WOOD BUFFALO
ENVIRONMENTAL ASSOCIATION

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Wood Buffalo Environmental Association

NOVEMBER 2025

MONTHLY CALIBRATION REPORT

CONTINUOUS MONITORING

December 22, 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
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Bertha Ganter-Fort McKay	Station number:	AMS 01
Calibration Date:	November 3, 2025	Last Cal Date:	October 20, 2025
Start time (MST):	10:36	End time (MST):	14:00
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:	1.000408	0.996496	Backgd or Offset:	21.6	21.5
Calibration intercept:	-0.613104	-0.293182	Coeff or Slope:	0.879	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	-0.2	----
As found High point	4918	81.3	800.3	802.2	0.997
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	802.4	Previous response	800.0	*% 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	

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	797.6	1.003
Mid point	4959	40.7	400.6	398.0	1.007
Low point	4979	20.3	199.8	198.9	1.005
As left zero	5000	0.0	0.0	0.0	----
As left span	4918	81.3	800.3	799.8	1.001
				Average Correction Factor:	1.005

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

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

SO_2 Calibration Summary

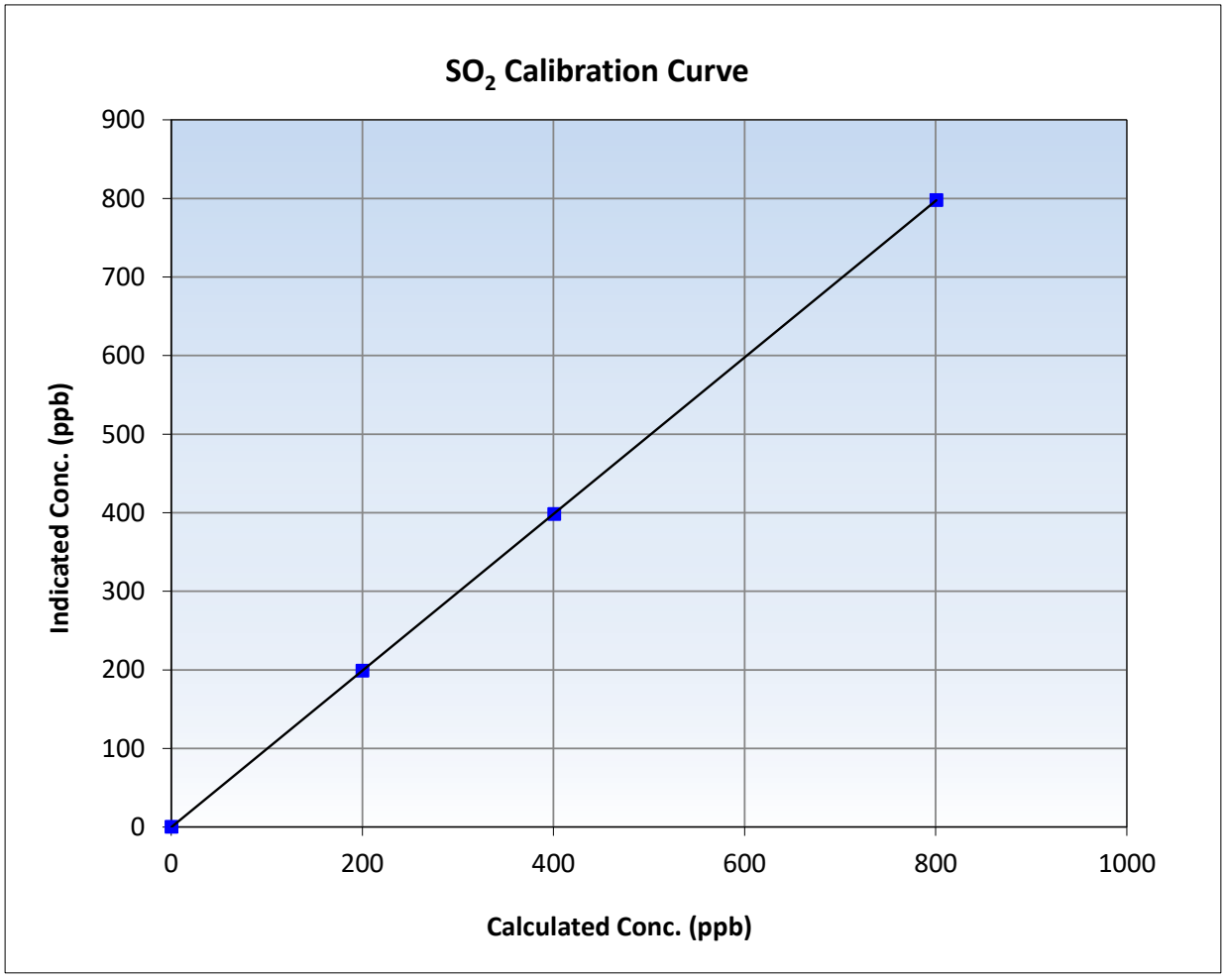
Station Information

Calibration Date:	November 3, 2025	Previous Calibration:	October 20, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:36	End Time (MST):	14:00
Analyzer make:	Thermo 43i	Analyzer serial #:	JC1501301448

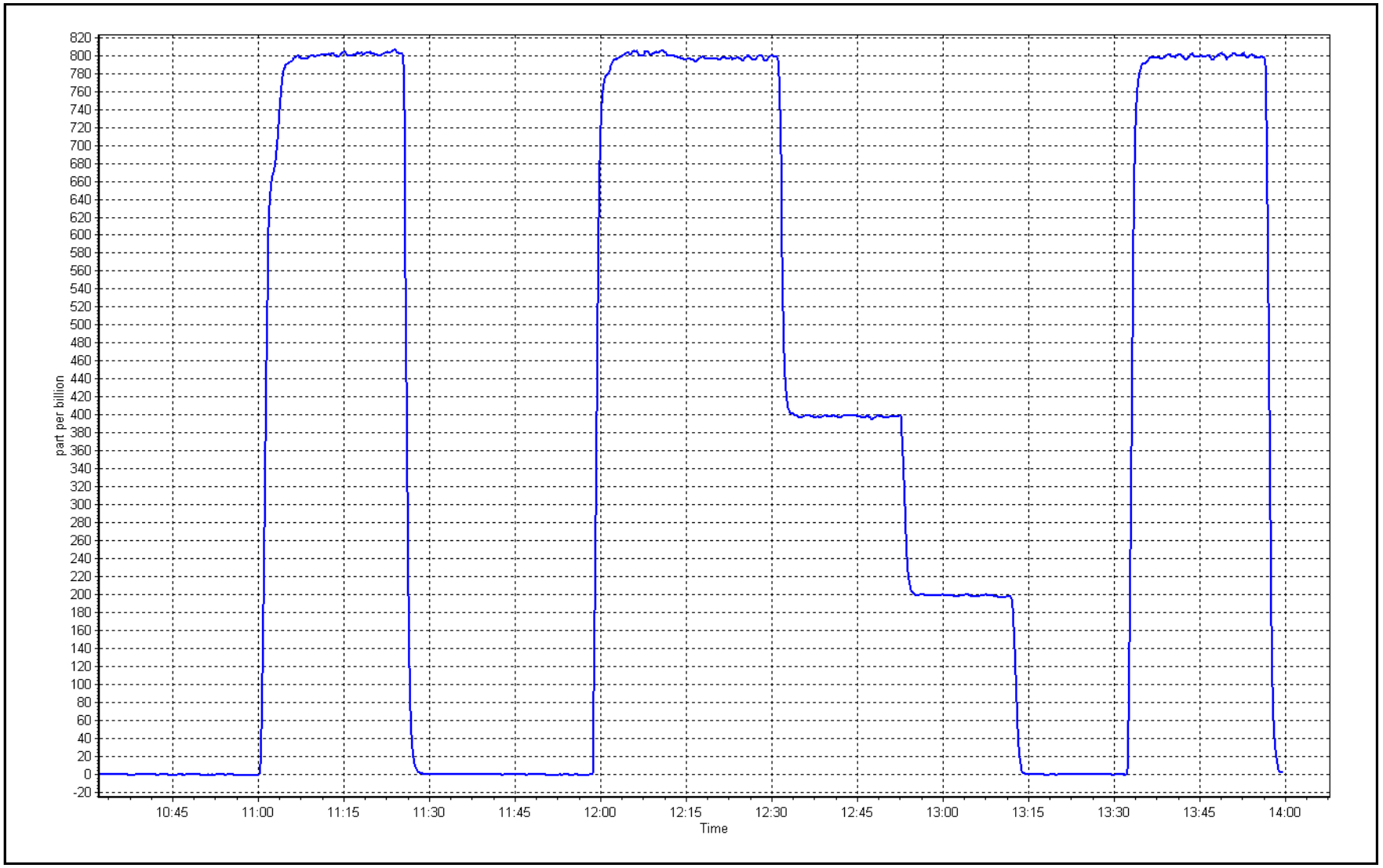
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
800.3	797.6	1.0033
400.6	398.0	1.0065
199.8	198.9	1.0046

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999997	*≥0.995*
Slope	0.996496	*0.90 - 1.10*
Intercept	-0.293182	*+/-30*



SO2 Calibration Plot Date: November 3, 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:	November 4, 2025	Last Cal Date:	October 8, 2025
Start time (MST):	11:12	End time (MST):	15:14
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:	0.997956	1.003817	Backgd or Offset:	2.13	2.13
Calibration intercept:	-0.297954	-0.178082	Coeff or Slope:	1.119	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	40.4	0.987
As found Low point	4979	20.7	20.0	20.1	0.992
New cylinder response					

Baseline Corr As found:	80.9	Prev response:	79.50	*% change:	1.7%
Baseline Corr 2nd AF pt:	40.5	AF Slope:	1.012110	AF Intercept:	-0.118267
Baseline Corr 3rd AF pt:	20.2	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	-0.1	----
High point	4917	82.6	80.0	80.1	0.998
Mid point	4959	41.3	40.0	40.0	0.999
Low point	4979	20.7	20.0	19.8	1.012
As left zero	5000	0.0	0.0	0.0	----
As left span	4917	82.6	80.0	79.4	1.007
SO2 Scrubber Check	4919	81.3	813.0	0.1	----
Date of last scrubber change:		December 17, 2021		Ave Corr Factor	1.003
Date of last converter efficiency test:					

Notes: Inlet filter change completed after as founds. No adjustments made. Scrubber check passed.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

TRS Calibration Summary

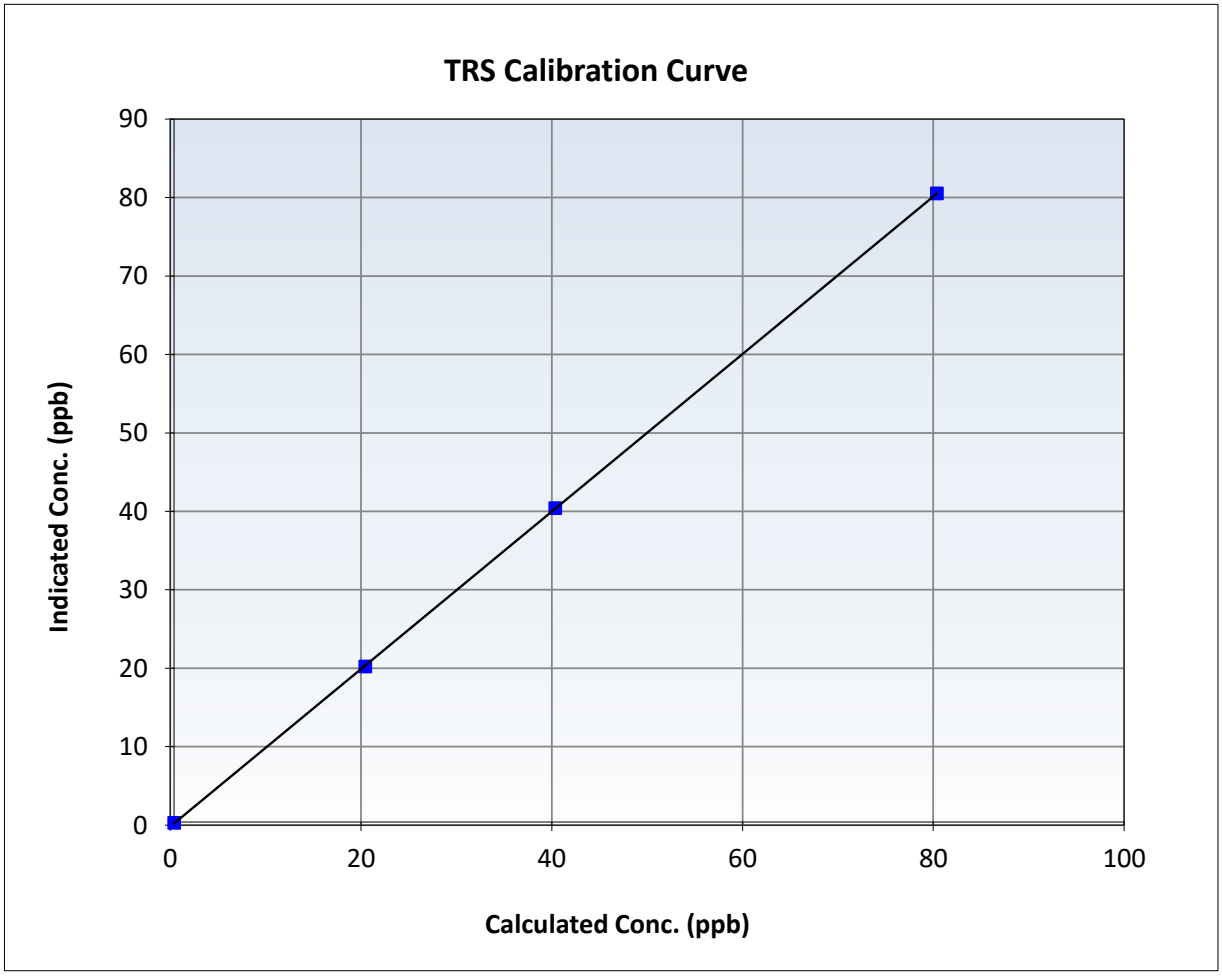
Station Information

Calibration Date:	November 4, 2025	Previous Calibration:	October 8, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	11:12	End Time (MST):	15:14
Analyzer make:	Thermo 43iQ-TLE	Analyzer serial #:	12113311966

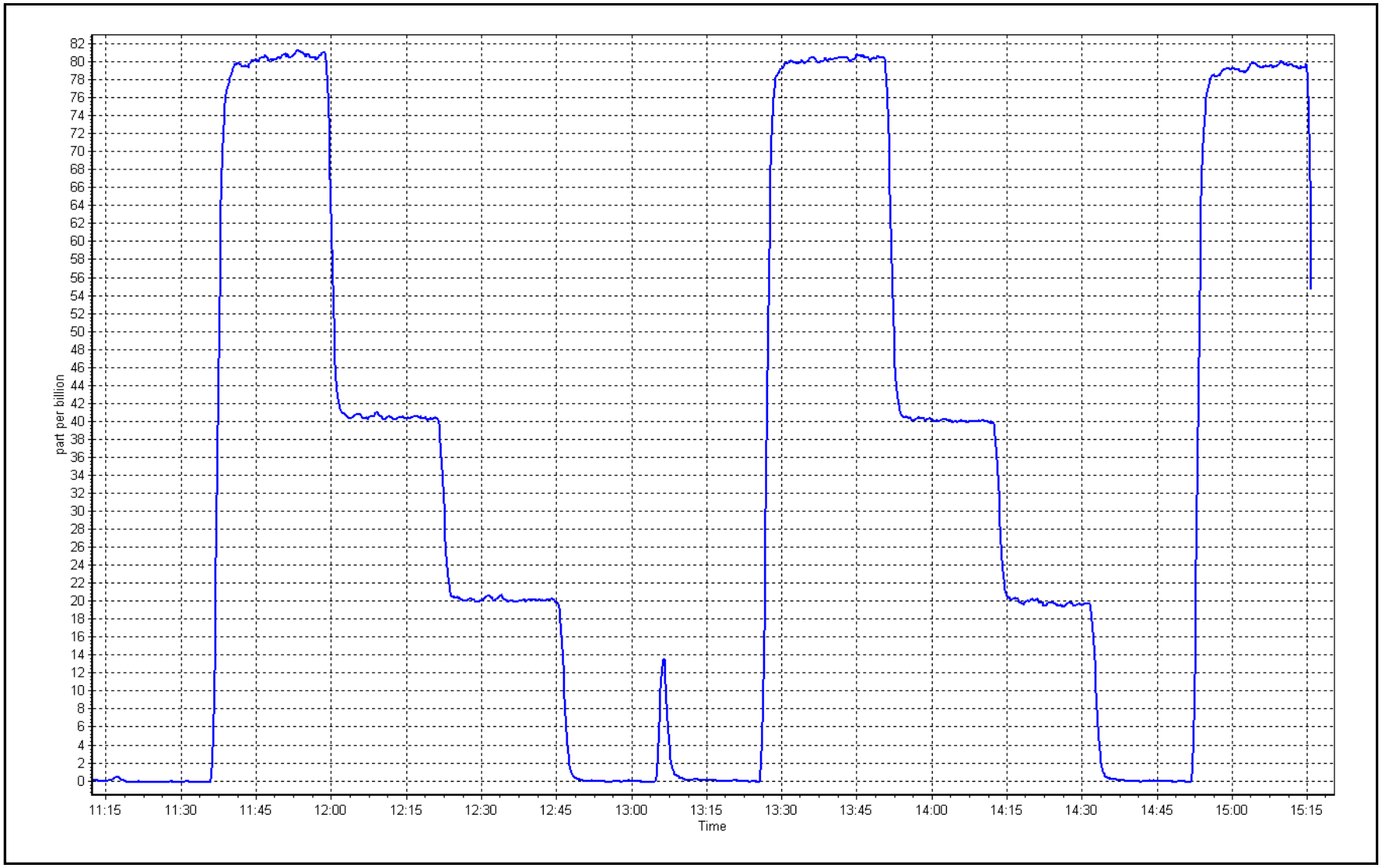
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
80.0	80.1	0.9983
40.0	40.0	0.9994
20.0	19.8	1.0121

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999992	*≥0.995*
Slope	1.003817	*0.90 - 1.10*
Intercept	-0.178082	*+/-3*



TRS Calibration Plot Date: November 4, 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:	November 4, 2025	Last Cal Date:	October 8, 2025
Start time (MST):	11:12	End time (MST):	15:14
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:	1.005106	1.001244	Backgd or Offset:	2.01	2.01
Calibration intercept:	-0.098195	-0.138038	Coeff or Slope:	0.973	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	-0.2	----
As found High point	4917	82.6	80.0	80.4	0.992
As found Mid point	4959	41.3	40.0	40.1	0.992
As found Low point	4979	20.7	20.0	20.0	0.992
New cylinder response					

Baseline Corr As found:	80.6	Prev response:	80.27	*% change:	0.4%
Baseline Corr 2nd AF pt:	40.3	AF Slope:	1.007965	AF Intercept:	-0.198226
Baseline Corr 3rd AF pt:	20.2	AF Correlation:	1.000000	* = > +/-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	4917	82.6	80.0	79.9	1.001
Mid point	4959	41.3	40.0	40.0	0.999
Low point	4979	20.7	20.0	19.8	1.012
As left zero	5000	0.0	0.0	0.0	----
As left span	4917	82.6	80.0	79.7	1.003
SO2 Scrubber Check	4919	81.3	813.0	0.0	----

Date of last scrubber change:	January 25, 2024	Ave Corr Factor	1.004
Date of last converter efficiency test:	November 7, 2024	107.9%	efficiency

Notes: Inlet filter change completed after as founds. No adjustments made. Scrubber check passed.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

H_2S Calibration Summary

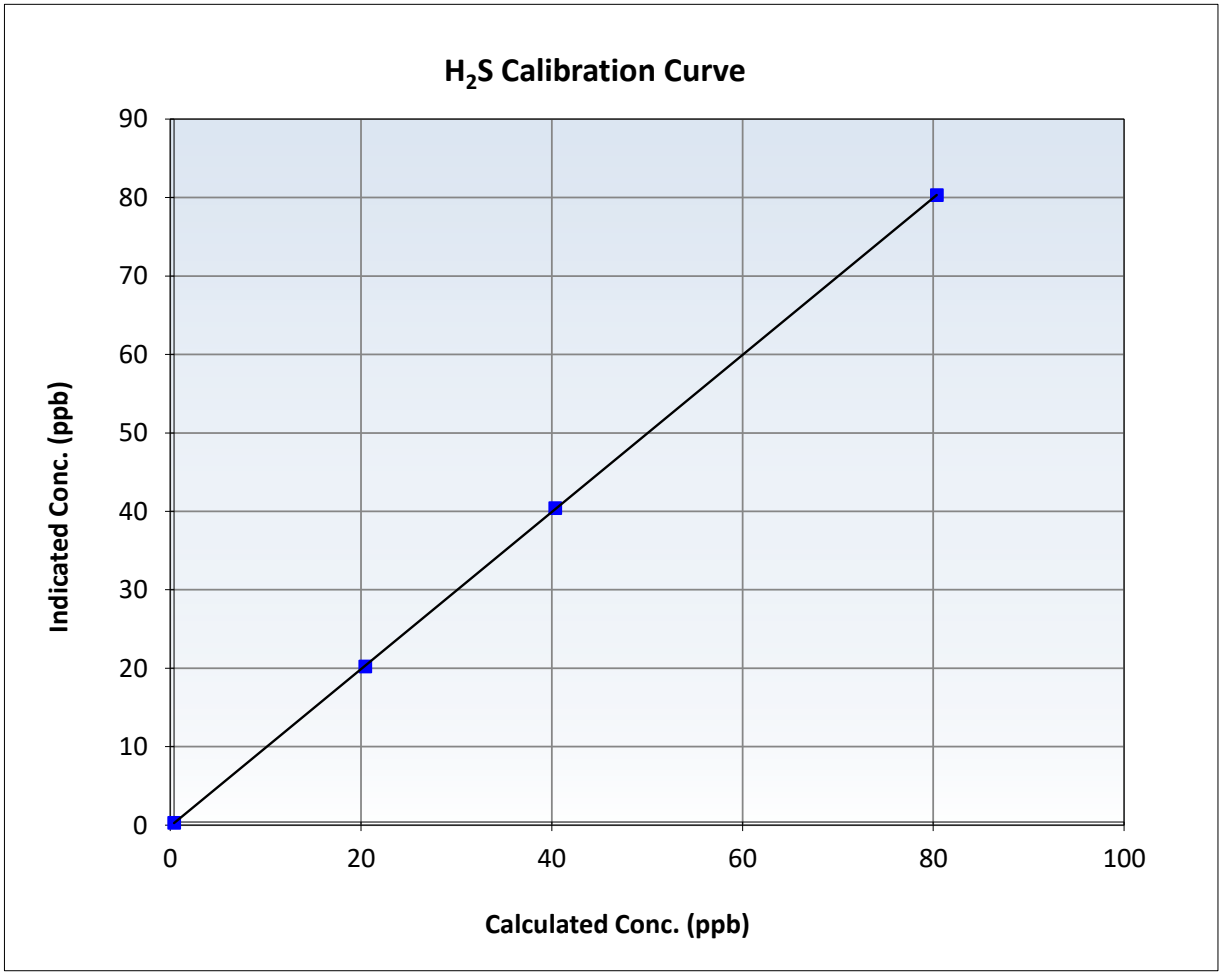
Station Information

Calibration Date:	November 4, 2025	Previous Calibration:	October 8, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	11:12	End Time (MST):	15:14
Analyzer make:	Thermo 43iQ-TL	Analyzer serial #:	1200326167

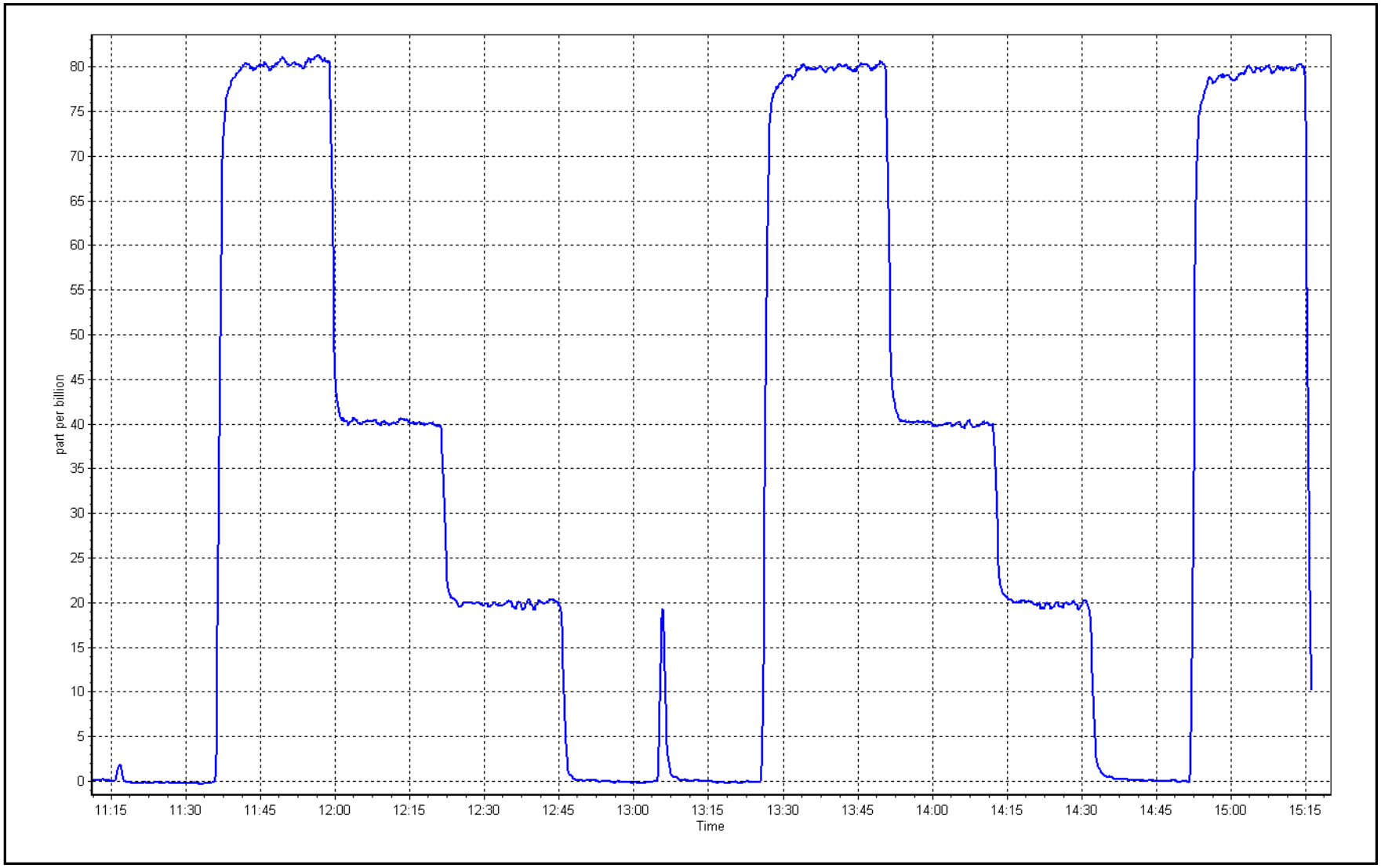
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
80.0	79.9	1.0008
40.0	40.0	0.9994
20.0	19.8	1.0121

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999991	*≥0.995*
Slope	1.001244	*0.90 - 1.10*
Intercept	-0.138038	*+/-3*



H_2S Calibration Plot Date: November 4, 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:	November 3, 2025	Last Cal Date:	October 20, 2025
Start time (MST):	10:36	End time (MST):	14:00
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	2.51E-04	NMHC SP Ratio:	4.95E-05	4.96E-05
CH4 Retention time:	15.0	15.0	NMHC Peak Area:	185423	185005
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	17.17	1.006
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	17.17	Prev response	17.21	*% 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	81.3	17.27	17.26	1.000
Mid point	4959	40.7	8.64	8.64	1.000
Low point	4979	20.3	4.31	4.33	0.996
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	81.3	17.27	17.25	1.001
				Average Correction Factor	0.999

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	4918	81.3	9.18	9.14	1.005
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.14	Prev response	9.19	*% 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	4918	81.3	9.18	9.16	1.002
Mid point	4959	40.7	4.60	4.61	0.997
Low point	4979	20.3	2.29	2.31	0.992
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	81.3	9.18	9.16	1.003
				Average Correction Factor	0.997

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	8.03	1.007
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.03	Prev response	8.02	*% 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	81.3	8.09	8.10	0.998
Mid point	4959	40.7	4.05	4.03	1.004
Low point	4979	20.3	2.02	2.02	1.000
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	81.3	8.09	8.09	0.999
				Average Correction Factor	1.001

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	0.995697	0.999410
THC Cal Offset:	0.018346	0.007543
CH4 Cal Slope:	0.991109	1.001776
CH4 Cal Offset:	0.006464	-0.006527
NMHC Cal Slope:	0.999352	0.997326
NMHC Cal Offset:	0.011683	0.014070

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

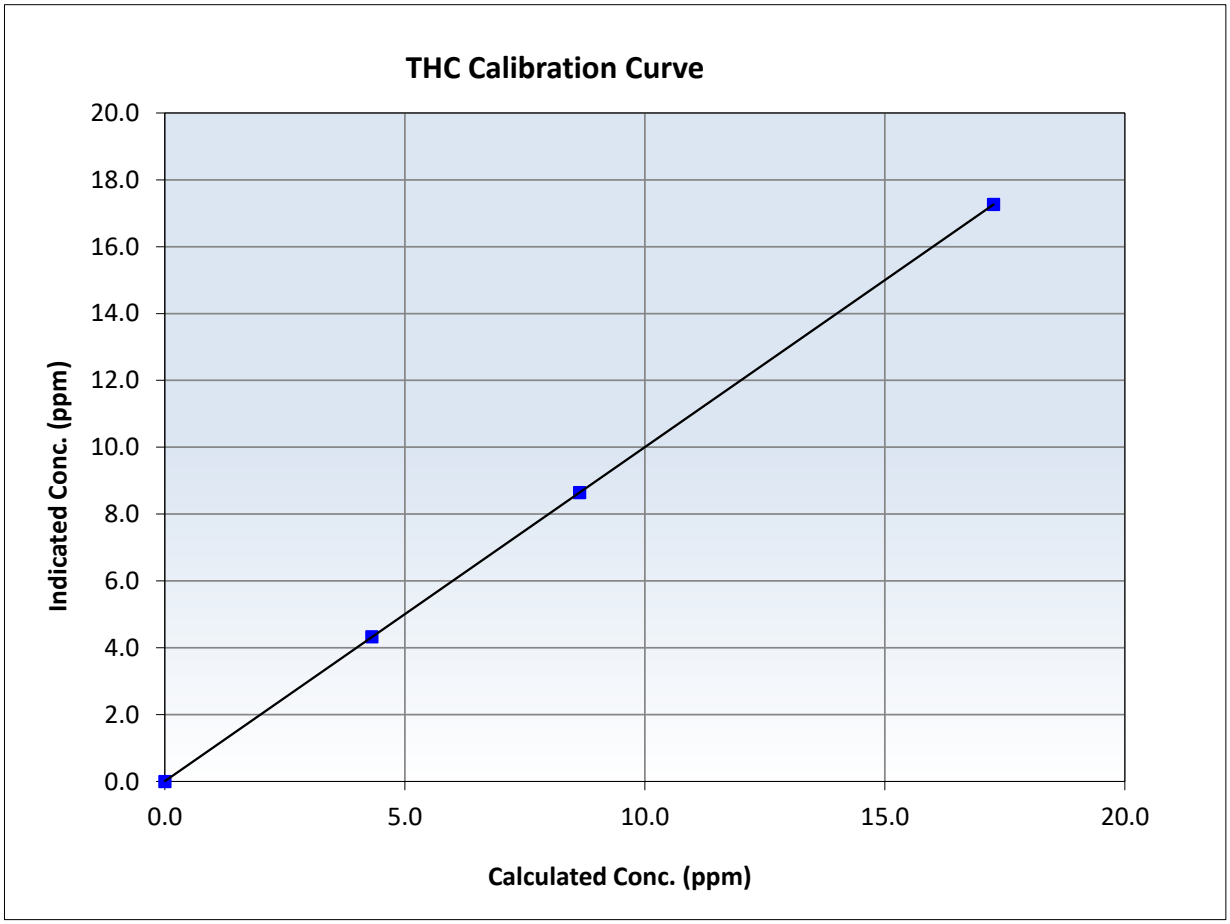
THC Calibration Summary

Station Information

Calibration Date:	November 3, 2025	Previous Calibration:	October 20, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:36	End Time (MST):	14:00
Analyzer make:	Thermo 55i	Analyzer serial #:	1193585648

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
17.27	17.26	1.0002	Slope	0.999410	0.90 - 1.10
8.64	8.64	1.0002	Intercept	0.007543	+/-0.5
4.31	4.33	0.9959			



Wood Buffalo Environmental Association

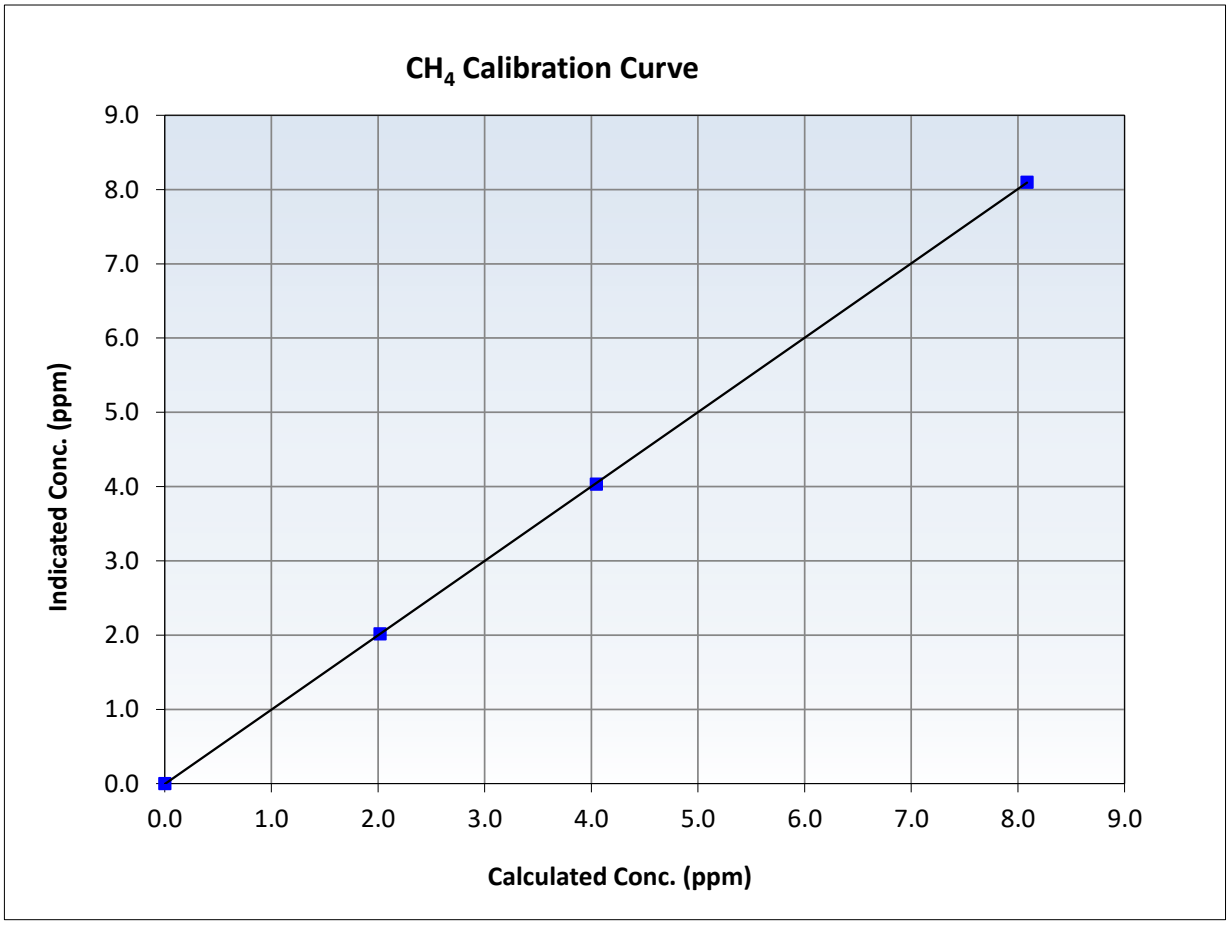
CH_4 Calibration Summary

Station Information

Calibration Date:	November 3, 2025	Previous Calibration:	October 20, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:36	End Time (MST):	14:00
Analyzer make:	Thermo 55i	Analyzer serial #:	1193585648

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
8.09	8.10	0.9981	Slope	1.001776	0.90 - 1.10
4.05	4.03	1.0038			
2.02	2.02	1.0005	Intercept	-0.006527	+/-0.5



Wood Buffalo Environmental Association

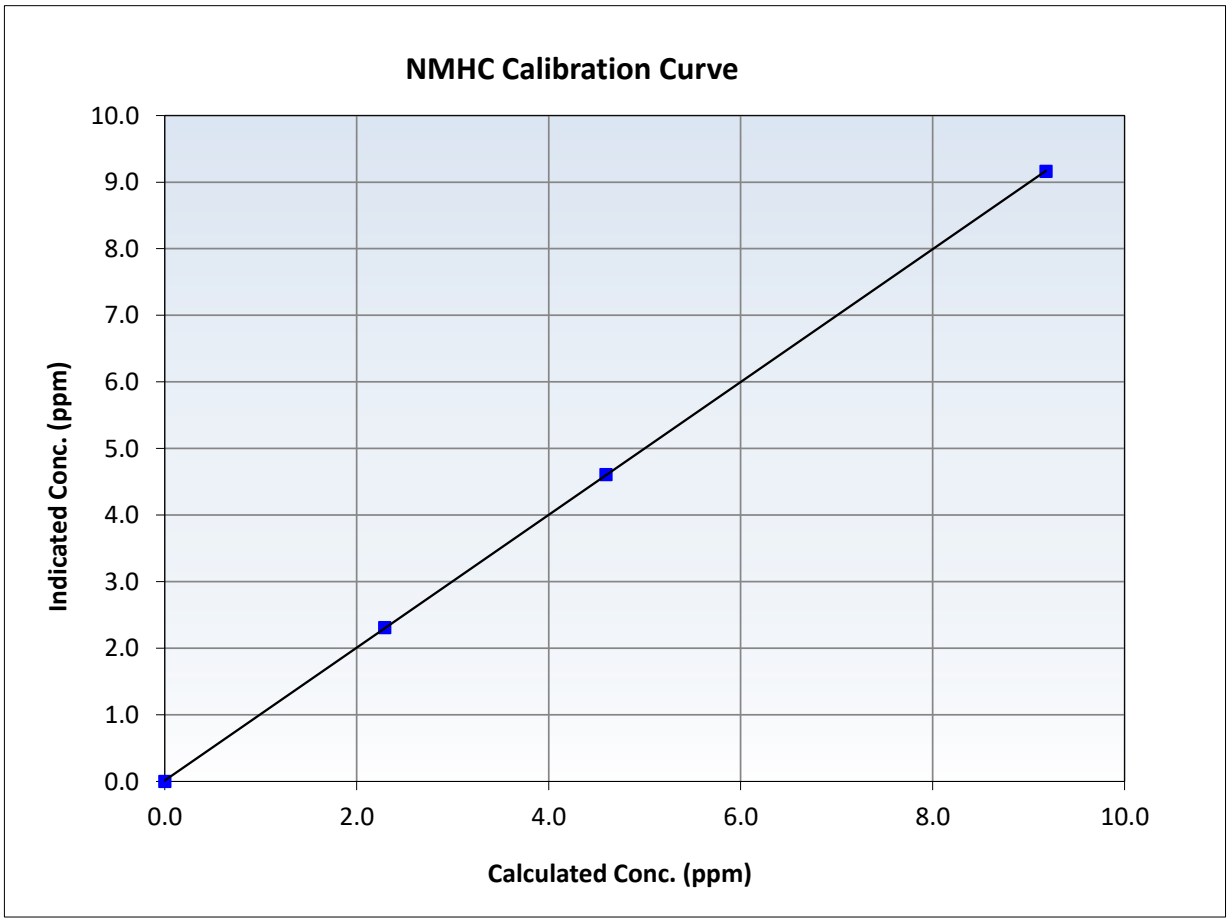
NMHC Calibration Summary

Station Information

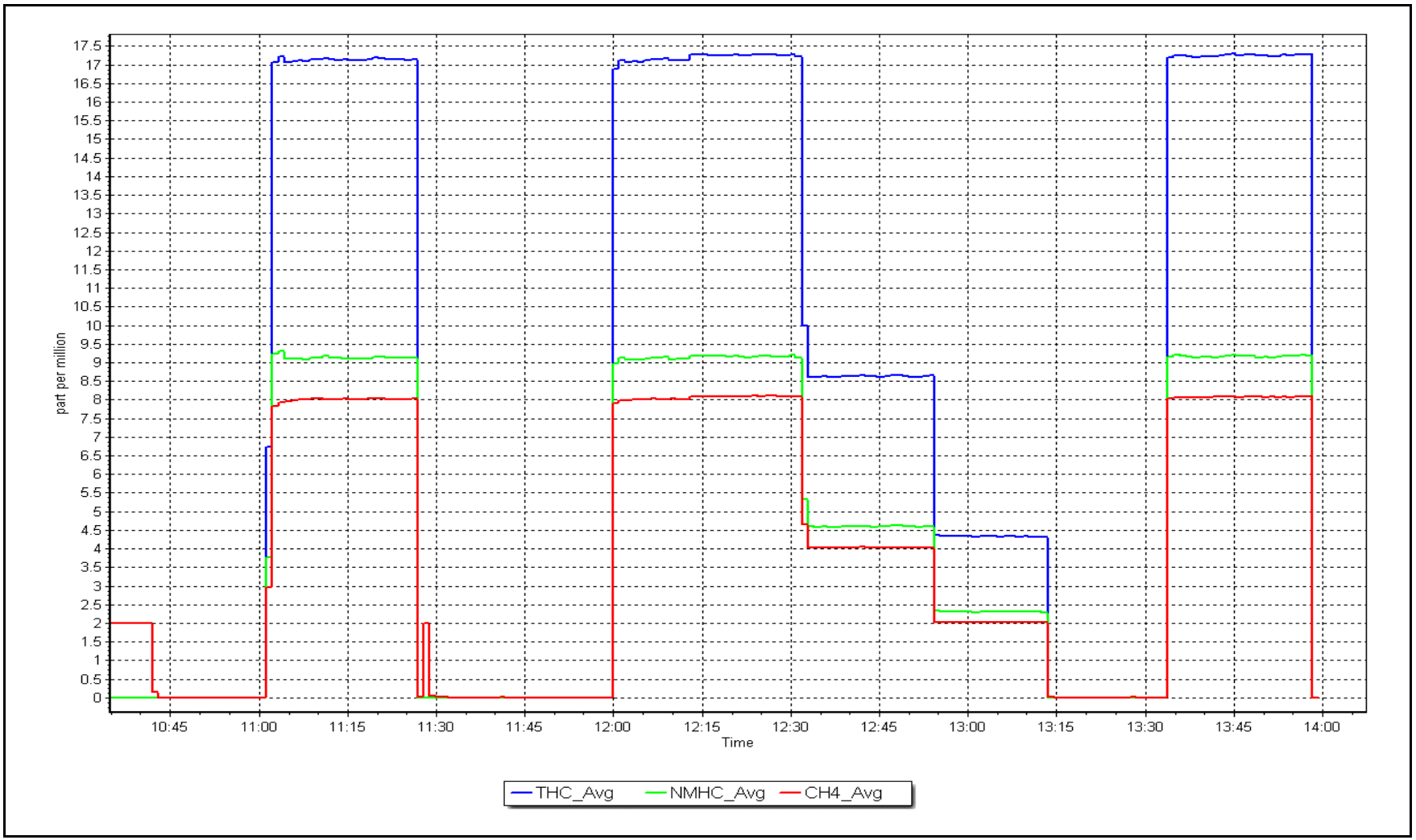
Calibration Date:	November 3, 2025	Previous Calibration:	October 20, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:36	End Time (MST):	14:00
Analyzer make:	Thermo 55i	Analyzer serial #:	1193585648

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999988	*≥0.995*
9.18	9.16	1.0021	Slope	0.997326	*0.90 - 1.10*
4.60	4.61	0.9969	Intercept	0.014070	*+/-0.5*
2.29	2.31	0.9920			



NMHC Calibration Plot Date: November 3, 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:	November 10, 2025
Last Cal Date:	October 15, 2025
Start time (MST):	10:55
End time (MST):	15:46
Reason:	Routine

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	0.4	0.1	0.2	----	----
AF High point	4932	67.6	803.1	800.4	2.7	801.6	798.2	3.5	1.0024	1.0029
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	803.9 ppb	NO =	802.3 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = -0.3%
Baseline Corr 1st pt	NO_X =	801.2 ppb	NO =	798.1 ppb	As Found Statistics	*Percent Change	NO = -0.5%
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	0.823	NO bkgnd or offset:	0.6	0.6
NOX coeff or slope:	0.994	0.998	NOX bkgnd or offset:	0.7	0.7
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	126.0	124.7

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.999769	0.997834
NO_X Cal Offset:	0.980000	0.060000
NO Cal Slope:	1.002890	0.999178
NO Cal Offset:	-0.380000	-1.580000
NO_2 Cal Slope:	0.984647	0.966258
NO_2 Cal Offset:	1.657543	0.376088

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	4932	67.6	803.1	800.4	2.7	801.4	799.0	2.3	1.0021	1.0017
Mid point	4966	33.8	401.5	400.2	1.4	401.0	397.5	3.5	1.0014	1.0068
Low point	4983	16.9	200.8	200.1	0.7	199.9	196.5	3.4	1.0044	1.0183
As left zero										
As left span										
								Average Correction Factor	1.0026	1.0089

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	790.1	385.1	407.7	394.0	1.0348	96.6%
Mid GPT point	790.1	581.6	211.2	205.2	1.0293	97.2%
Low GPT point	790.1	688.1	104.7	101.3	1.0336	96.7%
				Average Correction Factor	1.0325	96.8%

Notes: Changed the inlet filter after as founds. Adjusted the span. Removing the instrument because of the unstable GPT response.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

NO_X Calibration Summary

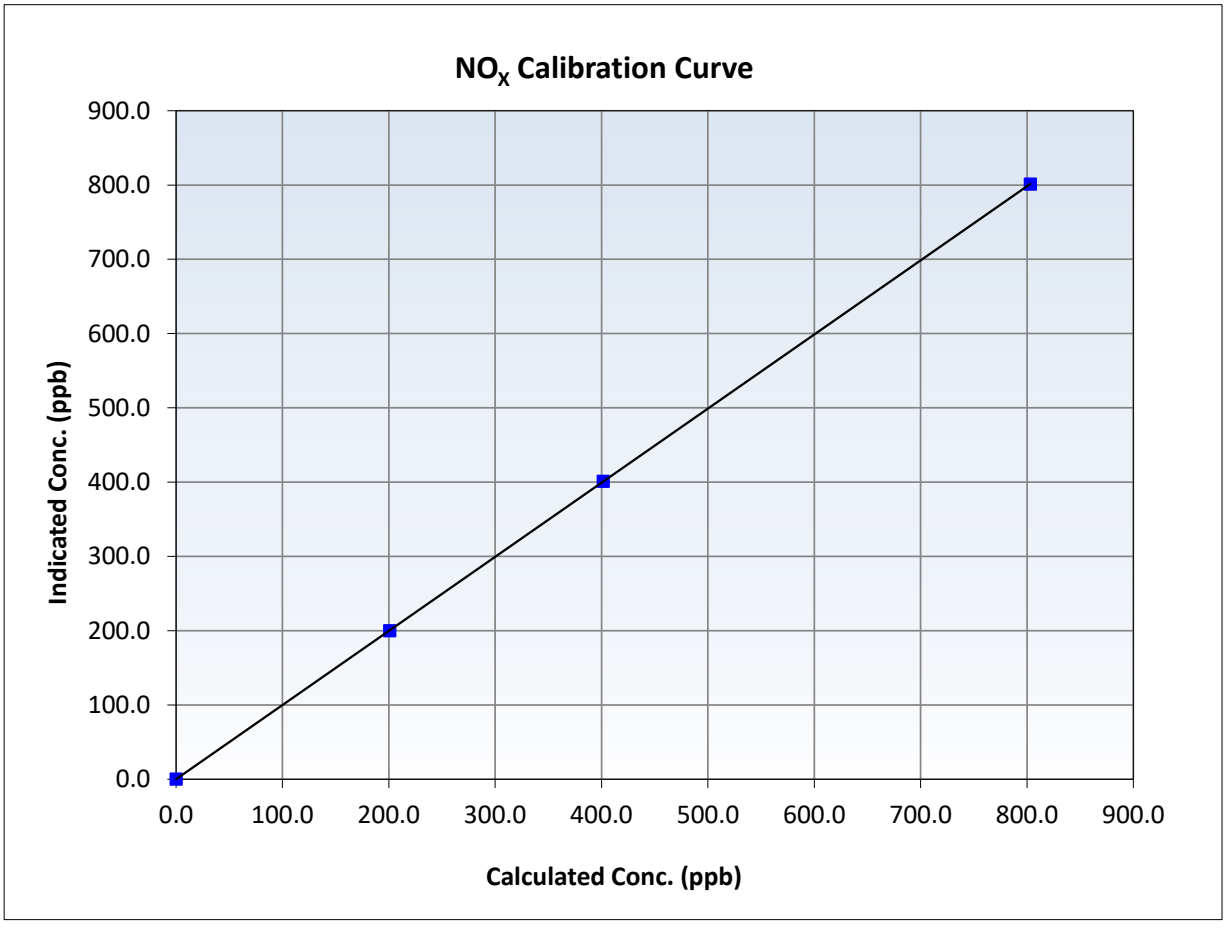
Station Information

Calibration Date:	November 10, 2025	Previous Calibration:	October 15, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:55	End Time (MST):	15:46
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232072

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
803.1	801.4	1.0021
401.5	401.0	1.0014
200.8	199.9	1.0044

Statistical Evaluation		Limits
Correlation Coefficient	0.999999	≥0.995
Slope	0.997834	0.90 - 1.10
Intercept	0.060000	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

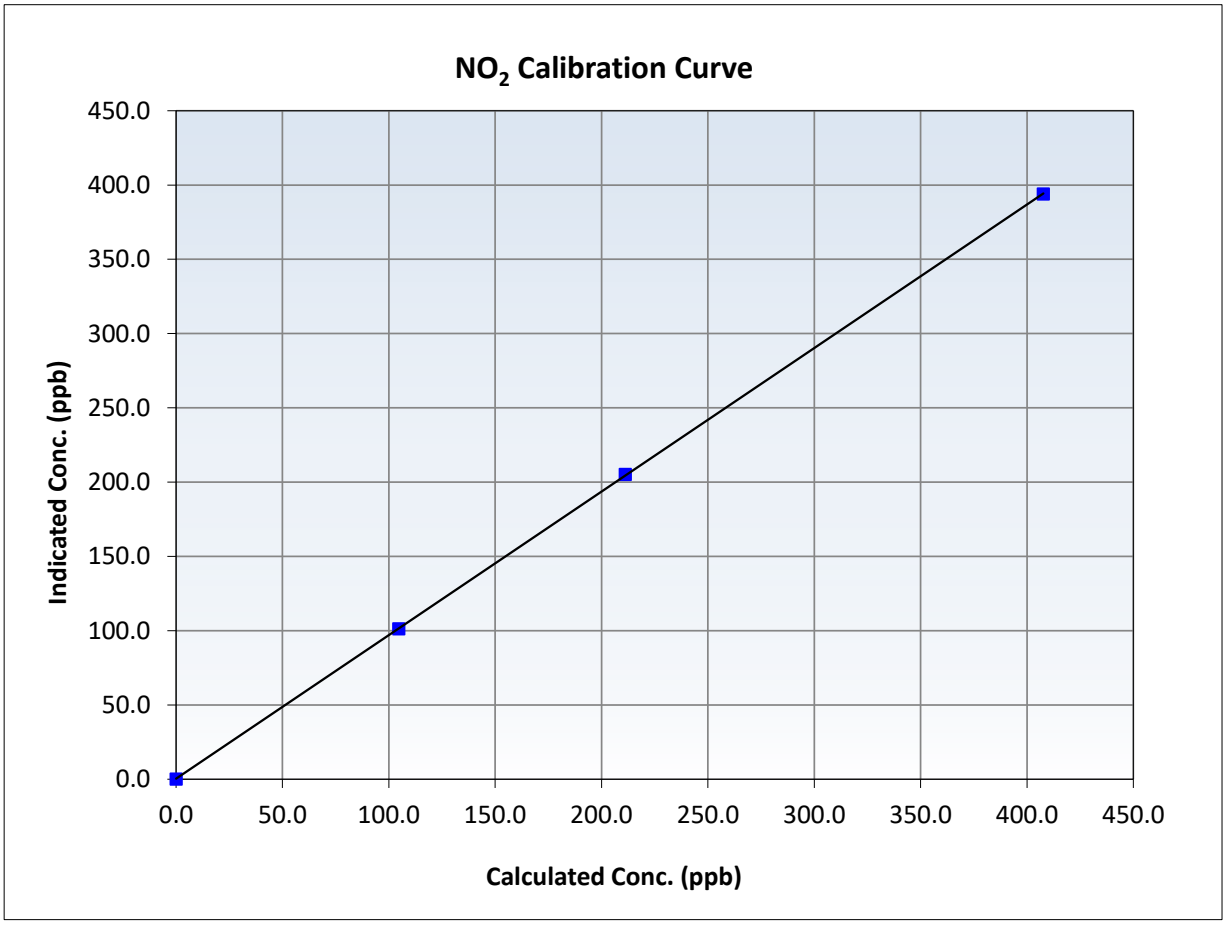
Station Information

Calibration Date:	November 10, 2025	Previous Calibration:	October 15, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:55	End Time (MST):	15:46
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232072

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
407.7	394.0	1.0348
211.2	205.2	1.0293
104.7	101.3	1.0336

Statistical Evaluation		Limits
Correlation Coefficient	0.999991	≥0.995
Slope	0.966258	0.90 - 1.10
Intercept	0.376088	+/-20



Wood Buffalo Environmental Association

NO Calibration Summary

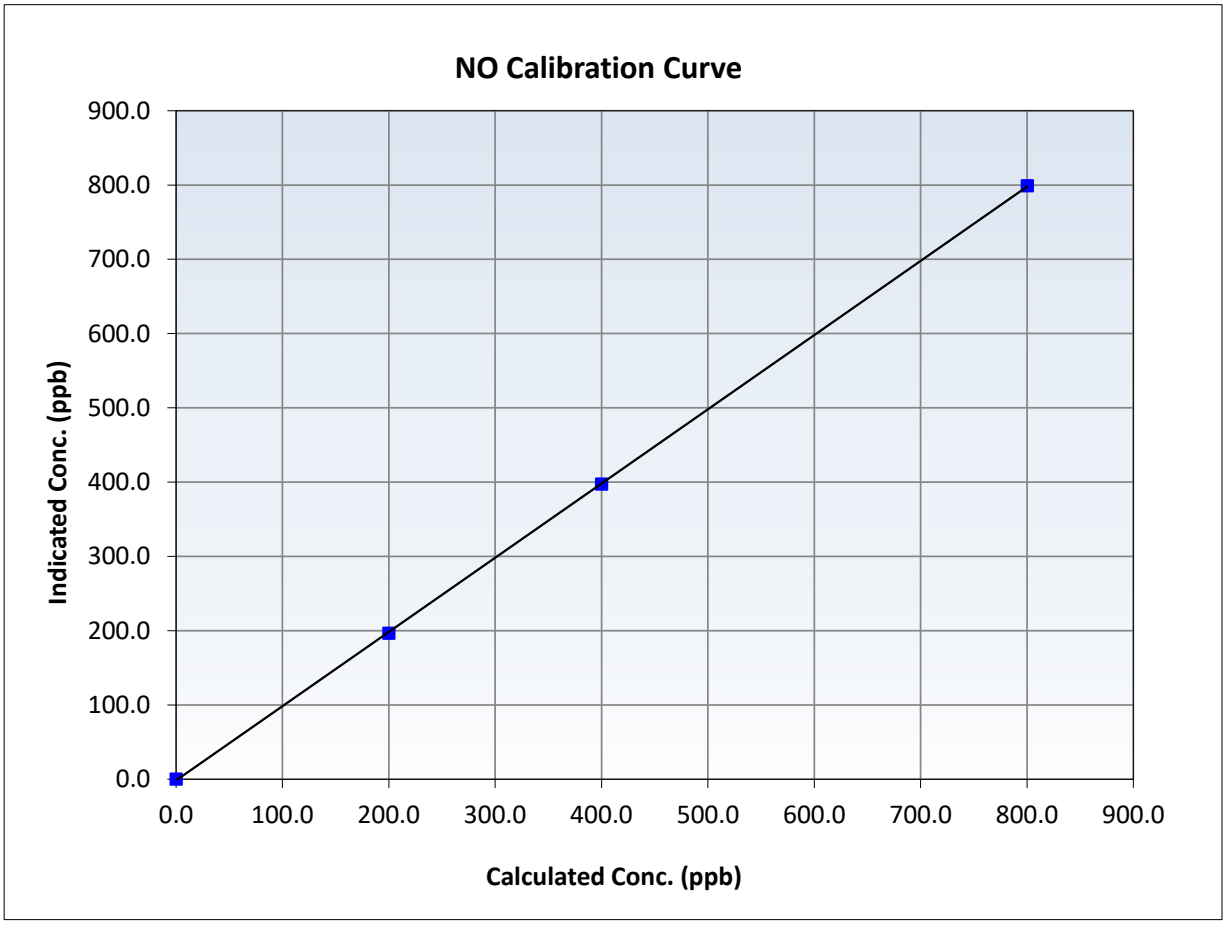
Station Information

Calibration Date:	November 10, 2025	Previous Calibration:	October 15, 2025
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	10:55	End Time (MST):	15:46
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232072

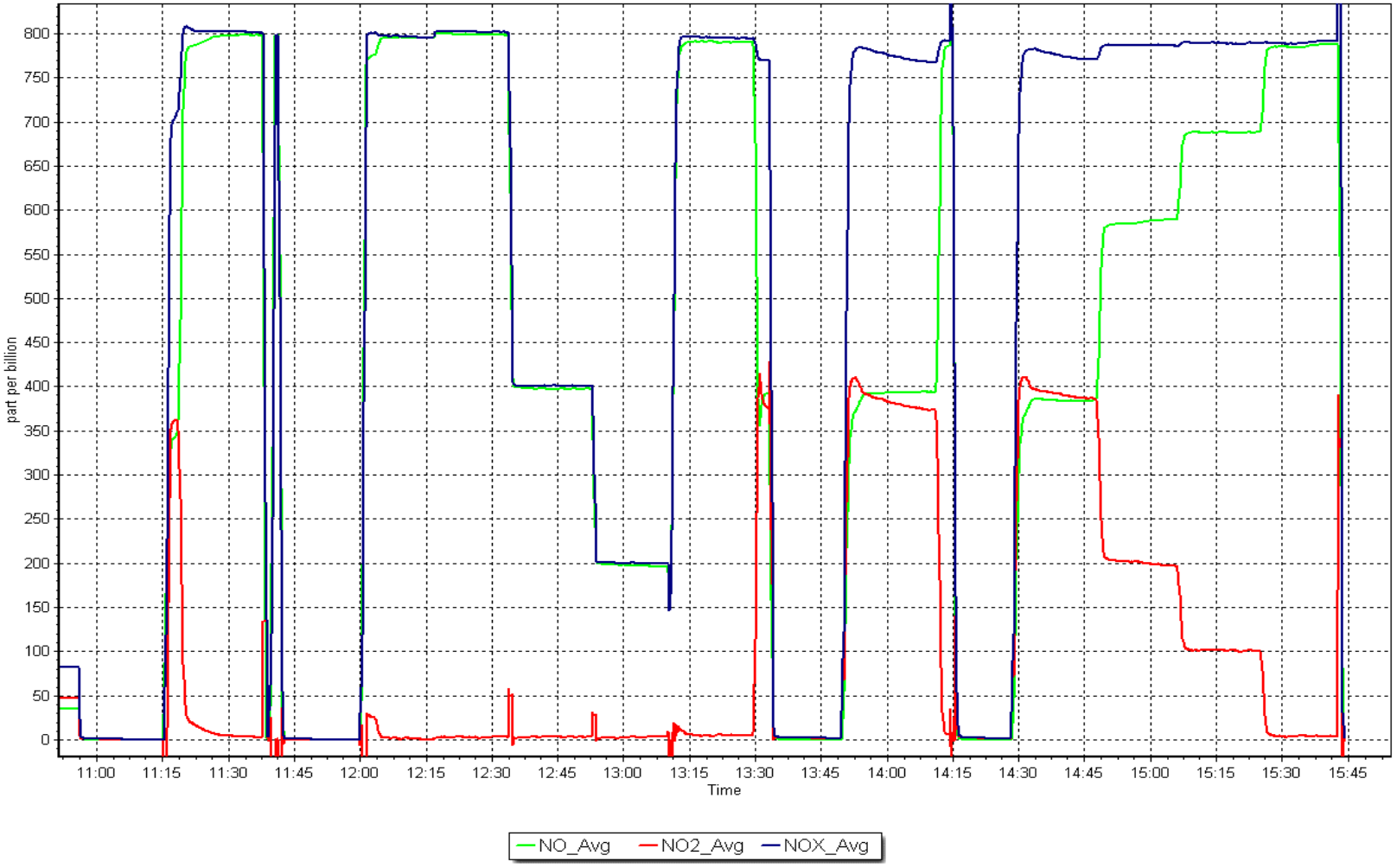
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
800.4	799.0	1.0017
400.2	397.5	1.0068
200.1	196.5	1.0183

Statistical Evaluation		Limits
Correlation Coefficient	0.999977	≥0.995
Slope	0.999178	0.90 - 1.10
Intercept	-1.580000	+/-20



NO_X Calibration Plot Date: November 10, 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:	November 11, 2025
Last Cal Date:	NA
Start time (MST):	12:00
End time (MST):	16:02
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 42i
Serial Number: 1336160088
NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	Finish		Start	Finish
NO coeff or slope:		0.752	NO bkgnd or offset:		2.2
NOX coeff or slope:		0.994	NOX bkgnd or offset:		2.3
NO2 coeff or slope:		0.999	Reaction cell Press:		160.3

Calibration Statistics

	Start	Finish
NO_X Cal Slope:		0.999343
NO_X Cal Offset:		-0.220000
NO Cal Slope:		1.001148
NO Cal Offset:		-1.620000
NO_2 Cal Slope:		0.995090
NO_2 Cal Offset:		-1.054014

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	4932	67.6	803.1	800.4	2.7	802.5	800.5	2.0	1.0007	0.9999
Mid point	4966	33.8	401.5	400.2	1.4	400.8	398.1	2.6	1.0019	1.0053
Low point	4983	16.9	200.8	200.1	0.7	200.3	197.3	3.0	1.0024	1.0142
As left zero	5000	0.0	0.0	0.0	0.0	0.2	0.0	0.2	----	----
As left span	4932	67.6	803.1	372.6	430.5	806.4	372.6	433.6	0.9959	1.0000
							Average Correction Factor		1.0016	1.0064

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	797.9	398.8	401.8	399.4	1.0060	99.4%
Mid GPT point	797.9	595.1	205.5	202.7	1.0138	98.6%
Low GPT point	797.9	695.9	104.7	102.2	1.0245	97.6%
				Average Correction Factor	1.0148	98.5%

Notes: Installing a new analyzer. Adjusted the zero and span.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

NO_X Calibration Summary

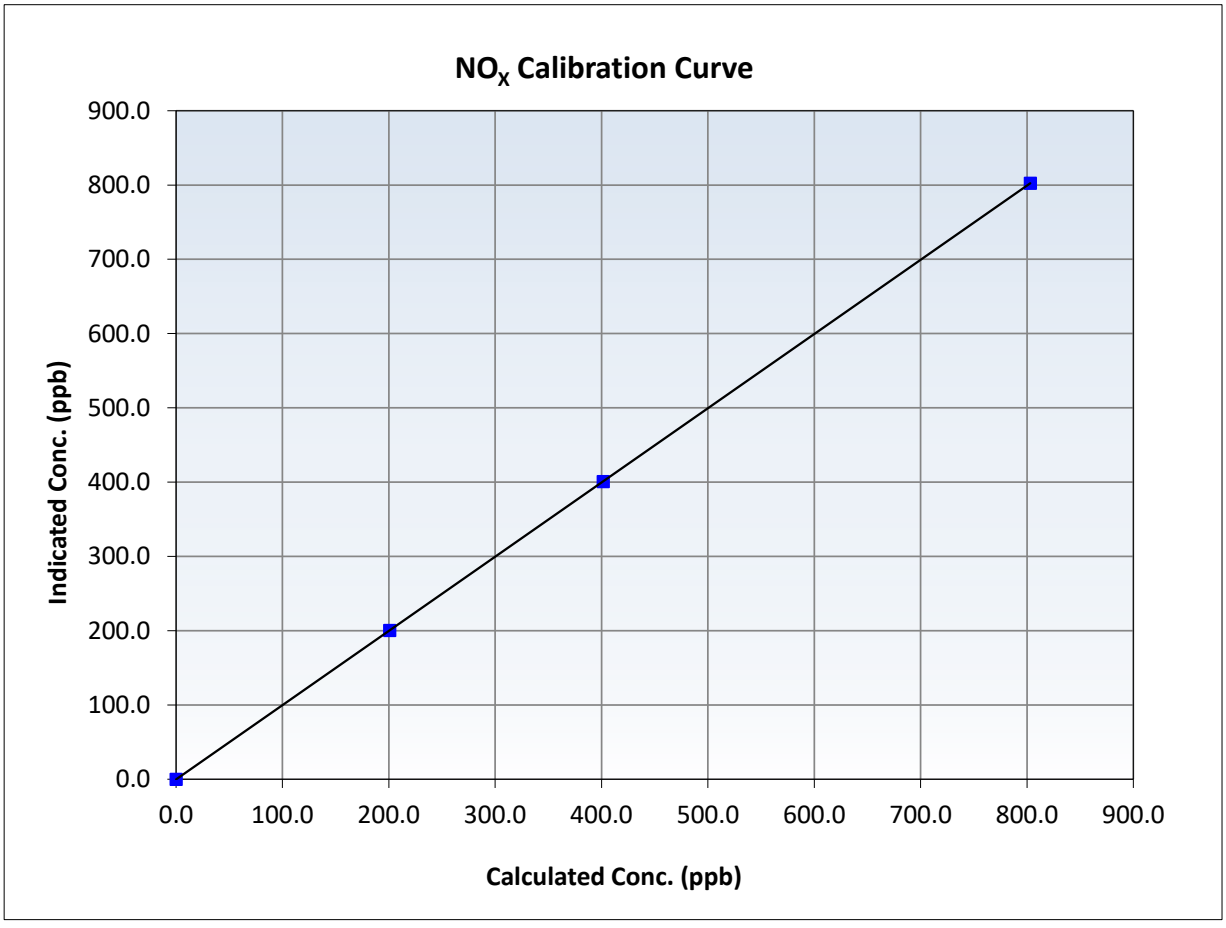
Station Information

Calibration Date:	November 11, 2025	Previous Calibration:	NA
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	12:00	End Time (MST):	16:02
Analyzer make:	Thermo 42i	Analyzer serial #:	1336160088

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
803.1	802.5	1.0007
401.5	400.8	1.0019
200.8	200.3	1.0024

Statistical Evaluation		*Limits*
Correlation Coefficient	1.000000	*≥0.995*
Slope	0.999343	*0.90 - 1.10*
Intercept	-0.220000	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

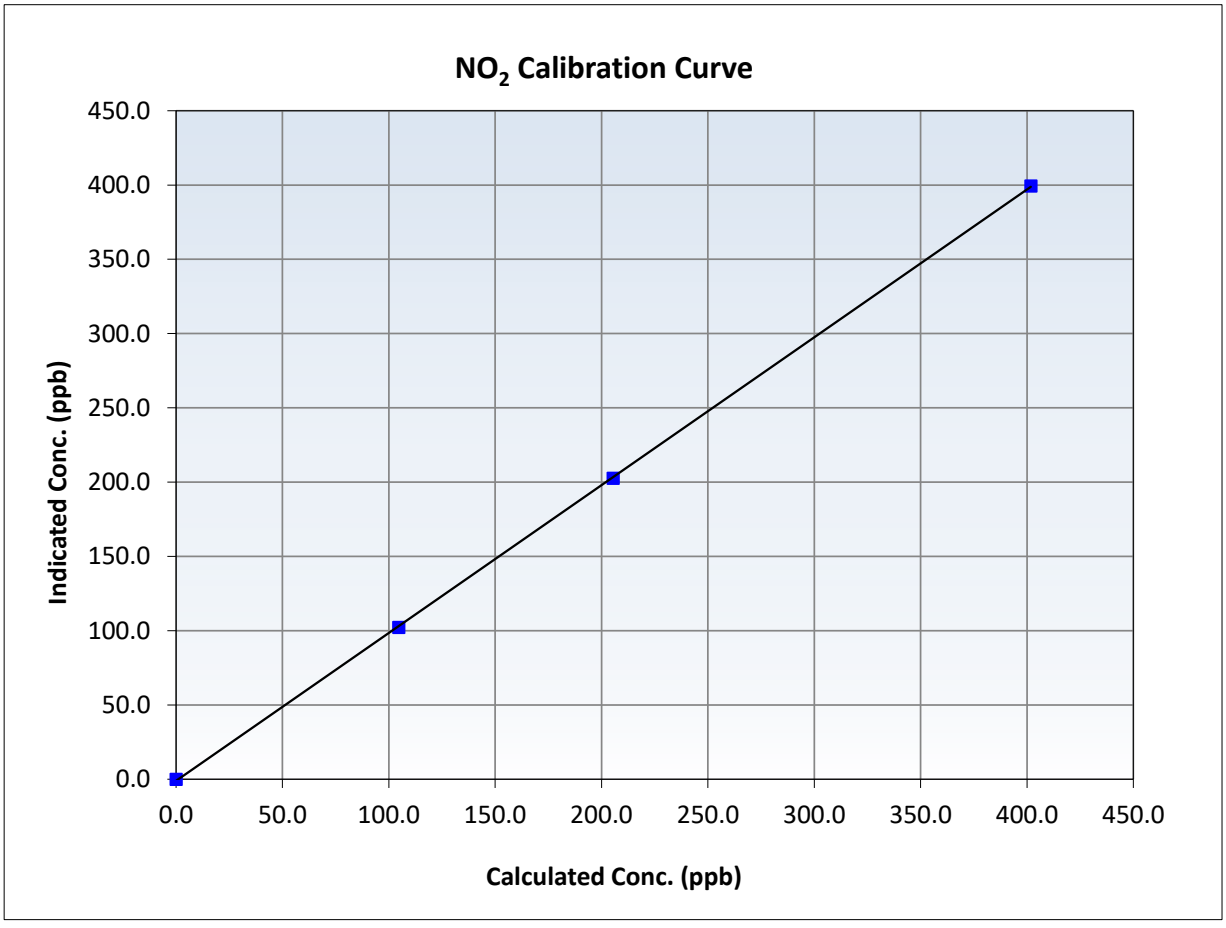
Station Information

Calibration Date:	November 11, 2025	Previous Calibration:	NA
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	12:00	End Time (MST):	16:02
Analyzer make:	Thermo 42i	Analyzer serial #:	1336160088

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
401.8	399.4	1.0060
205.5	202.7	1.0138
104.7	102.2	1.0245

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999966	*≥0.995*
Slope	0.995090	*0.90 - 1.10*
Intercept	-1.054014	*+/-20*



Wood Buffalo Environmental Association

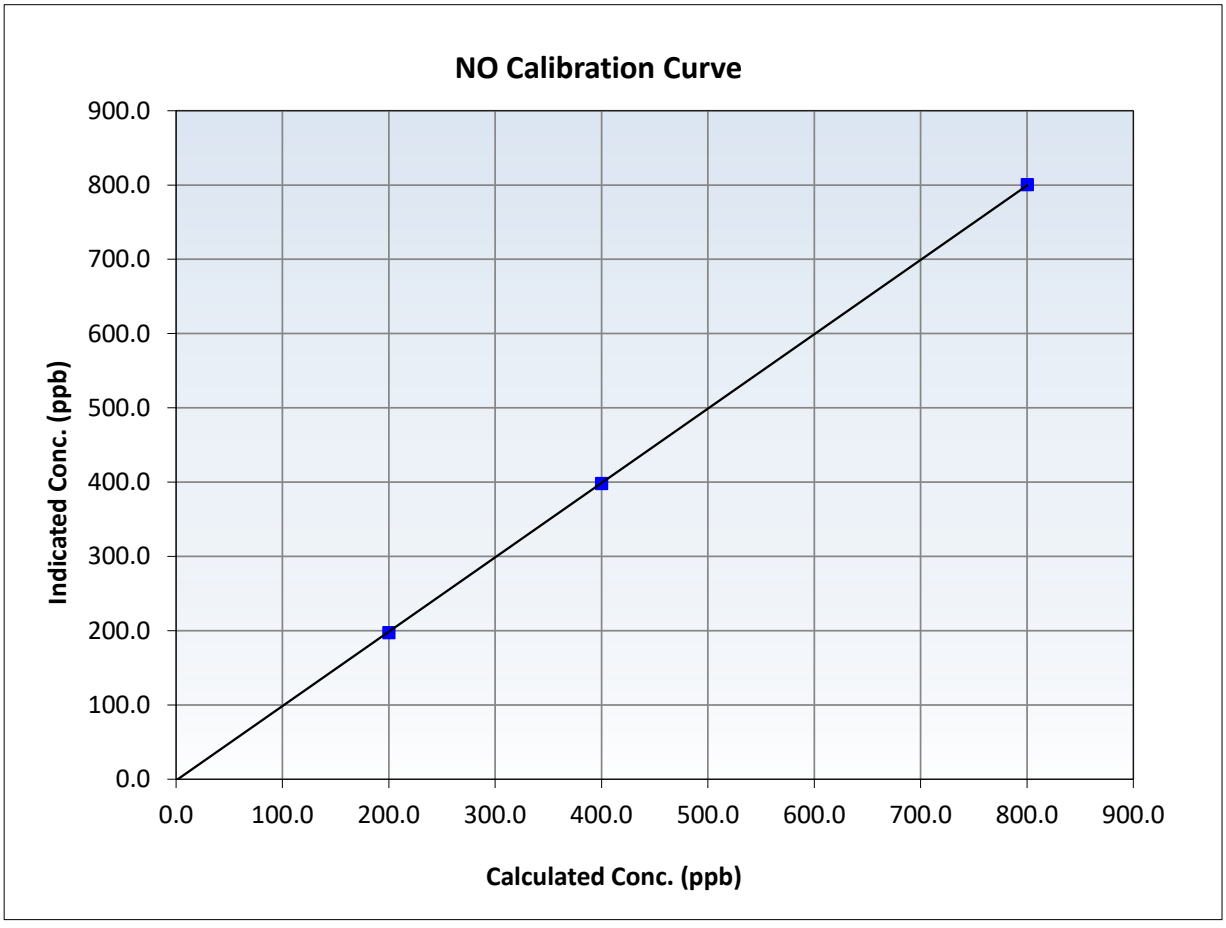
NO Calibration Summary

Station Information

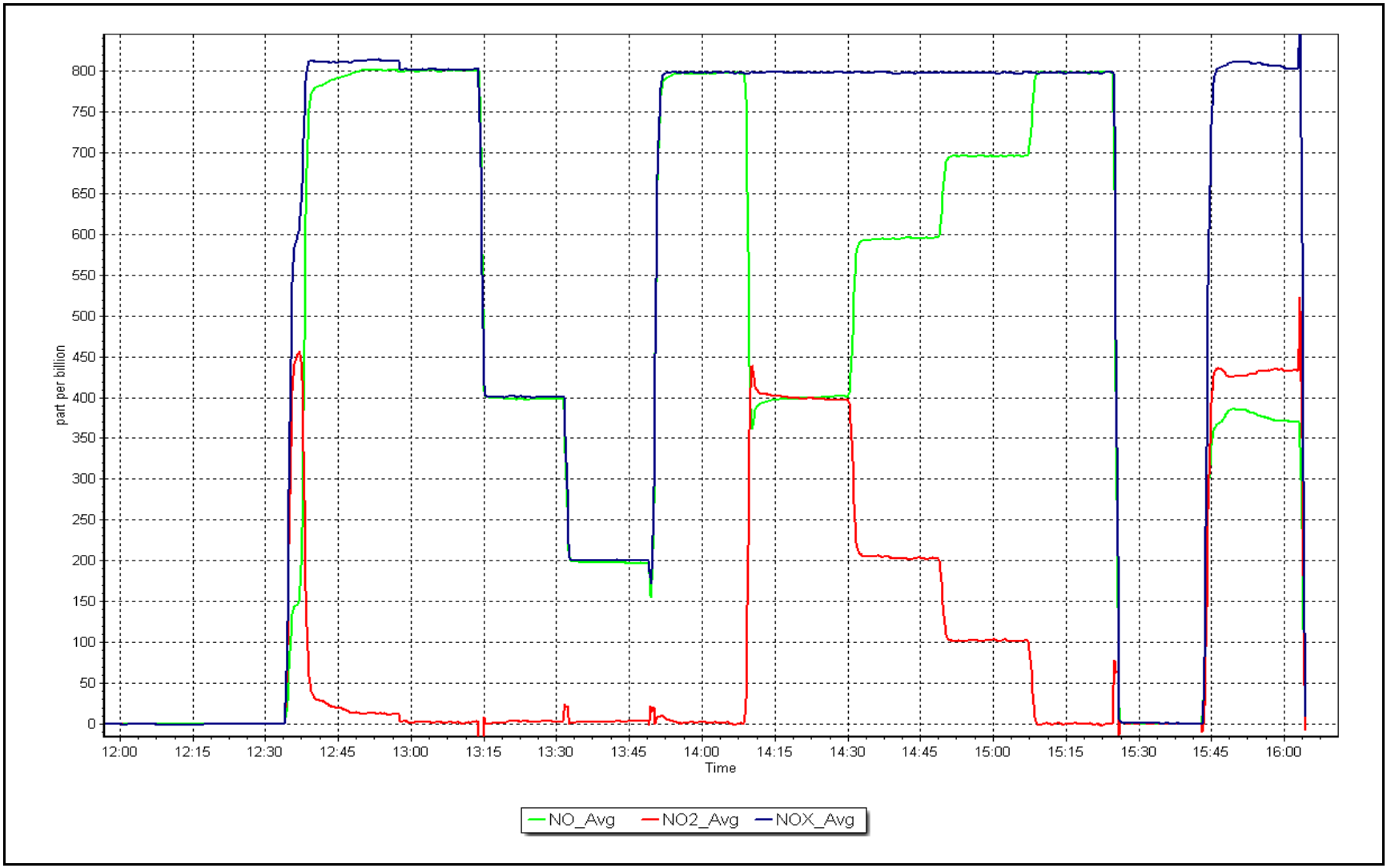
Calibration Date:	November 11, 2025	Previous Calibration:	NA
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	12:00	End Time (MST):	16:02
Analyzer make:	Thermo 42i	Analyzer serial #:	1336160088

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
800.4	800.5	0.9999	Slope	1.001148	0.90 - 1.10
400.2	398.1	1.0053	Intercept	-1.620000	+/-20
200.1	197.3	1.0142			



NO_X Calibration Plot Date: November 11, 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:	November 17, 2025	Last Cal Date:	October 6, 2025
Start time (MST):	11:40	End time (MST):	13:07
Reason:	Removal		

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:	1.001714		Backgd or Offset:	5.6	
Calibration intercept:	-0.800000		Coeff or Slope:	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	-2.6	----
As found High point	5000	863.1	400.0	396.8	1.002
As found Mid point	5000	744.0	200.0	196.2	1.006
As found Low point	5000	651.7	100.0	97.0	1.004
Baseline Corr As found:	399.4	Previous response	399.9	*% change	-0.1%
Baseline Corr 2nd AF pt:	198.8	AF Slope:	0.998457	AF Intercept:	-2.880000
Baseline Corr 3rd AF pt:	99.6	AF Correlation:	0.999994	* = > +/-5% change initiates investigation	

O_3 Calibration Data

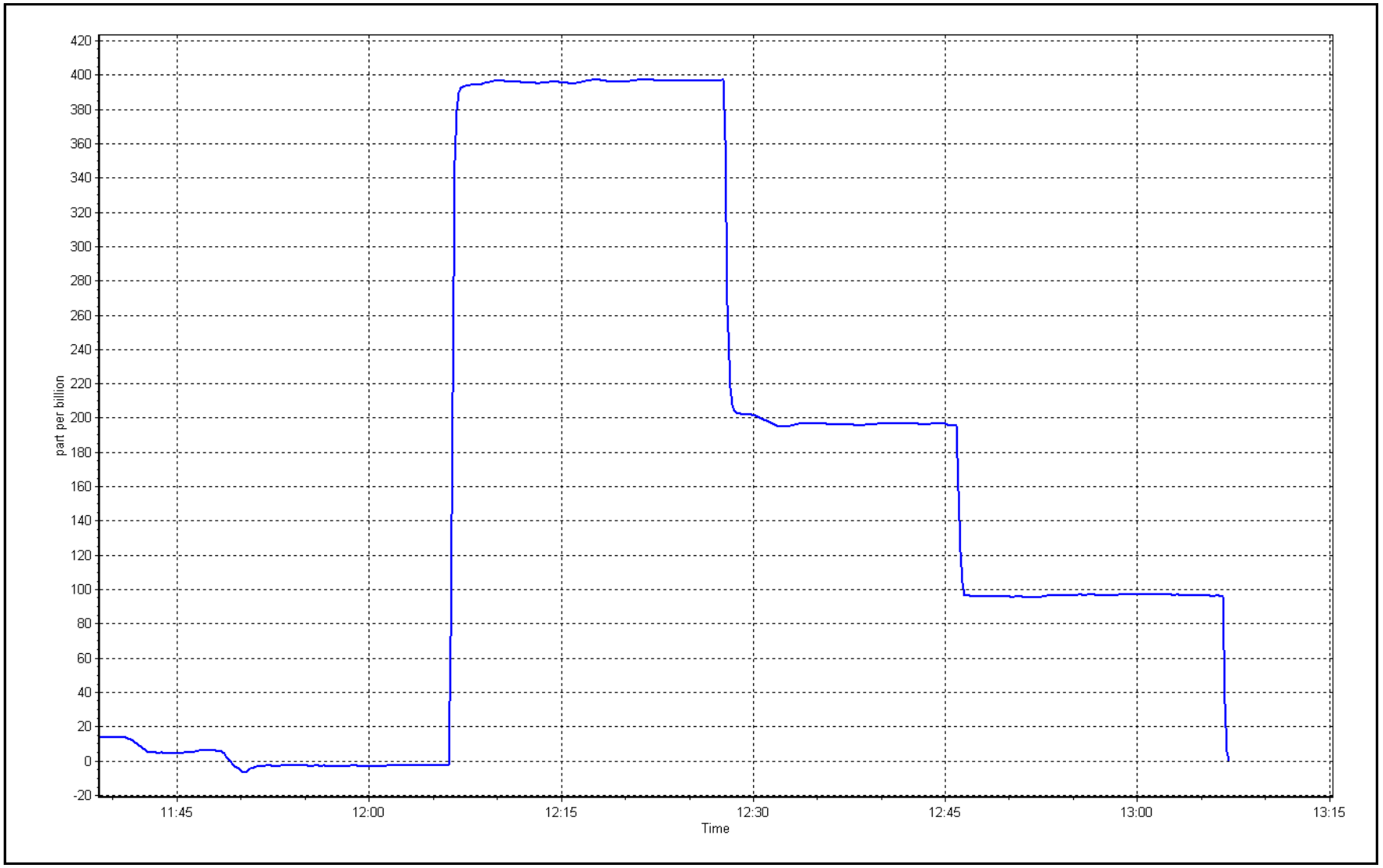
Set Point	Total air flow rate (sccm)	Calibrator Lamp Voltage Drive (mV)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero					
As left span					

Average Correction Factor

Notes: Removing the instrument. Multi-point as founds completed.

Calibration Performed By: Rene Chamberland

O_3 Calibration Plot Date: November 17, 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:	November 17, 2025	Last Cal Date:	NA
Start time (MST):	13:30	End time (MST):	15:48
Reason:	Install		

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 #:	7045
Analyzer Range	0 - 500 ppb		

	Start	***Finish***		***Start***	***Finish***
Calibration slope:		1.000514	Backgd or Offset:		1.4
Calibration intercept:		0.560000	Coeff or Slope:		1.039

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	0.0	0.0	0.2	----
High point	5000	863.1	400.0	400.4	0.999
Mid point	5000	744.0	200.0	201.4	0.993
Low point	5000	651.7	100.0	100.6	0.994
As left zero	5000	0.0	0.0	1.1	----
As left span	5000	863.1	400.0	404.1	0.990
				Average Correction Factor	0.995

Notes: Installing a new instrument. Changed the inlet filter. Adjusted the span only.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

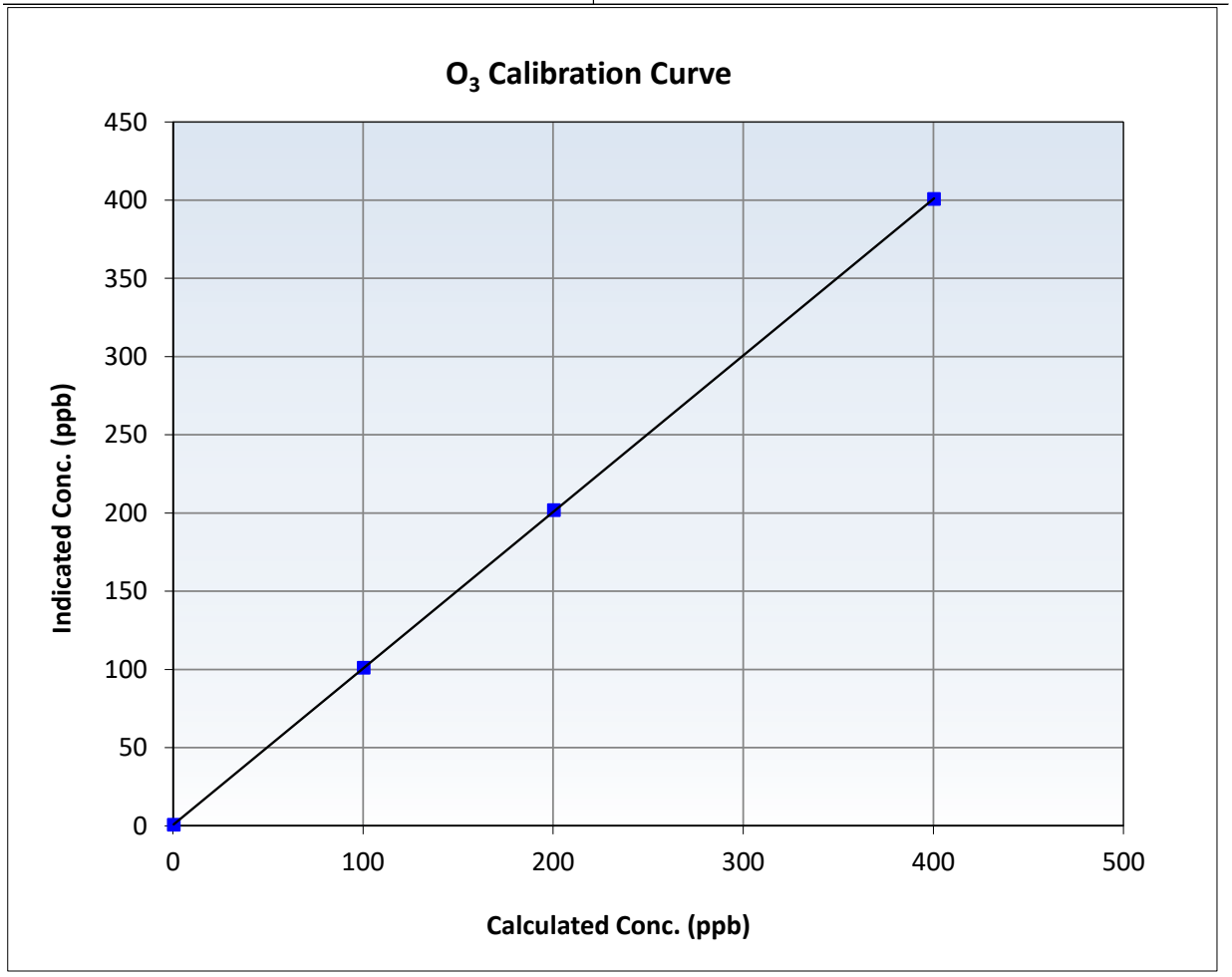
O_3 Calibration Summary

Station Information

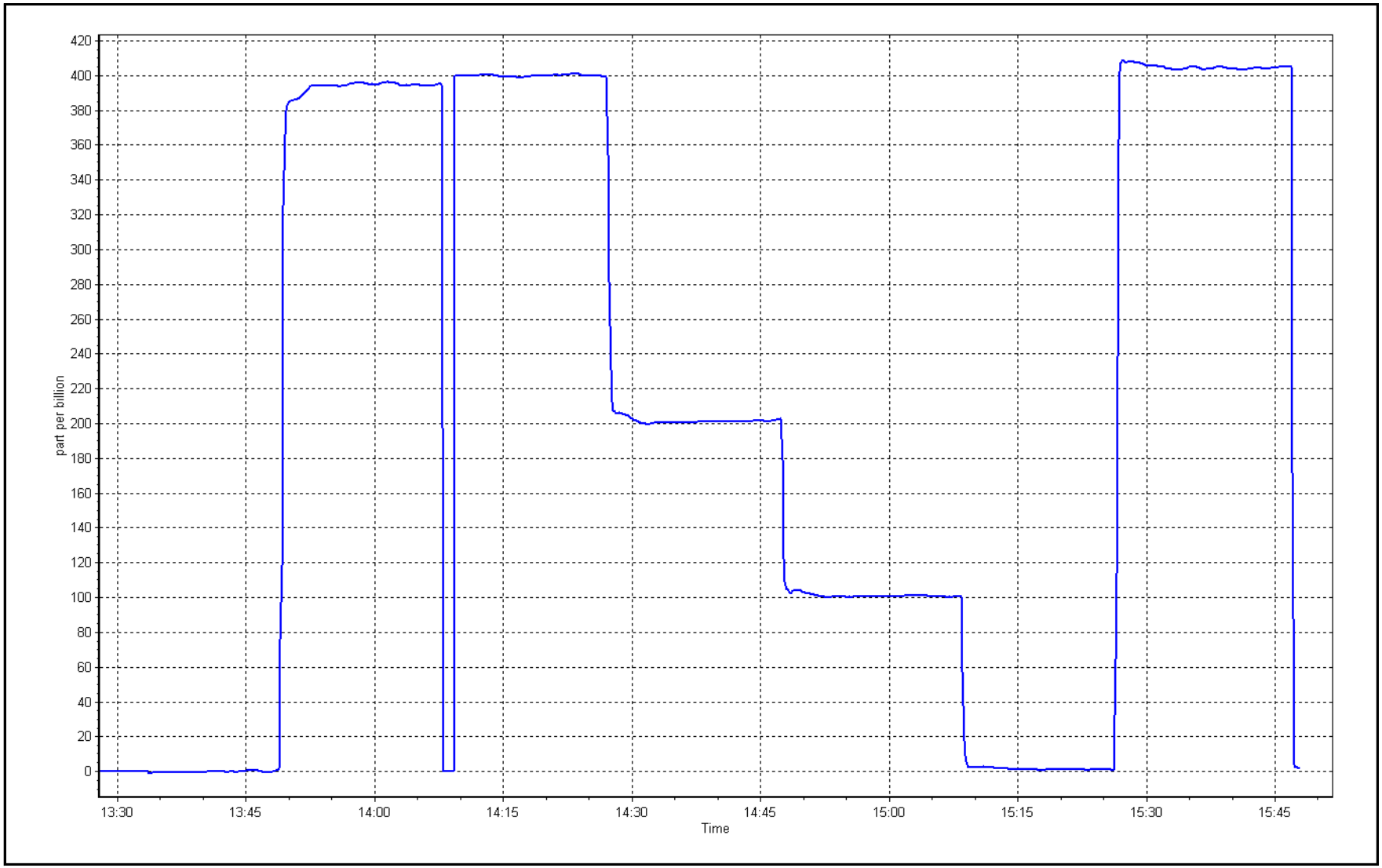
Calibration Date:	November 17, 2025	Previous Calibration:	NA
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	13:30	End Time (MST):	15:48
Analyzer make:	Teledyne API T400	Analyzer serial #:	7045

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.2	----	Correlation Coefficient	0.999991	*≥0.995*
400.0	400.4	0.9990	Slope	1.000514	*0.90 - 1.10*
200.0	201.4	0.9930			
100.0	100.6	0.9940	Intercept	0.560000	*+/- 5*



O_3 Calibration Plot Date: November 17, 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:	November 14, 2025	Last Cal Date:	October 22, 2025
Start time (MST):	14:06	End time (MST):	14:55
Analyzer Make:	Teledyne API T640	S/N:	322
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388752
Temp/RH standard:	Alicat FP-25BT	S/N:	388752

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (°C)	0.5	-1.0	0.5	☐	+/- 2 °C
P (mmHg)	723.6	725.83	723.6	☐	+/- 10 mmHg
Flow (LPM)	5.07	4.913	5.07	☐	+/- 0.25 LPM
PW% (pump)	50		50	☐	>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	11.0			☐	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: _____ <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: August 20, 2025

Date RH/T Sensor Cleaned: October 22, 2025

Notes: Removing the instrument. Flow, temperature, and pressure were verified. Leak check passed. PMT peak test verified.

Calibration by: Rene Chamberland

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:	November 14, 2025	Last Cal Date:	NA
Start time (MST):	15:00	End time (MST):	15:47
Analyzer Make:	Teledyne API T640	S/N:	323
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388752
Temp/RH standard:	Alicat FP-25BT	S/N:	388752

Monthly Calibration Test

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (^{o}C)	-3	-3.6	-3	☐	+/- 2 ^{o}C
P (mmHg)	728.1	727.09	728.1	☐	+/- 10 mmHg
Flow (LPM)	5.01	4.946	5.01	☐	+/- 0.25 LPM
PW% (pump)	40		40	☐	>80%
Zero Verification	PM w/o HEPA:	0.4	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: June 10, 2024 — Lot No.: 100128-050-042

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test			10.8	☐	10.9 +/- 0.5

Date Optical Chamber Cleaned: NA

Date Disposable Filter Changed: NA

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

Annual Maintenance

Date Sample Tube Cleaned: NA

Date RH/T Sensor Cleaned: NA

Notes: Installing a new instrument. Flow, temperature, and pressure were verified. Leak check passed. PMT peak test completed.

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:	November 17, 2025	Last Cal Date:	N/A
Start time (MST):	11:30	End time (MST):	16:25
NH3 Cal Date:	November 17, 2025	Last Cal Date:	N/A
Start time (MST):	16:50	End time (MST):	19:02
Reason:	Install		

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 T750	Serial Number:	281
ZAG make/model:		API T751H	Serial Number:	530

Analyzer Information

Analyzer model:	API T201	Analyzer serial #:	152
Converter model:	API T501	Converter serial #:	484
NH3 Range (ppb):	0 - 2000 ppb	Reaction cell Press:	6.90
NOX Range (ppb):	0 - 1000 ppb	Sample Flow:	543

	Start	*Finish*		*Start*	*Finish*
NO coefficient:		1.093	Nt coefficient:		1.136
NOX coefficient:		1.122	NO bkgrnd:		-0.1
NO2 coefficient:		1.000	NOX bkgrnd:		0.0
NH3 coefficient:		0.970	Nt bkgrnd:		0.0

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:		1.005206
NO_X Cal Offset:		0.220000
NO Cal Slope:		1.004175
NO Cal Offset:		0.820000
NO_2 Cal Slope:		0.983228
NO_2 Cal Offset:		0.140606
NH3 Cal Slope:		1.001563
NH3 Cal Offset:		1.006481
Nt Cal Slope:		1.004131
Nt Cal Offset:		1.512338

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										
As found span										
AF GPT span										
new NO cyl rp										

Baseline Corr As Fd	Nt =	NA	ppb	NO_X =	NA	ppb	NO =	NA	ppb	*Percent Change $Nt_{(NO)}$ = NA
Previous Response	Nt =	NA	ppb	NO_X =	NA	ppb	NO =	NA	ppb	*Percent Change NO_X = NA
										*Percent Change NO = NA

**NO_X Δ (NO to GPT response) =

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

* = > +/-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	0.3	0.3	0.3	----	----
High point	4932	67.6	803.1	800.4	803.1	806.5	803.0	807.2	0.9958	0.9967
Mid point	4966	33.8	401.5	400.2	401.5	406.9	406.8	405.5	0.9868	0.9838
Low point	4983	16.9	200.8	200.1	200.8	199.9	199.7	198.7	1.0044	1.0020
								Average Correction Factor	0.9957	0.9942

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						
Calibration zero	----	----	0.0	0.0	----	----
High GPT point (400 ppb O3)	801.0	406.1	397.6	391.8	1.0148	98.5%
Mid GPT point (200 ppb O3)	801.0	608.9	194.8	189.3	1.0291	97.2%
Low GPT point (100 ppb O3)	801.0	706.0	97.7	98.0	0.9970	100.3%
				Average Correction Factor	1.0136	98.7%

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	0.3	0.3	0.0	----	----
AF High point										
AF Mid point										
AF Low point										
new NH3 cyl rp										

Baseline Corr As Fd Nt = NA ppb NH3 = NA ppb *Percent Change $Nt_{(NH3)}$ = NA

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

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	0.3	0.3	0.0	----	----
High point	2931	69.4	1799.8	0.0	1799.8	1805.2	5.2	1800.2	0.997	1.000
Mid point	2961	38.6	1001.0	0.0	1001.0	1014.6	3.1	1011.4	0.987	0.990
Low point	2981	19.3	500.5	0.0	500.5	500.9	2.0	498.9	0.999	1.003
								Average Correction Factor	0.9943	0.9976

NH3 Previous Converter Efficiency = NA %
NH3 Current Converter Efficiency = 97.0 %

Notes: Installing a new instrument and converter. Calibrating with a portable calibrator/ZAG. Adjusted the NOx, NO, NT zero and spans. Adjusted the NH3 span.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

Nt Calibration Summary

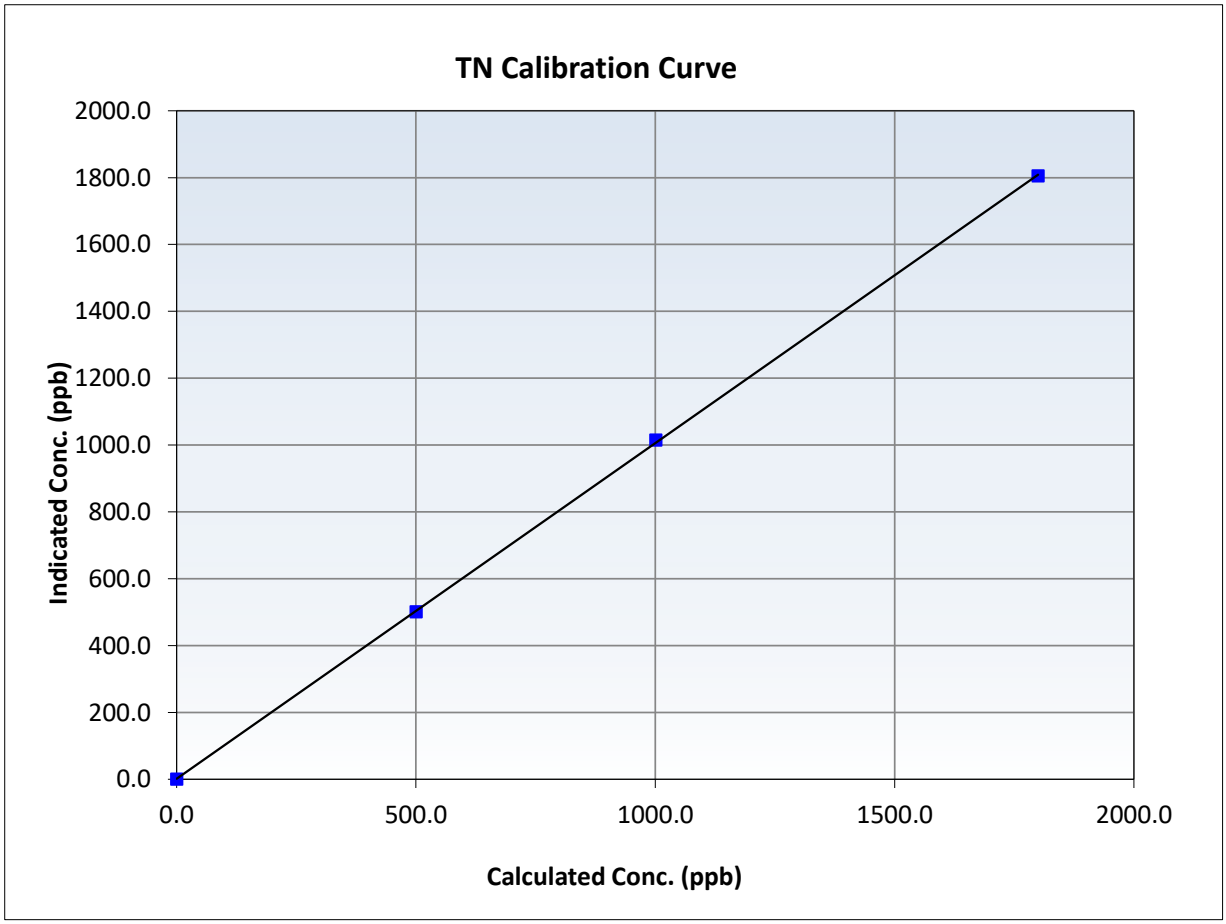
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	N/A
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	11:30	End Time (MST):	16:25
Analyzer make:	API T201	Analyzer serial #:	152

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
1799.8	1805.2	0.9970
1001.0	1014.6	0.9866
500.5	500.9	0.9992

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999951	*≥0.995*
Slope	1.004131	*0.90 - 1.10*
Intercept	1.512338	*+/-20*



Wood Buffalo Environmental Association

NH_3 Calibration Summary

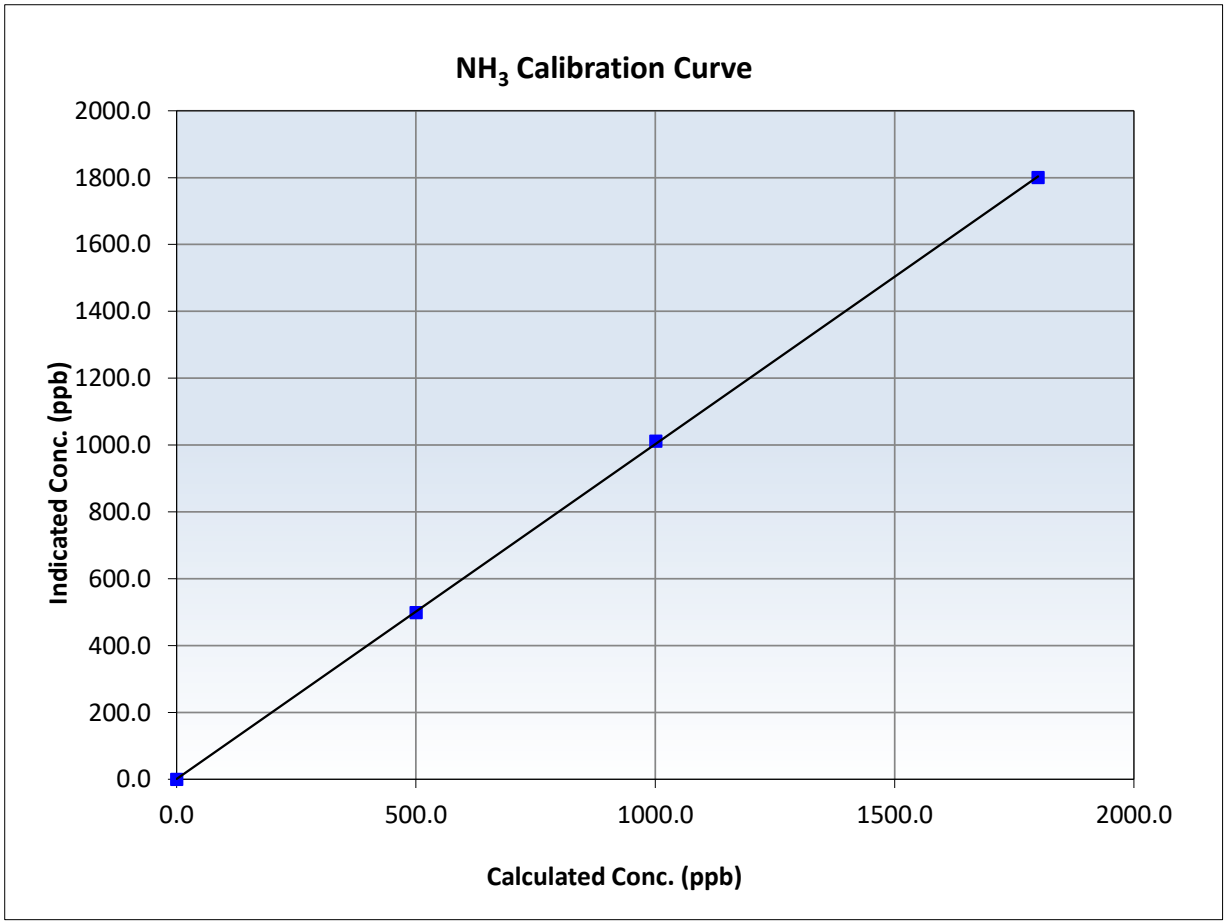
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	N/A
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	11:30	End Time (MST):	16:25
Analyzer make:	API T201	Analyzer serial #:	152

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
1799.8	1800.2	0.9998
1001.0	1011.4	0.9897
500.5	498.9	1.0032

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999952	*≥0.995*
Slope	1.001563	*0.90 - 1.10*
Intercept	1.006481	*+/-20*



Wood Buffalo Environmental Association

NO_X Calibration Summary

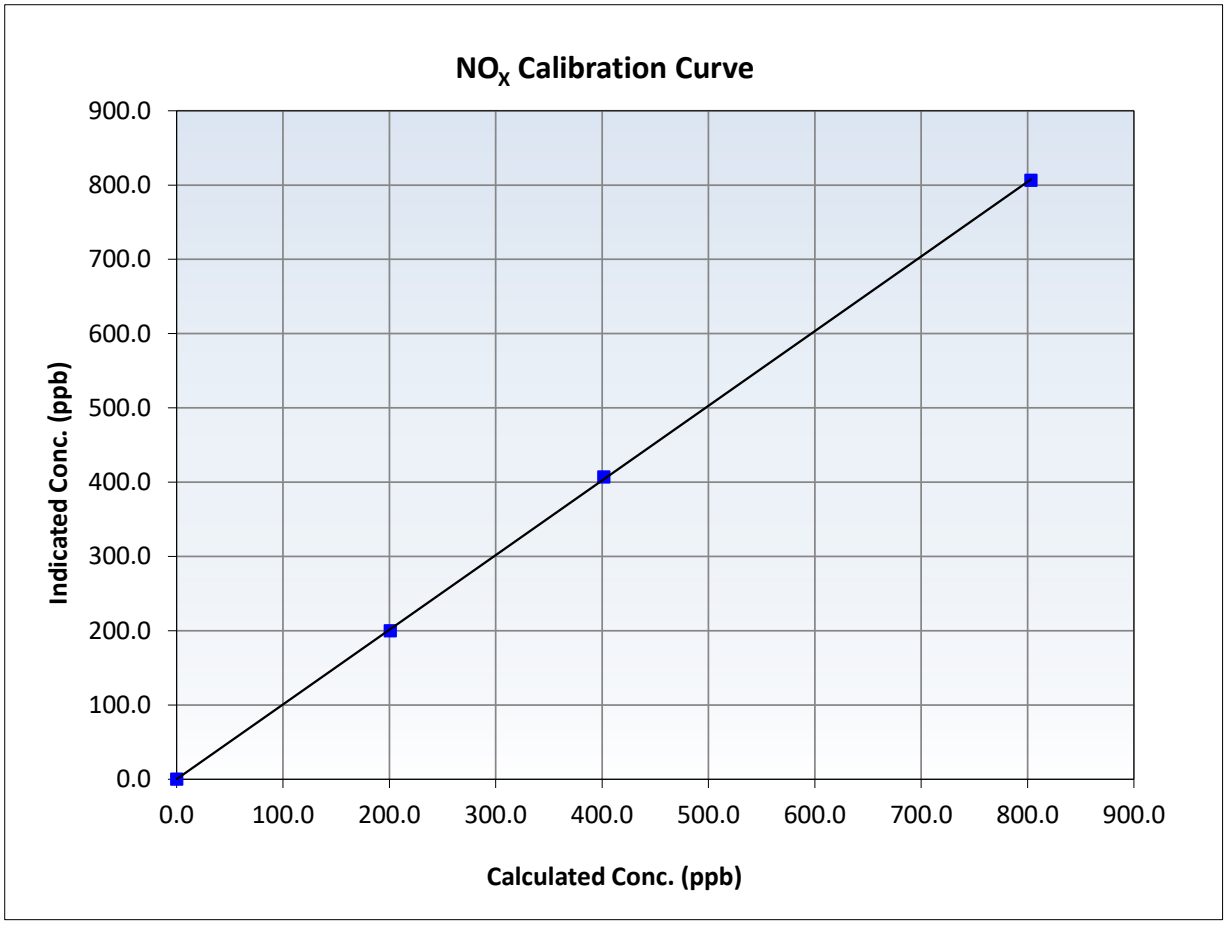
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	N/A
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	11:30	End Time (MST):	16:25
Analyzer make:	API T201	Analyzer serial #:	152

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
803.1	806.5	0.9958
401.5	406.9	0.9868
200.8	199.9	1.0044

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999958	*≥0.995*
Slope	1.005206	*0.90 - 1.10*
Intercept	0.220000	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

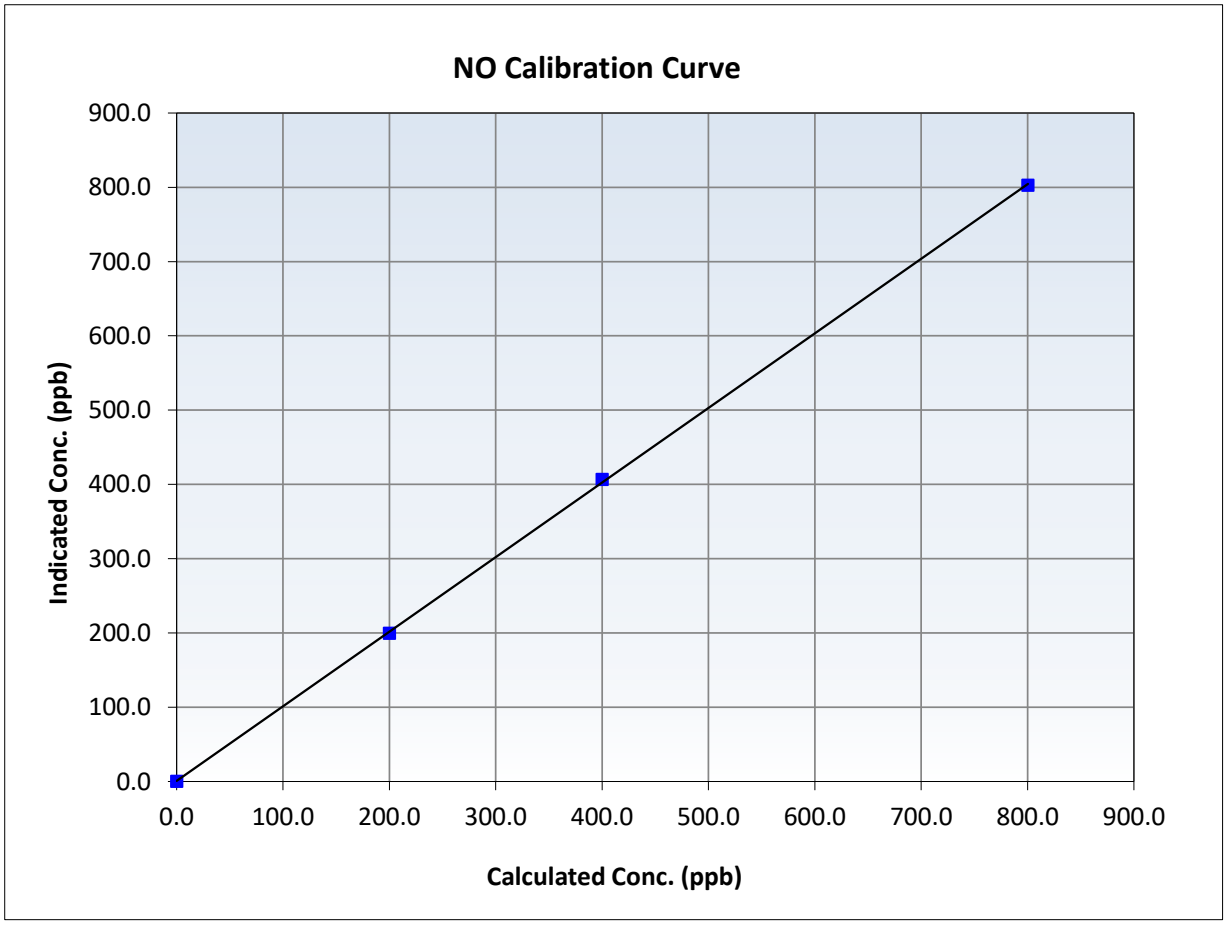
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	N/A
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	11:30	End Time (MST):	16:25
Analyzer make:	API T201	Analyzer serial #:	152

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
800.4	803.0	0.9967
400.2	406.8	0.9838
200.1	199.7	1.0020

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999933	*≥0.995*
Slope	1.004175	*0.90 - 1.10*
Intercept	0.820000	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

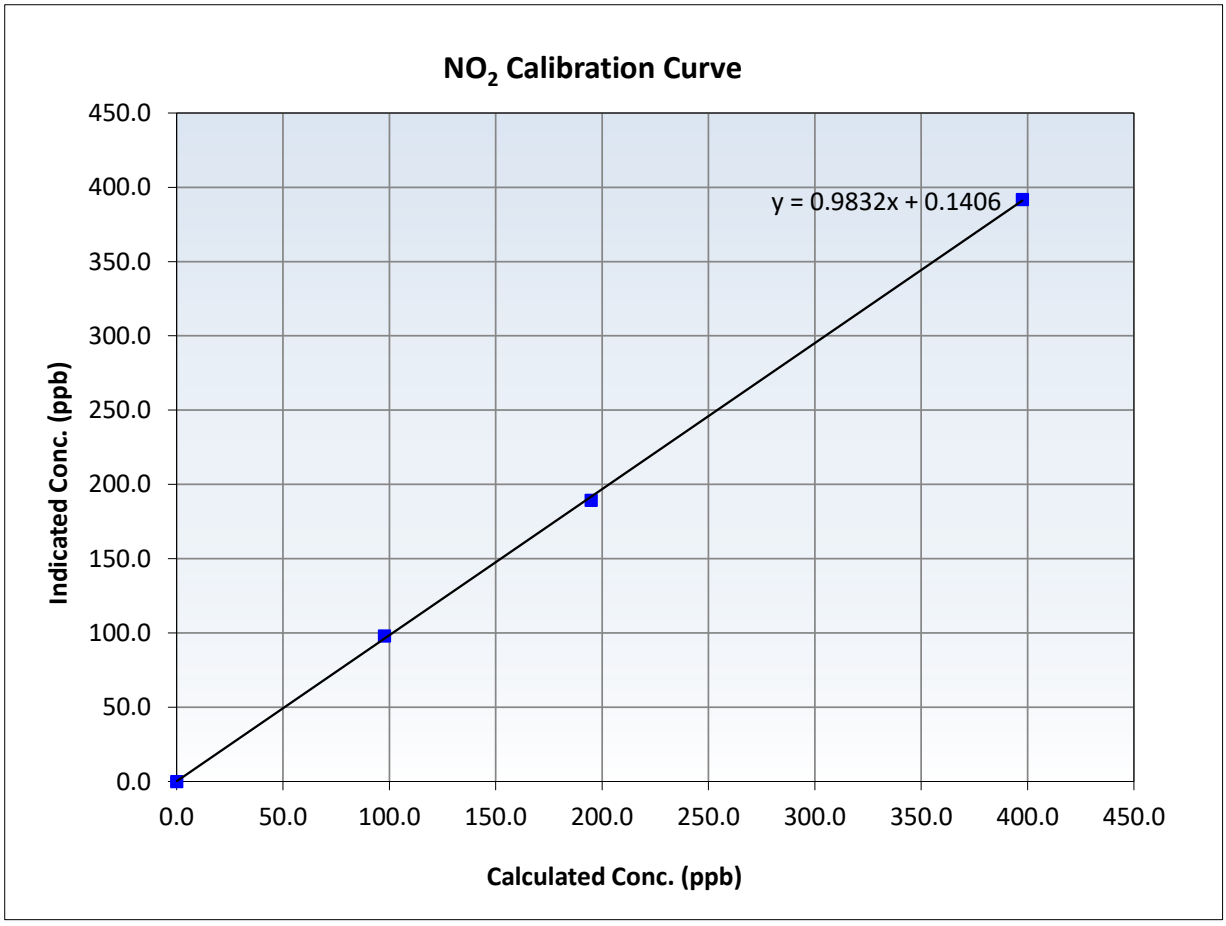
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	N/A
Station Name:	Bertha Ganter-Fort McKay	Station Number:	AMS 01
Start Time (MST):	11:30	End Time (MST):	16:25
Analyzer make:	API T201	Analyzer serial #:	152

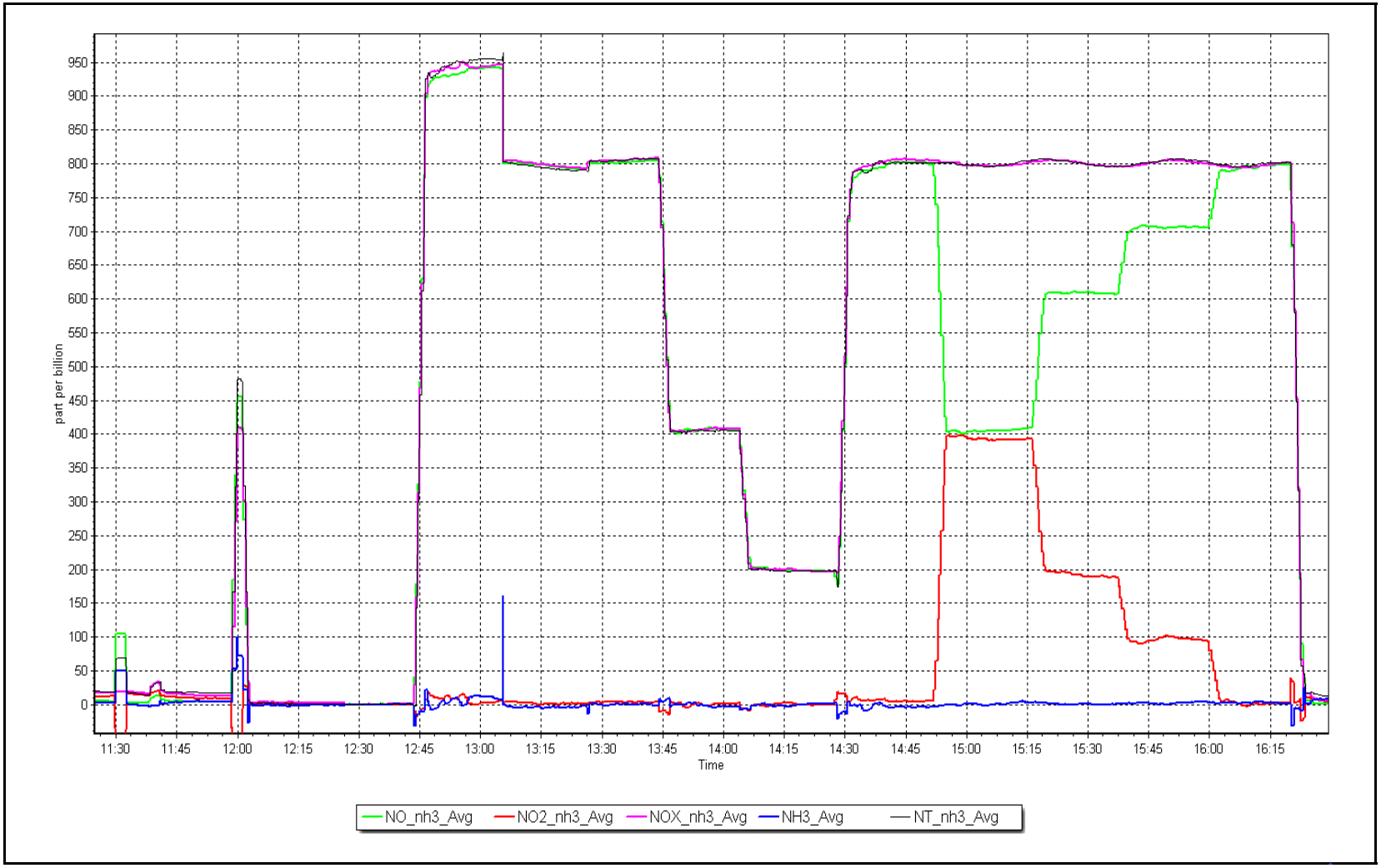
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
397.6	391.8	1.0148
194.8	189.3	1.0291
97.7	98.0	0.9970

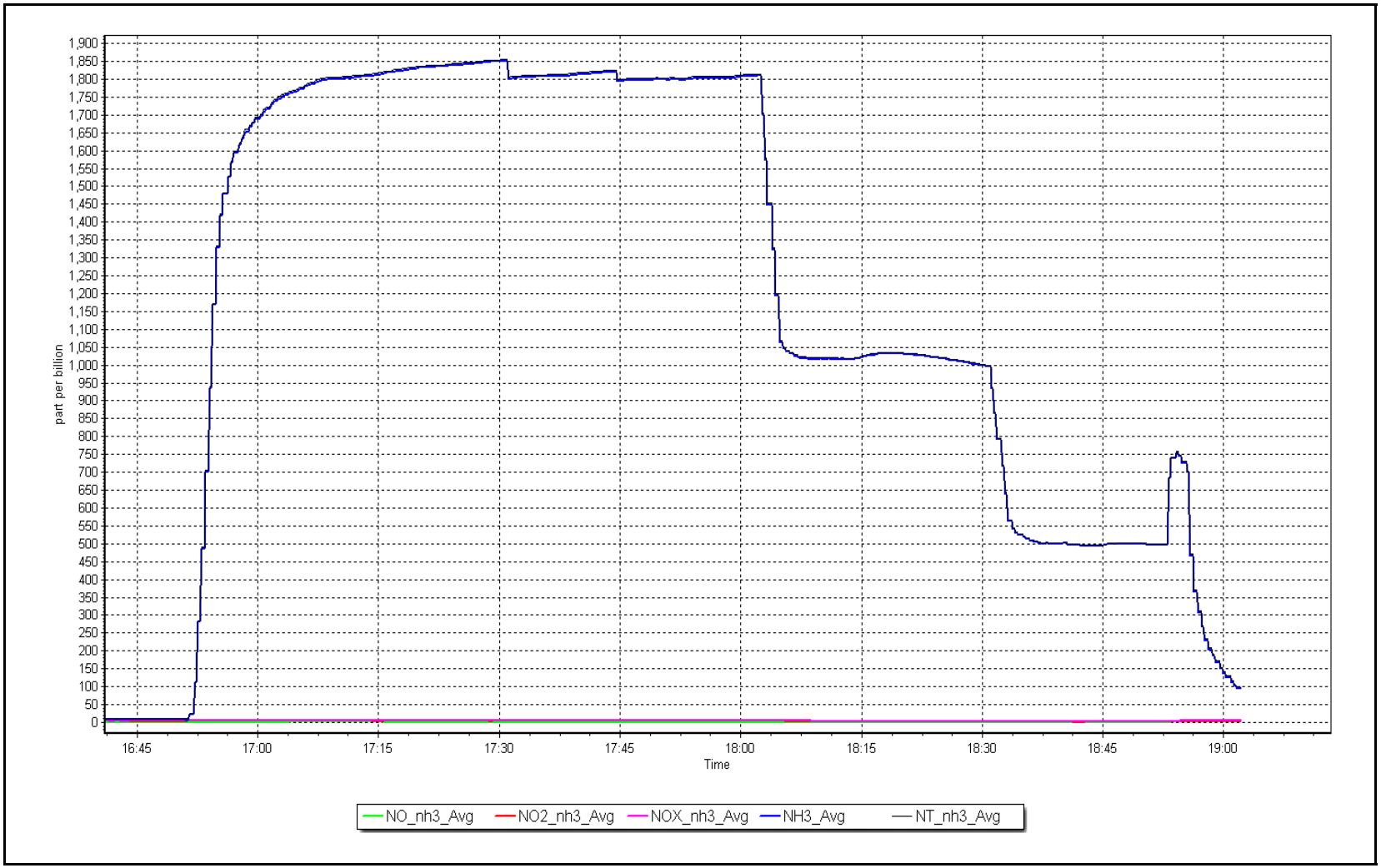
Statistical Evaluation		*Limits*
Correlation Coefficient	0.999887	*≥0.995*
Slope	0.983228	*0.90 - 1.10*
Intercept	0.140606	*+/-20*



NO_X Calibration Plot Date: November 17, 2025 Location: Bertha Ganter-Fort McKay



NH_3 Calibration Plot Date: November 17, 2025 Location: Bertha Ganter-Fort McKay



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS02
MILDRED LAKE
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Mildred Lake	Station number:	AMS 02
Calibration Date:	November 6, 2025	Last Cal Date:	October 30, 2025
Start time (MST):	11:05	End time (MST):	14:50
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:	1.001740	0.999500	Backgd or Offset:	24.2	24.3
Calibration intercept:	-0.210939	-0.351922	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	-0.1	----
As found High point	4913	78.6	803.0	794.7	1.010
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	794.8	Previous response	804.2	*% 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	0.1	----
High point	4913	78.4	801.0	800.3	1.001
Mid point	4961	39.2	399.8	399.4	1.001
Low point	4980	19.6	199.9	198.7	1.006
As left zero	5000	0.0	0.0	0.0	----
As left span	4913	78.4	801.0	801.0	1.000
				Average Correction Factor:	1.003

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

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

SO_2 Calibration Summary

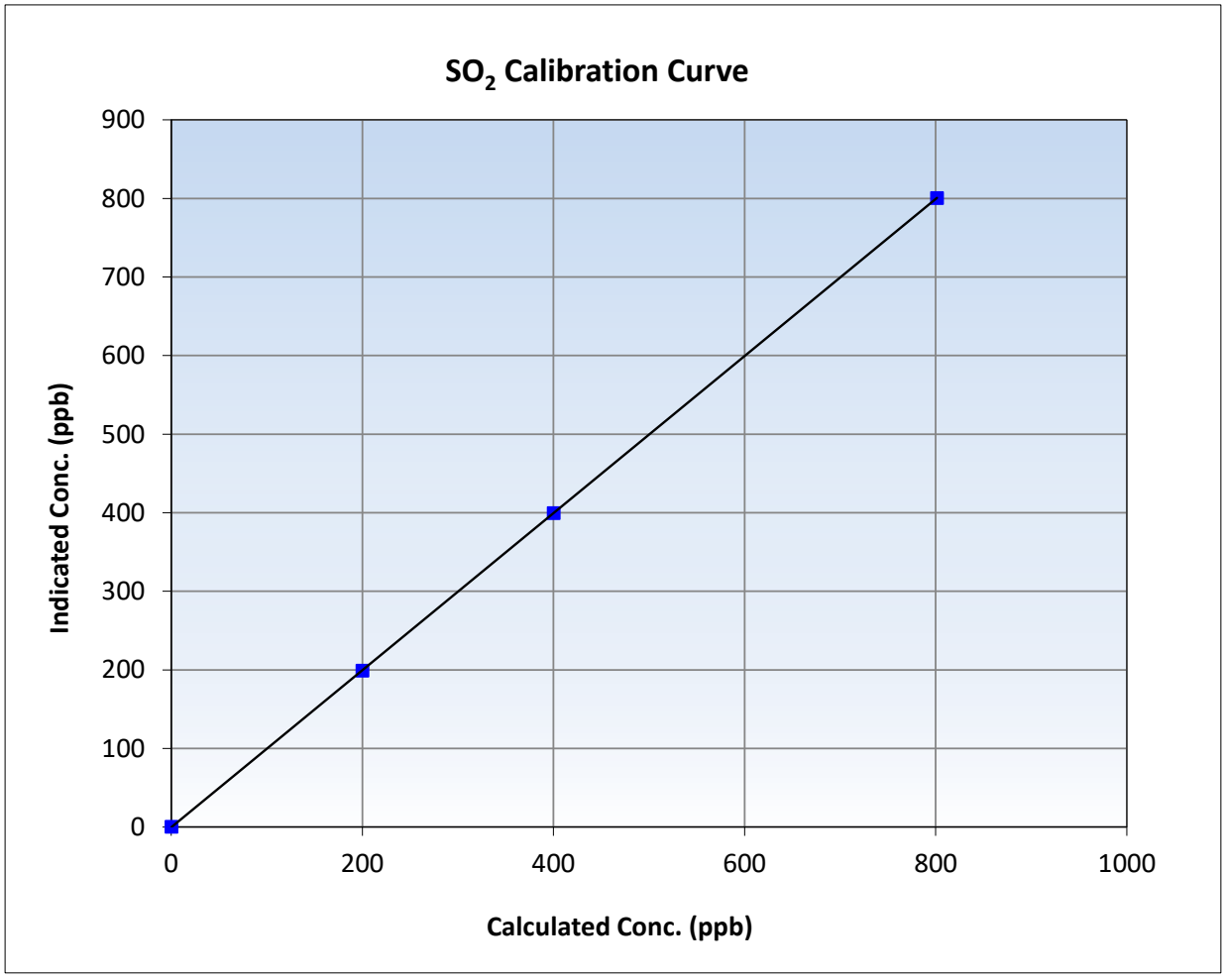
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 30, 2025
Station Name:	Mildred Lake	Station Number:	AMS 02
Start Time (MST):	11:05	End Time (MST):	14:50
Analyzer make:	Thermo 43i	Analyzer serial #:	JC1404901075

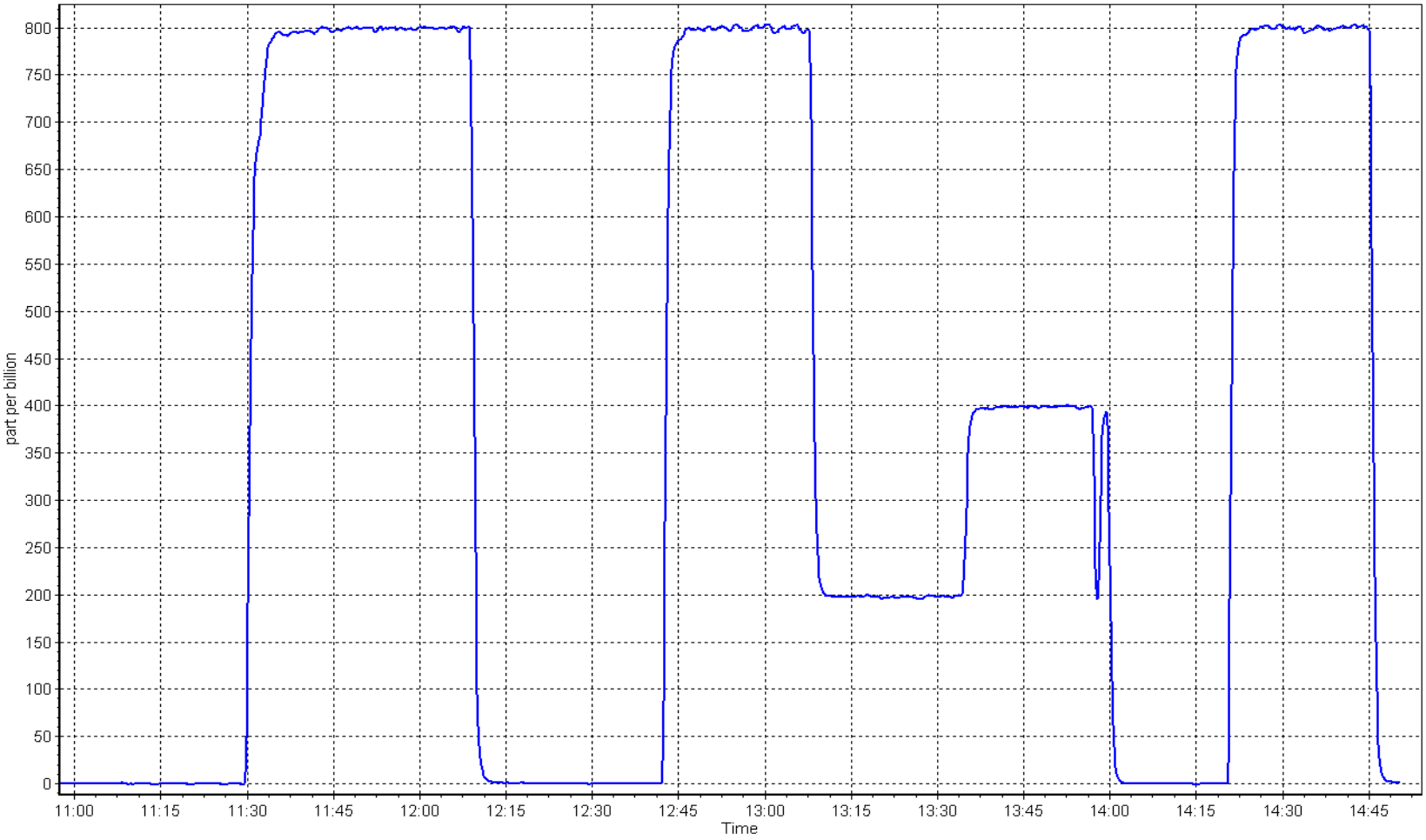
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
801.0	800.3	1.0008
399.8	399.4	1.0009
199.9	198.7	1.0059

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	0.999500	*0.90 - 1.10*
Intercept	-0.351922	*+/-30*



SO2 Calibration Plot Date: November 6, 2025 Location: Mildred Lake



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Mildred Lake	Station number:	AMS 02
Calibration Date:	November 19, 2025	Last Cal Date:	October 22, 2025
Start time (MST):	10:03	End time (MST):	14:50
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:	1.000125	0.998125	Backgd or Offset:	1.39	1.39
Calibration intercept:	0.000000	0.120000	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	0.0	----
As found High point	4916	84.2	80.0	79.8	1.002
As found Mid point	4958	42.1	40.0	40.1	0.997
As found Low point	4979	21.1	20.0	20.1	0.995
New cylinder response					

Baseline Corr As found:	79.8	Prev response:	80.00	*% change:	-0.3%
Baseline Corr 2nd AF pt:	40.1	AF Slope:	0.997268	AF Intercept:	0.100000
Baseline Corr 3rd AF pt:	20.1	AF Correlation:	0.999991	* = > +/-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	79.9	1.001
Mid point	4958	42.1	40.0	40.2	0.995
Low point	4979	21.1	20.0	20.0	1.000
As left zero	5000	0.0	0.0	0.2	----
As left span	4916	84.2	80.0	79.9	1.001
SO2 Scrubber Check	4922	78.4	783.9	0.0	----

Date of last scrubber change:	July 16, 2024	Ave Corr Factor	0.999
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

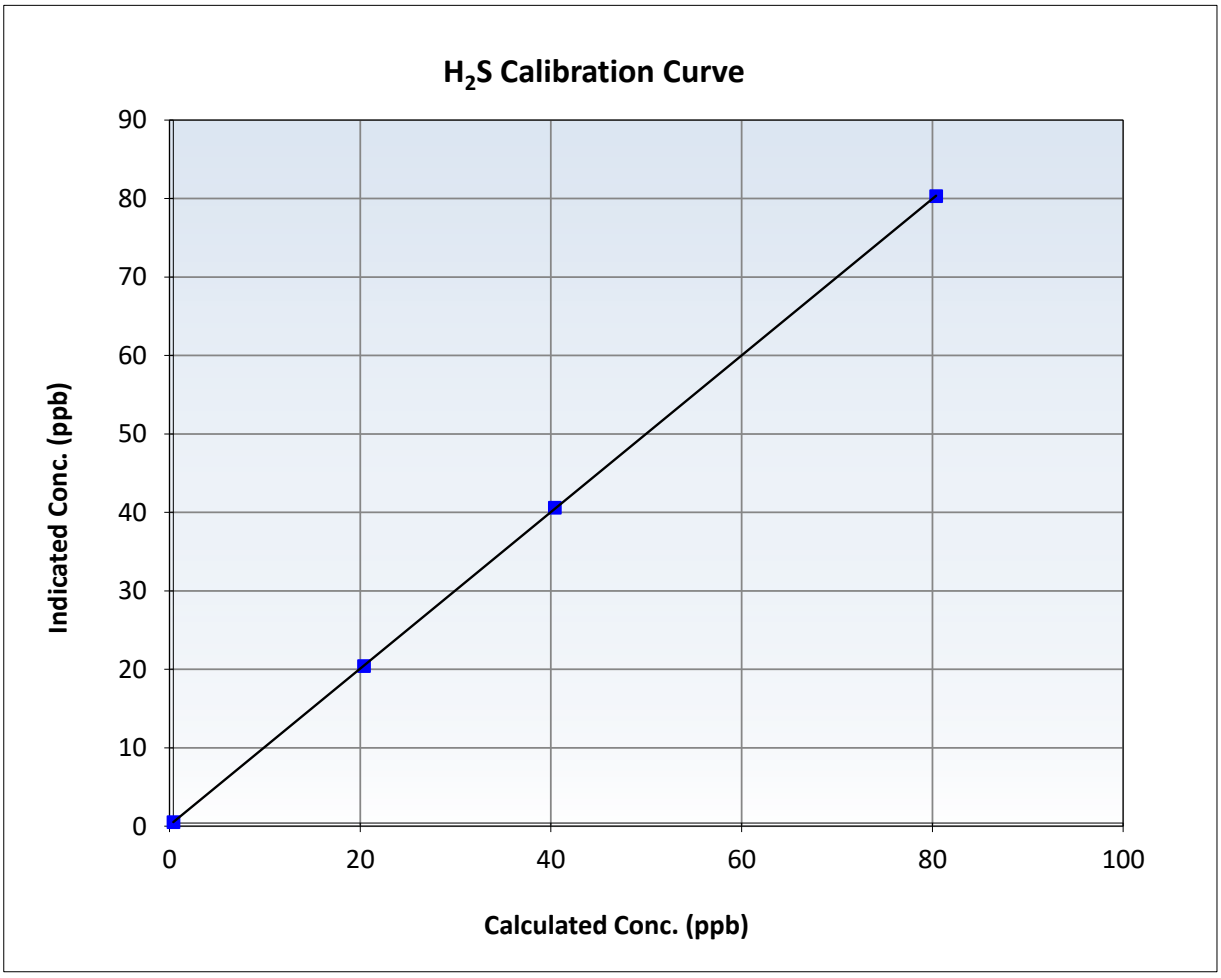
H2S Calibration Summary

Station Information

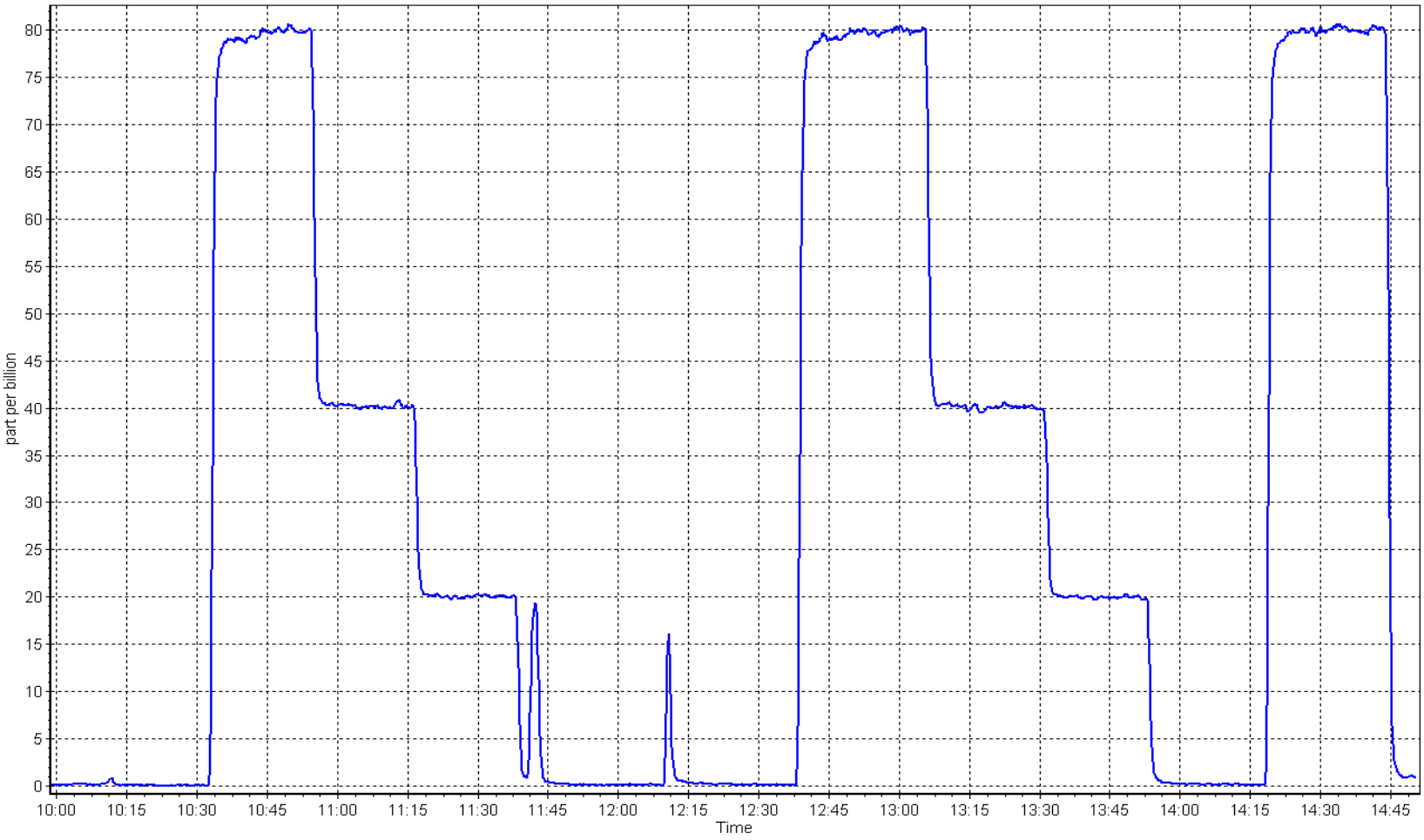
Calibration Date:	November 19, 2025	Previous Calibration:	October 22, 2025
Station Name:	Mildred Lake	Station Number:	AMS 02
Start Time (MST):	10:03	End Time (MST):	14:50
Analyzer make:	Thermo 43iQTL	Analyzer serial #:	12333331546

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999990	*≥0.995*
80.0	79.9	1.0011	Slope	0.998125	*0.90 - 1.10*
40.0	40.2	0.9949			
20.0	20.0	0.9999	Intercept	0.120000	*+/-3*



H2S Calibration Plot Date: November 19, 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:	November 6, 2025	Last Cal Date:	October 30, 2025
Start time (MST):	11:05	End time (MST):	14:50
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:	5.10E-04	5.10E-04	NMHC SP Ratio:	7.72E-05	7.72E-05
CH4 Retention time:	15.9	15.9	NMHC Peak Area:	114549	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	16.73	1.000
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.73	Prev response	16.76	*% 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	5000	0.0	0.00	0.00	
High point	4922	78.4	16.73	16.70	1.002
Mid point	4961	39.2	8.37	8.30	1.008
Low point	4980	19.6	4.18	4.14	1.011
As left zero	5000	0.0	0.00	0.00	----
As left span	4922	78.4	16.73	16.74	0.999
				Average Correction Factor	1.007

Notes: Changed sample inlet filter and hydrogen cylinder 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	4922	78.4	8.84	8.84	1.000
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.84	Prev response	8.82	*% change	0.2%
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	4922	78.4	8.84	8.78	1.007
Mid point	4961	39.2	4.42	4.43	0.997
Low point	4980	19.6	2.21	2.23	0.994
As left zero	5000	0.0	0.00	0.00	----
As left span	4922	78.4	8.84	8.84	1.000
				Average Correction Factor	0.999

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	7.89	1.000
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.89	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	4922	78.4	7.89	7.93	0.995
Mid point	4961	39.2	3.94	3.87	1.019
Low point	4980	19.6	1.97	1.91	1.031
As left zero	5000	0.0	0.00	0.00	----
As left span	4922	78.4	7.89	7.90	0.998
				Average Correction Factor	1.015

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.003248	0.998576
THC Cal Offset:	-0.026669	-0.025466
CH4 Cal Slope:	1.008814	1.006365
CH4 Cal Offset:	-0.021527	-0.046325
NMHC Cal Slope:	0.998283	0.992261
NMHC Cal Offset:	-0.005142	0.020659

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

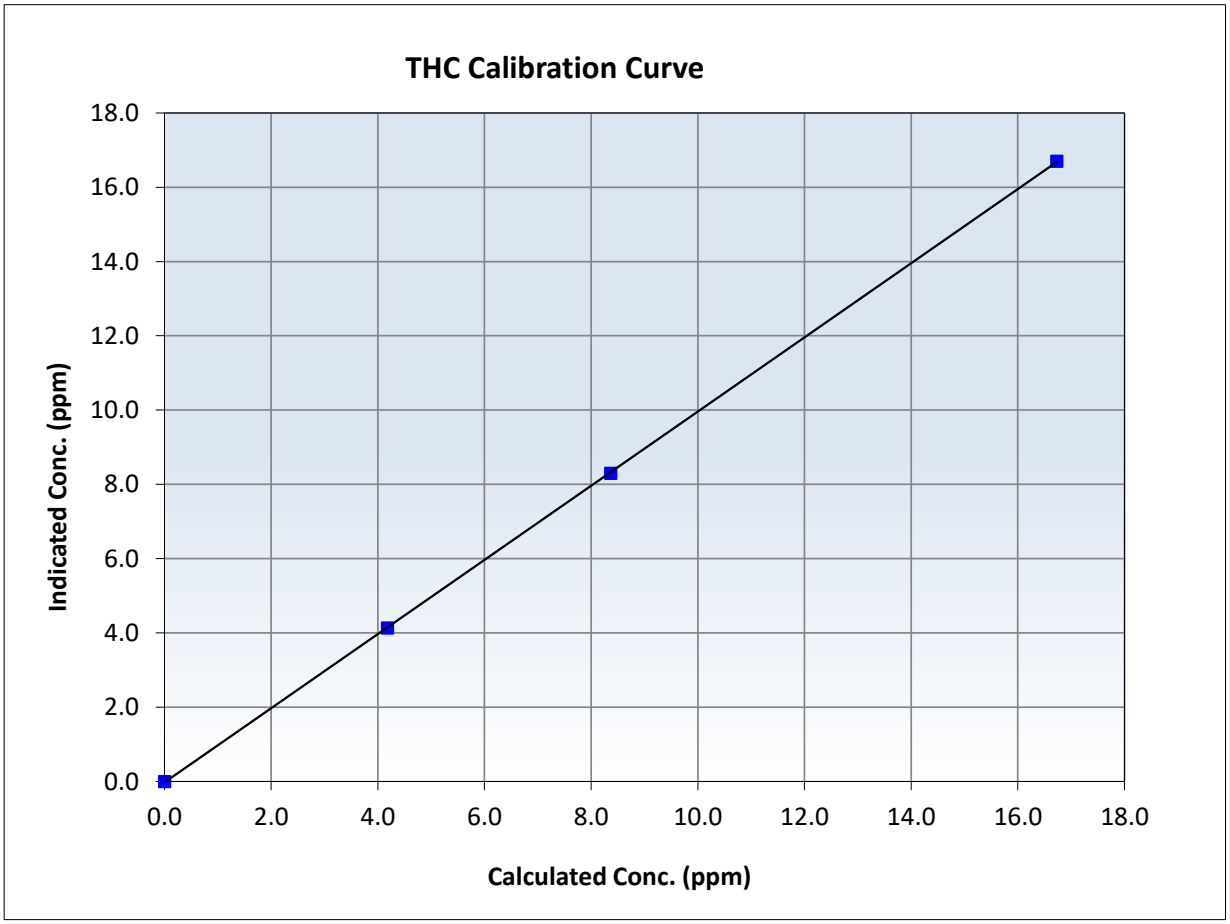
THC Calibration Summary

Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 30, 2025
Station Name:	Mildred Lake	Station Number:	AMS 02
Start Time (MST):	11:05	End Time (MST):	14:50
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	0.999987	*≥0.995*
16.73	16.70	1.0019	Slope	0.998576	*0.90 - 1.10*
8.37	8.30	1.0080	Intercept	-0.025466	*+/-0.5*
4.18	4.14	1.0112			



Wood Buffalo Environmental Association

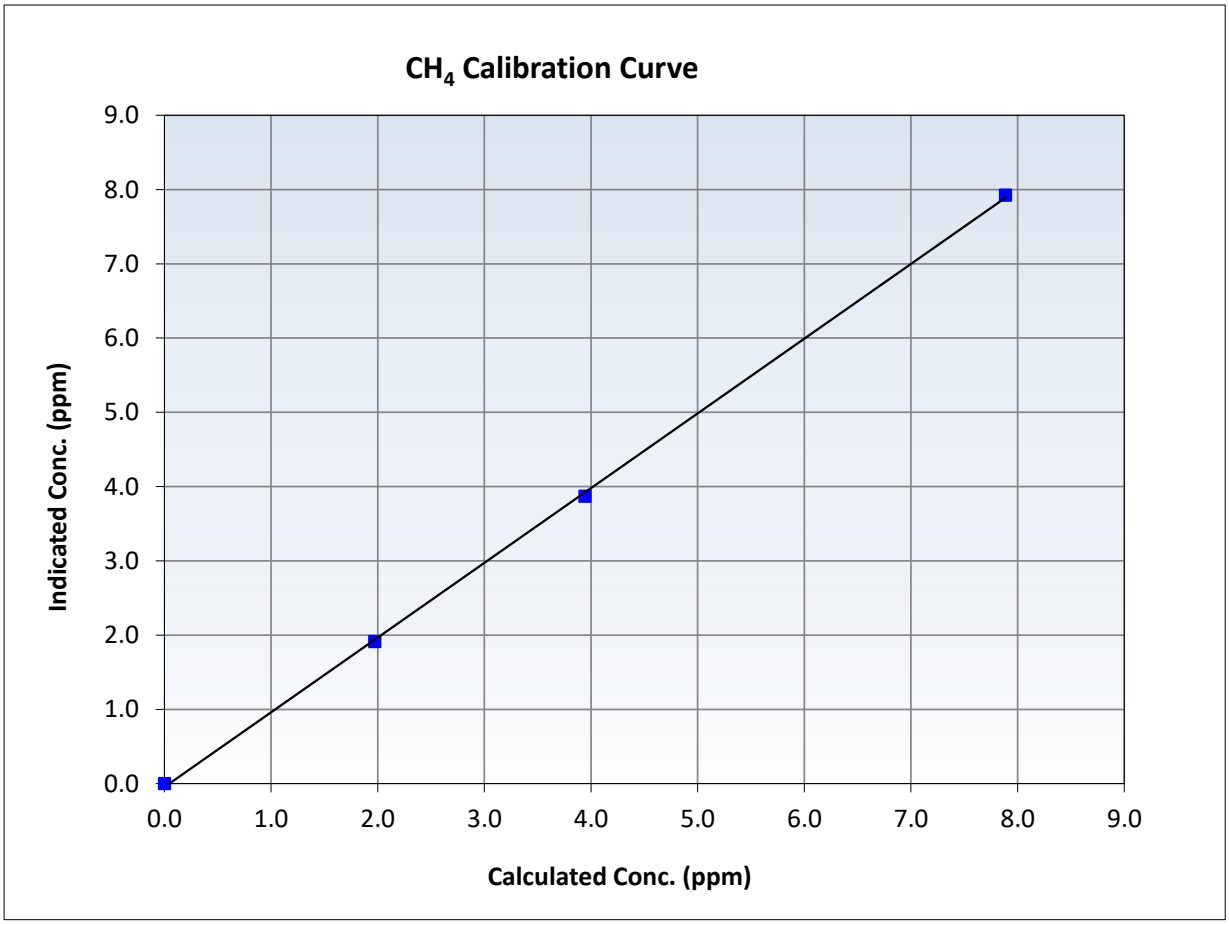
CH_4 Calibration Summary

Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 30, 2025
Station Name:	Mildred Lake	Station Number:	AMS 02
Start Time (MST):	11:05	End Time (MST):	14:50
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	0.999804	≥0.995
7.89	7.93	0.9953	Slope	1.006365	0.90 - 1.10
3.94	3.87	1.0192			
1.97	1.91	1.0315	Intercept	-0.046325	+/-0.5



Wood Buffalo Environmental Association

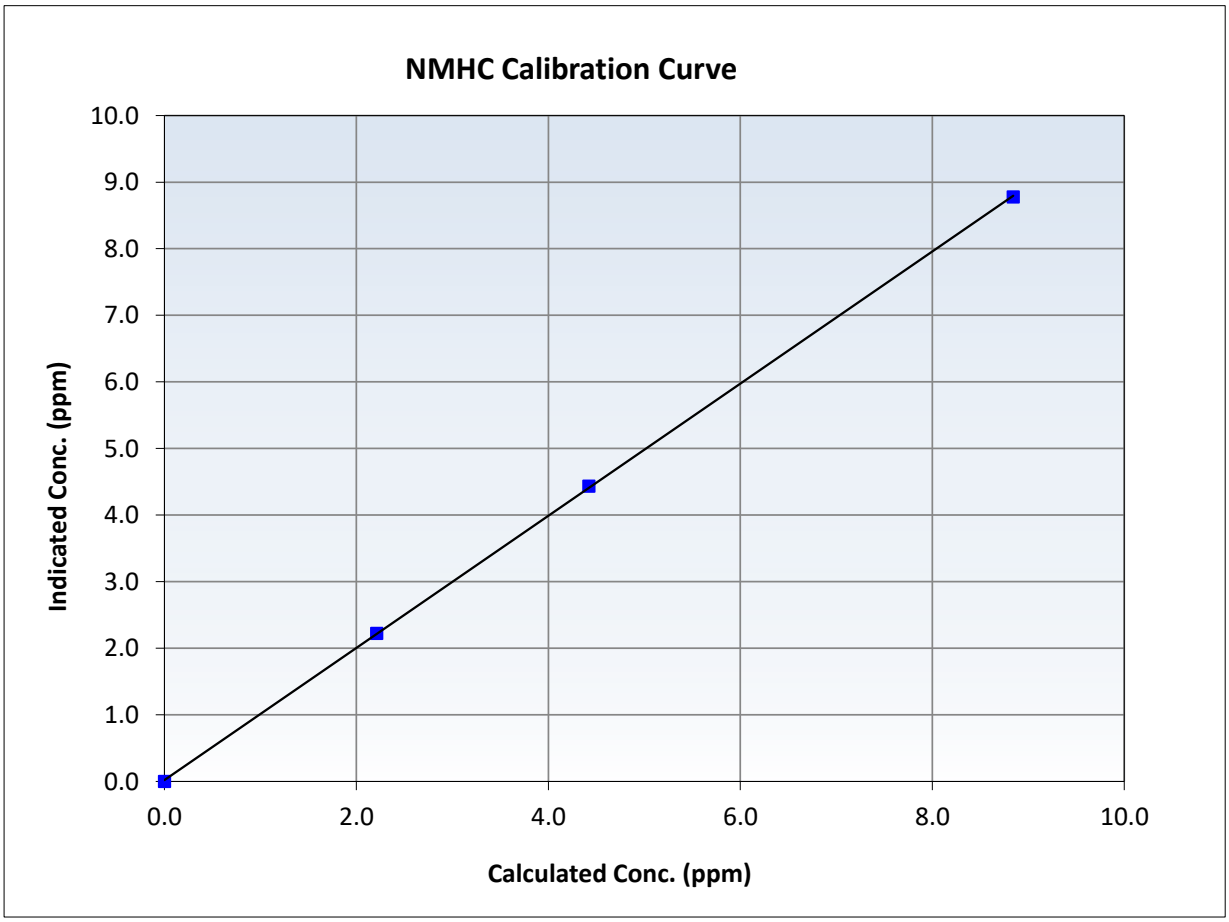
NMHC Calibration Summary

Station Information

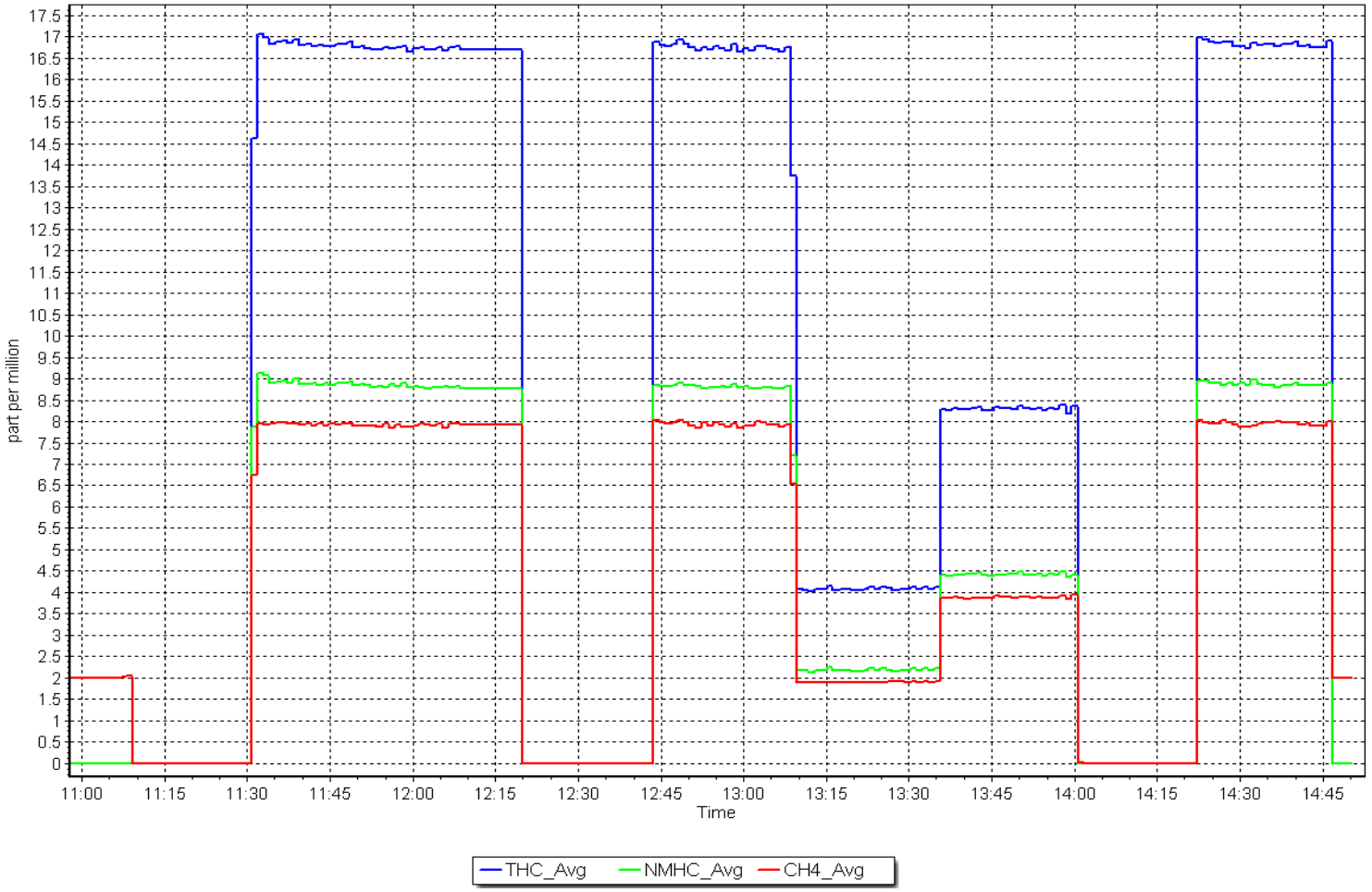
Calibration Date:	November 6, 2025	Previous Calibration:	October 30, 2025
Station Name:	Mildred Lake	Station Number:	AMS 02
Start Time (MST):	11:05	End Time (MST):	14:50
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320040

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999966	≥0.995
8.84	8.78	1.0072	Slope	0.992261	0.90 - 1.10
4.42	4.43	0.9973	Intercept	0.020659	+/-0.5
2.21	2.23	0.9937			



NMHC Calibration Plot Date: November 6, 2025 Location: Mildred Lake



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS04
BUFFALO VIEWPOINT
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Buffalo Viewpoint	Station number:	AMS 04
Calibration Date:	November 17, 2025	Last Cal Date:	October 22, 2025
Start time (MST):	7:16	End time (MST):	10:03
Reason:	Routine		

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	1.000741	Backgd or Offset:	1.85	1.62
Calibration intercept:	1.875213	1.695669	Coeff or Slope:	1.013	1.016

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	78.6	799.7	796.8	1.003
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	797.1	Previous response	799.7	*% 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	

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	78.6	799.7	801.3	0.998
Mid point	4961	39.3	399.8	402.5	0.993
Low point	4980	19.6	199.4	202.8	0.983
As left zero	5000	0.0	0.0	0.2	----
As left span	4921	78.6	799.7	801.6	0.998
				Average Correction Factor:	0.992

Notes: Zero and Span adjusted. No Maintenance done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

SO_2 Calibration Summary

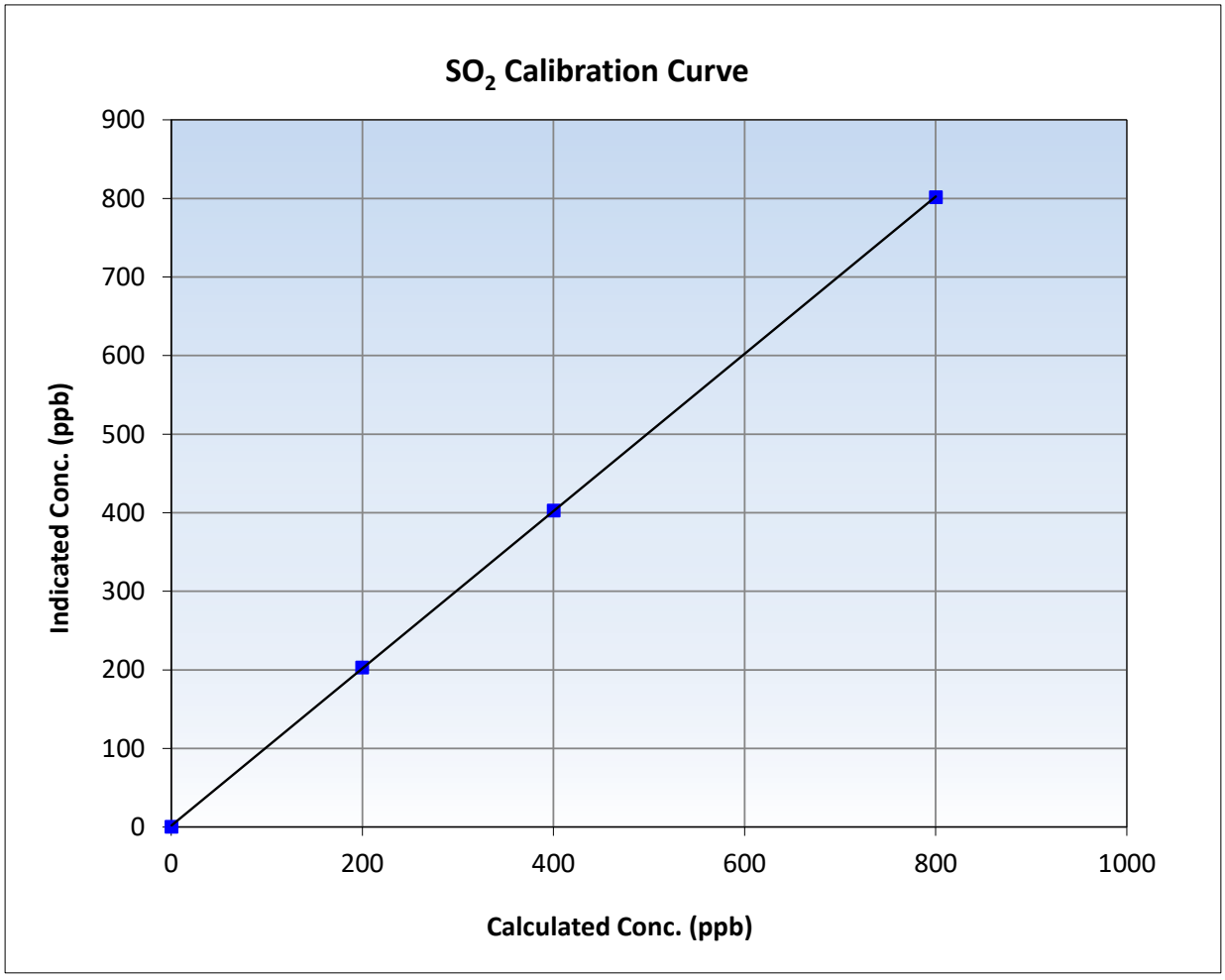
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	October 22, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	7:16	End Time (MST):	10:03
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1410661331

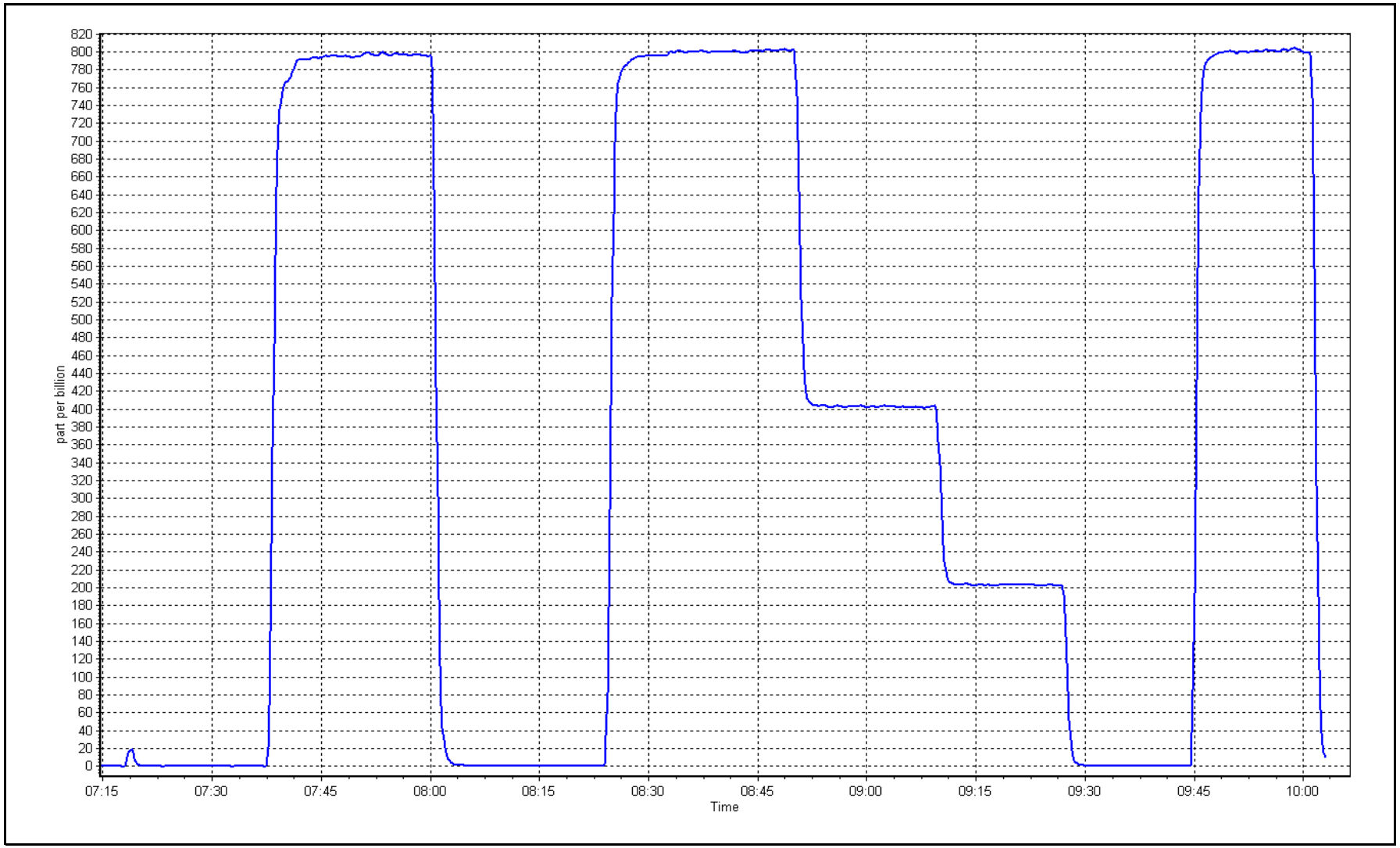
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
799.7	801.3	0.9981
399.8	402.5	0.9933
199.4	202.8	0.9834

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999984	*≥0.995*
Slope	1.000741	*0.90 - 1.10*
Intercept	1.695669	*+/-30*



SO2 Calibration Plot Date: November 17, 2025 Location: Buffalo Viewpoint



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Buffalo Viewpoint	Station number:	AMS 04
Calibration Date:	November 21, 2025	Last Cal Date:	October 3, 2025
Start time (MST):	6:48	End time (MST):	10:35
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:	0.993002	0.978001	Backgd or Offset:	1.86	1.86
Calibration intercept:	-0.021732	0.178189	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	0.1	----
As found High point	4917	83.3	80.0	79.9	1.002
As found Mid point	4958	41.7	40.0	40.2	0.998
As found Low point	4979	20.8	20.0	20.0	1.003
New cylinder response					

Baseline Corr As found:	79.8	Prev response:	79.38	*% change:	0.5%
Baseline Corr 2nd AF pt:	40.1	AF Slope:	0.998292	AF Intercept:	0.118171
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	0.1	----
High point	4917	83.3	80.0	78.3	1.021
Mid point	4958	41.7	40.0	39.5	1.014
Low point	4979	20.8	20.0	19.7	1.014
As left zero	5000	0.0	0.0	0.3	----
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	1.016
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

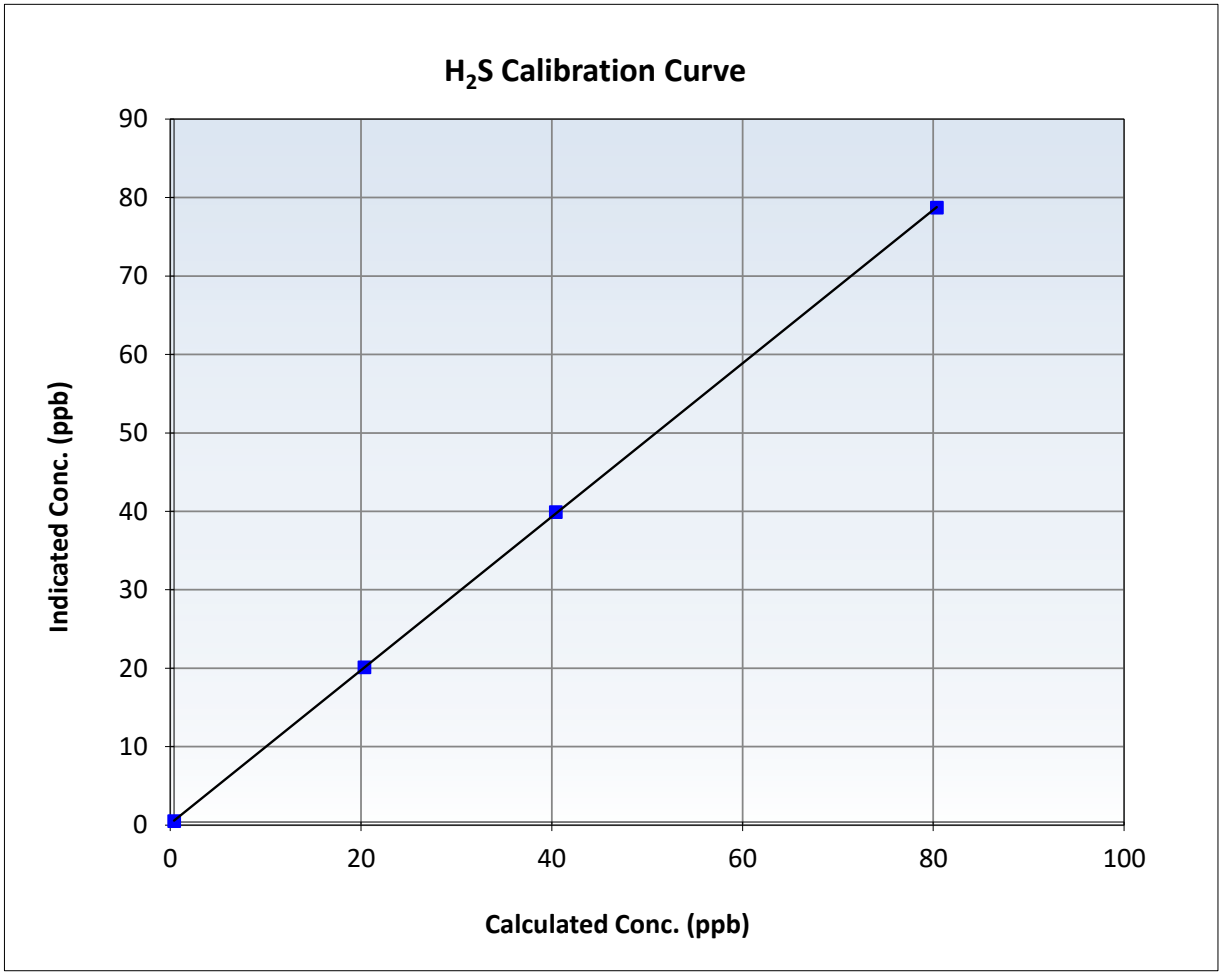
Station Information

Calibration Date:	November 21, 2025	Previous Calibration:	October 3, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	6:48	End Time (MST):	10:35
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1008841400

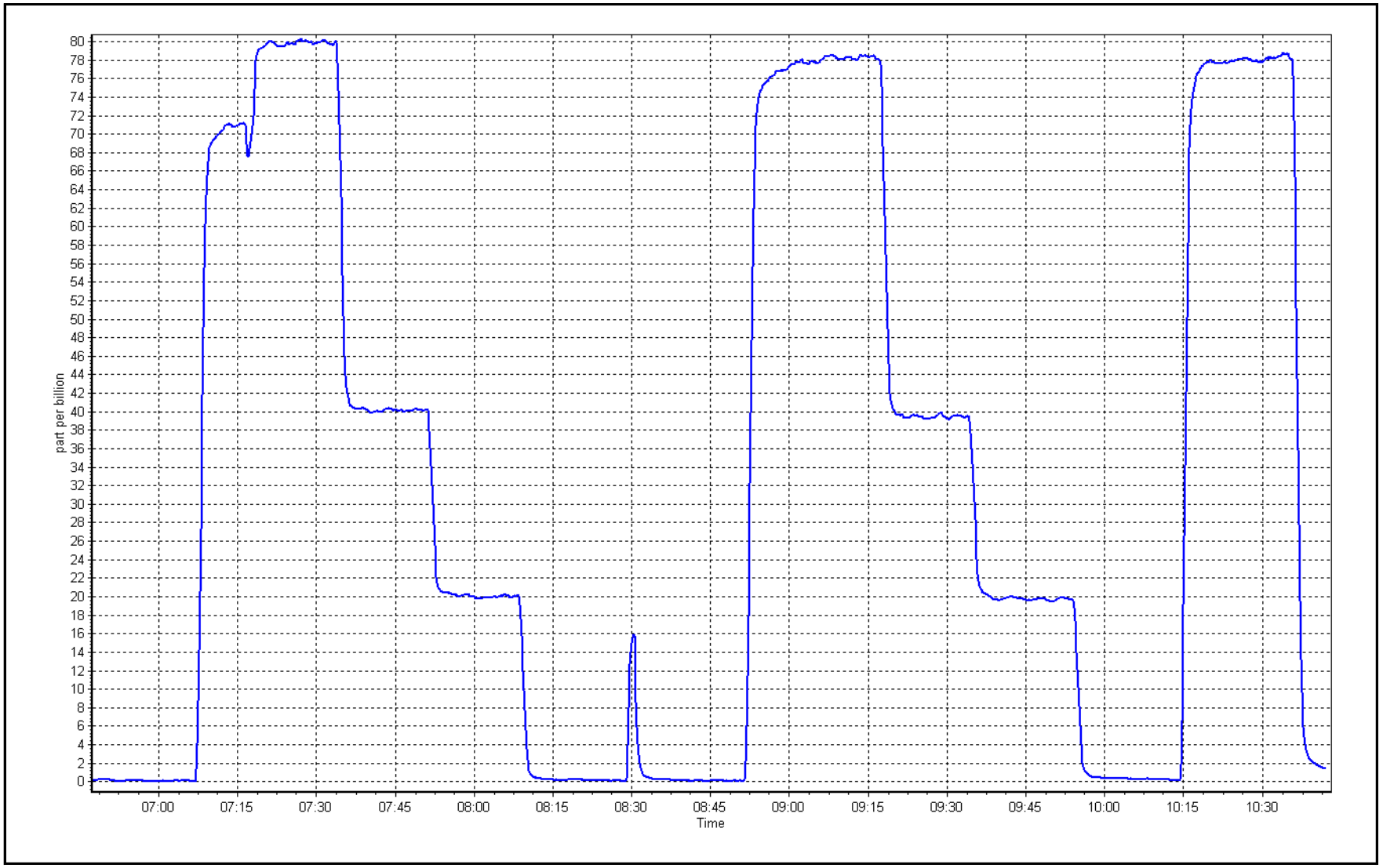
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
80.0	78.3	1.0212
40.0	39.5	1.0135
20.0	19.7	1.0136

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999988	*≥0.995*
Slope	0.978001	*0.90 - 1.10*
Intercept	0.178189	*+/-3*



H_2S Calibration Plot Date: November 21, 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:	November 17, 2025	Last Cal Date:	October 7, 2025
Start time (MST):	7:16	End time (MST):	10:04
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:	3.41E-04	3.49E-04	NMHC SP Ratio:	5.81E-04	6.01E-04
CH4 Retention time:	15.2	15.2	NMHC Peak Area:	151711	146689
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	16.22	1.026
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	16.22	Prev response	16.63	*% change	-2.5%
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	5000	0.0	0.00	0.00	----
High point	4921	78.6	16.64	16.62	1.001
Mid point	4961	39.3	8.32	8.24	1.010
Low point	4980	19.6	4.15	4.10	1.012
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.6	16.64	16.67	0.998
				Average Correction Factor	1.008

Notes: Nitrogen Cylinder Changed. 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	78.6	8.82	8.58	1.028
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.58	Prev response	8.81	*% change	-2.7%
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	78.6	8.82	8.83	0.999
Mid point	4961	39.3	4.41	4.41	1.001
Low point	4980	19.6	2.20	2.20	0.999
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.6	8.82	8.84	0.998
				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	7.64	1.023
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.64	Prev response	7.81	*% 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	4921	78.6	7.82	7.79	1.003
Mid point	4961	39.3	3.91	3.83	1.020
Low point	4980	19.6	1.95	1.90	1.028
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.6	7.82	7.83	0.998
				Average Correction Factor	1.017

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	1.001164	0.999427
THC Cal Offset:	-0.027136	-0.032747
CH4 Cal Slope:	1.003179	0.998253
CH4 Cal Offset:	-0.027504	-0.031916
NMHC Cal Slope:	0.999132	1.000506
NMHC Cal Offset:	0.000568	-0.001231

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

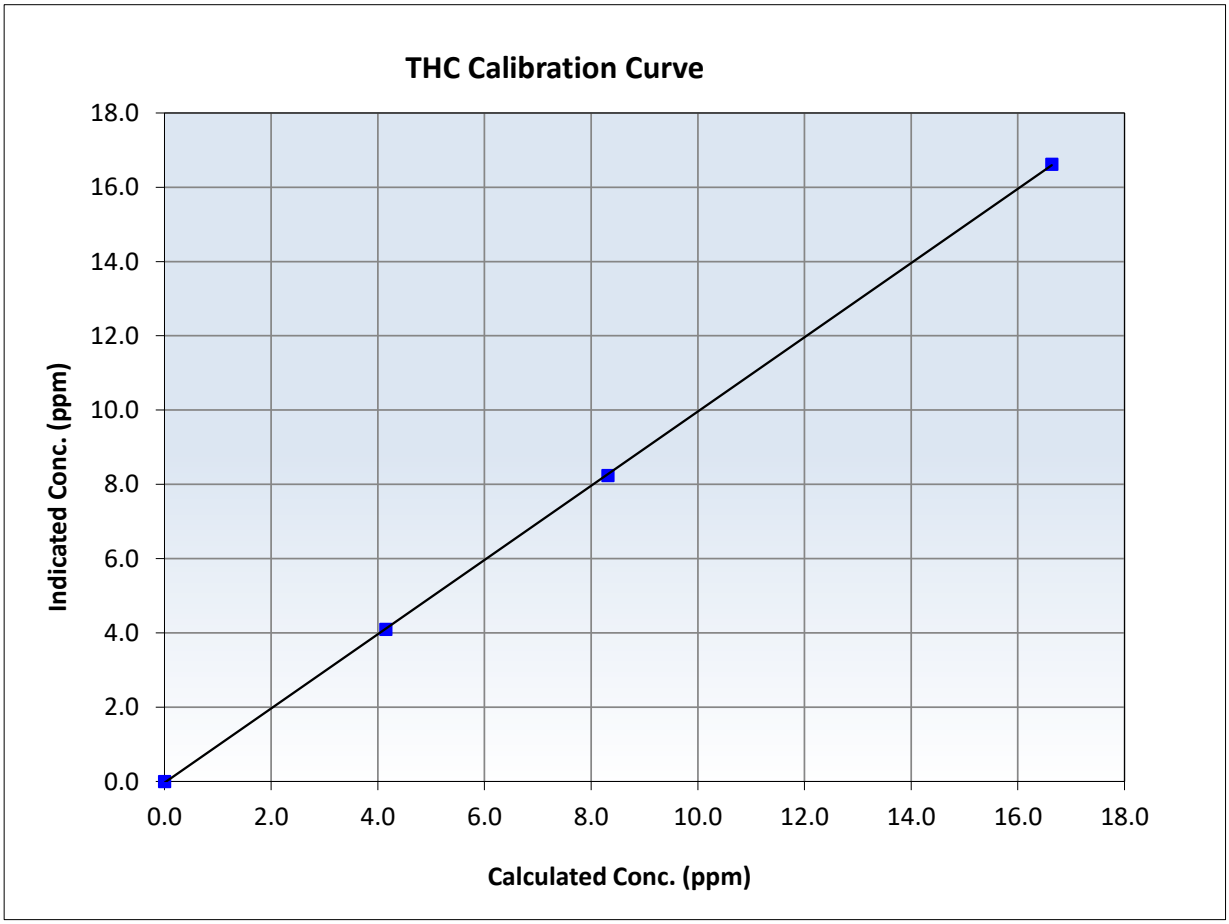
THC Calibration Summary

Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	October 7, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	7:16	End Time (MST):	10:04
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	0.999975	≥0.995
16.64	16.62	1.0010	Slope	0.999427	0.90 - 1.10
8.32	8.24	1.0097			
4.15	4.10	1.0123	Intercept	-0.032747	+/-0.5



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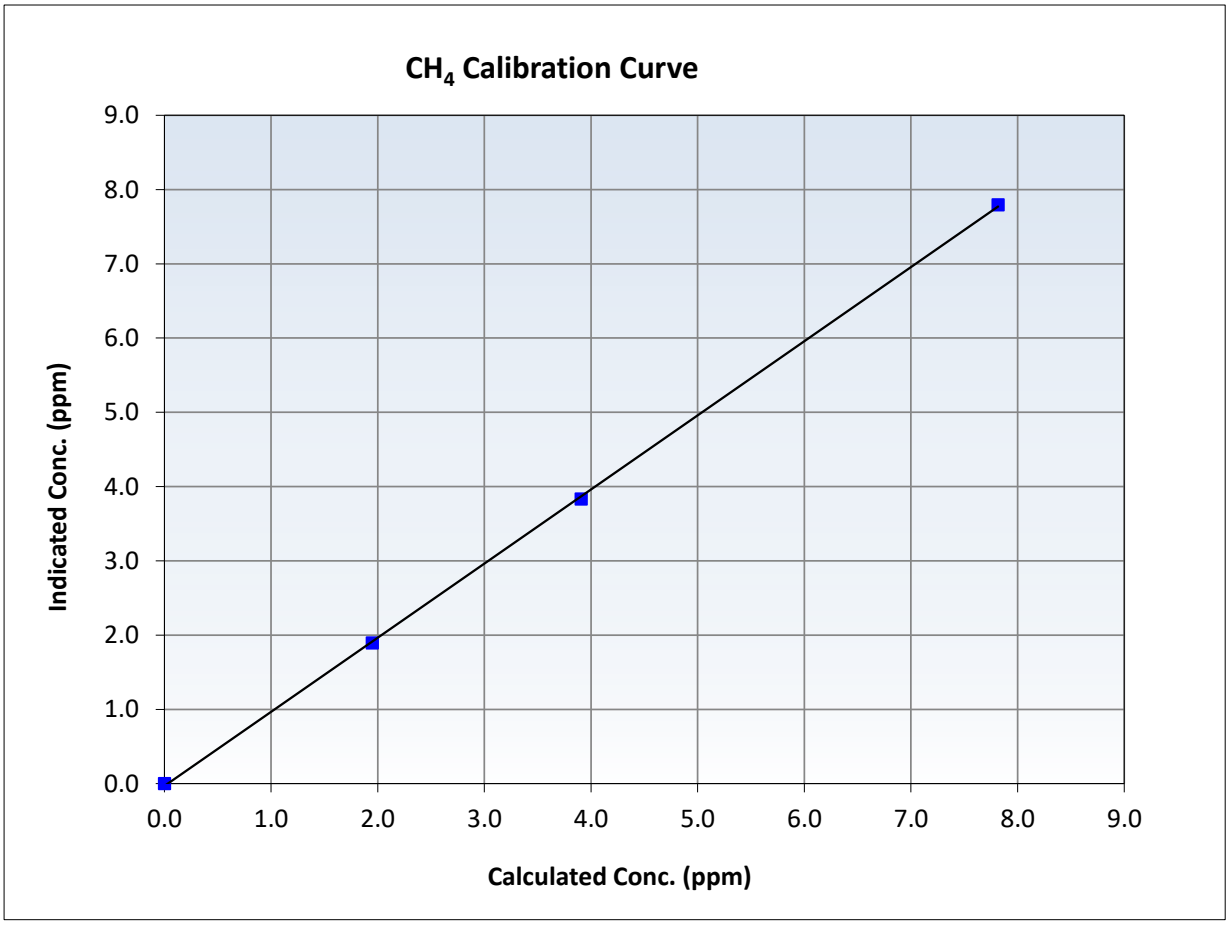
CH_4 Calibration Summary

Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	October 7, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	7:16	End Time (MST):	10:04
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	0.999903	≥0.995
7.82	7.79	1.0029	Slope	0.998253	0.90 - 1.10
3.91	3.83	1.0198			
1.95	1.90	1.0280	Intercept	-0.031916	+/-0.5



Wood Buffalo Environmental Association

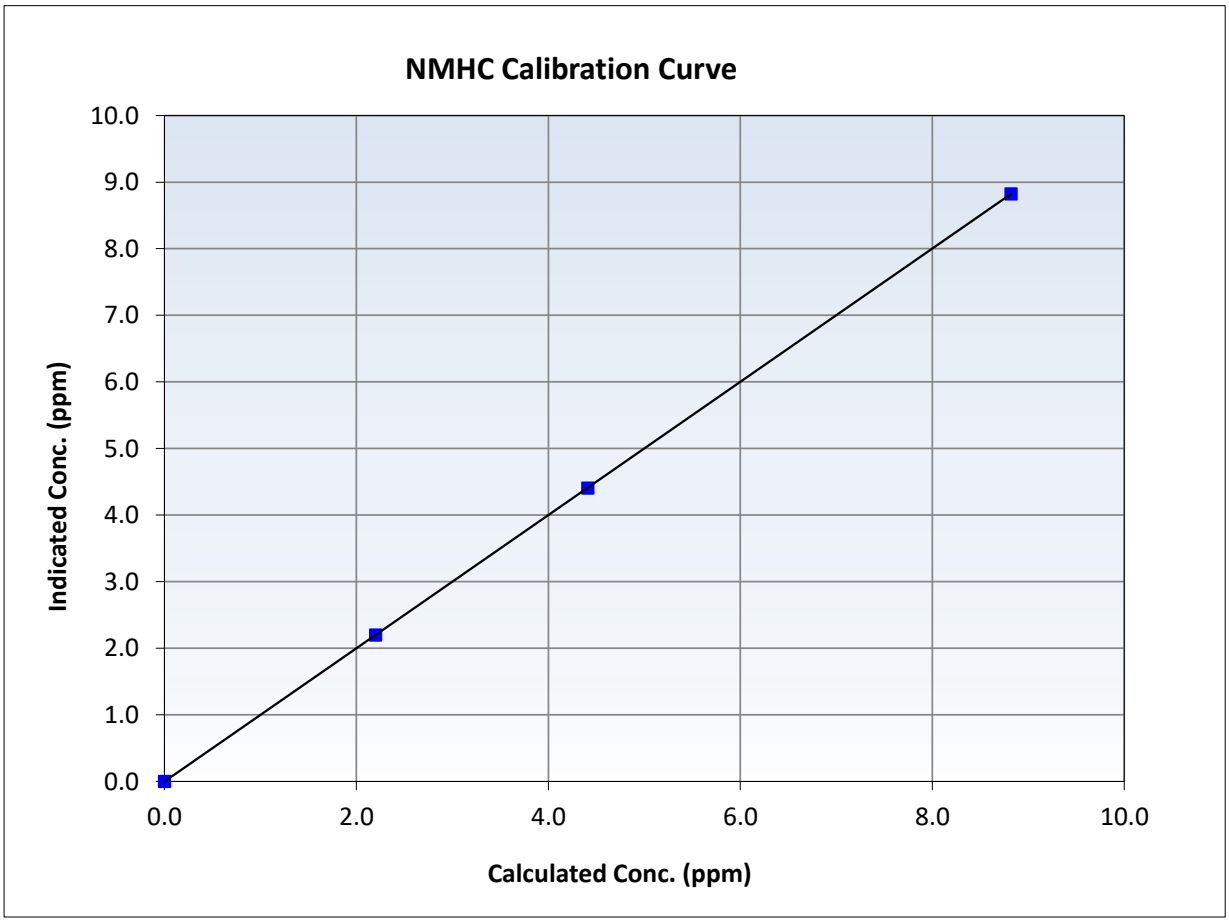
NMHC Calibration Summary

Station Information

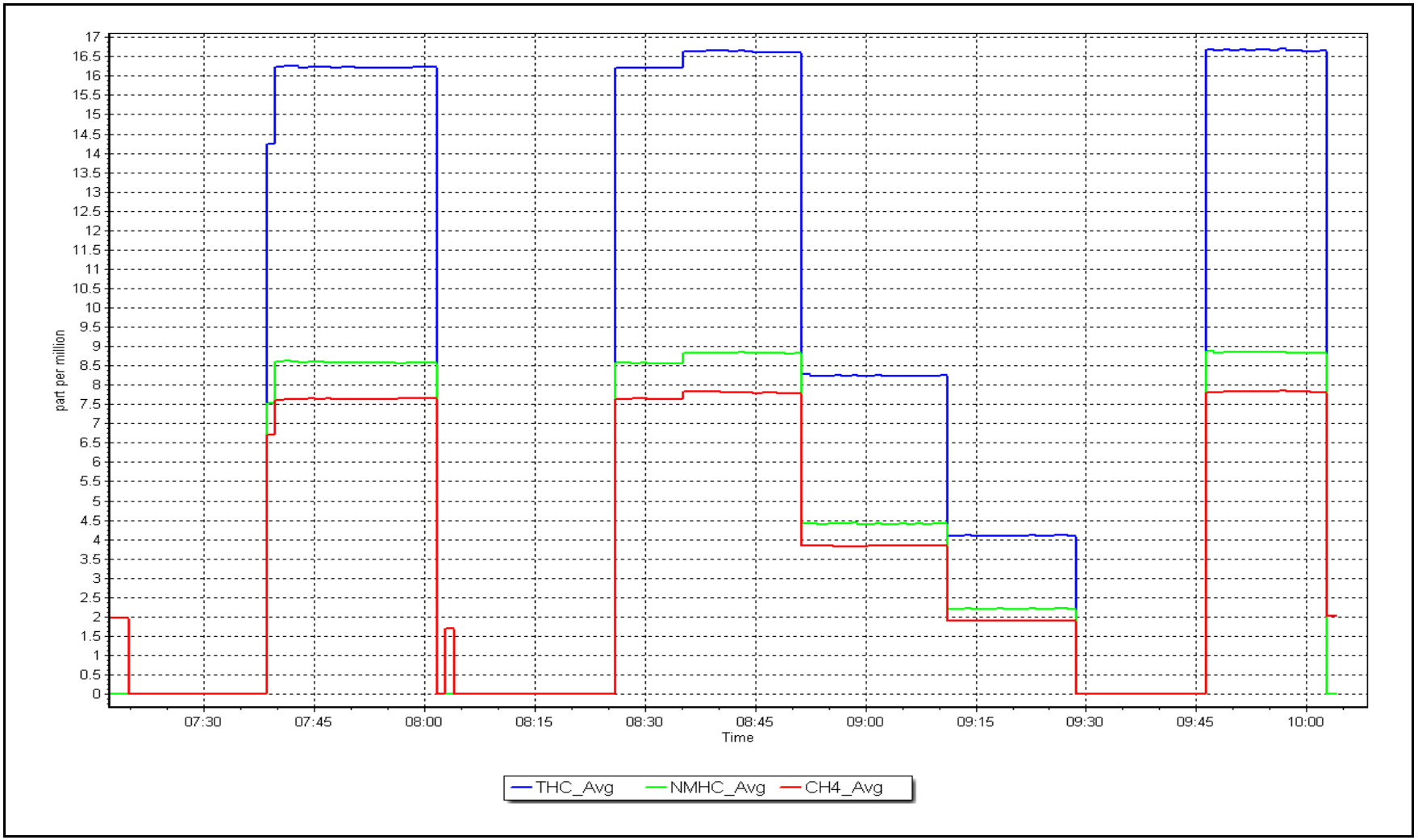
Calibration Date:	November 17, 2025	Previous Calibration:	October 7, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	7:16	End Time (MST):	10:04
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320038

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999999	*≥0.995*
8.82	8.83	0.9994	Slope	1.000506	*0.90 - 1.10*
4.41	4.41	1.0010	Intercept	-0.001231	*+/-0.5*
2.20	2.20	0.9992			



NMHC Calibration Plot Date: November 17, 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:	November 5, 2025
Last Cal Date:	October 1, 2025
Start time (MST):	7:10
End time (MST):	11:54
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	0.3	0.3	0.0	----	----
AF High point	4918	81.8	800.0	798.4	1.6	734.1	735.9	-1.8	1.0903	1.0854
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 799.2 ppb	NO = 796.6 ppb
Baseline Corr 1st pt	NO_X = 733.8 ppb	NO = 735.6 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

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 = -8.9%
*Percent Change	NO = -8.3%

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:	0.927	1.003	NO bkgnd or offset:	-0.6	-0.6
NOX coeff or slope:	0.918	0.996	NOX bkgnd or offset:	-0.7	-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:	0.998122	0.996779
NO_X Cal Offset:	0.646580	1.166469
NO Cal Slope:	0.998738	0.997937
NO Cal Offset:	-0.754295	-0.174526
NO_2 Cal Slope:	0.992875	0.991741
NO_2 Cal Offset:	0.593151	1.486706

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	0.4	0.1	----	----
High point	4918	81.8	800.0	798.4	1.6	798.3	796.7	1.7	1.0022	1.0021
Mid point	4959	40.9	400.0	399.2	0.8	400.2	398.4	1.8	0.9995	1.0020
Low point	4980	20.4	199.5	199.1	0.4	200.7	197.6	3.1	0.9940	1.0075
As left zero	5000	0.0	0.0	0.9	-0.9	1.0	0.9	0.1	----	----
As left span	4918	81.8	800.0	400.7	800.0	788.5	400.7	387.8	1.0146	1.0000
							Average Correction Factor		0.9986	1.0039

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	792.1	402.1	391.6	389.4	1.0057	99.4%
Mid GPT point	792.1	597.4	196.3	196.3	1.0002	100.0%
Low GPT point	792.1	697.0	96.7	99.2	0.9752	102.5%
				Average Correction Factor	0.9937	100.7%

Notes: Reaction Cell and orifice were changed out end of September. Diagnostics are similar to last months calibration. Span adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

NO_X Calibration Summary

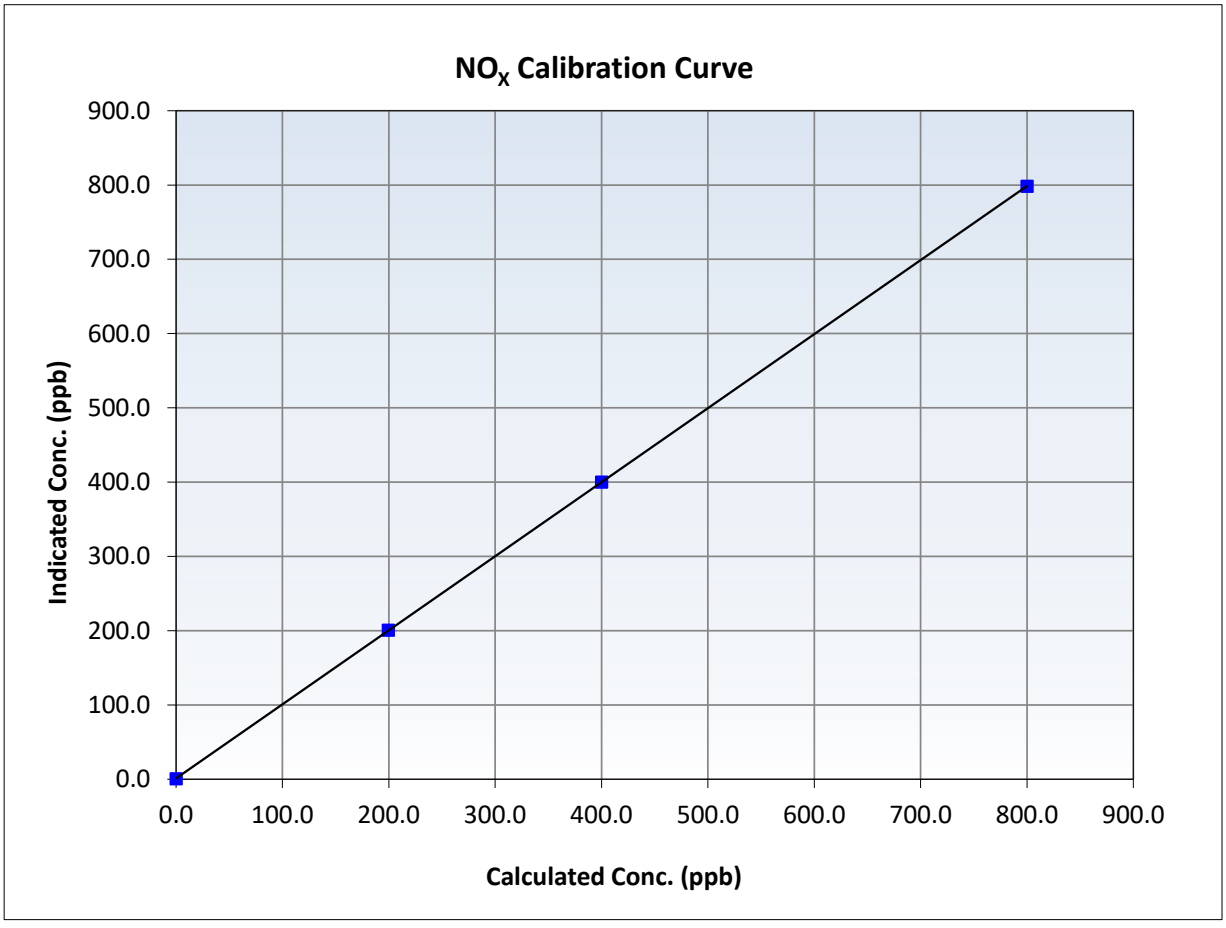
Station Information

Calibration Date:	November 5, 2025	Previous Calibration:	October 1, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	7:10	End Time (MST):	11:54
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	798.3	1.0022
400.0	400.2	0.9995
199.5	200.7	0.9940

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999997	*≥0.995*
Slope	0.996779	*0.90 - 1.10*
Intercept	1.166469	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

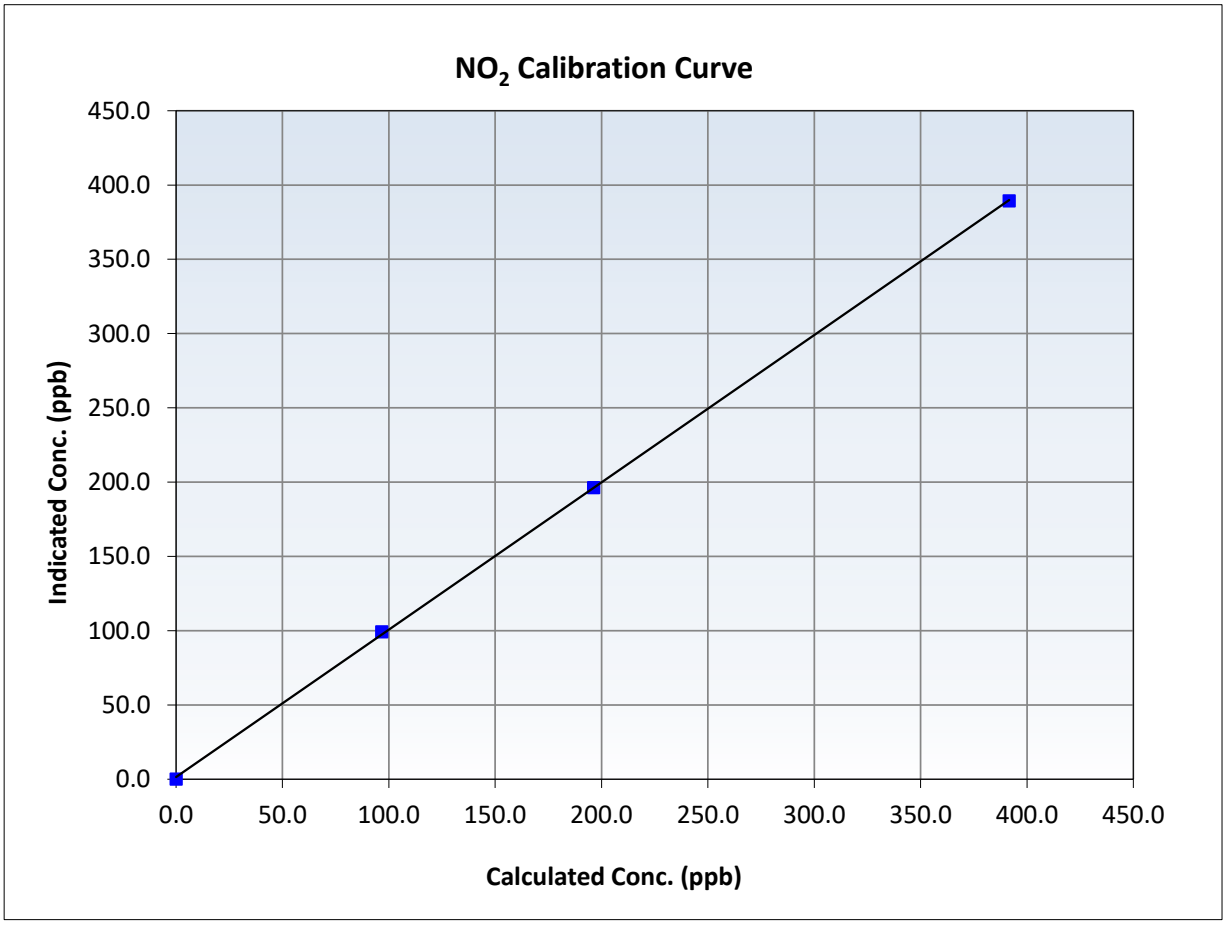
Station Information

Calibration Date:	November 5, 2025	Previous Calibration:	October 1, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	7:10	End Time (MST):	11:54
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	----
391.6	389.4	1.0057
196.3	196.3	1.0002
96.7	99.2	0.9752

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999936	*≥0.995*
Slope	0.991741	*0.90 - 1.10*
Intercept	1.486706	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

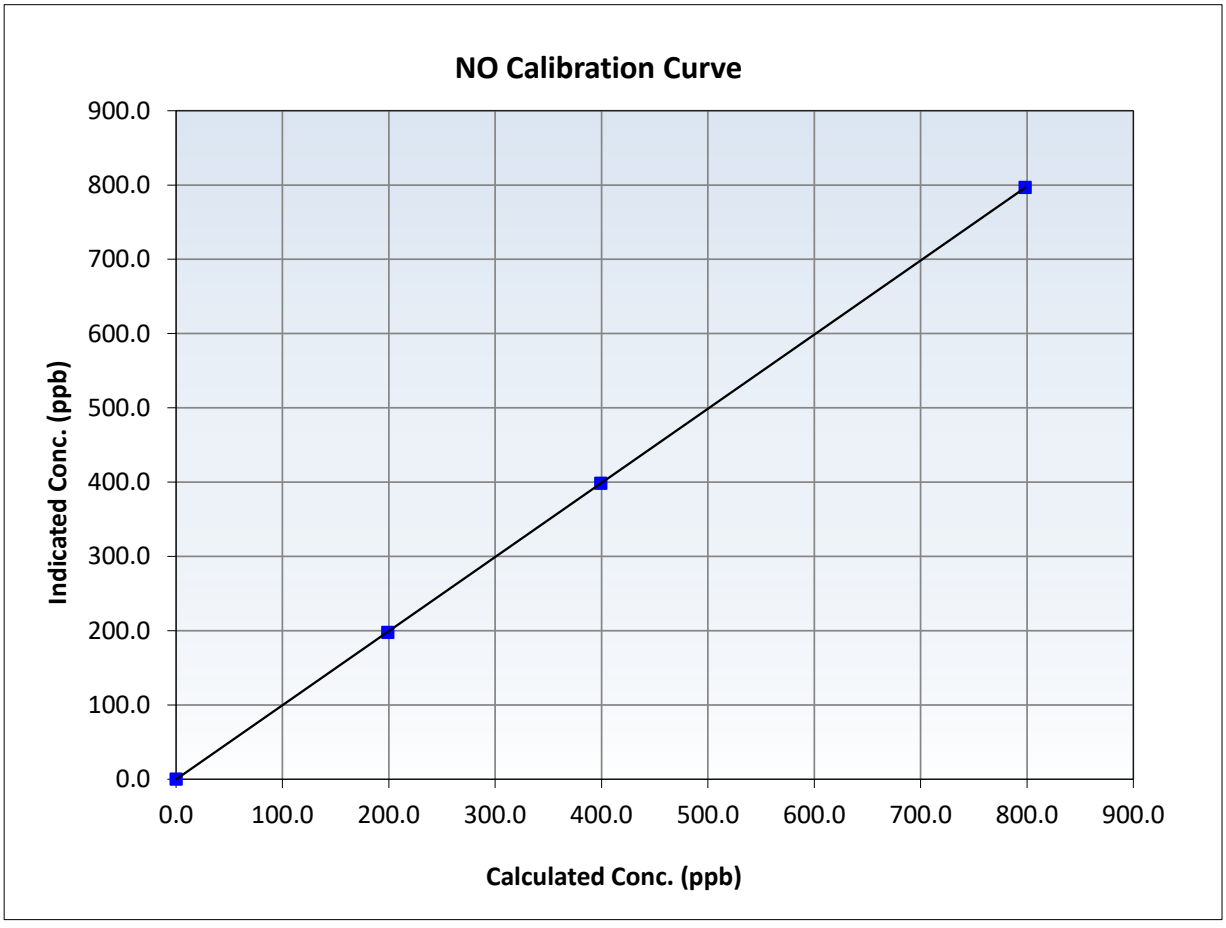
Station Information

Calibration Date:	November 5, 2025	Previous Calibration:	October 1, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	7:10	End Time (MST):	11:54
Analyzer make:	Teledyne API T200	Analyzer serial #:	721

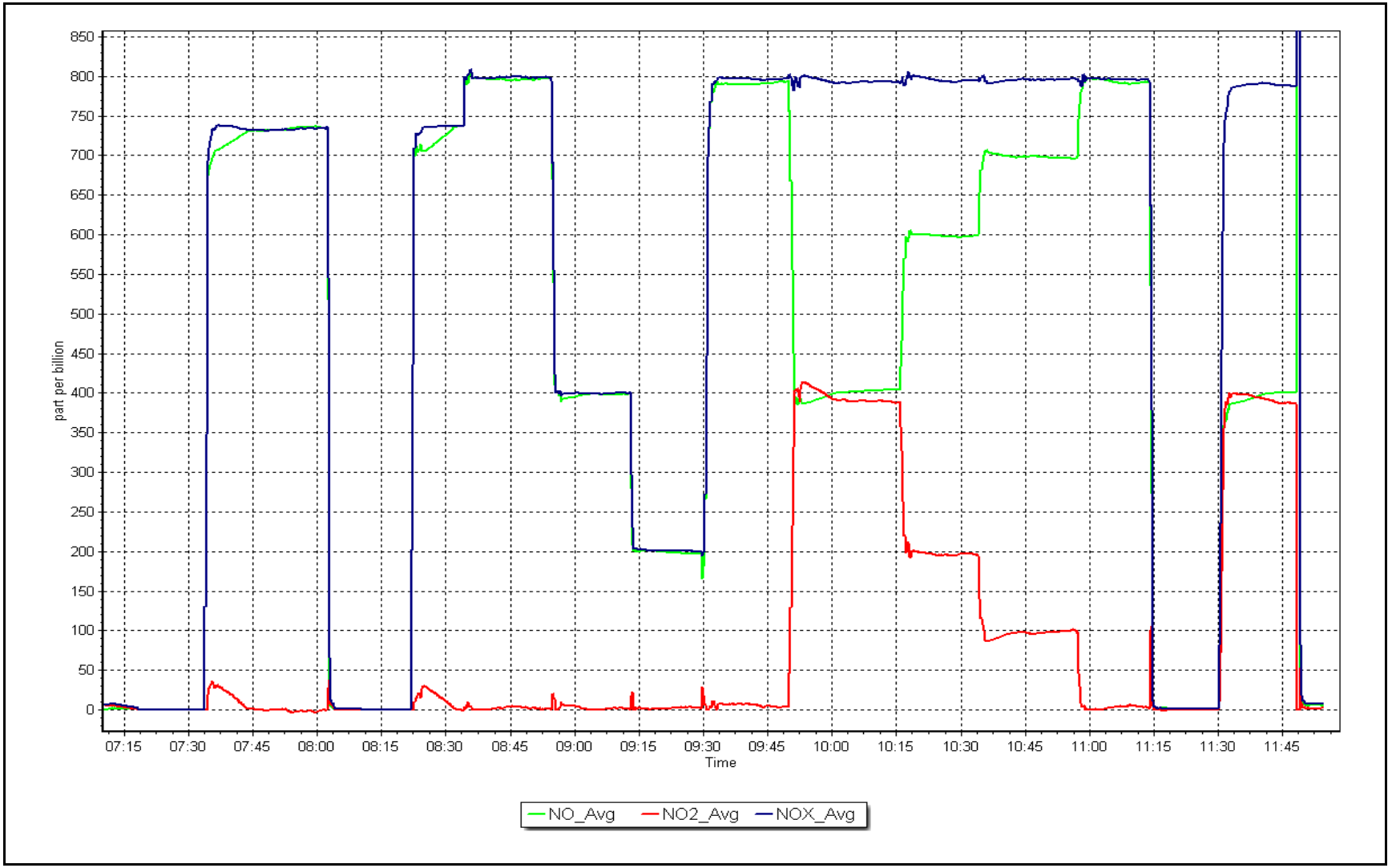
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
798.4	796.7	1.0021
399.2	398.4	1.0020
199.1	197.6	1.0075

Statistical Evaluation		Limits
Correlation Coefficient	0.999997	≥0.995
Slope	0.997937	0.90 - 1.10
Intercept	-0.174526	+/-20



NO_X Calibration Plot Date: November 5, 2025 Location: Buffalo Viewpoint



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Buffalo Viewpoint	Station number:	AMS 04
Calibration Date:	November 17, 2025	Last Cal Date:	October 7, 2025
Start time (MST):	10:01	End time (MST):	12:22
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:	1.002086	0.999943	Backgd or Offset:	-1.0	-1.0
Calibration intercept:	0.060000	0.460000	Coeff or Slope:	1.022	1.008

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	0.0	----
As found High point	5000	1017.5	400.0	405.0	0.988
As found Mid point					
As found Low point					
Baseline Corr As found:	405.0	Previous response	400.9	*% 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	

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	1017.6	400.0	400.2	1.000
Mid point	5000	834.5	200.0	201.0	0.995
Low point	5000	720.3	100.0	100.3	0.997
As left zero	5000	0.0	0.0	0.2	----
As left span	5000	1013.5	400.0	400.6	0.999
				Average Correction Factor	0.997

Notes: Span adjusted. No maintenance done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

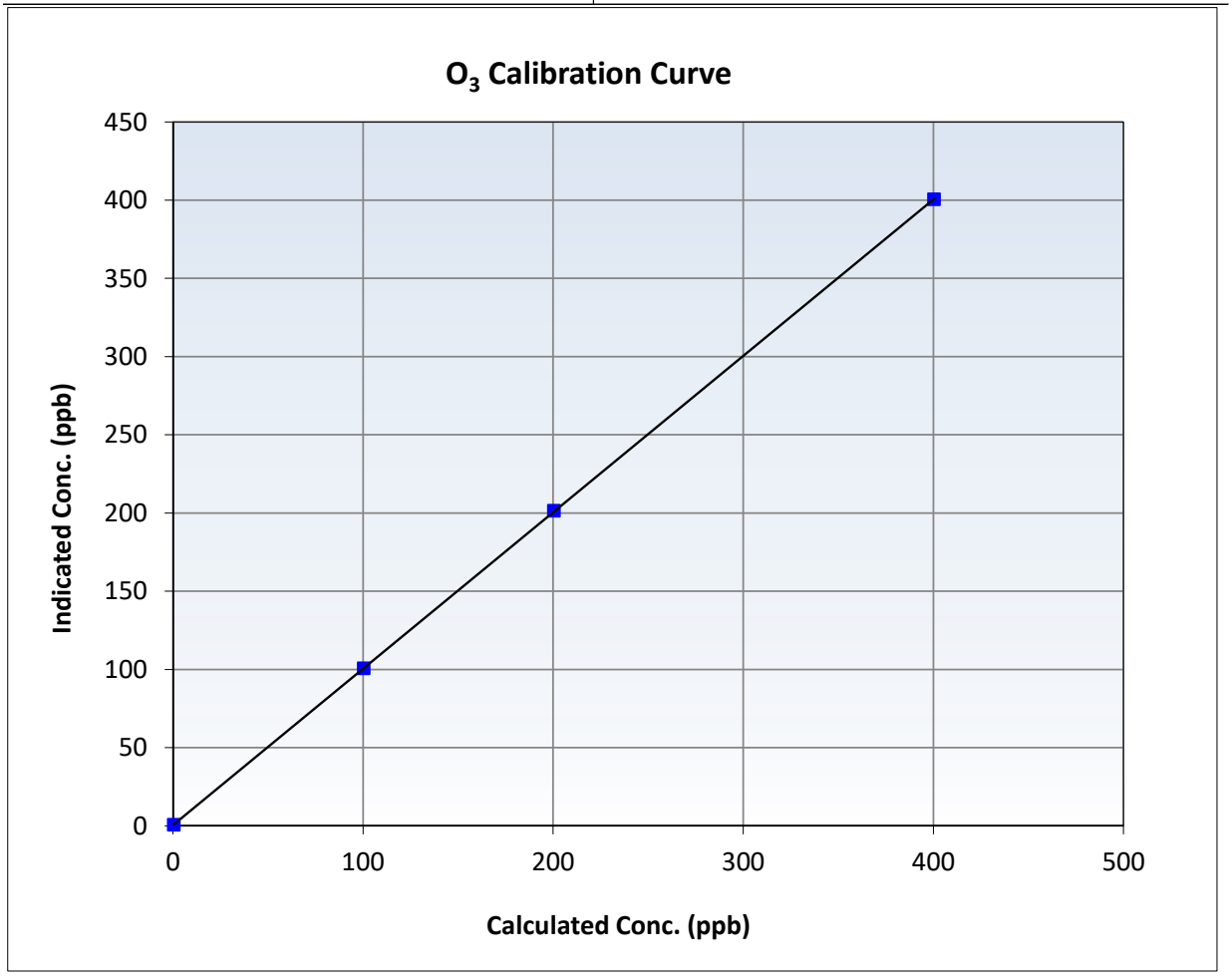
O_3 Calibration Summary

Station Information

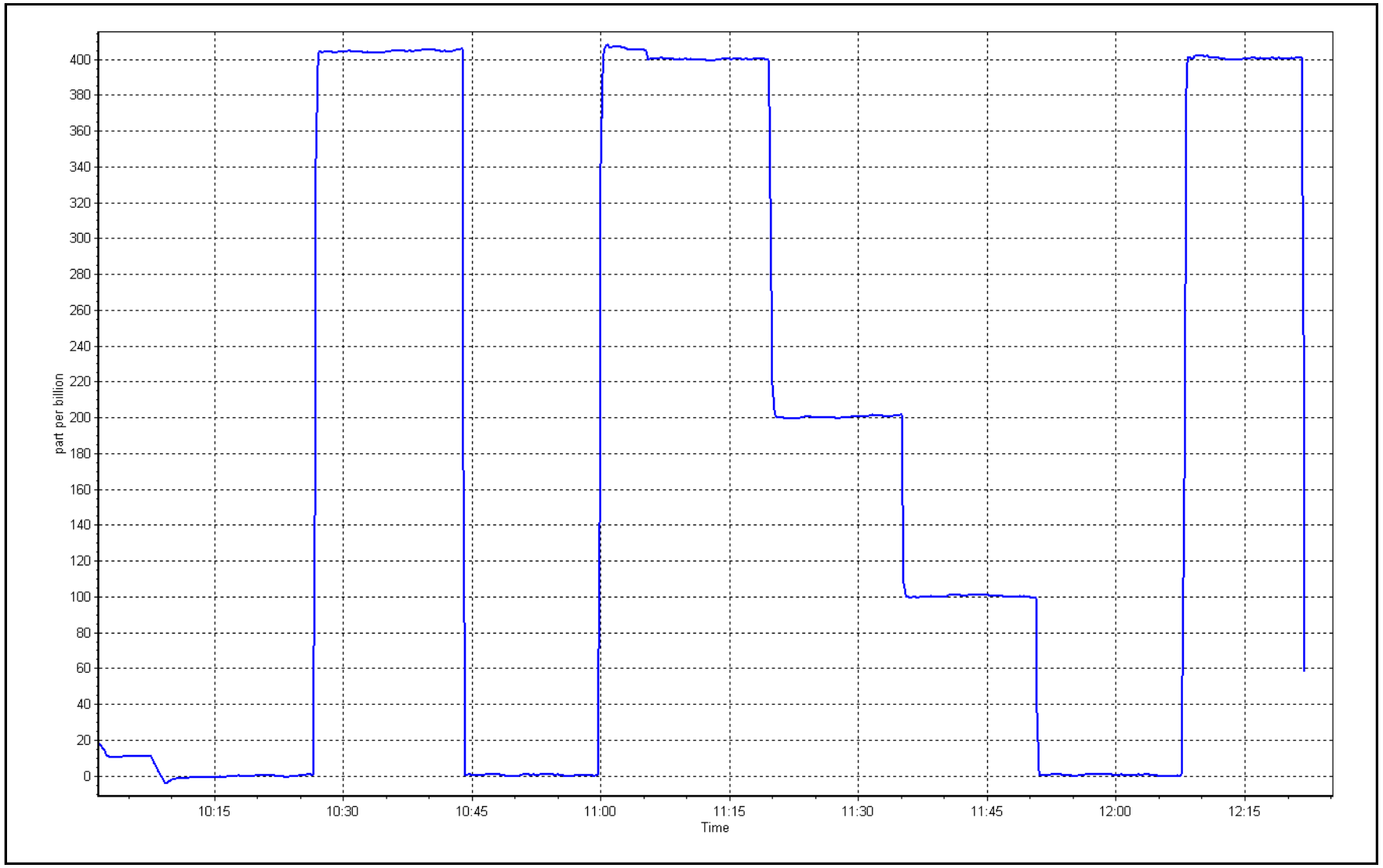
Calibration Date:	November 17, 2025	Previous Calibration:	October 7, 2025
Station Name:	Buffalo Viewpoint	Station Number:	AMS 04
Start Time (MST):	10:01	End Time (MST):	12:22
Analyzer make:	Teledyne API T400	Analyzer serial #:	2961

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	0.3	----	Correlation Coefficient	0.999995	≥0.995
400.0	400.2	0.9995	Slope	0.999943	0.90 - 1.10
200.0	201.0	0.9950			
100.0	100.3	0.9970	Intercept	0.460000	+/- 5



O_3 Calibration Plot Date: November 17, 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:	November 21, 2025	Last Cal Date:	October 23, 2025
Start time (MST):	9:35	End time (MST):	9:54
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)	-1.3	-2.5	-1.3	☐	+/- 2 °C
P (mmHg)	716.9	718.9	716.9	☐	+/- 10 mmHg
Flow (LPM)	5.00	5.06	5.00	☐	+/- 0.25 LPM
PW% (pump)	37	-----	37	☐	>80%
Zero Verification	PM w/o HEPA:	2.4	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: 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
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Mannix	Station number:	AMS 05
Calibration Date:	November 12, 2025	Last Cal Date:	October 17, 2025
Start time (MST):	10:30	End time (MST):	13:40
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:	1.001237	1.004936	Backgd or Offset:	11.1	11.0
Calibration intercept:	-0.856898	-1.177173	Coeff or Slope:	0.946	0.944

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	4920	79.9	800.0	799.2	1.001
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	799.2	Previous response	800.1	*% 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	0.2	----
High point	4920	79.9	800.0	803.6	0.995
Mid point	4960	40.0	400.5	400.1	1.001
Low point	4980	20.0	200.2	199.0	1.006
As left zero	5000	0.0	0.0	0.2	----
As left span	4920	79.9	800.0	803.1	0.996
				Average Correction Factor:	1.001

Notes: Inlet filter changed after as founds. Span adjusted.

Calibration Performed By: Devin Russell

Wood Buffalo Environmental Association

SO_2 Calibration Summary

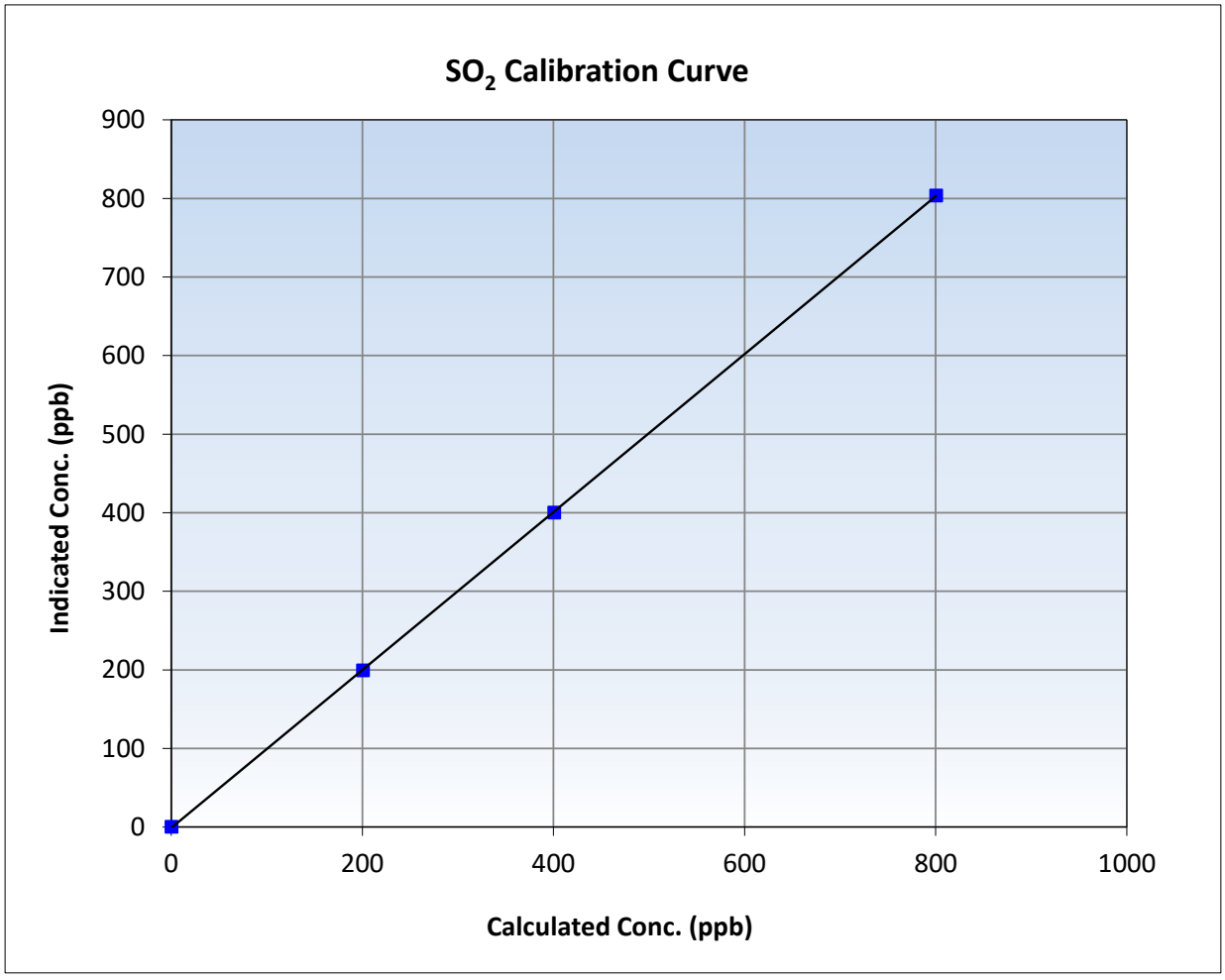
Station Information

Calibration Date:	November 12, 2025	Previous Calibration:	October 17, 2025
Station Name:	Mannix	Station Number:	AMS 05
Start Time (MST):	10:30	End Time (MST):	13:40
Analyzer make:	Thermo 43i	Analyzer serial #:	1008841399

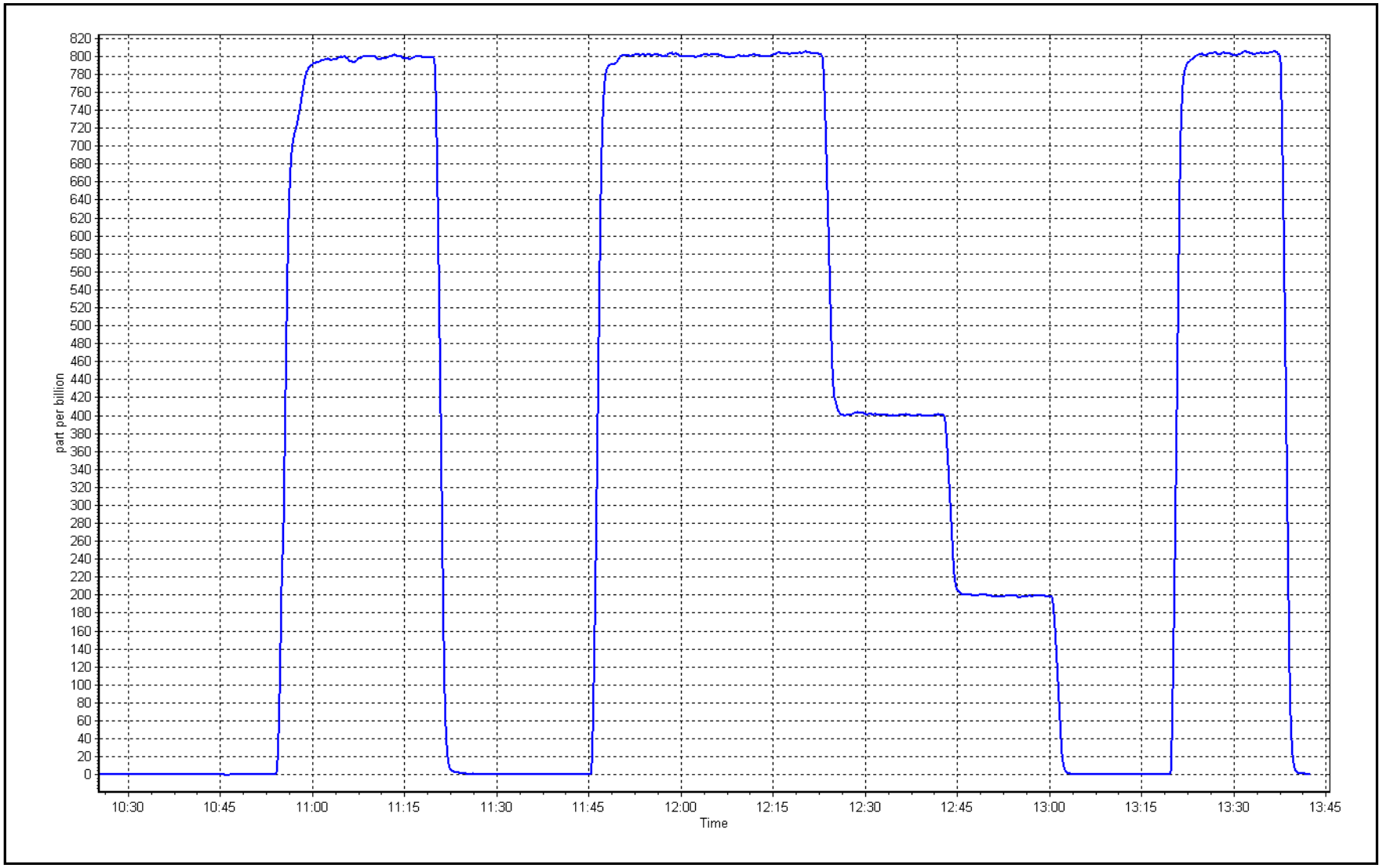
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
800.0	803.6	0.9955
400.5	400.1	1.0009
200.2	199.0	1.0062

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999986	*≥0.995*
Slope	1.004936	*0.90 - 1.10*
Intercept	-1.177173	*+/-30*



SO2 Calibration Plot Date: November 12, 2025 Location: Mannix



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Mannix	Station number:	AMS 05
Calibration Date:	November 14, 2025	Last Cal Date:	October 6, 2025
Start time (MST):	10:46	End time (MST):	15:34
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:	1.005833	1.005408	Backgd or Offset:	1.23	1.26
Calibration intercept:	0.002268	0.242153	Coeff or Slope:	1.017	1.040

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	78.9	1.015
As found Mid point	4960	40.3	40.0	39.8	1.007
As found Low point	4980	20.2	20.0	19.7	1.022
New cylinder response					
Baseline Corr As found:	78.8	Prev response:	80.43	*% change:	-2.1%
Baseline Corr 2nd AF pt:	39.7	AF Slope:	0.986535	AF Intercept:	0.102574
Baseline Corr 3rd AF pt:	19.6	AF Correlation:	0.999969	* = > +/-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	80.5	0.993
Mid point	4960	40.3	40.0	40.7	0.982
Low point	4980	20.2	20.0	20.4	0.982
As left zero	5000	0.0	0.0	0.3	----
As left span	4919	80.6	80.0	79.9	1.001
SO2 Scrubber Check	4920	80.3	803.0	0.1	----
Date of last scrubber change:				Ave Corr Factor	0.986
Date of last converter efficiency test:					

Notes: Changed the inlet filter after as founds. Ran a SO2 scrubber check after calibrator zero. Span adjustment made.

Calibration Performed By: Param Kaur

Wood Buffalo Environmental Association

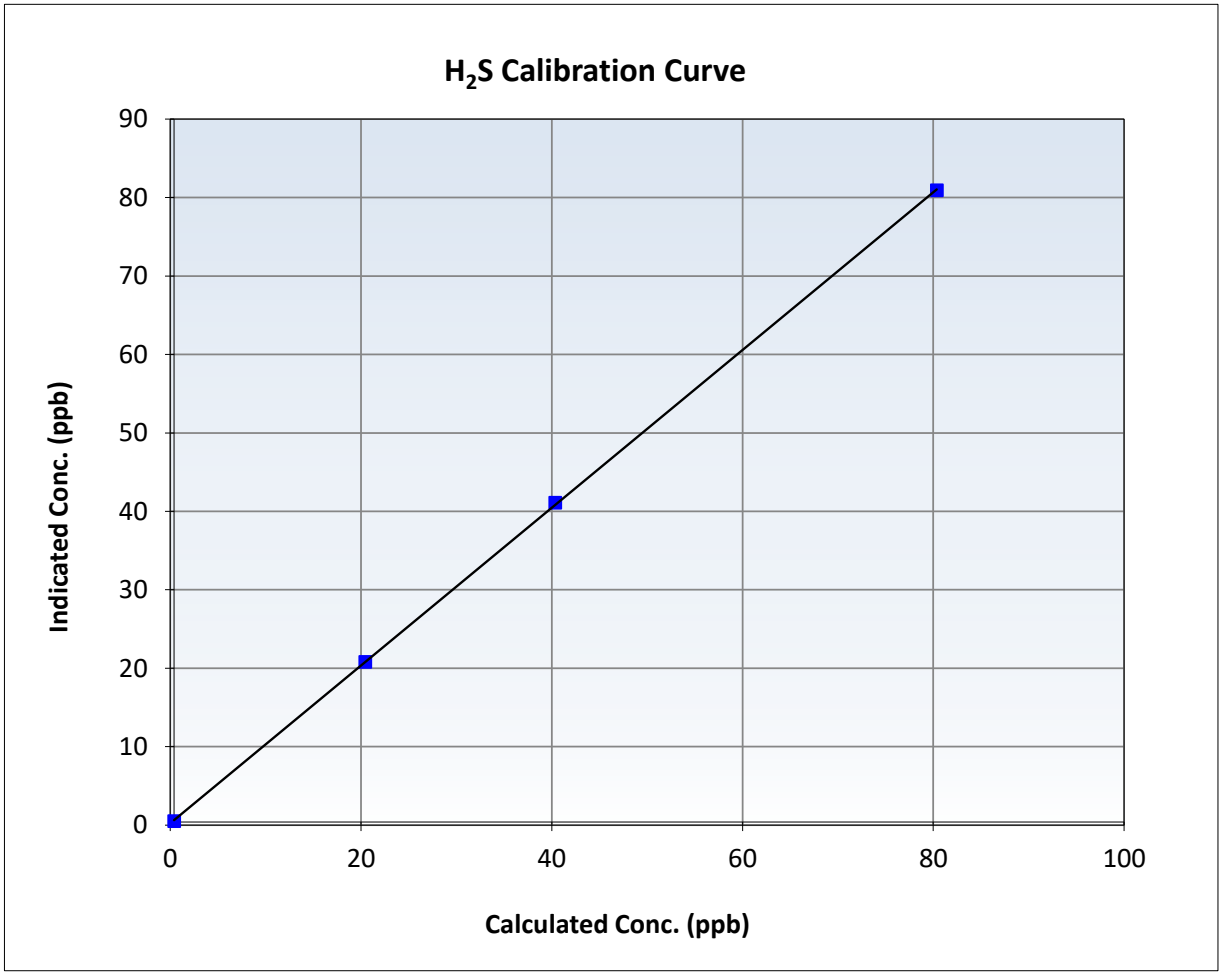
H_2S Calibration Summary

Station Information

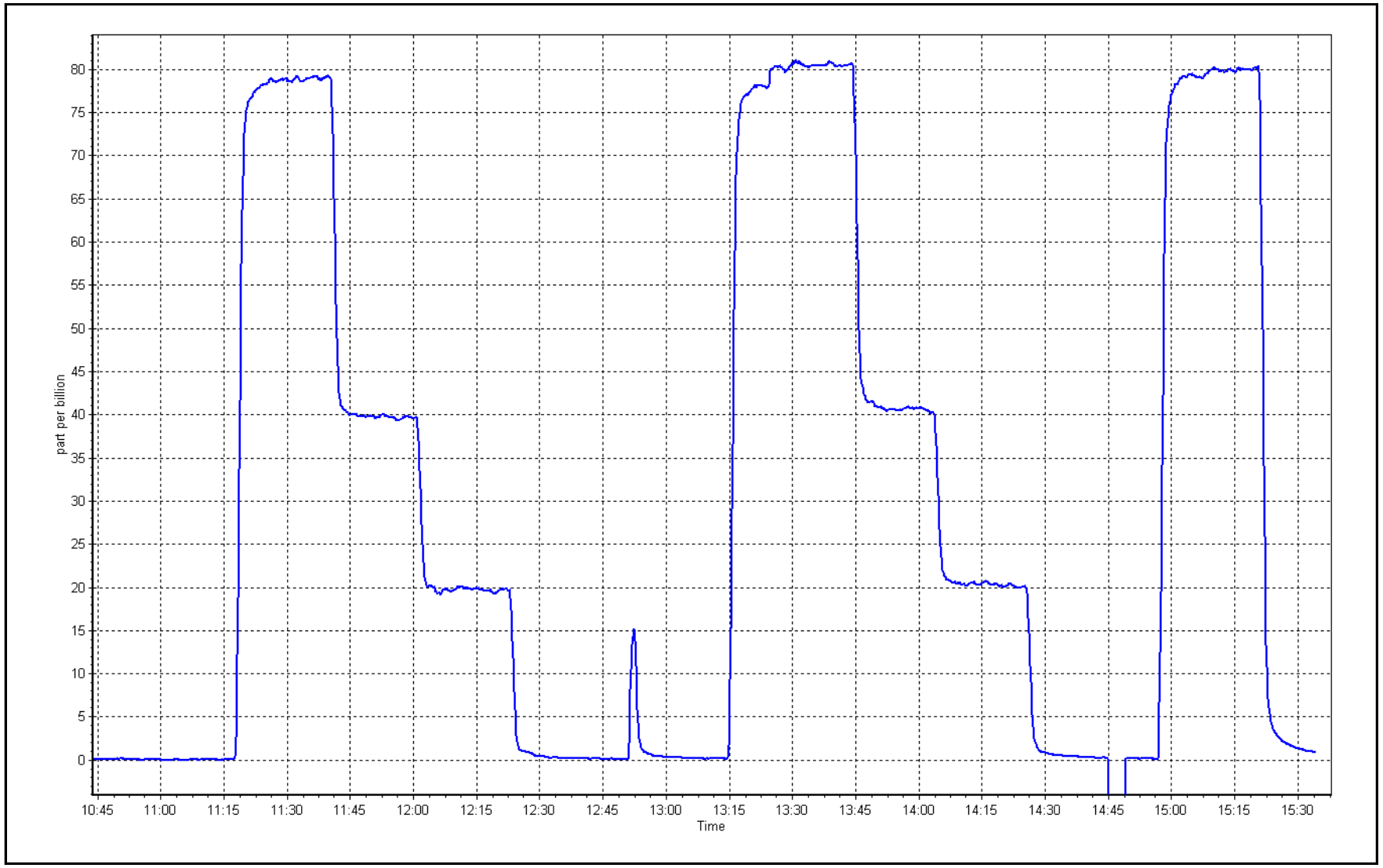
Calibration Date:	November 14, 2025	Previous Calibration:	October 6, 2025
Station Name:	Mannix	Station Number:	AMS 05
Start Time (MST):	10:46	End Time (MST):	15:34
Analyzer make:	Thermo 43iQ	Analyzer serial #:	1200326169

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999969	*≥0.995*
80.0	80.5	0.9933	Slope	1.005408	*0.90 - 1.10*
40.0	40.7	0.9822			
20.0	20.4	0.9822	Intercept	0.242153	*+/-3*



H_2S Calibration Plot Date: November 14, 2025 Location: Mannix



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Mannix	Station number:	AMS 05
Calibration Date:	November 12, 2025	Last Cal Date:	October 17, 2025
Start time (MST):	10:30	End time (MST):	13:40
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:	2.61E-04	2.65E-04	NMHC SP Ratio:	4.91E-05	4.99E-05
CH4 Retention time:	13.7	13.7	NMHC Peak Area:	173301	175327
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	16.46	1.017
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.46	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	5000	0.0	0.00	0.00	----
High point	4920	79.9	16.74	16.82	0.995
Mid point	4960	40.0	8.38	8.42	0.995
Low point	4980	20.0	4.19	4.20	0.997
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.9	16.74	16.82	0.995
				Average Correction Factor	0.996

Notes: Inlet filter changed after as founds. 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	4920	79.9	8.75	8.59	1.018
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.59	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	5000	0.0	0.00	0.00	----
High point	4920	79.9	8.75	8.78	0.996
Mid point	4960	40.0	4.38	4.38	1.000
Low point	4980	20.0	2.19	2.18	1.004
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.9	8.75	8.81	0.993
				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	7.87	1.016
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.87	Prev response	7.96	*% 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	4920	79.9	7.99	8.04	0.994
Mid point	4960	40.0	4.00	4.04	0.990
Low point	4980	20.0	2.00	2.02	0.989
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.9	7.99	8.01	0.998
				Average Correction Factor	0.991

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	0.997173	1.005029
THC Cal Offset:	0.010273	-0.002544
CH4 Cal Slope:	0.995208	1.005829
CH4 Cal Offset:	0.006632	0.007214
NMHC Cal Slope:	0.999308	1.003997
NMHC Cal Offset:	0.002841	-0.009358

Calibration Performed By: Devin Russell

Wood Buffalo Environmental Association

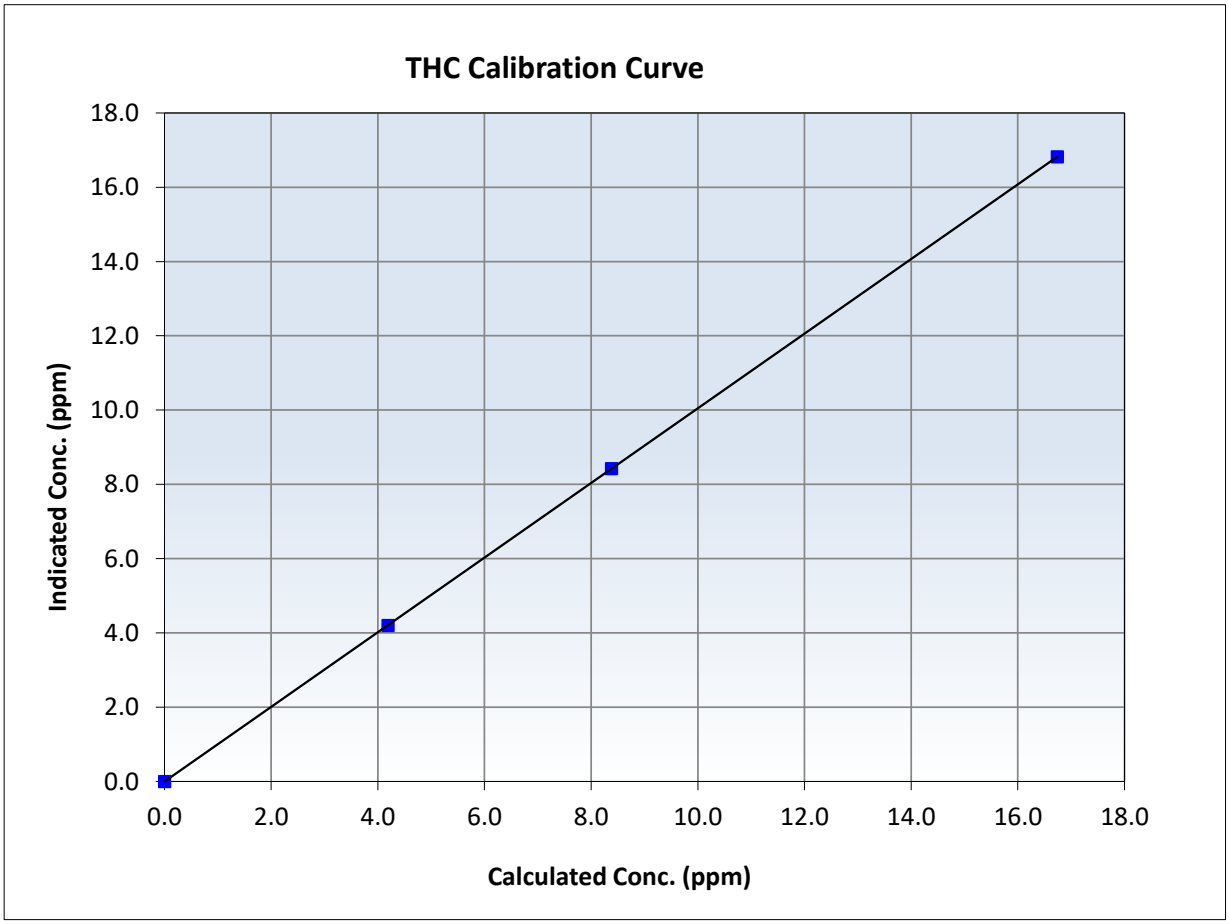
THC Calibration Summary

Station Information

Calibration Date:	November 12, 2025	Previous Calibration:	October 17, 2025
Station Name:	Mannix	Station Number:	AMS 05
Start Time (MST):	10:30	End Time (MST):	13:40
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	1.000000	≥0.995
16.74	16.82	0.9951	Slope	1.005029	0.90 - 1.10
8.38	8.42	0.9951	Intercept	-0.002544	+/-0.5
4.19	4.20	0.9967			



Wood Buffalo Environmental Association

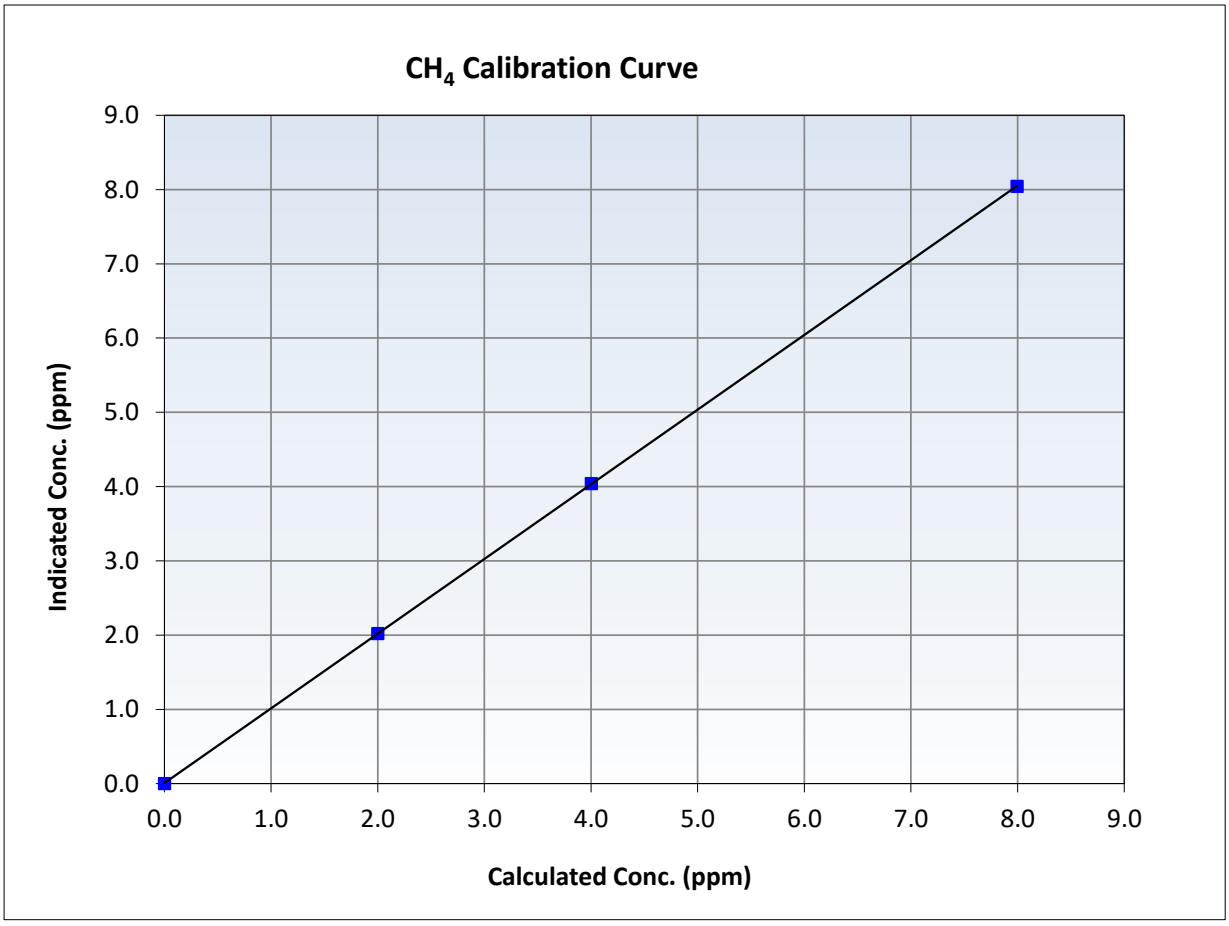
CH_4 Calibration Summary

Station Information

Calibration Date:	November 12, 2025	Previous Calibration:	October 17, 2025
Station Name:	Mannix	Station Number:	AMS 05
Start Time (MST):	10:30	End Time (MST):	13:40
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	0.999994	*≥0.995*
7.99	8.04	0.9940	Slope	1.005829	*0.90 - 1.10*
4.00	4.04	0.9900	Intercept	0.007214	*+/-0.5*
2.00	2.02	0.9892			



Wood Buffalo Environmental Association

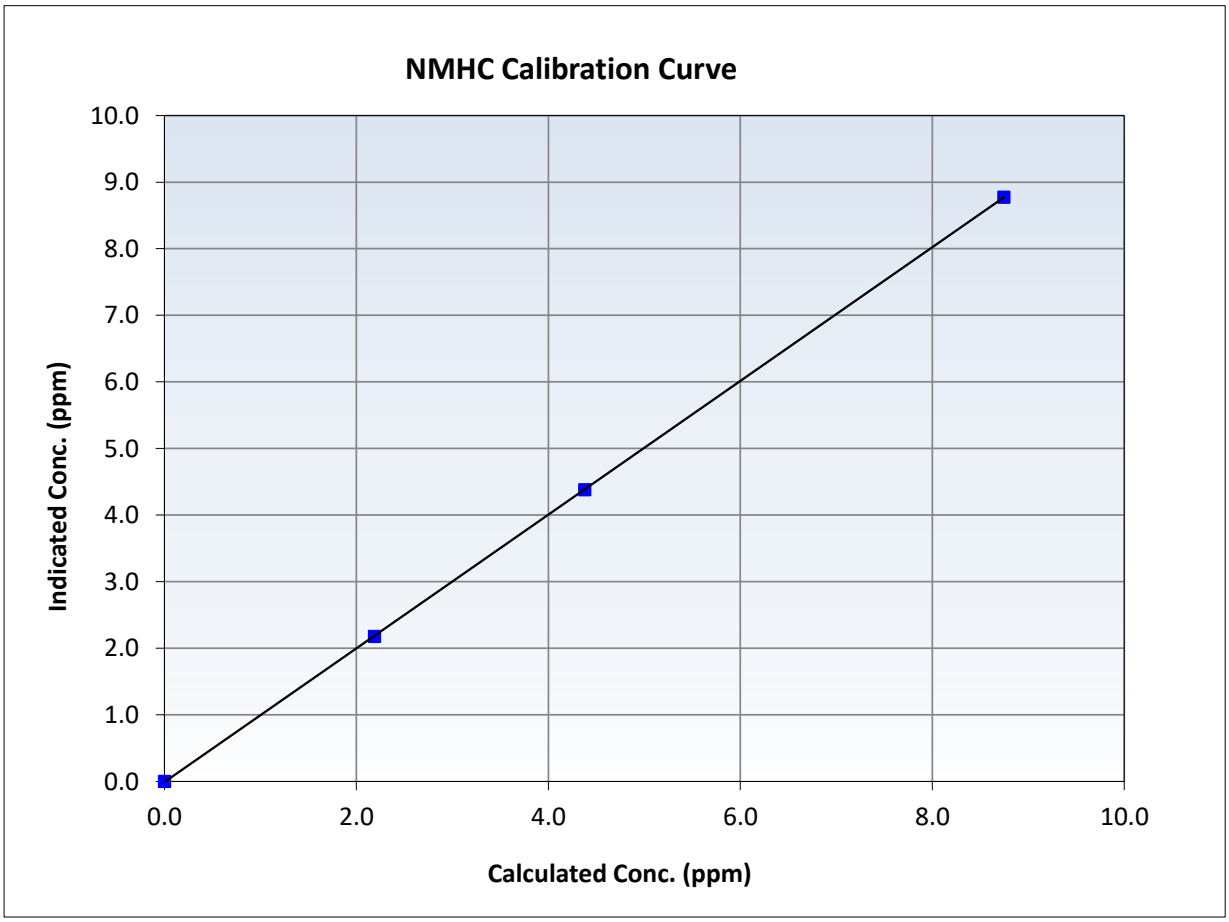
NMHC Calibration Summary

Station Information

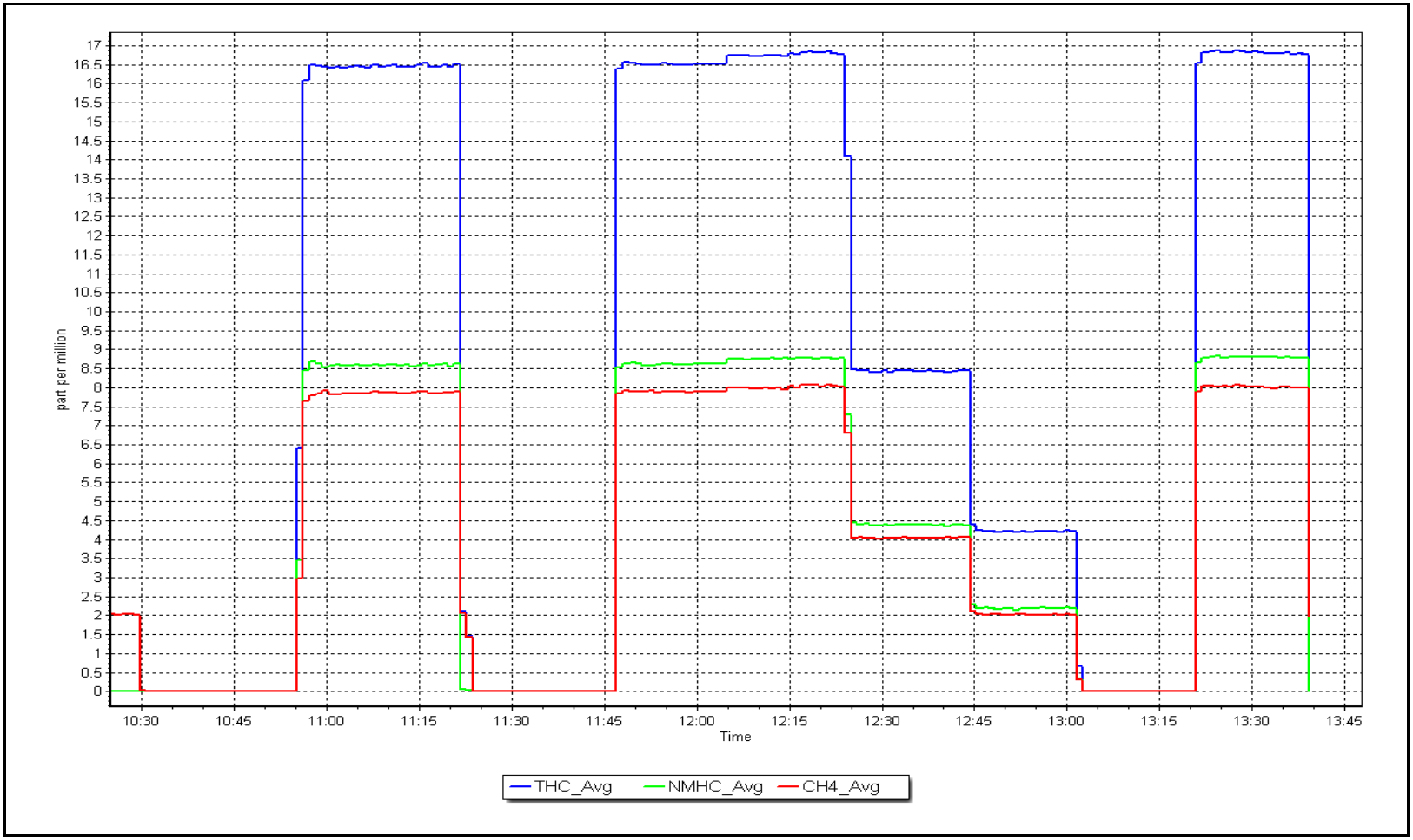
Calibration Date:	November 12, 2025	Previous Calibration:	October 17, 2025
Station Name:	Mannix	Station Number:	AMS 05
Start Time (MST):	10:30	End Time (MST):	13:40
Analyzer make:	Thermo 55i	Analyzer serial #:	15005164381

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999995	≥0.995
8.75	8.78	0.9965	Slope	1.003997	0.90 - 1.10
4.38	4.38	0.9995	Intercept	-0.009358	+/-0.5
2.19	2.18	1.0041			



NMHC Calibration Plot Date: November 12, 2025 Location: Mannix



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS06
PATRICIA MCINNES
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Patricia McInnes	Station number:	AMS 06
Calibration Date:	November 10, 2025	Last Cal Date:	October 22, 2025
Start time (MST):	9:35	End time (MST):	12:17
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:	1.002395	0.999065	Backgd or Offset:	18.1	18.3
Calibration intercept:	1.378488	1.785433	Coeff or Slope:	0.919	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	0.2	----
As found High point	4920	79.8	799.3	798.3	1.002
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	798.1	Previous response	802.6	*% 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	0.3	----
High point	4920	79.8	799.3	799.7	1.000
Mid point	4960.1	39.9	399.6	401.5	0.995
Low point	4980	20.0	200.3	203.6	0.984
As left zero	5000	0.0	0.0	0.2	----
As left span	4920	79.8	799.3	800.0	0.999
				Average Correction Factor:	0.993

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

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

SO_2 Calibration Summary

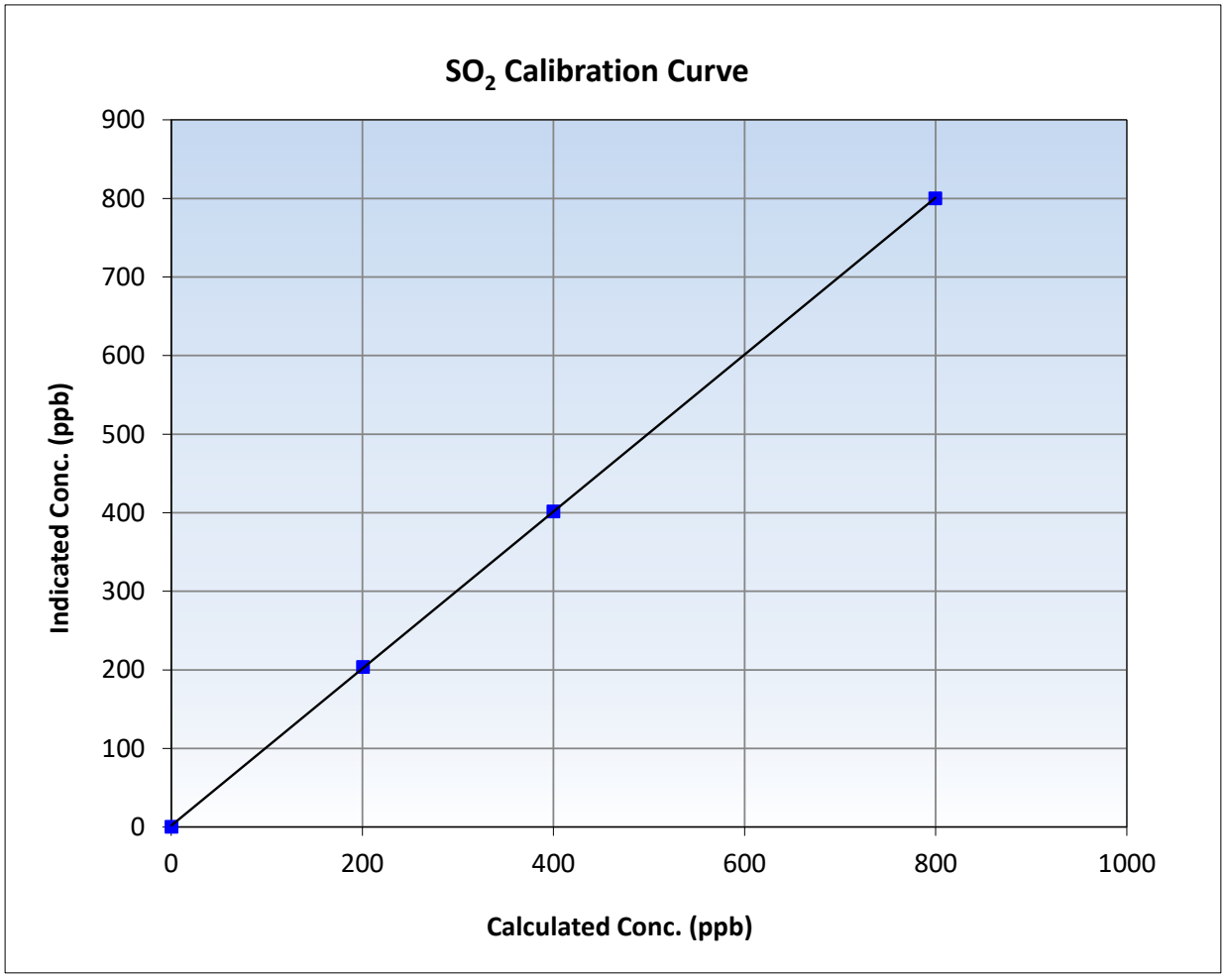
Station Information

Calibration Date:	November 10, 2025	Previous Calibration:	October 22, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:35	End Time (MST):	12:17
Analyzer make:	Thermo 43i	Analyzer serial #:	1160290013

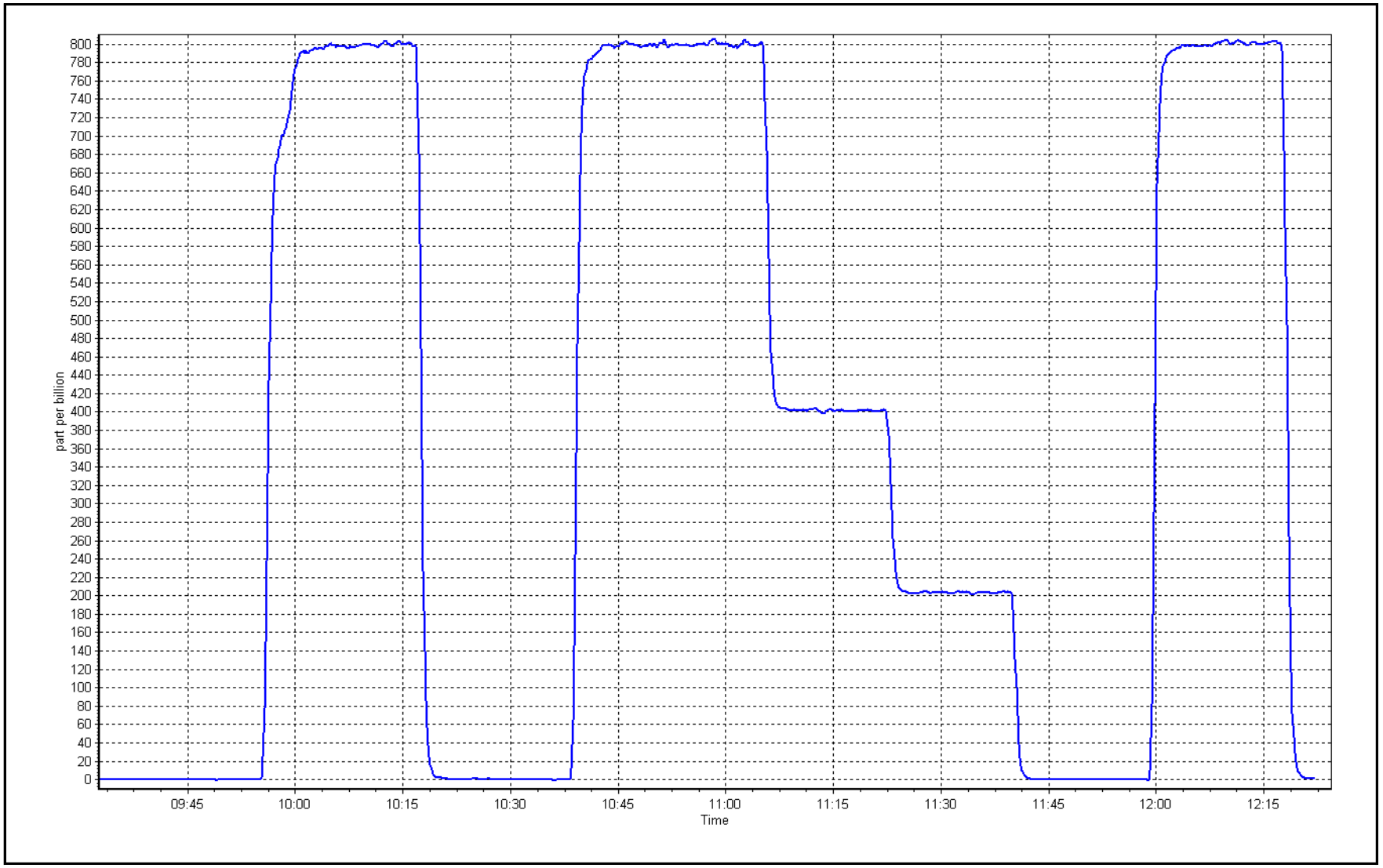
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
799.3	799.7	0.9995
399.6	401.5	0.9954
200.3	203.6	0.9839

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999984	*≥0.995*
Slope	0.999065	*0.90 - 1.10*
Intercept	1.785433	*+/-30*



SO2 Calibration Plot Date: November 10, 2025 Location: Patricia McInnes



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Patricia McInnes	Station number:	AMS 06
Calibration Date:	November 5, 2025	Last Cal Date:	October 7, 2025
Start time (MST):	9:23	End time (MST):	13:44
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:	1.000686	1.003687	Backgd or Offset:	1.99	1.99
Calibration intercept:	0.140000	0.260000	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	0.2	----
As found High point	4916	84.0	80.0	82.9	0.967
As found Mid point	4958	42.0	40.0	41.9	0.959
As found Low point	4979	21.0	20.0	21.0	0.961
New cylinder response					

Baseline Corr As found:	82.7	Prev response:	80.16	*% change:	3.1%
Baseline Corr 2nd AF pt:	41.7	AF Slope:	1.034128	AF Intercept:	0.320000
Baseline Corr 3rd AF pt:	20.8	AF Correlation:	0.999978	* = > +/-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	4916	84.0	80.0	80.4	0.995
Mid point	4958	42.0	40.0	40.8	0.980
Low point	4979	21.0	20.0	20.0	1.000
As left zero	5000	0.0	0.0	0.4	----
As left span	4916	84.0	80.0	80.0	1.000
SO2 Scrubber Check				0.1	
Date of last scrubber change:		Monday, December 20, 2021		Ave Corr Factor	0.991
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: Sean Bala

Wood Buffalo Environmental Association

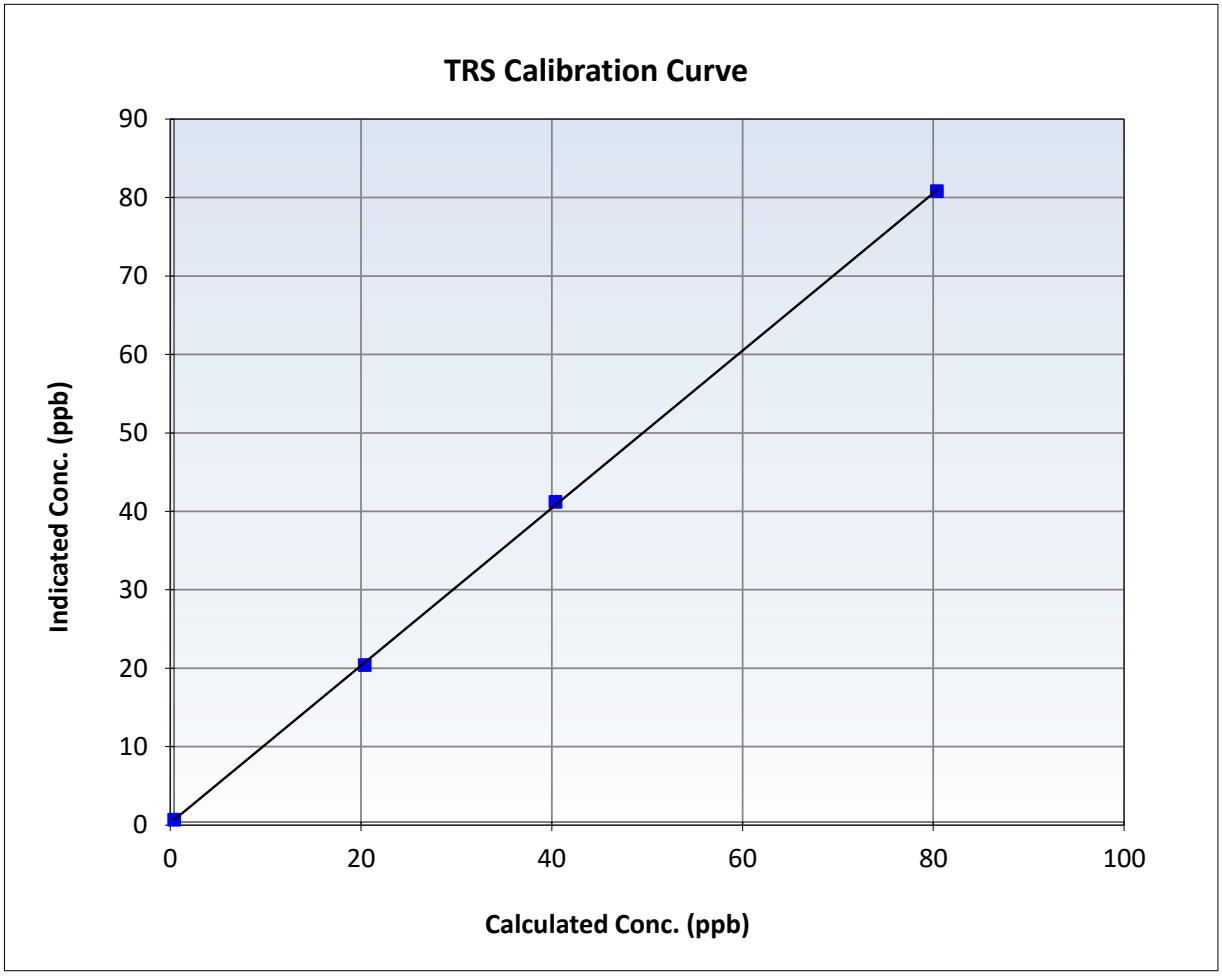
TRS Calibration Summary

Station Information

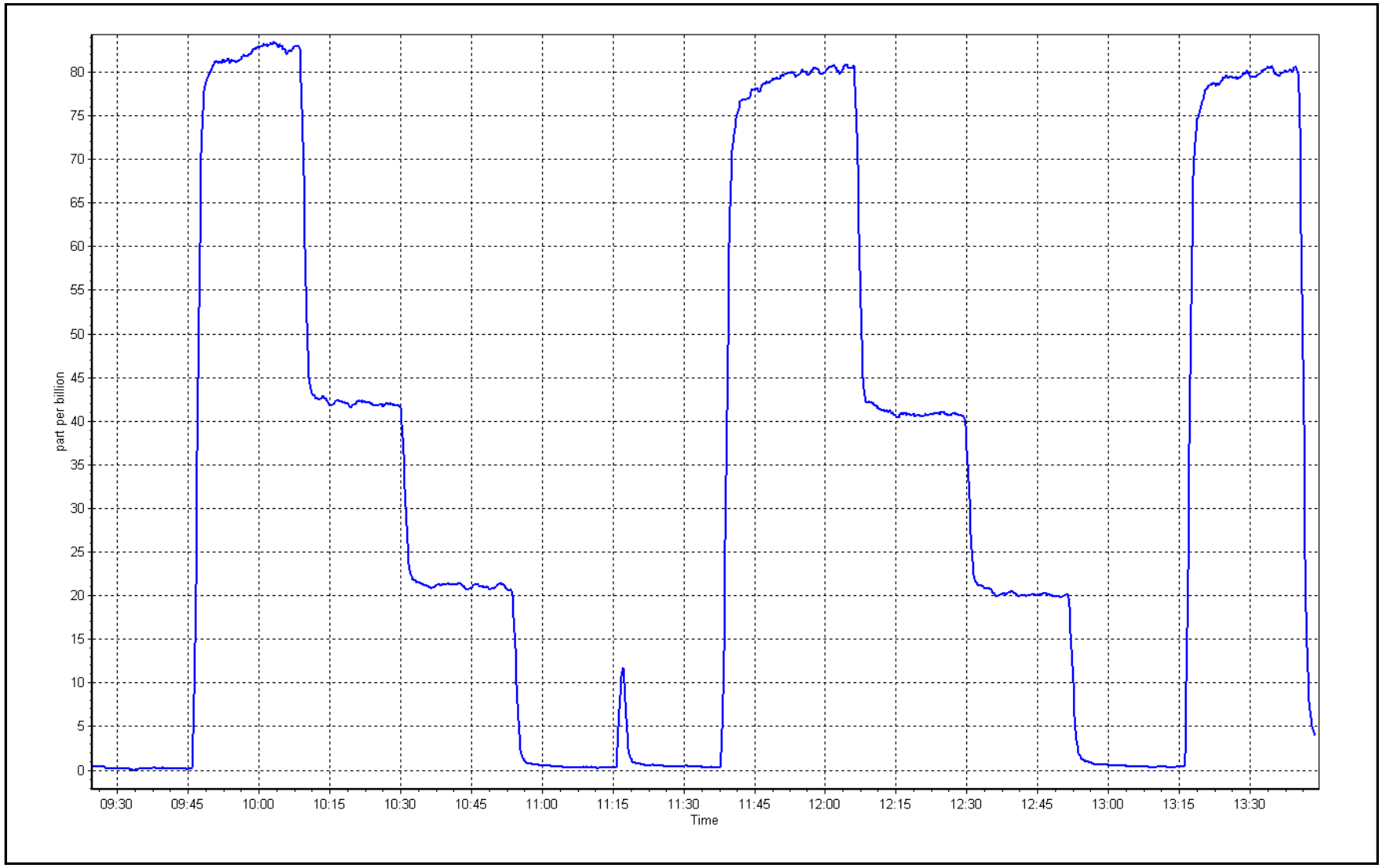
Calibration Date:	November 5, 2025	Previous Calibration:	October 7, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:23	End Time (MST):	13:44
Analyzer make:	Thermo 43i TLE	Analyzer serial #:	1218153358

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.3	----	Correlation Coefficient	0.999918	*≥0.995*
80.0	80.4	0.9946	Slope	1.003687	*0.90 - 1.10*
40.0	40.8	0.9800			
20.0	20.0	0.9996	Intercept	0.260000	*+/-3*



TRS Calibration Plot Date: November 5, 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:	November 10, 2025	Last Cal Date:	October 22, 2025
Start time (MST):	9:35	End time (MST):	12:17
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:	2.60E-04	2.65E-04	NMHC SP Ratio:	5.19E-05	5.25E-05
CH4 Retention time:	14.2	14.2	NMHC Peak Area:	169079	166553
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	16.44	1.019
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.44	Prev response	16.77	*% change	-2.0%
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	16.75	16.75	1.000
Mid point	4960	39.9	8.37	8.37	1.001
Low point	4980	20.0	4.20	4.21	0.996
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	16.75	16.80	0.997
				Average Correction Factor	0.999

Notes: Changed the inlet filter after as founds. Adjusted the 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	4920	79.8	8.75	8.63	1.014
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.63	Prev response	8.78	*% change	-1.8%
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	8.74	1.000
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	8.77	0.997
				Average Correction Factor	0.992

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	7.81	1.025
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.81	Prev response	7.98	*% 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	79.8	8.00	8.00	1.000
Mid point	4960.1	39.9	4.00	3.97	1.009
Low point	4980	20.0	2.01	1.98	1.014
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	8.00	8.03	0.997
				Average Correction Factor	1.008

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.002063	0.999409
THC Cal Offset:	-0.016203	0.004998
CH4 Cal Slope:	1.001703	1.000363
CH4 Cal Offset:	-0.031995	-0.017801
NMHC Cal Slope:	1.002391	0.998314
NMHC Cal Offset:	0.015792	0.023400

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

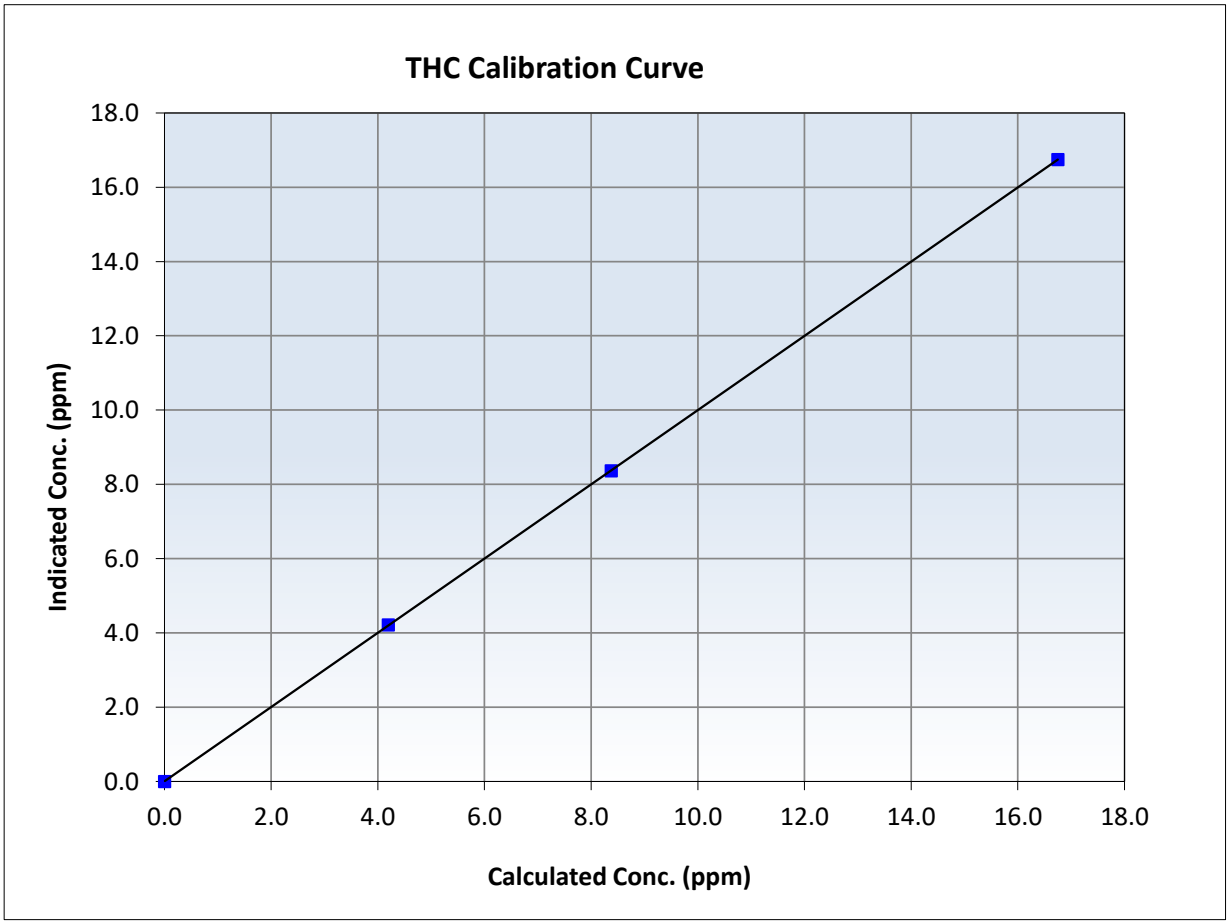
THC Calibration Summary

Station Information

Calibration Date:	November 10, 2025	Previous Calibration:	October 22, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:35	End Time (MST):	12:17
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	0.999998	*≥0.995*
16.75	16.75	1.0002	Slope	0.999409	*0.90 - 1.10*
8.37	8.37	1.0011	Intercept	0.004998	*+/-0.5*
4.20	4.21	0.9964			



Wood Buffalo Environmental Association

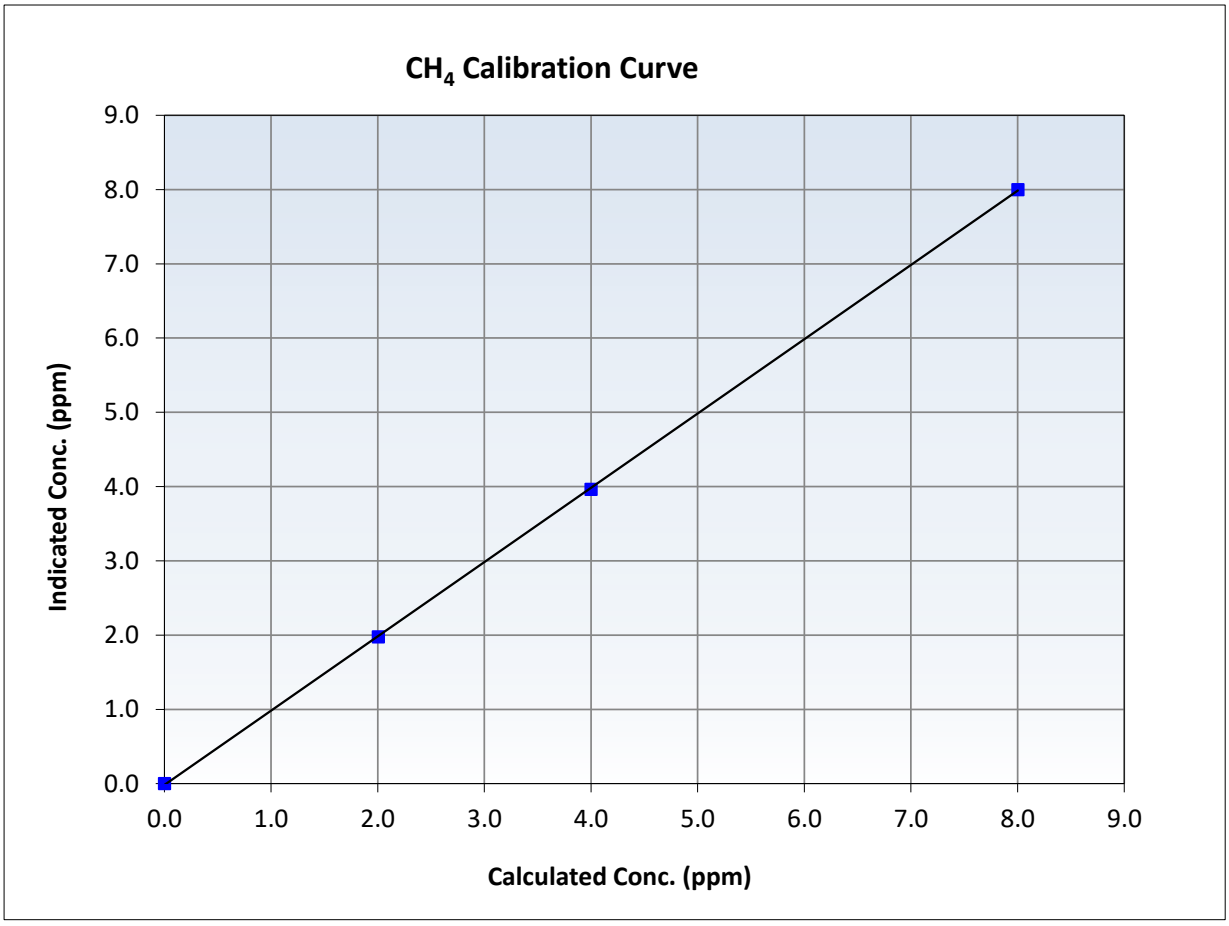
CH_4 Calibration Summary

Station Information

Calibration Date:	November 10, 2025	Previous Calibration:	October 22, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:35	End Time (MST):	12:17
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	0.999972	≥0.995
8.00	8.00	1.0003	Slope	1.000363	0.90 - 1.10
4.00	3.97	1.0091			
2.01	1.98	1.0140	Intercept	-0.017801	+/-0.5



Wood Buffalo Environmental Association

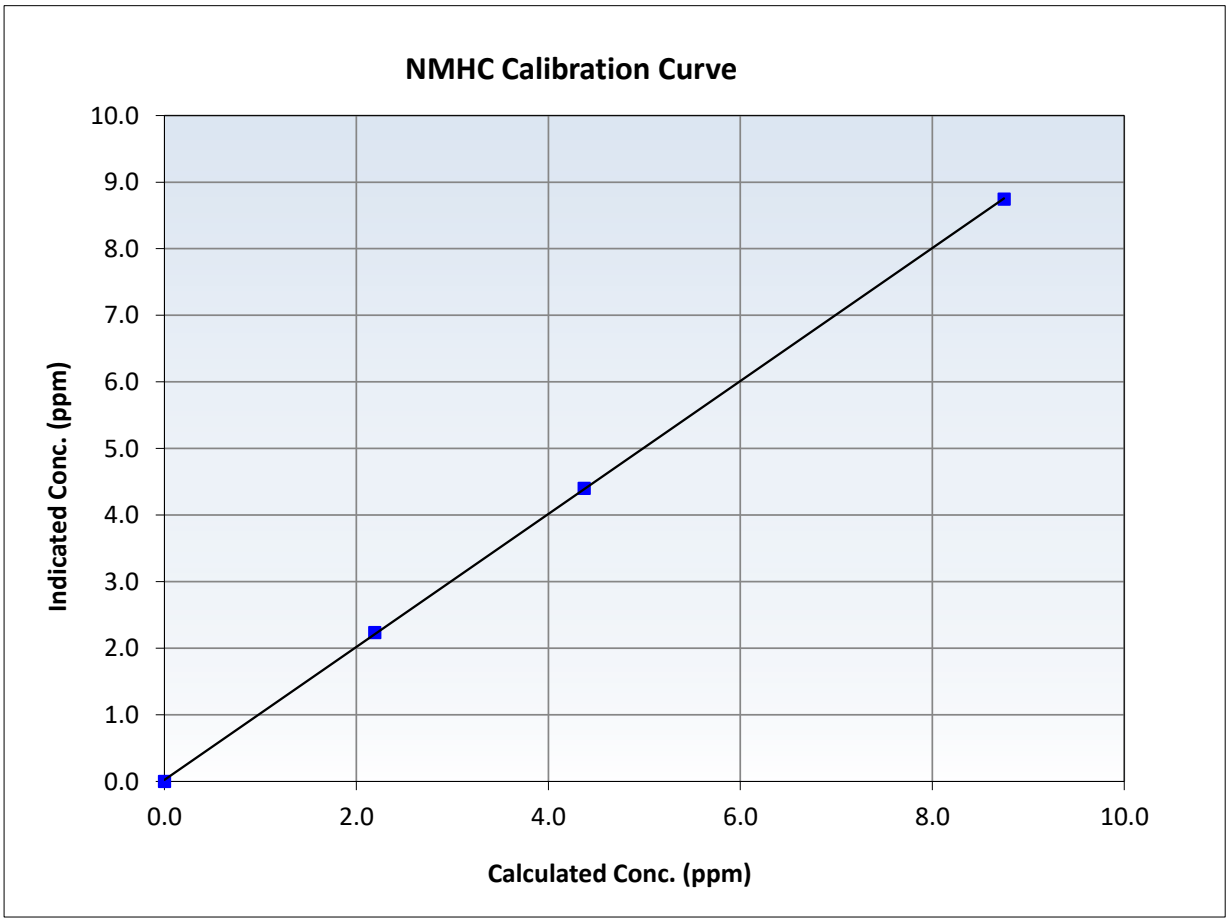
NMHC Calibration Summary

Station Information

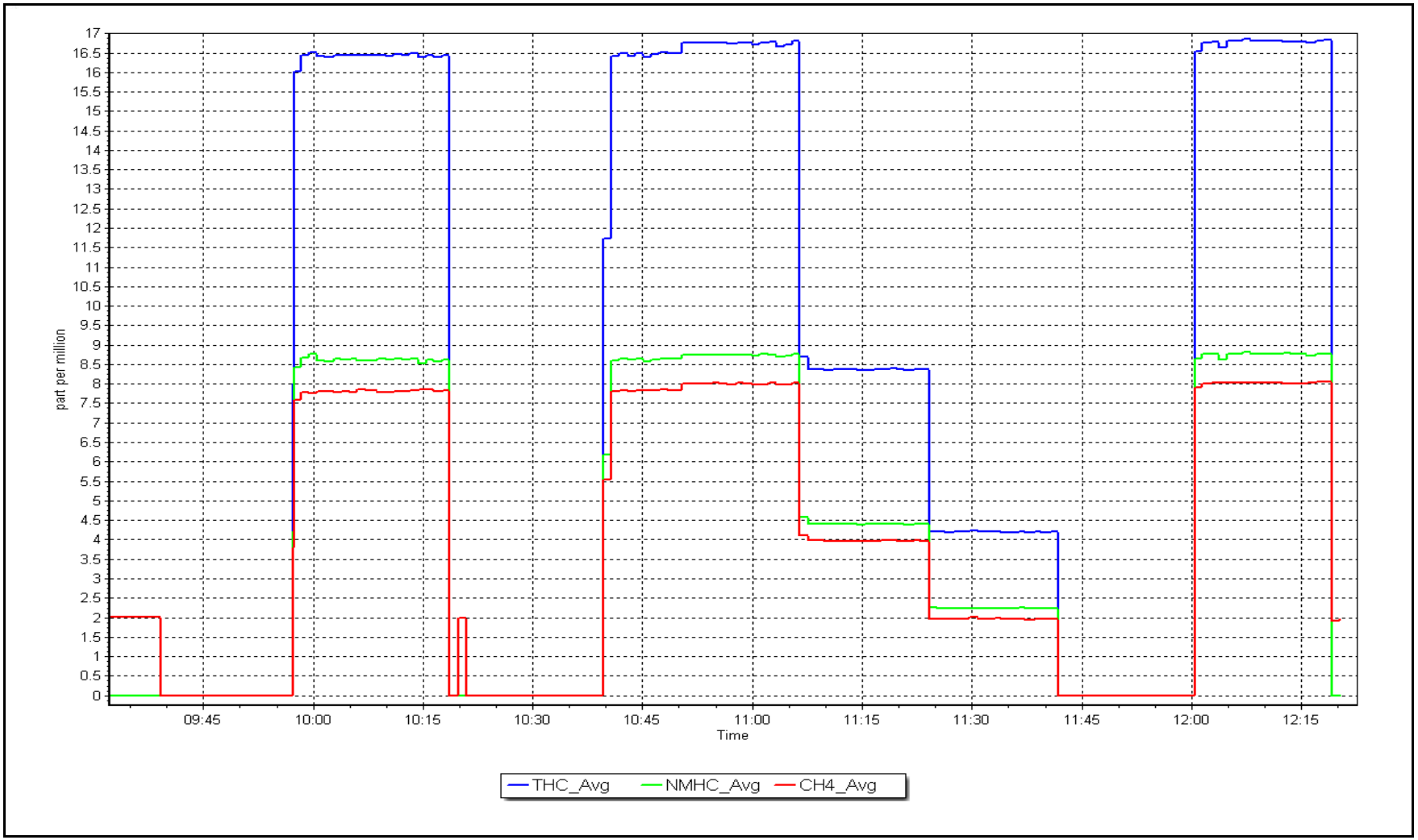
Calibration Date:	November 10, 2025	Previous Calibration:	October 22, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:35	End Time (MST):	12:17
Analyzer make:	Thermo 55i	Analyzer serial #:	1118148494

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999967	*≥0.995*
8.75	8.74	1.0004	Slope	0.998314	*0.90 - 1.10*
4.37	4.40	0.9936	Intercept	0.023400	*+/-0.5*
2.19	2.24	0.9809			



NMHC Calibration Plot Date: November 10, 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:	November 24, 2025	Last Cal Date:	November 10, 2025
Start time (MST):	10:16	End time (MST):	11:52
Reason:	Cylinder Change		

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:	2.60E-04	2.65E-04	NMHC SP Ratio:	5.19E-05	5.25E-05
CH4 Retention time:	14.2	14.2	NMHC Peak Area:	169079	166553
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	16.64	1.007
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.64	Prev response	16.74	*% change	-0.6%
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					
High point					
Mid point					
Low point					
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	

Notes: Changed the N2 cylinder 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	4920	79.8	8.75	8.68	1.008
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.68	Prev response	8.76	*% 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					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	8.75	8.70	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	8.00	7.96	1.006
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.96	Prev response	7.99	*% 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

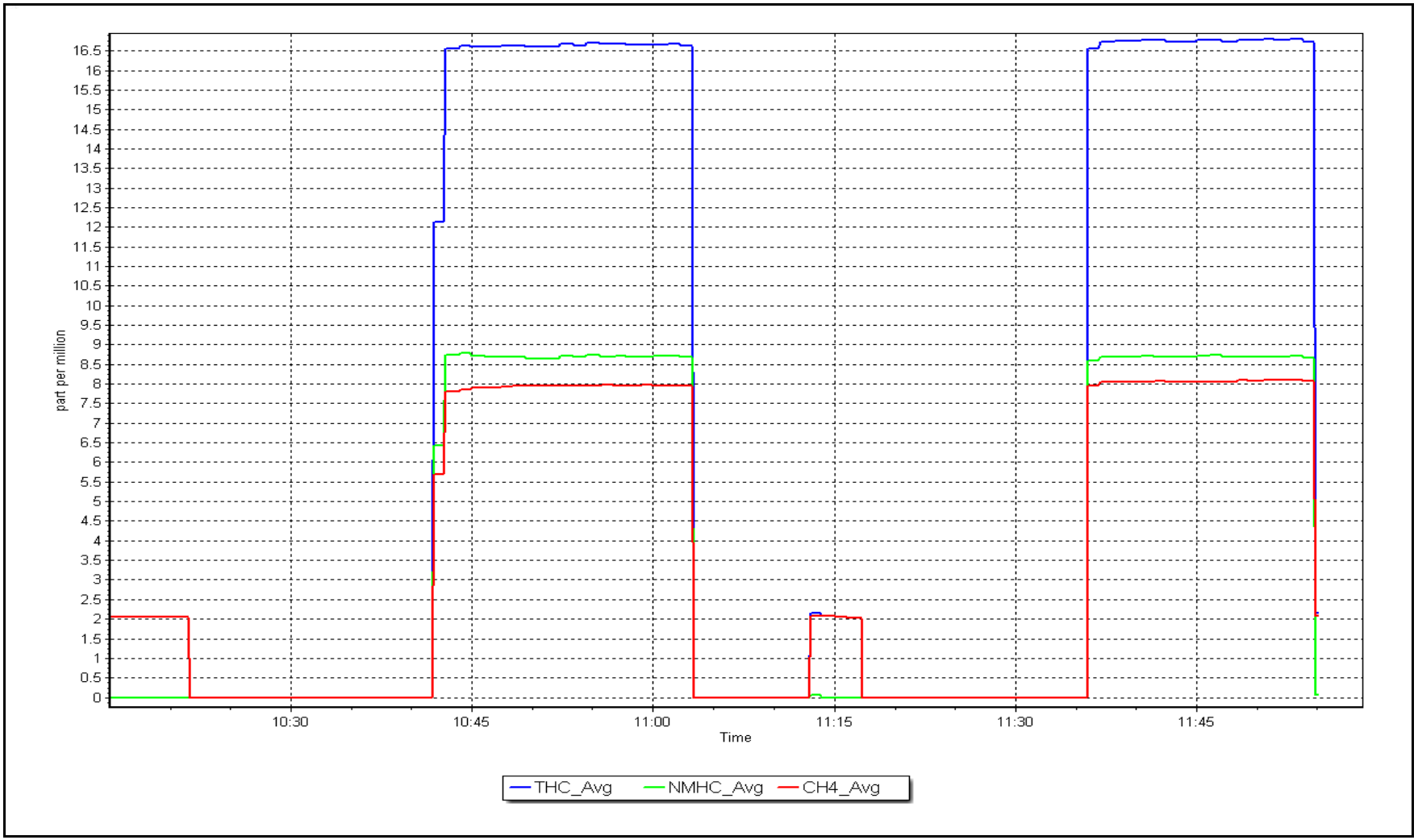
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	8.00	8.05	0.994
				Average Correction Factor	

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	0.999409	
THC Cal Offset:	0.004998	
CH4 Cal Slope:	1.000363	
CH4 Cal Offset:	-0.017801	
NMHC Cal Slope:	0.998314	
NMHC Cal Offset:	0.023400	

Calibration Performed By: Jan Castro

NMHC Calibration Plot Date: November 24, 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:	November 14, 2025
Last Cal Date:	October 2, 2025
Start time (MST):	10:12
End time (MST):	15:31
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	-0.1	0.1	-0.2	----	----
AF High point	4935	64.6	803.7	799.8	3.9	811.2	802.3	8.7	0.9906	0.9970
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 805.1 ppb	NO = 800.2 ppb
Baseline Corr 1st pt	NO_X = 811.3 ppb	NO = 802.2 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

*Percent Change NO_X = 0.8%

*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: 1172750022

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.893	0.893	NO bkgnd or offset:	3.6	3.6
NOX coeff or slope:	0.997	0.997	NOX bkgnd or offset:	3.9	3.9
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	160.9	159.3

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.998122	1.001848
NO_X Cal Offset:	2.911651	2.350913
NO Cal Slope:	0.999055	1.002112
NO Cal Offset:	1.153160	0.533026
NO_2 Cal Slope:	1.004883	0.998443
NO_2 Cal Offset:	1.204514	0.071833

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	0.4	0.3	0.2	----	----
High point	4935	64.6	803.7	799.8	3.9	806.3	801.6	4.5	0.9968	0.9978
Mid point	4968	32.3	401.8	399.9	1.9	406.6	402.3	4.3	0.9882	0.9939
Low point	4984	16.2	201.5	200.5	1.0	205.7	201.1	4.6	0.9797	0.9973
As left zero	5000	0.0	0.0	0.0	0.0	0.7	0.4	0.3	----	----
As left span	4935	64.6	803.7	398.5	405.2	805.1	398.5	406.6	0.9982	1.0000
							Average Correction Factor		0.9882	0.9963

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	799.7	395.8	407.8	407.3	1.0012	99.9%
Mid GPT point	799.7	599.2	204.4	204.0	1.0018	99.8%
Low GPT point	799.7	699.0	104.6	104.4	1.0017	99.8%
				Average Correction Factor	1.0016	99.8%

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

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

NO_X Calibration Summary

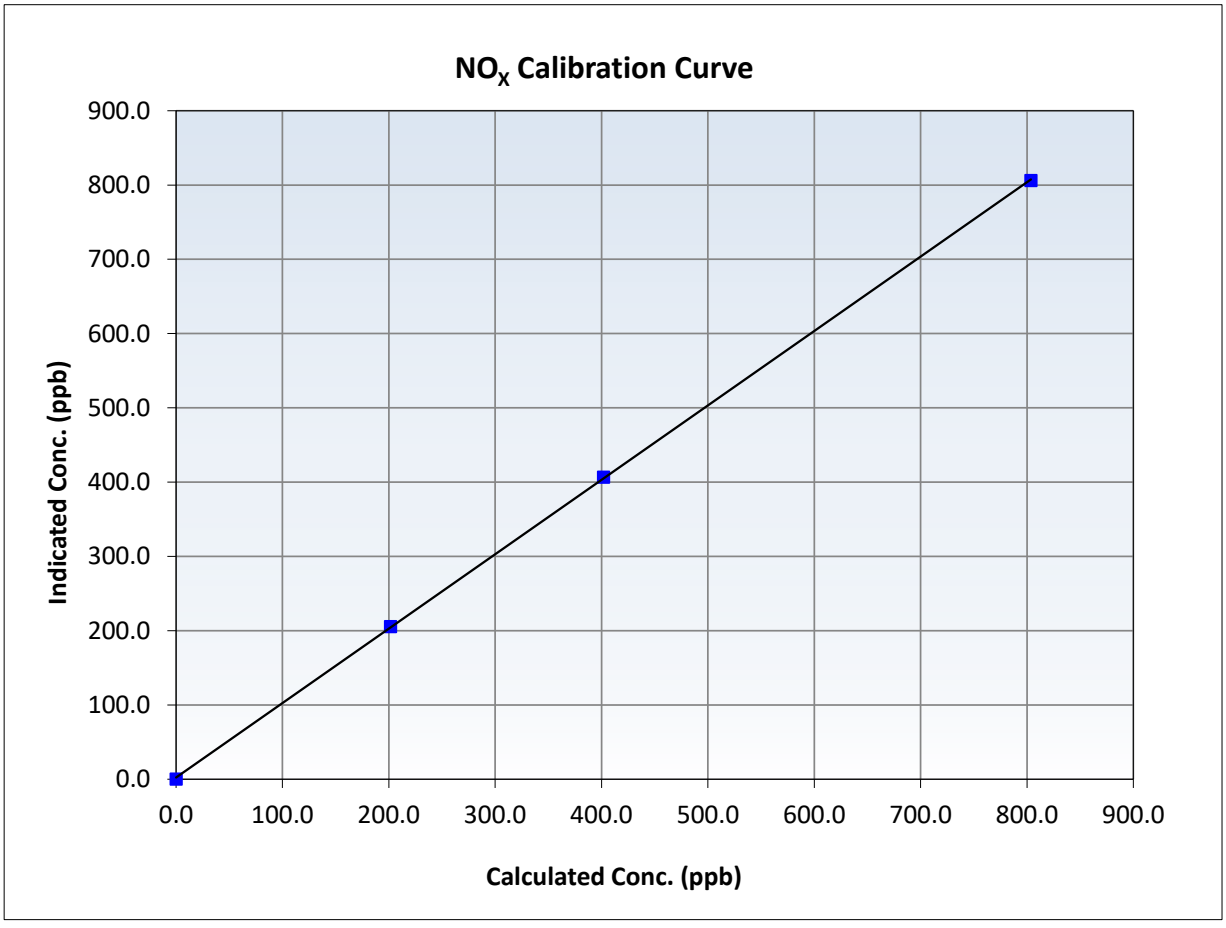
Station Information

Calibration Date:	November 14, 2025	Previous Calibration:	October 2, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	10:12	End Time (MST):	15:31
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	----
803.7	806.3	0.9968
401.8	406.6	0.9882
201.5	205.7	0.9797

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999971	*≥0.995*
Slope	1.001848	*0.90 - 1.10*
Intercept	2.350913	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

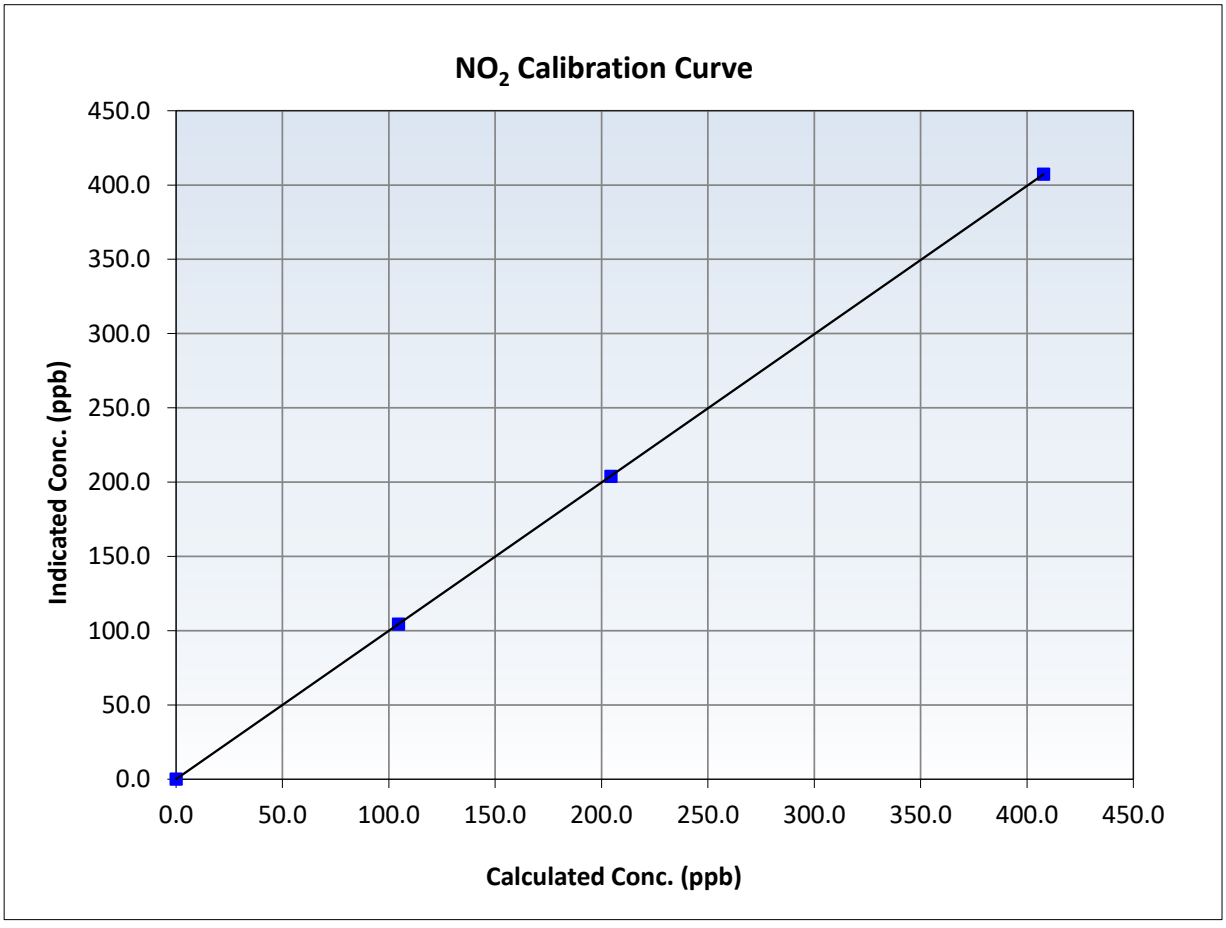
Station Information

Calibration Date:	November 14, 2025	Previous Calibration:	October 2, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	10:12	End Time (MST):	15:31
Analyzer make:	Thermo 42i	Analyzer serial #:	1172750022

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
407.8	407.3	1.0012
204.4	204.0	1.0018
104.6	104.4	1.0017

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	0.998443	*0.90 - 1.10*
Intercept	0.071833	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

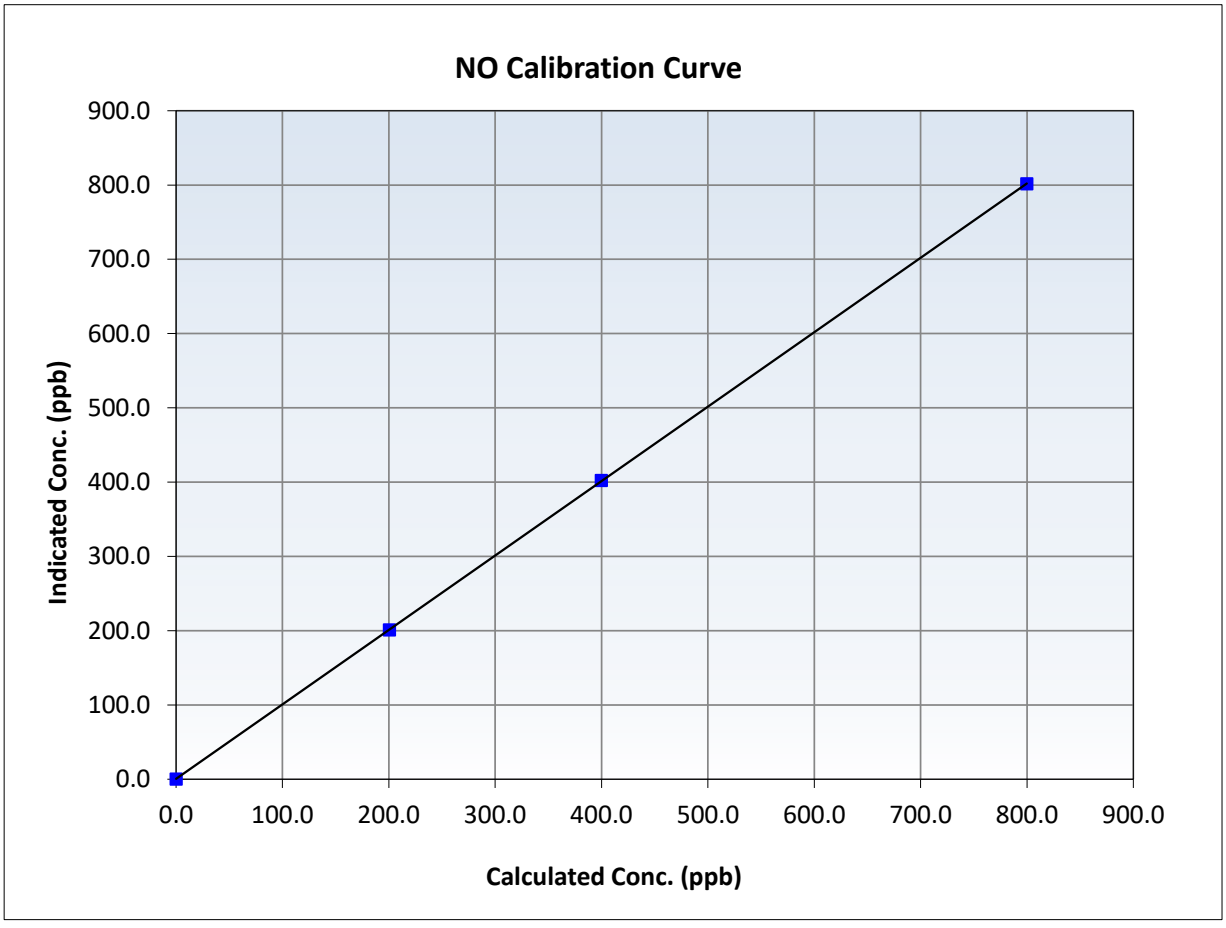
Station Information

Calibration Date:	November 14, 2025	Previous Calibration:	October 2, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	10:12	End Time (MST):	15:31
Analyzer make:	Thermo 42i	Analyzer serial #:	1172750022

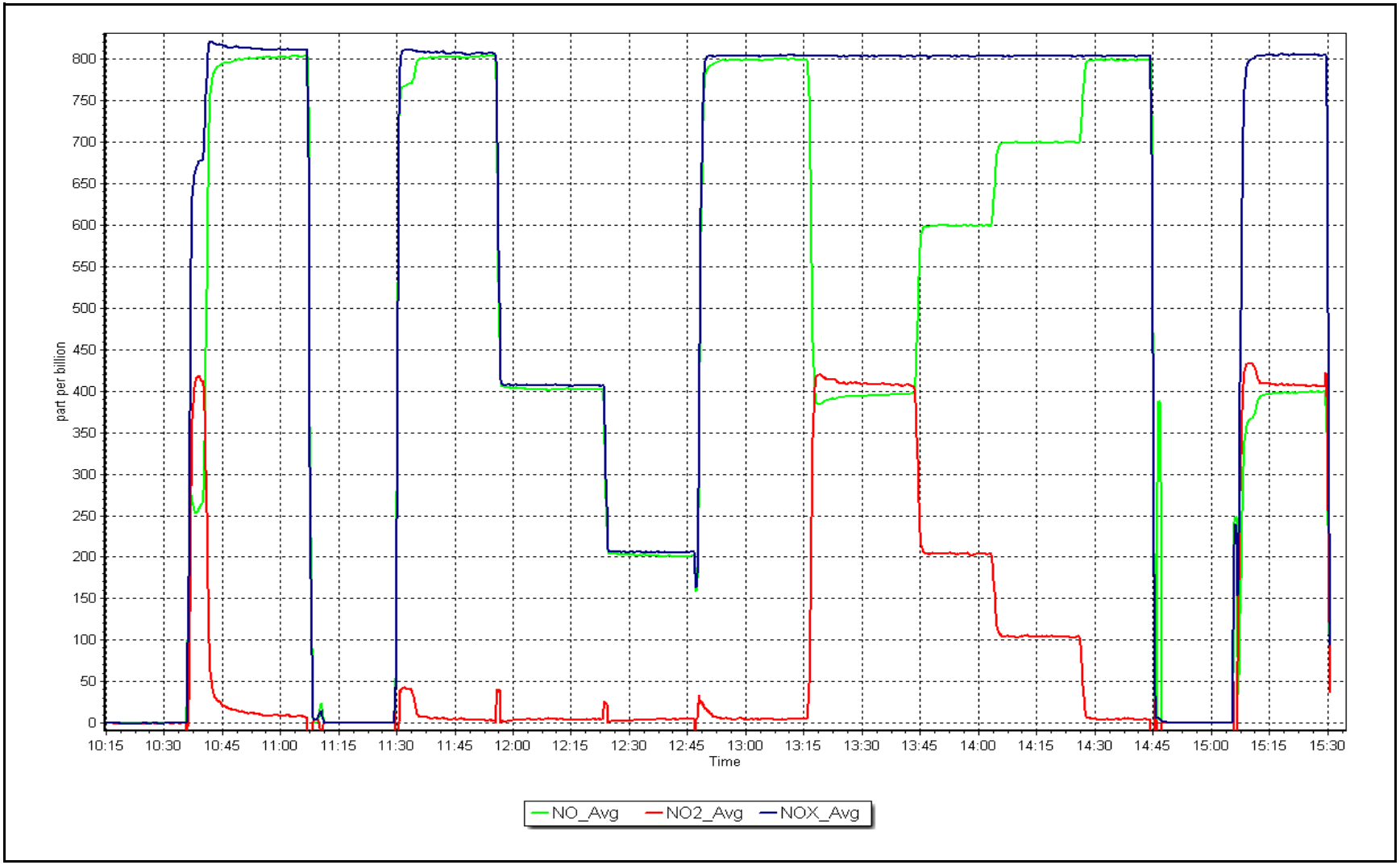
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
799.8	801.6	0.9978
399.9	402.3	0.9939
200.5	201.1	0.9973

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	1.002112	*0.90 - 1.10*
Intercept	0.533026	*+/-20*



NO_X Calibration Plot Date: November 14, 2025 Location: Patricia McInnes



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Patricia McInnes	Station number:	AMS 06
Calibration Date:	November 10, 2025	Last Cal Date:	October 3, 2025
Start time (MST):	12:17	End time (MST):	15:04
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:	1.002886	1.004000	Backgd or Offset:	-0.5	-1.1
Calibration intercept:	0.220000	1.000000	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	-0.4	----
As found High point	5000	1049.8	400.0	401.6	0.995
As found Mid point					
As found Low point					
Baseline Corr As found:	402.0	Previous response	401.4	*% 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	

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	0.4	----
High point	5000	1048.9	400.0	402.0	0.995
Mid point	5000	834.0	200.0	203.0	0.985
Low point	5000	706.1	100.0	101.4	0.986
As left zero	5000	800.0	0.0	0.4	----
As left span	5000	1049.9	400.0	404.0	0.990
				Average Correction Factor	0.989

Notes: Changed the inlet filter after as founds. Adjusted zero only.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

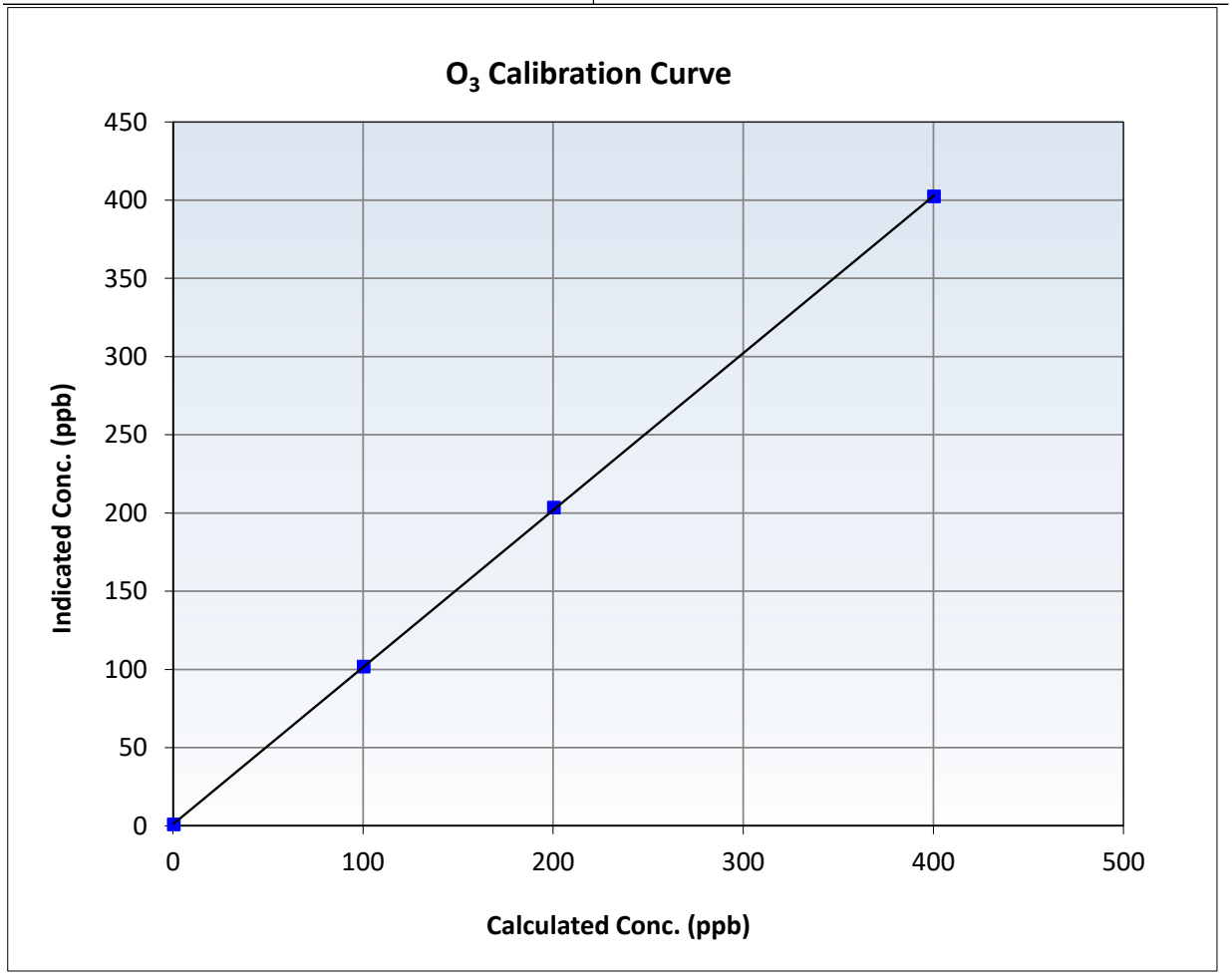
O_3 Calibration Summary

Station Information

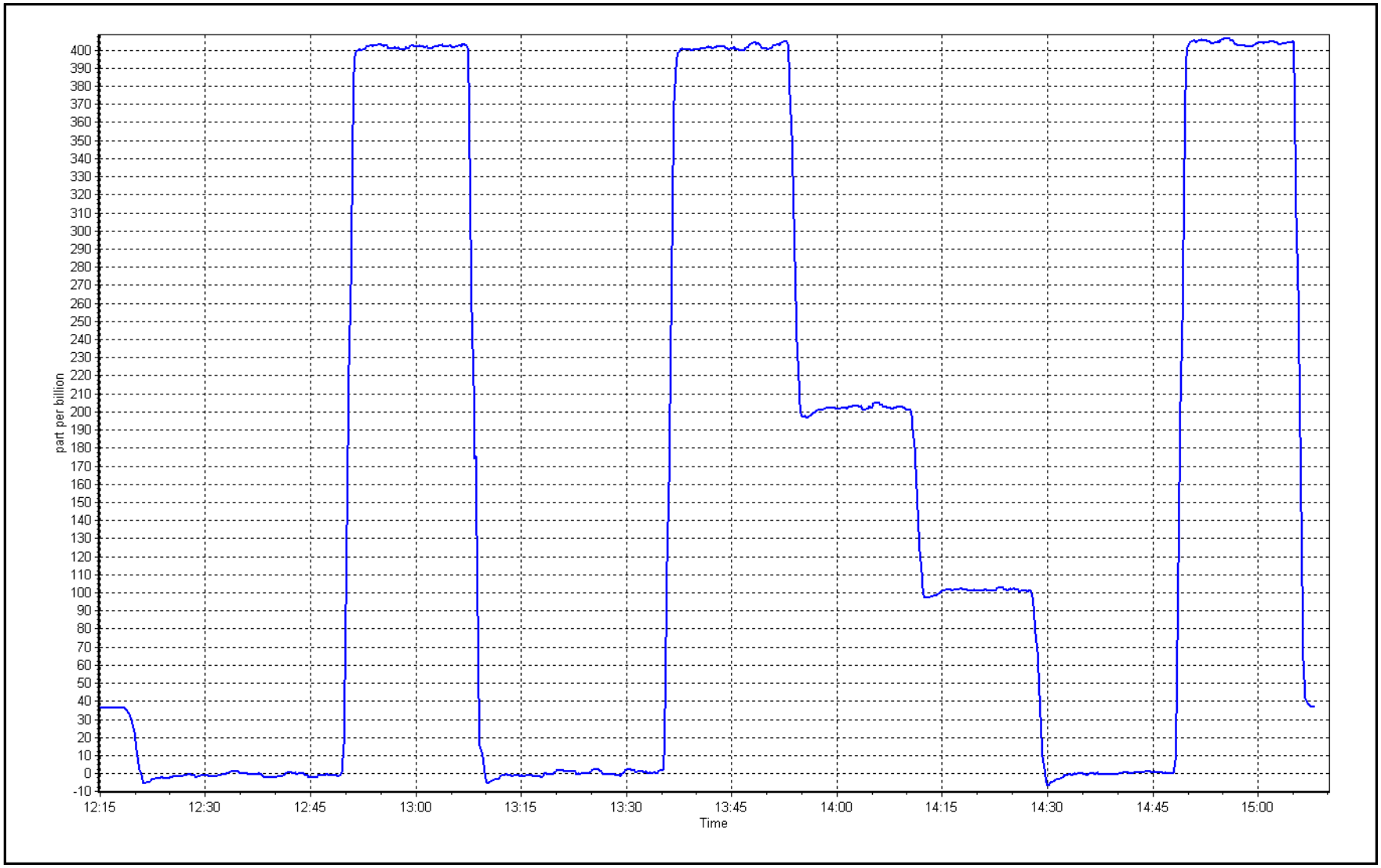
Calibration Date:	November 10, 2025	Previous Calibration:	October 3, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	12:17	End Time (MST):	15:04
Analyzer make:	Thermo 49i	Analyzer serial #:	1300156234

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.4	----	Correlation Coefficient	0.999976	*≥0.995*
400.0	402.0	0.9950	Slope	1.004000	*0.90 - 1.10*
200.0	203.0	0.9852			
100.0	101.4	0.9862	Intercept	1.000000	*+/- 5*



O_3 Calibration Plot Date: November 10, 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:	November 18, 2025	Last Cal Date:	October 3, 2025
Start time (MST):	14:59	End time (MST):	15:28
Analyzer Make:	API T640	S/N:	1547
Particulate Fraction:	PM2.5		
Flow Meter Make/Model:	Alicat FP-25BT	S/N:	388754
Temp/RH standard:	Alicat FP-25BT	S/N:	388754

Parameter	As found	Measured	As left	Adjusted	*(Limits)*
T (^{o}C)	-1.40	-1.99	-1.40	☐	+/- 2 ^{o}C
P (mmHg)	726.20	725.24	726.20	☐	+/- 10 mmHg
Flow (LPM)	5.00	4.89	5.00	☐	+/- 0.25 LPM
PW% (pump)	33	-----	33	☐	>80%
Zero Verification	PM w/o HEPA:	83.70	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: 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: _____ <0.2 ug/m3

Annual Maintenance

Date Sample Tube Cleaned: April 4, 2025

Date RH/T Sensor Cleaned: April 4, 2025

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

Calibration by: Jan Castro

Wood Buffalo Environmental Association

Nt - NOX - NH3 Calibration Report

Station Information

Station Name:	Patricia McInnes	Station number:	AMS 06
NOX Cal Date:	November 18, 2025	Last Cal Date:	October 8, 2025
Start time (MST):	9:53	End time (MST):	13:48
NH3 Cal Date:	November 18, 2025	Last Cal Date:	October 8, 2025
Start time (MST):	14:10	End time (MST):	16:45
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	1.007
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	0.950	Nt bkgrnd:	1.7	1.7

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.005416	1.008420
NO_X Cal Offset:	1.471046	1.789202
NO Cal Slope:	1.004684	1.012790
NO Cal Offset:	-0.067219	-0.429575
NO_2 Cal Slope:	0.988675	0.990408
NO_2 Cal Offset:	1.369665	-1.214169
NH3 Cal Slope:	0.992894	0.990998
NH3 Cal Offset:	6.488525	5.402369
Nt Cal Slope:	0.996556	0.994860
Nt Cal Offset:	7.069139	5.667320

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	0.2	0.0	-0.5	----	----
As found span	4935	64.6	803.7	799.8	803.7	817.9	806.2	822.3	0.9826	0.9921
AF GPT span										
new NO cyl rp										

Baseline Corr As Fd	Nt =	822.8	ppb	NO_X =	817.7	ppb	NO =	806.2	ppb
Previous Response	Nt =	807.99	ppb	NO_X =	809.5	ppb	NO =	803.5	ppb

**NO_X Δ (NO to GPT response) =

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

*Percent Change	$Nt_{(NO)}$ =	1.8%
*Percent Change	NO_X =	1.0%
*Percent Change	NO =	0.3%

* = > +/-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	0.3	0.2	0.3	----	----
High point	4935	64.6	803.7	799.8	803.7	811.6	810.1	803.0	0.9903	0.9873
Mid point	4968	32.3	401.8	399.9	401.8	407.4	403.7	407.4	0.9862	0.9905
Low point	4984	16.2	201.5	200.5	201.5	206.7	202.4	206.9	0.9749	0.9908
							Average Correction Factor		0.9838	0.9895

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	0.2	----	----
Calibration zero	----	----	0.0	0.1	----	----
High GPT point (400 ppb O3)	811.3	399.8	415.4	411.9	1.0084	99.2%
Mid GPT point (200 ppb O3)	811.3	602.9	212.3	205.3	1.0340	96.7%
Low GPT point (100 ppb O3)	811.3	705.5	109.7	108.1	1.0146	98.6%
				Average Correction Factor	1.0190	98.1%

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	0.2	-0.7	----	----
AF High point	3416	84.0	1799.0	0.0	1799.0	1791.2	7.3	1784.0	1.004	1.008
AF Mid point										
AF Low point										
new NH3 cyl rp										

Baseline Corr As Fd Nt = 1791.7 ppb NH3 = 1784.7 ppb *Percent Change $Nt_{(NH3)}$ = -0.5%

Previous Response Nt = 1799.9 ppb NH3 = 1792.7 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	0.3	0.3	0.0	----	----
High point	3416	84.0	1799.0	0.0	1799.0	1791.2	7.3	1784.0	1.004	1.008
Mid point	3453	46.7	1000.3	0.0	1000.3	1006.5	4.2	1002.3	0.994	0.998
Low point	3477	23.3	499.0	0.0	499.0	506.0	2.1	503.9	0.986	0.990
								Average Correction Factor	0.9948	0.9989

NH3 Previous Converter Efficiency = 95.6 %
NH3 Current Converter Efficiency = 95.0 %

Notes: Changed the inlet filter after as founds. Adjusted TNx and NH3 span.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

Nt Calibration Summary

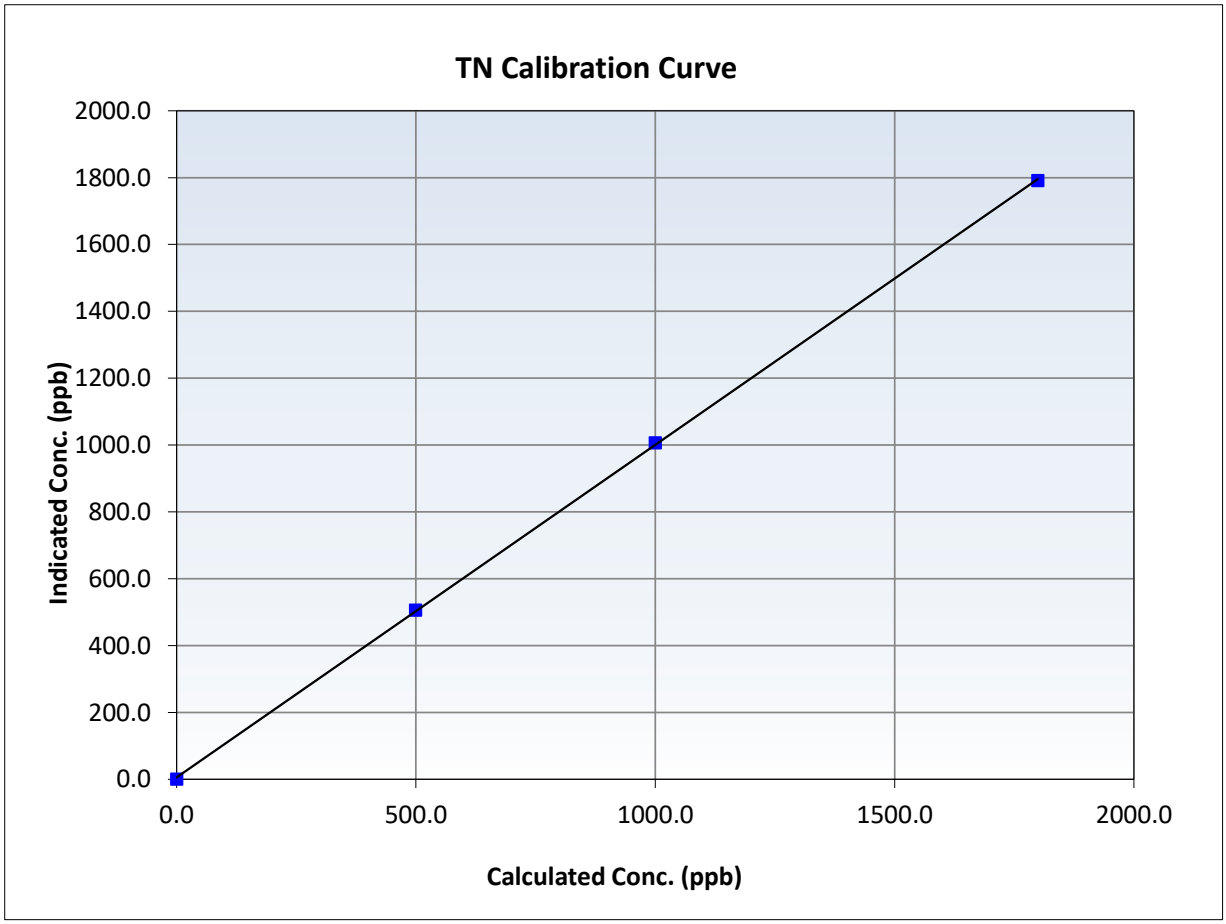
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 8, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:53	End Time (MST):	13:48
Analyzer make:	API T201	Analyzer serial #:	215

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
1799.0	1791.2	1.0044
1000.3	1006.5	0.9938
499.0	506.0	0.9861

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999946	*≥0.995*
Slope	0.994860	*0.90 - 1.10*
Intercept	5.667320	*+/-20*



Wood Buffalo Environmental Association

NH_3 Calibration Summary

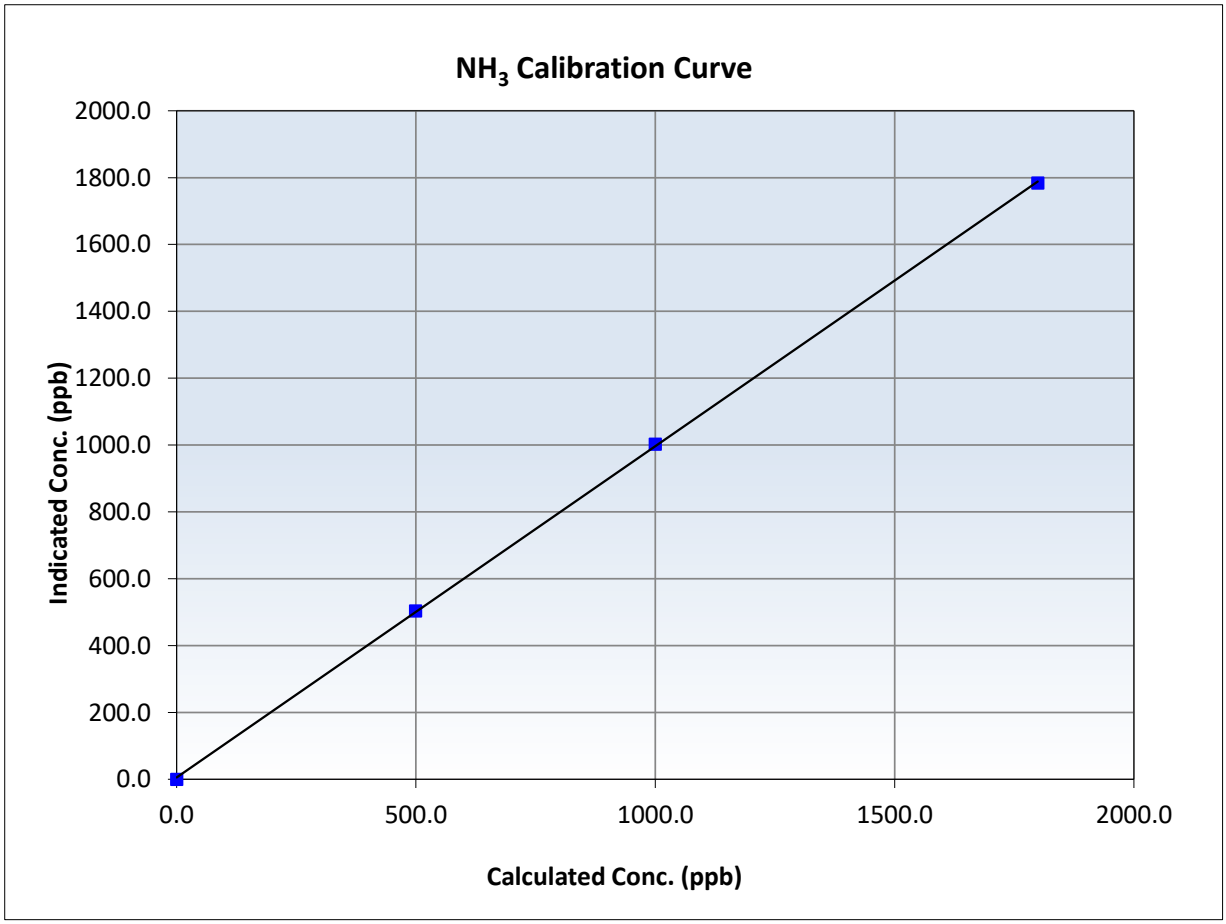
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 8, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:53	End Time (MST):	13:48
Analyzer make:	API T201	Analyzer serial #:	215

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
1799.0	1784.0	1.0084
1000.3	1002.3	0.9980
499.0	503.9	0.9902

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999945	*≥0.995*
Slope	0.990998	*0.90 - 1.10*
Intercept	5.402369	*+/-20*



Wood Buffalo Environmental Association

NO_X Calibration Summary

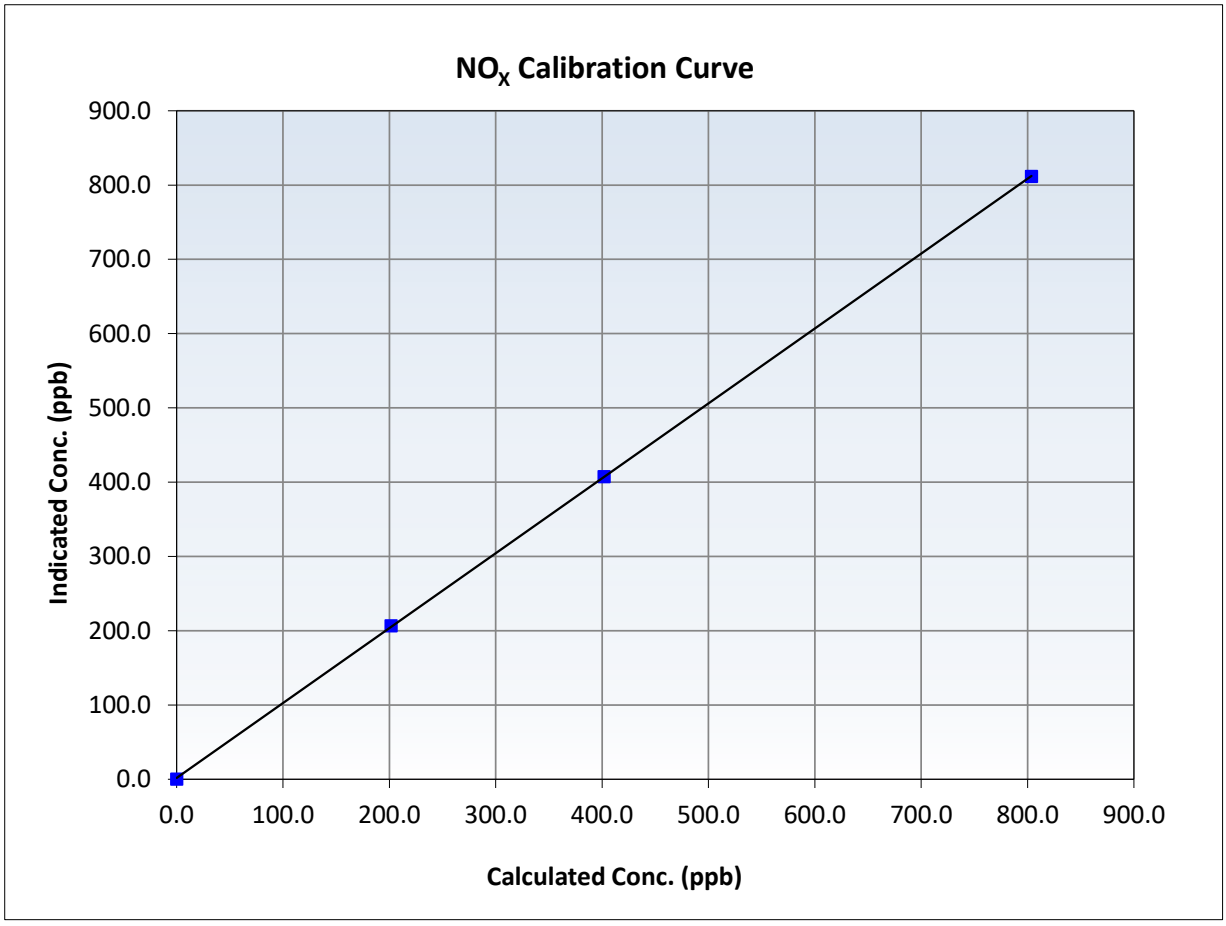
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 8, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:53	End Time (MST):	13:48
Analyzer make:	API T201	Analyzer serial #:	215

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
803.7	811.6	0.9903
401.8	407.4	0.9862
201.5	206.7	0.9749

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999984	*≥0.995*
Slope	1.008420	*0.90 - 1.10*
Intercept	1.789202	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

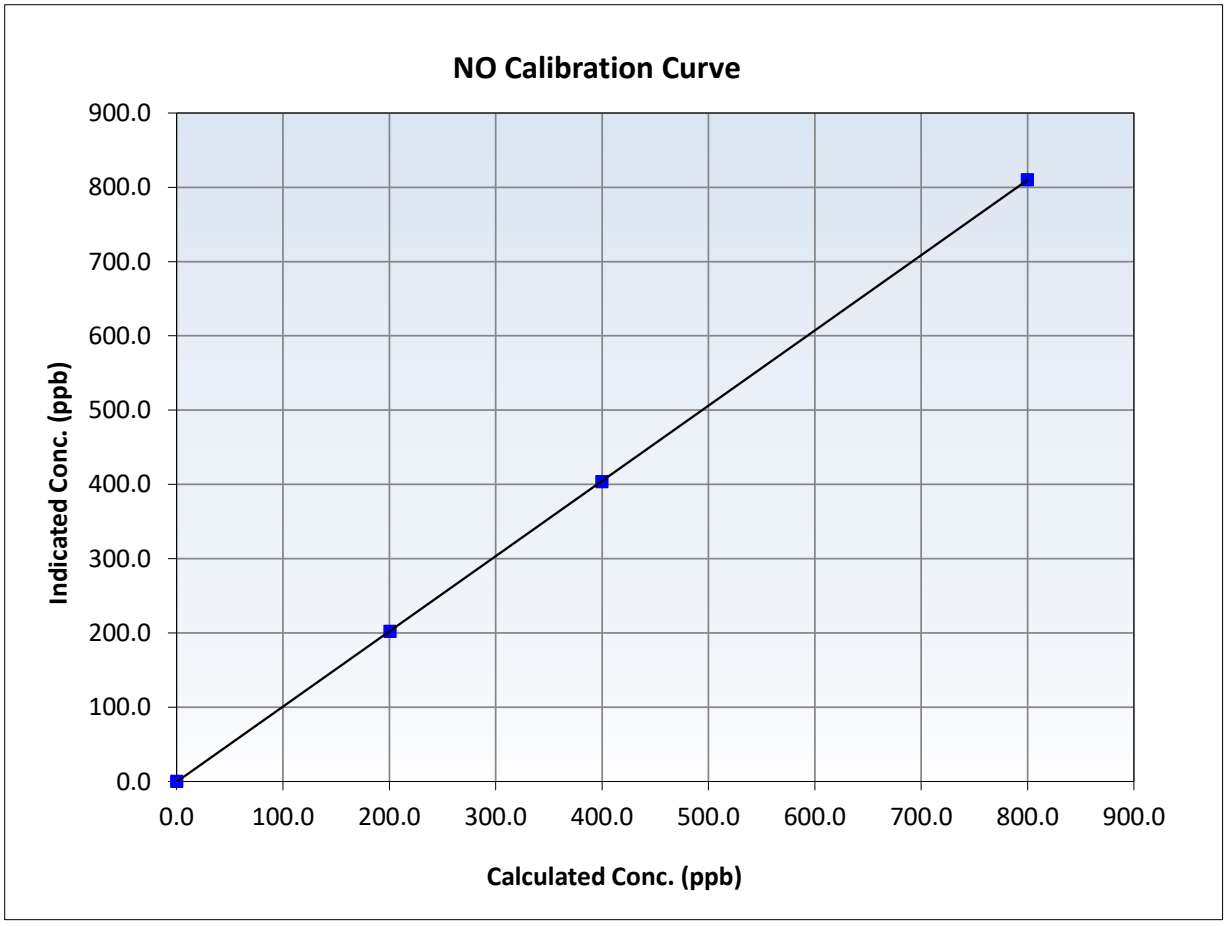
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 8, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:53	End Time (MST):	13:48
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	810.1	0.9873
399.9	403.7	0.9905
200.5	202.4	0.9908

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	1.012790	*0.90 - 1.10*
Intercept	-0.429575	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

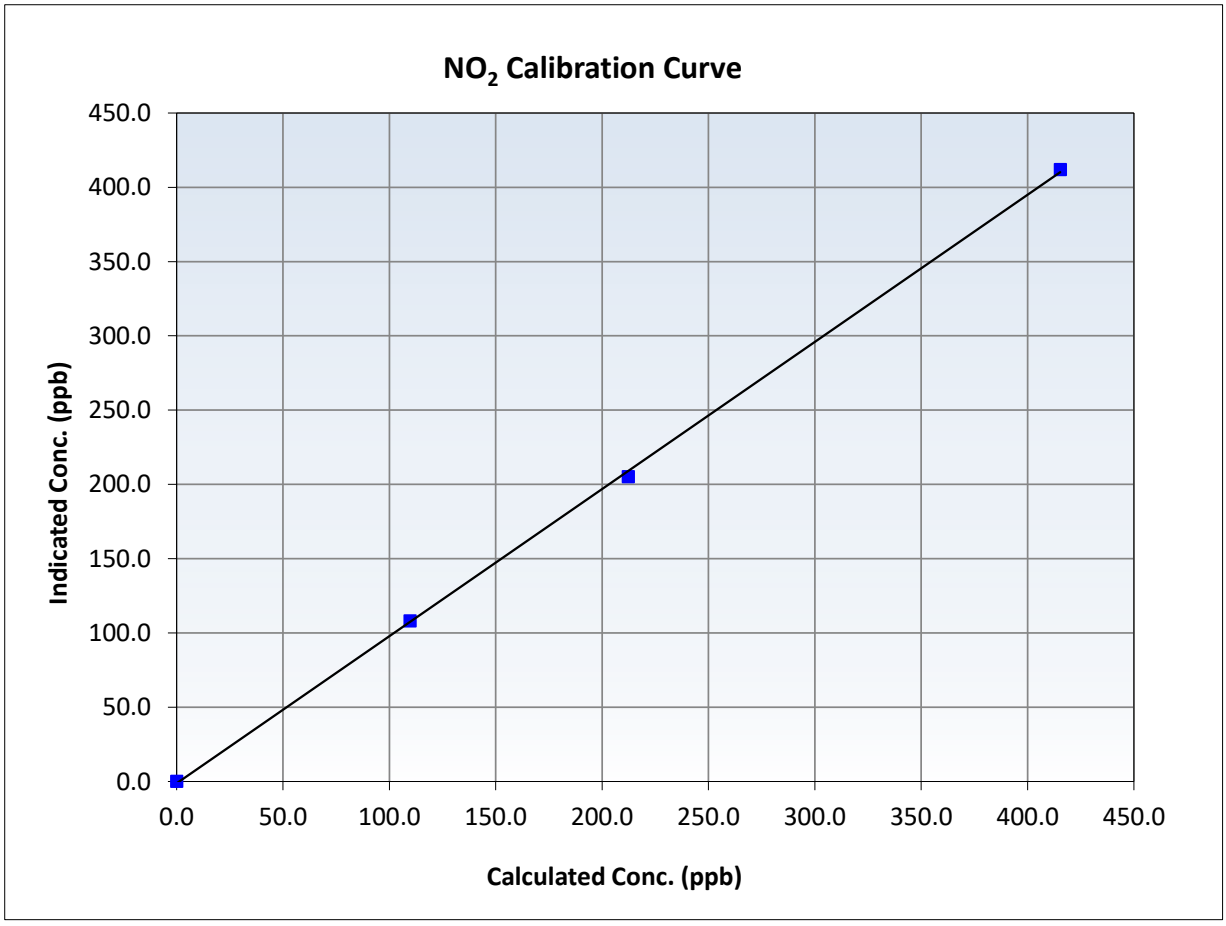
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 8, 2025
Station Name:	Patricia McInnes	Station Number:	AMS 06
Start Time (MST):	9:53	End Time (MST):	13:48
Analyzer make:	API T201	Analyzer serial #:	215

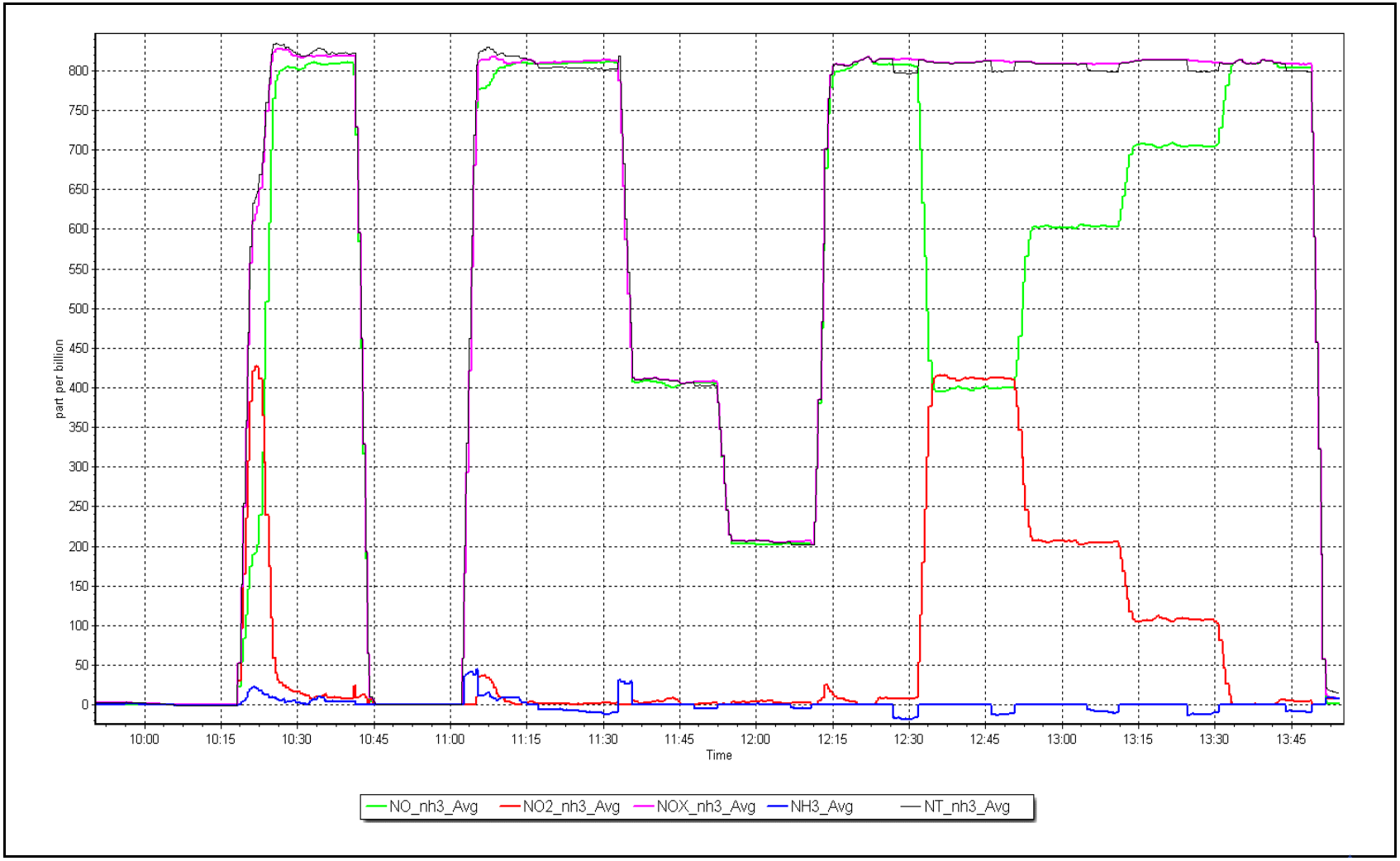
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
415.4	411.9	1.0084
212.3	205.3	1.0340
109.7	108.1	1.0146

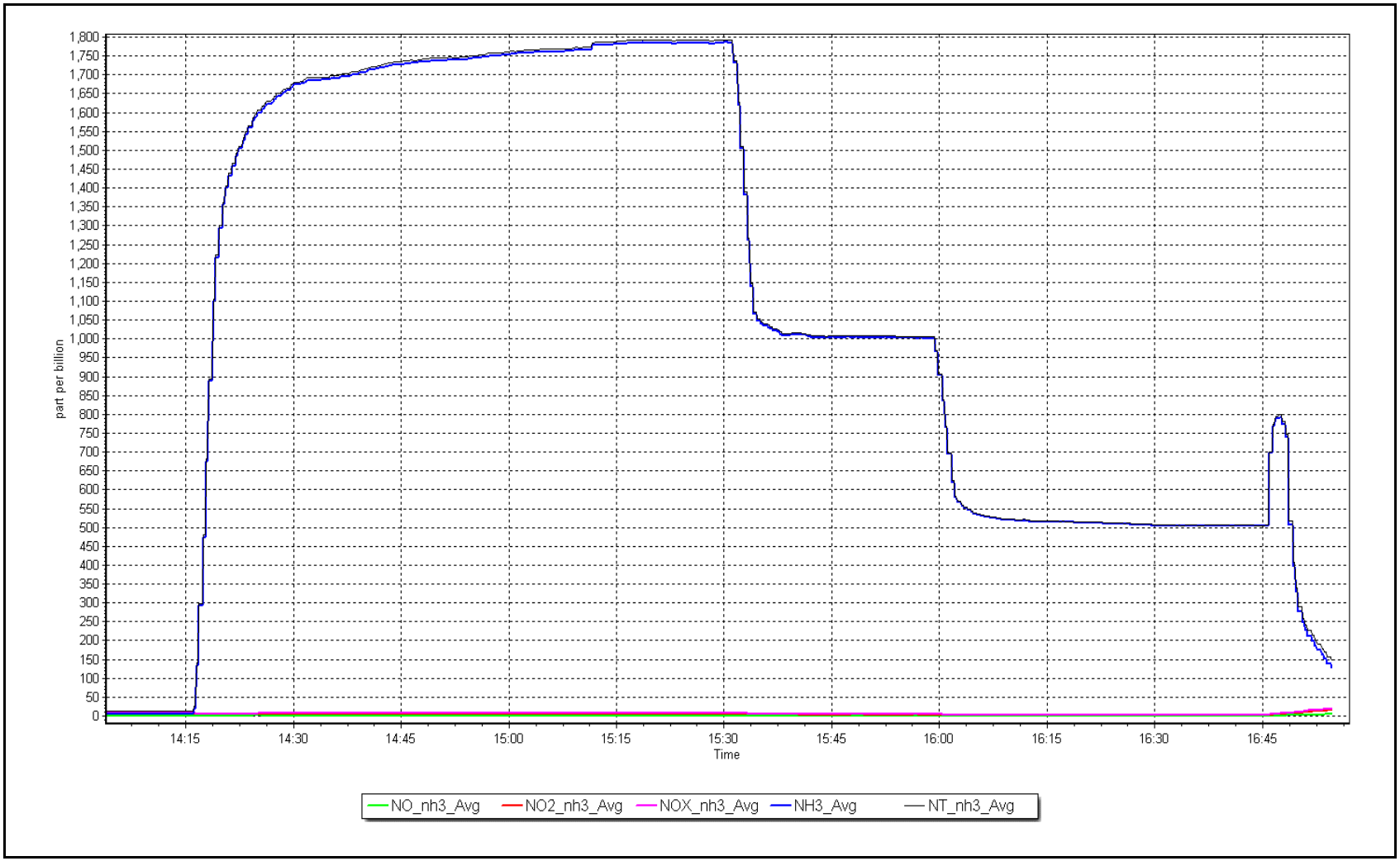
Statistical Evaluation		*Limits*
Correlation Coefficient	0.999793	*≥0.995*
Slope	0.990408	*0.90 - 1.10*
Intercept	-1.214169	*+/-20*



NO_X Calibration Plot Date: November 18, 2025 Location: Patricia McInnes



NH_3 Calibration Plot Date: November 18, 2025 Location: Patricia McInnes



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS07
ATHABASCA VALLEY
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Athabasca Valley	Station number:	AMS07
Calibration Date:	November 21, 2025	Last Cal Date:	October 9, 2025
Start time (MST):	10:38	End time (MST):	14:38
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:	0.996572	1.000892	Backgd or Offset:	2.66	2.73
Calibration intercept:	1.544588	2.083907	Coeff or Slope:	0.843	0.859

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	4920	79.8	799.0	784.2	1.019
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	784.2	Previous response	797.8	*% change	-1.7%
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	0.1	----
High point	4920	79.8	799.0	800.3	0.998
Mid point	4960	39.9	399.5	404.4	0.988
Low point	4980	20.0	200.2	203.5	0.984
As left zero	5000	0.0	0.0	0.1	----
As left span	4920	79.8	799.0	801.1	0.997
				Average Correction Factor:	0.990

Notes: Replaced sample inlet filter after as founds. Adjusted span.

Calibration Performed By: Parampreet Kaur

Wood Buffalo Environmental Association

SO_2 Calibration Summary

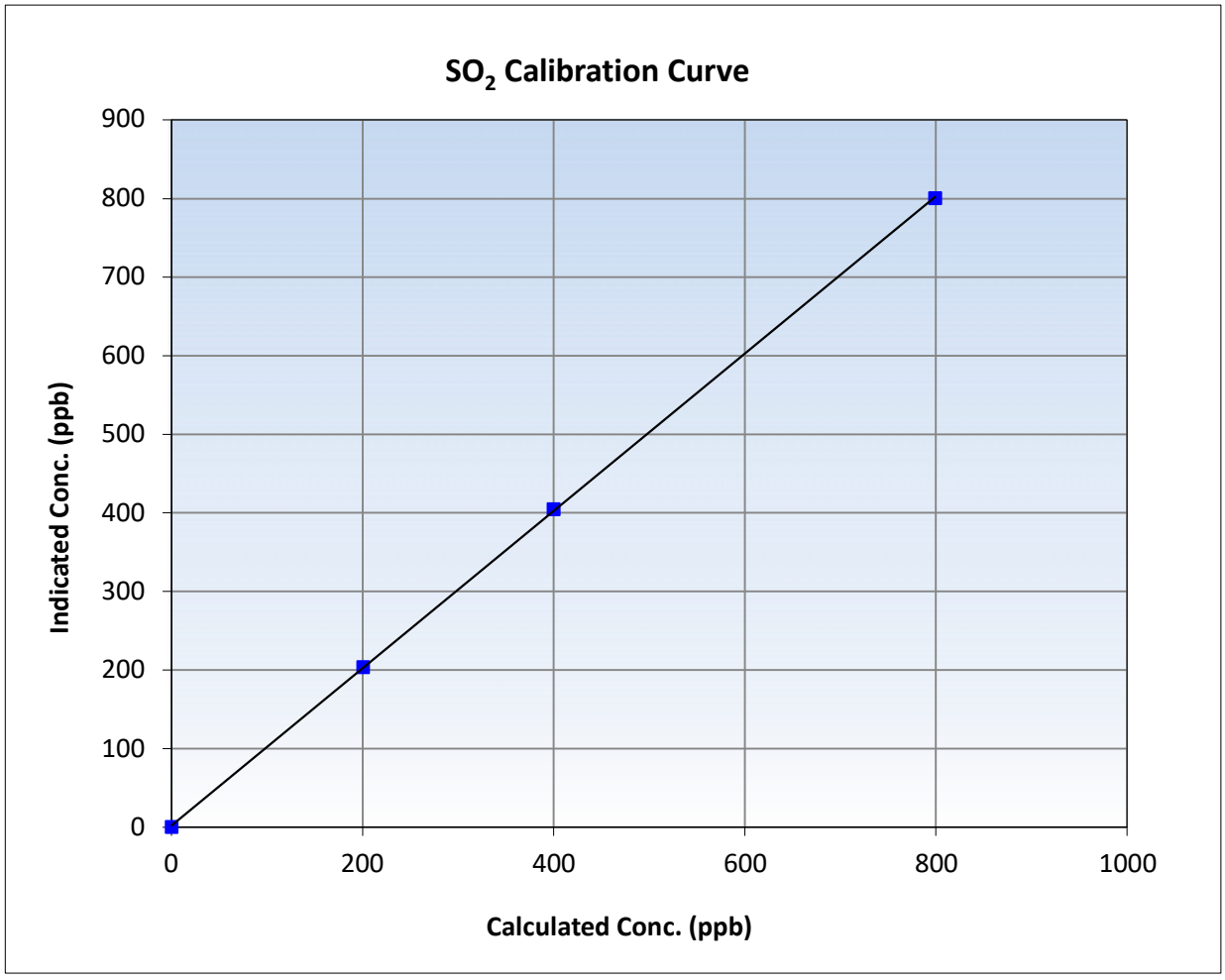
Station Information

Calibration Date:	November 21, 2025	Previous Calibration:	October 9, 2025
Station Name:	Athabasca Valley	Station Number:	AMS07
Start Time (MST):	10:38	End Time (MST):	14:38
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1507864683

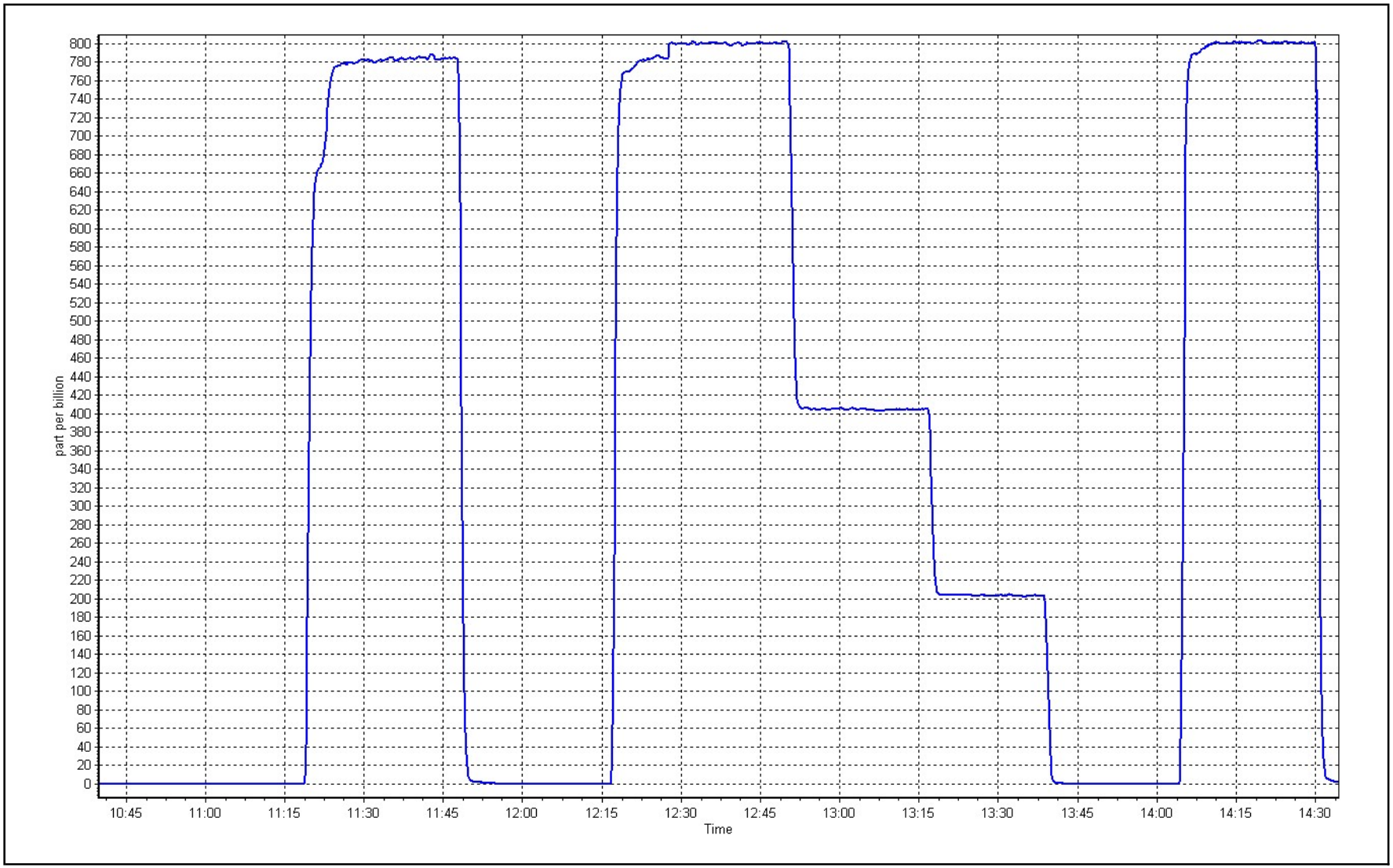
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
799.0	800.3	0.9984
399.5	404.4	0.9879
200.2	203.5	0.9840

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999962	*≥0.995*
Slope	1.000892	*0.90 - 1.10*
Intercept	2.083907	*+/-30*



SO2 Calibration Plot Date: November 21, 2025 Location: Athabasca Valley



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Athabasca Valley	Station number:	AMS07
Calibration Date:	November 19, 2025	Last Cal Date:	October 23, 2025
Start time (MST):	10:45	End time (MST):	15:22
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:	1.004105	0.999347	Backgd or Offset:	2.7	2.7
Calibration intercept:	-0.162212	0.077880	Coeff or Slope:	0.884	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	-0.1	----
As found High point	4925	75.5	79.3	80.7	0.981
As found Mid point	4962	37.7	39.6	40.4	0.977
As found Low point	4981	18.9	19.8	20.4	0.968
New cylinder response					

Baseline Corr As found:	80.8	Prev response:	79.43	*% change:	1.7%
Baseline Corr 2nd AF pt:	40.5	AF Slope:	1.018380	AF Intercept:	0.037718
Baseline Corr 3rd AF pt:	20.5	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	0.1	----
High point	4925	75.5	79.3	79.3	1.000
Mid point	4962	37.7	39.6	39.8	0.995
Low point	4981	18.9	19.9	19.8	1.003
As left zero	5000	0.0	0.0	0.0	----
As left span	4925	75.5	79.3	79.7	0.995
SO2 Scrubber Check	4920	79.2	792.1	0.0	----

Date of last scrubber change:	8-Aug-25	Ave Corr Factor	0.999
Date of last converter efficiency test:	Friday, April 22, 2022		

Notes: Pump changed out after as founds. No adjustments needed.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

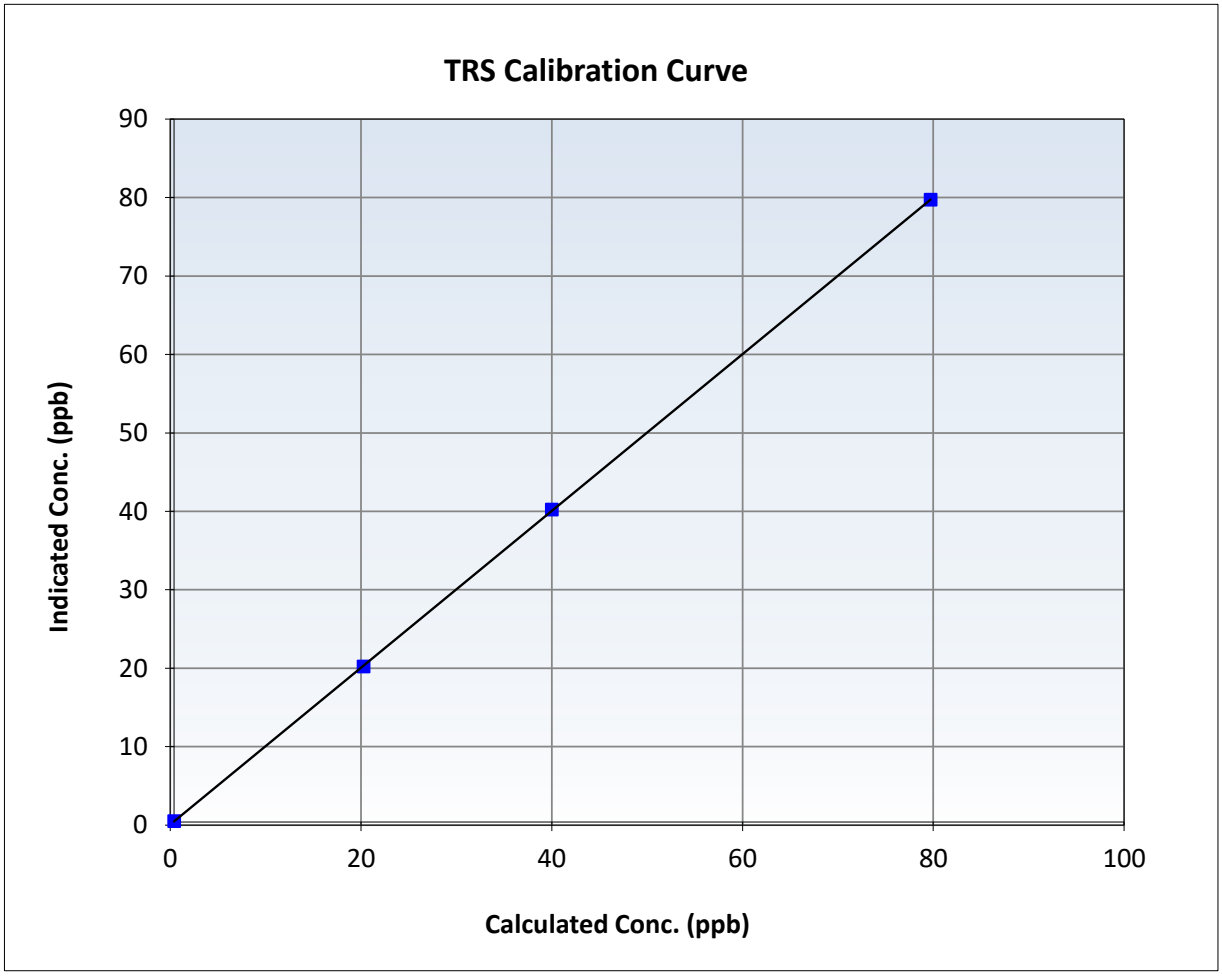
TRS Calibration Summary

Station Information

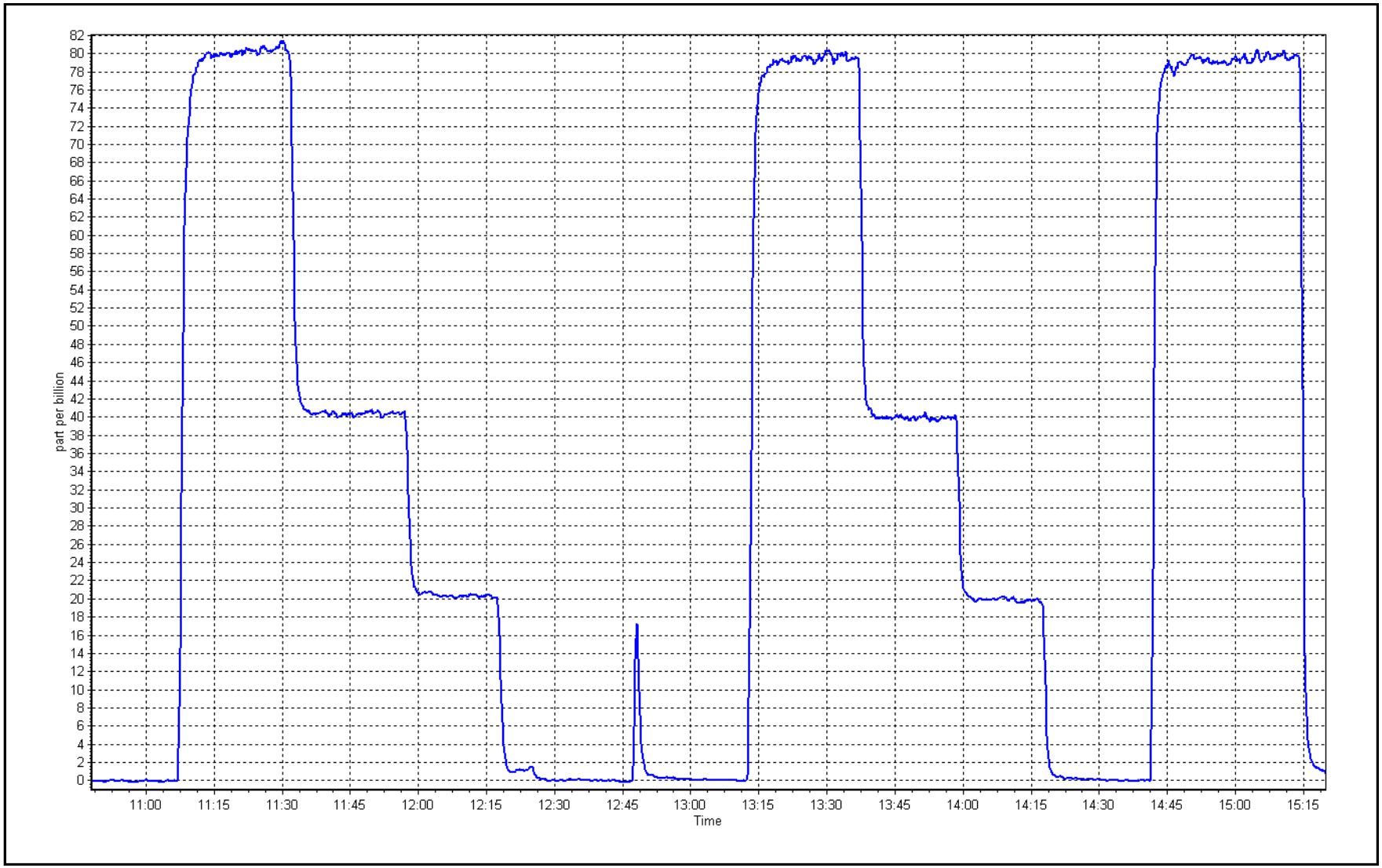
Calibration Date:	November 19, 2025	Previous Calibration:	October 23, 2025
Station Name:	Athabasca Valley	Station Number:	AMS07
Start Time (MST):	10:45	End Time (MST):	15:22
Analyzer make:	Thermo 43i LTE	Analyzer serial #:	1180540018

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999990	*≥0.995*
79.3	79.3	1.0002	Slope	0.999347	*0.90 - 1.10*
39.6	39.8	0.9952	Intercept	0.077880	*+/-3*
19.9	19.8	1.0029			



TRS Calibration Plot Date: November 19, 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:	November 21, 2025	Last Cal Date:	October 9, 2025
Start time (MST):	10:38	End time (MST):	14:38
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	2.73E-04	NMHC SP Ratio:	5.19E-05	5.25E-05
CH4 Retention time:	14.4	14.4	NMHC Peak Area:	173304	171388
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	16.79	1.007
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.79	Prev response	16.92	*% 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	16.91	16.89	1.001
Mid point	4960	39.9	8.46	8.46	1.000
Low point	4980	20.0	4.24	4.28	0.992
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	16.91	16.83	1.005
				Average Correction Factor	0.998

Notes: Replaced sample inlet filter after as founds. Adjusted 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	9.00	8.91	1.010
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.91	Prev response	9.02	*% 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	9.00	8.98	1.002
Mid point	4960	39.9	4.50	4.52	0.996
Low point	4980	20.0	2.26	2.29	0.986
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	9.00	8.95	1.005
				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	4920	79.8	7.92	7.88	1.005
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.88	Prev response	7.89	*% 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	4920	79.8	7.92	7.91	1.000
Mid point	4960	39.9	3.96	3.94	1.004
Low point	4980	20.0	1.98	1.99	0.997
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	7.92	7.88	1.004
				Average Correction Factor	1.001

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	0.997742	0.997815
THC Cal Offset:	0.044648	0.019859
CH4 Cal Slope:	0.995779	0.999244
CH4 Cal Offset:	0.011467	-0.000539
NMHC Cal Slope:	0.999216	0.996990
NMHC Cal Offset:	0.033182	0.019197

Calibration Performed By: Parampreet Kaur

Wood Buffalo Environmental Association

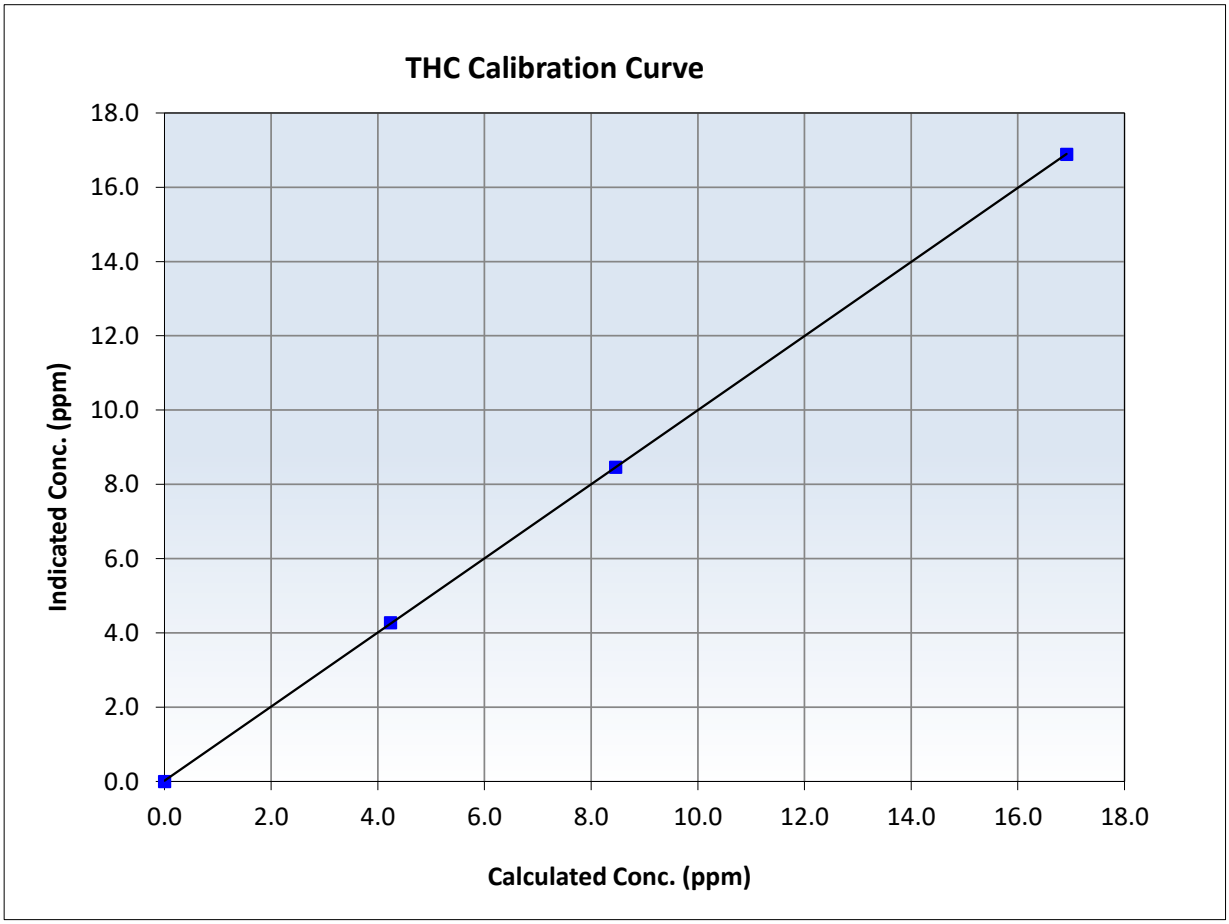
THC Calibration Summary

Station Information

Calibration Date:	November 21, 2025	Previous Calibration:	October 9, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	10:38	End Time (MST):	14:38
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	0.999993	≥0.995
16.91	16.89	1.0014	Slope	0.997815	0.90 - 1.10
8.46	8.46	0.9996			
4.24	4.28	0.9916	Intercept	0.019859	+/-0.5



Wood Buffalo Environmental Association

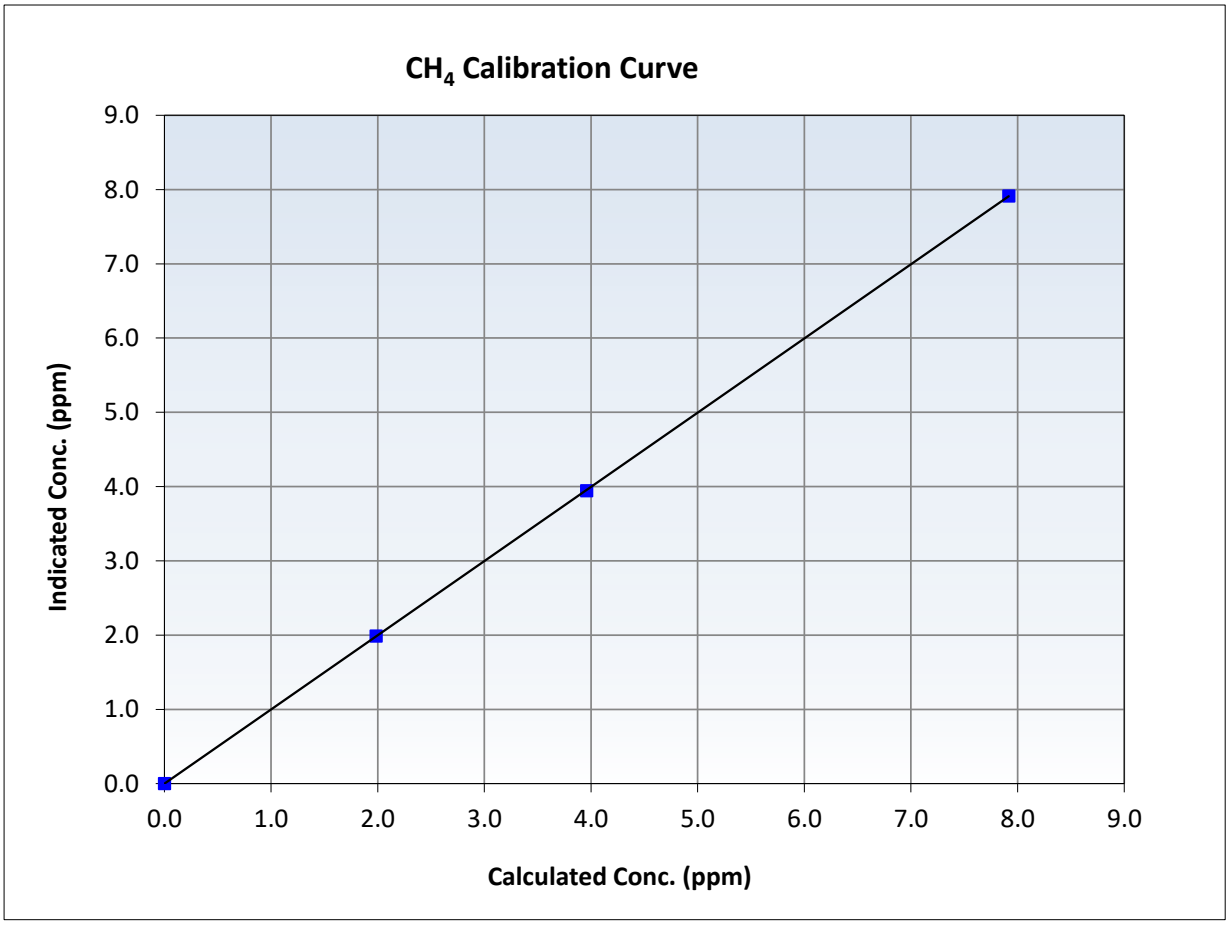
CH_4 Calibration Summary

Station Information

Calibration Date:	November 21, 2025	Previous Calibration:	October 9, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	10:38	End Time (MST):	14:38
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	0.999994	≥0.995
7.92	7.91	1.0003	Slope	0.999244	0.90 - 1.10
3.96	3.94	1.0038			
1.98	1.99	0.9975	Intercept	-0.000539	+/-0.5



Wood Buffalo Environmental Association

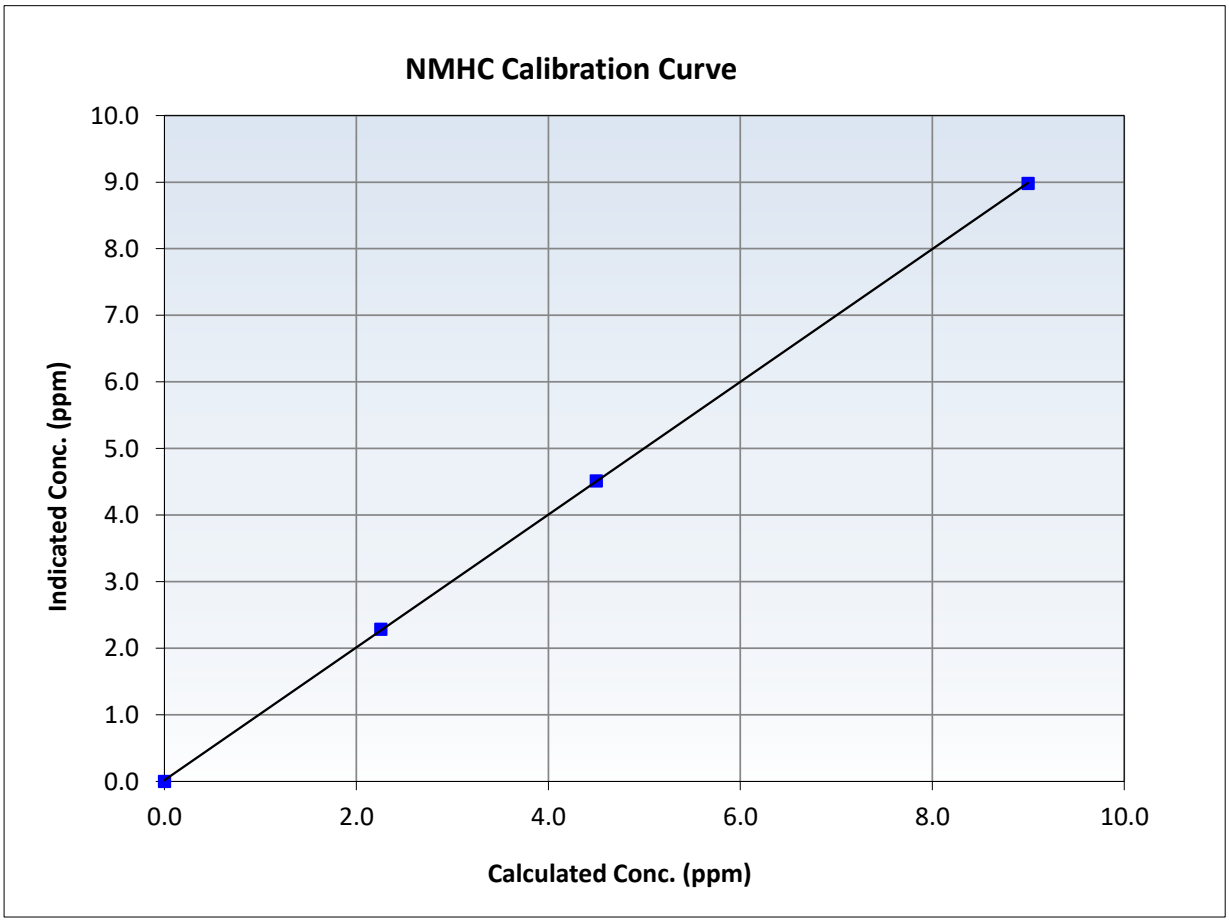
NMHC Calibration Summary

Station Information

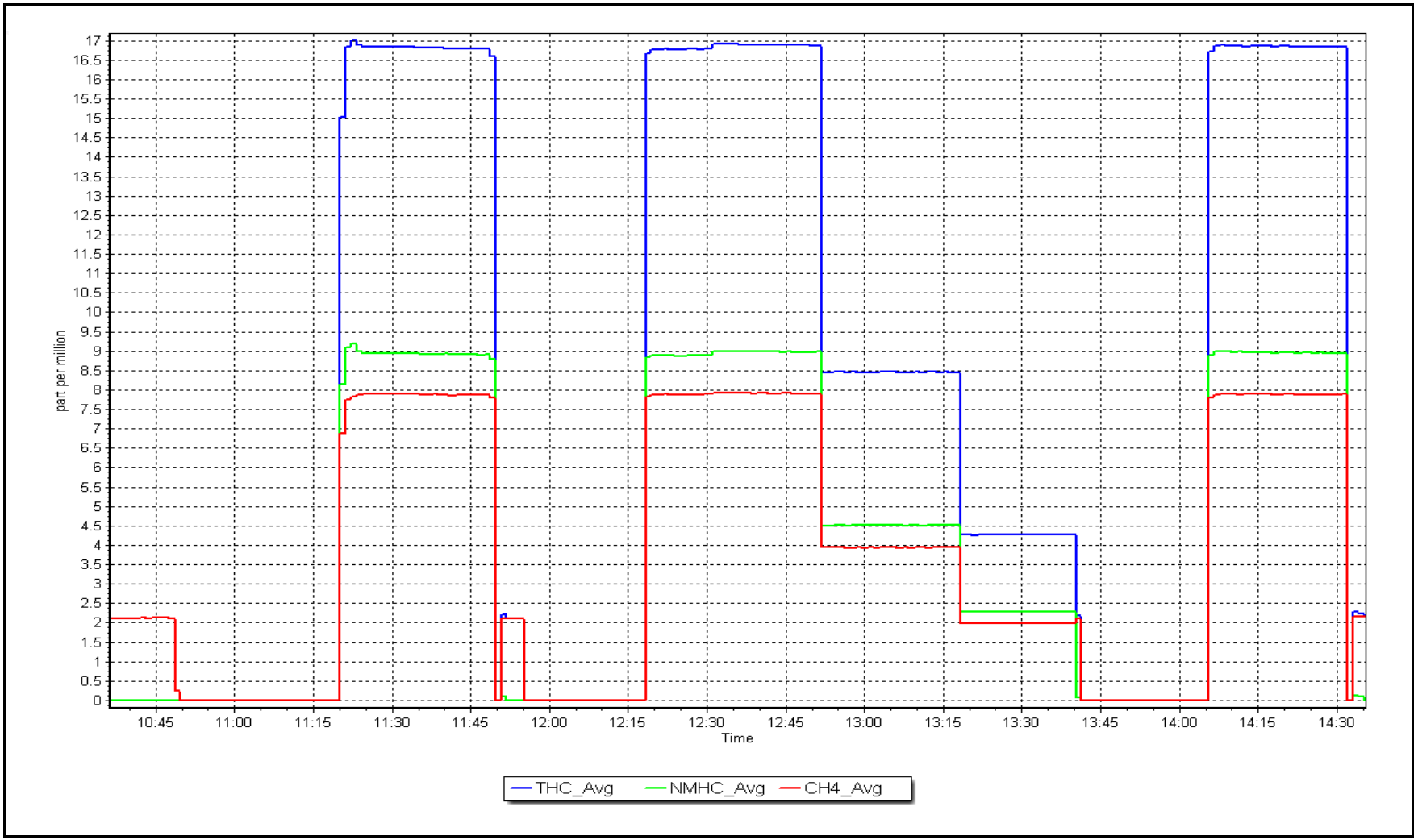
Calibration Date:	November 21, 2025	Previous Calibration:	October 9, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	10:38	End Time (MST):	14:38
Analyzer make:	Thermo 55i	Analyzer serial #:	1331259520

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999979	≥0.995
9.00	8.98	1.0020	Slope	0.996990	0.90 - 1.10
4.50	4.52	0.9964			
2.26	2.29	0.9864	Intercept	0.019197	+/-0.5



NMHC Calibration Plot Date: November 21, 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:	November 7, 2025
Last Cal Date:	October 17, 2025
Start time (MST):	10:55
End time (MST):	16:15
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	0.0	0.0	----	----
AF High point	4933	66.8	803.0	800.3	2.7	807.2	801.8	5.4	0.9948	0.9981
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 802.1 ppb	NO = 799.9 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = 0.6%
Baseline Corr 1st pt	NO_X = 807.2 ppb	NO = 801.8 ppb	As Found Statistics	*Percent Change	NO = 0.2%
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	0.909	NO bkgnd or offset:	6.4	6.3
NOX coeff or slope:	1.002	1.004	NOX bkgnd or offset:	6.6	6.6
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	185.1	185.7

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.996059	0.998479
NO_X Cal Offset:	2.251931	2.151910
NO Cal Slope:	0.997028	0.998642
NO Cal Offset:	1.951944	1.811941
NO_2 Cal Slope:	1.000683	1.004105
NO_2 Cal Offset:	0.151290	0.749299

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	4933	66.8	803.0	800.3	2.7	802.5	799.8	2.7	1.0006	1.0006
Mid point	4966	33.4	401.5	400.2	1.3	405.1	403.4	1.7	0.9912	0.9920
Low point	4983	16.7	200.7	200.1	0.7	204.1	202.6	1.5	0.9836	0.9876
As left zero	5000	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	----	----
As left span	4933	66.8	803.0	398.9	404.1	803.8	398.9	405.0	0.9990	1.0000
							Average Correction Factor		0.9918	0.9934

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	797.5	398.6	401.6	403.5	0.9952	100.5%
Mid GPT point	797.5	599.7	200.5	202.6	0.9895	101.1%
Low GPT point	797.5	699.0	101.2	103.1	0.9813	101.9%
				Average Correction Factor	0.9887	101.1%

Notes: Span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

NO_X Calibration Summary

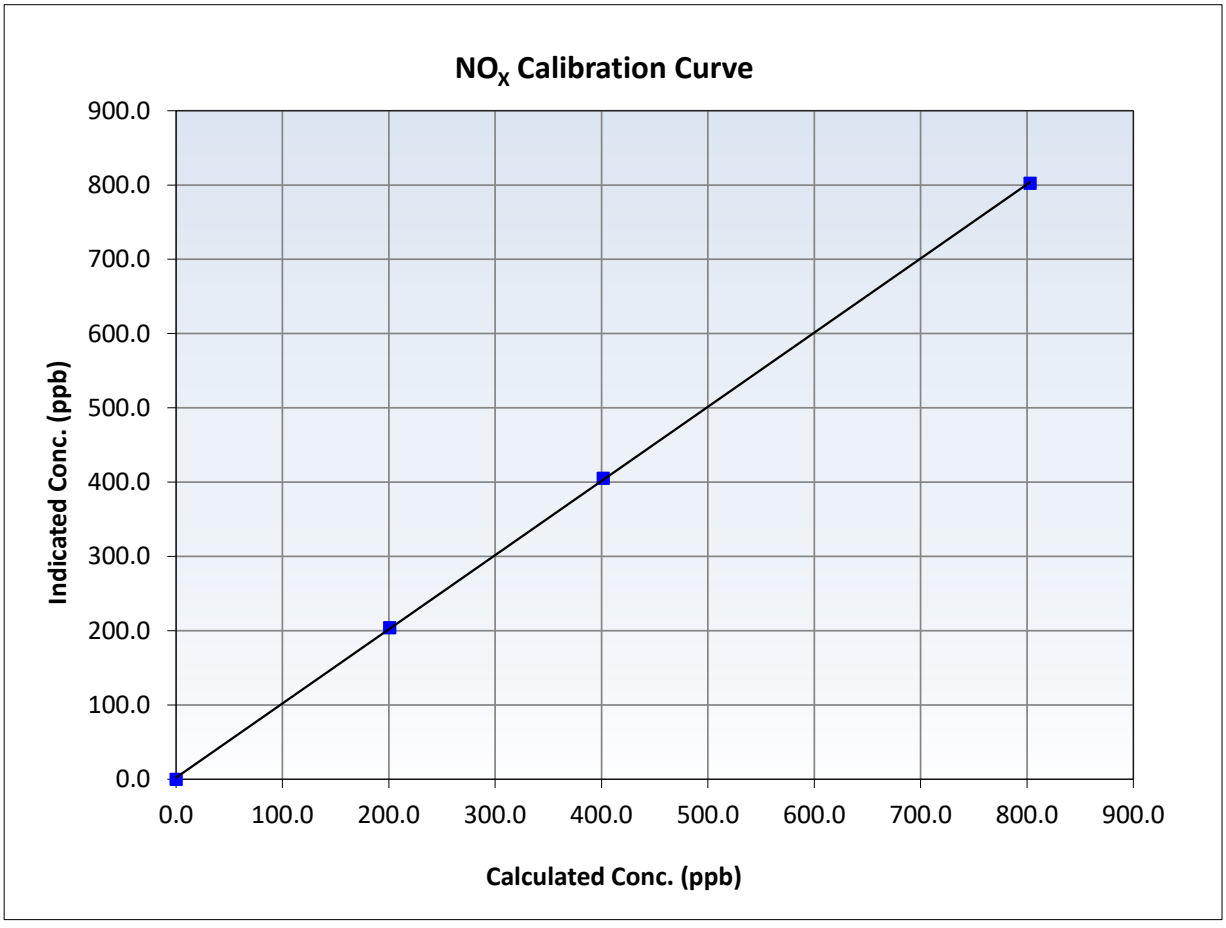
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 17, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	10:55	End Time (MST):	16:15
Analyzer make:	Thermo 42i	Analyzer serial #:	1160120024

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
803.0	802.5	1.0006
401.5	405.1	0.9912
200.7	204.1	0.9836

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999963	*≥0.995*
Slope	0.998479	*0.90 - 1.10*
Intercept	2.151910	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

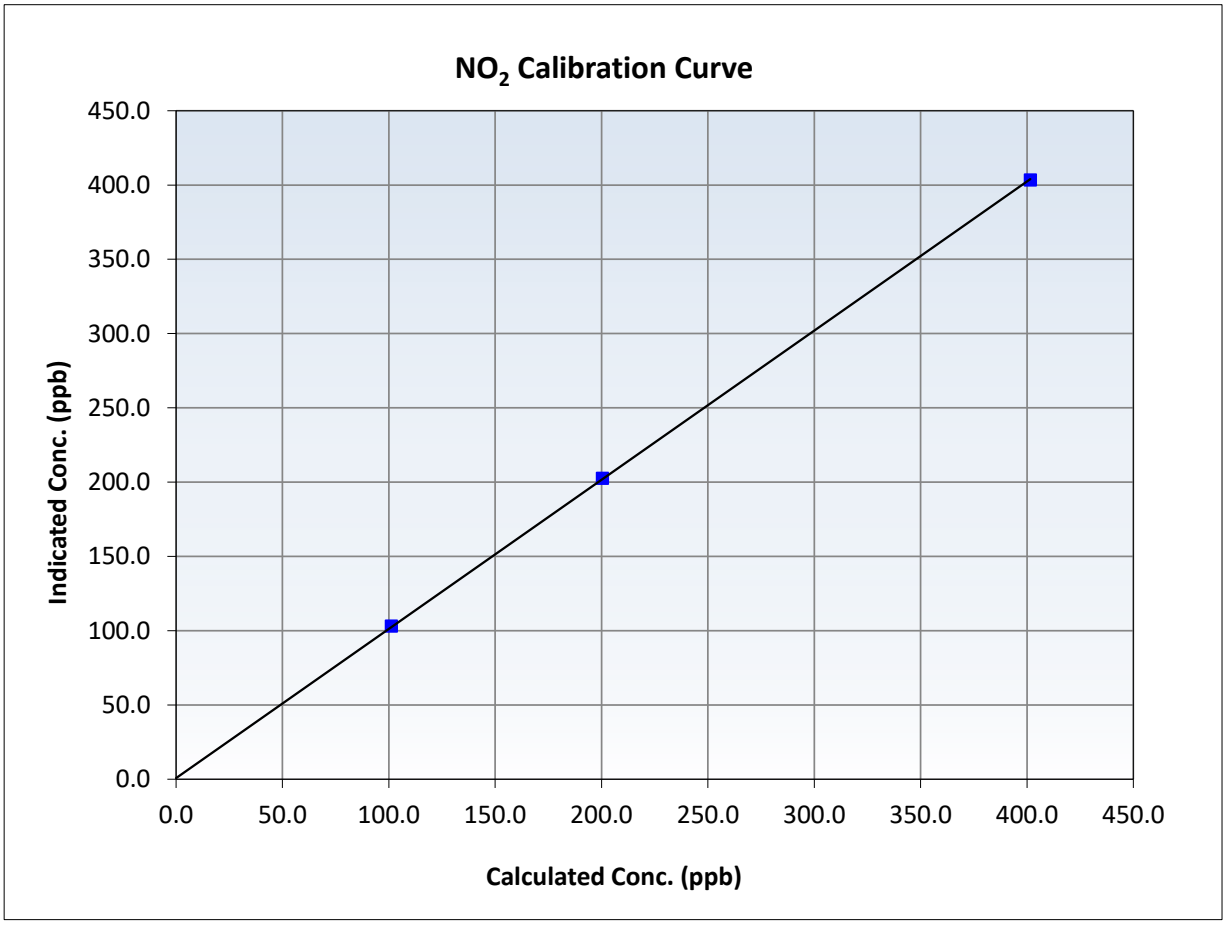
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 17, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	10:55	End Time (MST):	16:15
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	----
401.6	403.5	0.9952
200.5	202.6	0.9895
101.2	103.1	0.9813

Statistical Evaluation		Limits
Correlation Coefficient	0.999979	≥0.995
Slope	1.004105	0.90 - 1.10
Intercept	0.749299	+/-20



Wood Buffalo Environmental Association

NO Calibration Summary

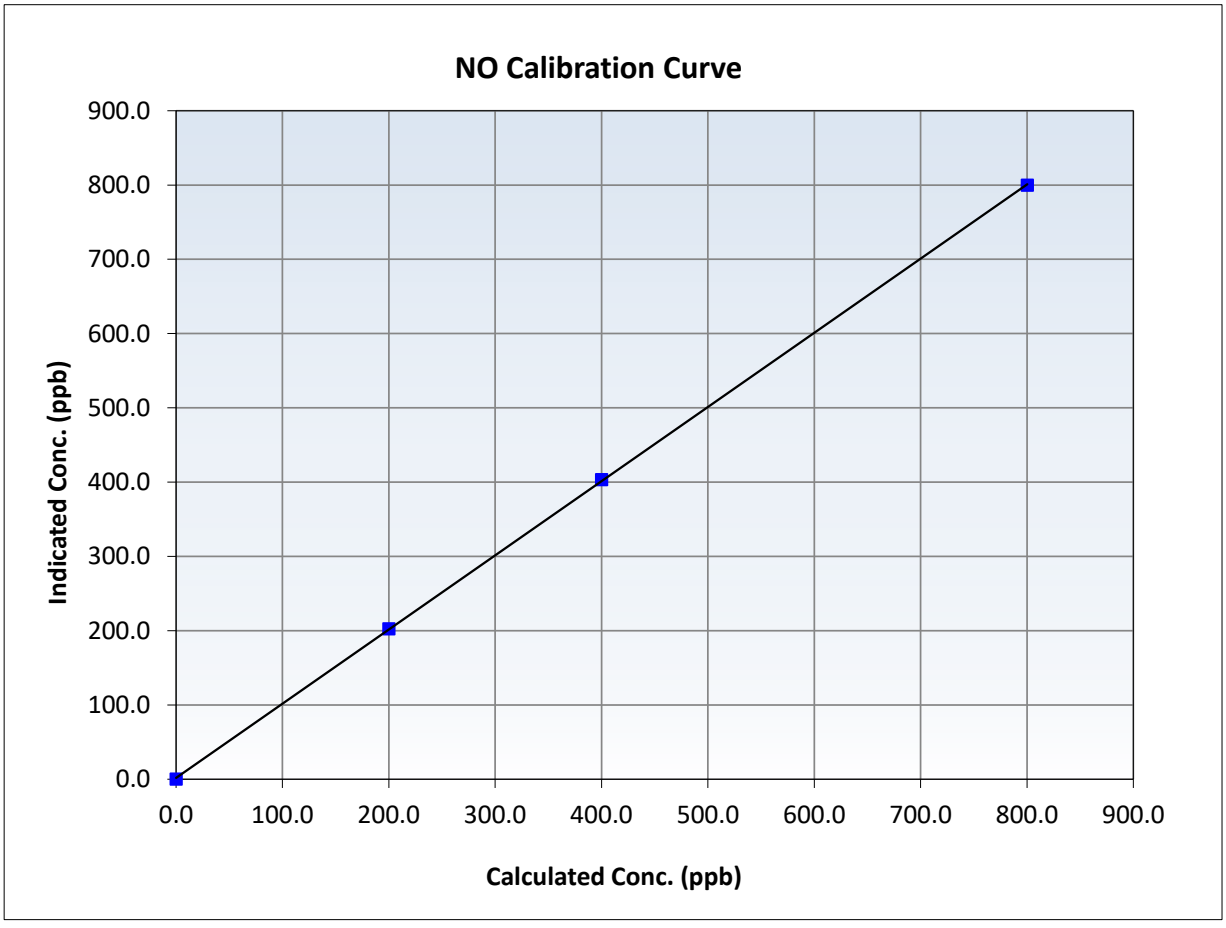
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 17, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	10:55	End Time (MST):	16:15
Analyzer make:	Thermo 42i	Analyzer serial #:	1160120024

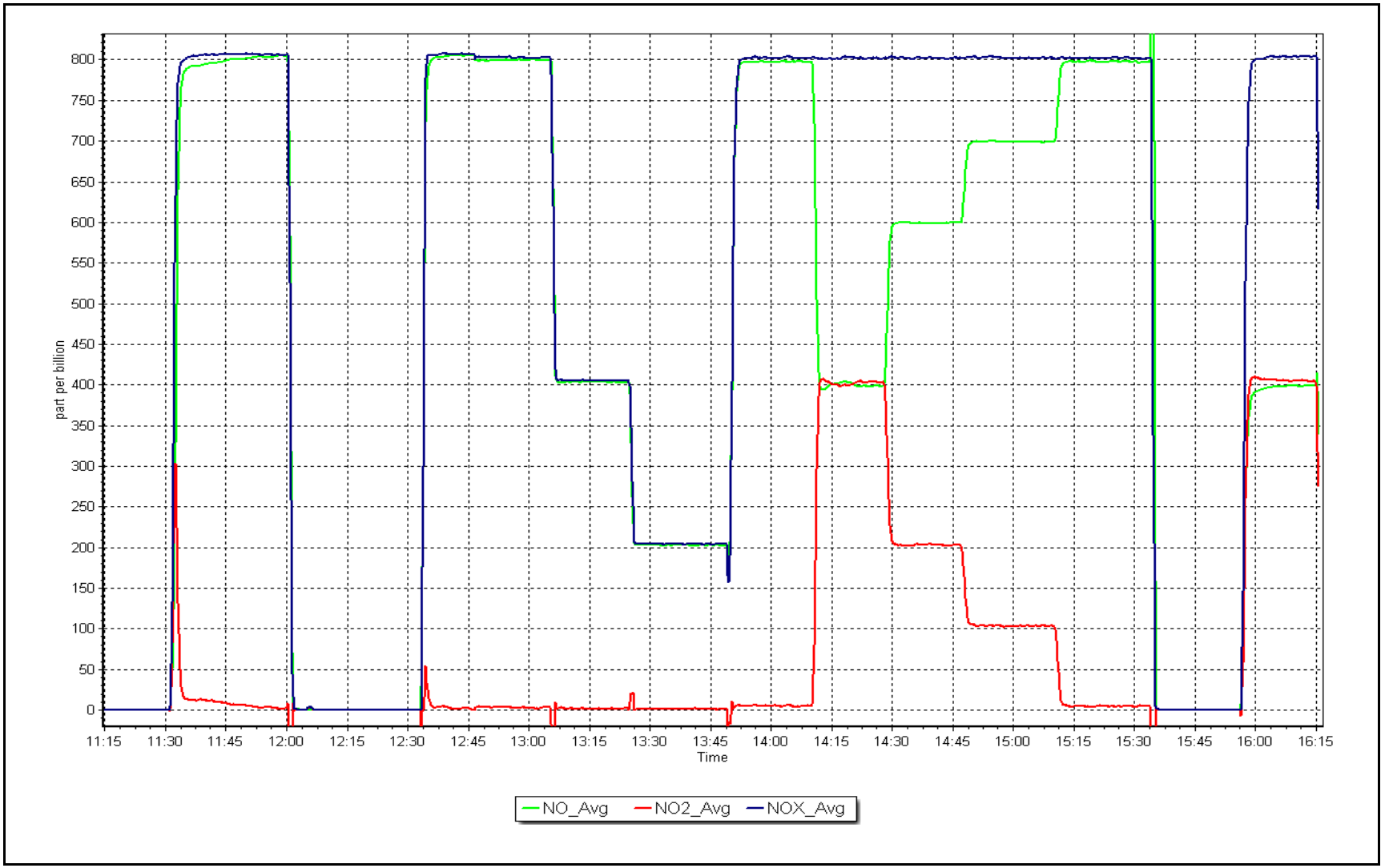
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
800.3	799.8	1.0006
400.2	403.4	0.9920
200.1	202.6	0.9876

Statistical Evaluation		Limits
Correlation Coefficient	0.999974	≥0.995
Slope	0.998642	0.90 - 1.10
Intercept	1.811941	+/-20



NO_X Calibration Plot Date: November 7, 2025 Location: Athabasca Valley



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Athabasca Valley	Station number:	AMS07
Calibration Date:	November 4, 2025	Last Cal Date:	October 1, 2025
Start time (MST):	10:09	End time (MST):	12:59
Reason:	Routine		

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:	1.005086	1.006714	Backgd or Offset:	-1.8	-1.8
Calibration intercept:	-0.240000	0.100000	Coeff or Slope:	1.556	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	5000	NA	0.0	-0.2	----
As found High point	5000	1705.1	400.0	401.8	0.995
As found Mid point					
As found Low point					
Baseline Corr As found:	402.0	Previous response	401.8	*% 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	NA	0.0	0.0	----
High point	5000	1705.1	400.0	402.6	0.994
Mid point	5000	1172.8	200.0	201.9	0.991
Low point	5000	921.2	100.0	100.6	0.994
As left zero	5000	NA	0.0	-0.2	----
As left span	5000	1582.6	400.0	406.0	0.985
				Average Correction Factor	0.993

Notes: No adjustments needed.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

O_3 Calibration Summary

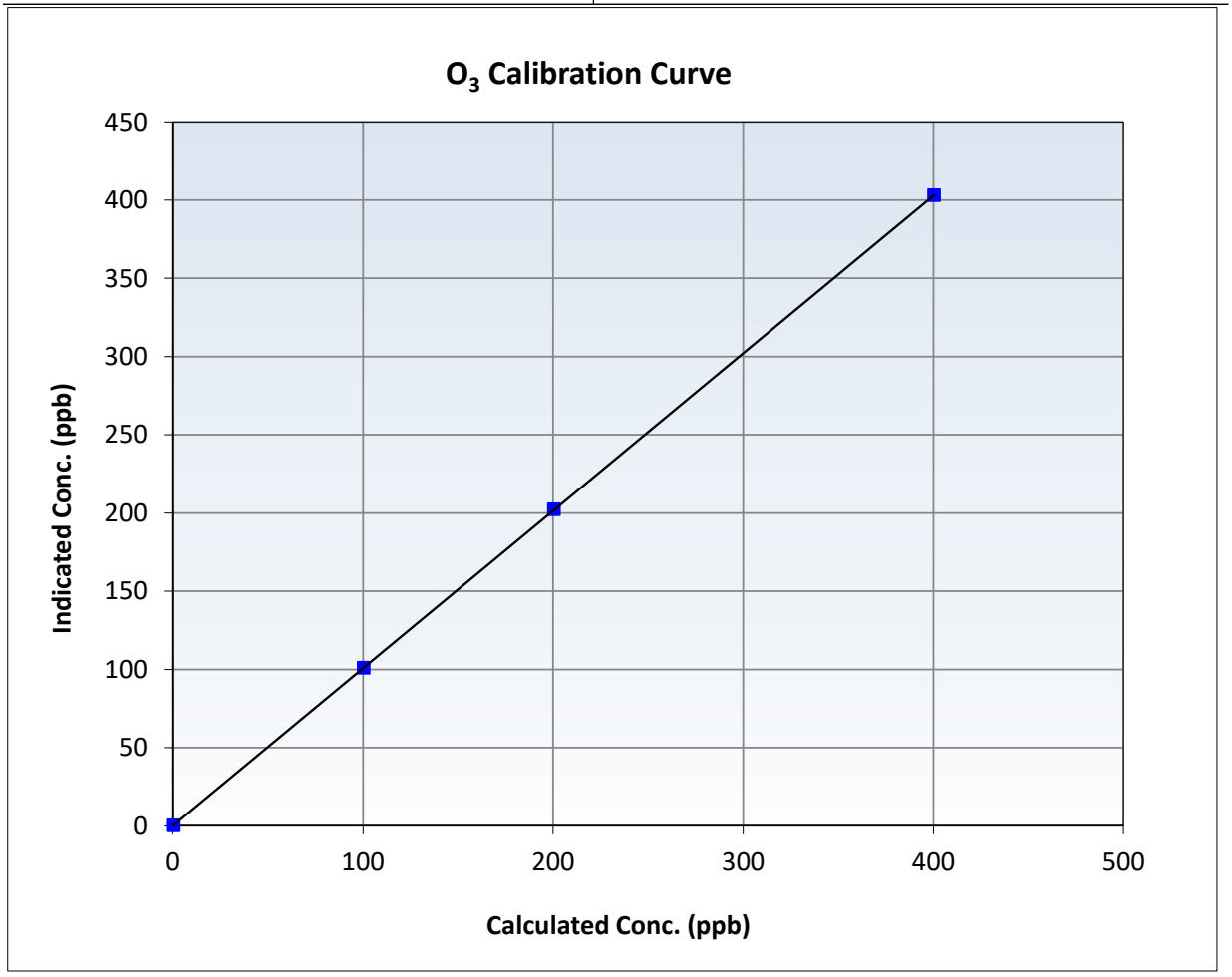
Station Information

Calibration Date:	November 4, 2025	Previous Calibration:	October 1, 2025
Station Name:	Athabasca Valley	Station Number:	AMS07
Start Time (MST):	10:09	End Time (MST):	12:59
Analyzer make:	Thermo 49i	Analyzer serial #:	1507964700

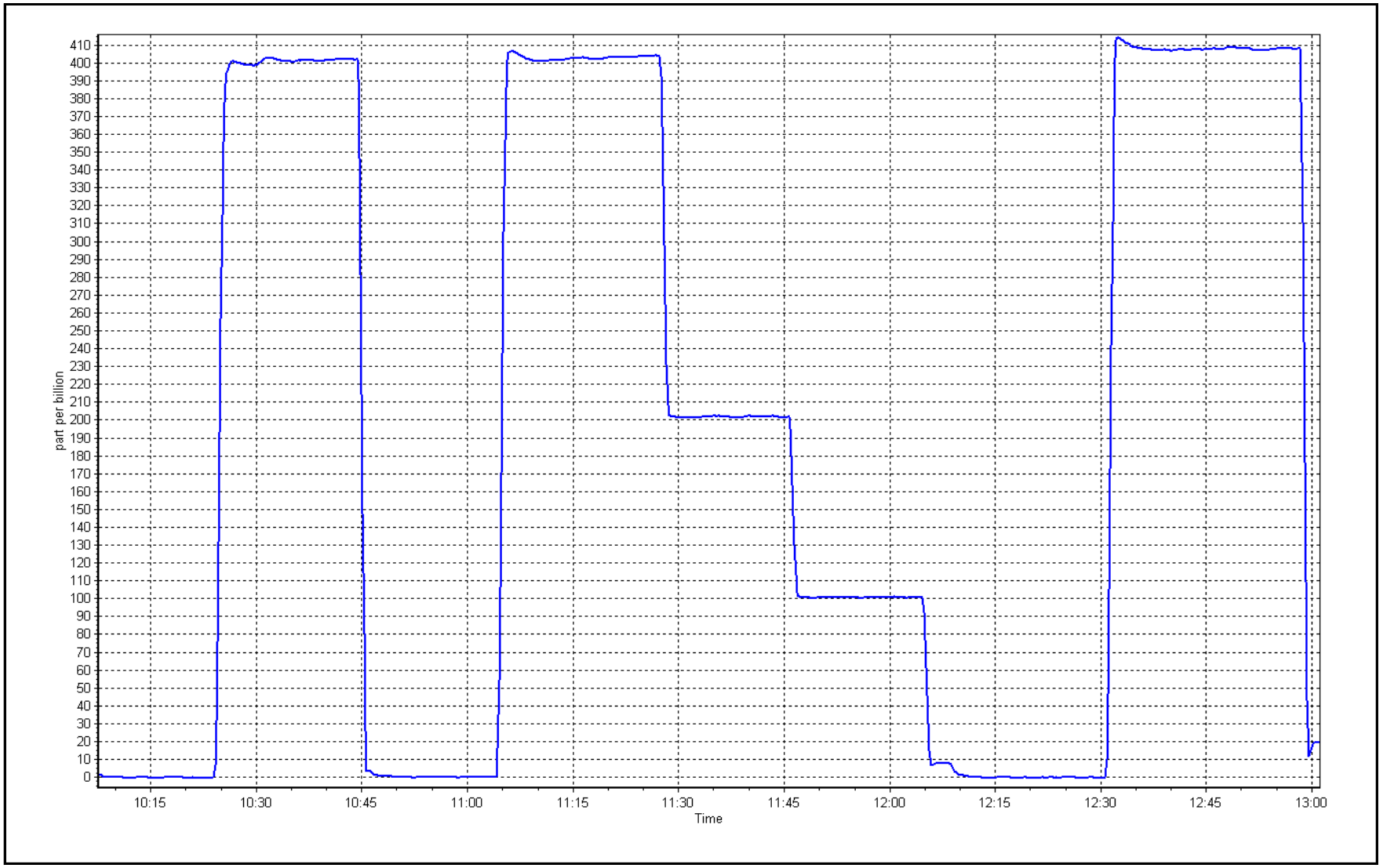
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
400.0	402.6	0.9935
200.0	201.9	0.9906
100.0	100.6	0.9940

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999997	*≥0.995*
Slope	1.006714	*0.90 - 1.10*
Intercept	0.100000	*+/- 5*



O_3 Calibration Plot Date: November 4, 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:	November 24, 2025	Last Cal Date:	October 9, 2025
Start time (MST):	13:01	End time (MST):	14:11
Analyzer Make:	API T640	S/N:	2235
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 (^{o}C)	-4.70	-4.96	-4.70	☐	+/- 2 ^{o}C
P (mmHg)	741.06	740.66	741.06	☐	+/- 10 mmHg
Flow (LPM)	5.03	5.00	5.03	☐	+/- 0.25 LPM
PW% (pump)	35	-----	35	☐	>80%
Zero Verification	PM w/o HEPA:	8.20	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: 10.9 — Expiry Date: July 16, 2026

Lot No.: 100128-050-050

Parameter	As found	Post maintenance	As left	Adjusted	(Limits)
PMT Peak Test	10.90	11.10	11.10	☐	+/- 0.5

Date Optical Chamber Cleaned: November 24, 2025

Date Disposable Filter Changed: November 24, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0.00 <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 checks done.

Calibration by: Jan Castro

Wood Buffalo Environmental Association

CO Calibration Report

Station Information

Station Name:	Athabasca Valley	Station number:	AMS 07
Calibration Date:	November 4, 2025	Last Cal Date:	October 24, 2025
Start time (MST):	13:01	End time (MST):	16:08
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:	0.998381	0.996326	Backgd or Offset:	5.170	5.170
Calibration intercept:	0.144014	0.179992	Coeff or Slope:	1.077	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	0.0	----
As found High point	4932	67.8	40.0	40.0	1.003
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr As found:	39.94	Prev response:	40.12	*% 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	

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	1.002
Mid point	4966	33.9	20.0	20.3	0.986
Low point	4983	16.9	10.0	10.2	0.976
As left zero	5000	0.0	0.0	0.0	----
As left span	4932	67.8	40.0	39.9	1.003
				Average Correction Factor	0.988

Notes: No adjustments needed.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

CO Calibration Summary

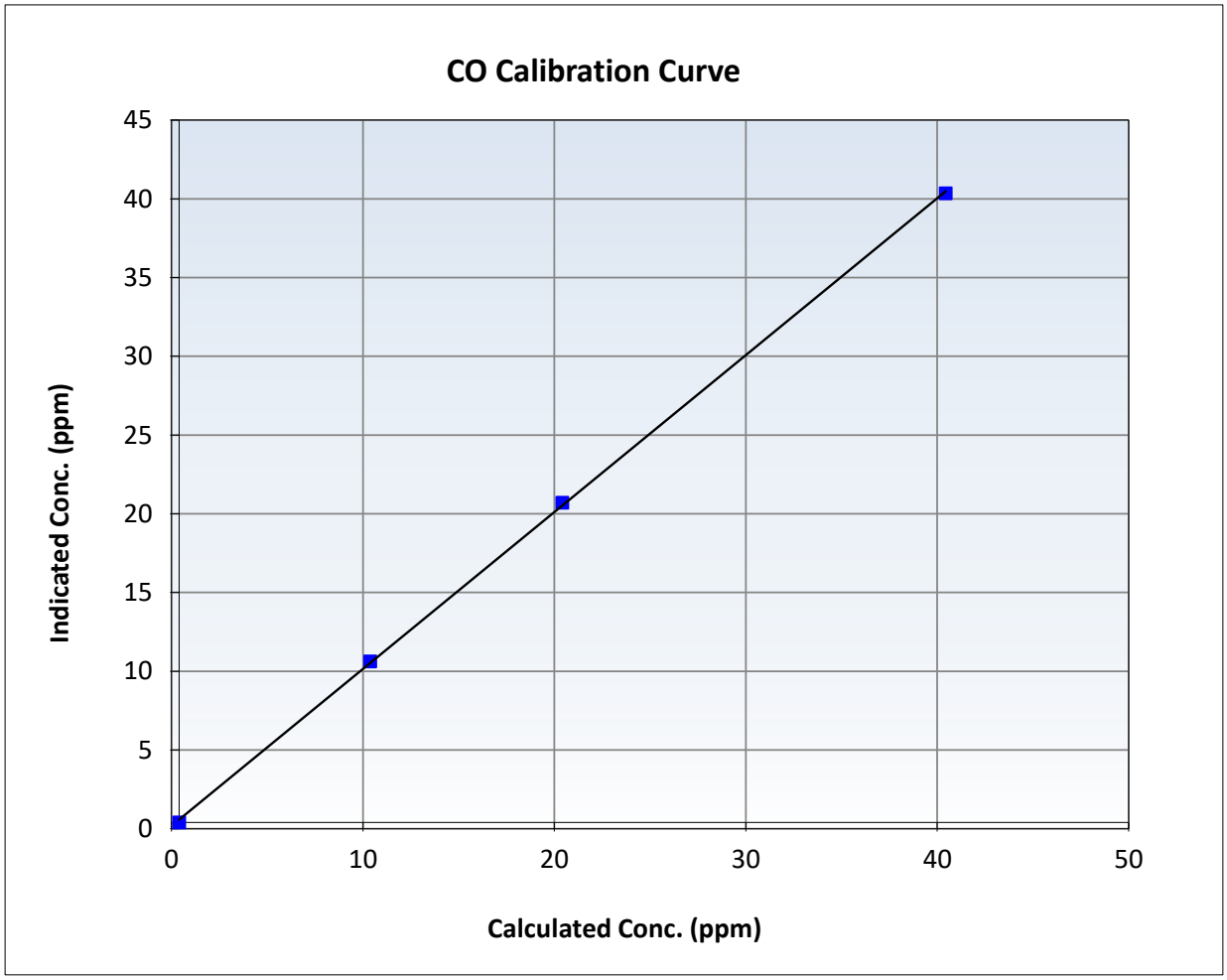
Station Information

Calibration Date:	November 4, 2025	Previous Calibration:	October 24, 2025
Station Name:	Athabasca Valley	Station Number:	AMS 07
Start Time (MST):	13:01	End Time (MST):	16:08
Analyzer make:	Thermo 48i-TLE	Analyzer serial #:	1408761381

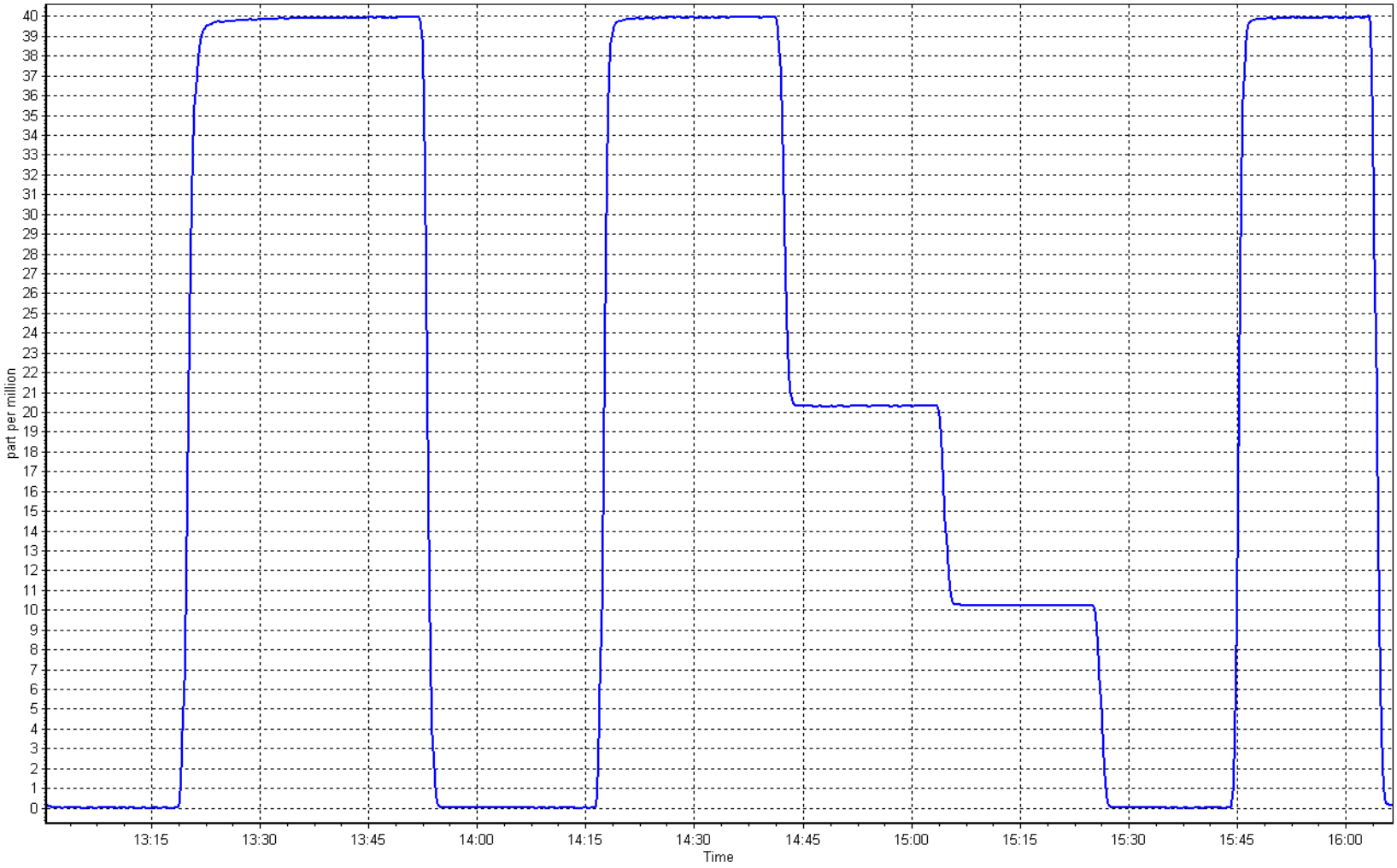
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
40.0	40.0	1.0021
20.0	20.3	0.9858
10.0	10.2	0.9757

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999900	*≥0.995*
Slope	0.996326	*0.90 - 1.10*
Intercept	0.179992	*+/-1.5*



CO Calibration Plot Date: November 4, 2025 Location: Athabasca Valley



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS08
FORT CHIPEWYAN
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Fort Chipewyan	Station number:	AMS 08
Calibration Date:	November 18 2025	Last Cal Date:	October 16 2025
Start time (MST):	10:09	End time (MST):	12:37
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:	0.999773	1.007484	Backgd or Offset:	1.9	1.9
Calibration intercept:	-0.603699	0.194751	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	0.1	----
As found High point	4920	80.3	800.4	808.0	0.991
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	807.9	Previous response	799.6	*% 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	80.3	800.4	807.0	0.992
Mid point	4960	40.2	400.7	402.7	0.995
Low point	4980	20.1	200.4	202.7	0.988
As left zero	5000	0.0	0.0	0.3	----
As left span	4920	80.3	800.4	805.0	0.994
				Average Correction Factor:	0.992

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

Calibration Performed By: Jeremy cardinal

Wood Buffalo Environmental Association

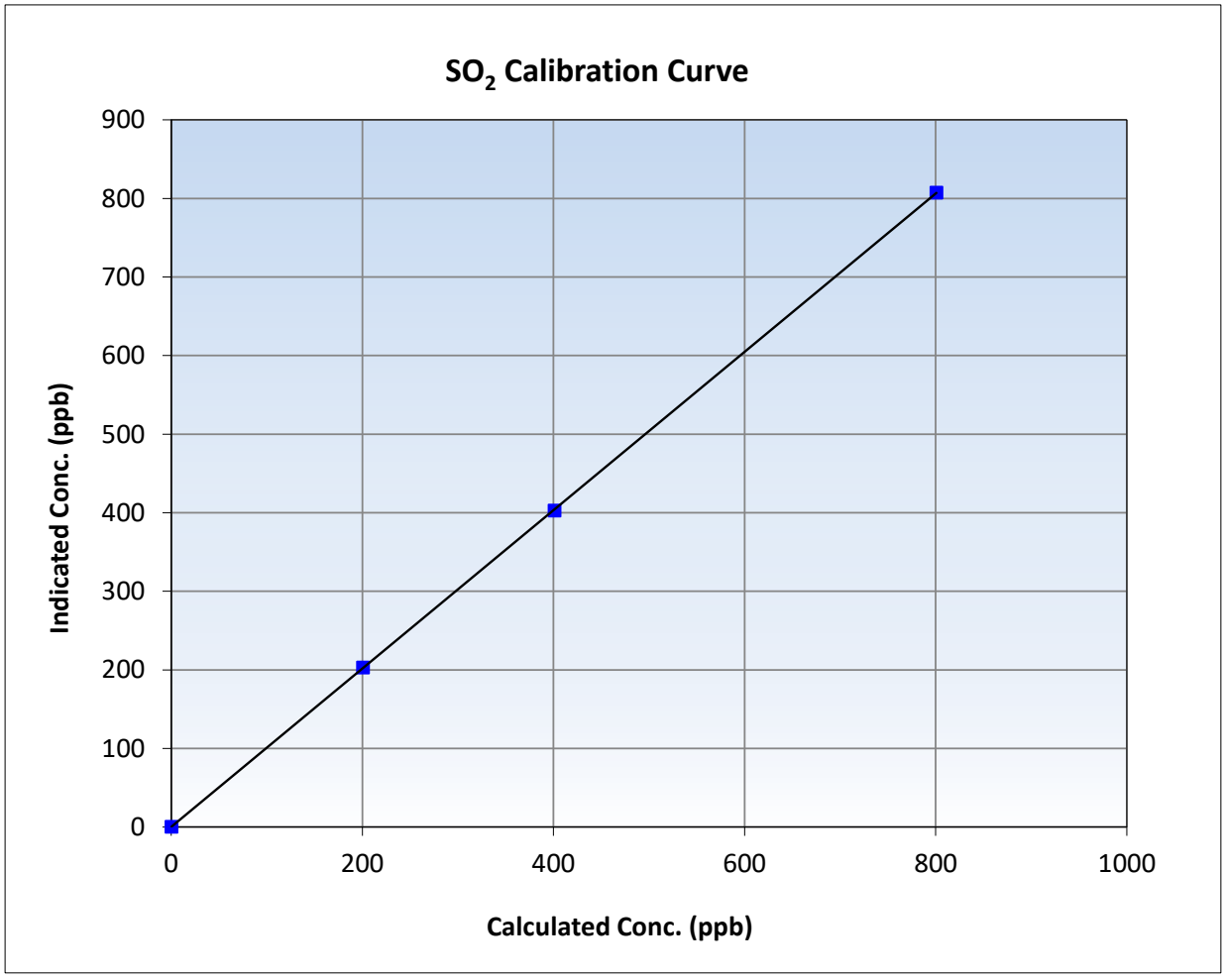
SO_2 Calibration Summary

Station Information

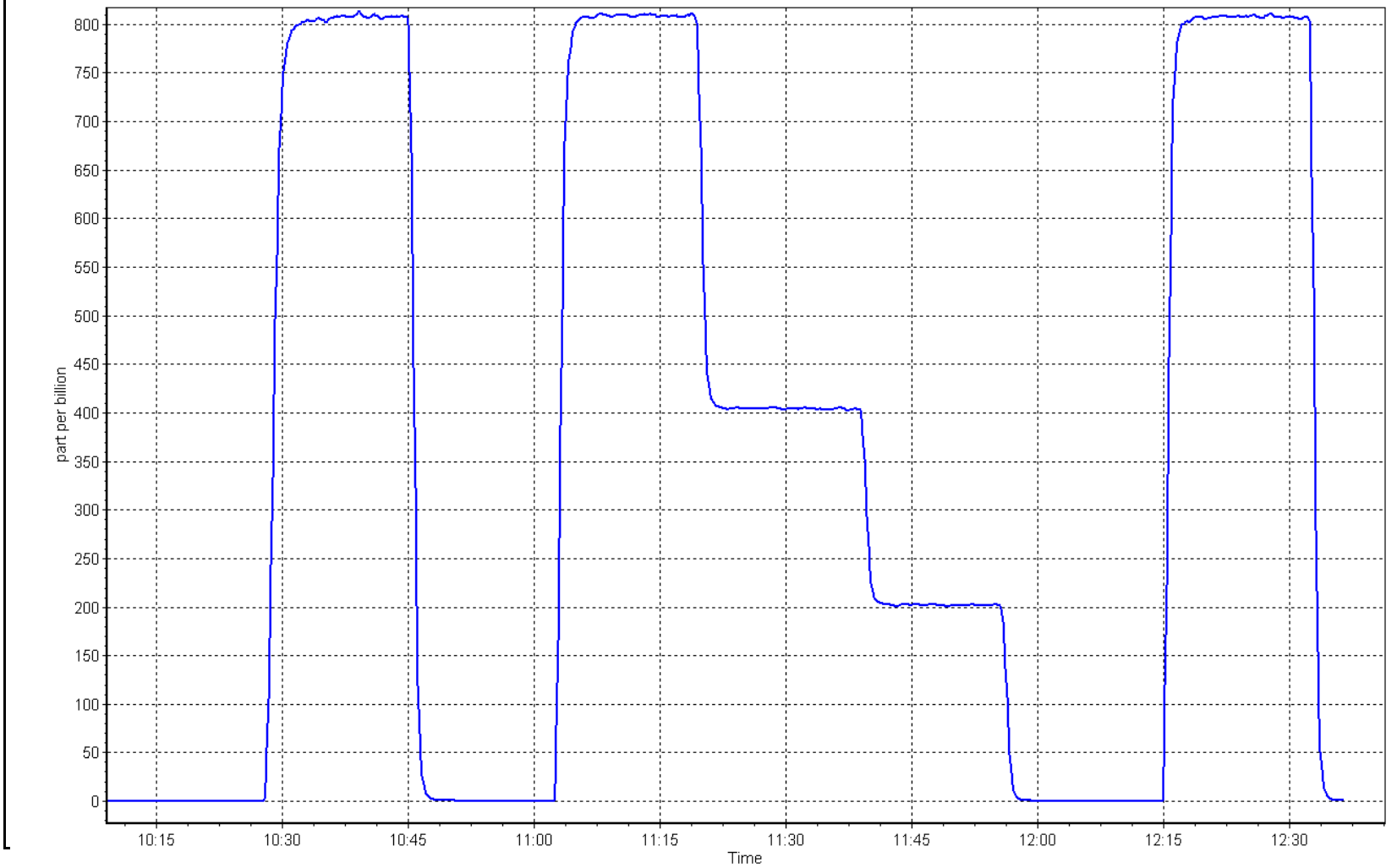
Calibration Date:	November 18 2025	Previous Calibration:	October 16 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	10:09	End Time (MST):	12:37
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1236656116

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.3	----	Correlation Coefficient	0.999994	*≥0.995*
800.4	807.0	0.9918	Slope	1.007484	*0.90 - 1.10*
400.7	402.7	0.9950			
200.4	202.7	0.9884	Intercept	0.194751	*+/-30*



SO2 Calibration Plot Date: November 18 2025 Location: Fort Chipewyan



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Fort Chipewyan	Station number:	AMS 08
Calibration Date:	November 13 2025	Last Cal Date:	October 23 2025
Start time (MST):	9:38	End time (MST):	1:26
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:	0.997099	1.013110	Backgd or Offset:	2.8	2.8
Calibration intercept:	0.082015	-0.078292	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	83.6	0.954
As found Mid point	4959	41.3	40.0	41.8	0.952
As found Low point	4979	20.7	20.0	20.7	0.959
New cylinder response					

Baseline Corr As found:	83.8	Prev response:	79.81	*% change:	4.8%
Baseline Corr 2nd AF pt:	42.0	AF Slope:	1.048562	AF Intercept:	-0.218910
Baseline Corr 3rd AF pt:	20.9	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	-0.2	----
High point	4917	82.6	80.0	80.8	0.990
Mid point	4959	41.3	40.0	40.7	0.982
Low point	4979	20.7	20.0	20.2	0.992
As left zero	5000	0.0	0.0	0.3	----
As left span	4917	82.6	80.0	82.4	0.970
SO2 Scrubber Check	4920	80.3	803.0	0.1	----
Date of last scrubber change:		May 15, 2025		Ave Corr Factor	0.988
Date of last converter efficiency test:					

Notes: No adjustments made.

Calibration Performed By: jermey cardinal

Wood Buffalo Environmental Association

TRS Calibration Summary

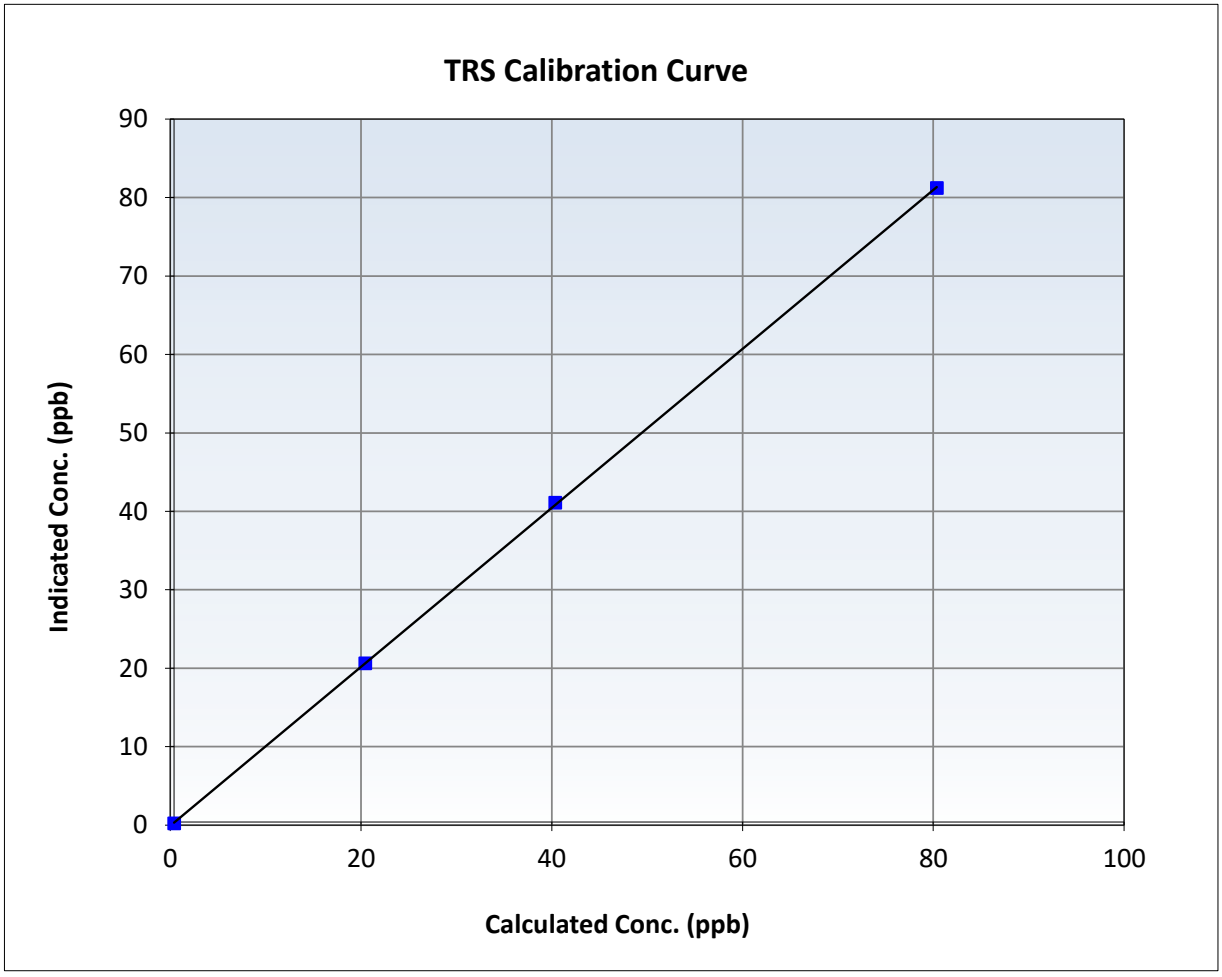
Station Information

Calibration Date:	November 13 2025	Previous Calibration:	October 23 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	9:38	End Time (MST):	1:26
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1218153461

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
80.0	80.8	0.9896
40.0	40.7	0.9822
20.0	20.2	0.9920

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999969	*≥0.995*
Slope	1.013110	*0.90 - 1.10*
Intercept	-0.078292	*+/-3*



TRS Calibration Plot Date: November 13 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:	November 12 2025
Last Cal Date:	October 17 2025
Start time (MST):	11:14
End time (MST):	3:23
Reason:	As Found

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	-0.3	-0.8	----	----
AF High point	4933	66.7	801.8	800.4	1.3	749.7	746.4	3.3	1.0680	1.0720
AF Mid point	4967	33.3	400.2	399.6	0.7	372.8	371.2	1.6	1.0707	1.0756
AF Low point	4983	16.7	200.7	200.4	0.3	187.1	184.8	2.2	1.0672	1.0827
New cyl resp										

Previous Response	NO_X = 799.6 ppb	NO = 798.8 ppb
Baseline Corr 1st pt	NO_X = 750.7 ppb	NO = 746.7 ppb
Baseline Corr 2nd pt	NO_X = 373.8 ppb	NO = 371.5 ppb
Baseline Corr 3rd pt	NO_X = 188.1 ppb	NO = 185.1 ppb

* = > +/-5% change initiates investigation

*Percent Change NO_X = -6.5%

*Percent Change NO = -7.0%

As Found Statistics

As found	NO_X r^2: 0.999998	Nx Sl: 0.936090	Nx Int: -1.127
As found	NO r^2: 0.999992	NO Sl: 0.933465	NO Int: -1.287
As found	NO_2 r^2: 0.999908	NO2 Sl: 1.005307	NO_2 Int: -2.395

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	-0.8	----	----
As found high GPT point	743.9	368.1	377.1	377.8	0.9982	100.2%
As found mid GPT point	743.9	548.6	196.6	193.9	1.0141	98.6%
As found low GPT point	743.9	644.8	100.4	97.3	1.0322	96.9%

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:	0.806	0.806	NO bkgnd or offset:	0.8	0.8
NOX coeff or slope:	0.996	0.996	NOX bkgnd or offset:	1.6	1.6
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	159.2	159.2

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.998321	
NO_X Cal Offset:	-0.825795	
NO Cal Slope:	0.999327	
NO Cal Offset:	-1.145428	
NO_2 Cal Slope:	1.005011	
NO_2 Cal Offset:	-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										
High point										
Mid point										
Low point										
As left zero										
As left span										
								Average Correction Factor		

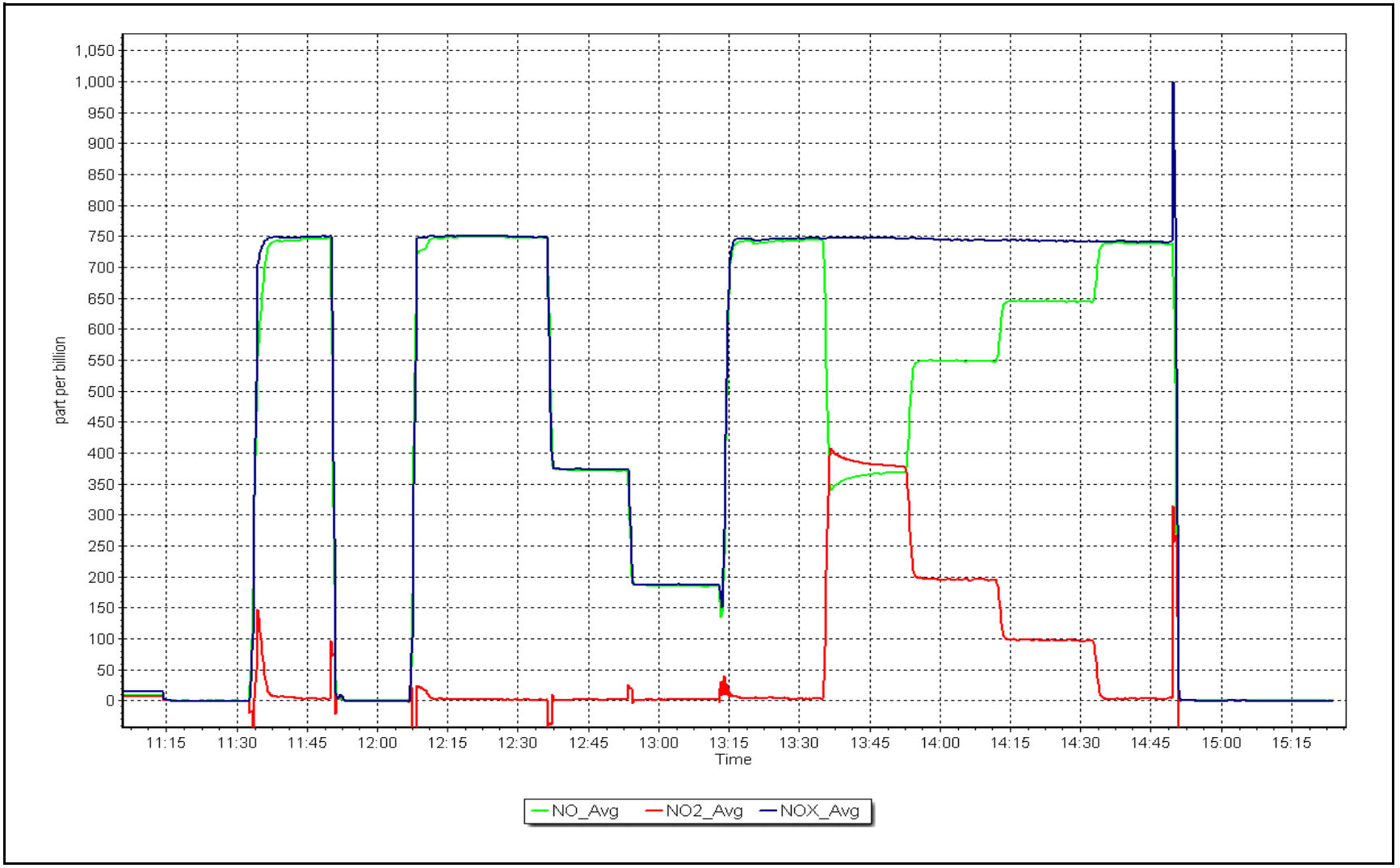
GPT Calibration Data

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 found calibration for pump replacement.

Calibration Performed By: Jermey cardinal

NO_X Calibration Plot Date: November 12, 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:	November 17, 2025
Last Cal Date:	November 12, 2025
Start time (MST):	9:45
End time (MST):	14:04
Reason:	Maintenance

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										
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: 12124313137

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

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

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.998321	1.009983
NO_X Cal Offset:	-0.825795	-0.565530
NO Cal Slope:	0.999327	1.008966
NO Cal Offset:	-1.145428	-0.745227
NO_2 Cal Slope:	1.005011	1.008746
NO_2 Cal Offset:	-1.625691	0.862590

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	-1.1	-0.3	-0.8	----	----
High point	4933	66.7	801.8	800.4	1.3	809.0	807.0	1.6	0.9911	0.9919
Mid point	4967	33.3	400.2	399.6	0.7	403.8	402.5	1.7	0.9912	0.9927
Low point	4983	16.7	200.7	200.4	0.3	202.8	200.8	2.0	0.9898	0.9980
As left zero	5000	0.0	0.0	0.0	0.0	-0.6	-0.3	-0.4	----	----
As left span	4933	66.7	801.8	416.1	385.7	810.0	416.1	394.3	0.9899	1.0000
								Average Correction Factor	0.9907	0.9942

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	-0.8	----	----
High GPT point	806.0	410.5	396.8	400.4	0.9911	100.9%
Mid GPT point	806.0	595.5	211.8	215.0	0.9853	101.5%
Low GPT point	806.0	701.7	105.6	109.4	0.9656	103.6%
				Average Correction Factor	0.9806	102.0%

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

Calibration Performed By: Jermey cardinal

Wood Buffalo Environmental Association

NO_X Calibration Summary

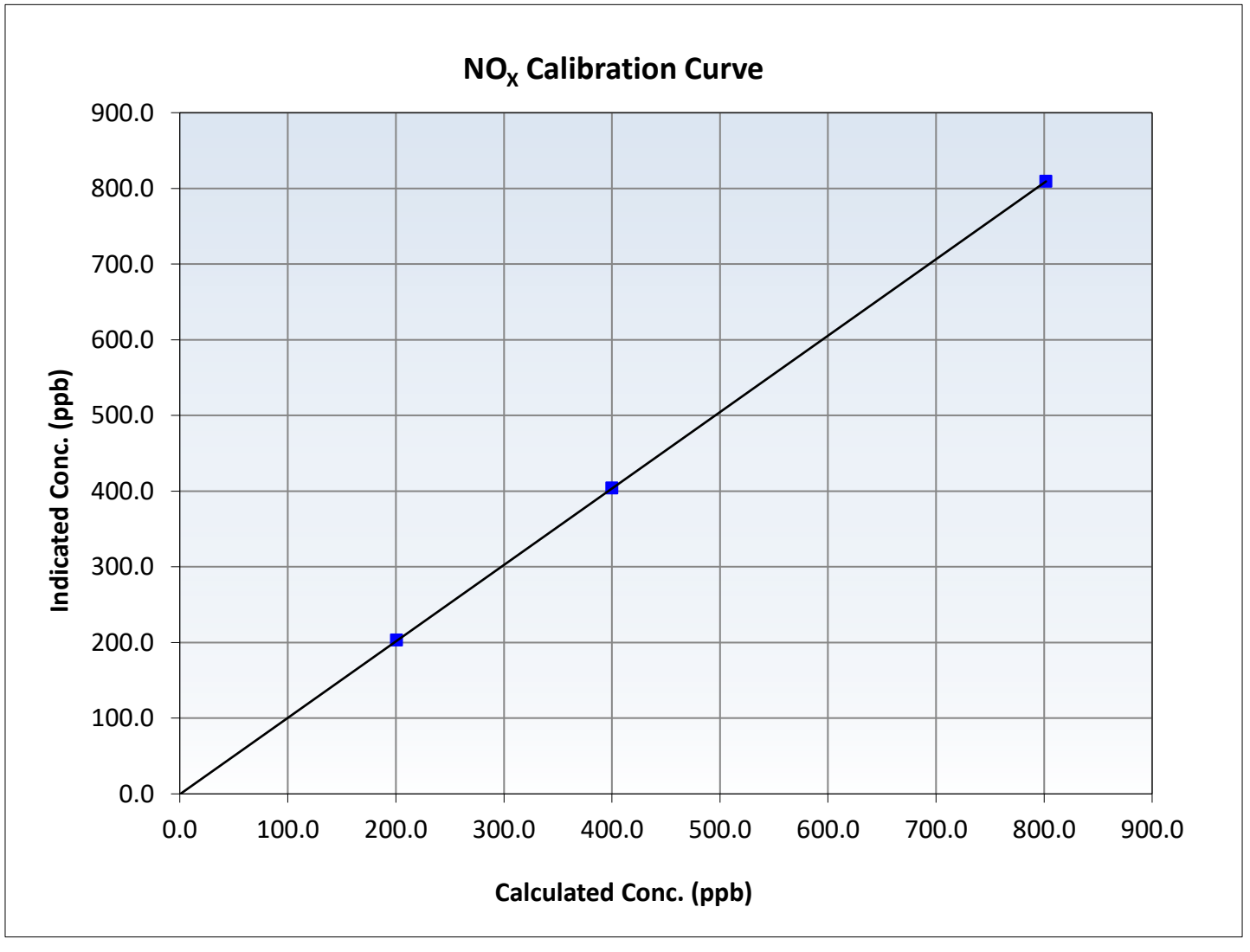
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	November 12, 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	9:45	End Time (MST):	14:04
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12124313137

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-1.1	----
801.8	809.0	0.9911
400.2	403.8	0.9912
200.7	202.8	0.9898

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	1.009983	*0.90 - 1.10*
Intercept	-0.565530	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

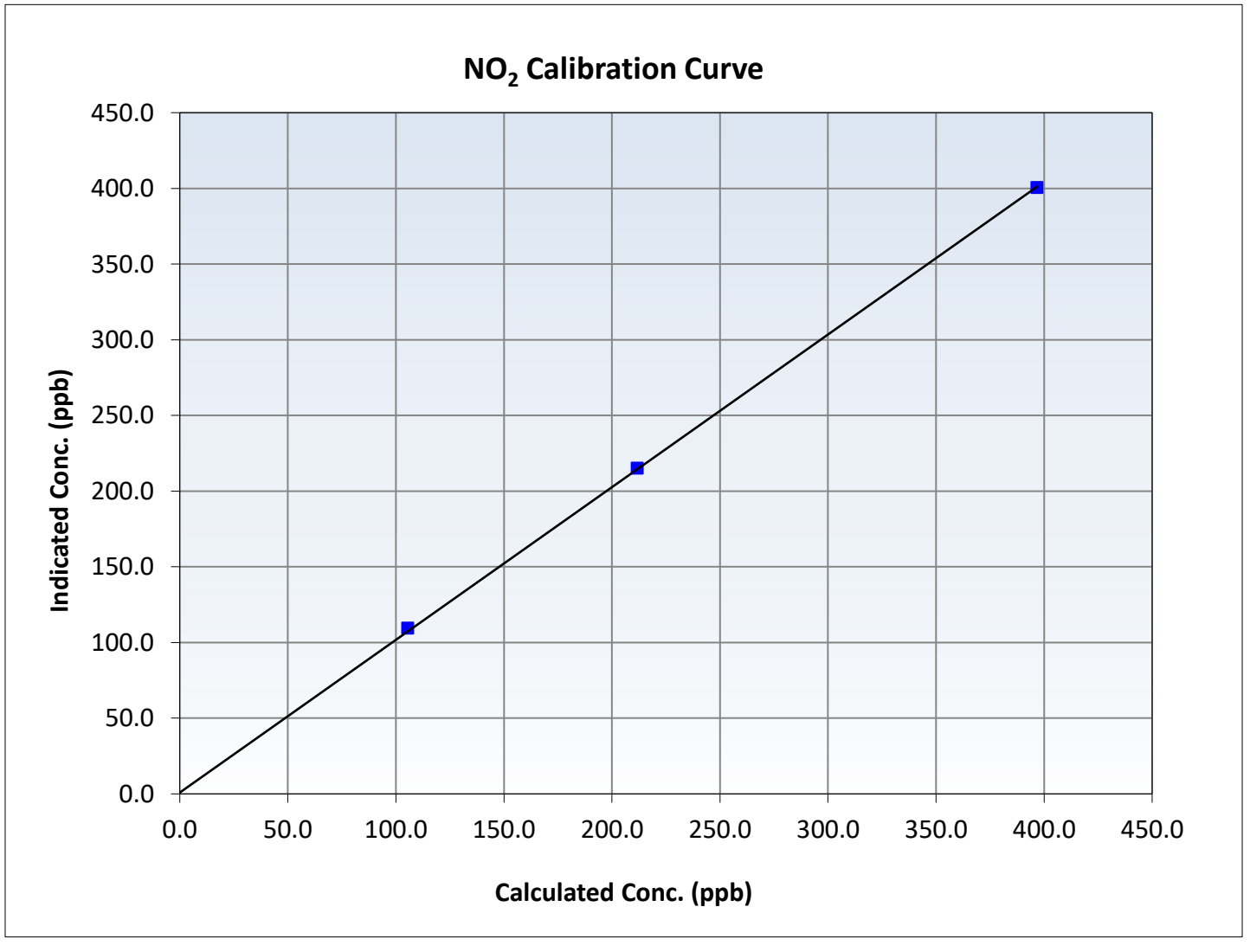
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	November 12, 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	9:45	End Time (MST):	14:04
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12124313137

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.8	----
396.8	400.4	0.9911
211.8	215.0	0.9853
105.6	109.4	0.9656

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999915	*≥0.995*
Slope	1.008746	*0.90 - 1.10*
Intercept	0.862590	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

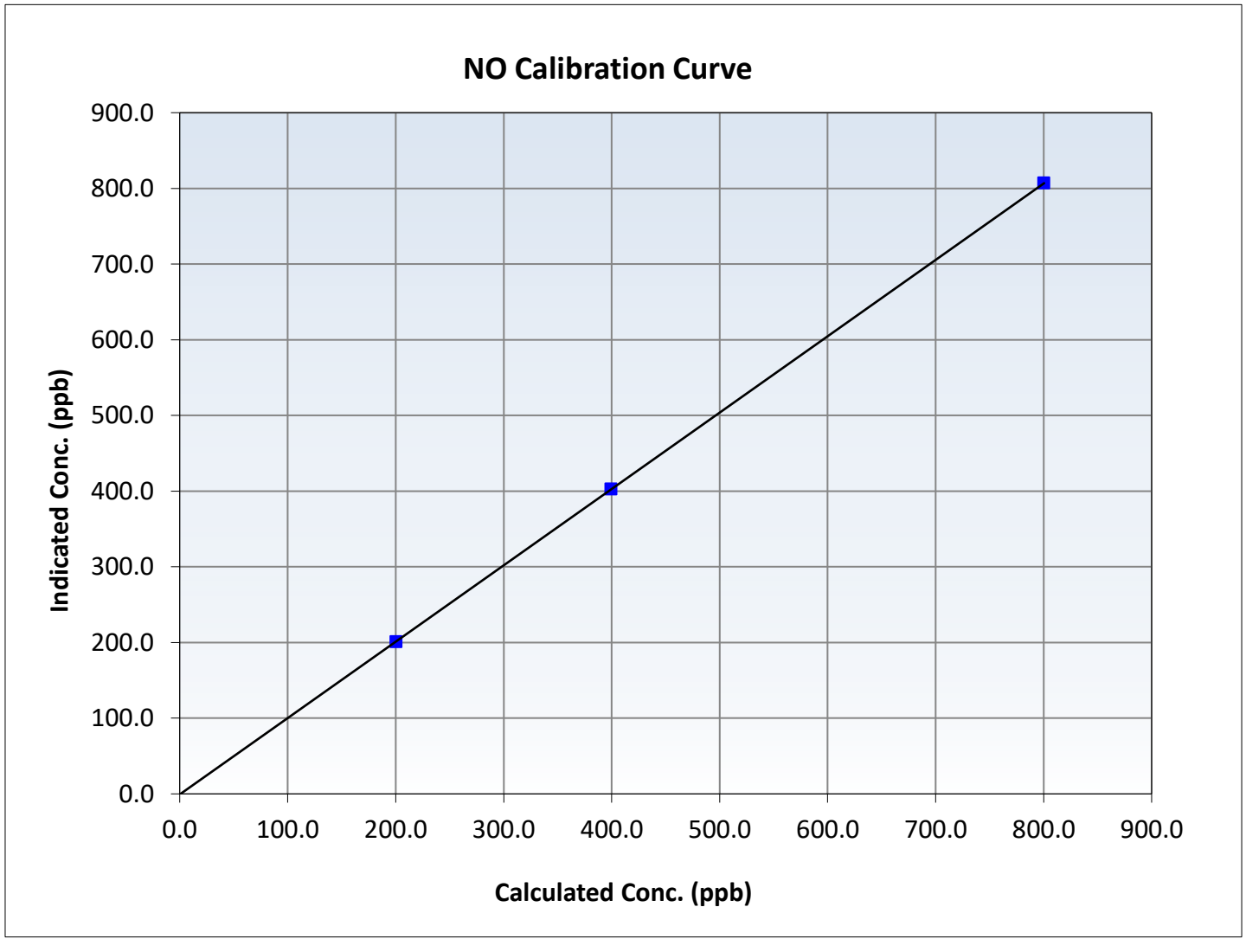
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	November 12, 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	9:45	End Time (MST):	14:04
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12124313137

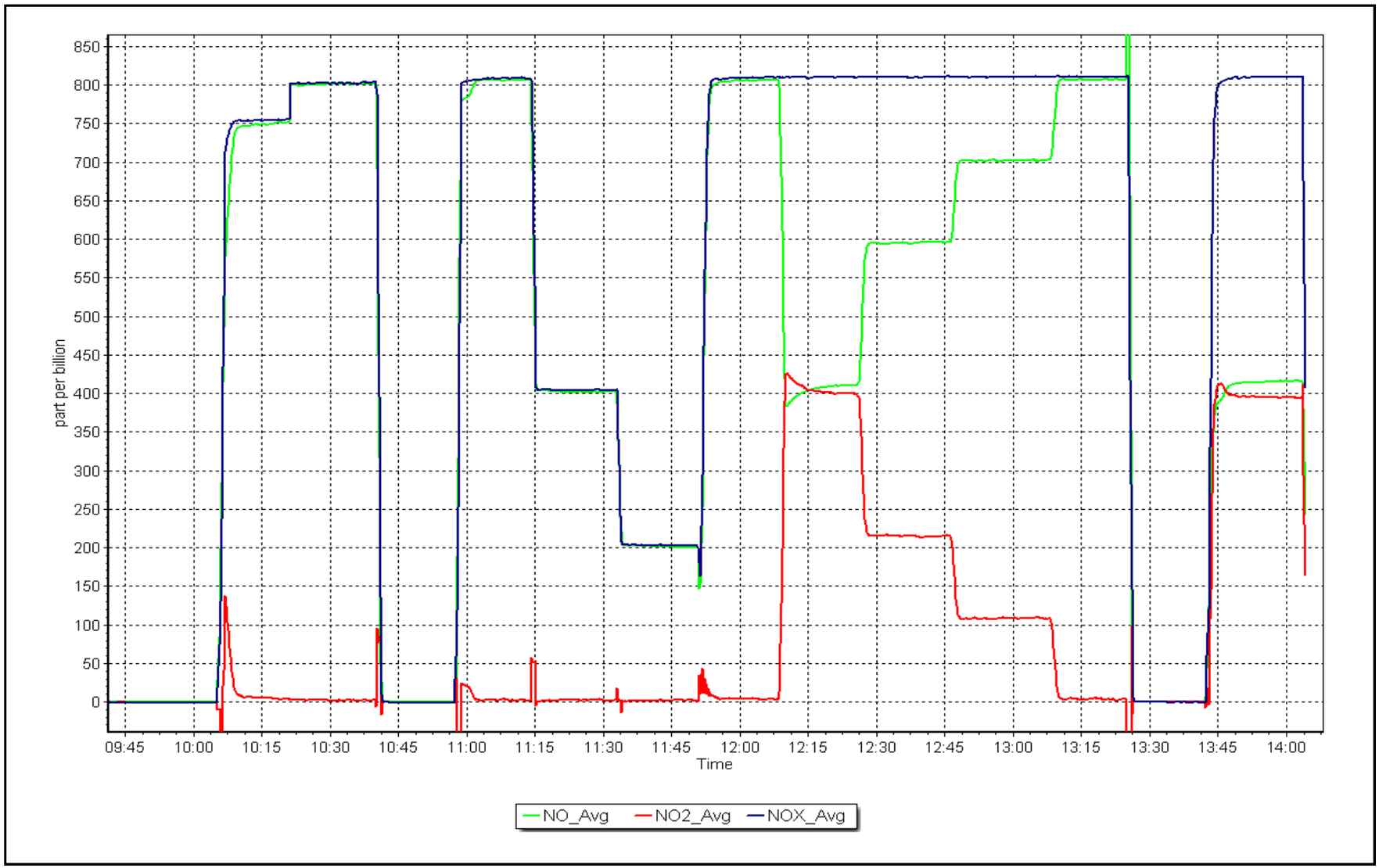
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.3	----
800.4	807.0	0.9919
399.6	402.5	0.9927
200.4	200.8	0.9980

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	1.008966	*0.90 - 1.10*
Intercept	-0.745227	*+/-20*



NO_X Calibration Plot Date: November 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:	November 10 2025	Last Cal Date:	october 23 2025
Start time (MST):	9:53	End time (MST):	12:28
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:	1.002629	1.000143	Backgd or Offset:	-2.6	-2.6
Calibration intercept:	0.740000	1.400000	Coeff or Slope:	0.995	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	0.0	----
As found High point	5000	968.7	400.0	401.1	0.997
As found Mid point					
As found Low point					
Baseline Corr As found:	401.1	Previous response	401.8	*% 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	0.0	0.0	0.4	----
High point	5000	968.7	400.0	400.9	0.998
Mid point	5000	820.5	200.0	202.1	0.990
Low point	5000	720.0	100.0	102.3	0.978
As left zero					
As left span					

Average Correction Factor: 0.988

Notes:

Calibration Performed By: Jermey cardinal

Wood Buffalo Environmental Association

O_3 Calibration Summary

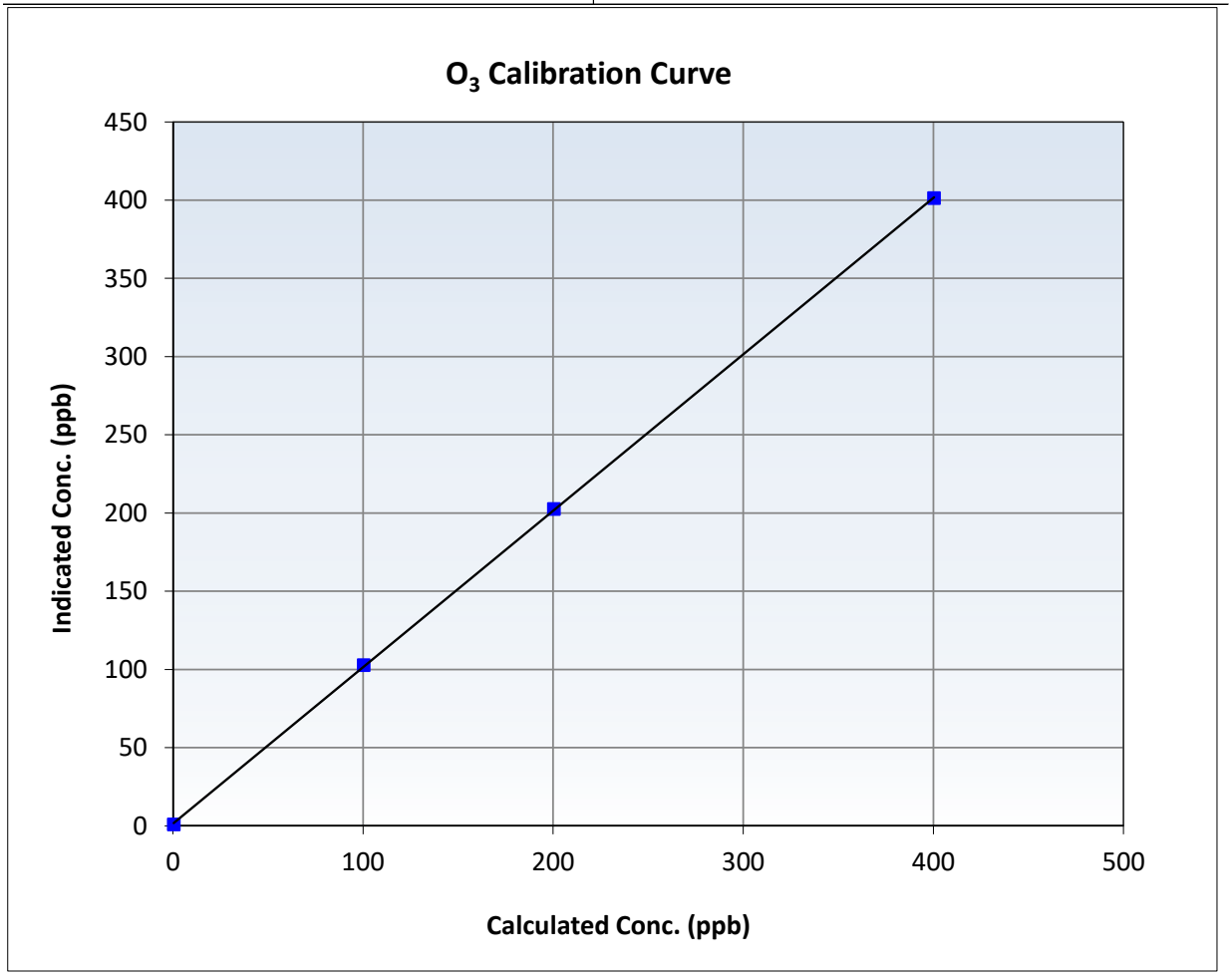
Station Information

Calibration Date:	November 10 2025	Previous Calibration:	october 23 2025
Station Name:	Fort Chipewyan	Station Number:	AMS 08
Start Time (MST):	9:53	End Time (MST):	12:28
Analyzer make:	Thermo 49i	Analyzer serial #:	1152220026

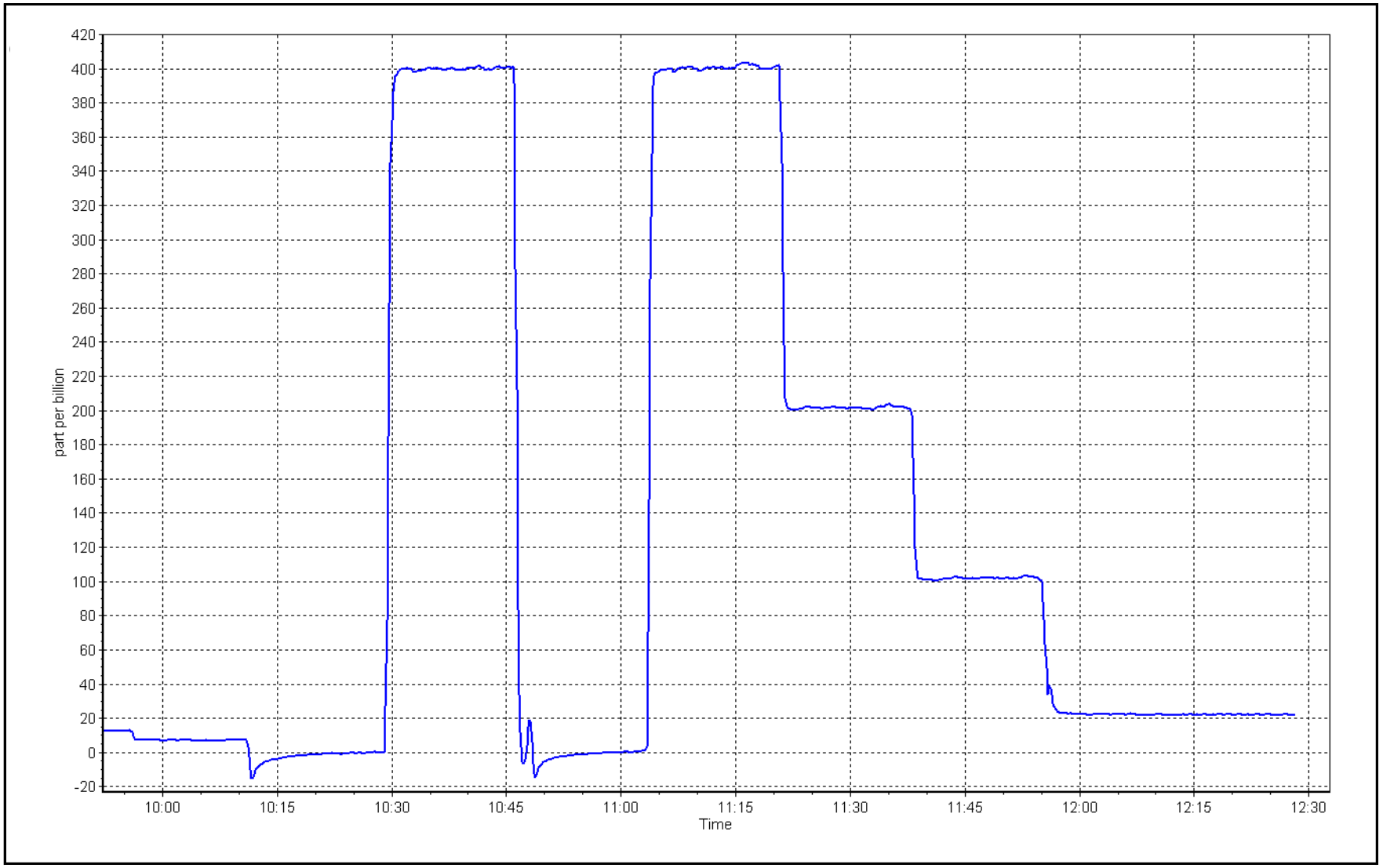
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
400.0	400.9	0.9978
200.0	202.1	0.9896
100.0	102.3	0.9775

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999971	*≥0.995*
Slope	1.000143	*0.90 - 1.10*
Intercept	1.400000	*+/- 5*



O_3 Calibration Plot Date: November 10 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:	November 18 2025	Last Cal Date:	October 30 2025
Start time (MST):	2:00	End time (MST):	2:28
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)	-6.1	-6.58	-6.1	☐	+/- 2 °C
P (mmHg)	734.8	736.70	734.8	☐	+/- 10 mmHg
Flow (LPM)	4.97	4.98	4.97	☐	+/- 0.25 LPM
PW% (pump)	34%		33%	☐	>80%
Zero Verification	PM w/o HEPA:	4.50	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
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Barge Landing	Station number:	AMS 09
Calibration Date:	November 18, 2025	Last Cal Date:	October 3, 2025
Start time (MST):	10:36	End time (MST):	13:33
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:	0.995670	1.002401	Backgd or Offset:	11.5	12.2
Calibration intercept:	0.401753	-0.478253	Coeff or Slope:	0.985	1.044

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	79.1	799.8	758.5	1.054
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	758.7	Previous response	796.8	*% change	-5.0%
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	0.1	----
High point	4921	79.1	799.8	801.5	0.998
Mid point	4961	39.5	399.4	399.8	0.999
Low point	4980	19.8	200.2	199.5	1.004
As left zero	5000	0.0	0.0	0.2	----
As left span	4921	79.1	799.8	804.6	0.994
				Average Correction Factor:	1.000

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

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

SO_2 Calibration Summary

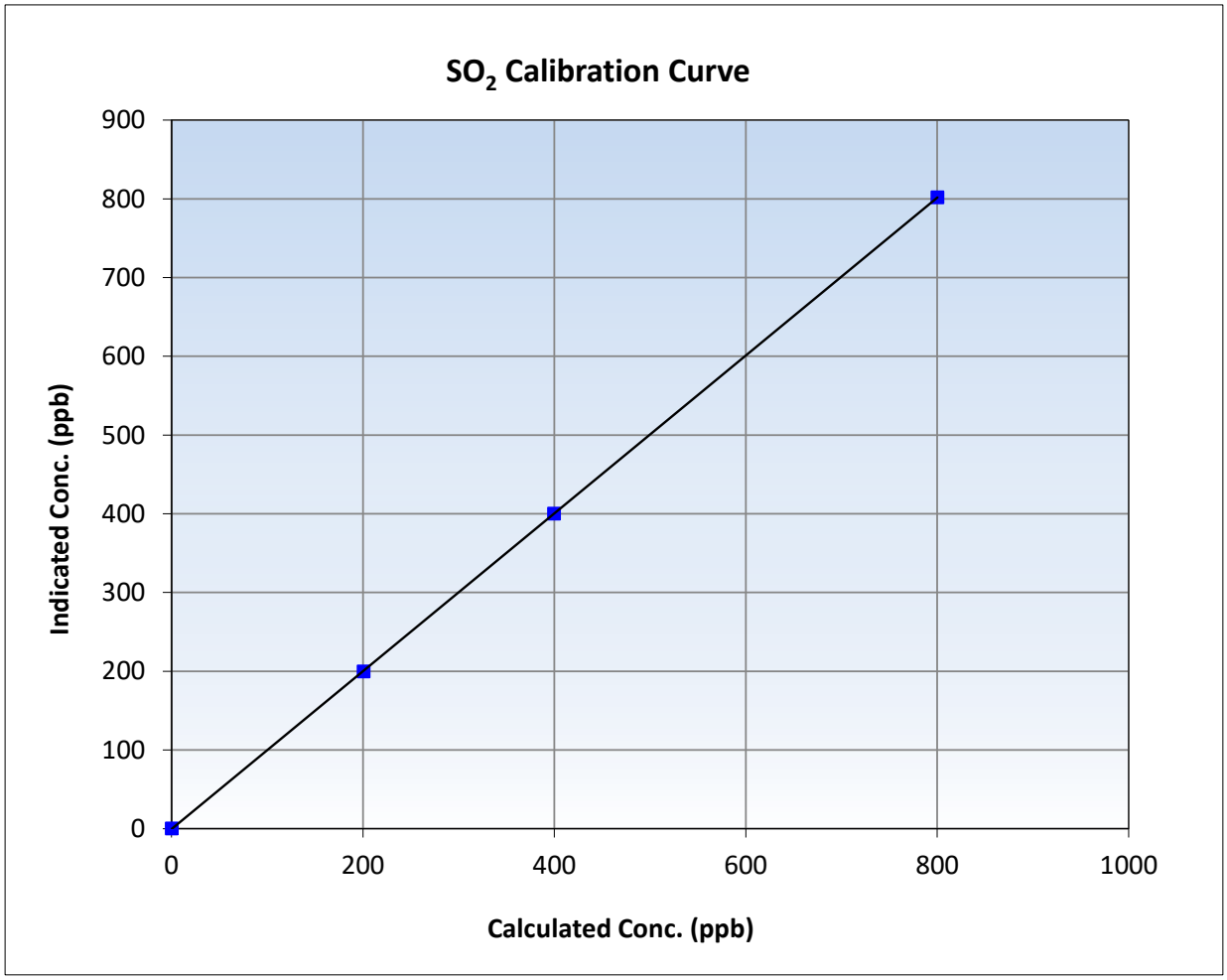
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 3, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	10:36	End Time (MST):	13:33
Analyzer make:	Thermo 43i	Analyzer serial #:	1118148498

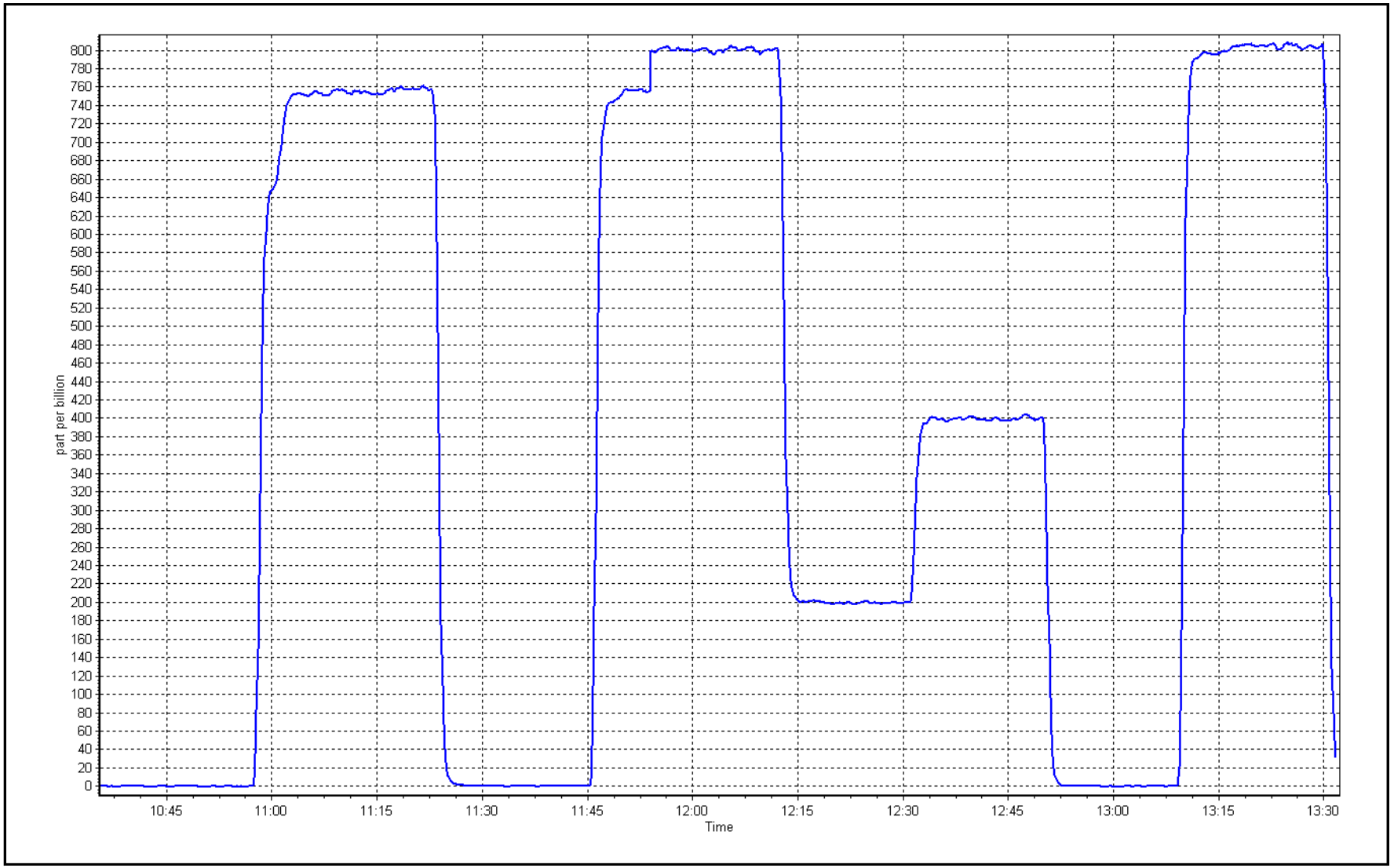
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
799.8	801.5	0.9979
399.4	399.8	0.9990
200.2	199.5	1.0036

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999997	*≥0.995*
Slope	1.002401	*0.90 - 1.10*
Intercept	-0.478253	*+/-30*



SO2 Calibration Plot Date: November 18, 2025 Location: Barge Landing



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Barge Landing	Station number:	AMS 09
Calibration Date:	November 4, 2025	Last Cal Date:	October 8, 2025
Start time (MST):	10:20	End time (MST):	15:06
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:	1.004685	1.005119	Backgd or Offset:	2.260	1.780
Calibration intercept:	-0.320371	-0.260552	Coeff or Slope:	0.871	0.690

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	83.8	0.953
As found Mid point	4961	38.7	40.0	40.9	0.974
As found Low point	4981	19.3	20.0	19.8	0.998
New cylinder response					

Baseline Corr As found:	84.0	Prev response:	80.10	*% change:	4.6%
Baseline Corr 2nd AF pt:	41.1	AF Slope:	1.052231	AF Intercept:	-0.759785
Baseline Corr 3rd AF pt:	20.0	AF Correlation:	0.999786	* = > +/-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	4923	77.4	80.0	80.2	0.998
Mid point	4961	38.7	40.0	40.0	1.001
Low point	4981	19.3	20.0	19.7	1.013
As left zero	5000	0.0	0.0	0.2	----
As left span	4923	77.4	80.0	80.7	0.992
SO2 Scrubber Check	4920	80.2	802.0	0.1	----

Date of last scrubber change:	8-Jul-25	Ave Corr Factor	1.004
Date of last converter efficiency test:			

Notes: Changed inlet filter after as founds. Scrubber beads replaced and passed. It was done after calibrator zero. Adjusted span only.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

TRS Calibration Summary

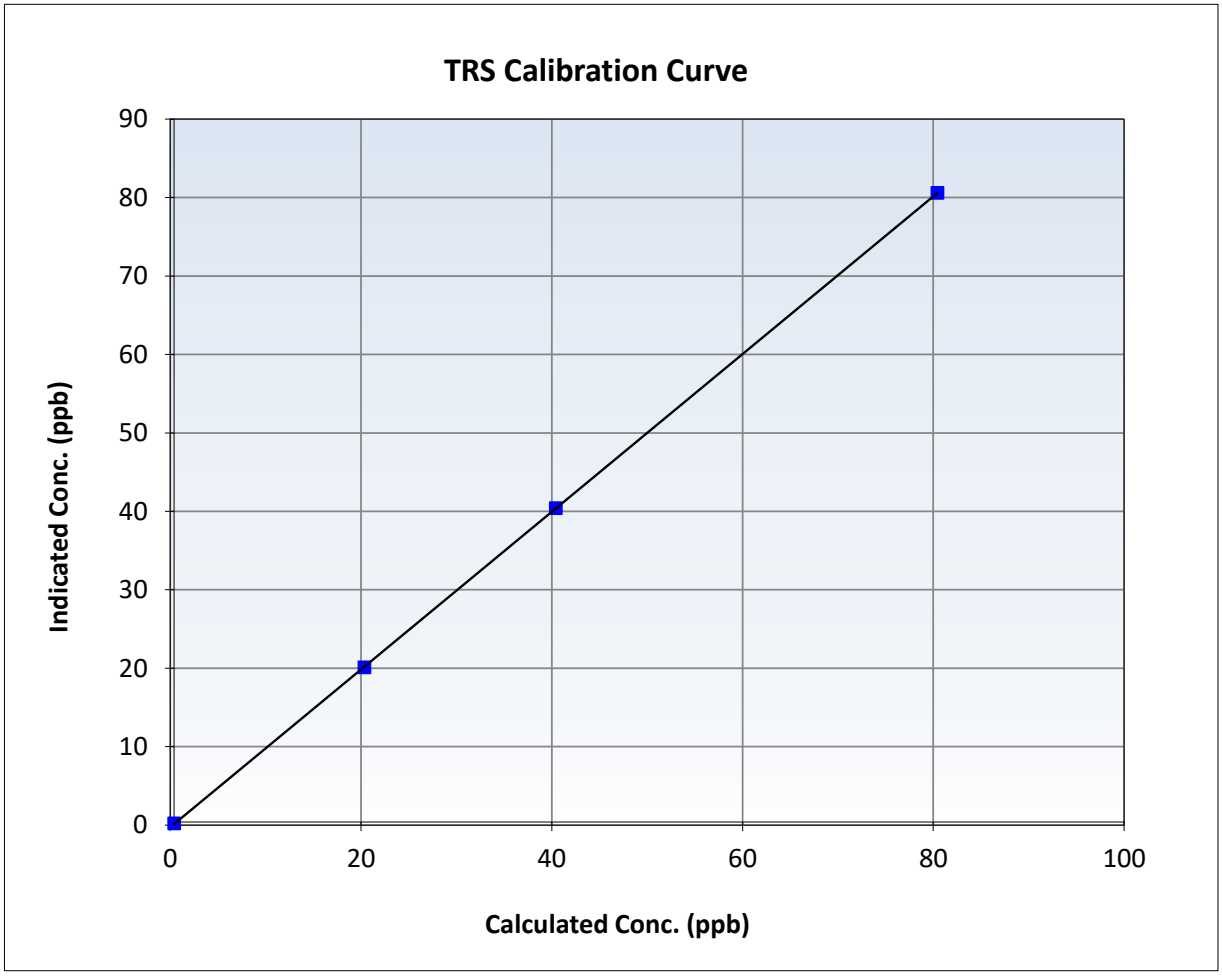
Station Information

Calibration Date:	November 4, 2025	Previous Calibration:	October 8, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	10:20	End Time (MST):	15:06
Analyzer make:	Thermo 43iQ-TLE	Analyzer serial #:	1203169744

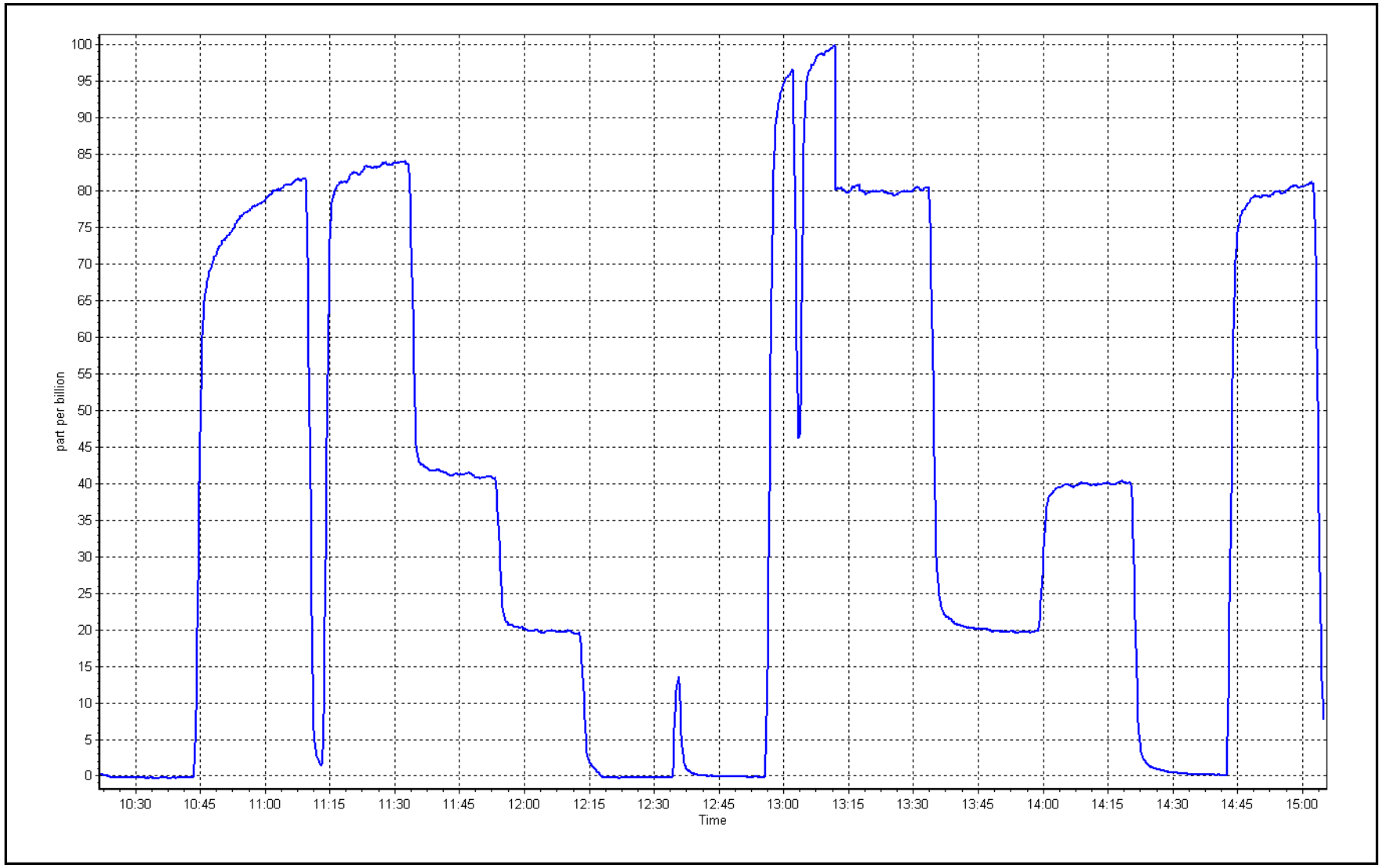
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
80.0	80.2	0.9980
40.0	40.0	1.0006
20.0	19.7	1.0131

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	1.005119	*0.90 - 1.10*
Intercept	-0.260552	*+/-3*



TRS Calibration Plot Date: November 4, 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:	November 18, 2025	Last Cal Date:	October 3, 2025
Start time (MST):	10:36	End time (MST):	13:33
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:	2.26E-04	2.40E-04	NMHC SP Ratio:	5.30E-05	5.85E-05
CH4 Retention time:	14.4	14.4	NMHC Peak Area:	168197	152305
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	15.68	1.078
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	15.68	Prev response	16.92	*% change	-7.9%
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	16.91	16.91	1.000
Mid point	4961	39.5	8.44	8.37	1.009
Low point	4980	19.8	4.23	4.14	1.023
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	16.91	16.90	1.000
				Average Correction Factor	1.011

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	8.15	1.093
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.15	Prev response	8.93	*% change	-9.5%
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	8.90	1.001
Mid point	4961	39.5	4.45	4.42	1.007
Low point	4980	19.8	2.23	2.18	1.025
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	8.91	8.91	1.000
				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	4921	79.1	8.00	7.53	1.063
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.53	Prev response	7.99	*% change	-6.2%
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	79.1	8.00	8.00	0.999
Mid point	4961	39.5	3.99	3.95	1.011
Low point	4980	19.8	2.00	1.96	1.022
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	8.00	7.99	1.001
				Average Correction Factor	1.011

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	1.003134	1.001268
THC Cal Offset:	-0.045773	-0.052971
CH4 Cal Slope:	1.001330	1.001961
CH4 Cal Offset:	-0.018787	-0.026992
NMHC Cal Slope:	1.005356	1.001018
NMHC Cal Offset:	-0.027585	-0.026179

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

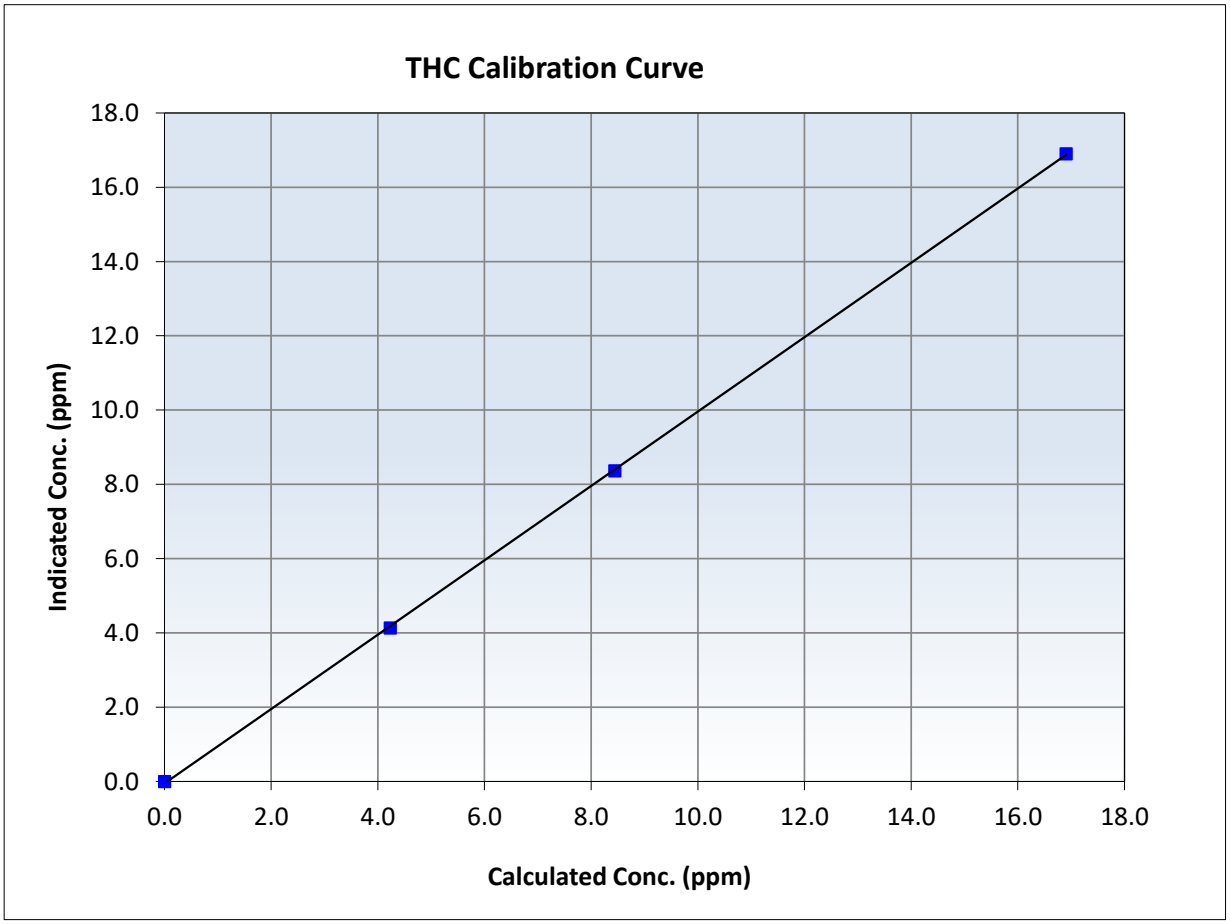
THC Calibration Summary

Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 3, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	10:36	End Time (MST):	13:33
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	0.999955	≥0.995
16.91	16.91	1.0002	Slope	1.001268	0.90 - 1.10
8.44	8.37	1.0089			
4.23	4.14	1.0234	Intercept	-0.052971	+/-0.5



Wood Buffalo Environmental Association

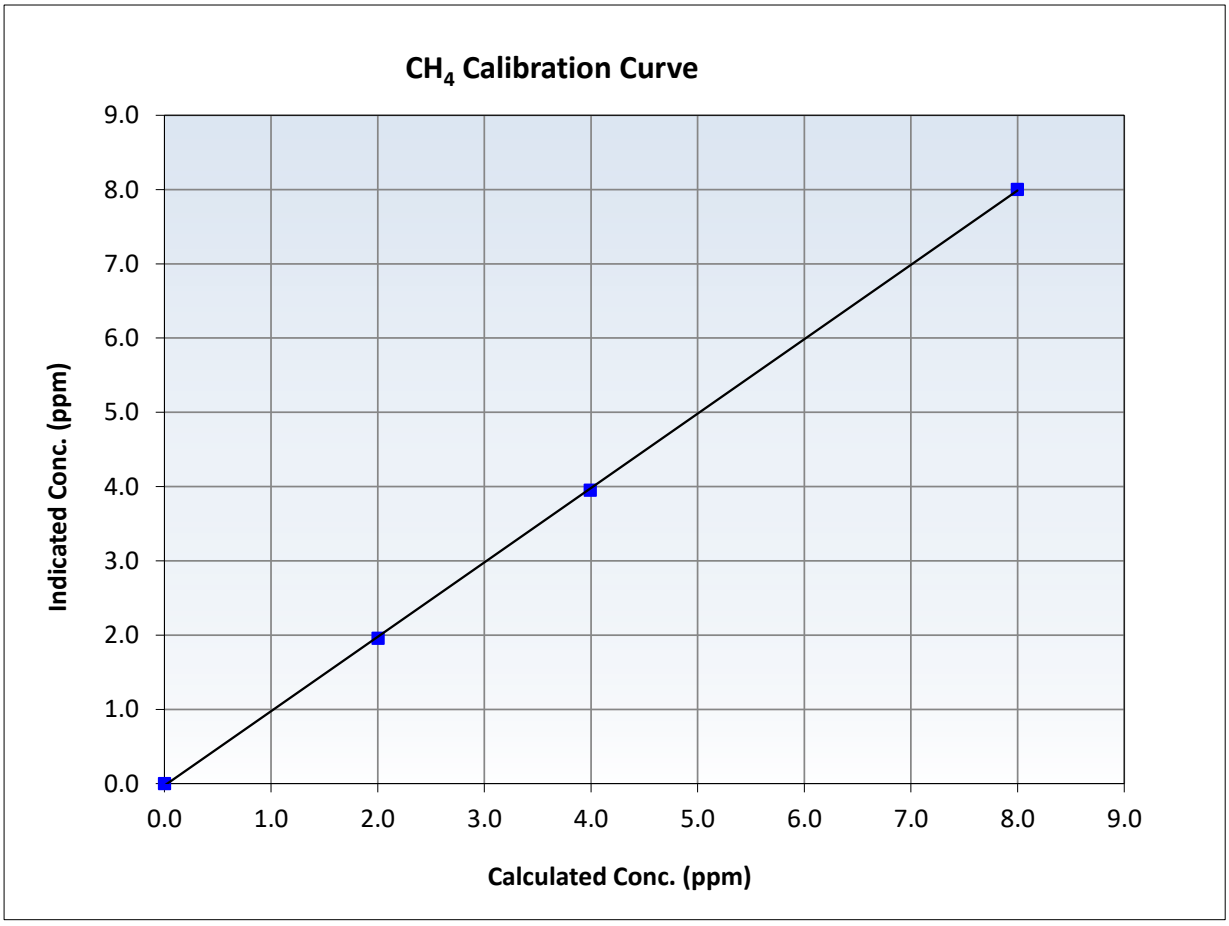
CH_4 Calibration Summary

Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 3, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	10:36	End Time (MST):	13:33
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	0.999944	≥0.995
8.00	8.00	0.9993	Slope	1.001961	0.90 - 1.10
3.99	3.95	1.0108			
2.00	1.96	1.0221	Intercept	-0.026992	+/-0.5



Wood Buffalo Environmental Association

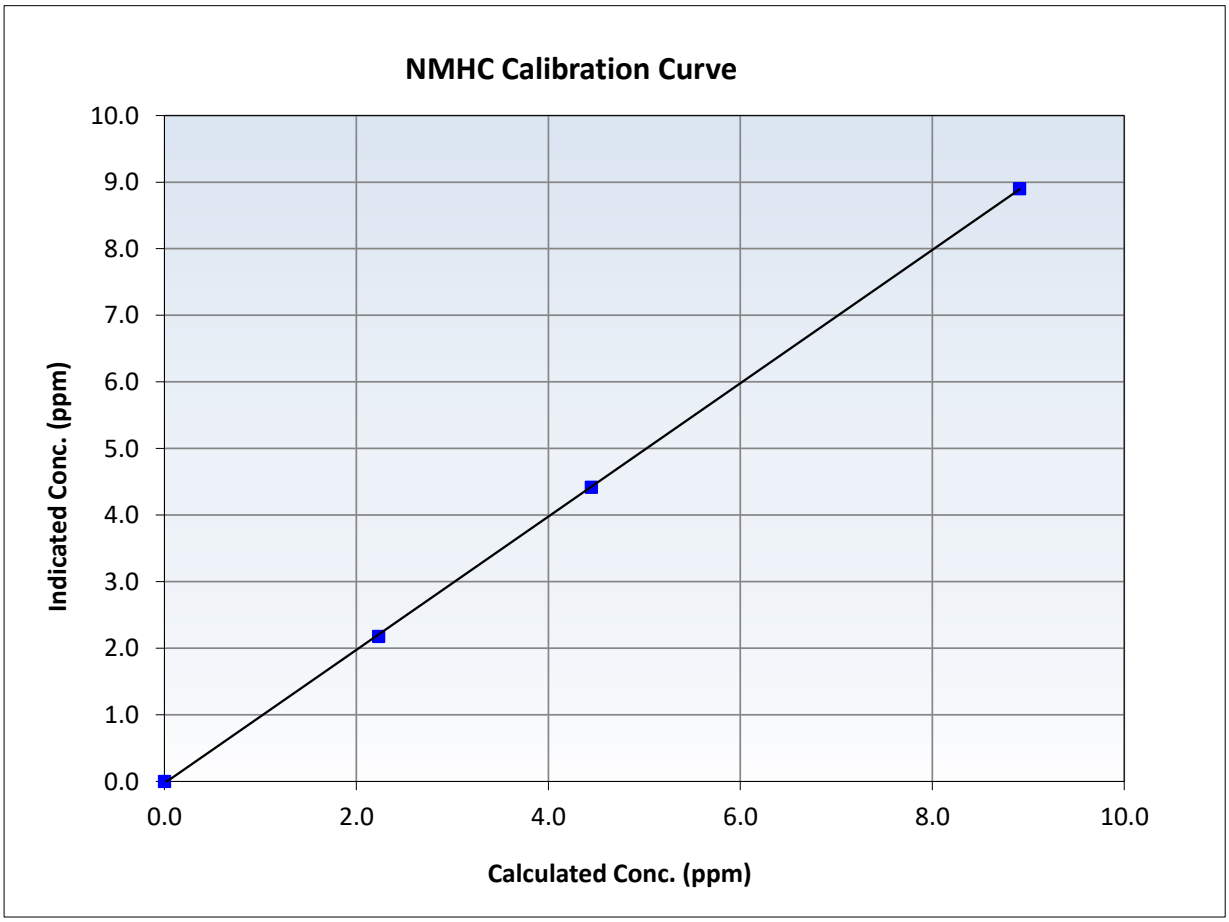
NMHC Calibration Summary

Station Information

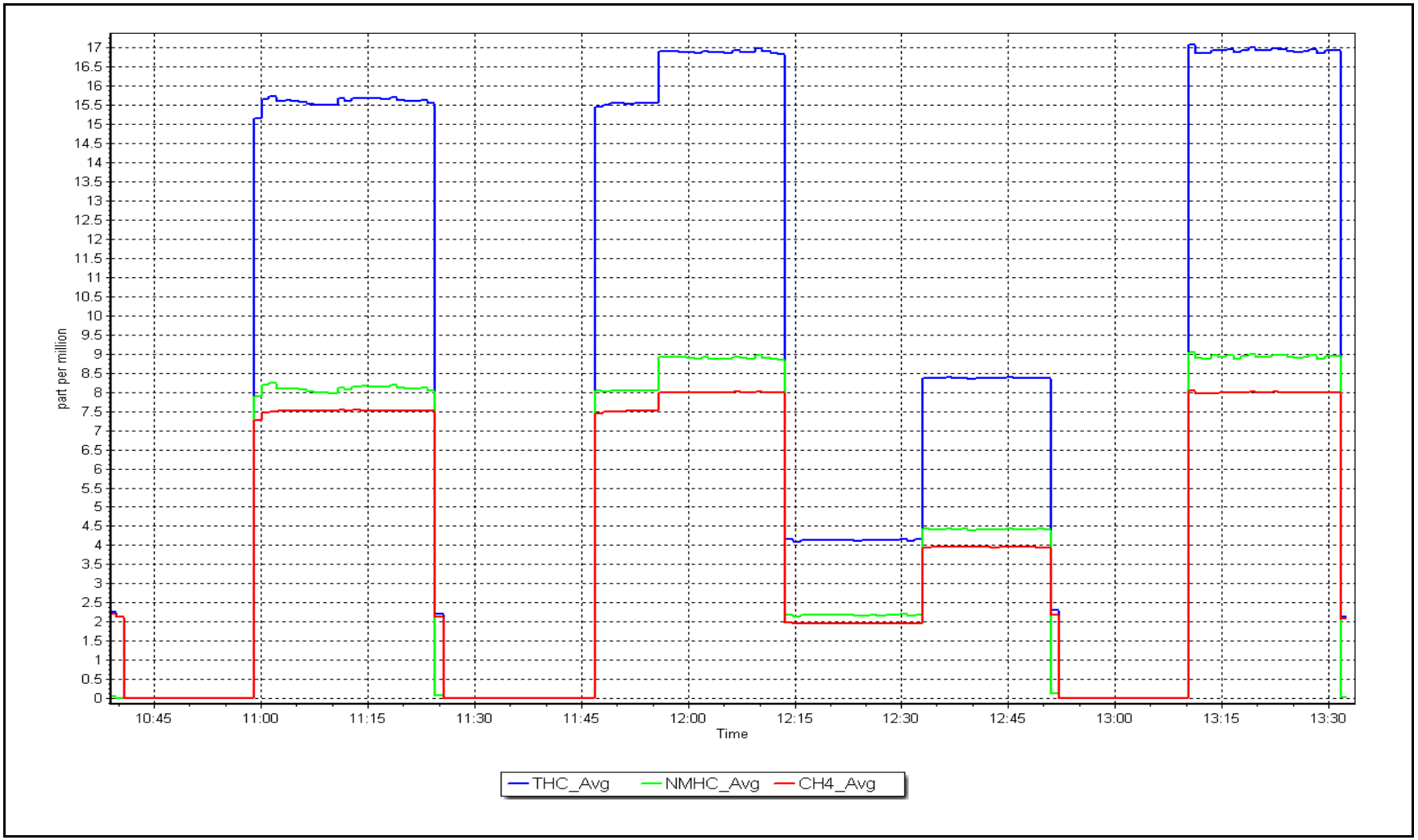
Calibration Date:	November 18, 2025	Previous Calibration:	October 3, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	10:36	End Time (MST):	13:33
Analyzer make:	Thermo 55i	Analyzer serial #:	1193585650

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999960	≥0.995
8.91	8.90	1.0006	Slope	1.001018	0.90 - 1.10
4.45	4.42	1.0068			
2.23	2.18	1.0245	Intercept	-0.026179	+/-0.5



NMHC Calibration Plot Date: November 18, 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:	November 13, 2025
Last Cal Date:	October 20, 2025
Start time (MST):	10:03
End time (MST):	14:34
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 T750	Serial Number:	281
ZAG make/model:	Api 751H	Serial Number:	530

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	4915	85.3	808.3	800.7	7.5	794.5	787.7	6.8	1.0173	1.0166
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 807.2 ppb	NO = 798.9 ppb
Baseline Corr 1st pt	NO_X = 794.5 ppb	NO = 787.7 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 = -1.6%
*Percent Change	NO = -1.4%

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:	0.998597	0.996914
NO_X Cal Offset:	0.098064	0.918075
NO Cal Slope:	0.998568	0.998810
NO Cal Offset:	-0.664019	0.076317
NO_2 Cal Slope:	0.999032	1.003032
NO_2 Cal Offset:	0.158236	-0.820375

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	4915	85.3	808.3	800.7	7.5	806.2	799.9	6.3	1.0025	1.0011
Mid point	4957	42.6	403.7	400.0	3.7	403.9	399.5	4.4	0.9995	1.0012
Low point	4979	21.3	201.8	200.0	1.9	203.0	199.8	3.2	0.9942	1.0008
As left zero	5000	0.0	0.0	0.0	0.0	-0.3	-0.1	-0.2	----	----
As left span	4915	85.3	808.3	441.2	367.1	839.6	441.2	398.3	0.9627	1.0000
							Average Correction Factor		0.9988	1.0010

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	793.1	398.5	402.1	402.9	0.9980	100.2%
Mid GPT point	793.1	595.5	205.1	204.5	1.0030	99.7%
Low GPT point	793.1	694.1	106.5	105.3	1.0115	98.9%
				Average Correction Factor	1.0041	99.6%

Notes: Inlet filter changed after as founds. Adjusted span only.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

NO_X Calibration Summary

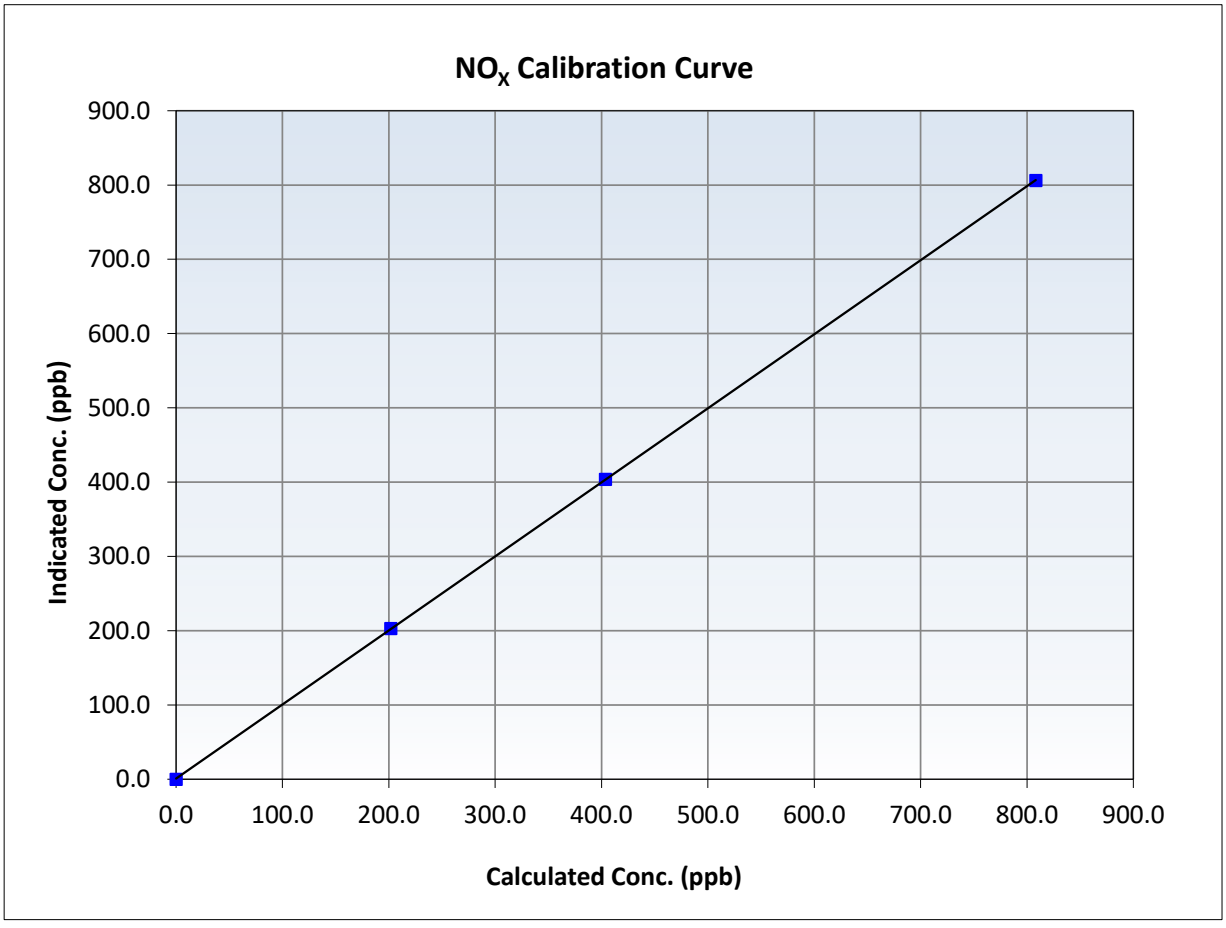
Station Information

Calibration Date:	November 13, 2025	Previous Calibration:	October 20, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	10:03	End Time (MST):	14:34
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	----
808.3	806.2	1.0025
403.7	403.9	0.9995
201.8	203.0	0.9942

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999994	*≥0.995*
Slope	0.996914	*0.90 - 1.10*
Intercept	0.918075	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

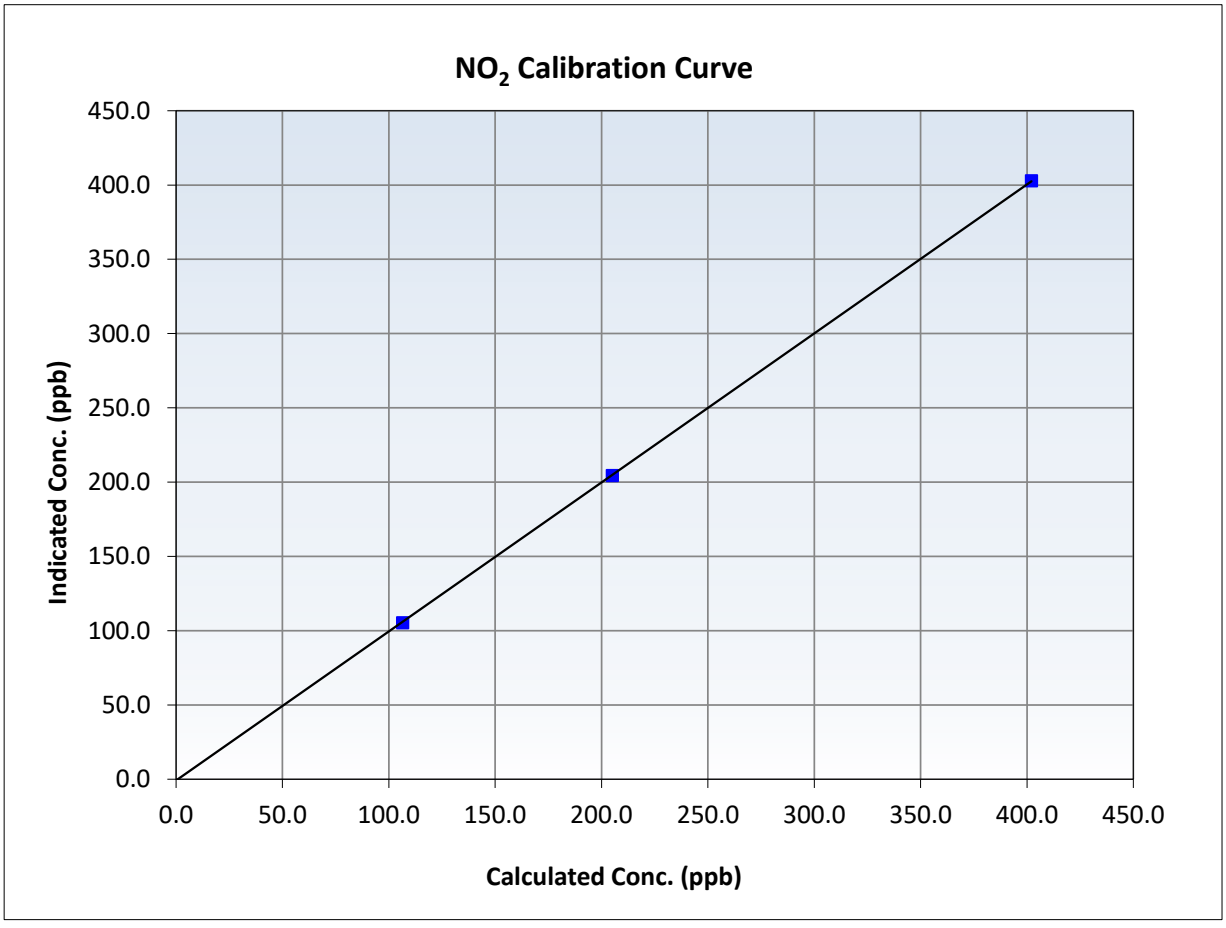
Station Information

Calibration Date:	November 13, 2025	Previous Calibration:	October 20, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	10:03	End Time (MST):	14:34
Analyzer make:	Thermo 42i	Analyzer serial #:	1426262593

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
402.1	402.9	0.9980
205.1	204.5	1.0030
106.5	105.3	1.0115

Statistical Evaluation		Limits
Correlation Coefficient	0.999985	≥0.995
Slope	1.003032	0.90 - 1.10
Intercept	-0.820375	+/-20



Wood Buffalo Environmental Association

NO Calibration Summary

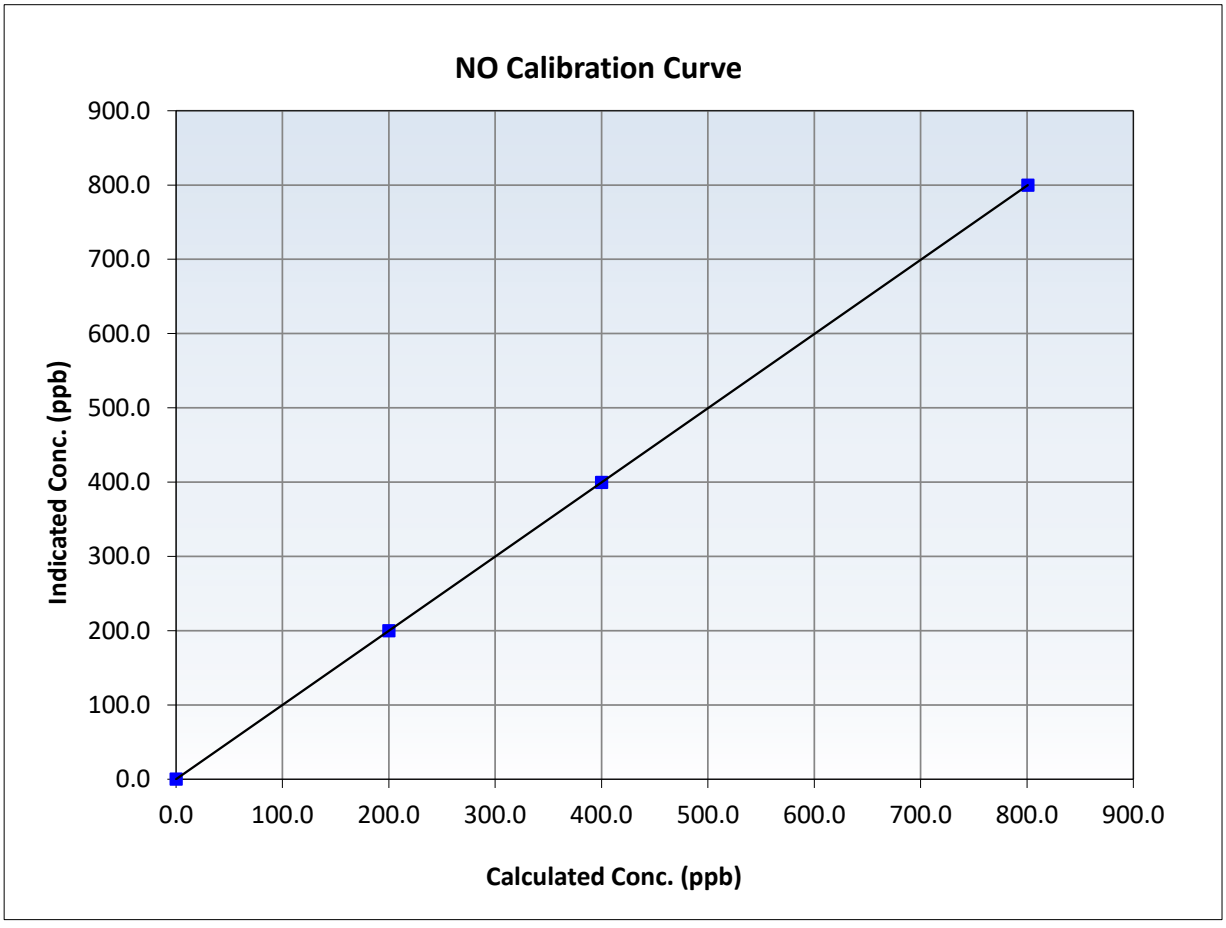
Station Information

Calibration Date:	November 13, 2025	Previous Calibration:	October 20, 2025
Station Name:	Barge Landing	Station Number:	AMS 09
Start Time (MST):	10:03	End Time (MST):	14:34
Analyzer make:	Thermo 42i	Analyzer serial #:	1426262593

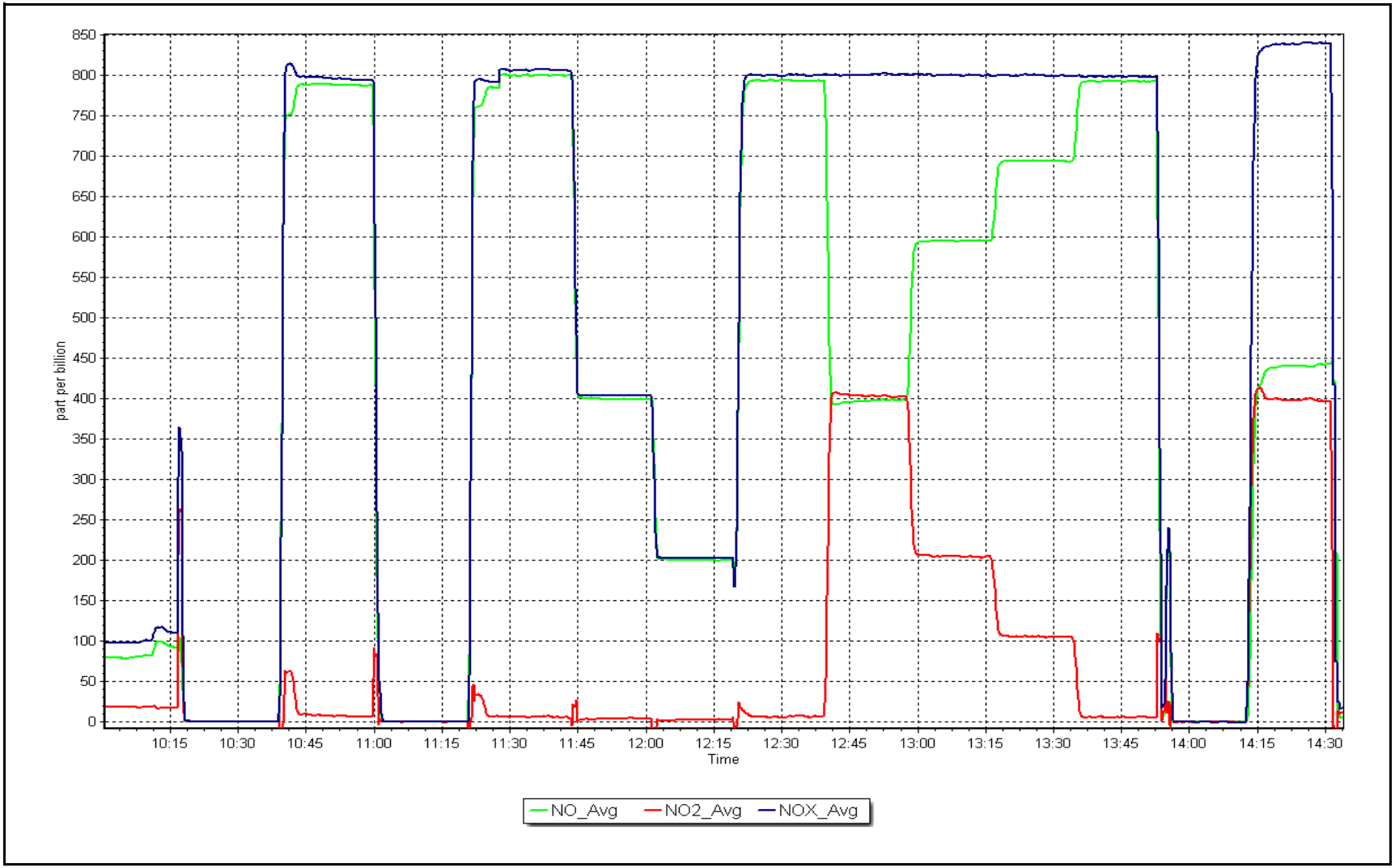
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
800.7	799.9	1.0011
400.0	399.5	1.0012
200.0	199.8	1.0008

Statistical Evaluation		Limits
Correlation Coefficient	1.000000	≥0.995
Slope	0.998810	0.90 - 1.10
Intercept	0.076317	+/-20



NO_X Calibration Plot Date: November 13, 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:	November 14, 2025	Last Cal Date:	October 20, 2025
Start time (MST):	12:15	End time (MST):	12:38
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)	-2.40	-2.89	-2.40	☐	+/- 2 °C
P (mmHg)	724.00	722.97	724.00	☐	+/- 10 mmHg
Flow (LPM)	5.00	4.99	5.00	☐	+/- 0.25 LPM
PW% (pump)	32	-----	32	☐	>80%

Zero Verification — PM w/o HEPA: 0.60 — 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				☐	+/- 0.5

Date Optical Chamber Cleaned: October 20, 2025

Date Disposable Filter Changed: October 20, 2025

Post- maintenance Zero Verification: PM w/ HEPA: _____ <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: Sean Bala

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS11
LOWER CAMP
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Lower Camp	Station number:	AMS 11
Calibration Date:	November 24, 2025	Last Cal Date:	October 14, 2025
Start time (MST):	12:07	End time (MST):	14:02
Reason:	As Found		

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:	1.003586		Backgd or Offset:	18.4	
Calibration intercept:	-0.402252		Coeff or Slope:	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	0.1	----
As found High point	4932	82.2	799.2	783.9	1.020
As found Mid point	4971	41.2	400.7	394.3	1.017
As found Low point	4996	20.6	200.2	197.8	1.013
New cylinder response					
Baseline Corr As found:	783.8	Previous response	801.6	*% change	-2.3%
Baseline Corr 2nd AF pt:	394.2	AF Slope:	0.980341	AF Intercept:	0.884077
Baseline Corr 3rd AF pt:	197.7	AF Correlation:	0.999995	* = > +/-5% change initiates investigation	

SO_2 Calibration Data

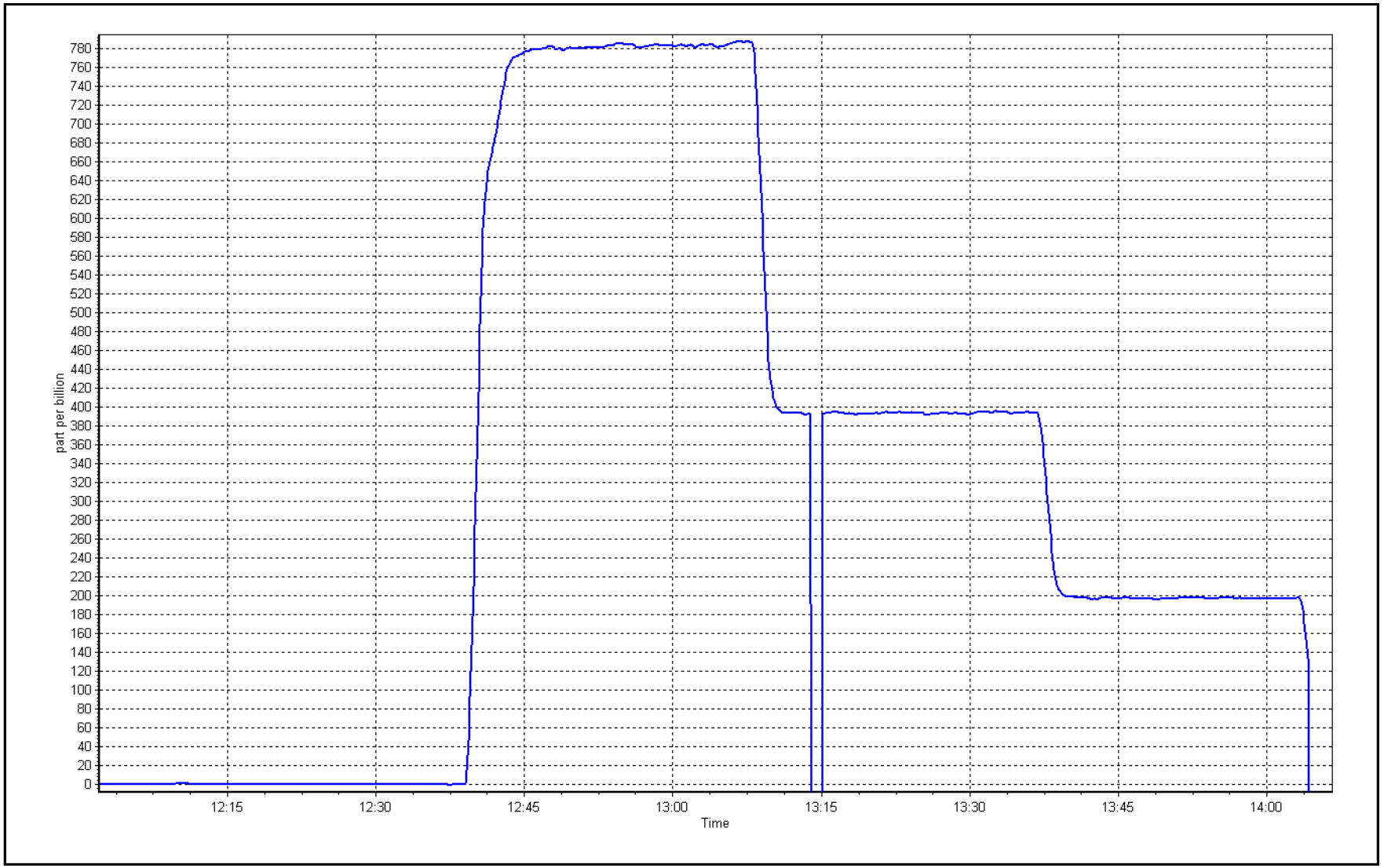
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero					
As left span					

Average Correction Factor:

Notes: As founds only.

Calibration Performed By: Mohammed Kashif

SO2 Calibration Plot Date: November 24, 2025 Location: Lower Camp



Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Lower Camp	Station number:	AMS 11
Calibration Date:	November 24, 2025	Last Cal Date:	October 14, 2025
Start time (MST):	16:45	End time (MST):	19:14
Reason:	Maintenance		

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:	4428

Analyzer Information

Analyzer make:	Thermo 43i		Serial Number:	100841398	
Analyzer Range:	0 - 1000 ppb				
	Start	***Finish***		***Start***	***Finish***
Calibration slope:	1.003586	1.001427	Backgd or Offset:	18.4	18.9
Calibration intercept:	-0.402252	-0.821507	Coeff or Slope:	1.057	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					
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	4932	82.2	799.2	800.2	0.999
Mid point	4971	41.2	400.7	399.1	1.004
Low point	4996	20.6	200.2	199.6	1.003
As left zero	5000	0.0	0.0	-0.1	----
As left span	4932	82.2	799.2	801.9	0.997
				Average Correction Factor:	1.002

Notes: Changed the sample inlet filter, analyzer fan, and ZAG. Adjusted the zero and span.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

SO_2 Calibration Summary

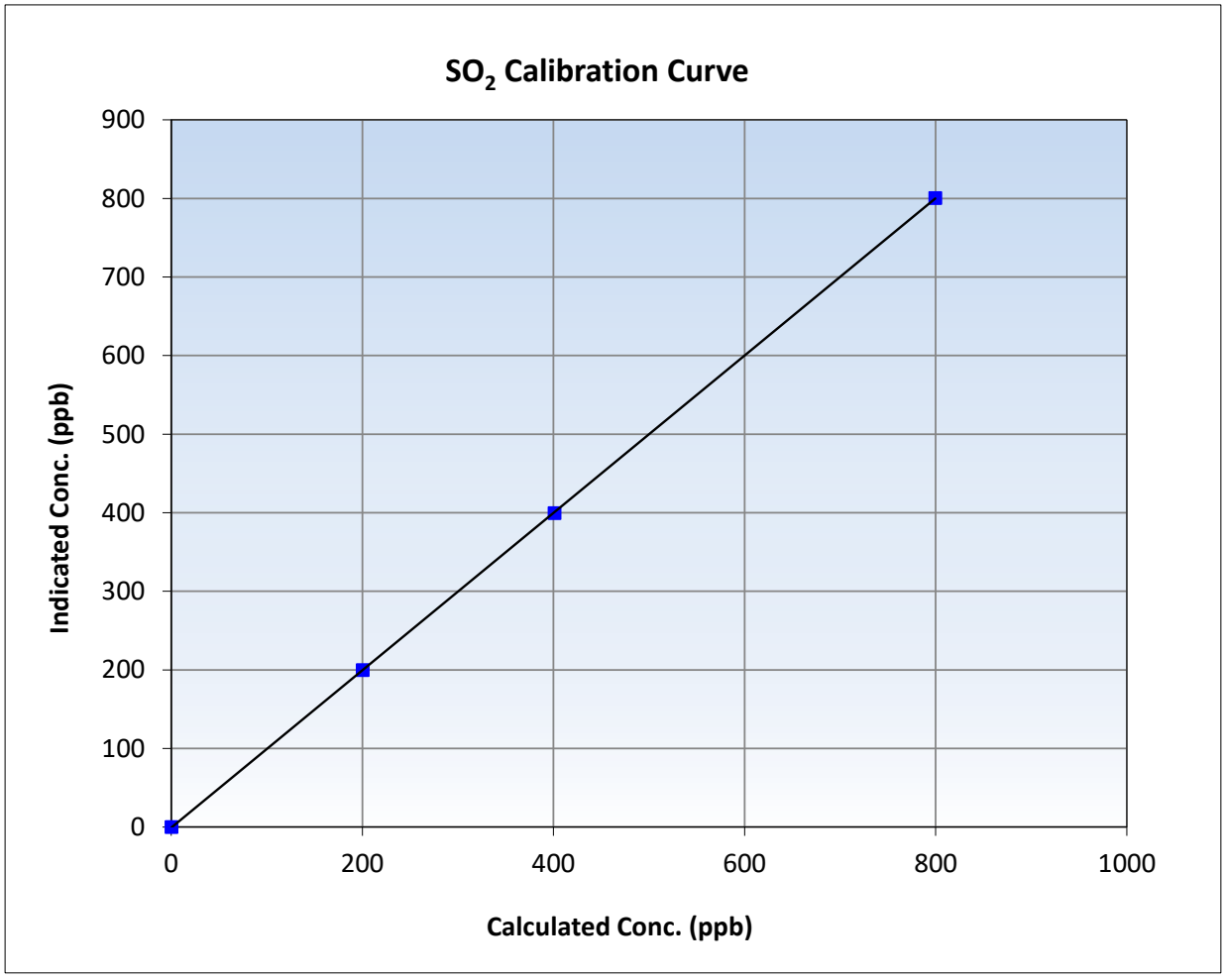
Station Information

Calibration Date:	November 24, 2025	Previous Calibration:	October 14, 2025
Station Name:	Lower Camp	Station Number:	AMS 11
Start Time (MST):	16:45	End Time (MST):	19:14
Analyzer make:	Thermo 43i	Analyzer serial #:	100841398

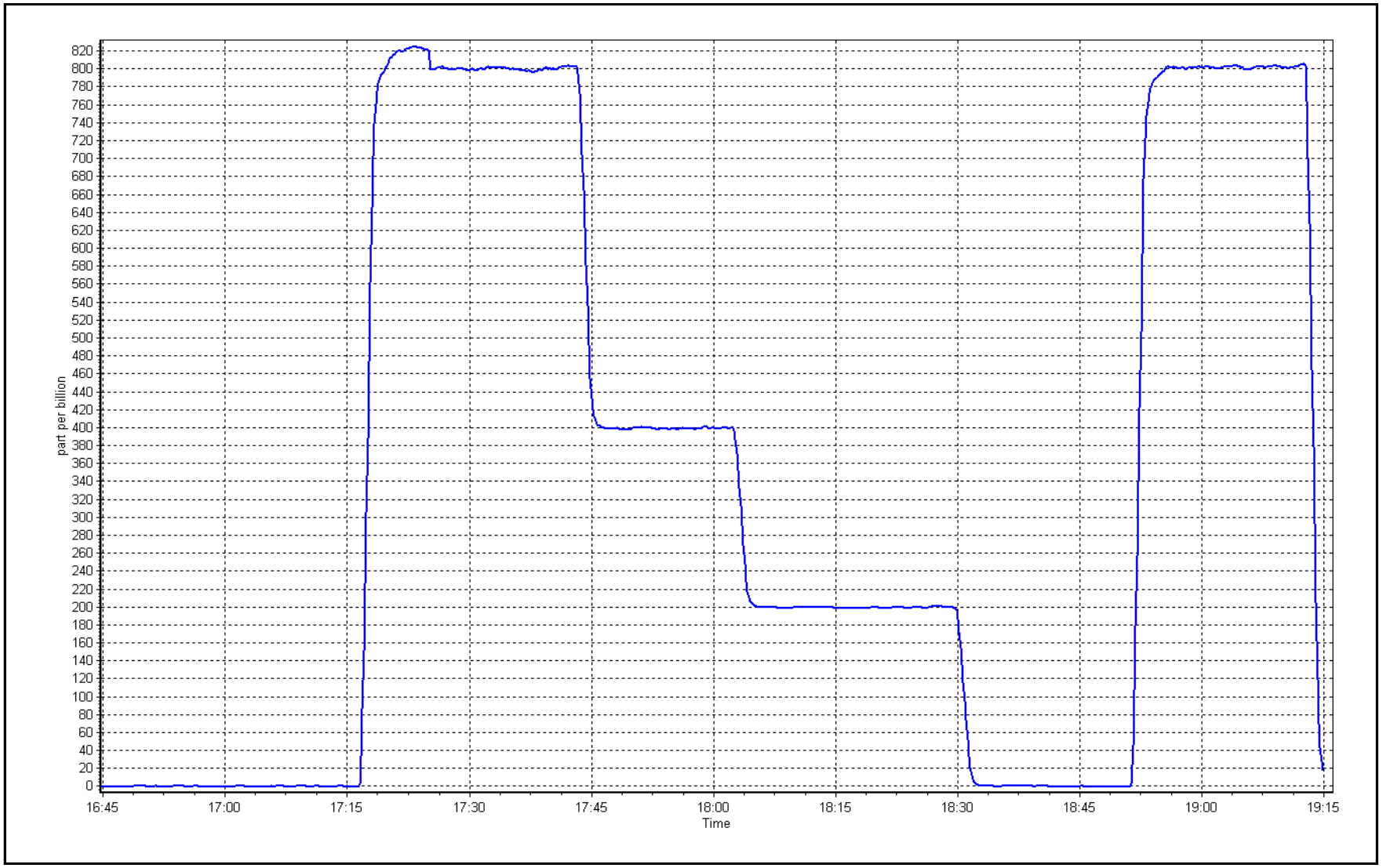
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
799.2	800.2	0.9987
400.7	399.1	1.0041
200.2	199.6	1.0029

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999992	*≥0.995*
Slope	1.001427	*0.90 - 1.10*
Intercept	-0.821507	*+/-30*



SO2 Calibration Plot Date: November 24, 2025 Location: Lower Camp



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Lower Camp	Station number:	AMS 11
Calibration Date:	November 25, 2025	Last Cal Date:	October 8, 2025
Start time (MST):	11:56	End time (MST):	16:00
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:	1.012008	1.022591	Backgd or Offset:	2.5	2.5
Calibration intercept:	0.048287	0.128071	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	0.0	----
As found High point	4923	82.8	79.9	81.6	0.979
As found Mid point	4967	41.5	40.0	41.1	0.974
As found Low point	4999	20.8	20.0	20.6	0.972
New cylinder response					
Baseline Corr As found:	81.6	Prev response:	80.90	*% change:	0.9%
Baseline Corr 2nd AF pt:	41.1	AF Slope:	1.021020	AF Intercept:	0.108037
Baseline Corr 3rd AF pt:	20.6	AF Correlation:	0.999990	* = > +/-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	81.8	0.977
Mid point	4967	41.5	40.0	41.1	0.974
Low point	4999	20.8	20.0	20.6	0.972
As left zero	5000	0.0	0.0	0.1	----
As left span	4923	82.8	79.9	81.5	0.980
SO2 Scrubber Check	4932	82.2	819.7	0.0	----
Date of last scrubber change:				Ave Corr Factor	0.974
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

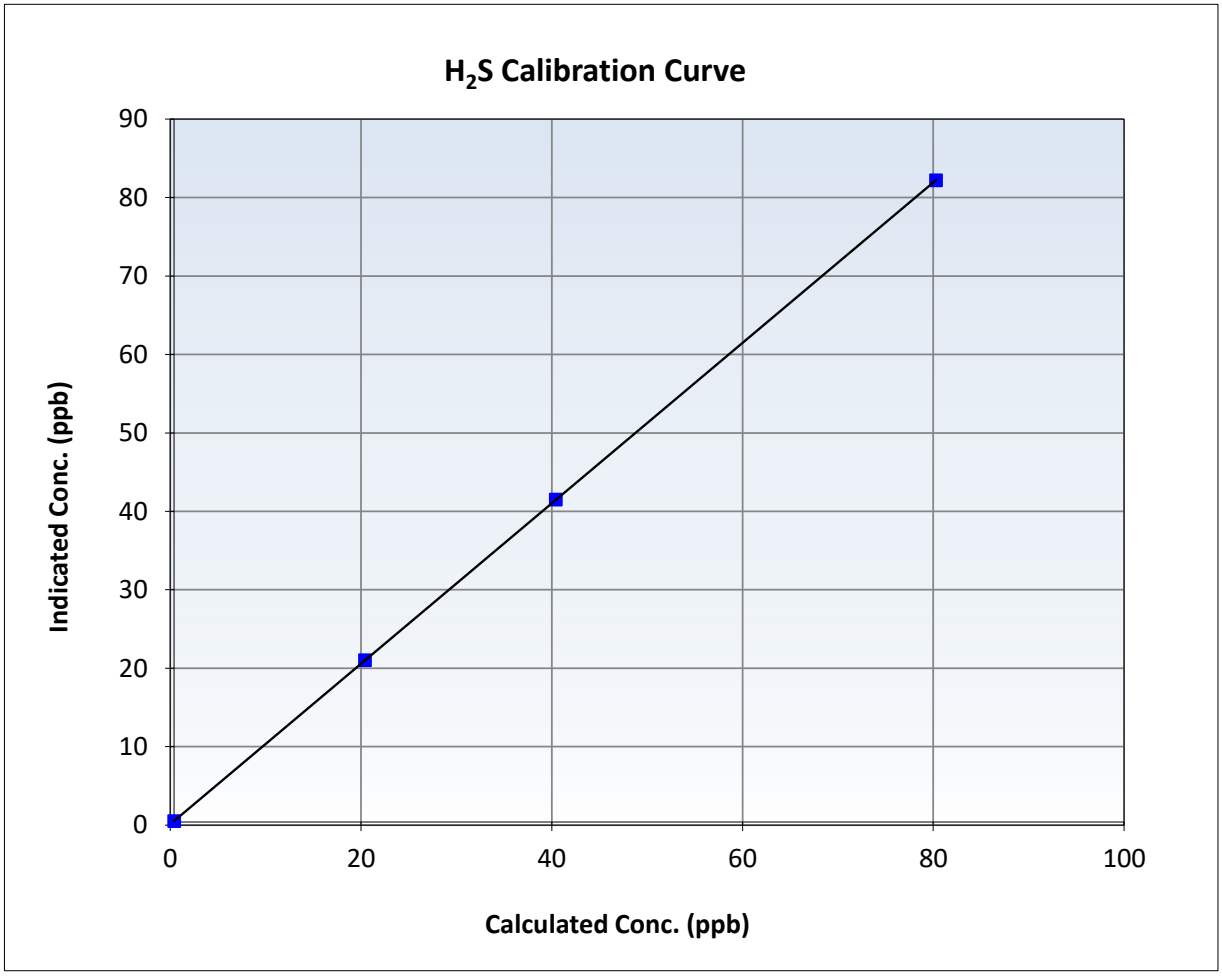
H_2S Calibration Summary

Station Information

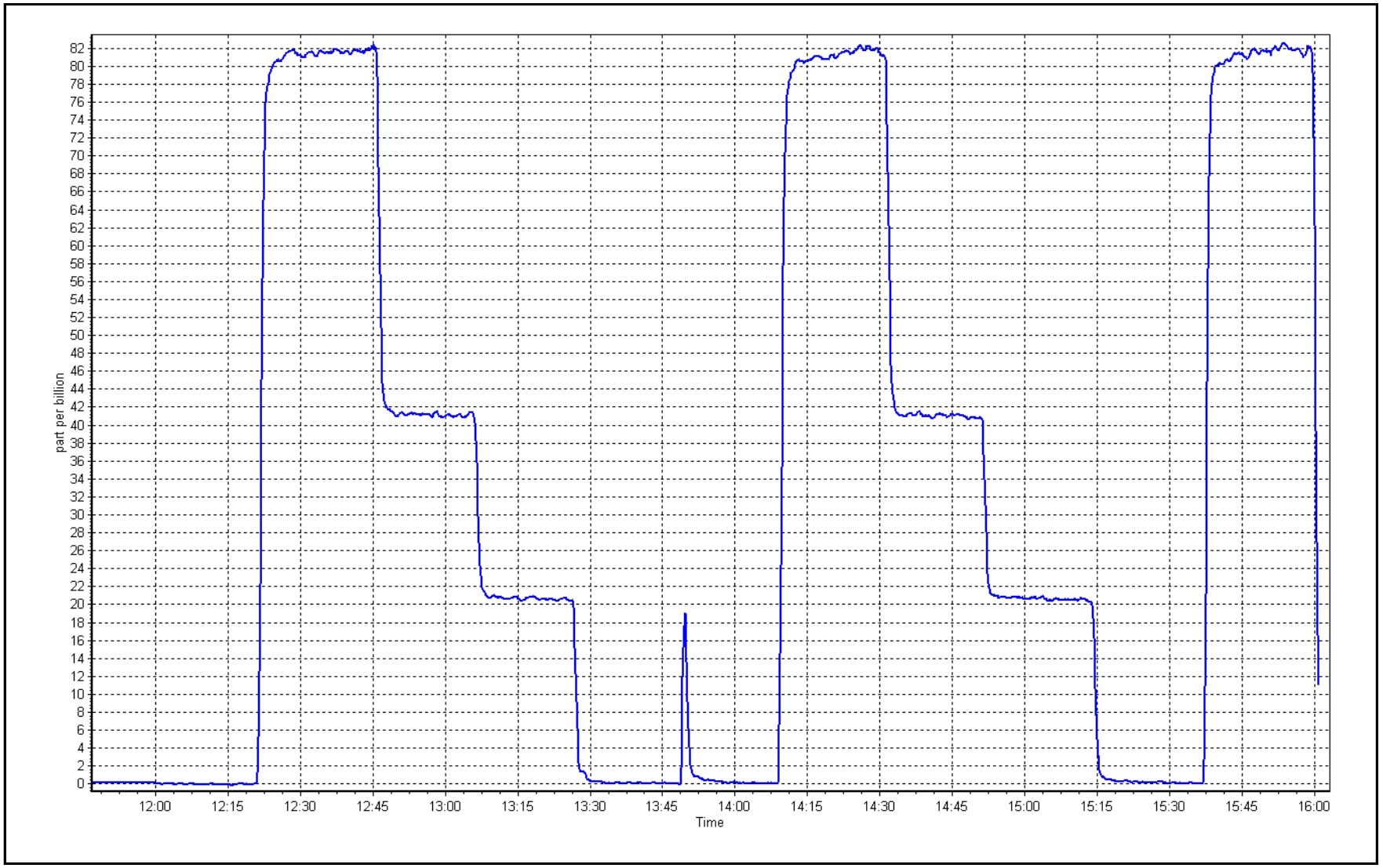
Calibration Date:	November 25, 2025	Previous Calibration:	October 8, 2025
Station Name:	Lower Camp	Station Number:	AMS 11
Start Time (MST):	11:56	End Time (MST):	16:00
Analyzer make:	Thermo 43iQ	Analyzer serial #:	1203169745

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999999	*≥0.995*
79.9	81.8	0.9767	Slope	1.022591	*0.90 - 1.10*
40.0	41.1	0.9737			
20.0	20.6	0.9715	Intercept	0.128071	*+/-3*



H_2S Calibration Plot Date: November 25, 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:	November 24, 2025	Last Cal Date:	NA
Start time (MST):	12:07	End time (MST):	14:02
Reason:	As Found		

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	NA	NMHC SP Ratio:	4.79E-05	NA
CH4 Retention time:	15.0	NA	NMHC Peak Area:	194321	NA
Zero Chromatogram:	OFF		Flat Baseline:	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	17.28	1.017
As found Mid point	4971	41.2	8.81	8.55	1.031
As found Low point	4996	20.6	4.40	4.23	1.042
New cylinder response					
Baseline Corr AF:	17.27	Prev response	17.61	*% change	-2.0%
Baseline Corr 2nd AF:	8.55	AF Slope:	0.984222	AF Intercept:	-0.061390
Baseline Corr 3rd AF:	4.23	AF Correlation:	0.999929	* = > +/-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					
As left span					

Average Correction Factor

Notes: AS founds 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	4932	82.2	9.30	9.06	1.026
As found Mid point	4971	41.2	4.66	4.47	1.042
As found Low point	4996	20.6	2.33	2.22	1.049
New cylinder response					
Baseline Corr AF:	9.06	Prev response	9.31	*% change	-2.8%
Baseline Corr 2nd AF:	4.47	AF Slope:	0.975243	AF Intercept:	-0.033088
Baseline Corr 3rd AF:	2.22	AF Correlation:	0.999920	* = > +/-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					
As left span					

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	4932	82.2	8.28	8.22	1.007
As found Mid point	4971	41.2	4.15	4.07	1.020
As found Low point	4996	20.6	2.07	2.01	1.033
New cylinder response					
Baseline Corr AF:	8.22	Prev response	8.31	*% change	-1.1%
Baseline Corr 2nd AF:	4.07	AF Slope:	0.994280	AF Intercept:	-0.028701
Baseline Corr 3rd AF:	2.01	AF Correlation:	0.999932	* = > +/-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					
As left span					

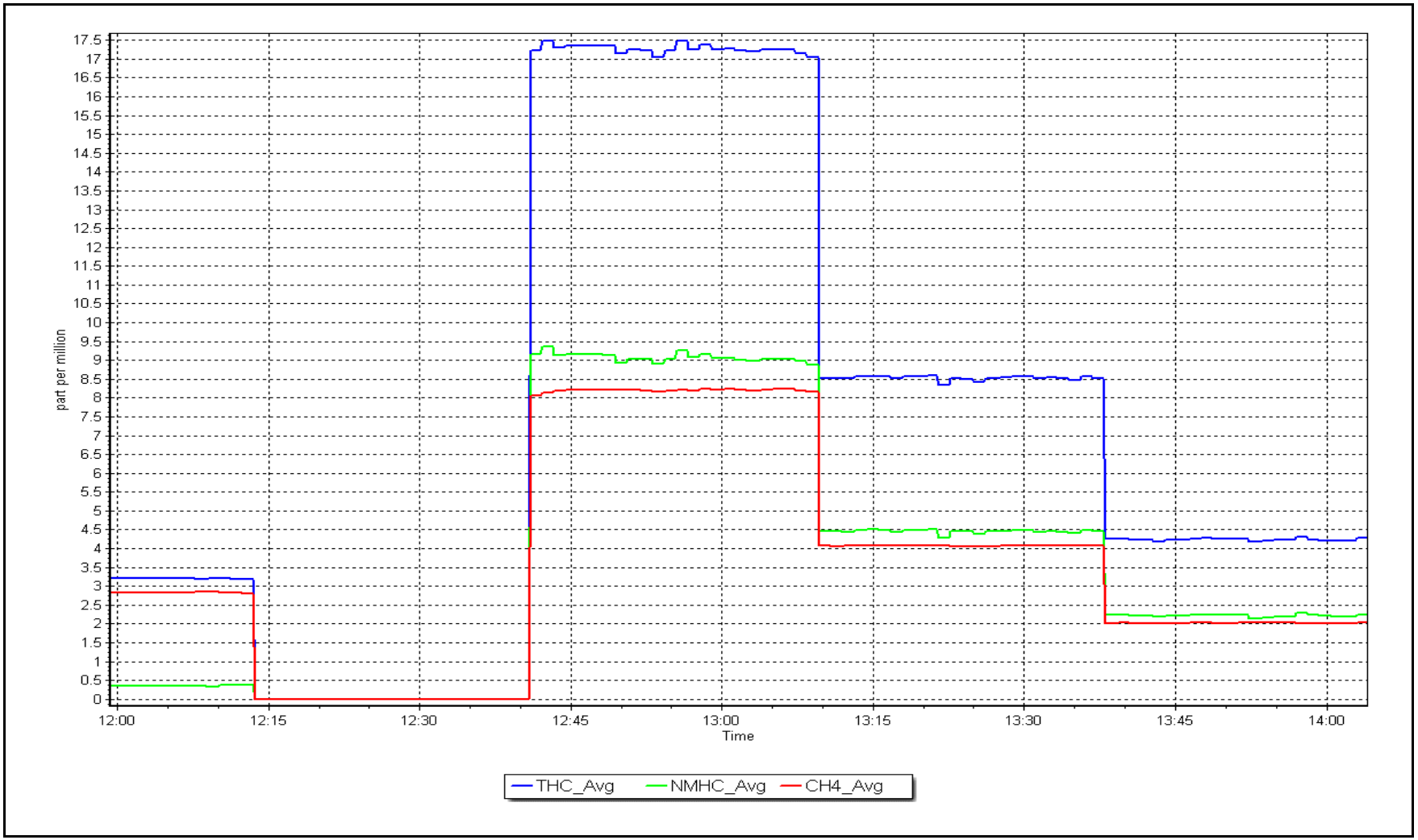
Average Correction Factor

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.004855	
THC Cal Offset:	-0.042179	
CH4 Cal Slope:	1.006101	
CH4 Cal Offset:	-0.019544	
NMHC Cal Slope:	1.004041	
NMHC Cal Offset:	-0.022835	

Calibration Performed By: Mohammed Kashif

NMHC Calibration Plot Date: November 24, 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:	November 24, 2025	Last Cal Date:	NA
Start time (MST):	16:45	End time (MST):	19:14
Reason:	Install		

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:	4428	

Analyzer Information

Analyzer make:	Thermo 55i	Analyzer serial #:	1152430012
THC Range:	0 - 20 ppm	NMHC/CH4 Range:	0 - 10 ppm

	Start	*Finish*		*Start*	*Finish*
CH4 SP Ratio:	NA	2.18E-04	NMHC SP Ratio:	NA	5.05E-05
CH4 Retention time:	NA	13.2	NMHC Peak Area:	NA	184241
Zero Chromatogram:		OFF	Flat Baseline:		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					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	NA	Prev response	NA	*% change	NA
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	17.59	0.999
Mid point	4971	41.2	8.81	8.93	0.987
Low point	4996	20.6	4.40	4.49	0.980
As left zero	5000	0.0	0.00	0.00	----
As left span	4932	82.2	17.57	17.32	1.015
				Average Correction Factor	0.989

Notes: Install calibration. Change sample inlet filter and ZAG. 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					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	NA	Prev response	NA	*% change	NA
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	9.32	0.997
Mid point	4971	41.2	4.66	4.84	0.962
Low point	4996	20.6	2.33	2.45	0.951
As left zero	5000	0.0	0.00	0.00	----
As left span	4932	82.2	9.30	9.06	1.026
				Average Correction Factor	0.970

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					
As found High point					
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	NA	Prev response	NA	*% change	NA
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	8.27	1.001
Mid point	4971	41.2	4.15	4.08	1.016
Low point	4996	20.6	2.07	2.04	1.015
As left zero	5000	0.0	0.00	0.00	----
As left span	4932	82.2	8.28	8.26	1.002
				Average Correction Factor	1.011

Calibration Statistics

	Start	*Finish*
THC Cal Slope:		1.000264
THC Cal Offset:		0.054905
CH4 Cal Slope:		0.999194
CH4 Cal Offset:		-0.023512
NMHC Cal Slope:		1.000982
NMHC Cal Offset:		0.078618

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

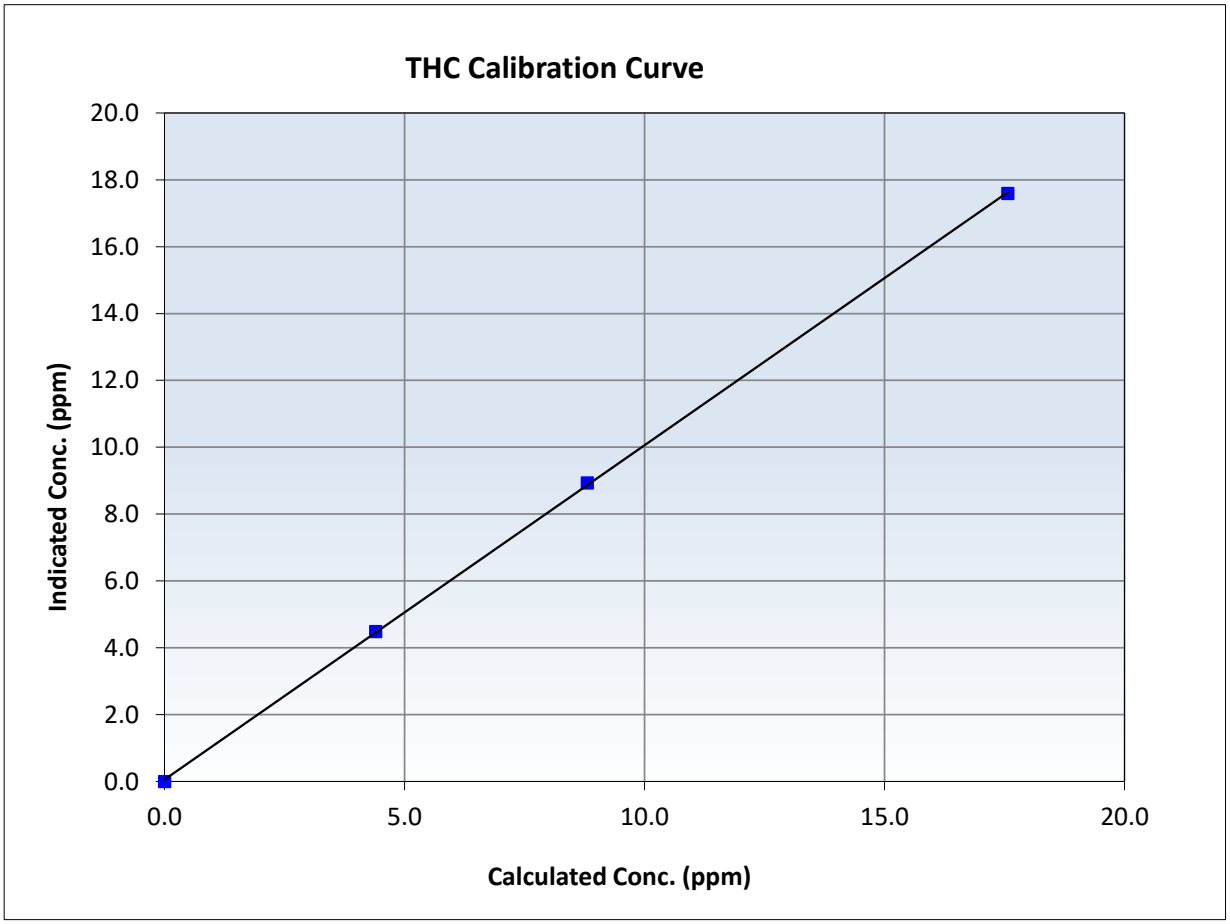
THC Calibration Summary

Station Information

Calibration Date:	November 24, 2025	Previous Calibration:	NA
Station Name:	Lower Camp	Station Number:	AMS 11
Start Time (MST):	16:45	End Time (MST):	19:14
Analyzer make:	Thermo 55i	Analyzer serial #:	1152430012

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999945	≥0.995
17.57	17.59	0.9988	Slope	1.000264	0.90 - 1.10
8.81	8.93	0.9867	Intercept	0.054905	+/-0.5
4.40	4.49	0.9803			



Wood Buffalo Environmental Association

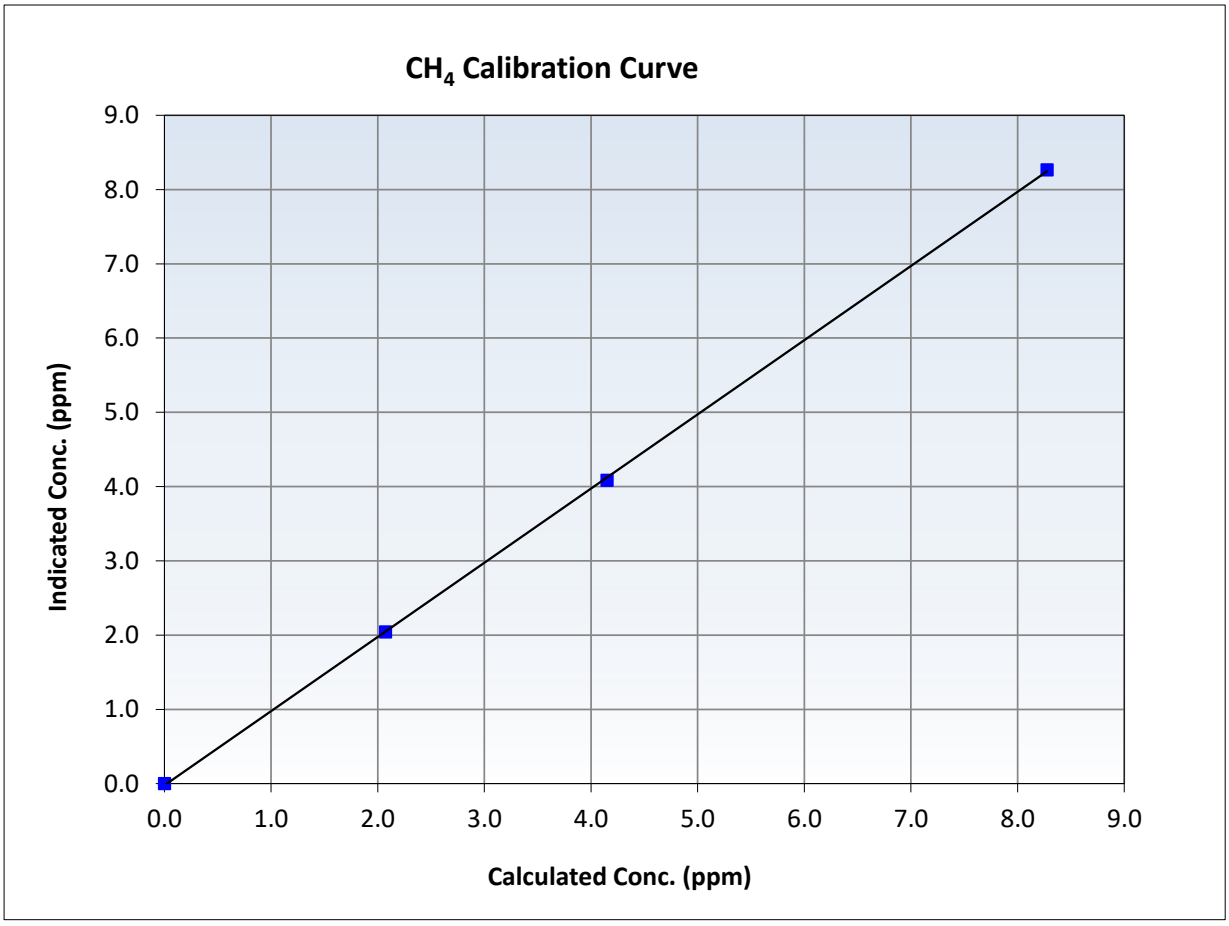
CH_4 Calibration Summary

Station Information

Calibration Date:	November 24, 2025	Previous Calibration:	NA
Station Name:	Lower Camp	Station Number:	AMS 11
Start Time (MST):	16:45	End Time (MST):	19:14
Analyzer make:	Thermo 55i	Analyzer serial #:	1152430012

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999933	≥0.995
8.28	8.27	1.0011	Slope	0.999194	0.90 - 1.10
4.15	4.08	1.0160	Intercept	-0.023512	+/-0.5
2.07	2.04	1.0151			



Wood Buffalo Environmental Association

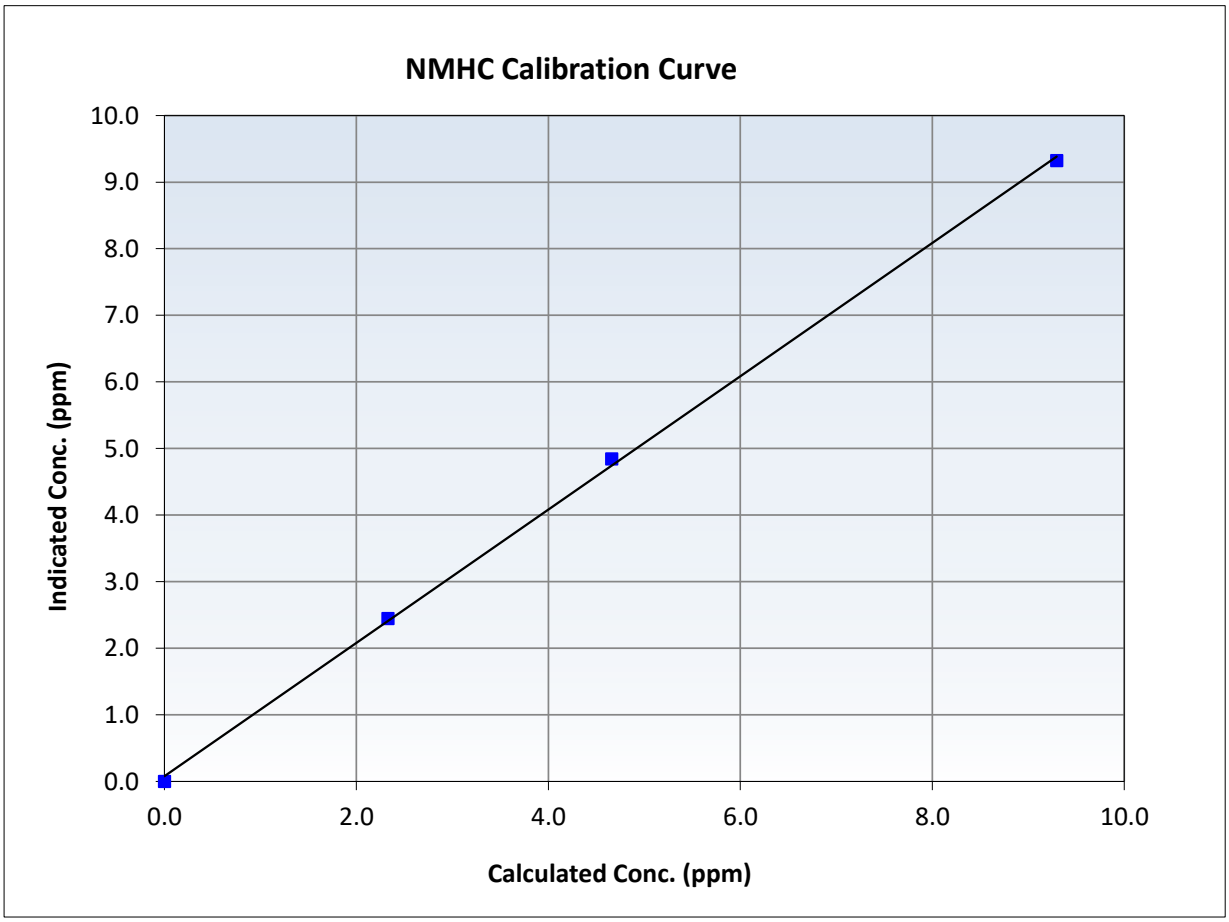
NMHC Calibration Summary

Station Information

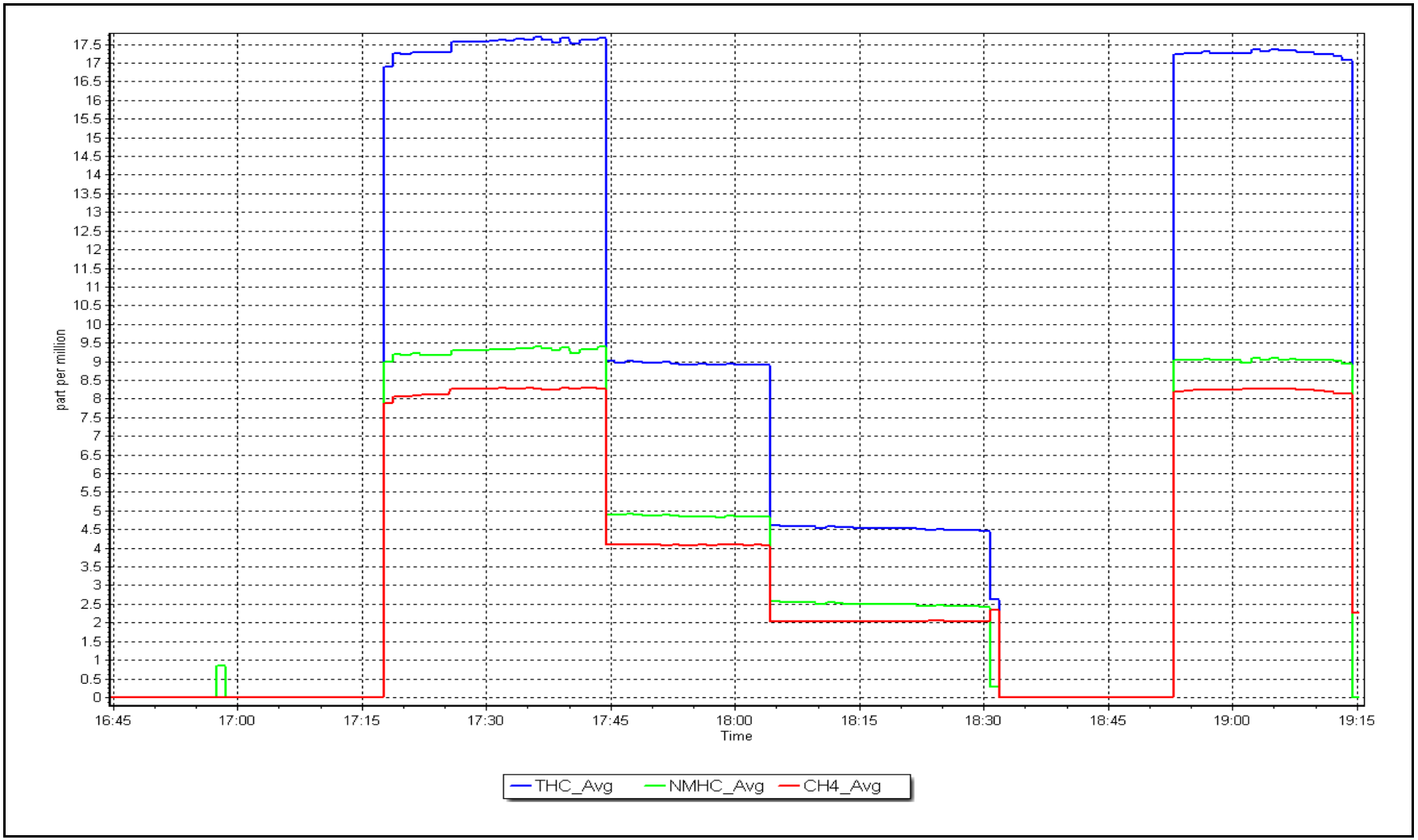
Calibration Date:	November 24, 2025	Previous Calibration:	NA
Station Name:	Lower Camp	Station Number:	AMS 11
Start Time (MST):	16:45	End Time (MST):	19:14
Analyzer make:	Thermo 55i	Analyzer serial #:	1152430012

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999553	≥0.995
9.30	9.32	0.9970	Slope	1.000982	0.90 - 1.10
4.66	4.84	0.9622	Intercept	0.078618	+/-0.5
2.33	2.45	0.9512			



NMHC Calibration Plot Date: November 24, 2025 Location: Lower Camp



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS13
FORT MCKAY SOUTH
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Fort McKay South	Station number:	AMS 13
Calibration Date:	November 17, 2025	Last Cal Date:	NA
Start time (MST):	12:38	End time (MST):	14:40
Reason:	Install		

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:	Thermo 43i-TLE		Serial Number:	1331259320
Analyzer Range:	0 - 1000 ppb			

	Start	*Finish*		*Start*	*Finish*
Calibration slope:		0.998301	Backgd or Offset:		4.23
Calibration intercept:		0.305308	Coeff or Slope:		0.969

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	0.3	----
High point	4921	79.1	799.7	798.8	1.001
Mid point	4960	39.5	399.4	398.5	1.002
Low point	4980	19.8	200.2	200.5	0.998
As left zero	5000	0.0	0.0	0.1	----
As left span	4921	79.1	799.7	799.6	1.000
				Average Correction Factor:	1.001

Notes: Adjusted span only.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

SO_2 Calibration Summary

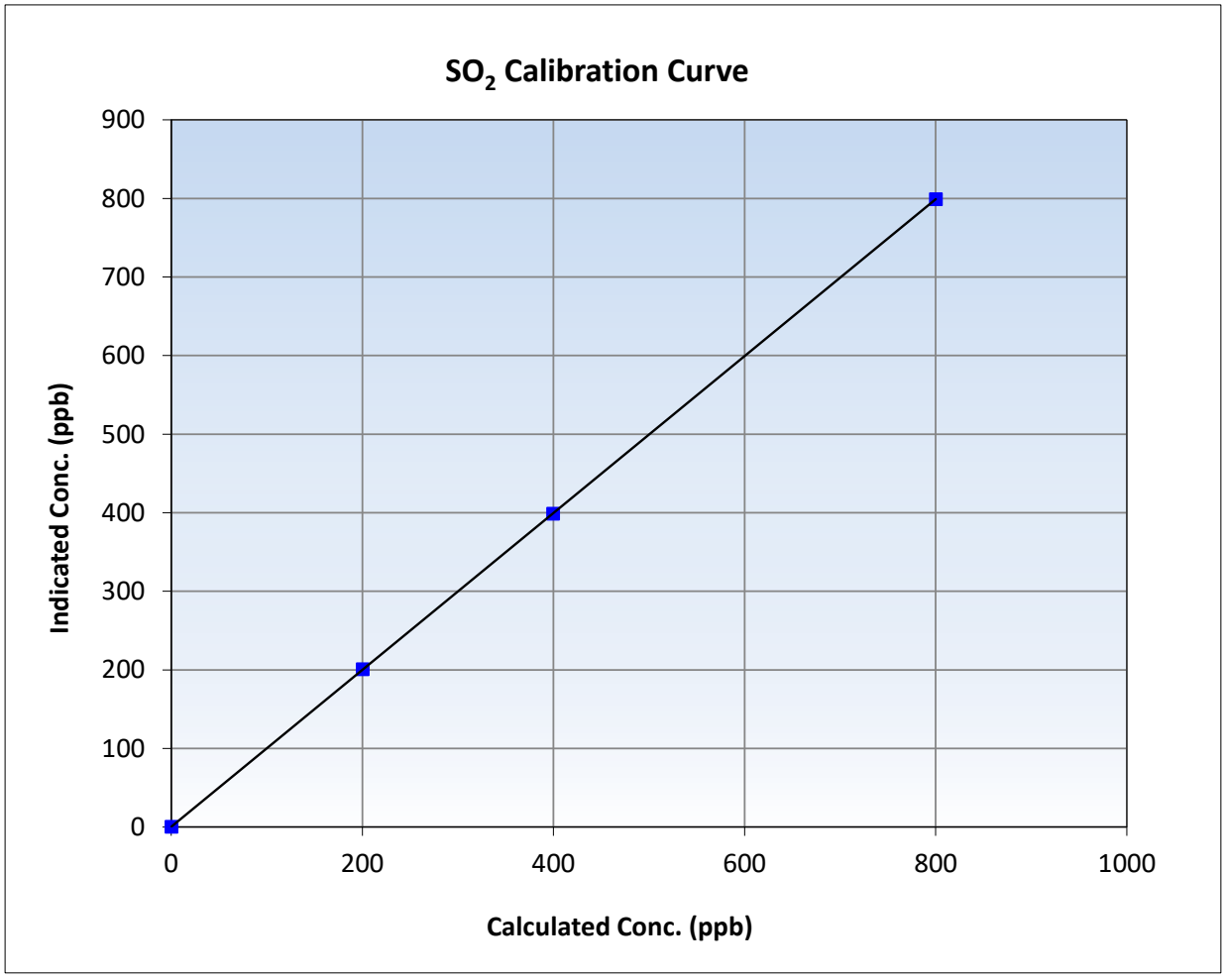
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	NA
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	12:38	End Time (MST):	14:40
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1331259320

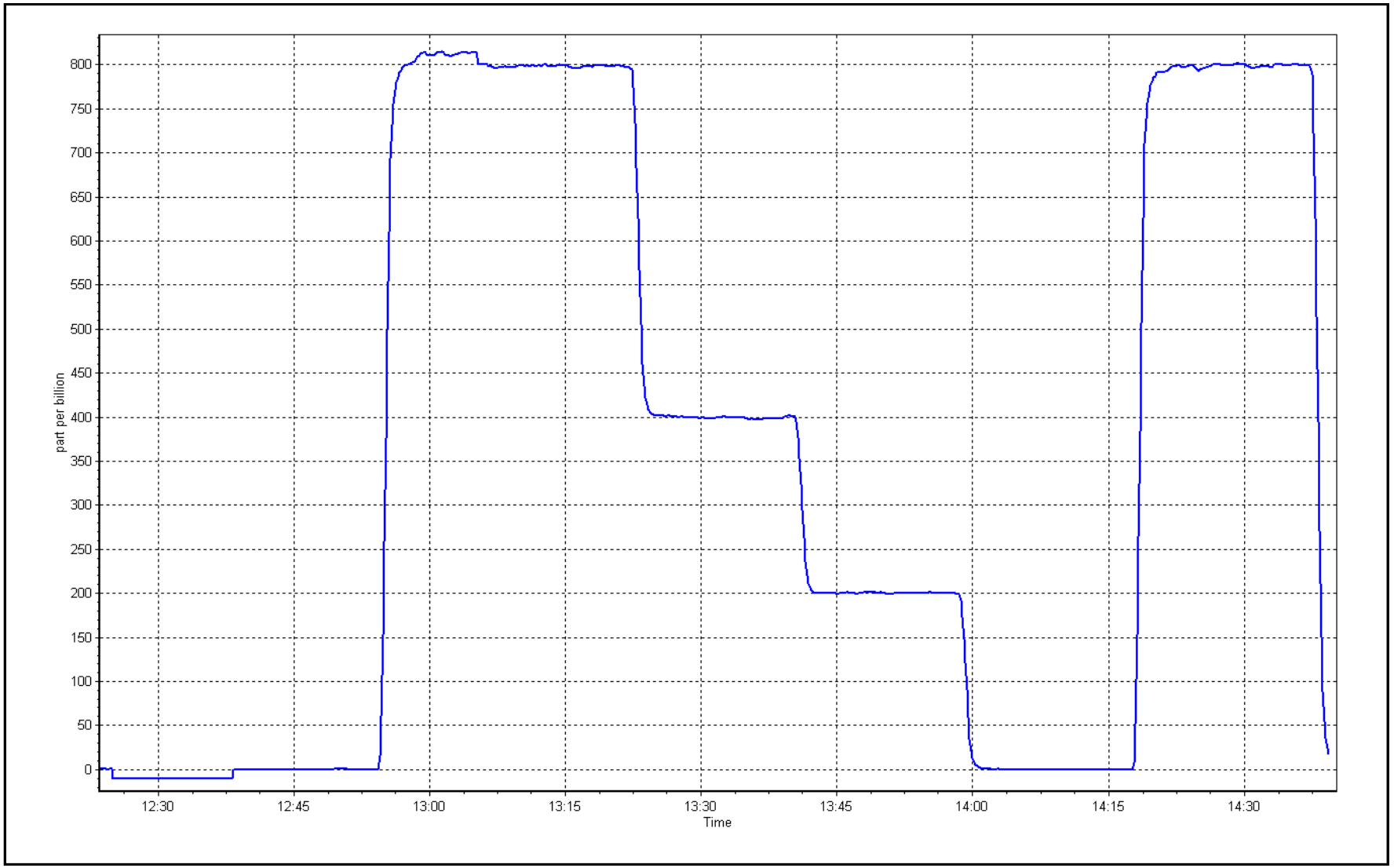
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
799.7	798.8	1.0011
399.4	398.5	1.0022
200.2	200.5	0.9984

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	0.998301	*0.90 - 1.10*
Intercept	0.305308	*+/-30*



SO2 Calibration Plot Date: November 17, 2025 Location: Fort McKay South



Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Fort McKay South	Station number:	AMS 13
Calibration Date:	November 17, 2025	Last Cal Date:	October 14, 2025
Start time (MST):	11:01	End time (MST):	12:24
Reason:	Removal		

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:	1.003832		Backgd or Offset:	111.3	
Calibration intercept:	-3.054307		Coeff or Slope:	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	0.1	----
As found High point	4921	79.1	799.7	801.7	0.998
As found Mid point	4960	39.5	399.4	396.2	1.008
As found Low point	4980	19.8	200.2	194.6	1.029
New cylinder response					
Baseline Corr As found:	801.6	Previous response	799.7	*% change	0.2%
Baseline Corr 2nd AF pt:	396.1	AF Slope:	1.004412	AF Intercept:	-3.202386
Baseline Corr 3rd AF pt:	194.5	AF Correlation:	0.999922	* = > +/-5% change initiates investigation	

SO_2 Calibration Data

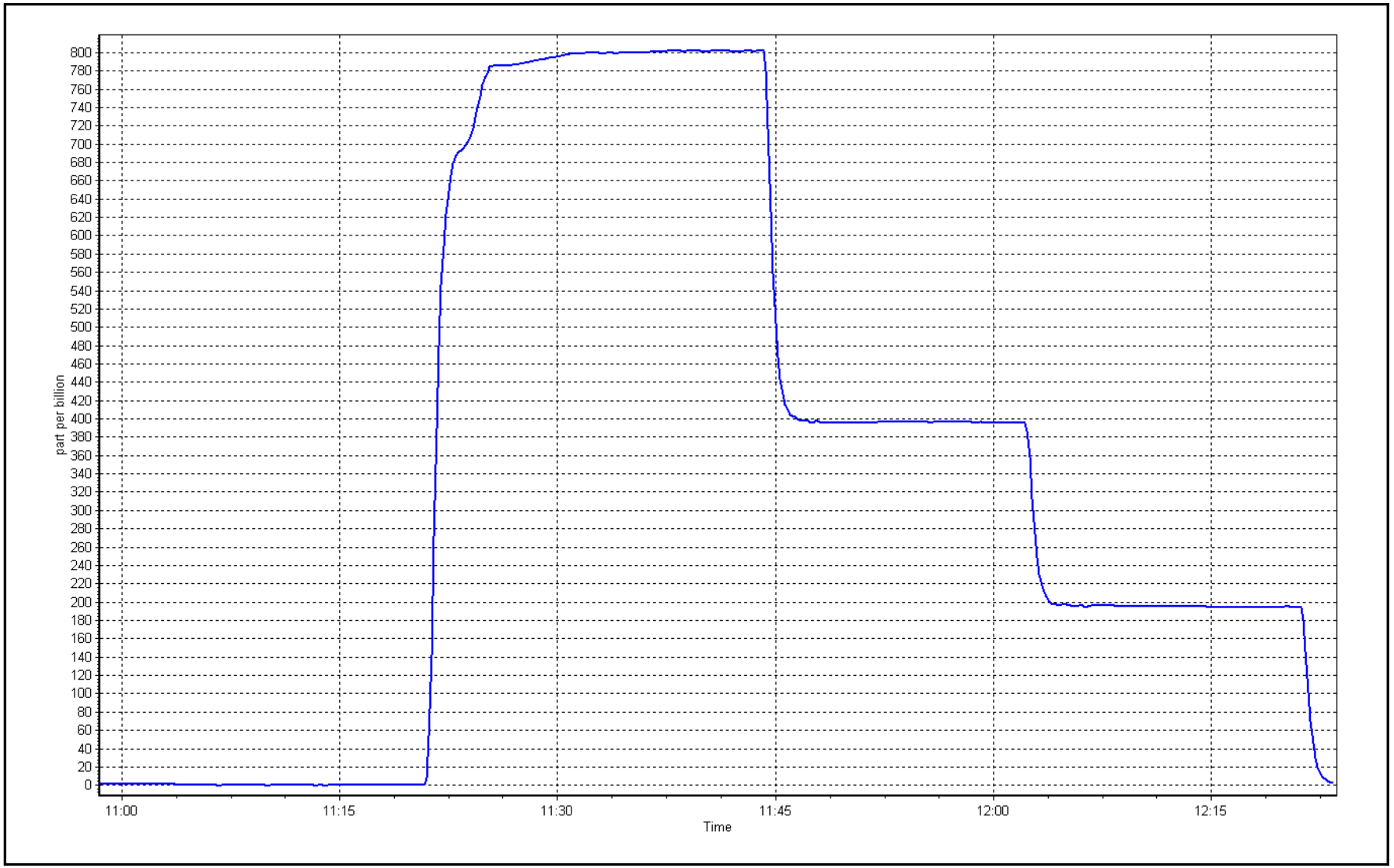
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero					
As left span					

Average Correction Factor:

Notes: Removal calibration.

Calibration Performed By: Sean Bala

SO2 Calibration Plot Date: November 17, 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:	November 24, 2025	Last Cal Date:	October 7, 2025
Start time (MST):	9:37	End time (MST):	13:26
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:	0.999674	0.999960	Backgd or Offset:	3.36	3.36
Calibration intercept:	-0.058418	0.081584	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	0.3	----
As found High point	4918	81.6	79.6	79.6	1.004
As found Mid point	4959	40.8	39.8	39.6	1.013
As found Low point	4980	20.4	19.9	19.7	1.026
New cylinder response					

Baseline Corr As found:	79.3	Prev response:	79.56	*% change:	-0.3%
Baseline Corr 2nd AF pt:	39.3	AF Slope:	0.996947	AF Intercept:	0.061579
Baseline Corr 3rd AF pt:	19.4	AF Correlation:	0.999958	* = > +/-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	4918	81.6	79.6	79.8	0.998
Mid point	4959	40.8	39.8	39.9	0.998
Low point	4980	20.4	19.9	19.7	1.011
As left zero	5000	0.0	0.0	0.3	----
As left span	4918	81.6	79.6	80.1	0.994
SO2 Scrubber Check	4921	79.1	791.0	0.0	----

Date of last scrubber change:	7-Aug-25	Ave Corr Factor	1.002
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

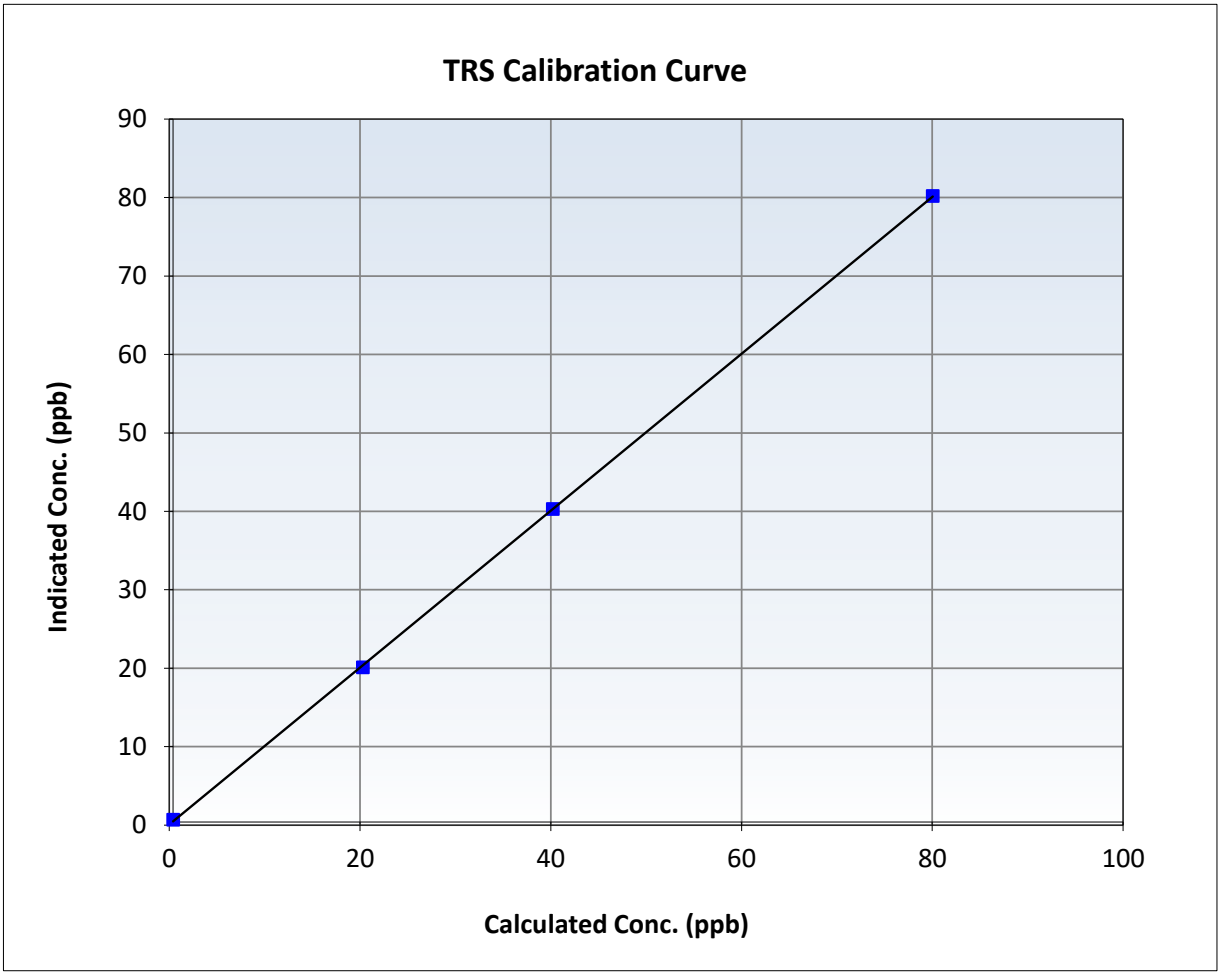
TRS Calibration Summary

Station Information

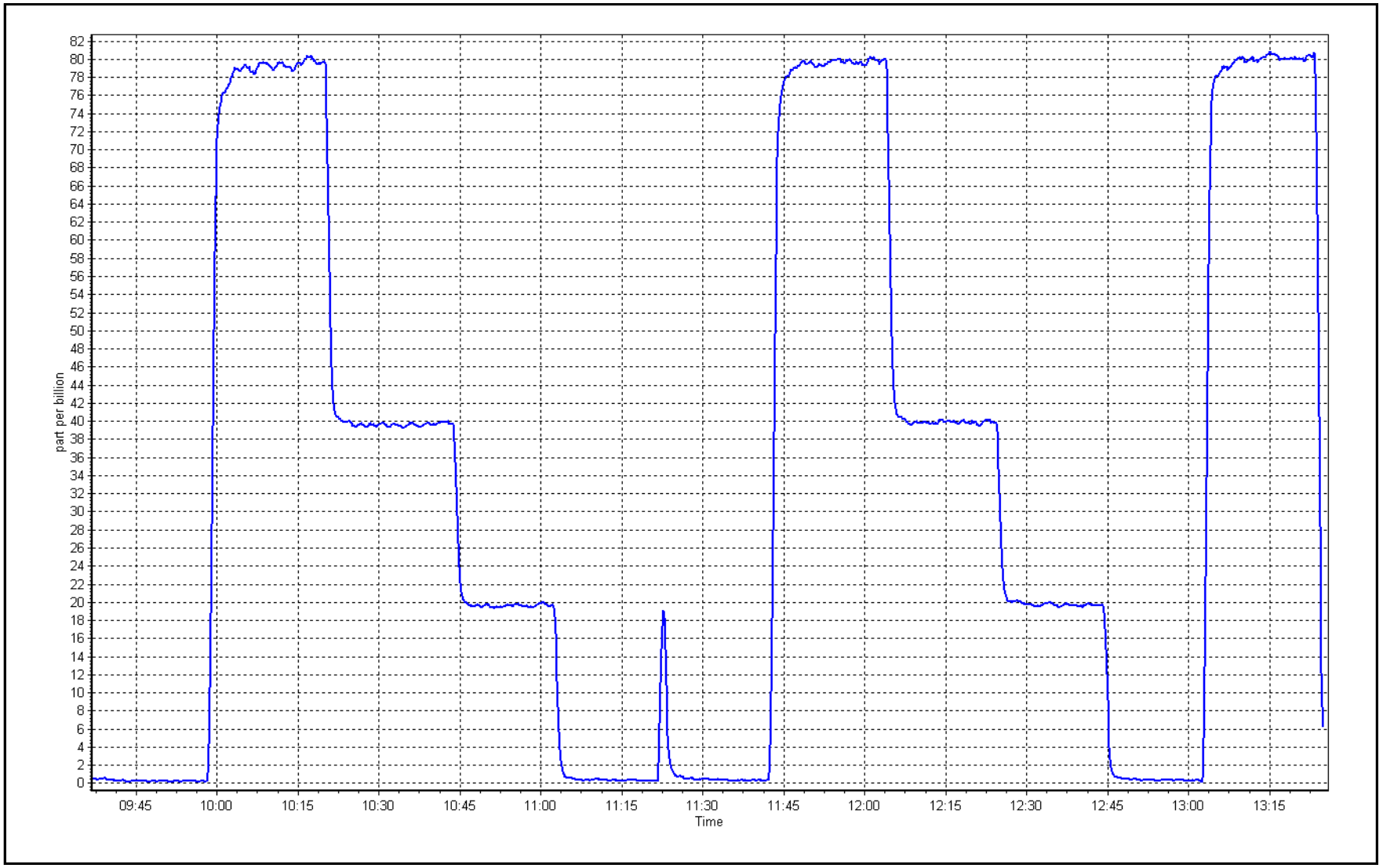
Calibration Date:	November 24, 2025	Previous Calibration:	October 7, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:37	End Time (MST):	13:26
Analyzer make:	Thermo 43i TLE	Analyzer serial #:	1180540017

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.3	----	Correlation Coefficient	0.999961	*≥0.995*
79.6	79.8	0.9981	Slope	0.999960	*0.90 - 1.10*
39.8	39.9	0.9981	Intercept	0.081584	*+/-3*
19.9	19.7	1.0106			



TRS Calibration Plot Date: November 24, 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:	November 19, 2025	Last Cal Date:	October 14, 2025
Start time (MST):	9:57	End time (MST):	12:38
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:	3.00E-04	3.07E-04	NMHC SP Ratio:	4.62E-05	4.61E-05
CH4 Retention time:	16.20	16.00	NMHC Peak Area:	196731	196813
Zero Chromatogram:	ON	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	17.05	16.88	1.010
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	16.88	Prev response	17.09	*% 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	79.1	17.05	16.99	1.003
Mid point	4960	39.5	8.51	8.45	1.008
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	16.99	1.004
				Average Correction Factor	1.011

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	1.001
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.07	Prev response	9.09	*% change	-0.2%
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	79.1	9.08	9.07	1.001
Mid point	4960	39.5	4.53	4.50	1.008
Low point	4980	19.8	2.27	2.23	1.021
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	9.08	9.05	1.003
				Average Correction Factor	1.010

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	16	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	196813
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.1	7.97	7.81	1.021
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.81	Prev response	8.00	*% change	-2.5%
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	5000	0.0	0.00	0.00	----
High point	4921	79.1	7.97	7.92	1.006
Mid point	4960	39.5	3.98	3.95	1.009
Low point	4980	19.8	1.99	1.95	1.023
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.1	7.97	7.94	1.004
				Average Correction Factor	1.012

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.005364	0.997962
THC Cal Offset:	-0.049894	-0.038699
CH4 Cal Slope:	1.007187	0.995809
CH4 Cal Offset:	-0.023539	-0.016138
NMHC Cal Slope:	1.003878	0.999826
NMHC Cal Offset:	-0.026555	-0.022962

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

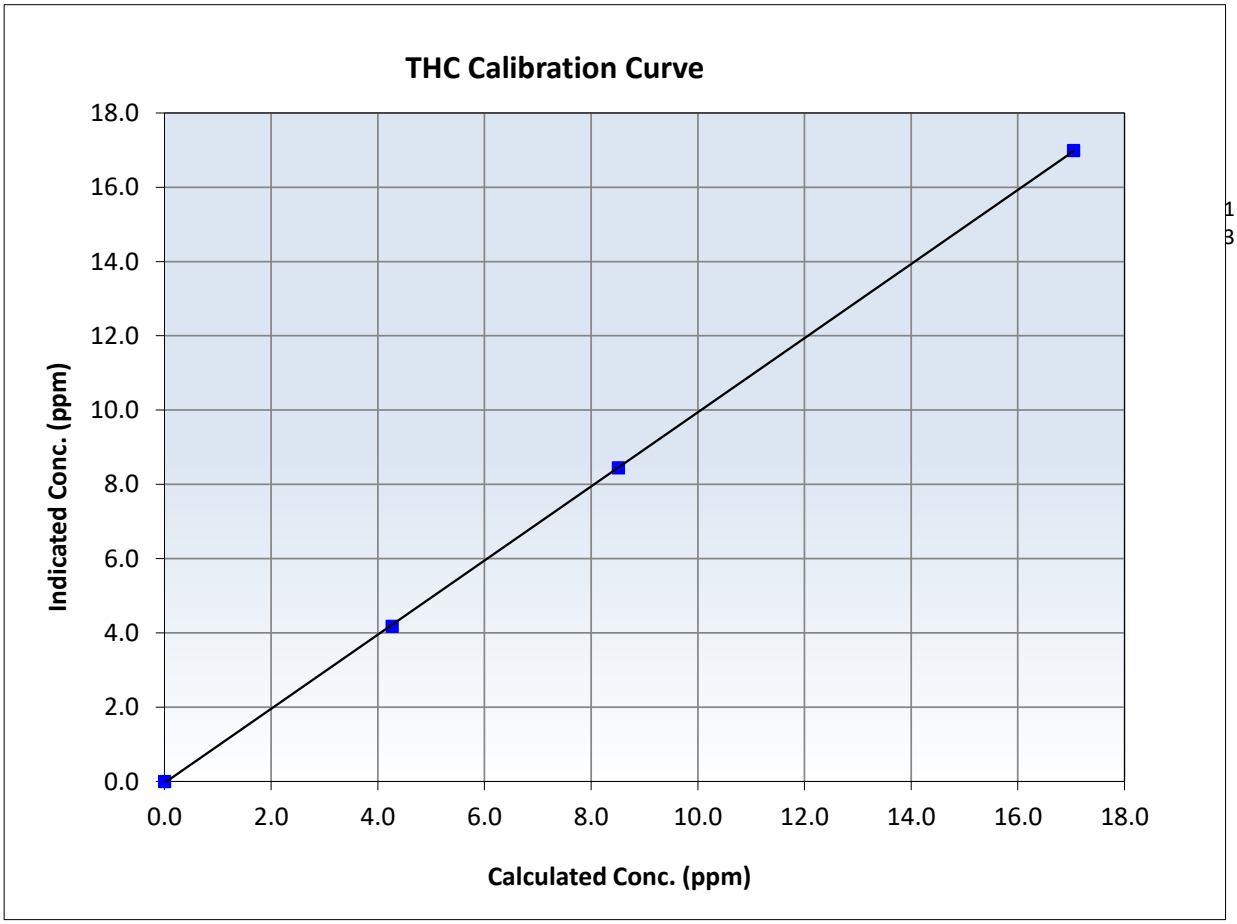
THC Calibration Summary

Station Information

Calibration Date:	November 19, 2025	Previous Calibration:	October 14, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:57	End Time (MST):	12:38
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	0.999976	≥0.995
17.05	16.99	1.0034	Slope	0.997962	0.90 - 1.10
8.51	8.45	1.0078			
4.27	4.18	1.0221	Intercept	-0.038699	+/-0.5



Wood Buffalo Environmental Association

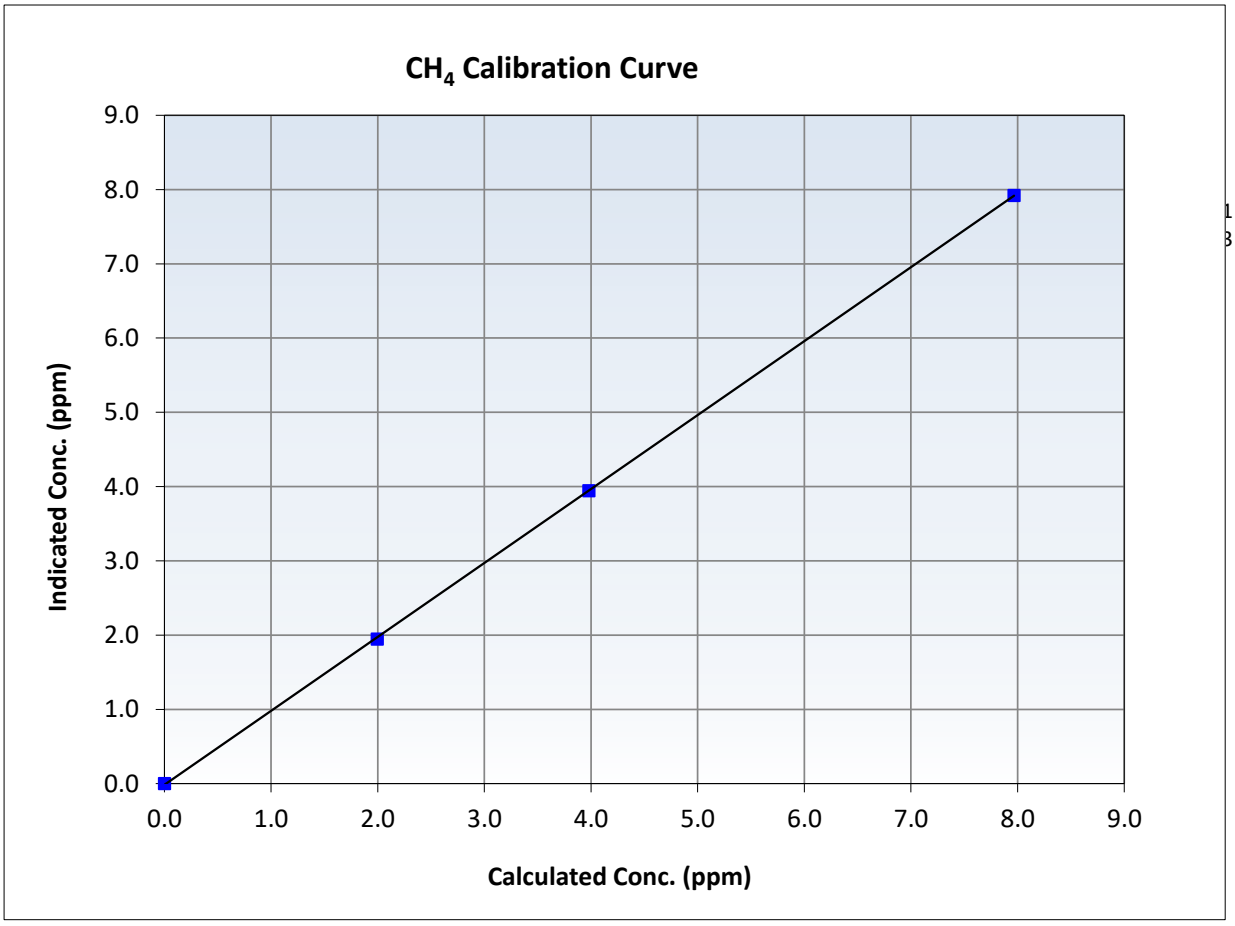
CH_4 Calibration Summary

Station Information

Calibration Date:	November 19, 2025	Previous Calibration:	October 14, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:57	End Time (MST):	12:38
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	0.999979	≥0.995
7.97	7.92	1.0055	Slope	0.995809	0.90 - 1.10
3.98	3.95	1.0086			
1.99	1.95	1.0233	Intercept	-0.016138	+/-0.5



Wood Buffalo Environmental Association

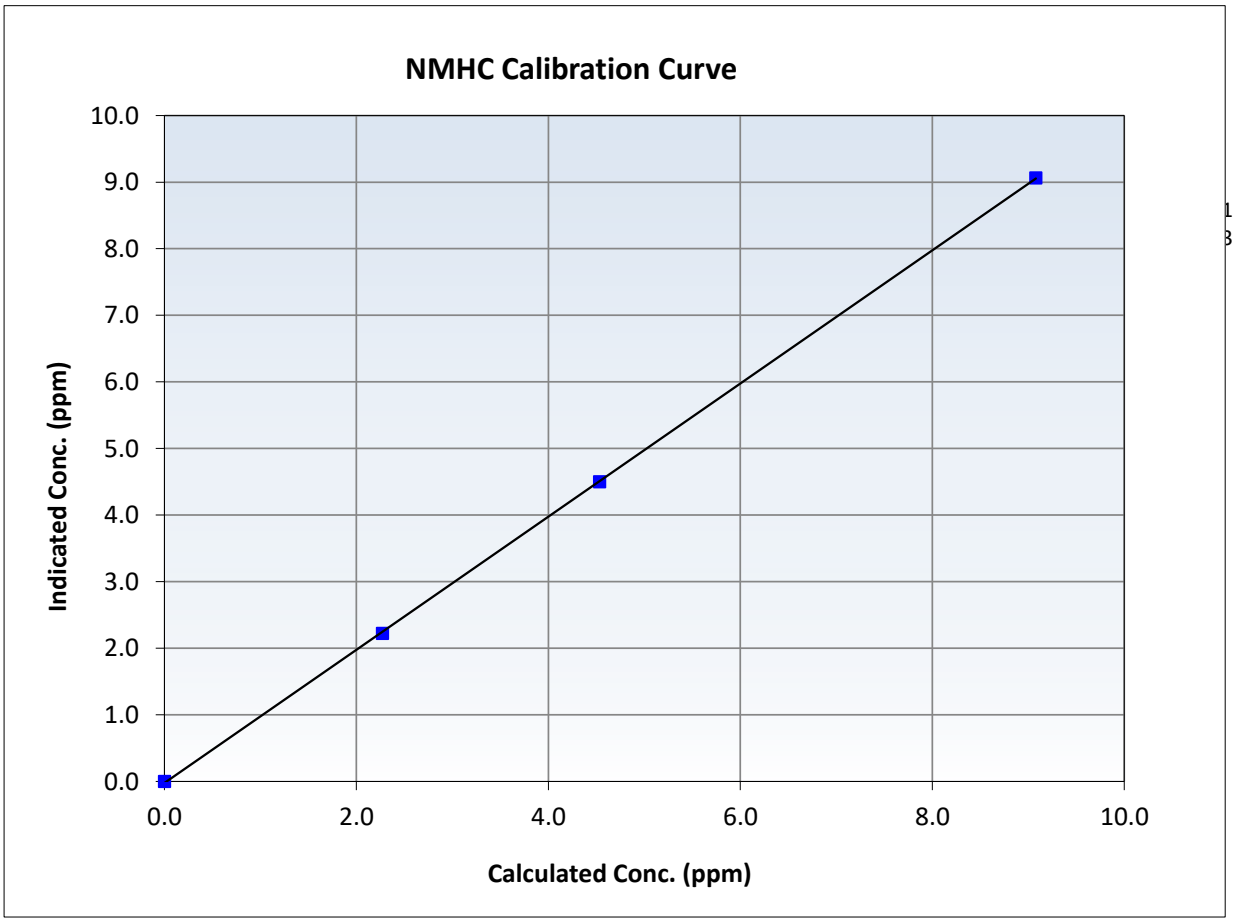
NMHC Calibration Summary

Station Information

Calibration Date:	November 19, 2025	Previous Calibration:	October 14, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:57	End Time (MST):	12:38
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	0.999971	≥0.995
9.08	9.07	1.0015	Slope	0.999826	0.90 - 1.10
4.53	4.50	1.0077			
2.27	2.23	1.0210	Intercept	-0.022962	+/-0.5



NMHC Calibration Plot Date: November 19, 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:	November 27, 2025	Last Cal Date:	November 19, 2025
Start time (MST):	10:45	End time (MST):	12:02
Reason:	Cylinder Change		

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 T701	Serial Number:	1118
Zero Air Gen model:	Teledyne API 700	Serial Number:	2657

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:	3.07E-04	3.07E-04	NMHC SP Ratio:	4.61E-05	4.61E-05
CH4 Retention time:	16.00	16.00	NMHC Peak Area:	196813	196813
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	17.05	17.11	0.996
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	17.11	Prev response	16.97	*% 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	4921	79.1	17.05	17.12	0.996
Mid point					
Low point					
As left zero					
As left span					

Average Correction Factor: 0.996

Notes: N2 change, no change to response.

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	9.09	0.999
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.09	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	5000	0.0	0.00	0.00	----
High point	4921	79.1	9.08	9.09	0.998
Mid point					
Low point					
As left zero					
As left span					
				Average Correction Factor	0.998

CH4 As Found Data

Set Point	Dilution air flow rate (sccm)	16	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	196813
As found zero	5000	0.0	0.00	0.00	----
As found High point	4921	79.1	7.97	8.02	0.993
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.02	Prev response	7.92	*% 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

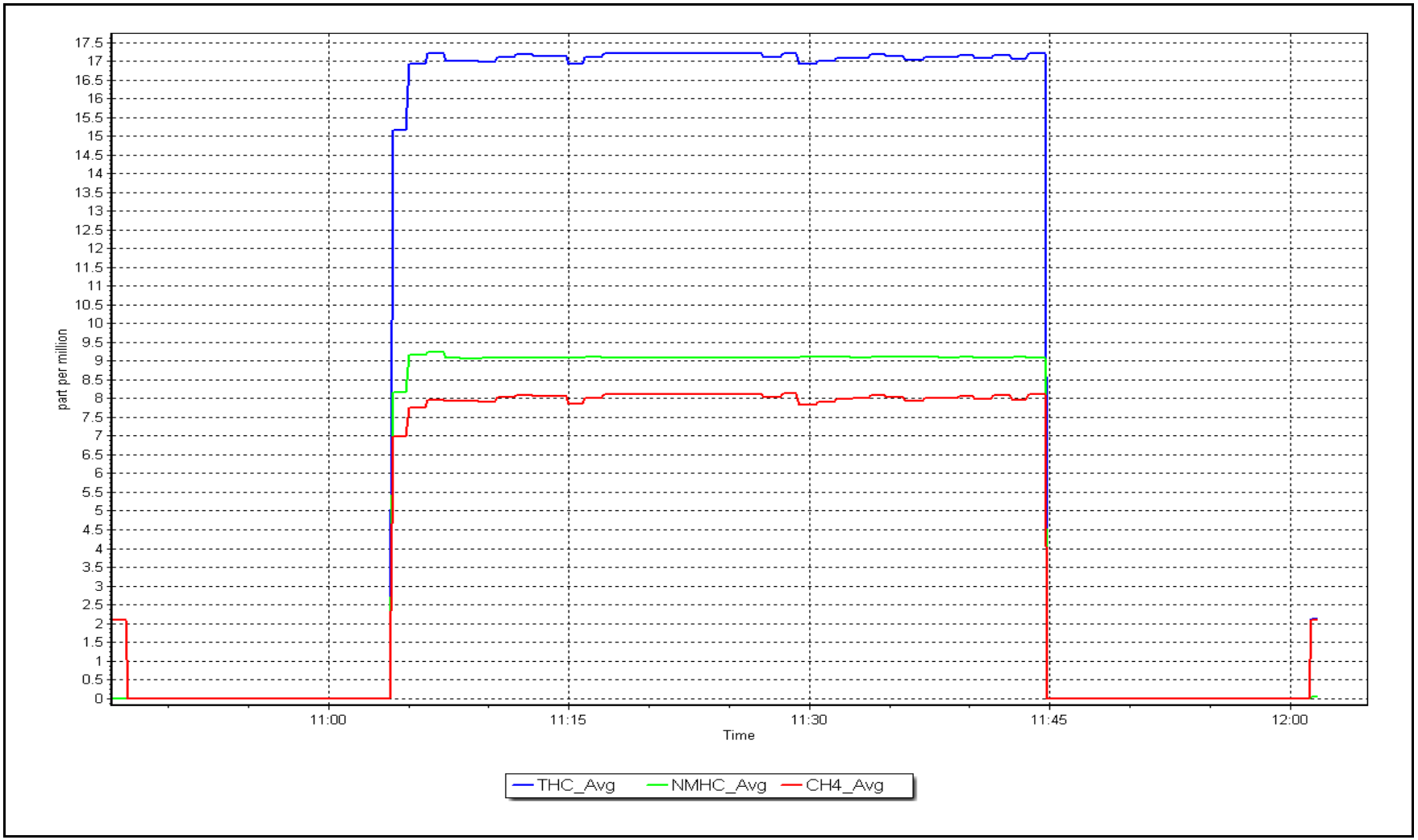
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero	5000	0.0	0.00	0.00	----
High point	4921	79.1	7.97	8.03	0.993
Mid point					
Low point					
As left zero					
As left span					
				Average Correction Factor	0.993

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	0.997962	1.004511
THC Cal Offset:	-0.038699	0.000000
CH4 Cal Slope:	0.995809	1.007432
CH4 Cal Offset:	-0.016138	0.000000
NMHC Cal Slope:	0.999826	1.001618
NMHC Cal Offset:	-0.022962	0.000000

Calibration Performed By: Ryan Power

NMHC Calibration Plot Date: November 27, 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:	November 12, 2025
Last Cal Date:	October 21, 2025
Start time (MST):	9:50
End time (MST):	14:06
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	0.0	-0.2	----	----
AF High point	4917	83.5	805.7	799.5	6.2	814.6	804.0	10.7	0.9888	0.9944
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 803.7 ppb	NO = 797.2 ppb
Baseline Corr 1st pt	NO_X = 814.8 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

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 = 1.4%
*Percent Change	NO = 0.8%

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:	1.126	1.126	NO bkgnd or offset:	3.0	3.0
NOX coeff or slope:	0.998	0.998	NOX bkgnd or offset:	3.2	3.2
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	162.1	162.1

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.001701	1.004510
NO_X Cal Offset:	-3.392379	-2.733107
NO Cal Slope:	1.002536	1.002736
NO Cal Offset:	-4.350297	-3.770487
NO_2 Cal Slope:	0.988647	0.984281
NO_2 Cal Offset:	1.598208	2.392924

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	4917	83.5	805.7	799.5	6.2	808.3	800.2	8.1	0.9968	0.9991
Mid point	4958	41.8	403.4	400.3	3.1	400.3	394.9	5.3	1.0077	1.0137
Low point	4979	20.9	201.7	200.1	1.5	197.4	193.3	4.1	1.0217	1.0354
As left zero	5000	0.0	0.0	0.0	0.0	0.2	0.3	-0.1	----	----
As left span	4917	83.5	805.7	401.0	404.7	798.2	401.0	397.3	1.0094	1.0000
							Average Correction Factor		1.0087	1.0161

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	398.9	405.7	400.3	1.0134	98.7%
Mid GPT point	798.4	601.1	203.5	204.3	0.9960	100.4%
Low GPT point	798.4	700.8	103.8	106.8	0.9717	102.9%
				Average Correction Factor	0.9937	100.7%

Notes: Adjusted span only.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

NO_X Calibration Summary

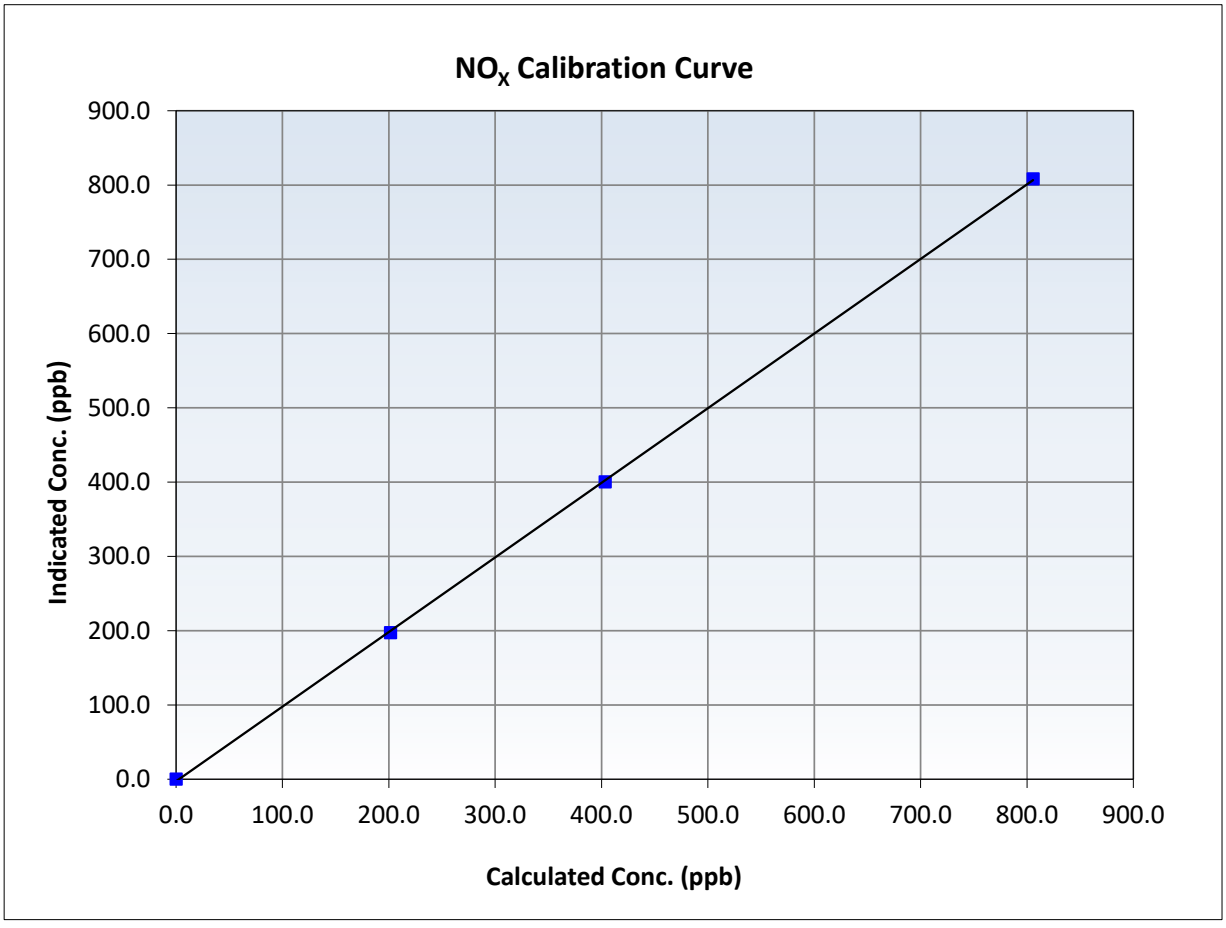
Station Information

Calibration Date:	November 12, 2025	Previous Calibration:	October 21, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:50	End Time (MST):	14:06
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	----
805.7	808.3	0.9968
403.4	400.3	1.0077
201.7	197.4	1.0217

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999938	*≥0.995*
Slope	1.004510	*0.90 - 1.10*
Intercept	-2.733107	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

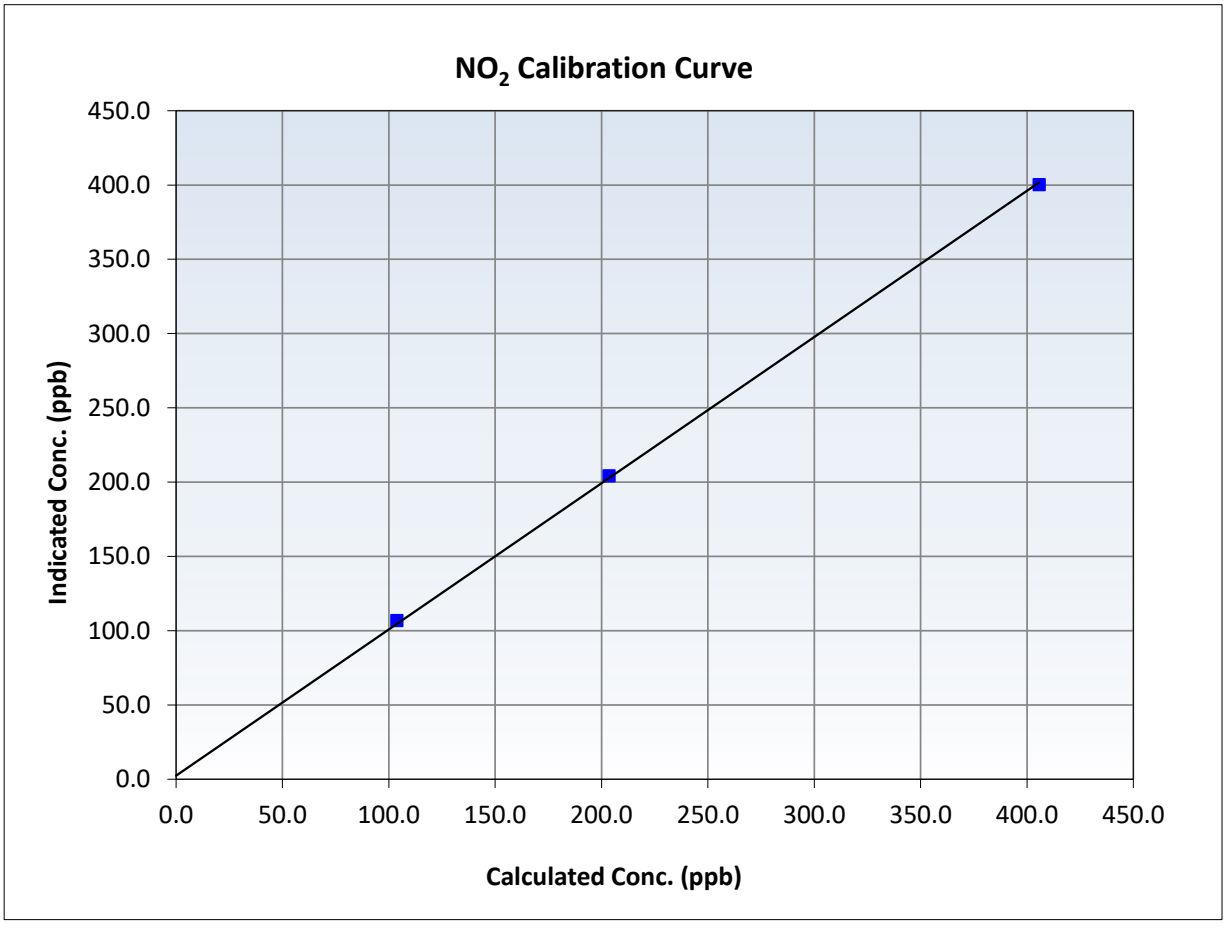
Station Information

Calibration Date:	November 12, 2025	Previous Calibration:	October 21, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:50	End Time (MST):	14:06
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	----
405.7	400.3	1.0134
203.5	204.3	0.9960
103.8	106.8	0.9717

Statistical Evaluation		Limits
Correlation Coefficient	0.999817	≥0.995
Slope	0.984281	0.90 - 1.10
Intercept	2.392924	+/-20



Wood Buffalo Environmental Association

NO Calibration Summary

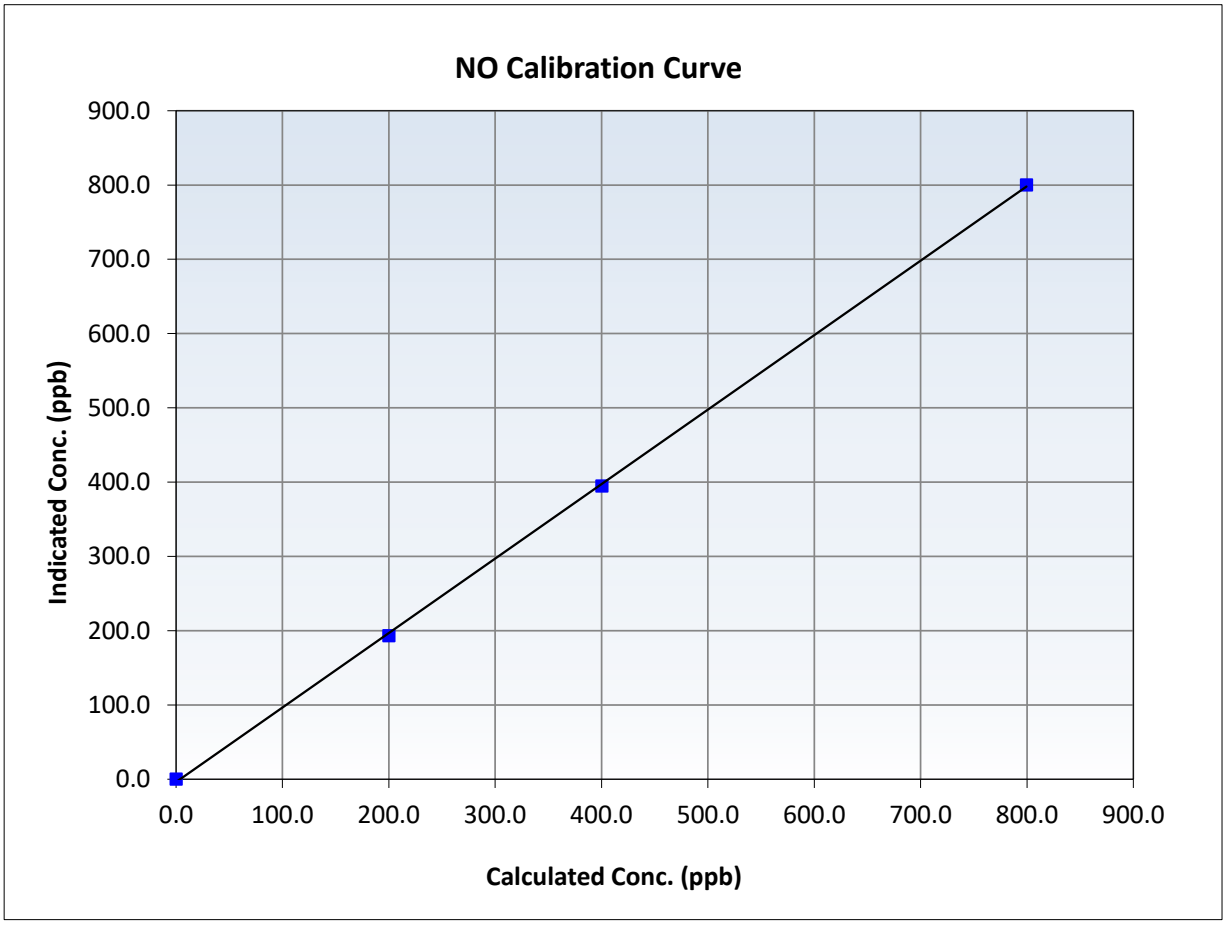
Station Information

Calibration Date:	November 12, 2025	Previous Calibration:	October 21, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	9:50	End Time (MST):	14:06
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12300522720

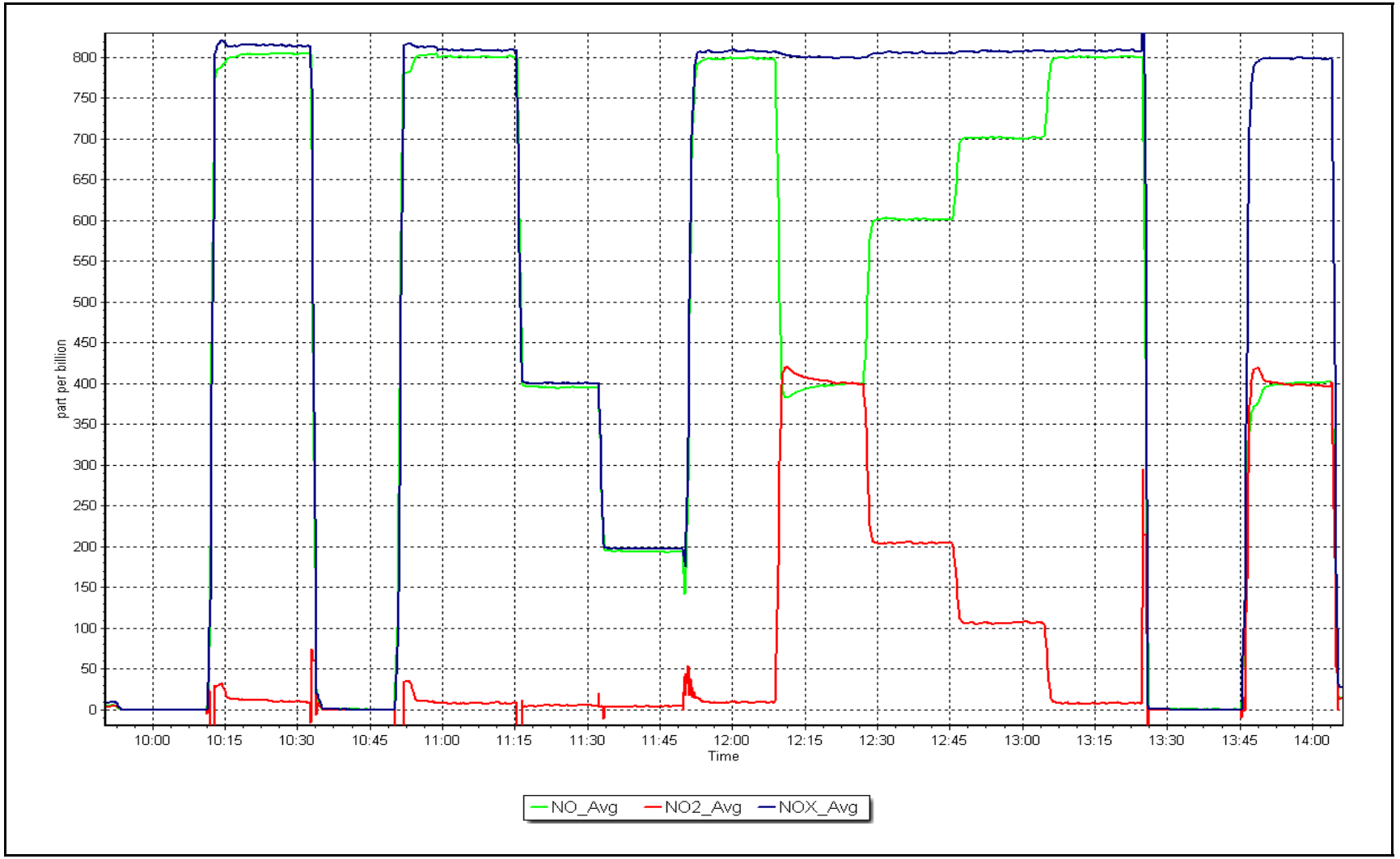
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
799.5	800.2	0.9991
400.3	394.9	1.0137
200.1	193.3	1.0354

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999880	*≥0.995*
Slope	1.002736	*0.90 - 1.10*
Intercept	-3.770487	*+/-20*



NO_X Calibration Plot Date: November 12, 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:	November 3, 2025	Last Cal Date:	October 6, 2025
Start time (MST):	10:25	End time (MST):	13:30
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:	1.001486	1.002943	Backgd or Offset:	-3.6	-2.8
Calibration intercept:	1.140000	1.260000	Coeff or Slope:	1.030	1.025

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	984.4	400.0	404.4	0.991
As found Mid point					
As found Low point					
Baseline Corr As found:	403.8	Previous response	401.7	*% 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	0.5	----
High point	5000	984.4	400.0	402.0	0.995
Mid point	5000	799.8	200.0	202.4	0.988
Low point	5000	682.8	100.0	102.2	0.978
As left zero	5000	800.0	0.0	-0.1	----
As left span	5000	984.4	400.0	404.3	0.989
				Average Correction Factor	0.987

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

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

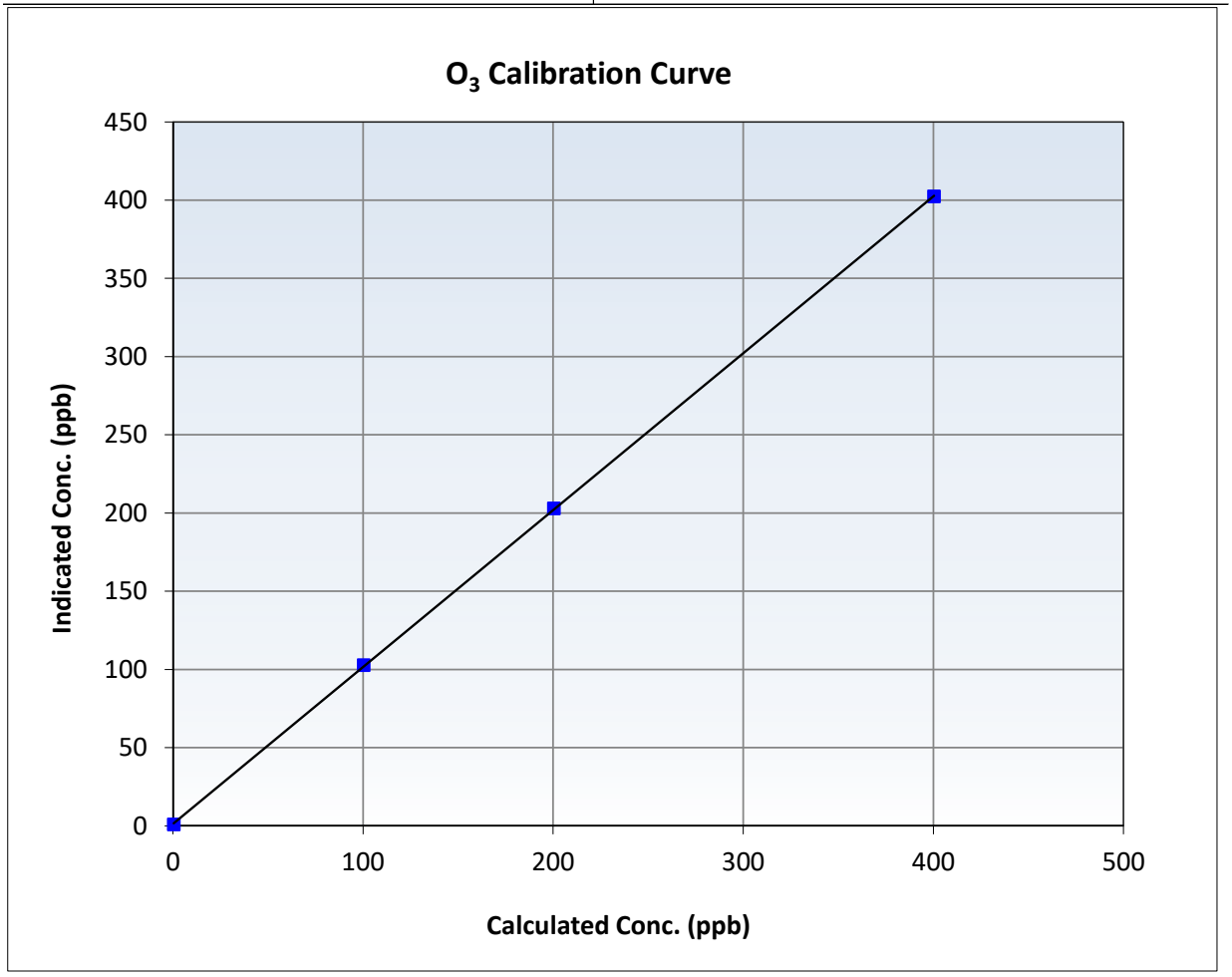
O_3 Calibration Summary

Station Information

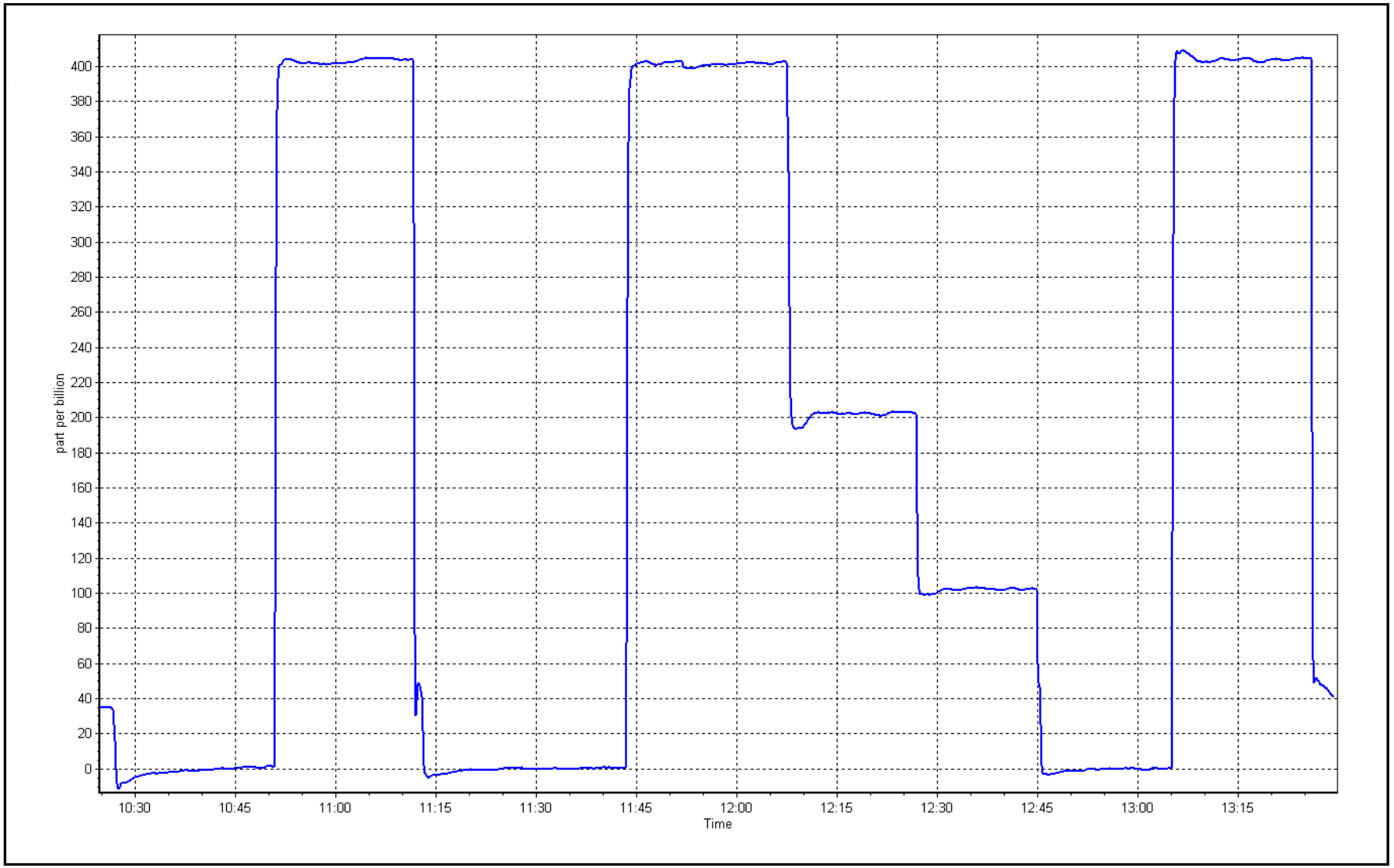
Calibration Date:	November 3, 2025	Previous Calibration:	October 6, 2025
Station Name:	Fort McKay South	Station Number:	AMS 13
Start Time (MST):	10:25	End Time (MST):	13:30
Analyzer make:	Teledyne API T400	Analyzer serial #:	7413

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	0.5	----	Correlation Coefficient	0.999983	≥0.995
400.0	402.0	0.9950	Slope	1.002943	0.90 - 1.10
200.0	202.4	0.9881			
100.0	102.2	0.9785	Intercept	1.260000	+/- 5



O_3 Calibration Plot Date: November 3, 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:	November 24, 2025	Last Cal Date:	October 30, 2025
Start time (MST):	14:10	End time (MST):	14:25
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)	-4.6	-5.12	-4.6	☐	+/- 2 ^{o}C
P (mmHg)	737.6	739.93	737.6	☐	+/- 10 mmHg
Flow (LPM)	5.01	5.05	5.01	☐	+/- 0.25 LPM
PW% (pump)	44	-----	44	☐	>80%
Zero Verification	PM w/o HEPA:	4.0	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: No adjustments.

Calibration by: Sean Bala

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS14
ANZAC
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Anzac	Station number:	AMS 14
Calibration Date:	November 17, 2025	Last Cal Date:	October 16, 2025
Start time (MST):	11:47	End time (MST):	15:16
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:	1.013696	1.008288	Backgd or Offset:	25.7	25.6
Calibration intercept:	-1.262634	-0.727248	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	0.5	----
As found High point	4937	79.6	798.4	801.5	0.997
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	801.0	Previous response	808.1	*% 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	0.4	----
High point	4937	79.6	798.4	805.4	0.991
Mid point	4977	39.7	398.2	398.7	0.999
Low point	4992	19.7	197.8	198.6	0.996
As left zero	5000	0.0	0.0	0.4	----
As left span	4937	79.6	798.4	806.4	0.990
				Average Correction Factor:	0.995

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

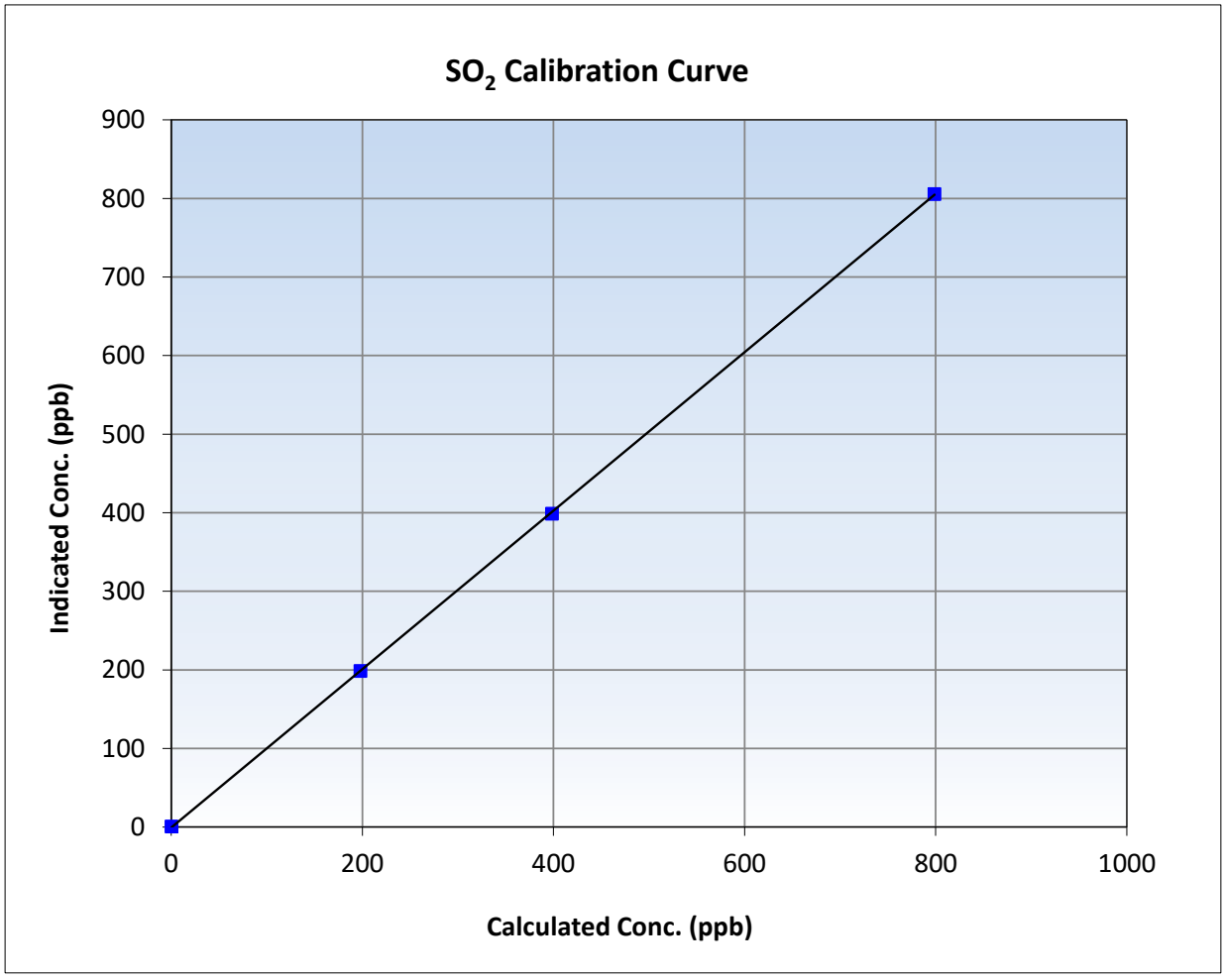
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	October 16, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	11:47	End Time (MST):	15:16
Analyzer make:	Thermo 43i	Analyzer serial #:	0710321322

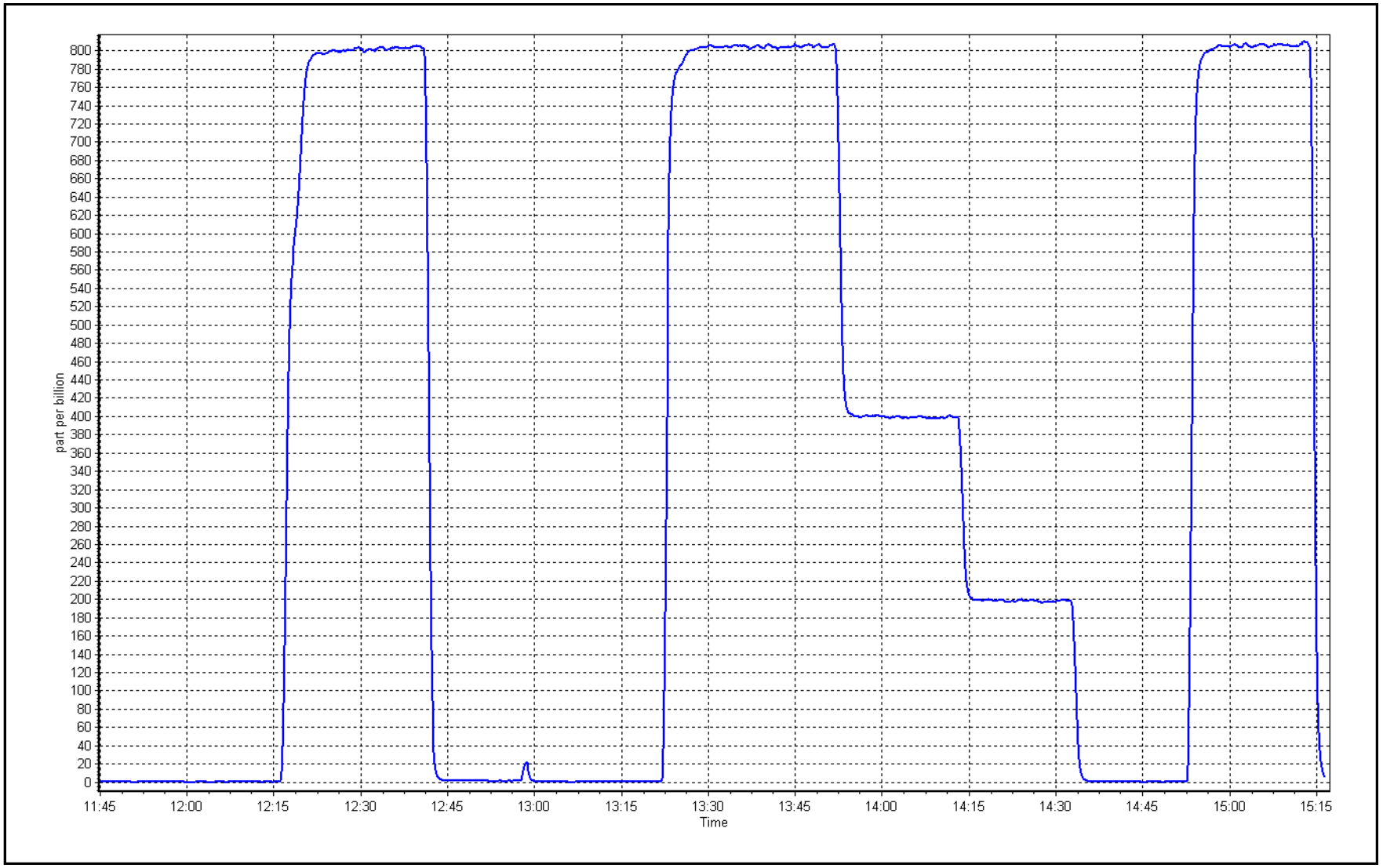
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
798.4	805.4	0.9914
398.2	398.7	0.9988
197.8	198.6	0.9960

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999981	*≥0.995*
Slope	1.008288	*0.90 - 1.10*
Intercept	-0.727248	*+/-30*



SO2 Calibration Plot Date: November 17, 2025 Location: Anzac



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Anzac	Station number:	AMS 14
Calibration Date:	November 26, 2025	Last Cal Date:	October 28, 2025
Start time (MST):	10:13	End time (MST):	15:38
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:	1.001464	0.985897	Backgd or Offset:	2.31	2.28
Calibration intercept:	-0.058652	0.061300	Coeff or Slope:	0.990	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	79.9	1.000
As found Mid point	4961	38.9	40.1	40.1	0.997
As found Low point	4981	19.4	20.0	19.5	1.019
New cylinder response					
Baseline Corr As found:	80.0	Prev response:	80.09	*% change:	-0.1%
Baseline Corr 2nd AF pt:	40.2	AF Slope:	1.001363	AF Intercept:	-0.218739
Baseline Corr 3rd AF pt:	19.6	AF Correlation:	0.999961	* = > +/-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	78.9	1.014
Mid point	4961	38.9	40.1	39.7	1.009
Low point	4981	19.4	20.0	19.6	1.019
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	1.014
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. No adjustments made.

Calibration Performed By: Parampreet Kaur and Mohammed Kashif

Wood Buffalo Environmental Association

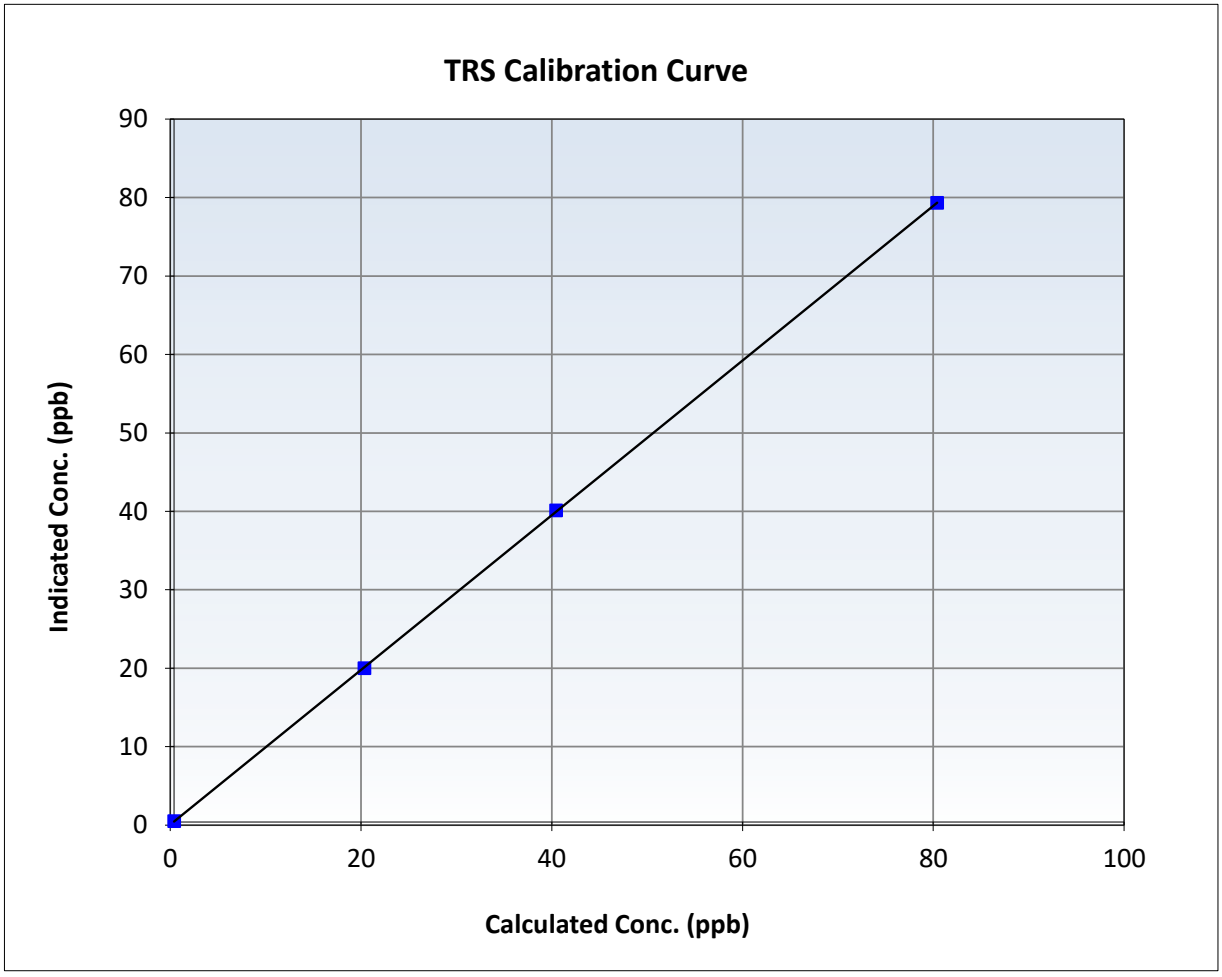
TRS Calibration Summary

Station Information

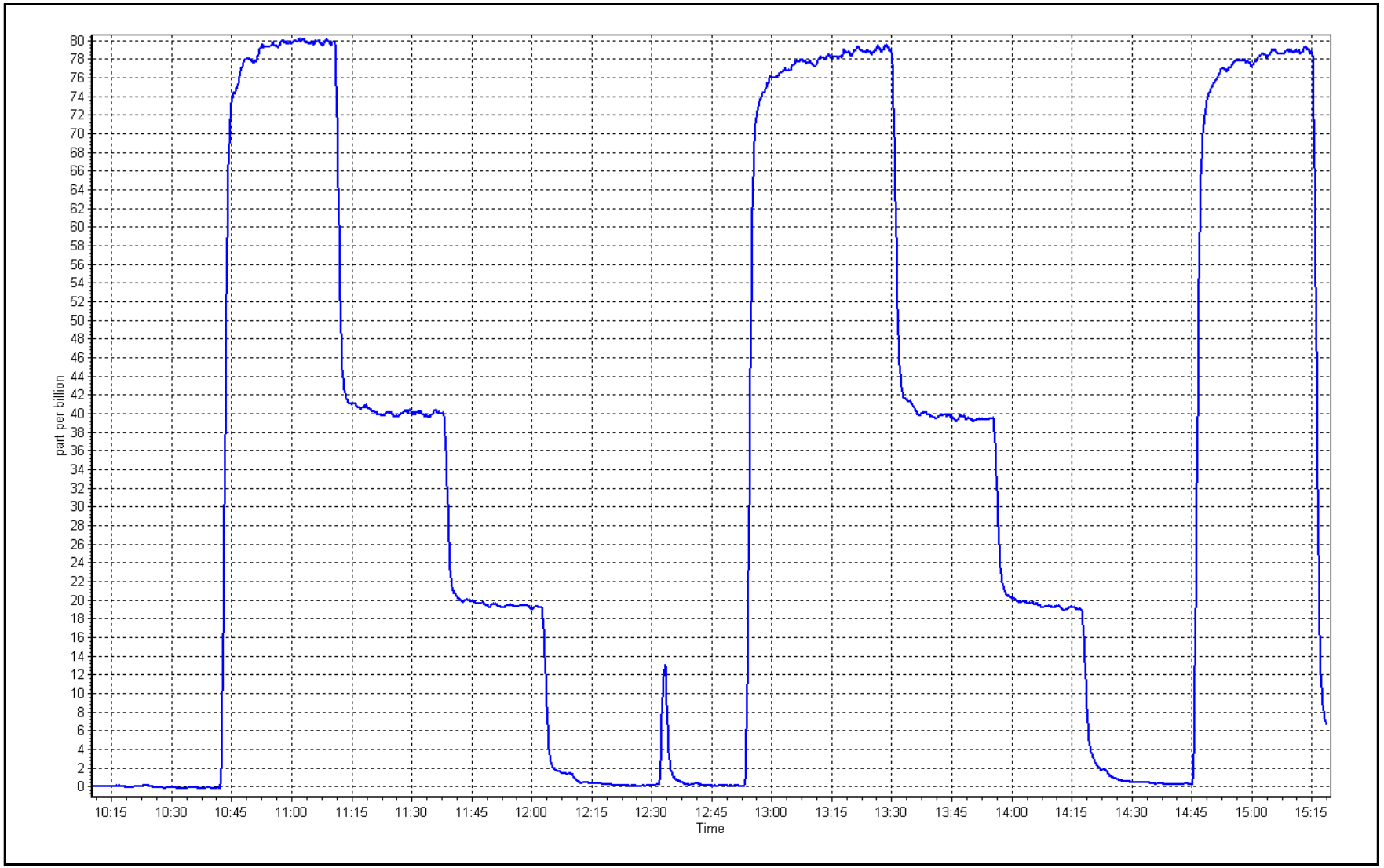
Calibration Date:	November 26, 2025	Previous Calibration:	October 28, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	10:13	End Time (MST):	15:38
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1218153582

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999986	*≥0.995*
80.0	78.9	1.0140	Slope	0.985897	*0.90 - 1.10*
40.1	39.7	1.0089			
20.0	19.6	1.0190	Intercept	0.061300	*+/-3*



TRS Calibration Plot Date: November 26, 2025 Location: Anzac



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Anzac	Station number:	AMS 14
Calibration Date:	November 17, 2025	Last Cal Date:	October 16, 2025
Start time (MST):	11:47	End time (MST):	15:16
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:	2.98E-04	2.96E-04	NMHC SP Ratio:	5.95E-05	5.87E-05
CH4 Retention time:	15.1	15.1	NMHC Peak Area:	150178	152289
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	17.15	0.989
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	17.15	Prev response	16.93	*% 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	4937	79.6	16.96	16.92	1.003
Mid point	4977	39.7	8.46	8.24	1.026
Low point	4992	19.7	4.20	4.20	1.001
As left zero	5000	0.0	0.00	0.00	----
As left span	4937	79.6	16.96	16.89	1.004
				Average Correction Factor	1.004

Notes: Changed the sample inlet filter and N2 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	9.09	0.983
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.09	Prev response	8.93	*% change	1.8%
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	8.91	1.004
Mid point	4977	39.7	4.46	4.37	1.019
Low point	4992	19.7	2.21	2.24	0.988
As left zero	5000	0.0	0.00	0.00	----
As left span	4937	79.6	8.94	8.91	1.004
				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	4937	79.6	8.02	8.06	0.995
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.06	Prev response	8.00	*% 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	4937	79.6	8.02	8.01	1.001
Mid point	4977	39.7	4.00	3.87	1.033
Low point	4992	19.7	1.99	1.96	1.016
As left zero	5000	0.0	0.00	0.00	----
As left span	4937	79.6	8.02	7.98	1.005
				Average Correction Factor	1.017

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	1.003531	0.996009
THC Cal Offset:	-0.092035	-0.035840
CH4 Cal Slope:	1.005653	0.998784
CH4 Cal Offset:	-0.061970	-0.037171
NMHC Cal Slope:	1.001628	0.994020
NMHC Cal Offset:	-0.030065	0.000134

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

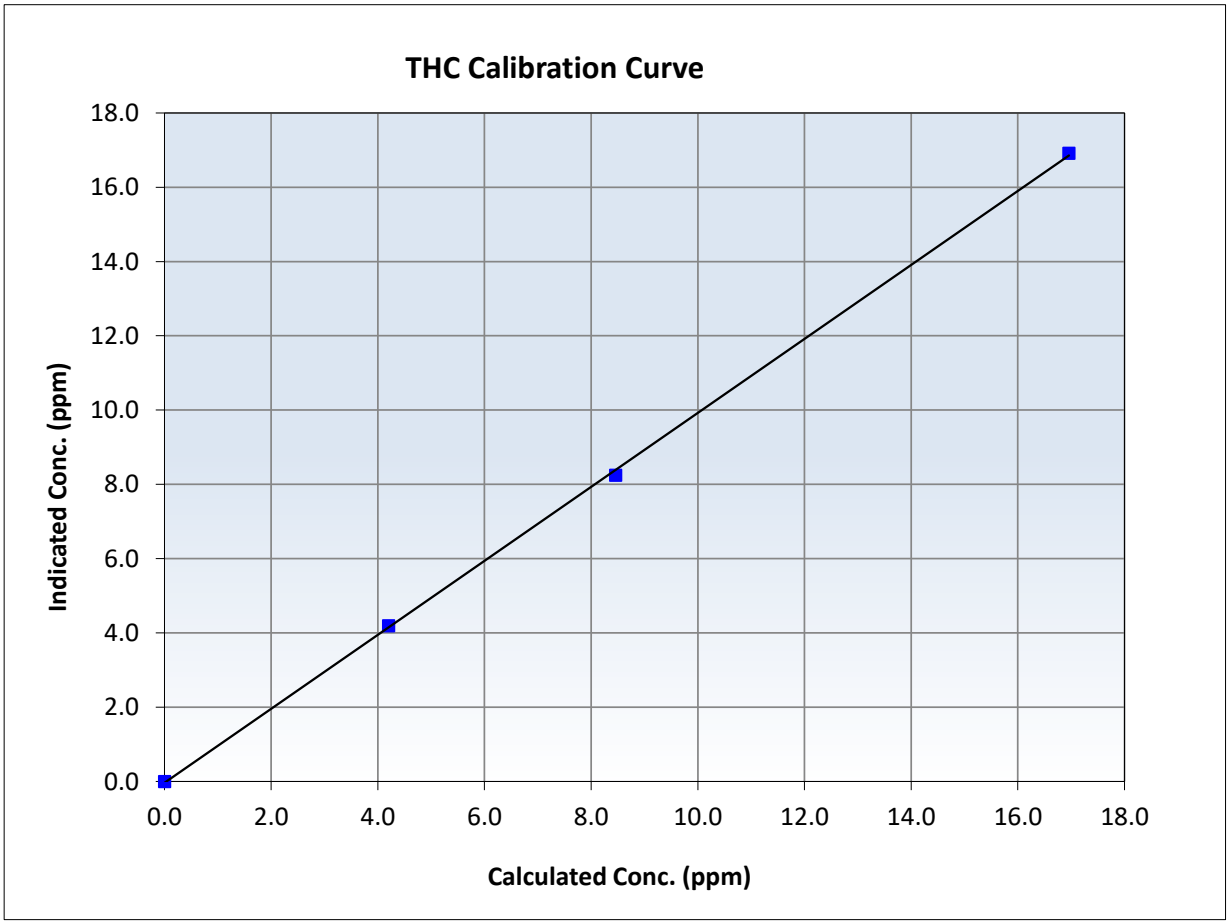
THC Calibration Summary

Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	October 16, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	11:47	End Time (MST):	15:16
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	0.999821	≥0.995
16.96	16.92	1.0026	Slope	0.996009	0.90 - 1.10
8.46	8.24	1.0259			
4.20	4.20	1.0010	Intercept	-0.035840	+/-0.5



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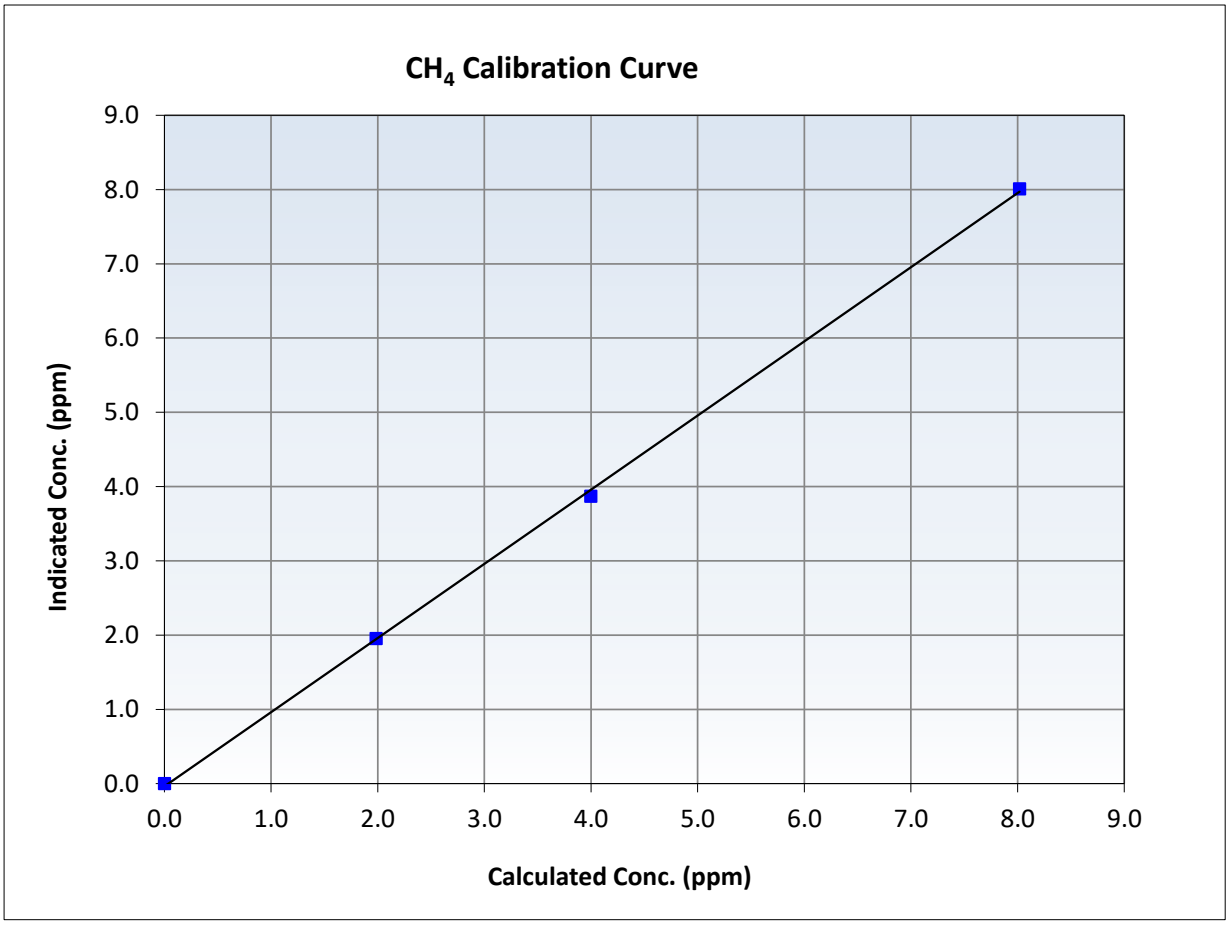
CH_4 Calibration Summary

Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	October 16, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	11:47	End Time (MST):	15:16
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	0.999696	*≥0.995*
8.02	8.01	1.0007	Slope	0.998784	*0.90 - 1.10*
4.00	3.87	1.0333	Intercept	-0.037171	*+/-0.5*
1.99	1.96	1.0160			



Wood Buffalo Environmental Association

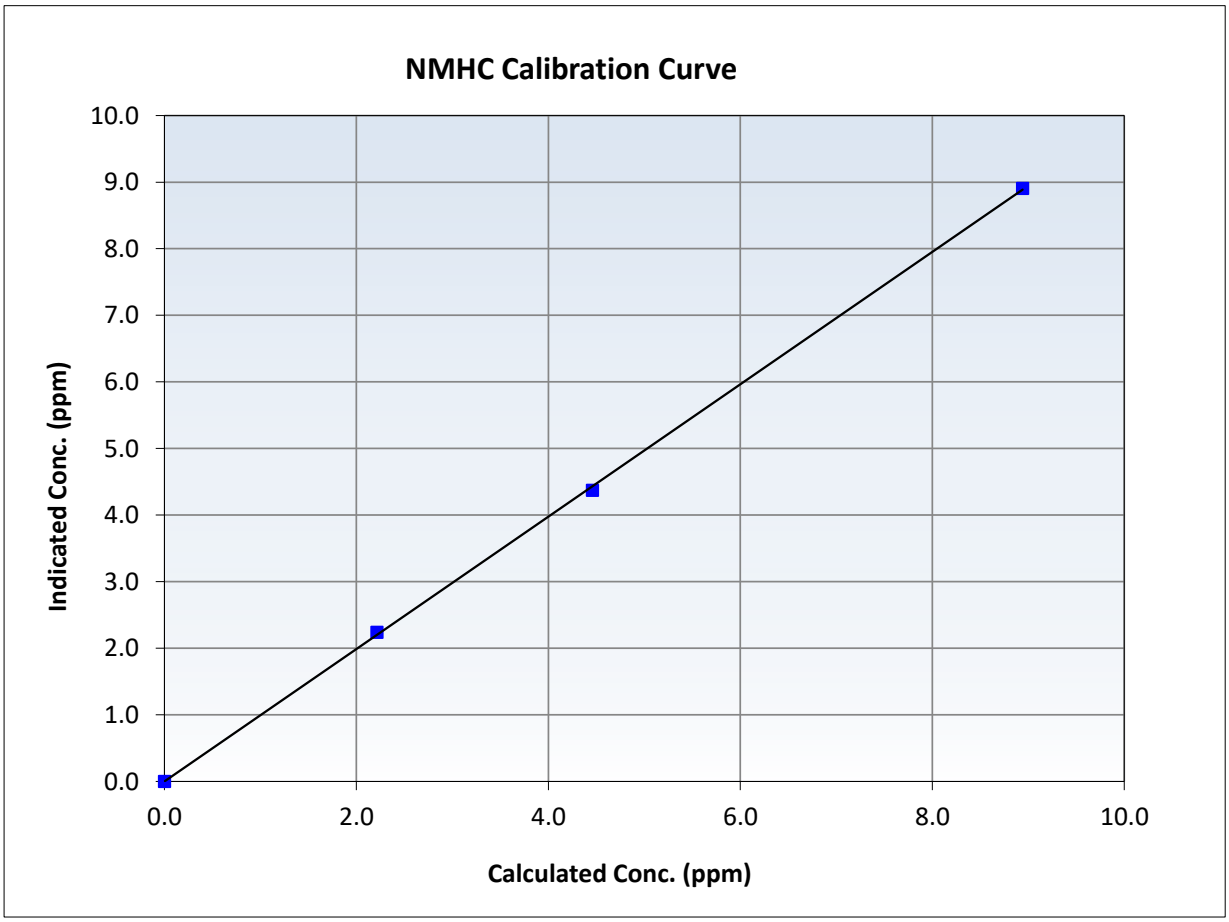
NMHC Calibration Summary

Station Information

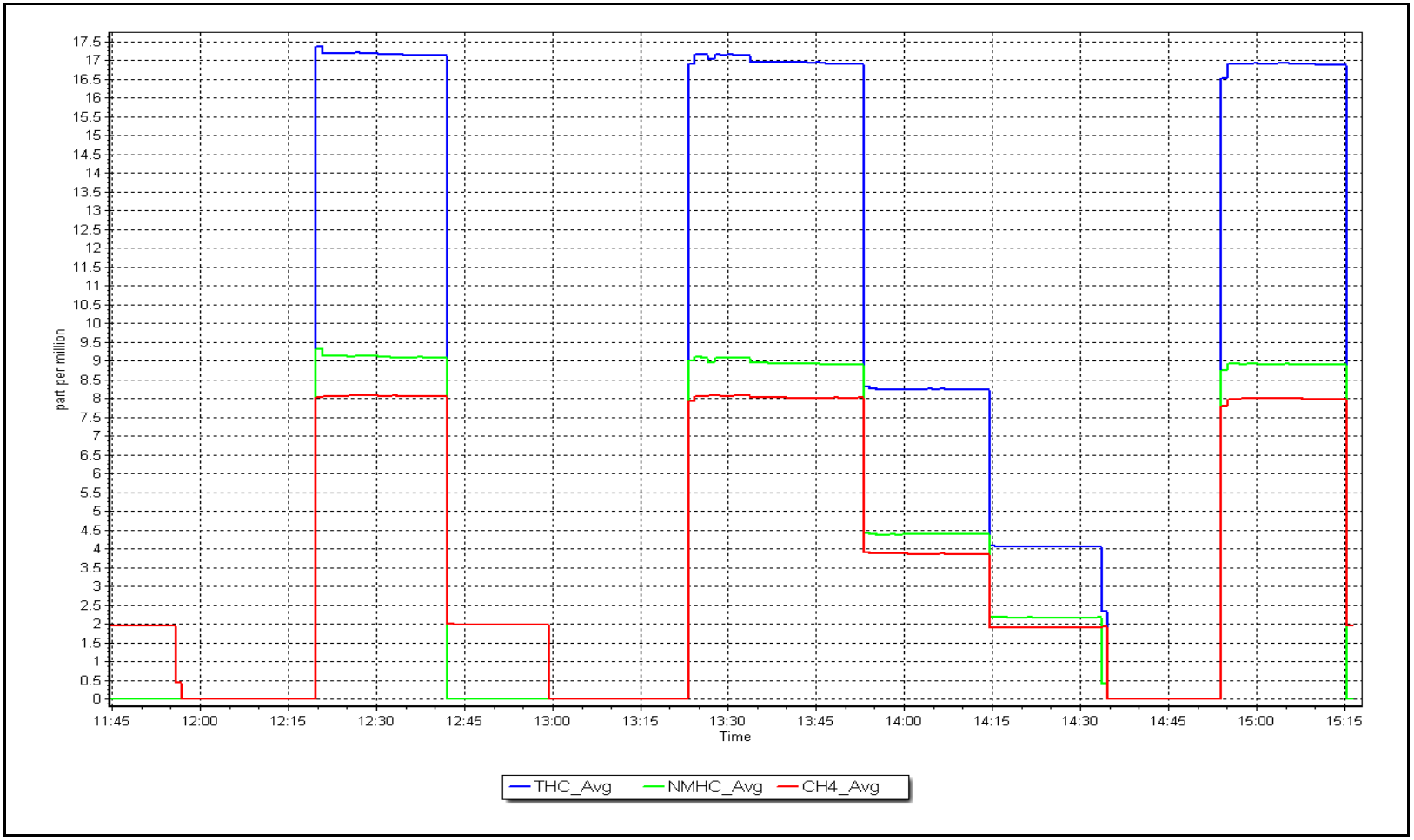
Calibration Date:	November 17, 2025	Previous Calibration:	October 16, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	11:47	End Time (MST):	15:16
Analyzer make:	Thermo 55i	Analyzer serial #:	1331259521

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999876	≥0.995
8.94	8.91	1.0038	Slope	0.994020	0.90 - 1.10
4.46	4.37	1.0195			
2.21	2.24	0.9884	Intercept	0.000134	+/-0.5



NMHC Calibration Plot Date: November 17, 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:	November 6, 2025
Last Cal Date:	October 21, 2025
Start time (MST):	10:46
End time (MST):	18:22
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	4952	66.4	803.1	799.2	4.0	810.8	803.8	7.0	0.9906	0.9941
AF Mid point	4984	33.2	401.7	399.7	2.0	403.7	399.0	4.7	0.9950	1.0015
AF Low point	5002	16.6	200.8	199.8	1.0	201.4	197.0	4.4	0.9969	1.0136
New cyl resp										

Previous Response	NO_X = 802.0 ppb	NO = 799.4 ppb
Baseline Corr 1st pt	NO_X = 810.8 ppb	NO = 803.9 ppb
Baseline Corr 2nd pt	NO_X = 403.7 ppb	NO = 399.1 ppb
Baseline Corr 3rd pt	NO_X = 201.4 ppb	NO = 197.1 ppb

* = > +/-5% change initiates investigation

As Found Statistics

As found	NO_X r^2: 0.999993	*Percent Change	NO_X = 1.1%	
As found	NO r^2: 0.999968	*Percent Change	NO = 0.6%	
As found	NO_2 r^2: 0.999941	Nx Sl: 1.009833	Nx Int: -0.876	
		NO Sl: 1.007155	NO Int: -2.236	
		NO2 Sl: 0.996016	NO_2 Int: -1.314	

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	802.6	409.8	396.8	394.5	1.0058	99.4%
As found mid GPT point	802.6	611.7	194.9	192.3	1.0134	98.7%
As found low GPT point	802.6	707.4	99.2	95.9	1.0341	96.7%

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	1.347	NO bkgnd or offset:	3.9	3.7
NOX coeff or slope:	0.996	1.002	NOX bkgnd or offset:	3.9	3.7
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	156.3	150.6

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.999346	0.997154
NO_X Cal Offset:	-0.650114	-0.395907
NO Cal Slope:	1.003009	0.999461
NO Cal Offset:	-2.169606	-2.095797
NO_2 Cal Slope:	0.996014	1.002788
NO_2 Cal Offset:	-0.692405	0.577852

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	0.1	----	----
High point	4952	66.4	803.1	799.2	4.0	800.9	797.9	3.1	1.0028	1.0016
Mid point	4984	33.2	401.7	399.7	2.0	399.5	395.9	3.7	1.0054	1.0096
Low point	5002	16.6	200.8	199.8	1.0	199.3	195.5	3.8	1.0074	1.0219
As left zero	5000	0.0	0.0	0.0	0.0	0.3	0.1	0.2	----	----
As left span	4952	66.4	803.1	409.6	393.5	799.3	409.6	389.7	1.0048	1.0000
								Average Correction Factor	1.0052	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	794.0	409.8	388.2	389.6	0.9963	100.4%
Mid GPT point	794.0	608.0	190.0	191.3	0.9930	100.7%
Low GPT point	794.0	701.6	96.4	97.7	0.9864	101.4%
				Average Correction Factor	0.9919	100.8%

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

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

NO_X Calibration Summary

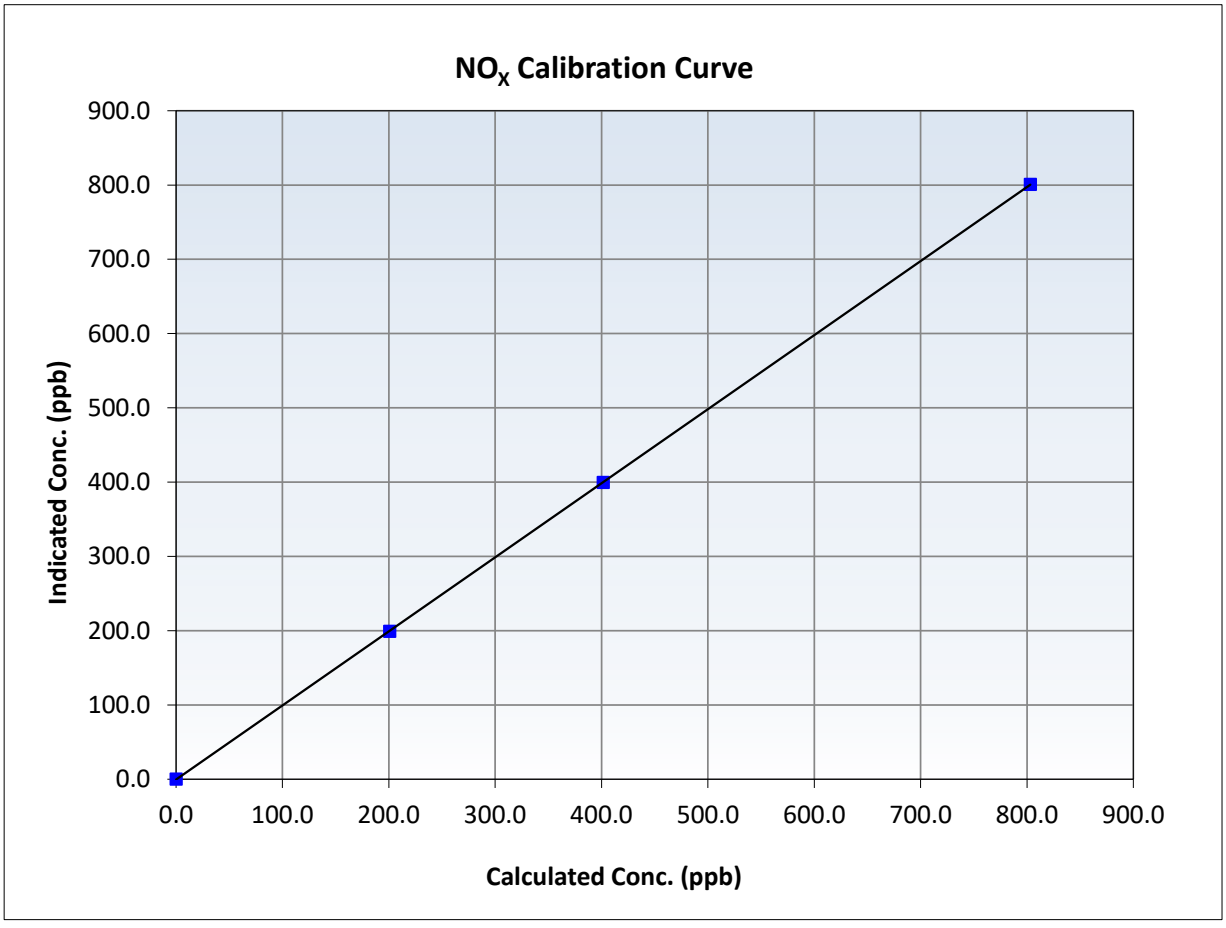
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 21, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	10:46	End Time (MST):	18:22
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	----
803.1	800.9	1.0028
401.7	399.5	1.0054
200.8	199.3	1.0074

Statistical Evaluation		Limits
Correlation Coefficient	0.999996	≥0.995
Slope	0.997154	0.90 - 1.10
Intercept	-0.395907	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

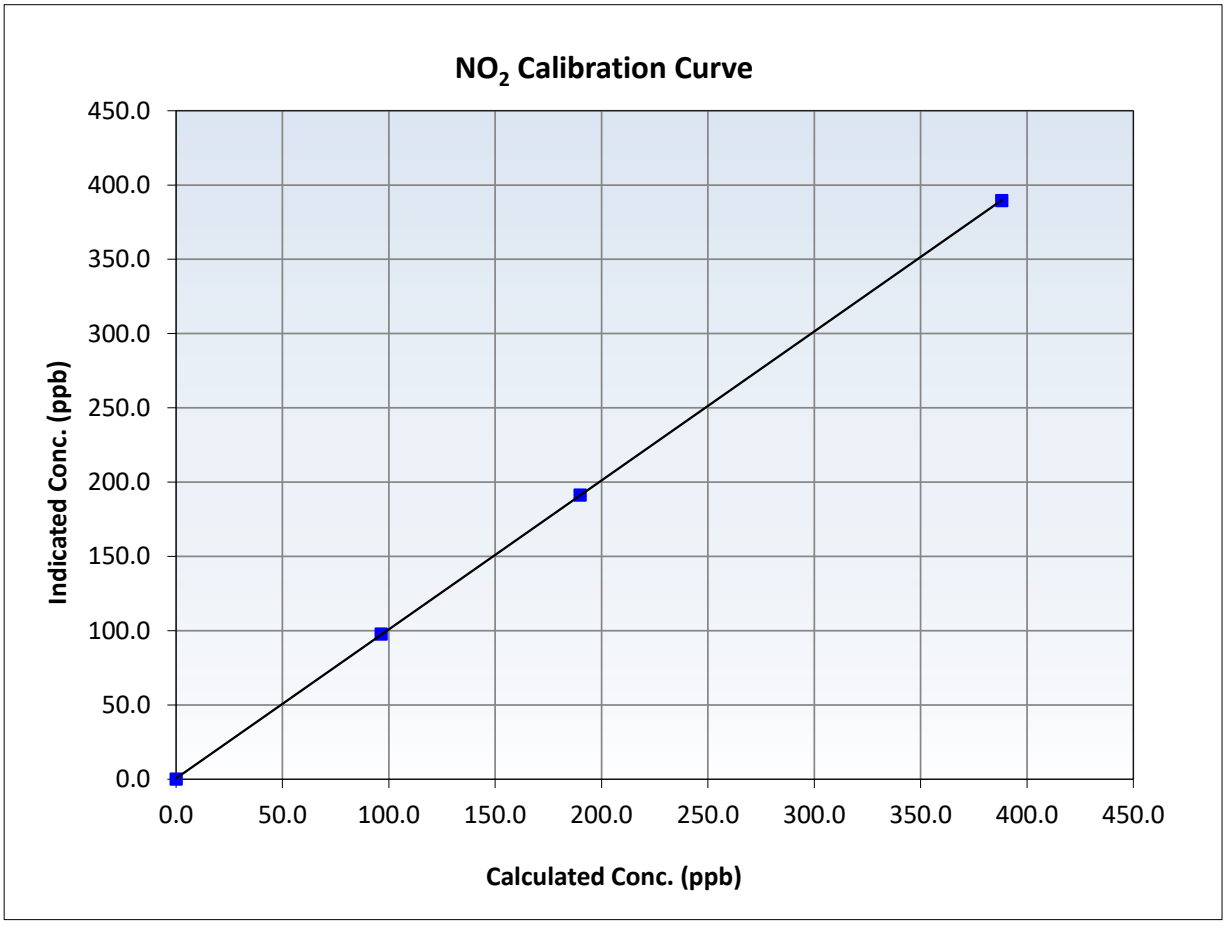
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 21, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	10:46	End Time (MST):	18:22
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	----
388.2	389.6	0.9963
190.0	191.3	0.9930
96.4	97.7	0.9864

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999993	*≥0.995*
Slope	1.002788	*0.90 - 1.10*
Intercept	0.577852	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

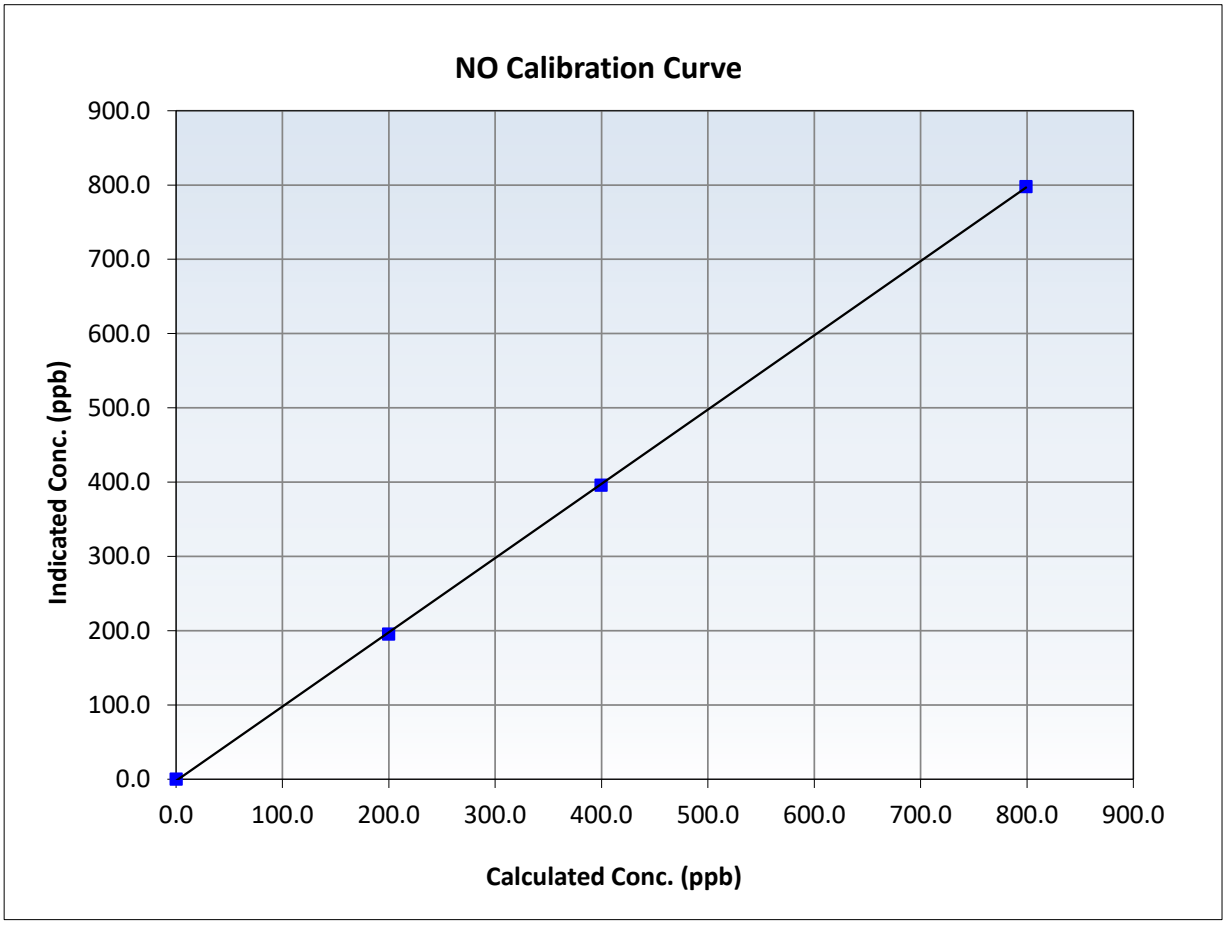
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 21, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	10:46	End Time (MST):	18:22
Analyzer make:	Thermo 42i	Analyzer serial #:	1152430008

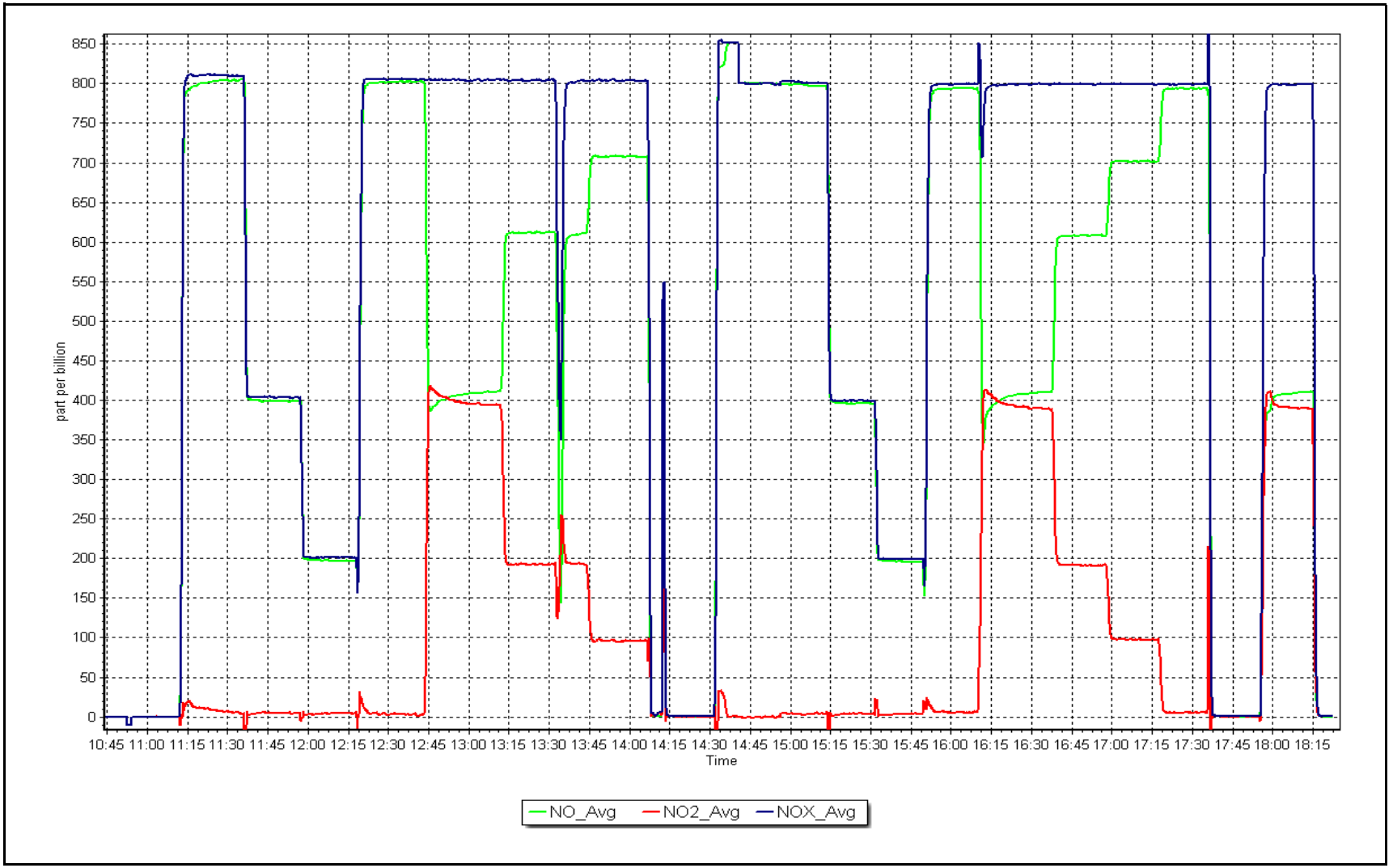
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
799.2	797.9	1.0016
399.7	395.9	1.0096
199.8	195.5	1.0219

Statistical Evaluation		Limits
Correlation Coefficient	0.999962	≥0.995
Slope	0.999461	0.90 - 1.10
Intercept	-2.095797	+/-20



NO_X Calibration Plot Date: November 6, 2025 Location: Anzac



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Anzac	Station number:	AMS 14
Calibration Date:	November 4, 2025	Last Cal Date:	October 1, 2025
Start time (MST):	11:36	End time (MST):	16:28
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:	1.001171	0.996943	Backgd or Offset:	1.6	0.5
Calibration intercept:	0.620000	0.460000	Coeff or Slope:	1.712	1.689

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	0.6	----
As found High point	5000	941.3	400.0	401.4	0.998
As found Mid point	5000	820.3	200.0	200.1	1.003
As found Low point	5000	724.3	100.0	99.9	1.007
Baseline Corr As found:	400.8	Previous response	401.1	*% change	-0.1%
Baseline Corr 2nd AF pt:	199.5	AF Slope:	1.002514	AF Intercept:	0.060000
Baseline Corr 3rd AF pt:	99.3	AF Correlation:	0.999991	* = > +/-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	941.3	400.0	399.2	1.002
Mid point	5000	820.3	200.0	199.7	1.002
Low point	5000	724.3	100.0	100.6	0.994
As left zero	5000	0.0	0.0	0.0	----
As left span	5000	941.3	400.0	399.9	1.000
				Average Correction Factor	0.999

Notes: The sample inlet filter was replaced following the multipoint as-found checks. The photometer lamp voltage was adjusted to increase cell intensities as part of maintenance. Zero and span were adjusted.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

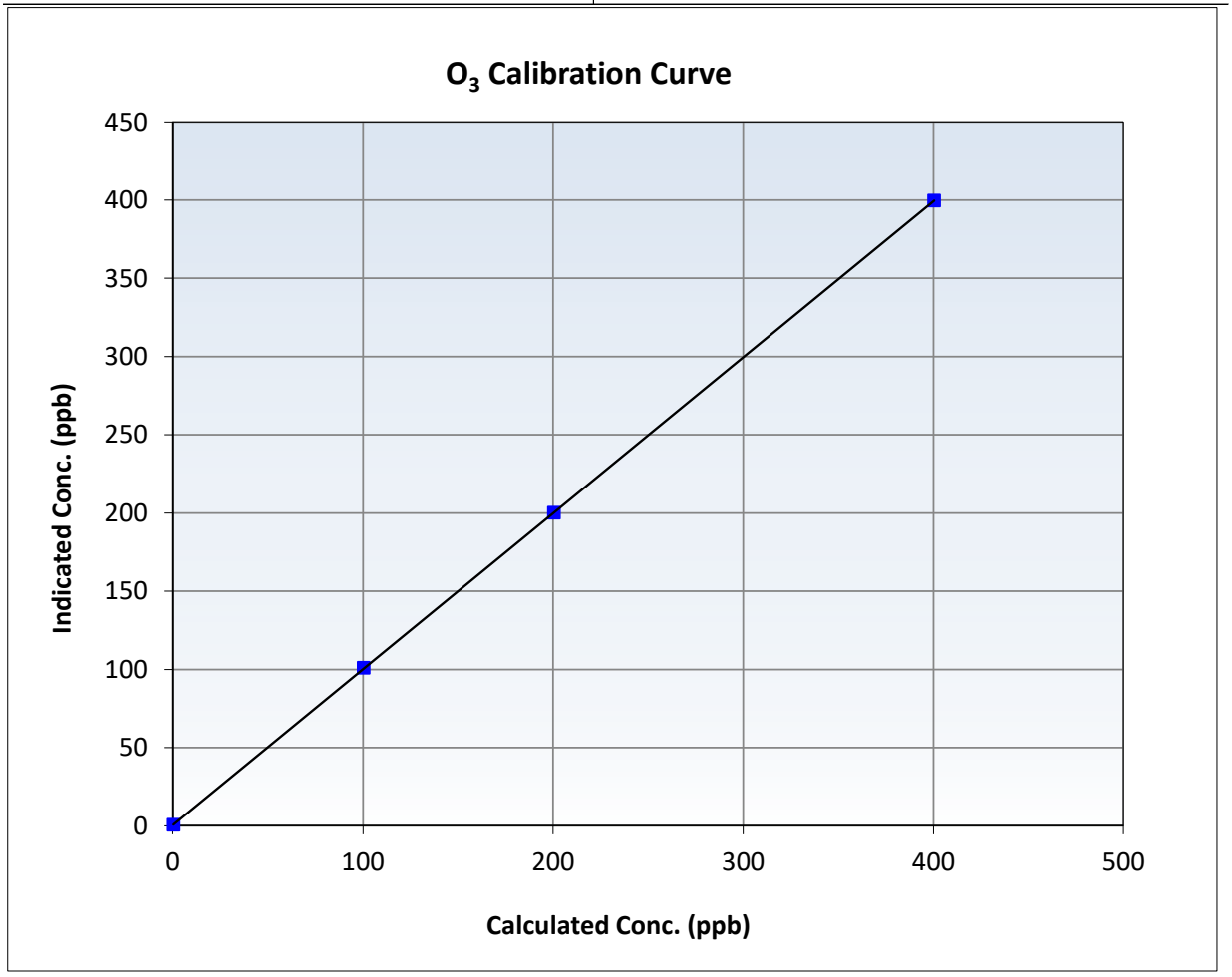
O_3 Calibration Summary

Station Information

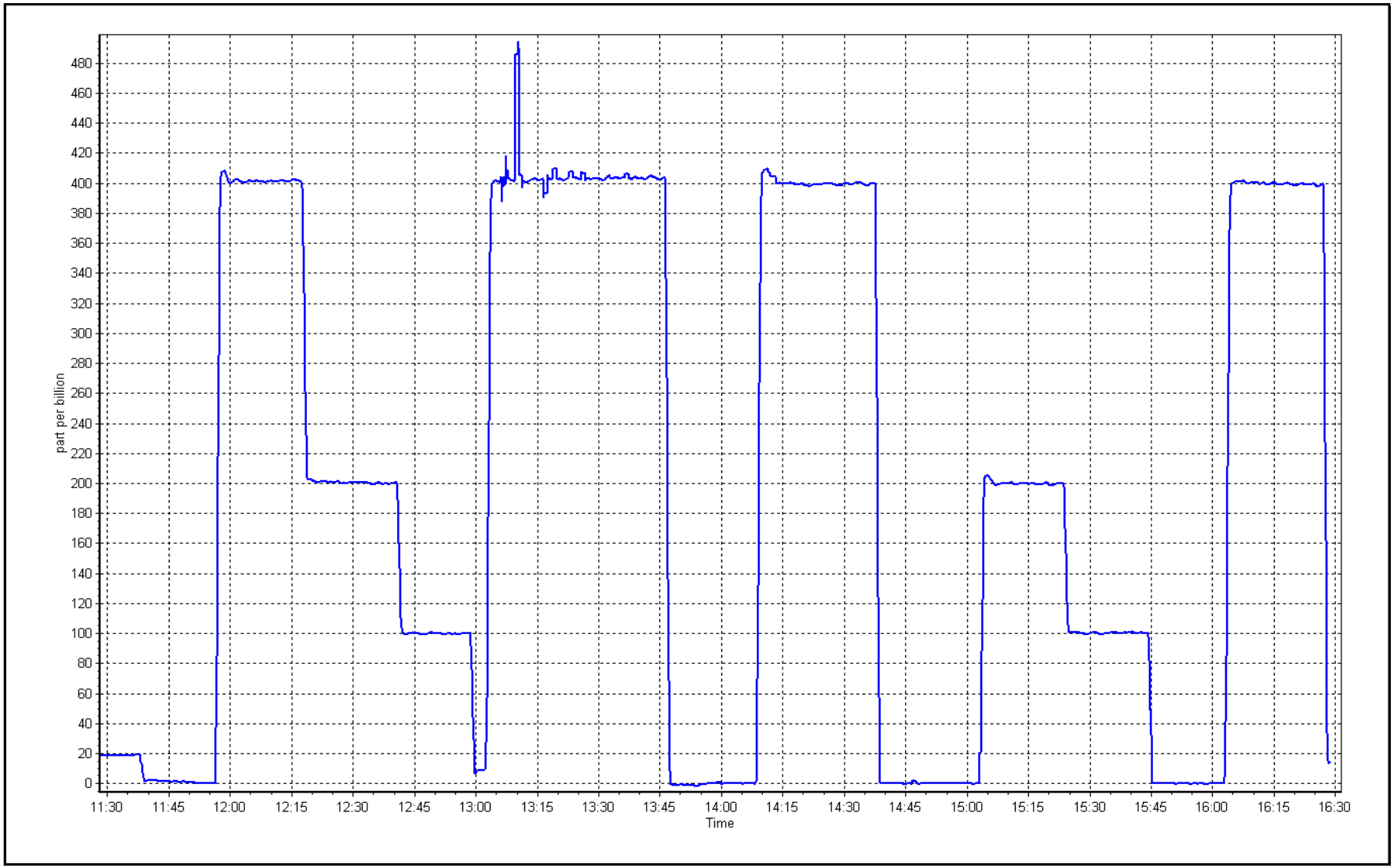
Calibration Date:	November 4, 2025	Previous Calibration:	October 1, 2025
Station Name:	Anzac	Station Number:	AMS 14
Start Time (MST):	11:36	End Time (MST):	16:28
Analyzer make:	Thermo 49i	Analyzer serial #:	1426262595

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.2	----	Correlation Coefficient	0.999997	*≥0.995*
400.0	399.2	1.0020	Slope	0.996943	*0.90 - 1.10*
200.0	199.7	1.0015			
100.0	100.6	0.9940	Intercept	0.460000	*+/- 5*



O_3 Calibration Plot Date: November 4, 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:	November 17, 2025	Last Cal Date:	October 6, 2025
Start time (MST):	15:46	End time (MST):	15:58
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)	1.88	2.2	1.88	☐	+/- 2 ^{o}C
P (mmHg)	709.65	708.6	709.65	☐	+/- 10 mmHg
Flow (LPM)	4.950	5.01	4.950	☐	+/- 0.25 LPM
PW% (pump)	38	-----	38	☐	>80%
Zero Verification	PM w/o HEPA:	11.0	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
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Wapasu	Station number:	AMS17
Calibration Date:	November 20, 2025	Last Cal Date:	October 15, 2025
Start time (MST):	11:34	End time (MST):	14:50
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:	1.007363	1.006606	Backgd or Offset:	15.8	15.8
Calibration intercept:	-2.875904	-2.636066	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	-0.6	----
As found High point	4920	79.8	799.9	803.3	0.995
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	803.9	Previous response	803.0	*% 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	-0.3	----
High point	4920	79.8	799.9	804.0	0.995
Mid point	4960	39.9	400.0	398.1	1.005
Low point	4980	20.0	200.5	197.3	1.016
As left zero	5000	0.0	0.0	-0.4	----
As left span	4920	79.8	799.9	806.0	0.992
				Average Correction Factor:	1.005

Notes: No adjustments made.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

SO_2 Calibration Summary

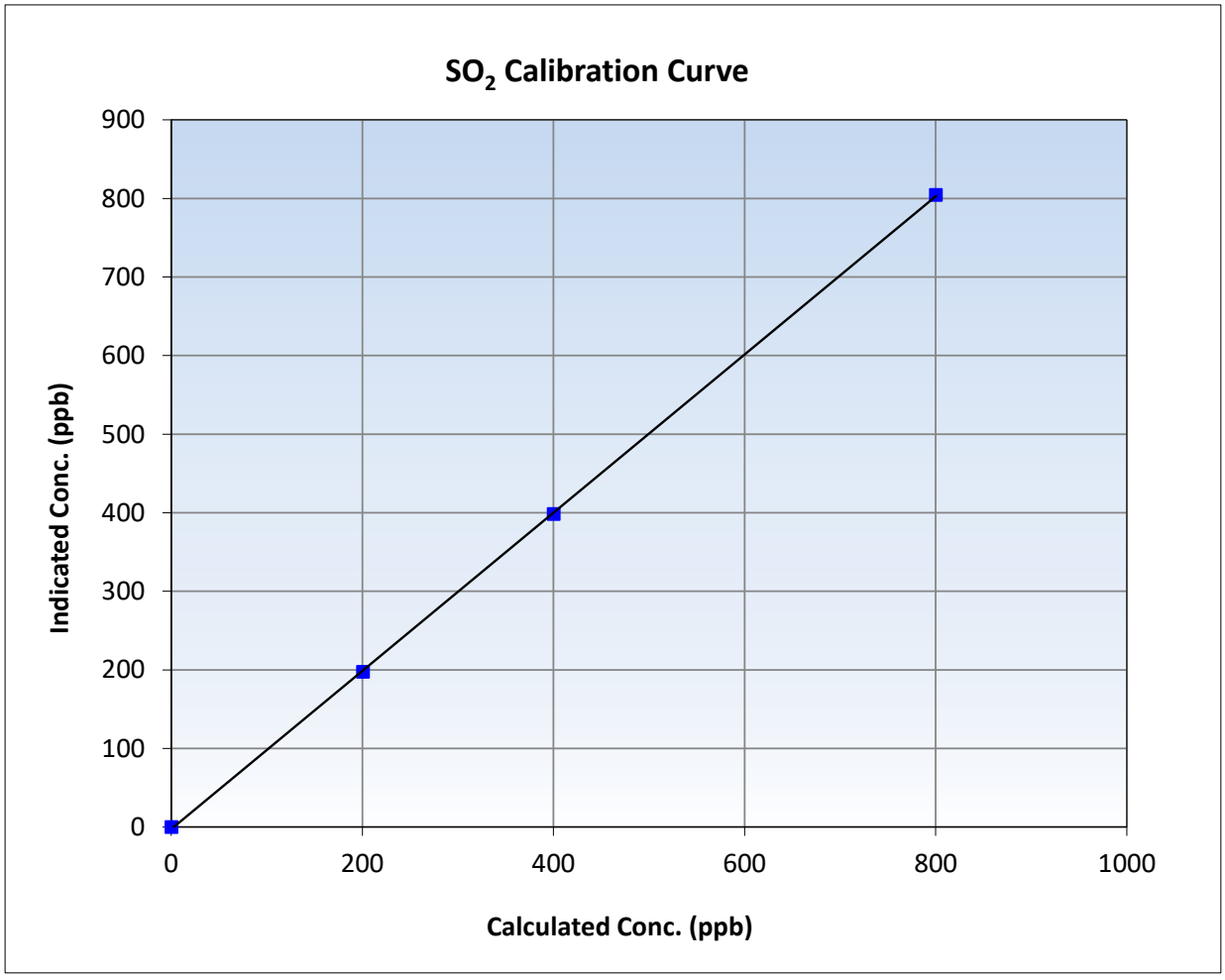
Station Information

Calibration Date:	November 20, 2025	Previous Calibration:	October 15, 2025
Station Name:	Wapasu	Station Number:	AMS17
Start Time (MST):	11:34	End Time (MST):	14:50
Analyzer make:	Thermo 43i	Analyzer serial #:	1218153459

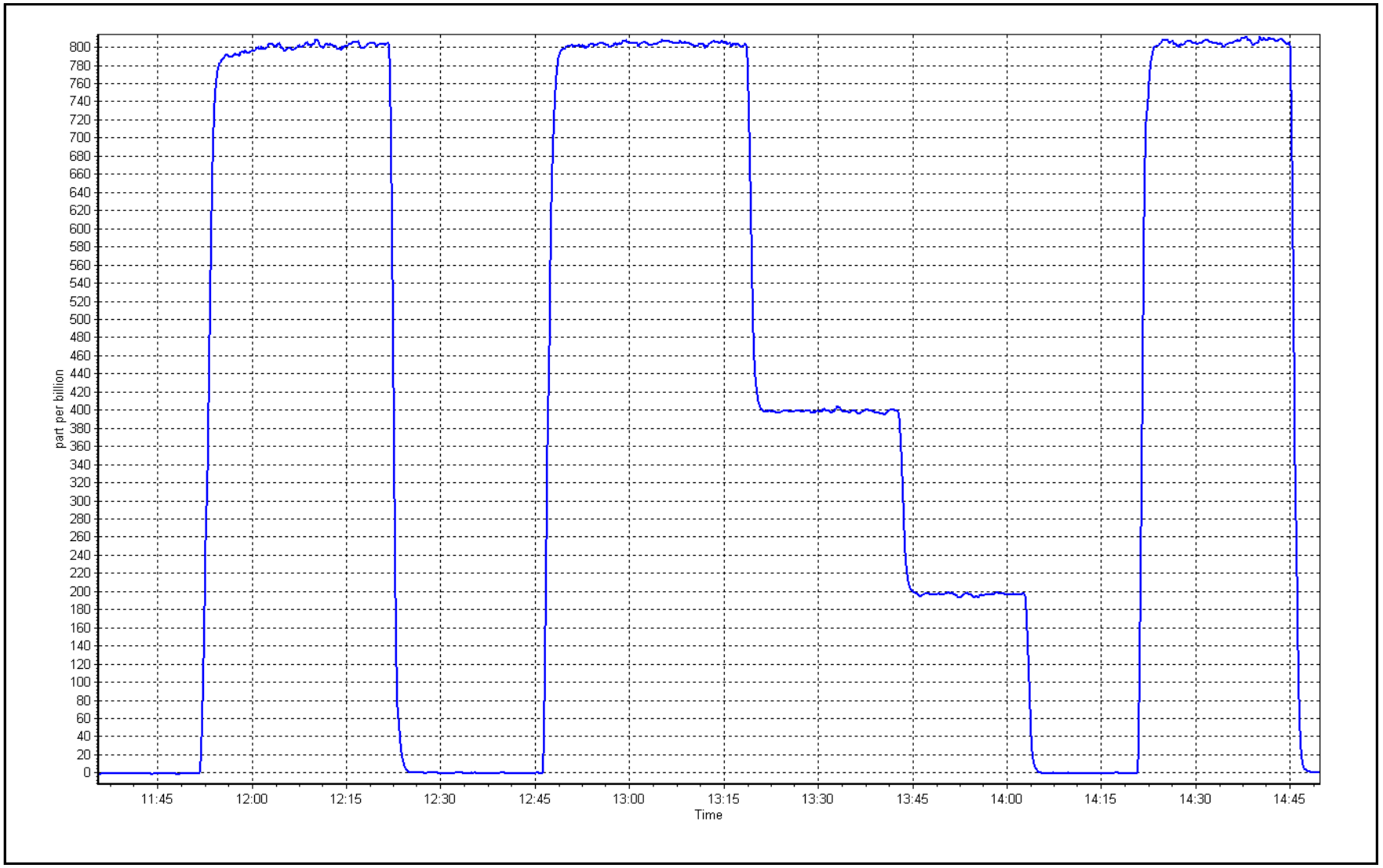
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.3	----
799.9	804.0	0.9950
400.0	398.1	1.0047
200.5	197.3	1.0161

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999959	*≥0.995*
Slope	1.006606	*0.90 - 1.10*
Intercept	-2.636066	*+/-30*



SO2 Calibration Plot Date: November 20, 2025 Location: Wapasu



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Wapasu	Station number:	AMS 17
Calibration Date:	November 24, 2025	Last Cal Date:	October 20, 2025
Start time (MST):	9:35	End time (MST):	14:12
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:	0.989072	0.989933	Backgd or Offset:	13.1	12.9
Calibration intercept:	0.020210	-0.159925	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	0.4	----
As found High point	4921	83.9	80.0	81.0	0.992
As found Mid point	4961	41.9	39.9	40.7	0.991
As found Low point	4980	21.0	20.0	20.3	1.007
New cylinder response					

Baseline Corr As found:	80.6	Prev response:	79.11	*% change:	1.9%
Baseline Corr 2nd AF pt:	40.3	AF Slope:	1.009261	AF Intercept:	0.290586
Baseline Corr 3rd AF pt:	19.9	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	0.0	----
High point	4916	83.9	80.0	79.2	1.011
Mid point	4958	41.9	40.0	39.2	1.020
Low point	4979	21.0	20.0	19.6	1.022
As left zero	5000	0.0	0.0	0.5	----
As left span	4916	83.9	80.0	77.9	1.027
SO2 Scrubber Check	4921	79.4	793.9	0.1	----
Date of last scrubber change:		N/A		Ave Corr Factor	1.018
Date of last converter efficiency test:		N/A			

Notes: Zero adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

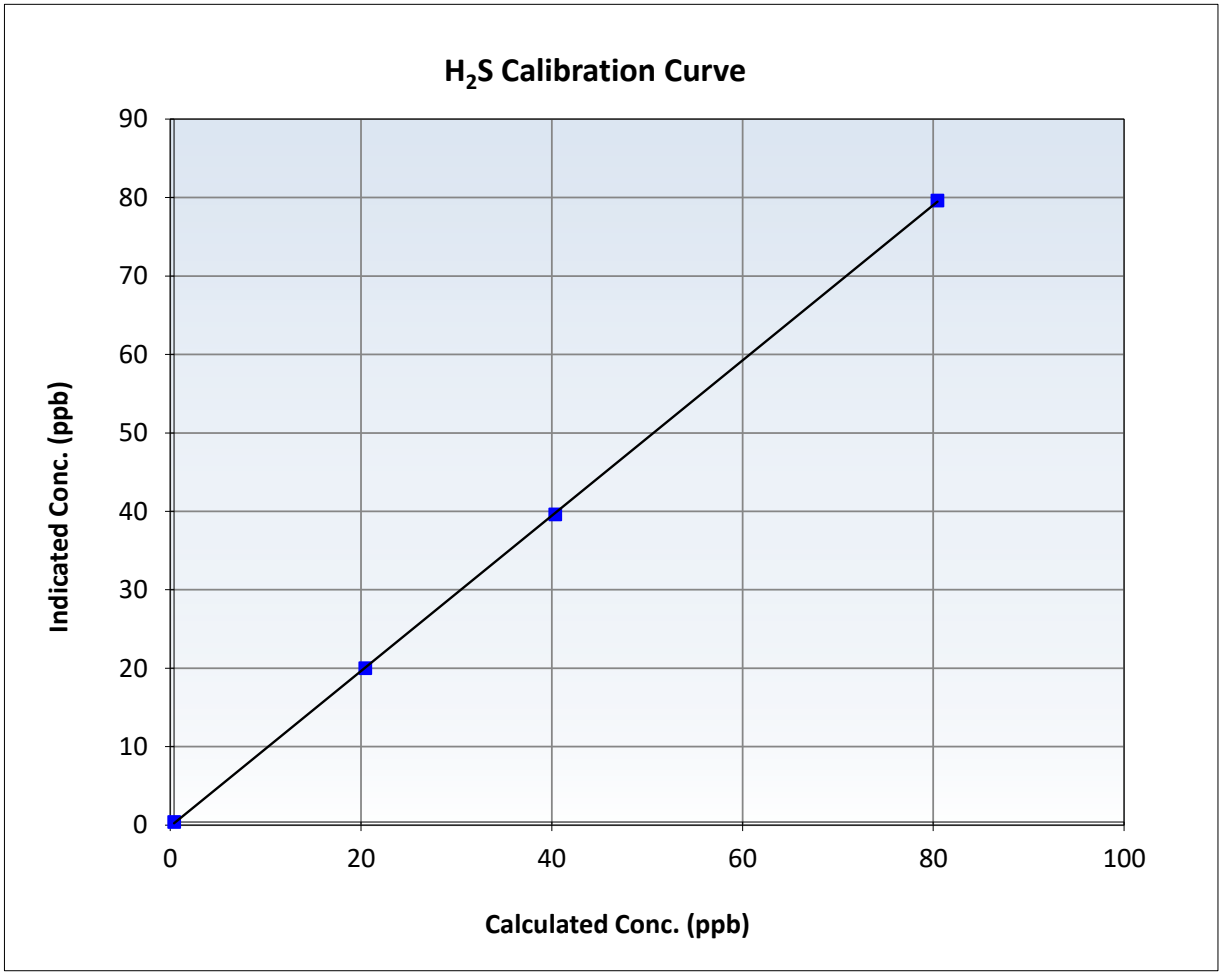
H_2S Calibration Summary

Station Information

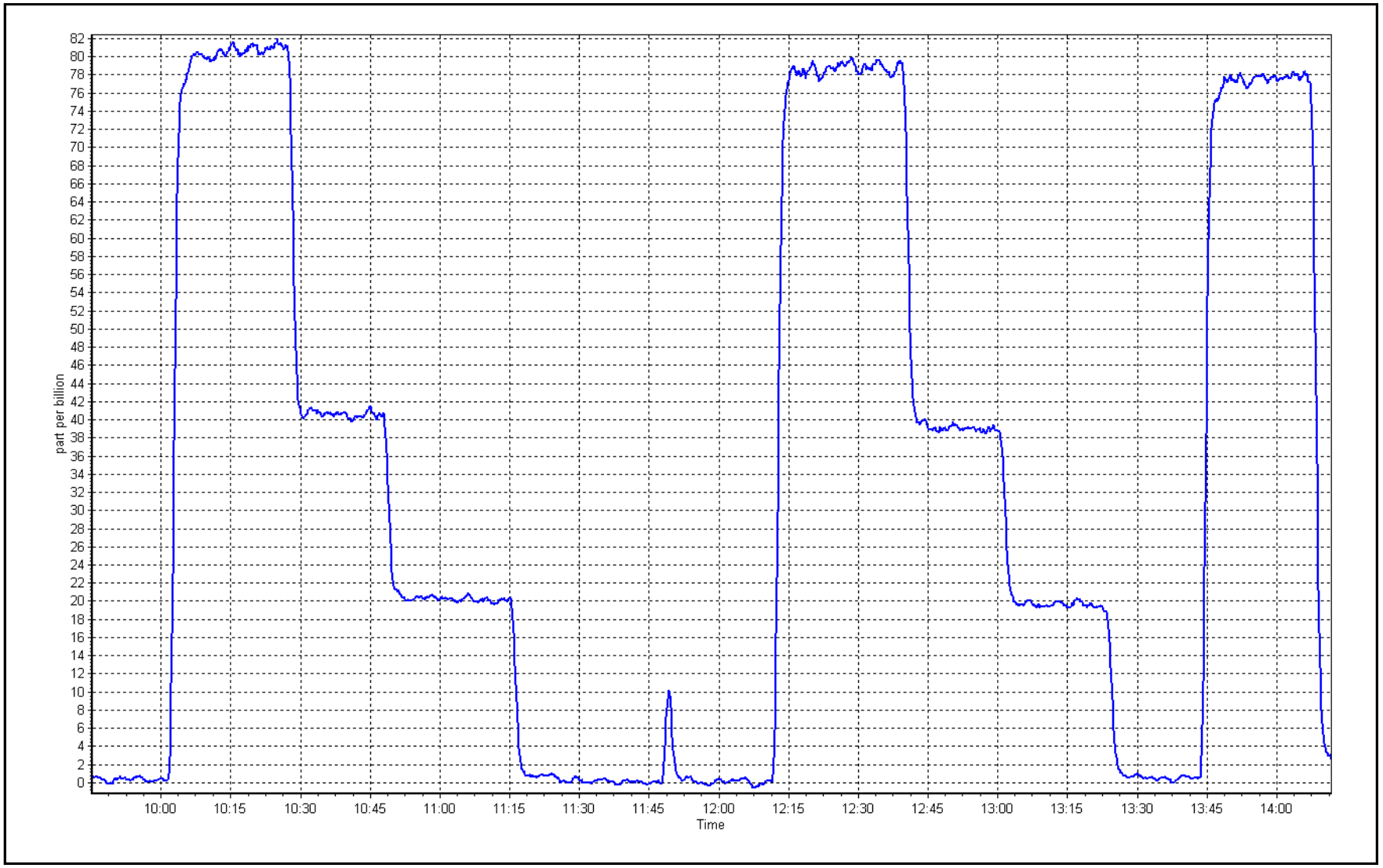
Calibration Date:	November 24, 2025	Previous Calibration:	October 20, 2025
Station Name:	Wapasu	Station Number:	AMS 17
Start Time (MST):	9:35	End Time (MST):	14:12
Analyzer make:	Thermo 450i	Analyzer serial #:	1218153583

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	79.2	1.0106	Slope	0.989933	*0.90 - 1.10*
40.0	39.2	1.0197			
20.0	19.6	1.0221	Intercept	-0.159925	*+/-3*



H_2S Calibration Plot Date: November 24, 2025 Location: Wapasu



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Wapasu	Station number:	AMS17
Calibration Date:	November 20, 2025	Last Cal Date:	October 15, 2025
Start time (MST):	11:34	End time (MST):	14:50
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:	1.000596	1.005532	Background:	3.200	3.200
Calibration intercept:	-0.100133	-0.141145	Coefficient:	4.376	4.397

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	4920	79.8	16.90	16.86	0.997
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	16.95	Previous response	16.81	*% 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	

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	-0.08	----
High point	4920	79.8	16.90	16.90	1.000
Mid point	4960	39.9	8.45	8.28	1.021
Low point	4980	20.0	4.24	4.09	1.035
As left zero	5000	0.0	0.00	-1.02	----
As left span	4921	79.4	16.81	16.80	1.001
				Average Correction Factor	1.019

Notes: Span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

THC Calibration Summary

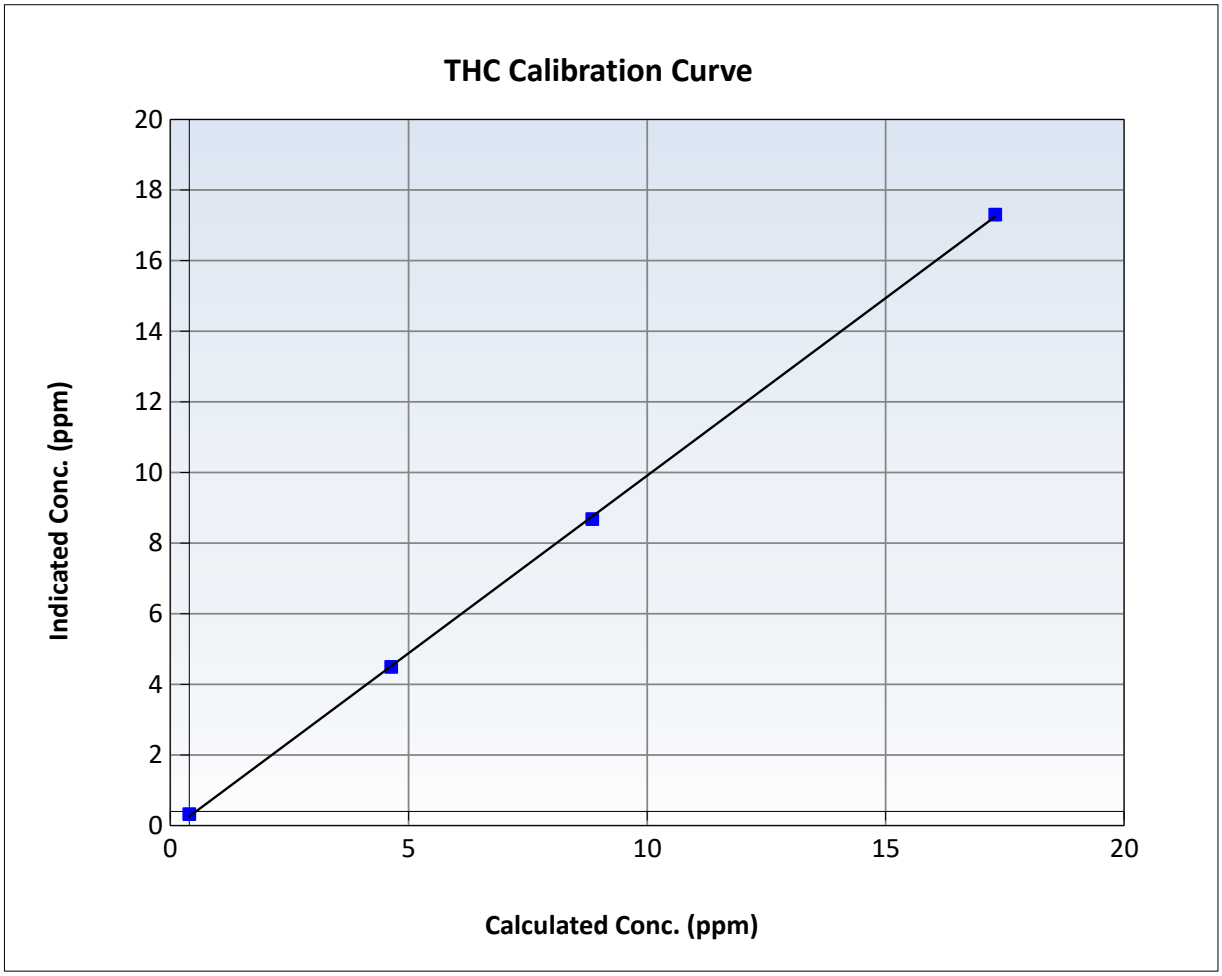
Station Information

Calibration Date:	November 20, 2025	Previous Calibration:	October 15, 2025
Station Name:	Wapasu	Station Number:	AMS17
Start Time (MST):	11:34	End Time (MST):	14:50
Analyzer make:	Thermo 51i-LT	Analyzer serial #:	1218153352

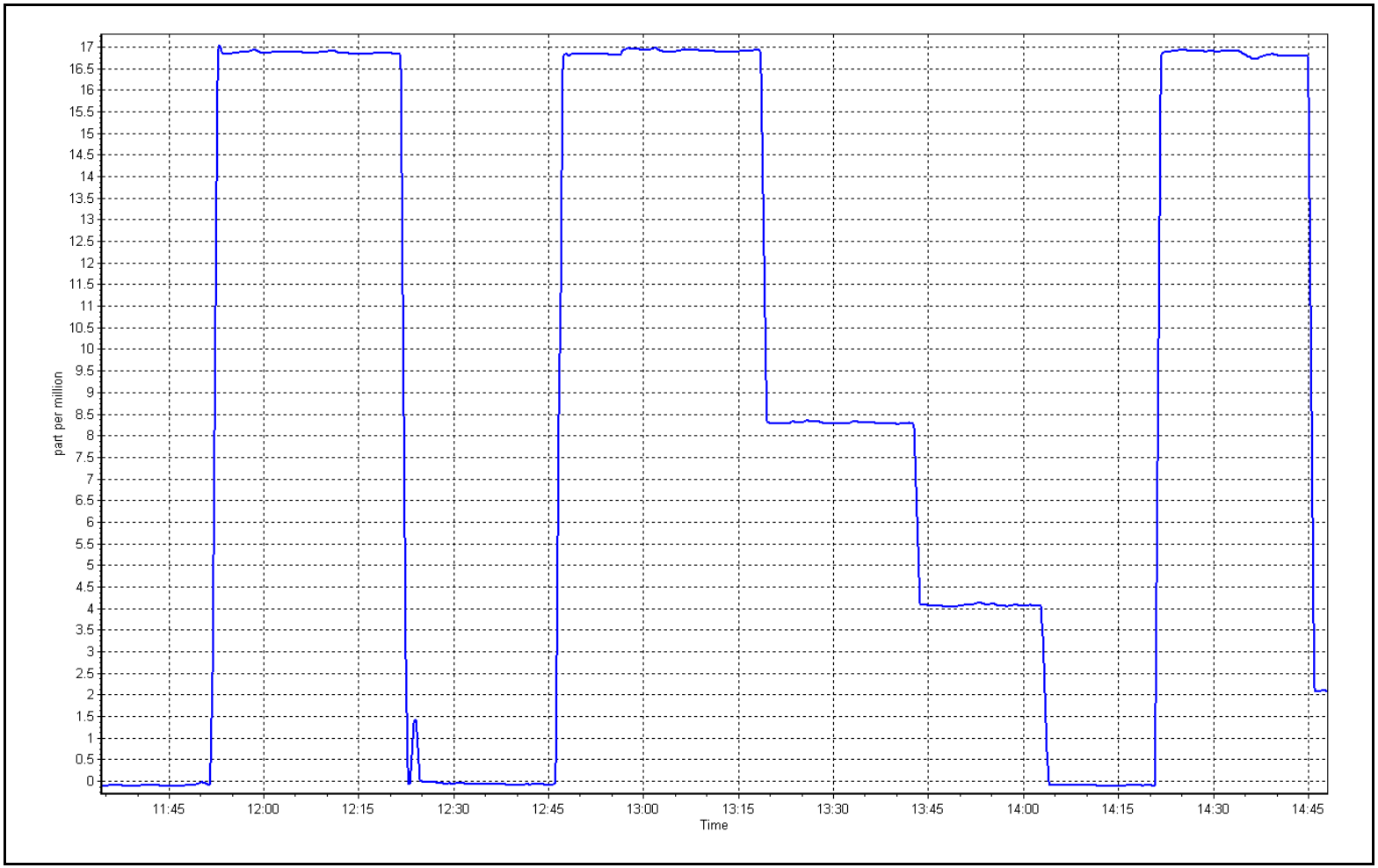
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	-0.08	----
16.90	16.90	1.0001
8.45	8.28	1.0210
4.24	4.09	1.0351

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999920	*≥0.995*
Slope	1.005532	*0.90 - 1.10*
Intercept	-0.141145	*+/-1.5*



THC Calibration Plot Date: November 20, 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:	November 18, 2025
Last Cal Date:	October 30, 2025
Start time (MST):	10:35
End time (MST):	15:43
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	773.3	769.0	4.3	1.0396	1.0407
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 803.2 ppb	NO = 799.5 ppb
Baseline Corr 1st pt	NO_X = 773.7 ppb	NO = 769.1 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

*Percent Change NO_X = -3.8%

*Percent Change NO = -4.0%

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 Scientific 42i
Serial Number: 1218153460
NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.855	0.885	NO bkgnd or offset:	2.9	3.0
NOX coeff or slope:	0.997	0.997	NOX bkgnd or offset:	3.2	3.4
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	195.1	198.1

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.000389	1.001654
NO_X Cal Offset:	-1.400017	-2.120010
NO Cal Slope:	1.002210	1.002467
NO Cal Offset:	-2.640011	-3.180009
NO_2 Cal Slope:	0.999619	0.999452
NO_2 Cal Offset:	-0.134470	-1.155064

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	0.0	-0.3	----	----
High point	4934	65.6	804.3	800.4	3.9	804.6	800.9	3.8	0.9997	0.9994
Mid point	4967	32.8	402.1	400.2	2.0	399.3	396.0	3.3	1.0071	1.0105
Low point	4983	16.4	201.1	200.1	1.0	197.8	194.5	3.3	1.0166	1.0288
As left zero	5000	0.0	0.0	0.0	0.0	-0.2	0.0	-0.3	----	----
As left span	4934	65.6	804.3	392.8	411.5	803.0	392.8	409.9	1.0016	1.0000
								Average Correction Factor	1.0078	1.0129

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	796.6	395.2	405.3	404.5	1.0021	99.8%
Mid GPT point	796.6	598.2	202.3	200.3	1.0102	99.0%
Low GPT point	796.6	699.2	101.3	99.5	1.0185	98.2%
				Average Correction Factor	1.0102	99.0%

Notes: Span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

NO_X Calibration Summary

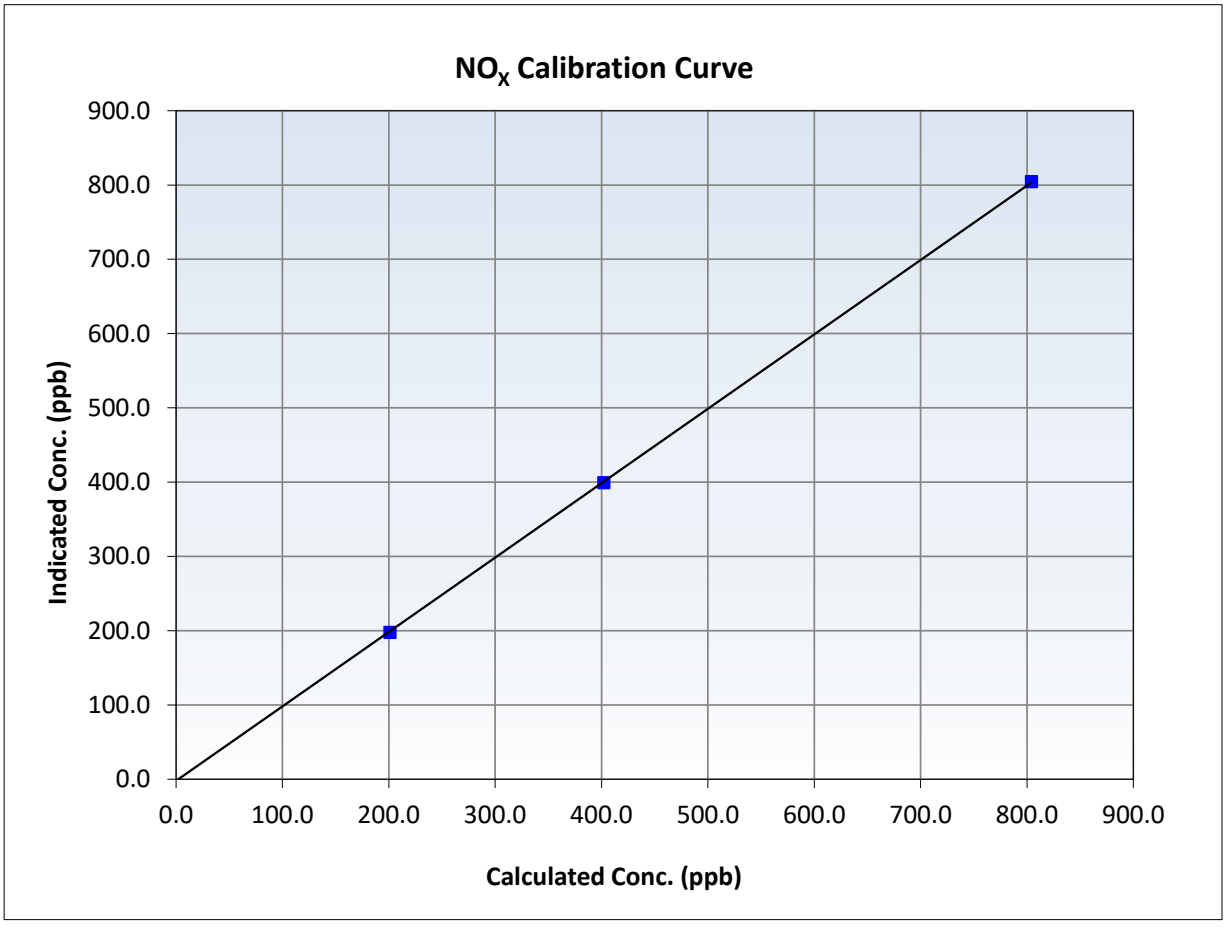
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 30, 2025
Station Name:	Wapasu	Station Number:	AMS 17
Start Time (MST):	10:35	End Time (MST):	15:43
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	----
804.3	804.6	0.9997
402.1	399.3	1.0071
201.1	197.8	1.0166

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999976	*≥0.995*
Slope	1.001654	*0.90 - 1.10*
Intercept	-2.120010	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

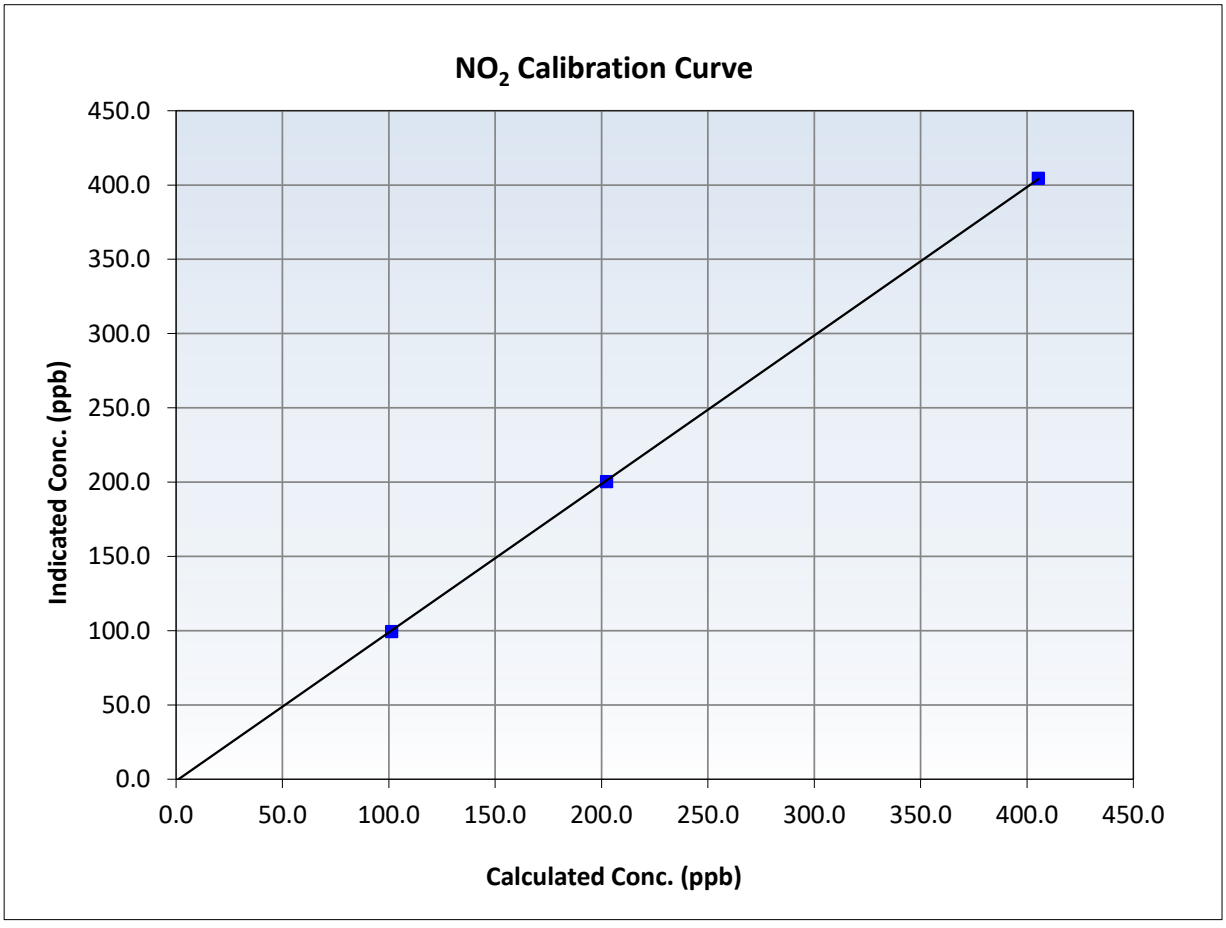
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 30, 2025
Station Name:	Wapasu	Station Number:	AMS 17
Start Time (MST):	10:35	End Time (MST):	15:43
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	----
405.3	404.5	1.0021
202.3	200.3	1.0102
101.3	99.5	1.0185

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999978	*≥0.995*
Slope	0.999452	*0.90 - 1.10*
Intercept	-1.155064	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

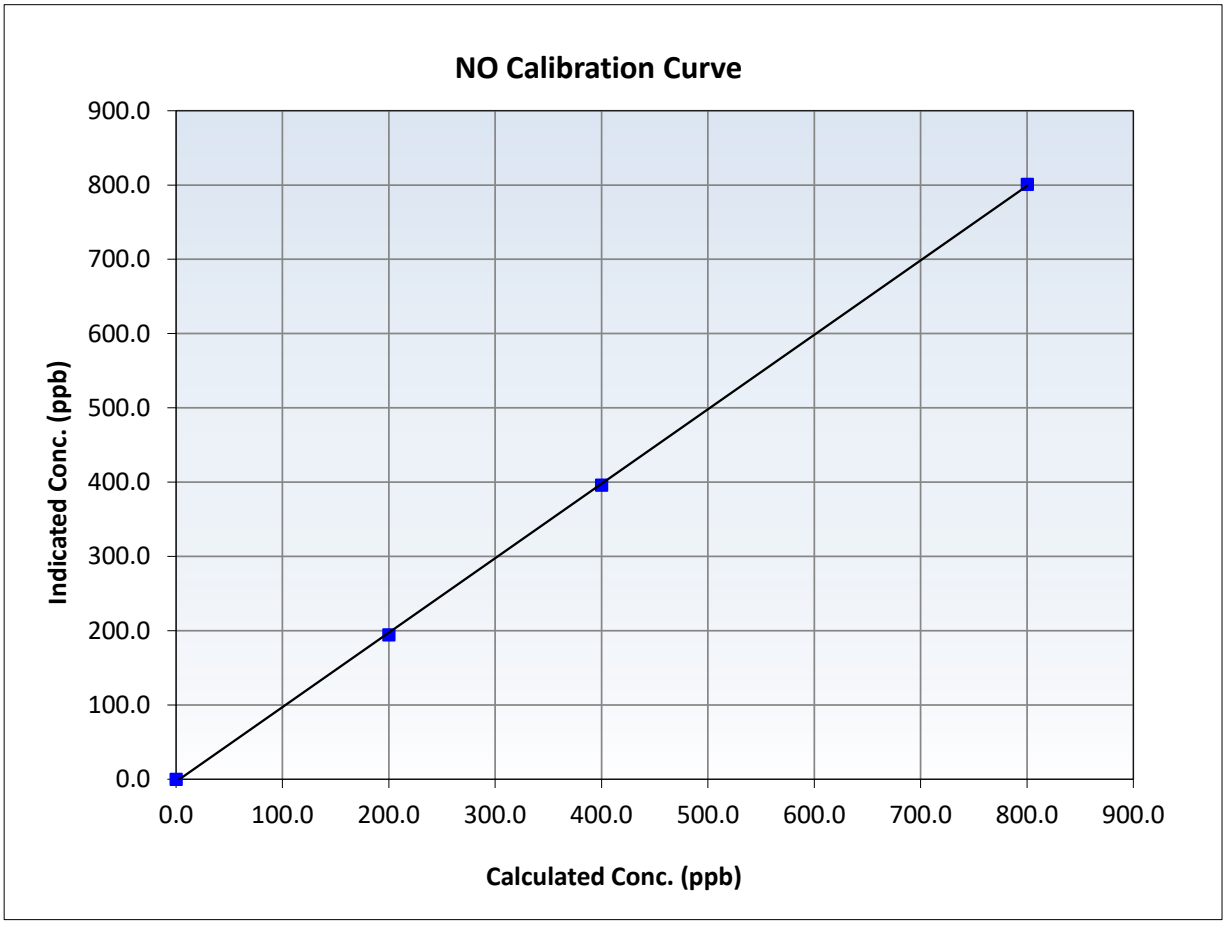
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 30, 2025
Station Name:	Wapasu	Station Number:	AMS 17
Start Time (MST):	10:35	End Time (MST):	15:43
Analyzer make:	Thermo Scientific 42i	Analyzer serial #:	1218153460

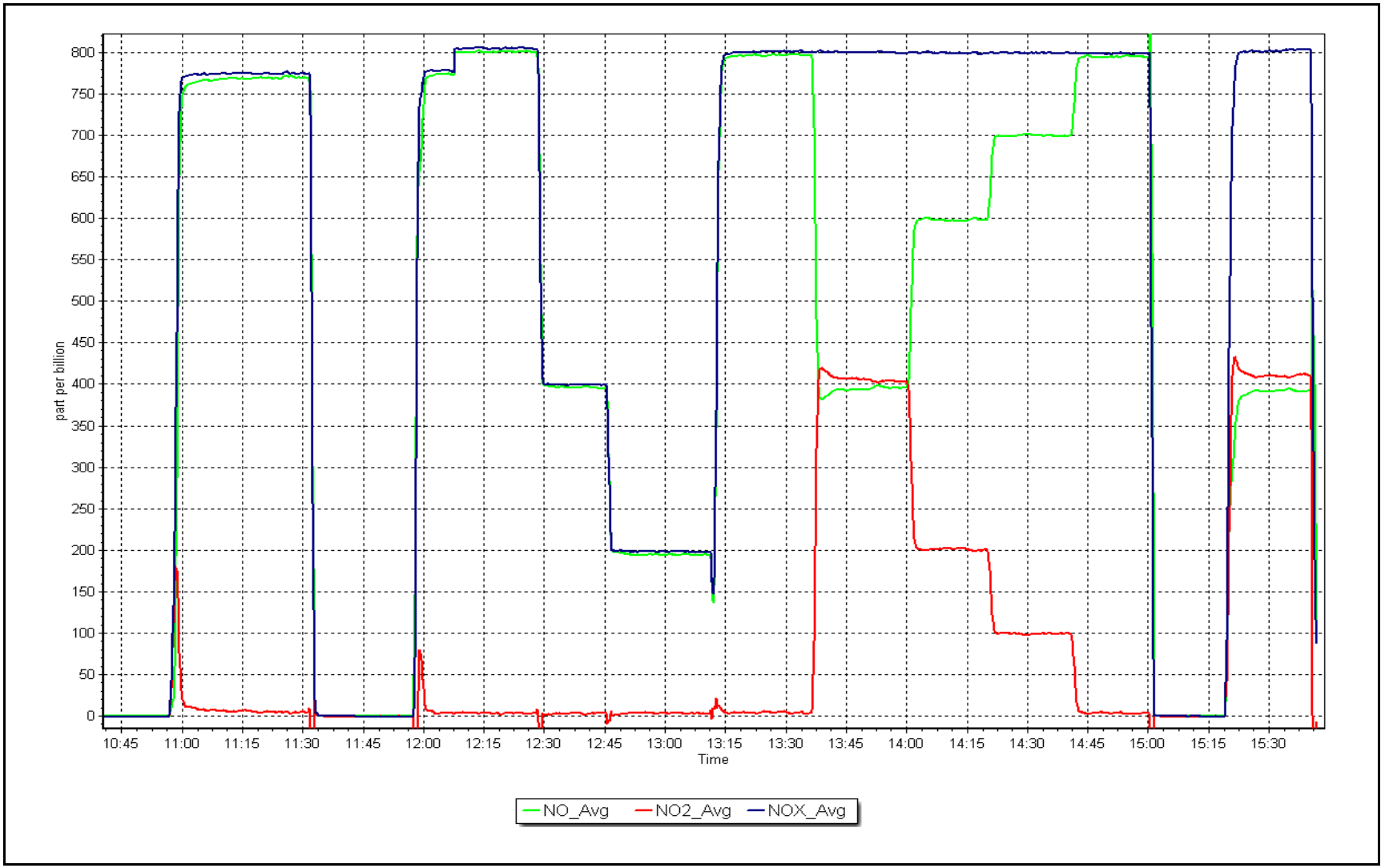
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
800.4	800.9	0.9994
400.2	396.0	1.0105
200.1	194.5	1.0288

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999928	*≥0.995*
Slope	1.002467	*0.90 - 1.10*
Intercept	-3.180009	*+/-20*



NO_X Calibration Plot Date: November 18, 2025 Location: Wapasu



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Wapasu	Station number:	AMS17
Calibration Date:	November 5, 2025	Last Cal Date:	October 2, 2025
Start time (MST):	11:39	End time (MST):	14:33
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:	1.010714	1.006029	Backgd or Offset:	0.1	0.1
Calibration intercept:	-1.700000	-1.380000	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	403.1	0.991
As found Mid point					
As found Low point					
Baseline Corr As found:	403.6	Previous response	402.6	*% 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	-0.4	----
High point	5000	1104.7	400.0	401.5	0.996
Mid point	5000	917.3	200.0	199.4	1.003
Low point	5000	797.9	100.0	98.2	1.018
As left zero	5000	0.0	0.0	-0.4	----
As left span	5000	1104.7	400.0	407.9	0.981
				Average Correction Factor	1.006

Notes: No adjustments made.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

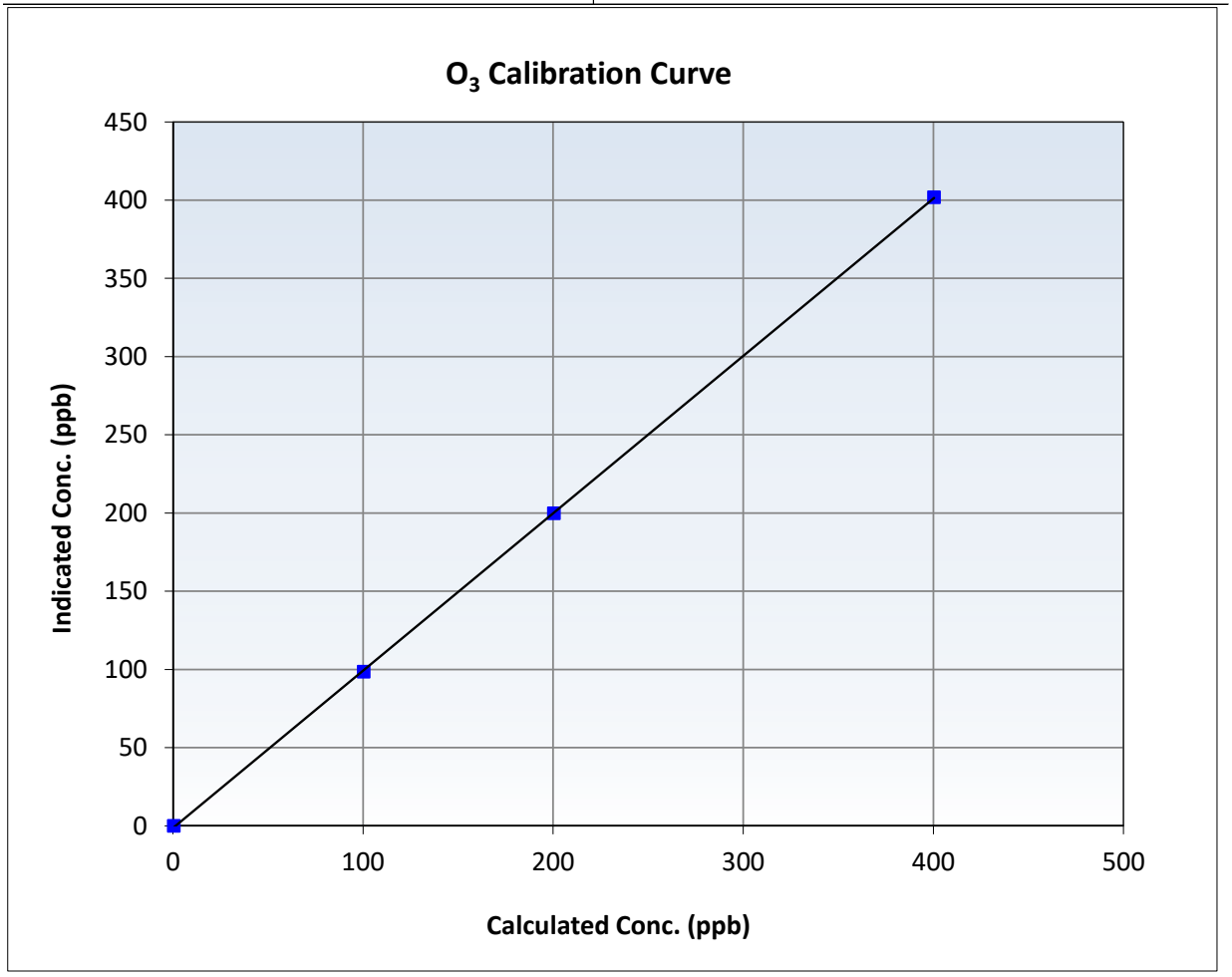
O_3 Calibration Summary

Station Information

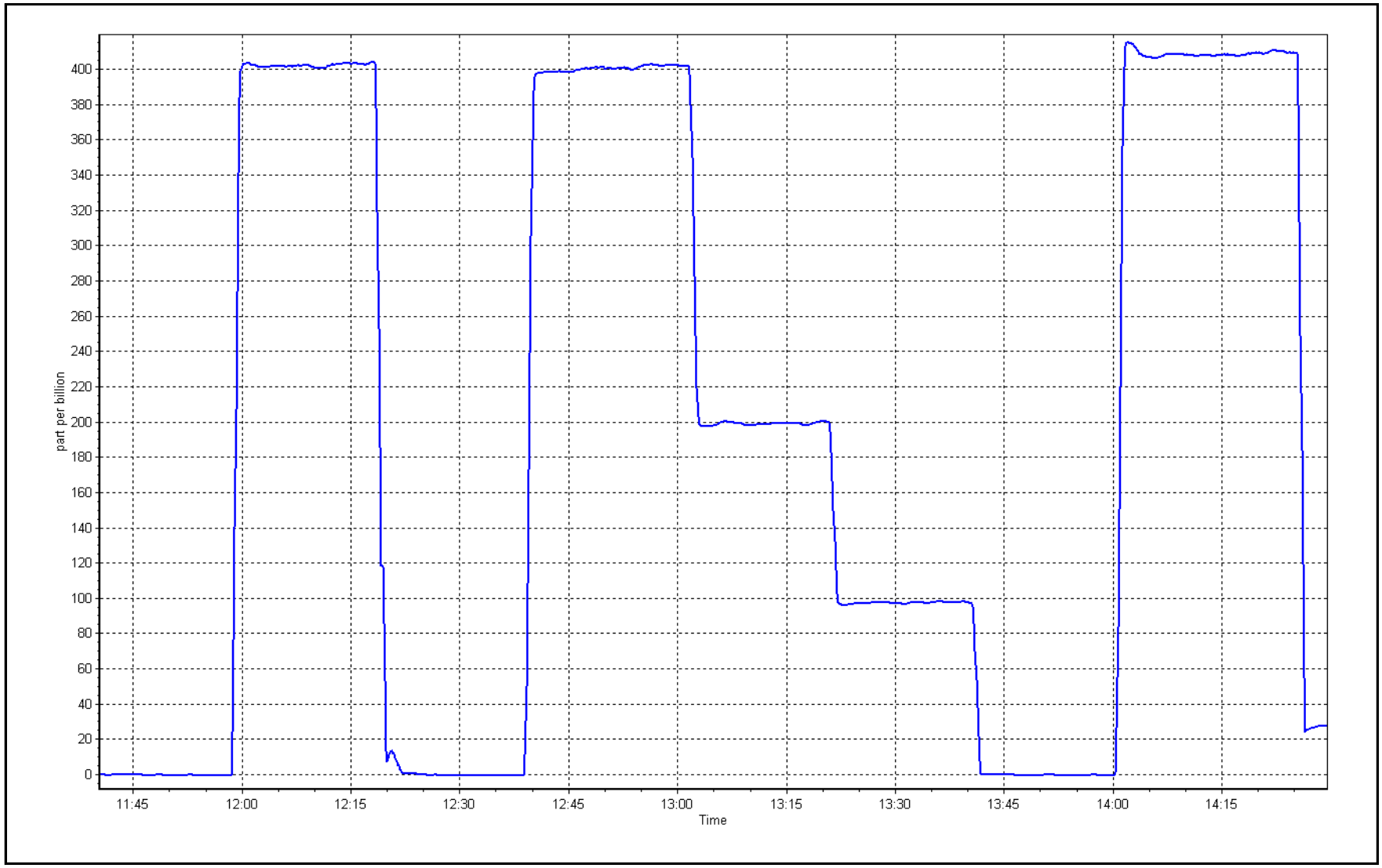
Calibration Date:	November 5, 2025	Previous Calibration:	October 2, 2025
Station Name:	Wapasu	Station Number:	AMS17
Start Time (MST):	11:39	End Time (MST):	14:33
Analyzer make:	Thermo Scientific 49i	Analyzer serial #:	1501663734

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.0	-0.4	----	Correlation Coefficient	0.999973	≥0.995
400.0	401.5	0.9963	Slope	1.006029	0.90 - 1.10
200.0	199.4	1.0030			
100.0	98.2	1.0183	Intercept	-1.380000	+/- 5



O_3 Calibration Plot Date: November 5, 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:	November 24, 2025	Last Cal Date:	October 30, 2025
Start time (MST):	13:44	End time (MST):	14:10
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)	-5.60	-5.90	-5.60	☐	+/- 2 °C
P (mmHg)	715.80	716.50	715.80	☐	+/- 10 mmHg
Flow (LPM)	4.99	5.02	4.99	☐	+/- 0.25 LPM
PW% (pump)	38	-----	38	☐	>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.

Calibration by: Aswin Sasi Kumar

Wood Buffalo Environmental Association

Wind Speed/Direction Calibration Report

Station Information

Station Name:	Wapasu	Station Number:	AMS 17
Calibration Date:	November 18, 2025	Prev Cal Date:	October 21, 2024
Start Time (MST):	10:47	End Time (MST):	13:13
Tower Height (m):	9.5	Reason:	Routine

Wind Speed Calibration

Sensor make/model:	Met One 010C-1	Serial Number:	N14664
WS Calibrator:	MetOne 053	Serial Number:	CA 05230

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	39.1	-0.7%
600	58.6	58.9	0.6%
800	77.8	77.5	-0.3%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)		0.999968	*≥0.9995*
Calculated slope		1.000443	*0.98 - 1.02*
Calculated intercept		0.028279	*+/- 2*

Wind Direction Calibration

Sensor make/model:	Met One 020C-1	Serial Number:	P19942	
As Found Declination (deg east of True North):		As Left Declination (deg east of True North):		
Solar noon (MST):	12:09	Calc Declination*:	13.09	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	9.3	-0.2%
90	90.2	0.1%
180	180.0	0.0%
270	270.2	0.1%
350	350.8	0.2%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)		0.999998	*≥0.9995*
Calculated slope		0.996562	*0.97 - 1.03*
Calculated intercept		0.519161	*+/- 5*

Notes: No issues with bearings on both sensors.

Calibration Performed By: Aswin Sasi Kumar

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS18
STONY MOUNTAIN
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Stony Mountain	Station number:	AMS 18
Calibration Date:	November 26, 2025	Last Cal Date:	October 23, 2025
Start time (MST):	10:25	End time (MST):	14:05
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:	1.000714	1.001599	Backgd or Offset:	25.9	25.9
Calibration intercept:	-1.637815	-1.597660	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	0.0	----
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:	796.8	Previous response	799.1	*% 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	

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	78.1	800.2	800.9	0.999
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	0.3	----
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: Aswin Sasi Kumar

Wood Buffalo Environmental Association

SO_2 Calibration Summary

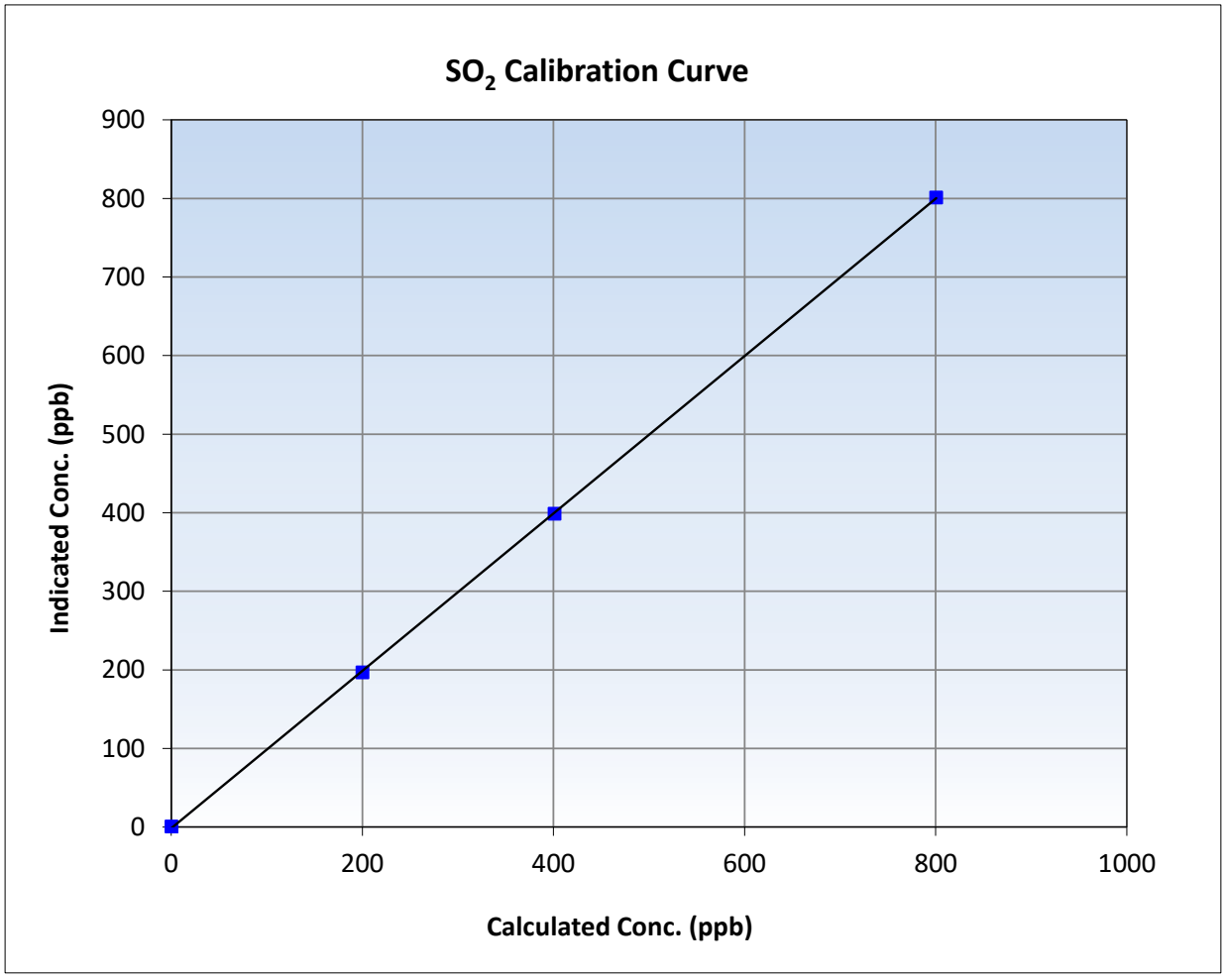
Station Information

Calibration Date:	November 26, 2025	Previous Calibration:	October 23, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	10:25	End Time (MST):	14:05
Analyzer make:	Thermo 43i	Analyzer serial #:	JC1501301453

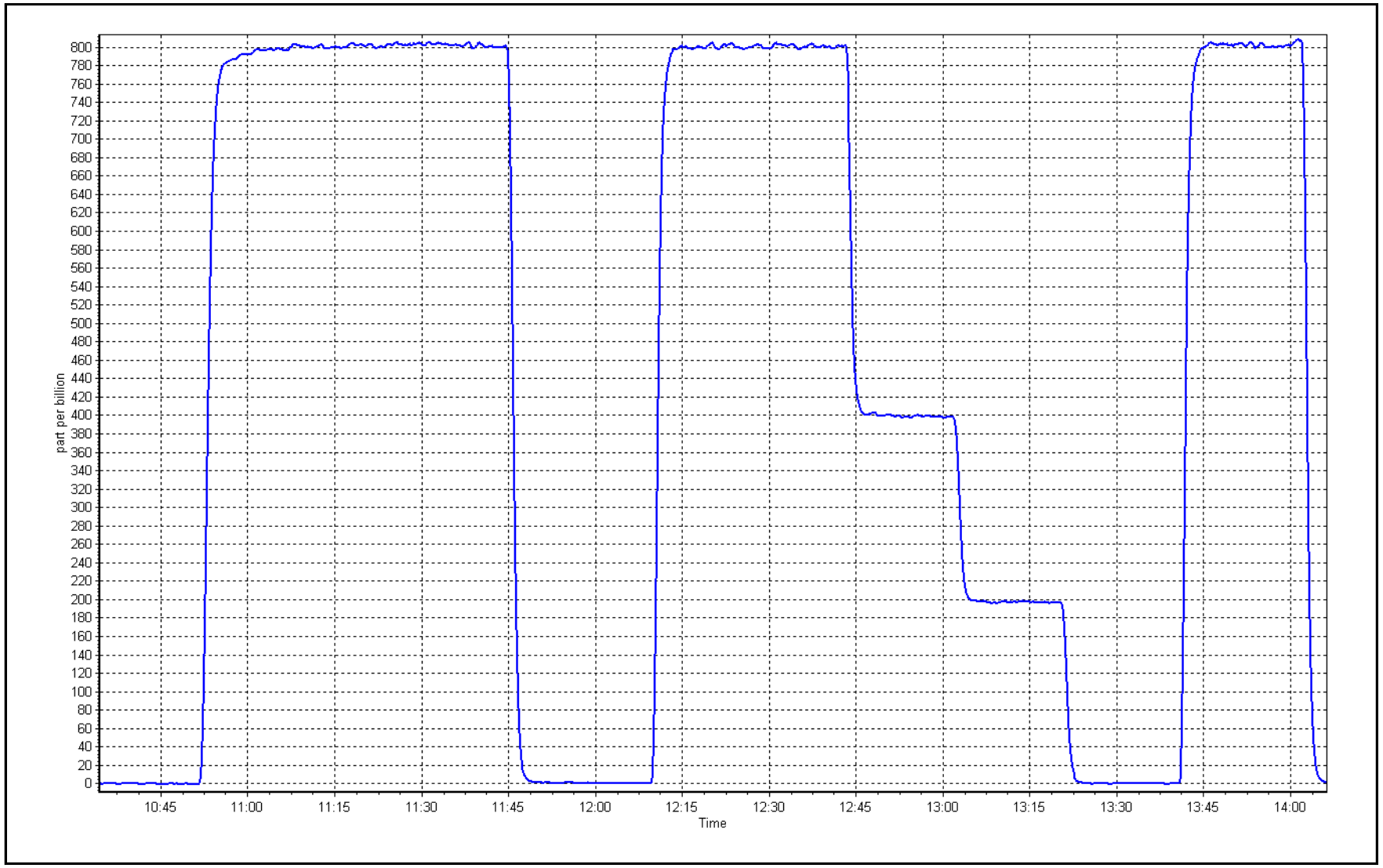
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
800.2	800.9	0.9991
400.6	398.6	1.0050
199.7	196.5	1.0165

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999972	*≥0.995*
Slope	1.001599	*0.90 - 1.10*
Intercept	-1.597660	*+/-30*



SO2 Calibration Plot Date: November 26, 2025 Location: Stony Mountain



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Stony Mountain	Station number:	AMS18
Calibration Date:	November 27, 2025	Last Cal Date:	October 29, 2025
Start time (MST):	10:30	End time (MST):	15:46
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:	4890

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:	0.992077	0.998224	Backgd or Offset:	2.94	2.94
Calibration intercept:	-0.018635	-0.058902	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	82.5	0.971
As found Mid point	4958	41.2	40.1	41.2	0.975
As found Low point	4979	20.6	20.0	20.3	0.991
New cylinder response					

Baseline Corr As found:	82.4	Prev response:	79.35	*% change:	3.7%
Baseline Corr 2nd AF pt:	41.1	AF Slope:	1.031511	AF Intercept:	-0.099658
Baseline Corr 3rd AF pt:	20.2	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	0.3	----
High point	4917	82.3	80.0	80.0	1.000
Mid point	4958	41.2	40.1	39.7	1.009
Low point	4979	20.6	20.0	19.6	1.022
As left zero	5000	0.0	0.0	0.5	----
As left span	4917	82.3	80.0	79.4	1.008
SO2 Scrubber Check	4923	77.1	771.0	0.1	----
Date of last scrubber change:		17-Dec-21		Ave Corr Factor	1.010
Date of last converter efficiency test:					

Notes: No adjustment made. SOX scrubber tested. No issues to note.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

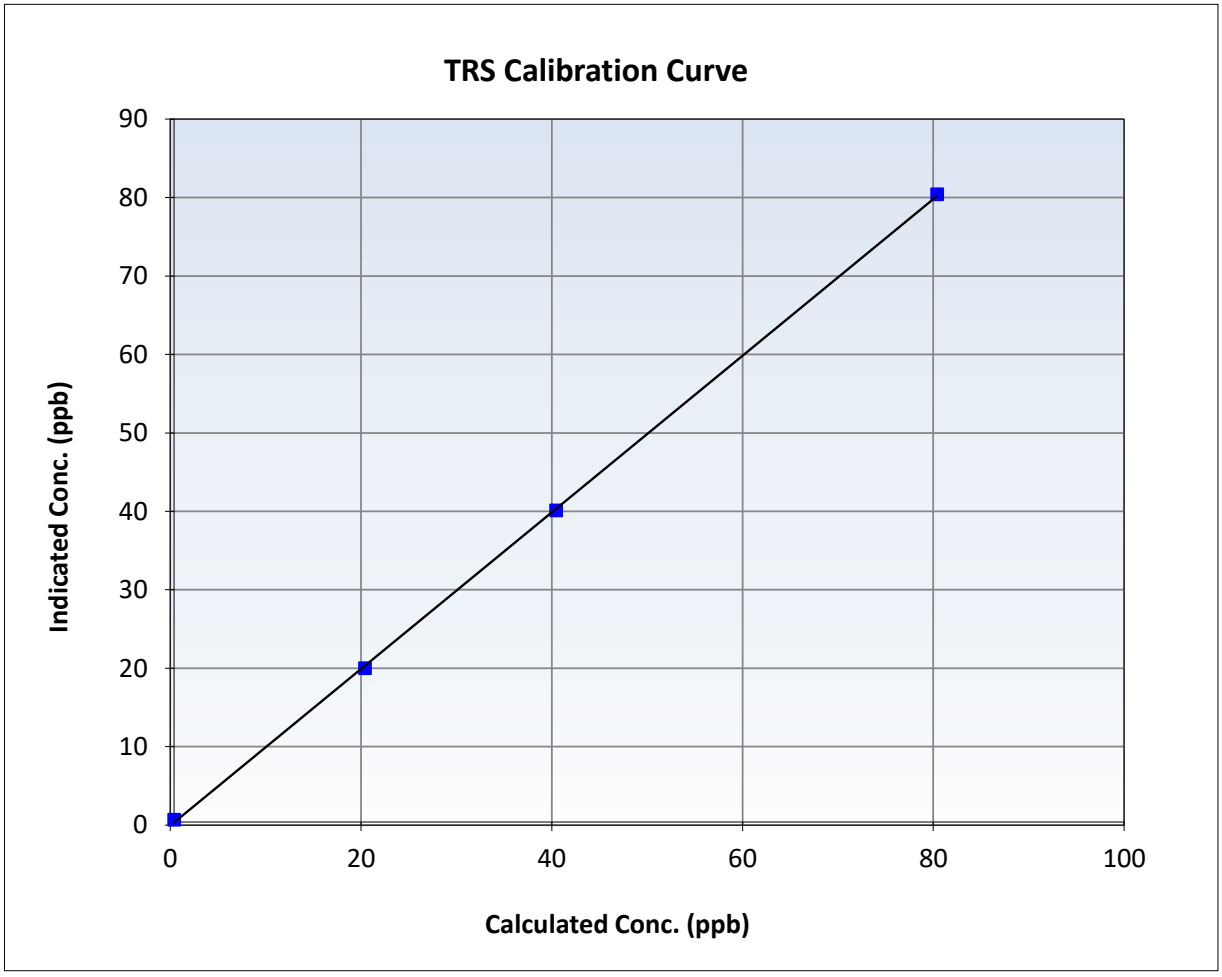
TRS Calibration Summary

Station Information

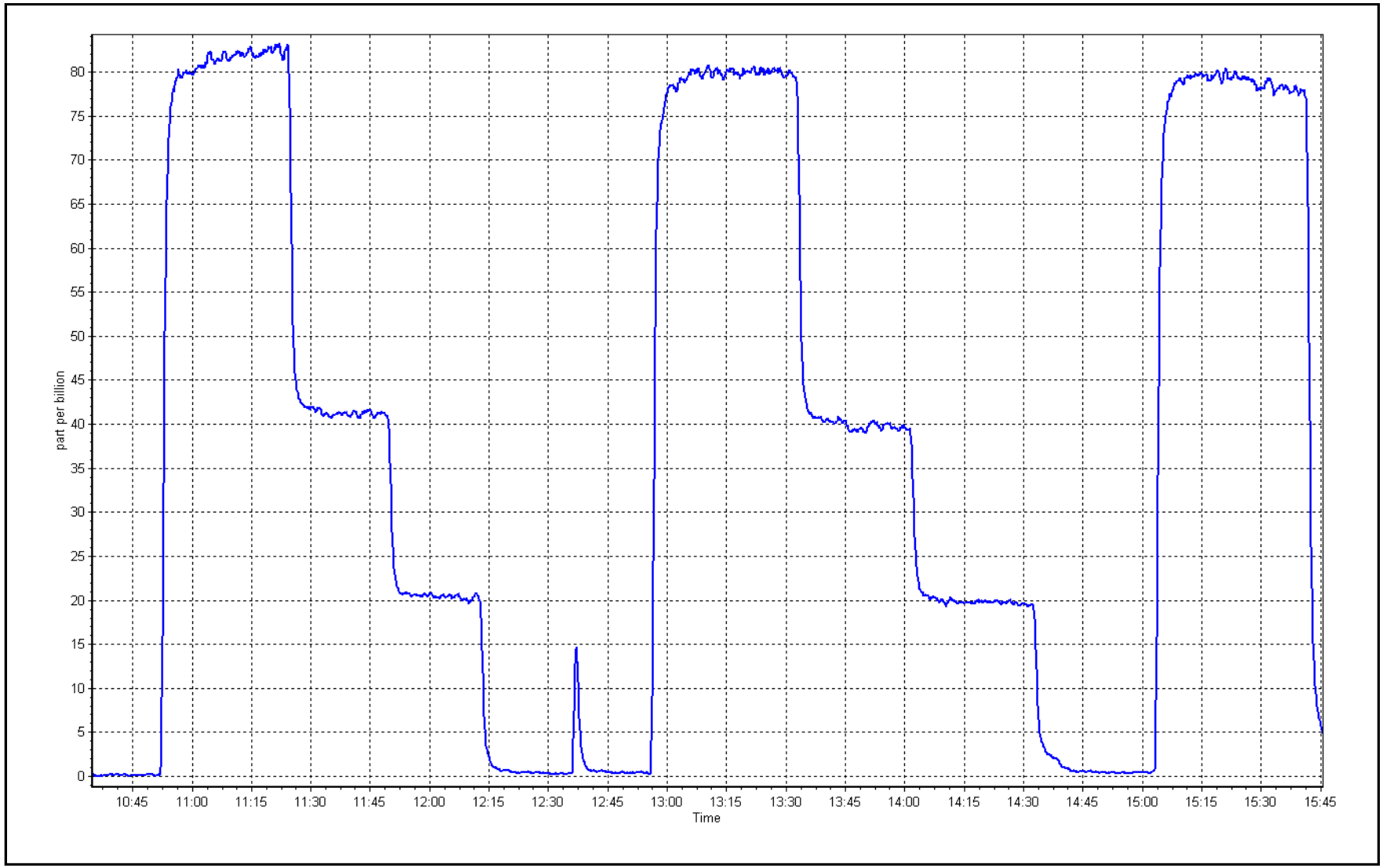
Calibration Date:	November 27, 2025	Previous Calibration:	October 29, 2025
Station Name:	Stony Mountain	Station Number:	AMS18
Start Time (MST):	10:30	End Time (MST):	15:46
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1218153359

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.3	----	Correlation Coefficient	0.999907	*≥0.995*
80.0	80.0	1.0001	Slope	0.998224	*0.90 - 1.10*
40.1	39.7	1.0089			
20.0	19.6	1.0217	Intercept	-0.058902	*+/-3*



TRS Calibration Plot Date: November 27, 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:	November 26, 2025	Last Cal Date:	October 23, 2025
Start time (MST):	10:25	End time (MST):	14:04
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:	2.68E-04	2.67E-04	NMHC SP Ratio:	5.04E-05	4.97E-05
CH4 Retention time:	14.8	14.8	NMHC Peak Area:	177024	179853
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	0.02	----
As found High point	4921	78.1	16.82	16.91	0.996
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	16.89	Prev response	16.83	*% 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	5000	0.0	0.00	0.02	----
High point	4921	78.1	16.82	16.75	1.004
Mid point	4960	39.1	8.42	8.33	1.011
Low point	4981	19.5	4.20	4.13	1.018
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.1	16.82	16.59	1.014
				Average Correction Factor	1.011

Notes: Changed the inlet filter and 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	4921	78.1	8.93	9.04	0.988
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.04	Prev response	8.95	*% change	1.0%
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	78.1	8.93	8.89	1.005
Mid point	4960	39.1	4.47	4.42	1.012
Low point	4981	19.5	2.23	2.19	1.020
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.1	8.93	8.82	1.013
				Average Correction Factor	1.012

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	0.02	----
As found High point	4921	78.1	7.89	7.87	1.005
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.85	Prev response	7.89	*% 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	0.02	----
High point	4921	78.1	7.89	7.87	1.003
Mid point	4960	39.1	3.95	3.91	1.010
Low point	4981	19.5	1.97	1.94	1.015
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	78.1	7.89	7.78	1.014
				Average Correction Factor	1.009

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	1.001524	0.996109
THC Cal Offset:	-0.012726	-0.026123
CH4 Cal Slope:	0.999248	0.996234
CH4 Cal Offset:	0.004620	-0.005977
NMHC Cal Slope:	1.003865	0.995793
NMHC Cal Offset:	-0.018145	-0.019347

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

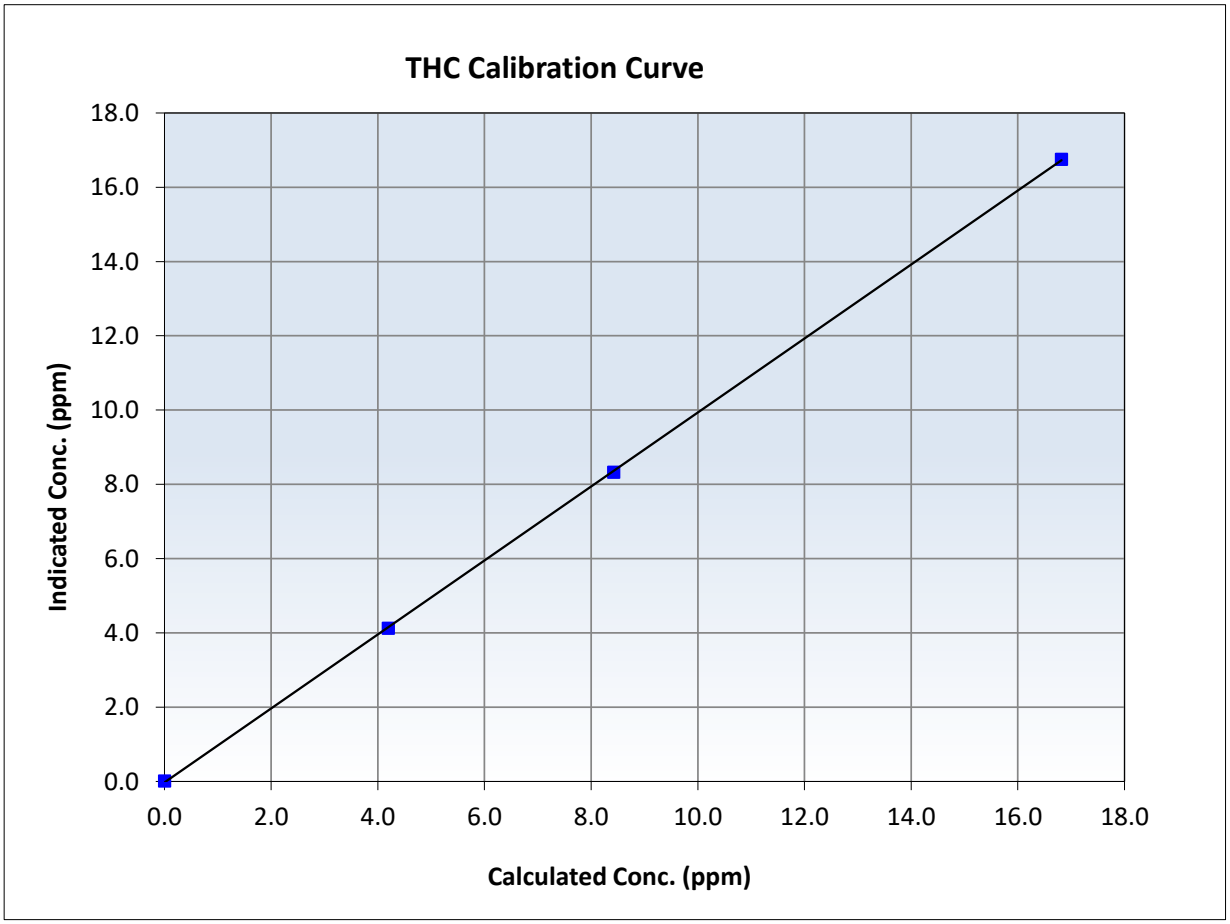
THC Calibration Summary

Station Information

Calibration Date:	November 26, 2025	Previous Calibration:	October 23, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	10:25	End Time (MST):	14:04
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	0.999970	*≥0.995*
16.82	16.75	1.0039	Slope	0.996109	*0.90 - 1.10*
8.42	8.33	1.0114			
4.20	4.13	1.0178	Intercept	-0.026123	*+/-0.5*



Wood Buffalo Environmental Association

CH_4 Calibration Summary

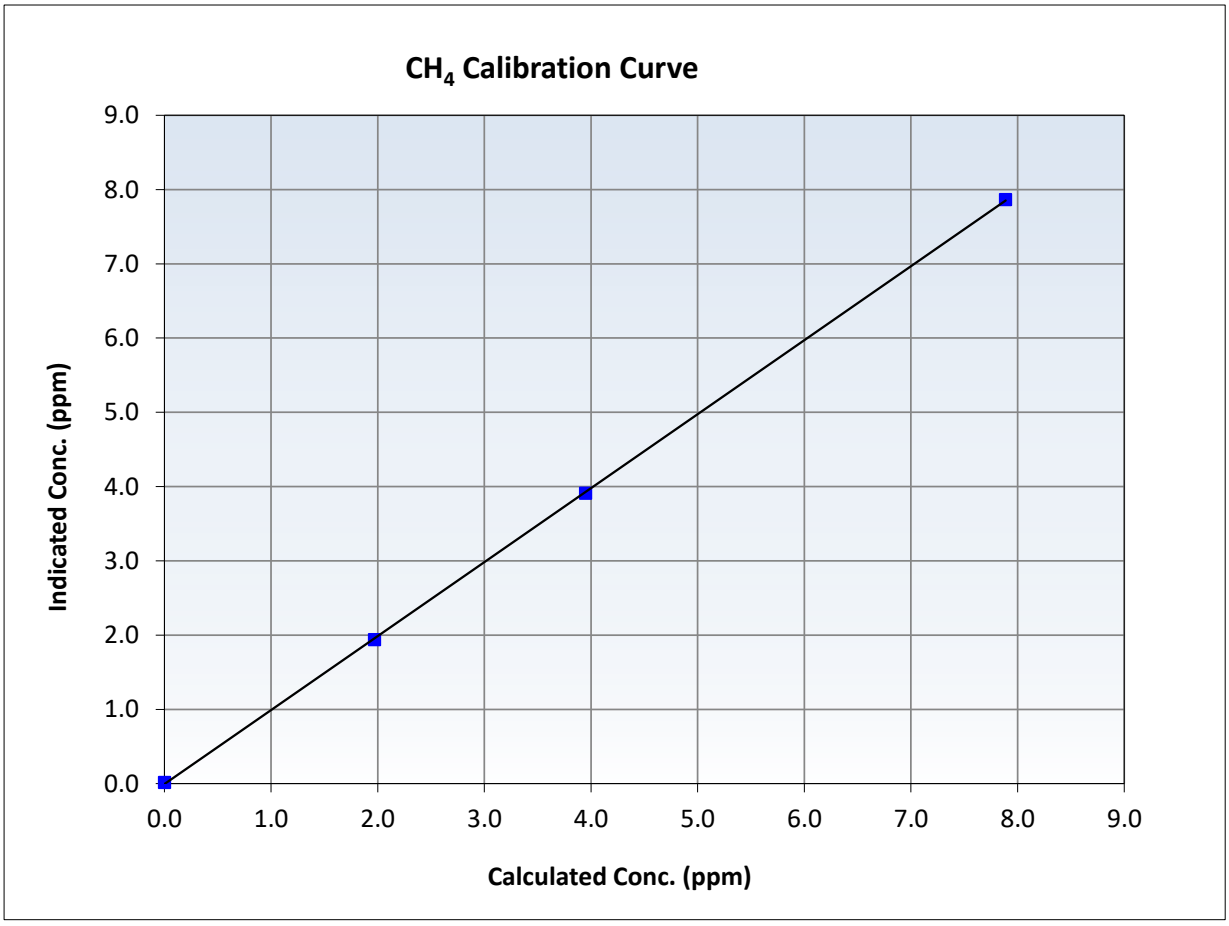
Station Information

Calibration Date:	November 26, 2025	Previous Calibration:	October 23, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	10:25	End Time (MST):	14:04
Analyzer make:	Thermo 55i	Analyzer serial #:	1170050130

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.02	----
7.89	7.87	1.0029
3.95	3.91	1.0097
1.97	1.94	1.0154

Statistical Evaluation		Limits
Correlation Coefficient	0.999965	≥0.995
Slope	0.996234	0.90 - 1.10
Intercept	-0.005977	+/-0.5



Wood Buffalo Environmental Association

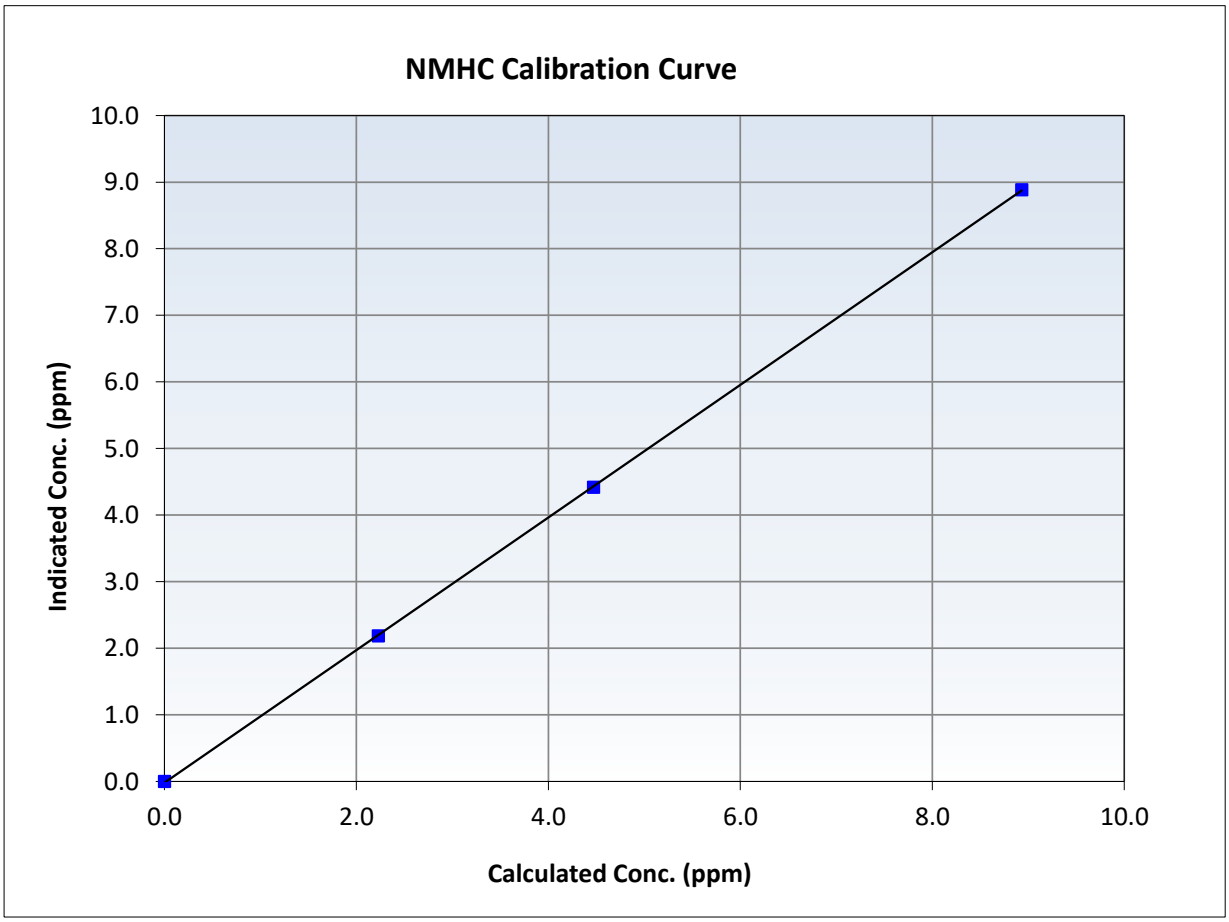
NMHC Calibration Summary

Station Information

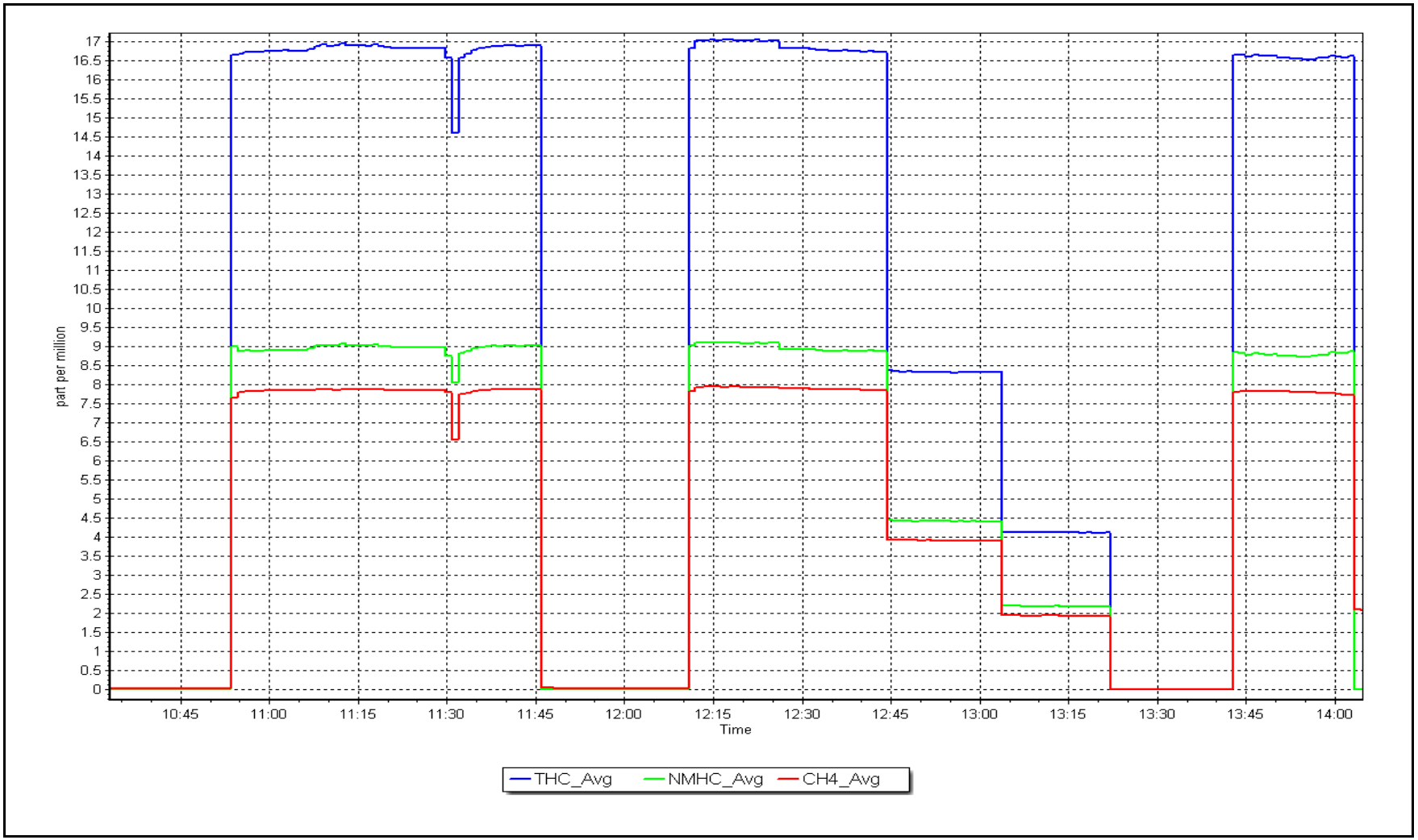
Calibration Date:	November 26, 2025	Previous Calibration:	October 23, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	10:25	End Time (MST):	14:04
Analyzer make:	Thermo 55i	Analyzer serial #:	1170050130

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999977	≥0.995
8.93	8.89	1.0051	Slope	0.995793	0.90 - 1.10
4.47	4.42	1.0124			
2.23	2.19	1.0199	Intercept	-0.019347	+/-0.5



NMHC Calibration Plot Date: November 26, 2025 Location: Stony Mountain



CALS_300

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Stony Mountain
Station number:	AMS 18
Calibration Date:	November 6, 2025
Last Cal Date:	October 31, 2025
Start time (MST):	12:10
End time (MST):	17:21
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										
AF High point										
AF Mid point										
AF Low point										
New cyl resp										

Previous Respo	4933	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 Scientific 42i Serial Number: 1501663731

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.059	1.117	NO bkgnd or offset:	10.4	11.2
NOX coeff or slope:	0.999	1.000	NOX bkgnd or offset:	10.6	14.0
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	218.9	219.8

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.999094	0.999010
NO_X Cal Offset:	-0.868433	-2.488659
NO Cal Slope:	0.999139	1.000380
NO Cal Offset:	-1.969984	-2.329568
NO_2 Cal Slope:	0.998329	1.001371
NO_2 Cal Offset:	0.878481	-1.144685

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	0.0	-0.8	----	----
High point	4933	66.6	803.3	800.6	2.7	801.0	799.9	1.3	1.0028	1.0009
Mid point	4967	33.3	401.6	400.2	1.3	397.3	396.4	0.9	1.0108	1.0097
Low point	4983	16.6	200.2	199.5	0.7	196.2	195.3	0.9	1.0204	1.0218
As left zero	5000	0.0	0.0	0.0	0.0	-2.3	0.0	-2.3	----	----
As left span	4933	66.6	803.3	387.7	415.6	801.3	387.7	413.6	1.0024	1.0000
								Average Correction Factor	1.0113	1.0108

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	-0.8	----	----
High GPT point	796.3	384.6	414.4	413.9	1.0011	99.9%
Mid GPT point	796.3	596.6	202.4	201.5	1.0043	99.6%
Low GPT point	796.3	696.4	102.6	101.1	1.0145	98.6%
				Average Correction Factor	1.0066	99.3%

Notes: No asfounds done. Mode valve replaced. Zero and span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

NO_X Calibration Summary

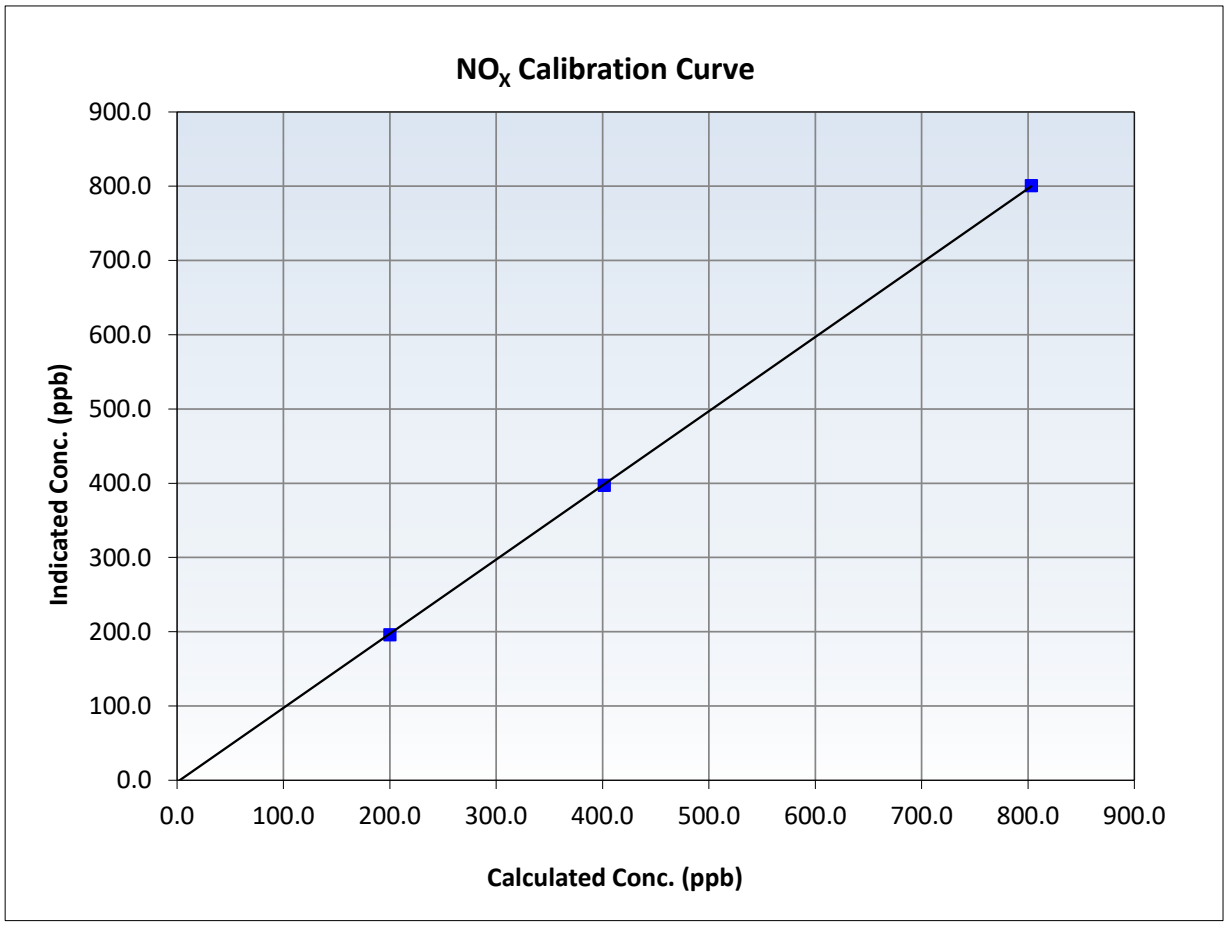
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 31, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	12:10	End Time (MST):	17:21
Analyzer make:	Thermo Scientific 42i	Analyzer serial #:	1501663731

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.8	----
803.3	801.0	1.0028
401.6	397.3	1.0108
200.2	196.2	1.0204

Statistical Evaluation		Limits
Correlation Coefficient	0.999978	≥0.995
Slope	0.999010	0.90 - 1.10
Intercept	-2.488659	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

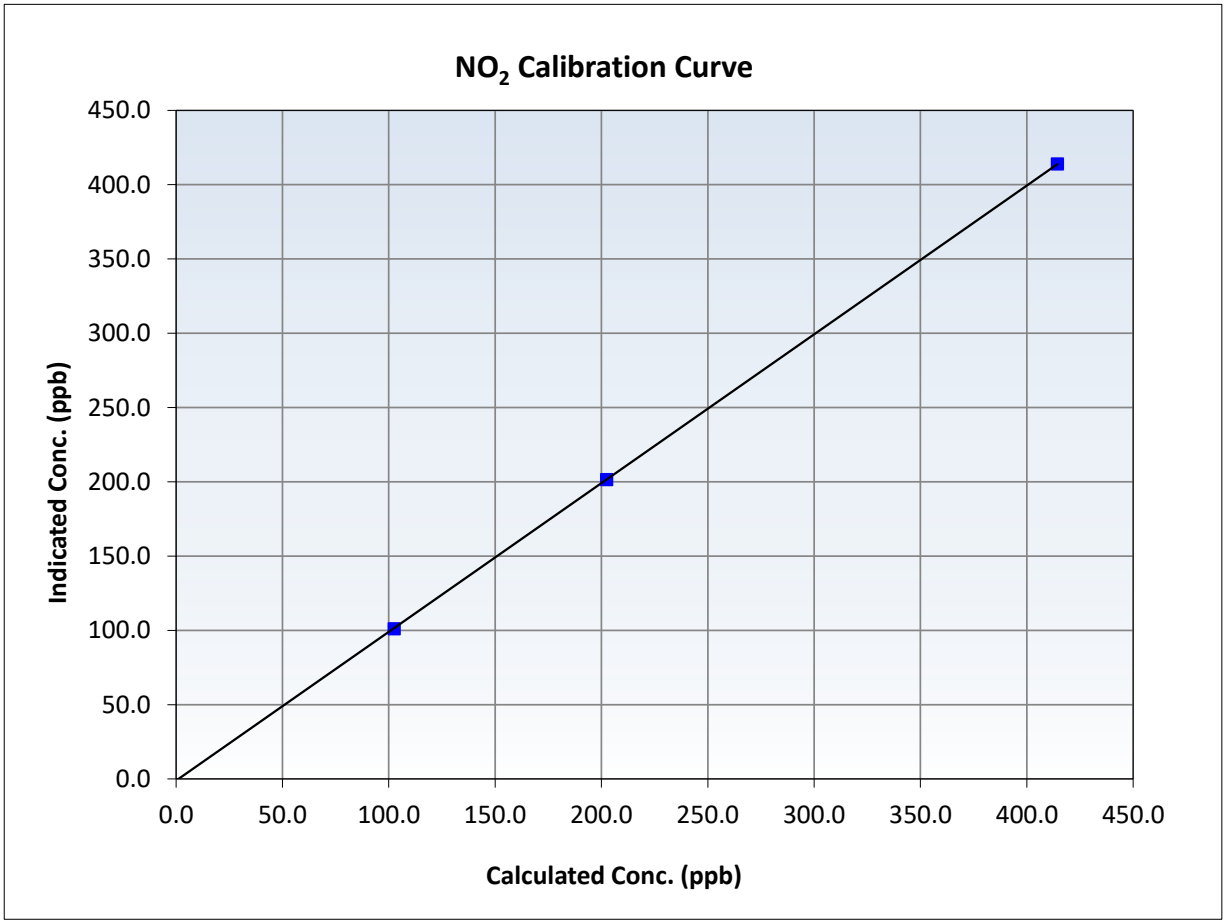
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 31, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	12:10	End Time (MST):	17:21
Analyzer make:	Thermo Scientific 42i	Analyzer serial #:	1501663731

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.8	----
414.4	413.9	1.0011
202.4	201.5	1.0043
102.6	101.1	1.0145

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	1.001371	*0.90 - 1.10*
Intercept	-1.144685	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

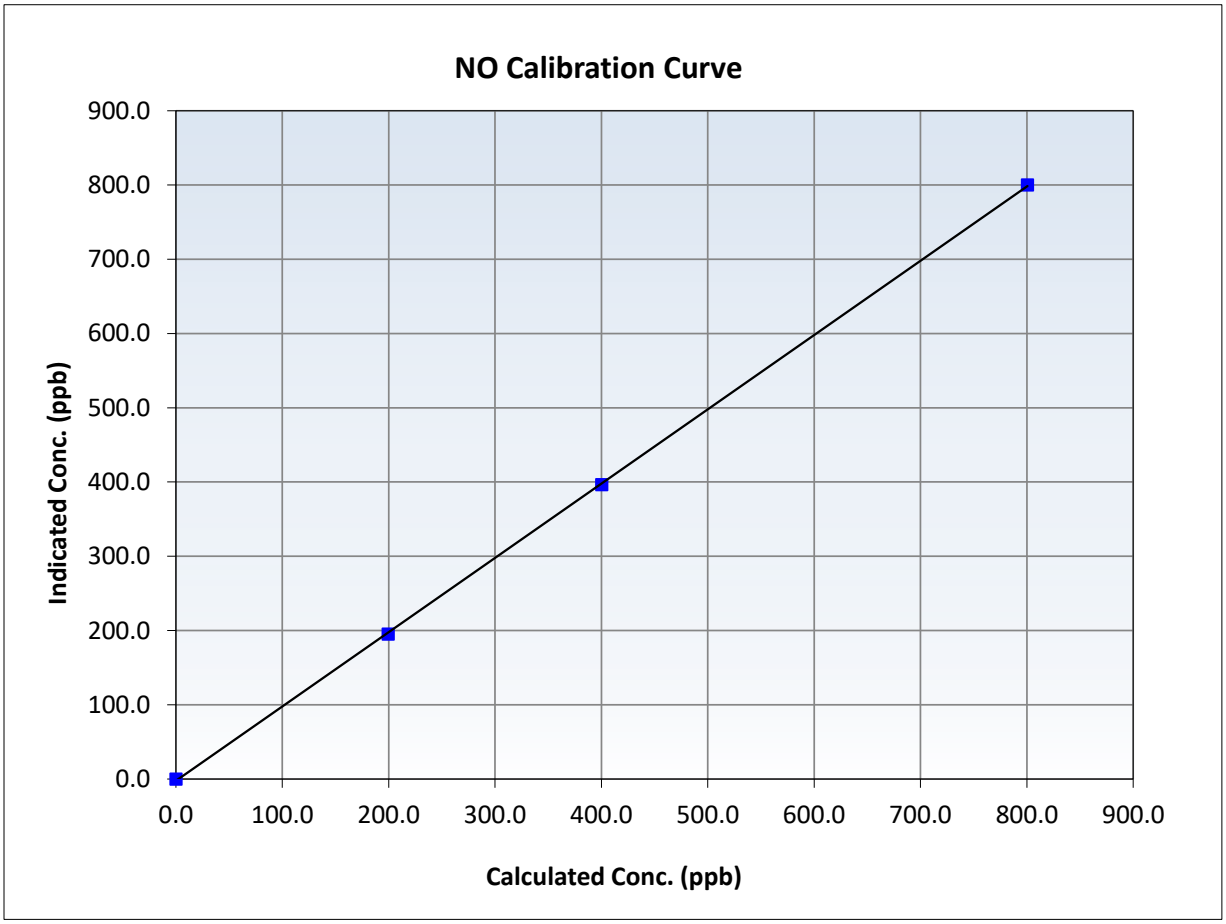
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 31, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	12:10	End Time (MST):	17:21
Analyzer make:	Thermo Scientific 42i	Analyzer serial #:	1501663731

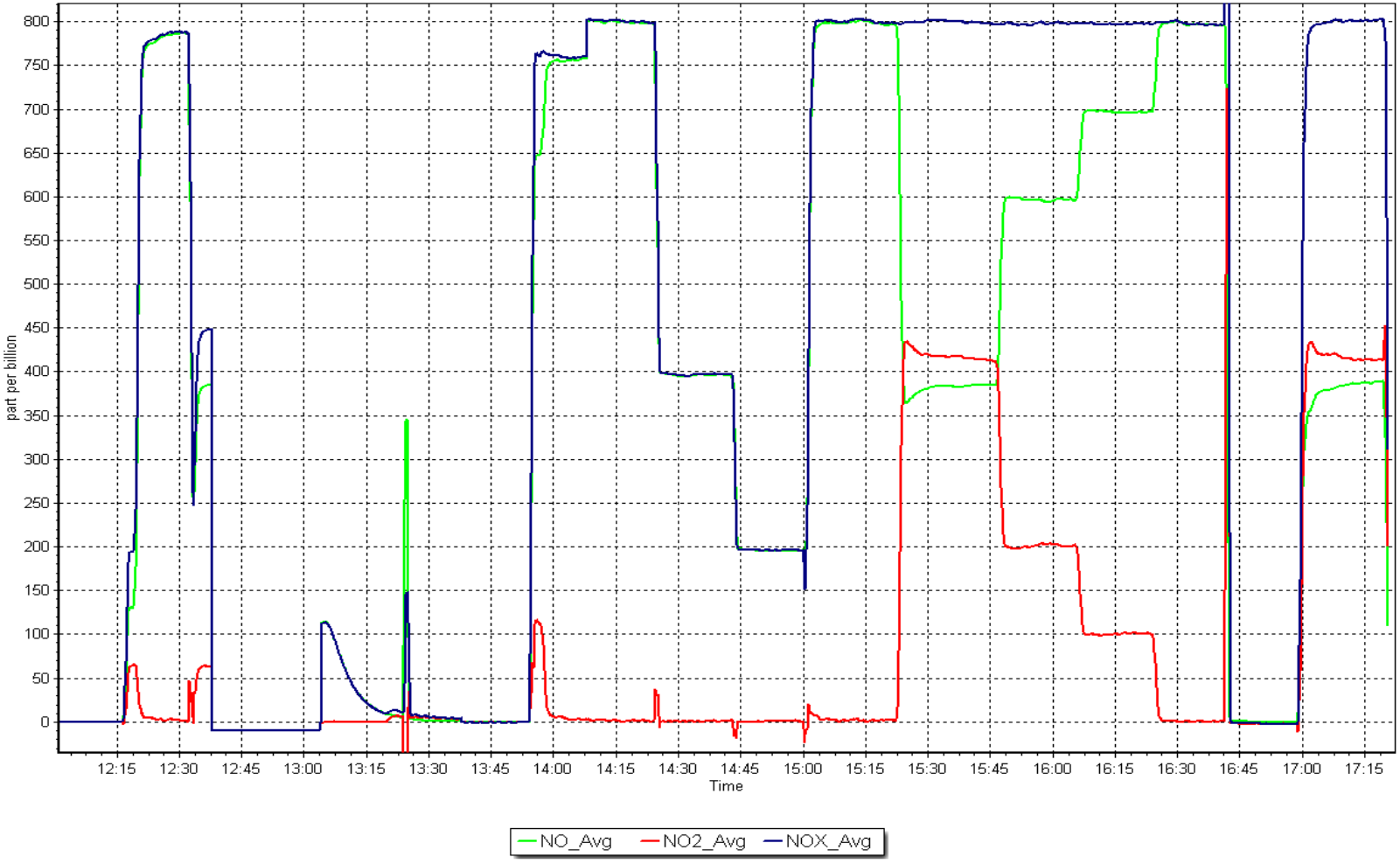
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
800.6	799.9	1.0009
400.2	396.4	1.0097
199.5	195.3	1.0218

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999960	*≥0.995*
Slope	1.000380	*0.90 - 1.10*
Intercept	-2.329568	*+/-20*



NO_X Calibration Plot Date: November 6, 2025 Location: Stony Mountain



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Stony Mountain	Station number:	AMS 18
Calibration Date:	November 25, 2025	Last Cal Date:	October 22, 2025
Start time (MST):	10:10	End time (MST):	13:32
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:	0.995086	0.999286	Backgd or Offset:	2.3	3.1
Calibration intercept:	-0.040000	0.500000	Coeff or Slope:	0.991	1.010

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	0.9	----
As found High point	4888	1138.1	400.0	394.2	1.017
As found Mid point					
As found Low point					
Baseline Corr As found:	393.3	Previous response	398.0	*% 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	

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	0.2	----
High point	4888	1138.1	400.0	399.8	1.001
Mid point	4888	884.5	200.0	201.3	0.994
Low point	4888	741.4	100.0	100.2	0.998
As left zero	5000	NA	0.0	0.5	----
As left span	4812	1097.9	400.0	403.0	0.993
				Average Correction Factor	0.997

Notes: Zero and span adjusted.

Calibration Performed By: Aswin Sasi Kumar

Wood Buffalo Environmental Association

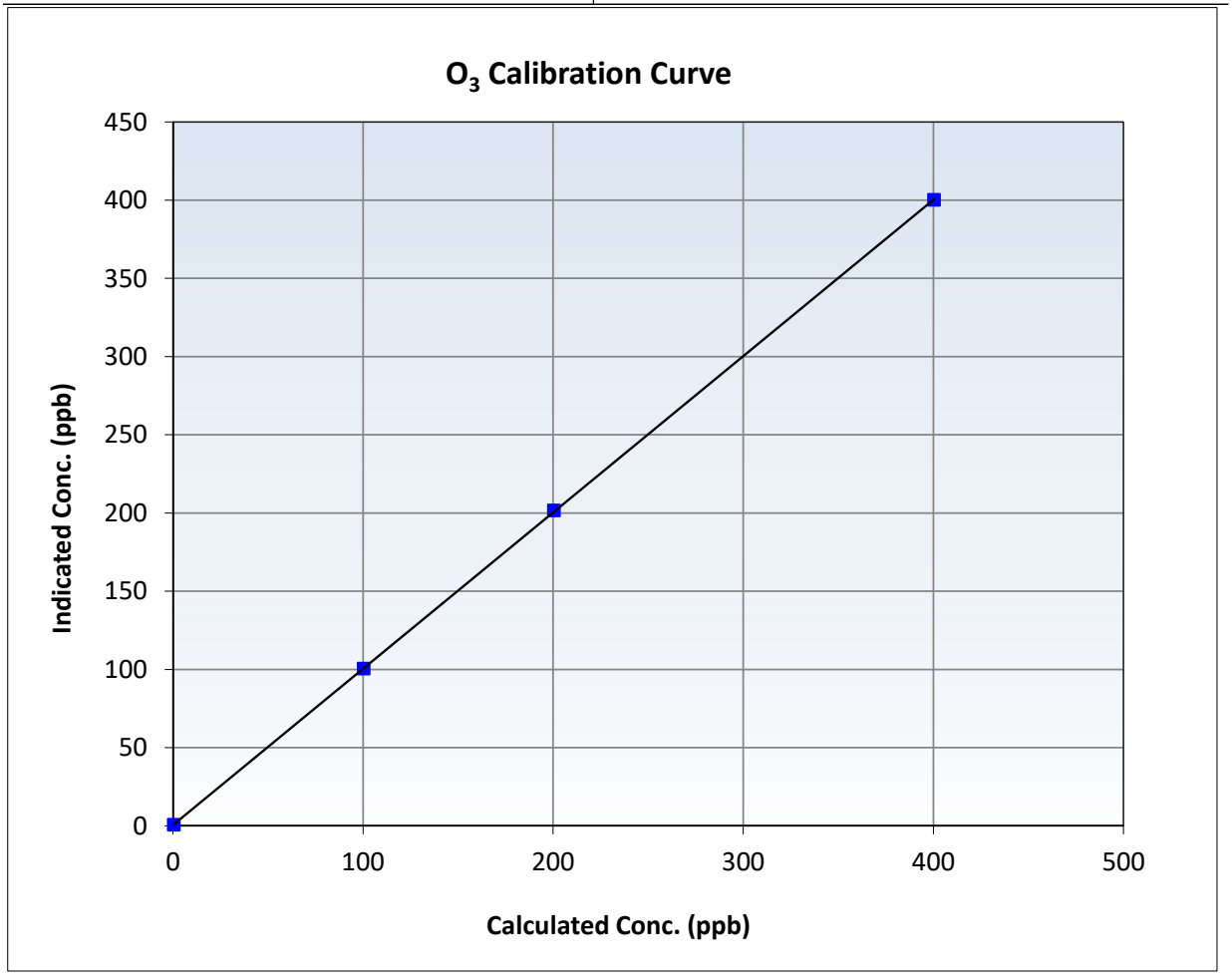
O_3 Calibration Summary

Station Information

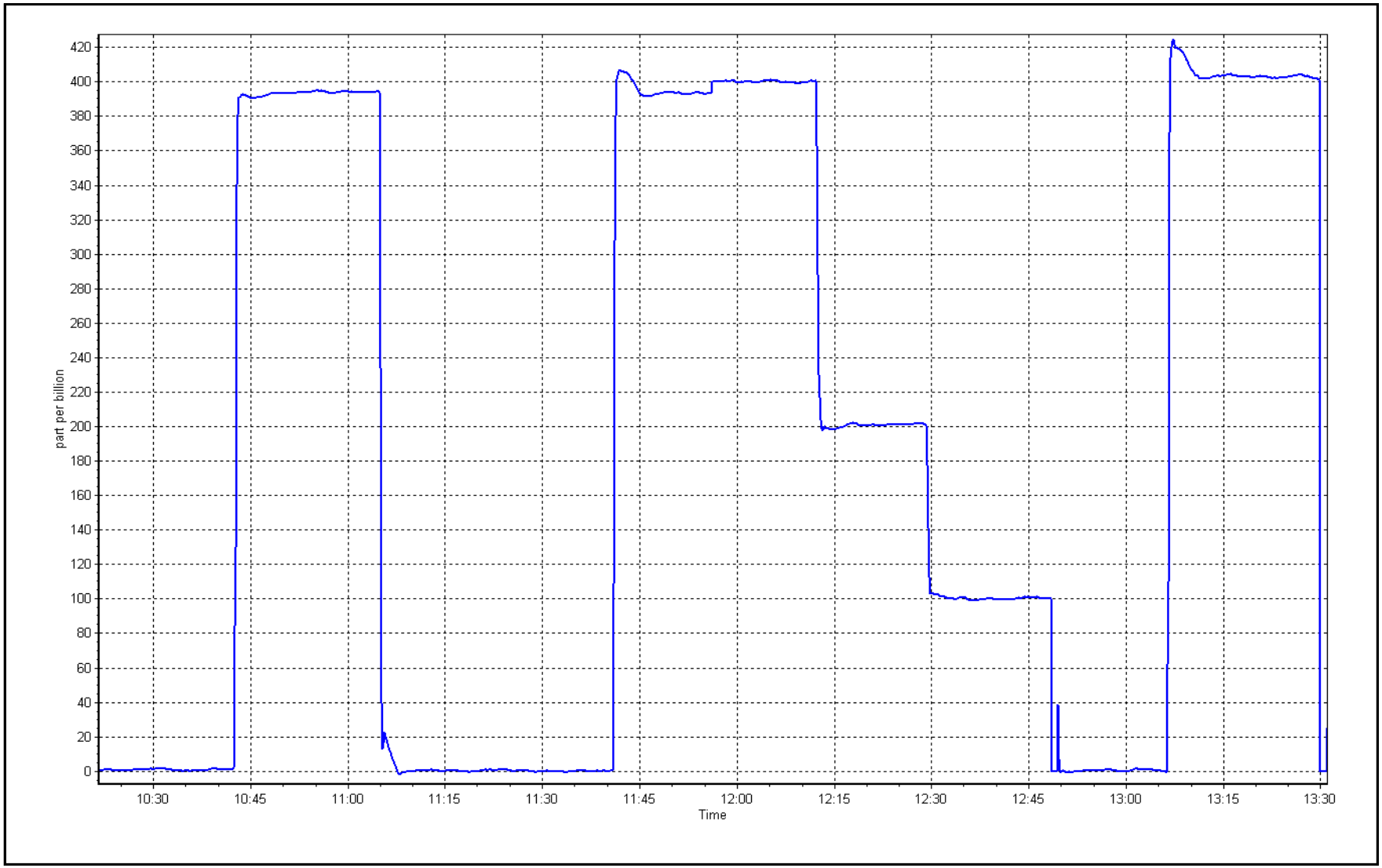
Calibration Date:	November 25, 2025	Previous Calibration:	October 22, 2025
Station Name:	Stony Mountain	Station Number:	AMS 18
Start Time (MST):	10:10	End Time (MST):	13:32
Analyzer make:	API T400	Analyzer serial #:	825

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.2	----	Correlation Coefficient	0.999986	*≥0.995*
400.0	399.8	1.0005	Slope	0.999286	*0.90 - 1.10*
200.0	201.3	0.9935			
100.0	100.2	0.9980	Intercept	0.500000	*+/- 5*



O_3 Calibration Plot Date: November 25, 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:	November 27, 2025	Last Cal Date:	October 31, 2025
Start time (MST):	14:23	End time (MST):	15:47
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)	-9.7	-8.7	-9.7	☐	+/- 2 °C
P (mmHg)	710.8	699.80	710.8	☐	+/- 10 mmHg
Flow (LPM)	5.00	4.98	5.00	☐	+/- 0.25 LPM
PW% (pump)	38	-----	38	☐	>80%
Zero Verification	PM w/o HEPA:	3.0	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	10.1	10.1	11.1	☑	+/- 0.5

Date Optical Chamber Cleaned: November 27, 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. Quarterly cleaning done. PMT adjusted.

Calibration by: Aswin Sasi Kumar

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS19
FIREBAG
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Firebag	Station number:	AMS 19
Calibration Date:	November 13, 2025	Last Cal Date:	October 6, 2025
Start time (MST):	12:07	End time (MST):	15:16
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:	1.002734	0.999159	Backgd or Offset:	11.8	13.3
Calibration intercept:	0.740000	0.140000	Coeff or Slope:	1.015	1.001

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	1.4	----
As found High point	4922	78.4	799.2	812.0	0.986
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	810.6	Previous response	802.1	*% 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	4999	0.0	0.0	-0.1	----
High point	4922	78.4	799.2	798.7	1.001
Mid point	4961	39.2	399.6	399.1	1.001
Low point	4980	19.6	199.8	200.3	0.998
As left zero	4999	0.0	0.0	-0.1	----
As left span	4922	78.4	799.2	801.0	0.998
				Average Correction Factor:	1.000

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

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

SO_2 Calibration Summary

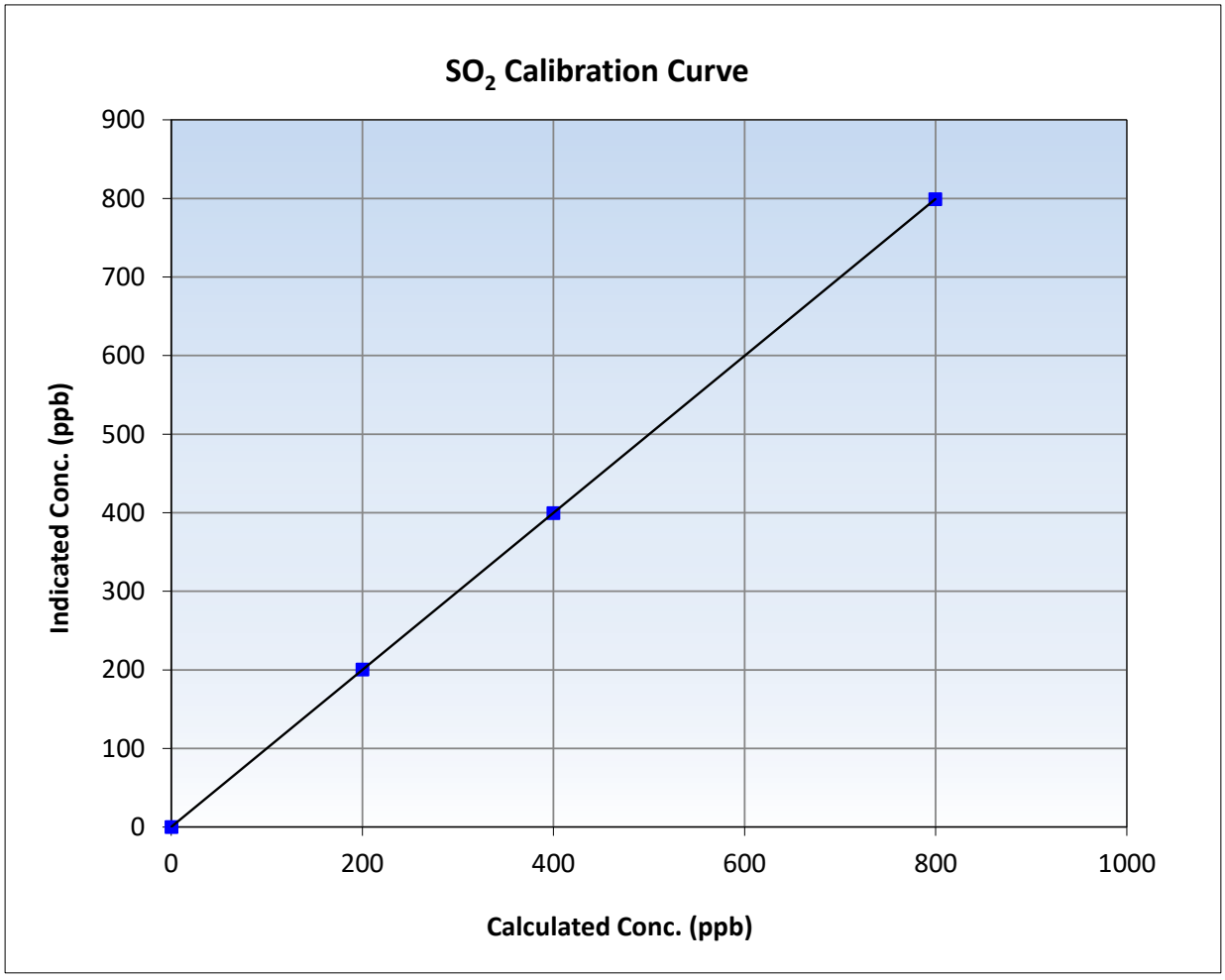
Station Information

Calibration Date:	November 13, 2025	Previous Calibration:	October 6, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	12:07	End Time (MST):	15:16
Analyzer make:	Thermo 43i	Analyzer serial #:	1410661308

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
799.2	798.7	1.0006
399.6	399.1	1.0013
199.8	200.3	0.9975

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	0.999159	*0.90 - 1.10*
Intercept	0.140000	*+/-30*



SO2 Calibration Plot Date: November 13, 2025 Location: Firebag

Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Firebag	Station number:	AMS 19
Calibration Date:	November 10, 2025	Last Cal Date:	October 7, 2025
Start time (MST):	10:41	End time (MST):	16:32
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:	0.980615	0.995046	Backgd or Offset:	2.66	2.87
Calibration intercept:	0.060000	0.080000	Coeff or Slope:	1.190	1.211

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	75.6	80.0	79.7	1.005
As found Mid point	4962	37.8	40.0	40.2	0.997
As found Low point	4981	18.9	20.0	20.1	1.000
New cylinder response					

Baseline Corr As found:	79.6	Prev response:	78.49	*% change:	1.4%
Baseline Corr 2nd AF pt:	40.1	AF Slope:	0.995189	AF Intercept:	0.200000
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	0.0	----
High point	4924	75.6	80.0	79.7	1.004
Mid point	4962	37.8	40.0	39.7	1.007
Low point	4981	18.9	20.0	20.2	0.990
As left zero	5000	0.0	0.0	0.1	----
As left span	4924	75.6	80.0	78.5	1.019
SO2 Scrubber Check				0.1	

Date of last scrubber change:	18-Jan-23	Ave Corr Factor	1.000
Date of last converter efficiency test:	November 26, 2024	106.2%	efficiency

Notes: Changed sample inlet filter after as founds. Adjusted zero and span. Scrubber check completed after as left zero.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

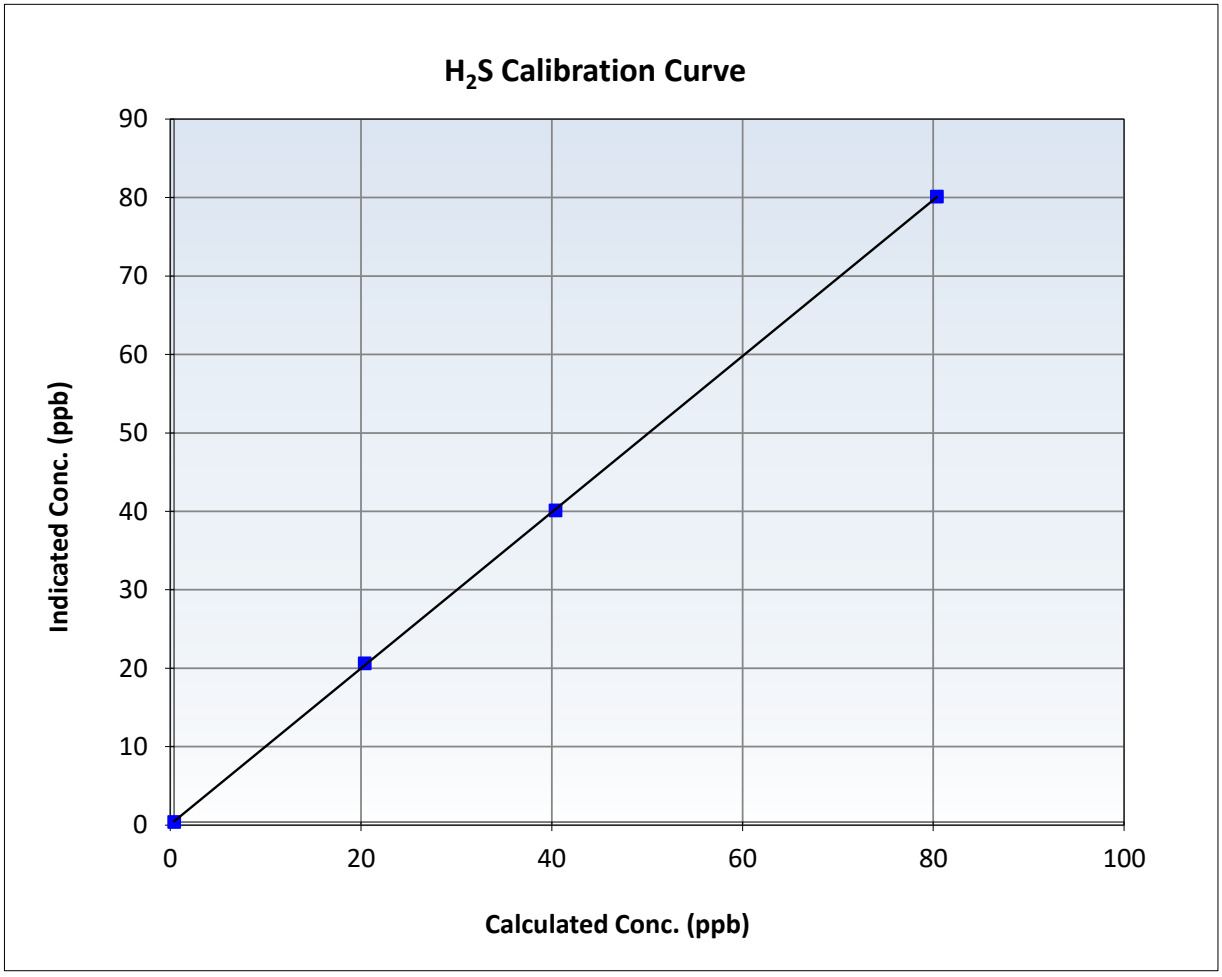
H2S Calibration Summary

Station Information

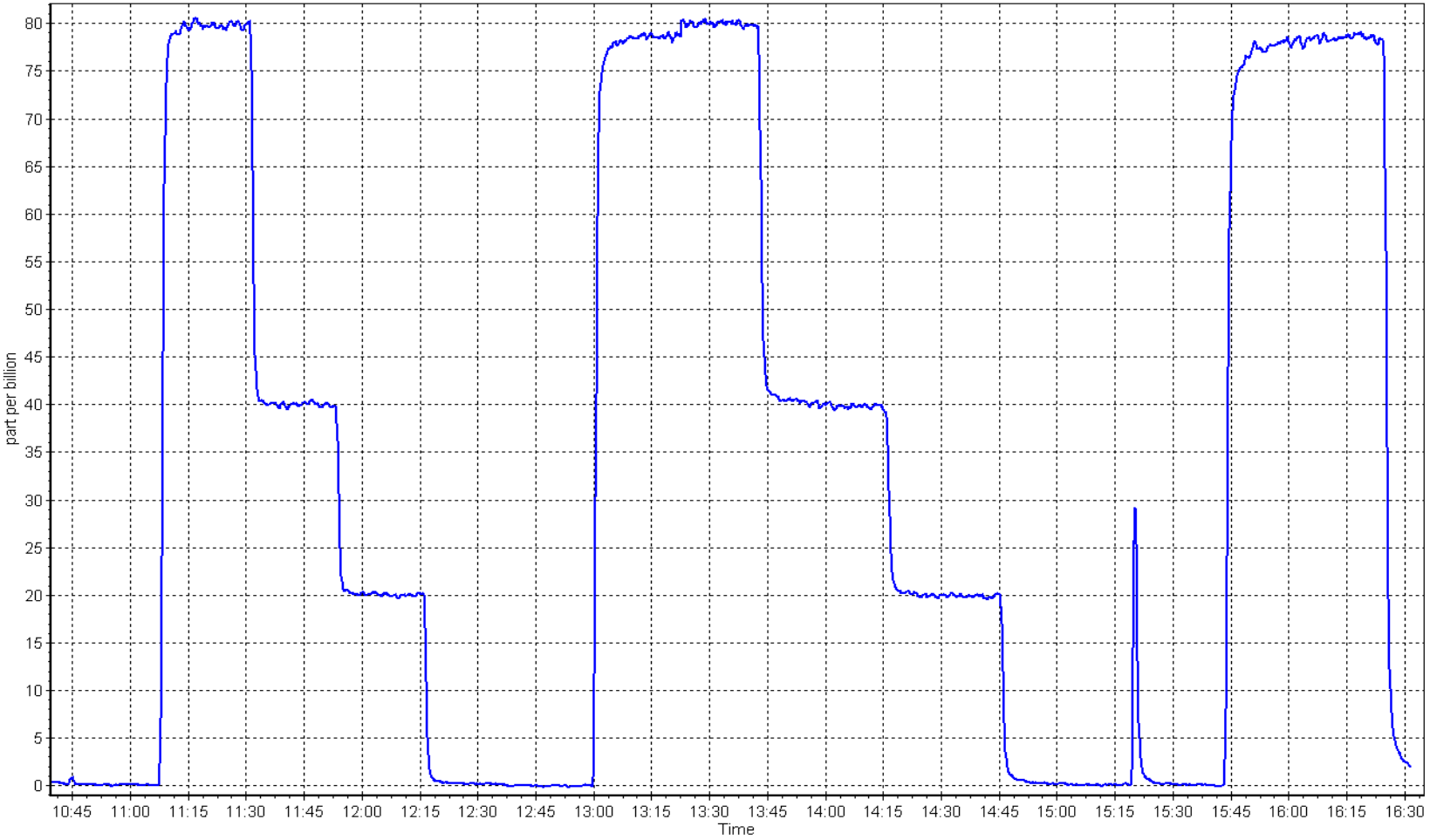
Calibration Date:	November 10, 2025	Previous Calibration:	October 7, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	10:41	End Time (MST):	16:32
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1151680032

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.0	----	Correlation Coefficient	0.999975	*≥0.995*
80.0	79.7	1.0036	Slope	0.995046	*0.90 - 1.10*
40.0	39.7	1.0074			
20.0	20.2	0.9899	Intercept	0.080000	*+/-3*



H2S Calibration Plot Date: November 10, 2025 Location: Firebag



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Firebag	Station number:	AMS 19
Calibration Date:	November 13, 2025	Last Cal Date:	October 6, 2025
Start time (MST):	12:07	End time (MST):	15:16
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:	0.995149	1.005458	Background:	2.16	2.09
Calibration intercept:	-0.015933	-0.096135	Coefficient:	3.860	3.902

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	-0.10	----
As found High point	4922	78.4	16.73	16.47	1.010
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	16.57	Previous response	16.63	*% 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	

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	-0.08	----
High point	4922	78.4	16.73	16.74	0.999
Mid point	4961	39.2	8.36	8.28	1.010
Low point	4980	19.6	4.18	4.12	1.016
As left zero	4999	0.0	0.00	-0.12	----
As left span	4922	78.4	16.73	16.73	1.000
				Average Correction Factor	1.009

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

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

THC Calibration Summary

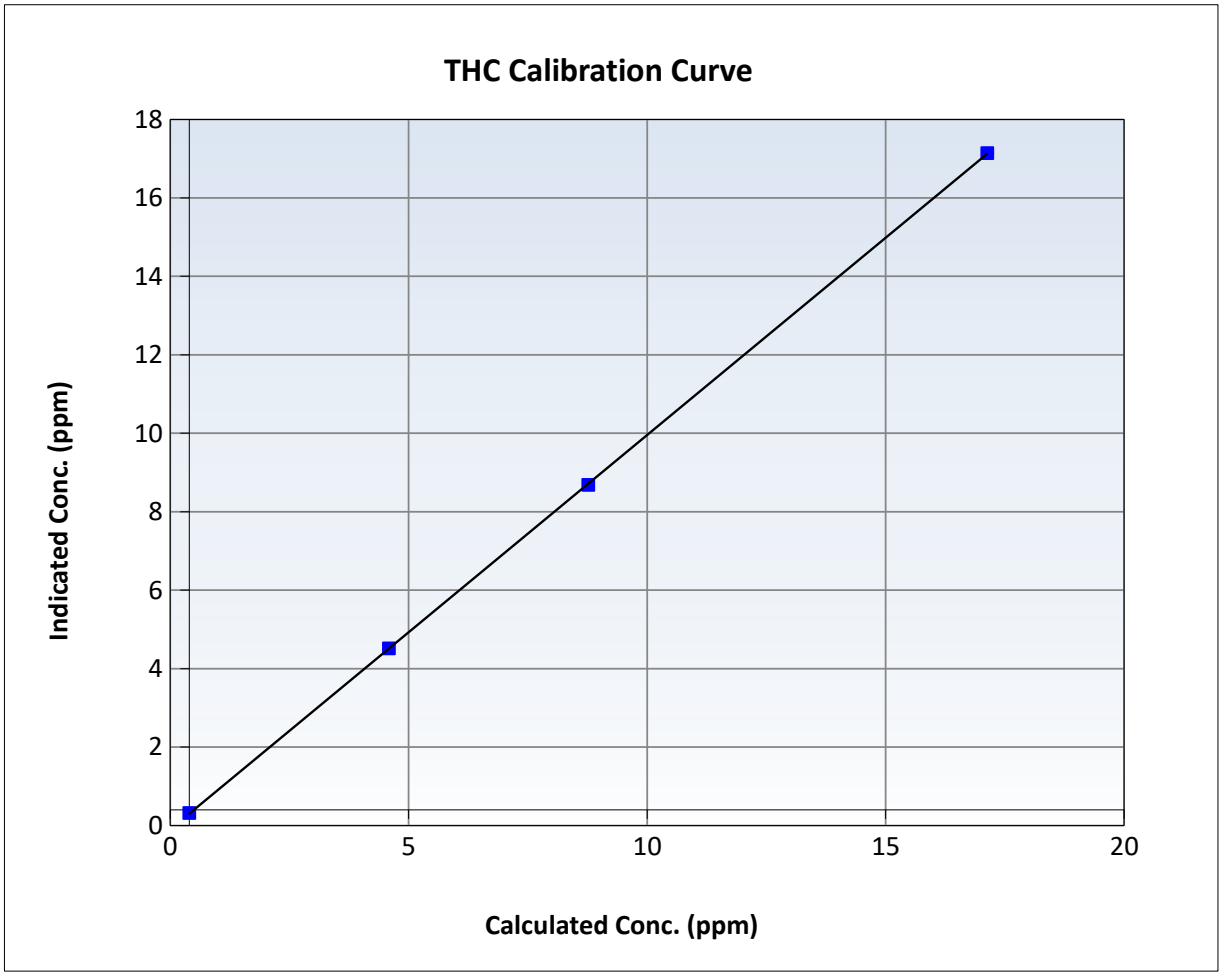
Station Information

Calibration Date:	November 13, 2025	Previous Calibration:	October 6, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	12:07	End Time (MST):	15:16
Analyzer make:	Thermo 51i-LT	Analyzer serial #:	1336160089

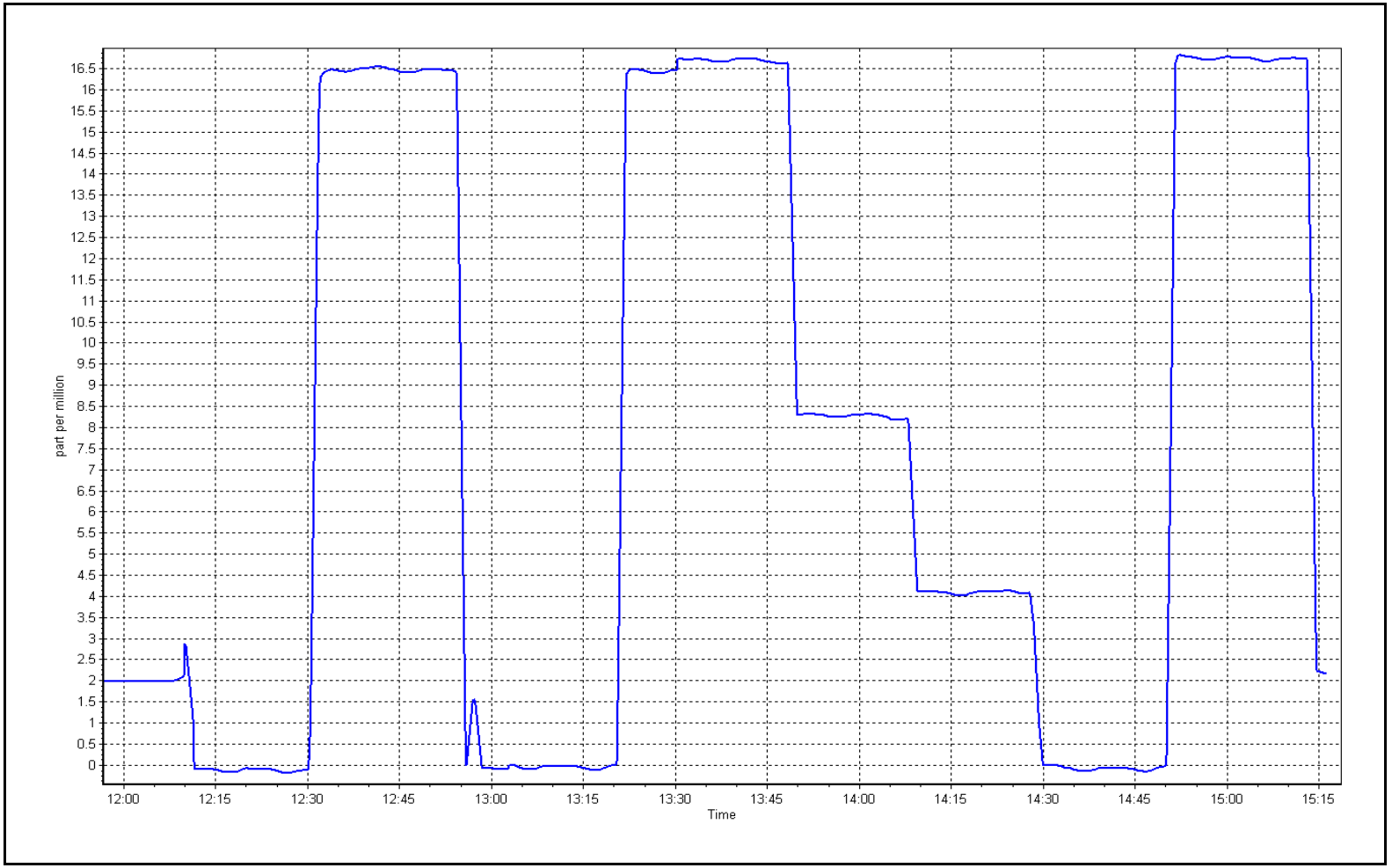
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	-0.08	----
16.73	16.74	0.9994
8.36	8.28	1.0102
4.18	4.12	1.0162

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999990	*≥0.995*
Slope	1.005458	*0.90 - 1.10*
Intercept	-0.096135	*+/-1.5*



THC Calibration Plot Date: November 13, 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:	November 12, 2025
Last Cal Date:	October 29, 2025
Start time (MST):	10:50
End time (MST):	16:02
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	0.1	----	----
AF High point	4918	82.1	802.9	799.7	3.3	806.0	800.0	6.0	0.9960	0.9993
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 802.8 ppb	NO = 799.1 ppb
Baseline Corr 1st pt	NO_X = 806.2 ppb	NO = 800.2 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

*Percent Change NO_X = 0.4%

*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 42i Serial Number: 1410661309

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.922	0.922	NO bkgnd or offset:	4.6	4.6
NOX coeff or slope:	0.993	0.993	NOX bkgnd or offset:	4.6	4.6
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	163.0	163.6

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.998175	0.999427
NO_X Cal Offset:	1.319743	1.179966
NO Cal Slope:	0.998416	1.000087
NO Cal Offset:	0.719909	0.459895
NO_2 Cal Slope:	1.003548	0.999118
NO_2 Cal Offset:	-0.371604	-0.454709

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	4918	82.1	802.9	799.7	3.3	803.0	799.8	2.9	0.9999	0.9998
Mid point	4959	41.1	402.0	400.3	1.6	403.6	401.3	2.3	0.9959	0.9975
Low point	4980	20.5	200.5	199.7	0.8	202.8	200.7	2.1	0.9886	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	393.6	409.3	805.0	393.6	411.7	0.9974	1.0000
							Average Correction Factor		0.9948	0.9974

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	799.1	391.8	410.6	410.0	1.0014	99.9%
Mid GPT point	799.1	597.2	205.2	204.4	1.0038	99.6%
Low GPT point	799.1	700.4	102.0	100.8	1.0117	98.8%
				Average Correction Factor	1.0057	99.4%

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

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

NO_X Calibration Summary

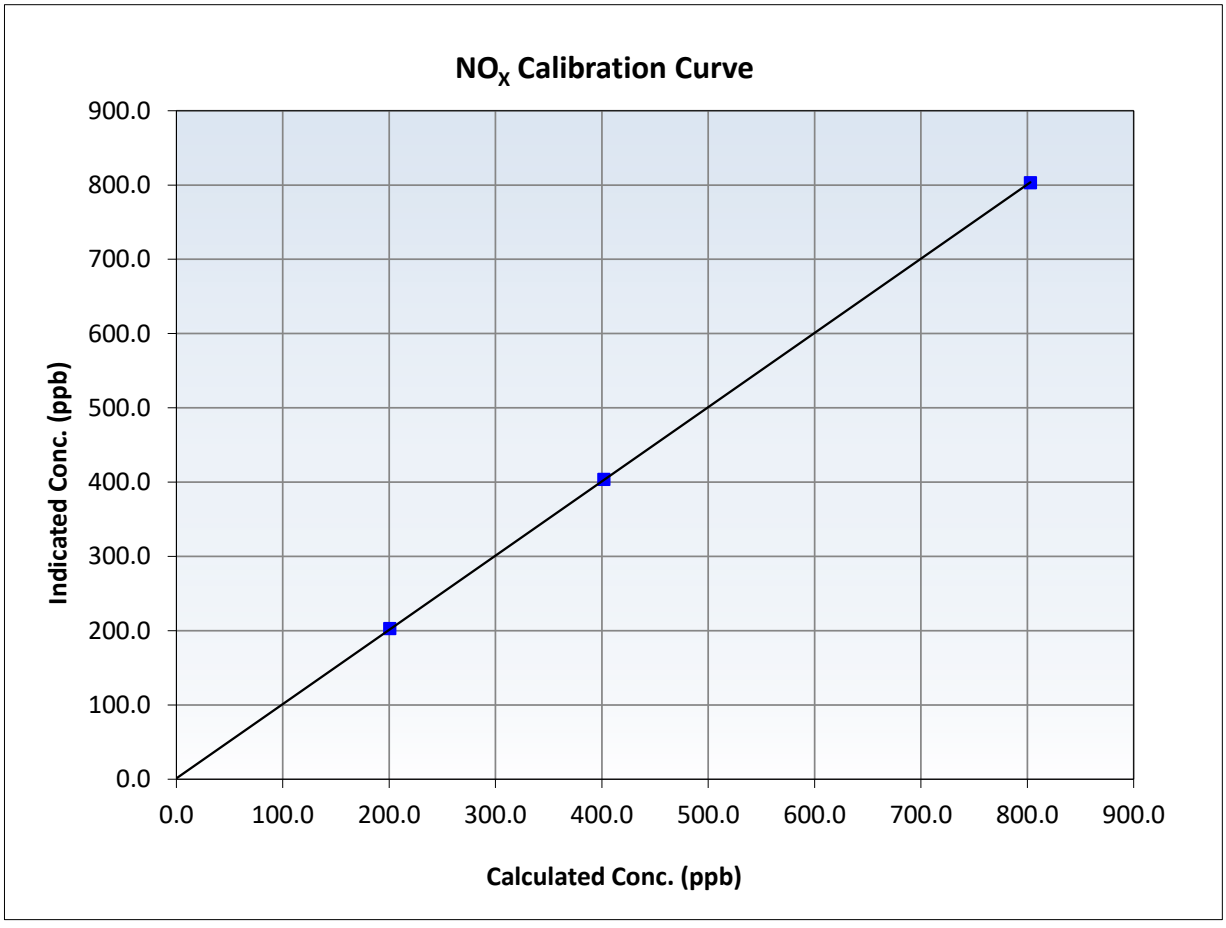
Station Information

Calibration Date:	November 12, 2025	Previous Calibration:	October 29, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	10:50	End Time (MST):	16:02
Analyzer make:	Thermo 42i	Analyzer serial #:	1410661309

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
802.9	803.0	0.9999
402.0	403.6	0.9959
200.5	202.8	0.9886

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999988	*≥0.995*
Slope	0.999427	*0.90 - 1.10*
Intercept	1.179966	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

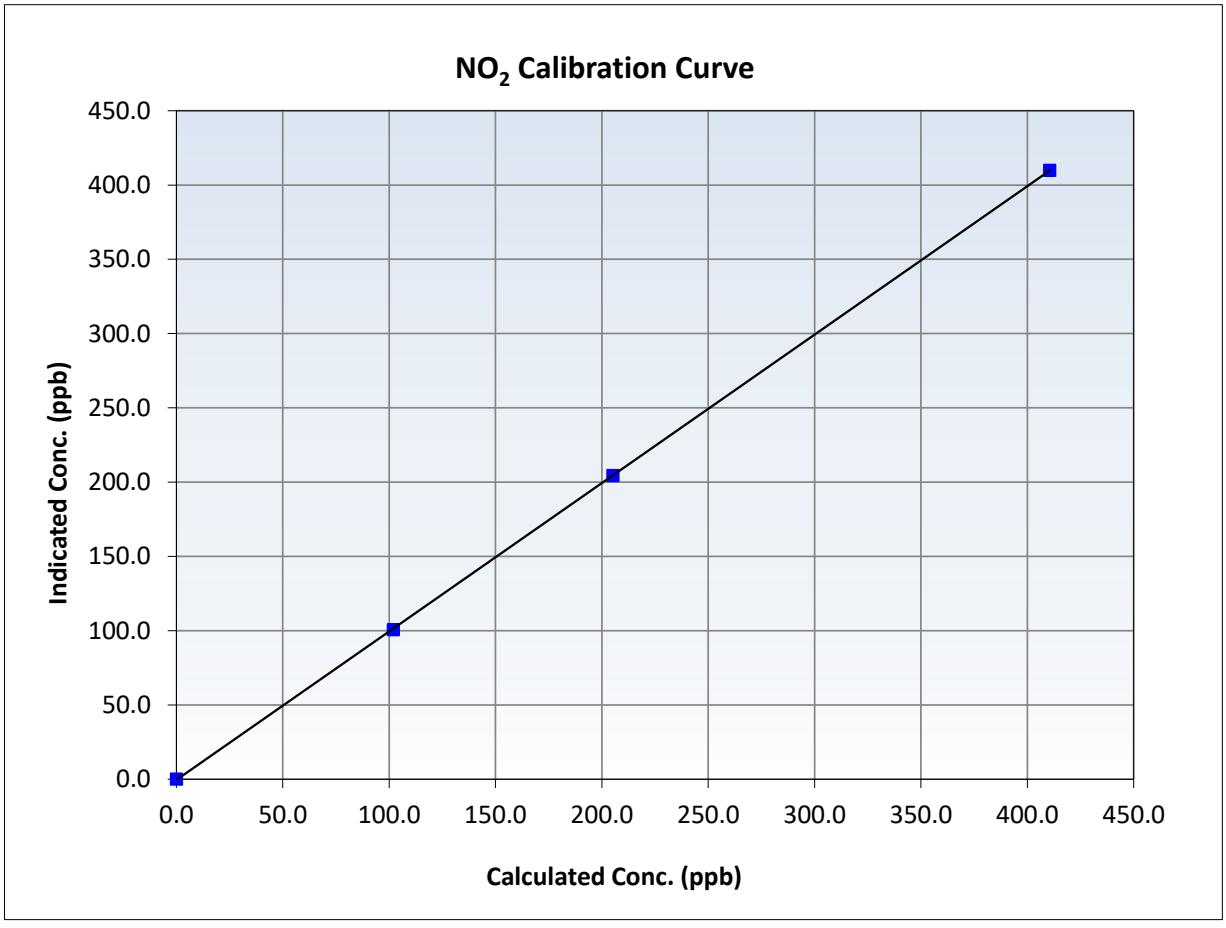
Station Information

Calibration Date:	November 12, 2025	Previous Calibration:	October 29, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	10:50	End Time (MST):	16:02
Analyzer make:	Thermo 42i	Analyzer serial #:	1410661309

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
410.6	410.0	1.0014
205.2	204.4	1.0038
102.0	100.8	1.0117

Statistical Evaluation		Limits
Correlation Coefficient	0.999991	≥0.995
Slope	0.999118	0.90 - 1.10
Intercept	-0.454709	+/-20



Wood Buffalo Environmental Association

NO Calibration Summary

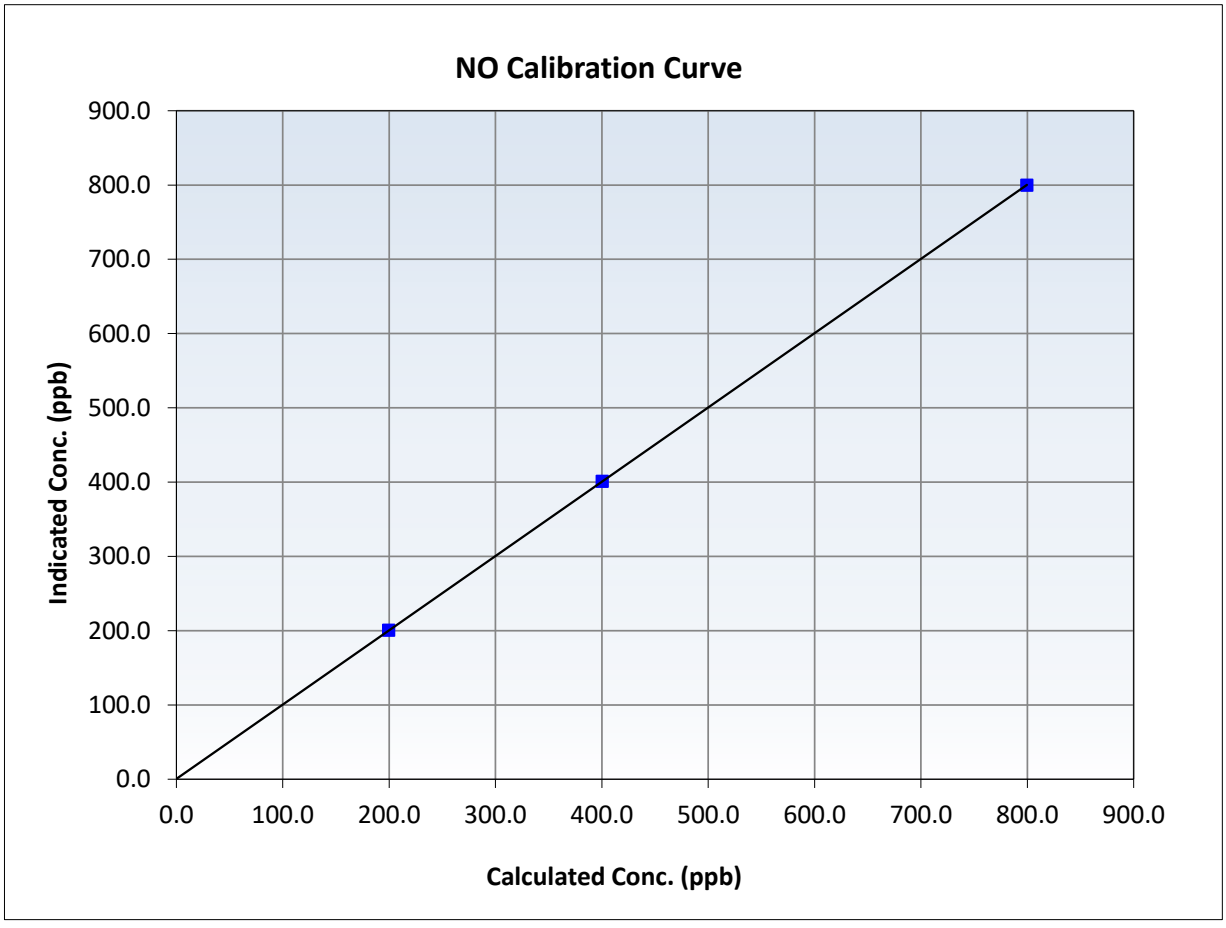
Station Information

Calibration Date:	November 12, 2025	Previous Calibration:	October 29, 2025
Station Name:	Firebag	Station Number:	AMS 19
Start Time (MST):	10:50	End Time (MST):	16:02
Analyzer make:	Thermo 42i	Analyzer serial #:	1410661309

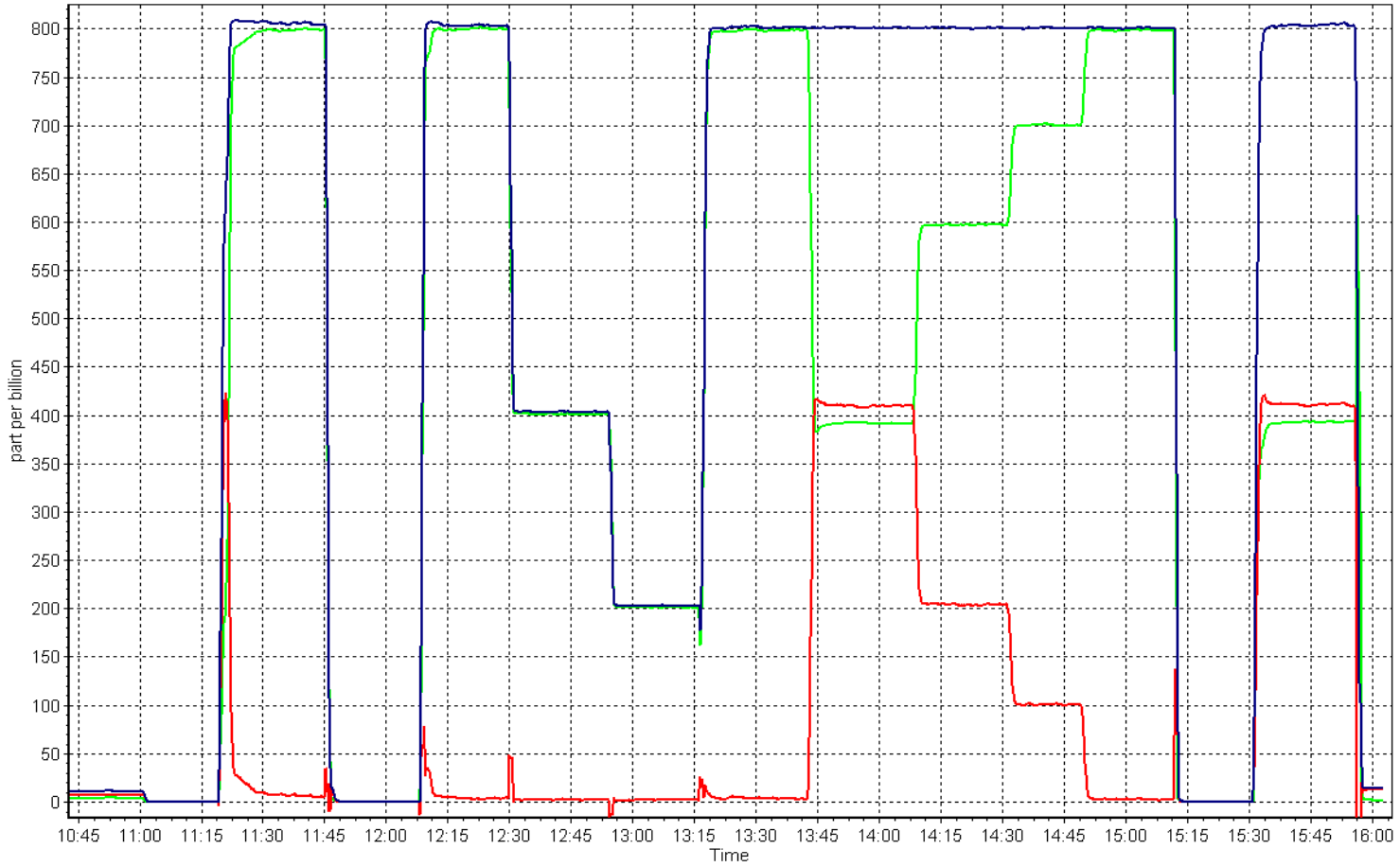
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
799.7	799.8	0.9998
400.3	401.3	0.9975
199.7	200.7	0.9949

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999997	*≥0.995*
Slope	1.000087	*0.90 - 1.10*
Intercept	0.459895	*+/-20*



NO_X Calibration Plot Date: November 12, 2025 Location: Firebag



Wood Buffalo Environmental Association

Wind Speed/Direction Calibration Report

Station Information

Station Name:	Firebag	Station Number:	AMS 19
Calibration Date:	November 12, 2025	Prev Cal Date:	October 9, 2024
Start Time (MST):	11:33	End Time (MST):	15:40 Removal
Tower Height (m):	10.0	Reason:	

Wind Speed Calibration

Sensor make/model:	Met One 010C-1	Serial Number:	W15276
WS Calibrator:	MetOne 053	Serial Number:	CA 03845

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

	Start	***Finish***	*Limits*
Correl Coeff (r^2)	1.000000		*≥0.9995*
Calculated slope	1.000759		*0.98 - 1.02*
Calculated intercept	-0.016136		*+/- 2*

Wind Direction Calibration

Sensor make/model:	Met One 020C-1	Serial Number:	P22885
As Found Declination (deg east of True North):	13	As Left Declination (deg east of True North):	13
Solar noon (MST):	13:10	Calc Declination*:	13 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	16.5	1.8%
90	92.2	0.6%
180	183.2	0.9%
270	284.3	4.0%
350	368.7	5.2%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)	0.999977	0.999547	*≥0.9995*
Calculated slope	1.001824	0.958186	*0.97 - 1.03*
Calculated intercept	-1.849285	-1.085588	*+/- 5*

Notes: Verified WD sensor, removed due to inaccurate readings.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

Wind Speed/Direction Calibration Report

Station Information

Station Name:	Firebag	Station Number:	AMS 19
Calibration Date:	November 12, 2025	Prev Cal Date:	October 9, 2024
Start Time (MST):	11:33	End Time (MST):	15:40
Tower Height (m):	10.0	Reason:	Routine

Wind Speed Calibration

Sensor make/model:	Met One 010C-1	Serial Number:	W15276
WS Calibrator:	MetOne 053	Serial Number:	CA 03845

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	0.4%
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)	1.000000	1.000000	*≥0.9995*
Calculated slope	1.000759	0.999307	*0.98 - 1.02*
Calculated intercept	-0.016136	-0.025223	*+/- 2*

Wind Direction Calibration

Sensor make/model:	Met One 020C-1	Serial Number:	P22885
As Found Declination (deg east of True North):	13	As Left Declination (deg east of True North):	13
Solar noon (MST):	13:10	Calc Declination*:	13 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	10.6	0.2%
90	92.2	0.6%
180	182.0	0.6%
270	274.9	1.4%
350	353.2	0.9%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)	0.999977	0.999974	*≥0.9995*
Calculated slope	1.001824	0.990825	*0.97 - 1.03*
Calculated intercept	-1.849285	-0.912774	*+/- 5*

Notes: Replaced wind direction sensor. Verified WS readings. Aligned with previous marking and compass.

Calibration Performed By: Braiden Boutilier

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS20
MACKAY RIVER
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	MacKay River	Station number:	AMS 20
Calibration Date:	November 10, 2025	Last Cal Date:	October 16, 2025
Start time (MST):	7:26	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:	0.995748	0.997334	Backgd or Offset:	20.4	20.4
Calibration intercept:	0.303078	-0.376941	Coeff or Slope:	0.932	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	0.0	----
As found High point	4919	81.4	800.1	796.6	1.004
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	796.6	Previous response	797.0	*% 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	4919	81.4	800.1	797.9	1.003
Mid point	4959	40.7	400.1	398.3	1.005
Low point	4980	20.3	199.5	198.1	1.007
As left zero	5000	0.0	0.0	0.1	----
As left span	4919	81.4	800.1	798.4	1.002
				Average Correction Factor:	1.005

Notes: Changed Averaging time from 60 to 90 sec. No adjustments done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

SO_2 Calibration Summary

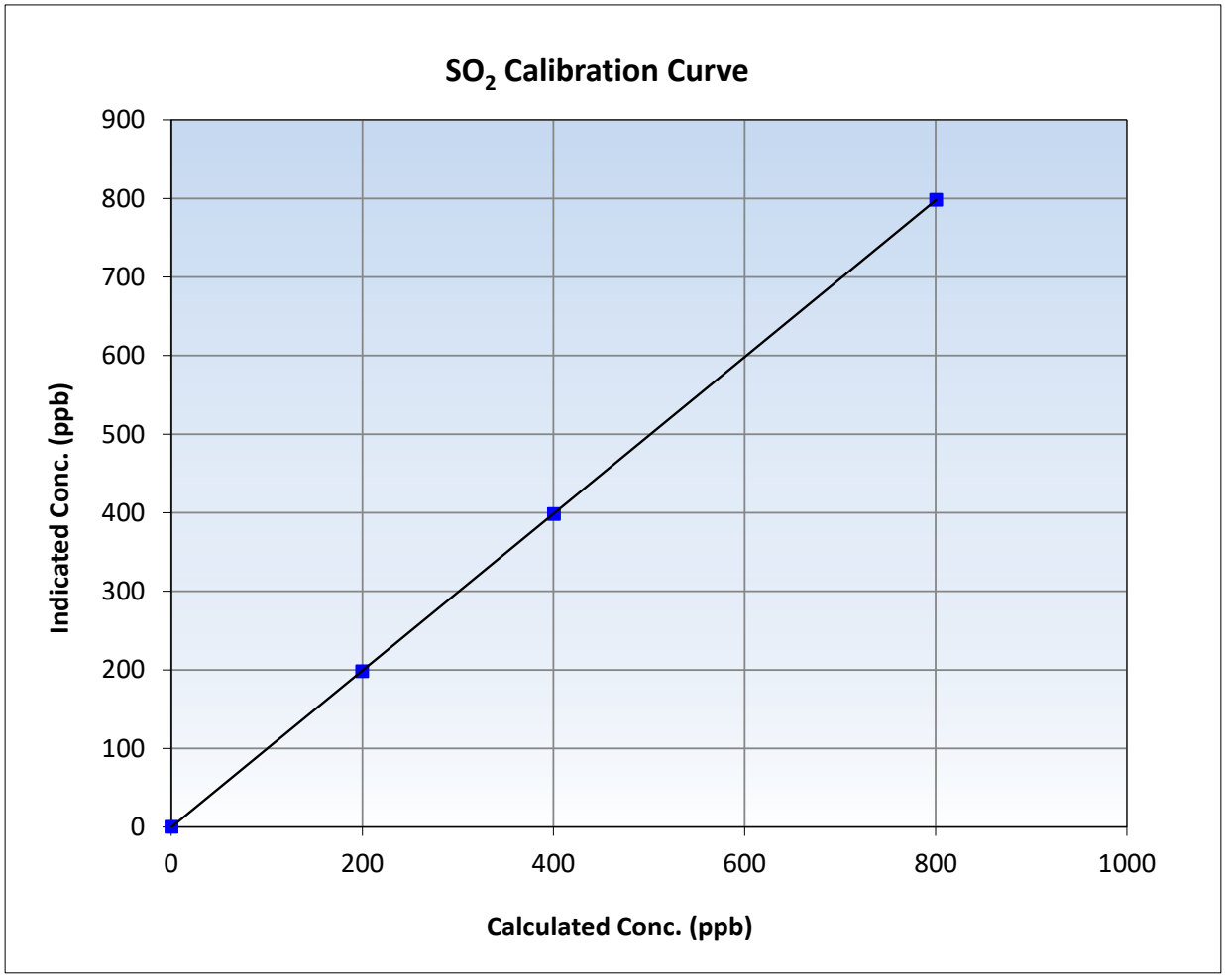
Station Information

Calibration Date:	November 10, 2025	Previous Calibration:	October 16, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	7:26	End Time (MST):	10:06
Analyzer make:	Thermo 43i	Analyzer serial #:	1501301450

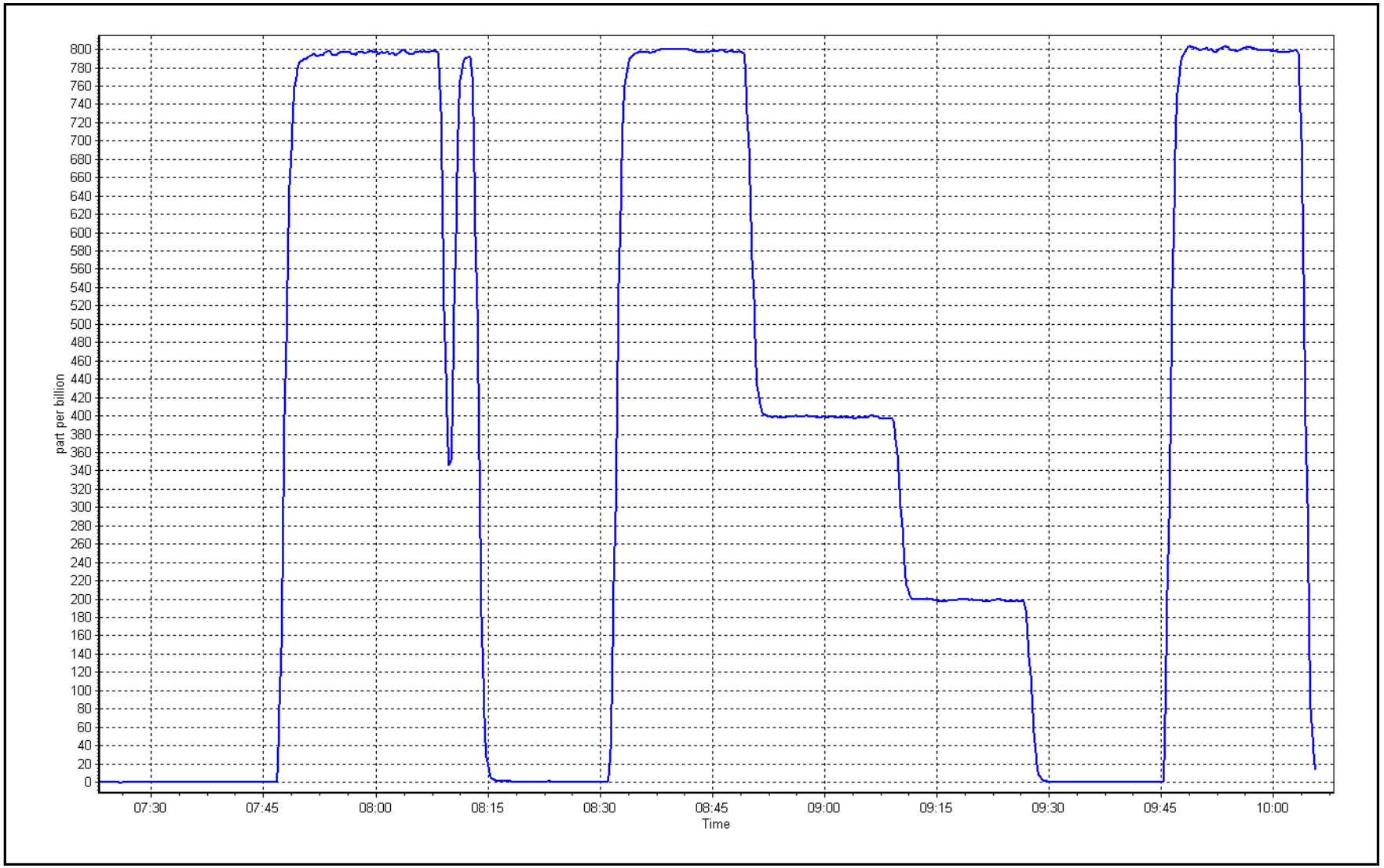
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
800.1	797.9	1.0028
400.1	398.3	1.0045
199.5	198.1	1.0073

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	0.997334	*0.90 - 1.10*
Intercept	-0.376941	*+/-30*



SO2 Calibration Plot Date: November 10, 2025 Location: MacKay River



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	MacKay River	Station number:	AMS 20
Calibration Date:	November 6, 2025	Last Cal Date:	October 15, 2025
Start time (MST):	6:55	End time (MST):	10:52
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:	1.003598	1.006030	Backgd or Offset:	3.77	3.77
Calibration intercept:	-0.020530	0.019450	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	40.7	0.979
As found Low point	4980	19.5	20.0	20.2	0.984
New cylinder response					

Baseline Corr As found:	81.6	Prev response:	80.24	*% change:	1.7%
Baseline Corr 2nd AF pt:	40.8	AF Slope:	1.020747	AF Intercept:	-0.120224
Baseline Corr 3rd AF pt:	20.3	AF Correlation:	0.999998	* = > +/-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	4922	78.1	80.0	80.5	0.993
Mid point	4961	39.0	39.9	40.1	0.996
Low point	4980	19.5	20.0	20.2	0.989
As left zero	5000	0.0	0.0	0.1	----
As left span	4922	78.1	80.0	79.8	1.002
SO2 Scrubber Check	4982	81.3	802.8	0.0	----
Date of last scrubber change:		25-May-23		Ave Corr Factor	0.993
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

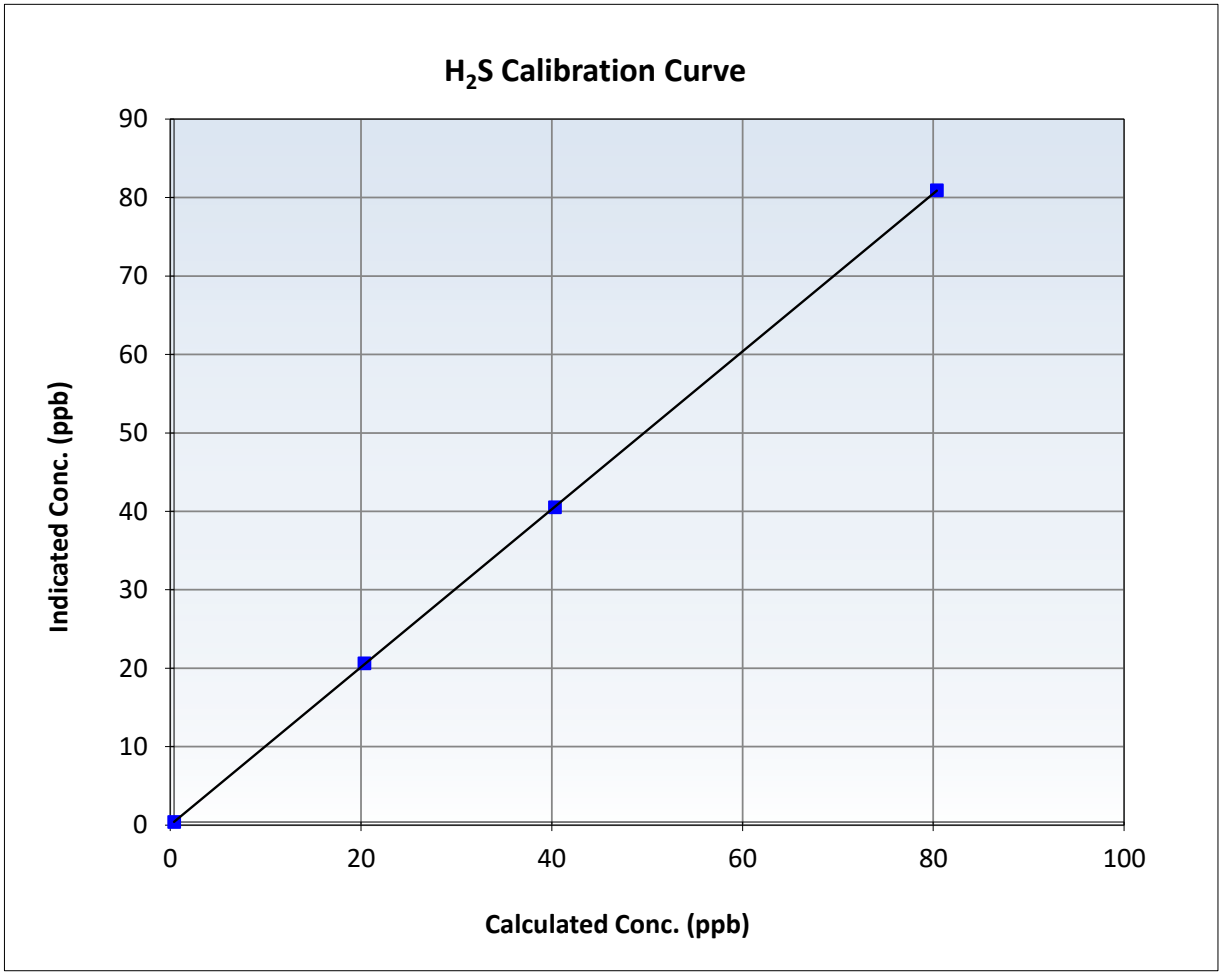
H_2S Calibration Summary

Station Information

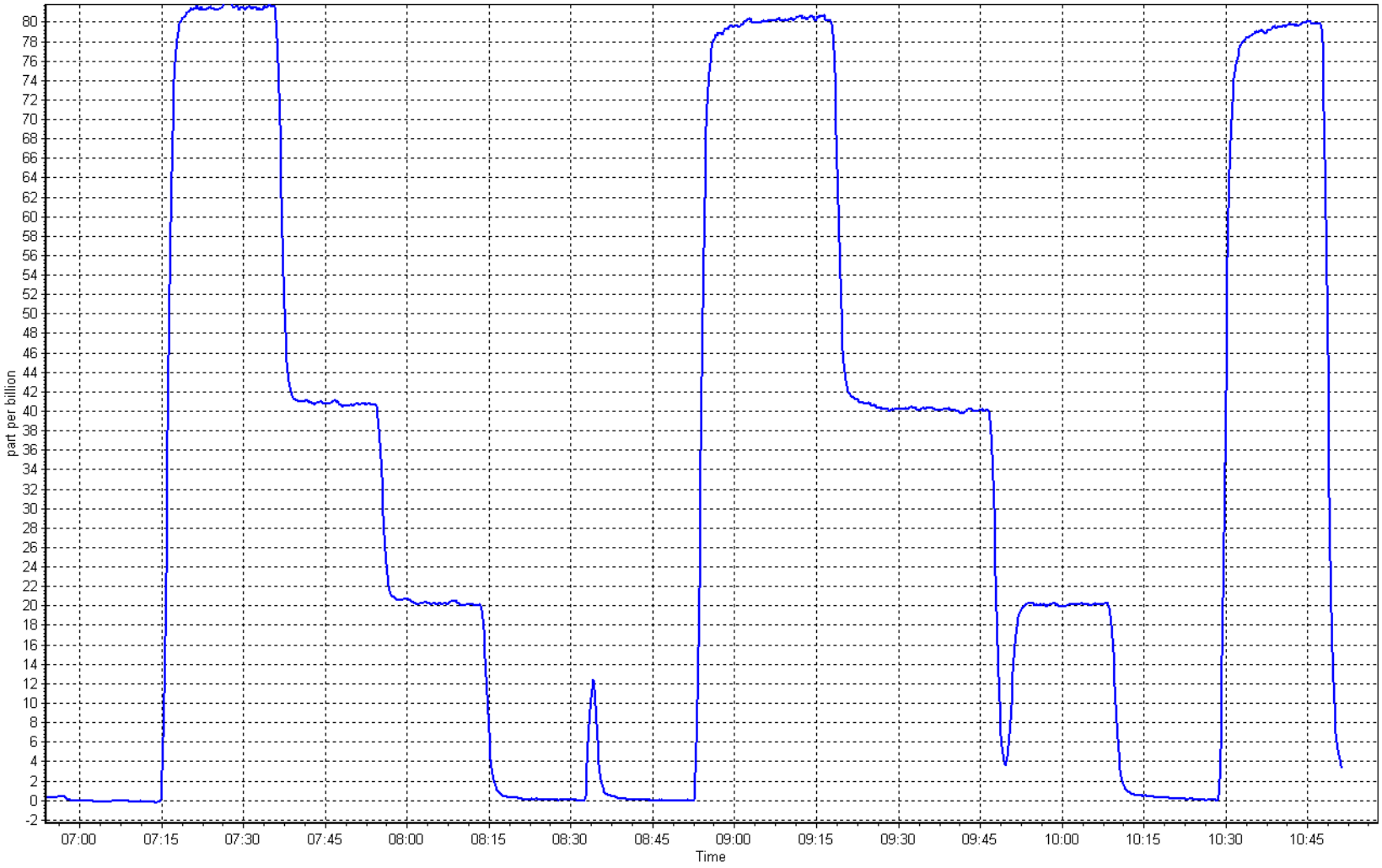
Calibration Date:	November 6, 2025	Previous Calibration:	October 15, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	6:55	End Time (MST):	10:52
Analyzer make:	Thermo 43i TLE	Analyzer serial #:	1236656117

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	80.5	0.9935	Slope	1.006030	*0.90 - 1.10*
39.9	40.1	0.9959			
20.0	20.2	0.9886	Intercept	0.019450	*+/-3*



H_2S Calibration Plot Date: November 6, 2025 Location: MacKay River



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	MacKay River	Station number:	AMS 20
Calibration Date:	November 10, 2025	Last Cal Date:	October 16, 2025
Start time (MST):	7:28	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:	0.994146	0.994780	Background:	2.990	2.990
Calibration intercept:	0.003372	-0.067227	Coefficient:	5.000	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	-0.01	----
As found High point	4919	81.4	17.46	17.38	1.004
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	17.39	Previous response	17.36	*% 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	

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	4919	81.4	17.46	17.32	1.008
Mid point	4959	40.7	8.73	8.61	1.015
Low point	4980	20.3	4.35	4.23	1.030
As left zero	5000	0.0	0.00	-0.12	----
As left span	4919	81.4	17.46	17.39	1.004
				Average Correction Factor	1.018

Notes: No Maintenance or adjustments done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

THC Calibration Summary

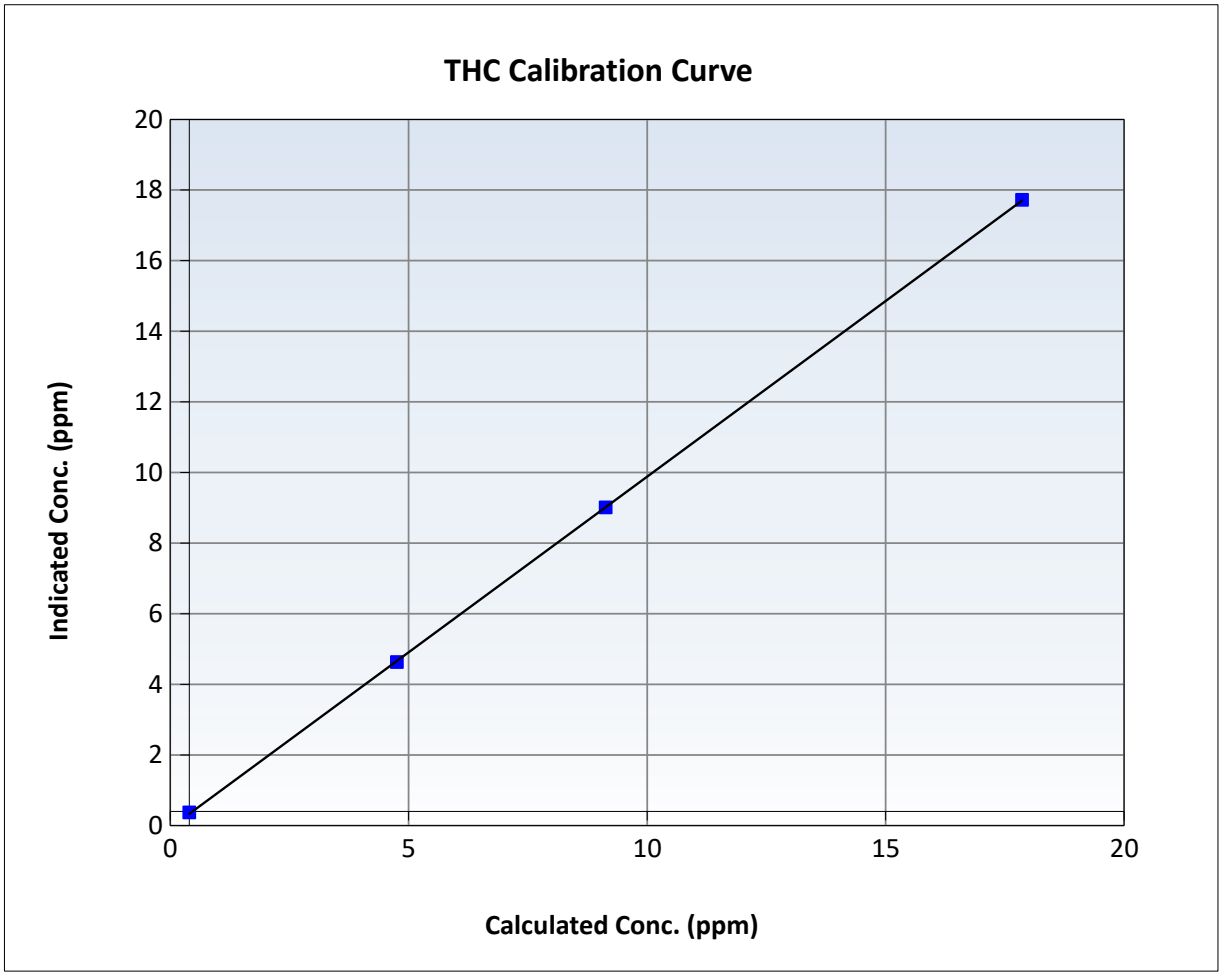
Station Information

Calibration Date:	November 10, 2025	Previous Calibration:	October 16, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	7:28	End Time (MST):	10:05
Analyzer make:	Thermo 51i-LT	Analyzer serial #:	1501663727

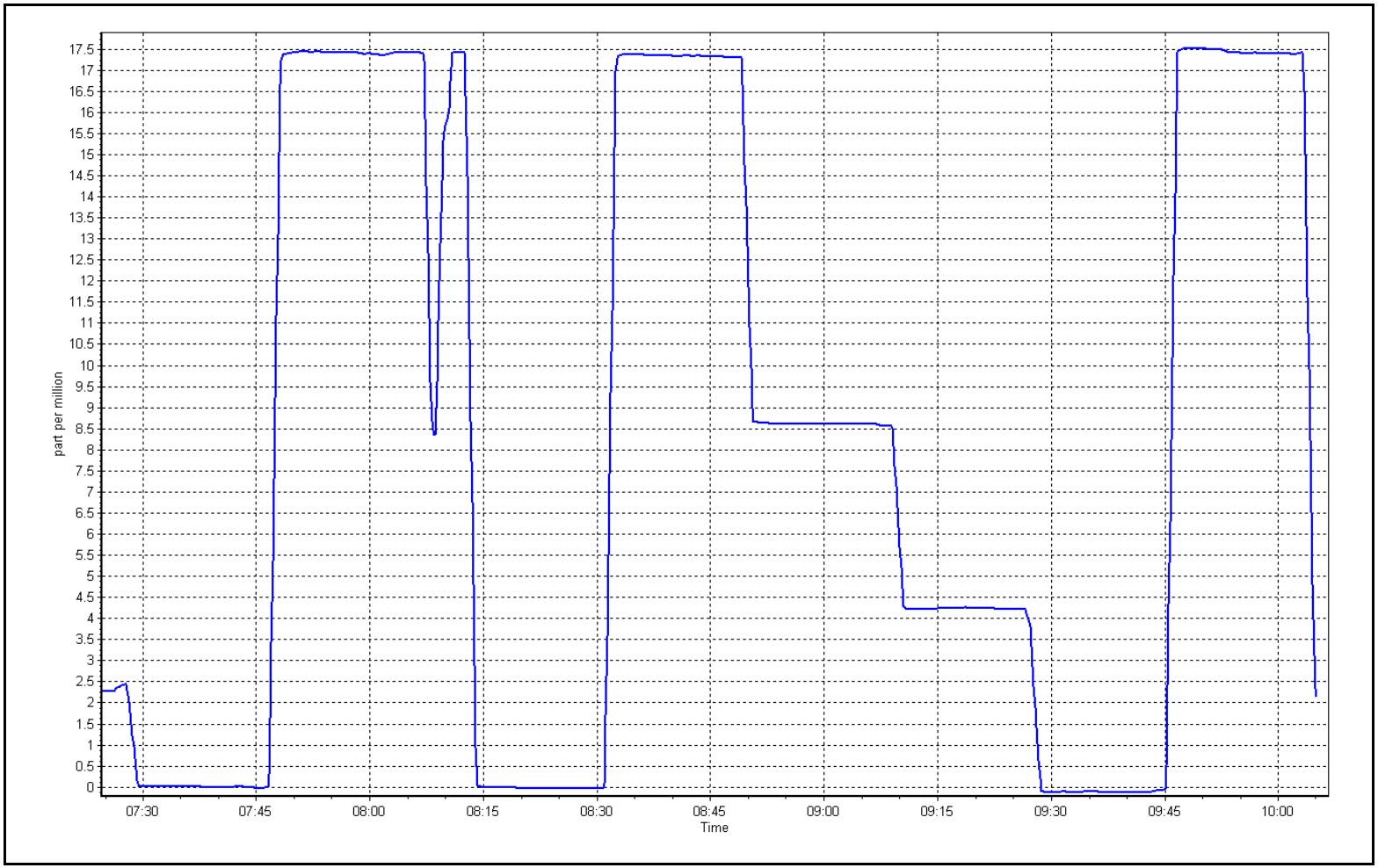
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	-0.03	----
17.46	17.32	1.0083
8.73	8.61	1.0146
4.35	4.23	1.0298

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999983	*≥0.995*
Slope	0.994780	*0.90 - 1.10*
Intercept	-0.067227	*+/-1.5*



THC Calibration Plot Date: November 10, 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:	November 7, 2025
Last Cal Date:	October 9, 2025
Start time (MST):	8:14
End time (MST):	12:14
Reason:	Routine

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	0.3	-0.2	----	----
AF High point	4935	64.6	801.1	799.8	1.3	786.8	792.7	-5.9	1.0183	1.0094
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 800.5 ppb	NO = 800.5 ppb
Baseline Corr 1st pt	NO_X = 786.7 ppb	NO = 792.4 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 = -1.8%

*Percent Change NO = -1.0%

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: 1505164379

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.033	1.043	NO bkgnd or offset:	2.9	2.9
NOX coeff or slope:	0.988	1.000	NOX bkgnd or offset:	3.1	3.2
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	148.6	148.6

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.998314	0.997714
NO_X Cal Offset:	0.773119	0.433494
NO Cal Slope:	1.001682	0.997982
NO Cal Offset:	-0.666357	0.353813
NO_2 Cal Slope:	0.994991	1.005007
NO_2 Cal Offset:	-1.666155	-0.185055

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	-0.2	----	----
High point	4935	64.6	801.1	799.8	1.3	799.3	798.3	1.0	1.0023	1.0019
Mid point	4968	32.3	400.5	399.9	0.6	400.9	400.0	0.8	0.9990	0.9996
Low point	4984	16.2	200.9	200.5	0.3	200.7	200.3	0.4	1.0009	1.0012
As left zero	5000	0.0	0.0	0.0	0.0	0.1	0.2	-0.1	----	----
As left span	4935	64.6	801.1	416.4	384.7	802.6	416.4	386.2	0.9981	1.0000
							Average Correction Factor		1.0007	1.0009

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	794.2	414.8	380.7	382.5	0.9953	100.5%
Mid GPT point	794.2	602.5	193.0	193.5	0.9974	100.3%
Low GPT point	794.2	697.4	98.1	98.6	0.9948	100.5%
				Average Correction Factor	0.9958	100.4%

Notes: No Maintenance done. Span adjusted.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

NO_X Calibration Summary

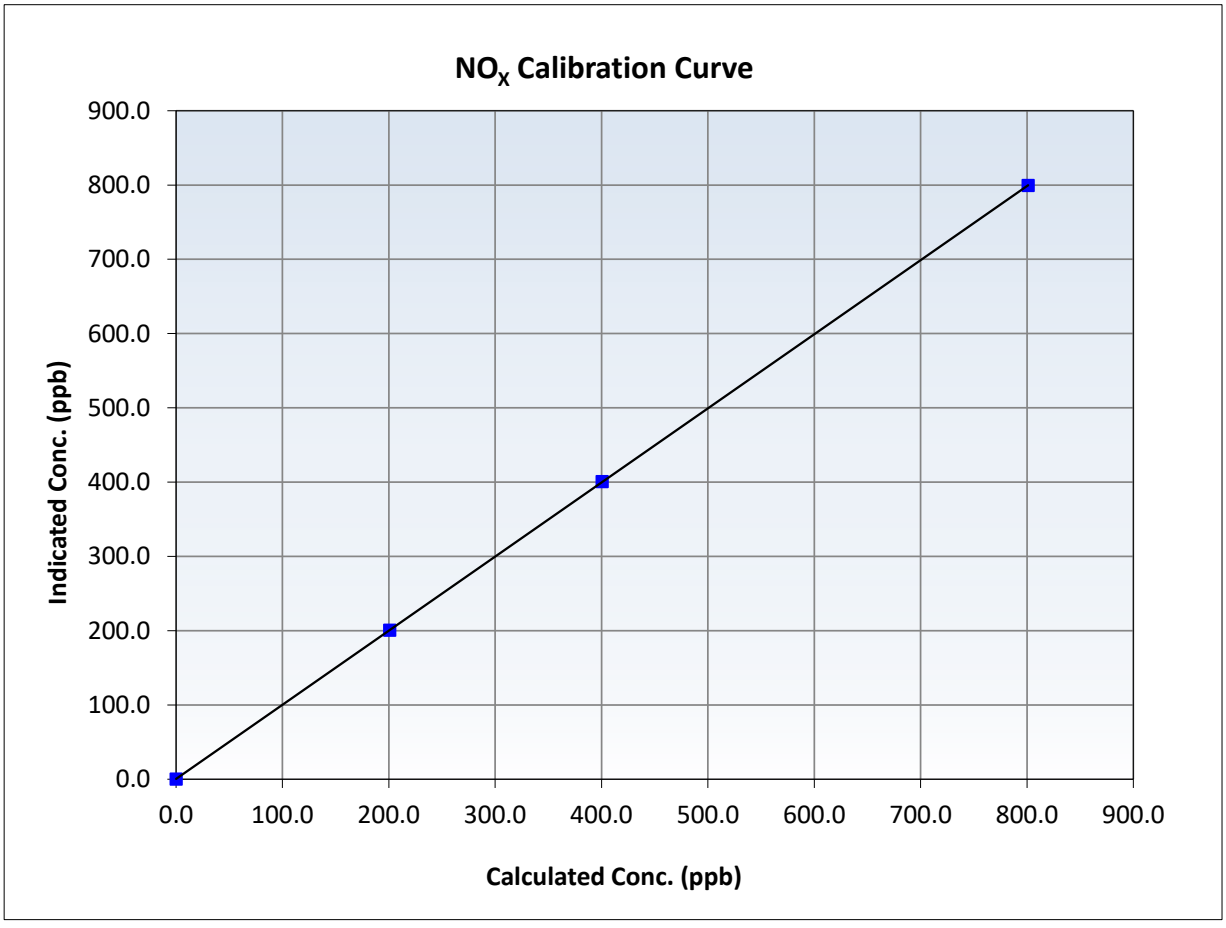
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 9, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	8:14	End Time (MST):	12:14
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	799.3	1.0023
400.5	400.9	0.9990
200.9	200.7	1.0009

Statistical Evaluation		Limits
Correlation Coefficient	0.999997	≥0.995
Slope	0.997714	0.90 - 1.10
Intercept	0.433494	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

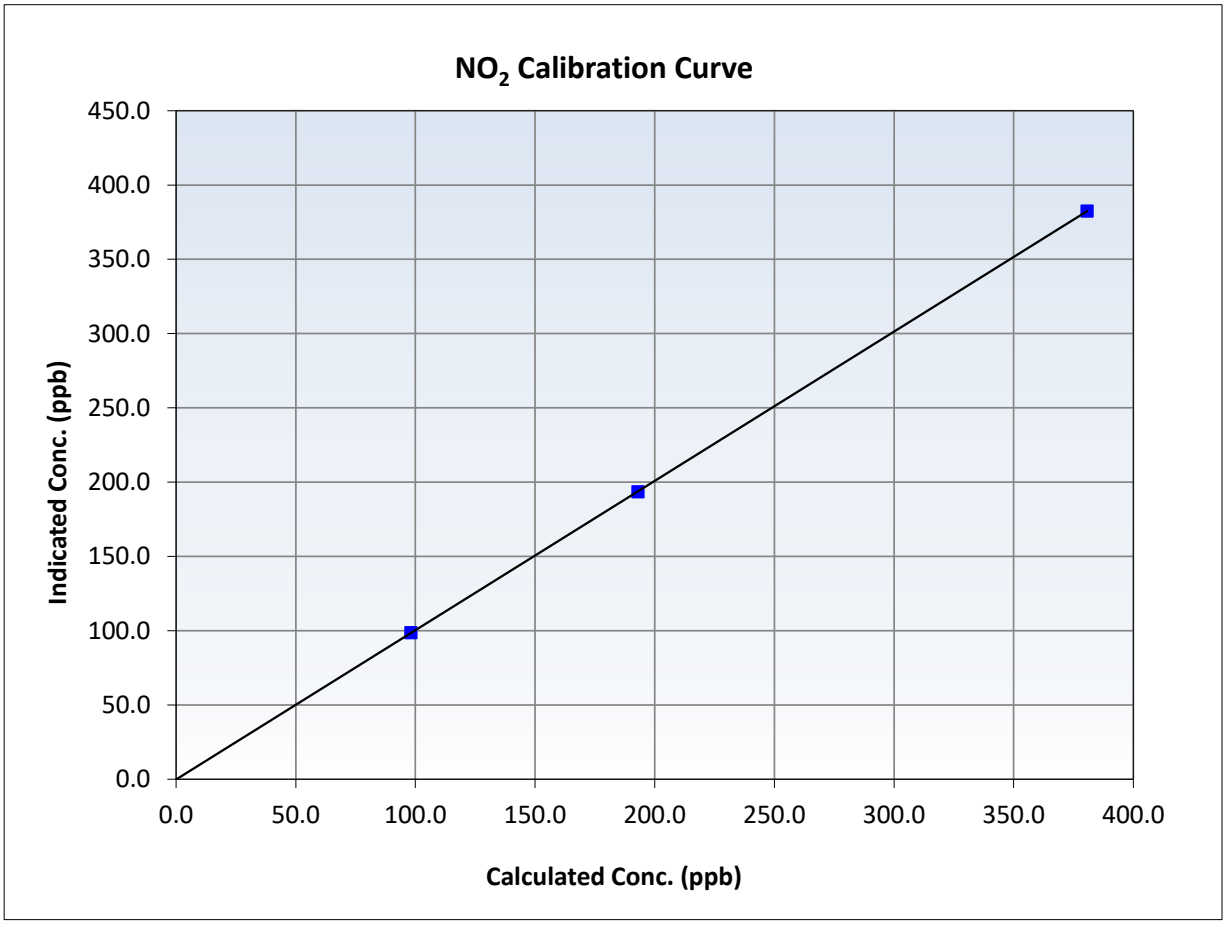
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 9, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	8:14	End Time (MST):	12:14
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	-0.2	----
380.7	382.5	0.9953
193.0	193.5	0.9974
98.1	98.6	0.9948

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	1.005007	*0.90 - 1.10*
Intercept	-0.185055	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

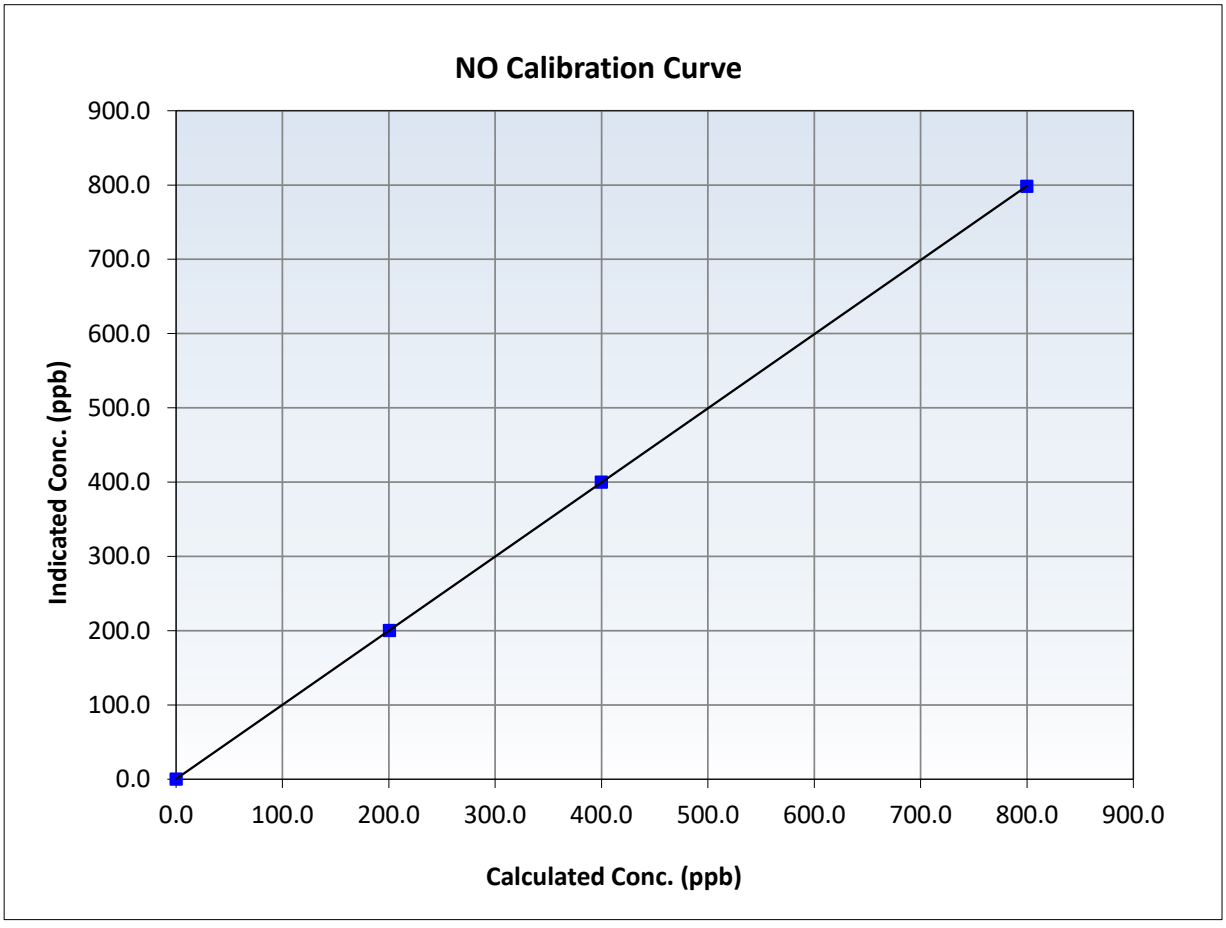
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 9, 2025
Station Name:	MacKay River	Station Number:	AMS 20
Start Time (MST):	8:14	End Time (MST):	12:14
Analyzer make:	Thermo 42i	6:50:00 AM	1505164379

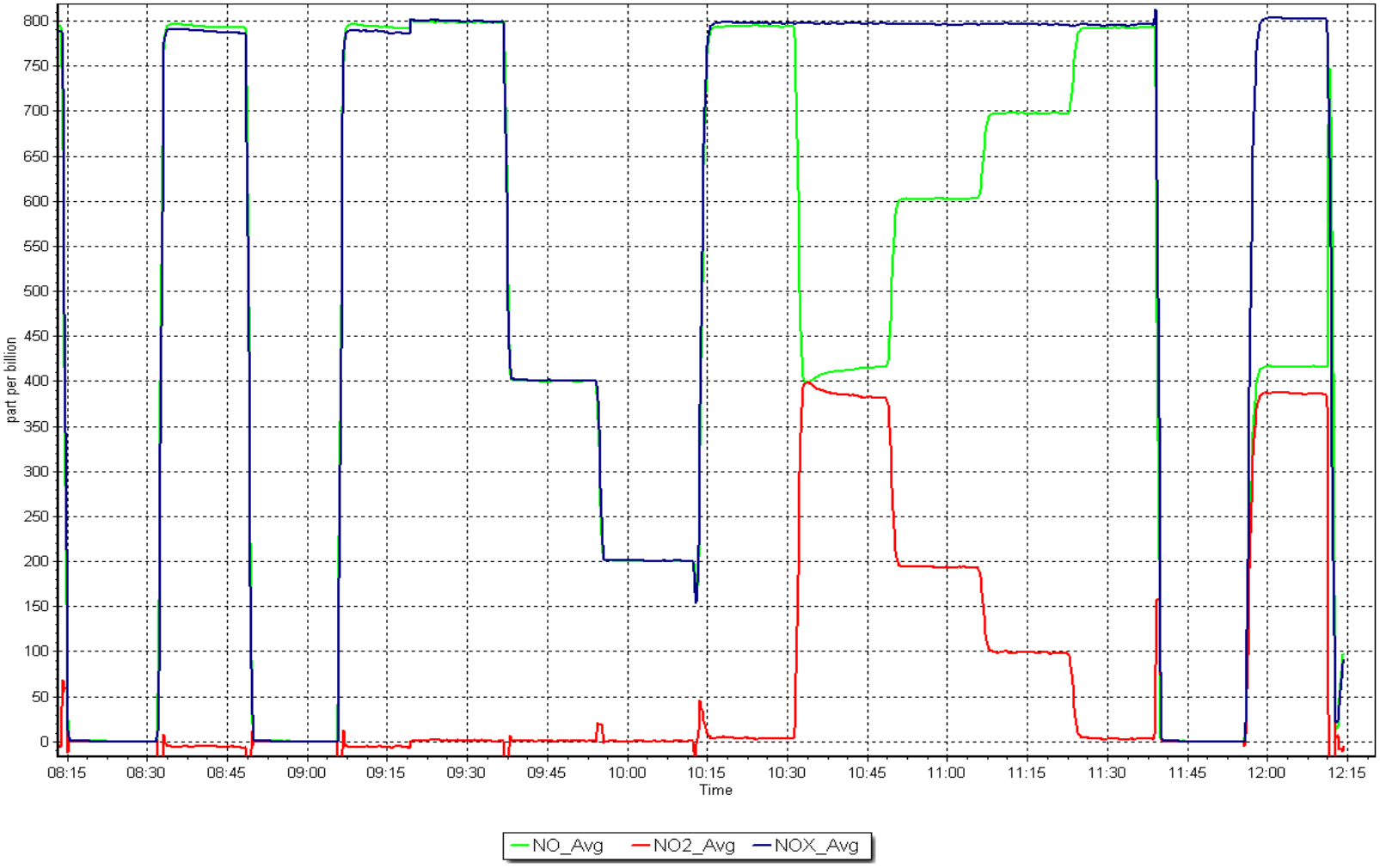
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
799.8	798.3	1.0019
399.9	400.0	0.9996
200.5	200.3	1.0012

Statistical Evaluation		Limits
Correlation Coefficient	0.999999	≥0.995
Slope	0.997982	0.90 - 1.10
Intercept	0.353813	+/-20



NO_X Calibration Plot Date: November 7, 2025 Location: MacKay River



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS21
CONKLIN
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Conklin	Station number:	AMS 21
Calibration Date:	November 4, 2025	Last Cal Date:	October 15, 2025
Start time (MST):	10:51	End time (MST):	13:51
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:	0.994307	1.002589	Backgd or Offset:	29.9	30.2
Calibration intercept:	2.718110	2.316463	Coeff or Slope:	0.891	0.905

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	79.5	800.3	790.3	1.013
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	790.4	Previous response	798.5	*% 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	0.1	----
High point	4921	79.5	800.3	804.0	0.995
Mid point	4960	39.8	400.7	404.0	0.992
Low point	4980	19.9	200.4	206.2	0.972
As left zero	5000	0.0	0.0	0.1	----
As left span	4921	79.5	800.3	804.0	0.995
				Average Correction Factor:	0.986

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

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

SO_2 Calibration Summary

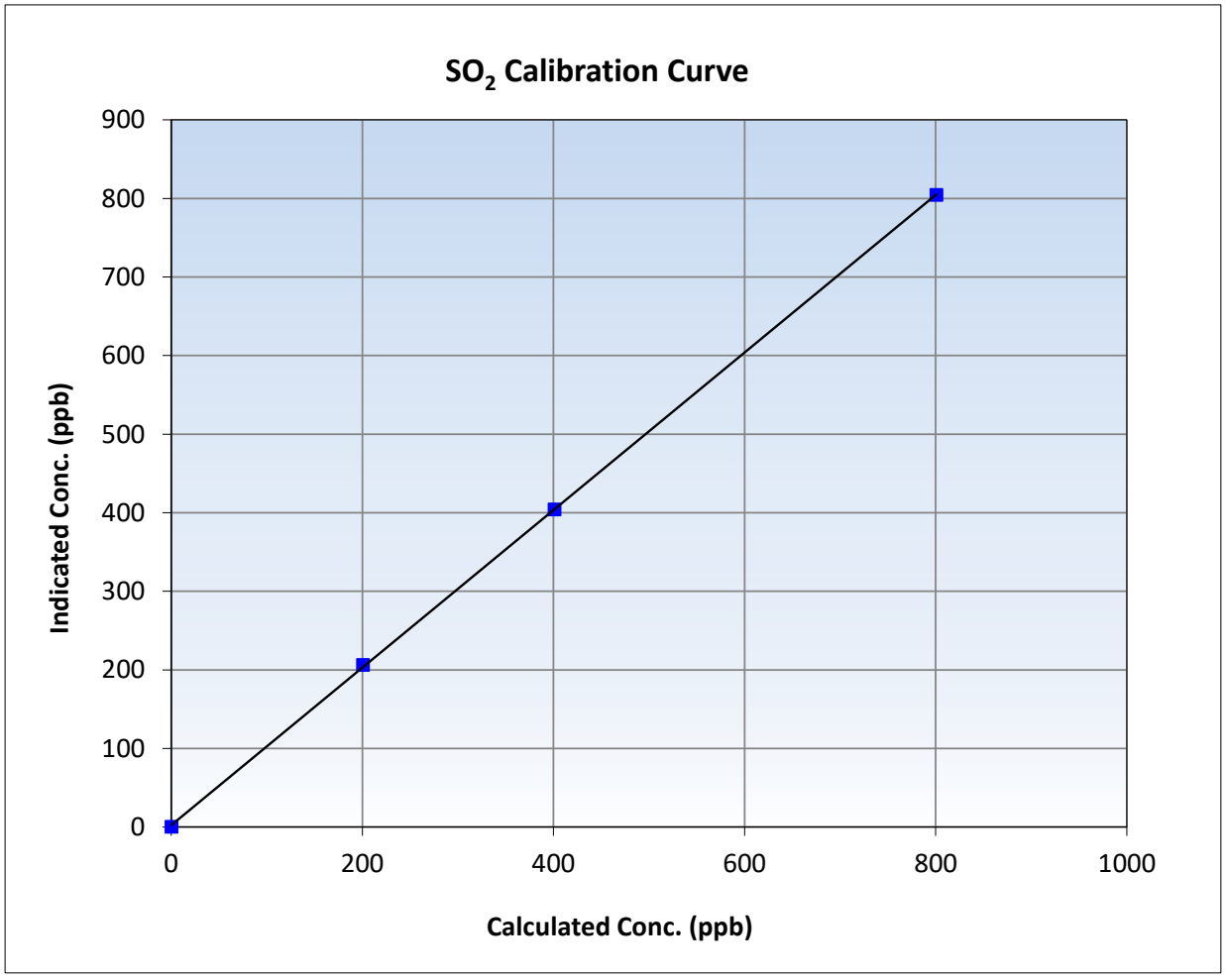
Station Information

Calibration Date:	November 4, 2025	Previous Calibration:	October 15, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:51	End Time (MST):	13:51
Analyzer make:	Thermo 43i	Analyzer serial #:	1428701363

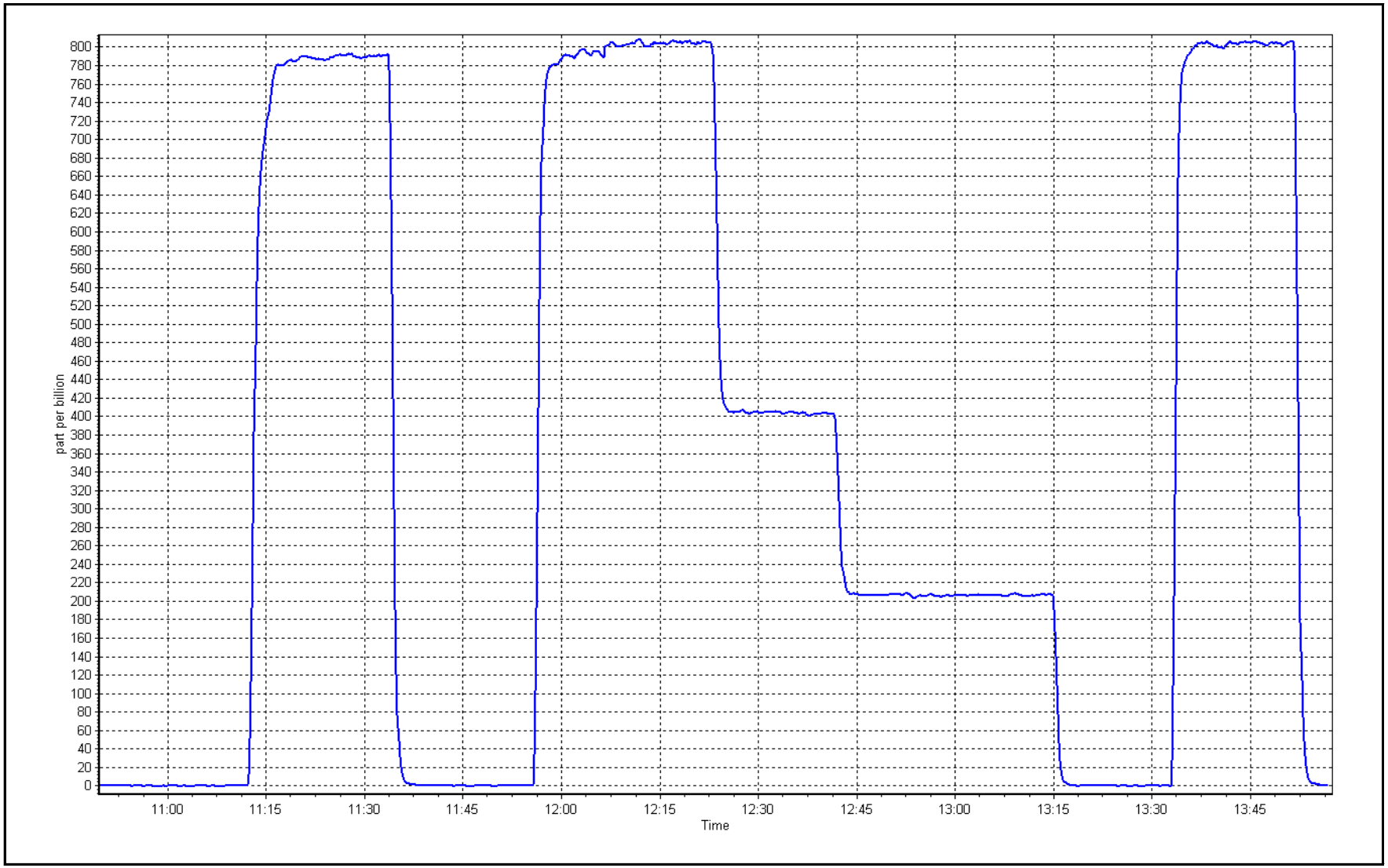
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
800.3	804.0	0.9954
400.7	404.0	0.9919
200.4	206.2	0.9717

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999959	*≥0.995*
Slope	1.002589	*0.90 - 1.10*
Intercept	2.316463	*+/-30*



SO2 Calibration Plot Date: November 4, 2025 Location: Conklin



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Conklin	Station number:	AMS 21
Calibration Date:	November 26, 2025	Last Cal Date:	October 7, 2025
Start time (MST):	10:13	End time (MST):	14:04
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:	0.994549	1.005185	Backgd or Offset:	2.8	3.3
Calibration intercept:	0.158394	-0.041619	Coeff or Slope:	1.470	1.494

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	0.3	----
As found High point	4922	78.4	80.6	79.3	1.020
As found Mid point	4961	39.2	40.3	40.0	1.015
As found Low point	4980	19.6	20.2	20.2	1.013
New cylinder response					

Baseline Corr As found:	79.0	Prev response:	80.31	*% change:	-1.7%
Baseline Corr 2nd AF pt:	39.7	AF Slope:	0.979942	AF Intercept:	0.398417
Baseline Corr 3rd AF pt:	19.9	AF Correlation:	0.999991	* = > +/-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	4922	78.4	80.6	81.0	0.995
Mid point	4961	39.2	40.3	40.4	0.997
Low point	4980	19.6	20.2	20.2	0.998
As left zero	5000	0.0	0.0	0.0	----
As left span	4922	78.4	80.6	80.8	0.997
SO2 Scrubber Check	4921	79.5	794.9	0.0	----

Date of last scrubber change:	August 6, 2025	Ave Corr Factor	0.997
Date of last converter efficiency test:	October 7, 2025		

Notes: Sample inlet filter was changed after multipoint as founds. SO2 scrubber check done and passed. Adjusted zero and span.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

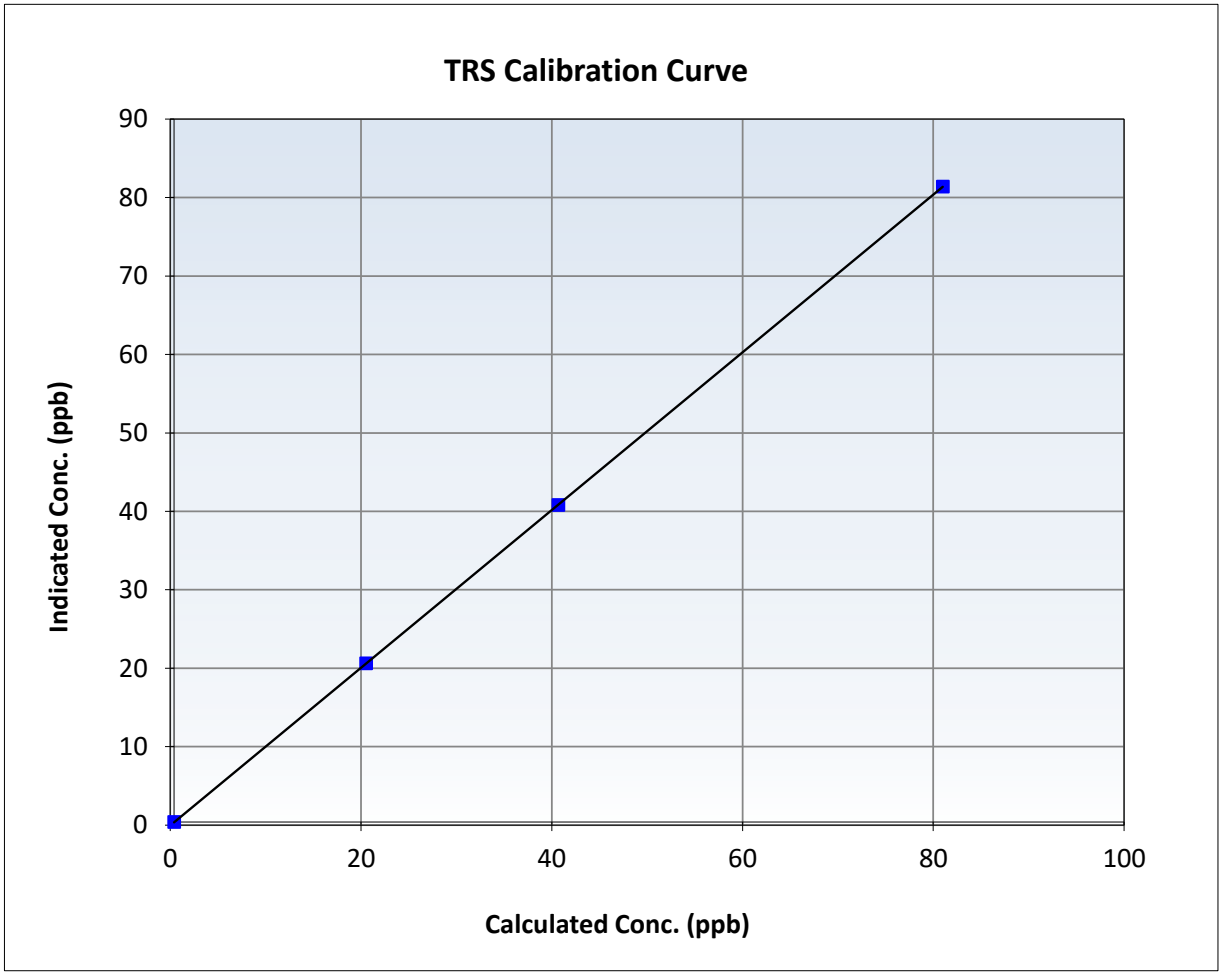
TRS Calibration Summary

Station Information

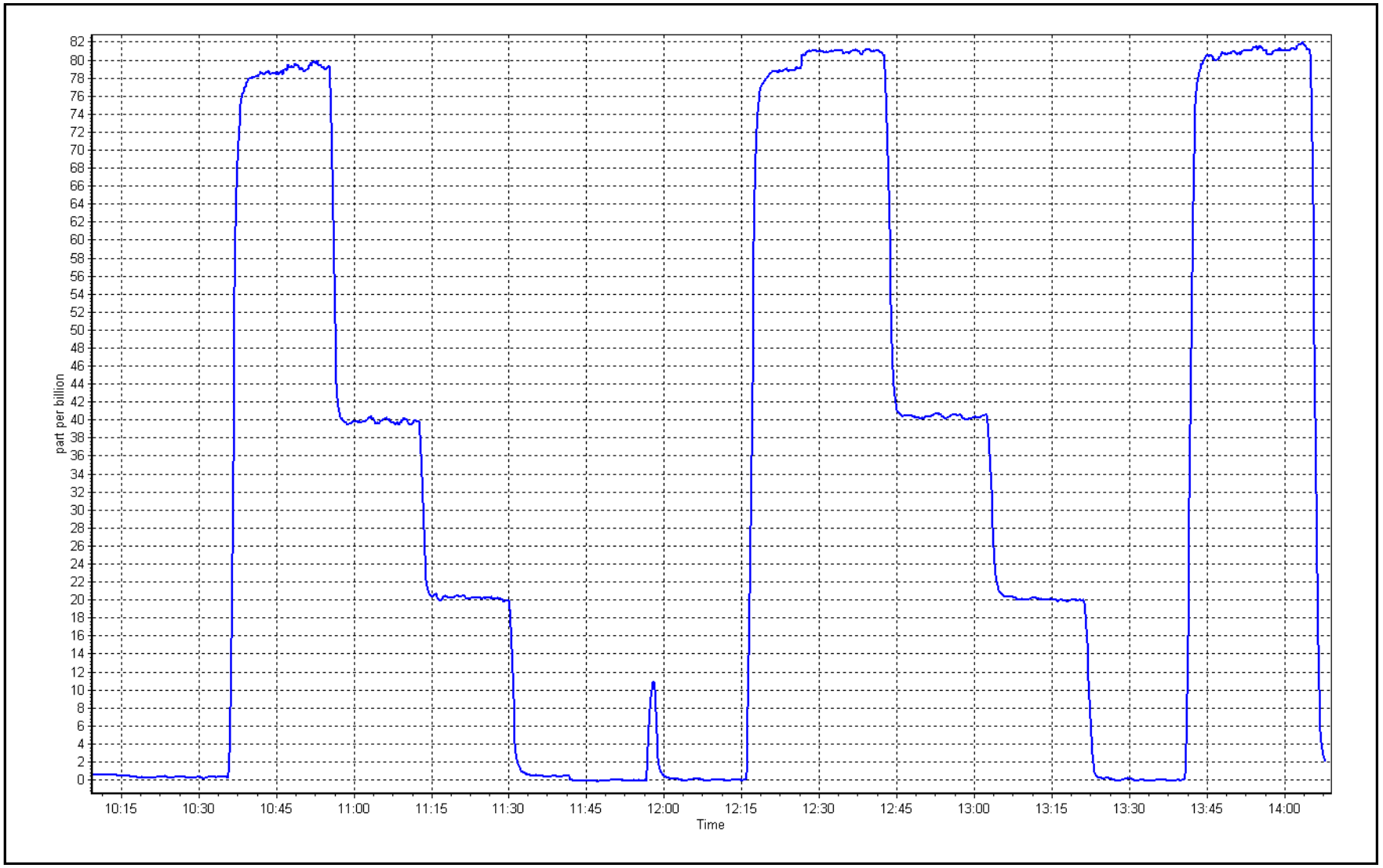
Calibration Date:	November 26, 2025	Previous Calibration:	October 7, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:13	End Time (MST):	14:04
Analyzer make:	Thermo 43i-QTL	Analyzer serial #:	12228021058

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.0	----	Correlation Coefficient	0.999998	*≥0.995*
80.6	81.0	0.9949	Slope	1.005185	*0.90 - 1.10*
40.3	40.4	0.9974			
20.2	20.2	0.9975	Intercept	-0.041619	*+/-3*



TRS Calibration Plot Date: November 26, 2025 Location: Conklin



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Conklin	Station number:	AMS 21
Calibration Date:	November 4, 2025	Last Cal Date:	October 15, 2025
Start time (MST):	10:51	End time (MST):	13:51
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:	2.34E-04	2.34E-04	NMHC SP Ratio:	4.97E-05	5.03E-05
CH4 Retention time:	15.2	15.2	NMHC Peak Area:	180338	178091
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	16.90	1.004
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	16.90	Prev response	16.98	*% change	-0.5%
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	5000	0.0	0.00	0.00	----
High point	4921	79.5	16.97	16.95	1.001
Mid point	4960	39.8	8.50	8.50	1.000
Low point	4980	19.9	4.25	4.34	0.978
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.5	16.97	16.98	1.000
				Average Correction Factor	0.993

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	79.5	8.96	8.85	1.013
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.85	Prev response	8.96	*% 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	79.5	8.96	8.96	1.001
Mid point	4960	39.8	4.49	4.50	0.997
Low point	4980	19.9	2.24	2.30	0.975
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.5	8.96	8.94	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	8.04	0.996
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.04	Prev response	8.02	*% change	0.3%
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	8.00	1.002
Mid point	4960	39.8	4.01	4.00	1.003
Low point	4980	19.9	2.01	2.04	0.982
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.5	8.01	8.03	0.997
				Average Correction Factor	0.996

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	0.997750	0.997002
THC Cal Offset:	0.040887	0.041693
CH4 Cal Slope:	0.999822	0.996483
CH4 Cal Offset:	0.011577	0.014784
NMHC Cal Slope:	0.995912	0.997326
NMHC Cal Offset:	0.029509	0.026709

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

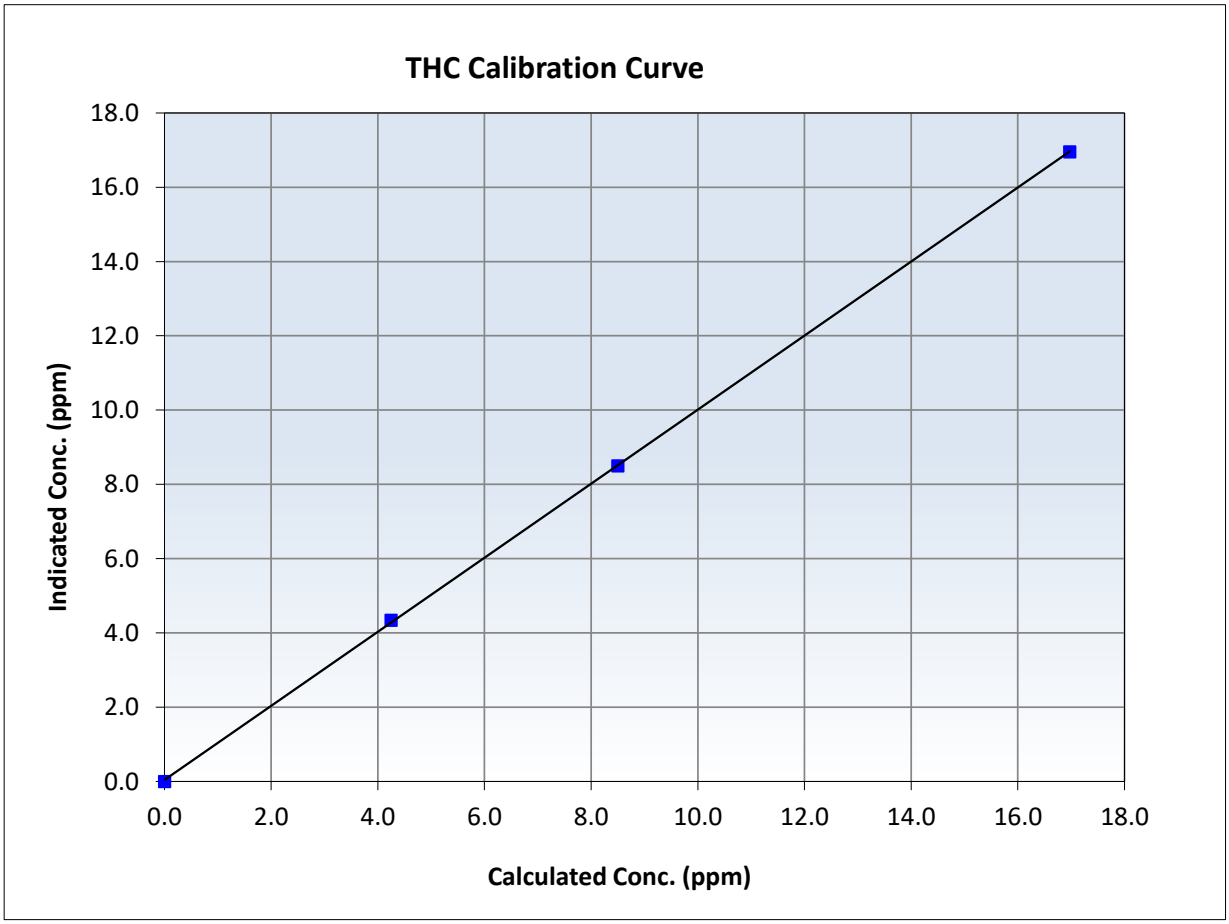
THC Calibration Summary

Station Information

Calibration Date:	November 4, 2025	Previous Calibration:	October 15, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:51	End Time (MST):	13:51
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	0.999960	*≥0.995*
16.97	16.95	1.0011	Slope	0.997002	*0.90 - 1.10*
8.50	8.50	0.9998	Intercept	0.041693	*+/-0.5*
4.25	4.34	0.9783			



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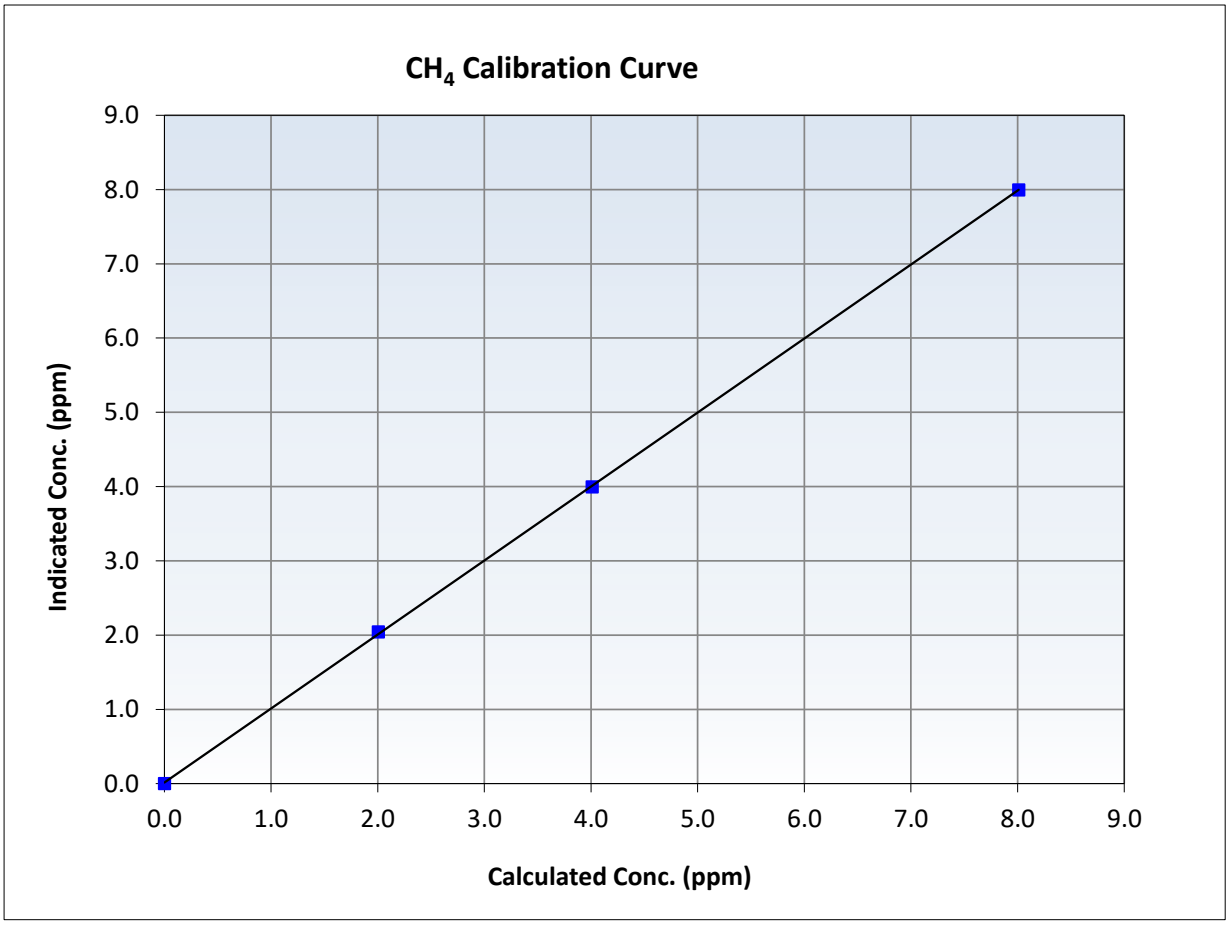
CH_4 Calibration Summary

Station Information

Calibration Date:	November 4, 2025	Previous Calibration:	October 15, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:51	End Time (MST):	13:51
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	0.999964	*≥0.995*
8.01	8.00	1.0017	Slope	0.996483	*0.90 - 1.10*
4.01	4.00	1.0034			
2.01	2.04	0.9820	Intercept	0.014784	*+/-0.5*



Wood Buffalo Environmental Association

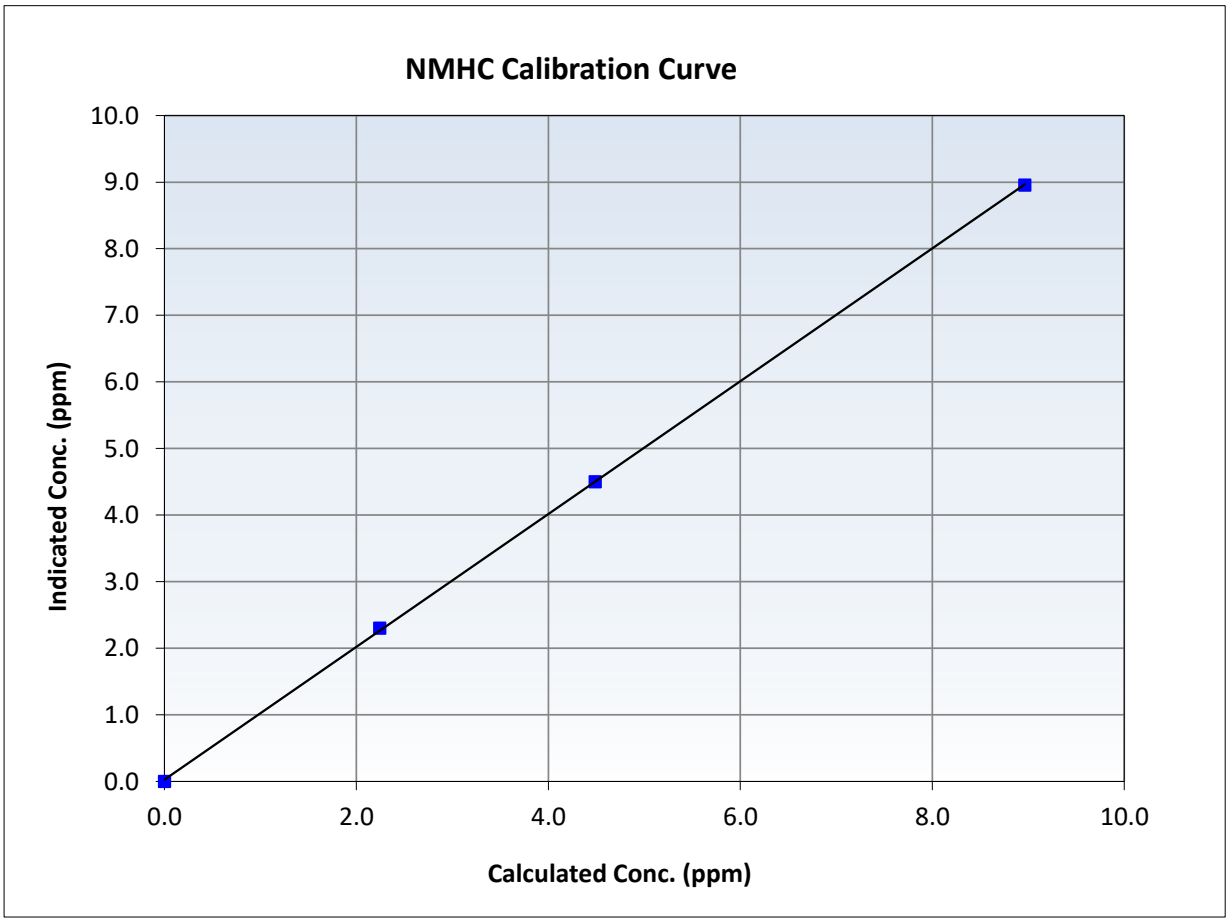
NMHC Calibration Summary

Station Information

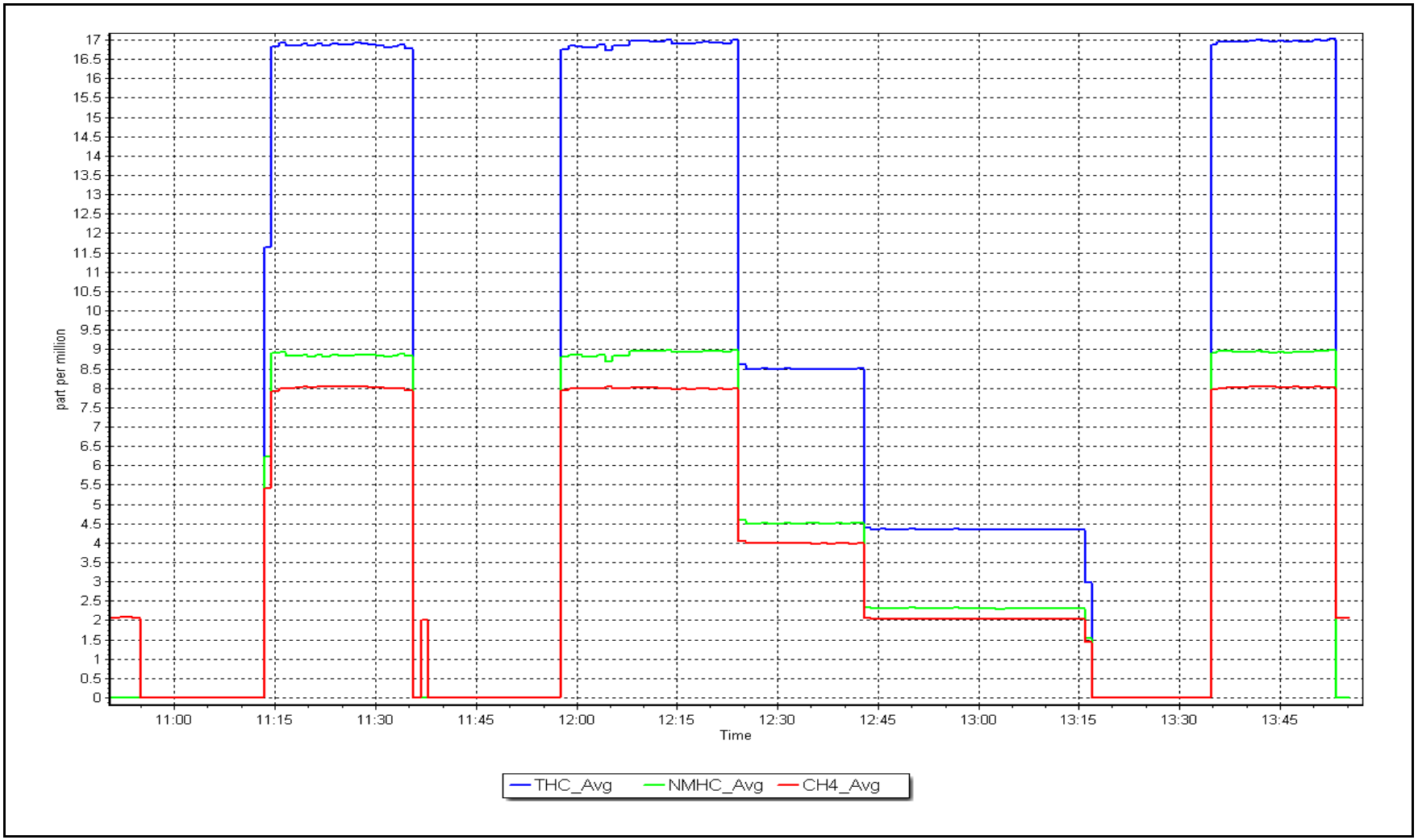
Calibration Date:	November 4, 2025	Previous Calibration:	October 15, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:51	End Time (MST):	13:51
Analyzer make:	Thermo 55i	Analyzer serial #:	1180320039

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999951	*≥0.995*
8.96	8.96	1.0006	Slope	0.997326	*0.90 - 1.10*
4.49	4.50	0.9970	Intercept	0.026709	*+/-0.5*
2.24	2.30	0.9751			



NMHC Calibration Plot Date: November 4, 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:	November 25, 2025
Last Cal Date:	October 8, 2025
Start time (MST):	10:20
End time (MST):	14:52
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	-0.3	-0.4	0.1	----	----
AF High point	4918	82.0	802.0	800.3	1.6	824.2	821.1	3.2	0.9727	0.9742
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	809.8 ppb	NO =	808.1 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = 1.8%
Baseline Corr 1st pt	NO_X =	824.5 ppb	NO =	821.5 ppb	As Found Statistics	*Percent Change	NO = 1.6%
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: 1218153356

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	Finish		Start	Finish
NO coeff or slope:	0.648	0.631	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:	163.8	165.3

Calibration Statistics

	Start	Finish
NO_X Cal Slope:	1.006212	0.999101
NO_X Cal Offset:	2.868139	2.688082
NO Cal Slope:	1.007774	1.001134
NO Cal Offset:	1.568103	0.868050
NO_2 Cal Slope:	0.999764	0.996440
NO_2 Cal Offset:	0.063265	-0.836124

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	0.2	----	----
High point	4918	82.0	802.0	800.3	1.6	803.0	802.0	1.6	0.9987	0.9979
Mid point	4959	41.0	401.0	400.2	0.8	403.4	400.7	2.8	0.9940	0.9987
Low point	4980	20.5	200.5	200.1	0.4	206.5	203.1	3.4	0.9708	0.9850
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	389.7	412.3	800.5	389.7	410.9	1.0018	1.0000
								Average Correction Factor	0.9878	0.9939

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	801.0	389.1	413.5	411.9	1.0040	99.6%
Mid GPT point	801.0	597.4	205.2	202.7	1.0125	98.8%
Low GPT point	801.0	697.9	104.7	102.8	1.0189	98.1%
				Average Correction Factor	1.0118	98.8%

Notes: Sample inlet filter was changed after as founds. Span adjustment made.

Calibration Performed By: Parampreet Kaur

Wood Buffalo Environmental Association

NO_X Calibration Summary

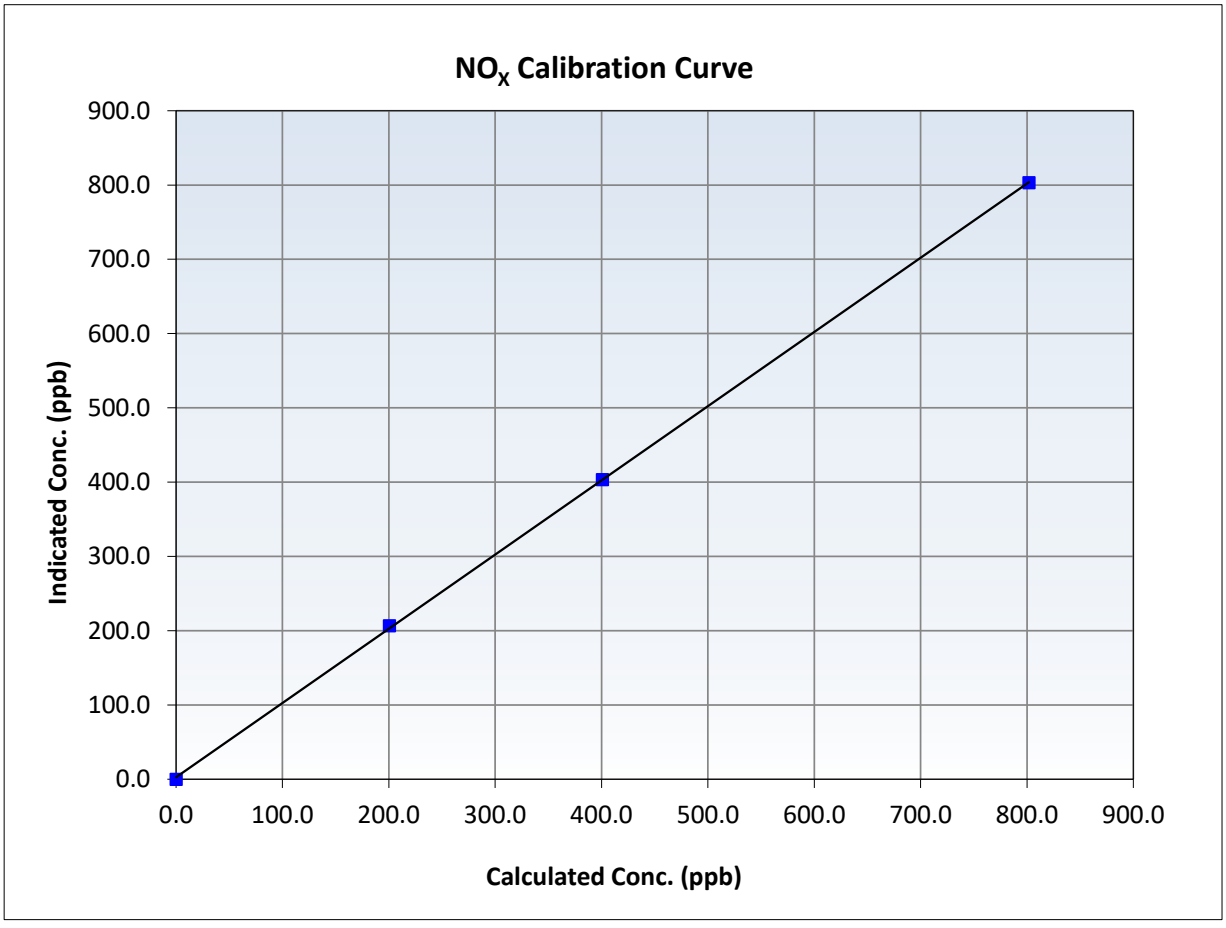
Station Information

Calibration Date:	November 25, 2025	Previous Calibration:	October 8, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:20	End Time (MST):	14:52
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	803.0	0.9987
401.0	403.4	0.9940
200.5	206.5	0.9708

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999942	*≥0.995*
Slope	0.999101	*0.90 - 1.10*
Intercept	2.688082	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

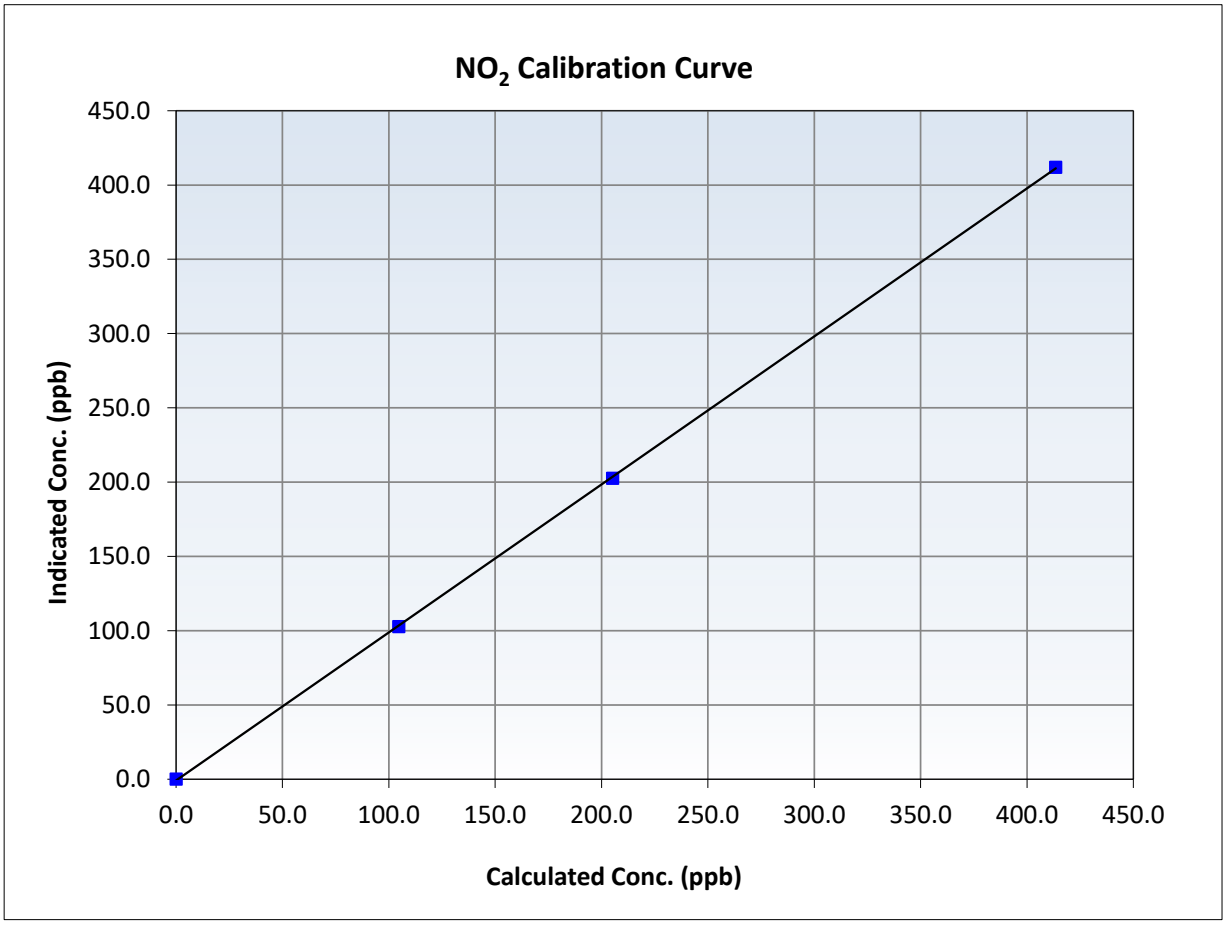
Station Information

Calibration Date:	November 25, 2025	Previous Calibration:	October 8, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:20	End Time (MST):	14:52
Analyzer make:	Thermo 42i	Analyzer serial #:	1218153356

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
413.5	411.9	1.0040
205.2	202.7	1.0125
104.7	102.8	1.0189

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999968	*≥0.995*
Slope	0.996440	*0.90 - 1.10*
Intercept	-0.836124	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

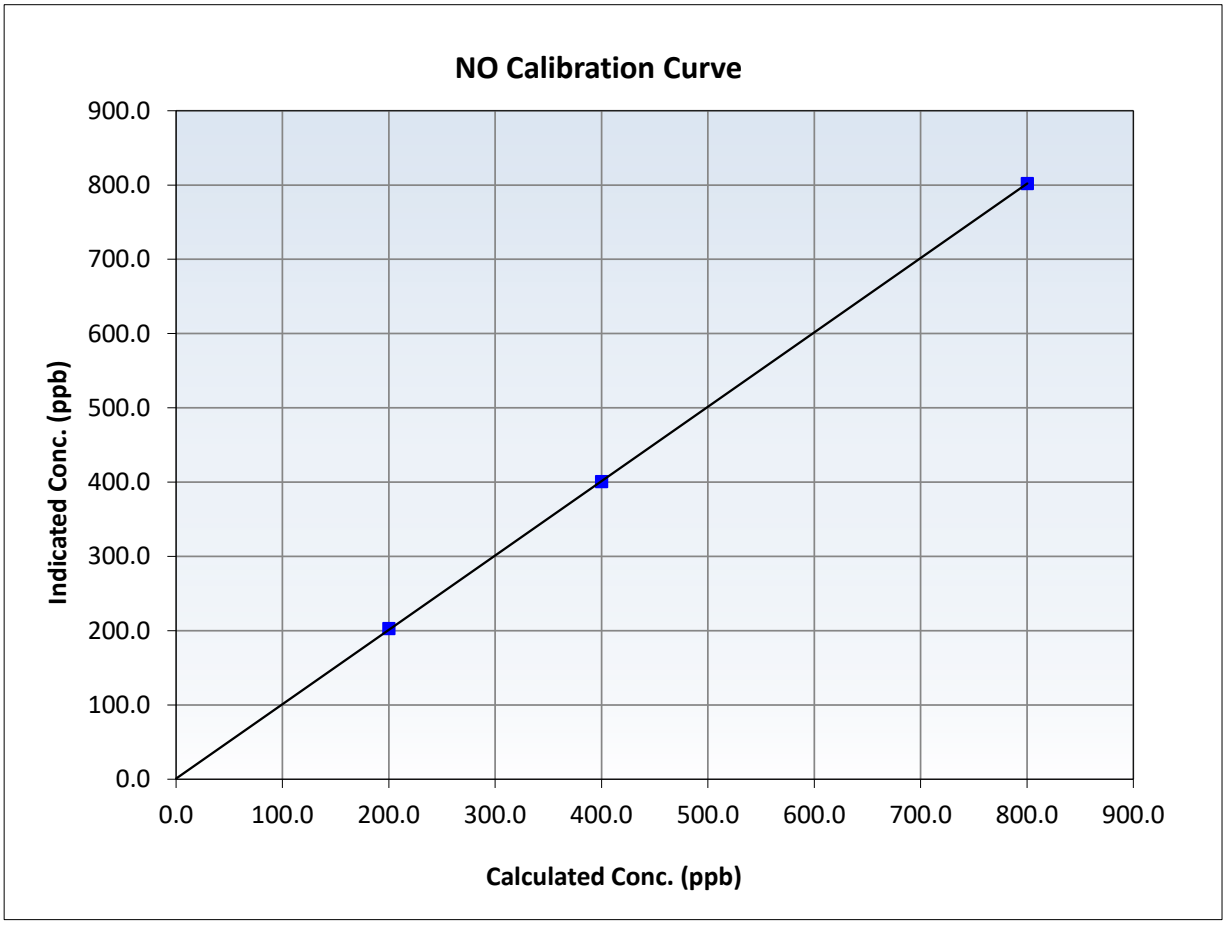
Station Information

Calibration Date:	November 25, 2025	Previous Calibration:	October 8, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	10:20	End Time (MST):	14:52
Analyzer make:	Thermo 42i	Analyzer serial #:	1218153356

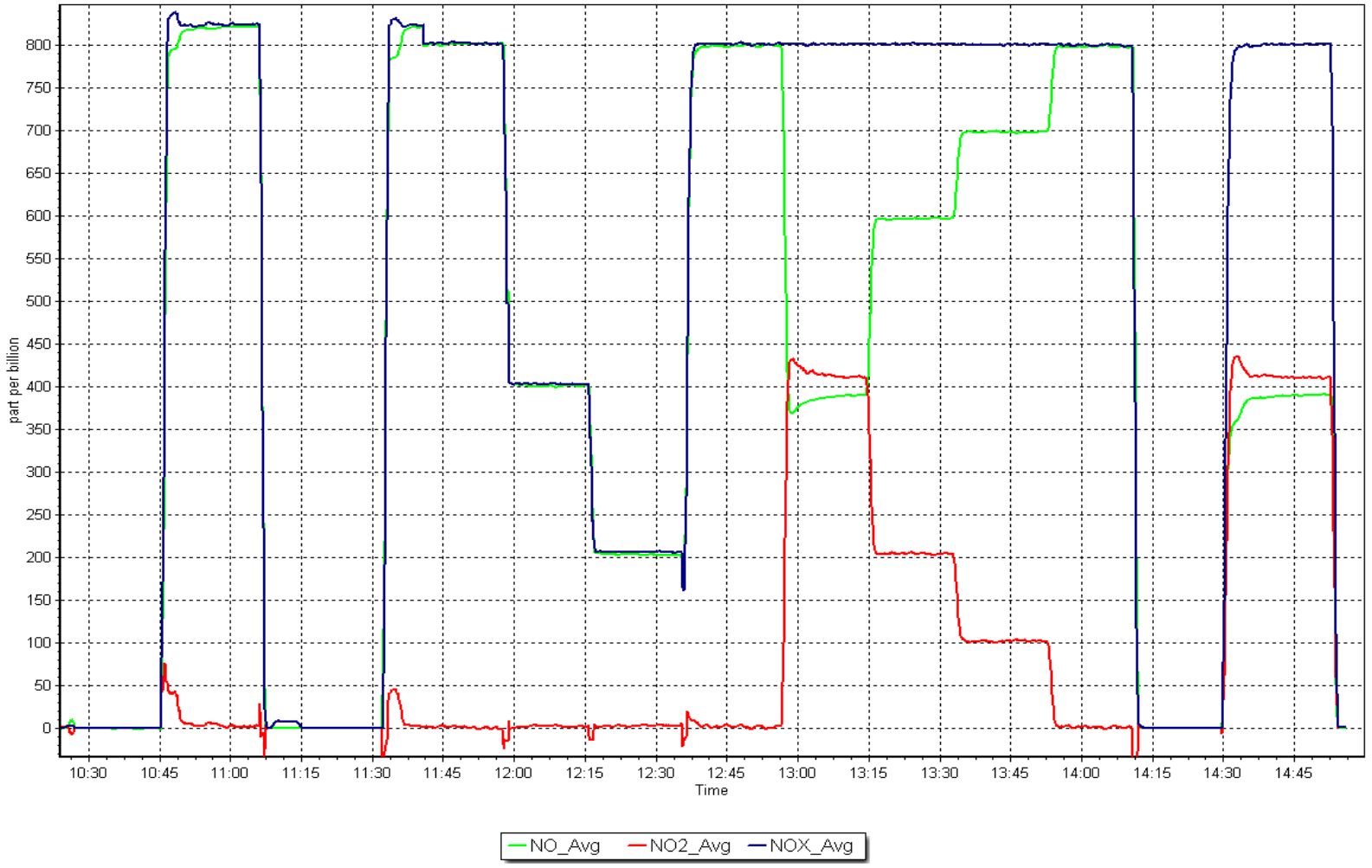
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
800.3	802.0	0.9979
400.2	400.7	0.9987
200.1	203.1	0.9850

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999984	*≥0.995*
Slope	1.001134	*0.90 - 1.10*
Intercept	0.868050	*+/-20*



NO_X Calibration Plot Date: November 25, 2025 Location: Conklin



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Conklin	Station number:	AMS 21
Calibration Date:	November 5, 2025	Last Cal Date:	October 2, 2025
Start time (MST):	11:36	End time (MST):	14:08
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:	1.007229	1.007857	Backgd or Offset:	-0.2	-0.2
Calibration intercept:	2.260000	1.300000	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	-0.1	----
As found High point	5000	1186.1	400.0	401.5	0.996
As found Mid point					
As found Low point					
Baseline Corr As found:	401.6	Previous response	405.2	*% 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	

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	0.4	----
High point	5000	1185.2	400.0	404.0	0.990
Mid point	5000	940.0	200.0	203.3	0.984
Low point	5000	809.0	100.0	103.0	0.971
As left zero	5000	800.0	0.0	0.5	----
As left span	5000	1180.3	400.0	408.0	0.980
				Average Correction Factor	0.982

Notes: Sample inlet filter was changed after as founds. No adjustment made.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

O_3 Calibration Summary

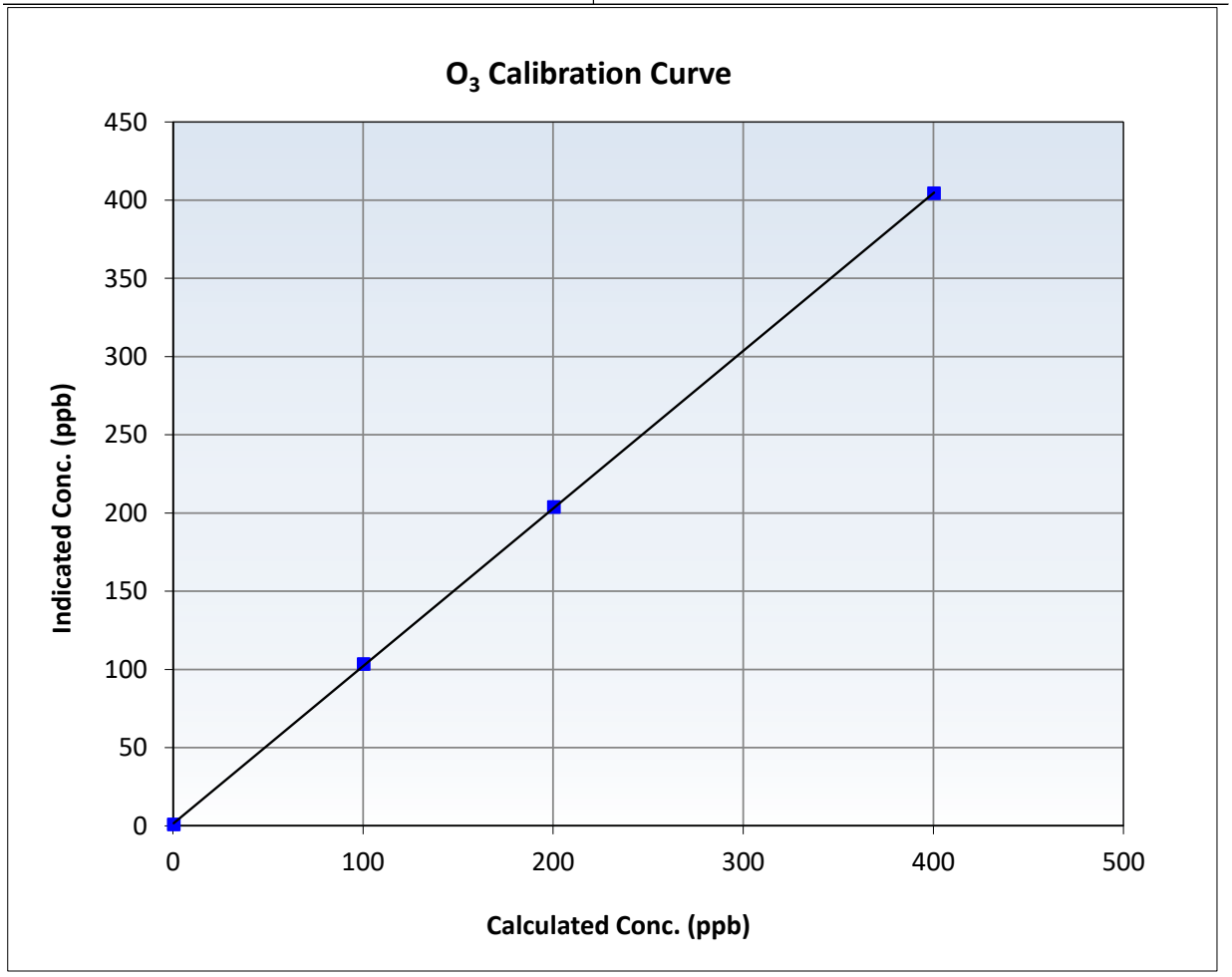
Station Information

Calibration Date:	November 5, 2025	Previous Calibration:	October 2, 2025
Station Name:	Conklin	Station Number:	AMS 21
Start Time (MST):	11:36	End Time (MST):	14:08
Analyzer make:	Thermo 49i	Analyzer serial #:	1300156233

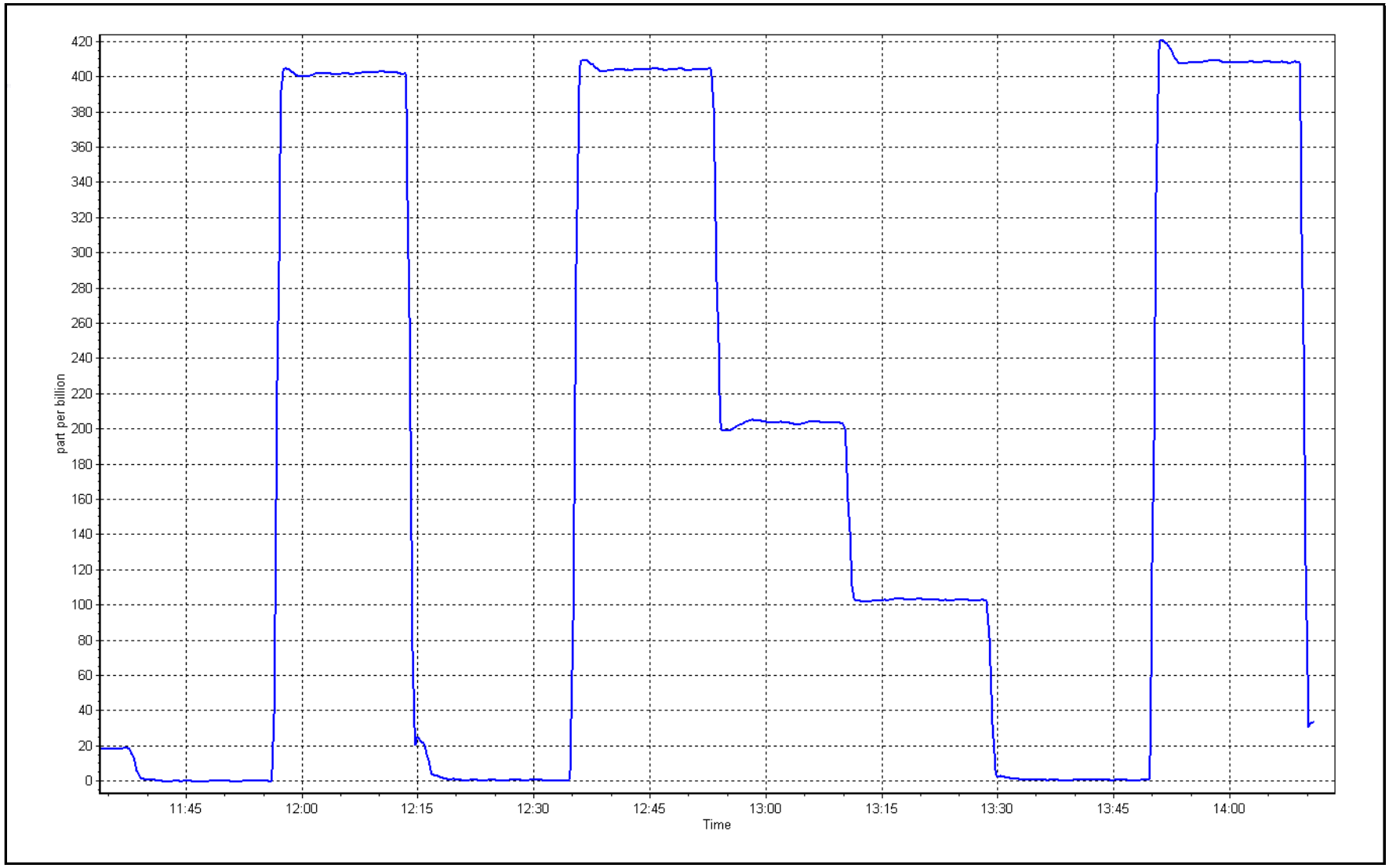
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
400.0	404.0	0.9901
200.0	203.3	0.9838
100.0	103.0	0.9709

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999977	*≥0.995*
Slope	1.007857	*0.90 - 1.10*
Intercept	1.300000	*+/- 5*



O_3 Calibration Plot Date: November 5, 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:	November 26, 2025	Last Cal Date:	October 8, 2025
Start time (MST):	11:58	End time (MST):	12:53
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)	-5.00	-4.79	-5.00	☐	+/- 2 °C
P (mmHg)	716.40	719.01	716.40	☐	+/- 10 mmHg
Flow (LPM)	5.02	5.12	5.02	☐	+/- 0.25 LPM
PW% (pump)	42	-----	42	☐	>80%
Zero Verification	PM w/o HEPA:	6.80	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	10.70	10.90	10.90	☐	+/- 0.5

Date Optical Chamber Cleaned: November 26, 2025

Date Disposable Filter Changed: November 26, 2025

Post- maintenance Zero Verification: PM w/ HEPA: 0.00 <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
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Janvier	Station number:	AMS 22
Calibration Date:	November 7, 2025	Last Cal Date:	October 24, 2025
Start time (MST):	12:56	End time (MST):	16:14
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:	1.001164	0.997920	Backgd or Offset:	26.9	26.7
Calibration intercept:	0.064348	0.824696	Coeff or Slope:	1.010	1.019

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	79.8	799.8	790.5	1.012
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	790.4	Previous response	800.8	*% change	-1.3%
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	4920	79.8	799.8	798.6	1.001
Mid point	4960	39.9	399.9	400.5	0.998
Low point	4980	20.0	200.4	201.0	0.997
As left zero	5000	0.0	0.0	0.5	----
As left span	4920	79.8	799.8	799.5	1.000
				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

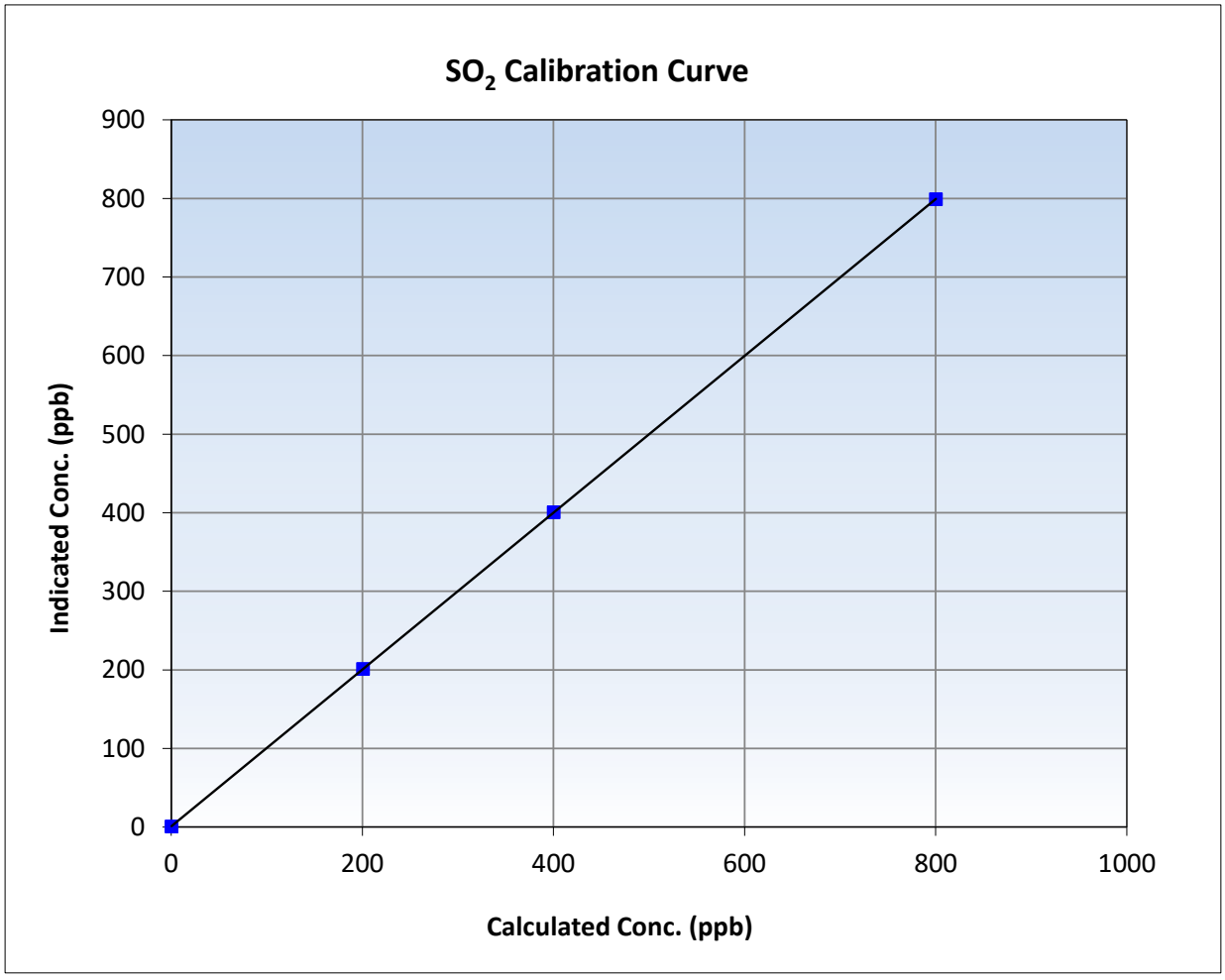
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 24, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	12:56	End Time (MST):	16:14
Analyzer make:	Thermo 43i	Analyzer serial #:	1152430006

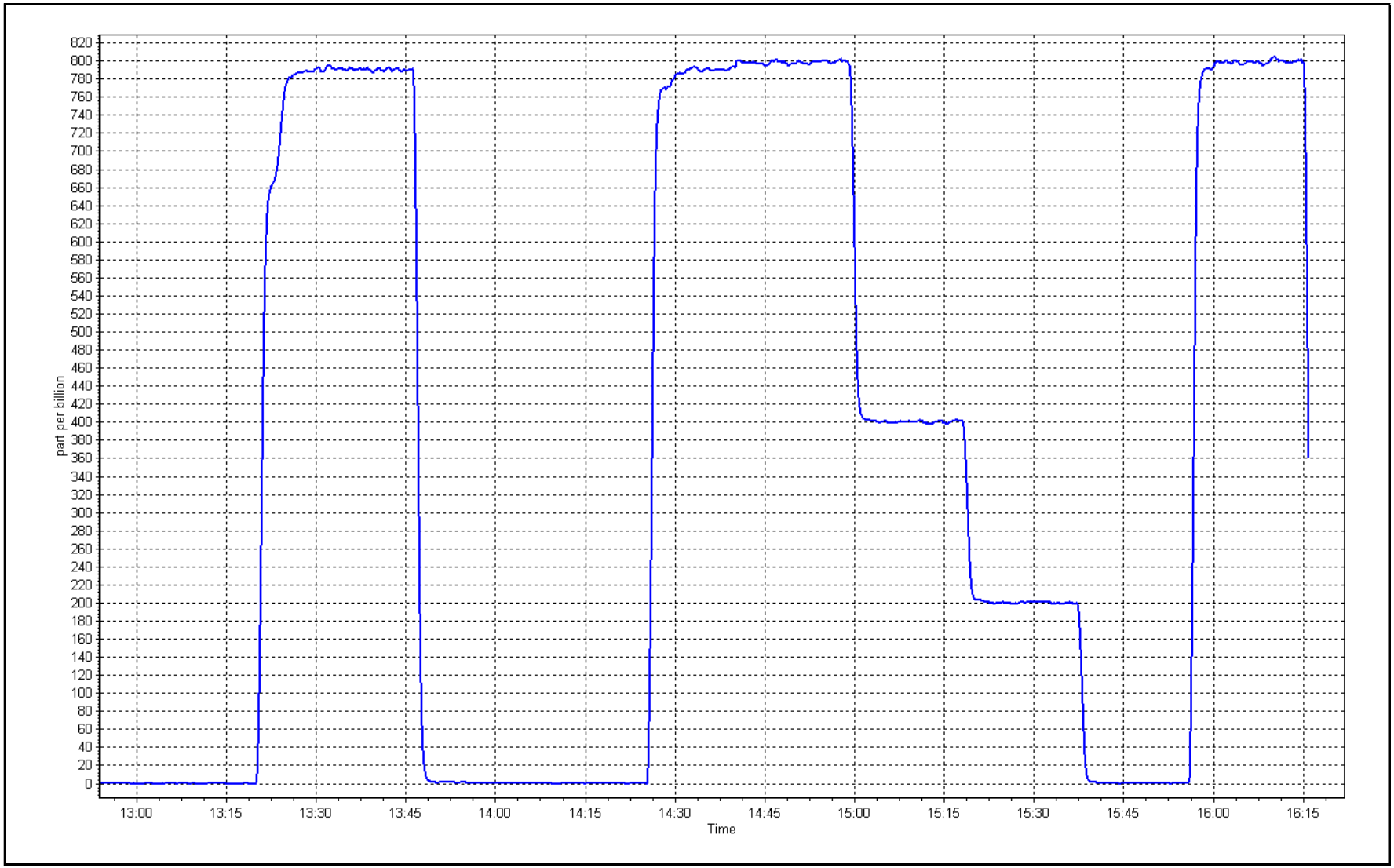
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
799.8	798.6	1.0015
399.9	400.5	0.9985
200.4	201.0	0.9972

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	0.997920	*0.90 - 1.10*
Intercept	0.824696	*+/-30*



SO2 Calibration Plot Date: November 7, 2025 Location: Janvier



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Janvier	Station number:	AMS 22
Calibration Date:	November 19, 2025	Last Cal Date:	October 28, 2025
Start time (MST):	12:24	End time (MST):	17:00
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:	0.961388	0.968816	Backgd or Offset:	3.39	3.50
Calibration intercept:	0.459964	0.500050	Coeff or Slope:	1.180	1.211

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	0.3	----
As found High point	4920	79.7	80.0	78.3	1.026
As found Mid point	4960	39.8	40.0	39.4	1.022
As found Low point	4980	19.9	20.0	19.7	1.030
New cylinder response					

Baseline Corr As found:	78.0	Prev response:	77.39	*% change:	0.8%
Baseline Corr 2nd AF pt:	39.1	AF Slope:	0.975245	AF Intercept:	0.300095
Baseline Corr 3rd AF pt:	19.4	AF Correlation:	0.999992	* = > +/-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	0.4	----
High point	4920	79.7	80.0	77.9	1.027
Mid point	4960	39.8	40.0	39.5	1.012
Low point	4980	19.9	20.0	19.8	1.009
As left zero	5000	0.0	0.0	0.7	----
As left span	4920	79.7	80.0	76.8	1.042
SO2 Scrubber Check	4920	79.8	798.0	0.0	----
Date of last scrubber change:				Ave Corr Factor	1.016
Date of last converter efficiency test:					

Notes: Changed the inlet filter after as founds. Scrubber test performed, no issues. Adjusted the span.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

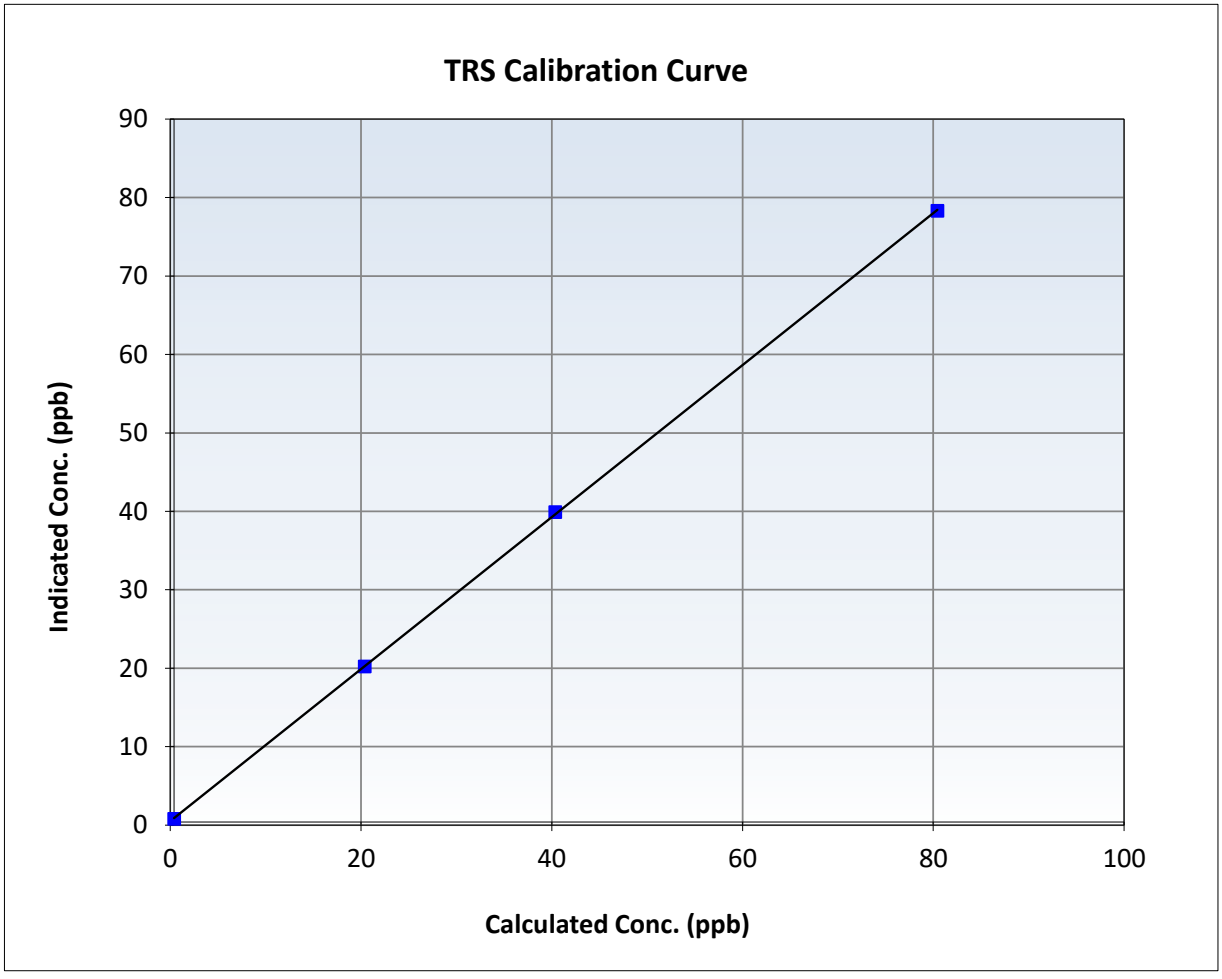
TRS Calibration Summary

Station Information

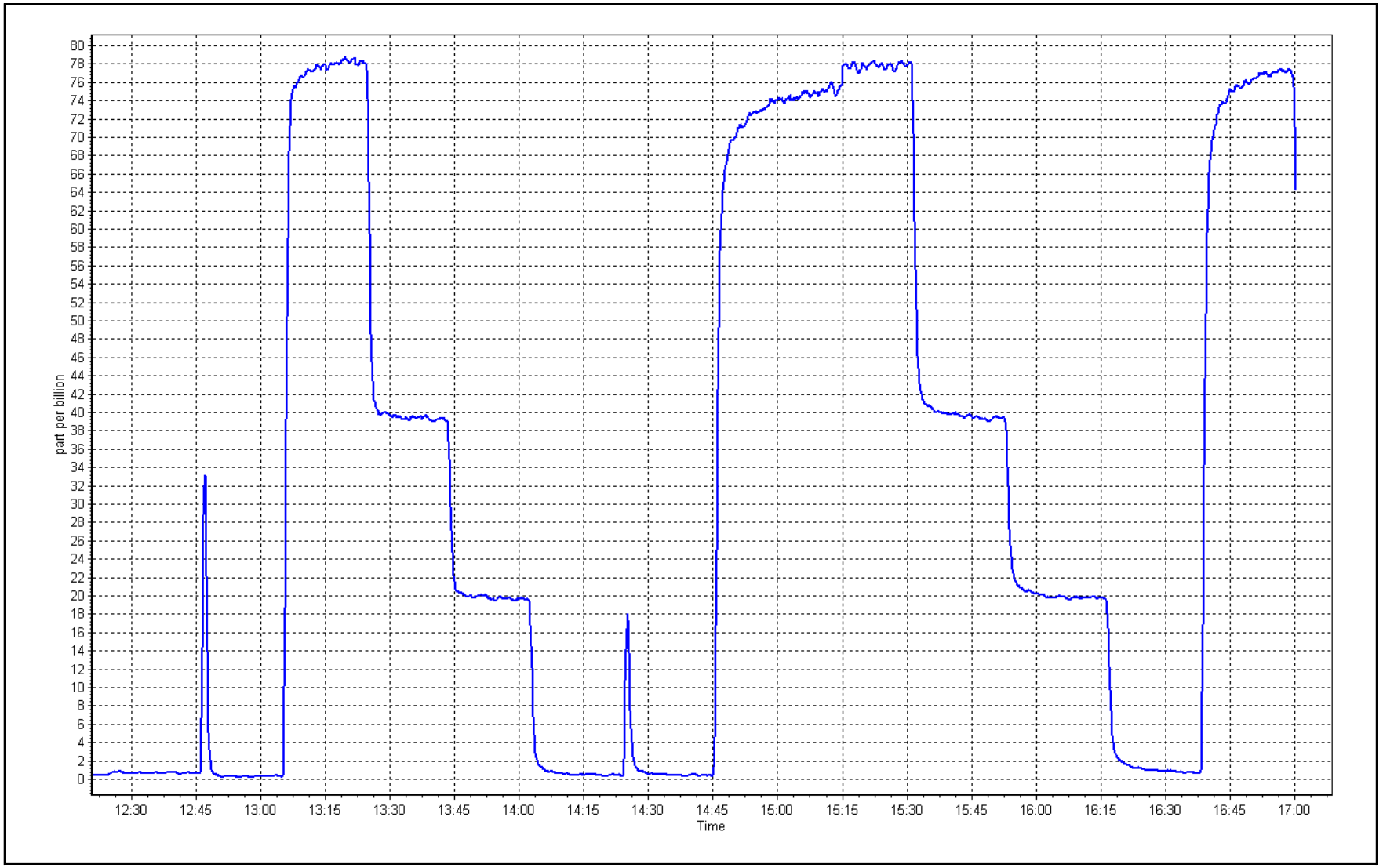
Calibration Date:	November 19, 2025	Previous Calibration:	October 28, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	12:24	End Time (MST):	17:00
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1151680031

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.4	----	Correlation Coefficient	0.999966	*≥0.995*
80.0	77.9	1.0273	Slope	0.968816	*0.90 - 1.10*
40.0	39.5	1.0117			
20.0	19.8	1.0091	Intercept	0.500050	*+/-3*



TRS Calibration Plot Date: November 19, 2025 Location: Janvier



Wood Buffalo Environmental Association

THC / CH_4 / NMHC Calibration Report

Station Information

Station Name:	Janvier	Station number:	AMS 22
Calibration Date:	November 7, 2025	Last Cal Date:	October 24, 2025
Start time (MST):	12:56	End time (MST):	16:14
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:	2.58E-04	2.56E-04	NMHC SP Ratio:	6.19E-05	6.15E-05
CH4 Retention time:	11.6	11.6	NMHC Peak Area:	147887	148671
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	17.36	0.989
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	17.36	Prev response	17.11	*% 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	5000	0.0	0.00	0.00	----
High point	4920	79.8	17.17	17.19	0.999
Mid point	4960	39.9	8.59	8.54	1.006
Low point	4980	20.0	4.30	4.26	1.010
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	17.17	17.16	1.001
				Average Correction Factor	1.005

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	9.23	0.991
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.23	Prev response	9.10	*% 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	4920	79.8	9.15	9.15	1.000
Mid point	4960	39.9	4.57	4.57	1.001
Low point	4980	20.0	2.29	2.29	1.001
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	9.15	9.13	1.002
				Average Correction Factor	1.001

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	8.12	0.988
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.12	Prev response	8.00	*% change	1.5%
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	5000	0.0	0.00	0.00	----
High point	4920	79.8	8.03	8.04	0.998
Mid point	4960	39.9	4.01	3.97	1.012
Low point	4980	20.0	2.01	1.97	1.020
As left zero	5000	0.0	0.00	0.00	----
As left span	4920	79.8	8.03	8.03	0.999
				Average Correction Factor	1.010

Calibration Statistics

	Start	*Finish*
THC Cal Slope:	0.998025	1.001560
THC Cal Offset:	-0.031787	-0.030598
CH4 Cal Slope:	1.000840	1.002976
CH4 Cal Offset:	-0.029357	-0.028360
NMHC Cal Slope:	0.995131	0.999867
NMHC Cal Offset:	-0.001228	-0.001436

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

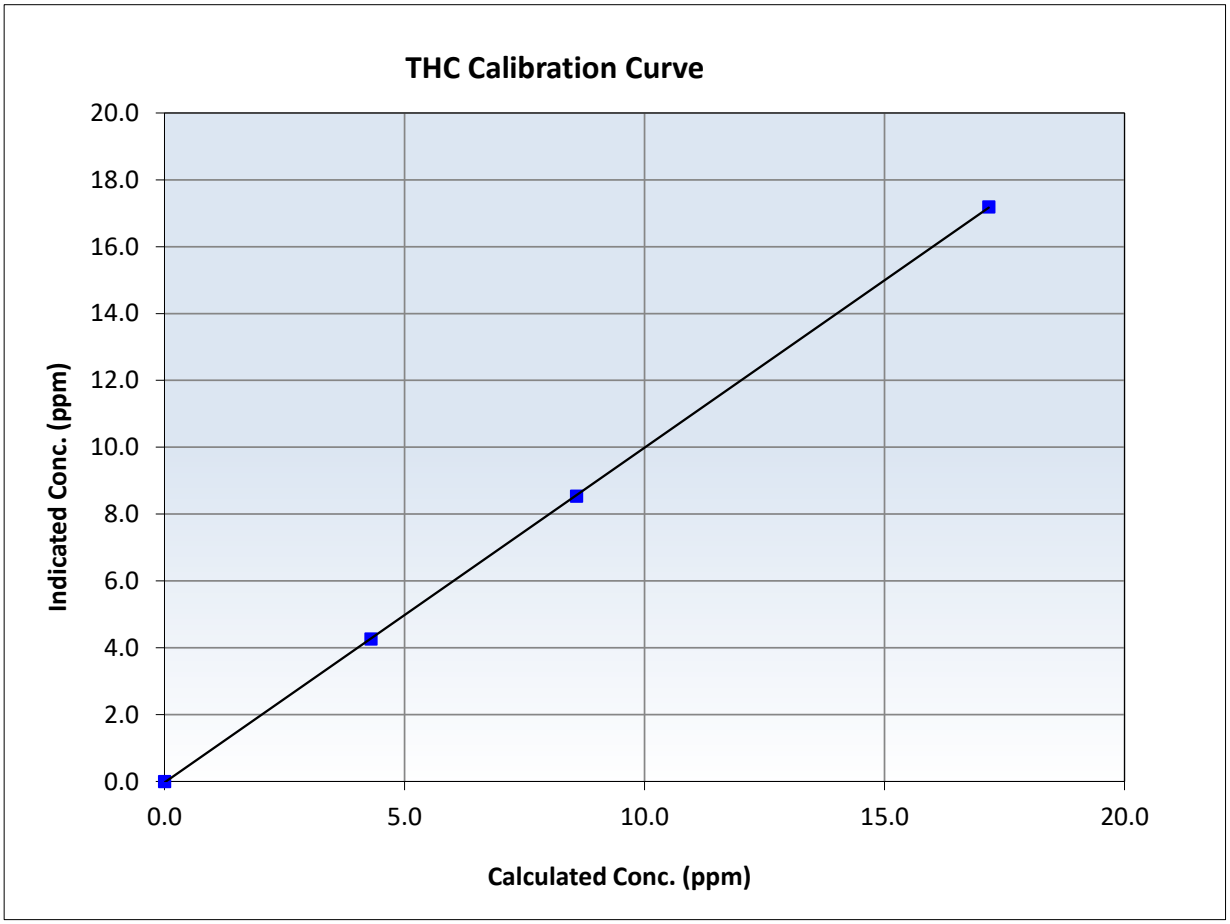
THC Calibration Summary

Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 24, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	12:56	End Time (MST):	16:14
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	0.999983	≥0.995
17.17	17.19	0.9990	Slope	1.001560	0.90 - 1.10
8.59	8.54	1.0057	Intercept	-0.030598	+/-0.5
4.30	4.26	1.0102			



Wood Buffalo Environmental Association

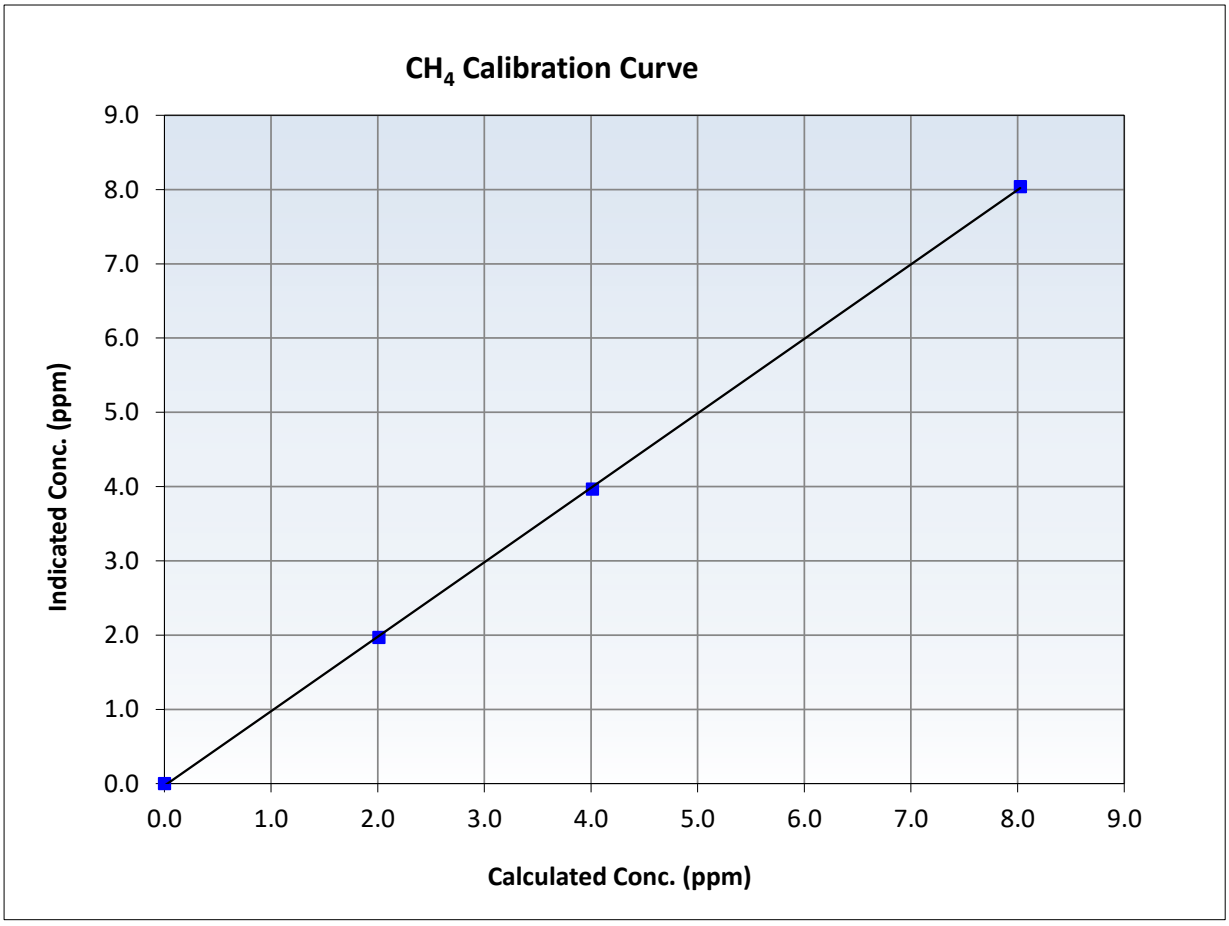
CH_4 Calibration Summary

Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 24, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	12:56	End Time (MST):	16:14
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	0.999932	≥0.995
8.03	8.04	0.9981	Slope	1.002976	0.90 - 1.10
4.01	3.97	1.0117			
2.01	1.97	1.0204	Intercept	-0.028360	+/-0.5



Wood Buffalo Environmental Association

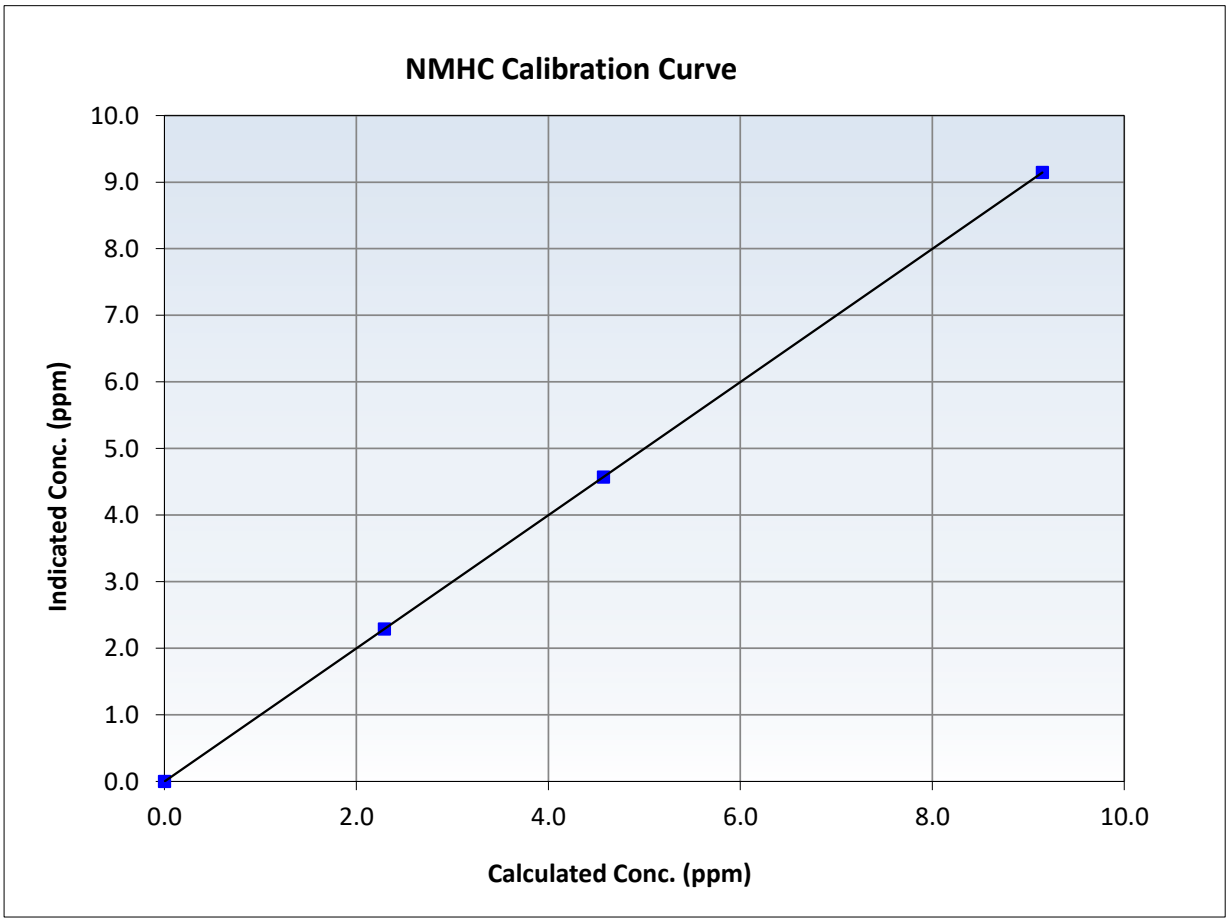
NMHC Calibration Summary

Station Information

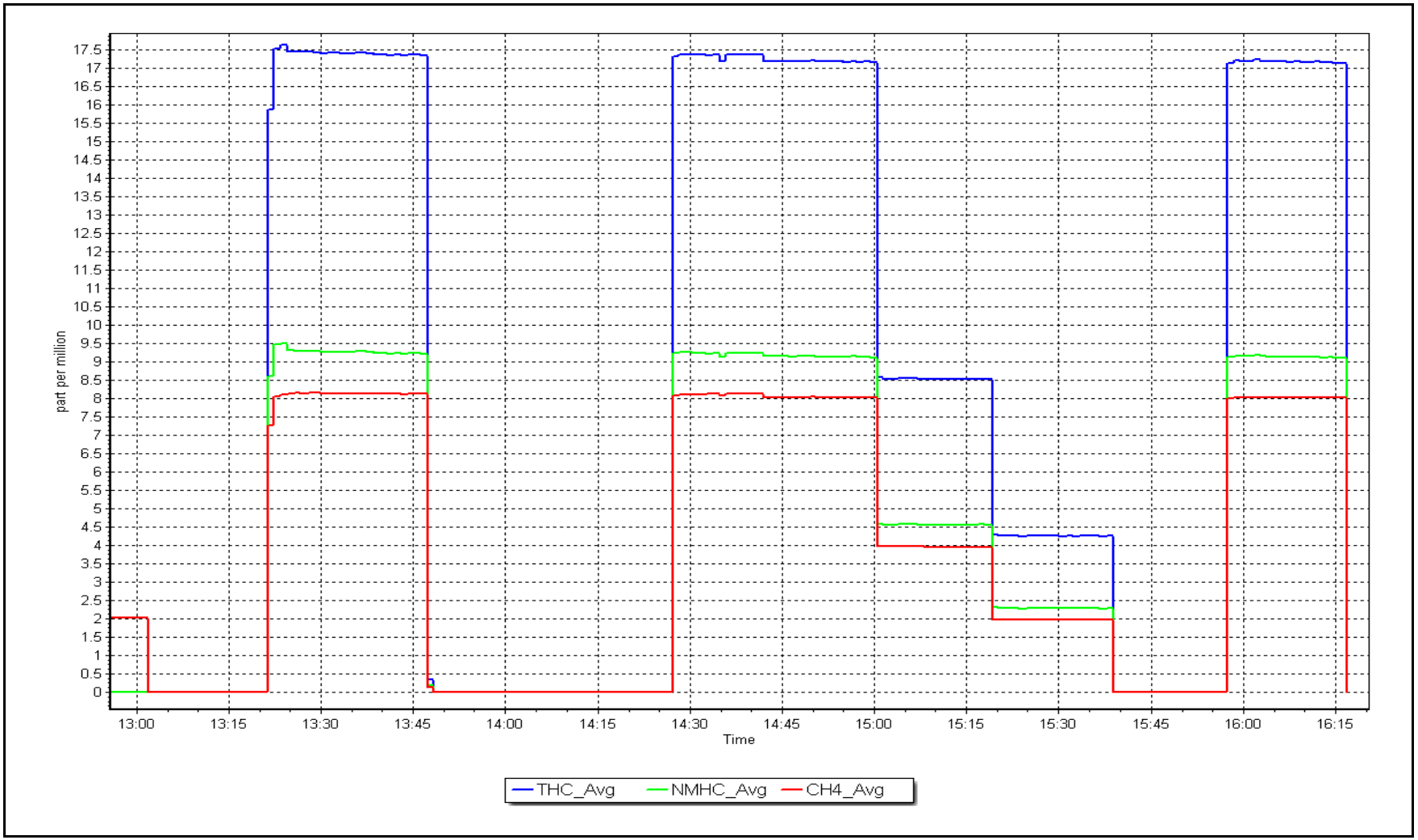
Calibration Date:	November 7, 2025	Previous Calibration:	October 24, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	12:56	End Time (MST):	16:14
Analyzer make:	Thermo 55i	Analyzer serial #:	1317958219

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	1.000000	≥0.995
9.15	9.15	1.0002	Slope	0.999867	0.90 - 1.10
4.57	4.57	1.0005	Intercept	-0.001436	+/-0.5
2.29	2.29	1.0015			



NMHC Calibration Plot Date: November 7, 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:	November 18, 2025
Last Cal Date:	October 23, 2025
Start time (MST):	13:03
End time (MST):	17:17
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	-0.3	-0.2	0.0	----	----
AF High point	4918	82.0	802.0	800.3	1.6	805.6	796.7	9.0	0.9951	1.0043
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 801.8 ppb	NO = 798.3 ppb
Baseline Corr 1st pt	NO_X = 805.9 ppb	NO = 796.9 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 = 0.5%
As found	NO r^2:	*Percent Change	NO = -0.2%
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: 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:	2.8	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:	172.9	173.5

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.000138	1.002746
NO_X Cal Offset:	-0.255953	-0.095882
NO Cal Slope:	0.999346	1.001974
NO Cal Offset:	-1.536101	-1.656036
NO_2 Cal Slope:	1.002701	1.001732
NO_2 Cal Offset:	0.717283	0.338633

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	4918	82.0	802.0	800.3	1.6	804.1	801.0	3.3	0.9973	0.9992
Mid point	4960	41.0	400.9	400.1	0.8	401.9	398.5	3.4	0.9975	1.0040
Low point	4980	20.5	200.5	200.1	0.4	200.8	197.2	3.7	0.9984	1.0145
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	400.1	401.9	802.0	400.1	401.9	1.0000	1.0000
								Average Correction Factor	0.9977	1.0059

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	399.0	401.0	402.0	0.9976	100.2%
Mid GPT point	798.4	597.0	203.0	203.7	0.9968	100.3%
Low GPT point	798.4	696.4	103.6	104.5	0.9918	100.8%
				Average Correction Factor	0.9954	100.5%

Notes: Inlet filter was changed after as founds. No adjustments made.

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

NO_X Calibration Summary

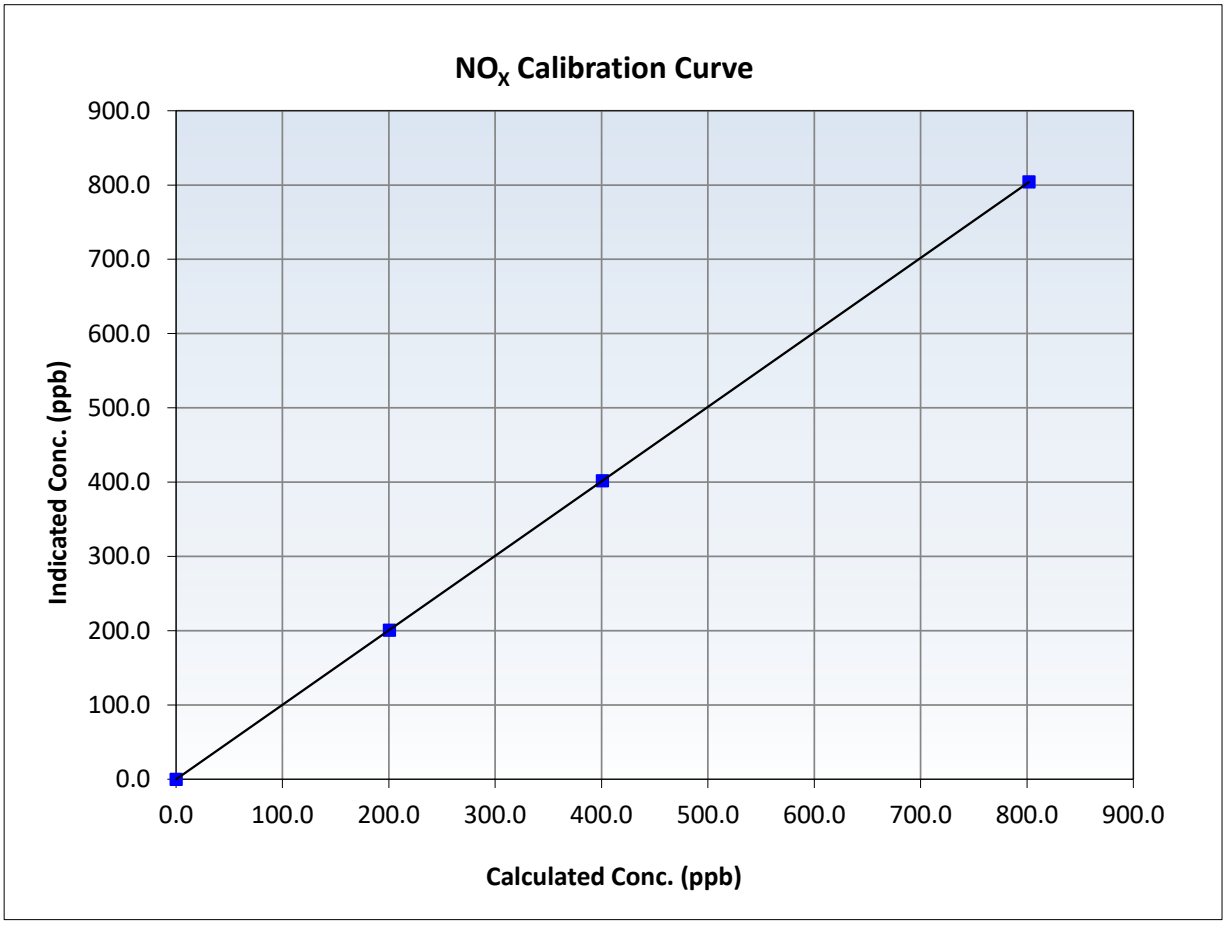
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 23, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	13:03	End Time (MST):	17:17
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	----
802.0	804.1	0.9973
400.9	401.9	0.9975
200.5	200.8	0.9984

Statistical Evaluation		Limits
Correlation Coefficient	1.000000	≥0.995
Slope	1.002746	0.90 - 1.10
Intercept	-0.095882	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

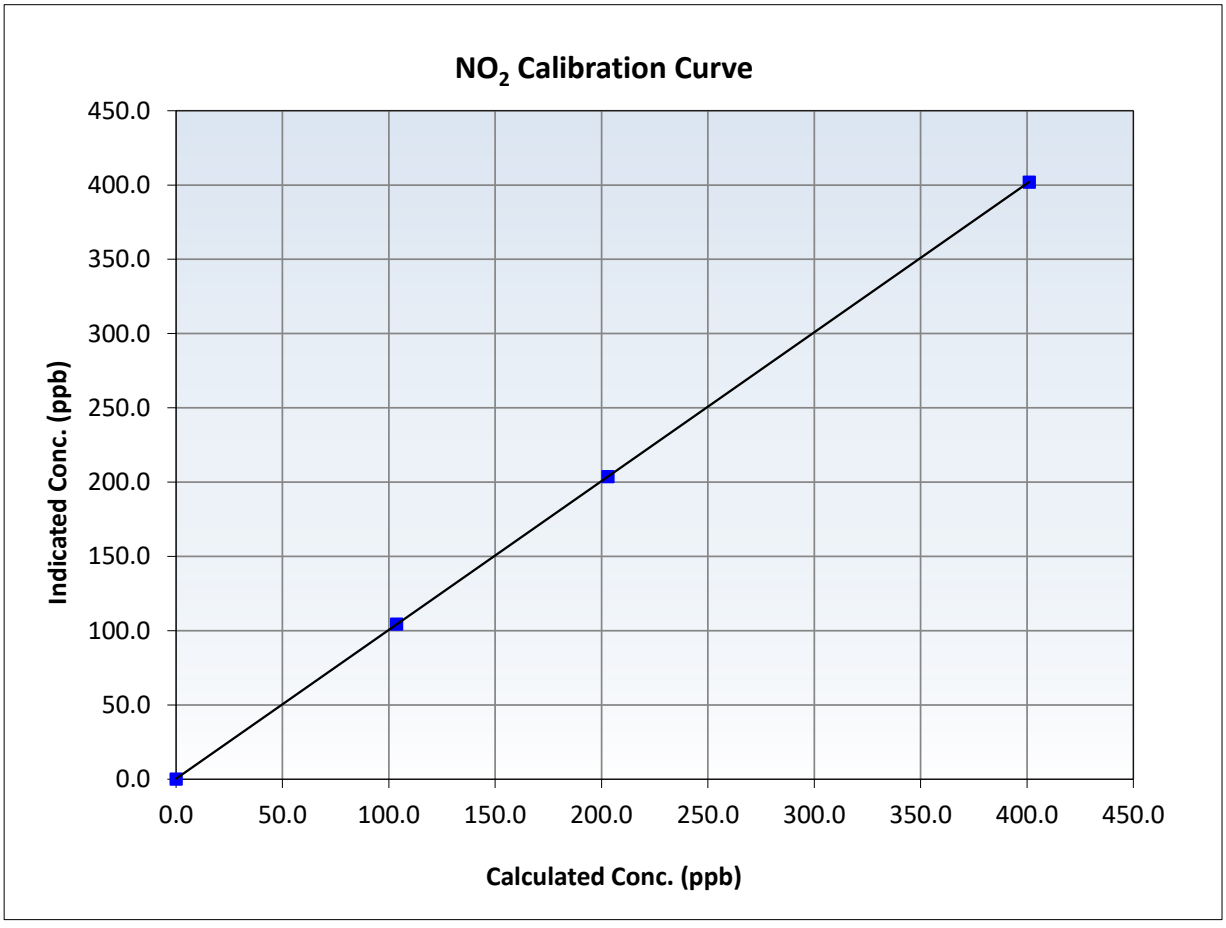
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 23, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	13:03	End Time (MST):	17:17
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	----
401.0	402.0	0.9976
203.0	203.7	0.9968
103.6	104.5	0.9918

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	1.001732	*0.90 - 1.10*
Intercept	0.338633	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

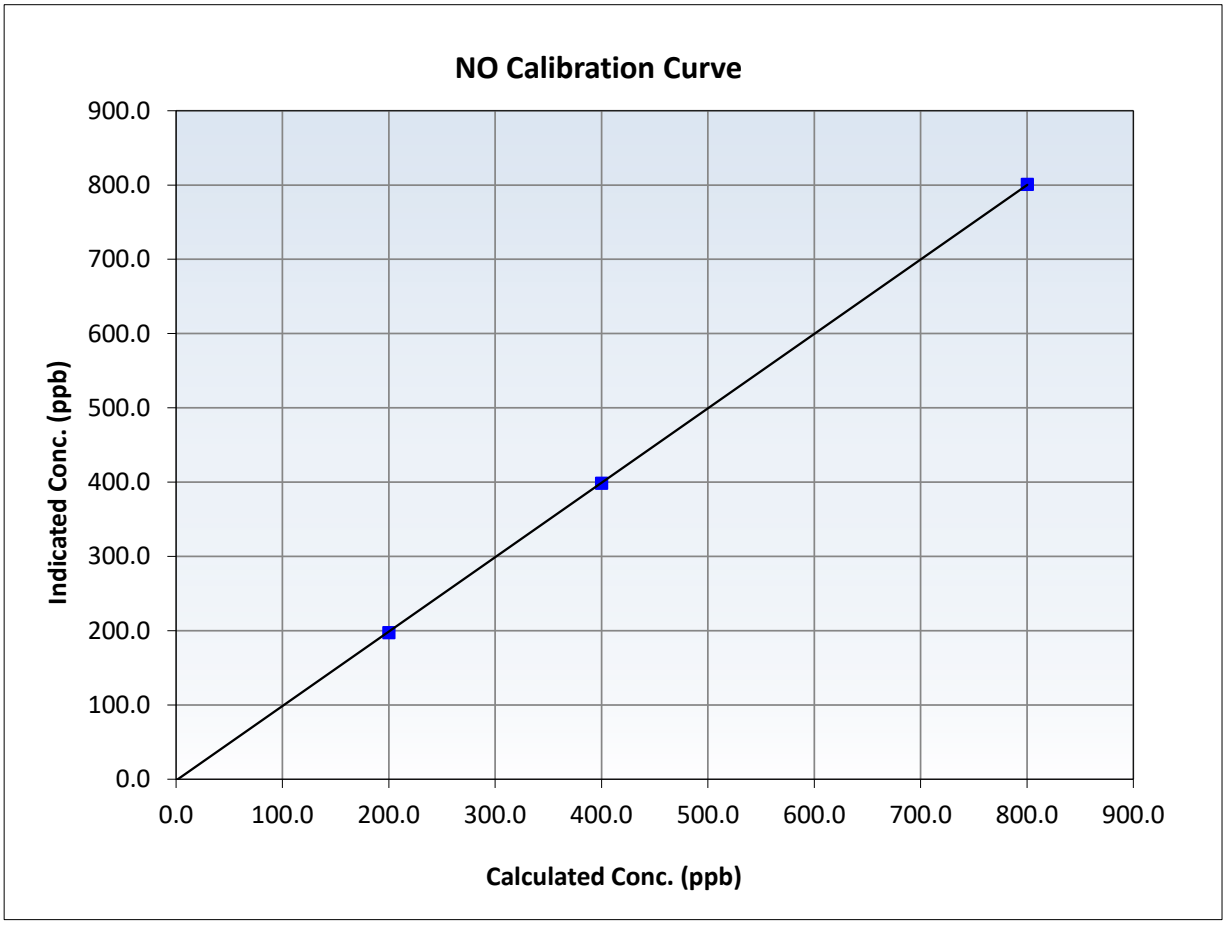
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 23, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	13:03	End Time (MST):	17:17
Analyzer make:	Thermo 42i	Analyzer serial #:	1229254994

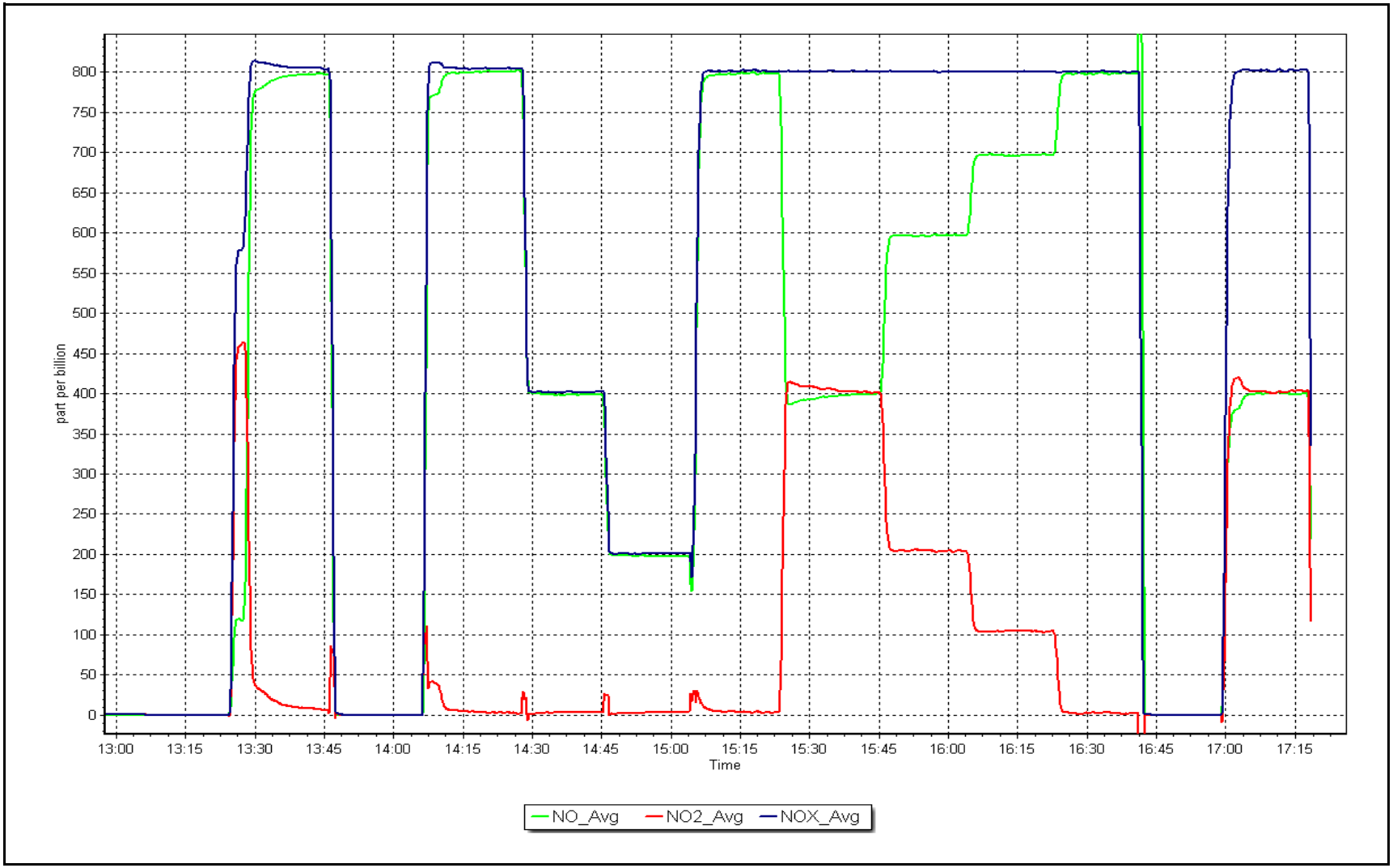
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
800.3	801.0	0.9992
400.1	398.5	1.0040
200.1	197.2	1.0145

Statistical Evaluation		Limits
Correlation Coefficient	0.999983	≥0.995
Slope	1.001974	0.90 - 1.10
Intercept	-1.656036	+/-20



NO_X Calibration Plot Date: November 18, 2025 Location: Janvier



Wood Buffalo Environmental Association

O_3 Calibration Report

Station Information

Station Name:	Janvier	Station number:	AMS 22
Calibration Date:	November 13, 2025	Last Cal Date:	October 17, 2025
Start time (MST):	12:47	End time (MST):	15:26
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:	0.998829	0.999800	Backgd or Offset:	-0.2	-0.2
Calibration intercept:	0.980000	0.860000	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	398.7	1.004
As found Mid point					
As found Low point					

Baseline Corr As found:	398.6	Previous response	400.5	*% 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	0.2	----
High point	5000	926.2	400.0	400.4	0.999
Mid point	5000	768.9	200.0	201.3	0.994
Low point	5000	666.4	100.0	101.4	0.986
As left zero	5000	800.0	0.0	0.2	----
As left span	5000	926.2	400.0	405.0	0.988
				Average Correction Factor	0.993

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

Calibration Performed By: Rene Chamberland

Wood Buffalo Environmental Association

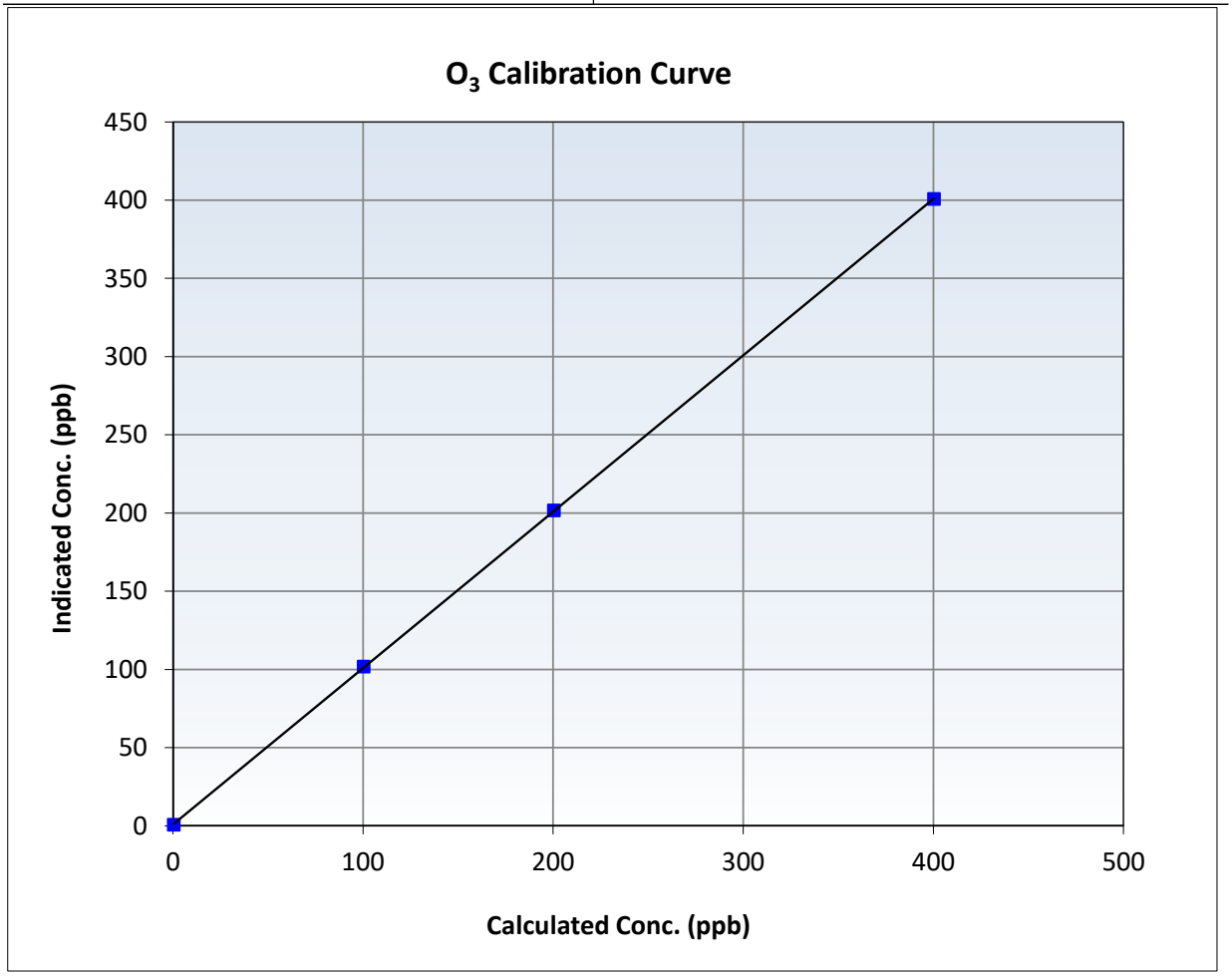
O_3 Calibration Summary

Station Information

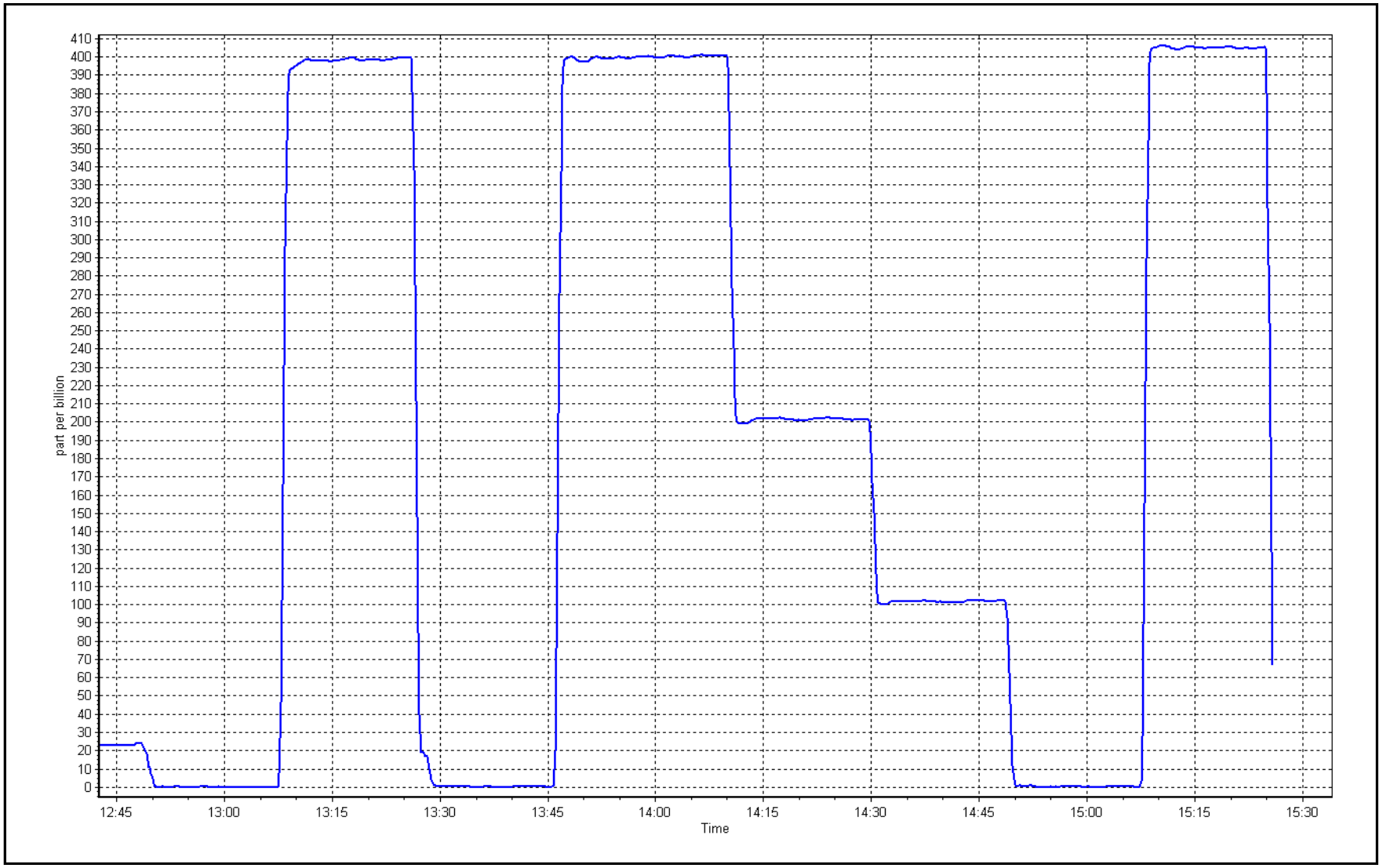
Calibration Date:	November 13, 2025	Previous Calibration:	October 17, 2025
Station Name:	Janvier	Station Number:	AMS 22
Start Time (MST):	12:47	End Time (MST):	15:26
Analyzer make:	Thermo 49i	Analyzer serial #:	1227254861

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.2	----	Correlation Coefficient	0.999987	*≥0.995*
400.0	400.4	0.9990	Slope	0.999800	*0.90 - 1.10*
200.0	201.3	0.9935			
100.0	101.4	0.9862	Intercept	0.860000	*+/- 5*



O_3 Calibration Plot Date: November 13, 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:	November 18, 2025	Last Cal Date:	October 28, 2025
Start time (MST):	13:45	End time (MST):	15:09
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)	-0.1	-0.68	-0.1	☐	+/- 2 °C
P (mmHg)	715.6	716.52	715.6	☐	+/- 10 mmHg
Flow (LPM)	5.01	4.988	5.01	☐	+/- 0.25 LPM
PW% (pump)	40	-----	40	☐	>80%
Zero Verification	PM w/o HEPA:	3.6	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	11	10.9	10.9	☐	10.9 +/- 0.5

Date Optical Chamber Cleaned: November 18, 2025

Date Disposable Filter Changed: November 18, 2025

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

Annual Maintenance

Date Sample Tube Cleaned: May 28, 2025

Date RH/T Sensor Cleaned: November 18, 2025

Notes: Verified flow, temperature, and pressure. Leak checks passed. PMT peak tests completed. Optical chamber and RH/T sensor cleaned. Disposable filter changed.

Calibration by: Rene Chamberland

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS23
FORT HILLS
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Fort Hills	Station number:	AMS 23
Calibration Date:	November 19, 2025	Last Cal Date:	October 10, 2025
Start time (MST):	9:25	End time (MST):	12:06
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:	0.995531	0.995831	Backgd or Offset:	18.5	18.5
Calibration intercept:	0.239920	-0.539973	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	0.5	----
As found High point	4921	79.4	799.5	794.5	1.007
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	794.0	Previous response	796.2	*% 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	

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	4921	79.4	799.5	796.7	1.004
Mid point	4960	39.7	399.8	395.4	1.011
Low point	4980	19.8	199.4	198.1	1.007
As left zero	5000	0.0	0.0	0.8	----
As left span	4921	79.4	799.5	797.1	1.003
				Average Correction Factor:	1.007

Notes: No maintenance or adjustments done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

SO_2 Calibration Summary

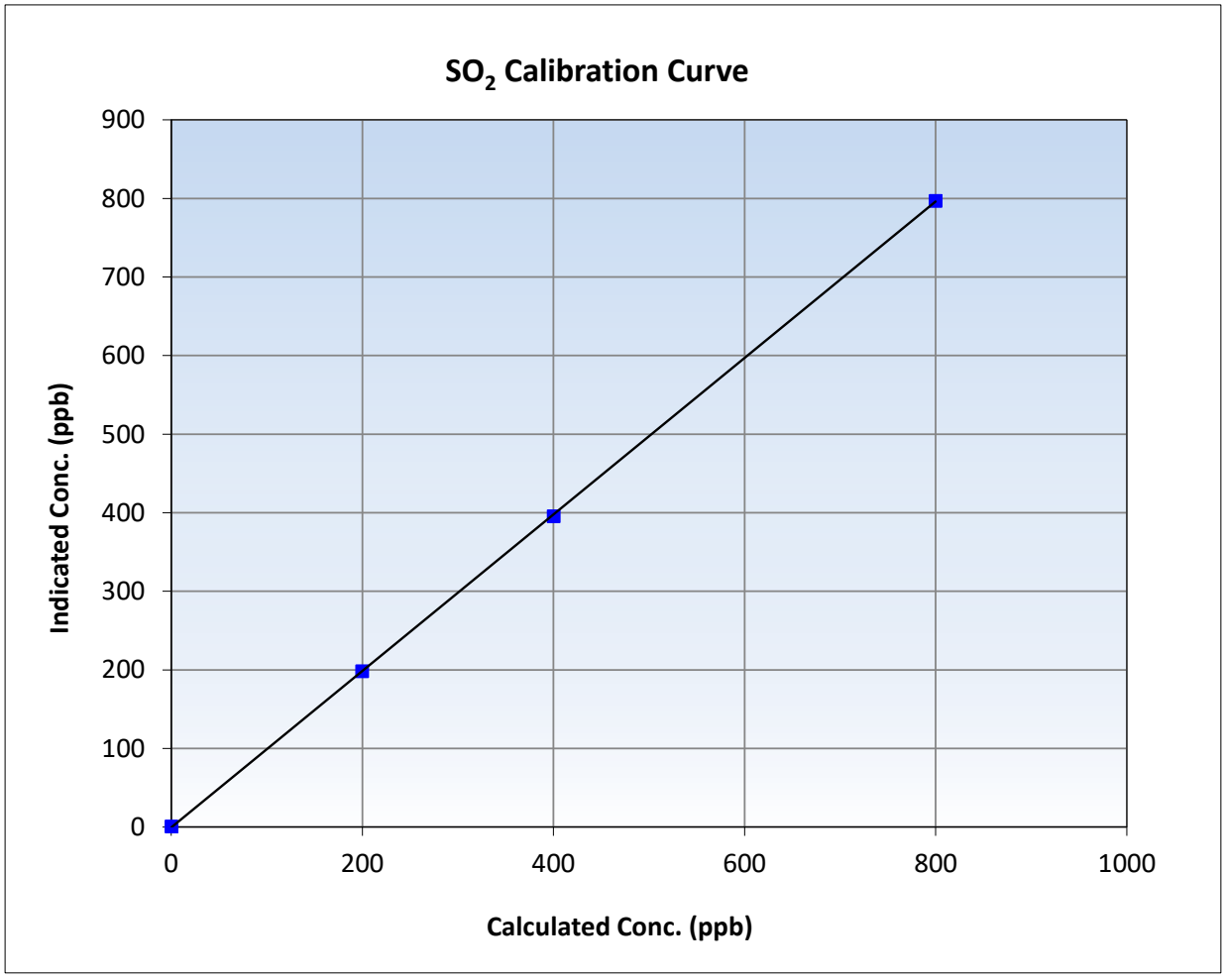
Station Information

Calibration Date:	November 19, 2025	Previous Calibration:	October 10, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	9:25	End Time (MST):	12:06
Analyzer make:	Thermo 43i	Analyzer serial #:	1160290012

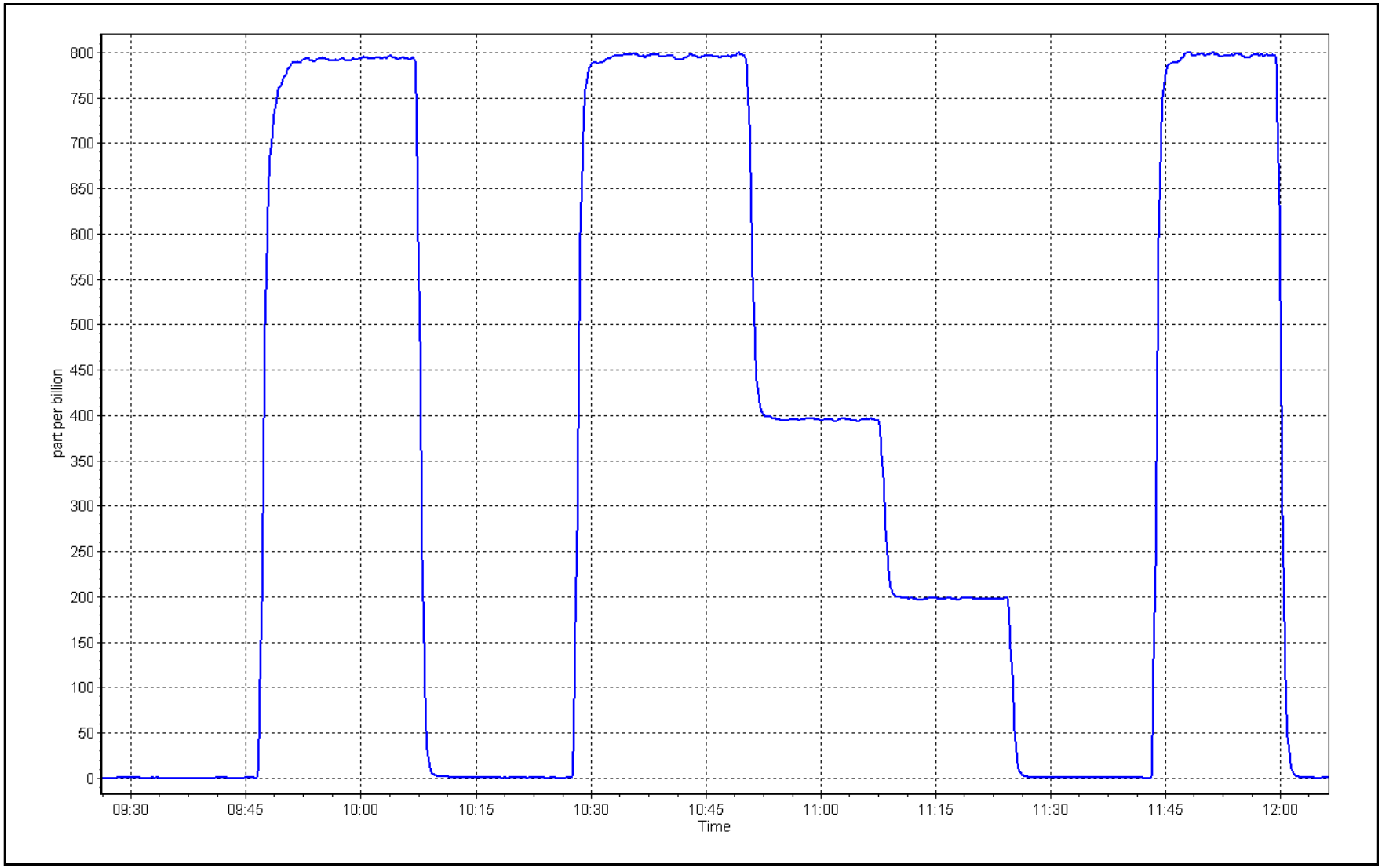
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.5	----
799.5	796.7	1.0035
399.8	395.4	1.0111
199.4	198.1	1.0065

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999980	*≥0.995*
Slope	0.995831	*0.90 - 1.10*
Intercept	-0.539973	*+/-30*



SO2 Calibration Plot Date: November 19, 2025 Location: Fort Hills



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Fort Hills	Station number:	AMS 23
Calibration Date:	November 14, 2025	Last Cal Date:	October 2, 2025
Start time (MST):	8:34	End time (MST):	12:02
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:	1.011534	0.998532	Backgd or Offset:	1.96	1.92
Calibration intercept:	-0.298114	-0.018119	Coeff or Slope:	0.990	0.965

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	4917	82.6	80.0	81.8	0.978
As found Mid point	4959	41.3	40.0	40.7	0.982
As found Low point	4979	20.7	20.0	20.3	0.987
New cylinder response					

Baseline Corr As found:	81.8	Prev response:	80.59	*% change:	1.5%
Baseline Corr 2nd AF pt:	40.7	AF Slope:	1.023546	AF Intercept:	-0.118469
Baseline Corr 3rd AF pt:	20.3	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	79.9	1.001
Mid point	4959	41.3	40.0	39.7	1.007
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	80.5	0.993
SO2 Scrubber Check	4920	80.3	803.0	0.1	----

Date of last scrubber change:				Ave Corr Factor	1.002
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

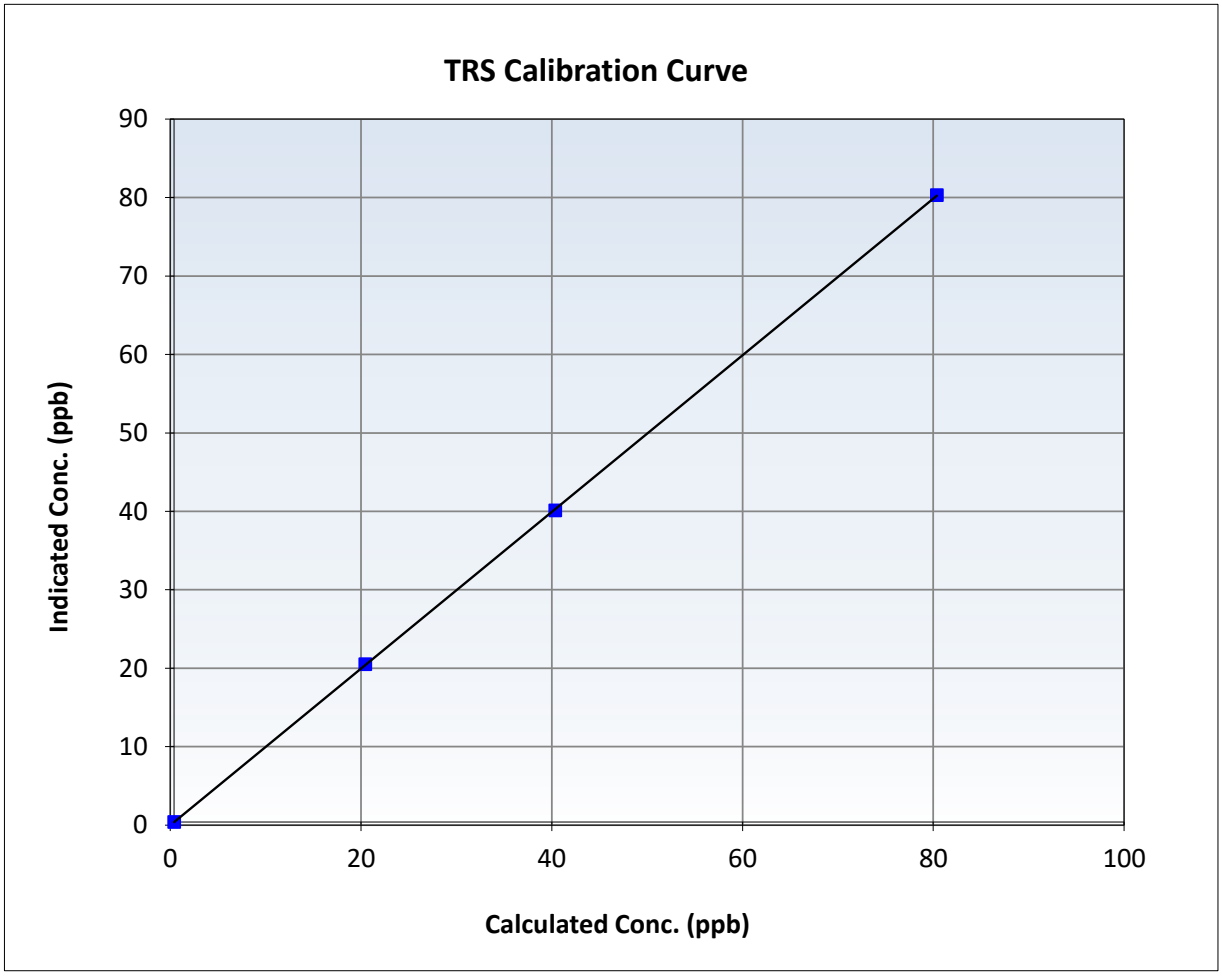
Station Information

Calibration Date:	November 14, 2025	Previous Calibration:	October 2, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	8:34	End Time (MST):	12:02
Analyzer make:	Thermo 43i TLE	Analyzer serial #:	1300156232

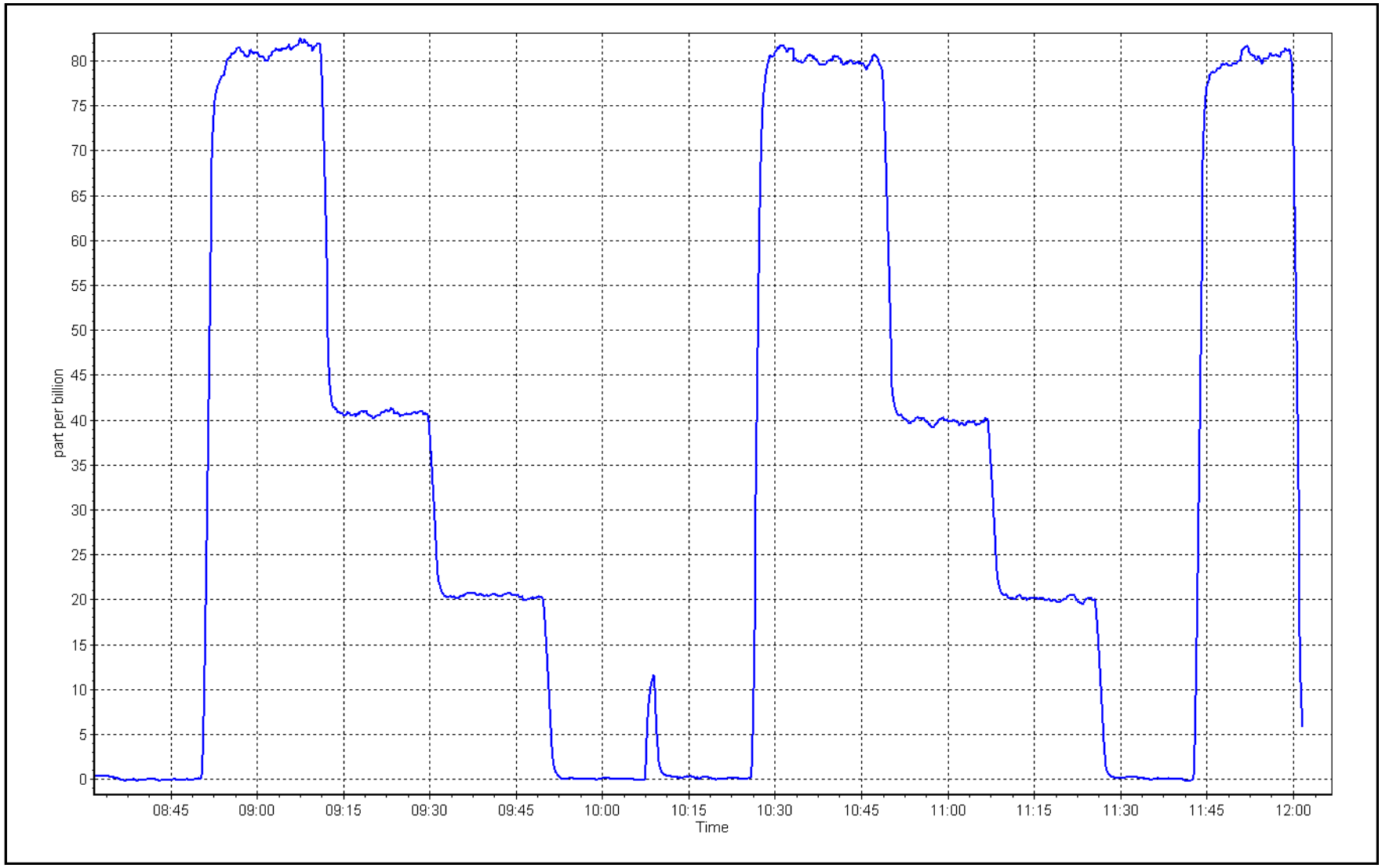
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
80.0	79.9	1.0008
40.0	39.7	1.0070
20.0	20.1	0.9970

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999984	*≥0.995*
Slope	0.998532	*0.90 - 1.10*
Intercept	-0.018119	*+/-3*



TRS Calibration Plot Date: November 14, 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:	November 19, 2025	Last Cal Date:	October 29, 2025
Start time (MST):	9:25	End time (MST):	12:06
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:	3.54E-04	3.62E-04	NMHC SP Ratio:	5.68E-05	5.72E-05
CH4 Retention time:	15.0	15.0	NMHC Peak Area:	157420	156181
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	16.92	1.000
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	16.92	Prev response	16.78	*% 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	4921	79.4	16.92	16.93	1.000
Mid point	4960	39.7	8.46	8.32	1.016
Low point	4980	19.8	4.22	4.15	1.017
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	16.92	16.83	1.005
				Average Correction Factor	1.011

Notes: Nitrogen Cylinder Changed out. 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	8.95	0.996
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.95	Prev response	8.83	*% 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	4921	79.4	8.91	8.89	1.003
Mid point	4960	39.7	4.46	4.41	1.011
Low point	4980	19.8	2.22	2.21	1.005
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	8.91	8.80	1.013
				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	79.4	8.01	7.97	1.004
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	7.97	Prev response	7.95	*% change	0.3%
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	79.4	8.01	8.04	0.997
Mid point	4960	39.7	4.00	3.91	1.023
Low point	4980	19.8	2.00	1.94	1.030
As left zero	5000	0.0	0.00	0.00	----
As left span	4921	79.4	8.01	8.03	0.998
				Average Correction Factor	1.017

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	0.995176	1.000896
THC Cal Offset:	-0.062798	-0.056377
CH4 Cal Slope:	0.998720	1.004713
CH4 Cal Offset:	-0.047801	-0.046789
NMHC Cal Slope:	0.991991	0.997197
NMHC Cal Offset:	-0.014998	-0.009788

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

THC Calibration Summary

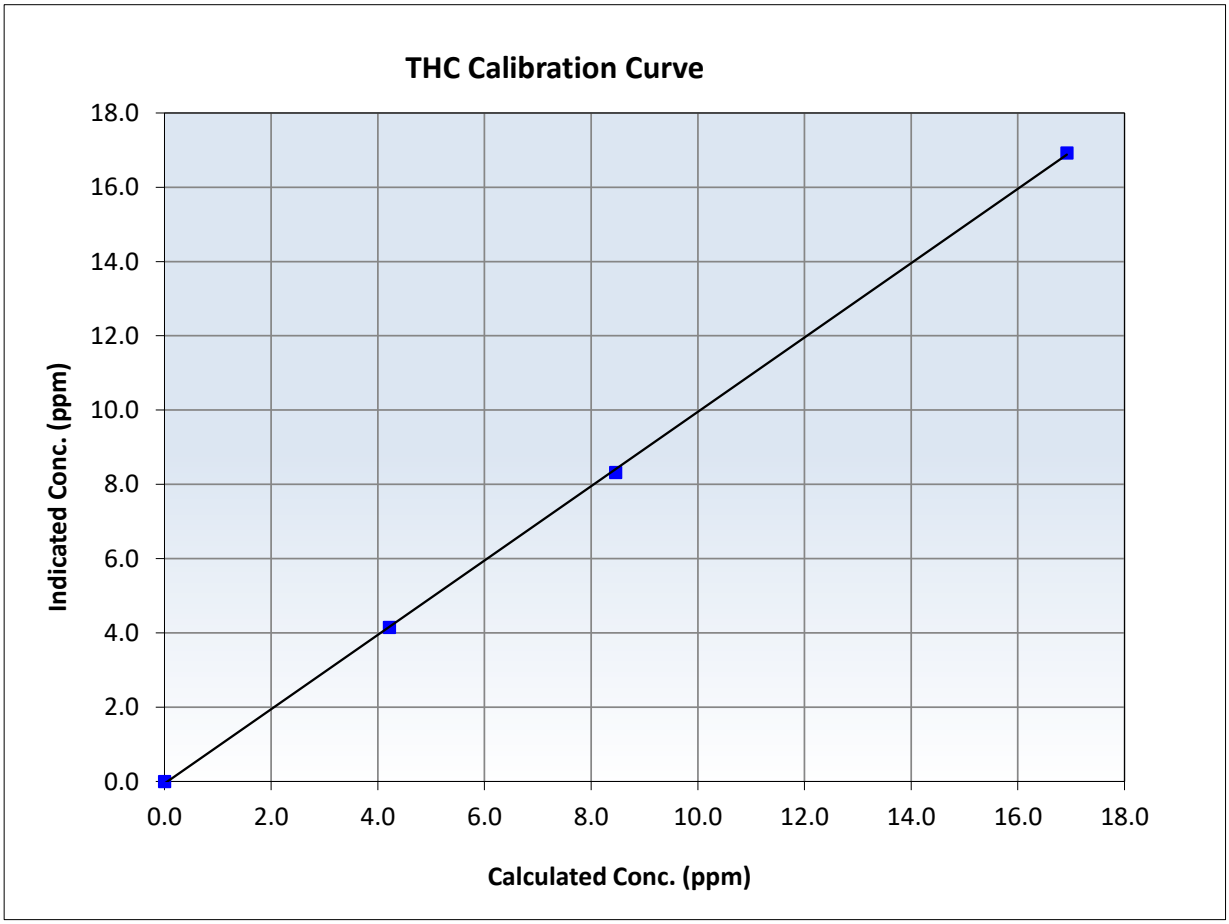
Station Information

Calibration Date:	November 19, 2025	Previous Calibration:	October 29, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	9:25	End Time (MST):	12:06
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	----
16.92	16.93	0.9996
8.46	8.32	1.0165
4.22	4.15	1.0166

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999913	*≥0.995*
Slope	1.000896	*0.90 - 1.10*
Intercept	-0.056377	*+/-0.5*



Wood Buffalo Environmental Association

CH_4 Calibration Summary

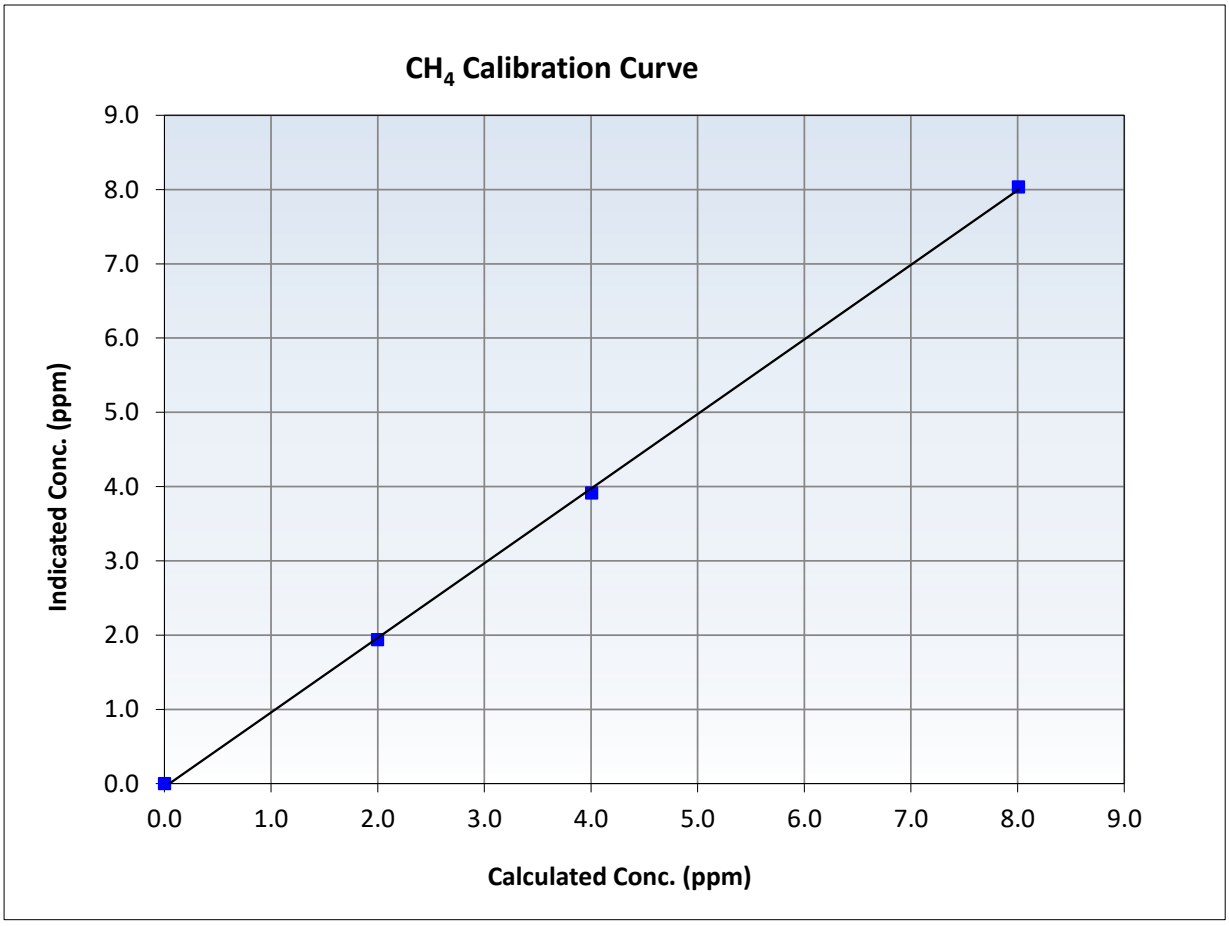
Station Information

Calibration Date:	November 19, 2025	Previous Calibration:	October 29, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	9:25	End Time (MST):	12:06
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	8.04	0.9966
4.00	3.91	1.0231
2.00	1.94	1.0300

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999778	*≥0.995*
Slope	1.004713	*0.90 - 1.10*
Intercept	-0.046789	*+/-0.5*



Wood Buffalo Environmental Association

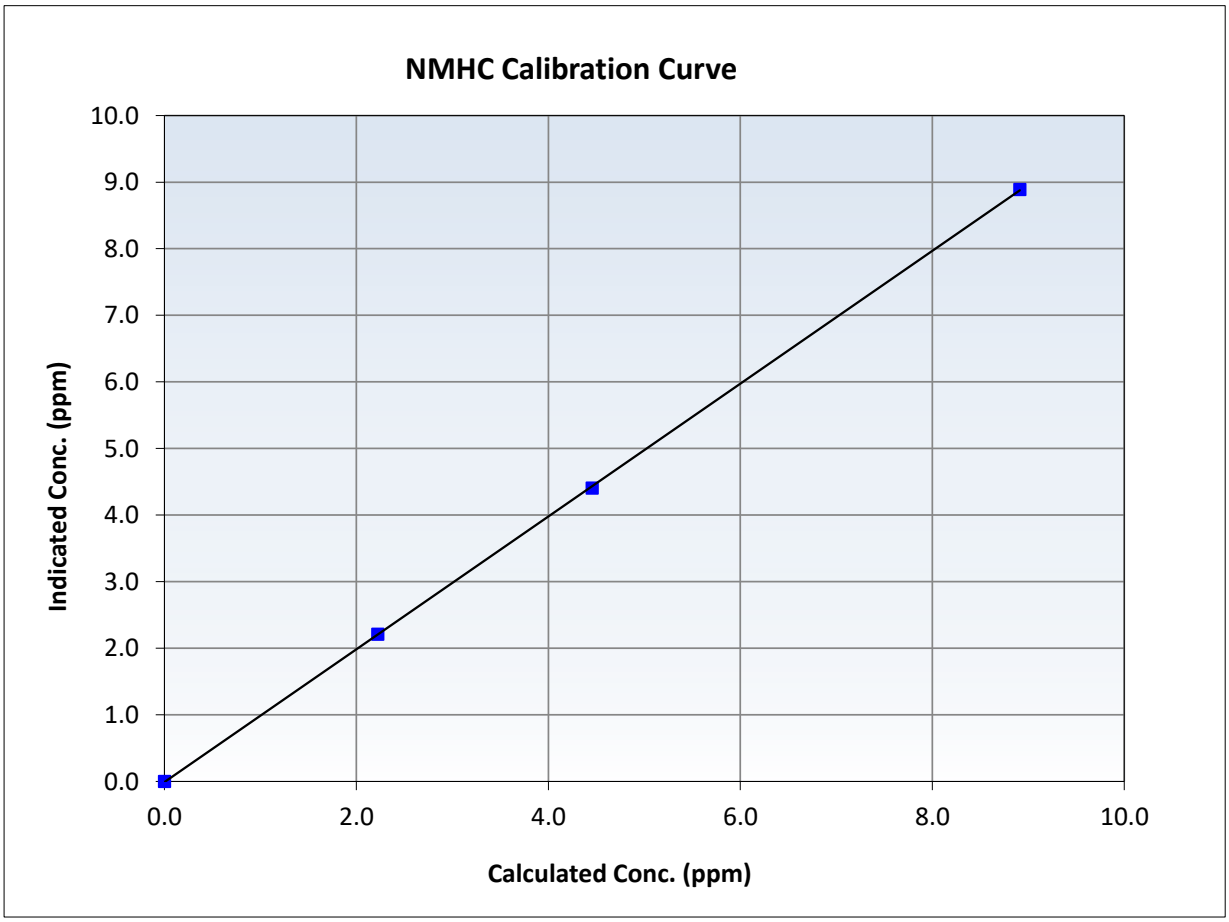
NMHC Calibration Summary

Station Information

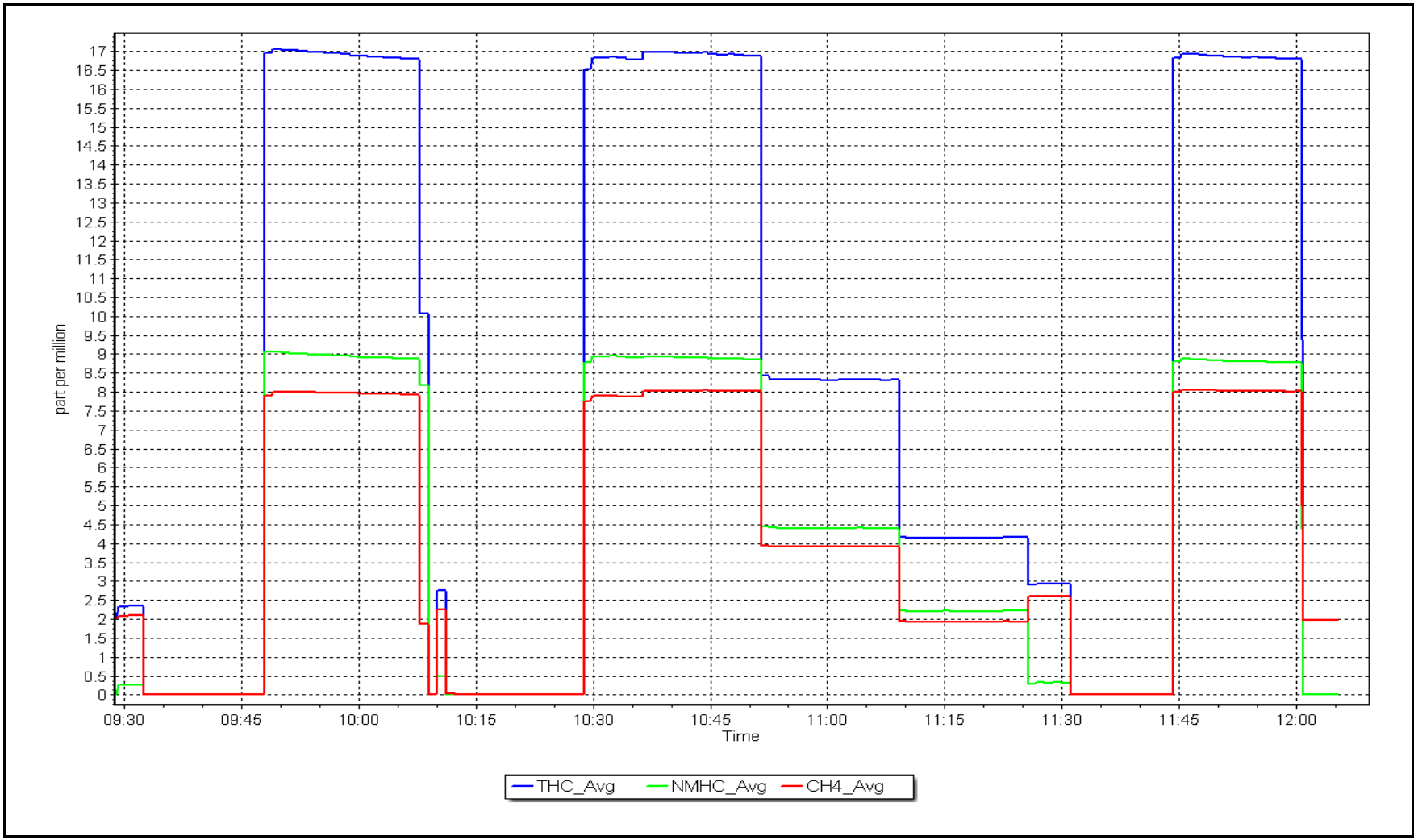
Calibration Date:	November 19, 2025	Previous Calibration:	October 29, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	9:25	End Time (MST):	12:06
Analyzer make:	Thermo 55i	Analyzer serial #:	12227620777

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		Limits
0.00	0.00	----	Correlation Coefficient	0.999976	≥0.995
8.91	8.89	1.0025	Slope	0.997197	0.90 - 1.10
4.46	4.41	1.0113	Intercept	-0.009788	+/-0.5
2.22	2.21	1.0049			



NMHC Calibration Plot Date: November 19, 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:	November 20, 2025
Last Cal Date:	October 20, 2025
Start time (MST):	7:27
End time (MST):	11:47
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	-0.2	-0.1	-0.2	----	----
AF High point	4934	66.3	799.5	796.9	2.7	812.9	806.2	6.6	0.9833	0.9883
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 804.2 ppb	NO = 802.1 ppb
Baseline Corr 1st pt	NO_X = 813.1 ppb	NO = 806.3 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 = 1.1%

*Percent Change NO = 0.5%

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: 1152430007

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.975	0.960	NO bkgnd or offset:	2.8	2.8
NOX coeff or slope:	0.992	0.993	NOX bkgnd or offset:	3.2	3.1
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	147.2	147.2

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.005887	0.998968
NO_X Cal Offset:	-0.015171	-0.093276
NO Cal Slope:	1.008514	0.998603
NO Cal Offset:	-1.513884	-1.331243
NO_2 Cal Slope:	0.997104	1.001135
NO_2 Cal Offset:	-0.955955	-0.460255

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	-0.2	----	----
High point	4934	66.3	799.5	796.9	2.7	799.0	795.7	3.4	1.0007	1.0015
Mid point	4967	33.2	400.4	399.0	1.3	398.8	394.9	3.8	1.0040	1.0105
Low point	4983	16.6	200.2	199.5	0.7	200.5	197.4	3.1	0.9986	1.0109
As left zero	5000	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	----	----
As left span	4934	66.3	799.5	403.8	395.7	795.2	403.8	391.4	1.0054	1.0000
								Average Correction Factor	1.0011	1.0076

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	790.9	401.2	392.4	392.5	0.9996	100.0%
Mid GPT point	790.9	594.7	198.9	198.4	1.0023	99.8%
Low GPT point	790.9	692.6	101.0	100.4	1.0055	99.5%
				Average Correction Factor	1.0025	99.8%

Notes: Span adjusted. No maintenance done.

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

NO_X Calibration Summary

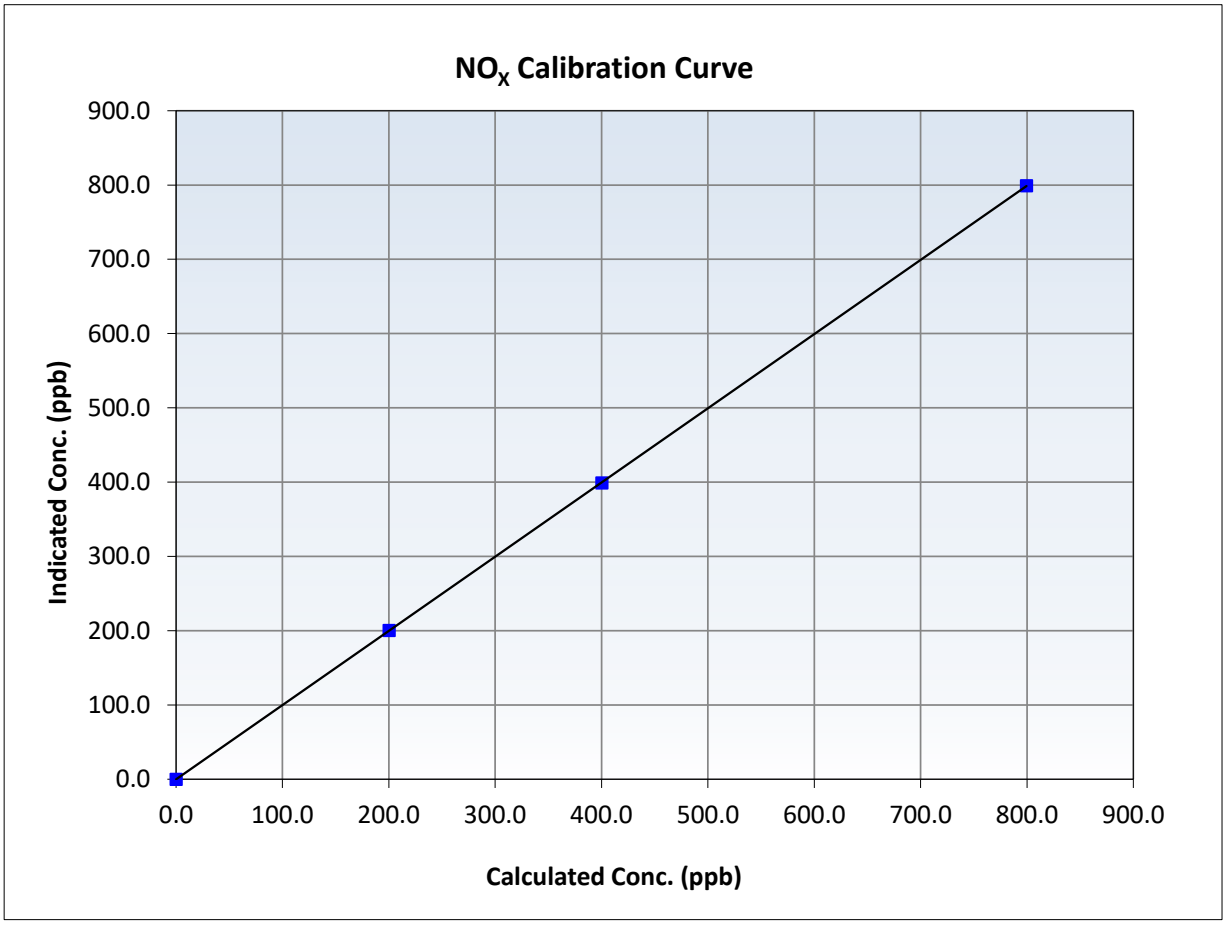
Station Information

Calibration Date:	November 20, 2025	Previous Calibration:	October 20, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	7:27	End Time (MST):	11:47
Analyzer make:	Thermo 42i	Analyzer serial #:	1152430007

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
799.5	799.0	1.0007
400.4	398.8	1.0040
200.2	200.5	0.9986

Statistical Evaluation		Limits
Correlation Coefficient	0.999995	≥0.995
Slope	0.998968	0.90 - 1.10
Intercept	-0.093276	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

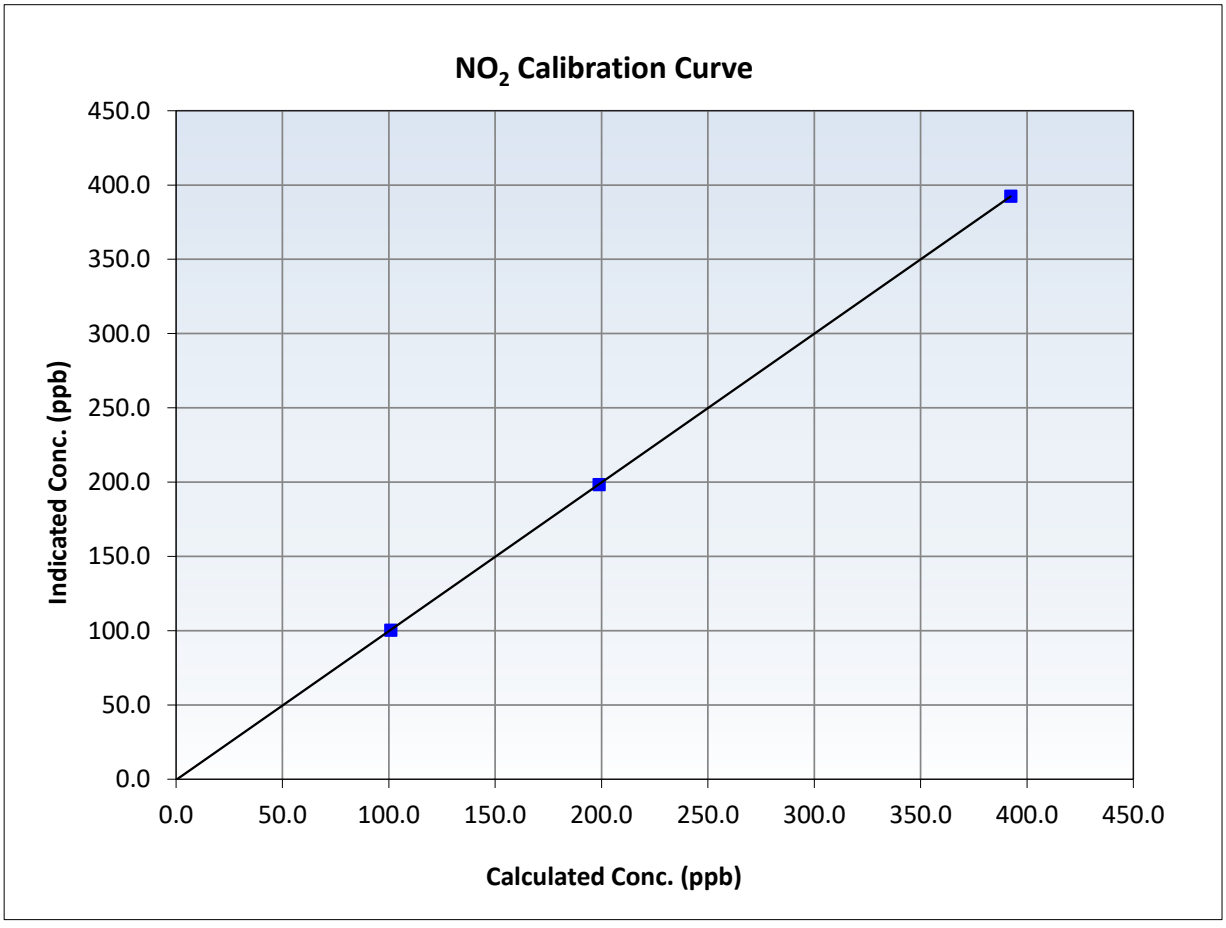
Station Information

Calibration Date:	November 20, 2025	Previous Calibration:	October 20, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	7:27	End Time (MST):	11:47
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	----
392.4	392.5	0.9996
198.9	198.4	1.0023
101.0	100.4	1.0055

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	1.001135	*0.90 - 1.10*
Intercept	-0.460255	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

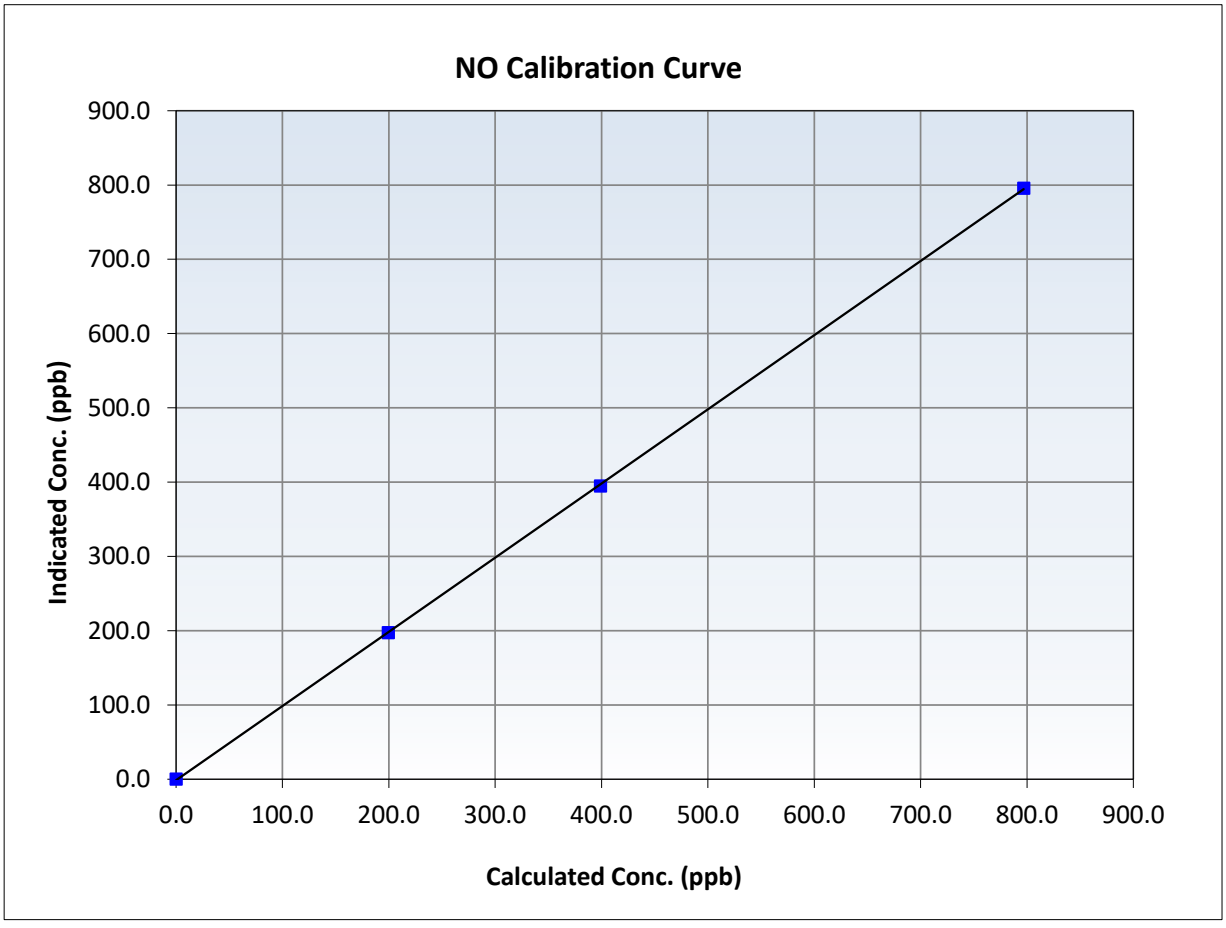
Station Information

Calibration Date:	November 20, 2025	Previous Calibration:	October 20, 2025
Station Name:	Fort Hills	Station Number:	AMS 23
Start Time (MST):	7:27	End Time (MST):	11:47
Analyzer make:	Thermo 42i	Analyzer serial #:	1152430007

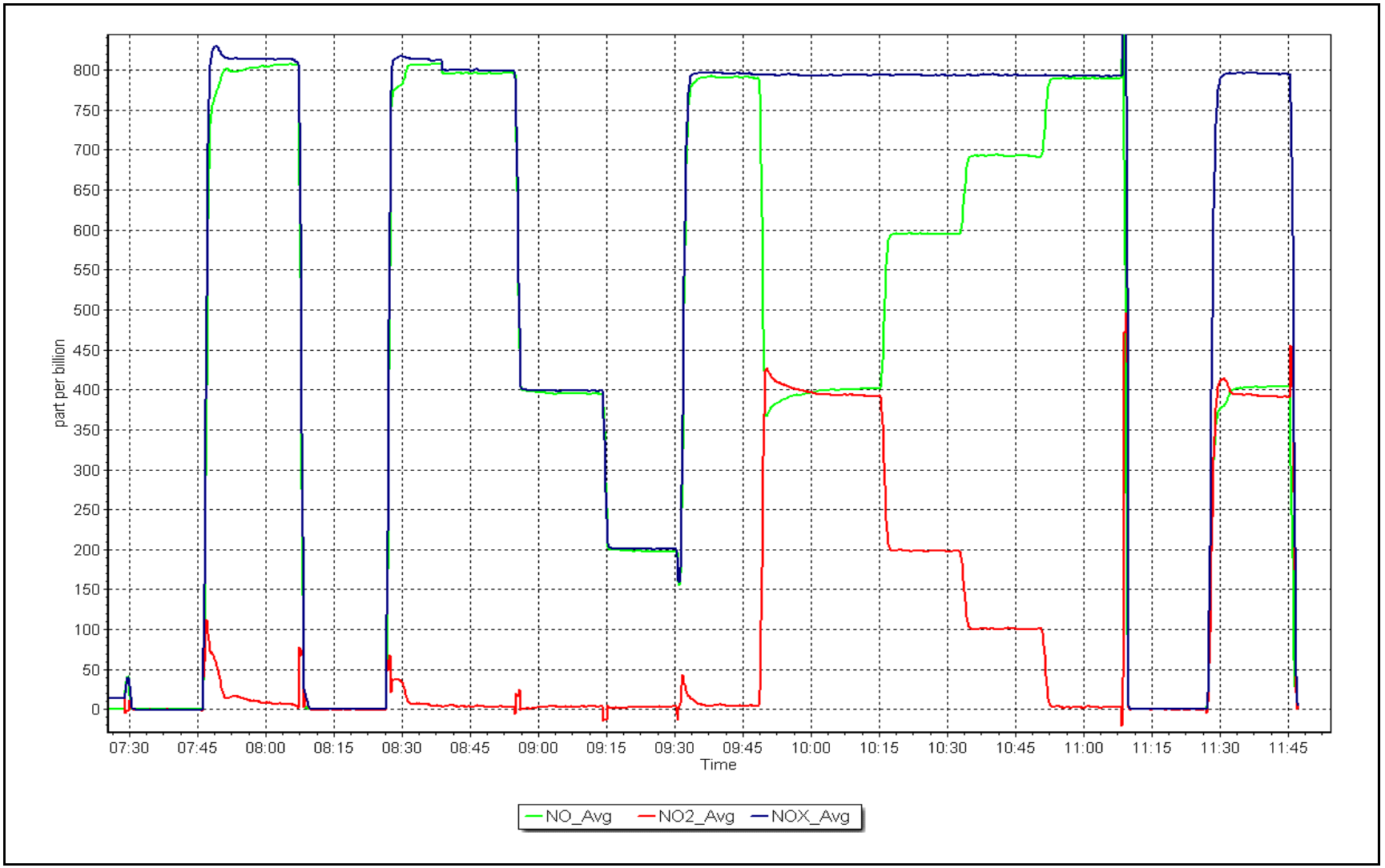
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
796.9	795.7	1.0015
399.0	394.9	1.0105
199.5	197.4	1.0109

Statistical Evaluation		Limits
Correlation Coefficient	0.999973	≥0.995
Slope	0.998603	0.90 - 1.10
Intercept	-1.331243	+/-20



NO_X Calibration Plot Date: November 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:	November 19, 2025	Last Cal Date:	October 20, 2025
Start time (MST):	8:08	End time (MST):	9:18
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)	-5.9	-6.4	-5.9	☐	+/- 2 °C
P (mmHg)	732.7	731.8	732.7	☐	+/- 10 mmHg
Flow (LPM)	5.00	5.03	5.00	☐	+/- 0.25 LPM
PW% (pump)	78	-----	75	☐	>80%
Zero Verification	PM w/o HEPA:	6.0	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	8.9	10.7	10.7	☐	+/- 0.5

Date Optical Chamber Cleaned: November 19, 2025

Date Disposable Filter Changed: November 19, 2025

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

Annual Maintenance

Date Sample Tube Cleaned: November 19, 2025

Date RH/T Sensor Cleaned: November 19, 2025

Notes: No adjustments done. 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
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Waskow ohci Pimatisiwin	Station number:	AMS 25
Calibration Date:	November 24, 2025	Last Cal Date:	October 24, 2025
Start time (MST):	8:05	End time (MST):	11:12
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:	0.997669	0.999156	Backgd or Offset:	11.1	11.6
Calibration intercept:	0.327490	-0.592733	Coeff or Slope:	1.046	1.056

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	80.5	800.1	791.2	1.012
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	790.7	Previous response	798.6	*% 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	80.5	800.1	799.0	1.001
Mid point	4960	40.2	399.6	398.4	1.003
Low point	4980	20.1	199.8	198.8	1.005
As left zero	5000	0.0	0.0	0.2	----
As left span	4920	80.5	800.1	799.4	1.001
				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

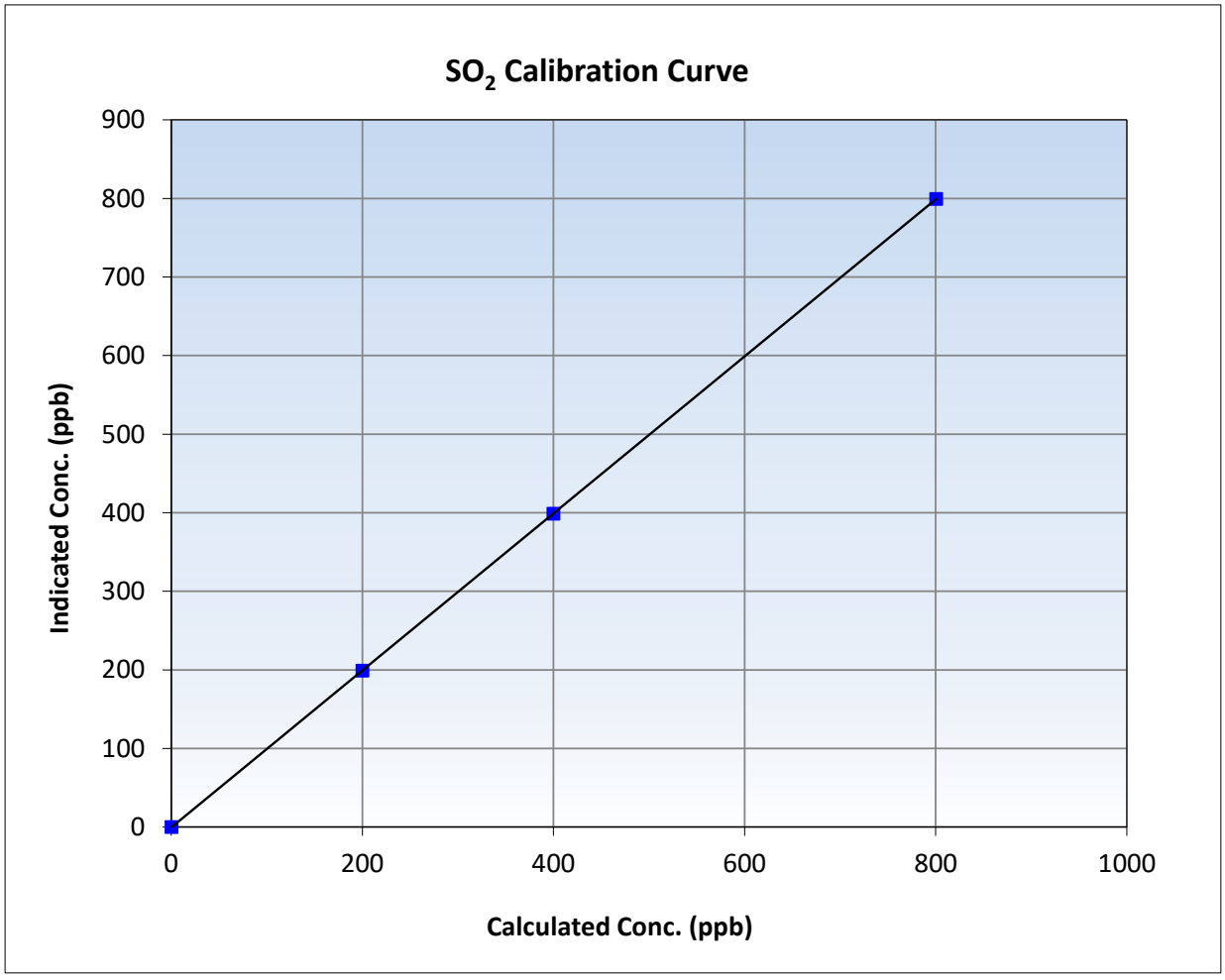
Station Information

Calibration Date:	November 24, 2025	Previous Calibration:	October 24, 2025
Station Name:	Waskow ohci Pimatisiwin	Station Number:	AMS 25
Start Time (MST):	8:05	End Time (MST):	11:12
Analyzer make:	Thermo 43i	Analyzer serial #:	1118148497

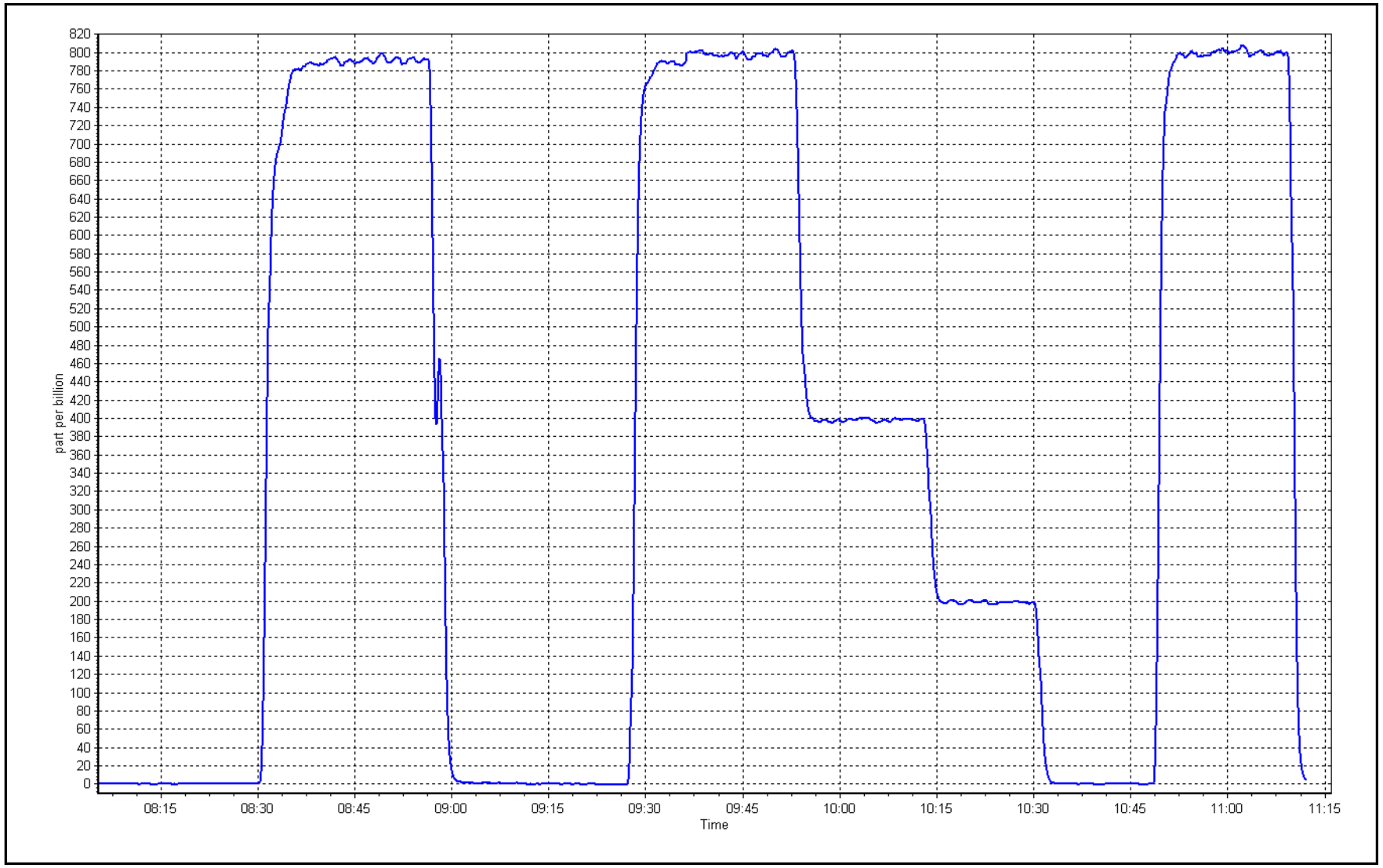
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.3	----
800.1	799.0	1.0014
399.6	398.4	1.0029
199.8	198.8	1.0050

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	0.999156	*0.90 - 1.10*
Intercept	-0.592733	*+/-30*



SO2 Calibration Plot Date: November 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:	November 18, 2025	Last Cal Date:	October 27, 2025
Start time (MST):	6:42	End time (MST):	11:17
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:	1.000081	1.004077	Backgd or Offset:	3.66	3.66
Calibration intercept:	0.182210	0.142303	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	0.0	----
As found High point	4919	80.5	80.0	81.0	0.988
As found Mid point	4960	40.3	40.1	40.7	0.984
As found Low point	4980	20.1	20.0	20.3	0.984
New cylinder response					

Baseline Corr As found:	81.0	Prev response:	80.21	*% change:	1.0%
Baseline Corr 2nd AF pt:	40.7	AF Slope:	1.012075	AF Intercept:	0.062230
Baseline Corr 3rd AF pt:	20.3	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	0.1	----
High point	4919	80.5	80.0	80.5	0.994
Mid point	4960	40.3	40.1	40.3	0.994
Low point	4980	20.1	20.0	20.3	0.984
As left zero	5000	0.0	0.0	0.2	----
As left span	4920	80.0	800.0	817.0	0.979
SO2 Scrubber Check	4920	80.0	800.0	0.0	----

Date of last scrubber change:		Ave Corr Factor	0.991
Date of last converter efficiency test:	February 12, 2025	111.0%	efficiency

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

Calibration Performed By: Melissa Lemay

Wood Buffalo Environmental Association

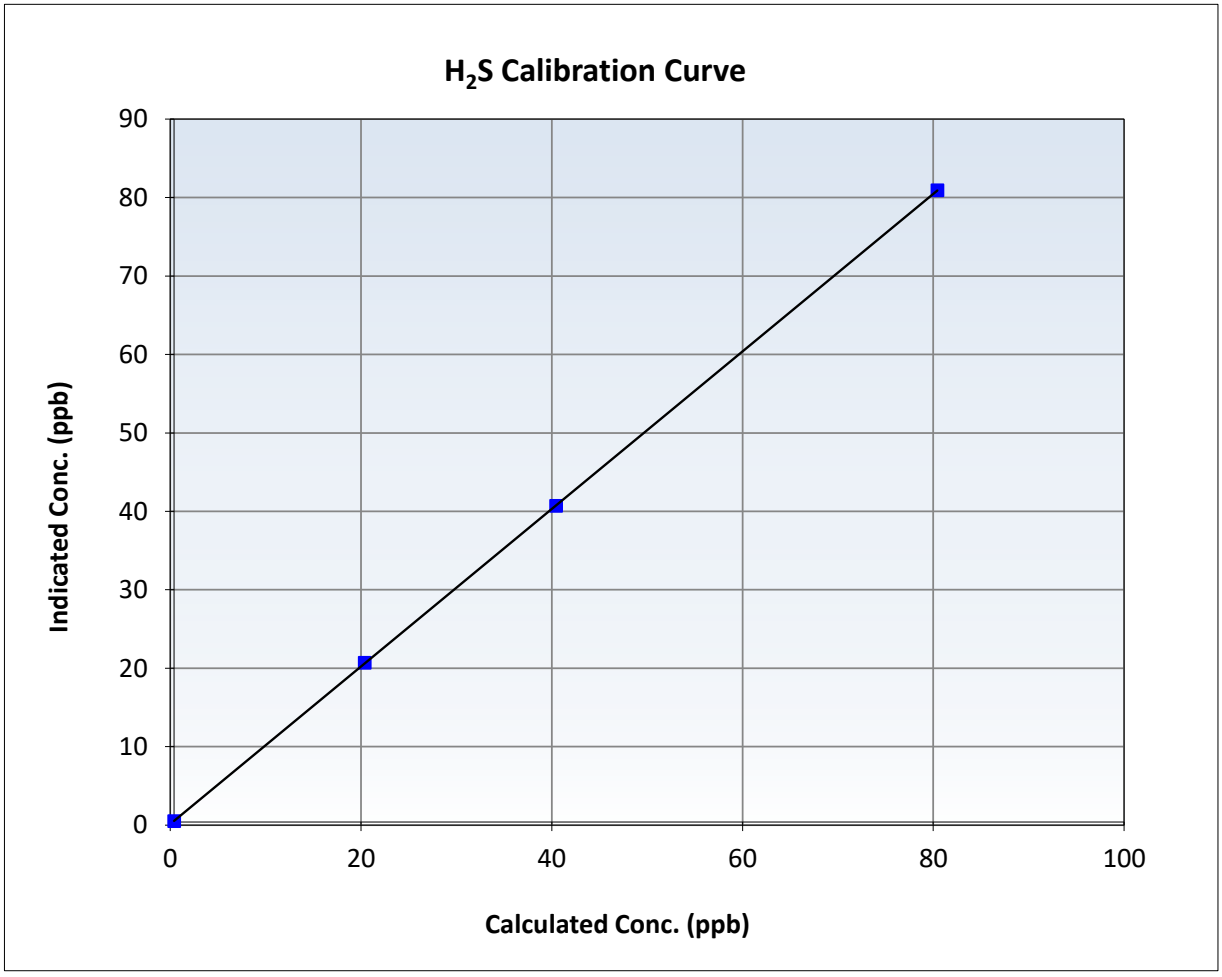
H_2S Calibration Summary

Station Information

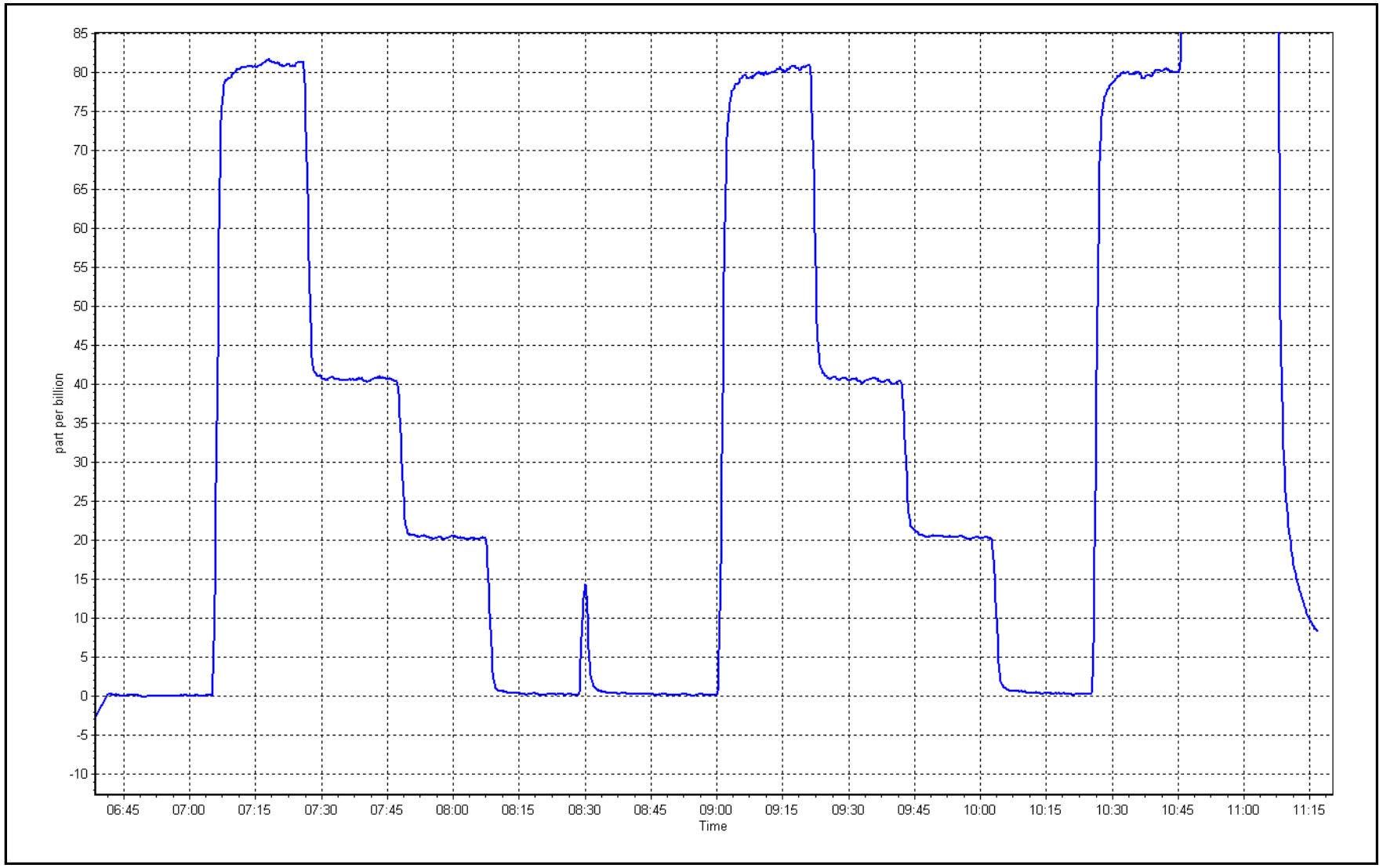
Calibration Date:	November 18, 2025	Previous Calibration:	October 27, 2025
Station Name:	Waskow ohci Pimatisiwin	Station Number:	AMS 25
Start Time (MST):	6:42	End Time (MST):	11:17
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1170050146

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999996	*≥0.995*
80.0	80.5	0.9941	Slope	1.004077	*0.90 - 1.10*
40.1	40.3	0.9939			
20.0	20.3	0.9842	Intercept	0.142303	*+/-3*



H_2S Calibration Plot Date: November 18, 2025 Location: Waskow ohci Pimatisiwin



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS27
JACKFISH 2/3
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Jackfish 2/3	Station number:	AMS 27
Calibration Date:	November 3, 2025	Last Cal Date:	October 3, 2025
Start time (MST):	11:34	End time (MST):	15:05
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:	1.001333	1.002161	Backgd or Offset:	9.3	9.8
Calibration intercept:	0.202353	0.362717	Coeff or Slope:	0.907	0.921

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	790.2	1.012
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	790.0	Previous response	800.7	*% change	-1.4%
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	4913	78.9	799.4	801.6	0.997
Mid point	4955	39.5	400.0	400.9	0.998
Low point	4971	19.7	199.7	200.9	0.994
As left zero	5000	0.0	0.0	-0.1	----
As left span	4913	78.9	799.4	806.4	0.991
				Average Correction Factor:	0.996

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

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

SO_2 Calibration Summary

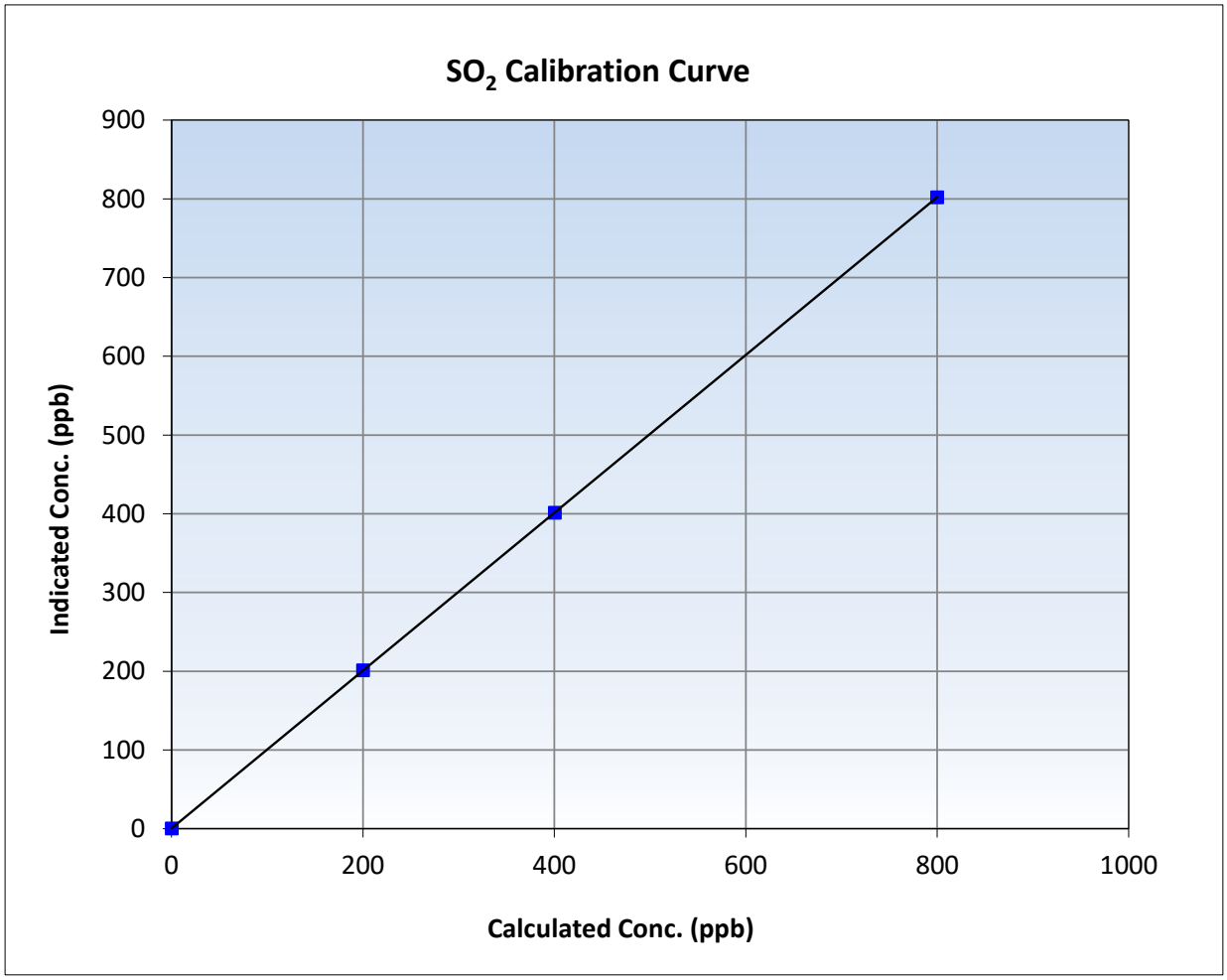
Station Information

Calibration Date:	November 3, 2025	Previous Calibration:	October 3, 2025
Station Name:	Jackfish 2/3	Station Number:	AMS 27
Start Time (MST):	11:34	End Time (MST):	15:05
Analyzer make:	Thermo 43iQ-TL	Analyzer serial #:	12124313138

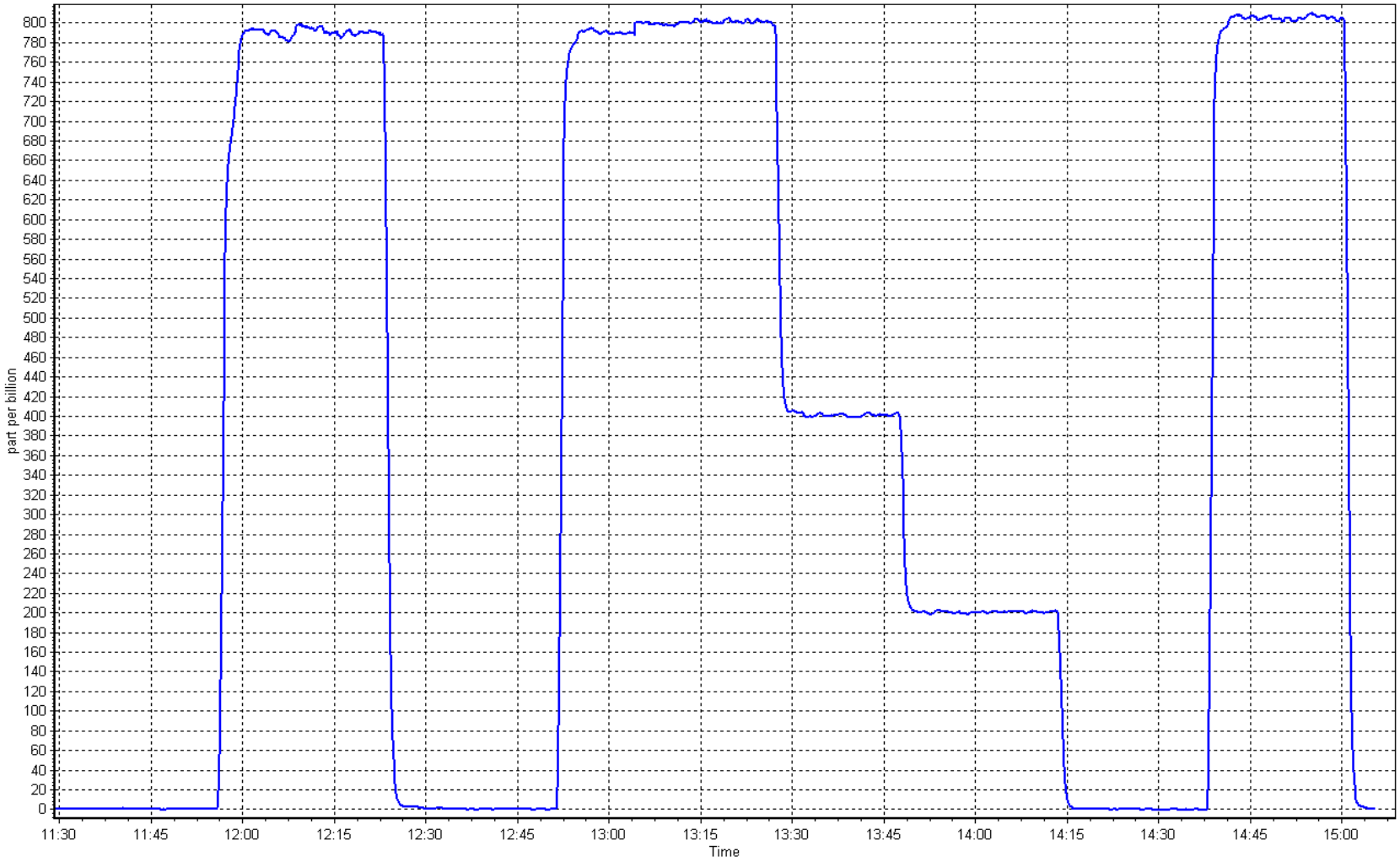
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
799.4	801.6	0.9973
400.0	400.9	0.9978
199.7	200.9	0.9938

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999999	*≥0.995*
Slope	1.002161	*0.90 - 1.10*
Intercept	0.362717	*+/-30*



SO2 Calibration Plot Date: November 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:	November 18, 2025	Last Cal Date:	October 24, 2025
Start time (MST):	13:27	End time (MST):	22:36
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:	1.004522	1.003521	Backgd or Offset:	3.26	3.39
Calibration intercept:	0.196003	-0.043977	Coeff or Slope:	1.228	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	0.2	----
As found High point	4911	82.0	80.0	80.1	1.001
As found Mid point	4950	41.0	40.0	39.9	1.008
As found Low point	4972	20.5	20.0	20.1	1.005
New cylinder response					
Baseline Corr As found:	79.9	Prev response:	80.54	*% change:	-0.8%
Baseline Corr 2nd AF pt:	39.7	AF Slope:	0.998949	AF Intercept:	0.116027
Baseline Corr 3rd AF pt:	19.9	AF Correlation:	0.999986	* = > +/-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	4911	82.0	80.0	80.3	0.996
Mid point	4950	41.0	40.0	39.8	1.005
Low point	4972	20.5	20.0	20.3	0.985
As left zero	5000	0.0	0.0	0.1	----
As left span	4911	82.0	80.0	80.7	0.991
SO2 Scrubber Check	4915	78.9	790.0	-0.1	----
Date of last scrubber change:		18-Nov-25		Ave Corr Factor	0.995
Date of last converter efficiency test:		April 23, 2025		91.4%	efficiency

Notes: Changed sample inlet filter after as founds. Performed troubleshooting to investigate elevated "as-left" span values. As part of the corrective actions, replaced the valve tubing, scrubber tube, and scrubber beads, and ensured all fittings were properly tightened. The scrubber check was completed successfully. Adjusted both zero and span.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

H_2S Calibration Summary

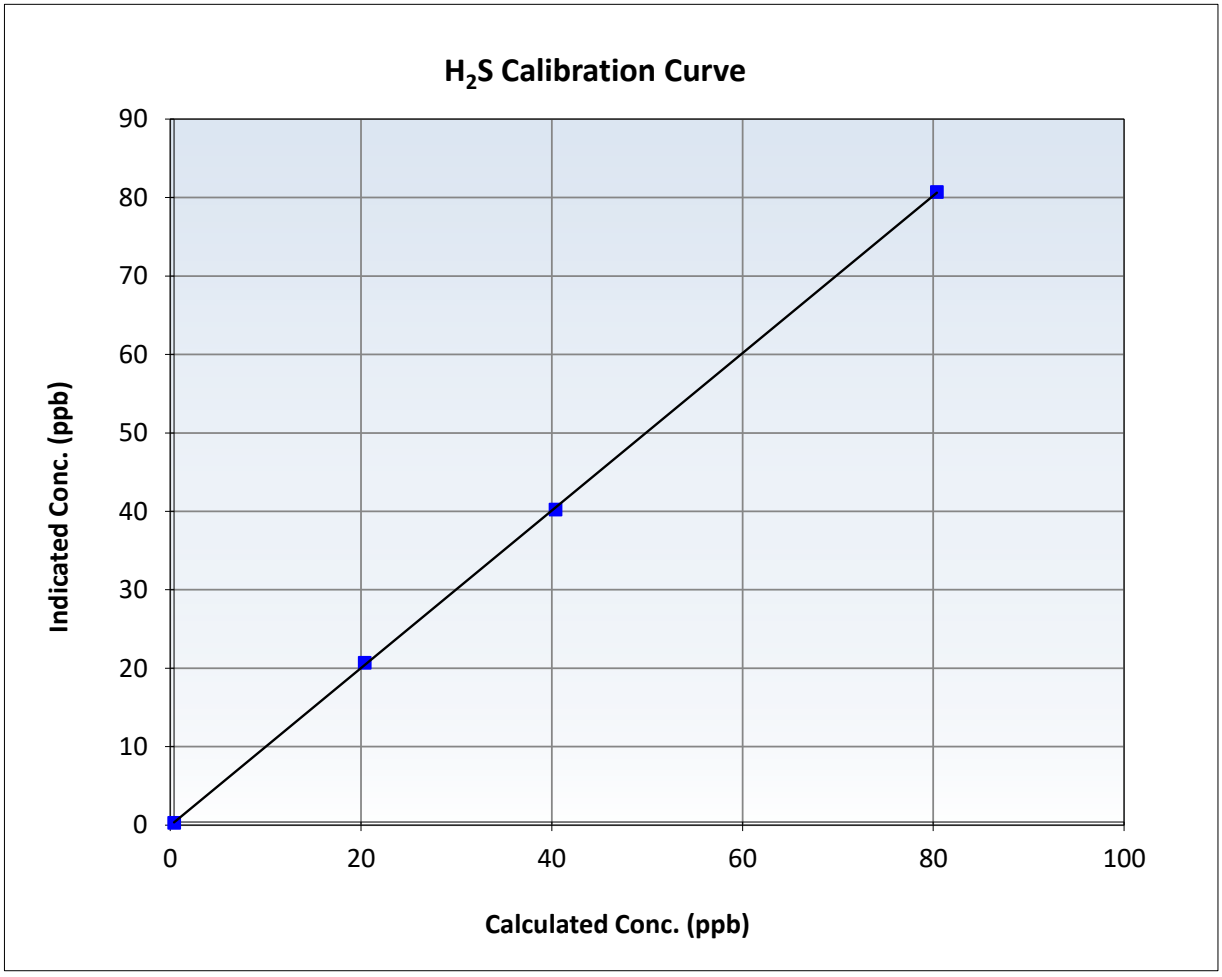
Station Information

Calibration Date:	November 18, 2025	Previous Calibration:	October 24, 2025
Station Name:	Jackfish 2/3	Station Number:	AMS 27
Start Time (MST):	13:27	End Time (MST):	22:36
Analyzer make:	Thermo 43iQ	Analyzer serial #:	12228021055

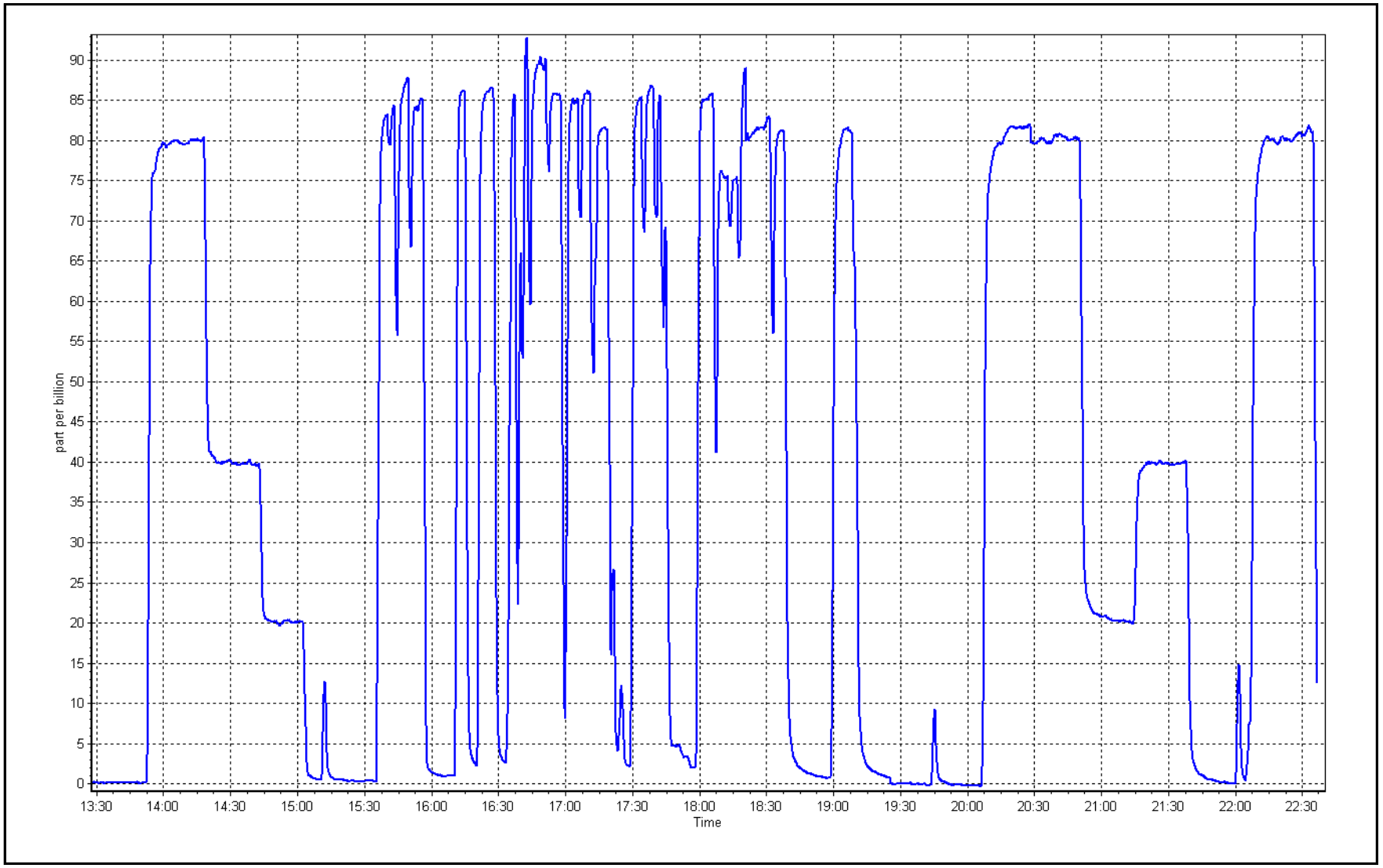
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
80.0	80.3	0.9960
40.0	39.8	1.0052
20.0	20.3	0.9851

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999949	*≥0.995*
Slope	1.003521	*0.90 - 1.10*
Intercept	-0.043977	*+/-3*



H_2S Calibration Plot Date: November 18, 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:	November 12, 2025
Last Cal Date:	October 23, 2025
Start time (MST):	13:16
End time (MST):	16:45
Reason:	As Found

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	-0.1	0.0	-0.1	----	----
AF High point	4924	66.3	801.1	799.8	1.3	738.0	732.5	5.6	1.0854	1.0919
AF Mid point	4958	33.2	401.1	400.4	0.7	369.5	365.3	4.1	1.0852	1.0962
AF Low point	4976	16.6	200.5	200.2	0.3	185.3	181.3	4.0	1.0814	1.1040
New cyl resp										

Previous Response	NO_X = 799.5 ppb	NO = 798.2 ppb
Baseline Corr 1st pt	NO_X = 738.1 ppb	NO = 732.5 ppb
Baseline Corr 2nd pt	NO_X = 369.6 ppb	NO = 365.3 ppb
Baseline Corr 3rd pt	NO_X = 185.4 ppb	NO = 181.3 ppb

* = > +/-5% change initiates investigation

*Percent Change NO_X = -8.3%

*Percent Change NO = -9.0%

As Found Statistics

As found	NO_X r^2: 0.999999	Nx Sl: 0.921038	Nx Int: 0.185
As found	NO r^2: 0.999990	NO Sl: 0.916508	NO Int: -1.094
As found	NO_2 r^2: 0.999885	NO2 Sl: 1.000631	NO_2 Int: 1.472

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	727.0	353.1	375.2	376.5	0.9966	100.3%
As found mid GPT point	727.0	532.4	195.9	197.1	0.9941	100.6%
As found low GPT point	727.0	626.7	101.6	105.6	0.9624	103.9%

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:	1.524	1.524	NO bkgnd or offset:	6.1	6.1
NOX coeff or slope:	0.996	0.996	NOX bkgnd or offset:	6.2	6.2
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	179.7	179.7

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.997189	
NO_X Cal Offset:	0.630204	
NO Cal Slope:	0.999286	
NO Cal Offset:	-1.049205	
NO_2 Cal Slope:	0.999326	
NO_2 Cal Offset:	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										
High point										
Mid point										
Low point										
As left zero										
As left span										

Average Correction Factor

GPT Calibration Data

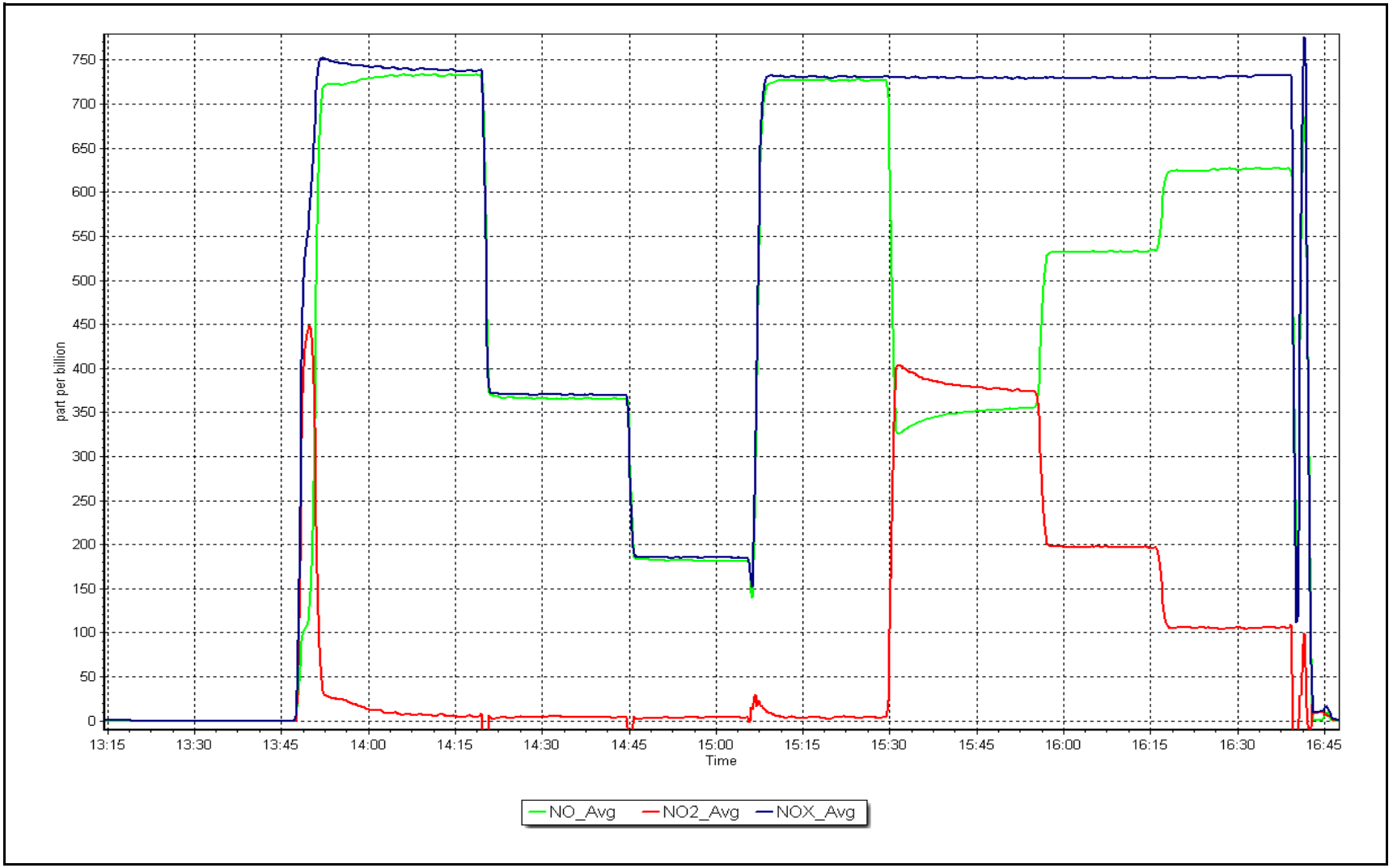
O3 Setpoint (ppb)	Indicated NO Reference concentration (ppb)	Indicated NO Drop concentration (ppb)	Calculated NO2 concentration (ppb) (Cc)	Indicated NO2 concentration (ppb) (Ic)	NO2 Correction factor (Cc/Ic) *Limit = 0.95-1.05*	Converter Efficiency *Limit = 96-104%*
Cal zero						
High GPT point				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

Average Correction Factor

Notes: As founds only.

Calibration Performed By: Mohammed Kashif

NO_X Calibration Plot Date: November 12, 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:	November 13, 2025
Last Cal Date:	October 23, 2025
Start time (MST):	8:56
End time (MST):	13:36
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										
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 42i Serial Number: 1218153357

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.524	1.513	NO bkgnd or offset:	6.1	6.1
NOX coeff or slope:	0.996	0.996	NOX bkgnd or offset:	6.2	6.1
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	179.7	176.4

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.997189	0.998771
NO_X Cal Offset:	0.630204	0.050109
NO Cal Slope:	0.999286	0.998442
NO Cal Offset:	-1.049205	-1.228850
NO_2 Cal Slope:	0.999326	1.004627
NO_2 Cal Offset:	0.407685	1.152046

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	4924	66.3	801.1	799.8	1.3	800.3	798.1	2.3	1.0010	1.0021
Mid point	4958	33.2	401.1	400.4	0.7	400.4	397.4	3.0	1.0017	1.0076
Low point	4976	16.6	200.5	200.2	0.3	200.4	197.9	2.6	1.0005	1.0114
As left zero	5000	0.0	0.0	0.0	0.0	0.9	0.1	0.8	----	----
As left span	4924	66.3	801.1	381.8	419.3	797.7	381.8	415.9	1.0043	1.0000
								Average Correction Factor	1.0011	1.0071

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	792.6	383.7	410.2	412.7	0.9940	100.6%
Mid GPT point	792.6	582.4	211.5	214.3	0.9871	101.3%
Low GPT point	792.6	679.5	114.4	117.0	0.9780	102.2%
				Average Correction Factor	0.9864	101.4%

Notes: Changed sample inlet filter and pump. Adjusted span only.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

NO_X Calibration Summary

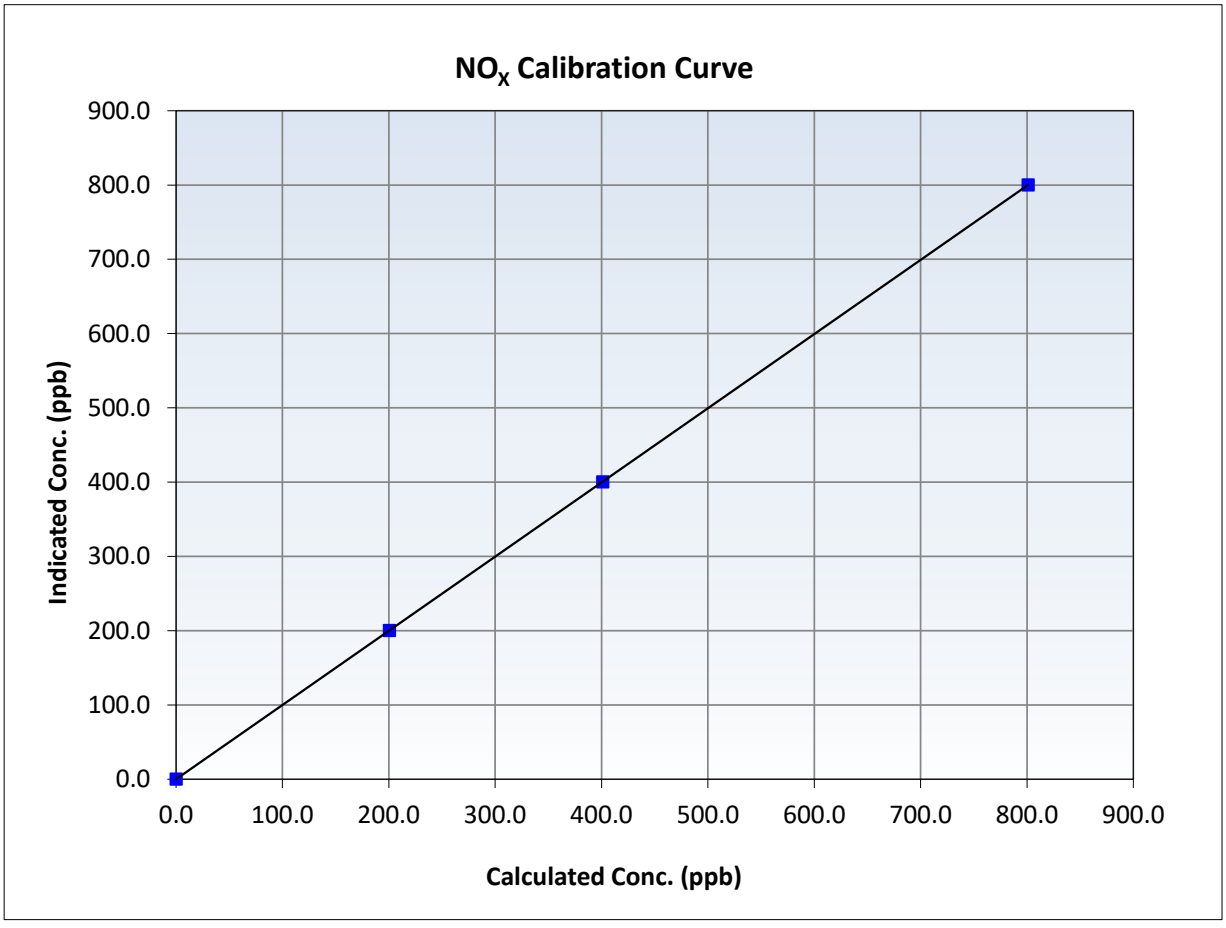
Station Information

Calibration Date:	November 13, 2025	Previous Calibration:	October 23, 2025
Station Name:	Jackfish 2/3	Station Number:	AMS 27
Start Time (MST):	8:56	End Time (MST):	13:36
Analyzer make:	Thermo 42i	Analyzer serial #:	1218153357

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
801.1	800.3	1.0010
401.1	400.4	1.0017
200.5	200.4	1.0005

Statistical Evaluation		*Limits*
Correlation Coefficient	1.000000	*≥0.995*
Slope	0.998771	*0.90 - 1.10*
Intercept	0.050109	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

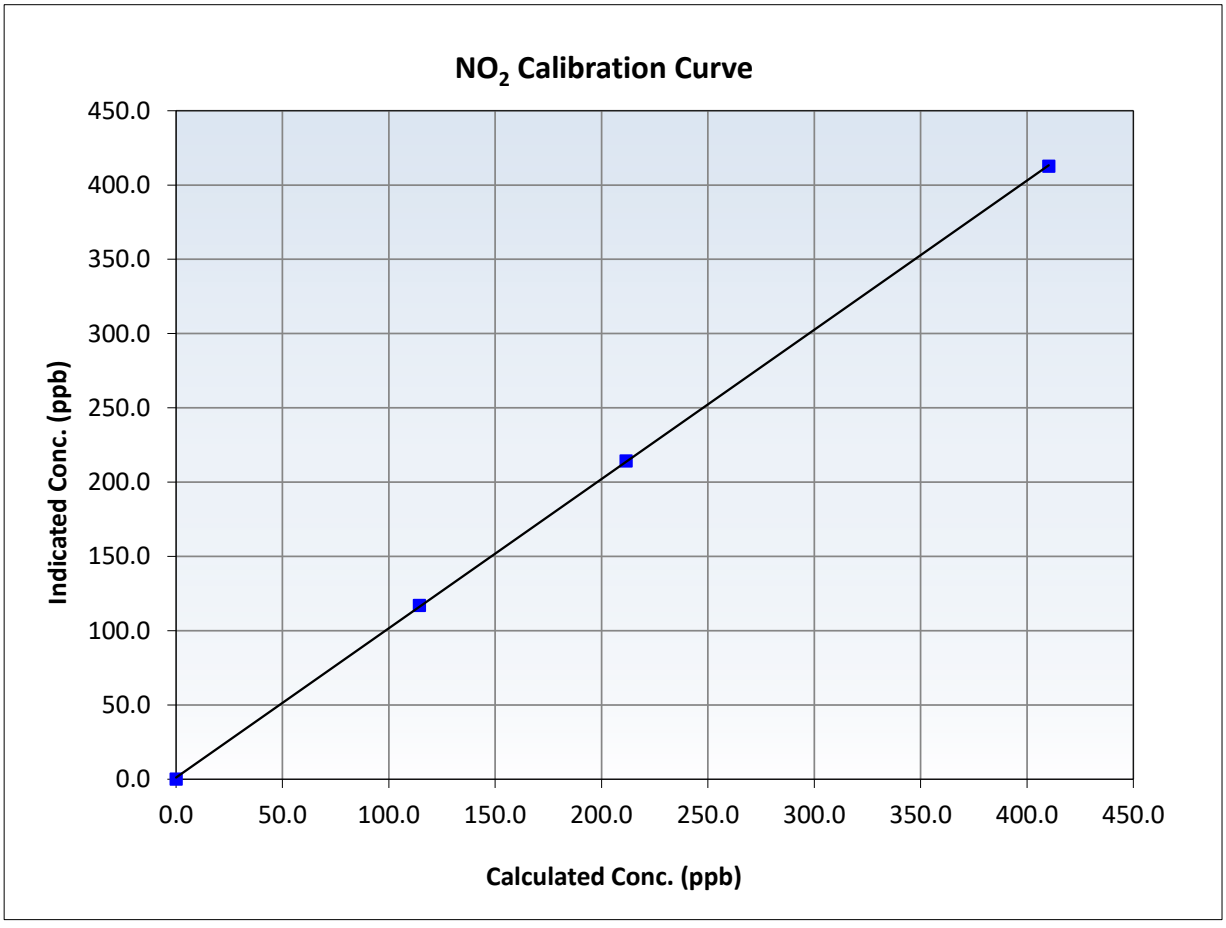
Station Information

Calibration Date:	November 13, 2025	Previous Calibration:	October 23, 2025
Station Name:	Jackfish 2/3	Station Number:	AMS 27
Start Time (MST):	8:56	End Time (MST):	13:36
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	----
410.2	412.7	0.9940
211.5	214.3	0.9871
114.4	117.0	0.9780

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999973	*≥0.995*
Slope	1.004627	*0.90 - 1.10*
Intercept	1.152046	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

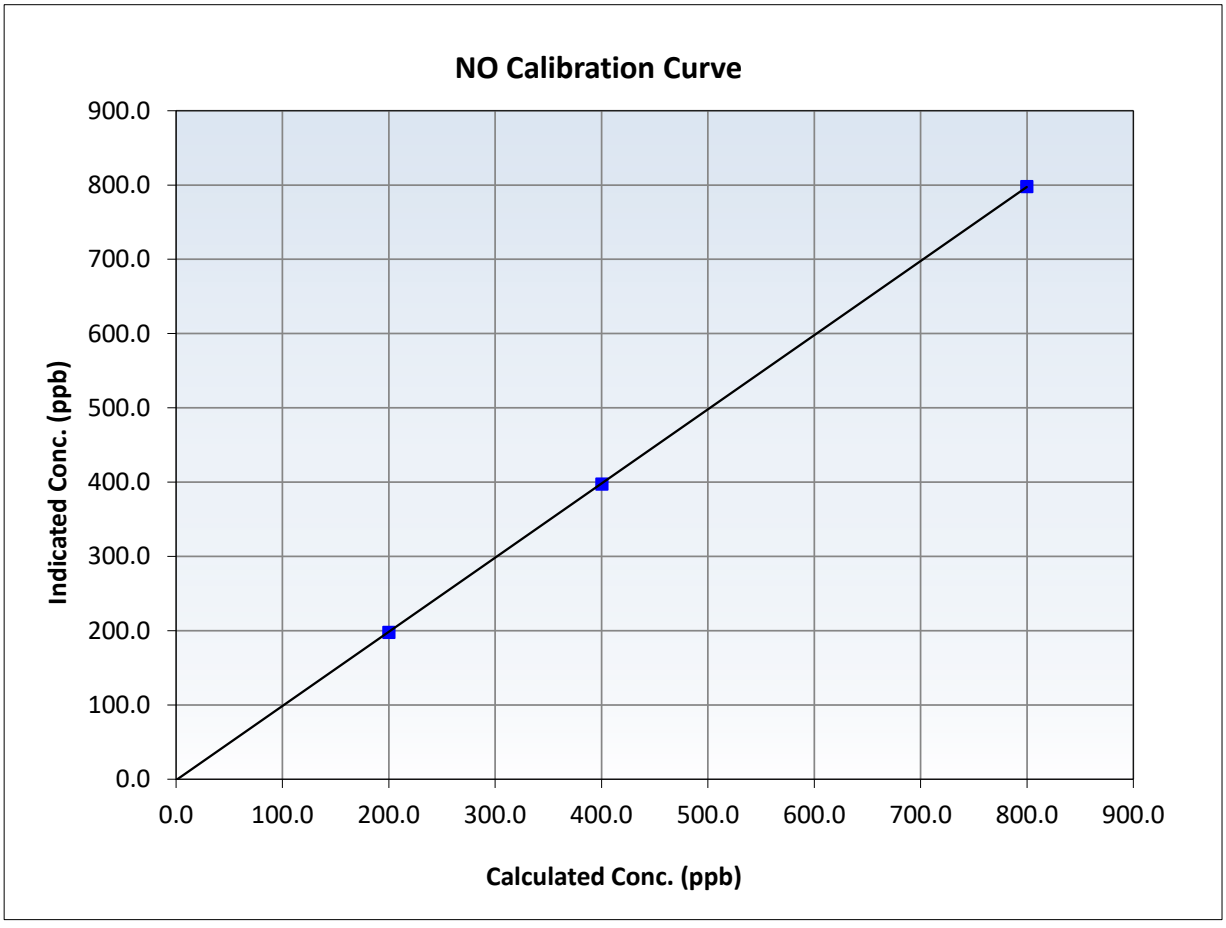
Station Information

Calibration Date:	November 13, 2025	Previous Calibration:	October 23, 2025
Station Name:	Jackfish 2/3	Station Number:	AMS 27
Start Time (MST):	8:56	End Time (MST):	13:36
Analyzer make:	Thermo 42i	Analyzer serial #:	1218153357

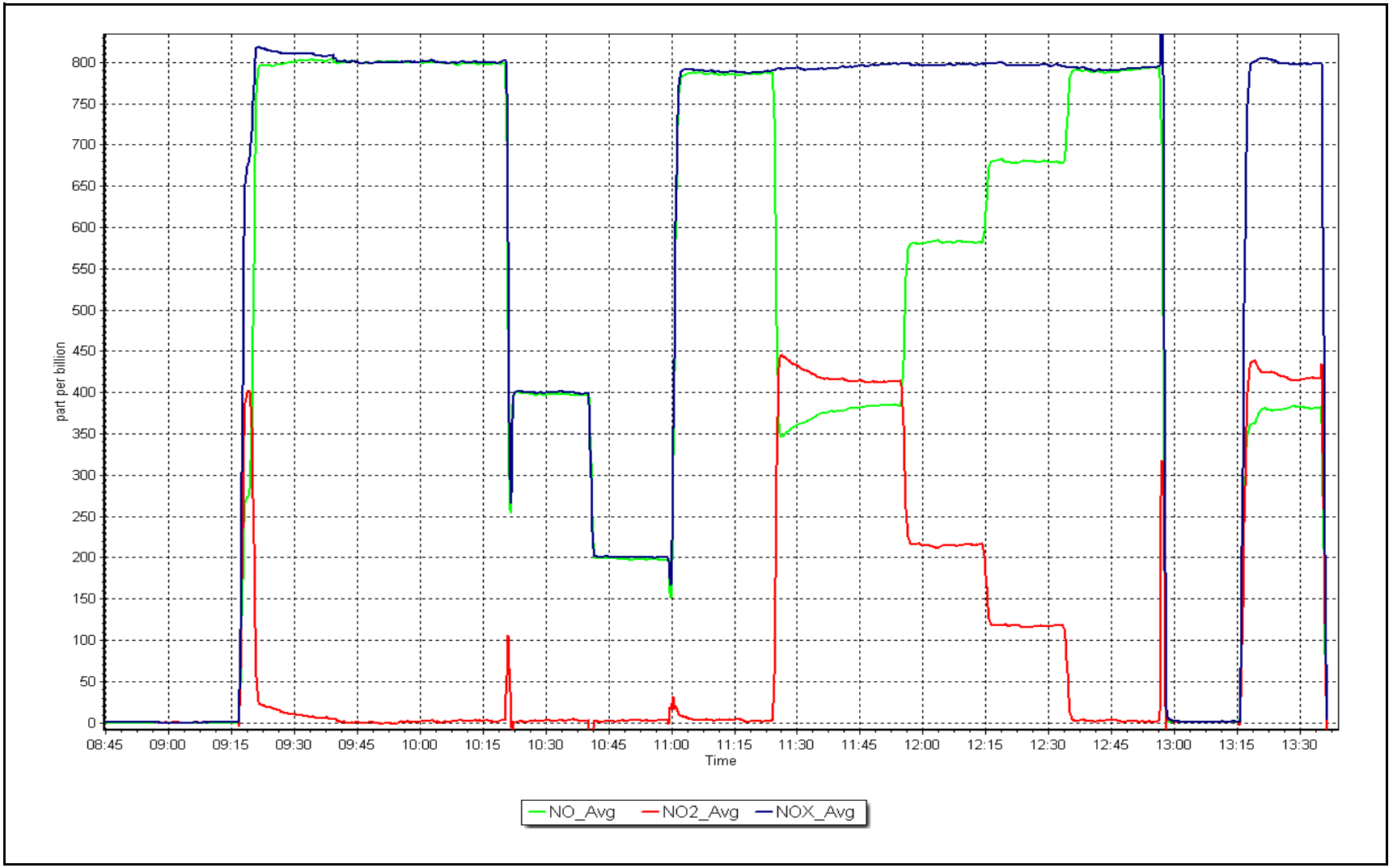
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
799.8	798.1	1.0021
400.4	397.4	1.0076
200.2	197.9	1.0114

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999989	*≥0.995*
Slope	0.998442	*0.90 - 1.10*
Intercept	-1.228850	*+/-20*



NO_X Calibration Plot Date: November 13, 2025 Location: Jackfish 2/3



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS29
SURMONT 2
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Surmont 2	Station number:	AMS 29
Calibration Date:	November 3, 2025	Last Cal Date:	October 24, 2025
Start time (MST):	10:52	End time (MST):	14:01
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:	0.996831	1.001461	Backgd or Offset:	14.5	14.5
Calibration intercept:	-0.740911	-1.461001	Coeff or Slope:	0.940	0.944

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	4919.9	80.1	800.2	796.2	1.005
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	796.6	Previous response	796.9	*% 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	

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	80.1	800.2	801.0	0.999
Mid point	4960	40.0	399.6	397.2	1.006
Low point	4980	20.0	199.8	197.3	1.013
As left zero	5000	0.0	0.0	0.2	----
As left span	4920	80.1	800.2	802.0	0.998
				Average Correction Factor:	1.006

Notes: Changed sample inlet filter and external pump after as founds. Adjusted span.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

SO_2 Calibration Summary

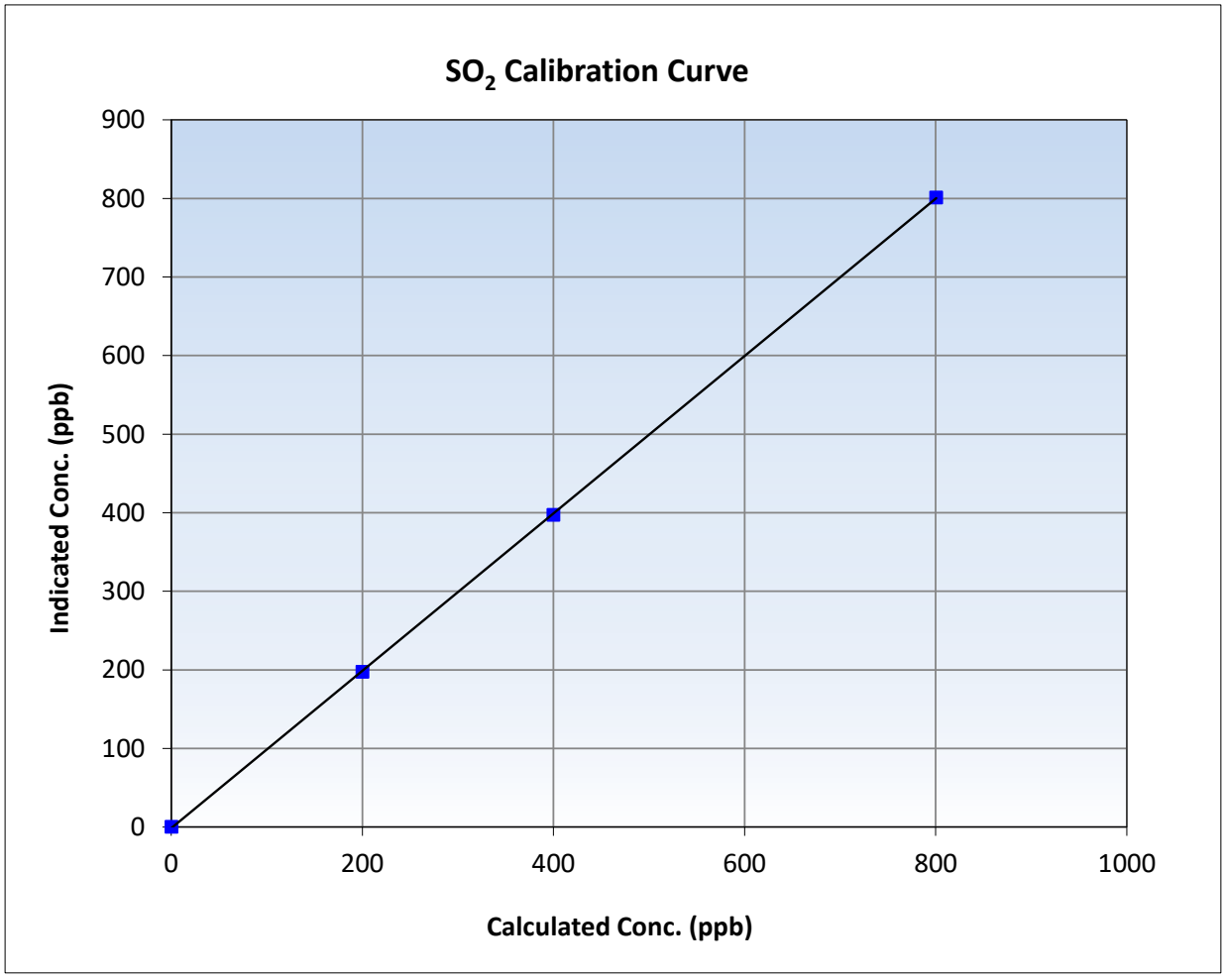
Station Information

Calibration Date:	November 3, 2025	Previous Calibration:	October 24, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	10:52	End Time (MST):	14:01
Analyzer make:	Thermo 43i	Analyzer serial #:	1170050150

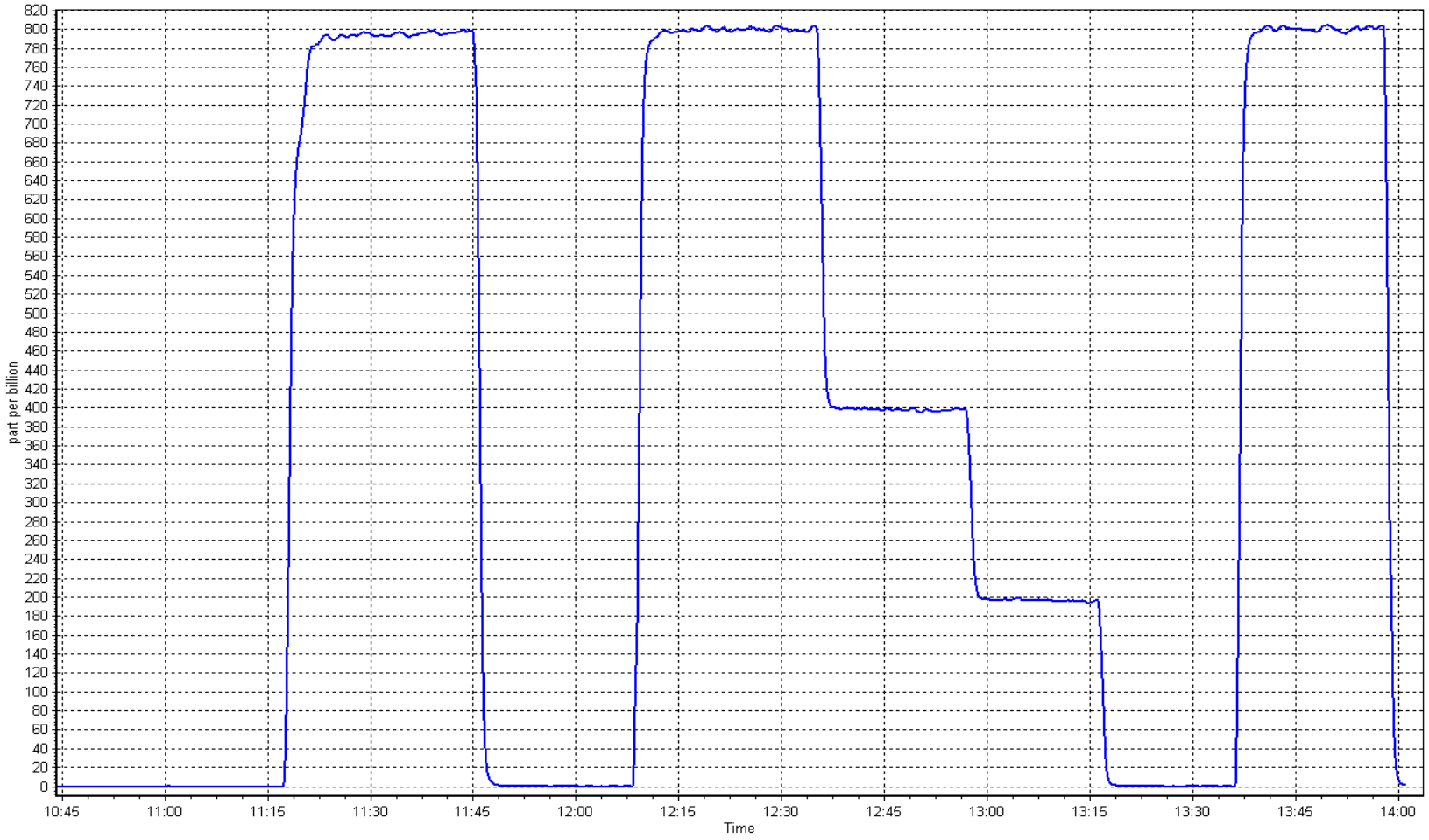
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.3	----
800.2	801.0	0.9990
399.6	397.2	1.0060
199.8	197.3	1.0127

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999976	*≥0.995*
Slope	1.001461	*0.90 - 1.10*
Intercept	-1.461001	*+/-30*



SO2 Calibration Plot Date: November 3, 2025 Location: Surmont 2



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Surmont 2	Station number:	AMS 29
Calibration Date:	November 4, 2025	Last Cal Date:	October 2, 2025
Start time (MST):	10:40	End time (MST):	15:48
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:	135

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:	0.996738	0.976306	Backgd or Offset:	0.82	0.82
Calibration intercept:	-0.080477	0.059532	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	79.6	1.005
As found Mid point	4958	42.1	40.0	39.7	1.007
As found Low point	4979	21.1	20.0	19.8	1.010
New cylinder response					

Baseline Corr As found:	79.6	Prev response:	79.65	*% change:	-0.1%
Baseline Corr 2nd AF pt:	39.7	AF Slope:	0.995452	AF Intercept:	-0.060477
Baseline Corr 3rd AF pt:	19.8	AF Correlation:	0.999997	* = > +/-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	78.2	1.023
Mid point	4958	42.1	40.0	39.0	1.025
Low point	4979	21.1	20.0	19.6	1.020
As left zero	5000	0.0	0.0	0.1	----
As left span	4916	84.2	80.0	77.6	1.031
SO2 Scrubber Check	4919	81.3	813.0	0.0	----

Date of last scrubber change:				Ave Corr Factor	1.023
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

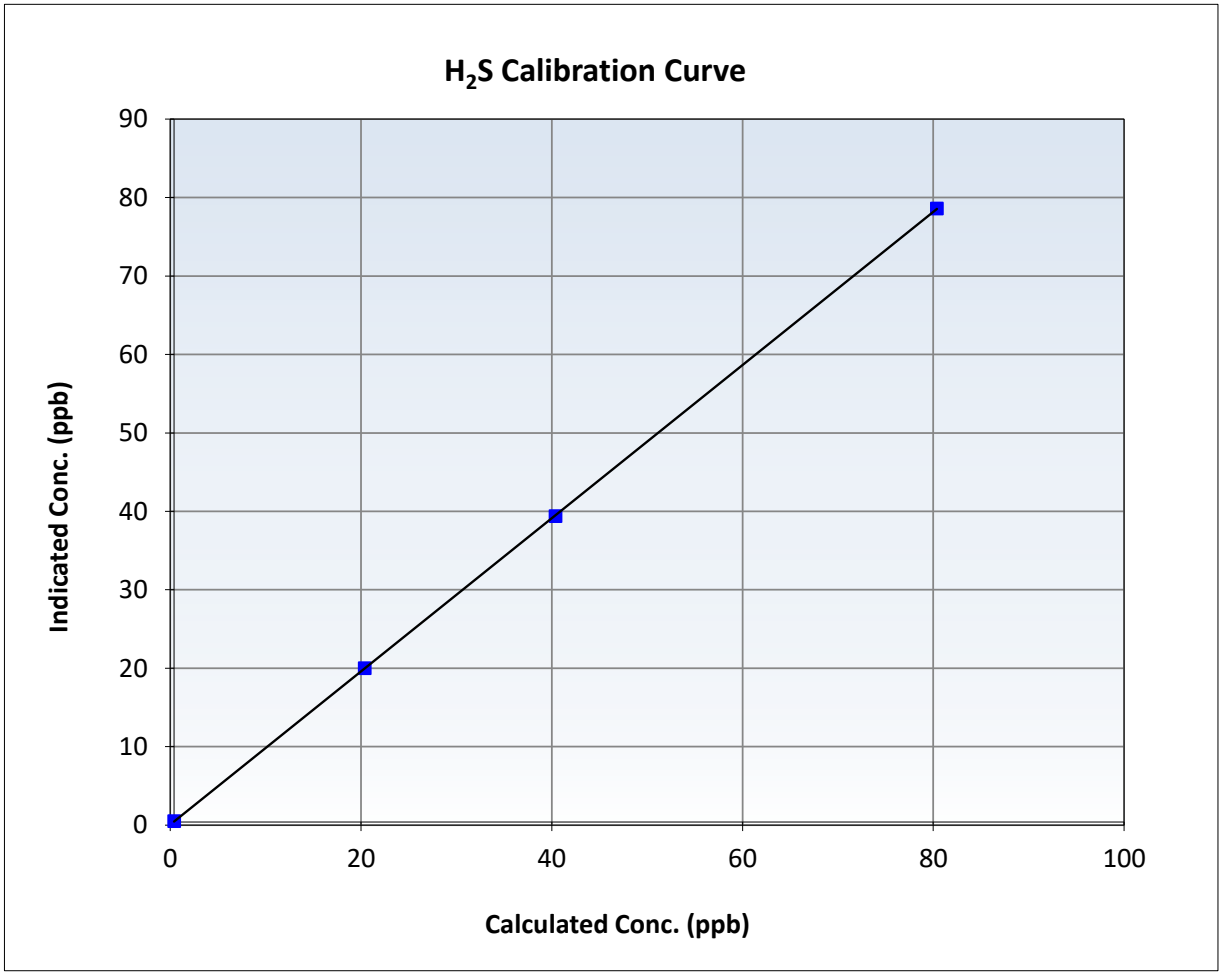
H2S Calibration Summary

Station Information

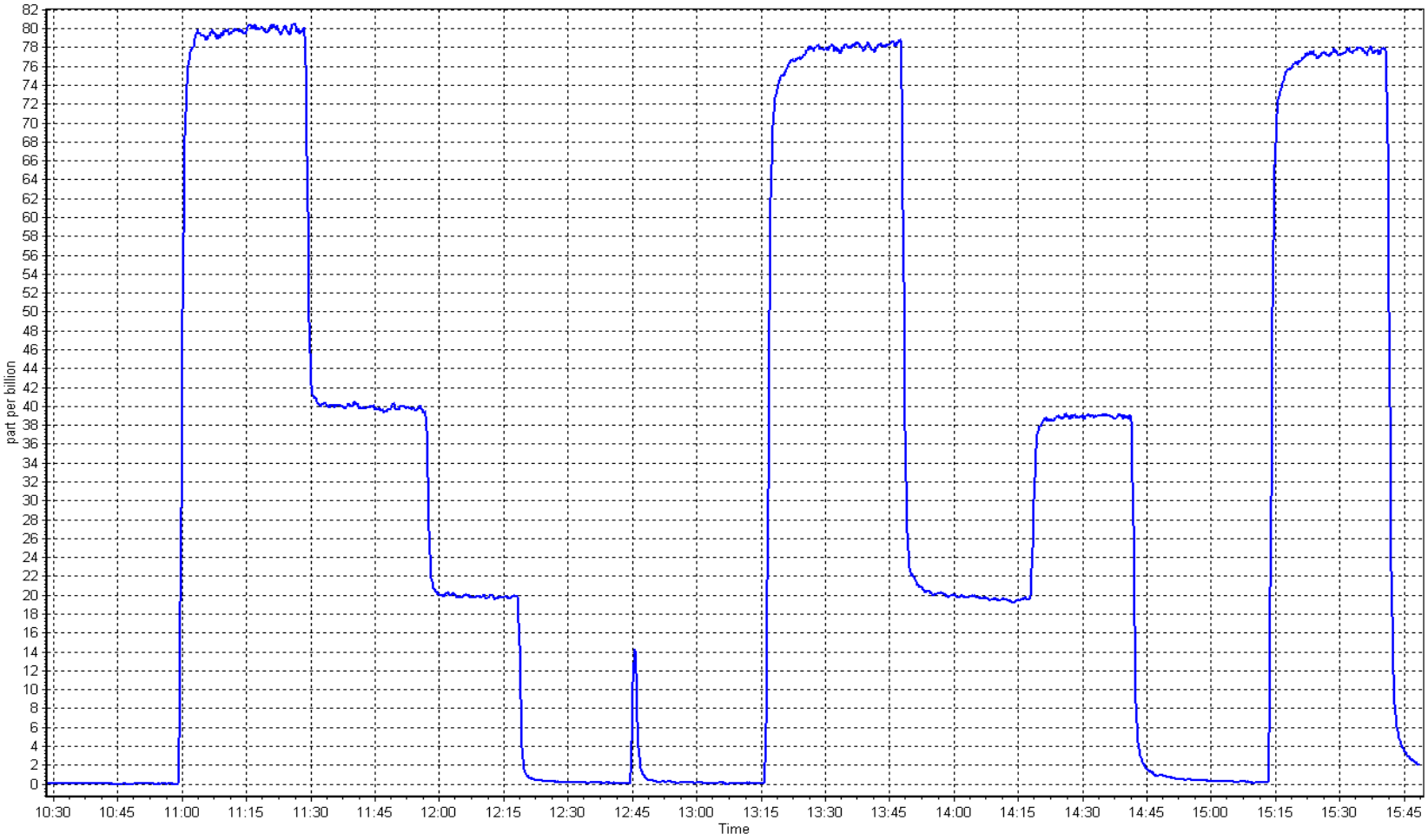
Calibration Date:	November 4, 2025	Previous Calibration:	October 2, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	10:40	End Time (MST):	15:48
Analyzer make:	Thermo 43iQ-TLE	Analyzer serial #:	1200326170

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999995	*≥0.995*
80.0	78.2	1.0228	Slope	0.976306	*0.90 - 1.10*
40.0	39.0	1.0255			
20.0	19.6	1.0203	Intercept	0.059532	*+/-3*



H2S Calibration Plot Date: November 4, 2025 Location: Surmont 2



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Surmont 2	Station number:	AMS 29
Calibration Date:	November 3, 2025	Last Cal Date:	October 24, 2025
Start time (MST):	10:52	End time (MST):	14:01
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:	0.998037	0.994853	Background:	3.56	3.54
Calibration intercept:	-0.023967	0.015835	Coefficient:	4.113	4.117

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	4920	80.1	17.09	17.02	1.004
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	17.03	Previous response	17.03	*% 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	

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	4920	80.1	17.09	17.03	1.004
Mid point	4960	40.0	8.54	8.50	1.004
Low point	4980	20.0	4.27	4.23	1.008
As left zero	5000	0.0	0.00	0.01	----
As left span	4920	80.1	17.09	17.09	1.000
				Average Correction Factor	1.005

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

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

THC Calibration Summary

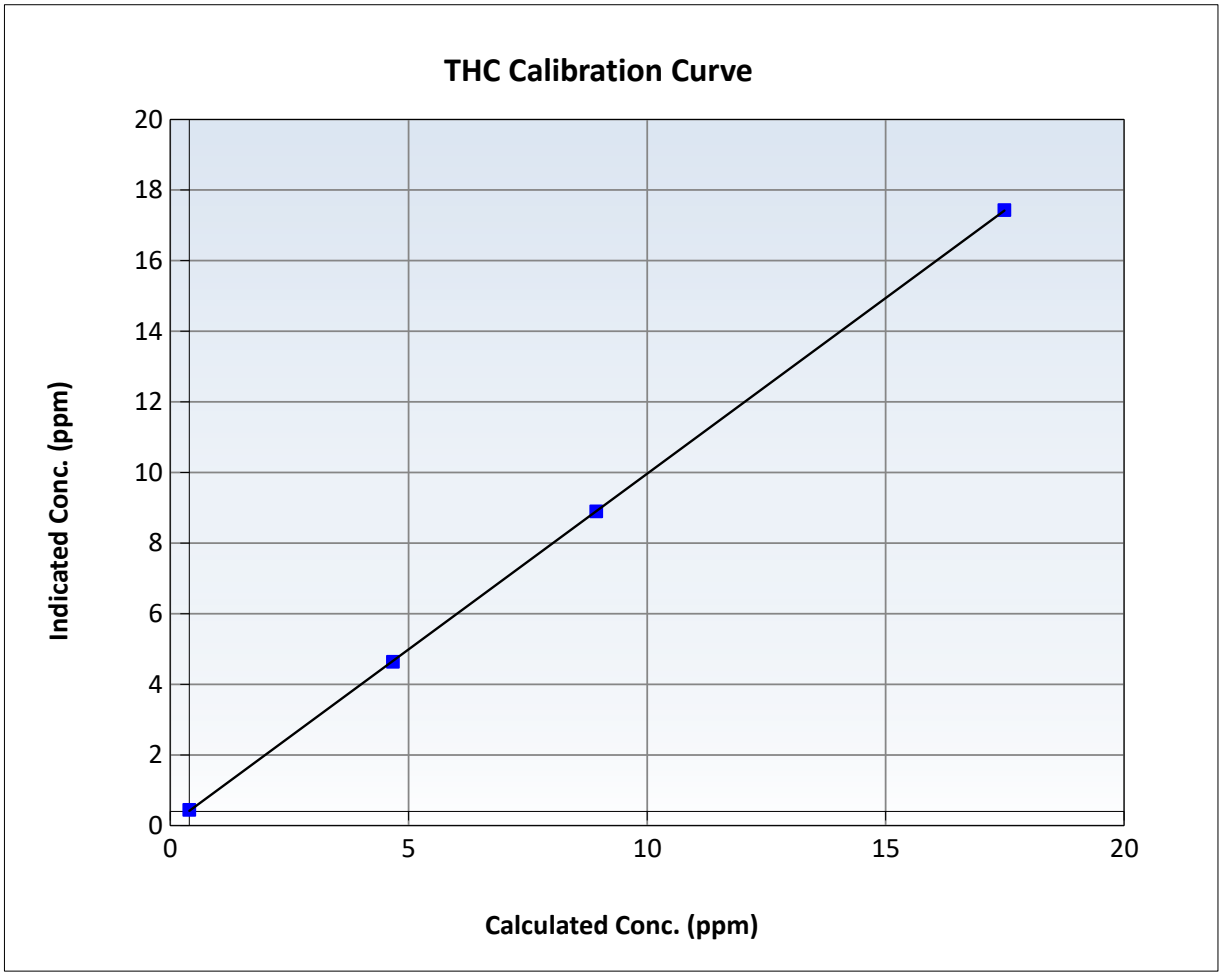
Station Information

Calibration Date:	November 3, 2025	Previous Calibration:	October 24, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	10:52	End Time (MST):	14:01
Analyzer make:	Thermo 51i-LT	Analyzer serial #:	1170050149

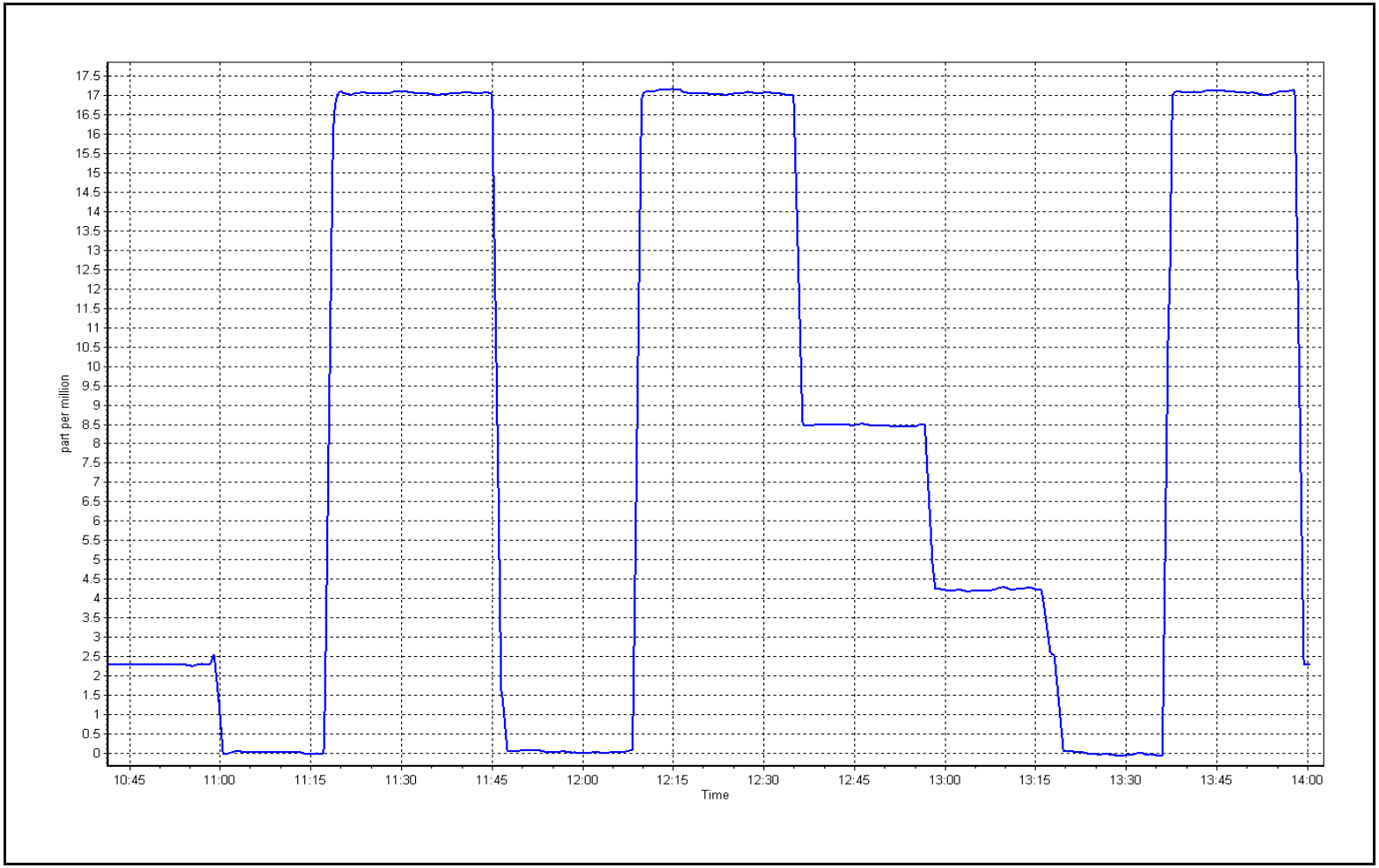
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.04	----
17.09	17.03	1.0036
8.54	8.50	1.0041
4.27	4.23	1.0079

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999991	*≥0.995*
Slope	0.994853	*0.90 - 1.10*
Intercept	0.015835	*+/-1.5*



THC Calibration Plot Date: November 3, 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:	November 7, 2025
Last Cal Date:	October 3, 2025
Start time (MST):	10:41
End time (MST):	15:55
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:	135

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	-0.1	-0.2	----	----
AF High point	4933	66.7	803.1	800.4	2.7	789.5	785.8	3.7	1.0169	1.0185
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	793.3 ppb	NO =	791.8 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = -0.4%
Baseline Corr 1st pt	NO_X =	789.8 ppb	NO =	785.9 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: 1170050148

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.036	1.051	NO bkgnd or offset:	1.3	1.3
NOX coeff or slope:	0.992	0.991	NOX bkgnd or offset:	1.5	1.5
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	149.8	149.0

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.984898	0.999895
NO_X Cal Offset:	2.354041	-0.889026
NO Cal Slope:	0.989195	1.001300
NO Cal Offset:	-0.025951	-1.889053
NO_2 Cal Slope:	1.001984	1.008426
NO_2 Cal Offset:	0.056024	0.022619

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	4933	66.7	803.1	800.4	2.7	802.0	800.0	1.8	1.0014	1.0006
Mid point	4967	33.3	400.9	399.6	1.3	401.2	398.9	2.3	0.9993	1.0017
Low point	4983	16.7	201.1	200.4	0.7	198.3	195.8	2.5	1.0140	1.0236
As left zero	5000	0.0	0.0	0.0	0.0	-0.2	-0.1	-0.1	----	----
As left span	4933	66.7	803.1	411.3	391.8	803.0	411.3	392.2	1.0001	1.0000
							Average Correction Factor		1.0049	1.0086

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	795.9	429.2	369.4	372.0	0.9929	100.7%
Mid GPT point	795.9	626.6	172.0	175.0	0.9827	101.8%
Low GPT point	795.9	710.3	88.3	88.1	1.0019	99.8%
				Average Correction Factor	0.9925	100.8%

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

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

NO_X Calibration Summary

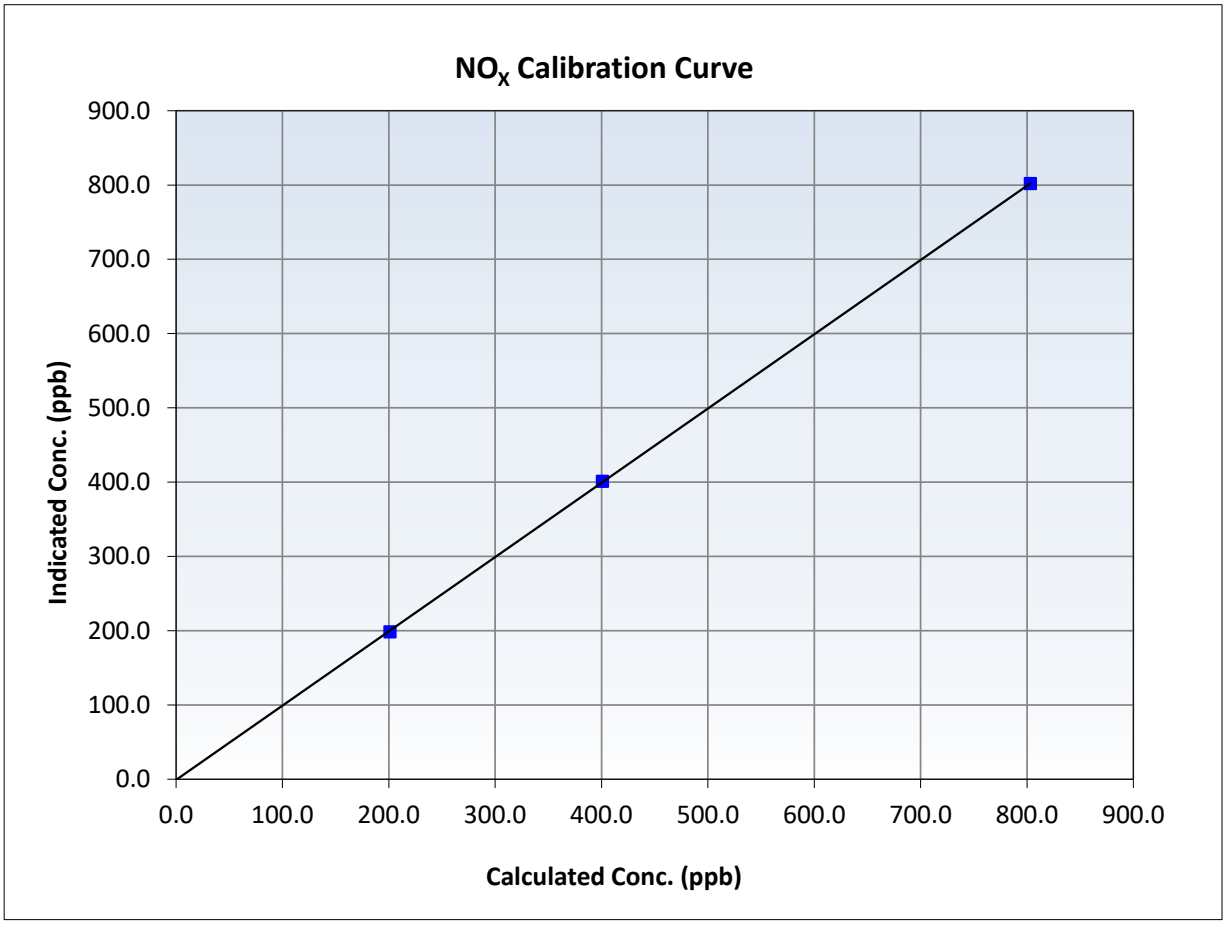
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 3, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	10:41	End Time (MST):	15:55
Analyzer make:	Thermo 42i	Analyzer serial #:	1170050148

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
803.1	802.0	1.0014
400.9	401.2	0.9993
201.1	198.3	1.0140

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999984	*≥0.995*
Slope	0.999895	*0.90 - 1.10*
Intercept	-0.889026	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

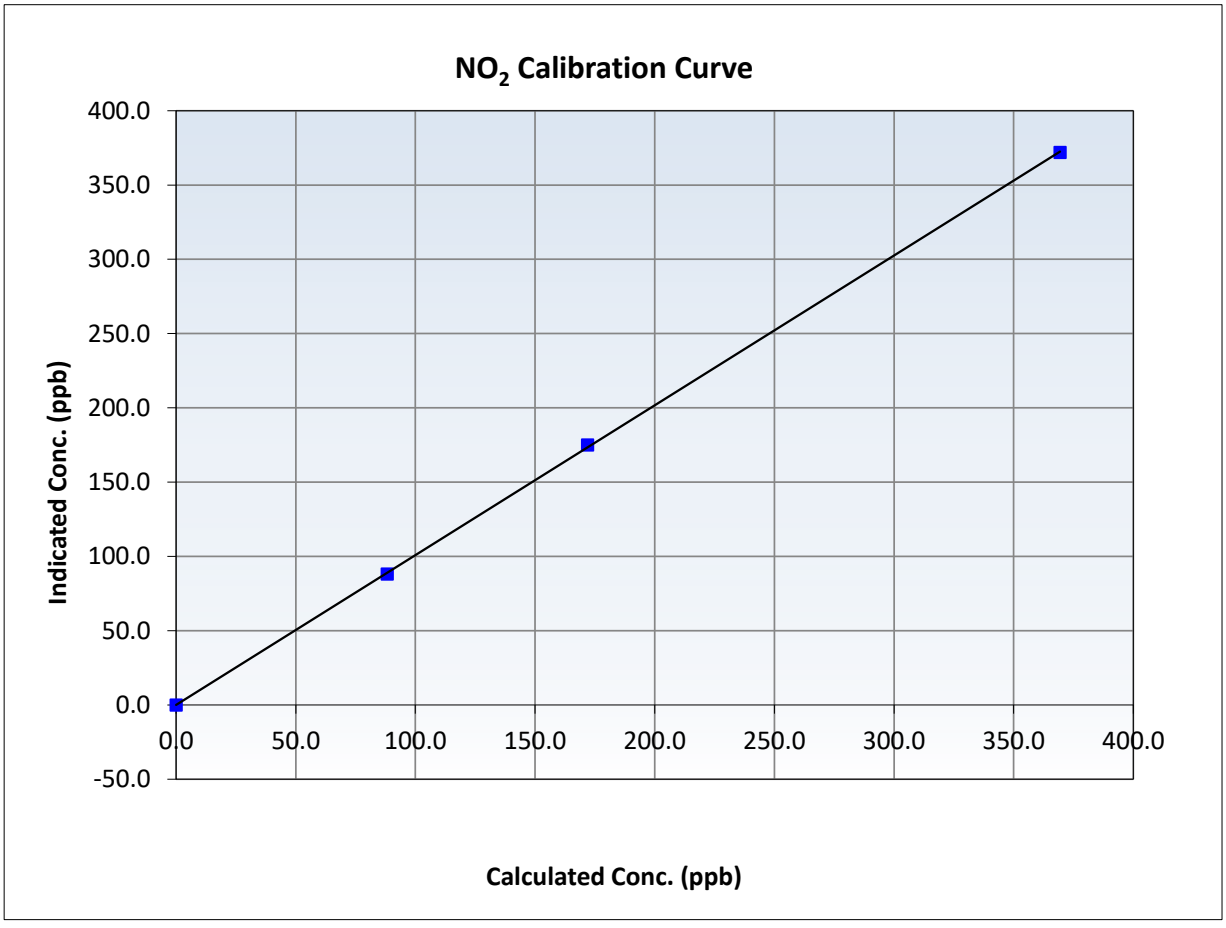
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 3, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	10:41	End Time (MST):	15:55
Analyzer make:	Thermo 42i	Analyzer serial #:	1170050148

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
369.4	372.0	0.9929
172.0	175.0	0.9827
88.3	88.1	1.0019

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999953	*≥0.995*
Slope	1.008426	*0.90 - 1.10*
Intercept	0.022619	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

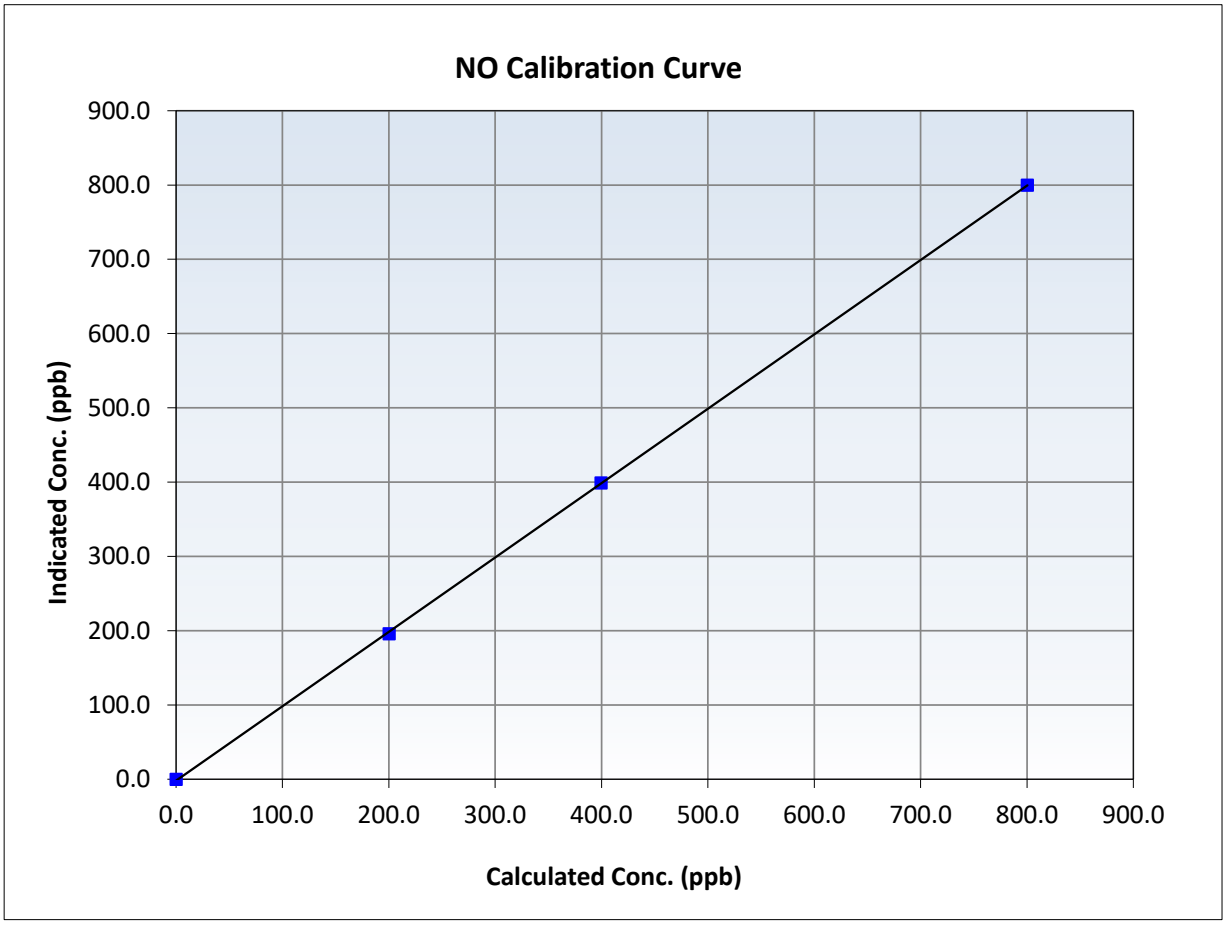
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 3, 2025
Station Name:	Surmont 2	Station Number:	AMS 29
Start Time (MST):	10:41	End Time (MST):	15:55
Analyzer make:	Thermo 42i	Analyzer serial #:	1170050148

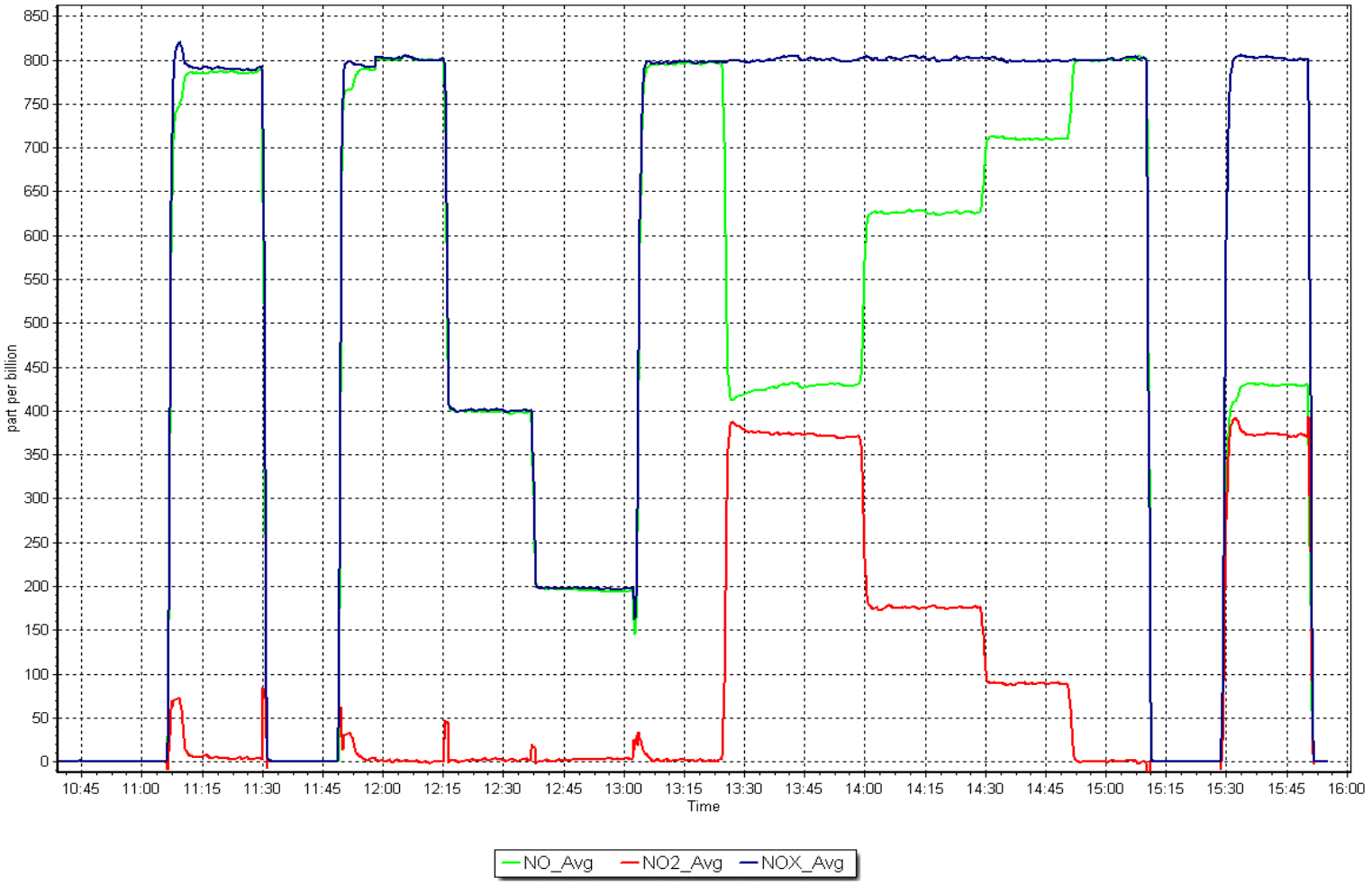
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
800.4	800.0	1.0006
399.6	398.9	1.0017
200.4	195.8	1.0236

Statistical Evaluation		Limits
Correlation Coefficient	0.999963	≥0.995
Slope	1.001300	0.90 - 1.10
Intercept	-1.889053	+/-20



NO_X Calibration Plot Date: November 7, 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:	November 3, 2025	Last Cal Date:	October 24, 2025
Start time (MST):	10:59	End time (MST):	12:19
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)	4.7	4.43	4.7	☐	+/- 2 °C
P (mmHg)	707.3	706.03	707.3	☐	+/- 10 mmHg
Flow (LPM)	5.03	4.968	5.03	☐	+/- 0.25 LPM
PW% (pump)	52	-----	33	☐	>80%
Zero Verification	PM w/o HEPA:	1.4	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: July 16, 2026 — Lot No.: 100128-050-050

Parameter	As found	Post maintenance	As left	Adjusted	*(Limits)*
PMT Peak Test	10.8	10.9	10.9	☐	+/- 0.5

Date Optical Chamber Cleaned: November 3, 2025

Date Disposable Filter Changed: November 3, 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. Swapped pump after as founds.

Calibration by: Braiden Boutilier

Wood Buffalo Environmental Association

Wind Speed/Direction Calibration Report

Station Information

Station Name:	Surmont	Station Number:	AMS 29
Calibration Date:	November 17, 2025	Prev Cal Date:	August 27, 2025
Start Time (MST):	11:45	End Time (MST):	14:07
Tower Height (m):	10.0	Reason:	Removal

Wind Speed Calibration

Sensor make/model:	Met One 010C-1	Serial Number:	W15275
WS Calibrator:	MetOne 053	Serial Number:	05231

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	0.4%
400	39.4	39.4	0.1%
600	58.6	58.9	0.7%
800	77.8	77.8	0.1%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)		0.999991	*≥0.9995*
Calculated slope		0.997542	*0.98 - 1.02*
Calculated intercept		-0.023819	*+/- 2*

Wind Direction Calibration

Sensor make/model:	Met One 020C-1	Serial Number:	U11347
As Found Declination (deg east of True North):	13	As Left Declination (deg east of True North):	13
Solar noon (MST):	12:25	Calc Declination*:	13 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		
90		
180		
270		
350		

	Start	***Finish***	*Limits*
Correl Coeff (r^2)			*≥0.9995*
Calculated slope			*0.97 - 1.03*
Calculated intercept			*+/- 5*

Notes: Removing sensor due to inconsistent uptime. Replaced WS cable.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

Wind Speed/Direction Calibration Report

Station Information

Station Name:	Surmont	Station Number:	AMS 29
Calibration Date:	November 17, 2025	Prev Cal Date:	August 27, 2025
Start Time (MST):	11:45	End Time (MST):	14:07
Tower Height (m):	10.0	Reason:	Install

Wind Speed Calibration

Sensor make/model:	Met One 010C-1	Serial Number:	B4129
WS Calibrator:	MetOne 053	Serial Number:	05231

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	0.4%
400	39.4	39.4	0.1%
600	58.6	58.5	0.0%
800	77.8	77.7	-0.1%

	Start	***Finish***	*Limits*
Correl Coeff (r^2)		0.999999	*≥0.9995*
Calculated slope		1.001155	*0.98 - 1.02*
Calculated intercept		-0.057643	*+/- 2*

Wind Direction Calibration

Sensor make/model:	Met One 020C-1	Serial Number:	U11347
As Found Declination (deg east of True North):	13	As Left Declination (deg east of True North):	13
Solar noon (MST):	12:25	Calc Declination*:	13 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		
90		
180		
270		
350		

	Start	***Finish***	*Limits*
Correl Coeff (r^2)			*≥0.9995*
Calculated slope			*0.97 - 1.03*
Calculated intercept			*+/- 5*

Notes: Installed new WS sensor due to inconsistent uptime. Aligned using previous marking and compass.

Calibration Performed By: Braiden Boutilier

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS30
ELLS RIVER
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Ells River	Station number:	AMS 30
Calibration Date:	November 3, 2025	Last Cal Date:	October 14, 2025
Start time (MST):	10:40	End time (MST):	13:37
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:	0.994713	0.994199	Backgd or Offset:	10.6	10.6
Calibration intercept:	-2.552091	-2.172107	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	-0.3	----
As found High point	4918	82.0	799.5	791.6	1.010
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	791.9	Previous response	792.7	*% 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	793.6	1.007
Mid point	4959	41.0	399.8	394.8	1.013
Low point	4980	20.5	199.9	193.8	1.031
As left zero	5000	0.0	0.0	-0.3	----
As left span	4918	82.0	799.5	795.1	1.006
				Average Correction Factor:	1.017

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

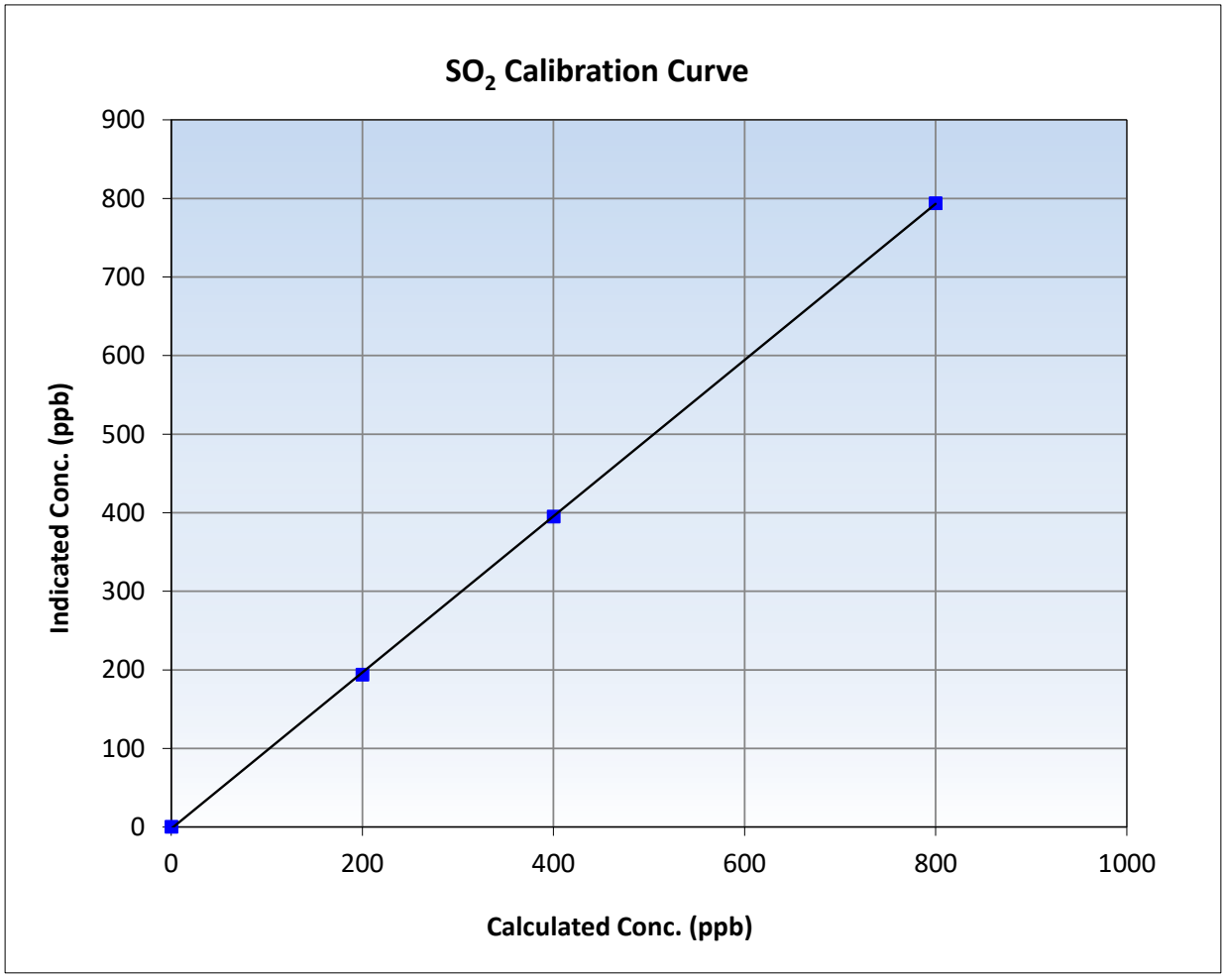
Station Information

Calibration Date:	November 3, 2025	Previous Calibration:	October 14, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	10:40	End Time (MST):	13:37
Analyzer make:	Thermo 43i	Analyzer serial #:	1008841397

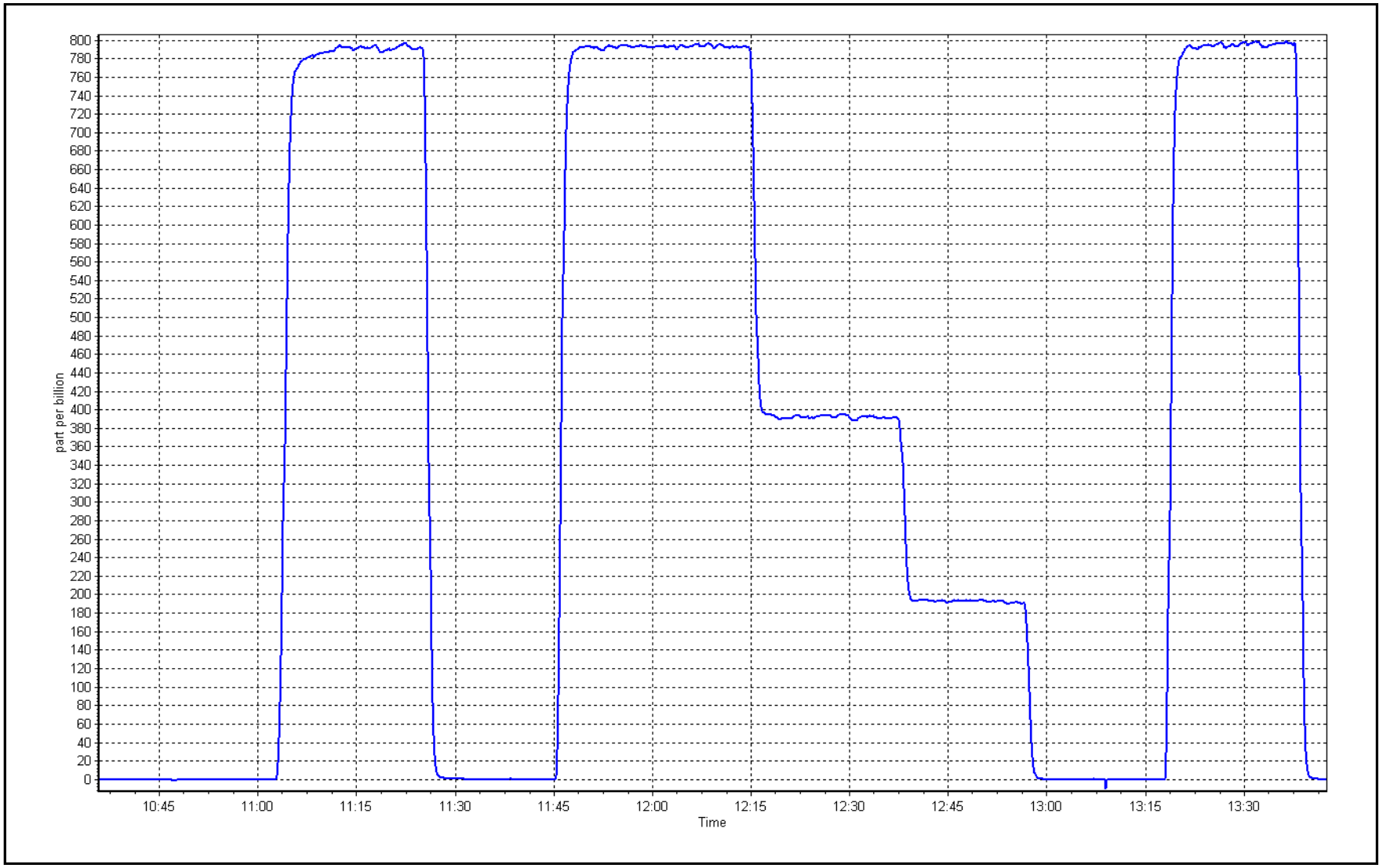
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
799.5	793.6	1.0074
399.8	394.8	1.0125
199.9	193.8	1.0312

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999961	*≥0.995*
Slope	0.994199	*0.90 - 1.10*
Intercept	-2.172107	*+/-30*



SO2 Calibration Plot Date: November 3, 2025 Location: Ells River



Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Ells River	Station number:	AMS 30
Calibration Date:	November 7, 2025	Last Cal Date:	October 30, 2025
Start time (MST):	10:42	End time (MST):	14:32
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 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	1.002476	Backgd or Offset:	3.8	4.10
Calibration intercept:	-0.100519	-0.240504	Coeff or Slope:	1.140	1.256

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	-0.5	----
As found High point	4920	80.2	80.0	73.2	1.086
As found Mid point	4960	40.1	40.0	33.4	1.181
As found Low point	4980	20.0	20.0	14.3	1.349
New cylinder response					

Baseline Corr As found:	73.7	Prev response:	79.76	*% change:	-8.2%
Baseline Corr 2nd AF pt:	33.9	AF Slope:	0.931975	AF Intercept:	-2.522708
Baseline Corr 3rd AF pt:	14.8	AF Correlation:	0.996587	* = > +/-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	4920	80.2	80.0	80.1	0.999
Mid point	4960	40.1	40.0	39.7	1.008
Low point	4980	20.0	20.0	19.7	1.013
As left zero	5000	0.0	0.0	-0.2	----
As left span	4920	80.2	80.0	80.0	1.000
SO2 Scrubber Check	4918	82.0	820.0	0.0	----
Date of last scrubber change:		13-Aug-25		Ave Corr Factor	1.007
Date of last converter efficiency test:					

Notes: Sample inlet filter, capillary and o-ring was changed after multipoint as founds. SO2 scrubber check done and passed. Adjusted span only.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

TRS Calibration Summary

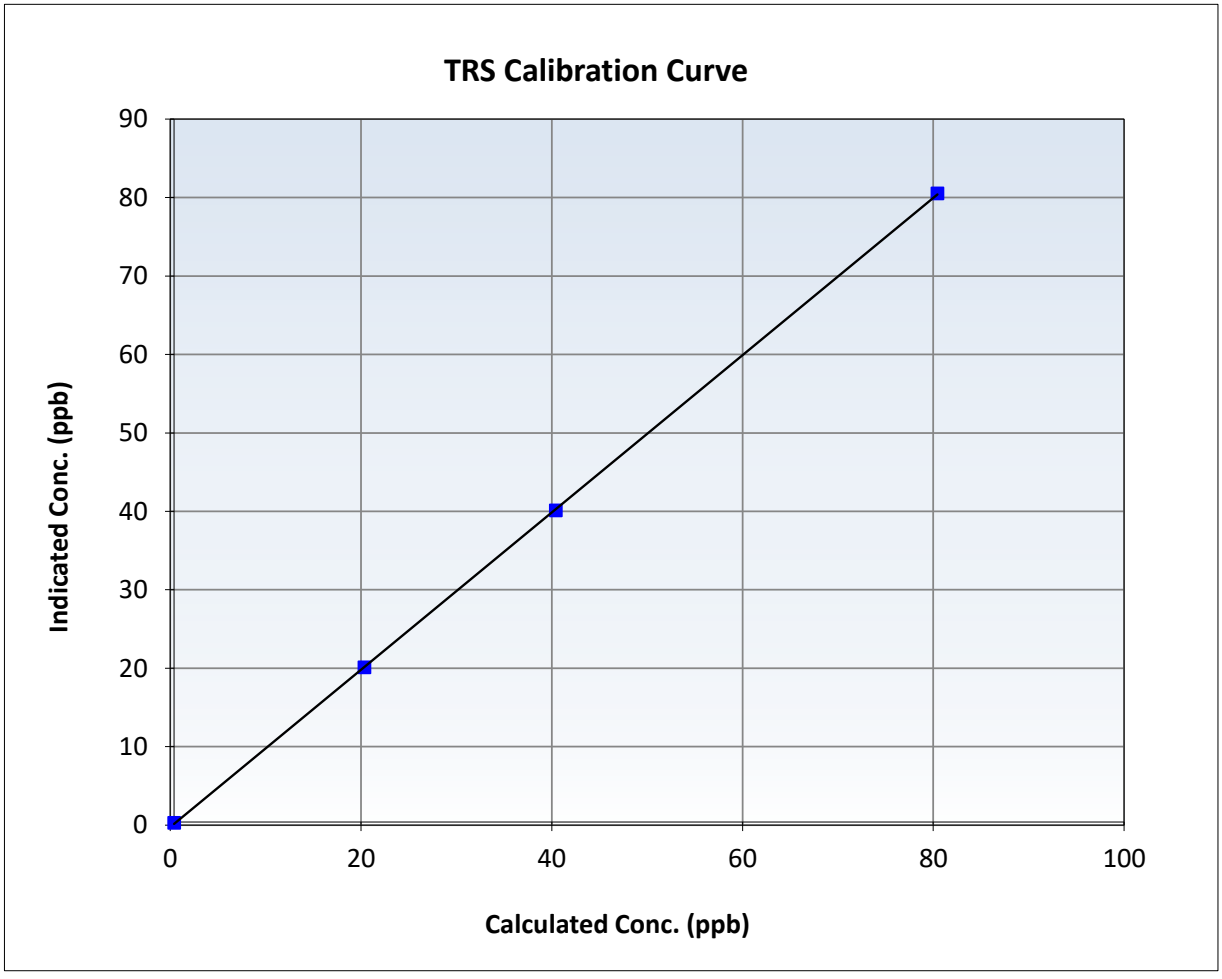
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 30, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	10:42	End Time (MST):	14:32
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1170050152

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
80.0	80.1	0.9992
40.0	39.7	1.0080
20.0	19.7	1.0132

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999981	*≥0.995*
Slope	1.002476	*0.90 - 1.10*
Intercept	-0.240504	*+/-3*



TRS Calibration Plot Date: November 7, 2025 Location: Ells River

Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

Station Name:	Ells River	Station number:	AMS 30
Calibration Date:	November 17, 2025	Last Cal Date:	November 7, 2025
Start time (MST):	11:35	End time (MST):	14:36
Reason:	Maintenance		

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 #:	632
Analyzer Range	0 - 100 ppb		Converter Temp:	800 degC

	Start	*Finish*		*Start*	*Finish*
Calibration slope:	1.002476	1.016613	Backgd or Offset:	4.1	4.13
Calibration intercept:	-0.240504	-0.560357	Coeff or Slope:	1.256	1.256

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	-0.2	----
High point	4920	80.2	80.0	81.0	0.988
Mid point	4960	40.1	40.0	39.9	1.003
Low point	4980	20.0	20.0	19.4	1.029
As left zero	5000	0.0	0.0	-0.3	----
As left span	4920	80.2	80.0	80.6	0.993
SO2 Scrubber Check	4918	82.0	820.0	0.0	----
Date of last scrubber change:		13-Aug-25		Ave Corr Factor	1.007
Date of last converter efficiency test:					

Notes: No MPAF as the converter is failing. Converter was changed before calibrator zero. SO2 scrubber check done and passed. No adjustment made.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

TRS Calibration Summary

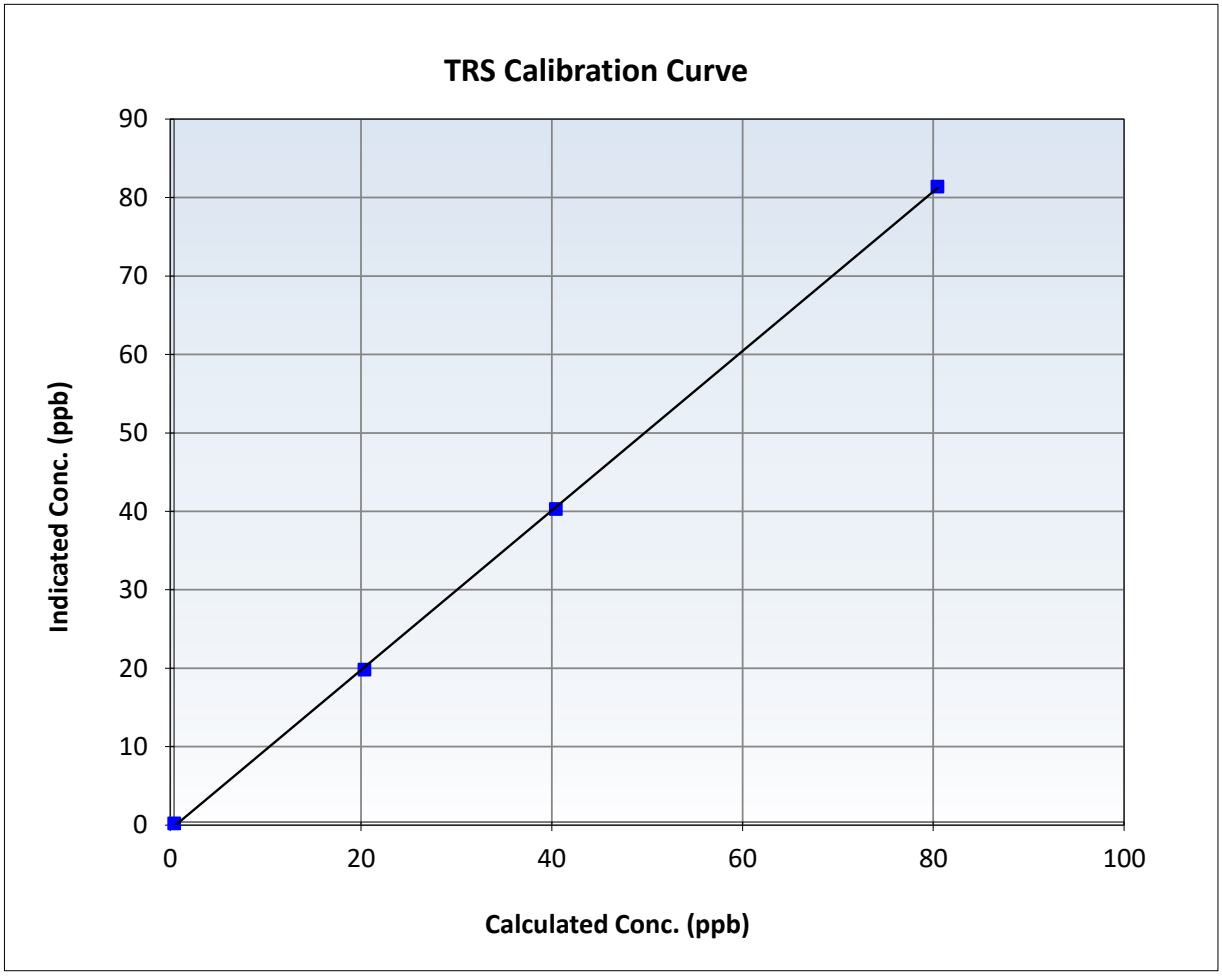
Station Information

Calibration Date:	November 17, 2025	Previous Calibration:	November 7, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	11:35	End Time (MST):	14:36
Analyzer make:	Thermo 43i-LTE	Analyzer serial #:	1170050152

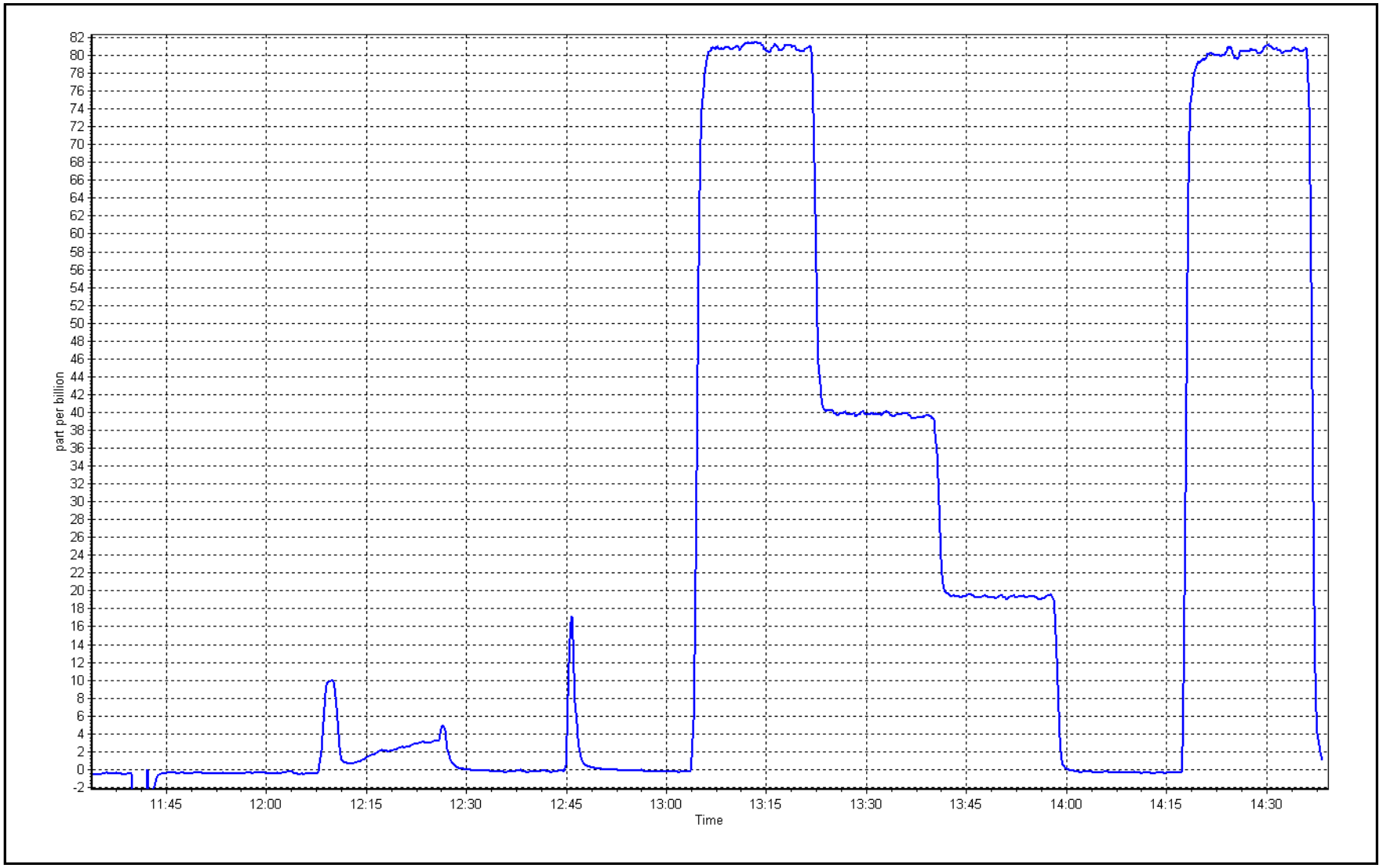
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
80.0	81.0	0.9881
40.0	39.9	1.0030
20.0	19.4	1.0289

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999910	*≥0.995*
Slope	1.016613	*0.90 - 1.10*
Intercept	-0.560357	*+/-3*



TRS Calibration Plot Date: November 17, 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:	November 3, 2025	Last Cal Date:	October 14, 2025
Start time (MST):	10:40	End time (MST):	13:37
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	3.15E-04	NMHC SP Ratio:	5.89E-05	5.95E-05
CH4 Retention time:	17.4	17.6	NMHC Peak Area:	157597	156872
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	17.31	1.011
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	17.31	Prev response	17.40	*% change	-0.5%
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	5000	0.0	0.00	0.00	----
High point	4918	82.0	17.49	17.45	1.002
Mid point	4959	41.0	8.74	8.65	1.011
Low point	4980	20.5	4.37	4.26	1.026
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	82.0	17.49	17.46	1.002
				Average Correction Factor	1.013

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	4918	82.0	9.34	9.25	1.010
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.25	Prev response	9.32	*% change	-0.8%
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	1.002
Mid point	4959	41.0	4.67	4.64	1.007
Low point	4980	20.5	2.34	2.30	1.014
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	82.0	9.34	9.33	1.002
				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	4918	82.0	8.14	8.05	1.011
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.05	Prev response	8.08	*% 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	82.0	8.14	8.13	1.002
Mid point	4959	41.0	4.07	4.01	1.015
Low point	4980	20.5	2.04	1.96	1.039
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	82.0	8.14	8.13	1.001
				Average Correction Factor	1.019

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	0.998290	0.999473
THC Cal Offset:	-0.060226	-0.056026
CH4 Cal Slope:	0.997226	0.999948
CH4 Cal Offset:	-0.036919	-0.039119
NMHC Cal Slope:	0.999437	0.999071
NMHC Cal Offset:	-0.023707	-0.016707

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

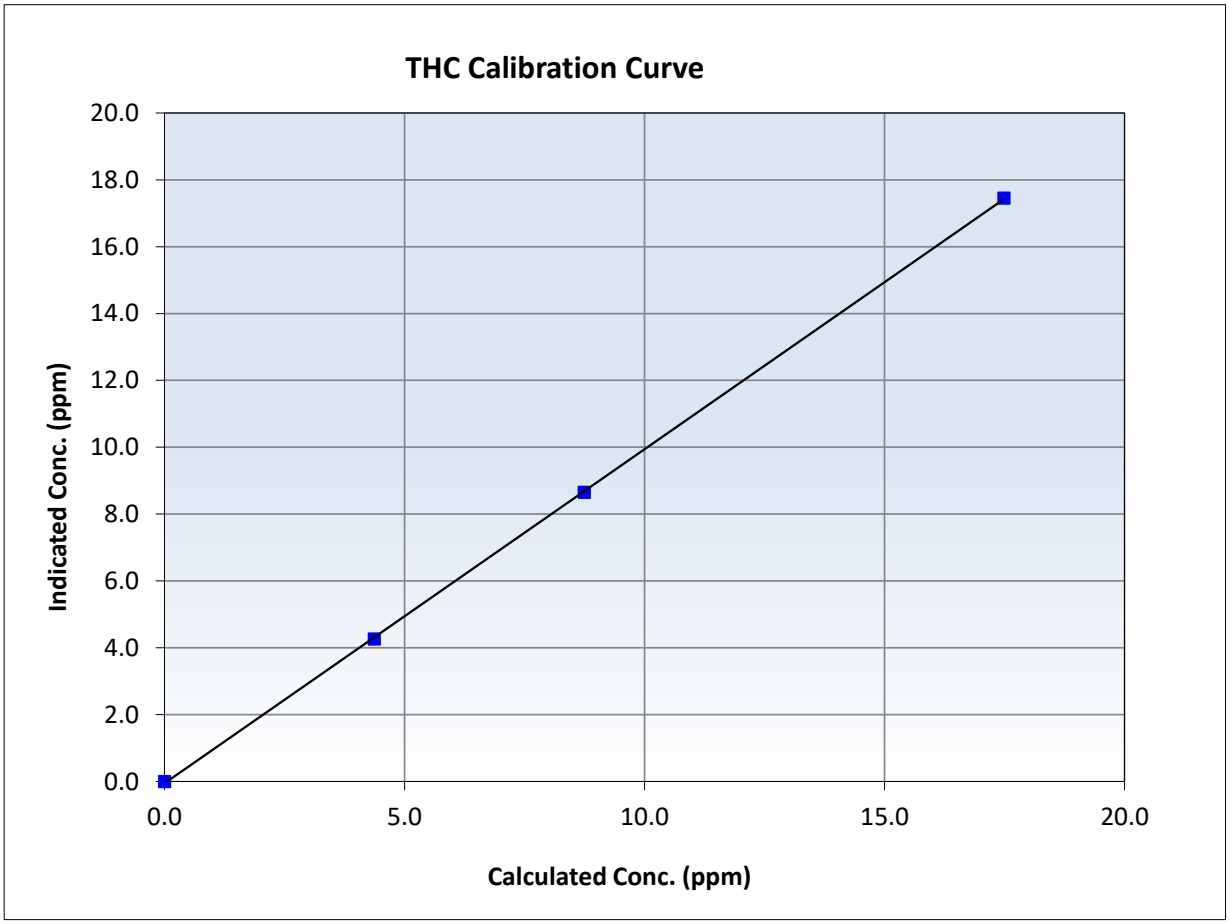
THC Calibration Summary

Station Information

Calibration Date:	November 3, 2025	Previous Calibration:	October 14, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	10:40	End Time (MST):	13:37
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	0.999953	≥0.995
17.49	17.45	1.0020	Slope	0.999473	0.90 - 1.10
8.74	8.65	1.0110	Intercept	-0.056026	+/-0.5
4.37	4.26	1.0258			



Wood Buffalo Environmental Association

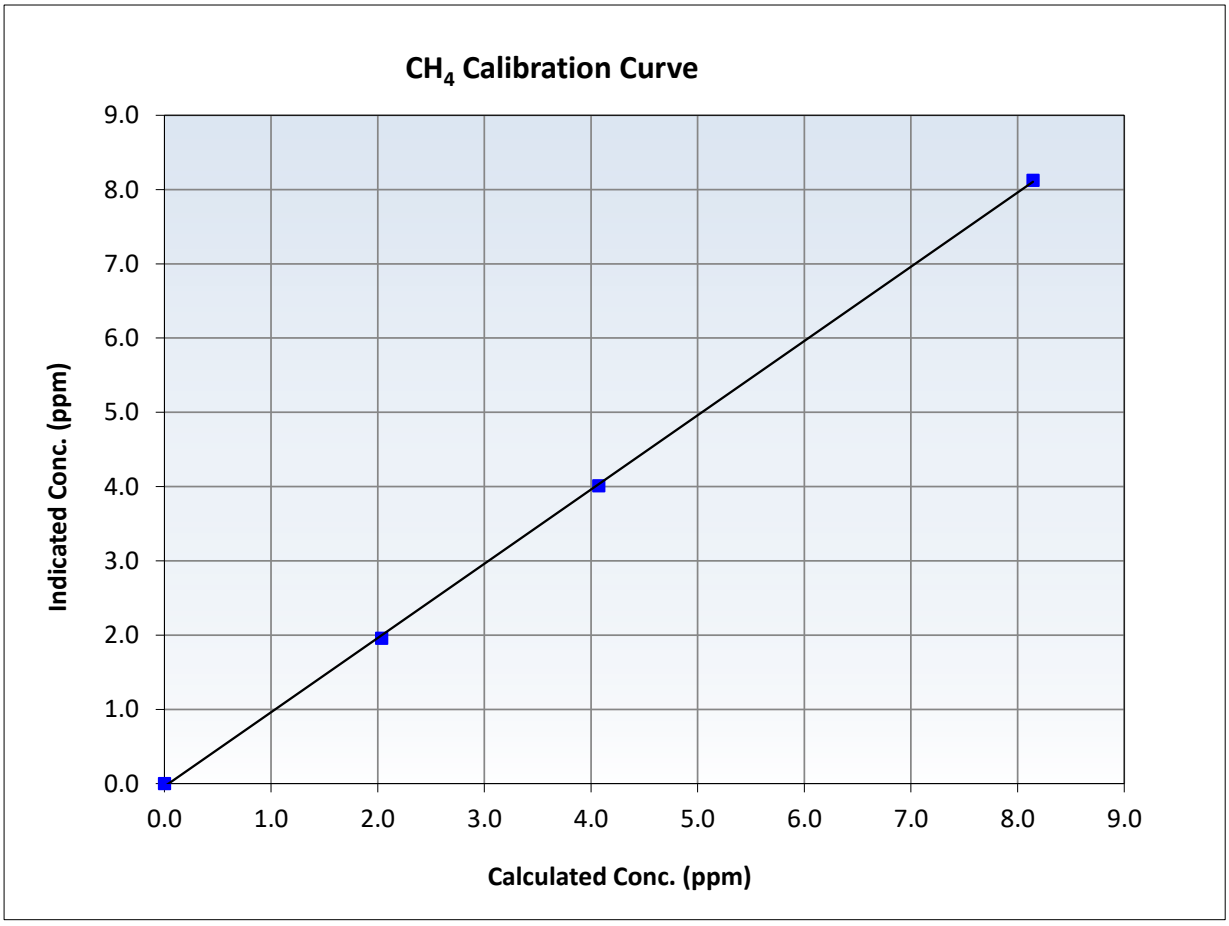
CH_4 Calibration Summary

Station Information

Calibration Date:	November 3, 2025	Previous Calibration:	October 14, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	10:40	End Time (MST):	13:37
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	0.999894	≥0.995
8.14	8.13	1.0024	Slope	0.999948	0.90 - 1.10
4.07	4.01	1.0152	Intercept	-0.039119	+/-0.5
2.04	1.96	1.0392			



Wood Buffalo Environmental Association

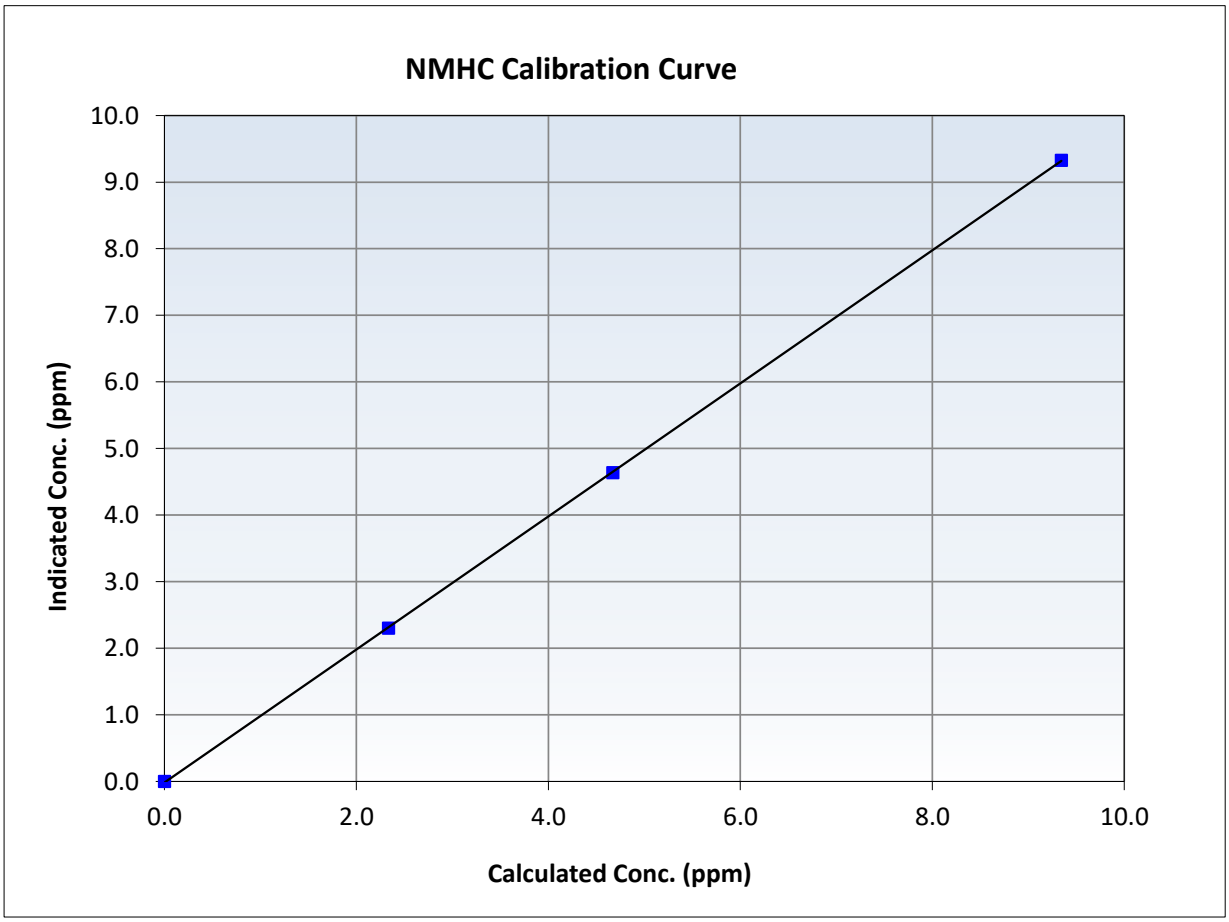
NMHC Calibration Summary

Station Information

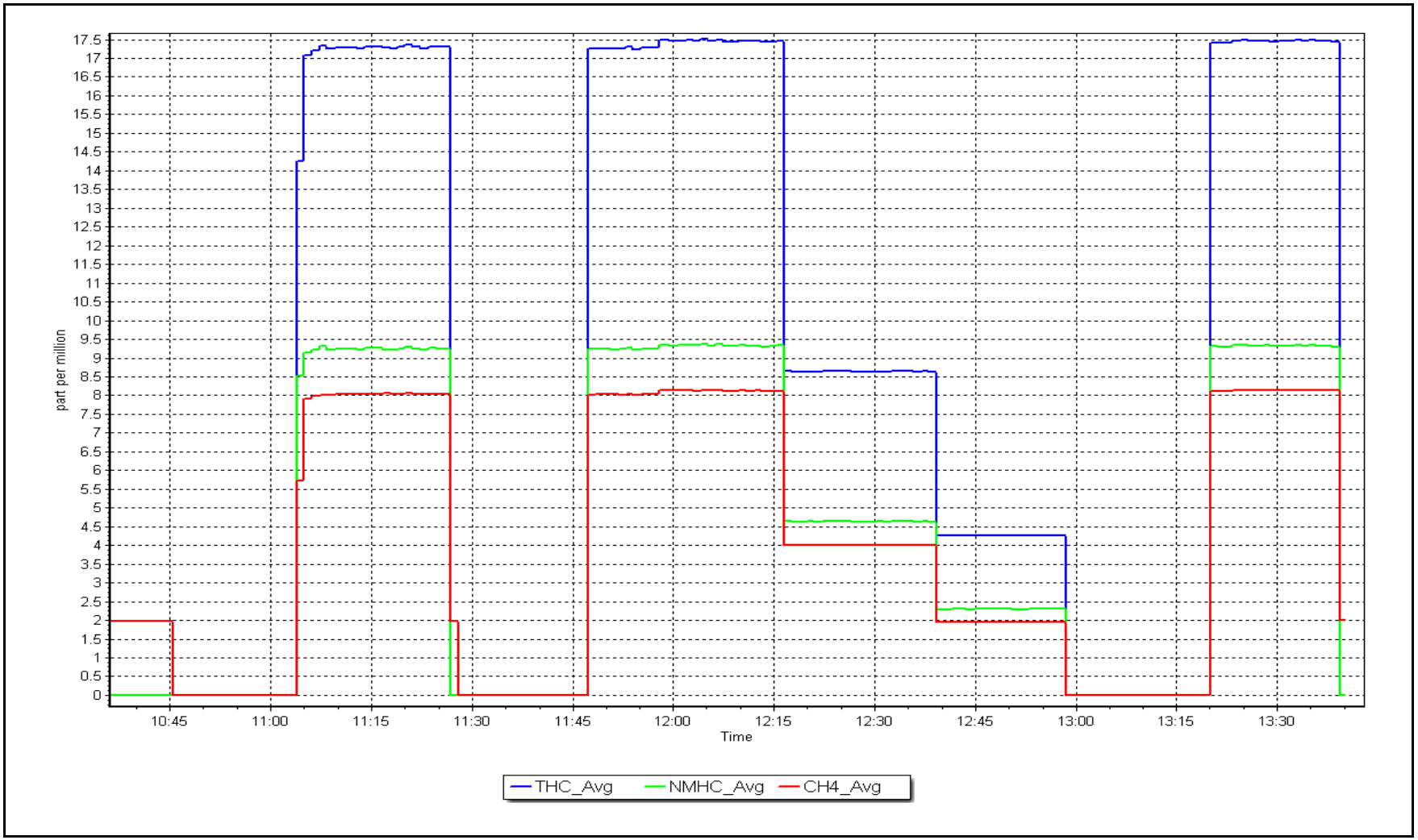
Calibration Date:	November 3, 2025	Previous Calibration:	October 14, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	10:40	End Time (MST):	13:37
Analyzer make:	Thermo 55i	Analyzer serial #:	1152430011

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.00	0.00	----	Correlation Coefficient	0.999985	*≥0.995*
9.34	9.33	1.0017	Slope	0.999071	*0.90 - 1.10*
4.67	4.64	1.0072	Intercept	-0.016707	*+/-0.5*
2.34	2.30	1.0143			



NMHC Calibration Plot Date: November 3, 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:	November 14, 2025	Last Cal Date:	November 3, 2025
Start time (MST):	10:19	End time (MST):	11:49
Reason:	Cylinder Change		

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	3.15E-04	NMHC SP Ratio:	5.89E-05	5.95E-05
CH4 Retention time:	17.4	17.6	NMHC Peak Area:	157597	156872
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	17.32	1.010
As found Mid point					
As found Low point					
New cylinder response					

Baseline Corr AF:	17.32	Prev response	17.42	*% change	-0.6%
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					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	82.0	17.49	17.34	1.008
				Average Correction Factor	

Notes: H2/ N2 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	9.26	1.009
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	9.26	Prev response	9.32	*% 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					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	82.0	9.34	9.26	1.010
				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	4918	82.0	8.14	8.06	1.011
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr AF:	8.06	Prev response	8.10	*% 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

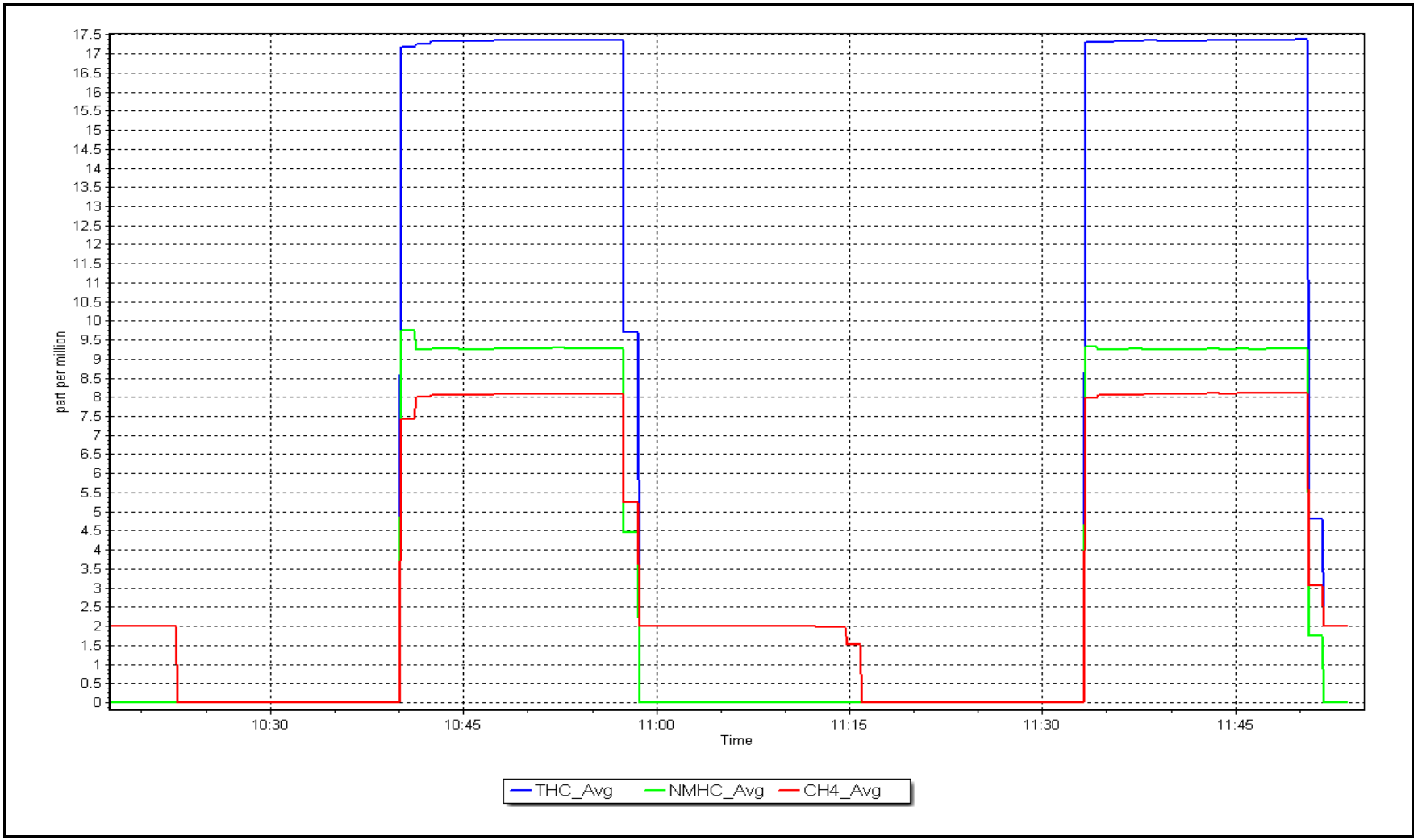
Set Point	Dilution air flow rate (sccm)	Source gas flow rate (sccm)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic) *Limit = 0.95-1.05*
Calibrator zero					
High point					
Mid point					
Low point					
As left zero	5000	0.0	0.00	0.00	----
As left span	4918	82.0	8.14	8.09	1.007
				Average Correction Factor	

Calibration Statistics

	Start	***Finish***
THC Cal Slope:	0.999473	
THC Cal Offset:	-0.056026	
CH4 Cal Slope:	0.999948	
CH4 Cal Offset:	-0.039119	
NMHC Cal Slope:	0.999071	
NMHC Cal Offset:	-0.016707	

Calibration Performed By: Jan Castro

NMHC Calibration Plot Date: November 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:	November 14, 2025
Last Cal Date:	October 6, 2025
Start time (MST):	11:49
End time (MST):	15:58
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	-0.2	-0.1	----	----
AF High point	4932	67.7	803.0	800.3	2.7	793.4	788.4	5.0	1.0117	1.0148
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 800.3 ppb	NO = 797.4 ppb
Baseline Corr 1st pt	NO_X = 793.7 ppb	NO = 788.6 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

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 = -0.8%
*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:	1.356	1.375	NO bkgnd or offset:	15.6	16.1
NOX coeff or slope:	0.992	0.994	NOX bkgnd or offset:	15.8	16.3
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	206.5	200.5

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.999406	1.001740
NO_X Cal Offset:	-2.239384	-2.258752
NO Cal Slope:	1.000405	1.001748
NO Cal Offset:	-3.180739	-3.100468
NO_2 Cal Slope:	0.999890	0.999891
NO_2 Cal Offset:	0.136766	-0.713116

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	-0.3	----	----
High point	4932	67.7	803.0	800.3	2.7	803.1	800.3	2.9	0.9998	1.0000
Mid point	4966	33.8	400.9	399.5	1.4	398.4	395.1	3.2	1.0062	1.0112
Low point	4983	16.9	200.4	199.8	0.7	196.4	194.1	2.2	1.0206	1.0292
As left zero	5000	0.0	0.0	0.0	0.0	-0.1	0.2	-0.3	----	----
As left span	4932	67.7	803.0	426.5	376.5	802.6	426.5	376.1	1.0005	1.0000
							Average Correction Factor		1.0089	1.0134

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	796.6	418.8	380.5	380.2	1.0008	99.9%
Mid GPT point	796.6	613.6	185.7	184.0	1.0093	99.1%
Low GPT point	796.6	702.0	97.3	96.7	1.0063	99.4%
				Average Correction Factor	1.0055	99.5%

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

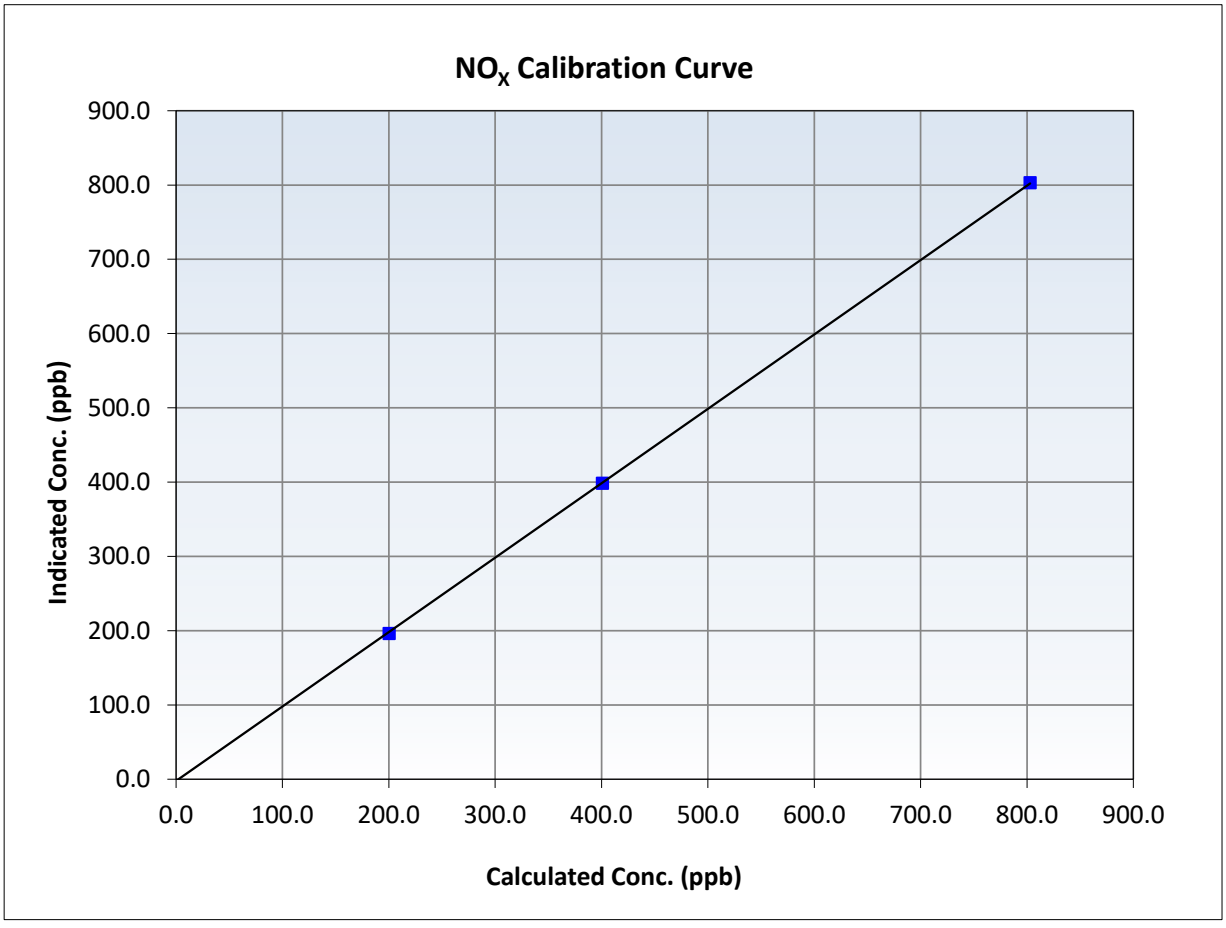
Station Information

Calibration Date:	November 14, 2025	Previous Calibration:	October 6, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	11:49	End Time (MST):	15:58
Analyzer make:	Thermo 42i	Analyzer serial #:	710321429

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
803.0	803.1	0.9998
400.9	398.4	1.0062
200.4	196.4	1.0206

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999970	*≥0.995*
Slope	1.001740	*0.90 - 1.10*
Intercept	-2.258752	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

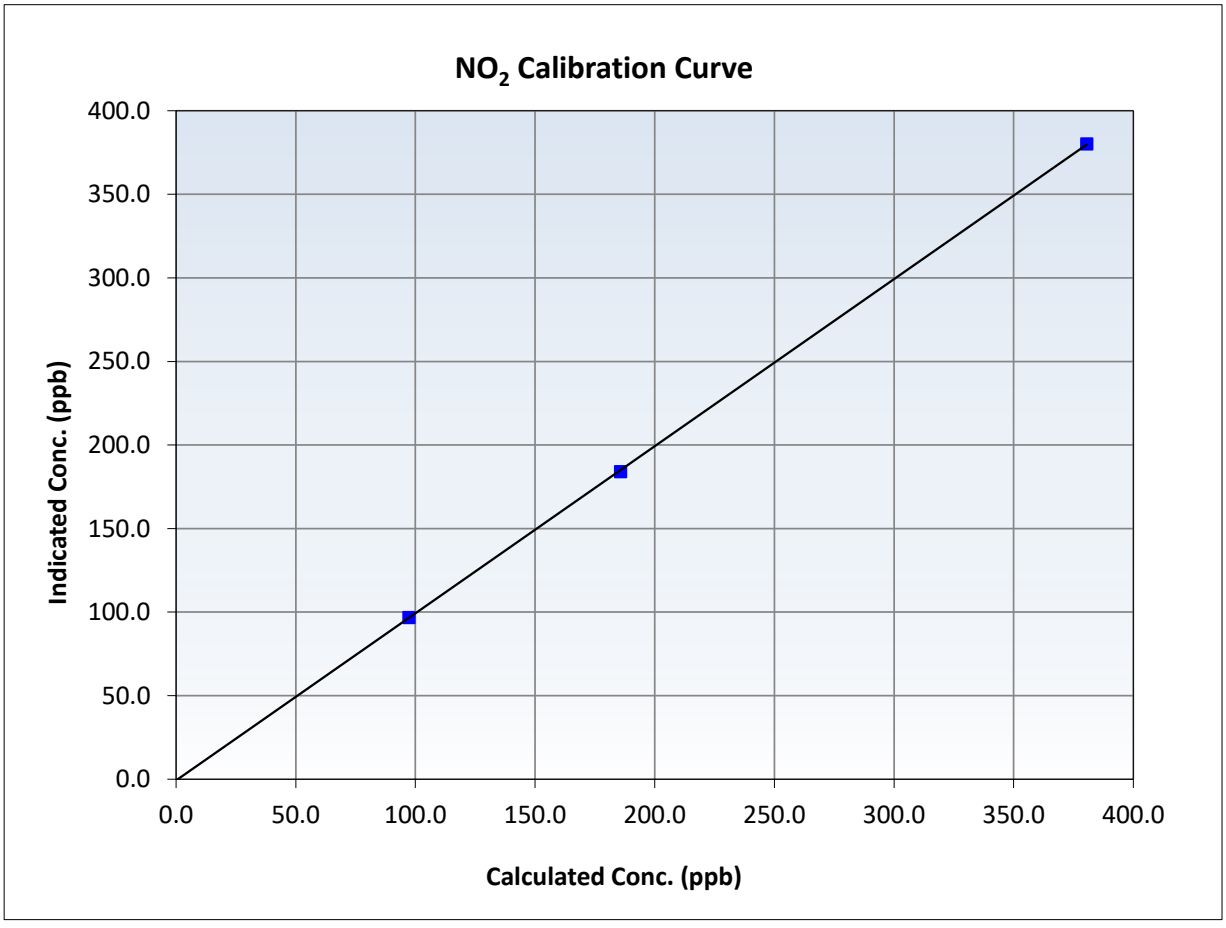
Station Information

Calibration Date:	November 14, 2025	Previous Calibration:	October 6, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	11:49	End Time (MST):	15:58
Analyzer make:	Thermo 42i	Analyzer serial #:	710321429

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.3	----
380.5	380.2	1.0008
185.7	184.0	1.0093
97.3	96.7	1.0063

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999983	*≥0.995*
Slope	0.999891	*0.90 - 1.10*
Intercept	-0.713116	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

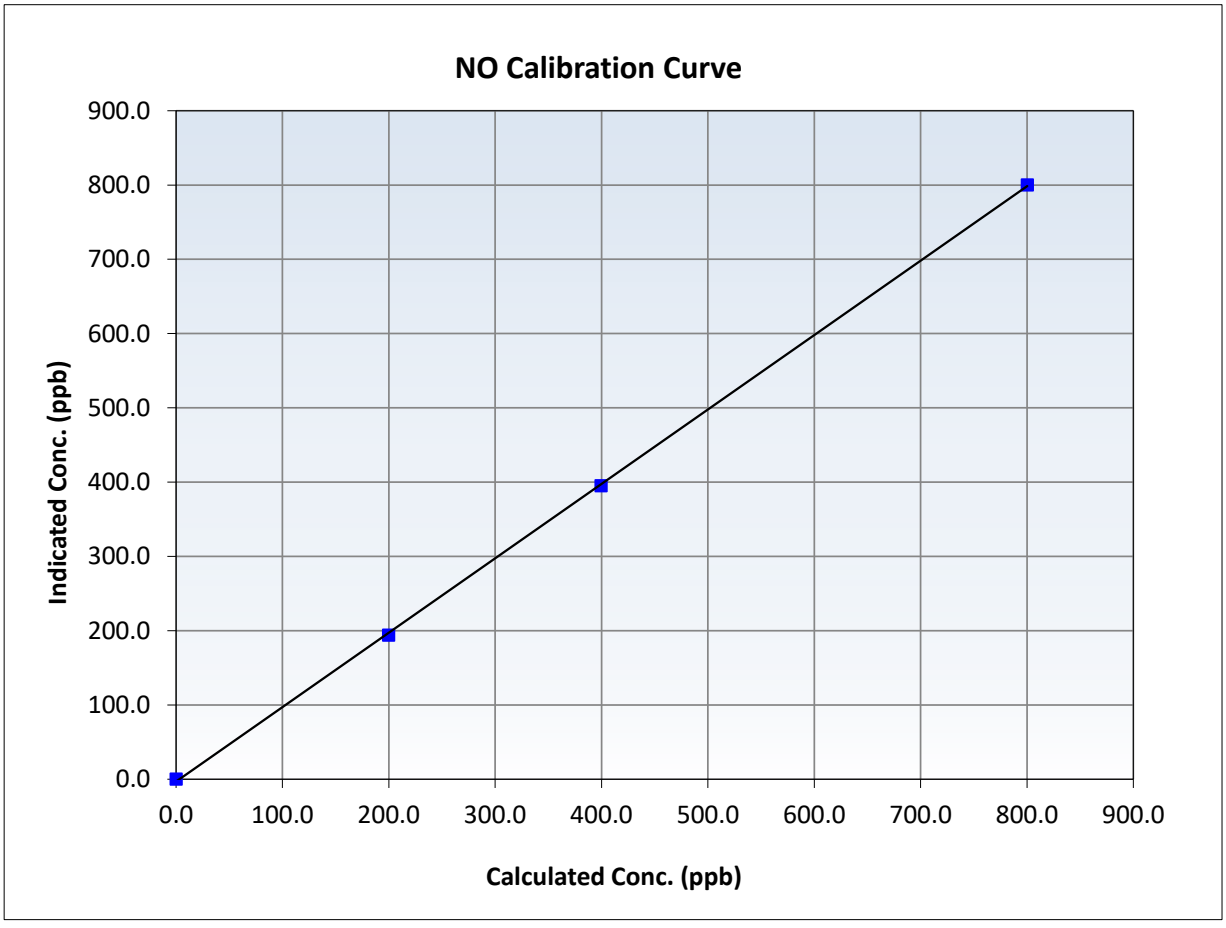
Station Information

Calibration Date:	November 14, 2025	Previous Calibration:	October 6, 2025
Station Name:	Ells River	Station Number:	AMS 30
Start Time (MST):	11:49	End Time (MST):	15:58
Analyzer make:	Thermo 42i	Analyzer serial #:	710321429

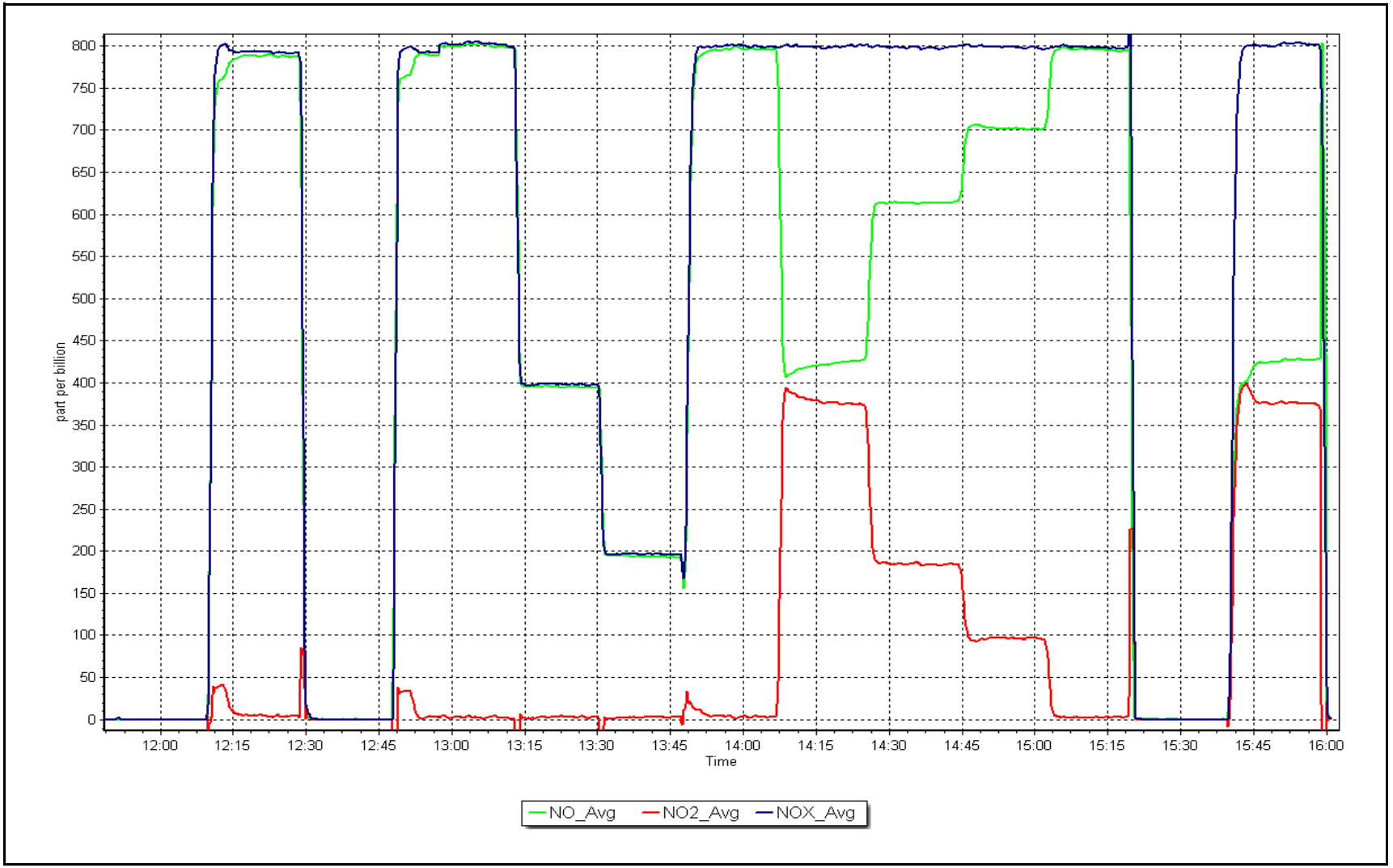
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
800.3	800.3	1.0000
399.5	395.1	1.0112
199.8	194.1	1.0292

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999926	*≥0.995*
Slope	1.001748	*0.90 - 1.10*
Intercept	-3.100468	*+/-20*



NO_X Calibration Plot Date: November 14, 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:	November 14, 2025	Last Cal Date:	October 14, 2025
Start time (MST):	14:28	End time (MST):	14:56
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 (^{o}C)	-3.00	-3.47	-3.00	☐	+/- 2 ^{o}C
P (mmHg)	721.20	722.70	721.20	☐	+/- 10 mmHg
Flow (LPM)	4.98	5.05	4.98	☐	+/- 0.25 LPM
PW% (pump)	34	-----	34	☐	>80%
Zero Verification	PM w/o HEPA:	0.20	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: 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
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Blackrod	Station number:	AMS 31
Calibration Date:	November 27, 2025	Last Cal Date:	October 30, 2025
Start time (MST):	11:17	End time (MST):	14:07
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:	1.003523	1.000405	Backgd or Offset:	39.7	40.4
Calibration intercept:	-0.682143	-0.041621	Coeff or Slope:	0.997	1.019

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	79.5	798.9	782.5	1.021
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	782.2	Previous response	801.0	*% change	-2.4%
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	0.5	----
High point	4921	79.5	798.9	799.4	0.999
Mid point	4960	39.8	400.0	400.0	1.000
Low point	4980	19.9	200.0	199.4	1.003
As left zero	5000	0.0	0.0	0.2	----
As left span	4921	79.5	798.9	798.6	1.000
				Average Correction Factor:	1.001

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

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

SO_2 Calibration Summary

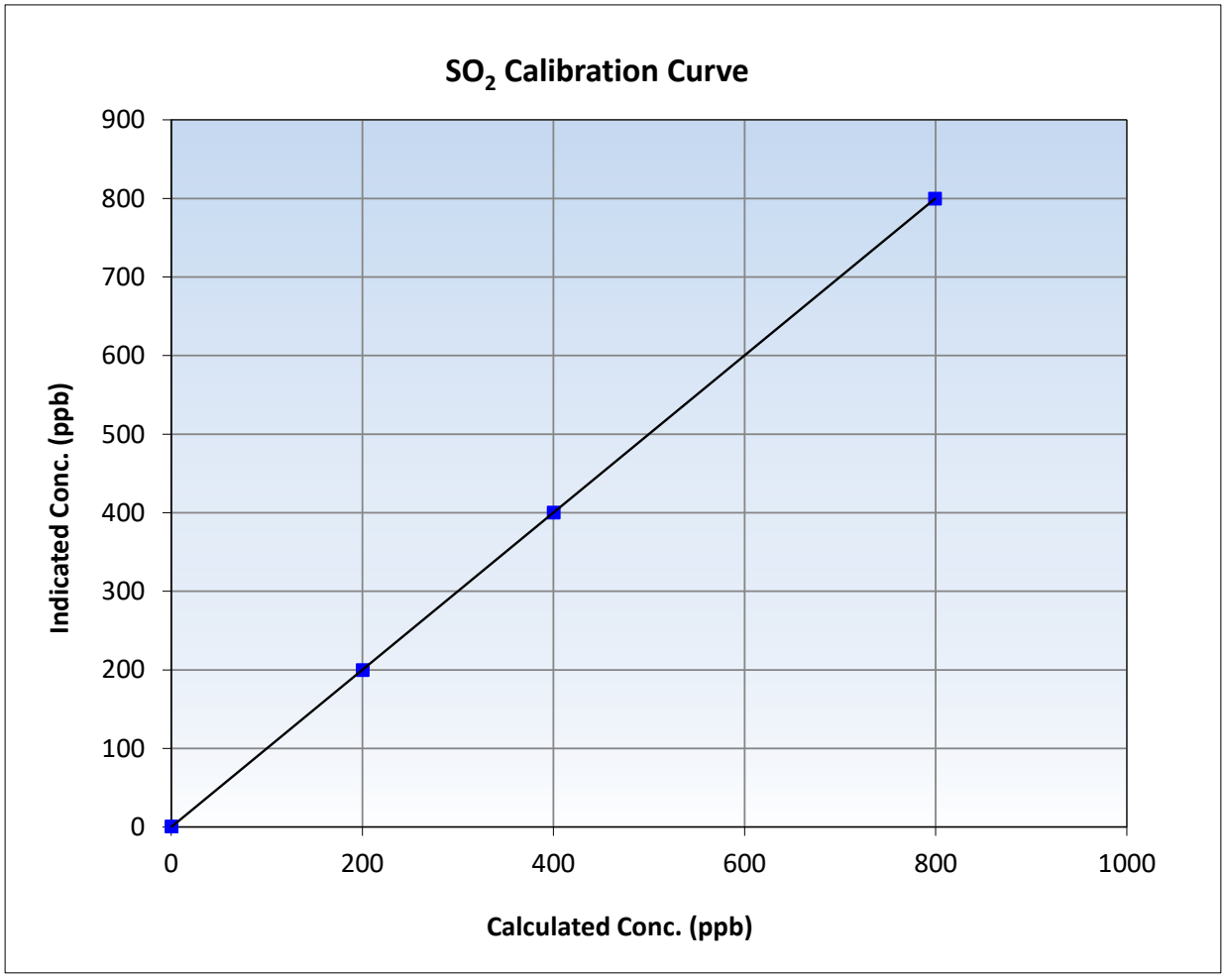
Station Information

Calibration Date:	November 27, 2025	Previous Calibration:	October 30, 2025
Station Name:	Blackrod	Station Number:	AMS 31
Start Time (MST):	11:17	End Time (MST):	14:07
Analyzer make:	Thermo 43i	Analyzer serial #:	1160290014

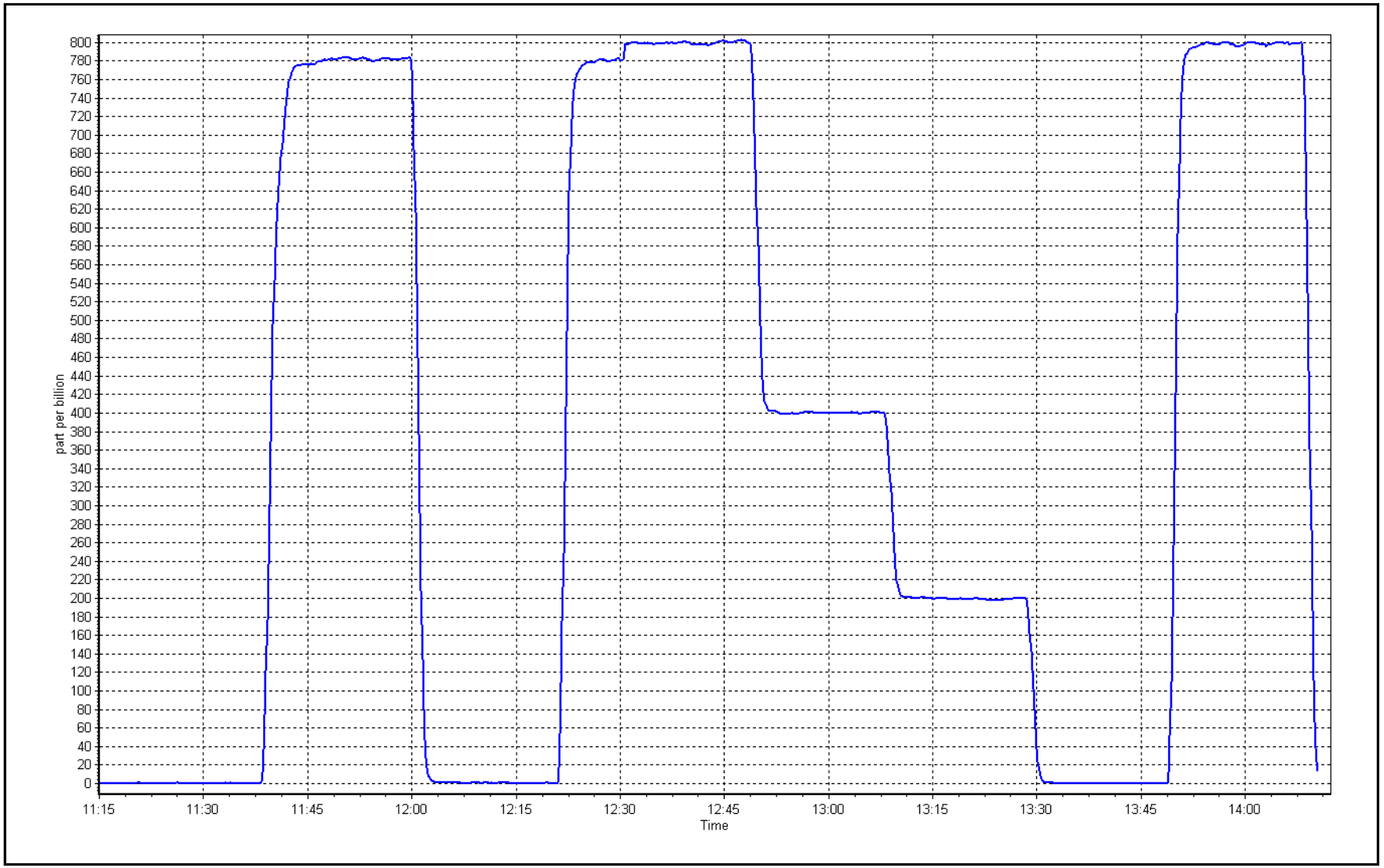
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.5	----
798.9	799.4	0.9994
400.0	400.0	1.0000
200.0	199.4	1.0030

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	1.000405	*0.90 - 1.10*
Intercept	-0.041621	*+/-30*



SO2 Calibration Plot Date: November 27, 2025 Location: Blackrod



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Blackrod	Station number:	AMS 31
Calibration Date:	November 12, 2025	Last Cal Date:	October 9, 2025
Start time (MST):	11:00	End time (MST):	14:32
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:	1.006763	1.006617	Backgd or Offset:	2.54	2.54
Calibration intercept:	-0.000490	0.179606	Coeff or Slope:	0.944	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	0.1	----
As found High point	4926	73.8	80.0	80.0	1.001
As found Mid point	4963	36.9	40.0	40.4	0.993
As found Low point	4982	18.5	20.1	20.1	1.003
New cylinder response					

Baseline Corr As found:	79.9	Prev response:	80.54	*% change:	-0.8%
Baseline Corr 2nd AF pt:	40.3	AF Slope:	0.999333	AF Intercept:	0.159668
Baseline Corr 3rd AF pt:	20.0	AF Correlation:	0.999972	* = > +/-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	4926	73.8	80.0	80.6	0.993
Mid point	4963	36.9	40.0	40.8	0.980
Low point	4982	18.5	20.1	20.1	0.998
As left zero	5000	0.0	0.0	0.2	----
As left span	4926	73.8	80.0	80.7	0.991
SO2 Scrubber Check	4921	79.5	794.9	-0.1	----
Date of last scrubber change:		27-Aug-25		Ave Corr Factor	0.990
Date of last converter efficiency test:		October 9, 2025			

Notes: Sample inlet filter was changed after multipoint as founds. SO2 scrubber check done and passed. No adjustment made.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

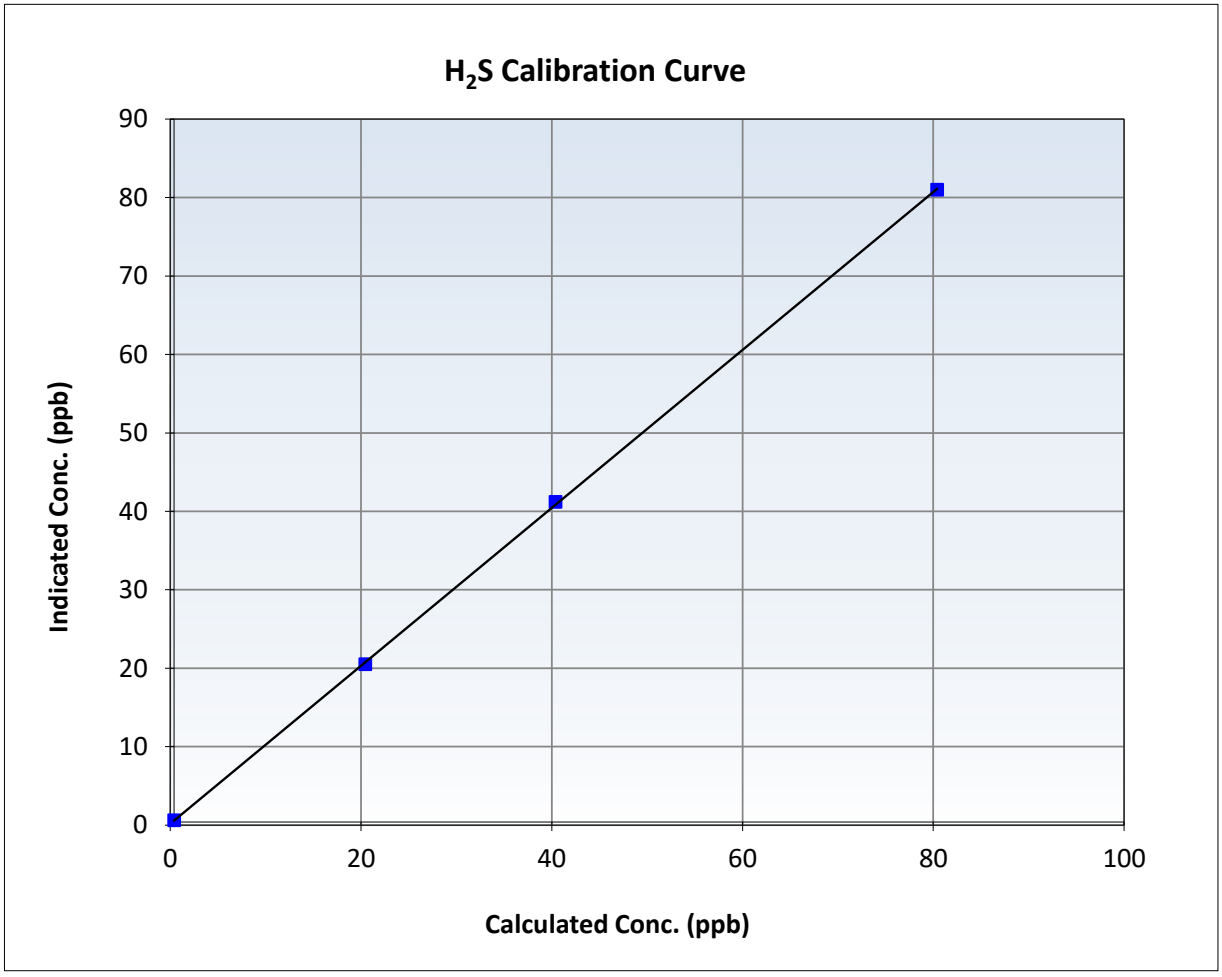
H_2S Calibration Summary

Station Information

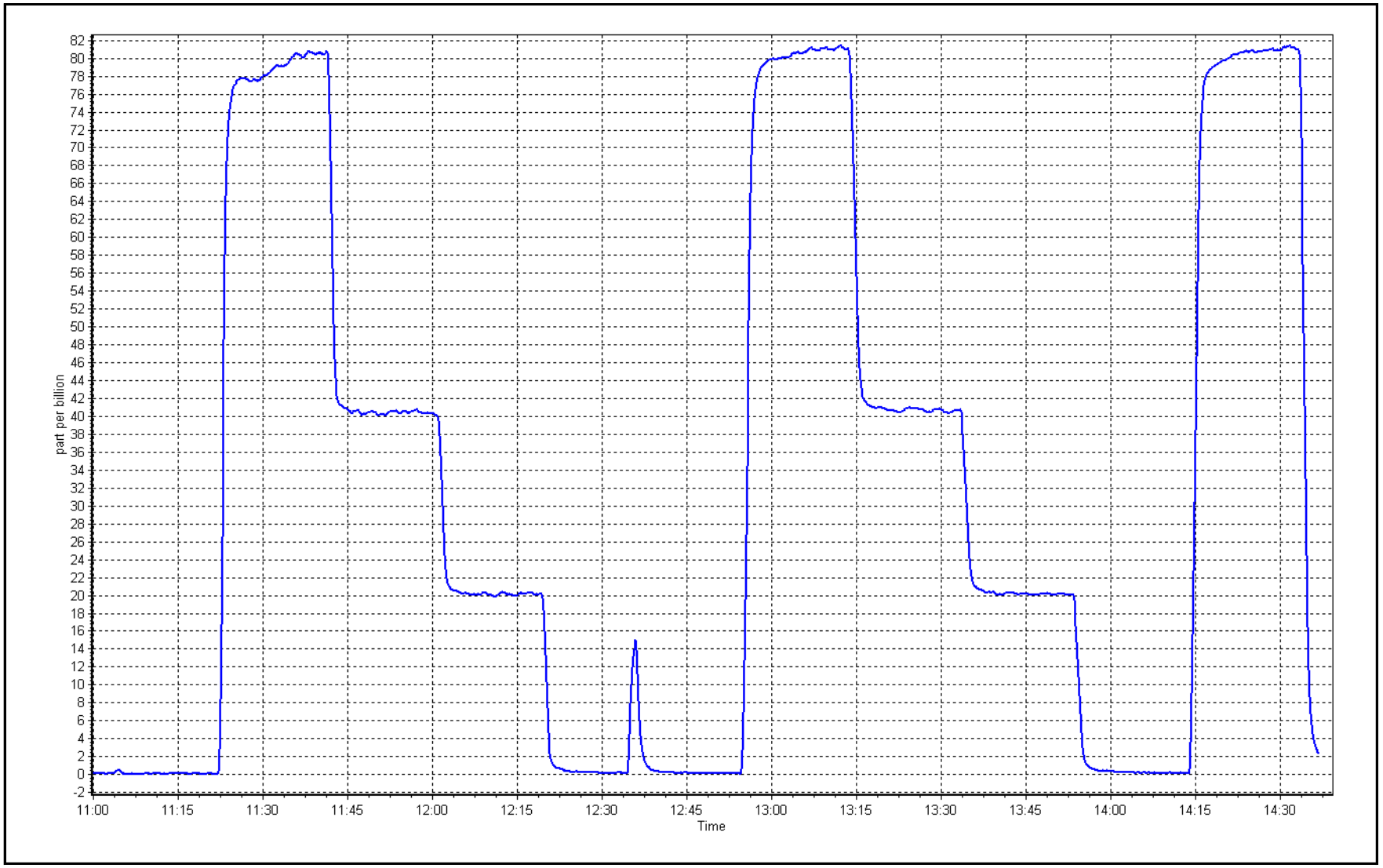
Calibration Date:	November 12, 2025	Previous Calibration:	October 9, 2025
Station Name:	Blackrod	Station Number:	AMS 31
Start Time (MST):	11:00	End Time (MST):	14:32
Analyzer make:	Thermo 43iQTL	Analyzer serial #:	12228021056

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.2	----	Correlation Coefficient	0.999941	*≥0.995*
80.0	80.6	0.9926	Slope	1.006617	*0.90 - 1.10*
40.0	40.8	0.9804			
20.1	20.1	0.9976	Intercept	0.179606	*+/-3*



H_2S Calibration Plot Date: November 12, 2025 Location: Blackrod



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Blackrod
Station number:	AMS 31
Calibration Date:	November 12, 2025
Last Cal Date:	October 21, 2025
Start time (MST):	11:00
End time (MST):	12:43
Reason:	Removal

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 T750	Serial Number:	281
ZAG make/model:	Teledyne API 751H	Serial Number:	530

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	4932	67.7	803.0	800.3	2.7	803.0	799.4	3.5	0.9997	1.0007
AF Mid point	4966	33.8	400.9	399.5	1.4	409.4	405.9	3.5	0.9787	0.9836
AF Low point	4983	16.9	200.4	199.8	0.7	200.9	198.9	1.9	0.9967	1.0028
New cyl resp										

Previous Response	NO_X = 805.0 ppb	NO = 802.3 ppb
Baseline Corr 1st pt	NO_X = 803.2 ppb	NO = 799.7 ppb
Baseline Corr 2nd pt	NO_X = 409.6 ppb	NO = 406.2 ppb
Baseline Corr 3rd pt	NO_X = 201.1 ppb	NO = 199.2 ppb

* = > +/-5% change initiates investigation

*Percent Change NO_X = -0.2%

*Percent Change NO = -0.3%

As Found Statistics

As found	NO_X r^2: 0.999851	Nx Sl: 1.001243	Nx Int: 1.766
As found	NO r^2: 0.999894	NO Sl: 1.000463	NO Int: 0.924
As found	NO_2 r^2: 1.000000	NO2 Sl: 1.069070	NO_2 Int: 0.100

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	785.6	409.1	379.2	405.5	0.9352	106.9%
As found mid GPT point	785.6					
As found low GPT point	785.6					

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:	1.205		NO bkgnd or offset:	17.9	
NOX coeff or slope:	0.995		NOX bkgnd or offset:	18.1	
NO2 coeff or slope:	1.000		Reaction cell Press:	141.2	

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.000210	
NO_X Cal Offset:	1.903333	
NO Cal Slope:	1.001497	
NO Cal Offset:	0.862201	
NO_2 Cal Slope:	0.974019	
NO_2 Cal Offset:	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										
High point										
Mid point										
Low point										
As left zero										
As left span										
								Average Correction Factor		

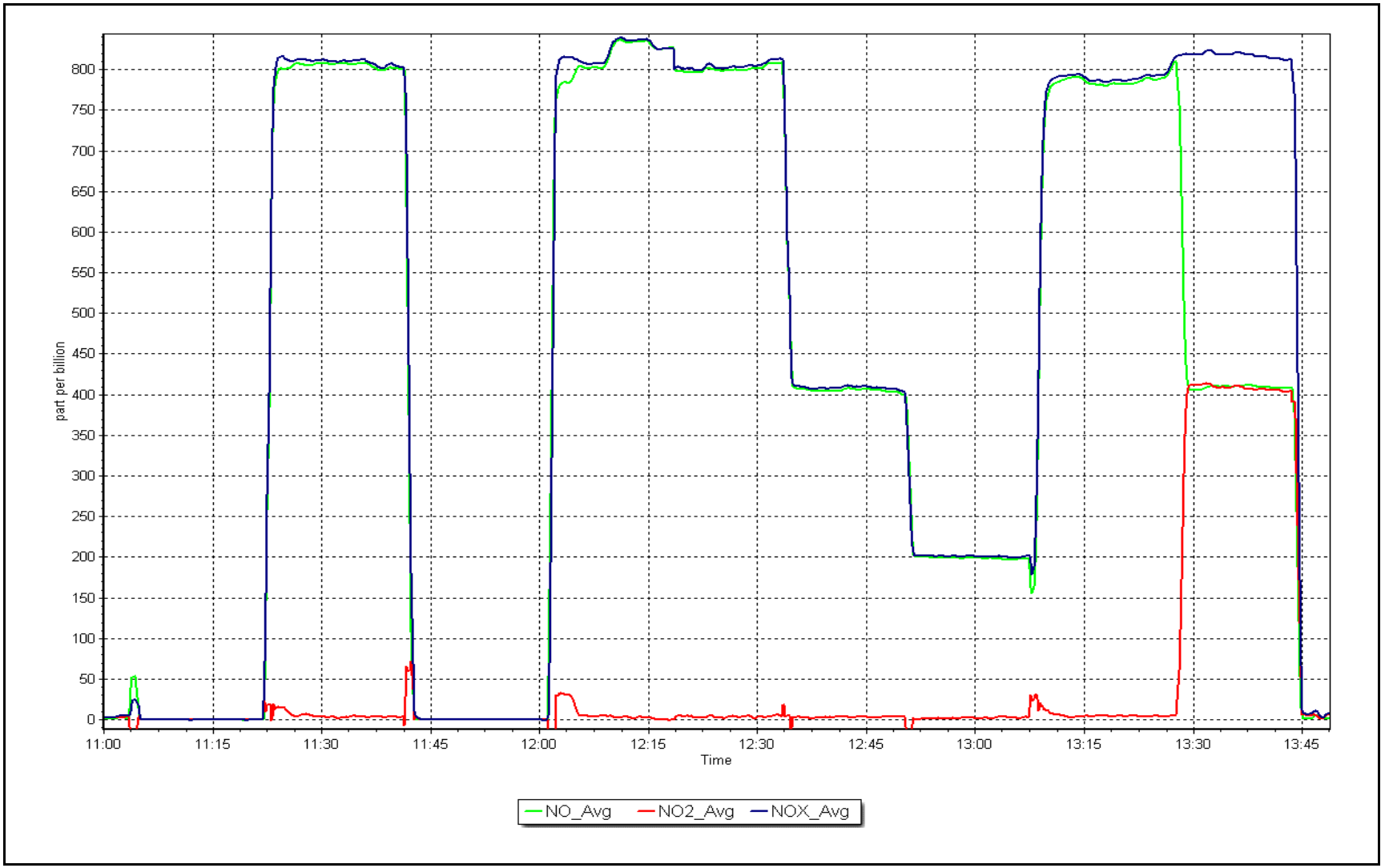
GPT Calibration Data

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: Removal calibrations done to do further troubleshooting at the shop.

Calibration Performed By: Jan Castro

NO_X Calibration Plot Date: November 12, 2025 Location: Blackrod



Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Blackrod
Station number:	AMS 31
Calibration Date:	November 13, 2025
Last Cal Date:	
Start time (MST):	10:39
End time (MST):	14:15
Reason:	Install

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										
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 42i Serial Number: 1173480006

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	Finish		Start	Finish
NO coeff or slope:		0.967	NO bkgnd or offset:		2.3
NOX coeff or slope:		0.993	NOX bkgnd or offset:		2.3
NO2 coeff or slope:		1.000	Reaction cell Press:		145.3

Calibration Statistics

	Start	Finish
NO_X Cal Slope:		1.000142
NO_X Cal Offset:		-0.297959
NO Cal Slope:		1.001672
NO Cal Offset:		-1.199111
NO_2 Cal Slope:		0.998566
NO_2 Cal Offset:		-1.057289

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	67.7	803.0	800.3	2.7	802.8	801.0	1.8	1.0002	0.9991
Mid point	4966	33.8	400.9	399.5	1.4	400.9	398.4	2.5	1.0000	1.0028
Low point	4983	16.9	200.4	199.8	0.7	199.6	197.7	2.0	1.0042	1.0104
As left zero	5000	0.0	0.0	0.0	0.0	0.2	0.1	0.1	----	----
As left span	4932	67.7	803.0	407.6	395.4	795.8	407.6	388.2	1.0090	1.0000
								Average Correction Factor	1.0015	1.0041

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	797.0	409.8	389.9	388.8	1.0029	99.7%
Mid GPT point	797.0	600.0	199.7	198.0	1.0086	99.1%
Low GPT point	797.0	695.3	104.4	102.0	1.0236	97.7%
				Average Correction Factor	1.0117	98.9%

Notes: Install calibrations. Sample inlet filter was changed before calibrator zero. Adjusted zero and span.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

NO_X Calibration Summary

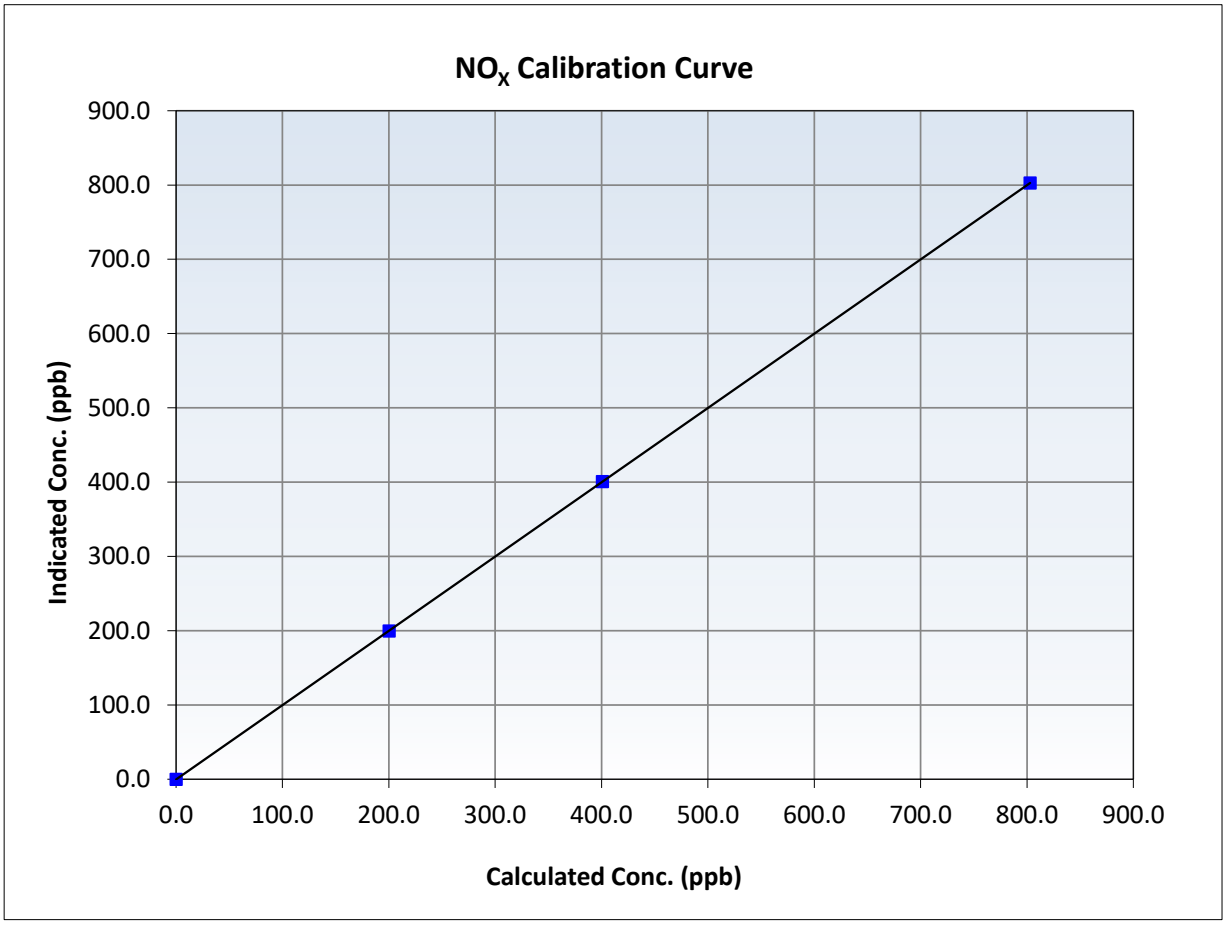
Station Information

Calibration Date:	November 13, 2025	Previous Calibration:	
Station Name:	Blackrod	Station Number:	AMS 31
Start Time (MST):	10:39	End Time (MST):	14:15
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	----
803.0	802.8	1.0002
400.9	400.9	1.0000
200.4	199.6	1.0042

Statistical Evaluation		Limits
Correlation Coefficient	0.999999	≥0.995
Slope	1.000142	0.90 - 1.10
Intercept	-0.297959	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

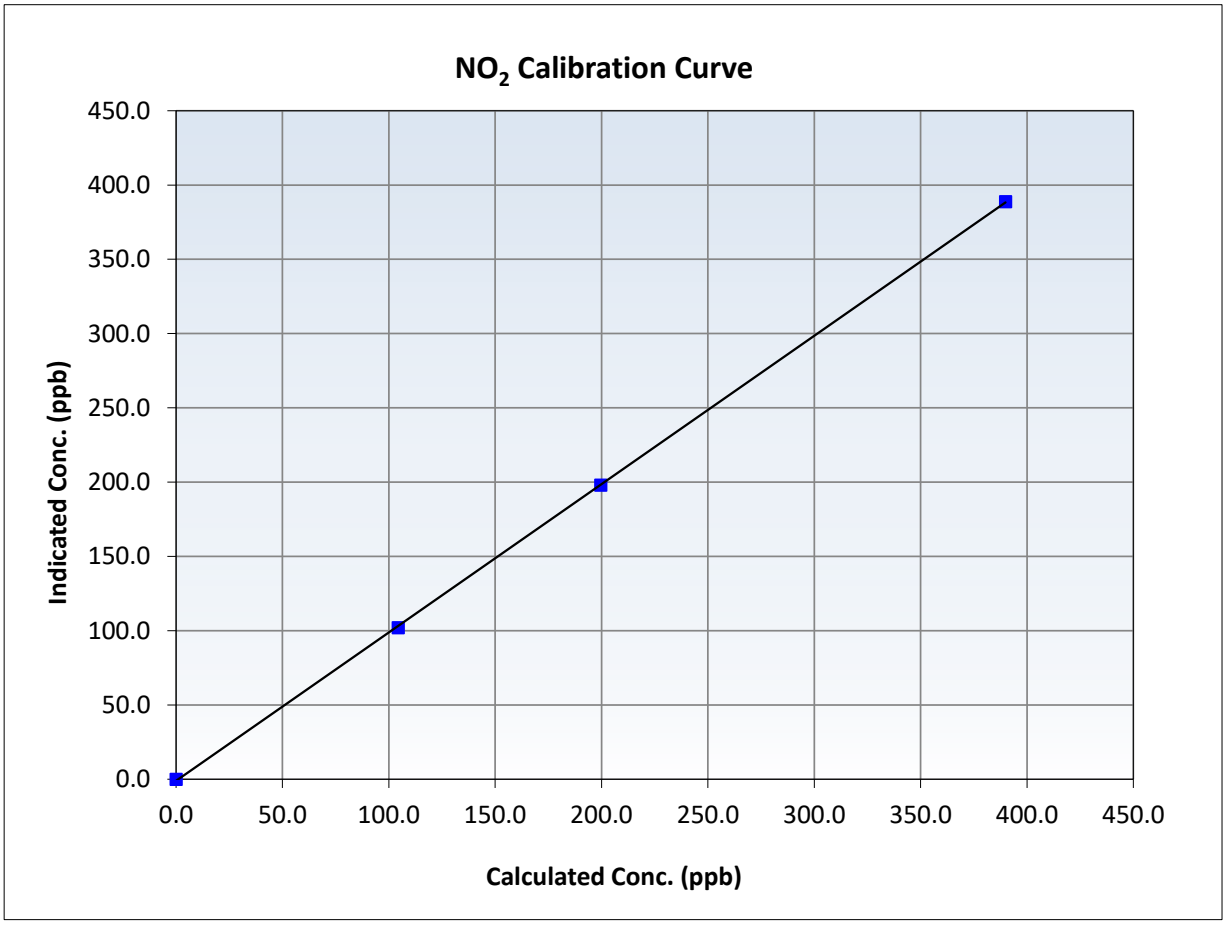
Station Information

Calibration Date:	November 13, 2025	Previous Calibration:	
Station Name:	Blackrod	Station Number:	AMS 31
Start Time (MST):	10:39	End Time (MST):	14:15
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	----
389.9	388.8	1.0029
199.7	198.0	1.0086
104.4	102.0	1.0236

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999964	*≥0.995*
Slope	0.998566	*0.90 - 1.10*
Intercept	-1.057289	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

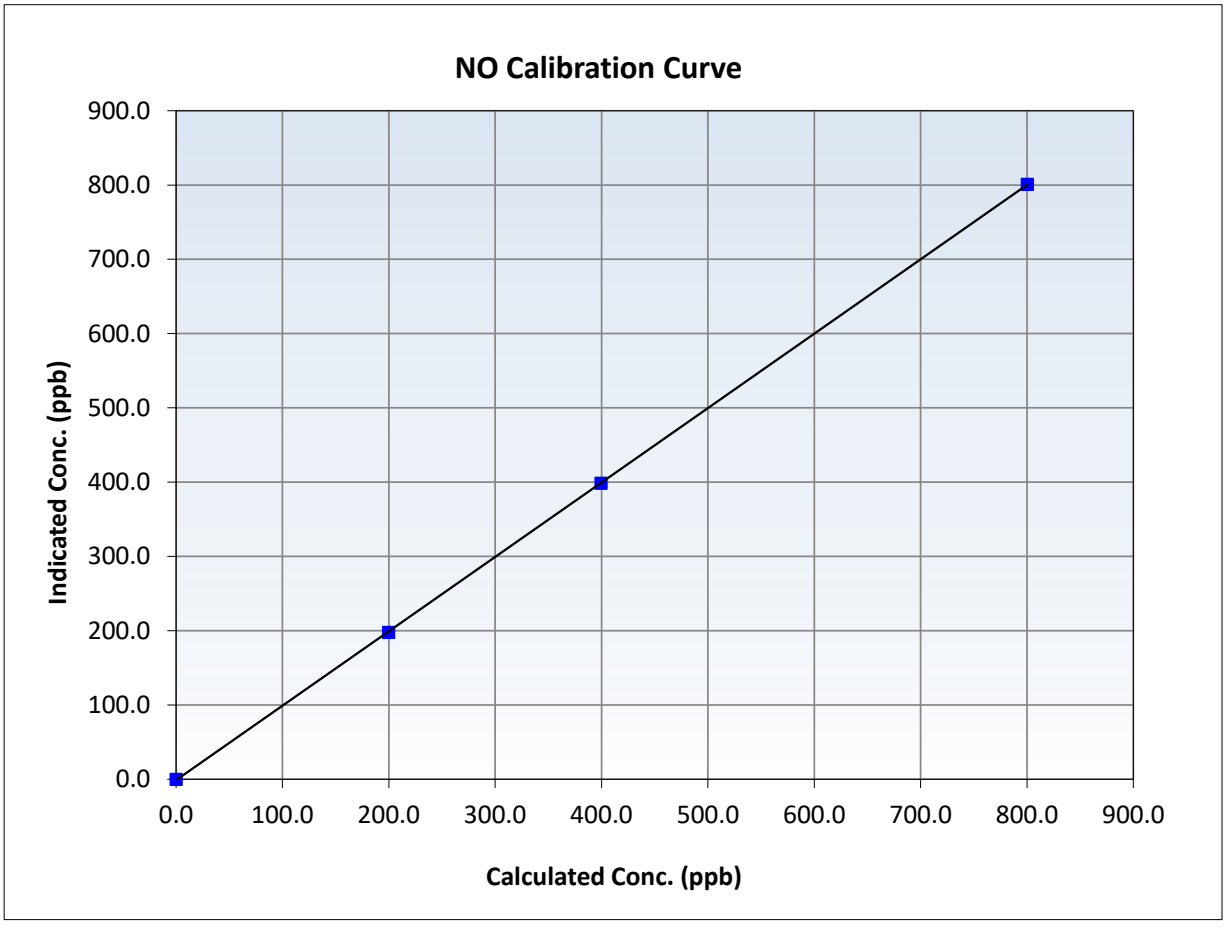
Station Information

Calibration Date:	November 13, 2025	Previous Calibration:	
Station Name:	Blackrod	Station Number:	AMS 31
Start Time (MST):	10:39	End Time (MST):	14:15
Analyzer make:	Thermo 42i	Analyzer serial #:	1173480006

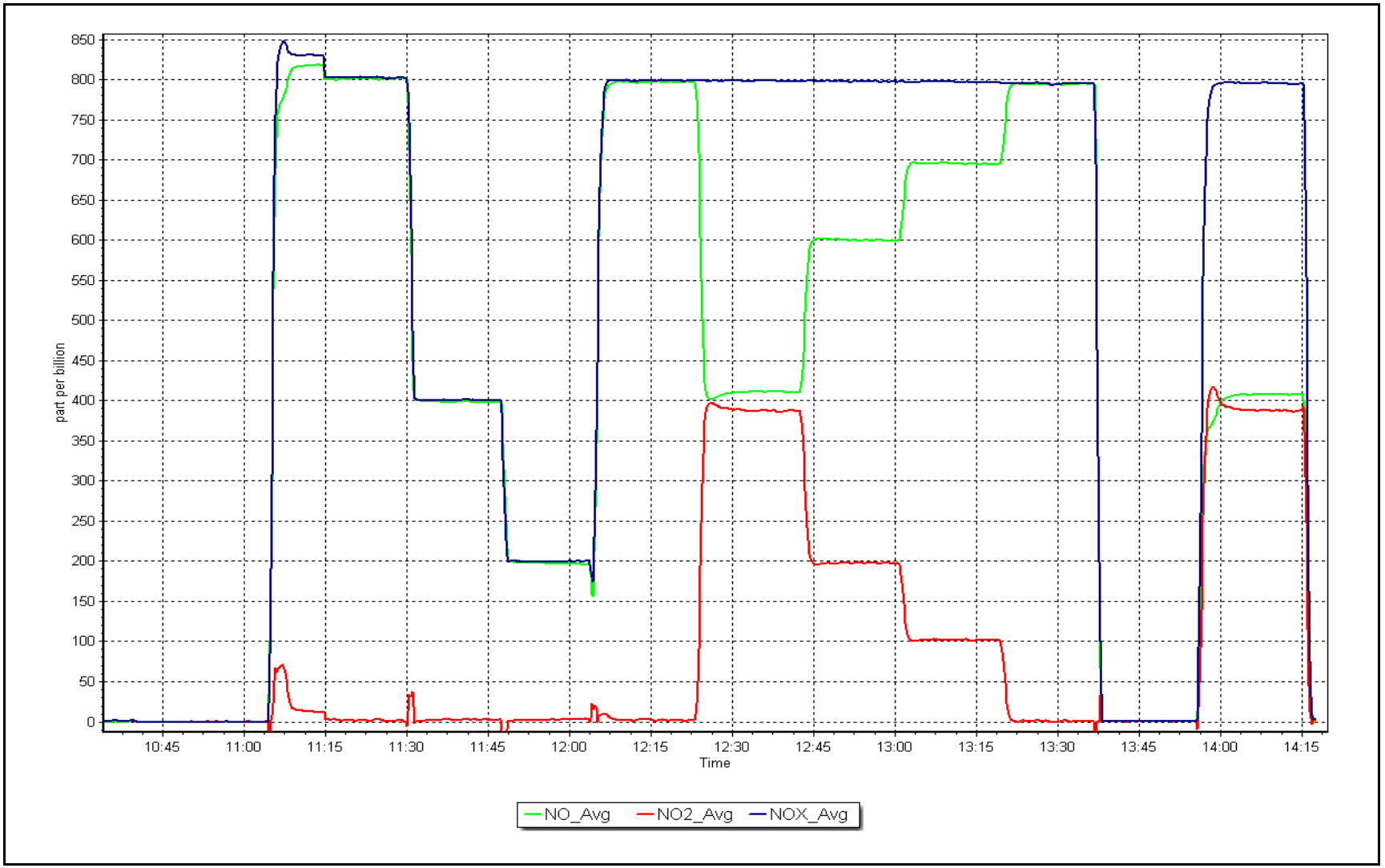
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
800.3	801.0	0.9991
399.5	398.4	1.0028
199.8	197.7	1.0104

Statistical Evaluation		Limits
Correlation Coefficient	0.999990	≥0.995
Slope	1.001672	0.90 - 1.10
Intercept	-1.199111	+/-20



NO_X Calibration Plot Date: November 13, 2025 Location: Blackrod



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS33
MONDAY CREEK
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Monday Creek	Station number:	AMS 33
Calibration Date:	November 6, 2025	Last Cal Date:	October 23, 2025
Start time (MST):	10:46	End time (MST):	13:34
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:	0.996658	0.999672	Backgd or Offset:	31.0	31.1
Calibration intercept:	0.442201	0.861611	Coeff or Slope:	0.970	0.983

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	800.8	797.2	1.004
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	797.3	Previous response	798.6	*% 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	4921	79.1	800.8	801.0	1.000
Mid point	4961	39.5	399.9	401.0	0.997
Low point	4980	19.8	200.5	202.0	0.992
As left zero	5000	0.0	0.0	0.1	----
As left span	4921	79.1	800.8	802.0	0.998
				Average Correction Factor:	0.996

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

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

SO_2 Calibration Summary

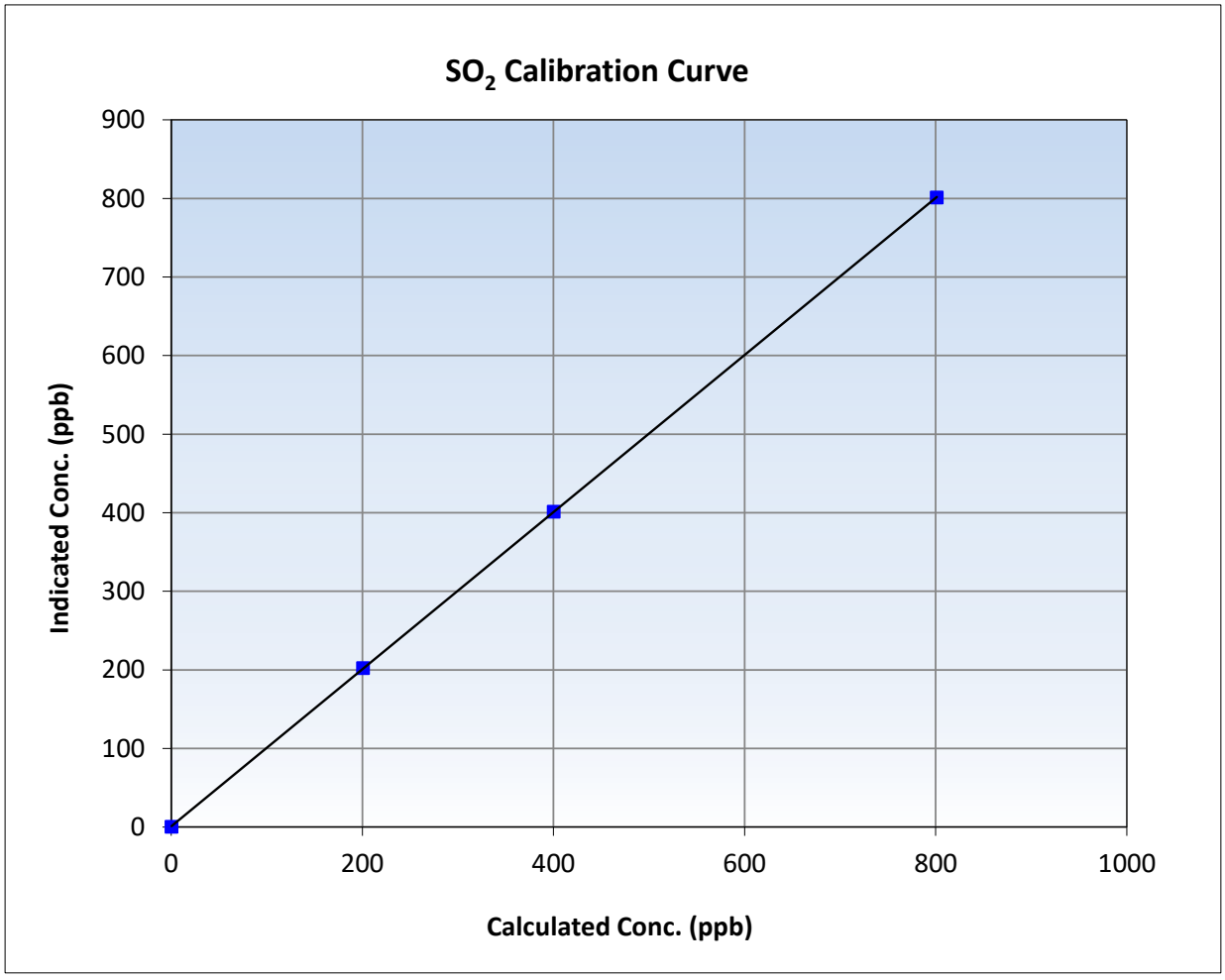
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 23, 2025
Station Name:	Monday Creek	Station Number:	AMS 33
Start Time (MST):	10:46	End Time (MST):	13:34
Analyzer make:	Thermo 43i	Analyzer serial #:	1152430005

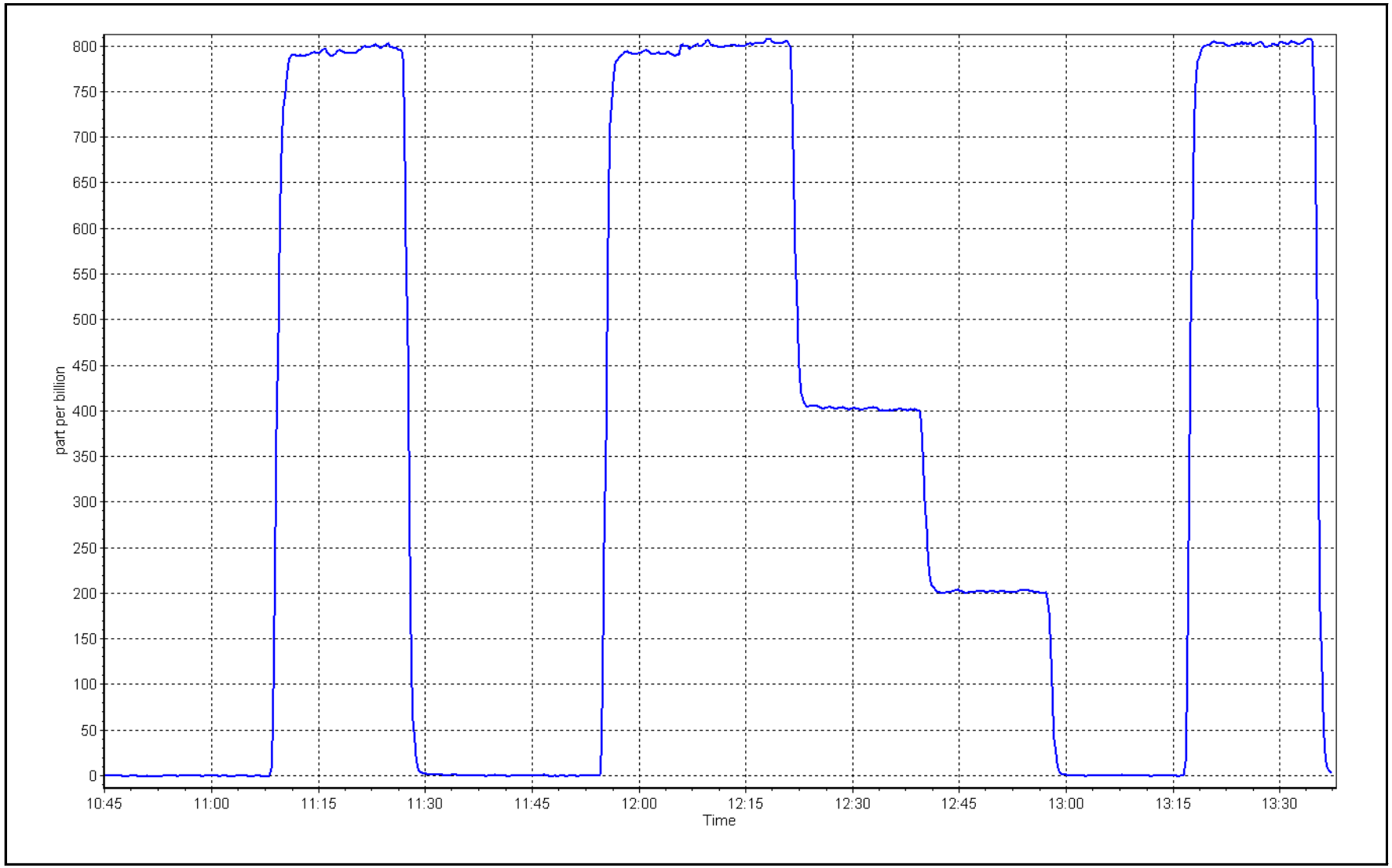
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
800.8	801.0	0.9997
399.9	401.0	0.9972
200.5	202.0	0.9924

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999996	*≥0.995*
Slope	0.999672	*0.90 - 1.10*
Intercept	0.861611	*+/-30*



SO2 Calibration Plot Date: November 6, 2025 Location: Monday Creek



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Monday Creek	Station number:	AMS 33
Calibration Date:	November 20, 2025	Last Cal Date:	October 22, 2025
Start time (MST):	11:08	End time (MST):	14:48
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:	0.996282	1.000426	Backgd or Offset:	1.3	1.3
Calibration intercept:	0.358401	0.238404	Coeff or Slope:	1.062	1.082

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	0.2	----
As found High point	4921	79.2	80.0	80.0	1.002
As found Mid point	4960	39.6	40.0	40.1	1.002
As found Low point	4980	19.8	20.0	20.3	0.995
New cylinder response					

Baseline Corr As found:	79.8	Prev response:	80.05	*% change:	-0.3%
Baseline Corr 2nd AF pt:	39.9	AF Slope:	0.996997	AF Intercept:	0.258405
Baseline Corr 3rd AF pt:	20.1	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	4921	79.2	80.0	80.3	0.996
Mid point	4960	39.6	40.0	40.1	0.997
Low point	4980	19.8	20.0	20.4	0.980
As left zero	5000	0.0	0.0	0.4	----
As left span	4921	79.2	80.0	80.2	0.997
SO2 Scrubber Check	4921	79.1	791.0	0.1	----

Date of last scrubber change:	11-Apr-24	Ave Corr Factor	0.991
Date of last converter efficiency test:	October 22, 2025		

Notes: Sample inlet filter was changed after multipoint as founds. SO2 scrubber check done and passed. Adjusted span only.

Calibration Performed By: Jan Castro

Wood Buffalo Environmental Association

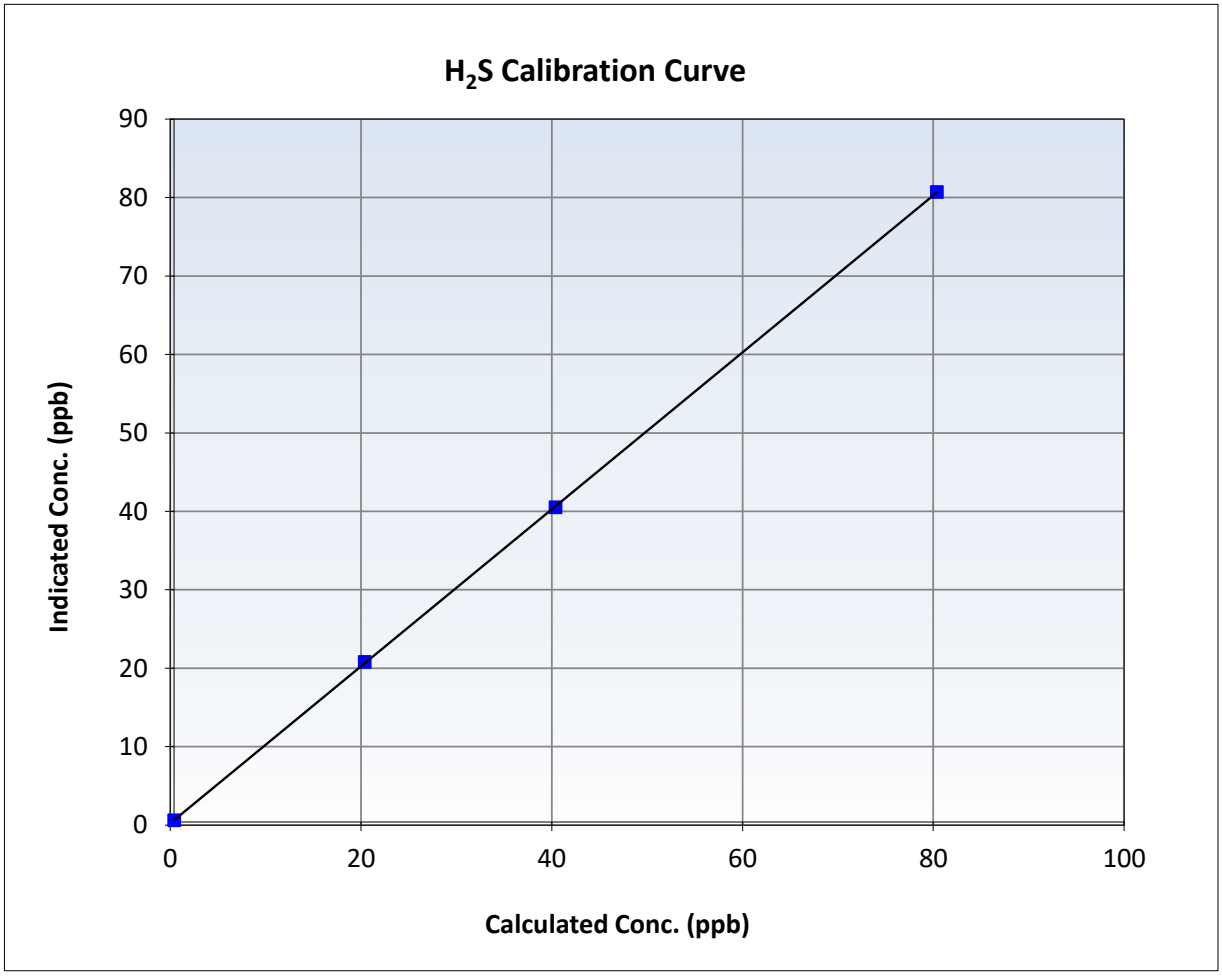
H2S Calibration Summary

Station Information

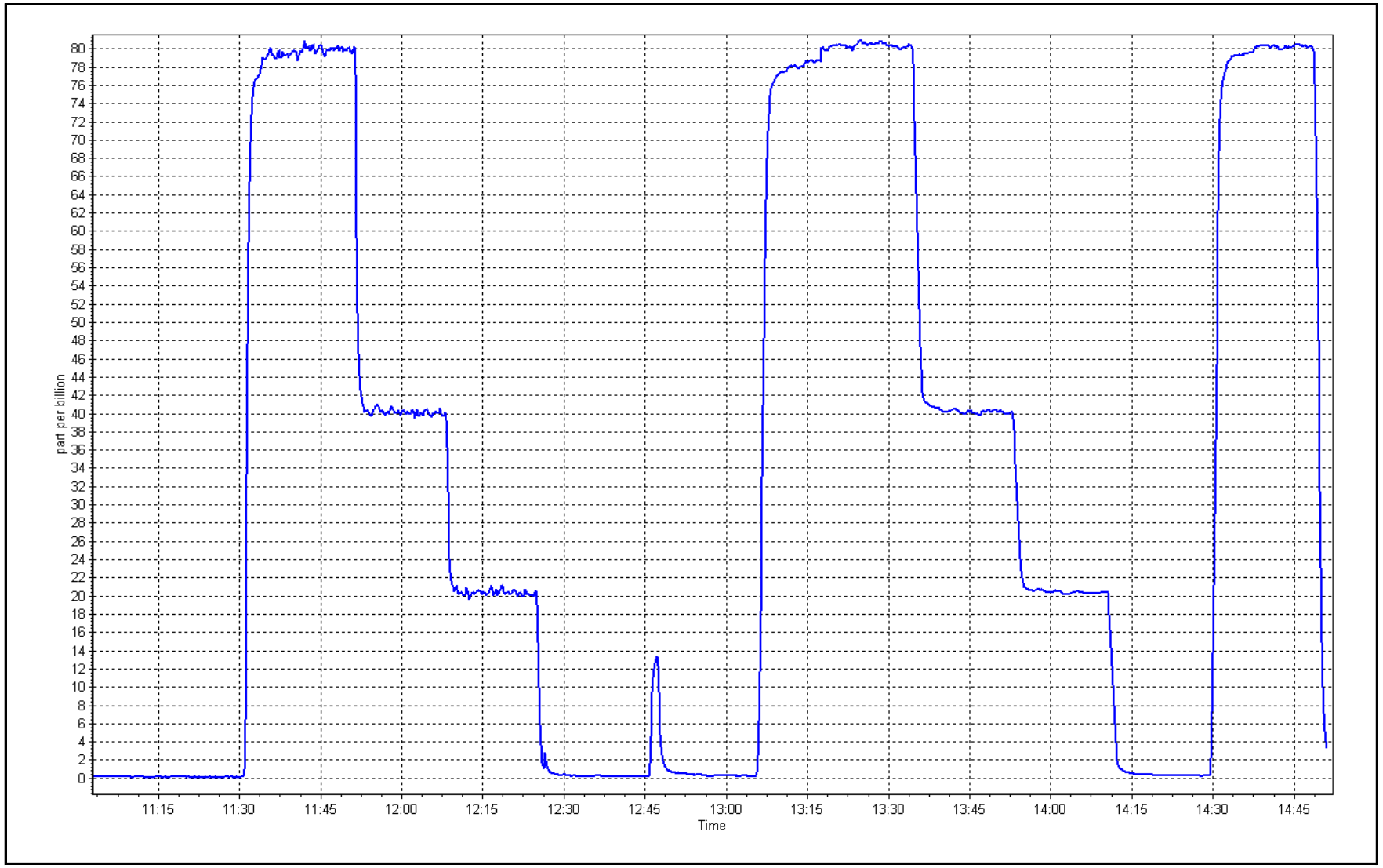
Calibration Date:	November 20, 2025	Previous Calibration:	October 22, 2025
Station Name:	Monday Creek	Station Number:	AMS 33
Start Time (MST):	11:08	End Time (MST):	14:48
Analyzer make:	Thermo 43iQTL	Analyzer serial #:	12333331547

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.2	----	Correlation Coefficient	0.999986	*≥0.995*
80.0	80.3	0.9961	Slope	1.000426	*0.90 - 1.10*
40.0	40.1	0.9975			
20.0	20.4	0.9803	Intercept	0.238404	*+/-3*



H2S Calibration Plot Date: November 20, 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:	November 6, 2025
Last Cal Date:	October 29, 2025
Start time (MST):	10:46
End time (MST):	14:55
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 T750	Serial Number:	281
ZAG make/model:	Teledyne API 751H	Serial Number:	530

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	-0.1	0.0	----	----
AF High point	4918	82.1	802.9	799.6	3.3	792.9	785.8	3.6	1.0125	1.0175
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 800.4 ppb	NO = 797.9 ppb
Baseline Corr 1st pt	NO_X = 793.0 ppb	NO = 785.9 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 = -0.9%

*Percent Change NO = -1.5%

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	0.998	NOX bkgnd or offset:	1.5	1.5
NO2 coeff or slope:	0.990	0.990	Reaction cell Press:	136.2	136.8

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.995970	0.989581
NO_X Cal Offset:	0.670358	1.890234
NO Cal Slope:	0.997903	0.990857
NO Cal Offset:	-0.049822	1.390612
NO_2 Cal Slope:	0.967535	0.991773
NO_2 Cal Offset:	1.063691	1.628365

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	4918	82.1	802.9	799.6	3.3	795.3	793.0	2.3	1.0096	1.0084
Mid point	4959	41.1	401.9	400.3	1.6	401.0	398.6	2.4	1.0024	1.0043
Low point	4979	20.5	200.5	199.7	0.8	202.2	201.0	1.2	0.9916	0.9935
As left zero	5000	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	----	----
As left span	4918	82.1	802.9	428.0	374.9	785.0	428.0	357.0	1.0228	1.0000
								Average Correction Factor	1.0012	1.0020

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	789.1	397.2	395.2	392.5	1.0068	99.3%
Mid GPT point	789.1	596.7	195.7	197.3	0.9918	100.8%
Low GPT point	789.1	694.6	97.8	99.7	0.9808	102.0%
				Average Correction Factor	0.9931	100.7%

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

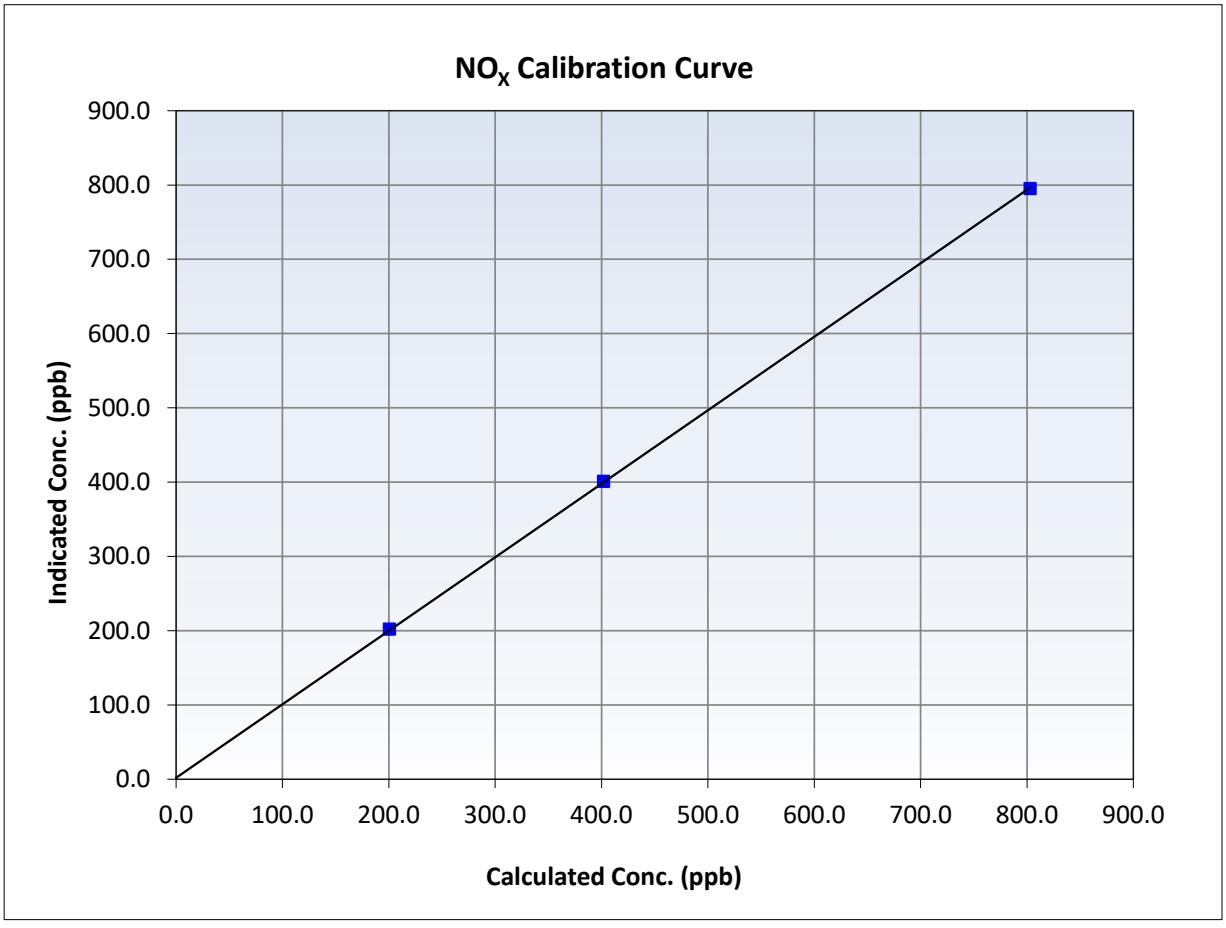
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 29, 2025
Station Name:	Monday Creek	Station Number:	AMS 33
Start Time (MST):	10:46	End Time (MST):	14:55
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12426335704

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
802.9	795.3	1.0096
401.9	401.0	1.0024
200.5	202.2	0.9916

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999968	*≥0.995*
Slope	0.989581	*0.90 - 1.10*
Intercept	1.890234	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

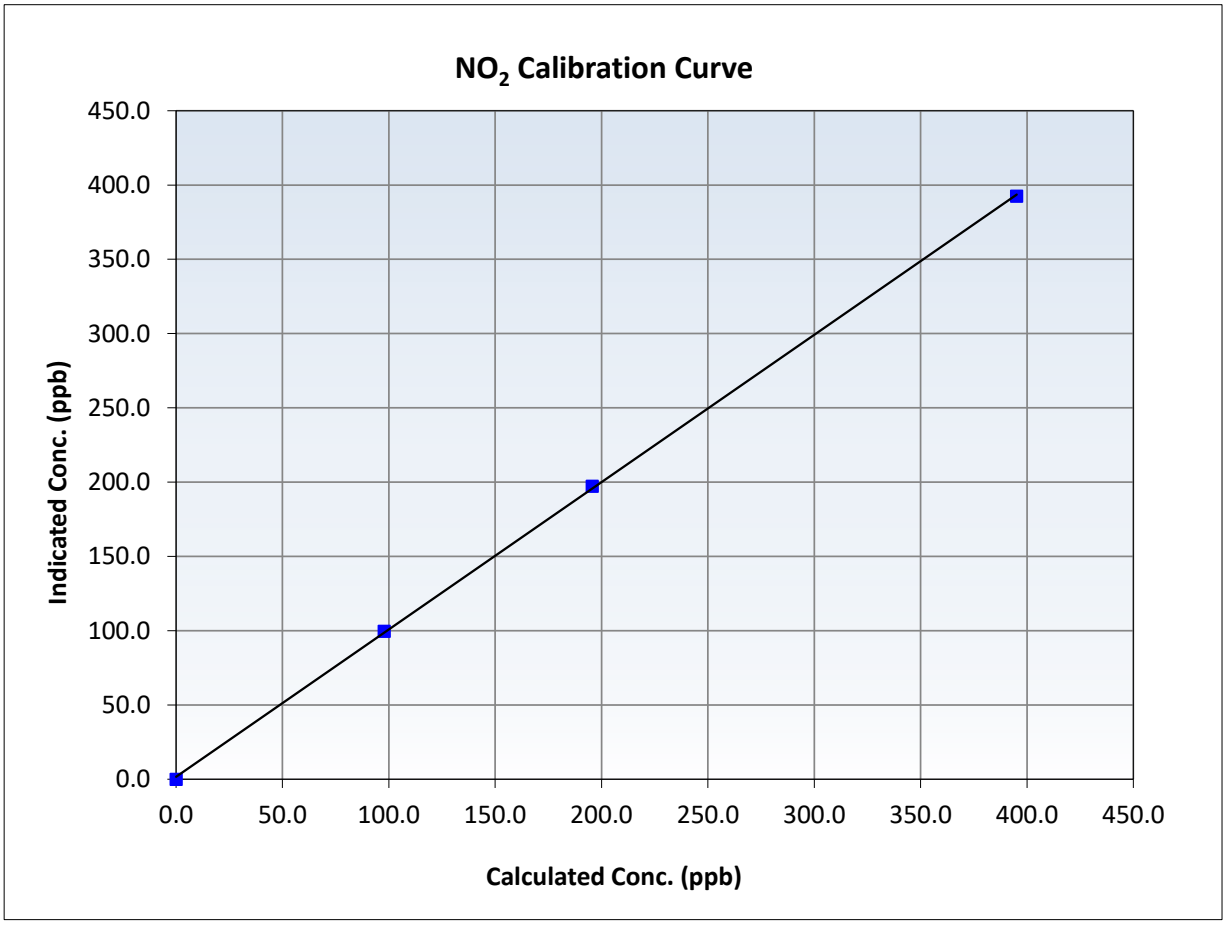
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 29, 2025
Station Name:	Monday Creek	Station Number:	AMS 33
Start Time (MST):	10:46	End Time (MST):	14:55
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	----
395.2	392.5	1.0068
195.7	197.3	0.9918
97.8	99.7	0.9808

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999911	*≥0.995*
Slope	0.991773	*0.90 - 1.10*
Intercept	1.628365	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

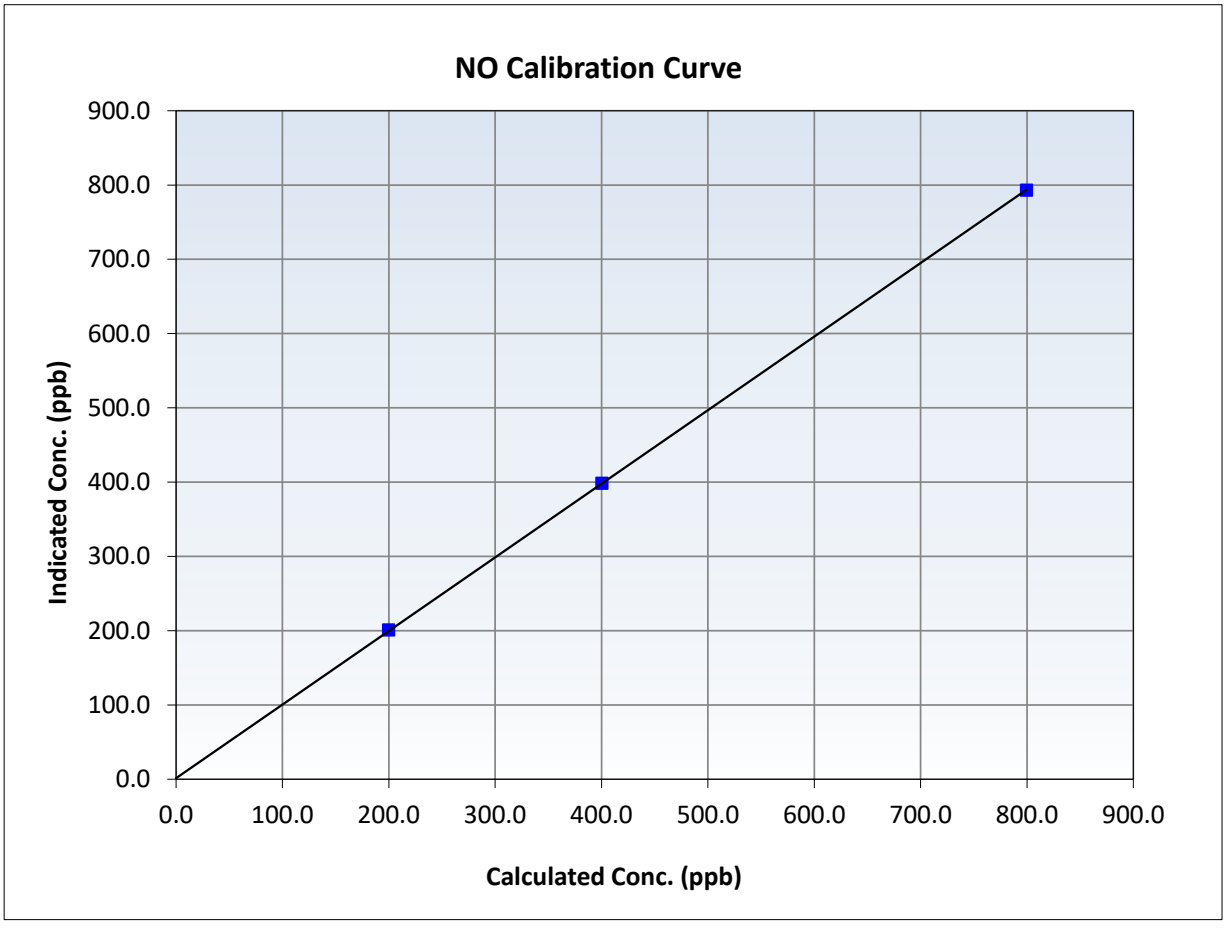
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 29, 2025
Station Name:	Monday Creek	Station Number:	AMS 33
Start Time (MST):	10:46	End Time (MST):	14:55
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12426335704

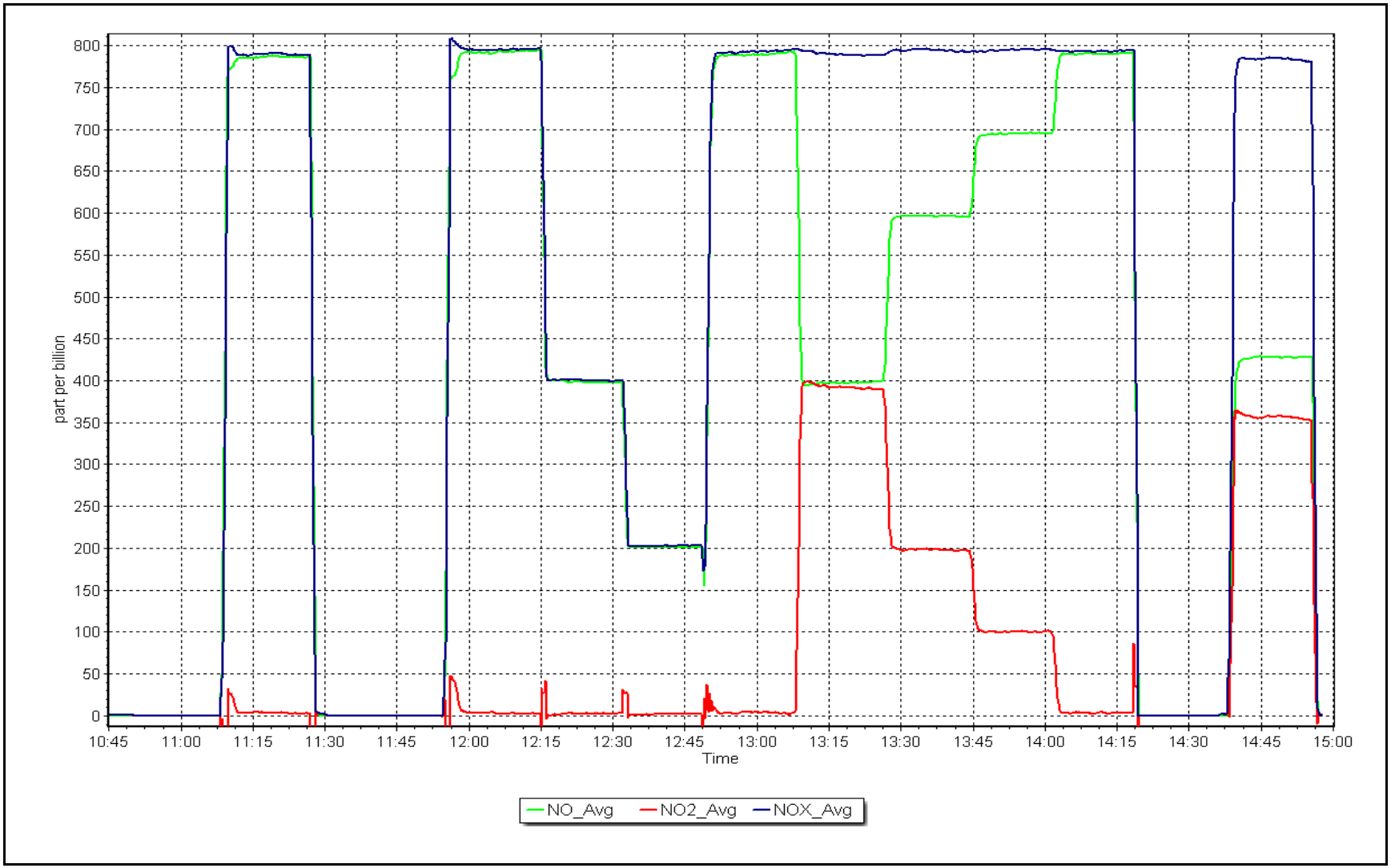
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.2	----
799.6	793.0	1.0084
400.3	398.6	1.0043
199.7	201.0	0.9935

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999981	*≥0.995*
Slope	0.990857	*0.90 - 1.10*
Intercept	1.390612	*+/-20*



NO_X Calibration Plot Date: November 6, 2025 Location: Monday Creek



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS501
LEISMER
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Leismer	Station number:	AMS 501
Calibration Date:	November 7, 2025	Last Cal Date:	October 22, 2025
Start time (MST):	10:36	End time (MST):	13:12
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:	1.007371	0.997145	Backgd or Offset:	21.4	21.4
Calibration intercept:	-0.136096	0.444060	Coeff or Slope:	0.994	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	0.1	----
As found High point	4921	79.2	800.2	798.0	1.003
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	797.9	Previous response	806.0	*% 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	0.2	----
High point	4921	79.2	800.2	798.5	1.002
Mid point	4960	39.6	400.2	398.8	1.003
Low point	4980	19.8	200.1	200.7	0.997
As left zero	5000	0.0	0.0	0.1	----
As left span	4921	79.2	800.2	803.0	0.997
				Average Correction Factor:	1.001

Notes: No adjustment.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

SO_2 Calibration Summary

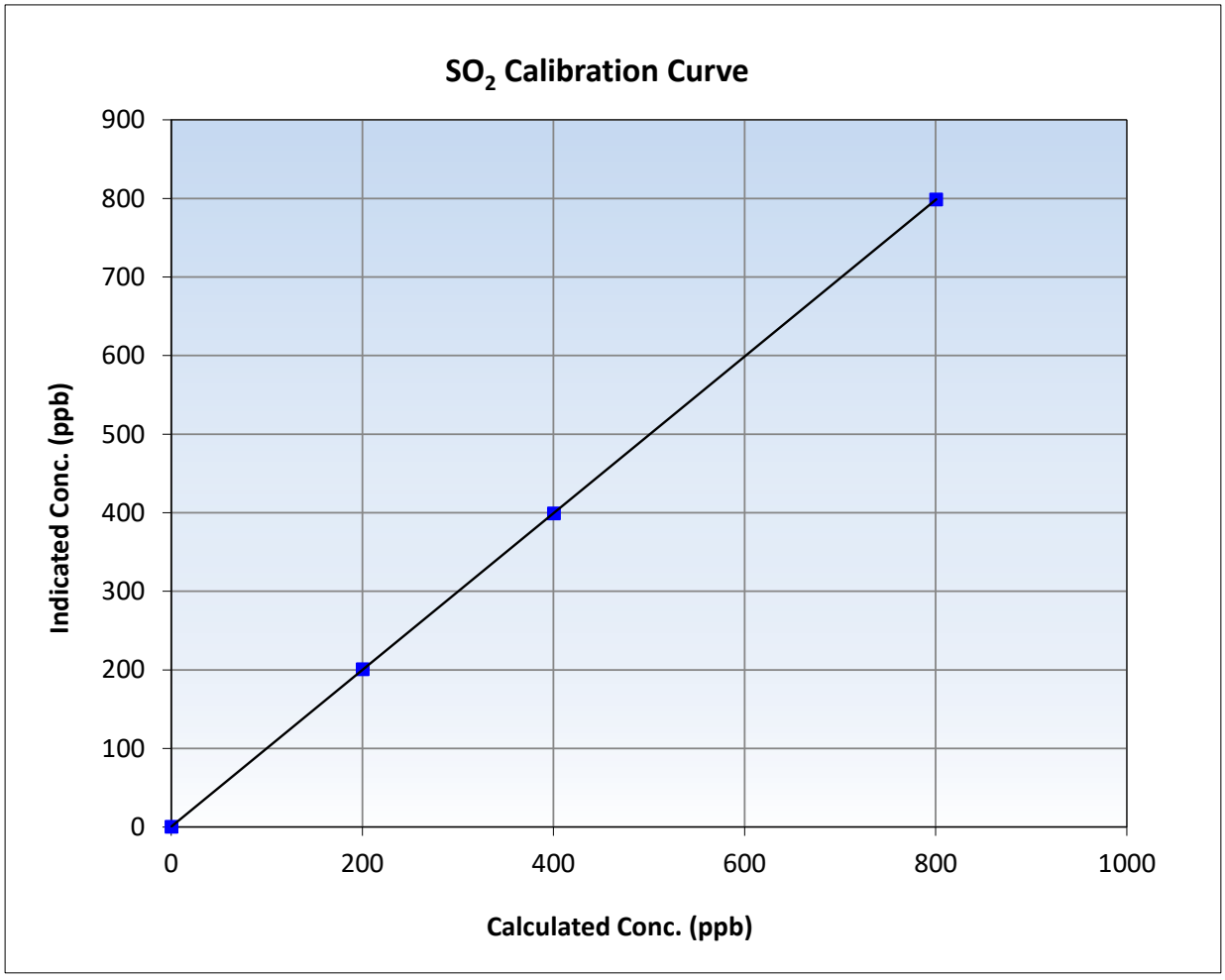
Station Information

Calibration Date:	November 7, 2025	Previous Calibration:	October 22, 2025
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	10:36	End Time (MST):	13:12
Analyzer make:	Thermo 43i	Analyzer serial #:	1160290011

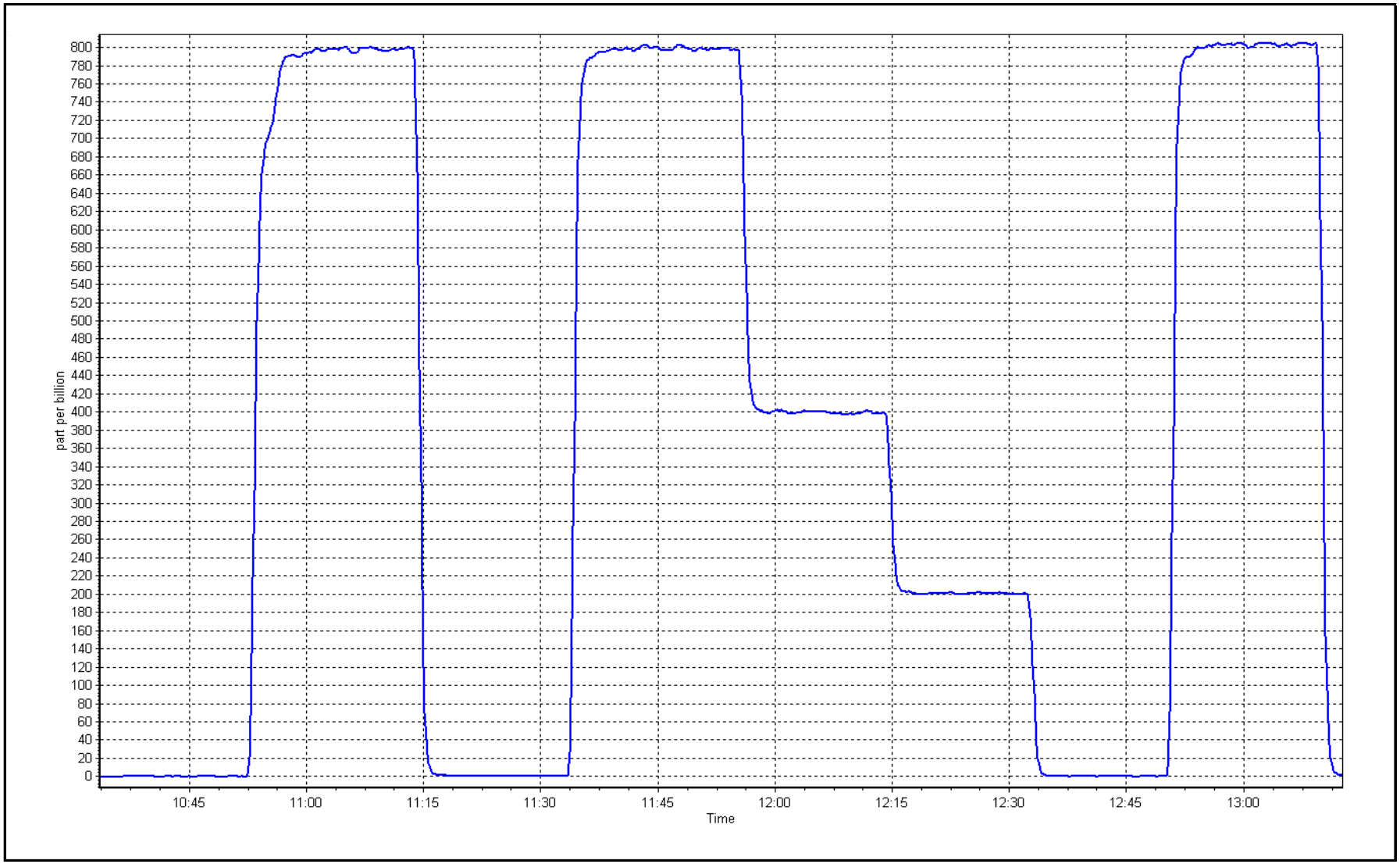
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
800.2	798.5	1.0021
400.2	398.8	1.0034
200.1	200.7	0.9968

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999997	*≥0.995*
Slope	0.997145	*0.90 - 1.10*
Intercept	0.444060	*+/-30*



SO2 Calibration Plot Date: November 7, 2025 Location: Leismer



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Leismer	Station number:	AMS 501
Calibration Date:	November 20, 2025	Last Cal Date:	October 9, 2025
Start time (MST):	9:11	End time (MST):	12:54
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:	1.008591	0.987880	Backgd or Offset:	3.71	3.71
Calibration intercept:	-0.239137	-0.039505	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	-0.2	----
As found High point	4918	81.8	80.0	78.3	1.019
As found Mid point	4959	40.9	40.0	39.2	1.015
As found Low point	4980	20.4	19.9	19.7	1.002
New cylinder response					

Baseline Corr As found:	78.5	Prev response:	80.45	*% change:	-2.5%
Baseline Corr 2nd AF pt:	39.4	AF Slope:	0.980025	AF Intercept:	-0.039638
Baseline Corr 3rd AF pt:	19.9	AF Correlation:	0.999980	* = > +/-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	79.0	1.013
Mid point	4959	40.9	40.0	39.4	1.015
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	79.1	1.011
SO2 Scrubber Check	4921	79.2	800.2	0.0	----
Date of last scrubber change:				Ave Corr Factor	1.012
Date of last converter efficiency test:		November 20, 2025			

Notes: No adjustment.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

H2S Calibration Summary

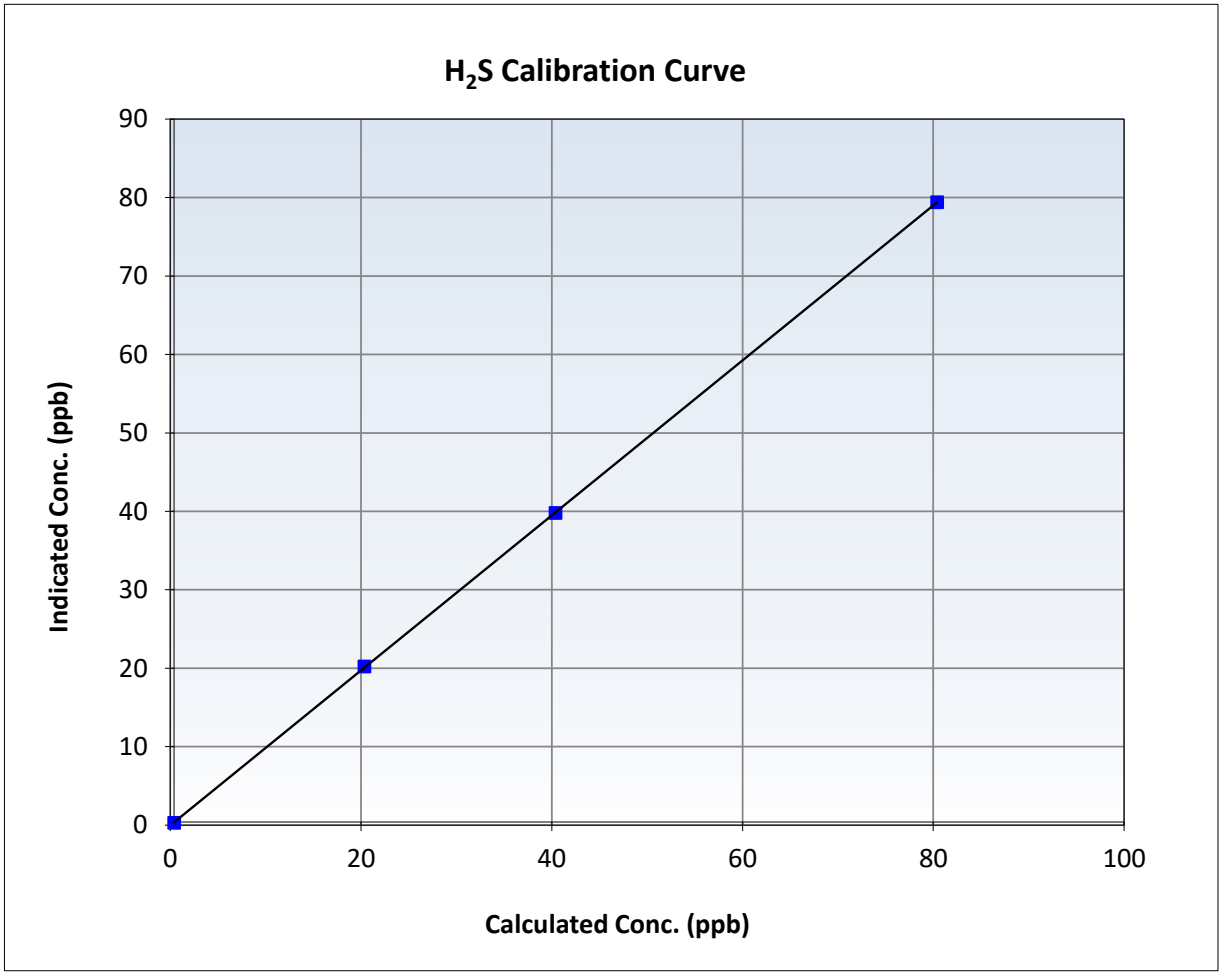
Station Information

Calibration Date:	November 20, 2025	Previous Calibration:	October 9, 2025
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	9:11	End Time (MST):	12:54
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1180540020

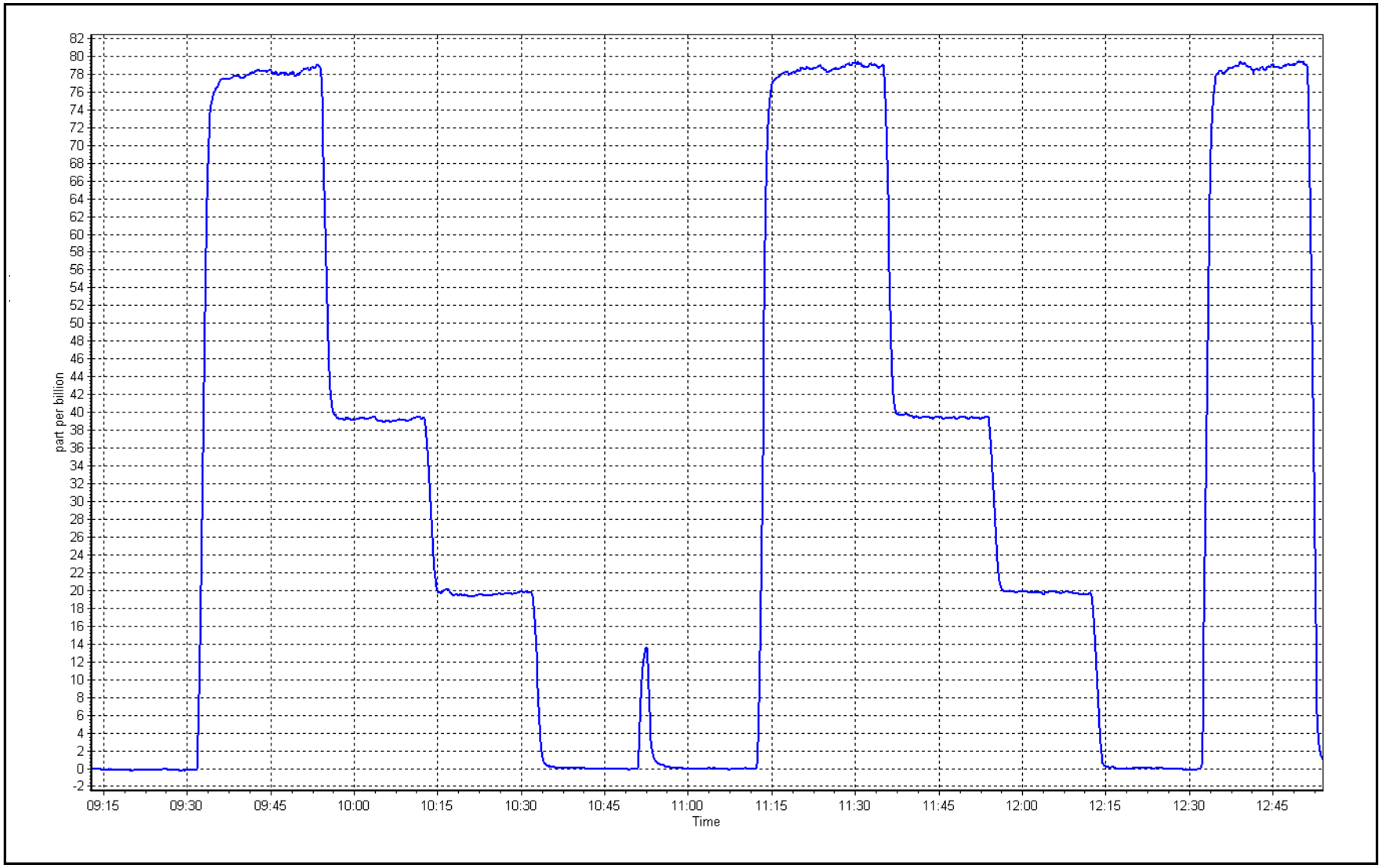
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.1	----
80.0	79.0	1.0127
40.0	39.4	1.0153
19.9	19.8	1.0076

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999992	*≥0.995*
Slope	0.987880	*0.90 - 1.10*
Intercept	-0.039505	*+/-3*



H2S Calibration Plot Date: November 20, 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:	November 6, 2025
Last Cal Date:	October 15, 2025
Start time (MST):	9:39
End time (MST):	13:48
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	0.2	0.3	-0.1	----	----
AF High point	4933	66.6	801.9	800.6	1.3	800.6	795.5	5.2	1.0019	1.0068
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X =	801.8 ppb	NO =	799.4 ppb	* = > +/-5% change initiates investigation	*Percent Change	NO_X = -0.2%
Baseline Corr 1st pt	NO_X =	800.4 ppb	NO =	795.2 ppb	As Found Statistics	*Percent Change	NO = -0.5%
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:	0.975	0.975	NO bkgnd or offset:	0.4	0.4
NOX coeff or slope:	0.991	0.991	NOX bkgnd or offset:	0.6	0.6
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	181.7	180.9

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	0.998058	0.996675
NO_X Cal Offset:	1.452094	1.211956
NO Cal Slope:	0.998965	0.995610
NO Cal Offset:	-0.409102	0.090507
NO_2 Cal Slope:	0.990038	0.986982
NO_2 Cal Offset:	1.083301	1.590215

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	0.4	0.4	0.0	----	----
High point	4933	66.6	801.9	800.6	1.3	800.3	797.5	2.8	1.0020	1.0039
Mid point	4967	33.3	400.9	400.2	0.7	400.5	397.9	2.6	1.0010	1.0059
Low point	4983	16.6	199.9	199.5	0.3	201.7	198.8	2.9	0.9910	1.0038
As left zero	5000	0.0	0.0	0.0	0.0	0.4	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		0.9980	1.0045

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	795.7	376.2	420.8	416.3	1.0109	98.9%
Mid GPT point	795.7	580.3	216.7	215.7	1.0048	99.5%
Low GPT point	795.7	685.1	111.9	114.1	0.9810	101.9%
				Average Correction Factor	0.9989	100.1%

Notes: No adjustment.

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

NO_X Calibration Summary

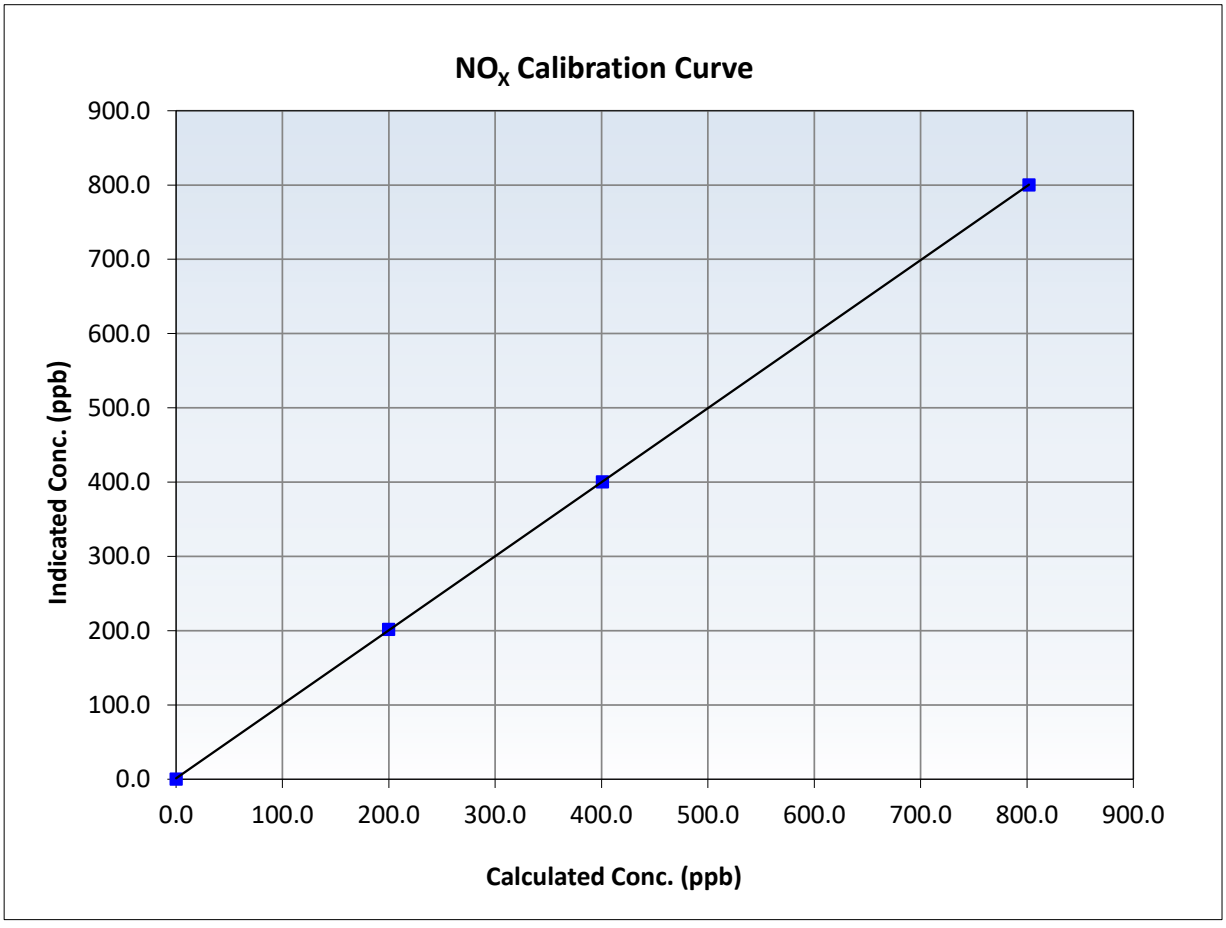
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 15, 2025
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	9:39	End Time (MST):	13:48
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	----
801.9	800.3	1.0020
400.9	400.5	1.0010
199.9	201.7	0.9910

Statistical Evaluation		Limits
Correlation Coefficient	0.999993	≥0.995
Slope	0.996675	0.90 - 1.10
Intercept	1.211956	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

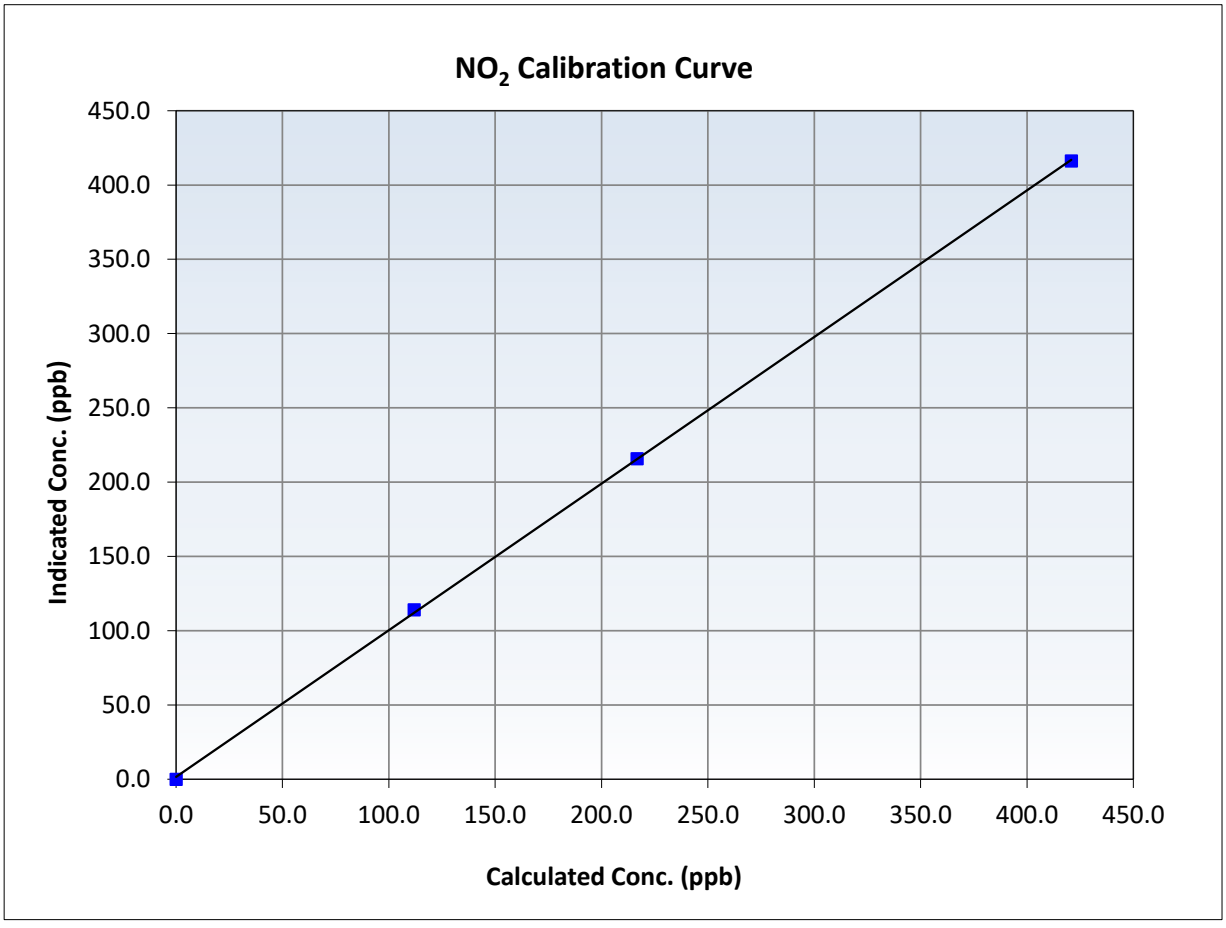
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 15, 2025
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	9:39	End Time (MST):	13:48
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	----
420.8	416.3	1.0109
216.7	215.7	1.0048
111.9	114.1	0.9810

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999924	*≥0.995*
Slope	0.986982	*0.90 - 1.10*
Intercept	1.590215	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

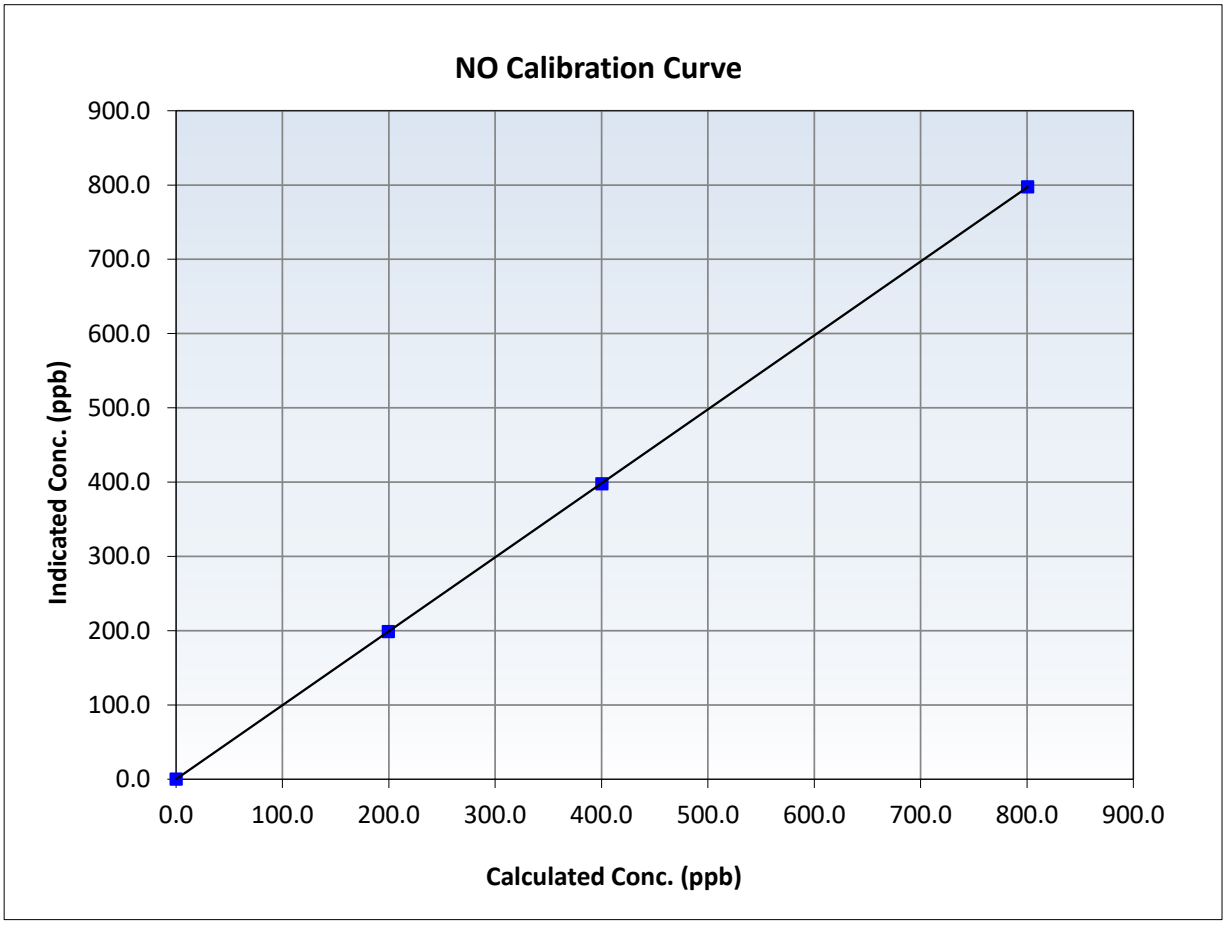
Station Information

Calibration Date:	November 6, 2025	Previous Calibration:	October 15, 2025
Station Name:	Leismer	Station Number:	AMS 501
Start Time (MST):	9:39	End Time (MST):	13:48
Analyzer make:	Thermo 42iQ	Analyzer serial #:	12400232071

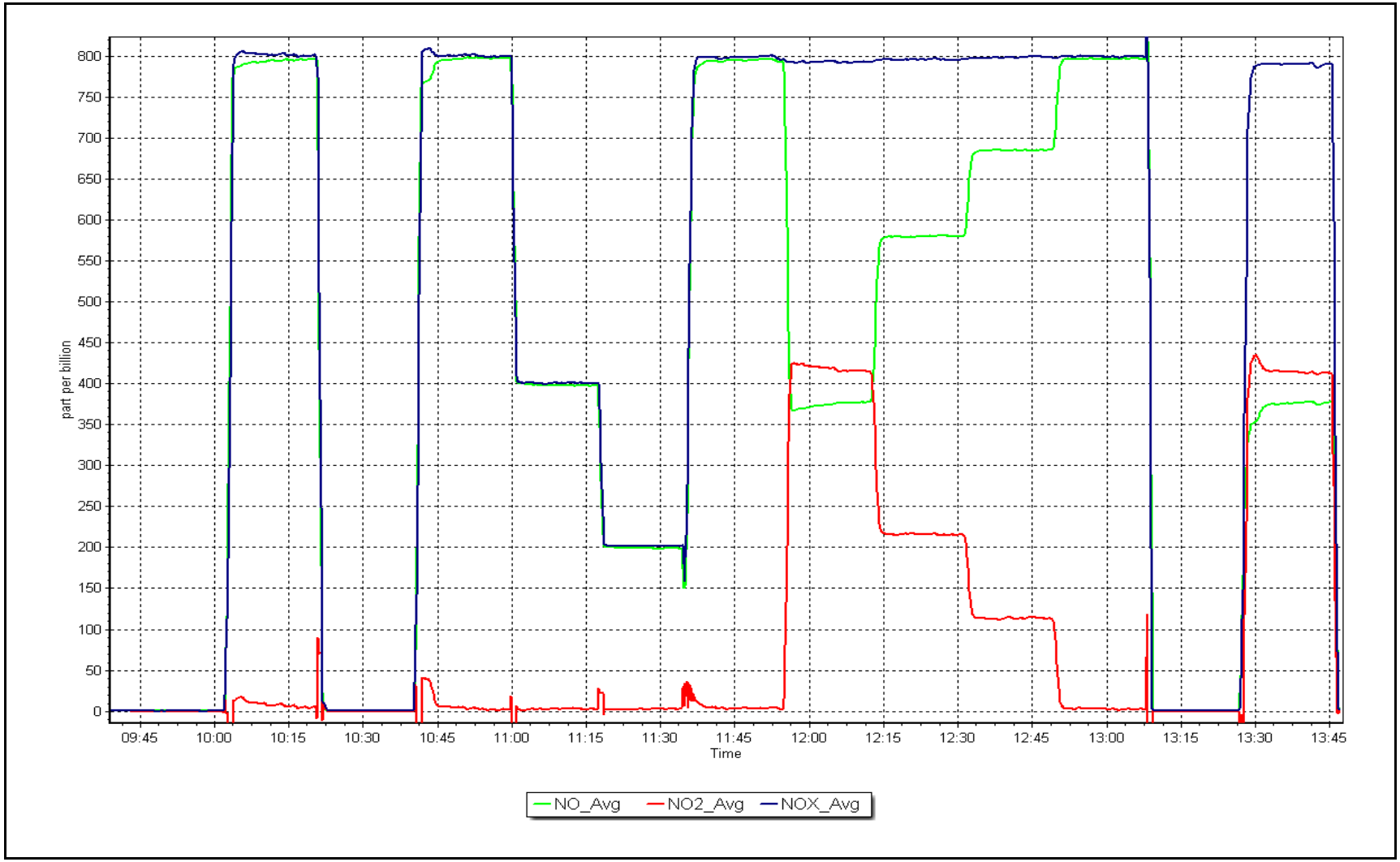
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
800.6	797.5	1.0039
400.2	397.9	1.0059
199.5	198.8	1.0038

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	0.995610	*0.90 - 1.10*
Intercept	0.090507	*+/-20*



NO_X Calibration Plot Date: November 6, 2025 Location: Leismer



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS505
SAWBONES BAY
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Sawbones Bay	Station number:	AMS 505
Calibration Date:	November 27, 2025	Last Cal Date:	October 29, 2025
Start time (MST):	9:44	End time (MST):	12:40
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:	1.003636	1.003809	Backgd or Offset:	20.7	21.7
Calibration intercept:	-1.255492	-0.415883	Coeff or Slope:	1.111	1.128

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	798.8	789.1	1.012
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	789.6	Previous response	800.5	*% change	-1.4%
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	0.1	----
High point	4920	79.8	798.8	801.7	0.996
Mid point	4960	39.9	399.4	400.3	0.998
Low point	4980	20.0	200.2	200.0	1.001
As left zero	5000	0.0	0.0	0.0	----
As left span	4920	79.8	798.8	802.0	0.996
				Average Correction Factor:	0.998

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

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

SO_2 Calibration Summary

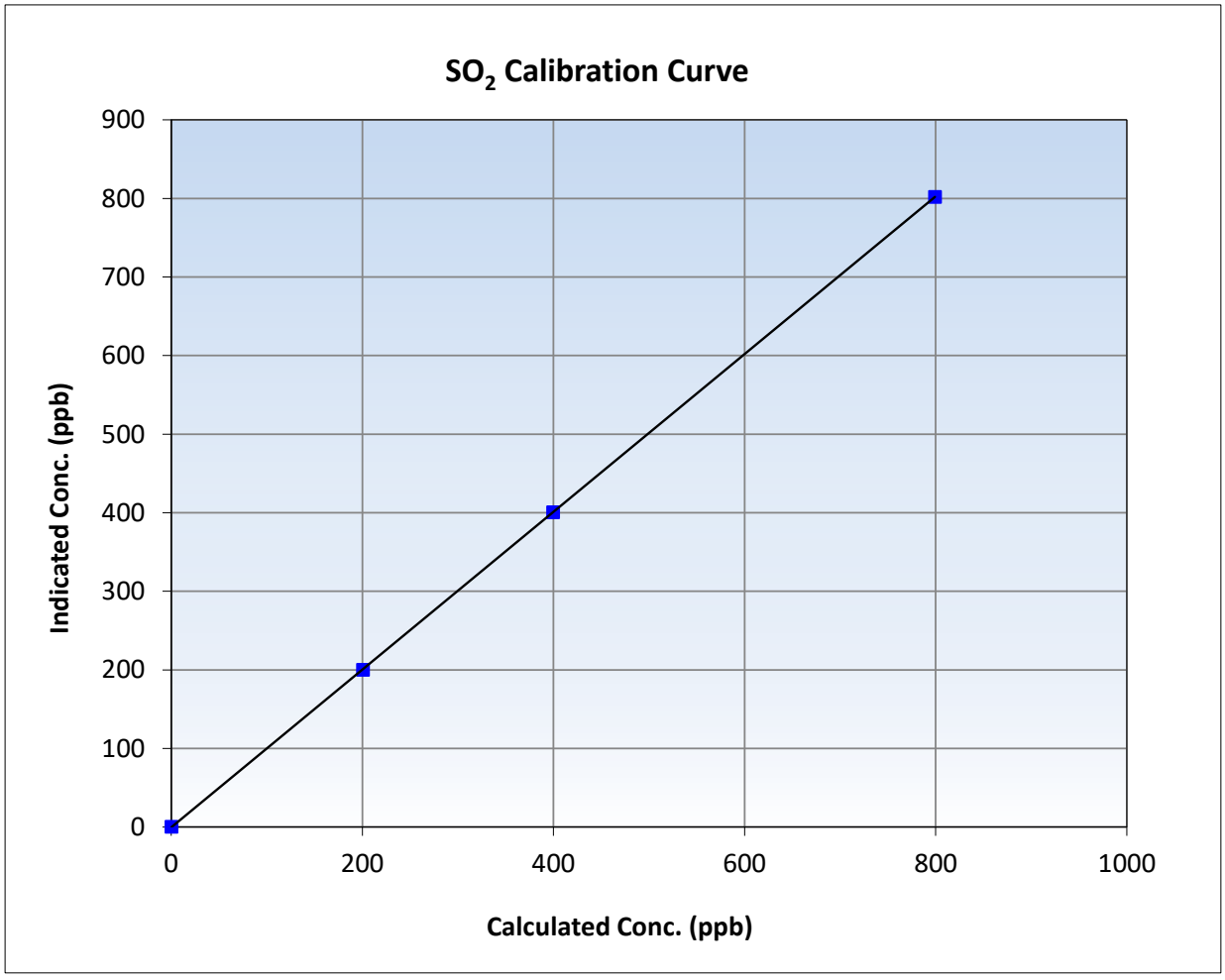
Station Information

Calibration Date:	November 27, 2025	Previous Calibration:	October 29, 2025
Station Name:	Sawbones Bay	Station Number:	AMS 505
Start Time (MST):	9:44	End Time (MST):	12:40
Analyzer make:	Thermo 43i	Analyzer serial #:	710321323

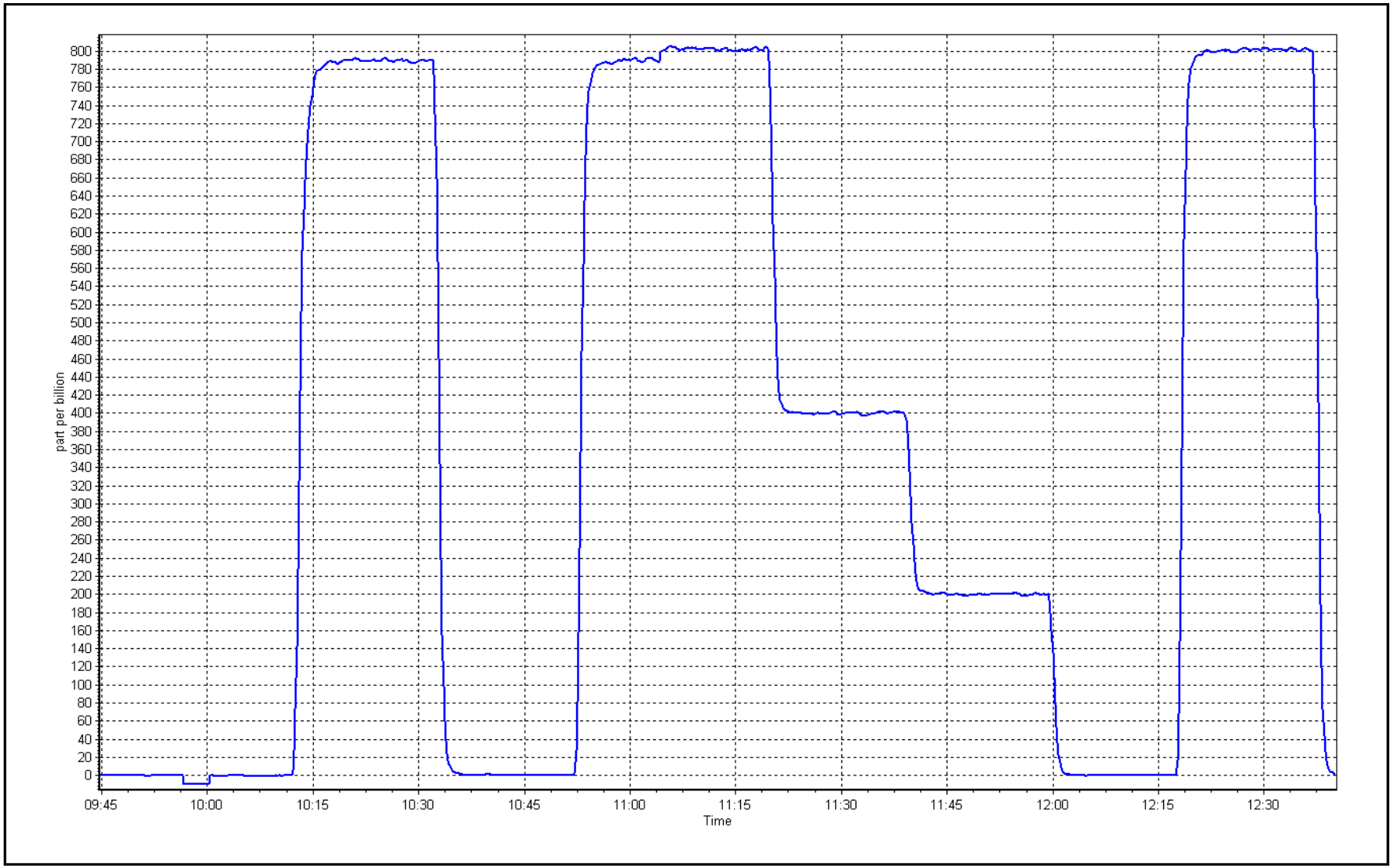
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
798.8	801.7	0.9964
399.4	400.3	0.9978
200.2	200.0	1.0010

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	1.003809	*0.90 - 1.10*
Intercept	-0.415883	*+/-30*



SO2 Calibration Plot Date: November 27, 2025 Location: Sawbones Bay



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Sawbones Bay	Station number:	AMS 505
Calibration Date:	November 26, 2025	Last Cal Date:	October 28, 2025
Start time (MST):	9:21	End time (MST):	13:09
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:	1.002887	0.991595	Backgd or Offset:	0.920	0.920
Calibration intercept:	0.120000	0.140000	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	80.8	0.991
As found Mid point	4962	38.0	40.0	40.4	0.992
As found Low point	4981	19.0	20.0	20.1	0.999
New cylinder response					

Baseline Corr As found:	80.7	Prev response:	80.30	*% change:	0.5%
Baseline Corr 2nd AF pt:	40.3	AF Slope:	1.010035	AF Intercept:	0.020000
Baseline Corr 3rd AF pt:	20.0	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	0.2	----
High point	4924	76.0	80.0	79.5	1.006
Mid point	4962	38.0	40.0	39.6	1.009
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	78.7	1.016
SO2 Scrubber Check	4922	77.8	778.0	0.0	----
Date of last scrubber change:				Ave Corr Factor	1.005
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

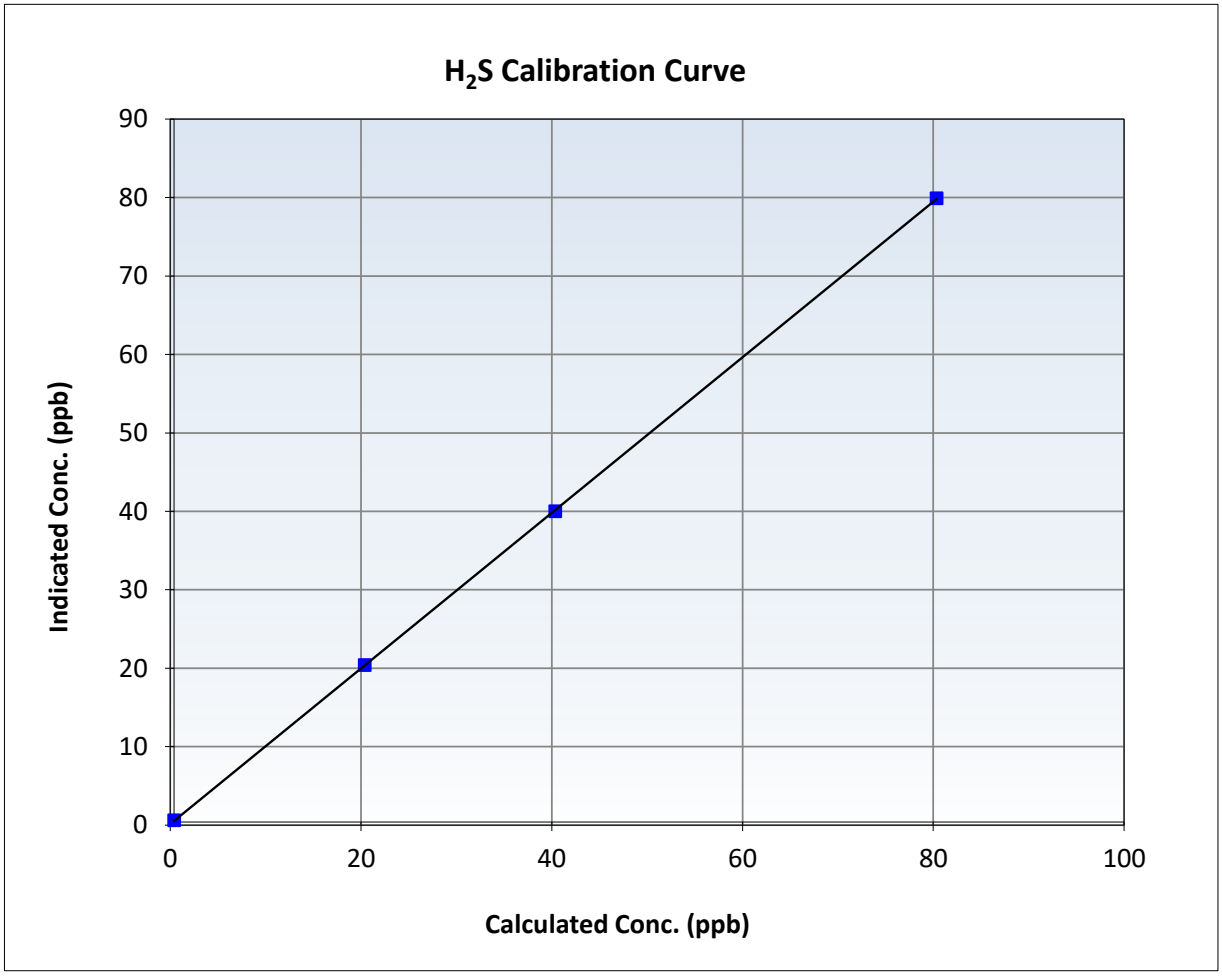
Station Information

Calibration Date:	November 26, 2025	Previous Calibration:	October 28, 2025
Station Name:	Sawbones Bay	Station Number:	AMS 505
Start Time (MST):	9:21	End Time (MST):	13:09
Analyzer make:	Thermo 43iQTL	Analyzer serial #:	12113311965

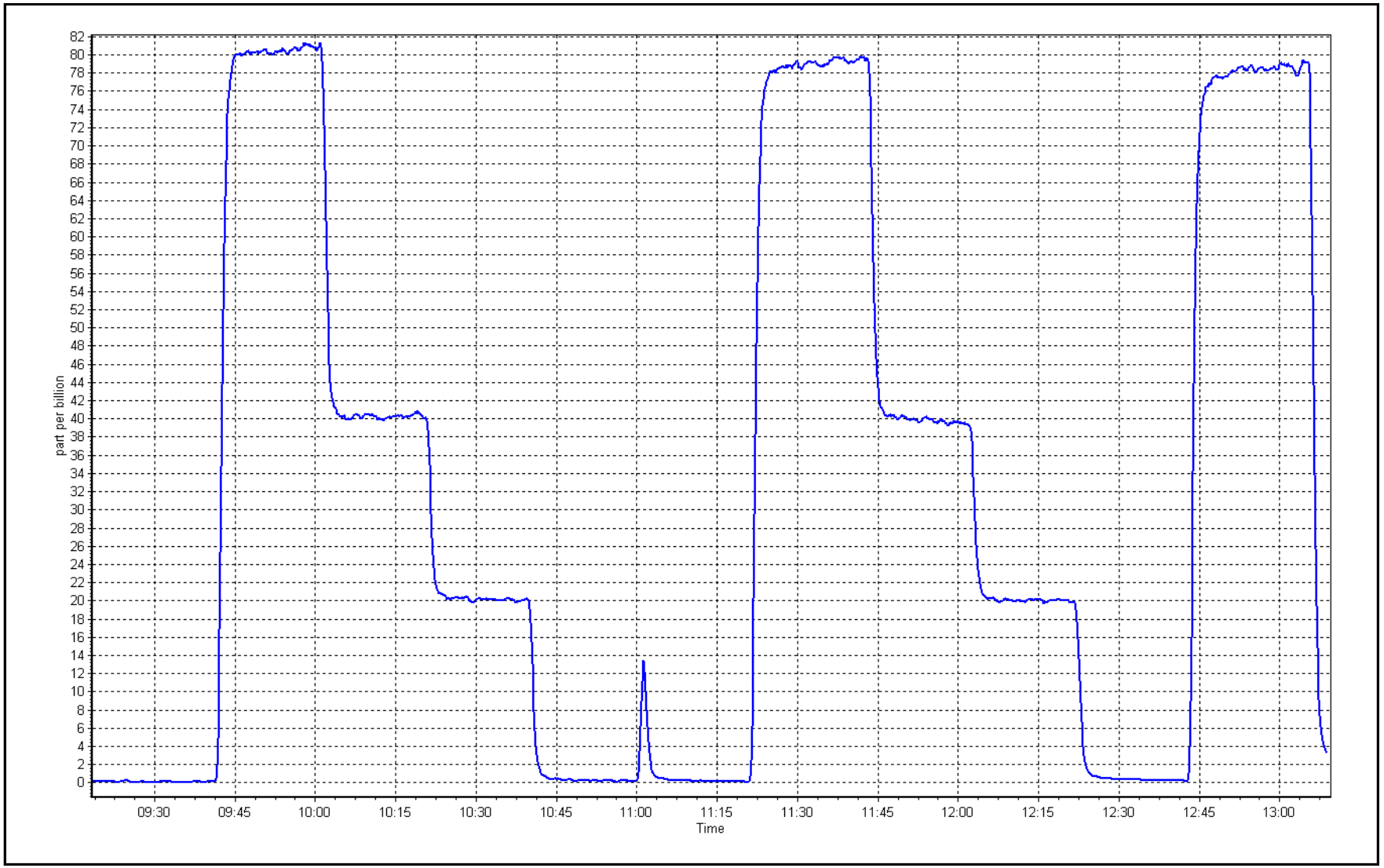
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.2	----
80.0	79.5	1.0057
40.0	39.6	1.0095
20.0	20.0	0.9994

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999987	*≥0.995*
Slope	0.991595	*0.90 - 1.10*
Intercept	0.140000	*+/-3*



H2S Calibration Plot Date: November 26, 2025 Location: Sawbones Bay



CALS_527

Wood Buffalo Environmental Association

NO_X \ NO \ NO_2 Calibration Report

Station Information

Station Name:	Sawbones Bay
Station number:	AMS 505
Calibration Date:	November 25, 2025
Last Cal Date:	October 23, 2025
Start time (MST):	9:24
End time (MST):	13:40
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	-0.7	-0.5	-0.1	----	----
AF High point	4933	66.7	801.8	800.4	1.3	789.6	785.7	3.9	1.0145	1.0181
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 799.7 ppb	NO = 796.9 ppb
Baseline Corr 1st pt	NO_X = 790.3 ppb	NO = 786.2 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

*Percent Change	NO_X = -1.2%		
*Percent Change	NO = -1.4%		

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: API T200 Serial Number: 4259

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	Finish		Start	Finish
NO coeff or slope:	0.949	0.964	NO bkgnd or offset:	0.9	0.9
NOX coeff or slope:	0.949	0.962	NOX bkgnd or offset:	1.4	1.4
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	3.8	3.7

Calibration Statistics

	Start	Finish
NO_X Cal Slope:	0.999337	1.002061
NO_X Cal Offset:	-1.510057	-0.890158
NO Cal Slope:	0.998333	1.003202
NO Cal Offset:	-2.250374	-1.630038
NO_2 Cal Slope:	1.002647	0.999814
NO_2 Cal Offset:	0.583578	0.456557

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	-0.4	-0.3	-0.1	----	----
High point	4933	66.7	801.8	800.4	1.3	802.7	801.9	0.8	0.9989	0.9982
Mid point	4967	33.3	400.2	399.6	0.7	400.2	399.0	1.3	1.0001	1.0014
Low point	4983	16.7	200.7	200.4	0.3	199.6	197.8	1.7	1.0057	1.0132
As left zero	5000	0.0	0.0	0.0	0.0	-0.2	-0.1	-0.1	----	----
As left span	4933	66.7	801.8	396.5	405.3	799.4	396.5	402.9	1.0030	1.0000
							Average Correction Factor		1.0016	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	799.0	394.2	406.1	406.3	0.9996	100.0%
Mid GPT point	799.0	609.8	190.5	191.1	0.9970	100.3%
Low GPT point	799.0	704.9	95.4	96.5	0.9890	101.1%
				Average Correction Factor	0.9952	100.5%

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

Calibration Performed By: Sean Bala

Wood Buffalo Environmental Association

NO_X Calibration Summary

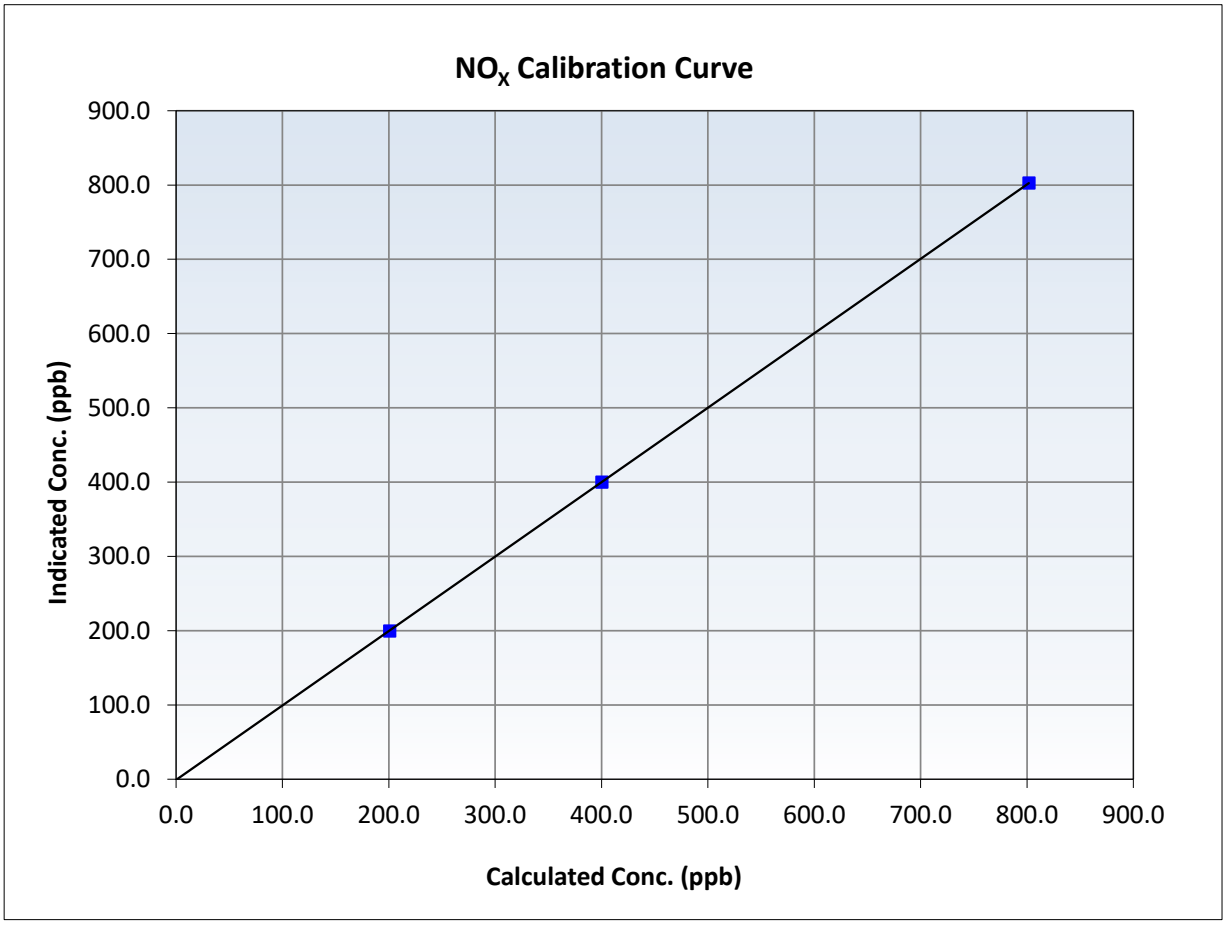
Station Information

Calibration Date:	November 25, 2025	Previous Calibration:	October 23, 2025
Station Name:	Sawbones Bay	Station Number:	AMS 505
Start Time (MST):	9:24	End Time (MST):	13:40
Analyzer make:	API T200	Analyzer serial #:	4259

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.4	----
801.8	802.7	0.9989
400.2	400.2	1.0001
200.7	199.6	1.0057

Statistical Evaluation		Limits
Correlation Coefficient	0.999998	≥0.995
Slope	1.002061	0.90 - 1.10
Intercept	-0.890158	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

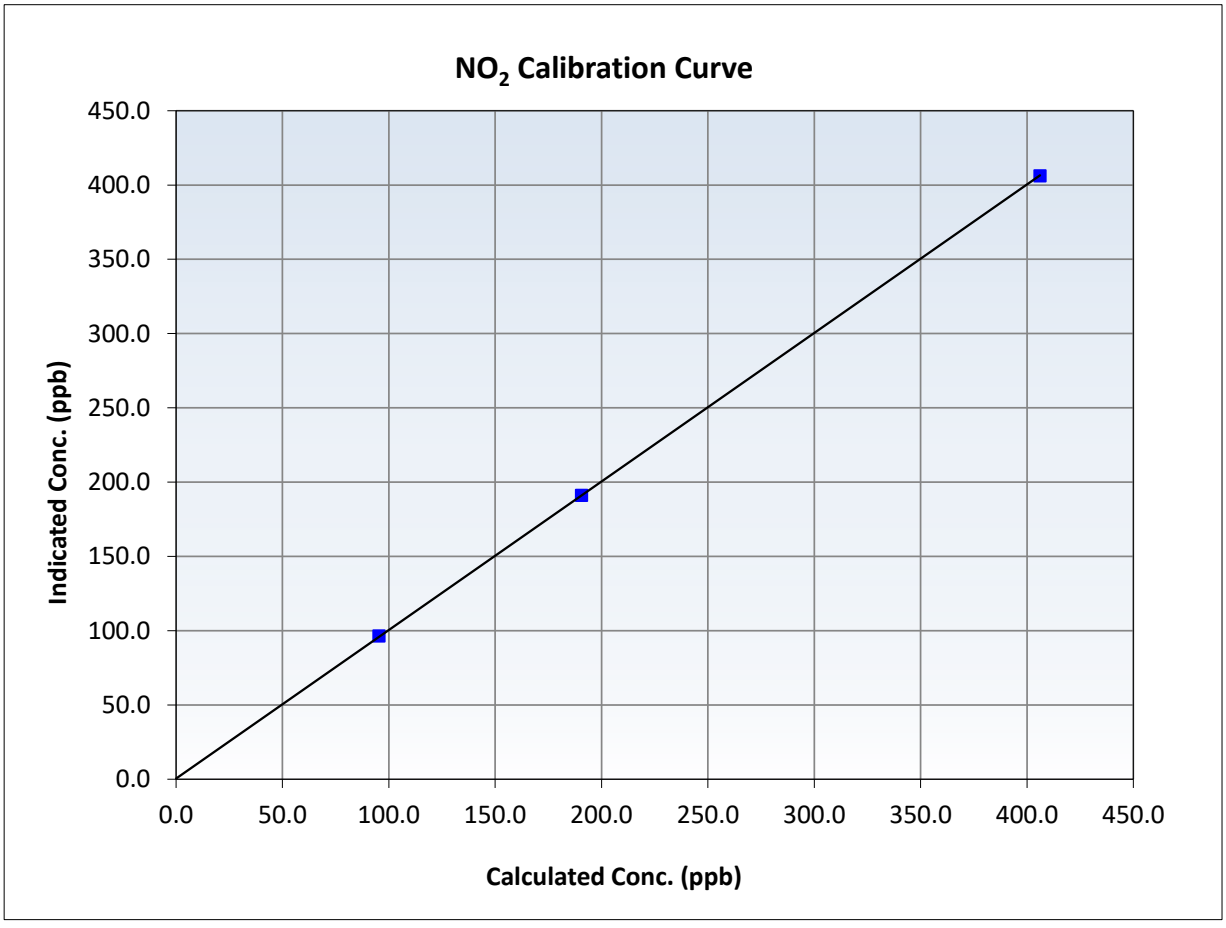
Station Information

Calibration Date:	November 25, 2025	Previous Calibration:	October 23, 2025
Station Name:	Sawbones Bay	Station Number:	AMS 505
Start Time (MST):	9:24	End Time (MST):	13:40
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	----
406.1	406.3	0.9996
190.5	191.1	0.9970
95.4	96.5	0.9890

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999991	*≥0.995*
Slope	0.999814	*0.90 - 1.10*
Intercept	0.456557	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

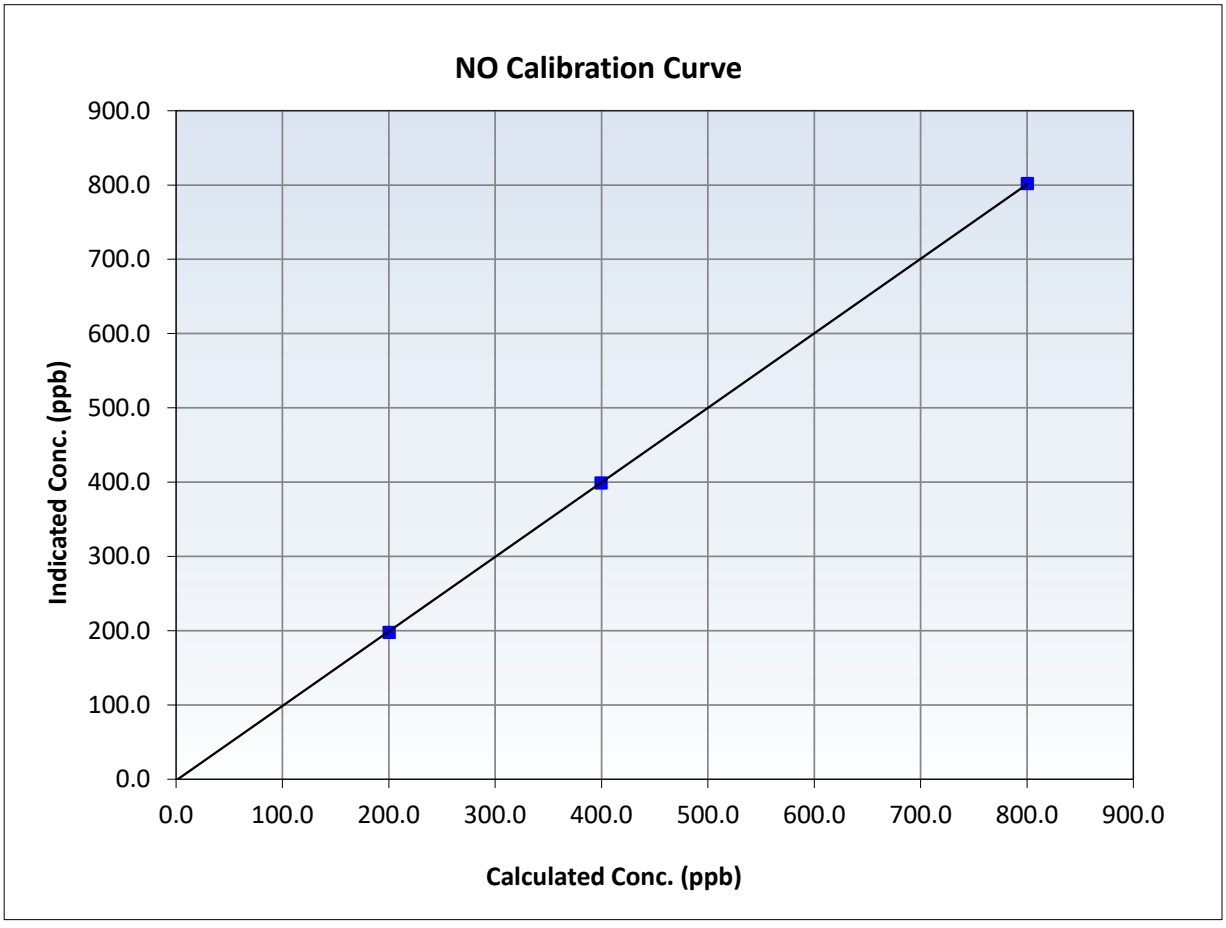
Station Information

Calibration Date:	November 25, 2025	Previous Calibration:	October 23, 2025
Station Name:	Sawbones Bay	Station Number:	AMS 505
Start Time (MST):	9:24	End Time (MST):	13:40
Analyzer make:	API T200	Analyzer serial #:	4259

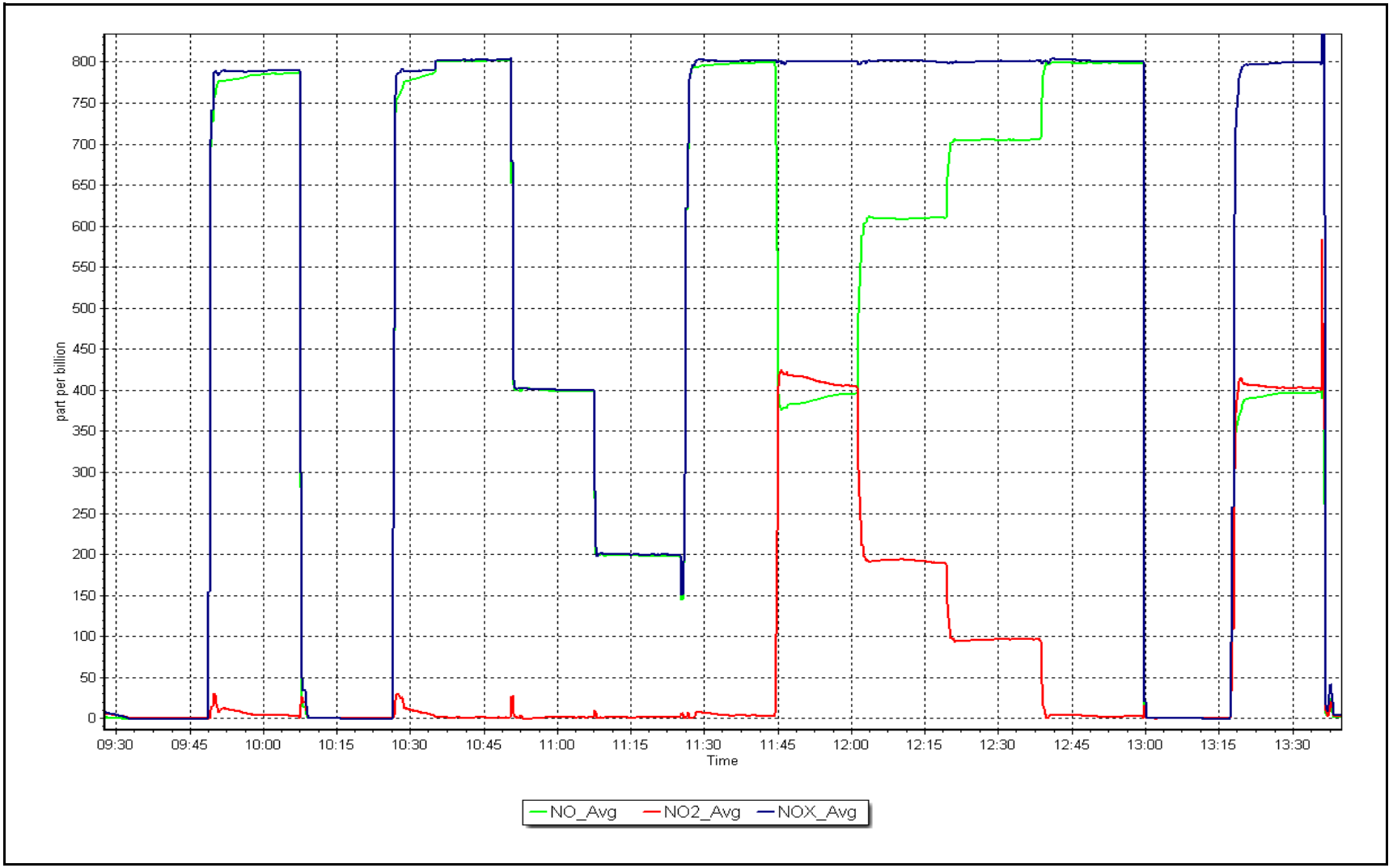
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	-0.3	----
800.4	801.9	0.9982
399.6	399.0	1.0014
200.4	197.8	1.0132

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999987	*≥0.995*
Slope	1.003202	*0.90 - 1.10*
Intercept	-1.630038	*+/-20*



NO_X Calibration Plot Date: November 25, 2025 Location: Sawbones Bay



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS507
KIRBY SOUTH
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Kirby South	Station number:	AMS 507
Calibration Date:	November 21, 2025	Last Cal Date:	October 23, 2025
Start time (MST):	8:49	End time (MST):	12:32
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:	1.003849	1.001506	Backgd or Offset:	29.6	30.1
Calibration intercept:	0.048008	-0.232030	Coeff or Slope:	1.112	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	0.3	----
As found High point	4921	78.8	799.7	800.0	1.000
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	799.7	Previous response	802.8	*% 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	78.8	799.7	801.0	0.998
Mid point	4961	39.4	399.8	399.4	1.001
Low point	4980	19.7	199.9	200.2	0.999
As left zero	5000	0.0	0.0	0.0	----
As left span	4921	78.8	799.7	802.0	0.997
				Average Correction Factor:	0.999

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

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

SO_2 Calibration Summary

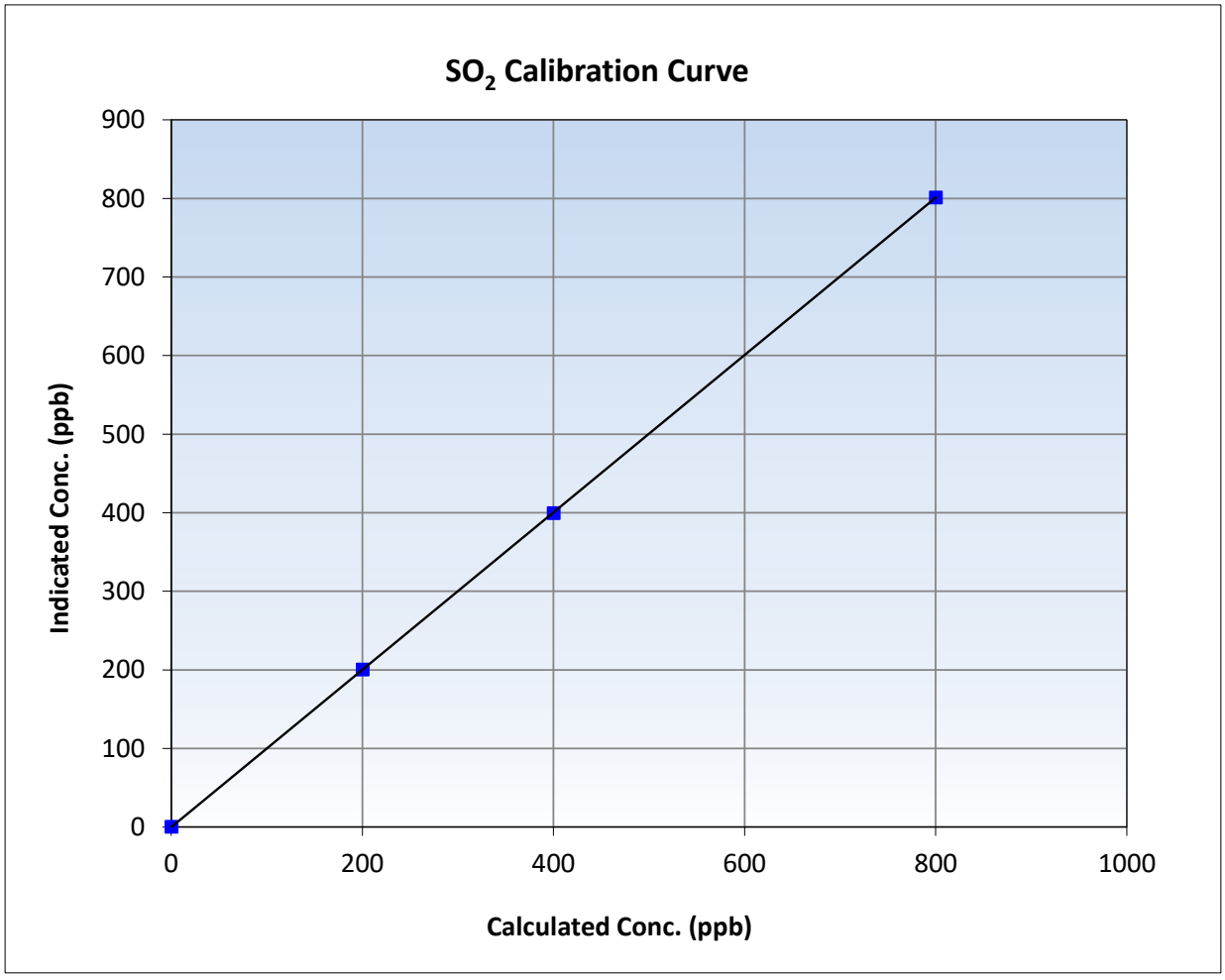
Station Information

Calibration Date:	November 21, 2025	Previous Calibration:	October 23, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	8:49	End Time (MST):	12:32
Analyzer make:	Thermo 43iQ	Analyzer serial #:	1182340007

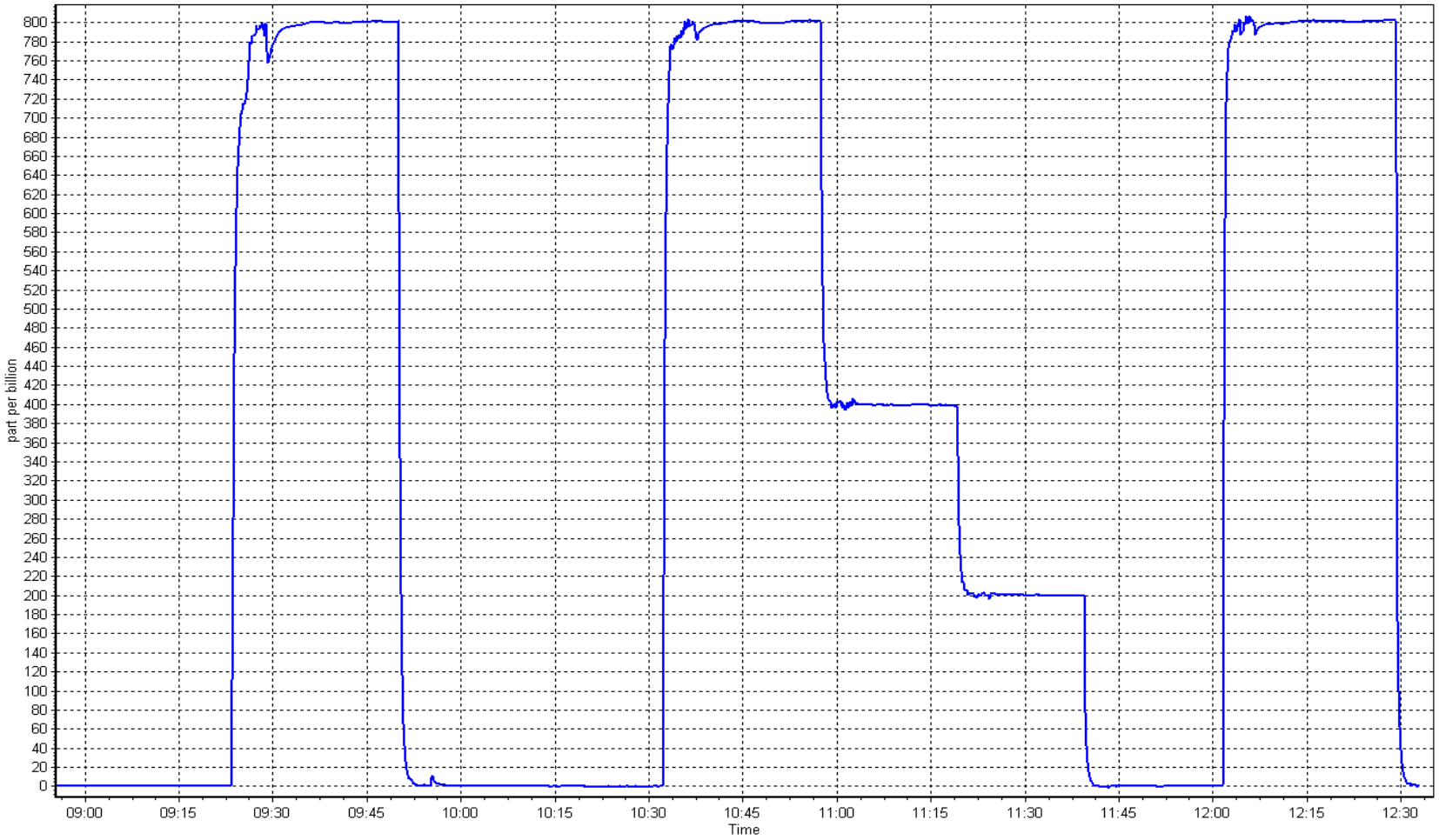
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
799.7	801.0	0.9984
399.8	399.4	1.0010
199.9	200.2	0.9986

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999998	*≥0.995*
Slope	1.001506	*0.90 - 1.10*
Intercept	-0.232030	*+/-30*



SO2 Calibration Plot Date: November 21, 2025 Location: Kirby South



Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

Station Name:	Kirby South	Station number:	AMS 507
Calibration Date:	November 20, 2025	Last Cal Date:	October 15, 2025
Start time (MST):	12:15	End time (MST):	17:44
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:	1.002386	0.995957	Backgd or Offset:	1.69	1.70
Calibration intercept:	0.120000	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	81.1	0.985
As found Mid point	4960	39.6	40.0	40.3	0.990
As found Low point	4980	19.8	20.0	19.9	1.000
New cylinder response					

Baseline Corr As found:	81.2	Prev response:	80.30	*% change:	1.1%
Baseline Corr 2nd AF pt:	40.4	AF Slope:	1.016102	AF Intercept:	-0.260000
Baseline Corr 3rd AF pt:	20.0	AF Correlation:	0.999982	* = > +/-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	79.8	1.002
Mid point	4960	39.6	40.0	39.9	1.002
Low point	4980	19.8	20.0	20.1	0.995
As left zero	5000	0.0	0.0	0.1	----
As left span	4921	79.2	80.0	81.2	0.985
SO2 Scrubber Check	4919	80.0	800.2	0.0	----

Date of last scrubber change:	July 25, 2023	Ave Corr Factor	1.000	
Date of last converter efficiency test:	September 18, 2025	102.4%	efficiency	

Notes: Changed sample inlet filter and external pump after as founds. No adjustments made.

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

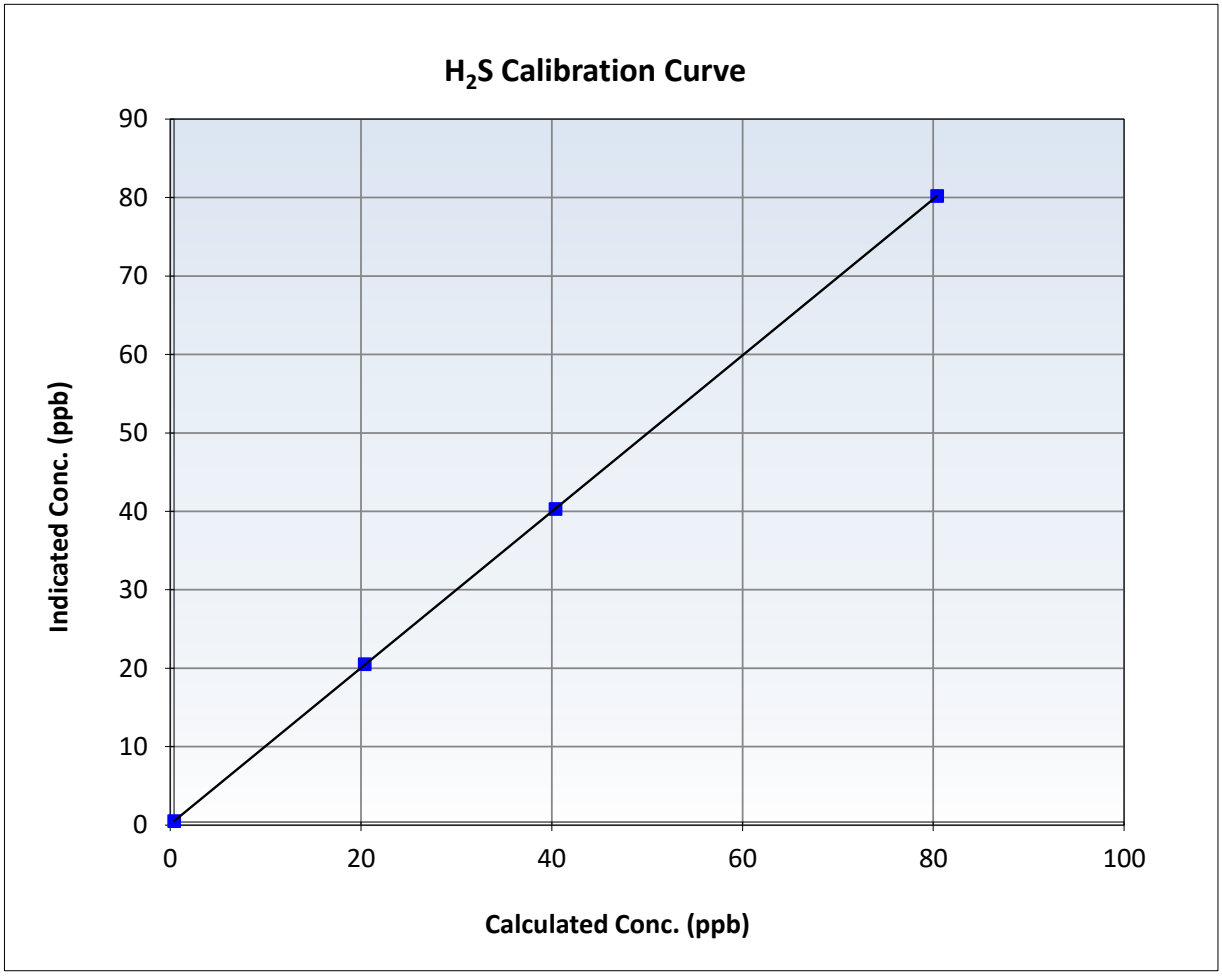
H2S Calibration Summary

Station Information

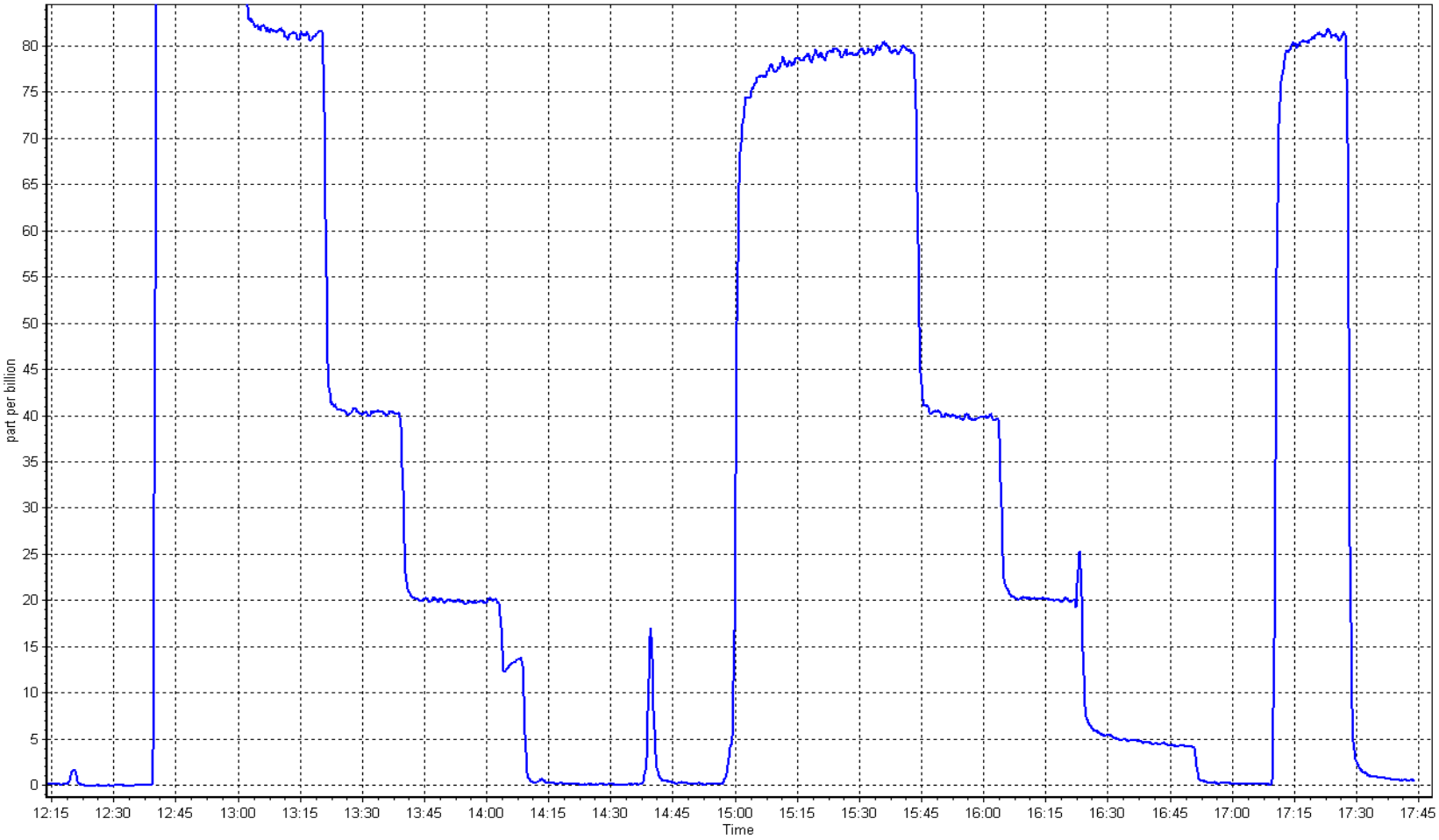
Calibration Date:	November 20, 2025	Previous Calibration:	October 15, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	12:15	End Time (MST):	17:44
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1150840012

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation		*Limits*
0.0	0.1	----	Correlation Coefficient	0.999998	*≥0.995*
80.0	79.8	1.0024	Slope	0.995957	*0.90 - 1.10*
40.0	39.9	1.0024			
20.0	20.1	0.9949	Intercept	0.120000	*+/-3*



H2S Calibration Plot Date: November 20, 2025 Location: Kirby South



CALS_540

Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Kirby South	Station number:	AMS 507
Calibration Date:	November 21, 2025	Last Cal Date:	October 23, 2025
Start time (MST):	8:49	End time (MST):	12:32
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:	0.997247	0.997911	Background:	1.78	1.85
Calibration intercept:	0.016568	-0.018831	Coefficient:	3.524	3.489

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	17.00	0.988
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	17.07	Previous response	16.84	*% change	1.4%
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	0.01	
High point	4921	78.8	16.87	16.82	1.003
Mid point	4961	39.4	8.43	8.40	1.004
Low point	4980	19.7	4.22	4.15	1.016
As left zero	5000	0.0	0.00	-0.02	----
As left span	4921	78.8	16.87	16.98	0.993
				Average Correction Factor	1.008

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

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

THC Calibration Summary

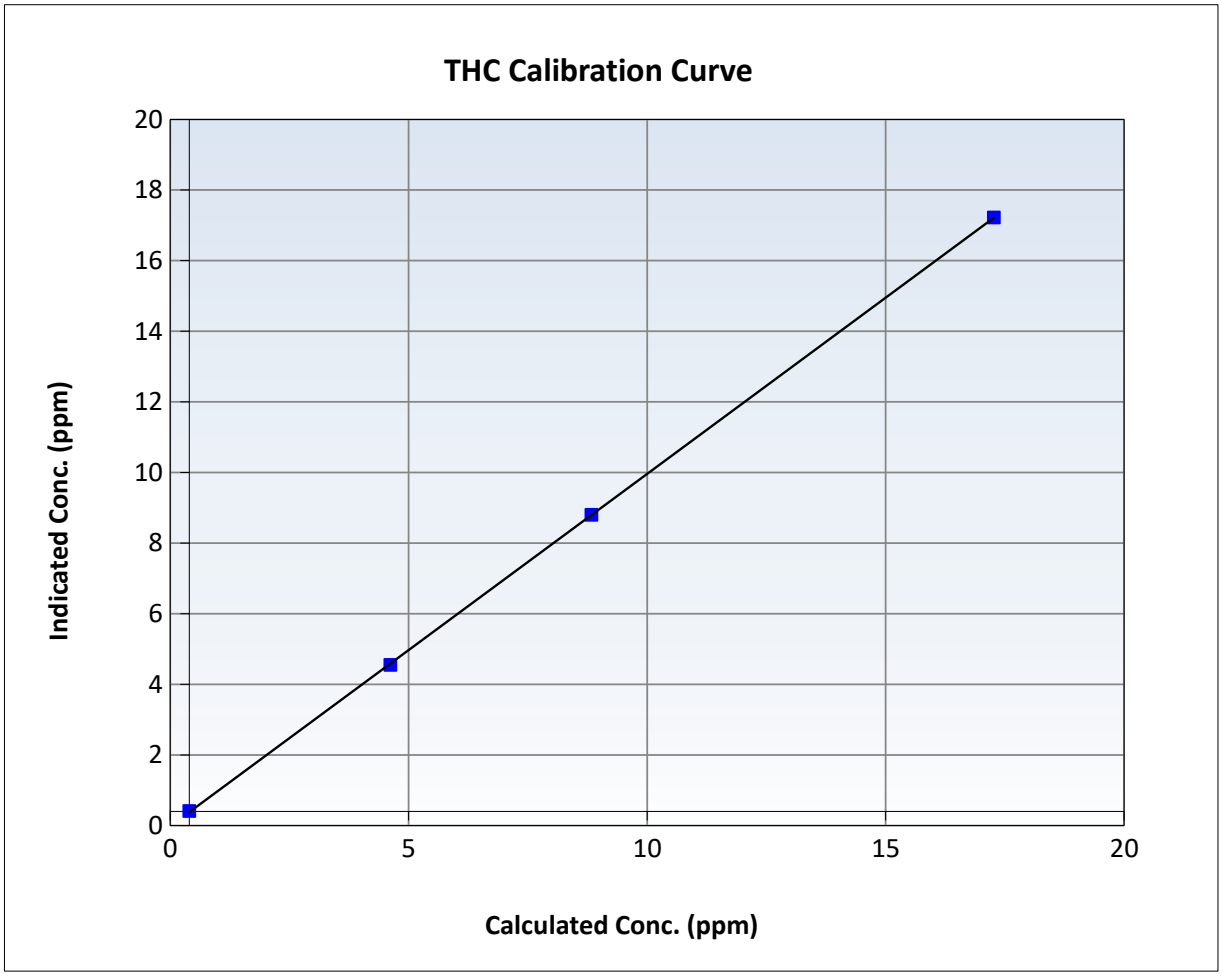
Station Information

Calibration Date:	November 21, 2025	Previous Calibration:	October 23, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	8:49	End Time (MST):	12:32
Analyzer make:	Thermo 51i-LT	Analyzer serial #:	1182340005

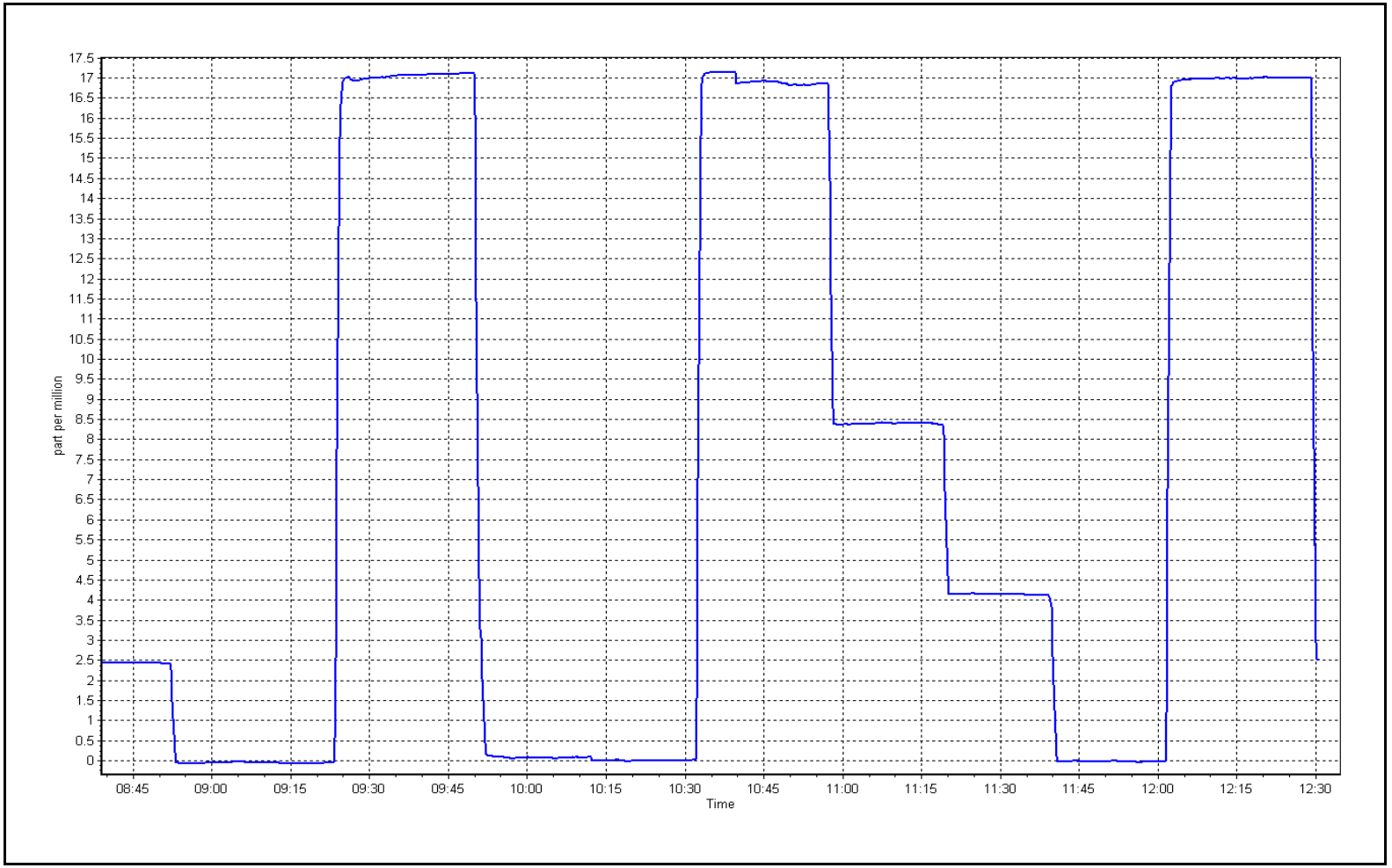
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	0.01	----
16.87	16.82	1.0027
8.43	8.40	1.0038
4.22	4.15	1.0163

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999984	*≥0.995*
Slope	0.997911	*0.90 - 1.10*
Intercept	-0.018831	*+/-1.5*



THC Calibration Plot Date: November 21, 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:	November 20, 2025
Last Cal Date:	October 15, 2025
Start time (MST):	12:15
End time (MST):	17:52
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	802.0	795.9	6.6	0.9994	1.0055
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 802.6 ppb	NO = 798.7 ppb
Baseline Corr 1st pt	NO_X = 802.1 ppb	NO = 795.9 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 = -0.3%

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: 1173480006

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	0.723	0.727	NO bkgnd or offset:	7.4	7.4
NOX coeff or slope:	0.996	0.996	NOX bkgnd or offset:	7.5	7.6
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	141.7	142.0

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.001884	1.003352
NO_X Cal Offset:	-0.493586	-1.433601
NO Cal Slope:	0.999158	1.001885
NO Cal Offset:	-0.953623	-2.733647
NO_2 Cal Slope:	0.982296	0.973364
NO_2 Cal Offset:	0.418066	0.733853

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	4933	66.8	801.6	800.3	1.3	804.0	801.0	2.7	0.9971	0.9991
Mid point	4967	33.4	400.8	400.1	0.7	398.9	395.2	3.7	1.0048	1.0125
Low point	4983	16.7	200.4	200.1	0.3	198.8	195.9	2.9	1.0080	1.0213
As left zero	5000	0.0	0.0	0.0	0.0	0.2	0.2	0.0	----	----
As left span	4933	66.8	801.6	400.7	400.9	795.0	400.7	394.4	1.0083	1.0000
							Average Correction Factor		1.0033	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	0.0	----	----
High GPT point	801.0	413.1	389.2	379.4	1.0259	97.5%
Mid GPT point	801.0	624.0	178.3	174.2	1.0237	97.7%
Low GPT point	801.0	707.5	94.8	94.1	1.0078	99.2%
				Average Correction Factor	1.0192	98.1%

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

Calibration Performed By: Braiden Boutilier

Wood Buffalo Environmental Association

NO_X Calibration Summary

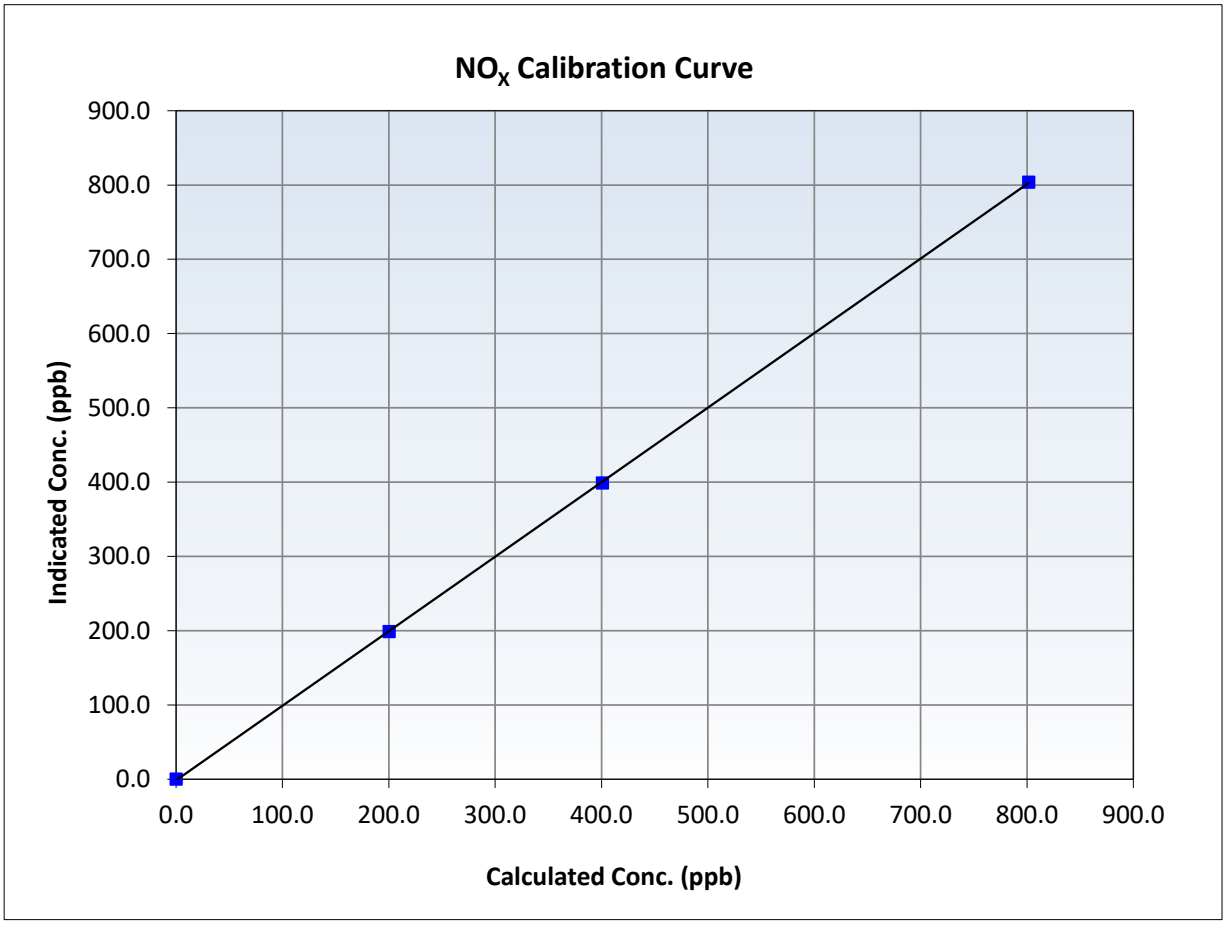
Station Information

Calibration Date:	November 20, 2025	Previous Calibration:	October 15, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	12:15	End Time (MST):	17:52
Analyzer make:	Thermo 42i	Analyzer serial #:	1173480006

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
801.6	804.0	0.9971
400.8	398.9	1.0048
200.4	198.8	1.0080

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999979	*≥0.995*
Slope	1.003352	*0.90 - 1.10*
Intercept	-1.433601	*+/-20*



Wood Buffalo Environmental Association

NO_2 Calibration Summary

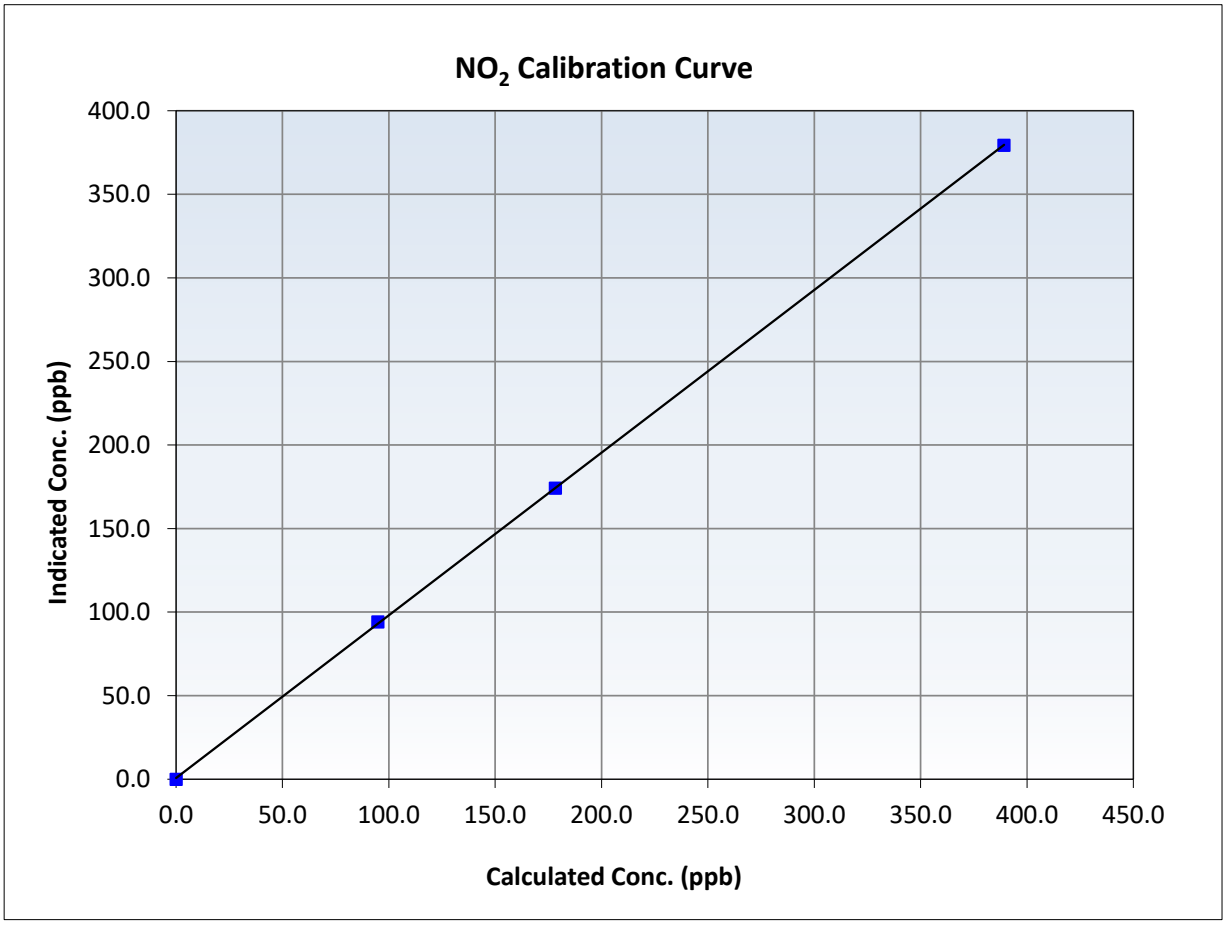
Station Information

Calibration Date:	November 20, 2025	Previous Calibration:	October 15, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	12:15	End Time (MST):	17:52
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	----
389.2	379.4	1.0259
178.3	174.2	1.0237
94.8	94.1	1.0078

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999978	*≥0.995*
Slope	0.973364	*0.90 - 1.10*
Intercept	0.733853	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

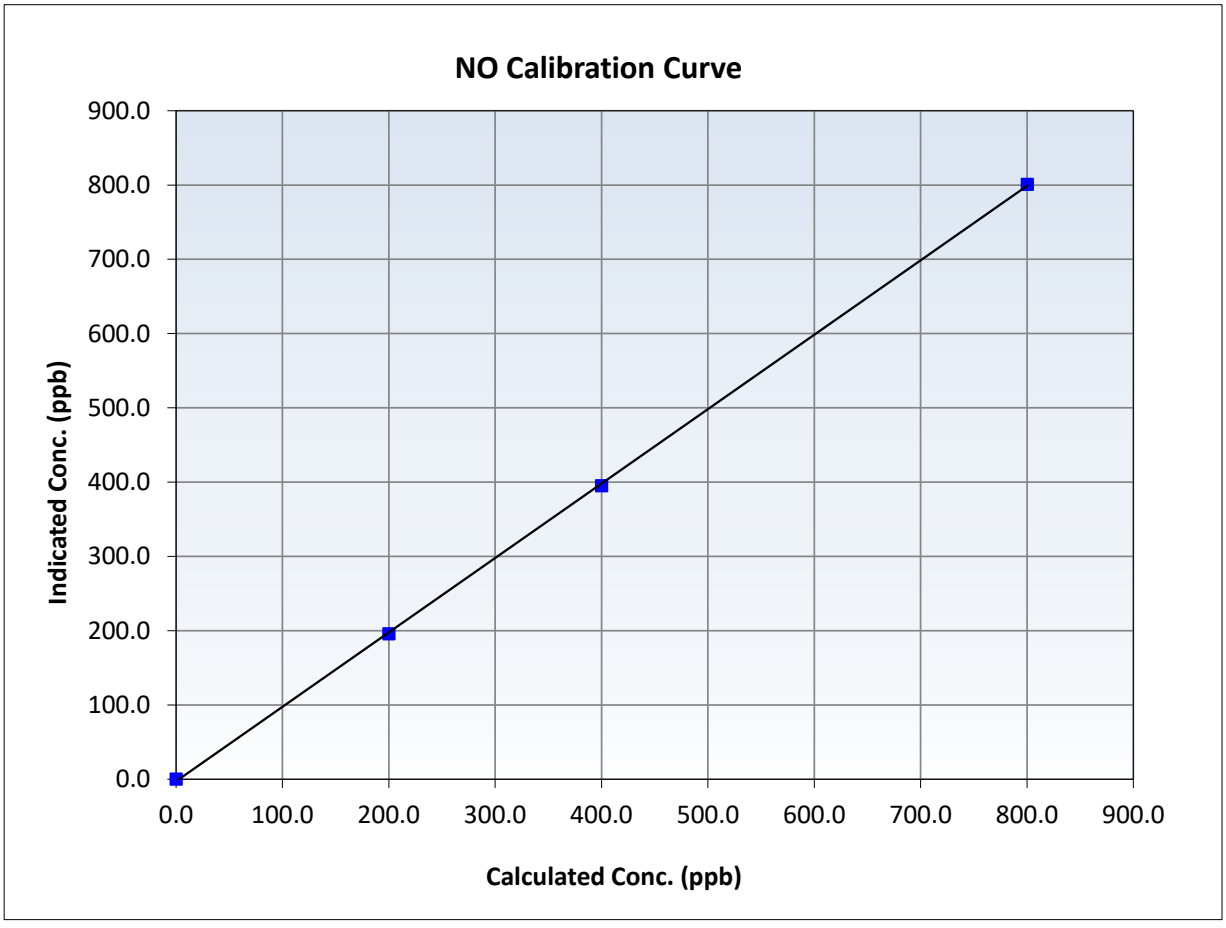
Station Information

Calibration Date:	November 20, 2025	Previous Calibration:	October 15, 2025
Station Name:	Kirby South	Station Number:	AMS 507
Start Time (MST):	12:15	End Time (MST):	17:52
Analyzer make:	Thermo 42i	Analyzer serial #:	1173480006

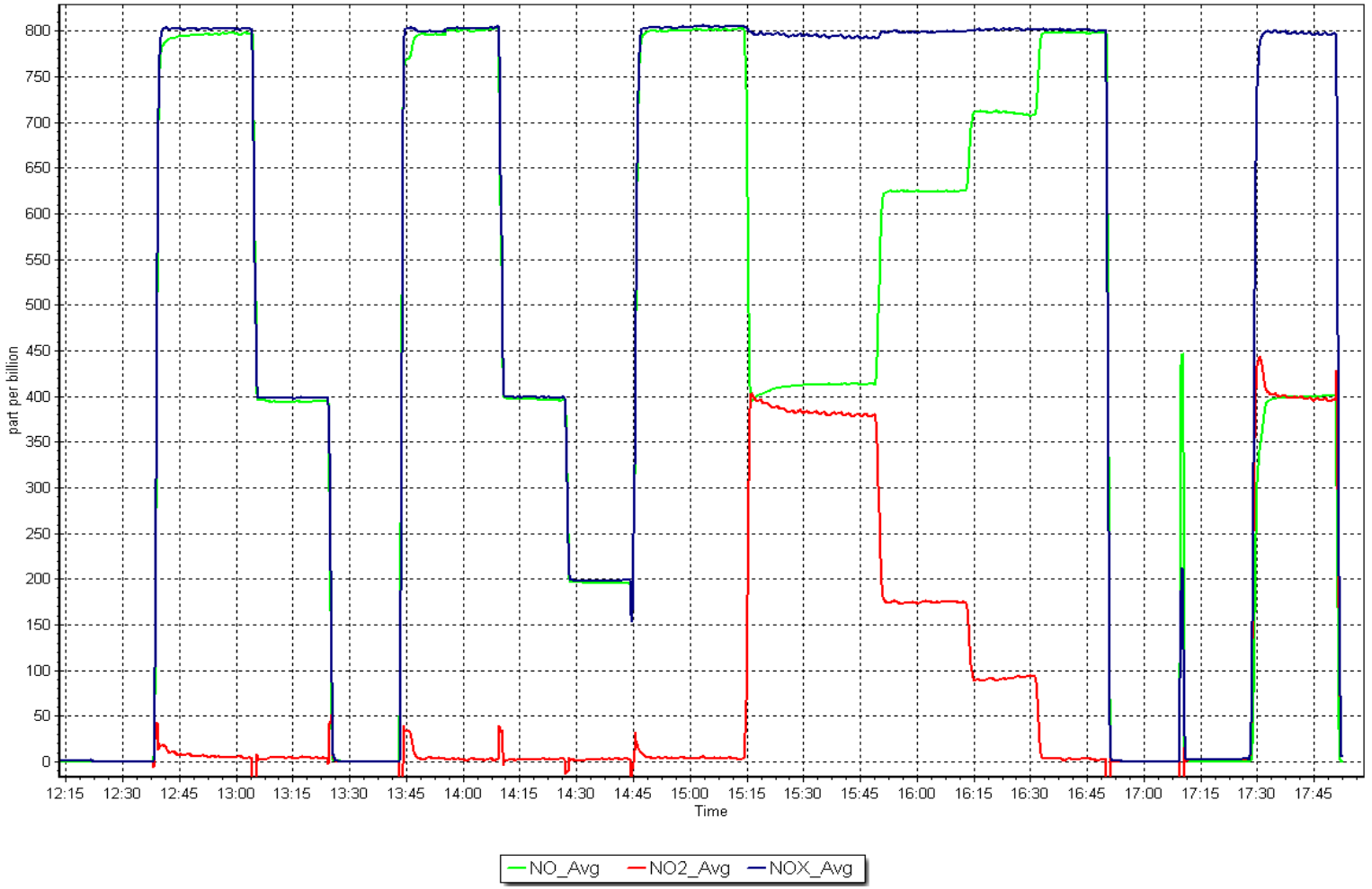
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
800.3	801.0	0.9991
400.1	395.2	1.0125
200.1	195.9	1.0213

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999932	*≥0.995*
Slope	1.001885	*0.90 - 1.10*
Intercept	-2.733647	*+/-20*



NO_X Calibration Plot Date: November 20, 2025 Location: Kirby South



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
CALIBRATION REPORT

AMS511
BLACKGOLD
NOVEMBER 2025

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

December 22, 2025

Wood Buffalo Environmental Association

SO_2 Calibration Report

Station Information

Station Name:	Blackgold	Station number:	AMS 511
Calibration Date:	November 20, 2025	Last Cal Date:	October 17, 2025
Start time (MST):	9:29	End time (MST):	13:08
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:	1.006702	1.003515	Backgd or Offset:	14.7	15.2
Calibration intercept:	-0.861427	-1.320664	Coeff or Slope:	1.163	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	5000	0.0	0.0	0.6	----
As found High point	4919	81.0	799.8	800.7	1.000
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	800.1	Previous response	804.3	*% 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	0.1	----
High point	4919	81.0	799.8	802.0	0.997
Mid point	4959	40.5	399.9	399.3	1.002
Low point	4980	20.3	200.4	198.4	1.010
As left zero	5000	0.0	0.0	0.2	----
As left span	4919	81.0	799.8	800.9	0.999
				Average Correction Factor:	1.003

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

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

SO_2 Calibration Summary

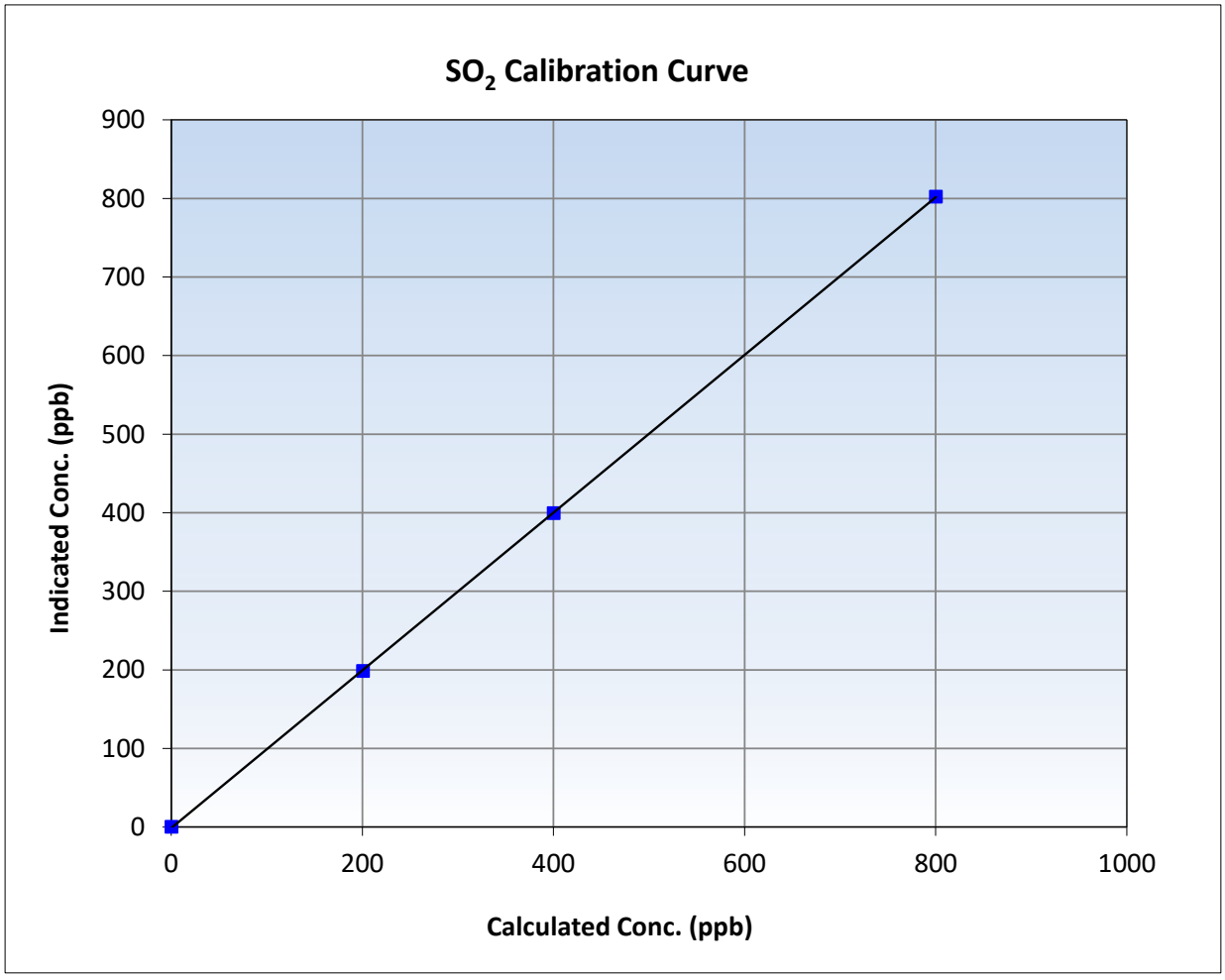
Station Information

Calibration Date:	November 20, 2025	Previous Calibration:	October 17, 2025
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	9:29	End Time (MST):	13:08
Analyzer make:	Thermo 43i	Analyzer serial #:	1173410001

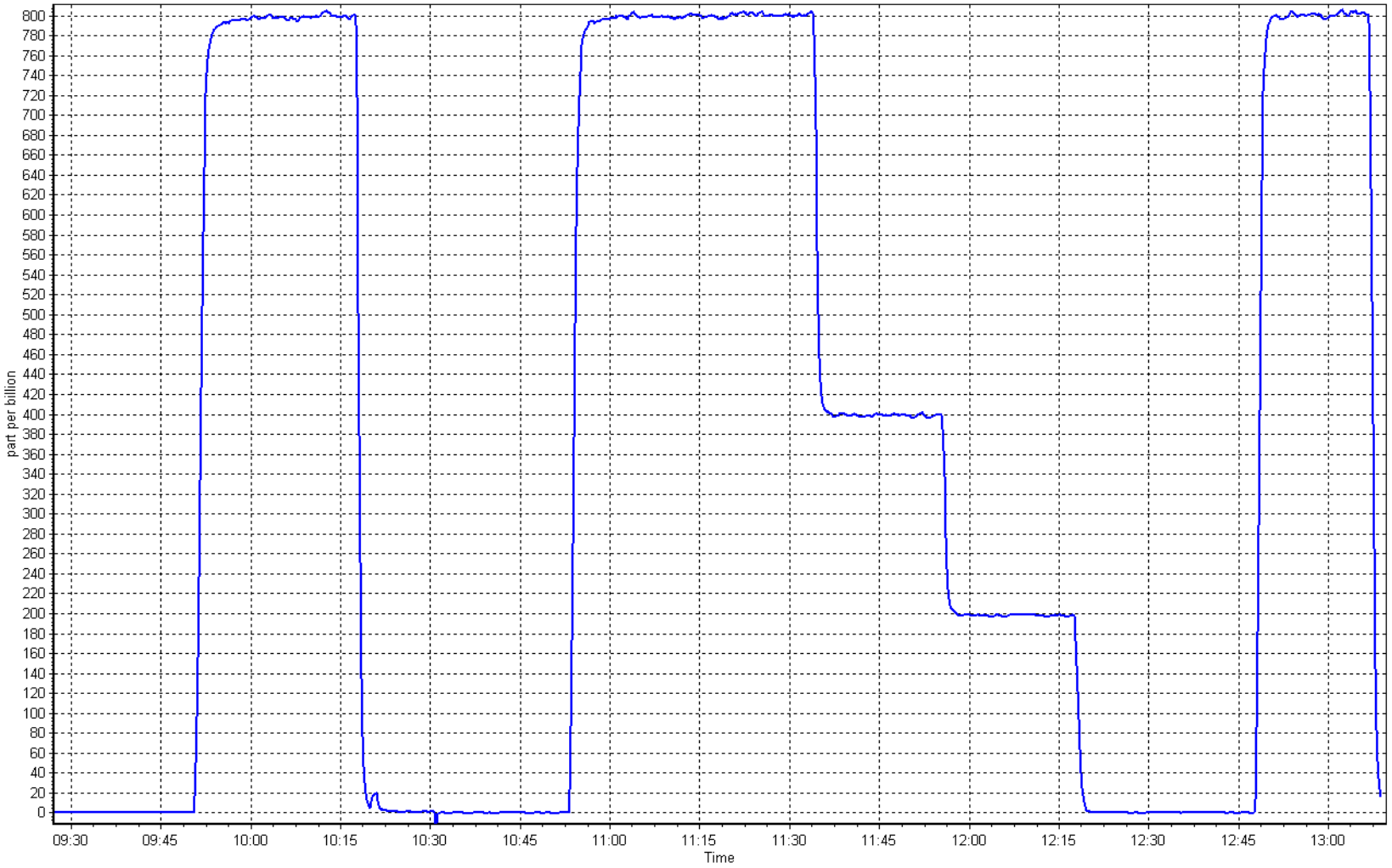
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.1	----
799.8	802.0	0.9972
399.9	399.3	1.0016
200.4	198.4	1.0102

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999986	*≥0.995*
Slope	1.003515	*0.90 - 1.10*
Intercept	-1.320664	*+/-30*



SO2 Calibration Plot Date: November 20, 2025 Location: Blackgold



Wood Buffalo Environmental Association

H_2S Calibration Report

Station Information

Station Name:	Blackgold	Station number:	AMS 511
Calibration Date:	November 27, 2025	Last Cal Date:	October 30, 2025
Start time (MST):	11:55	End time (MST):	16:26
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:	0.987624	1.005349	Backgd or Offset:	4.01	4.10
Calibration intercept:	0.061038	0.140712	Coeff or Slope:	1.367	1.415

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	4922	77.8	80.0	78.2	1.025
As found Mid point	4961	38.9	40.0	39.1	1.028
As found Low point	4981	19.5	20.0	19.5	1.038
New cylinder response					
Baseline Corr As found:	78.0	Prev response:	79.04	*% change:	-1.3%
Baseline Corr 2nd AF pt:	38.9	AF Slope:	0.976331	AF Intercept:	0.081253
Baseline Corr 3rd AF pt:	19.3	AF Correlation:	0.999989	* = > +/-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	0.4	----
High point	4922	77.8	80.0	80.7	0.991
Mid point	4961	38.9	40.0	40.1	0.997
Low point	4981	19.5	20.0	20.1	0.997
As left zero	5000	0.0	0.0	0.4	----
As left span	4922	77.8	80.0	79.6	1.005
SO2 Scrubber Check	4919	81.0	810.0	-0.1	----
Date of last scrubber change:				Ave Corr Factor	0.995
Date of last converter efficiency test:					

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

H_2S Calibration Summary

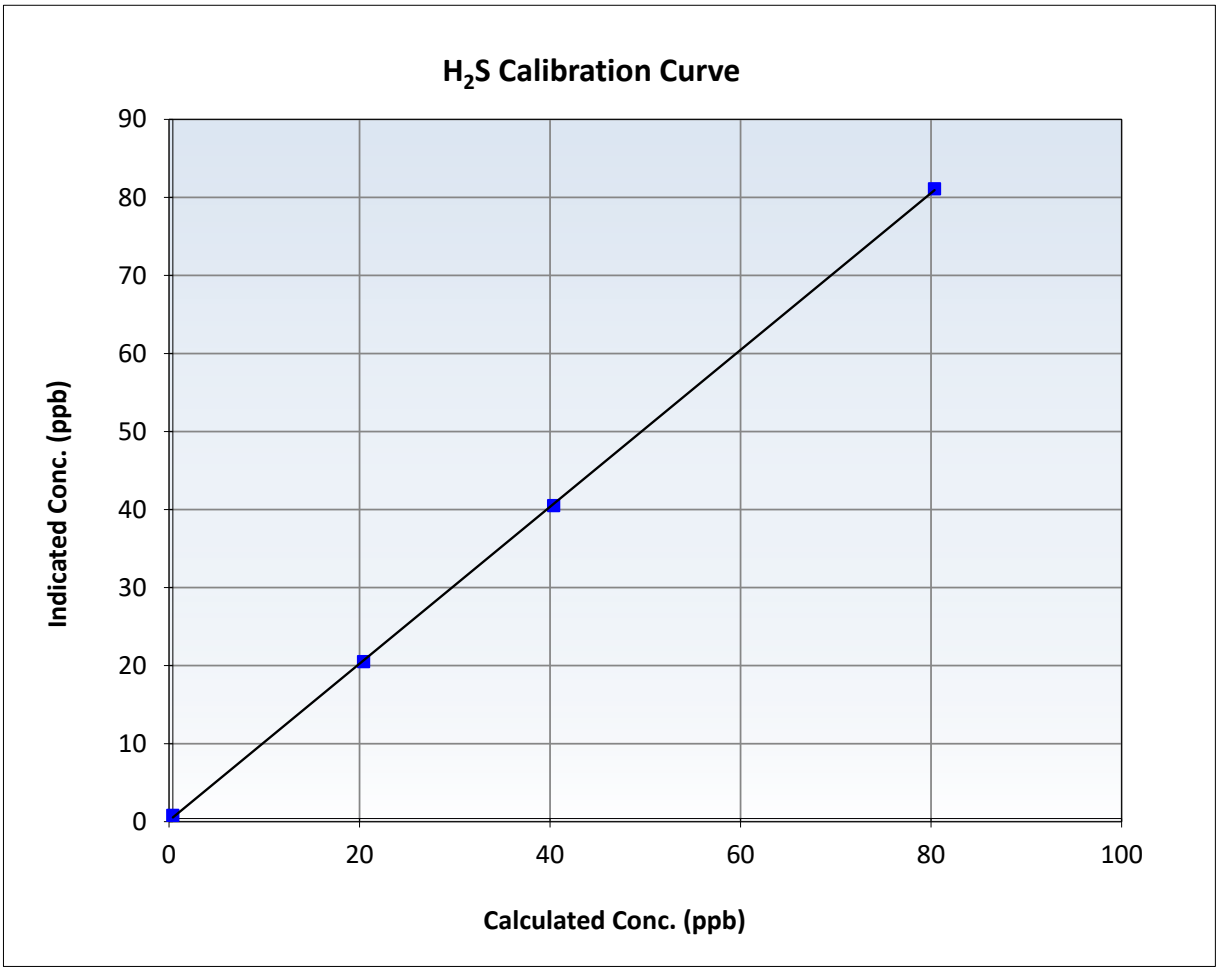
Station Information

Calibration Date:	November 27, 2025	Previous Calibration:	October 30, 2025
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	11:55	End Time (MST):	16:26
Analyzer make:	Thermo 43i-TLE	Analyzer serial #:	1336160090

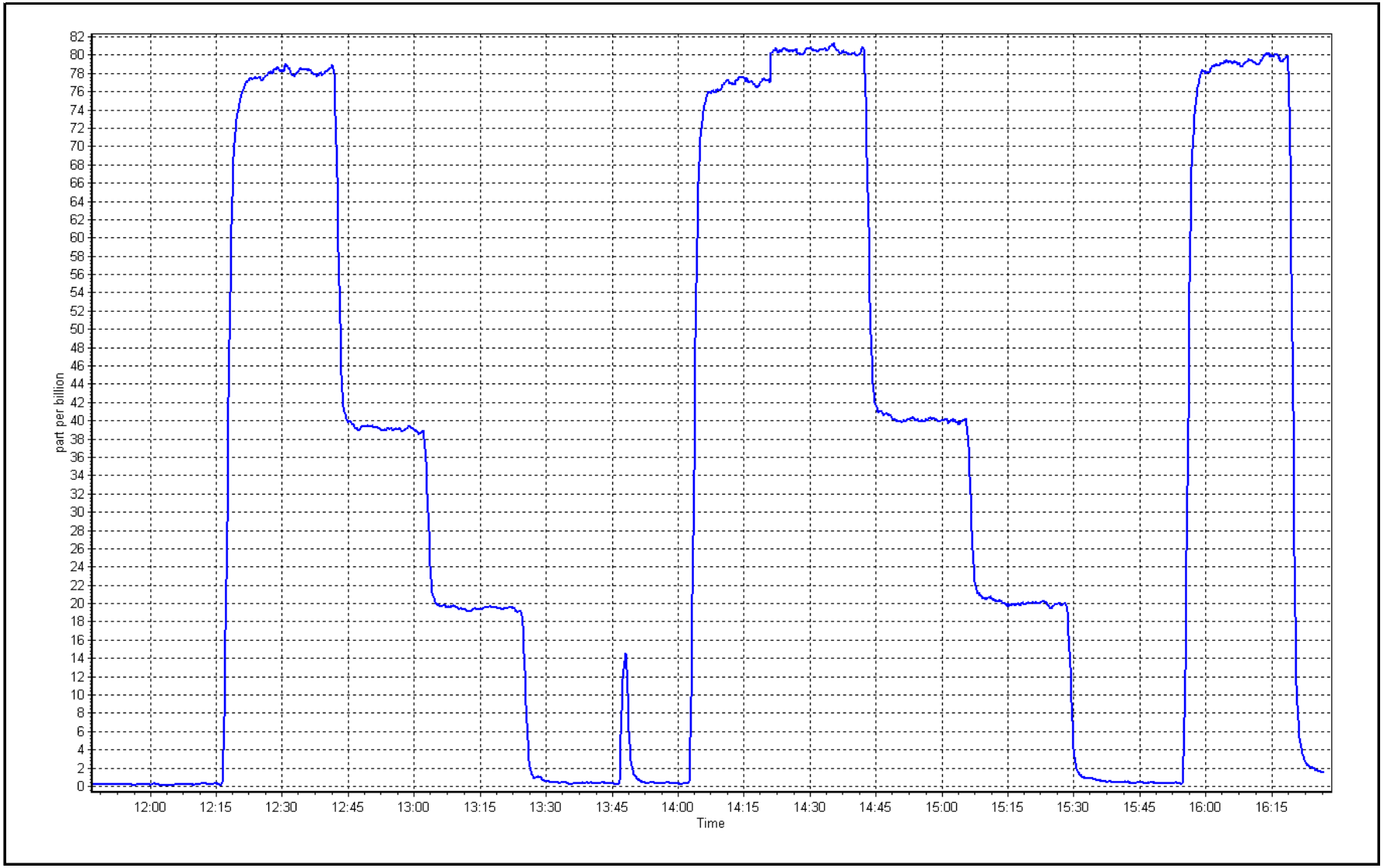
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.4	----
80.0	80.7	0.9909
40.0	40.1	0.9971
20.0	20.1	0.9970

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999947	*≥0.995*
Slope	1.005349	*0.90 - 1.10*
Intercept	0.140712	*+/-3*



H_2S Calibration Plot Date: November 27, 2025 Location: Blackgold



Wood Buffalo Environmental Association

THC Calibration Report

Station Information

Station Name:	Blackgold	Station number:	AMS 511
Calibration Date:	November 20, 2025	Last Cal Date:	October 17, 2025
Start time (MST):	9:29	End time (MST):	13:08
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:	1.006133	1.000796	Background:	0.96	0.81
Calibration intercept:	-0.074314	-0.030085	Coefficient:	2.390	2.287

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	-0.15	----
As found High point	4919	81.0	17.12	17.77	0.955
As found Mid point					
As found Low point					
New cylinder response					
Baseline Corr As found:	17.92	Previous response	17.15	*% change	4.3%
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	-0.01	----
High point	4919	81.0	17.12	17.11	1.000
Mid point	4959	40.5	8.56	8.53	1.004
Low point	4980	20.3	4.29	4.24	1.012
As left zero	5000	0.0	0.00	-0.01	----
As left span	4919	81.0	17.12	17.24	0.993
				Average Correction Factor	1.005

Notes: Sample inlet filter changed after as founds. Adjusted zero and span.

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

THC Calibration Summary

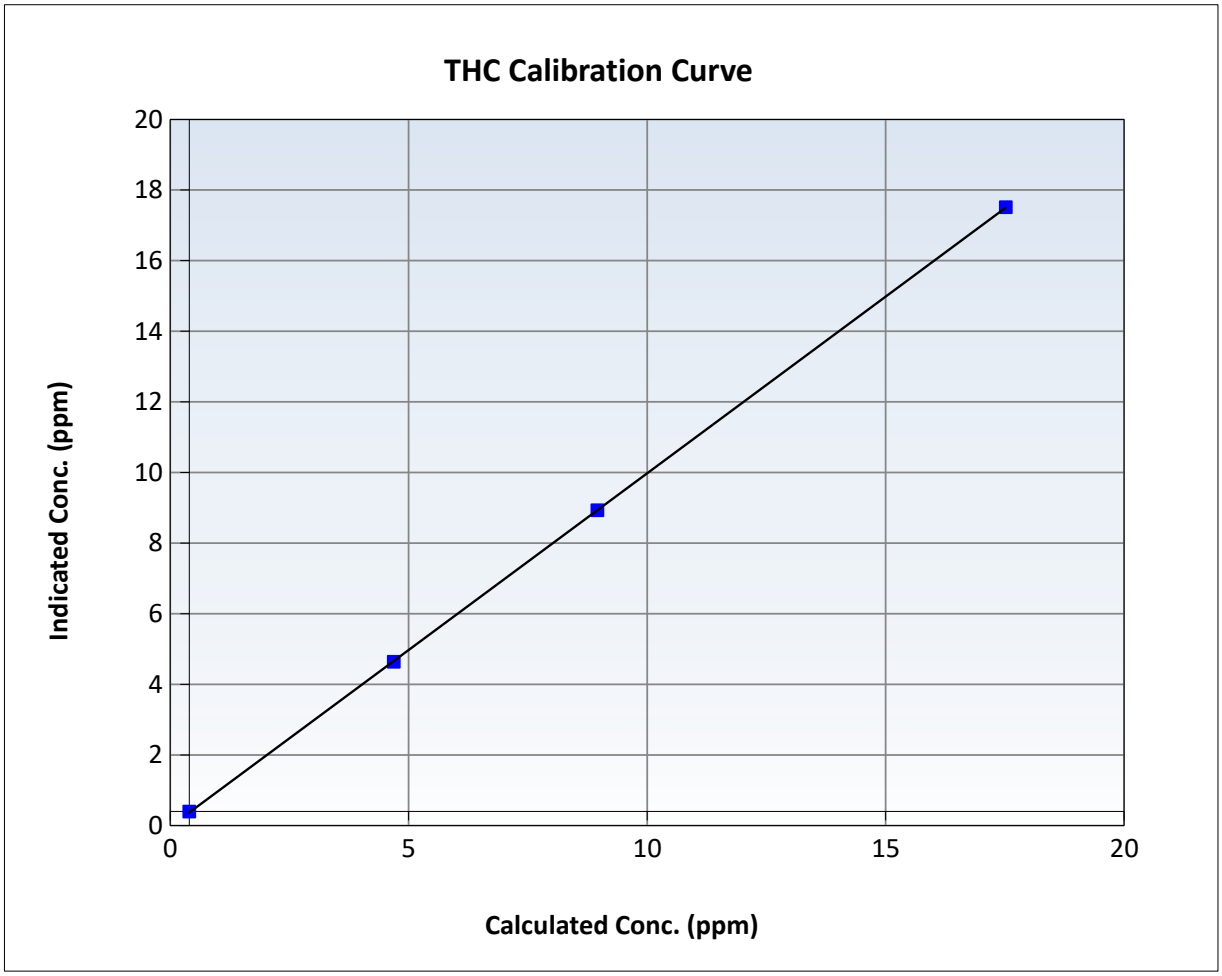
Station Information

Calibration Date:	November 20, 2025	Previous Calibration:	October 17, 2025
Station Name:	2025-09-29	Station Number:	N/A
Start Time (MST):	9:29	End Time (MST):	13:08
Analyzer make:	Thermo 51i	Analyzer serial #:	12426335705

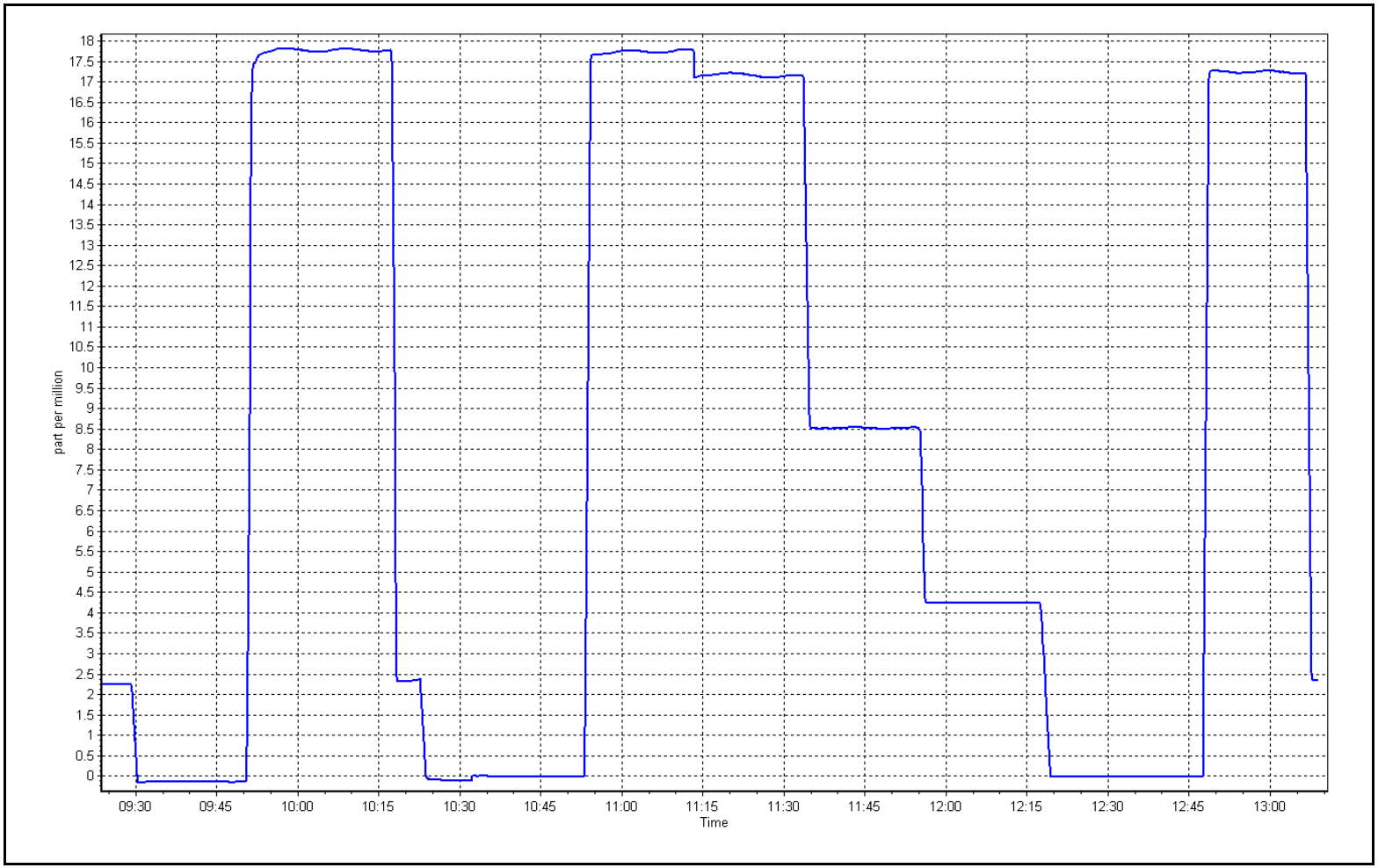
Calibration Data

Calculated Concentration (ppm) (Cc)	Indicated Concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0.00	-0.01	----
17.12	17.11	1.0004
8.56	8.53	1.0036
4.29	4.24	1.0124

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999992	*≥0.995*
Slope	1.000796	*0.90 - 1.10*
Intercept	-0.030085	*+/-1.5*



THC Calibration Plot Date: November 20, 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:	November 19, 2025
Last Cal Date:	October 7, 2025
Start time (MST):	9:26
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:	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	-0.1	-0.1	----	----
AF High point	4916	84.3	799.6	799.6	0.0	794.1	790.6	3.5	1.0067	1.0113
AF Mid point										
AF Low point										
New cyl resp										

Previous Response	NO_X = 798.7 ppb	NO = 799.0 ppb
Baseline Corr 1st pt	NO_X = 794.3 ppb	NO = 790.7 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 = -1.0%

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: Teledyne API T200 Serial Number: 7029

NOX Range (ppb): 0 - 1000 ppb

Instrument Settings

	Start	*Finish*		*Start*	*Finish*
NO coeff or slope:	1.082	1.087	NO bkgnd or offset:	0.2	0.2
NOX coeff or slope:	1.078	1.089	NOX bkgnd or offset:	0.4	0.4
NO2 coeff or slope:	1.000	1.000	Reaction cell Press:	4.7	4.8

Calibration Statistics

	Start	*Finish*
NO_X Cal Slope:	1.002533	1.003235
NO_X Cal Offset:	-2.958117	-2.378695
NO Cal Slope:	1.003662	1.003049
NO Cal Offset:	-3.578225	-2.438750
NO_2 Cal Slope:	0.993905	1.001718
NO_2 Cal Offset:	-0.629244	-0.187507

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	-0.2	----	----
High point	4916	84.3	799.6	799.6	0.0	801.1	800.8	0.8	0.9982	0.9985
Mid point	4958	42.2	400.3	400.3	0.0	397.7	398.0	-0.3	1.0066	1.0058
Low point	4979	21.1	200.2	200.2	0.0	196.4	195.8	0.6	1.0191	1.0222
As left zero	5000	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	----	----
As left span	4916	84.3	799.6	383.2	416.4	791.5	383.2	408.4	1.0103	1.0000
								Average Correction Factor	1.0079	1.0089

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	794.1	386.4	407.7	408.4	0.9983	100.2%
Mid GPT point	794.1	584.3	209.8	209.4	1.0019	99.8%
Low GPT point	794.1	683.9	110.2	110.6	0.9964	100.4%
				Average Correction Factor	0.9989	100.1%

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

Calibration Performed By: Mohammed Kashif

Wood Buffalo Environmental Association

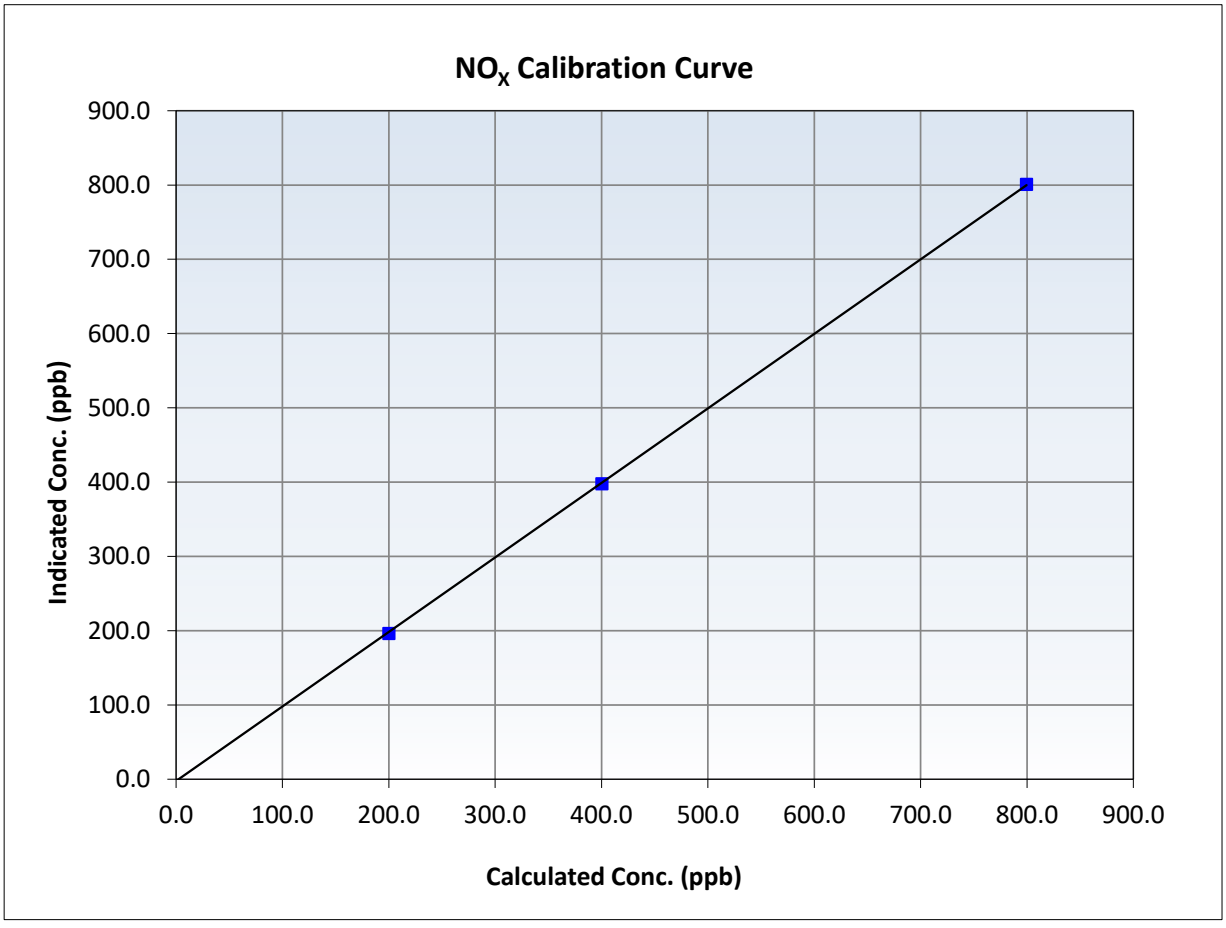
NO_X Calibration Summary

Station Information

Calibration Date:	November 19, 2025	Previous Calibration:	October 7, 2025
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	9:26	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)	Statistical Evaluation		Limits
0.0	-0.1	----	Correlation Coefficient	0.999962	≥0.995
799.6	801.1	0.9982	Slope	1.003235	0.90 - 1.10
400.3	397.7	1.0066			
200.2	196.4	1.0191	Intercept	-2.378695	+/-20



Wood Buffalo Environmental Association

NO_2 Calibration Summary

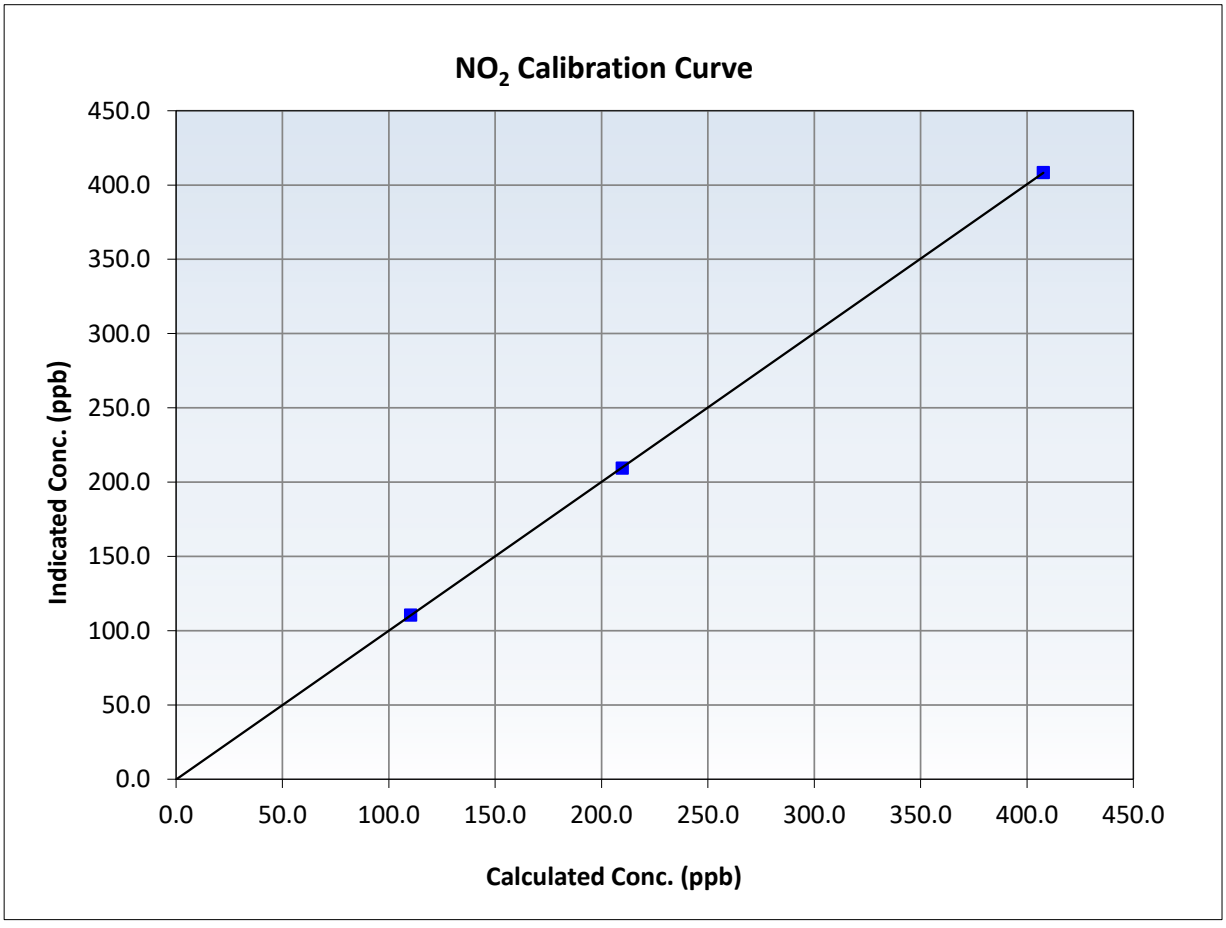
Station Information

Calibration Date:	November 19, 2025	Previous Calibration:	October 7, 2025
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	9:26	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	-0.2	----
407.7	408.4	0.9983
209.8	209.4	1.0019
110.2	110.6	0.9964

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999994	*≥0.995*
Slope	1.001718	*0.90 - 1.10*
Intercept	-0.187507	*+/-20*



Wood Buffalo Environmental Association

NO Calibration Summary

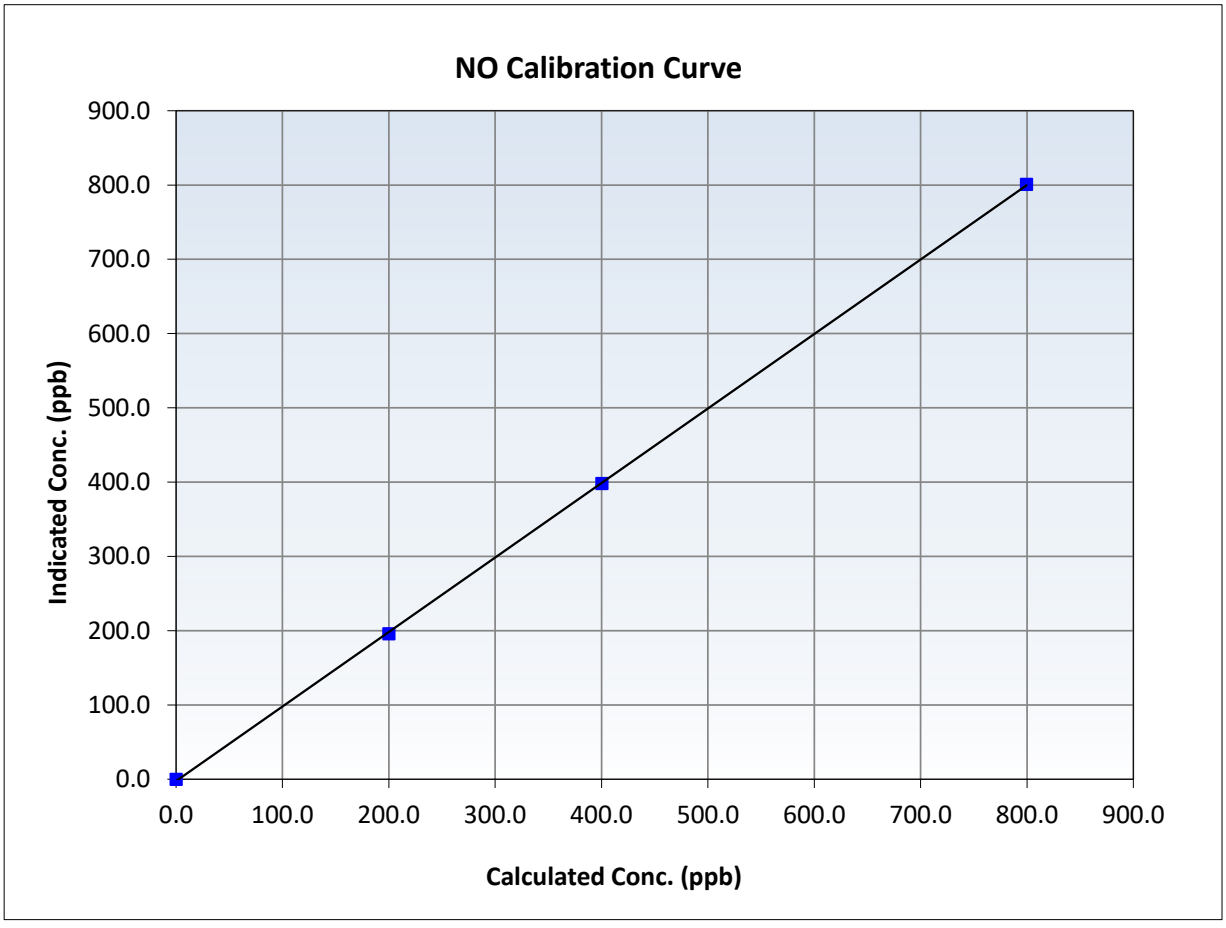
Station Information

Calibration Date:	November 19, 2025	Previous Calibration:	October 7, 2025
Station Name:	Blackgold	Station Number:	AMS 511
Start Time (MST):	9:26	End Time (MST):	15:52
Analyzer make:	Teledyne API T200	Analyzer serial #:	7029

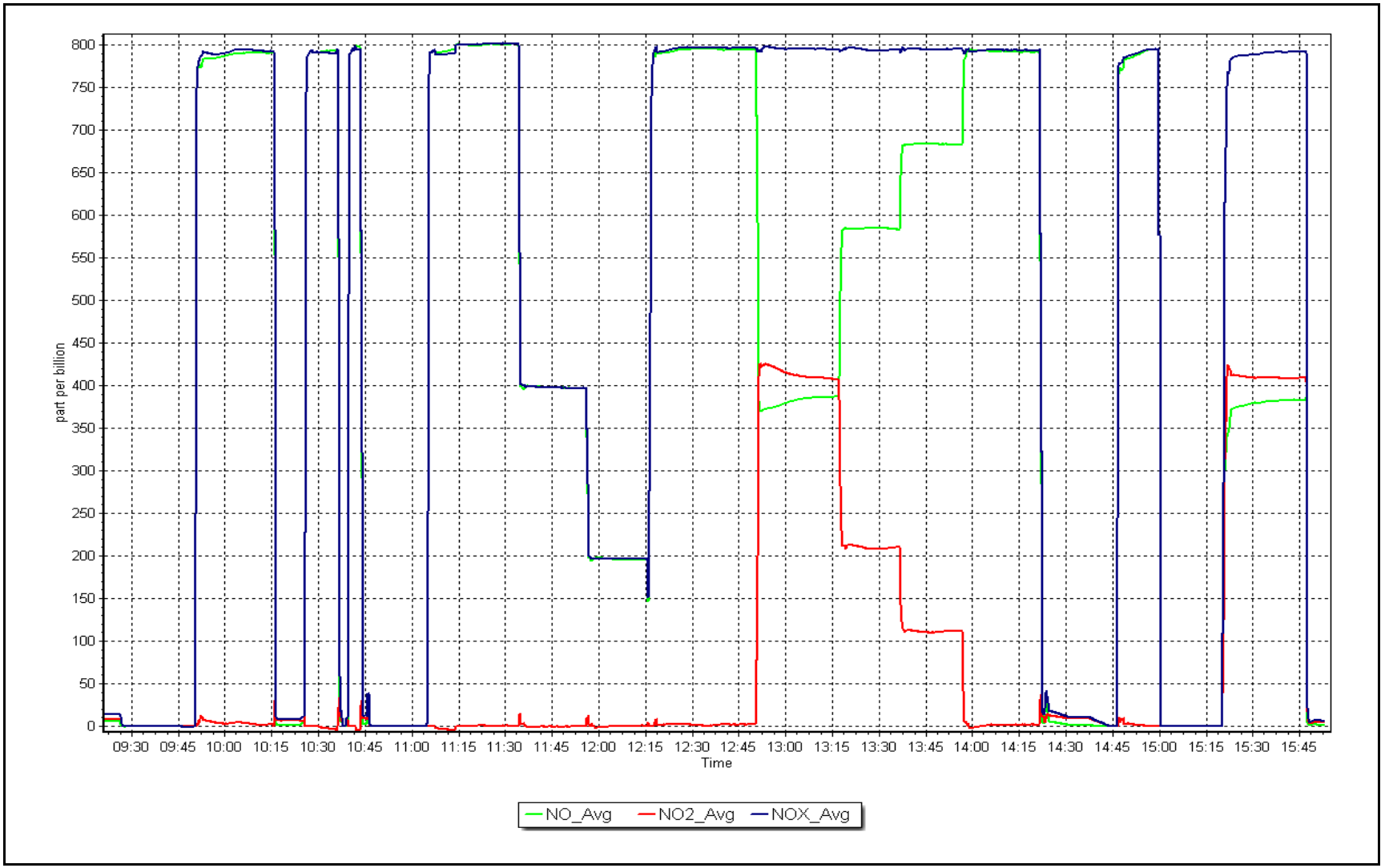
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
0.0	0.0	----
799.6	800.8	0.9985
400.3	398.0	1.0058
200.2	195.8	1.0222

Statistical Evaluation		*Limits*
Correlation Coefficient	0.999958	*≥0.995*
Slope	1.003049	*0.90 - 1.10*
Intercept	-2.438750	*+/-20*



NO_X Calibration Plot Date: November 19, 2025 Location: Blackgold



End of Report