 100 ppb		Converter Temp:	325 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.006712	0.996282	Backgd or Offset:	1.3	1.3
Calibration intercept:	0.118386	0.358401	Coeff or Slope:	1.062	1.062

H2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.1	----
As found High point	4921	79.2	80.0	81.5	0.983
As found Mid point	4960	39.6	40.0	40.7	0.986
As found Low point	4980	19.8	20.0	20.3	0.992
New cylinder response					

Baseline Corr As found:	81.4	Prev response:	80.64	*% change:	0.9%
Baseline Corr 2nd AF pt:	40.6	AF Slope:	1.017842	AF Intercept:	0.036375
Baseline Corr 3rd AF pt:	20.2	AF Correlation:	0.999994	* = > +/-5% change initiates investigation	

H2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.3	----
High point	4921	79.2	80.0	80.0	1.000
Mid point	4960	39.6	40.0	40.3	0.993
Low point	4980	19.8	20.0	20.3	0.985
As left zero	5000	0.0	0.0	0.2	----
As left span	4921	79.2	80.0	79.7	1.004
SO2 Scrubber Check	4921	79.1	791.0	0.0	----

Date of last scrubber change:	11-Apr-24	Ave Corr Factor	0.993
Date of last converter efficiency test:	October 22, 2025	100.8%	efficiency

Notes: Sample inlet filter was changed after multipoint as founds. Converter efficiency done. SO2 scrubber check done and passed. No adjustment made.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

H2S Calibration Summary

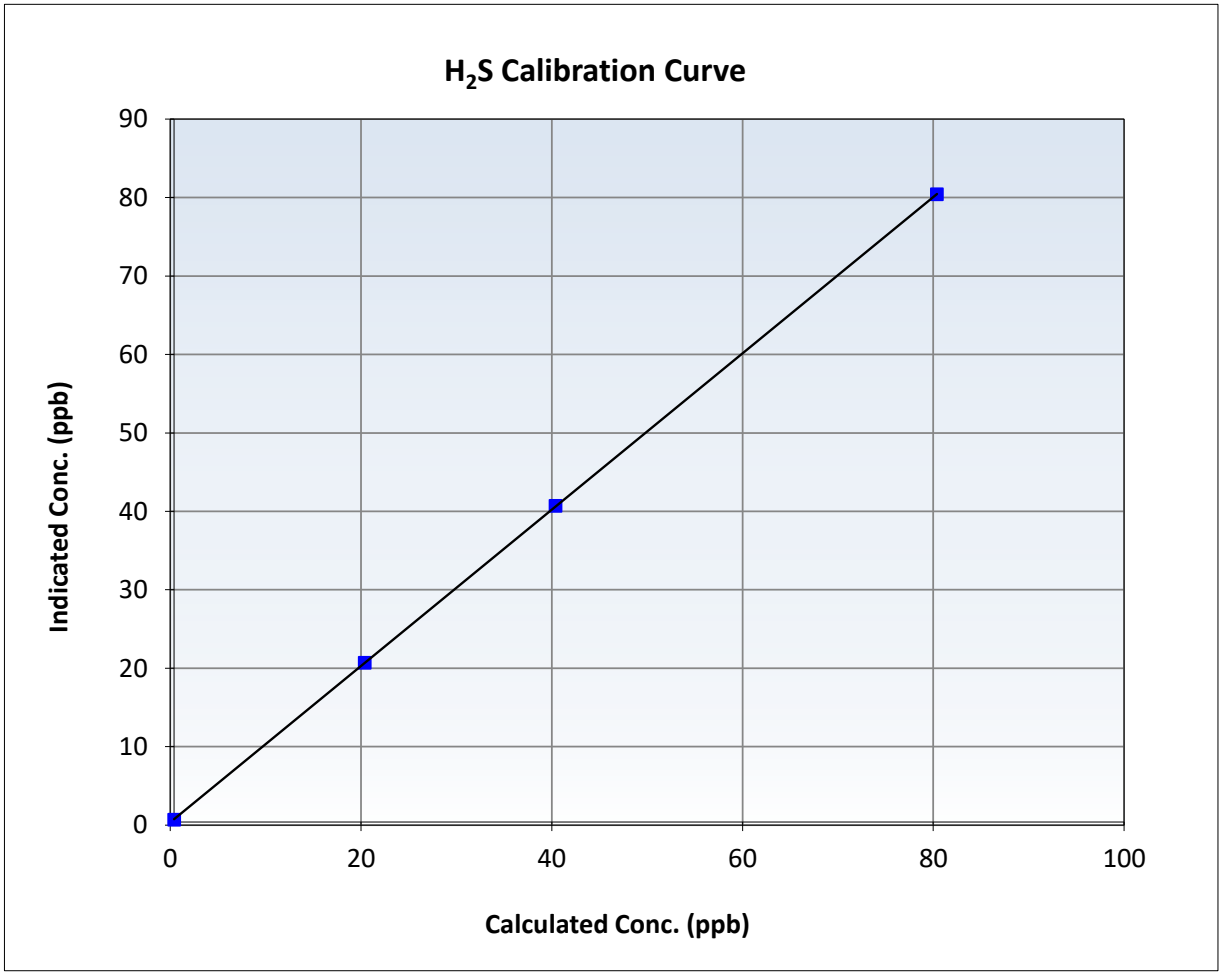
Station Information

Calibration Date:	October 22, 2025	Previous Calibration:	September 10, 2025
Station Name:	Monday Creek	Station Number:	AMS 33
Start Time (MST):	9:59	End Time (MST):	14:13
Analyzer make:	Thermo 43iQTL	Analyzer serial #:	12333331547

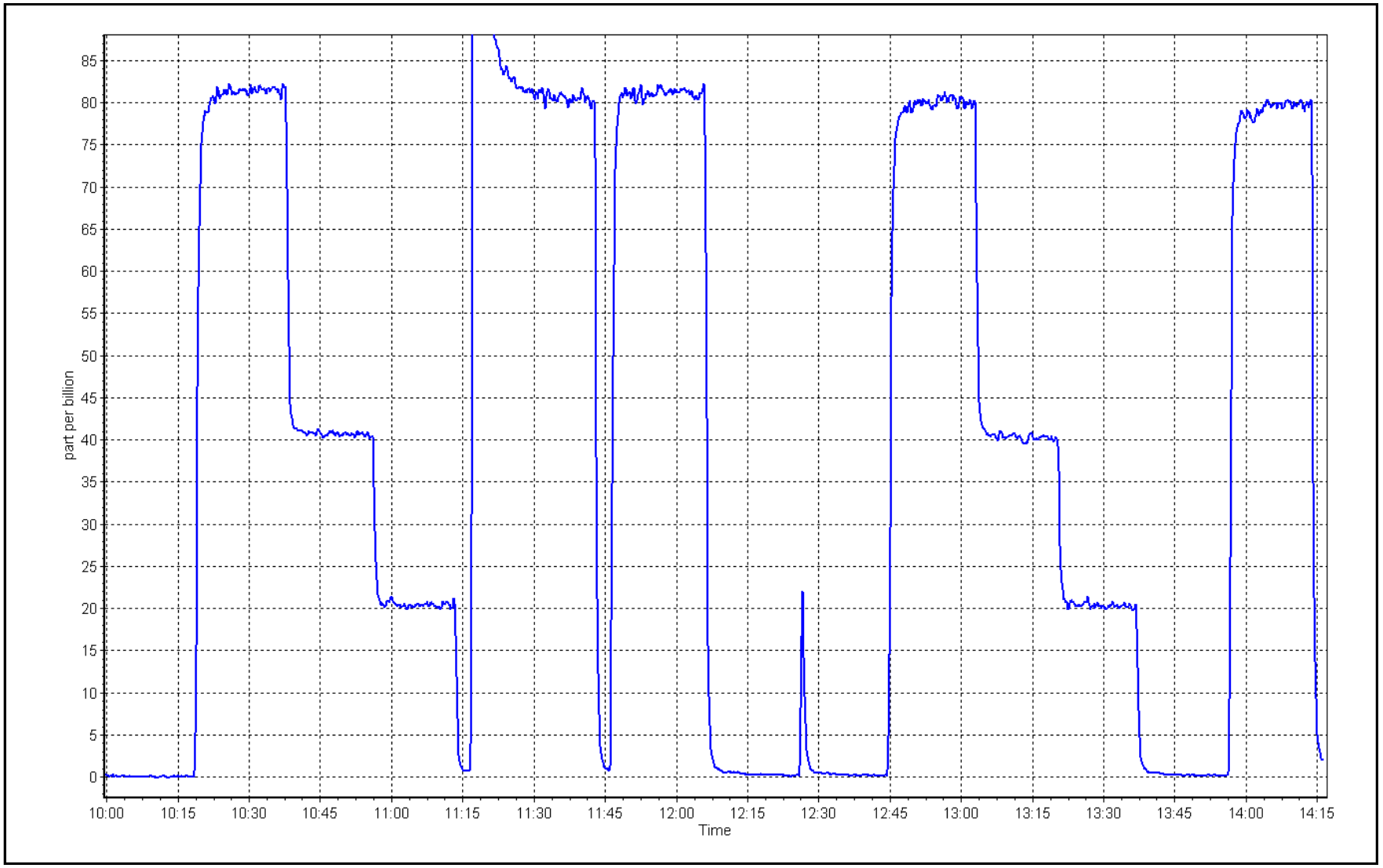
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
80.0	80.0	0.9999
40.0	40.3	0.9925
20.0	20.3	0.9852

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	0.996282	*0.90 - 1.10*
Intercept	0.358401	*+/-3*



H2S Calibration Plot Date: October 22, 2025 Location: Monday Creek



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Monday Creek
Station number:	AMS 33
Calibration Date:	October 29, 2025
Last Cal Date:	September 18, 2025
Start time (MST):	10:18
End time (MST):	14:22
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	CC755290	Cal Gas Expiry Date:	March 11, 2031
NOX Cal Gas Conc:	48.90 ppm	NO Cal Gas Conc:	48.70 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	48.90 ppm	Removed Gas NO Conc:	48.70 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	3253
ZAG make/model:	Teledyne API T701H	Serial Number:	832

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.2	-0.1	-0.1	----	----
AF High point	4918	82.1	802.9	799.6	3.3	797.5	795.3	2.2	1.0065	1.0053
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 798.3 ppb	NO = 793.7 ppb
Baseline Corr 1st pt	NO_X = 797.7 ppb	NO = 795.4 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

*Percent Change NO_X = -0.1%

*Percent Change NO = 0.2%

As Found Statistics

As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42iQ

Serial Number: 12426335704

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.045	1.045	NO bkgnd or offset:	1.4	1.4
NOX coeff or slope:	0.999	0.999	NOX bkgnd or offset:	1.5	1.5
NO2 coeff or slope:	0.990	0.990	Reaction cell Press:	138.5	136.2

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.993621	0.995970
NO_X Cal Offset:	0.470640	0.670358
NO Cal Slope:	0.992614	0.997903
NO Cal Offset:	-0.049056	-0.049822
NO_2 Cal Slope:	0.994046	0.967535
NO_2 Cal Offset:	0.760617	1.063691

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	----
High point	4918	82.1	802.9	799.6	3.3	800.0	797.8	2.2	1.0037	1.0023
Mid point	4959	41.1	401.9	400.3	1.6	401.4	399.8	1.6	1.0014	1.0013
Low point	4979	20.5	200.5	199.7	0.8	201.0	198.9	2.1	0.9976	1.0040
As left zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	----
As left span	4918	82.1	802.9	400.0	402.9	783.0	400.0	383.0	1.0254	1.0000
								Average Correction Factor	1.0009	1.0025

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.0	----	----
High GPT point	794.5	395.1	402.7	390.0	1.0325	96.9%
Mid GPT point	794.5	603.4	194.4	190.2	1.0220	97.8%
Low GPT point	794.5	701.6	96.2	94.8	1.0146	98.6%
				Average Correction Factor	1.0230	97.8%

Notes: Sample inlet filter was changed after as founds. No adjustment made.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

NO_X Calibration Summary

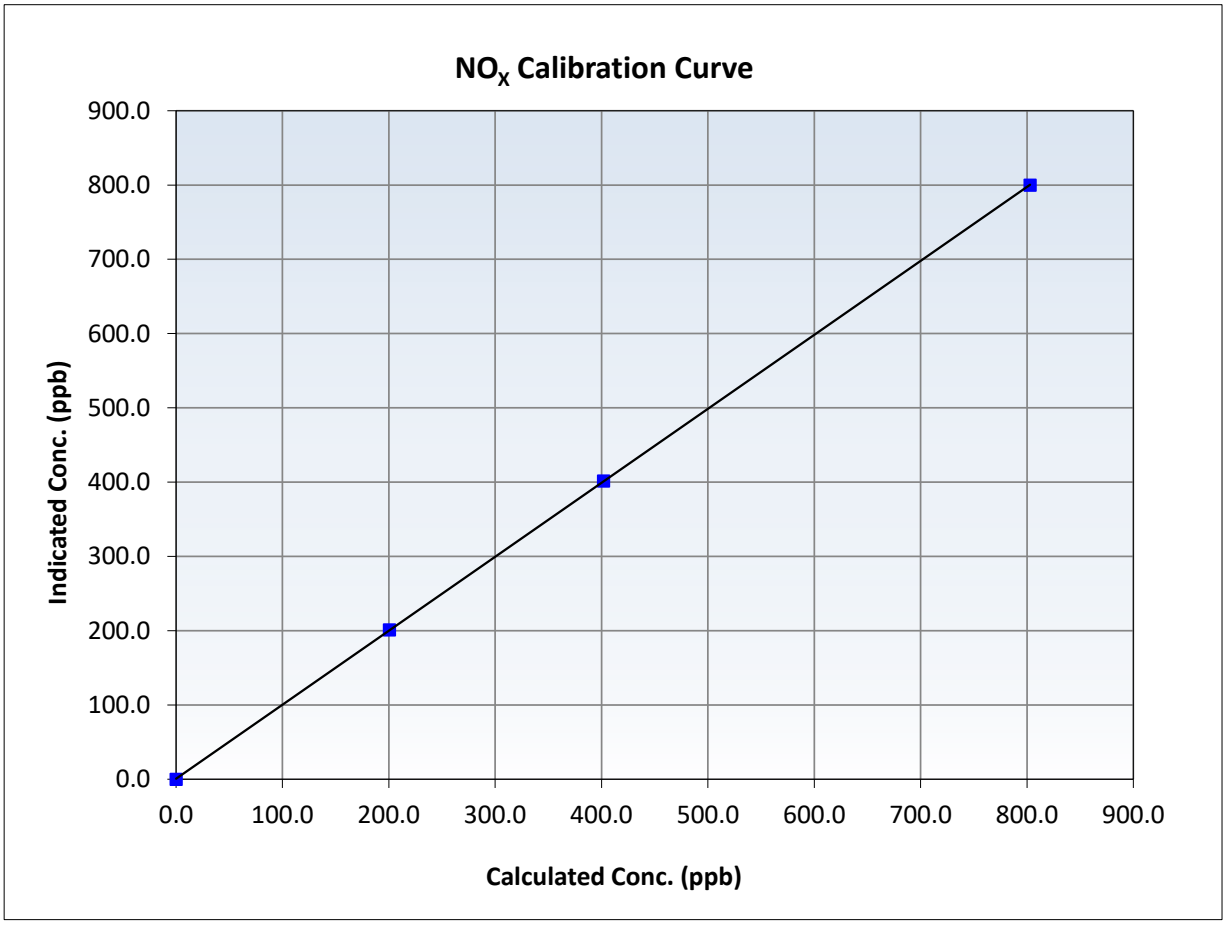
Station Information

Calibration Date:	October 29, 2025	Previous Calibration:	September 18, 2025
Station Name:	Monday Creek	Station Number:	AMS 33
Start Time (MST):	10:18	End Time (MST):	14:22
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12426335704

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
802.9	800.0	1.0037
401.9	401.4	1.0014
200.5	201.0	0.9976

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999997	*≥0.995*
Slope	0.995970	*0.90 - 1.10*
Intercept	0.670358	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

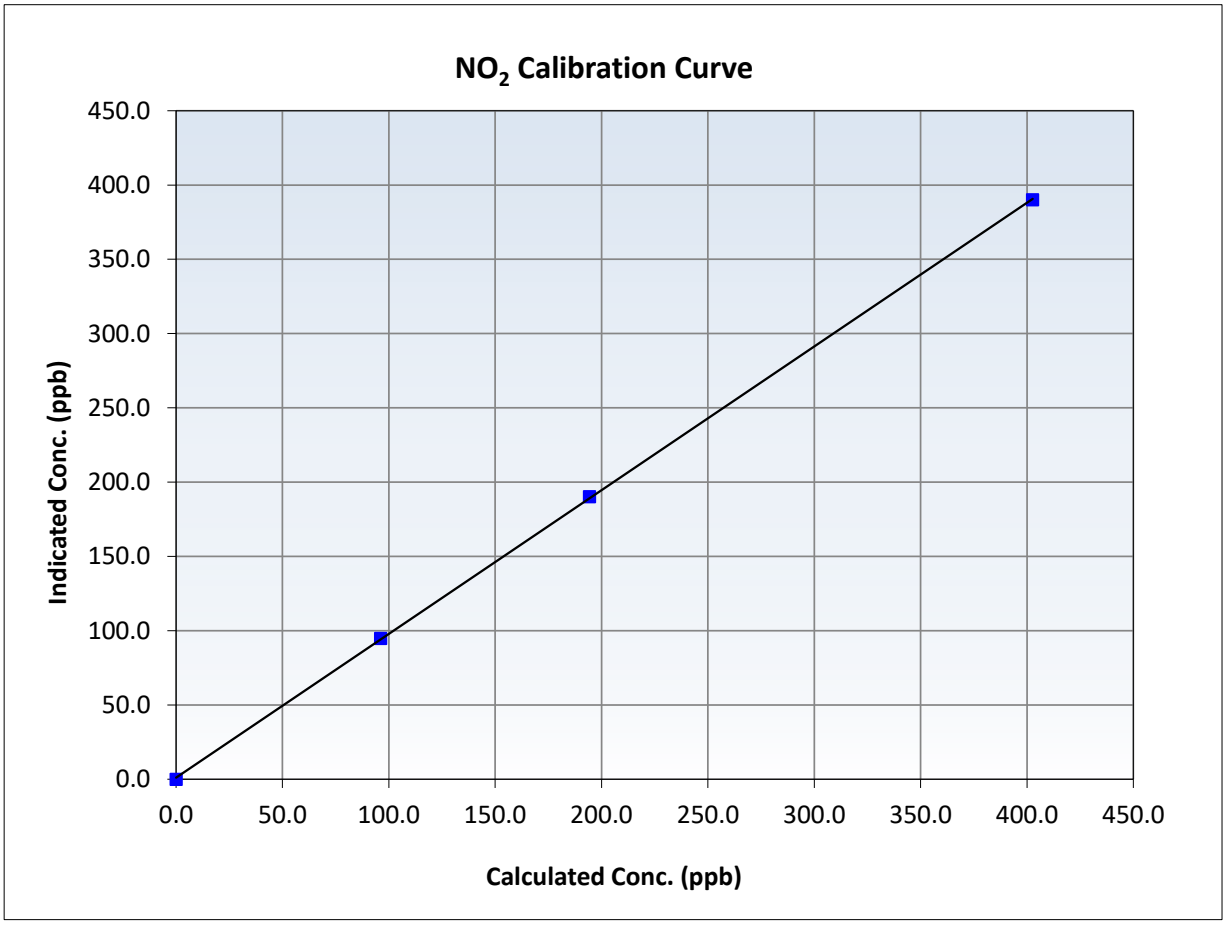
Station Information

Calibration Date:	October 29, 2025	Previous Calibration:	September 18, 2025
Station Name:	Monday Creek	Station Number:	AMS 33
Start Time (MST):	10:18	End Time (MST):	14:22
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12426335704

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
402.7	390.0	1.0325
194.4	190.2	1.0220
96.2	94.8	1.0146

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999962	*≥0.995*
Slope	0.967535	*0.90 - 1.10*
Intercept	1.063691	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

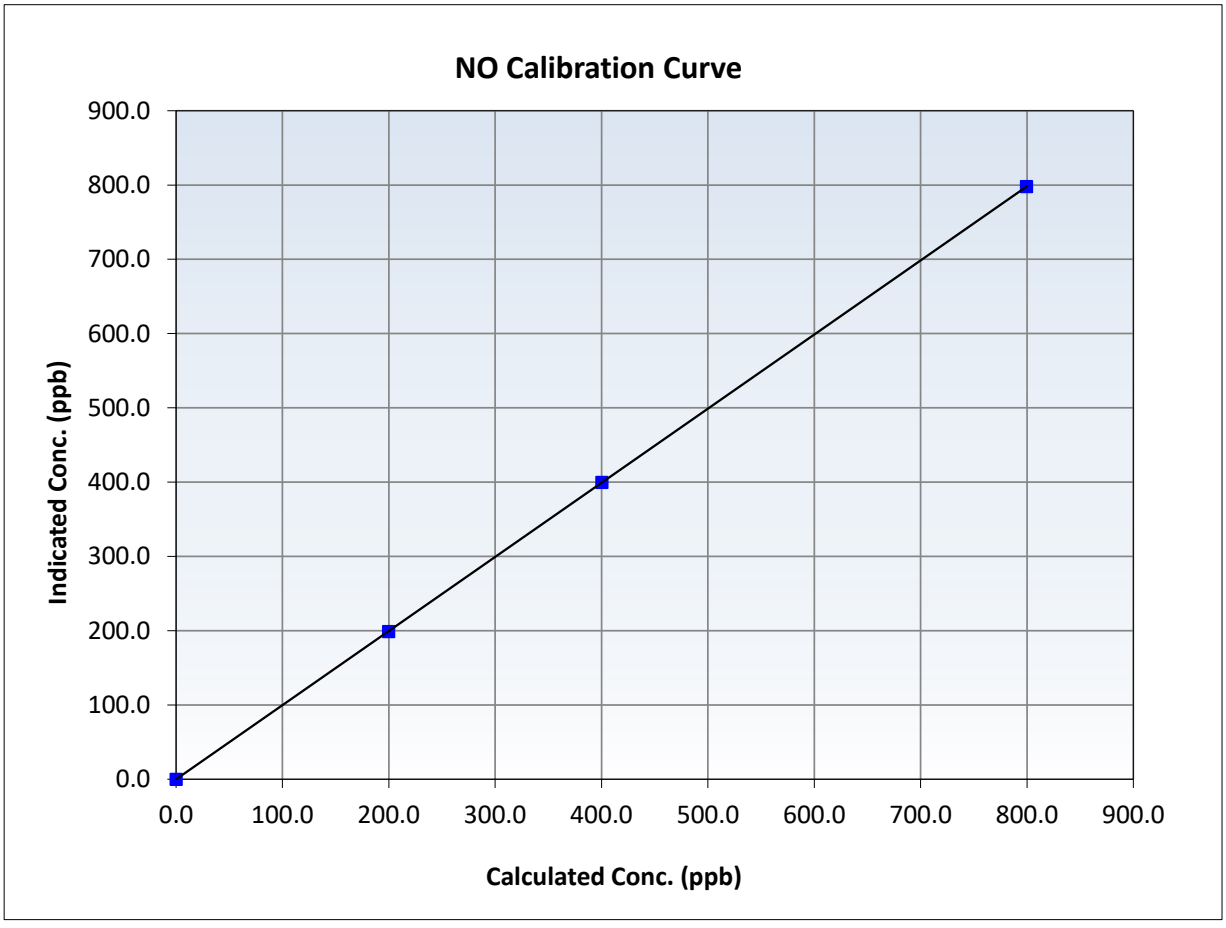
Station Information

Calibration Date:	October 29, 2025	Previous Calibration:	September 18, 2025
Station Name:	Monday Creek	Station Number:	AMS 33
Start Time (MST):	10:18	End Time (MST):	14:22
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12426335704

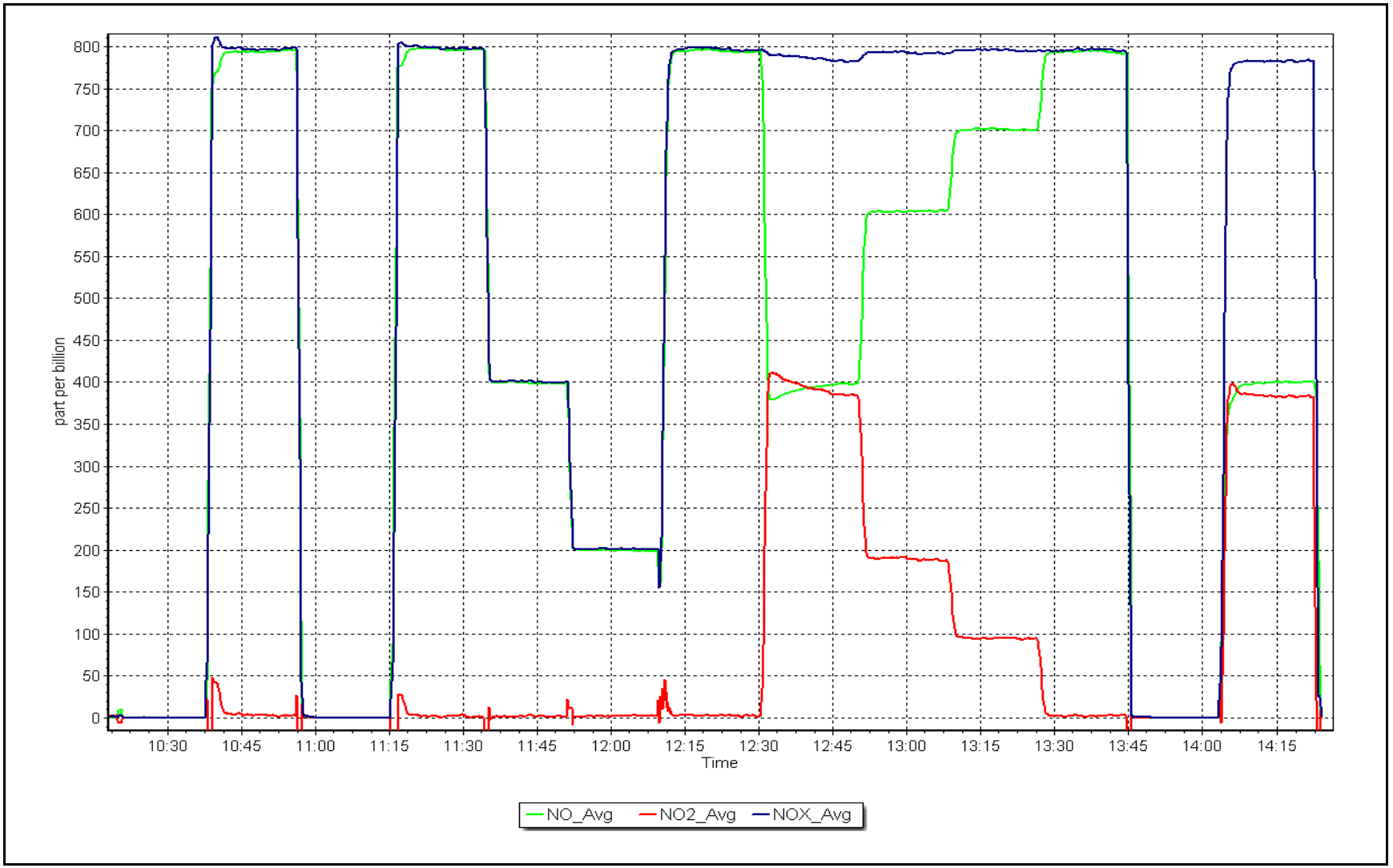
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
799.6	797.8	1.0023
400.3	399.8	1.0013
199.7	198.9	1.0040

Statistical Evaluation		Limits
Correlation Coefficient	0.999999	≥0.995
Slope	0.997903	0.90 - 1.10
Intercept	-0.049822	+/-20



NO_X Calibration Plot Date: October 29, 2025 Location: Monday Creek



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS501
LEISMER
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Leismer	Station number:	AMS 501
Calibration Date:	September 11, 2025	Last Cal Date:	
Start time (MST):	11:30	End time (MST):	11:35
Reason:	Install		

Calibration Standards

Cal Gas Concentration:	50.52	ppm	Cal Gas Exp Date:	December 29, 2028
Cal Gas Cylinder #:	CC274266			
Removed Cal Gas Conc:	50.52	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	2659
Zero Air Gen Model:	Teledyne API T701		Serial Number:	4427

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1160290011	
Analyzer Range:	0-1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	NA	1.000229	Backgd or Offset:	NA	19.8
Calibration intercept:	NA	0.064055	Coeff or Slope:	NA	0.971

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	NA	Previous response	NA	*% change	NA
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.6	----
High point	4921	79.2	800.2	801.1	0.999
Mid point	4960	39.6	400.2	398.9	1.003
Low point	4980	19.8	200.1	200.4	0.998
As left zero	5000	0.0	0.0	0.9	----
As left span	4921	79.2	800.2	797.6	1.003
				Average Correction Factor:	1.000

Notes: Install Calibration. Adjusted span only.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

SO_2 Calibration Summary

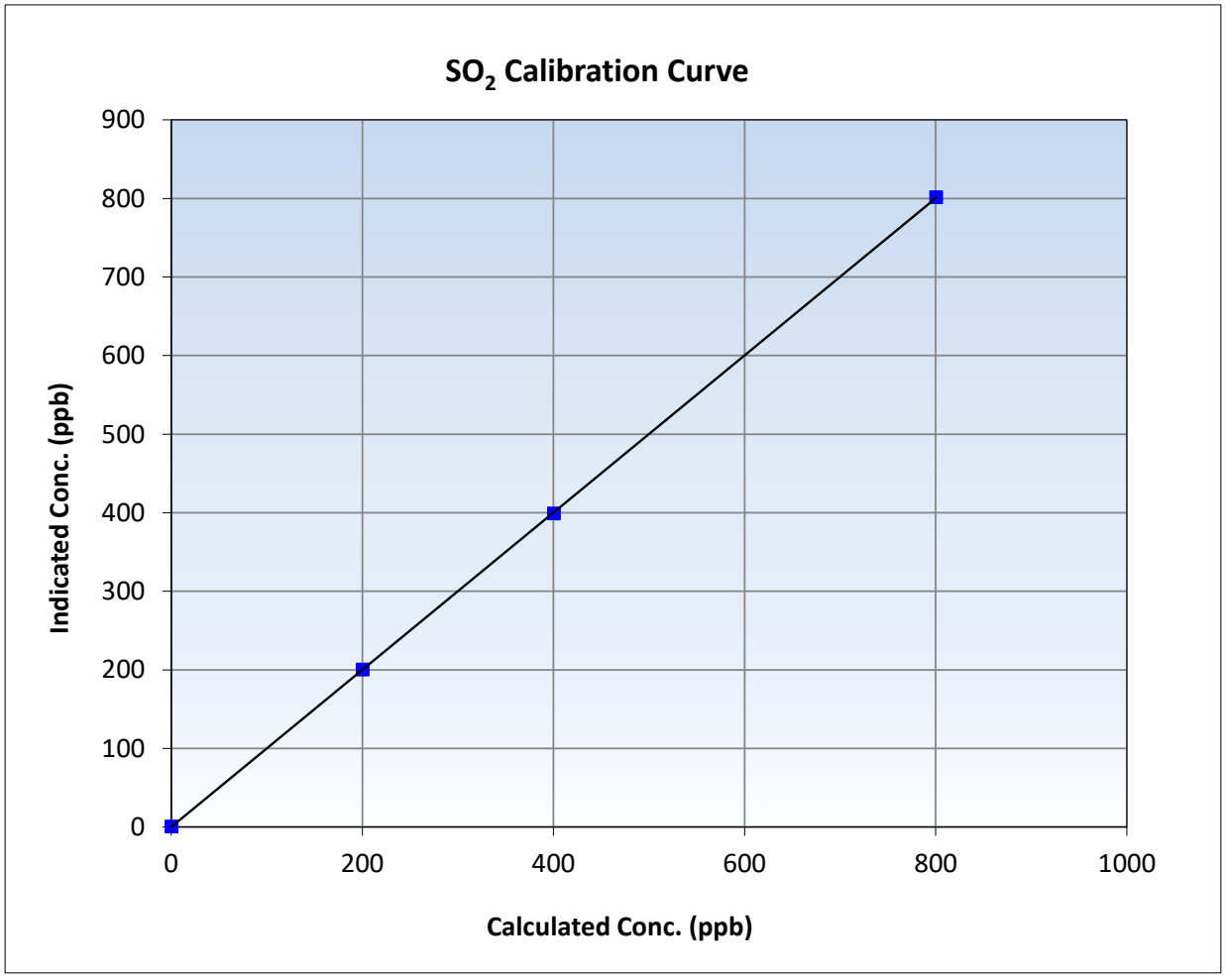
Station Information

Calibration Date:	September 11, 2025	Previous Calibration:	
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	11:30	End Time (MST):	11:35
Analyzer make:	Thermo 43i	Analyzer serial #:	1160290011

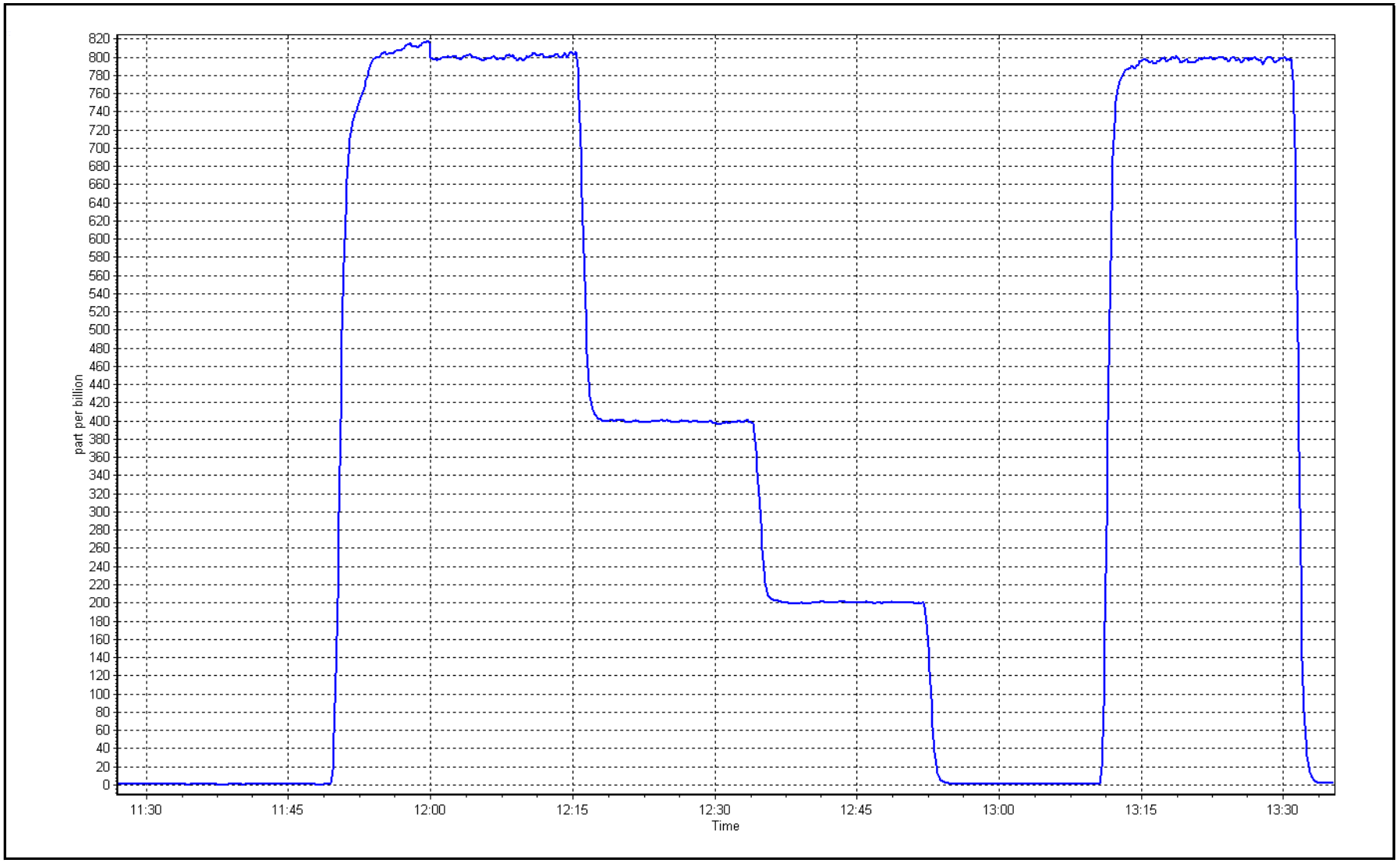
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.6	----
800.2	801.1	0.9989
400.2	398.9	1.0031
200.1	200.4	0.9983

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999992	*≥0.995*
Slope	1.000229	*0.90 - 1.10*
Intercept	0.064055	*+/-30*



SO2 Calibration Plot Date: September 11, 2025 Location: Leismer



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Leismer	Station number:	AMS 501
Calibration Date:	September 11, 2025	Last Cal Date:	NA
Start time (MST):	8:38	End time (MST):	11:32
Reason:	Install		

Calibration Standards

Cal Gas Concentration:	4.89	ppm	Cal Gas Exp Date:	September 5, 2027
Cal Gas Cylinder #:	CC737971			
Removed Cal Gas Conc:	4.89	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne 750		Serial Number:	282
ZAG Make/Model:	Teledyne 751H		Serial Number:	321

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Analyzer serial #:	1180540020	
Converter make:	Global G150		Converter serial #:	2022-218	
Analyzer Range	0 - 100 ppb		Converter Temp:	325.0	degC

	Start	***Finish***		***Start***	***Finish***
Calibration slope:	NA	1.014452	Backgd or Offset:	NA	3.78
Calibration intercept:	NA	-0.719189	Coeff or Slope:	NA	1.200

H2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	NA	Prev response:	NA	*% change:	NA
Baseline Corr 2nd AF pt:	NA	AF Slope:	NA	AF Intercept:	NA
Baseline Corr 3rd AF pt:	NA	AF Correlation:	NA	* = > +/-5% change initiates investigation	

H2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.3	----
High point	4918	81.8	80.0	80.7	0.991
Mid point	4959	40.9	40.0	39.5	1.013
Low point	4980	20.4	19.9	19.2	1.039
As left zero	5000	0.0	0.0	-0.2	----
As left span	4918	81.8	80.0	82.4	0.971
SO2 Scrubber Check	4921	79.2	800.2	0.0	----
Date of last scrubber change:				Ave Corr Factor	1.014
Date of last converter efficiency test:					

Notes: Install Calibration. Adjusted span.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

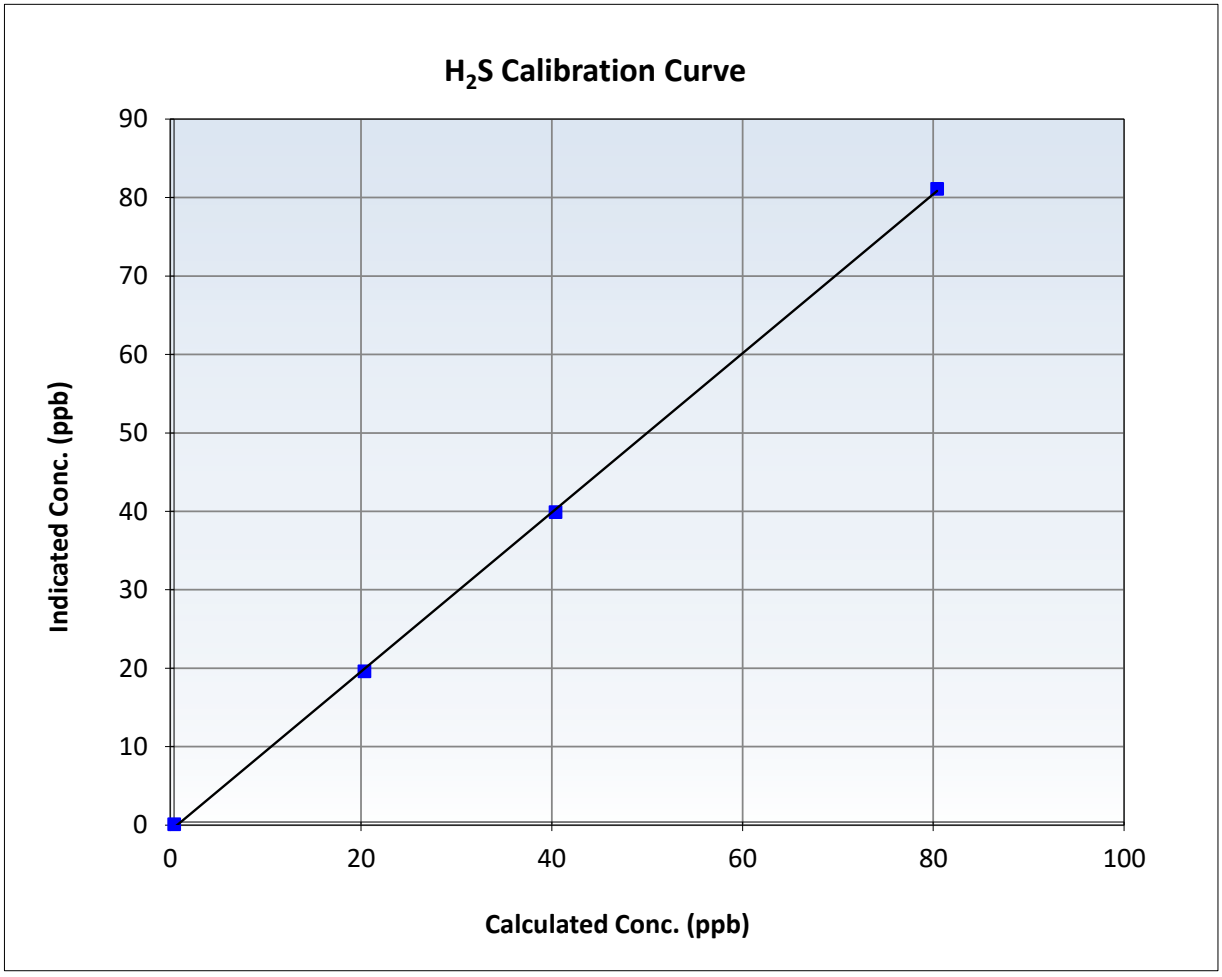
H2S Calibration Summary

Station Information

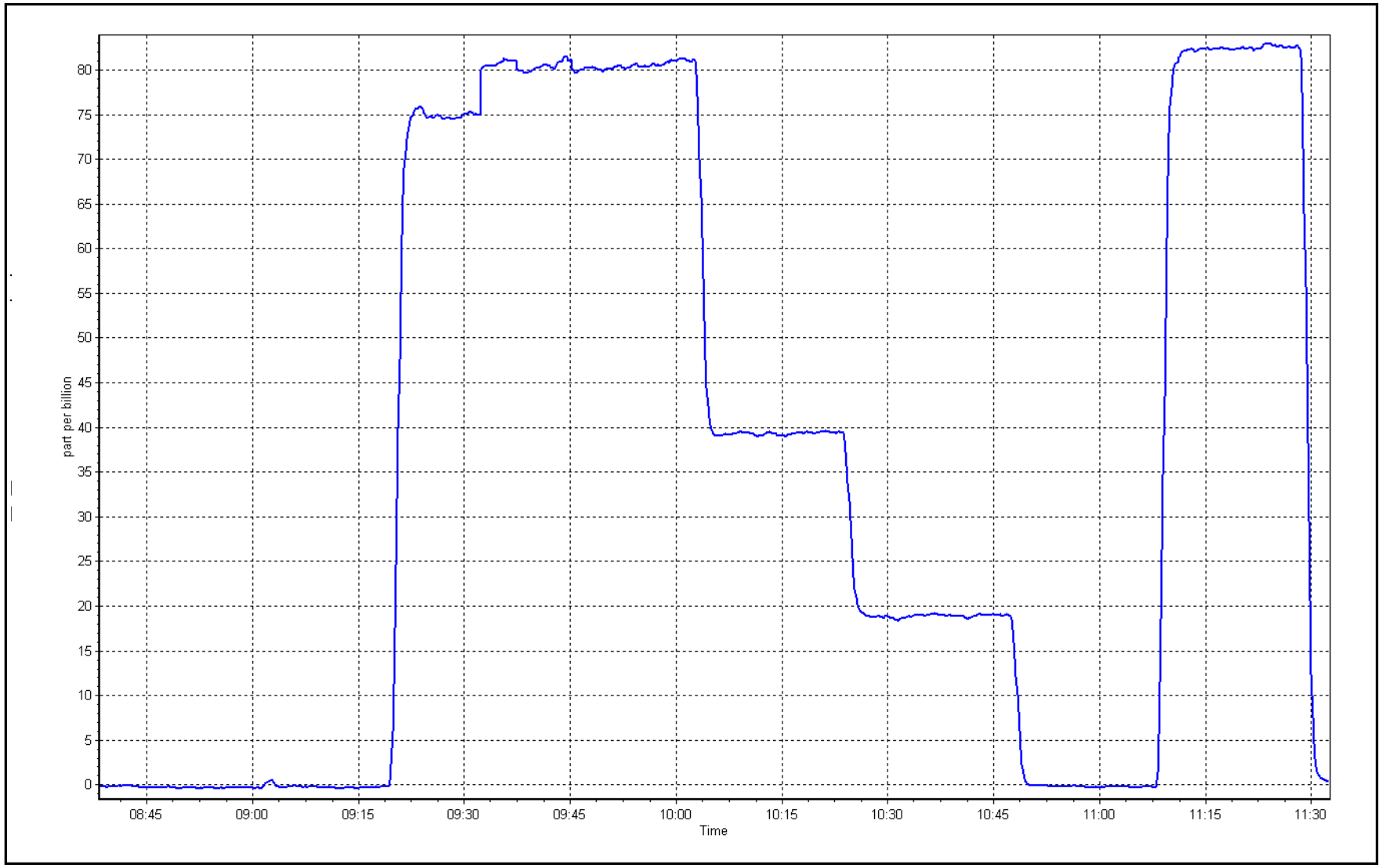
Calibration Date:	September 11, 2025	Previous Calibration:	NA
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	8:38	End Time (MST):	11:32
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1180540020

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	-0.3	----	Correlation Coefficient	0.999868	*≥0.995*
80.0	80.7	0.9914	Slope	1.014452	*0.90 - 1.10*
40.0	39.5	1.0127			
19.9	19.2	1.0390	Intercept	-0.719189	*+/-3*



H2S Calibration Plot Date: September 11, 2025 Location: Leismer



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Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Leismer	Station number:	AMS 501
Calibration Date:	September 29, 2025	Last Cal Date:	September 11, 2025
Start time (MST):	11:46	End time (MST):	16:17
Reason:	Maintenance		

Calibration Standards

Cal Gas Concentration:	4.89	ppm	Cal Gas Exp Date:	September 5, 2027
Cal Gas Cylinder #:	CC737971			
Removed Cal Gas Conc:	4.89	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne 750		Serial Number:	282
ZAG Make/Model:	Teledyne 751H		Serial Number:	321

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Analyzer serial #:	1180540020
Converter make:	Global G150		Converter serial #:	2022-218
Analyzer Range	0 - 100 ppb		Converter Temp:	325.0 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.014452	1.007306	Backgd or Offset:	3.78	3.71
Calibration intercept:	-0.719189	-0.319160	Coeff or Slope:	1.200	1.177

H2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.3	----
As found High point	4918	81.8	80.0	81.3	0.980
As found Mid point	4959	40.9	40.0	40.4	0.983
As found Low point	4980	20.4	19.9	19.9	0.988
New cylinder response					

Baseline Corr As found:	81.6	Prev response:	80.44	*% change:	1.4%
Baseline Corr 2nd AF pt:	40.7	AF Slope:	1.020446	AF Intercept:	-0.378939
Baseline Corr 3rd AF pt:	20.2	AF Correlation:	0.999996	* = > +/-5% change initiates investigation	

H2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.2	----
High point	4918	81.8	80.0	80.4	0.995
Mid point	4959	40.9	40.0	39.7	1.008
Low point	4980	20.4	19.9	19.8	1.008
As left zero	5000	0.0	0.0	-0.1	----
As left span	4918	81.8	80.0	80.3	0.996
SO2 Scrubber Check	4921	79.2	800.2	0.0	----
Date of last scrubber change:				Ave Corr Factor	1.003
Date of last converter efficiency test:					

Notes: Adjusted span only.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

H2S Calibration Summary

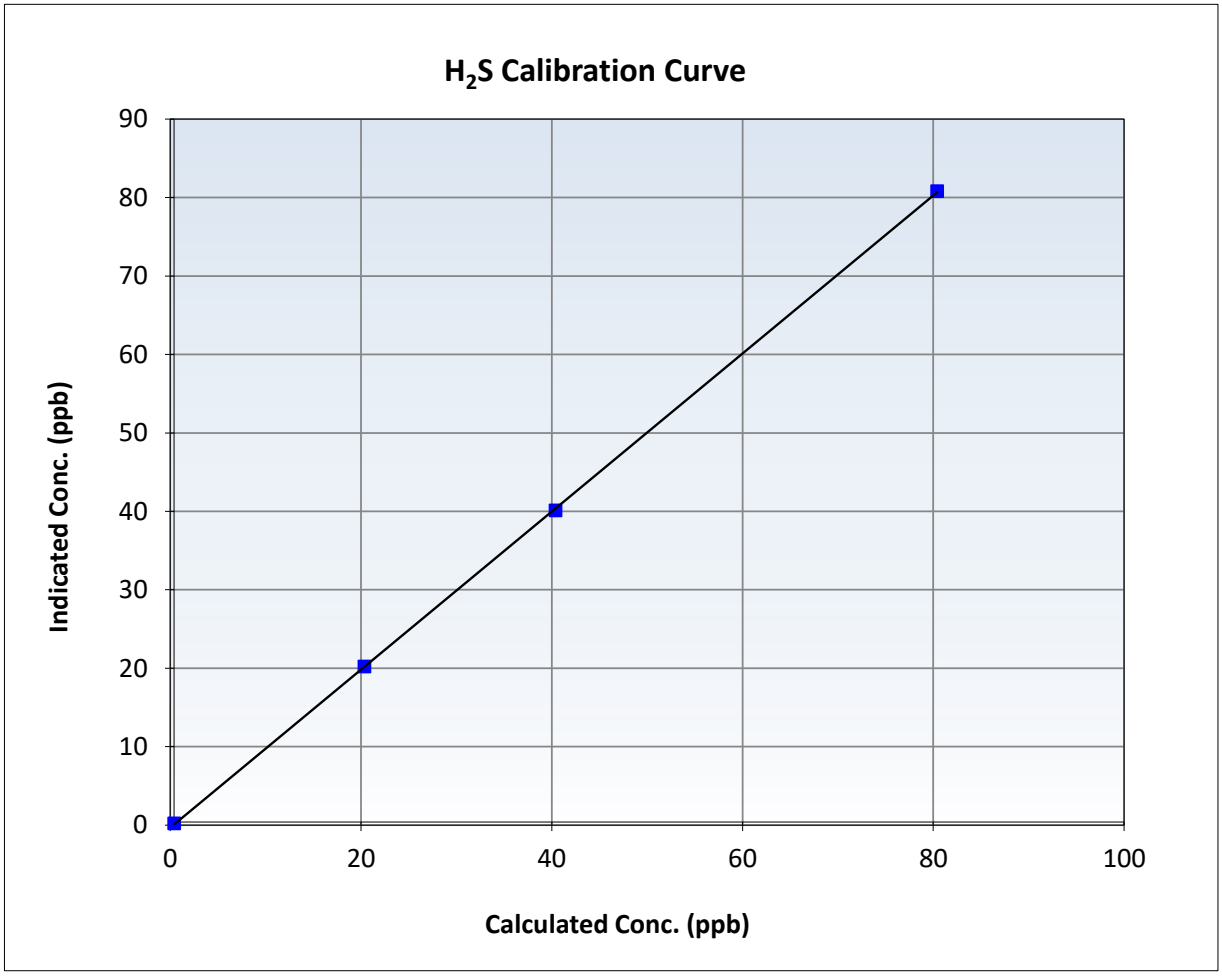
Station Information

Calibration Date:	September 29, 2025	Previous Calibration:	September 11, 2025
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	11:46	End Time (MST):	16:17
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1180540020

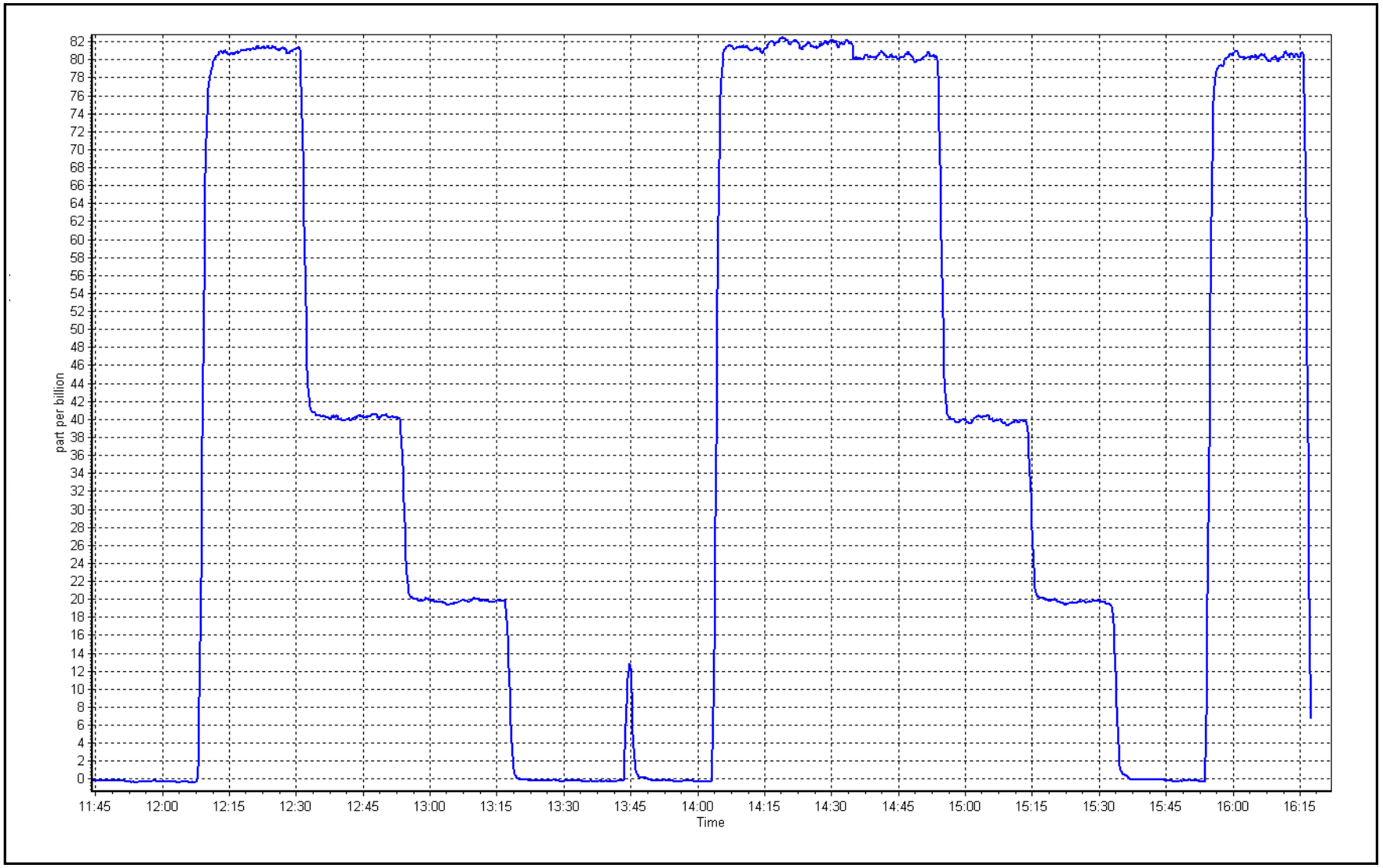
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
80.0	80.4	0.9951
40.0	39.7	1.0076
19.9	19.8	1.0076

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999970	*≥0.995*
Slope	1.007306	*0.90 - 1.10*
Intercept	-0.319160	*+/-3*



H2S Calibration Plot Date: September 29, 2025 Location: Leismer



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Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Leismer
Station number:	AMS 501
Calibration Date:	September 12, 2025
Last Cal Date:	NA
Start time (MST):	9:19
End time (MST):	13:06
Reason:	Install

Calibration Standards

NO Gas Cylinder #:	DT0022706	Cal Gas Expiry Date:	January 5, 2032
NOX Cal Gas Conc:	60.20 ppm	NO Cal Gas Conc:	60.10 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	60.20 ppm	Removed Gas NO Conc:	60.10 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	3252
ZAG make/model:	Teledyne API 701	Serial Number:	4427

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero										
AF High point										
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = NA	ppb	NO = NA	ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X =	NA
Baseline Corr 1st pt	NO_X = NA	ppb	NO = NA	ppb	As Found Statistics	*Percent Change	NO =	NA
Baseline Corr 2nd pt	NO_X = NA	ppb	NO = NA	ppb	As found NO_X r^2:	Nx Sl:	Nx Int:	
Baseline Corr 3rd pt	NO_X = NA	ppb	NO = NA	ppb	As found NO r^2:	NO Sl:	NO Int:	
					As found NO_2 r^2:	NO2 Sl:	NO_2 Int:	

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42iQ Serial Number: 12400232071

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	NA	0.982	NO bkgnd or offset:	NA	0.4
NOX coeff or slope:	NA	0.986	NOX bkgnd or offset:	NA	0.6
NO2 coeff or slope:	NA	1.000	Reaction cell Press:	NA	185.8

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	NA	1.000452
NO_X Cal Offset:	NA	0.312513
NO Cal Slope:	NA	1.001420
NO Cal Offset:	NA	-1.068581
NO_2 Cal Slope:	NA	0.992751
NO_2 Cal Offset:	NA	2.025430

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	----
High point	4933	66.6	801.9	800.6	1.3	802.6	801.3	1.3	0.9992	0.9991
Mid point	4967	33.3	400.9	400.2	0.7	401.1	398.9	2.2	0.9995	1.0034
Low point	4983	16.6	199.9	199.5	0.3	200.9	197.9	3.1	0.9949	1.0083
As left zero	5000	0.0	0.0	0.0	0.0	0.1	0.1	0.0	----	----
As left span	4933	66.6	801.9	379.6	422.3	795.2	379.6	415.6	1.0085	1.0000
							Average Correction Factor		0.9979	1.0036

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.0	----	----
High GPT point	795.6	367.8	429.1	426.8	1.0055	99.5%
Mid GPT point	795.6	599.1	197.8	200.5	0.9867	101.3%
Low GPT point	795.6	693.0	103.9	106.4	0.9768	102.4%
				Average Correction Factor	0.9897	101.1%

Notes: Install Calibration. Adjusted zero and span.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

NO_X Calibration Summary

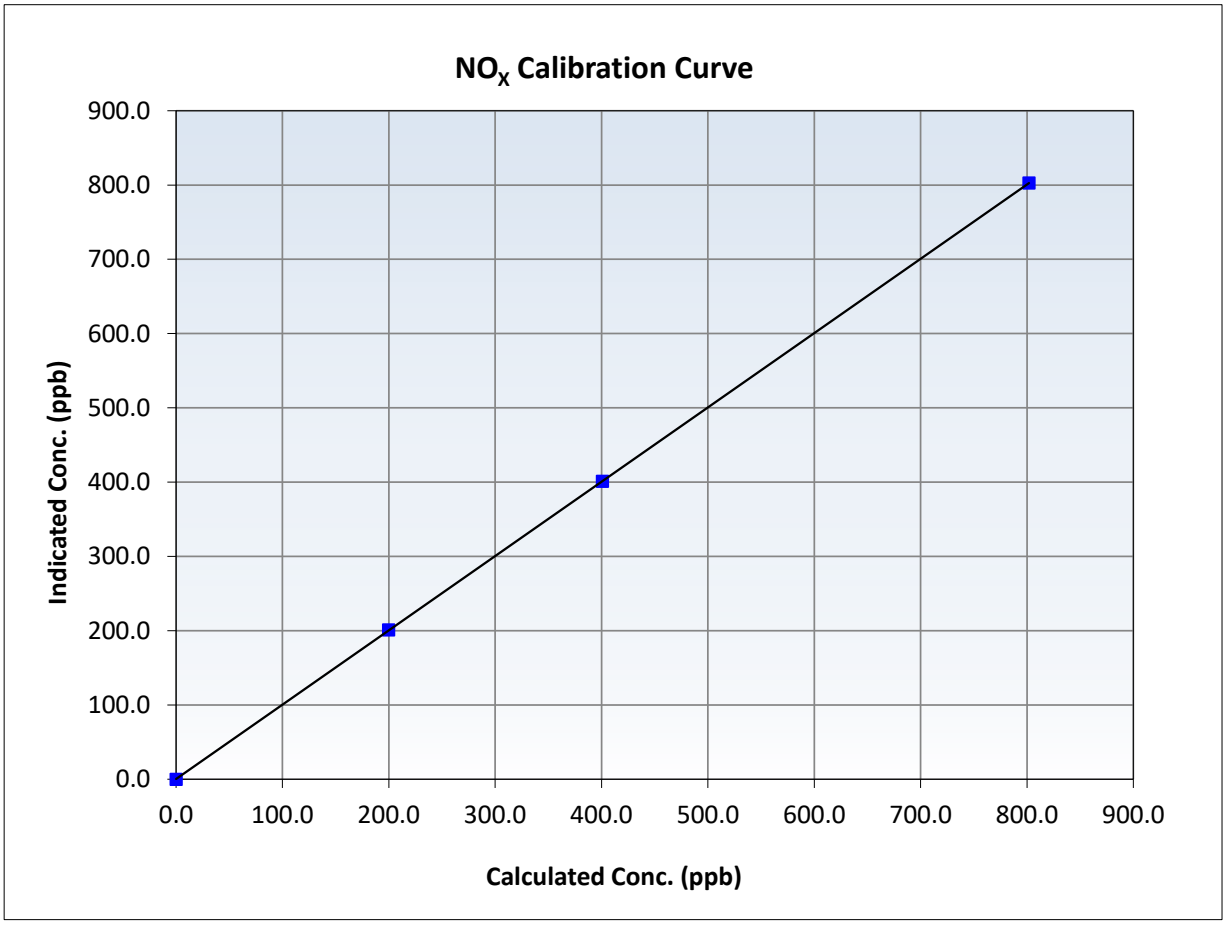
Station Information

Calibration Date:	September 12, 2025	Previous Calibration:	NA
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	9:19	End Time (MST):	13:06
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232071

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
801.9	802.6	0.9992
400.9	401.1	0.9995
199.9	200.9	0.9949

Statistical Evaluation		Limits
Correlation Coefficient	0.999998	≥0.995
Slope	1.000452	0.90 - 1.10
Intercept	0.312513	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

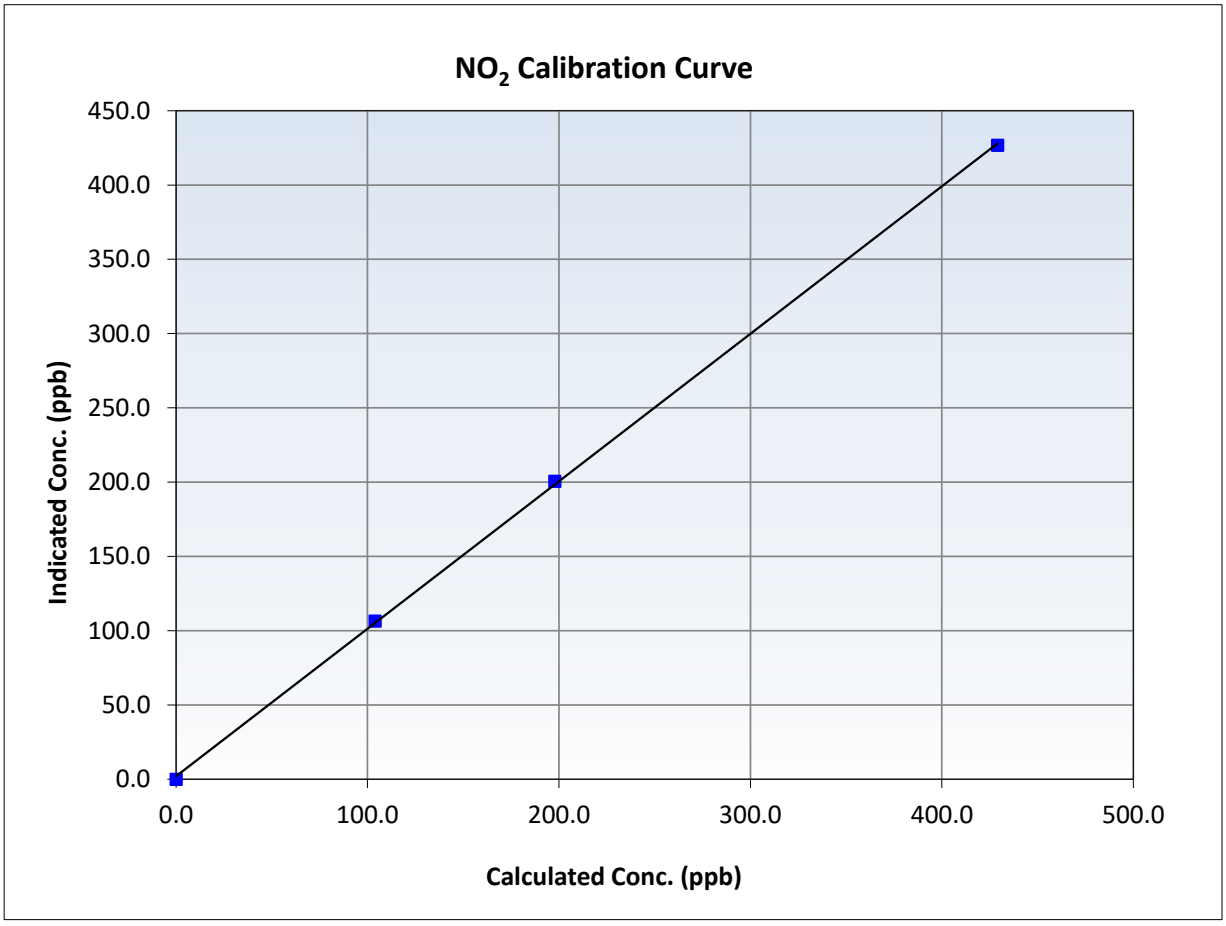
Station Information

Calibration Date:	September 12, 2025	Previous Calibration:	NA
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	9:19	End Time (MST):	13:06
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232071

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
429.1	426.8	1.0055
197.8	200.5	0.9867
103.9	106.4	0.9768

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999885	*≥0.995*
Slope	0.992751	*0.90 - 1.10*
Intercept	2.025430	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

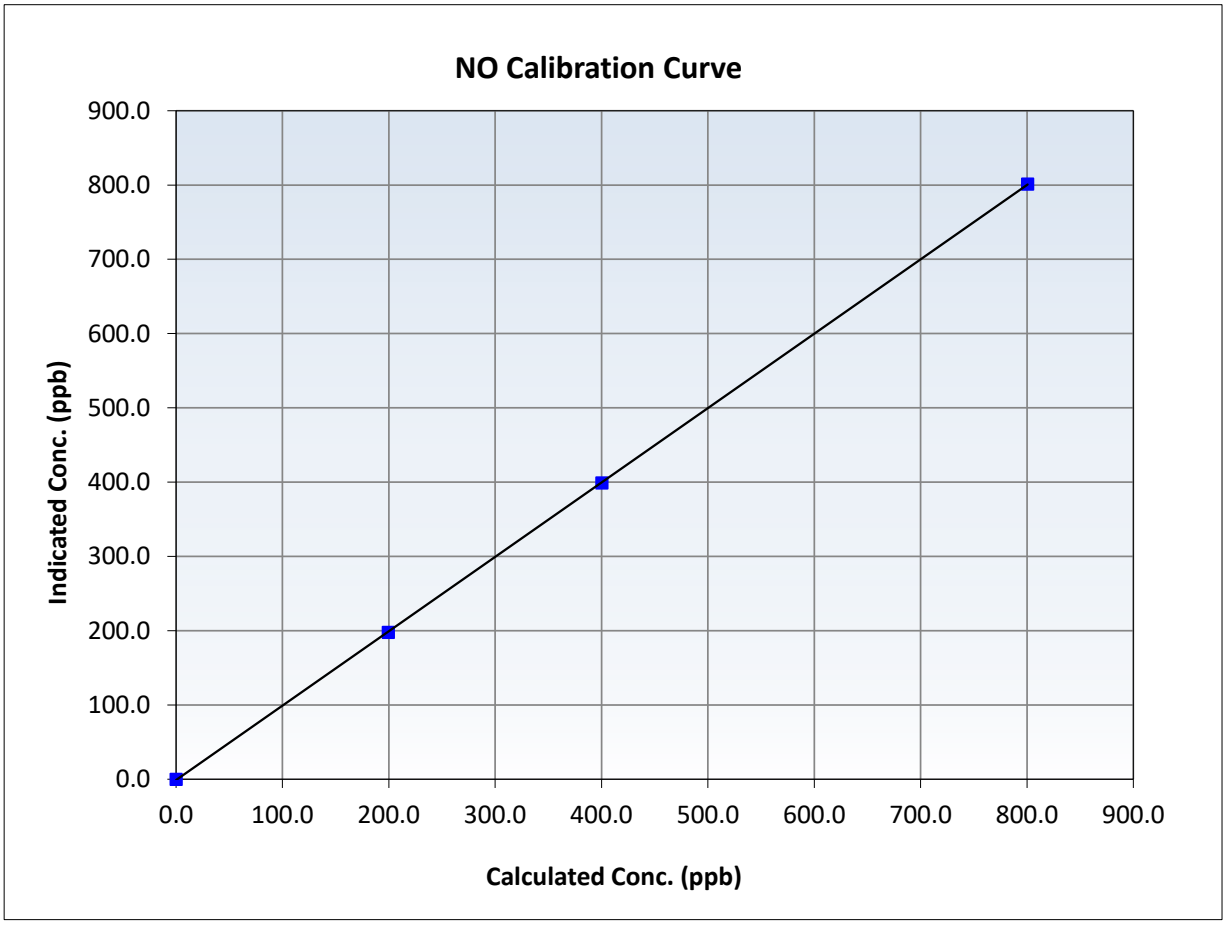
Station Information

Calibration Date:	September 12, 2025	Previous Calibration:	NA
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	9:19	End Time (MST):	13:06
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232071

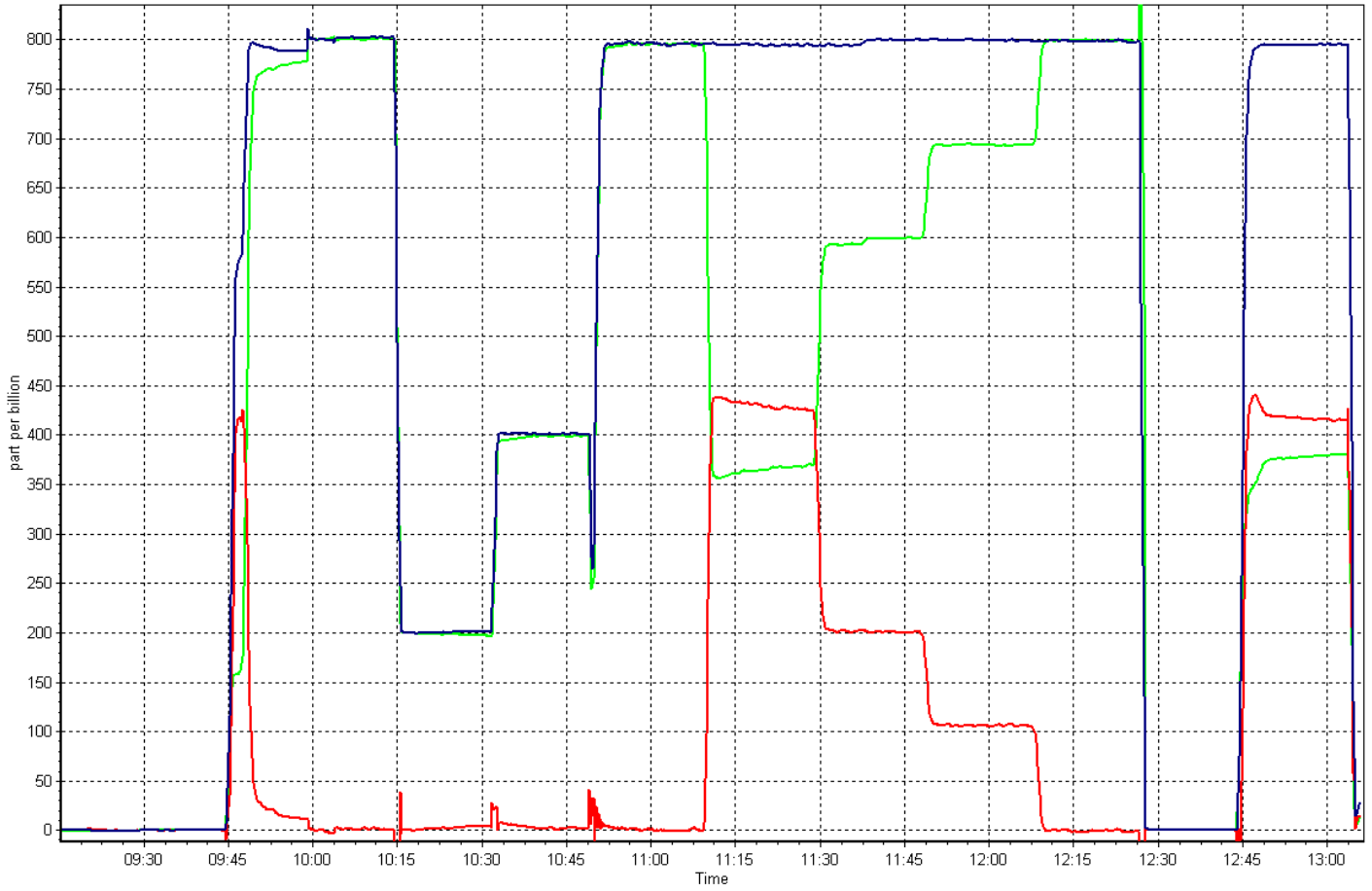
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
800.6	801.3	0.9991
400.2	398.9	1.0034
199.5	197.9	1.0083

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999991	*≥0.995*
Slope	1.001420	*0.90 - 1.10*
Intercept	-1.068581	*+/-20*



NO_X Calibration Plot Date: September 12, 2025 Location: Leismer



Wood Buffalo Environmental Association

Wind Speed/Direction Calibration Report

Station Information

Station Name:	Leismer	Station Number:	AMS 501
Calibration Date:	September 11, 2025	Prev Cal Date:	
Start Time (MST):	9:03	End Time (MST):	10:09
Tower Height (m):	10.0	Reason:	Install

Wind Speed Calibration

Sensor make/model:	Met One 010C-1	Serial Number:	Y18362
WS Calibrator:	MetOne 053	Serial Number:	P15103

Shaft RPM (Hz)	Calculated Speed (K/hr) (Cv)	Indicated Speed (K/hr) (Iv)	% Error *Limit = +/- 1.5%*
0	0.0	0.0	---
200	20.2	20.2	0.2%
400	39.4	39.4	0.1%
600	58.6	58.6	0.1%
800	77.8	77.8	0.1%

	Start	*Finish*	*Limits*
Correl Coeff (r^2)	0.999999	1.000000	*≥0.9995*
Calculated slope	0.998868	0.999465	*0.98 - 1.02*
Calculated intercept	0.028930	-0.013446	*+/- 2*

Wind Direction Calibration

Sensor make/model:	Met One 020C-1	Serial Number:	R14654	
As Found Declination (deg east of True North):	NA	As Left Declination (deg east of True North):	13	
Solar noon (MST):	13:22	Calc Declination*:	13.08	Degrees
WD Calibrator:	Met One 040		* - calculated declination as per NOAA website	

Physical Direction (Degrees) (Cv)	Indicated Direction (Degrees) (Iv)	% Error (based on 360° FS) *Limit = +/- 1%*
10	12.2	0.6%
90	90.7	0.2%
180	178.8	-0.3%
270	268.9	-0.3%
350	348.9	-0.3%

	Start	*Finish*	*Limits*
Correl Coeff (r^2)	0.999926	0.999986	*≥0.9995*
Calculated slope	1.000769	1.009838	*0.97 - 1.03*
Calculated intercept	-1.799252	-1.669816	*+/- 5*

Notes: Install Calibrations.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Leismer	Station number:	AMS 501
Calibration Date:	October 22, 2025	Last Cal Date:	September 11, 2025
Start time (MST):	8:34	End time (MST):	11:29
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.52	ppm	Cal Gas Exp Date:	December 29, 2028
Cal Gas Cylinder #:	CC274266			
Removed Cal Gas Conc:	50.52	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	2659
Zero Air Gen Model:	Teledyne API T701		Serial Number:	4427

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1160290011	
Analyzer Range:	0-1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.000229	1.007371	Backgd or Offset:	19.8	21.4
Calibration intercept:	0.064055	-0.136096	Coeff or Slope:	0.971	0.994

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.7	----
As found High point	4921	79.2	800.2	784.4	1.021
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	783.7	Previous response	800.5	*% change	-2.1%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.2	----
High point	4921	79.2	800.2	806.2	0.993
Mid point	4960	39.6	400.2	402.2	0.995
Low point	4980	19.8	200.1	202.0	0.990
As left zero	5000	0.0	0.0	-0.1	----
As left span	4921	79.2	800.2	807.2	0.991
				Average Correction Factor:	0.993

Notes: Adjusted zero and span.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

SO_2 Calibration Summary

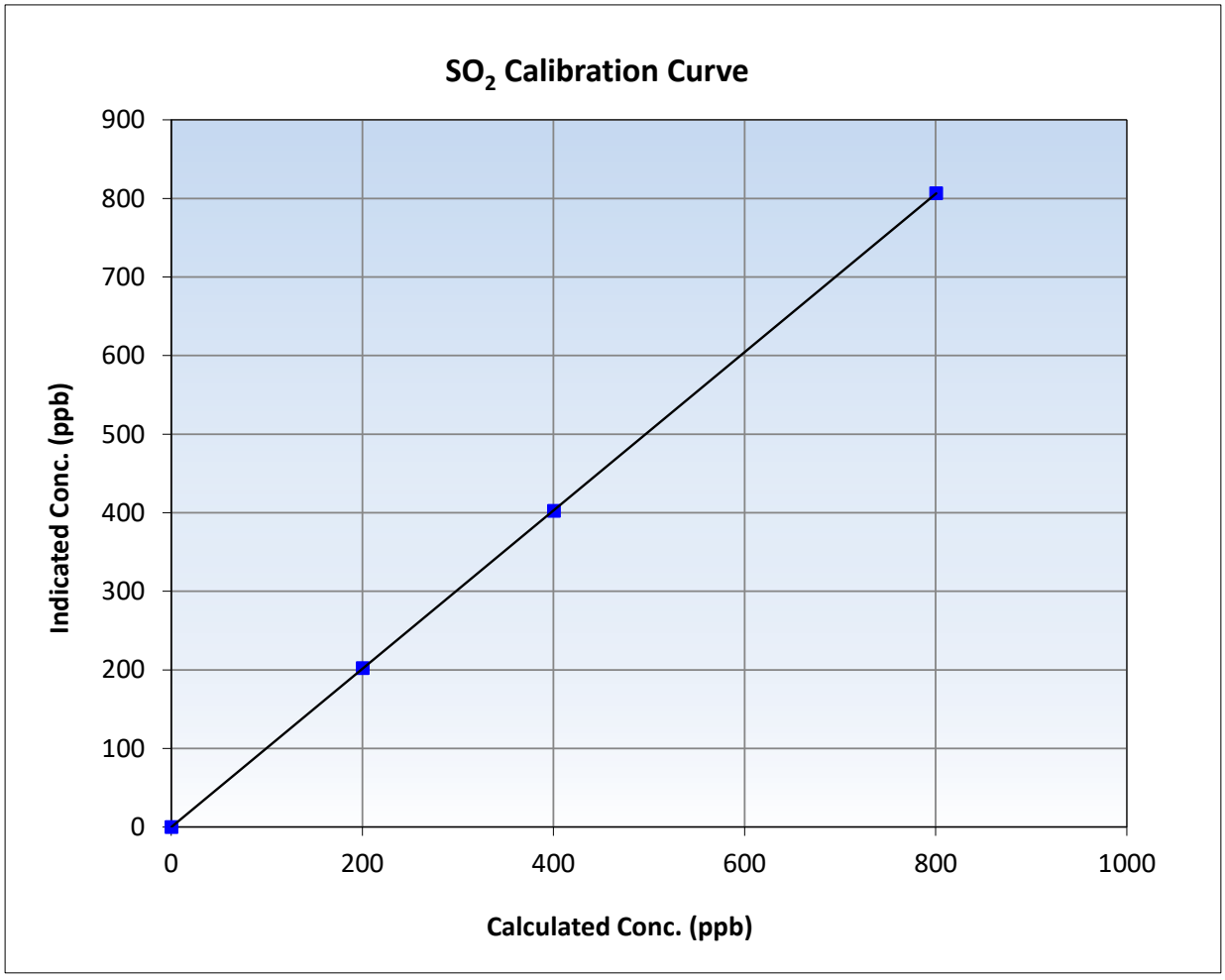
Station Information

Calibration Date:	October 22, 2025	Previous Calibration:	September 11, 2025
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	8:34	End Time (MST):	11:29
Analyzer make:	Thermo 43i	Analyzer serial #:	1160290011

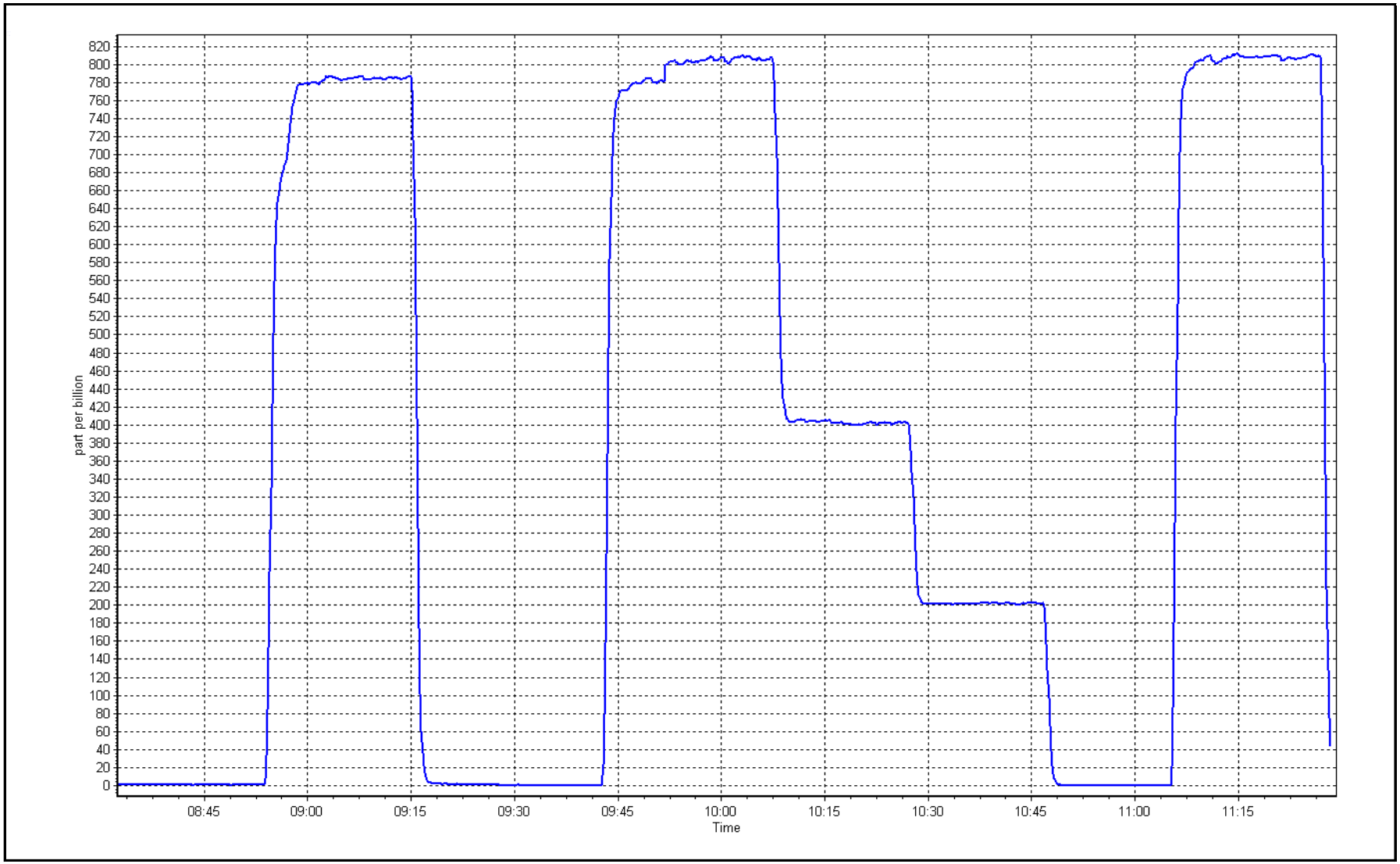
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
800.2	806.2	0.9926
400.2	402.2	0.9949
200.1	202.0	0.9904

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999997	*≥0.995*
Slope	1.007371	*0.90 - 1.10*
Intercept	-0.136096	*+/-30*



SO2 Calibration Plot Date: October 22, 2025 Location: Leismer



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Leismer	Station number:	AMS 501
Calibration Date:	October 9, 2025	Last Cal Date:	September 29, 2025
Start time (MST):	8:33	End time (MST):	12:16
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	4.89	ppm	Cal Gas Exp Date:	September 5, 2027
Cal Gas Cylinder #:	CC737971			
Removed Cal Gas Conc:	4.89	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne 750		Serial Number:	282
ZAG Make/Model:	Teledyne 751H		Serial Number:	321

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Analyzer serial #:	1180540020
Converter make:	Global G150		Converter serial #:	2022-218
Analyzer Range	0 - 100 ppb		Converter Temp:	325.0 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.007306	1.008591	Backgd or Offset:	3.71	3.71
Calibration intercept:	-0.319160	-0.239137	Coeff or Slope:	1.177	1.177

H2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	-0.3	----
As found High point	4918	81.8	80.0	80.5	0.990
As found Mid point	4959	40.9	40.0	39.7	1.000
As found Low point	4980	20.4	19.9	19.7	0.997
New cylinder response					

Baseline Corr As found:	80.8	Prev response:	80.27	*% change:	0.7%
Baseline Corr 2nd AF pt:	40.0	AF Slope:	1.010020	AF Intercept:	-0.439122
Baseline Corr 3rd AF pt:	20.0	AF Correlation:	0.999970	* = > +/-5% change initiates investigation	

H2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.1	----
High point	4918	81.8	80.0	80.6	0.993
Mid point	4959	40.9	40.0	39.8	1.005
Low point	4980	20.4	19.9	19.9	1.002
As left zero	5000	0.0	0.0	-0.1	----
As left span	4918	81.8	80.0	80.9	0.989
SO2 Scrubber Check	4921	79.2	800.2	0.0	----
Date of last scrubber change:				Ave Corr Factor	1.000
Date of last converter efficiency test:					

Notes: No adjustment.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

H2S Calibration Summary

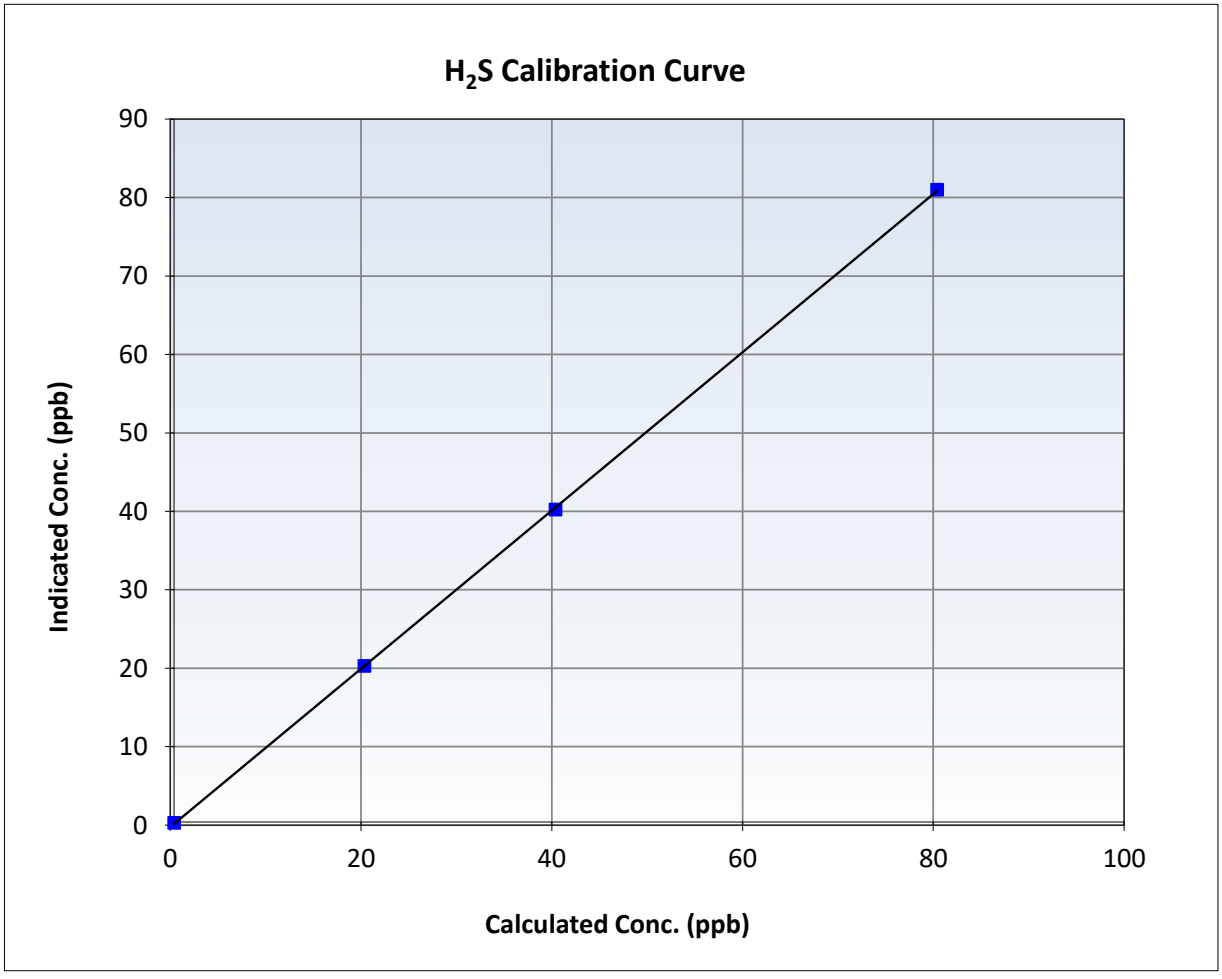
Station Information

Calibration Date:	October 9, 2025	Previous Calibration:	September 29, 2025
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	8:33	End Time (MST):	12:16
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1180540020

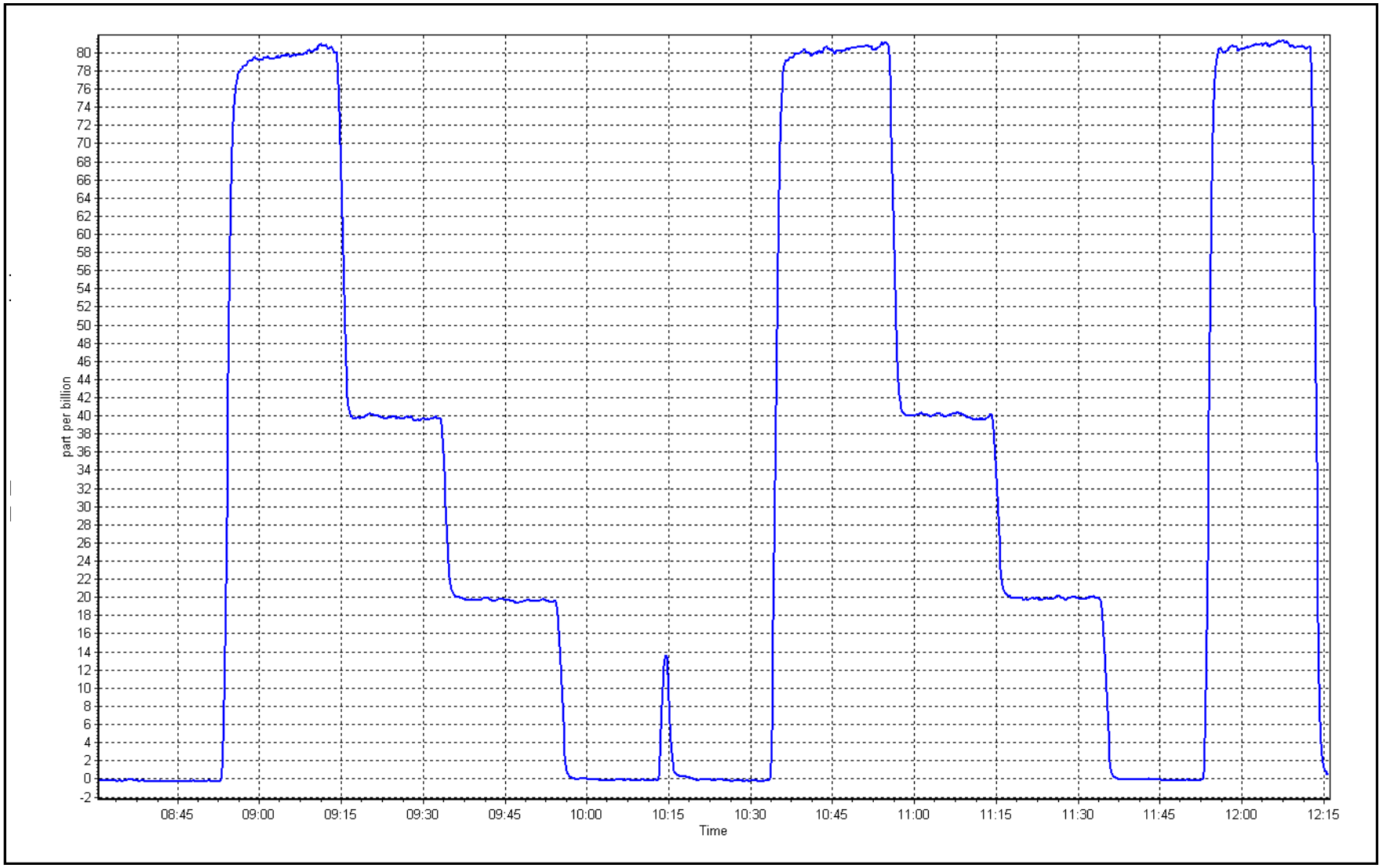
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
80.0	80.6	0.9926
40.0	39.8	1.0051
19.9	19.9	1.0025

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999962	*≥0.995*
Slope	1.008591	*0.90 - 1.10*
Intercept	-0.239137	*+/-3*



H2S Calibration Plot Date: October 9, 2025 Location: Leismer



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Leismer
Station number:	AMS 501
Calibration Date:	October 15, 2025
Last Cal Date:	September 12, 2025
Start time (MST):	8:21
End time (MST):	12:38
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0022706	Cal Gas Expiry Date:	January 5, 2032
NOX Cal Gas Conc:	60.20 ppm	NO Cal Gas Conc:	60.10 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	60.20 ppm	Removed Gas NO Conc:	60.10 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	3252
ZAG make/model:	Teledyne API 701	Serial Number:	4427

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	0.4	0.3	0.1	----	----
AF High point	4933	66.6	801.9	800.6	1.3	802.8	801.1	1.7	0.9994	0.9997
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	802.6 ppb	NO =	800.7 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = 0.0%
Baseline Corr 1st pt	NO_X =	802.4 ppb	NO =	800.8 ppb	As Found Statistics	*Percent Change	NO = 0.0%
Baseline Corr 2nd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO_X r^2:	Nx Sl:	Nx Int:
Baseline Corr 3rd pt	NO_X =	NA ppb	NO =	NA ppb	As found NO r^2:	NO Sl:	NO Int:
					As found NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42iQ Serial Number: 12400232071

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.982	0.975	NO bkgnd or offset:	0.4	0.4
NOX coeff or slope:	0.986	0.991	NOX bkgnd or offset:	0.6	0.6
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	185.8	181.7

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.000452	0.998058
NO_X Cal Offset:	0.312513	1.452094
NO Cal Slope:	1.001420	0.998965
NO Cal Offset:	-1.068581	-0.409102
NO_2 Cal Slope:	0.992751	0.990038
NO_2 Cal Offset:	2.025430	1.083301

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.6	0.4	0.1	----	----
High point	4933	66.6	801.9	800.6	1.3	801.4	799.8	1.6	1.0007	1.0010
Mid point	4967	33.3	400.9	400.2	0.7	402.0	398.9	3.1	0.9973	1.0034
Low point	4983	16.6	199.9	199.5	0.3	201.8	198.2	3.5	0.9905	1.0068
As left zero	5000	0.0	0.0	0.0	0.0	0.5	0.4	0.0	----	----
As left span	4933	66.6	801.9	384.3	417.6	792.9	384.3	408.6	1.0114	1.0000
							Average Correction Factor		0.9961	1.0037

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.1	----	----
High GPT point	795.8	380.6	416.5	413.4	1.0076	99.2%
Mid GPT point	795.8	579.6	217.5	215.6	1.0090	99.1%
Low GPT point	795.8	685.4	111.7	113.6	0.9836	101.7%
				Average Correction Factor	1.0000	100.0%

Notes: Adjusted span only.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

NO_X Calibration Summary

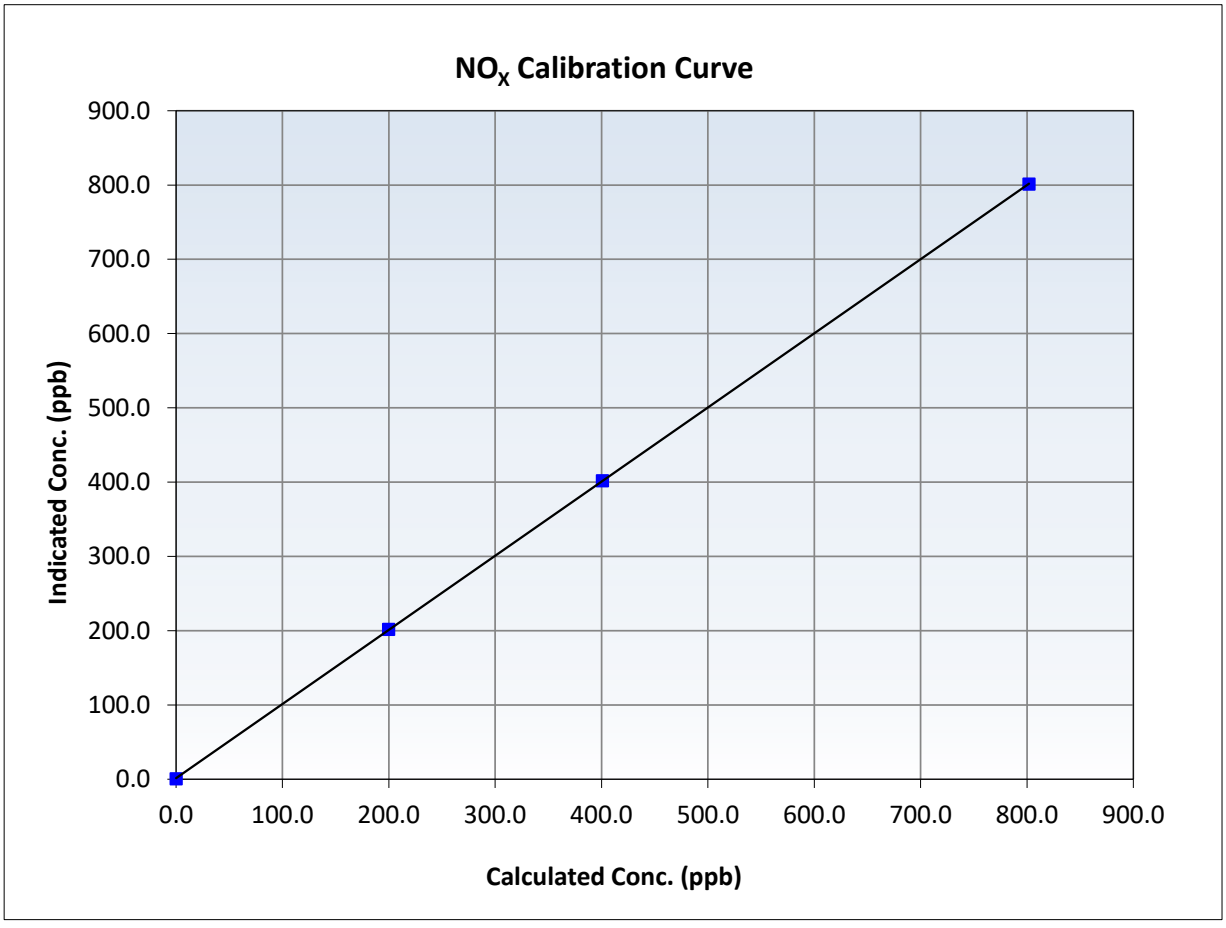
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 12, 2025
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	8:21	End Time (MST):	12:38
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232071

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.6	----
801.9	801.4	1.0007
400.9	402.0	0.9973
199.9	201.8	0.9905

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999995	*≥0.995*
Slope	0.998058	*0.90 - 1.10*
Intercept	1.452094	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

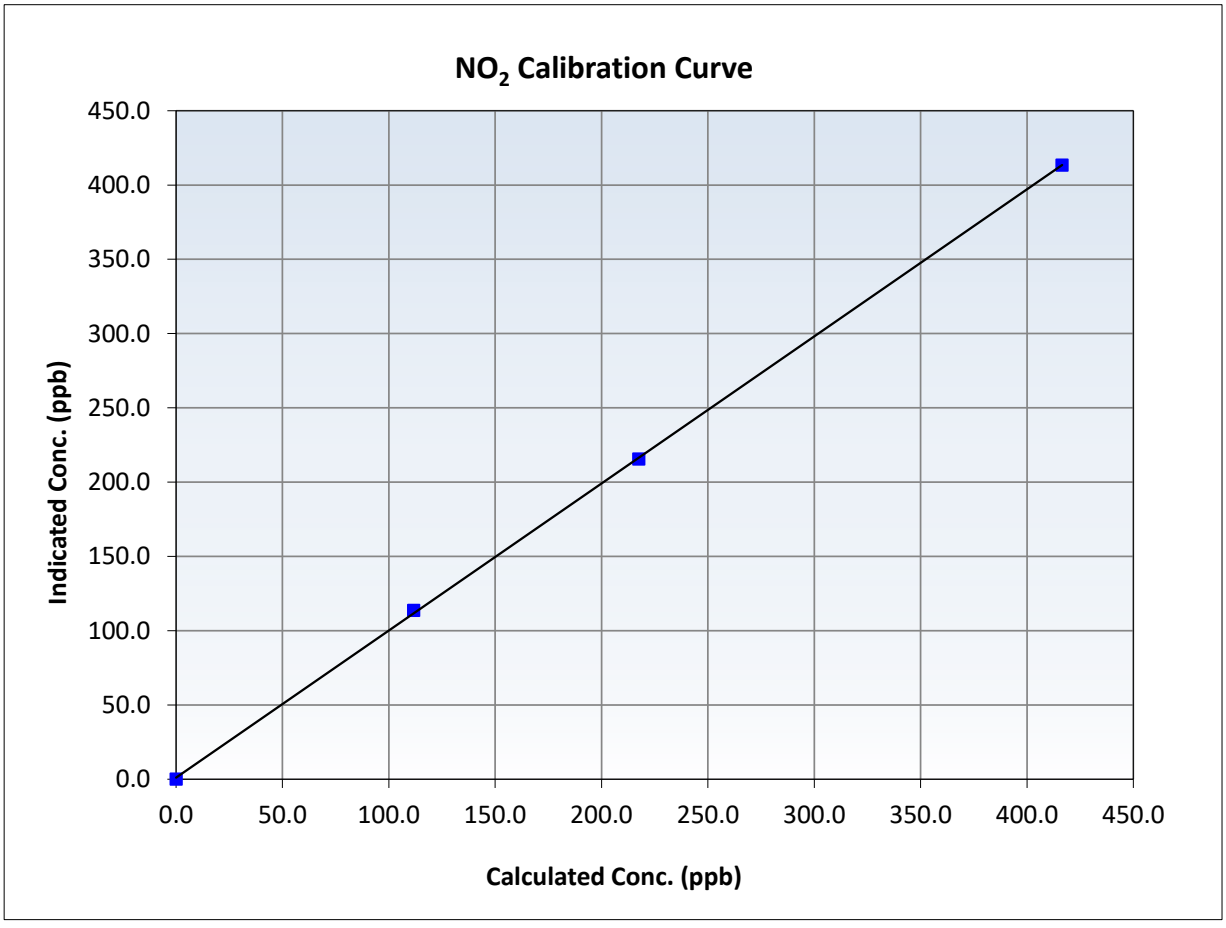
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 12, 2025
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	8:21	End Time (MST):	12:38
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232071

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
416.5	413.4	1.0076
217.5	215.6	1.0090
111.7	113.6	0.9836

Statistical Evaluation		Limits
Correlation Coefficient	0.999943	≥0.995
Slope	0.990038	0.90 - 1.10
Intercept	1.083301	+/-20



Wood Buffalo Environmental Association

NO Calibration Summary

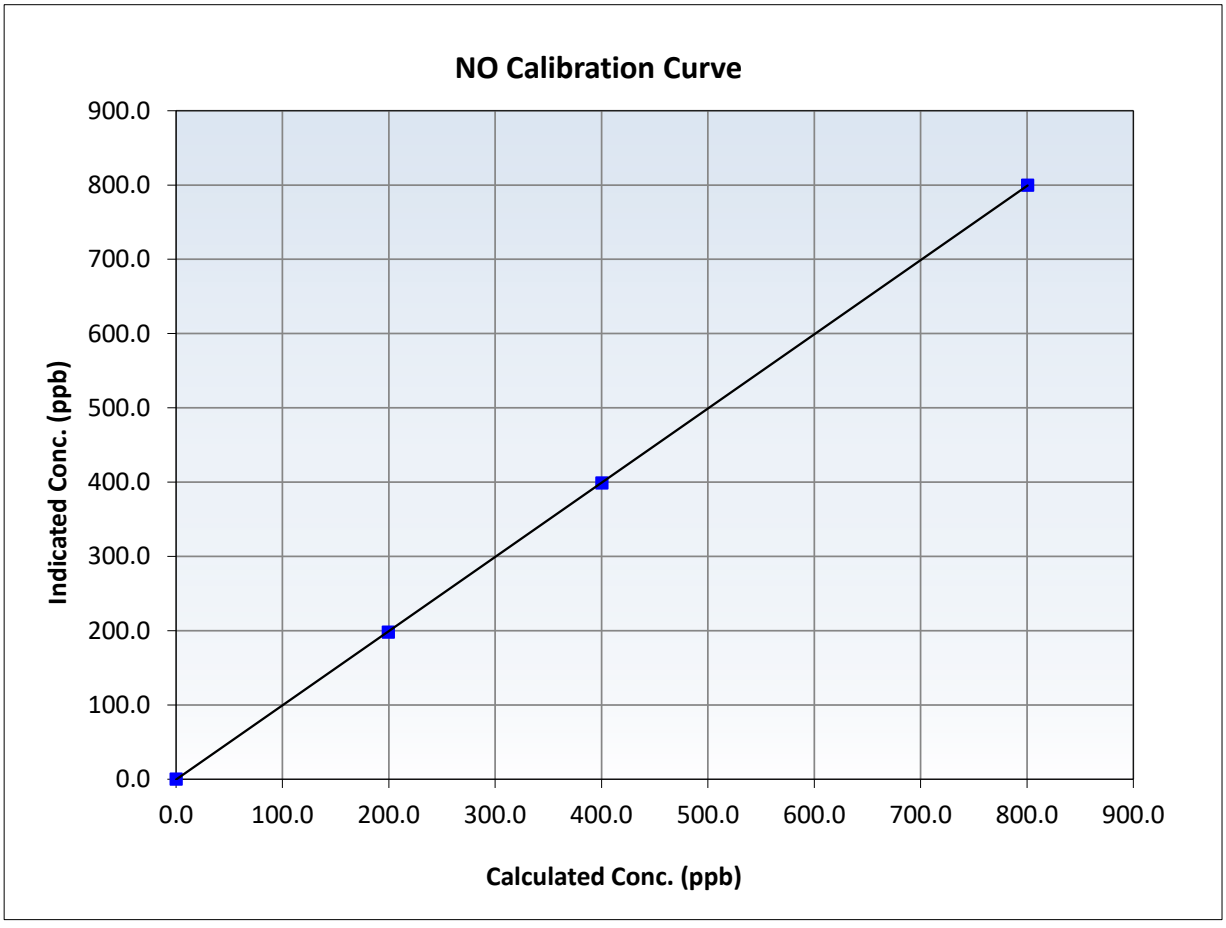
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 12, 2025
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	8:21	End Time (MST):	12:38
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232071

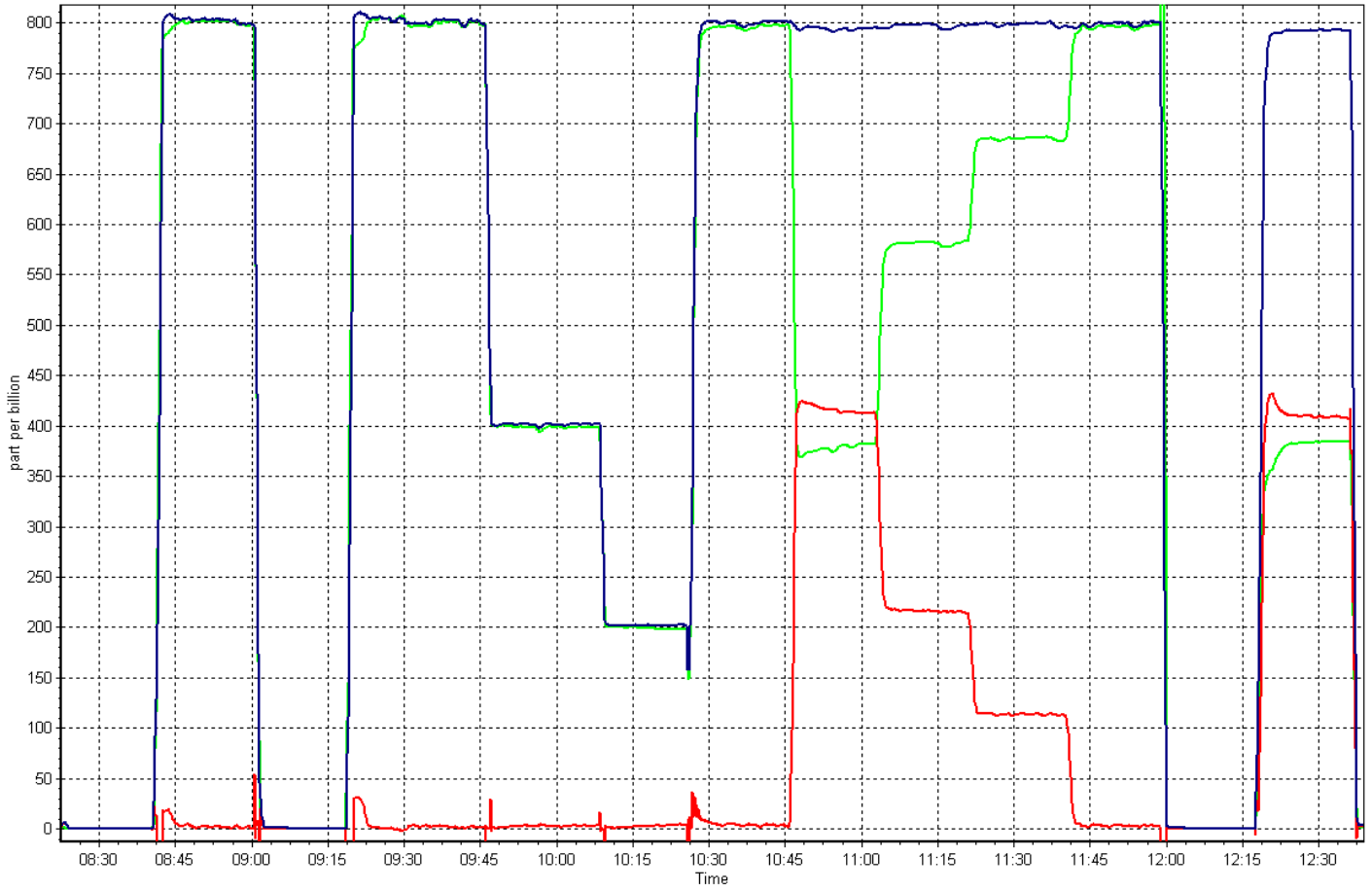
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
800.6	799.8	1.0010
400.2	398.9	1.0034
199.5	198.2	1.0068

Statistical Evaluation		Limits
Correlation Coefficient	0.999995	≥0.995
Slope	0.998965	0.90 - 1.10
Intercept	-0.409102	+/-20



NO_X Calibration Plot Date: October 15, 2025 Location: Leismer



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS505
SAWBONES BAY
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Sawbones Bay	Station number:	AMS 505
Calibration Date:	October 29, 2025	Last Cal Date:	September 25, 2025
Start time (MST):	9:43	End time (MST):	12:34
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.05	ppm	Cal Gas Exp Date:	April 9, 2033
Cal Gas Cylinder #:	EB0063977			
Removed Cal Gas Conc:	50.05	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:	EB0063977		Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	5112
Zero Air Gen Model:	Teledyne API T701		Serial Number:	690

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	710321323	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.000774	1.003636	Backgd or Offset:	20.7	20.7
Calibration intercept:	-0.954928	-1.255492	Coeff or Slope:	1.111	1.111

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.7	----
As found High point	4920	79.8	798.8	802.6	0.996
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	801.9	Previous response	798.5	*% change	0.4%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	-0.2	----
High point	4920	79.8	798.8	800.9	0.997
Mid point	4960	39.9	399.4	399.4	1.000
Low point	4980	20.0	200.2	198.4	1.009
As left zero	5000	0.0	0.0	0.0	----
As left span	4920	79.8	798.8	801.7	0.996
				Average Correction Factor:	1.002

Notes: Changed inlet filter after as founds. Adjusted zero only.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

SO_2 Calibration Summary

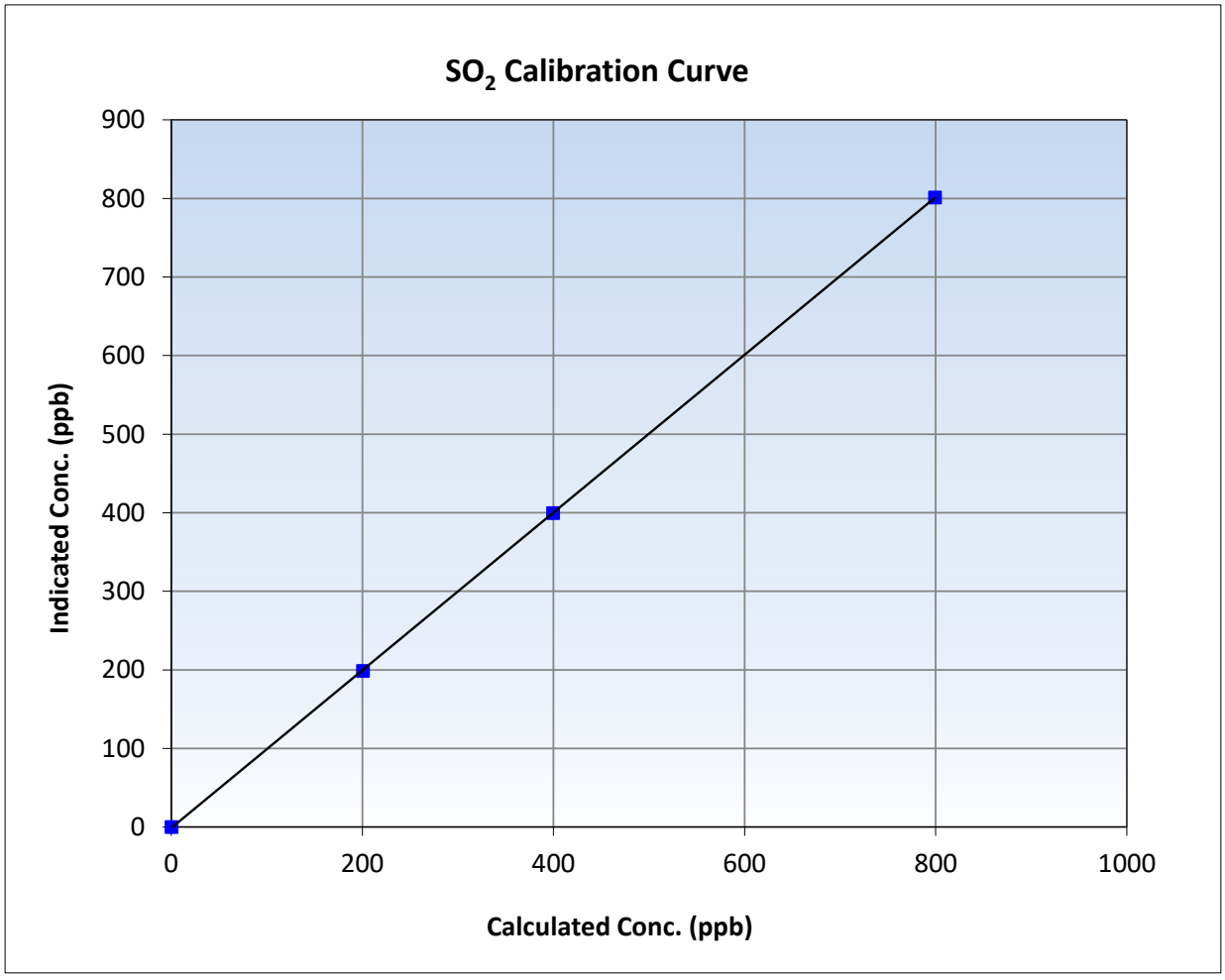
Station Information

Calibration Date:	October 29, 2025	Previous Calibration:	September 25, 2025
Station Name:	Sawbones Bay	Station Number:	AMS 505
Start Time (MST):	9:43	End Time (MST):	12:34
Analyzer make:	Thermo 43i	Analyzer serial #:	710321323

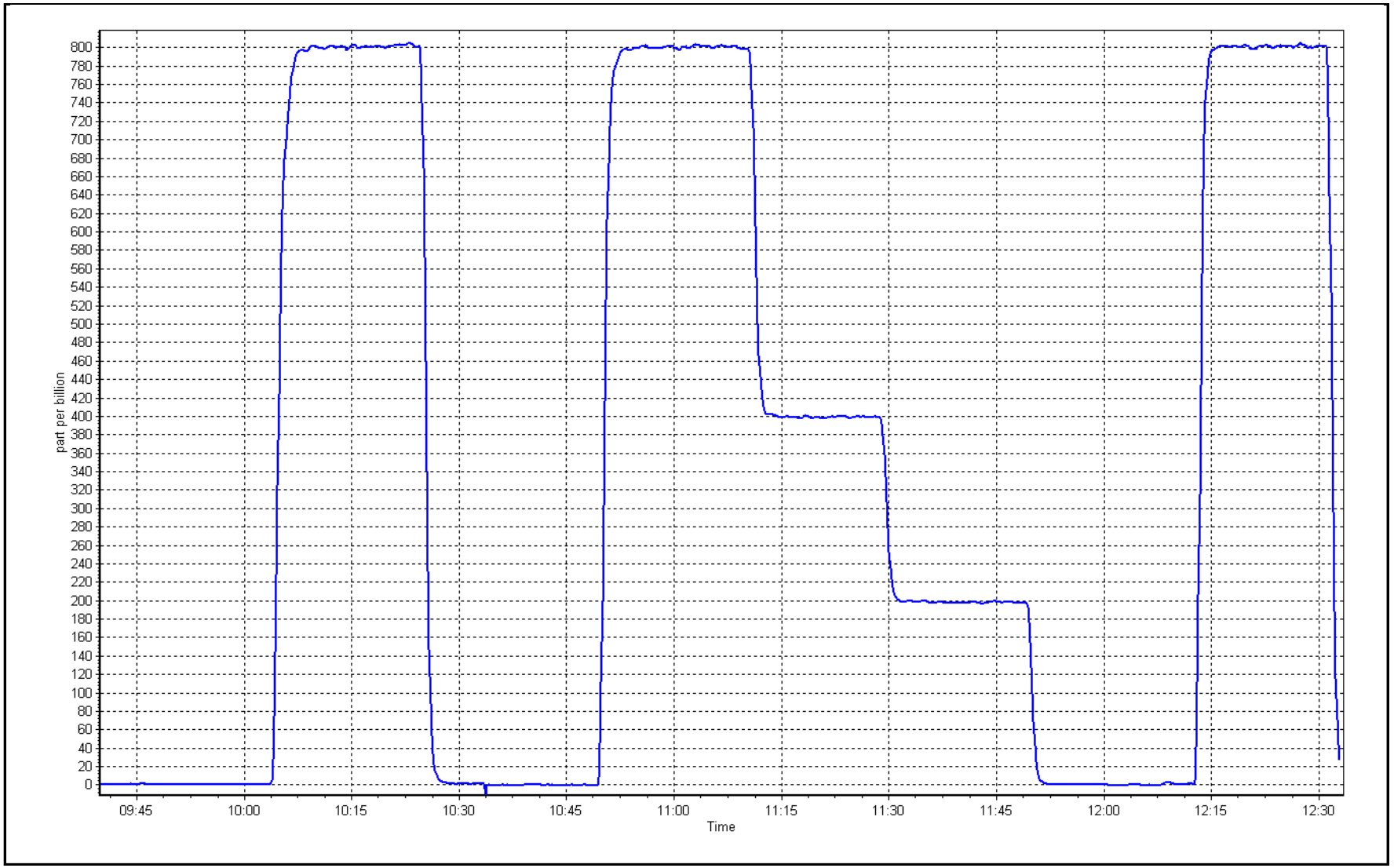
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
798.8	800.9	0.9974
399.4	399.4	1.0000
200.2	198.4	1.0091

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999992	*≥0.995*
Slope	1.003636	*0.90 - 1.10*
Intercept	-1.255492	*+/-30*



SO2 Calibration Plot Date: October 29, 2025 Location: Sawbones Bay



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Sawbones Bay	Station number:	AMS 505
Calibration Date:	October 28, 2025	Last Cal Date:	September 19, 2025
Start time (MST):	9:01	End time (MST):	13:10
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.26	ppm	Cal Gas Exp Date:	March 19, 2027
Cal Gas Cylinder #:	DT0034141			
Removed Cal Gas Conc:	5.26	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	NA		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T750		Serial Number:	282
ZAG Make/Model:	Teledyne API T751H		Serial Number:	321

Analyzer Information

Analyzer make:	Thermo 43iQTL		Analyzer serial #:	12113311965
Converter make:	Global 150		Converter serial #:	2022-224
Analyzer Range	0 - 100 ppb		Converter Temp:	325 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	0.992596	1.002887	Backgd or Offset:	0.920	0.920
Calibration intercept:	0.080000	0.120000	Coeff or Slope:	1.105	1.105

H2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.1	----
As found High point	4924	76.0	80.0	80.6	0.993
As found Mid point	4962	38.0	40.0	40.5	0.990
As found Low point	4981	19.0	20.0	20.0	1.004
New cylinder response					

Baseline Corr As found:	80.5	Prev response:	79.44	*% change:	1.3%
Baseline Corr 2nd AF pt:	40.4	AF Slope:	1.008033	AF Intercept:	0.040000
Baseline Corr 3rd AF pt:	19.9	AF Correlation:	0.999981	* = > +/-5% change initiates investigation	

H2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4924	76.0	80.0	80.3	0.996
Mid point	4962	38.0	40.0	40.3	0.992
Low point	4981	19.0	20.0	20.0	0.999
As left zero	5000	0.0	0.0	0.3	----
As left span	4924	76.0	80.0	80.2	0.997
SO2 Scrubber Check	4922	77.8	778.0	0.0	----
Date of last scrubber change:				Ave Corr Factor	0.996
Date of last converter efficiency test:					

Notes: Changed inlet filter after as founds. Scrubber test was done after calibrator zero. No adjustment made.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

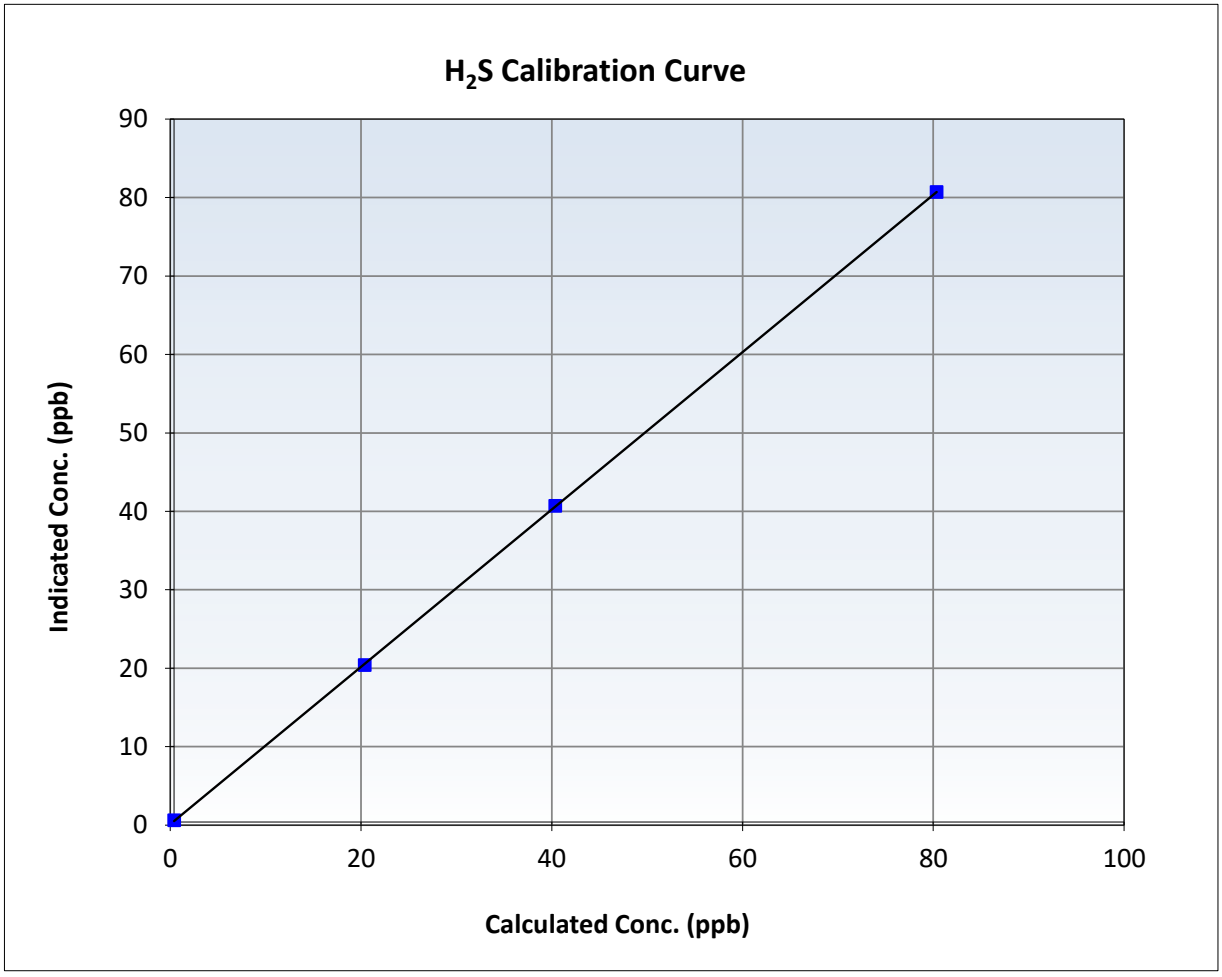
H2S Calibration Summary

Station Information

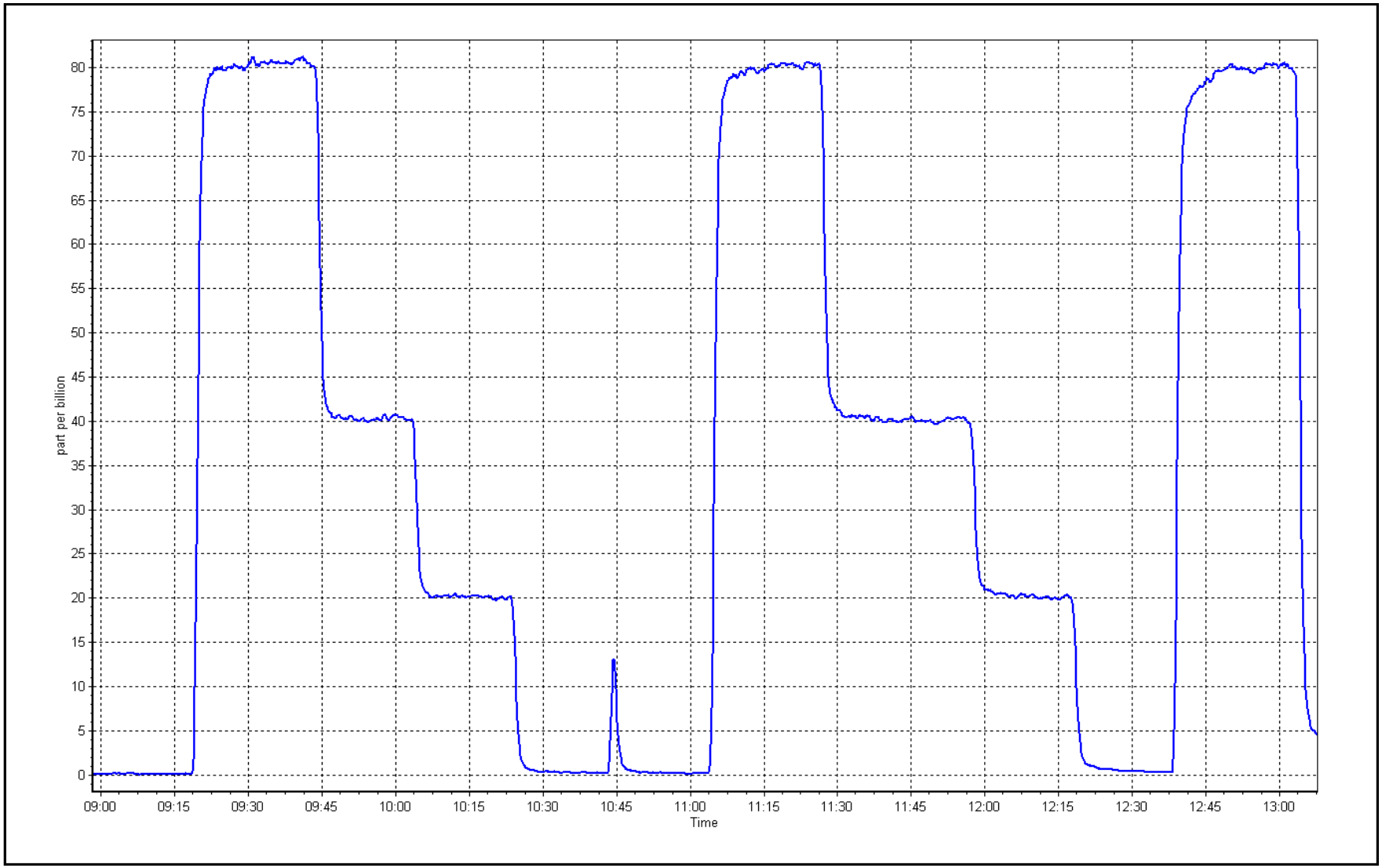
Calibration Date:	October 28, 2025	Previous Calibration:	September 19, 2025
Station Name:	Sawbones Bay	Station Number:	AMS 505
Start Time (MST):	9:01	End Time (MST):	13:10
Analyzer make:	Thermo 43iQTL	Analyzer serial #:	12113311965

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.2	----	Correlation Coefficient	0.999988	*≥0.995*
80.0	80.3	0.9957	Slope	1.002887	*0.90 - 1.10*
40.0	40.3	0.9920			
20.0	20.0	0.9994	Intercept	0.120000	*+/-3*



H2S Calibration Plot Date: October 28, 2025 Location: Sawbones Bay



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Sawbones Bay
Station number:	AMS 505
Calibration Date:	October 23, 2025
Last Cal Date:	September 18, 2025
Start time (MST):	8:24
End time (MST):	12:28
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0009786	Cal Gas Expiry Date:	January 5, 2032
NOX Cal Gas Conc:	60.10 ppm	NO Cal Gas Conc:	60.00 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	60.10 ppm	Removed Gas NO Conc:	60.00 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	API T700	Serial Number:	5112
ZAG make/model:	API T701H	Serial Number:	690

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.5	-0.4	-0.1	----	----
AF High point	4933	66.7	801.8	800.4	1.3	798.9	795.2	3.7	1.0030	1.0061
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 802.8 ppb	NO = 800.3 ppb
Baseline Corr 1st pt	NO_X = 799.4 ppb	NO = 795.6 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

*Percent Change NO_X = -0.4%

*Percent Change NO = -0.6%

As Found Statistics

As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: API T200 Serial Number: 4259

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.949	0.949	NO bkgnd or offset:	0.9	0.9
NOX coeff or slope:	0.949	0.949	NOX bkgnd or offset:	1.4	1.4
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	3.7	3.8

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.003271	0.999337
NO_X Cal Offset:	-1.589599	-1.510057
NO Cal Slope:	1.002516	0.998333
NO Cal Offset:	-2.189877	-2.250374
NO_2 Cal Slope:	1.000956	1.002647
NO_2 Cal Offset:	-0.173633	0.583578

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	-0.3	-0.3	-0.1	----	----
High point	4933	66.7	801.8	800.4	1.3	800.2	797.8	2.5	1.0020	1.0033
Mid point	4967	33.3	400.2	399.6	0.7	398.3	395.8	2.5	1.0049	1.0095
Low point	4983	16.7	200.7	200.4	0.3	197.6	195.8	1.8	1.0159	1.0236
As left zero	5000	0.0	0.0	0.0	0.0	-0.3	-0.2	-0.1	----	----
As left span	4933	66.7	801.8	389.2	412.6	796.3	389.2	407.1	1.0069	1.0000
							Average Correction Factor		1.0076	1.0121

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	-0.1	----	----
High GPT point	794.7	388.2	407.8	409.1	0.9969	100.3%
Mid GPT point	794.7	599.2	196.8	198.5	0.9916	100.8%
Low GPT point	794.7	696.8	99.2	100.6	0.9864	101.4%
				Average Correction Factor	0.9916	100.8%

Notes: Changed inlet filter after as founds. No adjustment.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

NO_X Calibration Summary

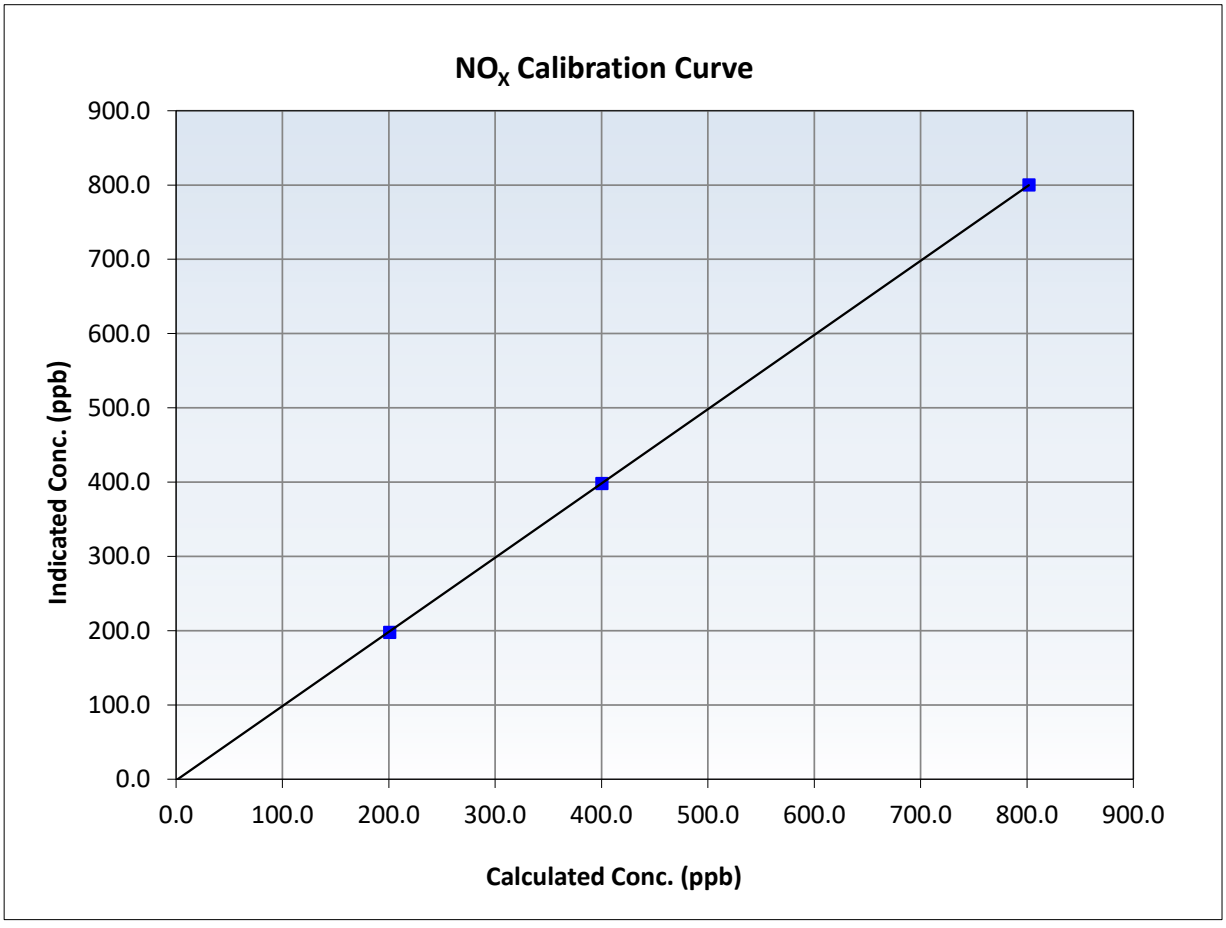
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 18, 2025
Station Name:	Sawbones Bay	Station Number:	AMS 505
Start Time (MST):	8:24	End Time (MST):	12:28
Analyzer make:	API T200	Analyzer serial #:	4259

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.3	----
801.8	800.2	1.0020
400.2	398.3	1.0049
200.7	197.6	1.0159

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999989	*≥0.995*
Slope	0.999337	*0.90 - 1.10*
Intercept	-1.510057	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

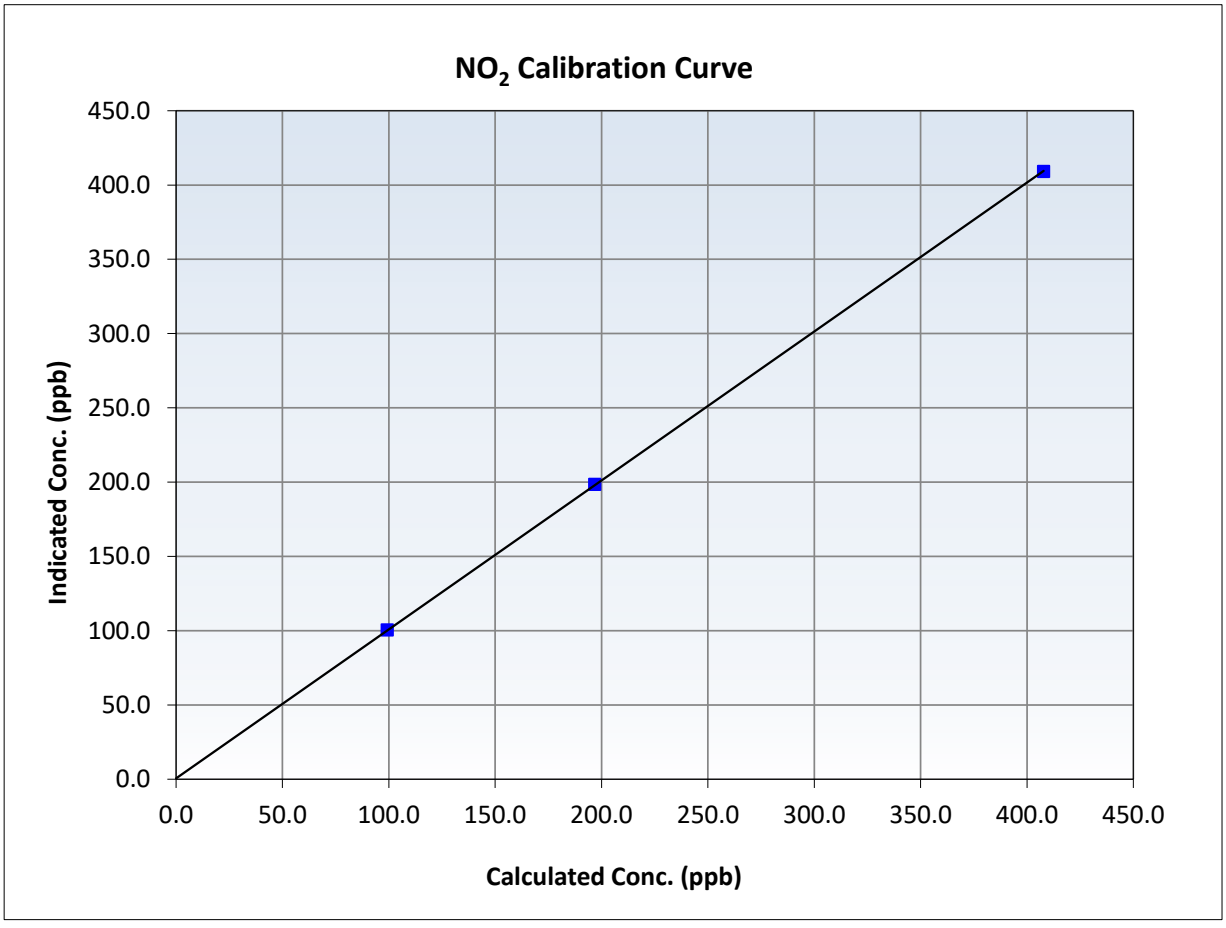
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 18, 2025
Station Name:	Sawbones Bay	Station Number:	AMS 505
Start Time (MST):	8:24	End Time (MST):	12:28
Analyzer make:	API T200	Analyzer serial #:	4259

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
407.8	409.1	0.9969
196.8	198.5	0.9916
99.2	100.6	0.9864

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999987	*≥0.995*
Slope	1.002647	*0.90 - 1.10*
Intercept	0.583578	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

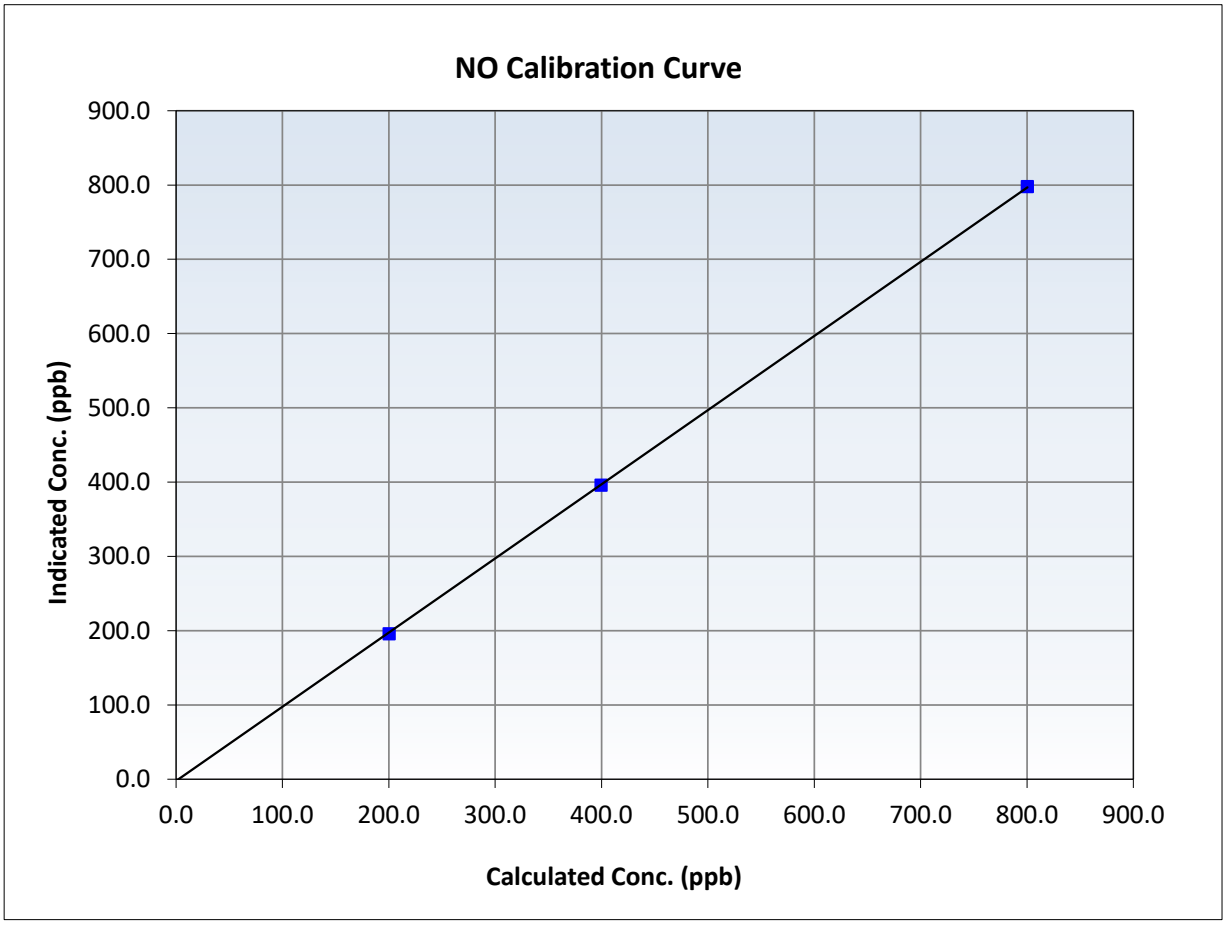
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 18, 2025
Station Name:	Sawbones Bay	Station Number:	AMS 505
Start Time (MST):	8:24	End Time (MST):	12:28
Analyzer make:	API T200	Analyzer serial #:	4259

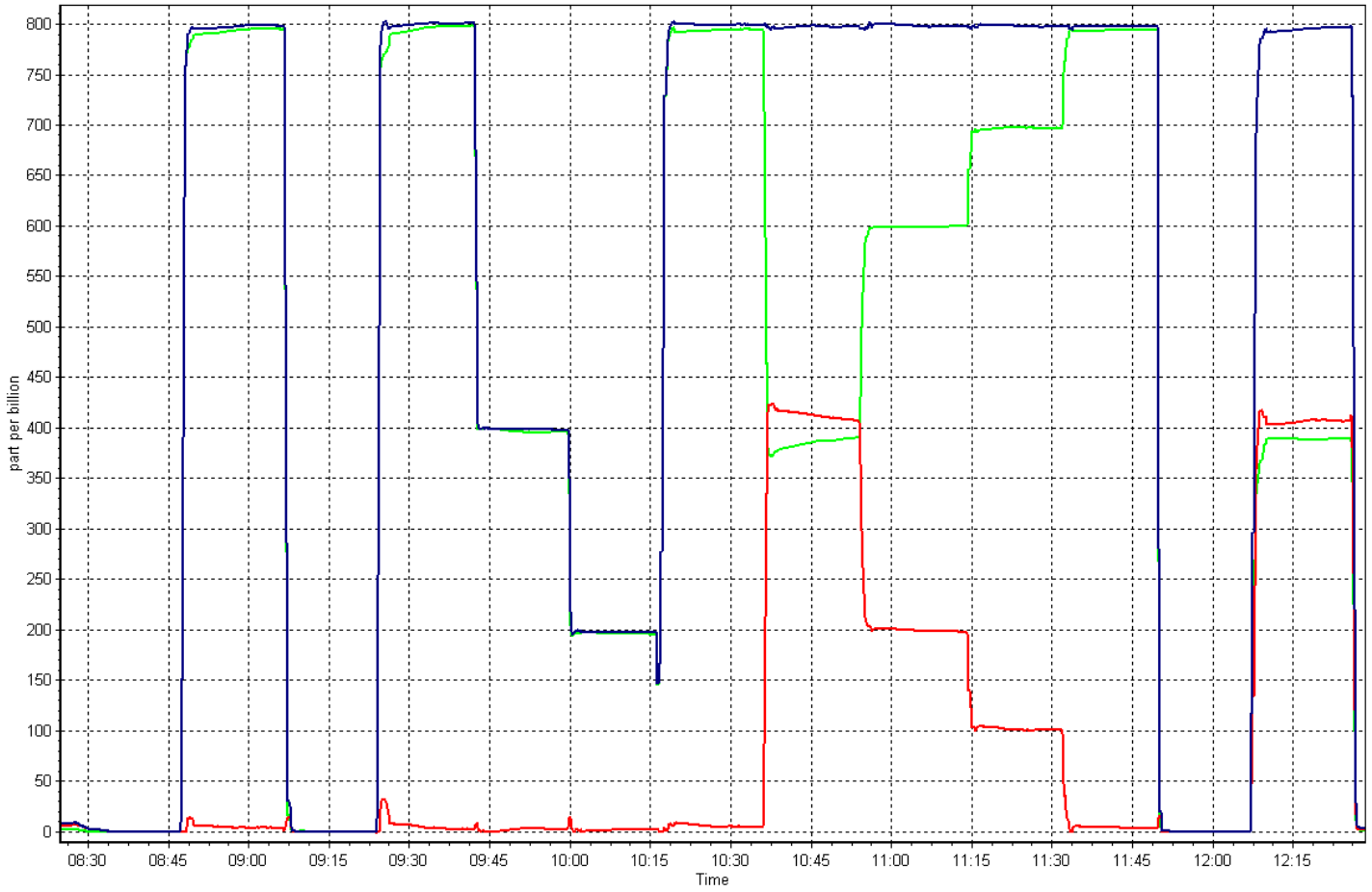
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.3	----
800.4	797.8	1.0033
399.6	395.8	1.0095
200.4	195.8	1.0236

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999973	*≥0.995*
Slope	0.998333	*0.90 - 1.10*
Intercept	-2.250374	*+/-20*



NO_X Calibration Plot Date: October 23, 2025 Location: Sawbones Bay



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS507
KIRBY SOUTH
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Kirby South	Station number:	AMS 507
Calibration Date:	October 23, 2025	Last Cal Date:	September 18, 2025
Start time (MST):	11:30	End time (MST):	14:35
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	50.74	ppm	Cal Gas Exp Date:	October 9, 2032
Cal Gas Cylinder #:	CC255918			
Removed Cal Gas Conc:	50.74	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:			Diff between cyl:	
Calibrator Model:	Teledyne API T700		Serial Number:	2445
Zero Air Gen Model:	Teledyne API T701H		Serial Number:	880

Analyzer Information

Analyzer make:	Thermo 43iQ		Serial Number:	1182340007	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.003149	1.003849	Backgd or Offset:	28.9	29.6
Calibration intercept:	-0.832026	0.048008	Coeff or Slope:	1.091	1.112

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.0	----
As found High point	4921	78.8	799.7	788.7	1.014
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	788.7	Previous response	801.4	*% change	-1.6%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4921	78.8	799.7	803.0	0.996
Mid point	4961	39.4	399.8	401.0	0.997
Low point	4980	19.7	199.9	200.8	0.996
As left zero	5000	0.0	0.0	0.1	----
As left span	4921	78.8	799.7	804.0	0.995
				Average Correction Factor:	0.996

Notes: Changed sample inlet filter after as founds. Adjusted span.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

SO_2 Calibration Summary

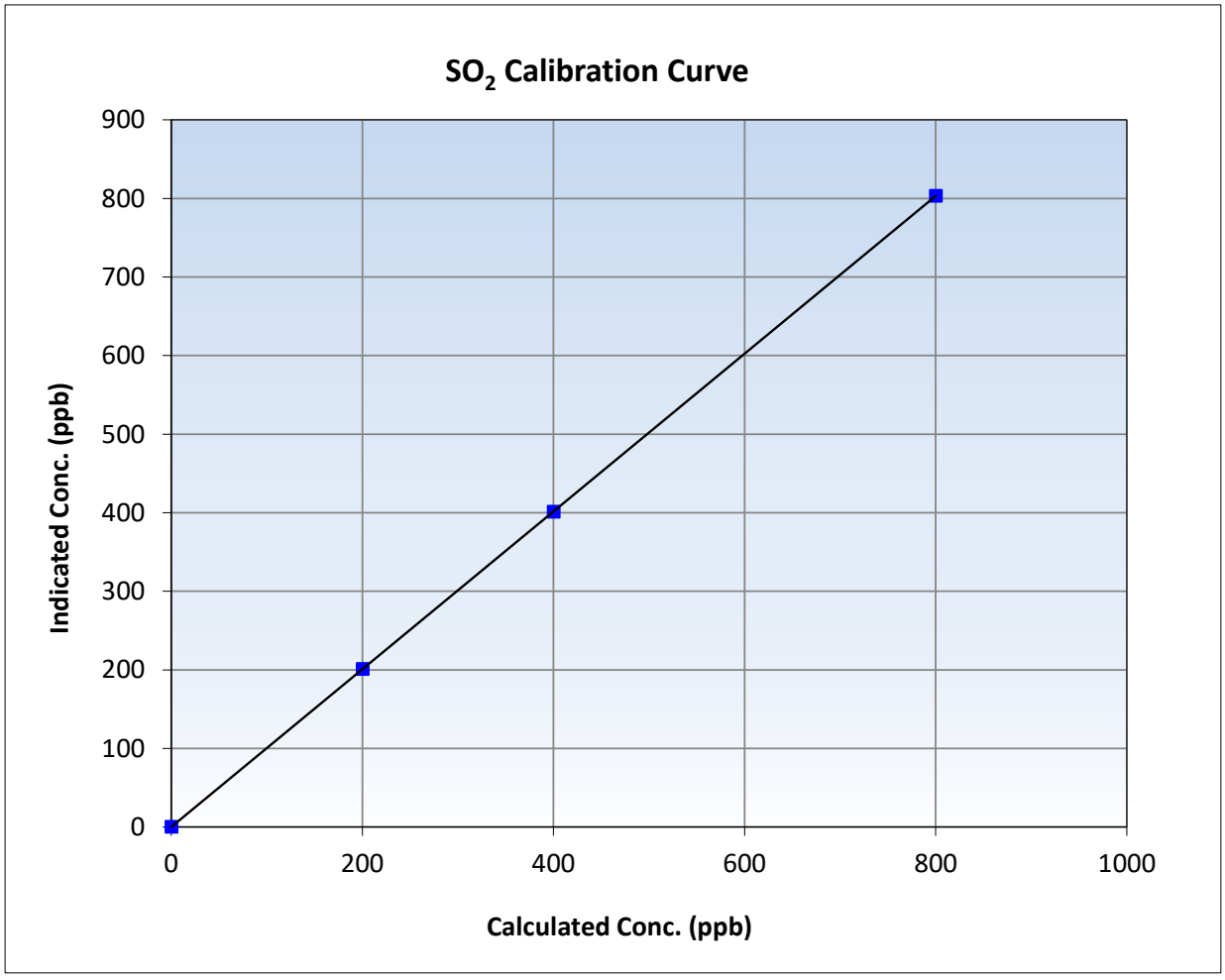
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 18, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	11:30	End Time (MST):	14:35
Analyzer make:	Thermo 43iQ	Analyzer serial #:	1182340007

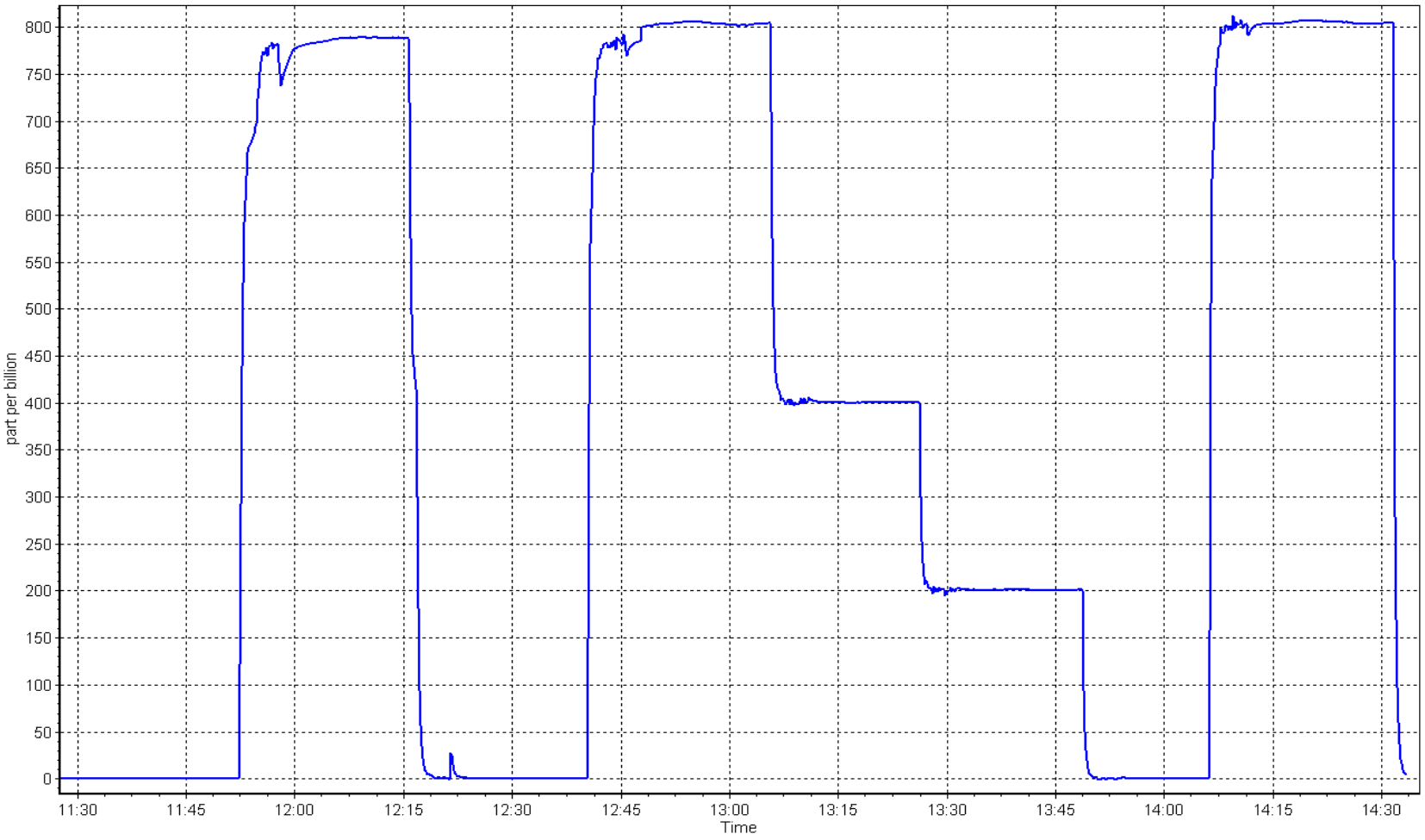
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
799.7	803.0	0.9959
399.8	401.0	0.9970
199.9	200.8	0.9957

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	1.003849	*0.90 - 1.10*
Intercept	0.048008	*+/-30*



SO2 Calibration Plot Date: October 23, 2025 Location: Kirby South



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Kirby South	Station number:	AMS 507
Calibration Date:	October 15, 2025	Last Cal Date:	September 18, 2025
Start time (MST):	10:05	End time (MST):	16:20
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.05	ppm	Cal Gas Exp Date:	November 15, 2026
Cal Gas Cylinder #:	DT0019762			
Removed Cal Gas Conc:	5.05	ppm	Rem Gas Exp Date:	NA
Removed Gas Cyl #:	n/a		Diff between cyl:	
Calibrator Make/Model:	Teledyne API T750		Serial Number:	281
ZAG Make/Model:	Teledyne API T751H		Serial Number:	530

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Analyzer serial #:	1150840012	
Converter make:	Global		Converter serial #:	2022-197	
Analyzer Range	0 - 100 ppb		Converter Temp:	325	degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.002672	1.002386	Backgd or Offset:	1.69	1.69
Calibration intercept:	0.060000	0.120000	Coeff or Slope:	1.052	1.052

H2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.1	----
As found High point	4921	79.2	80.0	81.6	0.981
As found Mid point	4960	39.6	40.0	41.2	0.973
As found Low point	4980	19.8	20.0	20.5	0.980
New cylinder response					

Baseline Corr As found:	81.5	Prev response:	80.27	*% change:	1.5%
Baseline Corr 2nd AF pt:	41.1	AF Slope:	1.019245	AF Intercept:	0.180000
Baseline Corr 3rd AF pt:	20.4	AF Correlation:	0.999976	* = > +/-5% change initiates investigation	

H2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.1	----
High point	4921	79.2	80.0	80.3	0.996
Mid point	4960	39.6	40.0	40.2	0.995
Low point	4980	19.8	20.0	20.2	0.990
As left zero	5000	0.0	0.0	0.1	----
As left span	4922	78.4	79.2	81.9	0.967
SO2 Scrubber Check	4919	80.0	800.2	0.0	----

Date of last scrubber change:	July 25, 2023	Ave Corr Factor	0.994
Date of last converter efficiency test:	September 18, 2025	102.4%	efficiency

Notes: Changed sample inlet filter after as founds. No adjustments made.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

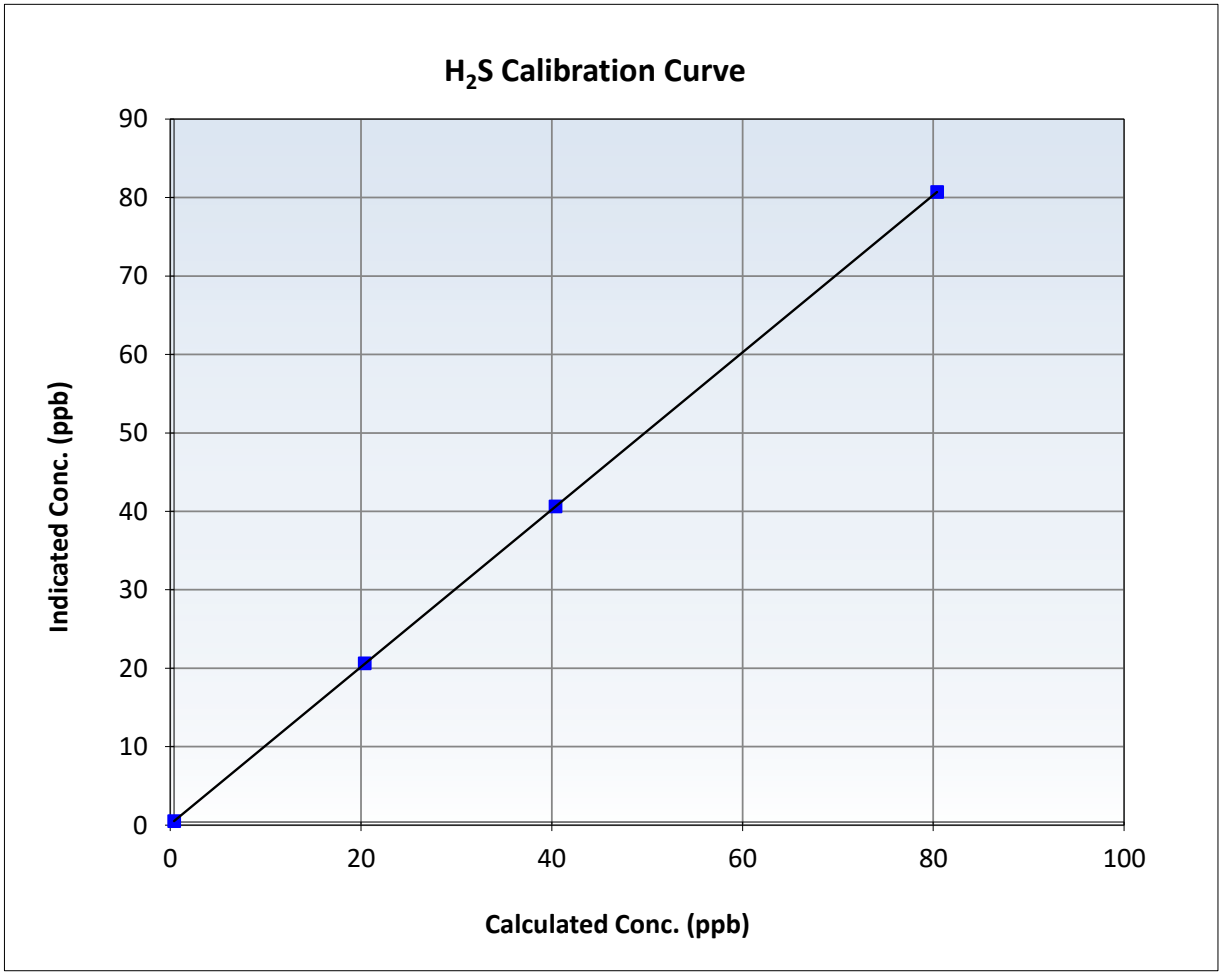
H2S Calibration Summary

Station Information

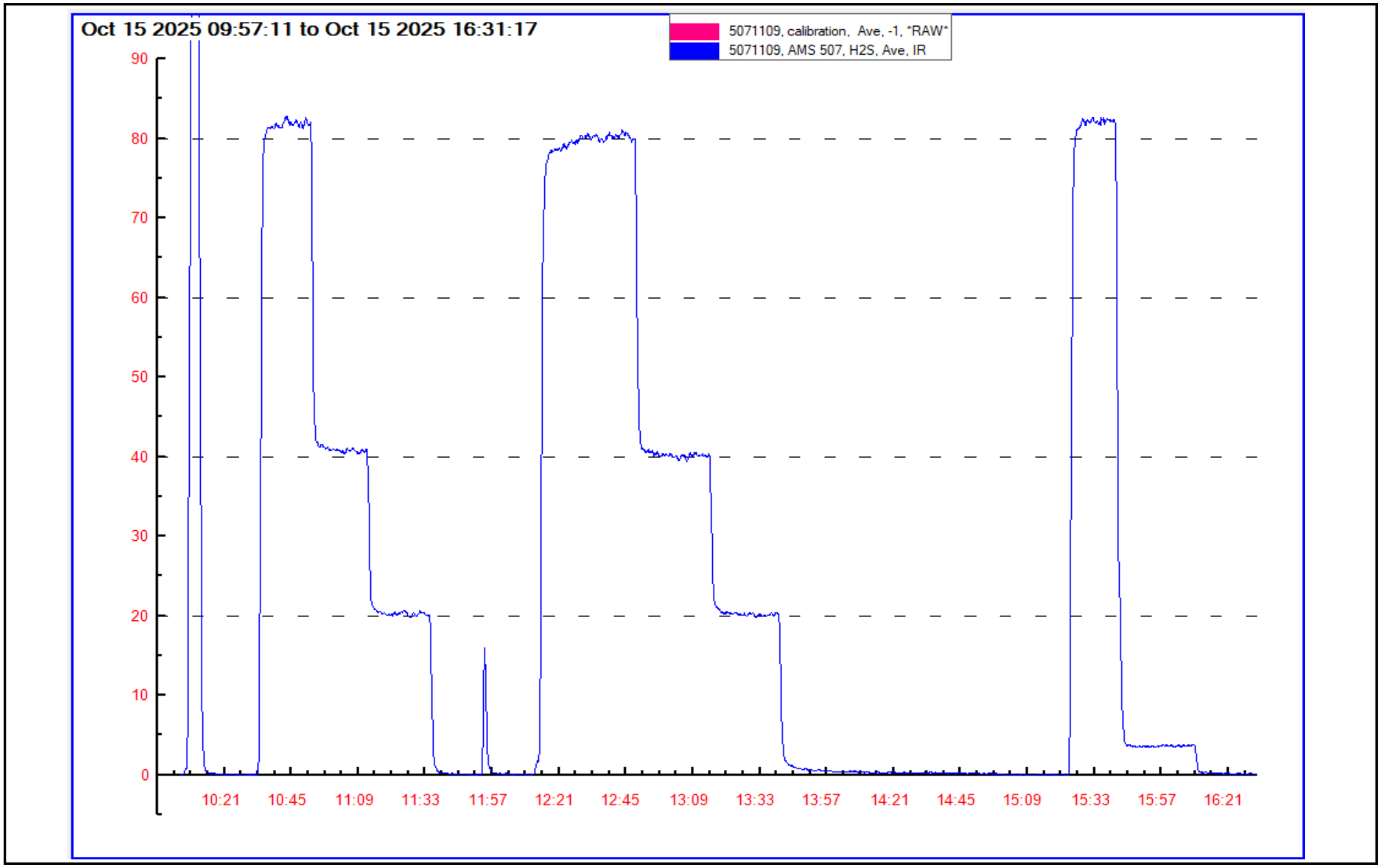
Calibration Date:	October 15, 2025	Previous Calibration:	September 18, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	10:05	End Time (MST):	16:20
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1150840012

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	1.000000	*≥0.995*
80.0	80.3	0.9962	Slope	1.002386	*0.90 - 1.10*
40.0	40.2	0.9949			
20.0	20.2	0.9900	Intercept	0.120000	*+/-3*



H2S Calibration Plot Date: October 15, 2025 Location: Kirby South



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Kirby South	Station number:	AMS 507
Calibration Date:	October 23, 2025	Last Cal Date:	September 18, 2025
Start time (MST):	11:30	End time (MST):	14:35
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC255918		Cal Gas Expiry Date:	October 9, 2032	
CH4 Cal Gas Conc.	506.4	ppm	CH4 Equiv Conc.	1070.2	ppm
C3H8 Cal Gas Conc.	205.0	ppm			
Removed Gas Cert:			Removed Gas Expiry:		
Removed CH4 Conc.	506.4	ppm	CH4 Equiv Conc.	1070.2	ppm
Removed C3H8 Conc.	205.0	ppm	Diff between cyl:		
Calibrator Make/Model:	Teledyne API T700		Serial Number:	2445	
ZAG Make/Model:	Teledyne API T701H		Serial Number:	880	

Analyzer Information

Analyzer make:	Thermo 51i-LT		Analyzer serial #:	1182340005	
Analyzer Range:	0 - 20 ppm				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001956	0.997247	Background:	1.81	1.78
Calibration intercept:	-0.038431	0.016568	Coefficient:	3.589	3.524

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	0.07	----
As found High point	4921	78.8	16.87	17.14	0.988
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	17.07	Previous response	16.86	*% change	1.2%
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.05	
High point	4921	78.8	16.87	16.85	1.001
Mid point	4961	39.4	8.43	8.42	1.001
Low point	4980	19.7	4.22	4.18	1.009
As left zero	5000	0.0	0.00	0.02	----
As left span	4921	78.8	16.87	16.88	0.999
				Average Correction Factor	1.004

Notes: Changed sample inlet filter after as founds. Adjusted span.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

THC Calibration Summary

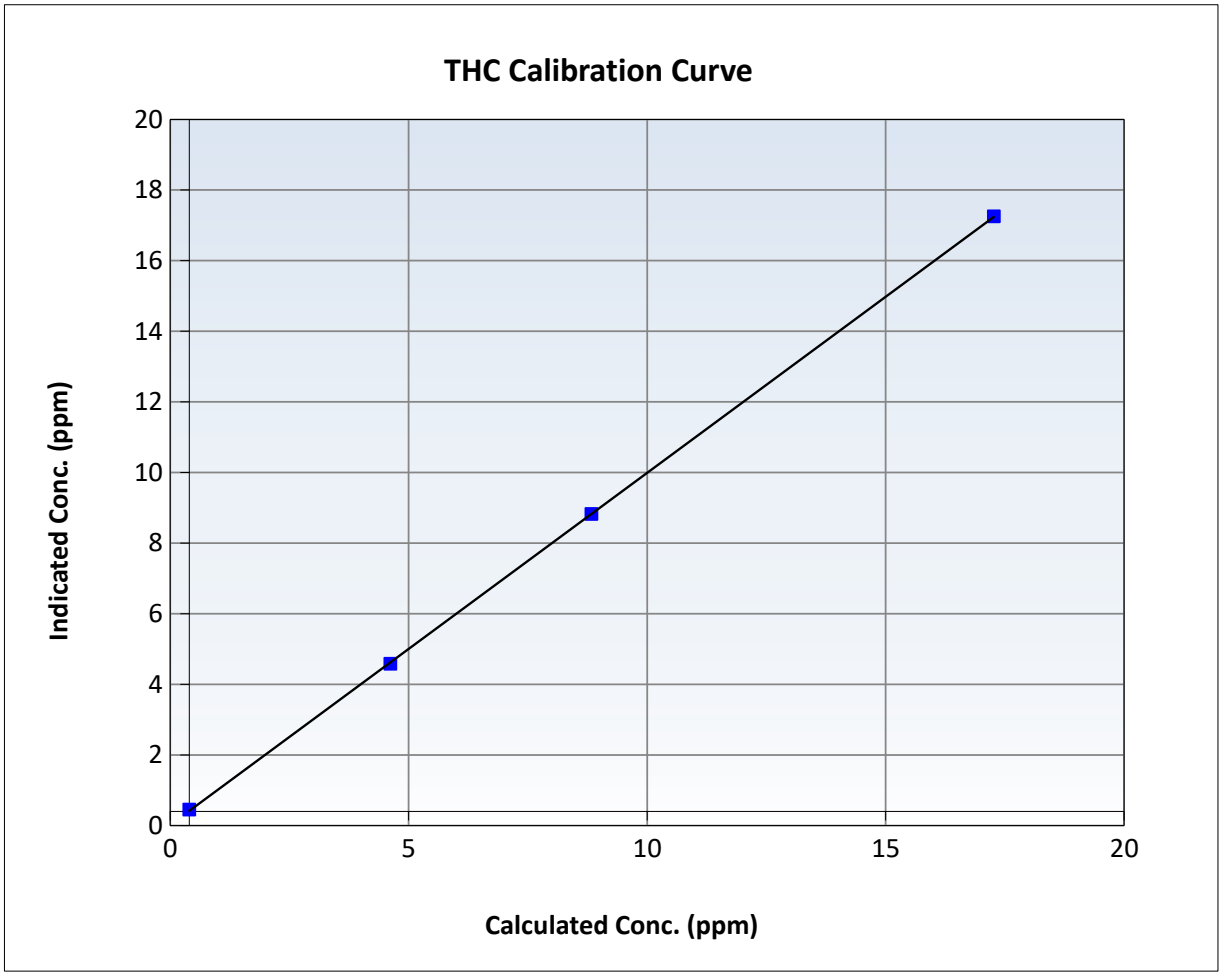
Station Information

Calibration Date:	October 23, 2025	Previous Calibration:	September 18, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	11:30	End Time (MST):	14:35
Analyzer make:	Thermo 51i-LT	Analyzer serial #:	1182340005

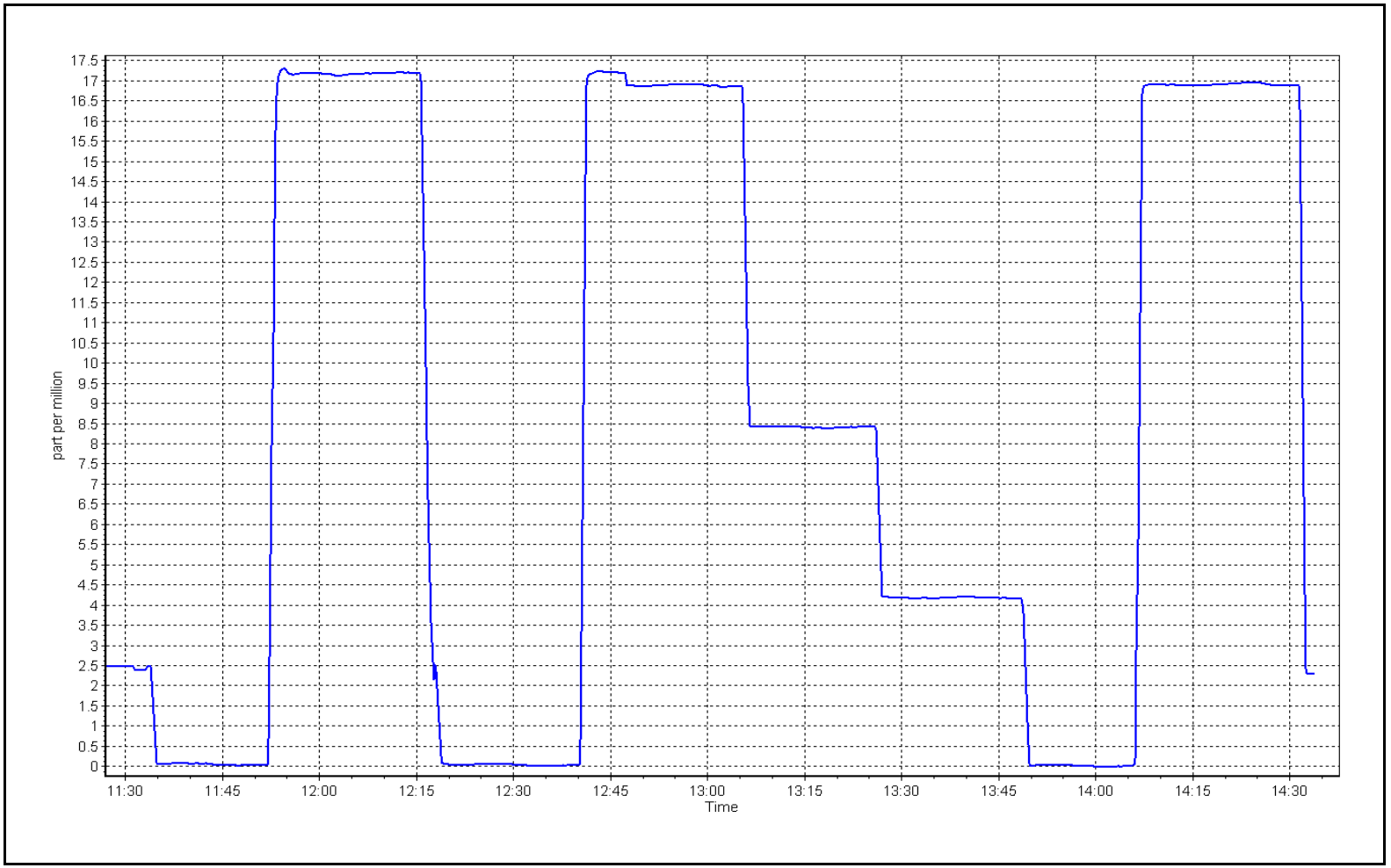
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.05	----
16.87	16.85	1.0010
8.43	8.42	1.0014
4.22	4.18	1.0092

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999978	*≥0.995*
Slope	0.997247	*0.90 - 1.10*
Intercept	0.016568	*+/-1.5*



THC Calibration Plot Date: October 23, 2025 Location: Kirby South



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Kirby South
Station number:	AMS 507
Calibration Date:	October 15, 2025
Last Cal Date:	September 17, 2025
Start time (MST):	10:05
End time (MST):	16:30
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	DT0019572	Cal Gas Expiry Date:	January 5, 2032
NOX Cal Gas Conc:	60.00 ppm	NO Cal Gas Conc:	59.90 ppm
Removed Cylinder #:	NA	Removed Gas Exp Date:	NA
Removed Gas NOX Conc:	60.00 ppm	Removed Gas NO Conc:	59.90 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	2445
ZAG make/model:	Teledyne API T701H	Serial Number:	880

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	----	----
AF High point	4933	66.8	801.6	800.3	1.3	835.0	827.0	7.7	0.9599	0.9677
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 800.8 ppb	NO = 798.0 ppb
Baseline Corr 1st pt	NO_X = 835.1 ppb	NO = 827.0 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

As Found Statistics

As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

*Percent Change	NO_X =	4.1%
*Percent Change	NO =	3.5%

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Thermo 42i Serial Number: 1173480006

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.745	0.723	NO bkgnd or offset:	7.6	7.4
NOX coeff or slope:	0.996	0.996	NOX bkgnd or offset:	7.8	7.5
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	145.9	141.7

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.001898	1.001884
NO_X Cal Offset:	-2.373614	-0.493586
NO Cal Slope:	1.001214	0.999158
NO Cal Offset:	-3.273654	-0.953623
NO_2 Cal Slope:	0.994238	0.982296
NO_2 Cal Offset:	1.340861	0.418066

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.2	0.2	0.0	----	----
High point	4933	66.8	801.6	800.3	1.3	803.0	799.3	4.1	0.9983	1.0012
Mid point	4967	33.4	400.8	400.1	0.7	400.7	398.1	2.6	1.0002	1.0051
Low point	4983	16.7	200.4	200.1	0.3	199.6	197.9	1.6	1.0040	1.0109
As left zero	5000	0.0	0.0	0.0	0.0	0.1	0.2	-0.1	----	----
As left span	4933	66.8	801.6	410.0	391.6	792.8	410.0	382.8	1.0111	1.0000
							Average Correction Factor		1.0009	1.0058

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.0	----	----
High GPT point	795.1	408.7	387.7	380.6	1.0187	98.2%
Mid GPT point	795.1	620.6	175.8	175.1	1.0042	99.6%
Low GPT point	795.1	705.9	90.5	88.5	1.0230	97.8%
				Average Correction Factor	1.0153	98.5%

Notes: Changed sample inlet filter after as founds. Adjusted span.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

NO_X Calibration Summary

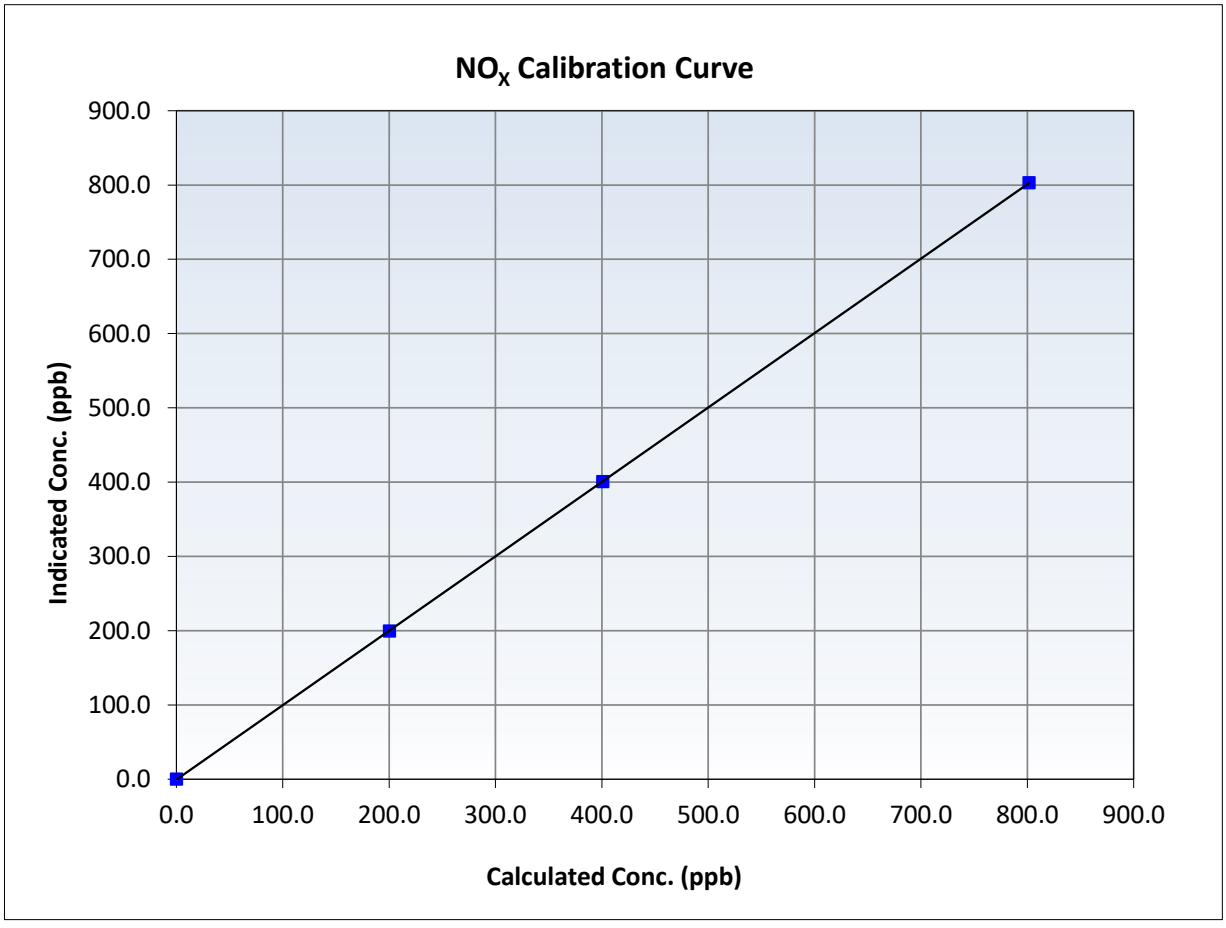
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 17, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	10:05	End Time (MST):	16:30
Analyzer make:	Thermo 42i	Analyzer serial #:	1173480006

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
801.6	803.0	0.9983
400.8	400.7	1.0002
200.4	199.6	1.0040

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999997	*≥0.995*
Slope	1.001884	*0.90 - 1.10*
Intercept	-0.493586	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

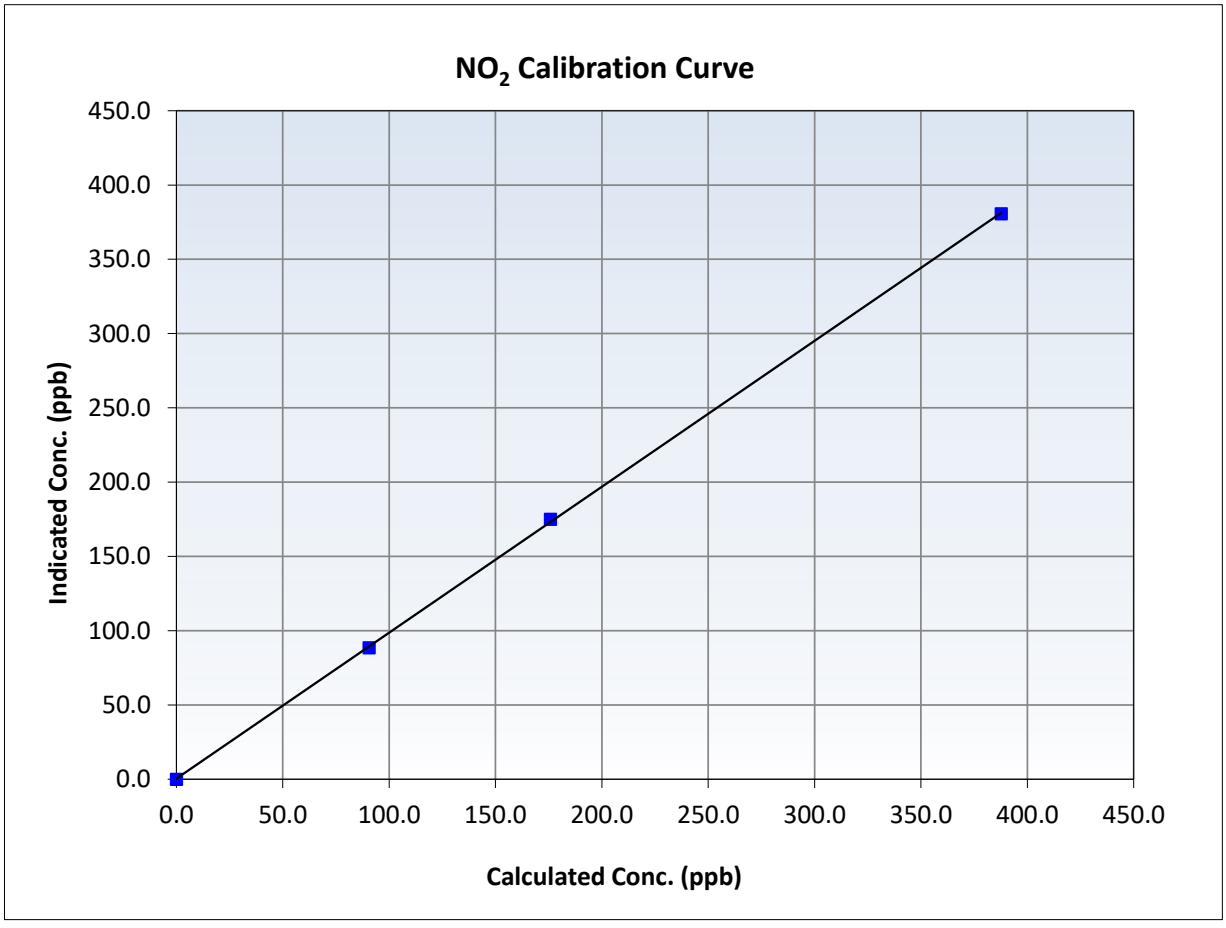
Station Information

Calibration Date:	October 15, 2025	Previous Calibration:	September 17, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	10:05	End Time (MST):	16:30
Analyzer make:	Thermo 42i	Analyzer serial #:	1173480006

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
387.7	380.6	1.0187
175.8	175.1	1.0042
90.5	88.5	1.0230

Statistical Evaluation		Limits
Correlation Coefficient	0.999935	≥0.995
Slope	0.982296	0.90 - 1.10
Intercept	0.418066	+/-20



Wood Buffalo Environmental Association

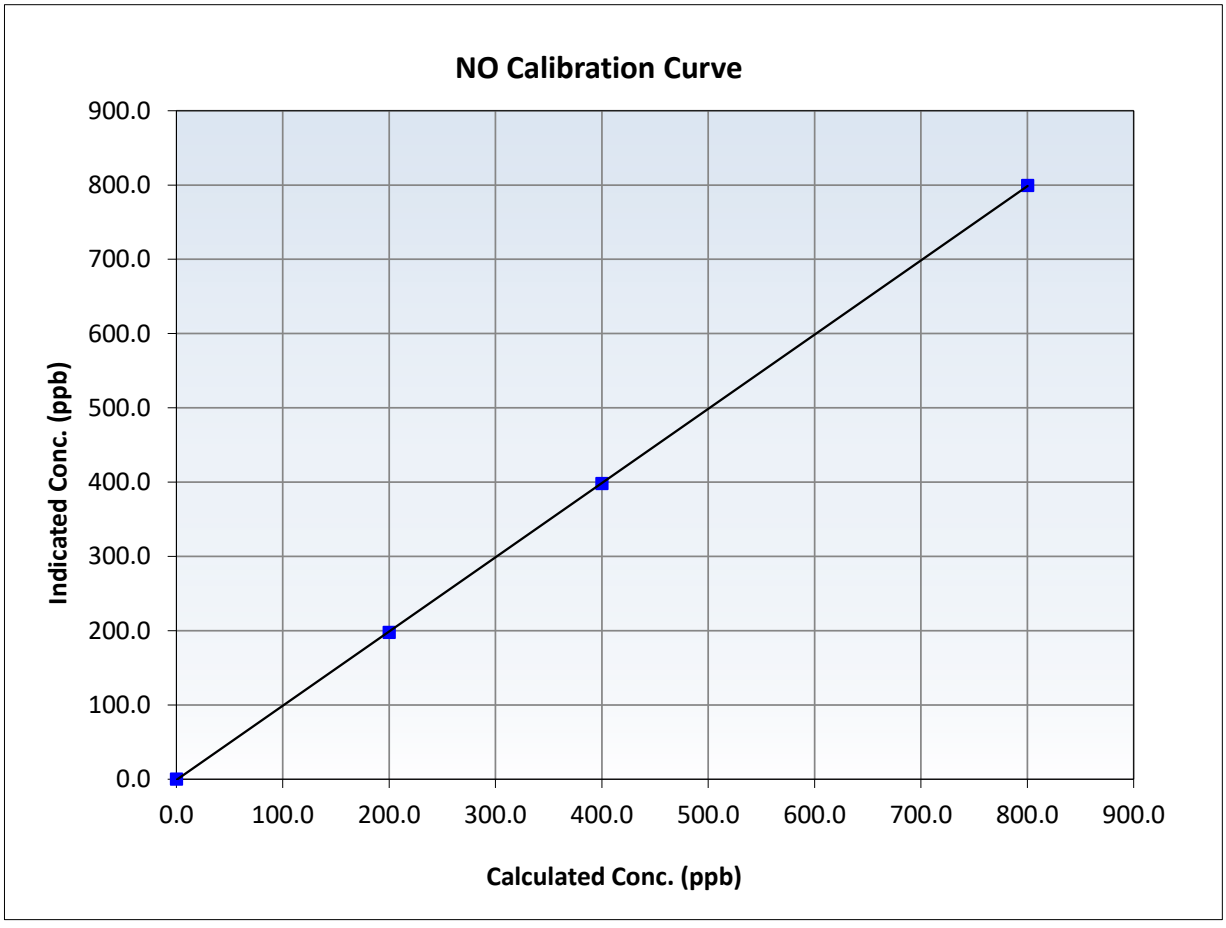
NO Calibration Summary

Station Information

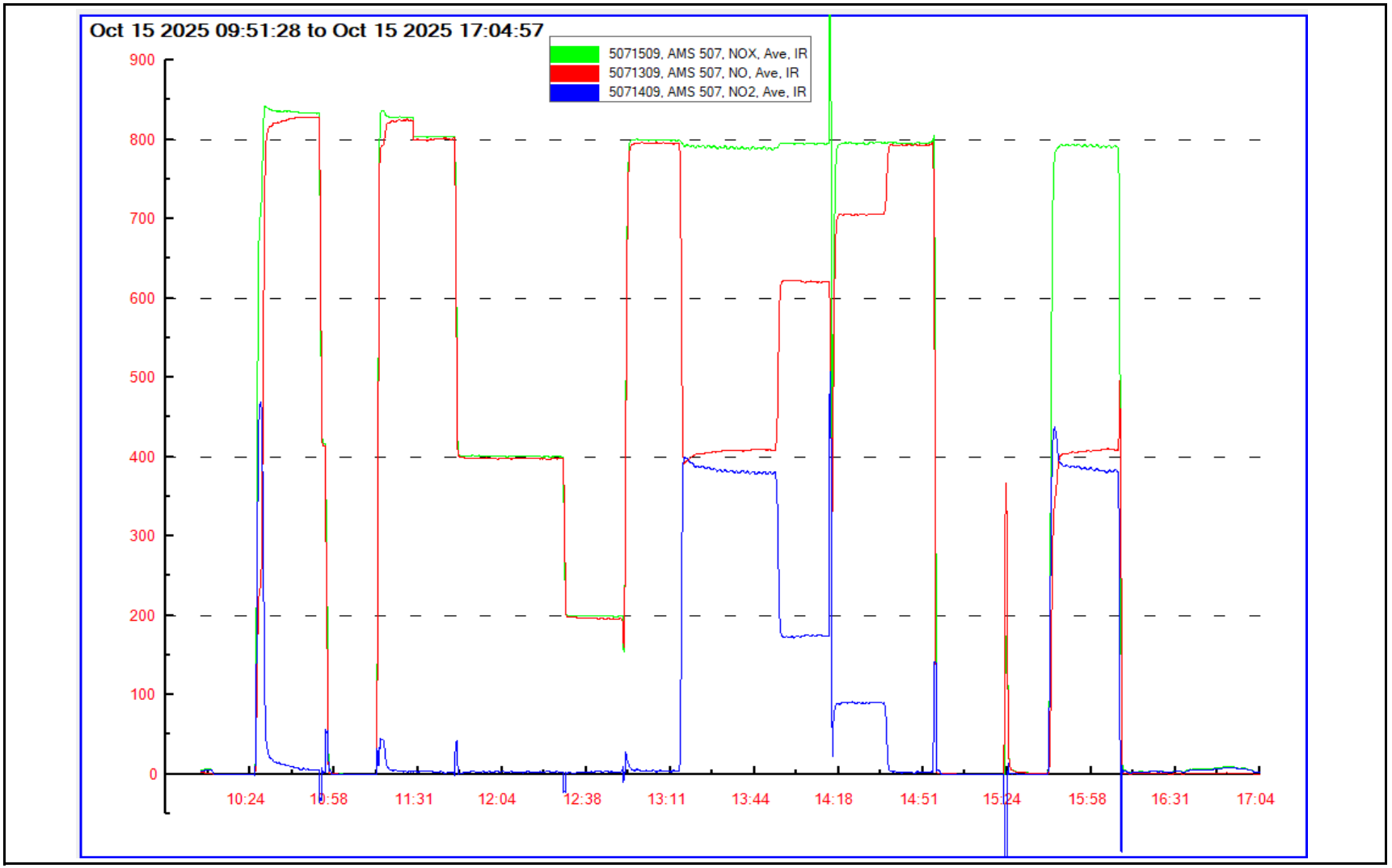
Calibration Date:	October 15, 2025	Previous Calibration:	September 17, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	10:05	End Time (MST):	16:30
Analyzer make:	Thermo 42i	Analyzer serial #:	1173480006

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	0.2	----	Correlation Coefficient	0.999990	≥0.995
800.3	799.3	1.0012	Slope	0.999158	0.90 - 1.10
400.1	398.1	1.0051			
200.1	197.9	1.0109	Intercept	-0.953623	+/-20



NO_X Calibration Plot Date: October 15, 2025 Location: Kirby South



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS511
BLACKGOLD
OCTOBER 2025

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association
Fort McMurray, Alberta

November 28, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Blackgold	Station number:	AMS 511
Calibration Date:	September 29, 2025	Last Cal Date:	N/A
Start time (MST):	9:33	End time (MST):	12:30
Reason:	Install		

Calibration Standards

Cal Gas Concentration:	49.37	ppm	Cal Gas Exp Date:	January 5, 2029
Cal Gas Cylinder #:	CC303094			
Removed Cal Gas Conc:	49.37	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:	N/A		Diff between cyl:	
Calibrator Model:	Teledyne API T750		Serial Number:	281
Zero Air Gen Model:	Teledyne API 701		Serial Number:	4865

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1173410001	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	N/A	1.001459	Backgd or Offset:	N/A	14.4
Calibration intercept:	N/A	0.098845	Coeff or Slope:	N/A	1.157

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	NA	Previous response	NA	*% change	NA
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4919	81.0	799.8	801.4	0.998
Mid point	4959	40.5	399.9	399.7	1.001
Low point	4980	20.3	200.4	201.3	0.996
As left zero	5000	0.0	0.0	0.6	----
As left span	4919	81.0	799.8		
				Average Correction Factor:	0.998

Notes: Used a portable calibrator for the calibration. Adjusted the span.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

SO_2 Calibration Summary

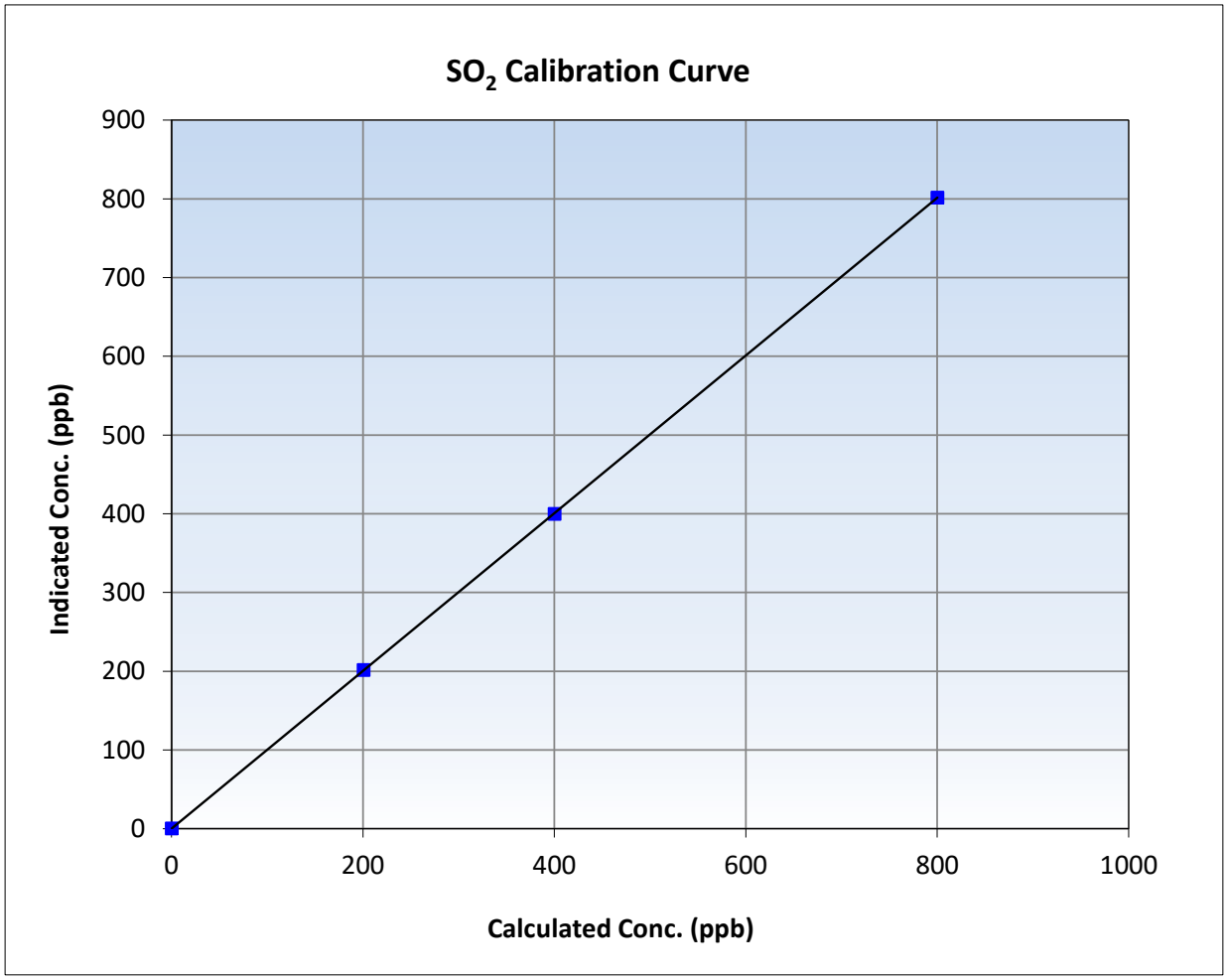
Station Information

Calibration Date:	September 29, 2025	Previous Calibration:	N/A
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	9:33	End Time (MST):	12:30
Analyzer make:	Thermo 43i	Analyzer serial #:	1173410001

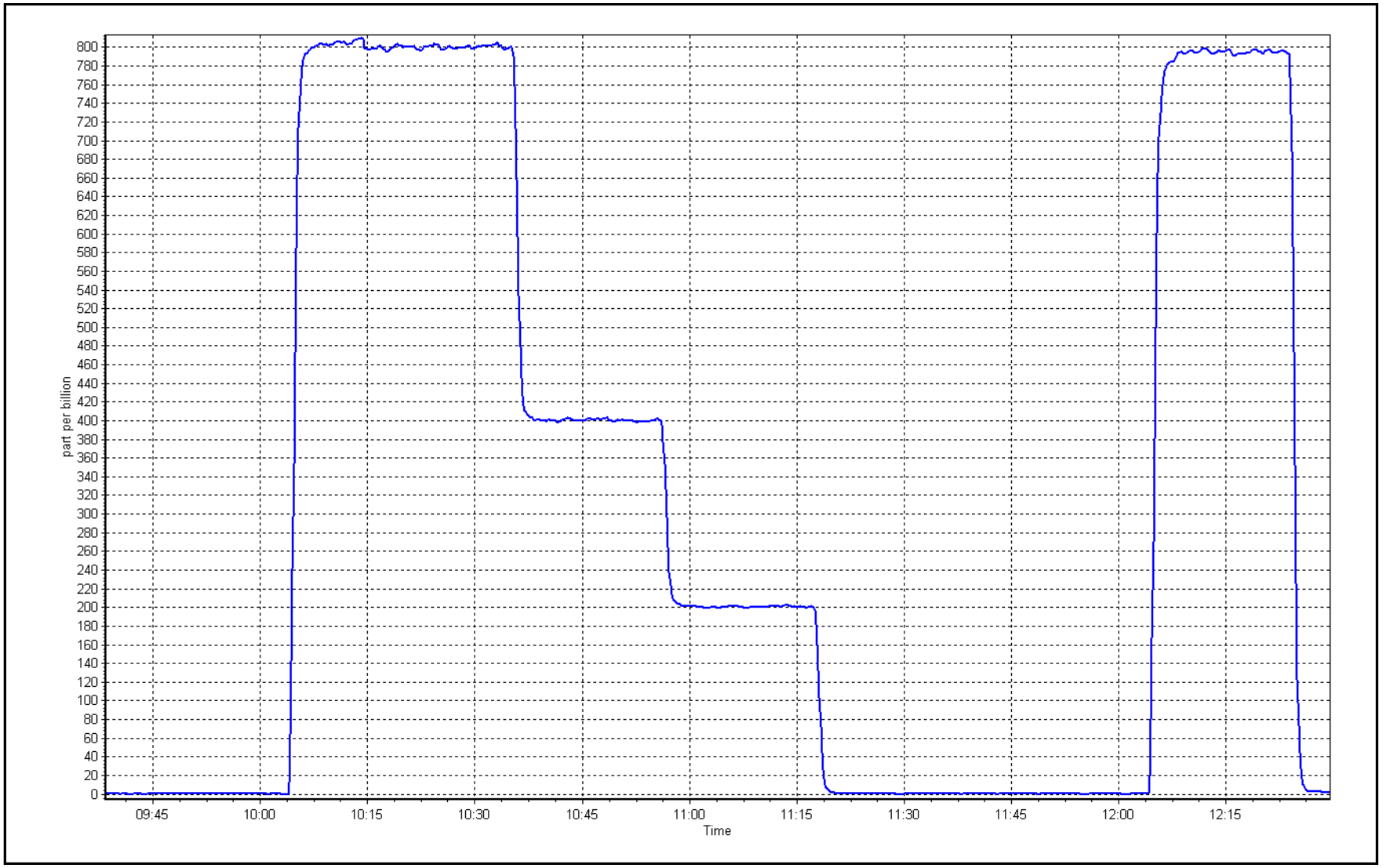
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
799.8	801.4	0.9980
399.9	399.7	1.0006
200.4	201.3	0.9957

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999997	*≥0.995*
Slope	1.001459	*0.90 - 1.10*
Intercept	0.098845	*+/-30*



SO2 Calibration Plot Date: September 29, 2025 Location: Blackgold



Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Blackgold	Station number:	AMS 511
Calibration Date:	October 17, 2025	Last Cal Date:	September 29, 2025
Start time (MST):	10:47	End time (MST):	12:25
Reason:	As Found		

Calibration Standards

Cal Gas Concentration:	49.37	ppm	Cal Gas Exp Date:	January 5, 2029
Cal Gas Cylinder #:	CC303094			
Removed Cal Gas Conc:	49.37	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:	N/A		Diff between cyl:	
Calibrator Model:	Teledyne API T750		Serial Number:	281
Zero Air Gen Model:	Teledyne API 701		Serial Number:	2659

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1173410001	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001459		Backgd or Offset:	14.400	
Calibration intercept:	0.098845		Coeff or Slope:	1.157	

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.4	----
As found High point	4919	81.0	799.8	795.8	1.006
As found Mid point	4959	40.5	399.9	397.6	1.007
As found Low point	4980	20.3	200.4	197.4	1.017
New cylinder response					
Baseline Corr As found:	795.4	Previous response	801.1	*% change	-0.7%
Baseline Corr 2nd AF pt:	397.2	AF Slope:	0.995426	AF Intercept:	-0.639045
Baseline Corr 3rd AF pt:	197.0	AF Correlation:	0.999990	* = > +/-5% change initiates investigation	

SO_2 Calibration Data

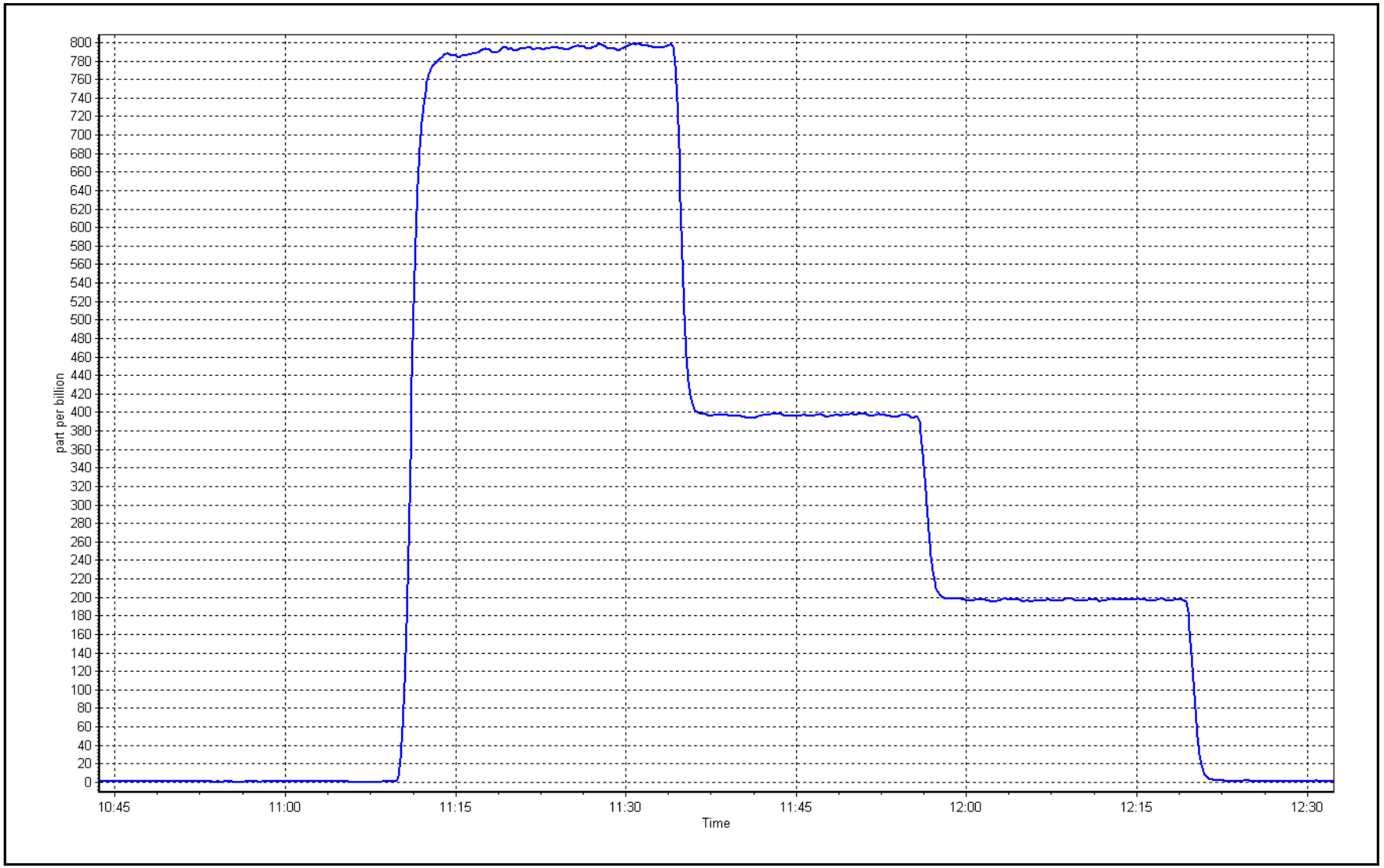
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero					
As left span					

Average Correction Factor:

Notes: As founds only.

Calibration Performed By: Mohammed Kashif

SO2 Calibration Plot Date: October 17, 2025 Location: Blackgold



Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Blackgold	Station number:	AMS 511
Calibration Date:	October 17, 2025	Last Cal Date:	September 29, 2025
Start time (MST):	14:15	End time (MST):	16:41
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	49.37	ppm	Cal Gas Exp Date:	January 5, 2029
Cal Gas Cylinder #:	CC303094			
Removed Cal Gas Conc:	49.37	ppm	Rem Gas Exp Date:	
Removed Gas Cyl #:	N/A		Diff between cyl:	
Calibrator Model:	Teledyne API T750		Serial Number:	953
Zero Air Gen Model:	Teledyne API 701		Serial Number:	2659

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	1173410001	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.001459	1.006702	Backgd or Offset:	14.4	14.7
Calibration intercept:	0.098845	-0.861427	Coeff or Slope:	1.157	1.163

SO_2 As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero) *Limit = 0.90-1.10*
As found zero					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	NA	Previous response	NA	*% change	NA
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

SO_2 Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.6	----
High point	4919	81.0	799.8	805.2	0.993
Mid point	4959	40.5	399.9	400.5	0.999
Low point	4980	20.3	200.4	199.8	1.003
As left zero	5000	0.0	0.0	0.7	----
As left span	4919	81.0	799.8	807.9	0.990
				Average Correction Factor:	0.998

Notes: Sample inlet filter and ZAG were changed. Adjusted span only

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

SO_2 Calibration Summary

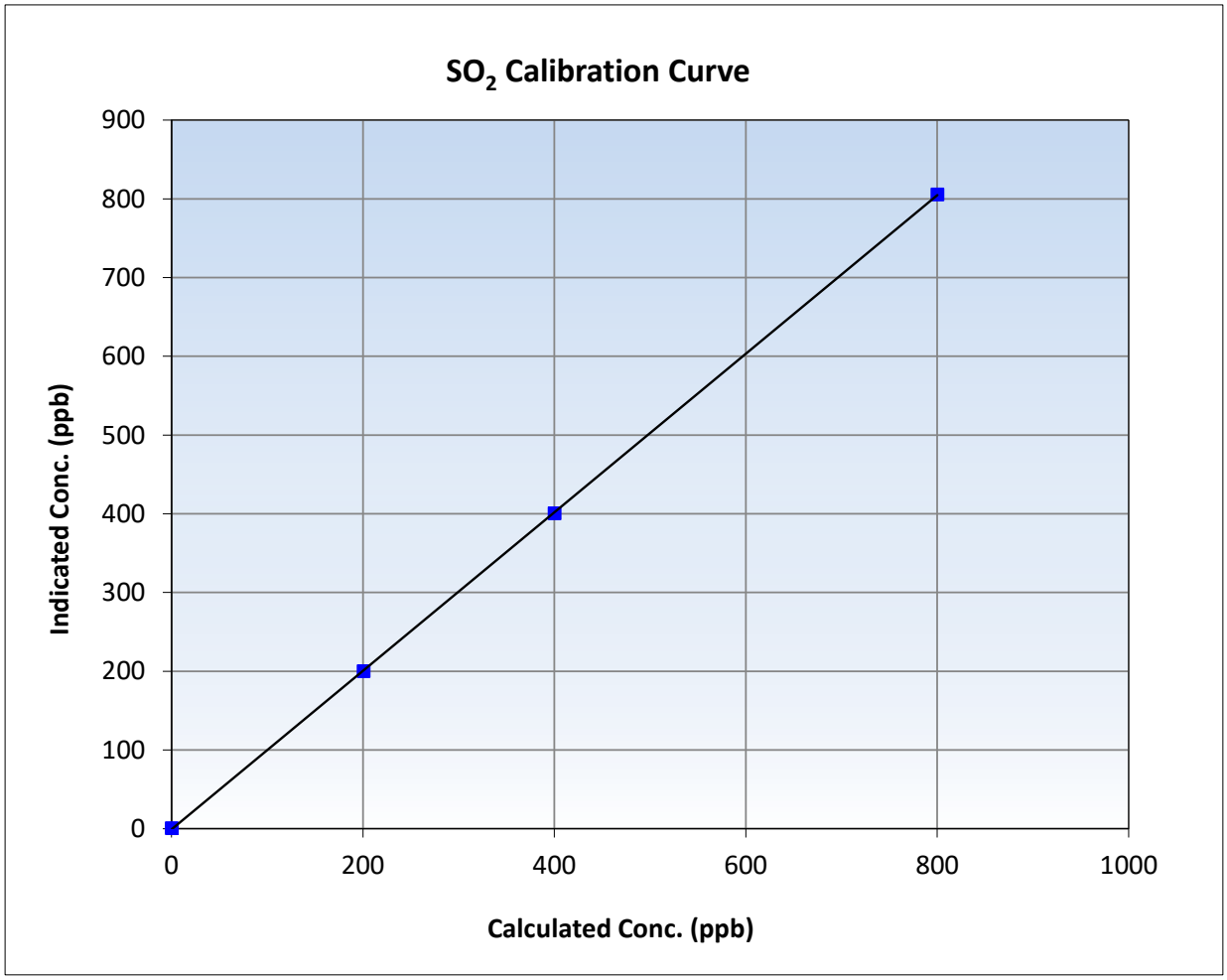
Station Information

Calibration Date:	October 17, 2025	Previous Calibration:	September 29, 2025
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	14:15	End Time (MST):	16:41
Analyzer make:	Thermo 43i	Analyzer serial #:	1173410001

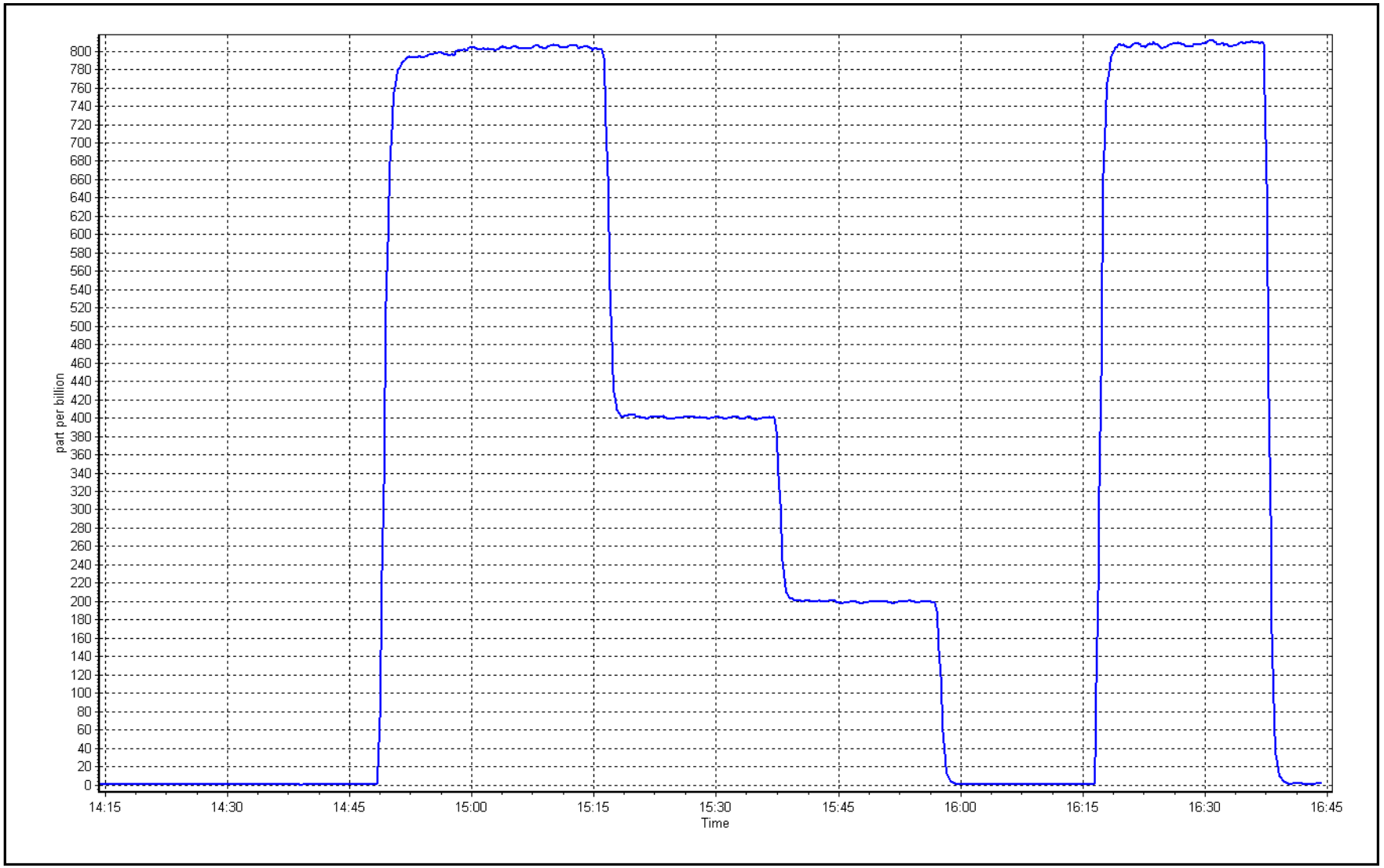
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.6	----
799.8	805.2	0.9933
399.9	400.5	0.9986
200.4	199.8	1.0032

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999984	*≥0.995*
Slope	1.006702	*0.90 - 1.10*
Intercept	-0.861427	*+/-30*



SO2 Calibration Plot Date: October 17, 2025 Location: Blackgold



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Blackgold	Station number:	AMS 511
Calibration Date:	September 29, 2025	Last Cal Date:	N/A
Start time (MST):	9:16	End time (MST):	12:09
Reason:	Install		

Calibration Standards

Cal Gas Concentration:	5.139	ppm	Cal Gas Exp Date:	January 3, 2026
Cal Gas Cylinder #:	CC511397			
Removed Cal Gas Conc:	5.139	ppm	Rem Gas Exp Date:	N/A
Removed Gas Cyl #:	N/A		Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	5112
ZAG Make/Model:	API T701		Serial Number:	4865

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Analyzer serial #:	1336160090
Converter make:	Global G150		Converter serial #:	2025-299
Analyzer Range	0 - 100 ppb		Converter Temp:	325 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	N/A	1.003489	Backgd or Offset:	N/A	4.03
Calibration intercept:	N/A	-0.219202	Coeff or Slope:	N/A	1.367

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	NA	Prev response:	NA	*% change:	NA
Baseline Corr 2nd AF pt:	NA	AF Slope:	NA	AF Intercept:	NA
Baseline Corr 3rd AF pt:	NA	AF Correlation:	NA	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.1	----
High point	4922	77.8	80.0	80.2	0.997
Mid point	4961	38.9	40.0	39.7	1.007
Low point	4981	19.5	20.0	19.6	1.022
As left zero	5000	0.0	0.0	0.1	----
As left span	4922	77.8	80.0	79.5	1.006
SO2 Scrubber Check				-0.2	
Date of last scrubber change:				Ave Corr Factor	1.009
Date of last converter efficiency test:					

Notes: Install calibration. Adjusted the span.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

H_2S Calibration Summary

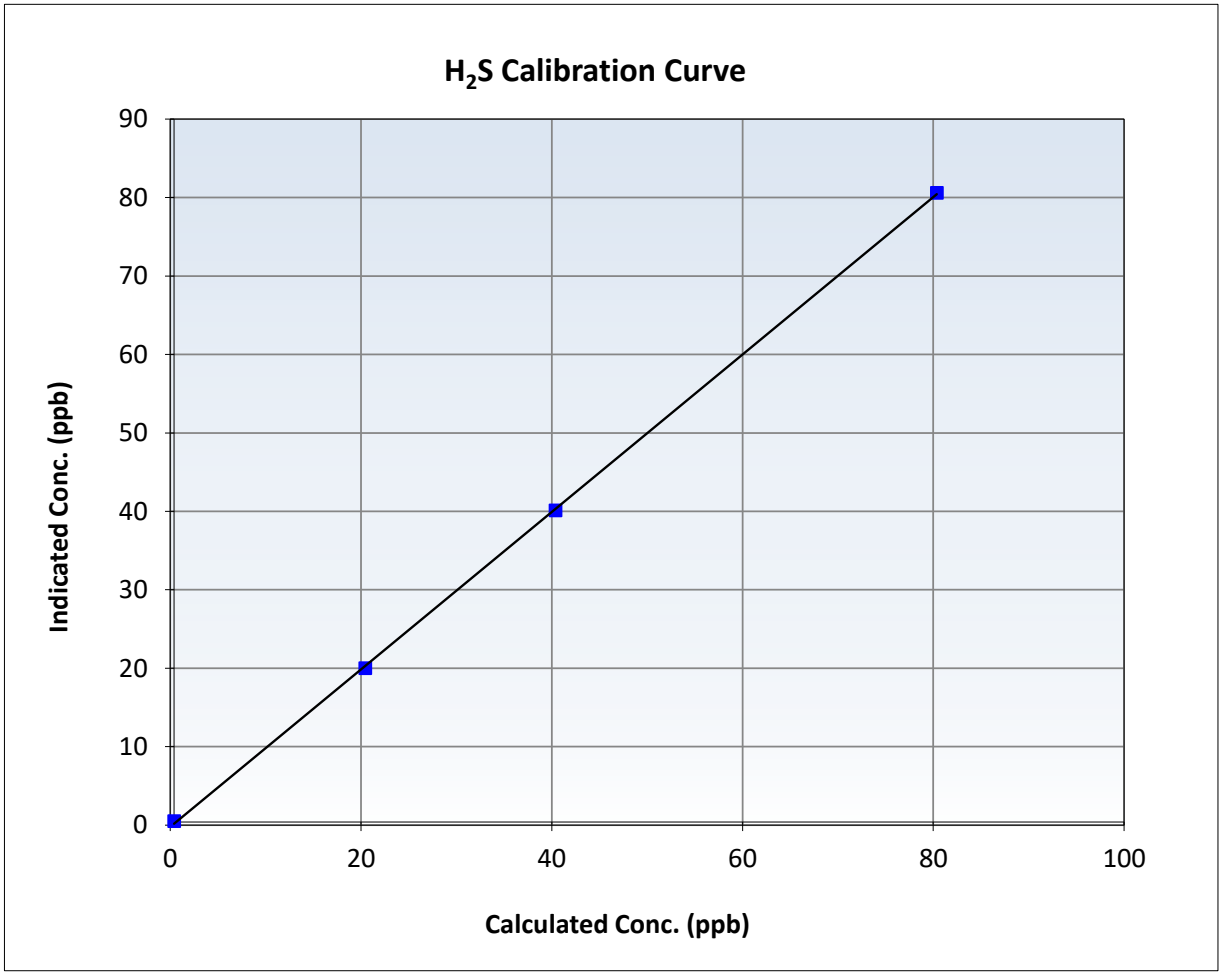
Station Information

Calibration Date:	September 29, 2025	Previous Calibration:	N/A
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	9:16	End Time (MST):	12:09
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1336160090

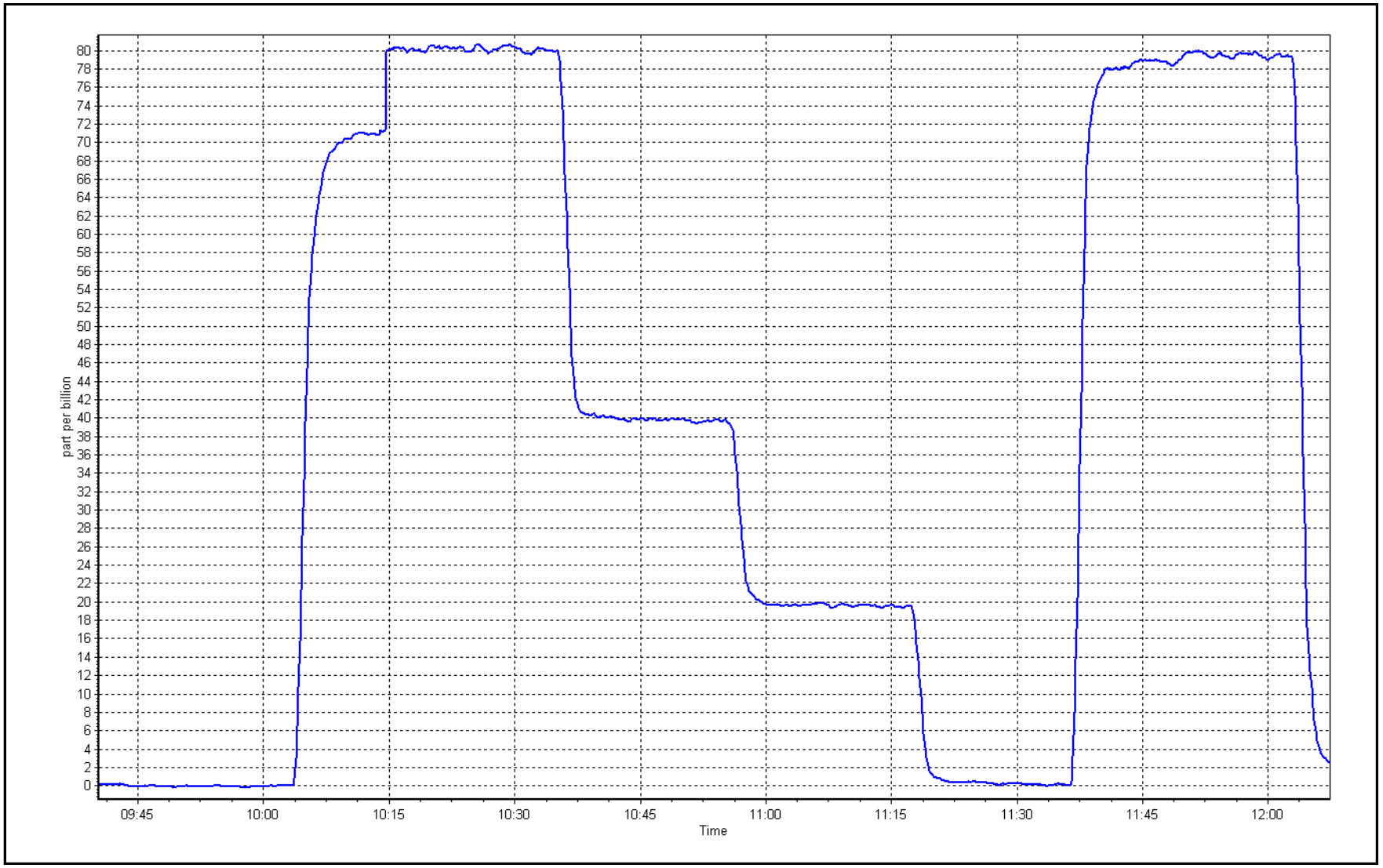
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
80.0	80.2	0.9971
40.0	39.7	1.0071
20.0	19.6	1.0225

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999927	*≥0.995*
Slope	1.003489	*0.90 - 1.10*
Intercept	-0.219202	*+/-3*



H_2S Calibration Plot Date: September 29, 2025 Location: Blackgold



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Blackgold	Station number:	AMS 511
Calibration Date:	October 30, 2025	Last Cal Date:	September 29, 2025
Start time (MST):	10:18	End time (MST):	15:09
Reason:	Routine		

Calibration Standards

Cal Gas Concentration:	5.139	ppm	Cal Gas Exp Date:	January 3, 2026
Cal Gas Cylinder #:	CC511397			
Removed Cal Gas Conc:	5.139	ppm	Rem Gas Exp Date:	N/A
Removed Gas Cyl #:	N/A		Diff between cyl:	
Calibrator Make/Model:	API T700		Serial Number:	953
ZAG Make/Model:	API T701		Serial Number:	2659

Analyzer Information

Analyzer make:	Thermo 43i-TLE		Analyzer serial #:	1336160090
Converter make:	Global G150		Converter serial #:	2025-299
Analyzer Range	0 - 100 ppb		Converter Temp:	325 degC

	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.003489	0.987624	Backgd or Offset:	4.03	4.01
Calibration intercept:	-0.219202	0.061038	Coeff or Slope:	1.367	1.367

H_2S As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.0	0.1	----
As found High point	4922	77.8	80.0	79.5	1.007
As found Mid point	4961	38.9	40.0	39.5	1.015
As found Low point	4981	19.5	20.0	19.9	1.012
New cylinder response					

Baseline Corr As found:	79.4	Prev response:	80.03	*% change:	-0.8%
Baseline Corr 2nd AF pt:	39.4	AF Slope:	0.992915	AF Intercept:	0.000860
Baseline Corr 3rd AF pt:	19.8	AF Correlation:	0.999983	* = > +/-5% change initiates investigation	

H_2S Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.0	0.2	----
High point	4922	77.8	80.0	79.1	1.011
Mid point	4961	38.9	40.0	39.5	1.012
Low point	4981	19.5	20.0	19.7	1.017
As left zero	5000	0.0	0.0	0.3	----
As left span	4922	77.8	80.0	78.0	1.025
SO2 Scrubber Check	4919	81.0	810.0	0.0	----
Date of last scrubber change:				Ave Corr Factor	1.013
Date of last converter efficiency test:					

Notes: Changed sample inlet filter after as founds. Ran scrubber check after calibrator zero and it passed. No adjustments made.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

H_2S Calibration Summary

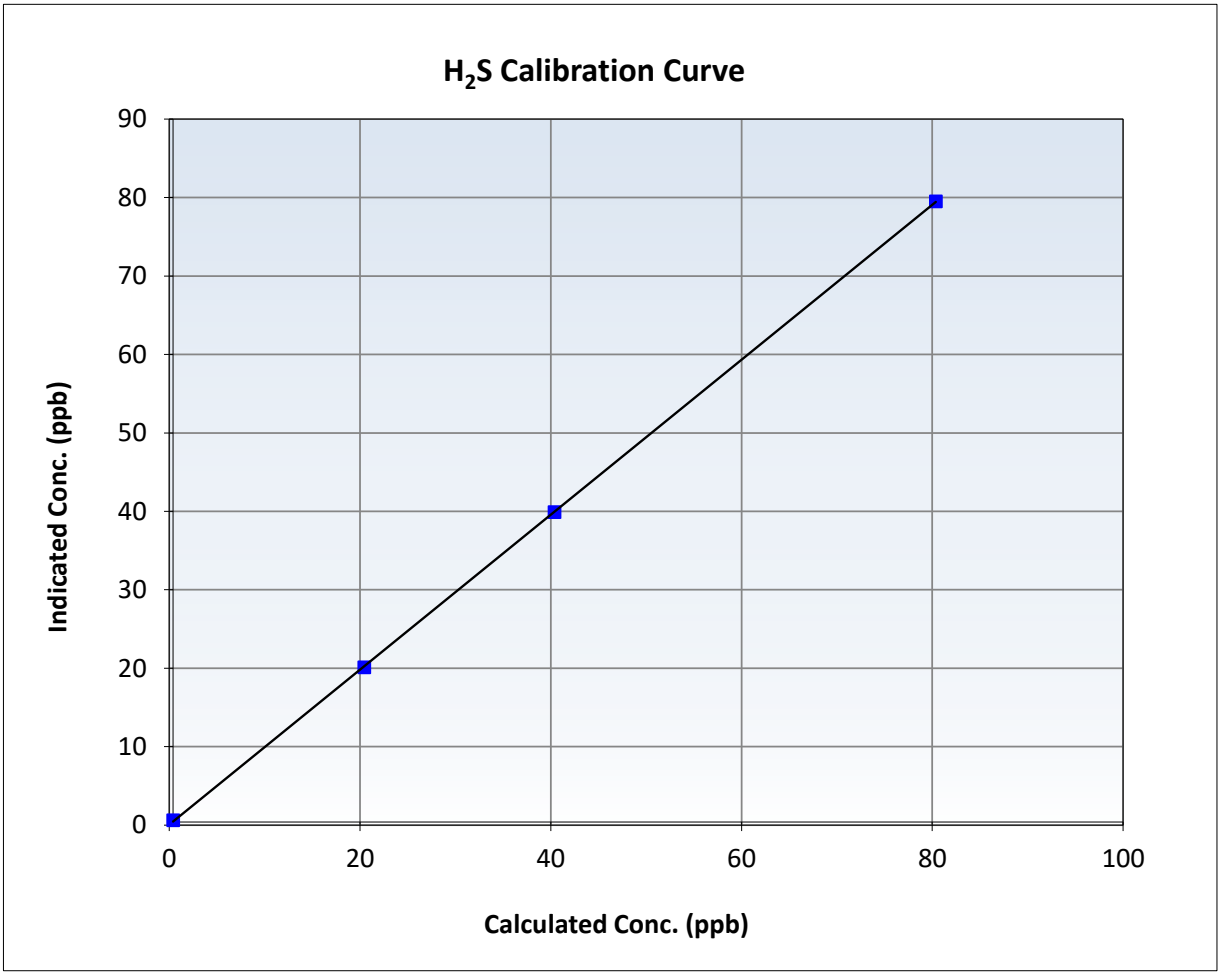
Station Information

Calibration Date:	October 30, 2025	Previous Calibration:	September 29, 2025
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	10:18	End Time (MST):	15:09
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1336160090

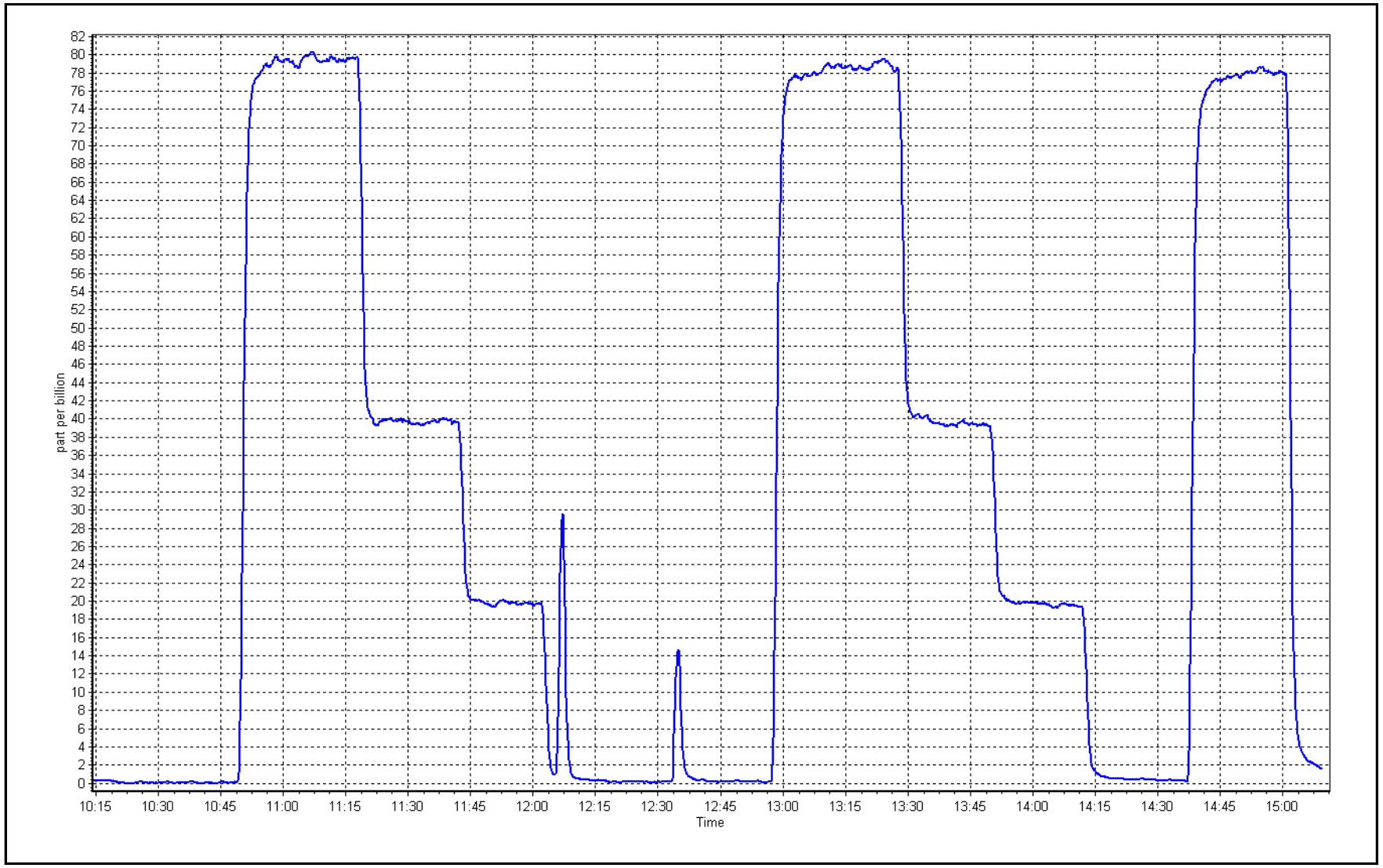
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
80.0	79.1	1.0109
40.0	39.5	1.0122
20.0	19.7	1.0173

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999986	*≥0.995*
Slope	0.987624	*0.90 - 1.10*
Intercept	0.061038	*+/-3*



H_2S Calibration Plot Date: October 30, 2025 Location: Blackgold



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Blackgold	Station number:	AMS 511
Calibration Date:	September 29, 2025	Last Cal Date:	N/A
Start time (MST):	9:33	End time (MST):	12:30
Reason:	Install		

Calibration Standards

Gas Cert Reference:		CC303094	Cal Gas Expiry Date:	January 5, 2029	
CH4 Cal Gas Conc.	499.2	ppm	CH4 Equiv Conc.	1056.6	ppm
C3H8 Cal Gas Conc.	202.7	ppm			
Removed Gas Cert:		N/A	Removed Gas Expiry:	N/A	
Removed CH4 Conc.	499.2	ppm	CH4 Equiv Conc.	1056.6	ppm
Removed C3H8 Conc.	202.7	ppm	Diff between cyl:		
Calibrator Make/Model:	Teledyne API T750		Serial Number:	281	
ZAG Make/Model:	Teledyne API 701		Serial Number:	4865	

Analyzer Information

Analyzer make:	Thermo 51i		Analyzer serial #:	12426335705	
Analyzer Range:	0 - 20 ppm				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	N/A	1.002035	Background:	N/A	0.870
Calibration intercept:	N/A	0.022887	Coefficient:	N/A	2.150

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	NA	Previous response	NA	*% change	NA
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4919	81.0	17.12	17.16	0.997
Mid point	4959	40.5	8.56	8.62	0.993
Low point	4980	20.3	4.29	4.34	0.989
As left zero	5000	0.0	0.00	0.00	----
As left span	4919	81.0	17.12		
				Average Correction Factor	0.993

Notes: Used a portable calibrator for the calibration. Adjusted zero and span.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

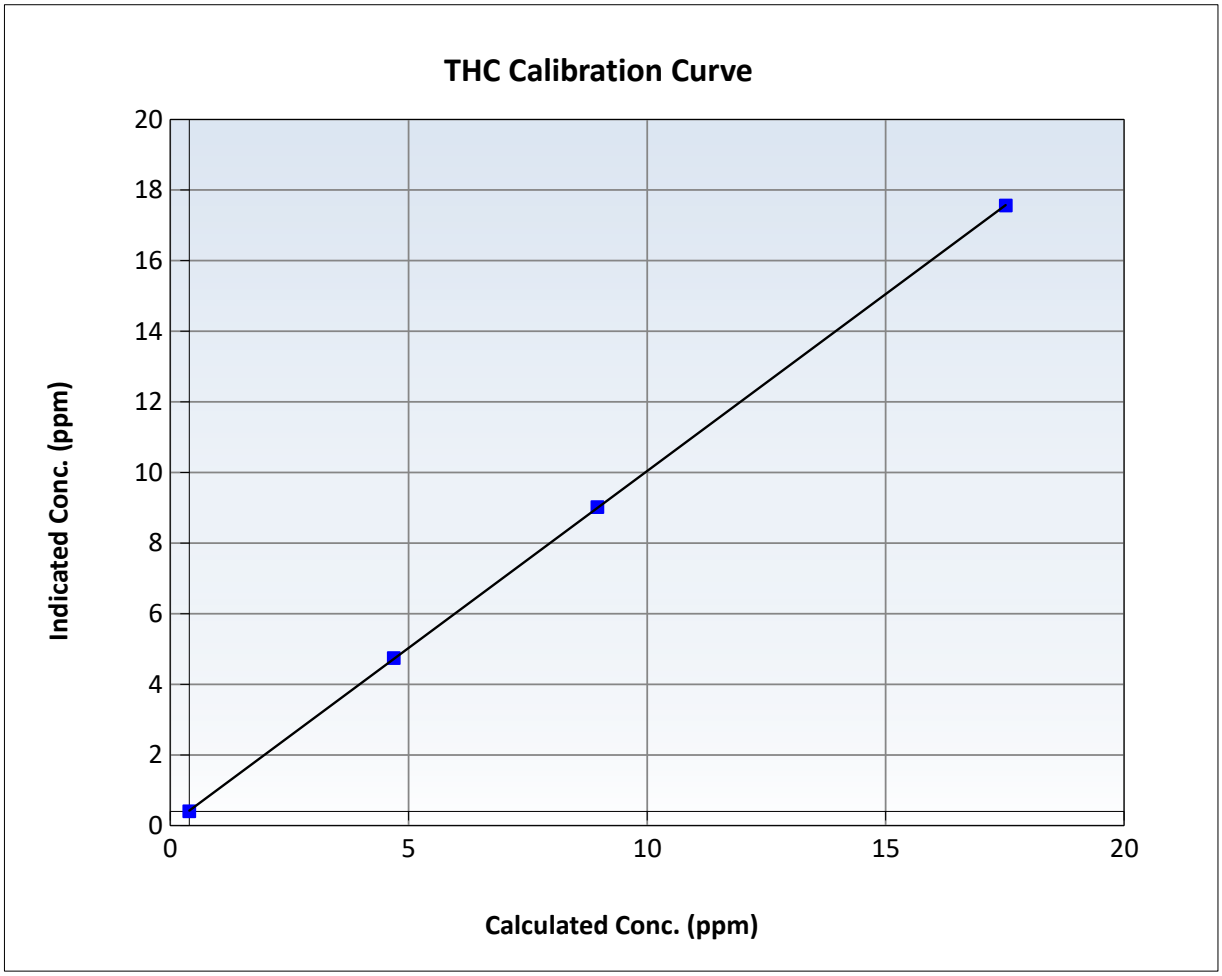
THC Calibration Summary

Station Information

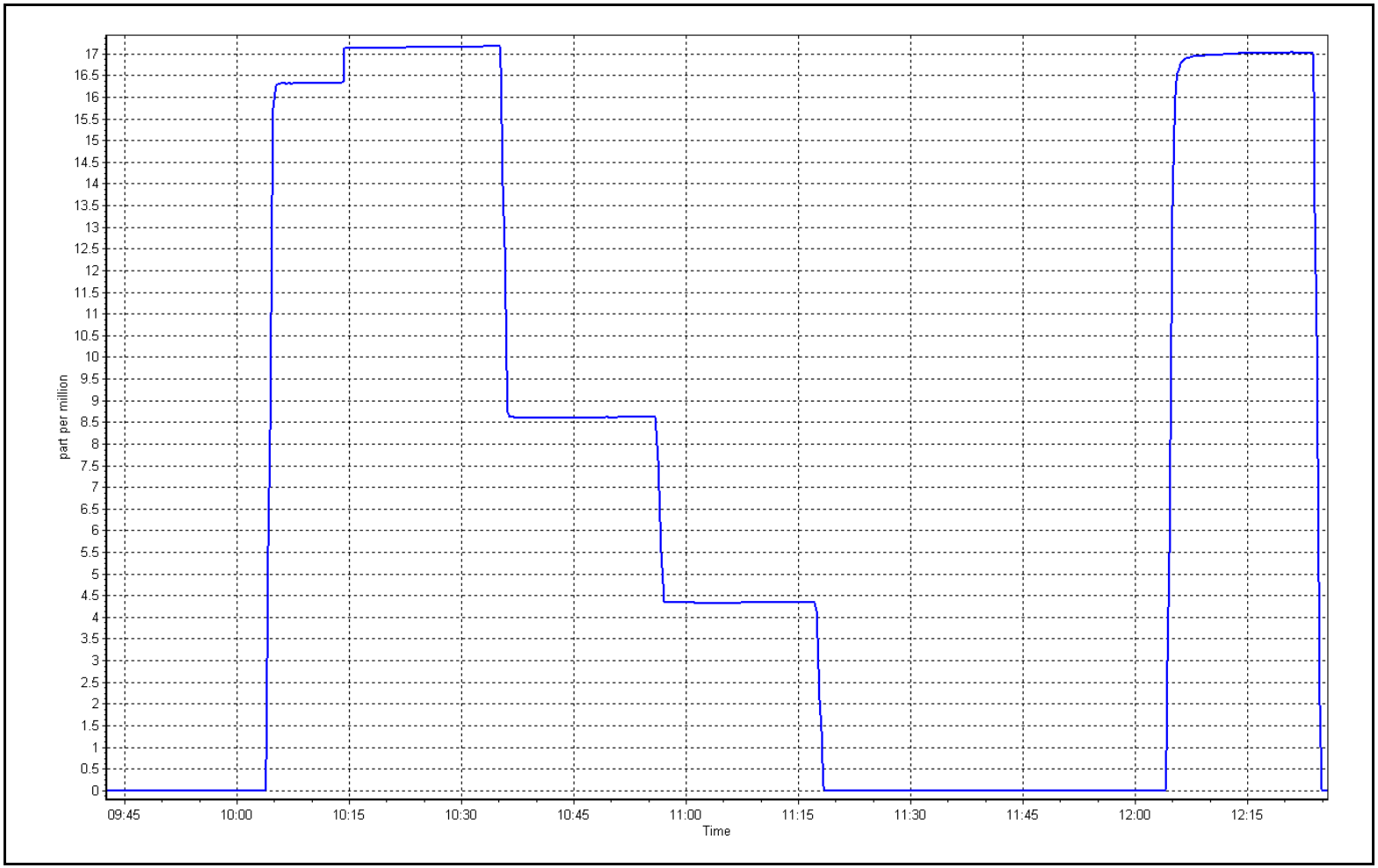
Calibration Date:	September 29, 2025	Previous Calibration:	N/A
Station Name:	2025-09-29	Station Number:	N/A
Start Time (MST):	9:33	End Time (MST):	12:30
Analyzer make:	Thermo 51i	Analyzer serial #:	12426335705

Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999991	*≥0.995*
17.12	17.16	0.9975	Slope	1.002035	*0.90 - 1.10*
8.56	8.62	0.9931	Intercept	0.022887	*+/-1.5*
4.29	4.34	0.9886			



THC Calibration Plot Date: September 29, 2025 Location: Blackgold



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Blackgold	Station number:	AMS 511
Calibration Date:	October 17, 2025	Last Cal Date:	September 29, 2025
Start time (MST):	10:47	End time (MST):	12:25
Reason:	As Found		

Calibration Standards

Gas Cert Reference:	CC303094		Cal Gas Expiry Date:	January 5, 2029	
CH4 Cal Gas Conc.	499.2	ppm	CH4 Equiv Conc.	1056.6	ppm
C3H8 Cal Gas Conc.	202.7	ppm			
Removed Gas Cert:	N/A		Removed Gas Expiry:	N/A	
Removed CH4 Conc.	499.2	ppm	CH4 Equiv Conc.	1056.6	ppm
Removed C3H8 Conc.	202.7	ppm	Diff between cyl:		
Calibrator Make/Model:	Teledyne API T750		Serial Number:	281	
ZAG Make/Model:	Teledyne API 701		Serial Number:	2659	

Analyzer Information

Analyzer make:	Thermo 51i	Analyzer serial #:	12426335705
Analyzer Range:	0 - 20 ppm		

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.002035		Background:	0.870000	
Calibration intercept:	0.022887		Coefficient:	2.150000	

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero	5000	0.0	0.00	-0.06	----
As found High point	4919	81.0	17.12	16.98	1.004
As found Mid point	4959	40.5	8.56	8.45	1.005
As found Low point	4980	20.3	4.29	4.18	1.011
New cylinder response					
Baseline Corr As found:	17.04	Previous response	17.18	*% change	-0.8%
Baseline Corr 2nd AF pt:	8.51	AF Slope:	0.996182	AF Intercept:	-0.076270
Baseline Corr 3rd AF pt:	4.24	AF Correlation:	0.999997	* = > +/-5% change initiates investigation	

THC Calibration Data

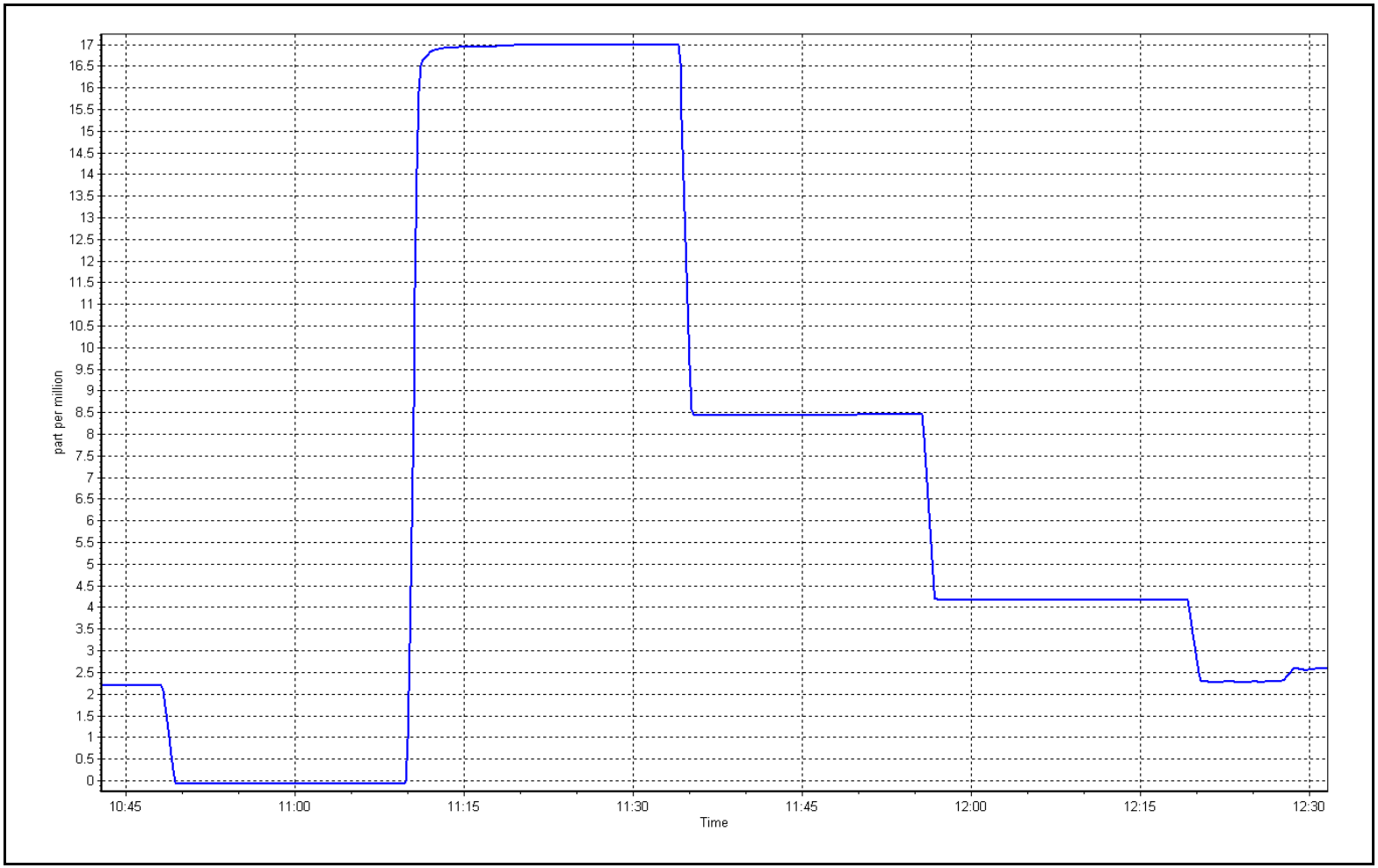
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero					
As left span					

Average Correction Factor

Notes: As founds only.

Calibration Performed By: Mohammed Kashif

THC Calibration Plot Date: October 17, 2025 Location: Blackgold



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Blackgold	Station number:	AMS 511
Calibration Date:	October 17, 2025	Last Cal Date:	September 29, 2025
Start time (MST):	14:15	End time (MST):	16:41
Reason:	Routine		

Calibration Standards

Gas Cert Reference:	CC303094		Cal Gas Expiry Date:	January 5, 2029	
CH4 Cal Gas Conc.	499.2	ppm	CH4 Equiv Conc.	1056.6	ppm
C3H8 Cal Gas Conc.	202.7	ppm			
Removed Gas Cert:	N/A		Removed Gas Expiry:	N/A	
Removed CH4 Conc.	499.2	ppm	CH4 Equiv Conc.	1056.6	ppm
Removed C3H8 Conc.	202.7	ppm	Diff between cyl:		
Calibrator Make/Model:	Teledyne API T750		Serial Number:	953	
ZAG Make/Model:	Teledyne API 701		Serial Number:	2659	

Analyzer Information

Analyzer make:	Thermo 51i		Analyzer serial #:	12426335705	
Analyzer Range:	0 - 20 ppm				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.002035	1.006133	Background:	0.87	0.96
Calibration intercept:	0.022887	-0.074314	Coefficient:	2.150	2.390

THC As Found Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90-1.10*
As found zero					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	NA	Previous response	NA	*% change	NA
Baseline Corr 2nd AF pt:	NA	AF Slope:		AF Intercept:	
Baseline Corr 3rd AF pt:	NA	AF Correlation:		* = > +/-5% change initiates investigation	

THC Calibration Data

Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	-0.09	----
High point	4919	81.0	17.12	17.13	0.999
Mid point	4959	40.5	8.56	8.59	0.997
Low point	4980	20.3	4.29	4.22	1.016
As left zero	5000	0.0	0.00	-0.11	----
As left span	4919	81.0	17.12	17.32	0.989
				Average Correction Factor	1.004

Notes: Sample inlet filter and ZAG were changed. The sample pressure was adjusted to approximately 18 psi, which likely caused the observed background shift. Adjusted span only.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

THC Calibration Summary

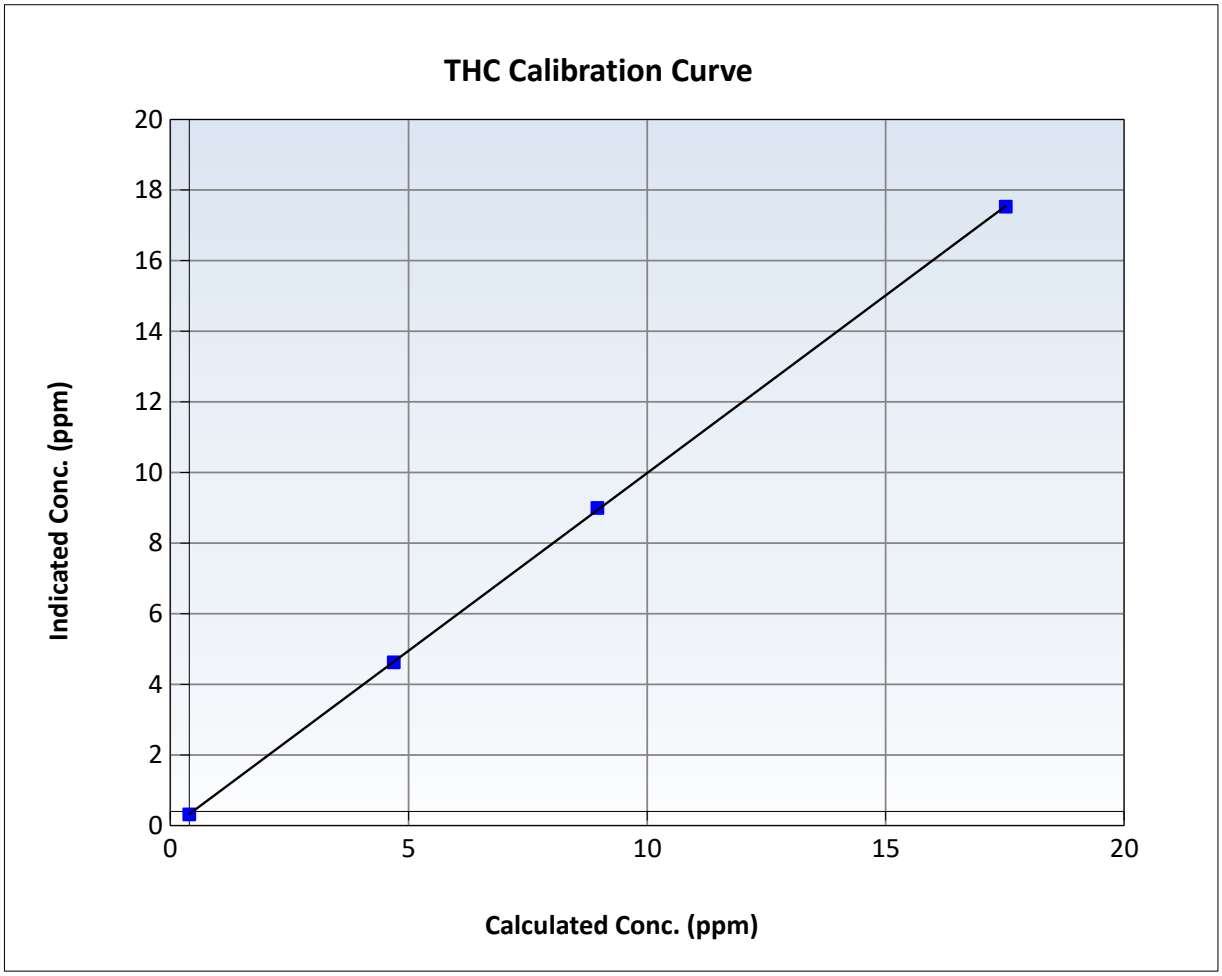
Station Information

Calibration Date:	October 17, 2025	Previous Calibration:	September 29, 2025
Station Name:	2025-09-29	Station Number:	N/A
Start Time (MST):	14:15	End Time (MST):	16:41
Analyzer make:	Thermo 51i	Analyzer serial #:	12426335705

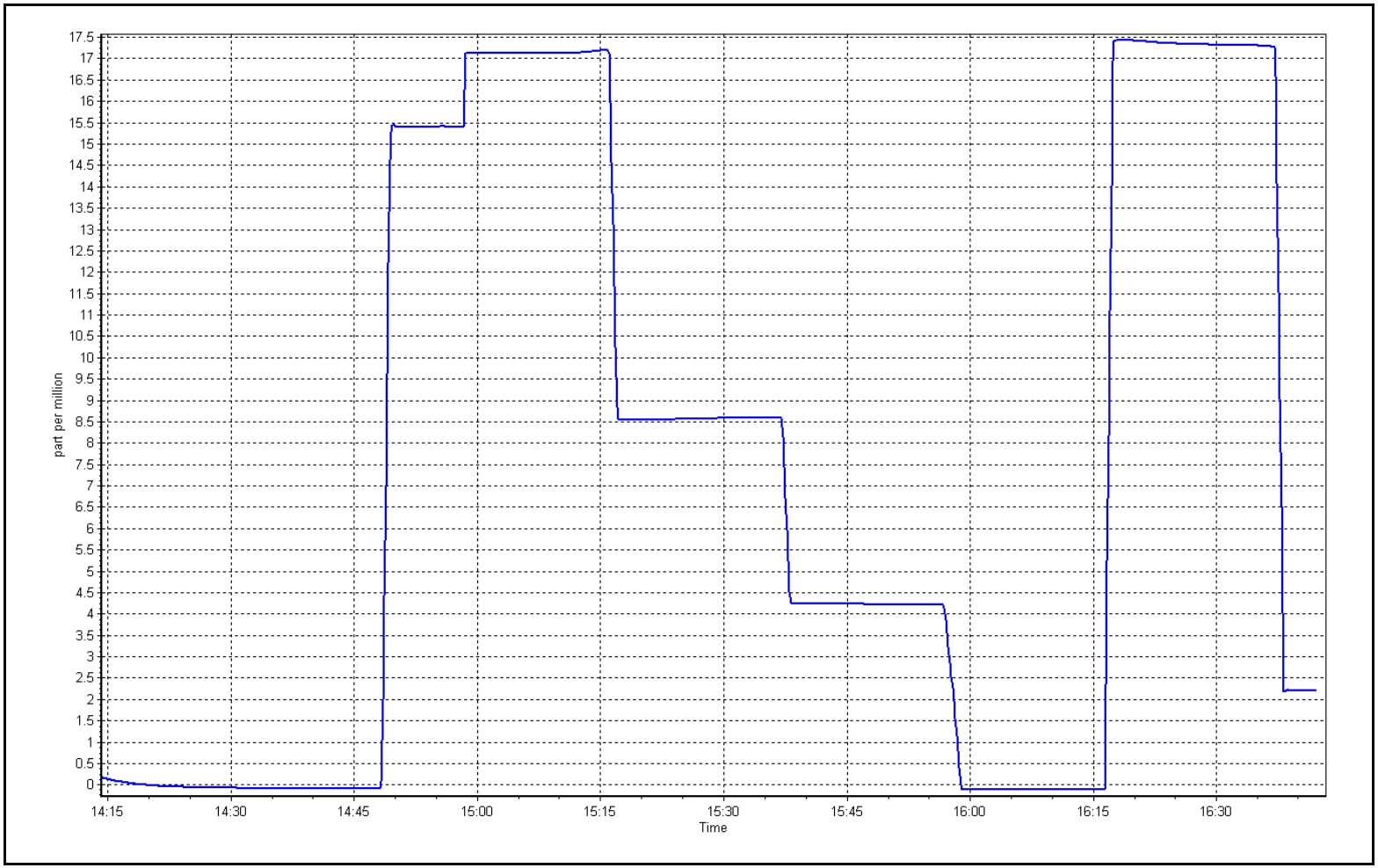
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	-0.09	----
17.12	17.13	0.9994
8.56	8.59	0.9966
4.29	4.22	1.0158

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999978	*≥0.995*
Slope	1.006133	*0.90 - 1.10*
Intercept	-0.074314	*+/-1.5*



THC Calibration Plot Date: October 17, 2025 Location: Blackgold



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Blackgold
Station number:	AMS 511
Calibration Date:	September 26, 2025
Last Cal Date:	N/A
Start time (MST):	9:00
End time (MST):	13:30
Reason:	Install

Calibration Standards

NO Gas Cylinder #:	T0F8P52		Cal Gas Expiry Date:	August 16, 2026	
NOX Cal Gas Conc:	47.43	ppm	NO Cal Gas Conc:	47.43	ppm
Removed Cylinder #:	N/A		Removed Gas Exp Date:	N/A	
Removed Gas NOX Conc:	47.43	ppm	Removed Gas NO Conc:	47.43	ppm
NOX gas Diff:			NO gas Diff:		
Calibrator Model:	Teledyne API T700		Serial Number:	5112	
ZAG make/model:	Teledyne API T701		Serial Number:	4865	

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero										
AF High point										
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	NA	ppb	NO =	NA	ppb		*Percent Change	NO_X =	NA
Baseline Corr 1st pt	NO_X =	NA	ppb	NO =	NA	ppb		*Percent Change	NO =	NA
Baseline Corr 2nd pt	NO_X =	NA	ppb	NO =	NA	ppb				
Baseline Corr 3rd pt	NO_X =	NA	ppb	NO =	NA	ppb				

* = > +/-5% change initiates investigation

As Found Statistics

As found	NO_X r^2:	Nx Sl:	Nx Int:
As found	NO r^2:	NO Sl:	NO Int:
As found	NO_2 r^2:	NO2 Sl:	NO_2 Int:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Teledyne API T200 Serial Number: 7029

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	N/A	1.056	NO bkgnd or offset:	N/A	0.2
NOX coeff or slope:	N/A	1.052	NOX bkgnd or offset:	N/A	0.4
NO2 coeff or slope:	N/A	1.000	Reaction cell Press:	N/A	4.8

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	N/A	1.003246
NO_X Cal Offset:	N/A	-4.057433
NO Cal Slope:	N/A	1.005046
NO Cal Offset:	N/A	-4.537452
NO_2 Cal Slope:	N/A	0.986228
NO_2 Cal Offset:	N/A	-1.042553

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	-0.1	-0.2	0.1	----	----
High point	4916	84.3	799.6	799.6	0.0	800.7	802.0	-1.1	0.9987	0.9970
Mid point	4958	42.2	400.3	400.3	0.0	393.9	393.5	0.4	1.0163	1.0173
Low point	4979	21.1	200.2	200.2	0.0	193.9	193.7	0.2	1.0323	1.0333
As left zero	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	----
As left span	4916	84.3	0.0	423.0	376.6	783.8	423.0	360.8	0.0000	1.0000
								Average Correction Factor	1.0157	1.0159

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.1	----	----
High GPT point	797.0	410.0	387.0	381.2	1.0152	98.5%
Mid GPT point	797.0	598.2	198.8	194.5	1.0221	97.8%
Low GPT point	797.0	698.1	98.9	95.3	1.0378	96.4%
				Average Correction Factor	1.0250	97.6%

Notes: Install calibration. Adjusted the span.

Calibration Performed By: Max Farrell

Wood Buffalo Environmental Association

NO_X Calibration Summary

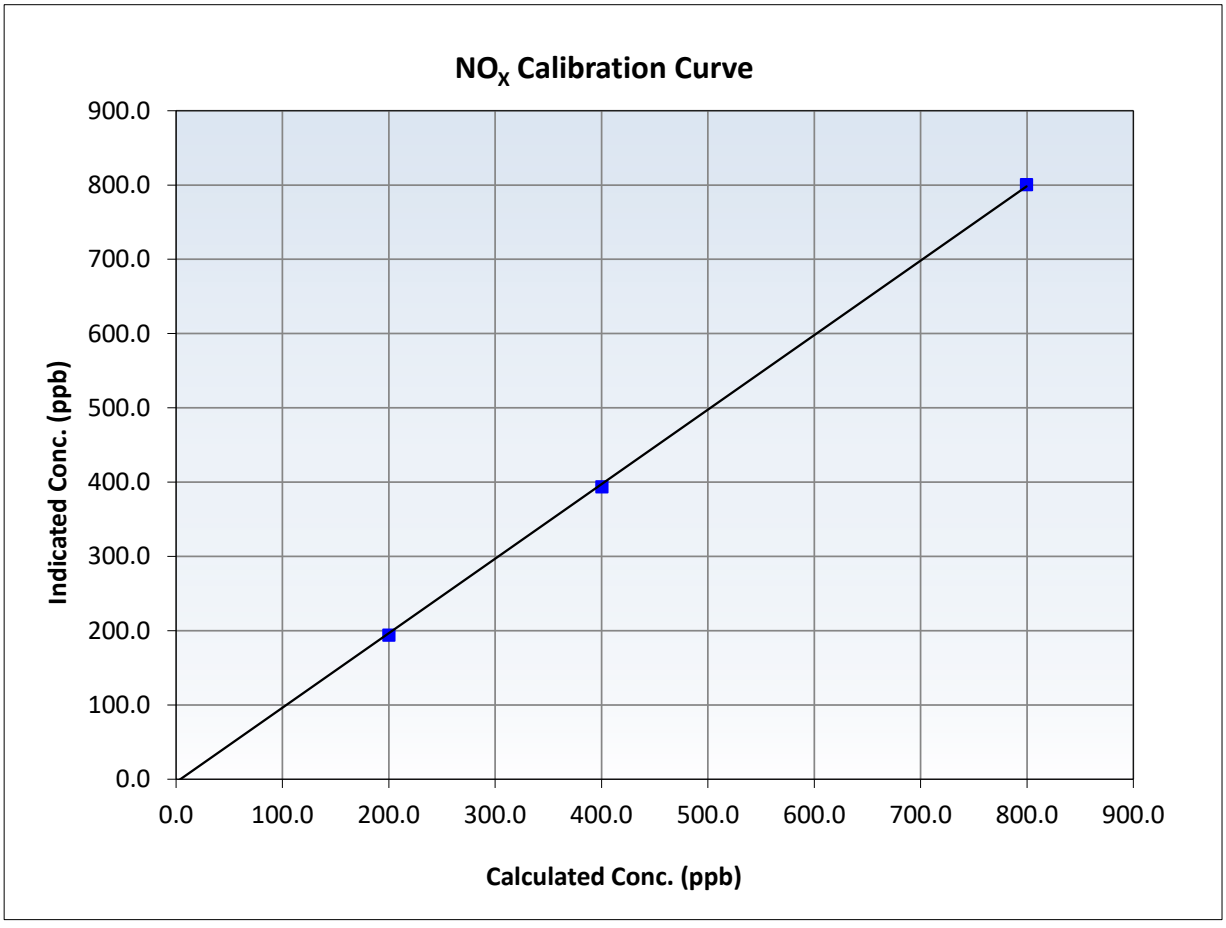
Station Information

Calibration Date:	September 26, 2025	Previous Calibration:	N/A
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	9:00	End Time (MST):	13:30
Analyzer make:	Teledyne API T200	Analyzer serial #:	7029

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
799.6	800.7	0.9987
400.3	393.9	1.0163
200.2	193.9	1.0323

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999876	*≥0.995*
Slope	1.003246	*0.90 - 1.10*
Intercept	-4.057433	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

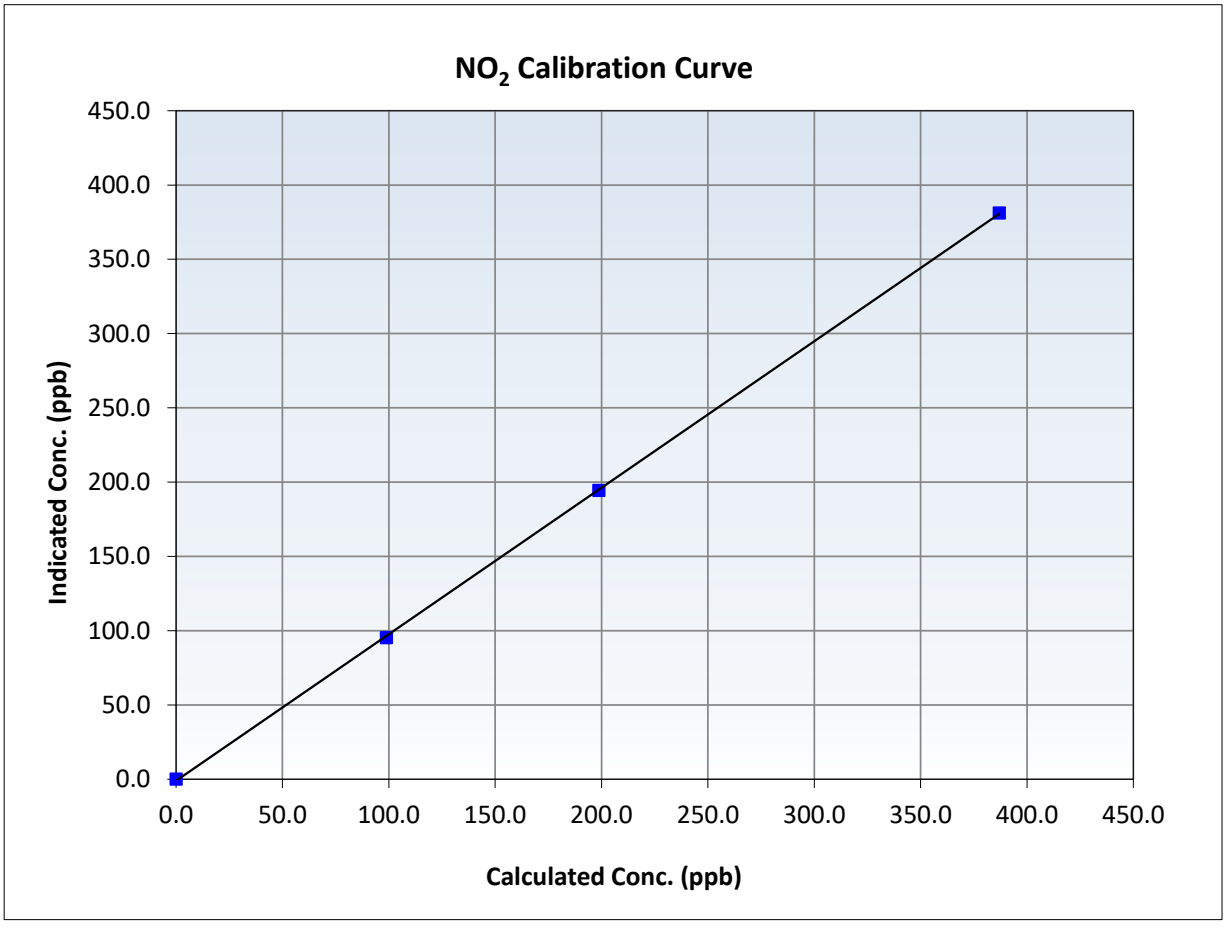
Station Information

Calibration Date:	September 26, 2025	Previous Calibration:	N/A
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	9:00	End Time (MST):	13:30
Analyzer make:	Teledyne API T200	Analyzer serial #:	7029

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
387.0	381.2	1.0152
198.8	194.5	1.0221
98.9	95.3	1.0378

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999958	*≥0.995*
Slope	0.986228	*0.90 - 1.10*
Intercept	-1.042553	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

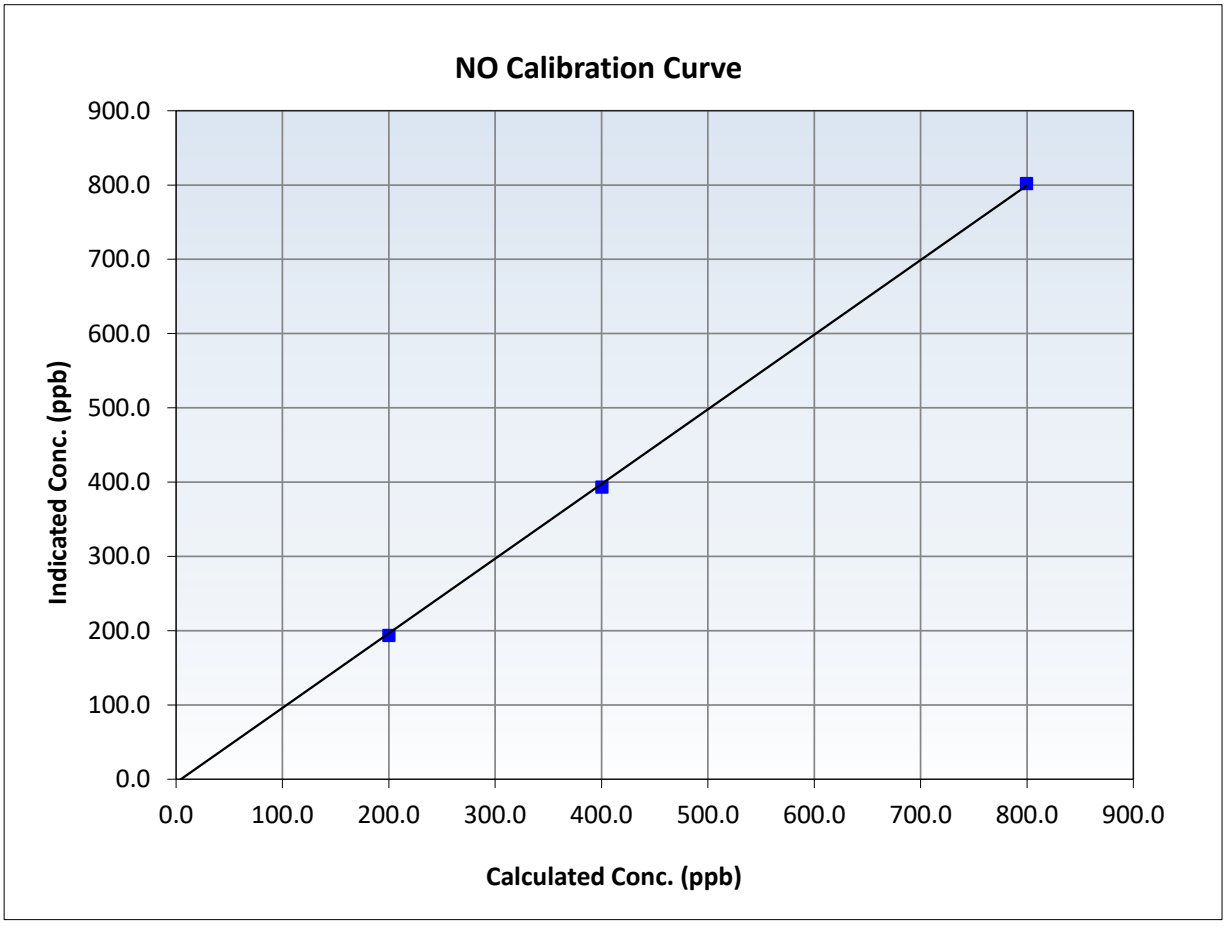
Station Information

Calibration Date:	September 26, 2025	Previous Calibration:	N/A
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	9:00	End Time (MST):	13:30
Analyzer make:	Teledyne API T200	Analyzer serial #:	7029

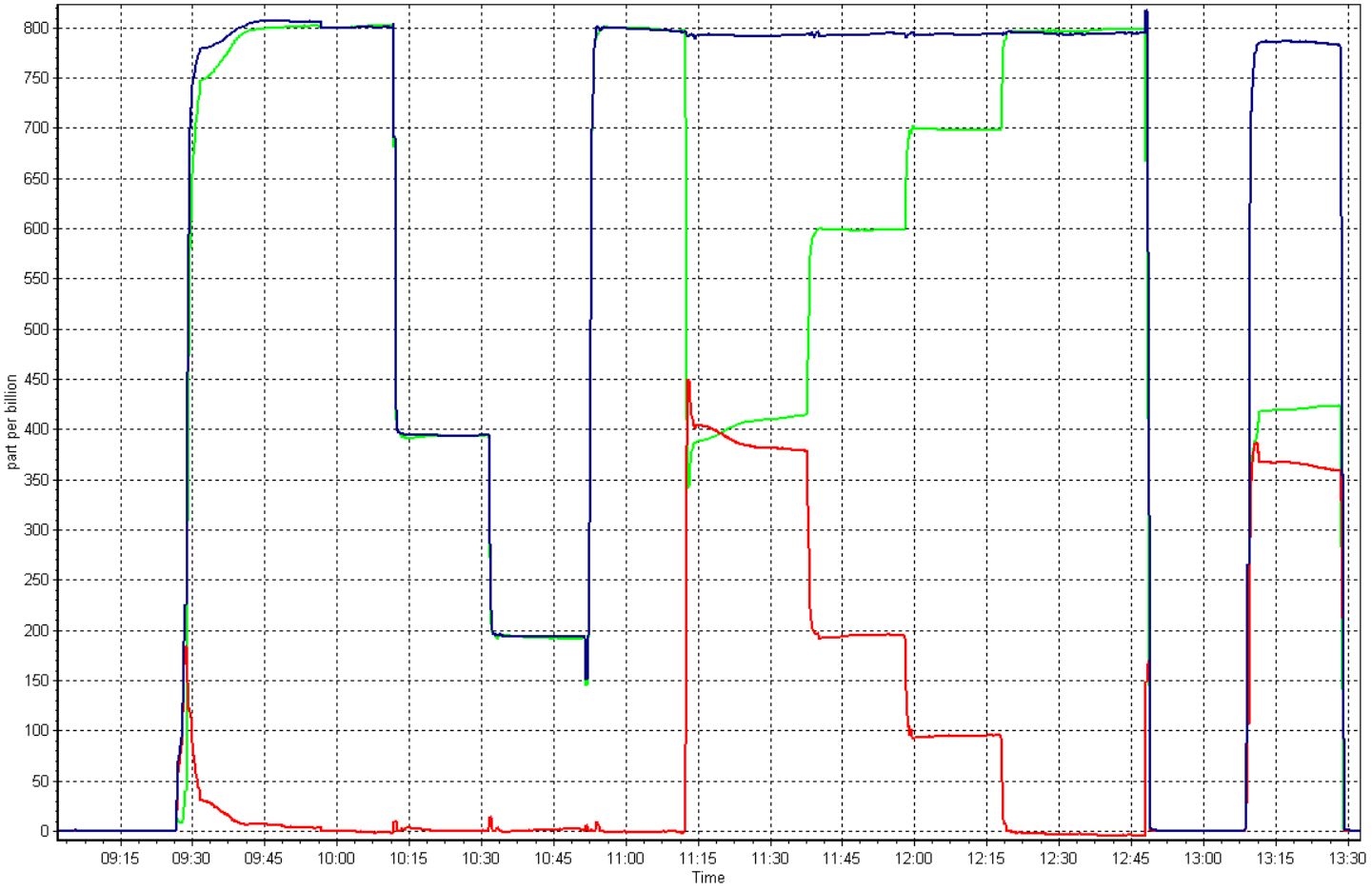
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
799.6	802.0	0.9970
400.3	393.5	1.0173
200.2	193.7	1.0333

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999847	*≥0.995*
Slope	1.005046	*0.90 - 1.10*
Intercept	-4.537452	*+/-20*



NO_X Calibration Plot Date: September 26, 2025 Location: Blackgold



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Blackgold
Station number:	AMS 511
Calibration Date:	October 7, 2025
Last Cal Date:	September 26, 2025
Start time (MST):	10:47
End time (MST):	15:52
Reason:	Routine

Calibration Standards

NO Gas Cylinder #:	T0F8P52	Cal Gas Expiry Date:	August 16, 2026
NOX Cal Gas Conc:	47.43 ppm	NO Cal Gas Conc:	47.43 ppm
Removed Cylinder #:	N/A	Removed Gas Exp Date:	N/A
Removed Gas NOX Conc:	47.43 ppm	Removed Gas NO Conc:	47.43 ppm
NOX gas Diff:		NO gas Diff:	
Calibrator Model:	Teledyne API T700	Serial Number:	5112
ZAG make/model:	Teledyne API T701	Serial Number:	4865

As Found Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*
As found zero	5000	0.0	0.0	0.0	0.0	-0.2	-0.2	0.1	----	----
AF High point	4916	84.3	799.6	799.6	0.0	765.8	767.1	-1.4	1.0439	1.0421
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 798.2 ppb	NO = 799.1 ppb
Baseline Corr 1st pt	NO_X = 766.0 ppb	NO = 767.3 ppb
Baseline Corr 2nd pt	NO_X = NA ppb	NO = NA ppb
Baseline Corr 3rd pt	NO_X = NA ppb	NO = NA ppb

* = > +/-5% change initiates investigation

*Percent Change	NO_X =	-4.2%	
*Percent Change	NO =	-4.1%	
Nx Sl:	Nx Int:		
NO Sl:	NO Int:		
NO2 Sl:	NO_2 Int:		

As Found Statistics

As found	NO_X r^2:
As found	NO r^2:
As found	NO_2 r^2:

As Found GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	Baseline Adjusted NO2 Correction factor (Cc/(Ic-AFzero)) *Limit = 0.90 - 1.10*	Converter Efficiency *Limit = 96-104%*
As Found GPT zero						
As found high GPT point						
As found mid GPT point						
As found low GPT point						

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Analyzer Information

Analyzer Make: Teledyne API T200 Serial Number: 7029

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.056	1.082	NO bkgnd or offset:	0.2	0.2
NOX coeff or slope:	1.052	1.078	NOX bkgnd or offset:	0.4	0.4
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	4.8	4.7

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.003246	1.002533
NO_X Cal Offset:	-4.057433	-2.958117
NO Cal Slope:	1.005046	1.003662
NO Cal Offset:	-4.537452	-3.578225
NO_2 Cal Slope:	0.986228	0.993905
NO_2 Cal Offset:	-1.042553	-0.629244

Dilution Calibration Data

Set Point	Dilution flow rate (sccm)	Source gas flow rate (sccm)	Calculated NOx concentration (ppb) (Cc)	Calculated NO concentration (ppb) (Cc)	Calculated NO2 concentration (ppb) (Cc)	Indicated NOx concentration (ppb) (Ic)	Indicated NO concentration (ppb) (Ic)	Indicated NO2 concentration (ppb) (Ic)	NOx Correction factor (Cc/Ic) *Limit = 0.95-1.05*	NO Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Cal zero	5000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	----	----
High point	4916	84.3	799.6	799.6	0.0	800.4	800.8	-0.5	0.9990	0.9985
Mid point	4958	42.2	400.3	400.3	0.0	396.2	396.4	-0.1	1.0104	1.0099
Low point	4979	21.1	200.2	200.2	0.0	195.2	193.6	1.6	1.0254	1.0339
As left zero	5000	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	----	----
As left span	4916	84.3	799.6	389.3	410.3	779.9	389.3	390.6	1.0253	1.0000
							Average Correction Factor		1.0116	1.0141

GPT Calibration Data

O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero	----	----	0.0	0.0	----	----
High GPT point	793.3	392.5	400.8	398.0	1.0070	99.3%
Mid GPT point	793.3	595.3	198.0	196.0	1.0102	99.0%
Low GPT point	793.3	689.4	103.9	101.9	1.0196	98.1%
				Average Correction Factor	1.0123	98.8%

Notes: Sample inlet filter changed after as founds. Adjusted span only.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

NO_X Calibration Summary

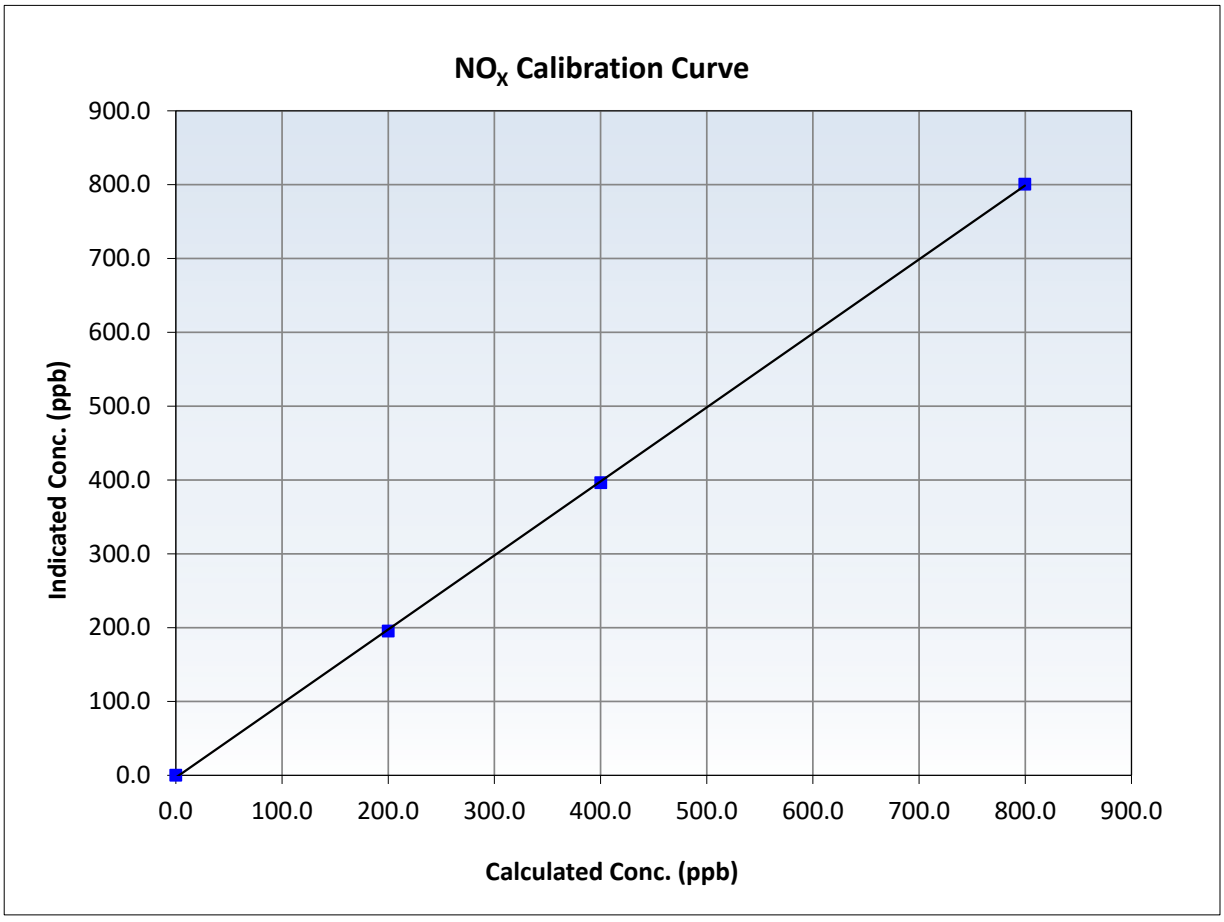
Station Information

Calibration Date:	October 7, 2025	Previous Calibration:	September 26, 2025
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	10:47	End Time (MST):	15:52
Analyzer make:	Teledyne API T200	Analyzer serial #:	7029

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
799.6	800.4	0.9990
400.3	396.2	1.0104
200.2	195.2	1.0254

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999936	*≥0.995*
Slope	1.002533	*0.90 - 1.10*
Intercept	-2.958117	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

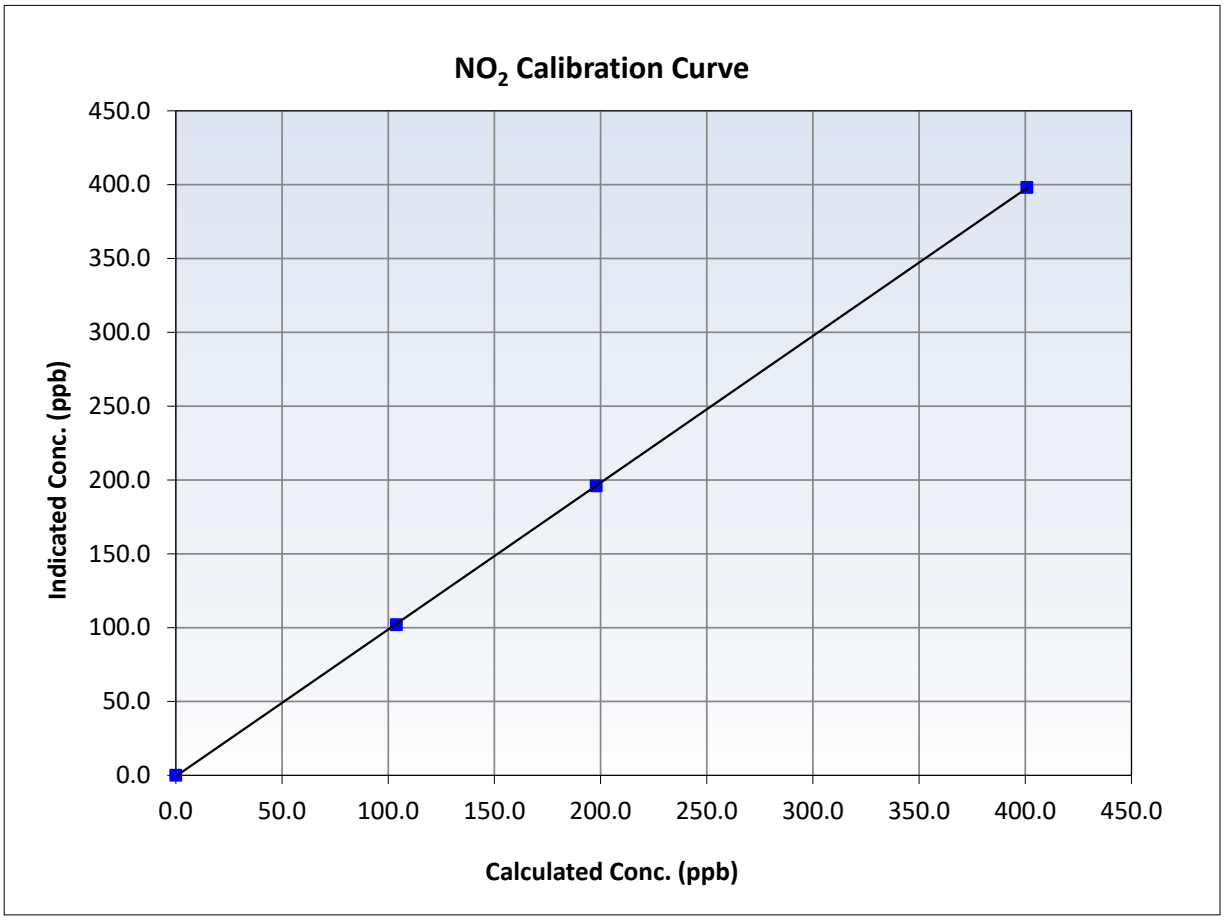
Station Information

Calibration Date:	October 7, 2025	Previous Calibration:	September 26, 2025
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	10:47	End Time (MST):	15:52
Analyzer make:	Teledyne API T200	Analyzer serial #:	7029

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
400.8	398.0	1.0070
198.0	196.0	1.0102
103.9	101.9	1.0196

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999988	*≥0.995*
Slope	0.993905	*0.90 - 1.10*
Intercept	-0.629244	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

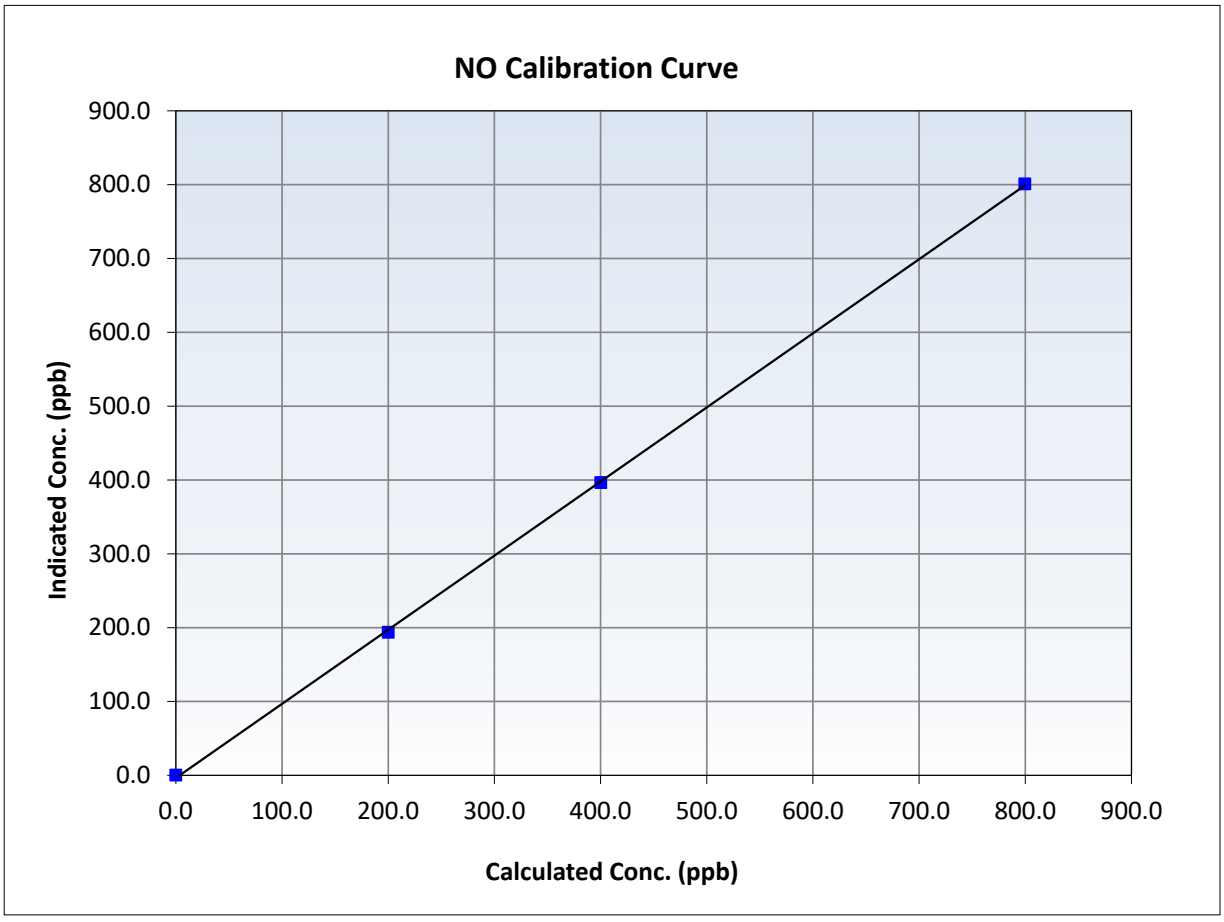
Station Information

Calibration Date:	October 7, 2025	Previous Calibration:	September 26, 2025
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	10:47	End Time (MST):	15:52
Analyzer make:	Teledyne API T200	Analyzer serial #:	7029

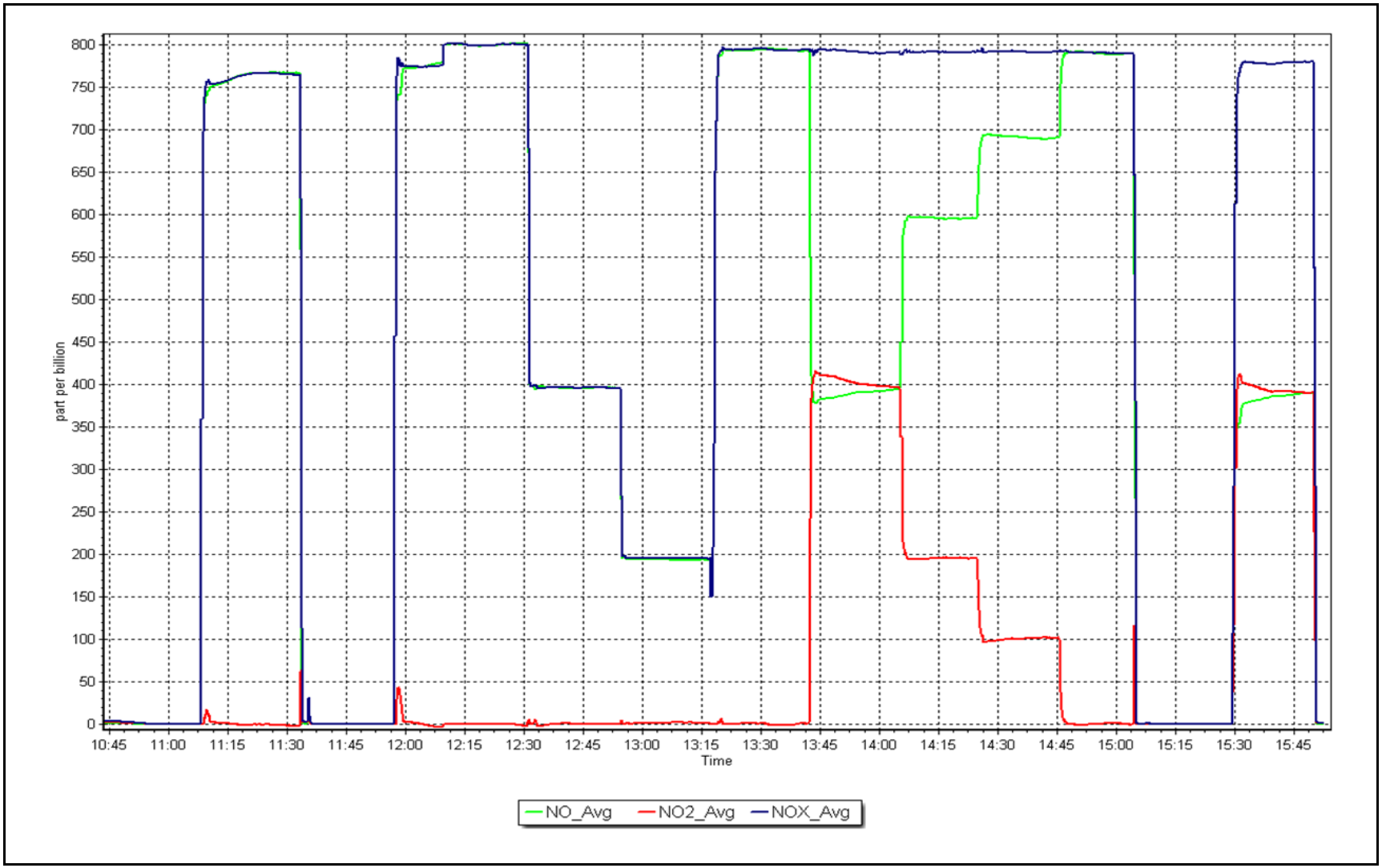
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
799.6	800.8	0.9985
400.3	396.4	1.0099
200.2	193.6	1.0339

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999904	*≥0.995*
Slope	1.003662	*0.90 - 1.10*
Intercept	-3.578225	*+/-20*



NO_X Calibration Plot Date: October 7, 2025 Location: Blackgold



Wood Buffalo Environmental Association

Wind Speed/Direction Calibration Report

Station Information

Station Name:	Blackgold	Station Number:	AMS 511
Calibration Date:	September 26, 2025	Prev Cal Date:	N/A
Start Time (MST):	12:02	End Time (MST):	13:04
Tower Height (m):	10.0	Reason:	Install

Wind Speed Calibration

Sensor make/model:	Met One 010C-1	Serial Number:	B10017
WS Calibrator:	MetOne 053	Serial Number:	P15103

Shaft RPM (Hz)	Calculated Speed (K/hr) (Cv)	Indicated Speed (K/hr) (Iv)	% Error *Limit = +/- 1.5%*
0	0.0	0.0	---
200	20.2	20.2	0.2%
400	39.4	39.4	0.1%
600	58.6	58.7	0.2%
800	77.8	77.8	0.1%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)		0.999999	*≥0.9995*
Calculated slope		0.998949	*0.98 - 1.02*
Calculated intercept		-0.013169	*+/- 2*

Wind Direction Calibration

Sensor make/model:	Met One 020C-1	Serial Number:	D13603
As Found Declination (deg east of True North):	N/A	As Left Declination (deg east of True North):	14
Solar noon (MST):		Calc Declination*:	Degrees
WD Calibrator:	Met One 040		* - calculated declination as per NOAA website

Physical Direction (Degrees) (Cv)	Indicated Direction (Degrees) (Iv)	% Error (based on 360° FS) *Limit = +/- 1%*
10	10.3	0.1%
90	89.4	-0.2%
180	179.2	-0.2%
270	272.4	0.7%
350	352.8	0.8%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)		0.999968	*≥0.9995*
Calculated slope		0.990632	*0.97 - 1.03*
Calculated intercept		0.873846	*+/- 5*

Notes: Install calibration. Used compass to align the crossarm. Bearing are in good condition.

Calibration Performed By: Max Farrell

End of Report