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Wood Buffalo Environmental Association

APRIL 2025

MONTHLY CALIBRATION REPORT

CONTINUOUS MONITORING May 30, 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 APRIL 2025

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

May 30, 2025



Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

Station Name:Bertha Ganter-Fort McKayCalibration Date:April 9, 2025Start time (MST):11:39Reason:Routine

Station number: AMS 01 Last Cal Date: March 7, 2025 End time (MST): 15:18

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: Analyzer Range: | Thermo 43i 0 - 1000 ppb | Serial Number: JC1501301448 | | | |
|--|---------------------------------------|--|--------------------------------------|-------------------------------|--------------------------------|
| Calibration slope: Calibration intercept: | <u>Start</u> 1.001209 -0.193570 | <u>Finish</u> 1.001108 -0.433285 | Backgd or Offset: Coeff or Slope: | <u>Start</u> 20.8 0.887 | <u>Finish</u> 21.7 0.887 |

SO₂ As Found Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic-AFzero) Limit = 0.90-1.10 |
|--|----------------------------------|---|---|---|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.8 | |
| As found High point As found Mid point As found Low point New cylinder response | 4918 | 81.3 | 800.3 | 802.6 | 0.998 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 801.8 NA NA | Previous response AF Slope: AF Correlation: | 801.0 | *% change AF Intercept: * = > +/-5% change initiate | 0.1% es investigation |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.0 | |
| High point | 4918 | 81.3 | 800.3 | 801.1 | 0.999 |
| Mid point | 4959 | 40.7 | 400.6 | 399.9 | 1.002 |
| Low point | 4979 | 20.3 | 199.8 | 199.5 | 1.002 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | |
| As left span | 4918 | 81.3 | 800.3 | 801.7 | 0.998 |
| | | | Averag | e Correction Factor: | 1.001 |

Notes:

Changed the inlet filter after as founds. Adjusted the zero.

Calibration Performed By:

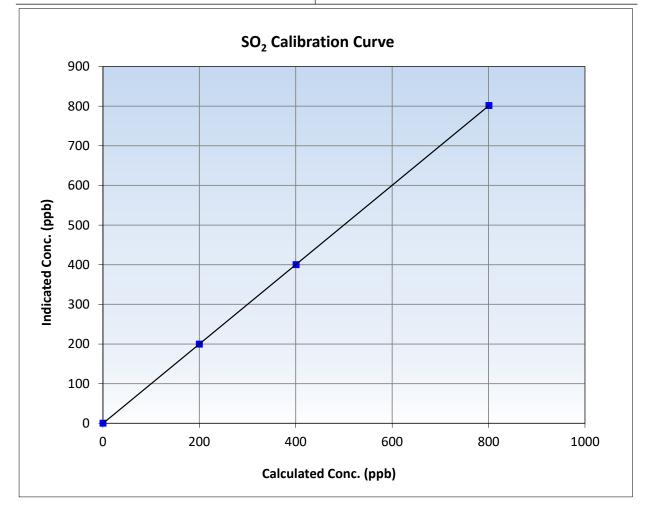


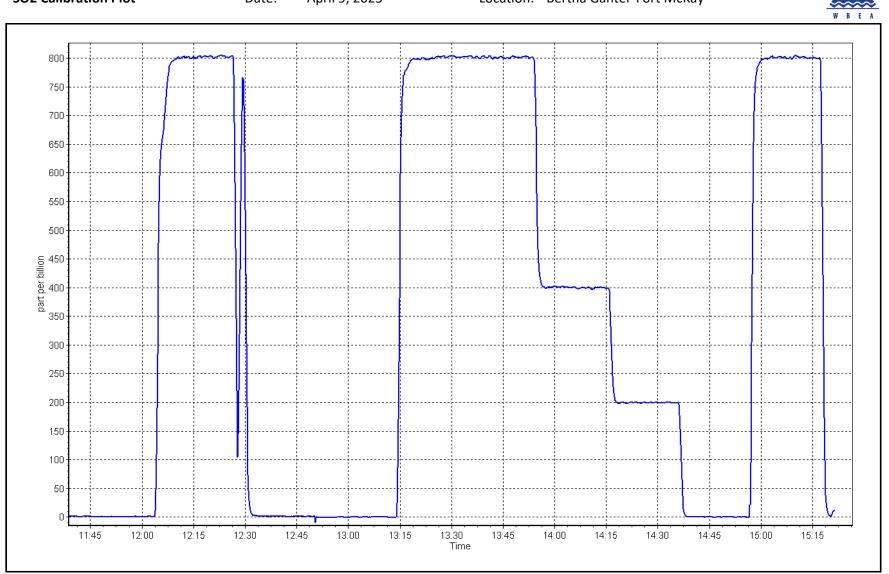
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | March 7, 2025 |
|-------------------|--------------------------|-----------------------|---------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 11:39 | End Time (MST): | 15:18 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | JC1501301448 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 800.3 | 801.1 | 0.9990 | Slope | 1.001108 | 0.90 - 1.10 |
| 400.6 | 399.9 | 1.0017 | ыбре | 1.001100 | 0.50 1.10 |
| 199.8 | 199.5 | 1.0016 | Intercept | -0.433285 | +/-30 |





Date: April 9, 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: | April 28, 2025 | Last Cal Date: | March 27, 2025 |
| Start time (MST): Reason: | 10:09 Routine | End time (MST): | 14:53 |

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: Converter make: | Thermo 43iQ-TLE CD Nova | | Analyzer serial #: Converter serial #: | 12113311966 470 | 800 dog(|
|--|-----------------------------|-----------------------|---|--------------------|---------------------------|
| Analyzer Range | 0 - 100 ppb <u>Start</u> | <u>Finish</u> | Converter Temp: | <u>Start</u> | 800 degC <u>Finish</u> |
| Calibration slope: Calibration intercept: | 0.995103 0.201884 | 1.001390 -0.118138 | Backgd or Offset: Coeff or Slope: | | 2.18 1.148 |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.2 | |
| As found High point | 4917 | 82.6 | 80.0 | 78.3 | 1.019 |
| As found Mid point | 4959 | 41.3 | 40.0 | 39.0 | 1.020 |
| As found Low point | 4979 | 20.7 | 20.0 | 19.6 | 1.012 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 78.5 | Prev response: | 79.77 | *% change: | -1.6% |
| Baseline Corr 2nd AF pt: | 39.2 | AF Slope: | 0.981091 | AF Intercept: | -0.157790 |
| Baseline Corr 3rd AF pt: | 19.8 | AF Correlation: | 0.999995 | * = > +/-5% change initiate | es 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 | 80.0 | 1.000 |
| Mid point | 4959 | 41.3 | 40.0 | 39.8 | 1.004 |
| Low point | 4979 | 20.7 | 20.0 | 20.0 | 1.002 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | |
| As left span | 4917 | 82.6 | 80.0 | 79.0 | 1.012 |
| SO2 Scrubber Check | 4919 | 81.3 | 813.0 | 0.0 | |
| Date of last scrubber char | ige: | December 17, 2021 | | Ave Corr Factor | 1.002 |

Date of last converter efficiency test:

Inlet filter change and scrubber check completed after as founds. Adjusted span only.

Calibration Performed By:

Notes:



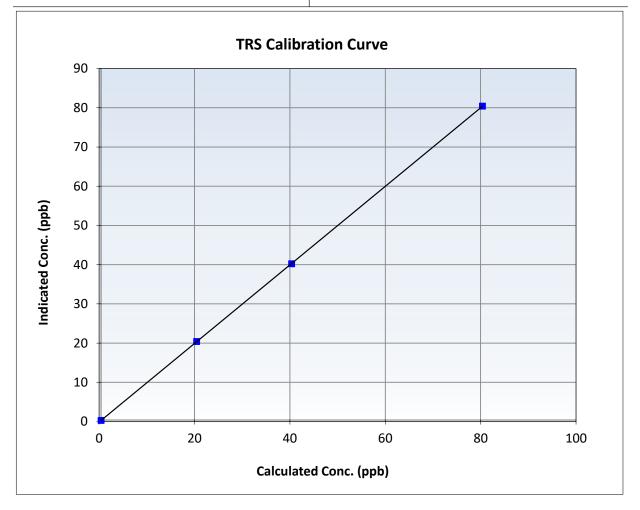
Wood Buffalo Environmental Association

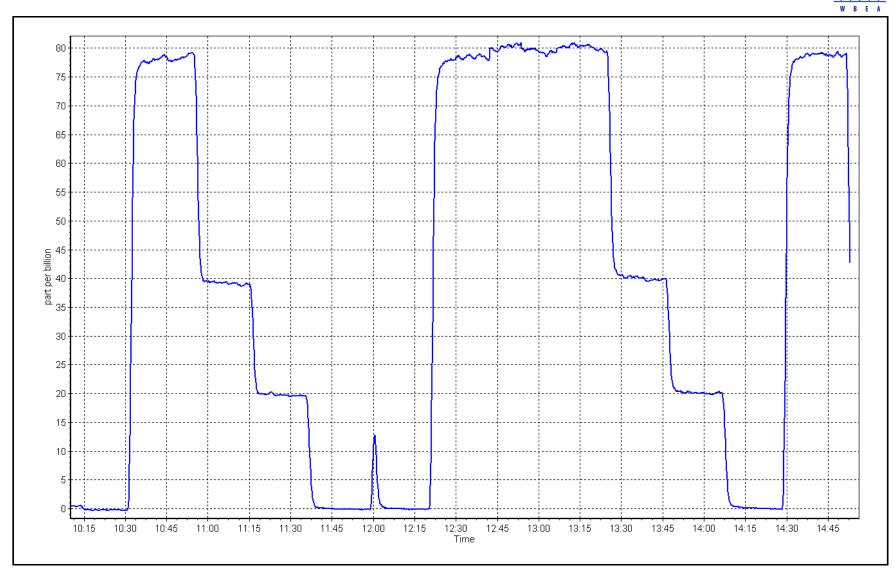
TRS Calibration Summary

Station Information

| Calibration Date: | April 28, 2025 | Previous Calibration: | March 27, 2025 |
|-------------------|--------------------------|-----------------------|----------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 10:09 | End Time (MST): | 14:53 |
| Analyzer make: | Thermo 43iQ-TLE | Analyzer serial #: | 12113311966 |

| Calibration Data | | | | | | | |
|--|---|---------------------------|-------------------------|-----------|---------------|--|--|
| Calculated concentration (ppb) (Cc) | n Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> | | |
| 0.0 | -0.1 | | Correlation Coefficient | 0.999995 | ≥0.995 | | |
| 80.0 40.0 | 80.0 39.8 | 0.9995 1.0044 | Slope | 1.001390 | 0.90 - 1.10 | | |
| 20.0 | 20.0 | 1.0019 | Intercept | -0.118138 | +/-3 | | |





TRS Calibration Plot

Location: Bertha Ganter-Fort McKay





Wood Buffalo Environmental Association H₂S Calibration Report

Station Information

| Station Name: | Bertha Ganter-Fort McKay | Station number: | AMS 01 |
|------------------------------|--------------------------|-----------------|----------------|
| Calibration Date: | April 28, 2025 | Last Cal Date: | March 19, 2025 |
| Start time (MST): Reason: | 10:09 Routine | End time (MST): | 14:53 |

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: Converter make: | Thermo 43iQ-TL CD Nova | | Analyzer serial #: Converter serial #: | 1200326167 2022-221 | |
|-----------------------------------|---------------------------|---------------|---|------------------------|---------------|
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 315 degC |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 1.000243 | 1.002388 | Backgd or Offset: | 2.03 | 2.03 |
| Calibration intercept: | 0.021999 | -0.178072 | Coeff or Slope: | 0.983 | 0.983 |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As found High point | 4917 | 82.6 | 80.0 | 80.3 | 0.995 |
| As found Mid point | 4959 | 41.3 | 40.0 | 40.1 | 0.994 |
| As found Low point | 4979 | 20.7 | 20.0 | 20.0 | 0.997 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 80.4 | Prev response: | 80.00 | *% change: | 0.5% |
| Baseline Corr 2nd AF pt: | 40.2 | AF Slope: | 1.005677 | AF Intercept: | -0.118167 |
| Baseline Corr 3rd AF pt: | 20.1 | AF Correlation: | 1.000000 | * = > +/-5% change initiate | es 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/lc) Limit = 0.95-1.05 |
|---|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | -0.1 | |
| High point | 4917 | 82.6 | 80.0 | 80.0 | 1.000 |
| Mid point | 4959 | 41.3 | 40.0 | 39.9 | 1.002 |
| 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 | 0.0 | |
| Date of last scrubber cha | ange: | January 25, 2024 | | Ave Corr Factor | 1.005 |
| Date of last converter efficiency test: | | November 7, 2024 | | 107.9% | efficiency |

Notes:

Inlet filter change and scrubber check completed after as founds. No adjustments made.

Calibration Performed By:



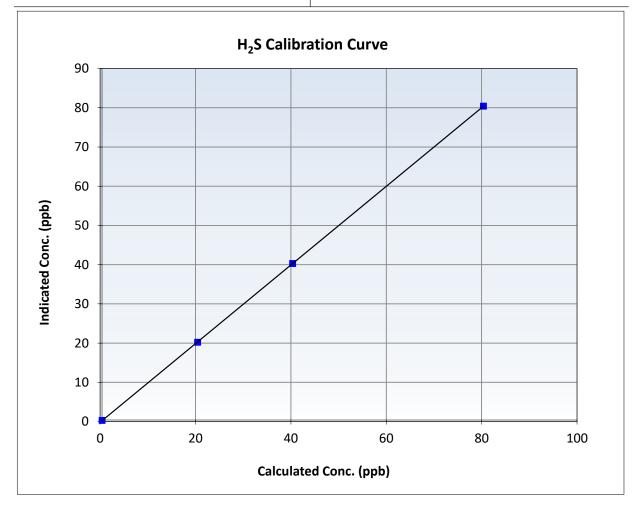
Wood Buffalo Environmental Association

H₂S Calibration Summary

Station Information

| Calibration Date: | April 28, 2025 | Previous Calibration: | March 19, 2025 |
|-------------------|--------------------------|-----------------------|----------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 10:09 | End Time (MST): | 14:53 |
| Analyzer make: | Thermo 43iQ-TL | Analyzer serial #: | 1200326167 |

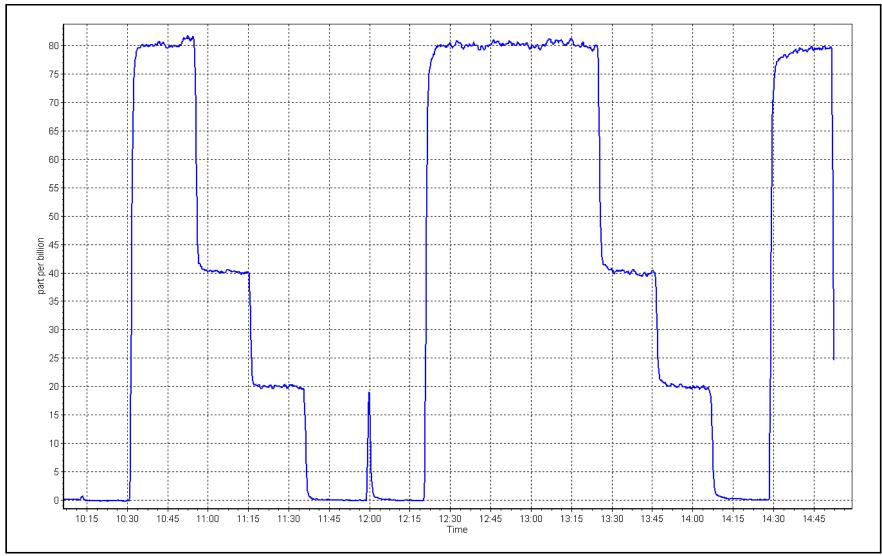
| Calibration Data | | | | | | | |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|--|--|
| Calculated concentratior (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> | | |
| 0.0 | -0.1 | | Correlation Coefficient | 0.999995 | ≥0.995 | | |
| 80.0 40.0 | 80.0 39.9 | 0.9995 1.0019 | Slope | 1.002388 | 0.90 - 1.10 | | |
| 20.0 | 19.8 | 1.0121 | Intercept | -0.178072 | +/-3 | | |





Location: Bertha Ganter-Fort McKay







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Station Information

| Station Name: | Bertha Ganter-Fort McKay | Station number: AMS 01 |
|-------------------|--------------------------|------------------------------|
| Calibration Date: | April 9, 2025 | Last Cal Date: March 9, 2025 |
| Start time (MST): | 11:39 | End time (MST): 15:18 |
| Reason: | Routine | |
| | | |
| | | |

Calibration Standards

| Gas Cert Reference: | (| CC418809 | Cal Gas Expiry I | Date: March 10, 2 | 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 Ex | cpiry: NA | | |
| Removed CH4 Conc. | 497.2 | ppm | CH4 Equiv (| Conc. | 1061.8 ppm | |
| Removed C3H8 Conc. | 205.3 | ppm | Diff between cyl (1 | ГНС): | | |
| Diff between cyl (CH ₄): | | | Diff between cyl (| NM): | | |
| Calibrator Model: | Teledyne API T | 700 | Serial Nun | nber: 3565 | | |
| Zero Air Gen model: | Teledyne API T | 701 | Serial Nun | nber: 146 | | |
| | | | Analyzer Information | | | |
| Analyzer make: | Thermo 55i | | Analyzer ser | ial #: 119358564 | 8 | |
| THC Range: | 0 - 20 ppm | | NMHC/CH4 Ra | ange: 0 - 10 ppm | | |
| | <u>Start</u> | | <u>Finish</u> | Star | <u>t</u> | <u>Finish</u> |

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 2.47E-04 | 2.53E-04 | NMHC SP Ratio: | 4.82E-05 | 4.89E-05 |
| CH4 Retention time: | 14.8 | 15.0 | NMHC Peak Area: | 190523 | 187657 |
| 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 | 16.99 | 1.016 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 16.99 | Prev response | 17.29 | *% change | -1.8% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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 | 17.32 | 0.997 |
| Mid point | 4959 | 40.7 | 8.64 | 8.70 | 0.994 |
| Low point | 4979 | 20.3 | 4.31 | 4.36 | 0.990 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4918 | 81.3 | 17.27 | 17.31 | 0.998 |
| | | | Avera | ge Correction Factor | 0.994 |

Notes:

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



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4918 | 81.3 | 9.18 | 9.09 | 1.010 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 9.09 NA NA | Prev response AF Slope: AF Correlation: | 9.17 | *% change AF Intercept: * = > +/-5% change initia | -1.0% tes 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 | 9.22 | 0.996 |
| Mid point | 4959 | 40.7 | 4.60 | 4.65 | 0.989 |
| Low point | 4979 | 20.3 | 2.29 | 2.34 | 0.981 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4918 | 81.3 | 9.18 | 9.22 | 0.996 |
| | | | Avera | ge Correction Factor | 0.989 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|--|----------------------------------|---|--|---|--|
| 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 As found Mid point As found Low point New cylinder response | 4918 | 81.3 | 8.09 | 7.91 | 1.023 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 7.91 NA NA | Prev response AF Slope: AF Correlation: | 8.11 | *% change AF Intercept: * = > +/-5% change initia | |

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) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---|---|
| 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 | 4.05 | 0.999 |
| Low point | 4979 | 20.3 | 2.02 | 2.02 | 0.999 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4918 | 81.3 | 8.09 | 8.09 | 1.000 |
| | | | Avera | ge Correction Factor | 0.999 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 0.999822 | 1.002190 |
| THC Cal Offset: | 0.026931 | 0.021536 |
| CH4 Cal Slope: | 1.004040 | 1.001397 |
| CH4 Cal Offset: | -0.003534 | 0.001066 |
| NMHC Cal Slope: | 0.995772 | 1.002902 |
| NMHC Cal Offset: | 0.031064 | 0.020670 |
| | | |

Calibration Performed By:

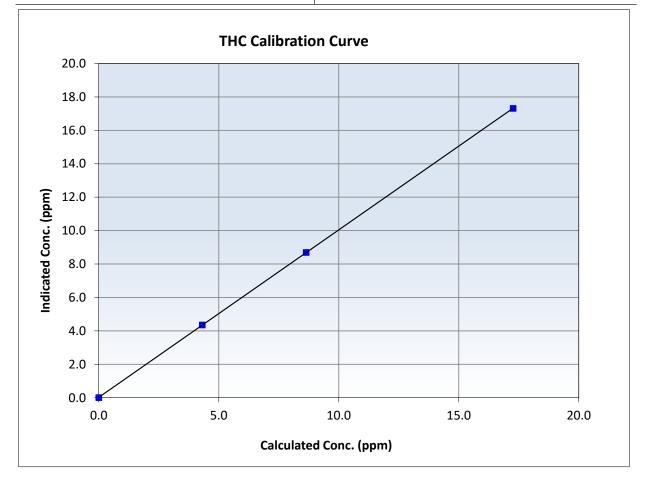


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | March 9, 2025 |
|-------------------|--------------------------|-----------------------|---------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 11:39 | End Time (MST): | 15:18 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585648 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999995 | ≥0.995 |
| 17.27 8.64 | 17.32 8.70 | 0.9972 0.9938 | Slope | 1.002190 | 0.90 - 1.10 |
| 4.31 | 4.36 | 0.9895 | Intercept | 0.021536 | +/-0.5 |



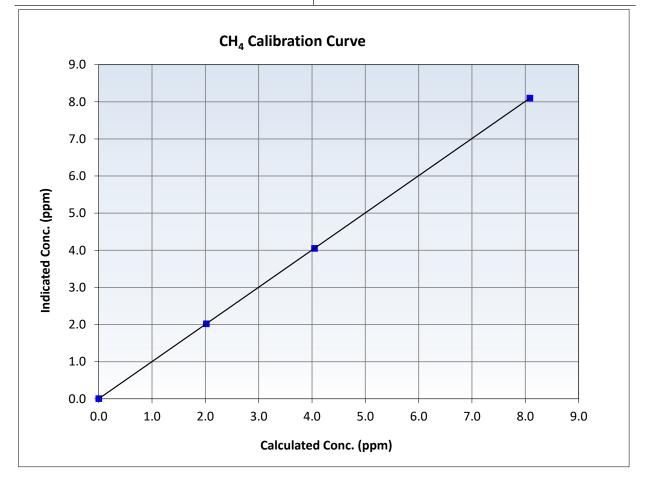


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | March 9, 2025 |
|-------------------|--------------------------|-----------------------|---------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 11:39 | End Time (MST): | 15:18 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585648 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|---------------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999999 | ≥0.995 |
| 8.09 | 8.10 | 0.9982 | Slope | 1.001397 | 0.90 - 1.10 |
| 4.05 | 4.05 | 0.9991 | Slope | 1.001357 0.30 | 0.90 - 1.10 |
| 2.02 | 2.02 | 0.9990 | Intercept | 0.001066 | +/-0.5 |



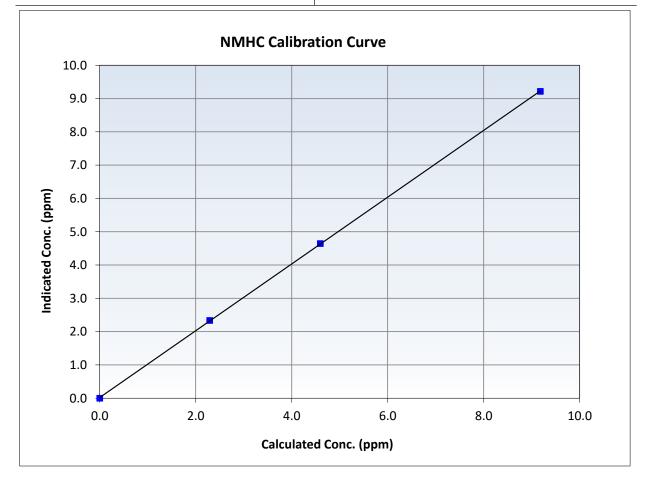


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | March 9, 2025 |
|-------------------|--------------------------|-----------------------|---------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 11:39 | End Time (MST): | 15:18 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585648 |

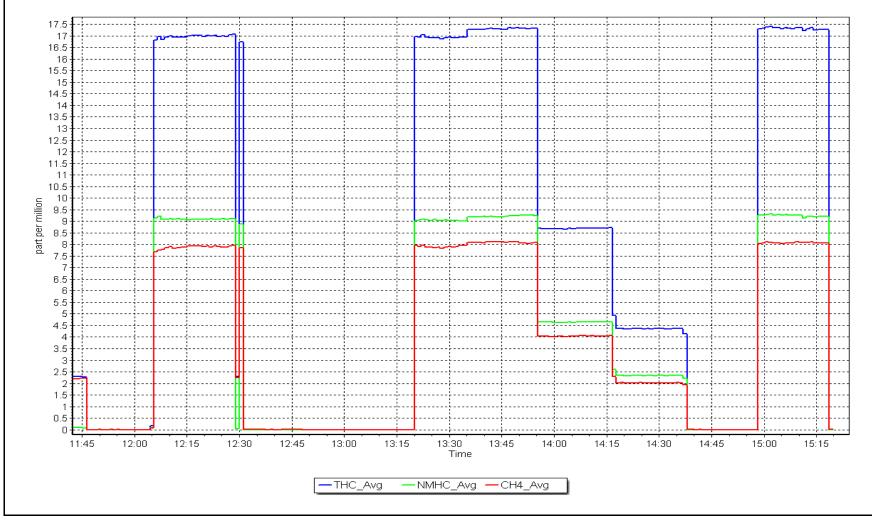
| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999975 | ≥0.995 |
| 9.18 | 9.22 | 0.9962 | Slope | 1.002902 | 0.90 - 1.10 |
| 4.60 | 4.65 | 0.9890 | Slope | 1.002902 | 0.90 - 1.10 |
| 2.29 | 2.34 | 0.9814 | Intercept | 0.020670 | +/-0.5 |



NMHC Calibration Plot

Location: Bertha Ganter-Fort McKay







Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Bertha Ganter-Fort McKay | NO Gas Cylinder #: | CC335700 | Cal Gas Expiry Date: | September 1, 2032 |
|-------------------|--------------------------|-----------------------|-------------------|----------------------|-------------------|
| Station number: | AMS 01 | NOX Cal Gas Conc: | 59.40 ppm | NO Cal Gas Conc: | 59.20 ppm |
| Calibration Date: | April 17, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date | : NA |
| Last Cal Date: | March 11, 2025 | Removed Gas NOX Conc: | 59.40 ppm | Removed Gas NO Conc | : 59.20 ppm |
| Start time (MST): | 10:36 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 16:12 | Calibrator Model: | Teledyne API T700 | Serial Number: | 3565 |
| Reason: | Routine | 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)) <i>Limit = 0.90 - 1.10</i> | 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 | -0.6 | -0.5 | -0.1 | | |
| AF High point | 4932 | 67.6 | 803.1 | 800.4 | 2.7 | 803.0 | 796.2 | 6.8 | 0.9994 | 1.0046 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 801.9 ppb | NO = 799.9 | ppb | * = > +/-5 | % change initiates i | nvestigation | *Percent Chang | e NO _x = | 0.2% |
| Baseline Corr 1 | .st pt NO _x = | 803.6 ppb | NO = 796.7 | ppb | <u>As Four</u> | nd Statistics | | *Percent Chang | e NO = | -0.4% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d $NO_X r^2$: | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| | | | | As Fo | und GPT Calib | ration Data | | | | |
| | | | | | | | | Baseline Adjuste | ed NO2 | |
| O3 Setor | oint (ppb) | Indicated NO Re | ference Indi | cated NO Drop | Calculated N | 02 In | dicated NO2 | Correction fa | ctor Conv | erter Efficiency |

| O3 Setpoint (ppb) | Indicated NO Reference | Indicated NO Drop | Calculated NO2 | Indicated NO2 | Correction factor | Converter Efficiency |
|-------------------|------------------------|---------------------|--------------------------|--------------------------|----------------------------|------------------------|
| | concentration (ppb) | concentration (ppb) | concentration (ppb) (Cc) | concentration (ppb) (Ic) | (Cc/(Ic-AFzero)) | <i>Limit = 96-104%</i> |
| | | | | | <i>Limit = 0.90 - 1.10</i> | |
| As Found GPT zero | | | | | | |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Teledyne API T20 | 0 | Serial Number: 7117 | 7 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|------------------|---------------|----------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 0.999328 | 1.001733 |
| | | | Instrument Settings | | | NO _x Cal Offset: | -0.640000 | -0.160000 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 1.001476 | 1.003133 |
| NO coeff or slope: | 1.176 | 1.176 | NO bkgnd or offset: | -3.1 | -3.1 | NO Cal Offset: | -1.660000 | -1.240000 |
| NOX coeff or slope: | 1.178 | 1.178 | NOX bkgnd or offset: | -2.9 | -2.9 | NO ₂ Cal Slope: | 1.000095 | 1.000579 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 7.7 | 8.2 | NO ₂ Cal Offset: | 0.729865 | -0.003919 |

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 | 0.0 | | |
| High point | 4932 | 67.6 | 803.1 | 800.4 | 2.7 | 804.6 | 802.4 | 2.3 | 0.9981 | 0.9975 |
| Mid point | 4966 | 33.8 | 401.5 | 400.2 | 1.4 | 401.6 | 399.3 | 2.3 | 0.9999 | 1.0022 |
| Low point | 4983 | 16.9 | 200.8 | 200.1 | 0.7 | 200.8 | 198.3 | 2.5 | 0.9999 | 1.0091 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 1.8 | 0.0 | | |
| As left span | 4932 | 67.6 | 803.1 | 371.4 | 431.7 | 782.2 | 371.4 | 410.8 | 1.0267 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9993 | 1.0029 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 c) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|---|--|--|---|
| Cal zero | | | 0.0 | 0.0 | | |
| High GPT point | 795.1 | 404.9 | 392.9 | 393.1 | 0.9995 | 100.0% |
| Mid GPT point | 795.1 | 594.3 | 203.5 | 203.7 | 0.9990 | 100.1% |
| Low GPT point | 795.1 | 696.7 | 101.1 | 101.1 | 1.0000 | 100.0% |
| | | | | Average Correction Factor | 0.9995 | 100.0% |

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

Calibration Performed By:

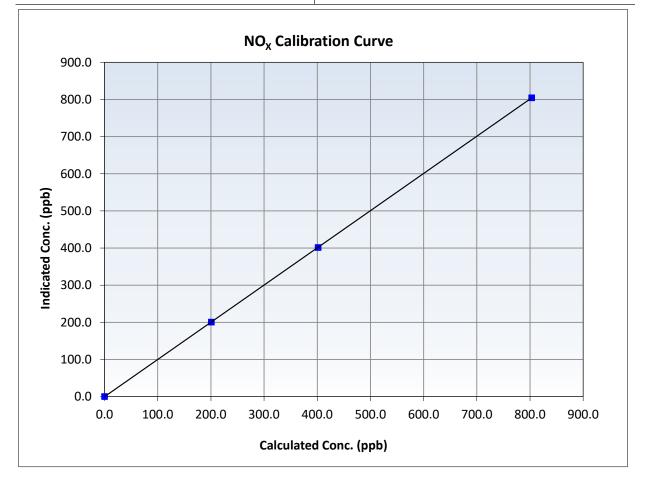


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 17, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|--------------------------|-----------------------|----------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 10:36 | End Time (MST): | 16:12 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 7117 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999999 | ≥0.995 |
| 803.1 401.5 | 804.6 401.6 | 0.9981 0.9999 | Slope | 1.001733 | 0.90 - 1.10 |
| 200.8 | 200.8 | 0.9999 | Intercept | -0.160000 | +/-20 |



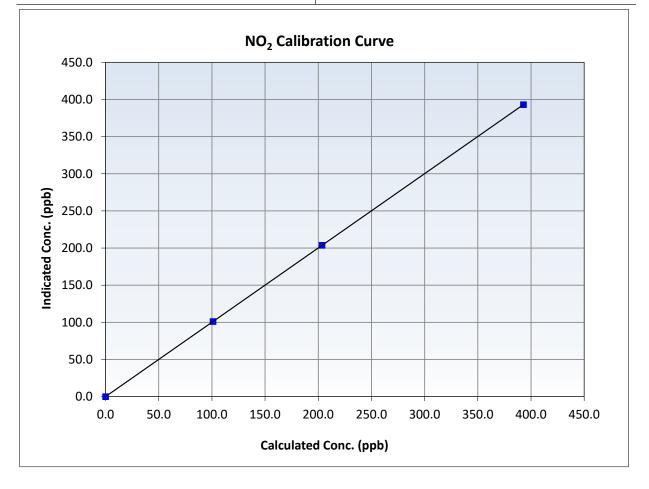


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 17, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|--------------------------|-----------------------|----------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 10:36 | End Time (MST): | 16:12 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 7117 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 1.000000 | ≥0.995 |
| 392.9 203.5 | 393.1 203.7 | 0.9995 0.9990 | Slope | 1.000579 | 0.90 - 1.10 |
| 101.1 | 101.1 | 1.0000 | Intercept | -0.003919 | +/-20 |



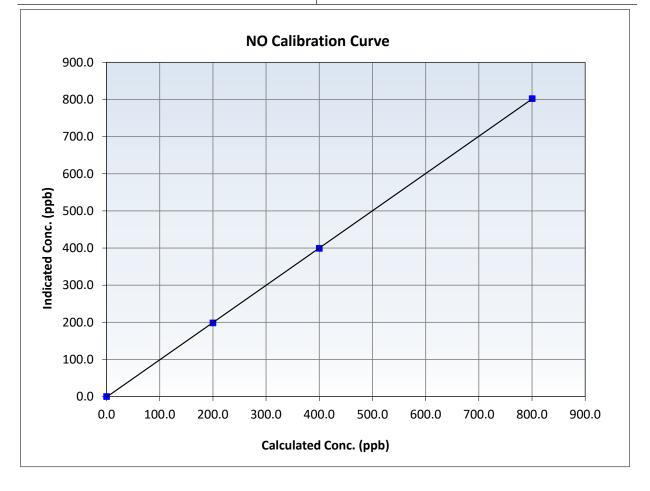


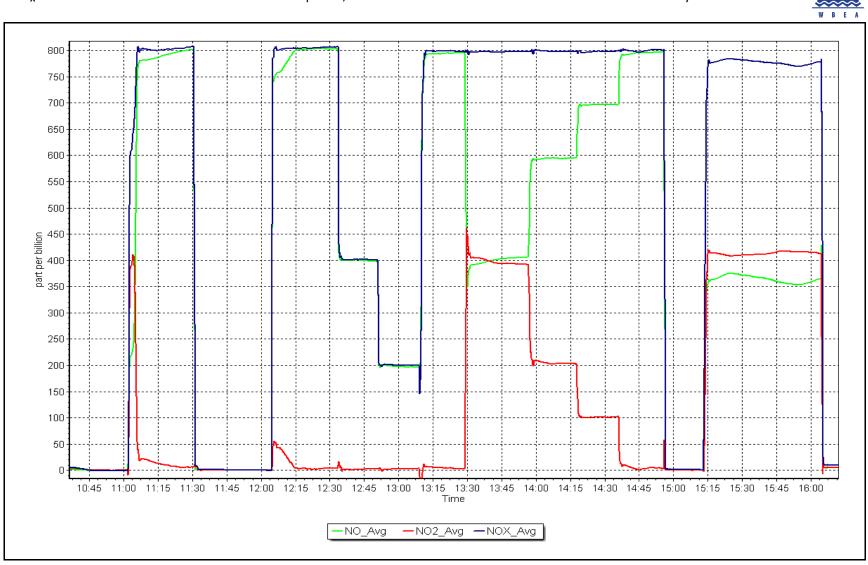
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 17, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|--------------------------|-----------------------|----------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 10:36 | End Time (MST): | 16:12 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 7117 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999987 | ≥0.995 |
| 800.4 400.2 | 802.4 399.3 | 0.9975 1.0022 | Slope | 1.003133 | 0.90 - 1.10 |
| 200.1 | 198.3 | 1.0091 | Intercept | -1.240000 | +/-20 |





NO_x Calibration Plot





Wood Buffalo Environmental Association O₃ Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Bertha Ganter-Fort McKay April 1, 2025 11:02 Routine | Station number: AMS 01 Last Cal Date: March 5, 2025 End time (MST): 14:24 |
|--|---|---|
| | Calibration Sta | andards |
| O3 generation mode: | Photometer | |
| Calibrator Make/Model: | Teledyne API T700 | Serial Number: 3565 |
| ZAG Make/Model: | Teledyne API T701 | Serial Number: 146 |
| | Analyzer Infor | mation |
| Analyzer make: Analyzer Range | Teledyne API T400 0 - 500 ppb | Analyzer serial #: 1107 |

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 1.001943 | 0.996600 | Backgd or Offset: | 7.6 | 6.8 |
| Calibration intercept: | 0.260000 | 0.920000 | Coeff or Slope: | 1.021 | 1.031 |

O₃ 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 As found Mid point As found Low point | 5000 | 863.1 | 400.0 | 395.7 | 1.009 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 396.3 NA NA | Previous response AF Slope: AF Correlation: | | *% change AF Intercept: * = > +/-5% change initia | |

O₃ Calibration Data

| Set Point | Total air flow rate (sccm) | Calibrator Lamp Voltage Drive (mV) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|-----------------|-------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|--|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.1 | |
| High point | 5000 | 863.1 | 400.0 | 399.2 | 1.002 |
| Mid point | 5000 | 744.0 | 200.0 | 200.5 | 0.998 |
| Low point | 5000 | 651.7 | 100.0 | 101.5 | 0.985 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | |
| As left span | 5000 | 863.1 | 400.0 | 400.2 | 1.000 |
| | | | Averag | e Correction Factor | 0.995 |

Notes:

Changed the inlet filter after as founds. Adjusted both zero and span.

Calibration Performed By:

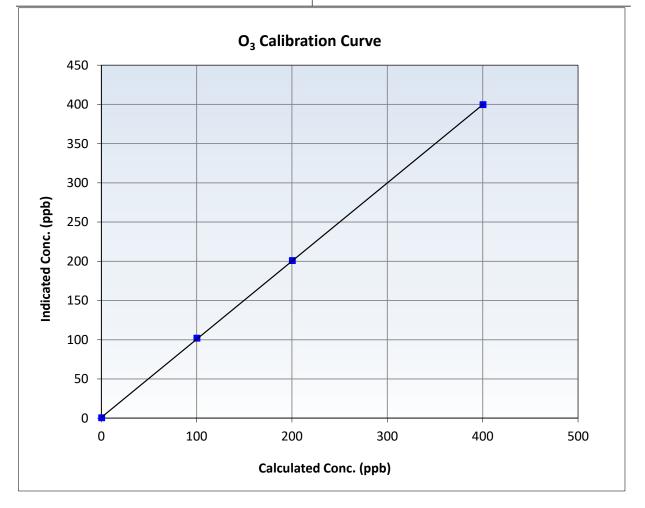


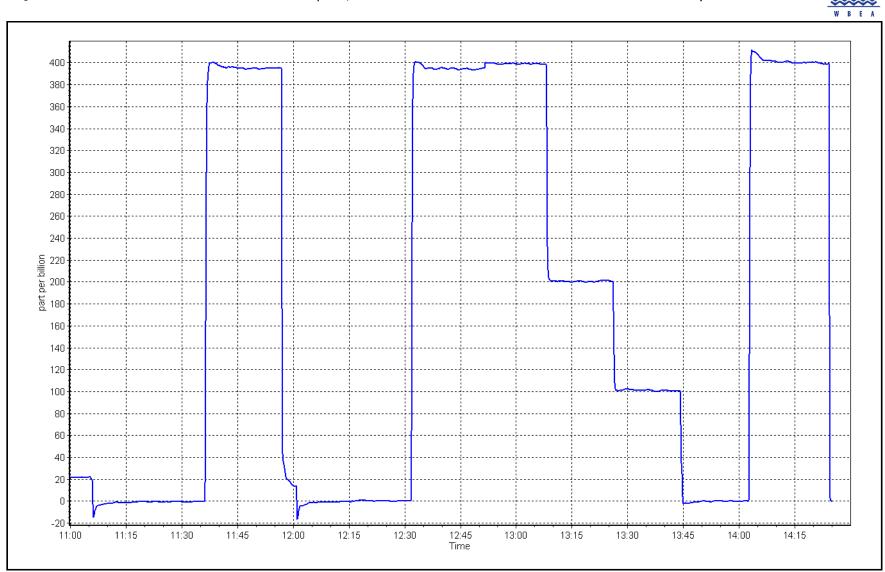
Wood Buffalo Environmental Association O₃ Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 5, 2025 |
|-------------------|--------------------------|-----------------------|---------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 11:02 | End Time (MST): | 14:24 |
| Analyzer make: | Teledyne API T400 | Analyzer serial #: | 1107 |

| Calculated concentratior (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999980 | ≥0.995 |
| 400.0 200.0 | 399.2 200.5 | 1.0020 0.9975 | Slope | 0.996600 | 0.90 - 1.10 |
| 100.0 | 101.5 | 0.9852 | Intercept | 0.920000 | +/- 5 |





O₃ Calibration Plot

Location: Bertha Ganter-Fort McKay





Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| WBEA | | | | | Version-01-2024 |
|--|------------------------|---|--|-------------------------|-----------------|
| | | Station Information | | | |
| Station Name: | Fort McKay - Bertha (| Ganter | Station number: Al | | |
| Calibration Date: Start time (MST): | April 2, 2025 11:59 | | Last Cal Date: M End time (MST): 14 | | |
| Start time (1051). | 11.55 | | | r.17 | |
| Analyzer Make: | Teledyne API T640 | | S/N: 32 | 22 | |
| Particulate Fraction: | PM2.5 | | | | |
| Flow Meter Make/Model: | Alicat FP-25BT | | S/N: 38 | 38752 | |
| Temp/RH standard: | Alicat FP-25BT | | S/N: 38 | 38752 | |
| | | Monthly Calibration | Test | | |
| <u>Parameter</u> | As found | Measured | <u>As left</u> | Adjusted | (Limits) |
| T (°C) | -0.4 | -0.9 | -0.4 | | +/- 2 °C |
| P (mmHg) | 728.2 | 730.53 | 728.2 | | +/- 10 mmHg |
| Flow (LPM) | 4.99 | 4.978 | 4.99 | | +/- 0.25 LPM |
| PW% (pump) | 39 | | 39 | | >80% |
| Zero Verification | PM w/o HEPA: | 17.2 | PM w/ HEPA: | 17.2 | <0.2 ug/m3 |
| | - | | | | |
| Note: this leak check will be | | | | | |
| PM Inlet observation : | Inlet Head Clean | ⊡ Ali | gnment Factor On : | <i>✓</i> | |
| | | Quarterly Calibration | Test | | |
| | Refractive Index: | 10.9 | Expiry Date: | June 10, 20 | 24 |
| SPAN DUST | Lot No.: | 100128-050-042 | | | |
| Parameter | As found | Post maintenance | <u>As left</u> | Adjusted | (Limits) |
| PMT Peak Test | 7.5 | 10.2 | 10.8 | | 10.9 +/- 0.5 |
| FIVIT FEAK TEST | 7.5 | 10.2 | 10.8 | Ľ | 10.5 +/- 0.5 |
| Date Optical Cham | nber Cleaned: | April 2, 1 | 2025 | | |
| Date Disposable Fi | Iter Changed: | April 2, 1 | 2025 | | |
| Post- maintenance Zero Ver | rification: | PM w/ HEPA: | 0.0 | <0.2 ug/m3 | |
| | | · _ | | _ | |
| | | Annual Maintenan | се | | |
| Date Sample Tul | ha Claanad: | Octobor 2 | 4 2024 | | |
| Date Sample Tu | - | October 2 April 2, 1 | | | |
| | - | , | | | |
| Notas | Flow temperature and | pressure were verified. Initia | l leak check did not nass O | ntical chamber and RH/T | ensor cleaned |
| Notes: | | sable filter changed. PMT pe | | | ensor eleaneu. |
| Calibration by: | Rene Chamberland | | | | |
| canoration by. | | | | | |



Wood Buffalo Environmental Association CO Calibration Report

Station Information

Station Name:Bertha Ganter-Fort McKayCalibration Date:April 2, 2025Start time (MST):11:08Reason:Routine

Station number: AMS 01 Last Cal Date: March 3, 2025 End time (MST): 14:45

Calibration Standards

| Cal Gas Concentration: | 3,040 | ppm | Cal Gas Exp Date: December 1, 2028 | |
|------------------------|-------------------|-----|------------------------------------|--|
| Cal Gas Cylinder #: | ALM042207 | | | |
| Removed Cal Gas Conc: | 3,040 | 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: Analyzer Range: | Teledyne API T300 0 - 50 ppm | | Analyzer serial #: 3520 | | |
|-----------------------------------|---------------------------------|---------------|-------------------------|--------------|---------------|
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 1.003849 | 1.002893 | Backgd or Offset: | -0.015 | -0.015 |
| Calibration intercept: | 0.071854 | 0.133812 | Coeff or Slope: | 0.994 | 0.994 |

CO 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 As found Mid point As found Low point New cylinder response | 4933 | 66.7 | 40.6 | 41.0 | 0.992 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 40.89 NA NA | Prev response: AF Slope: AF Correlation: | 40.78 | *% change: AF Intercept: * = > +/-5% change initiate | 0.3% es 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 | 4933 | 66.7 | 40.6 | 40.7 | 0.997 |
| Mid point | 4966 | 33.3 | 20.2 | 20.7 | 0.979 |
| Low point | 4983 | 16.7 | 10.2 | 10.3 | 0.983 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | |
| As left span | 2960 | 40.0 | 40.5 | 40.5 | 1.000 |
| | | | Avera | ge Correction Factor | 0.986 |

Notes:

Changed the inlet filter after as founds. Adjusted the zero and span.

Calibration Performed By:

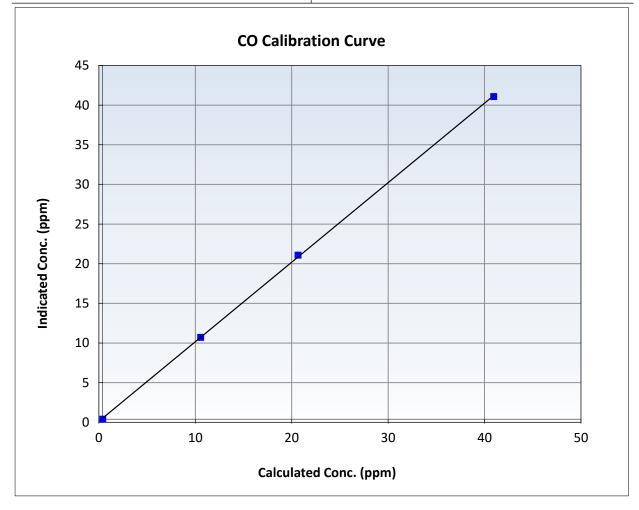


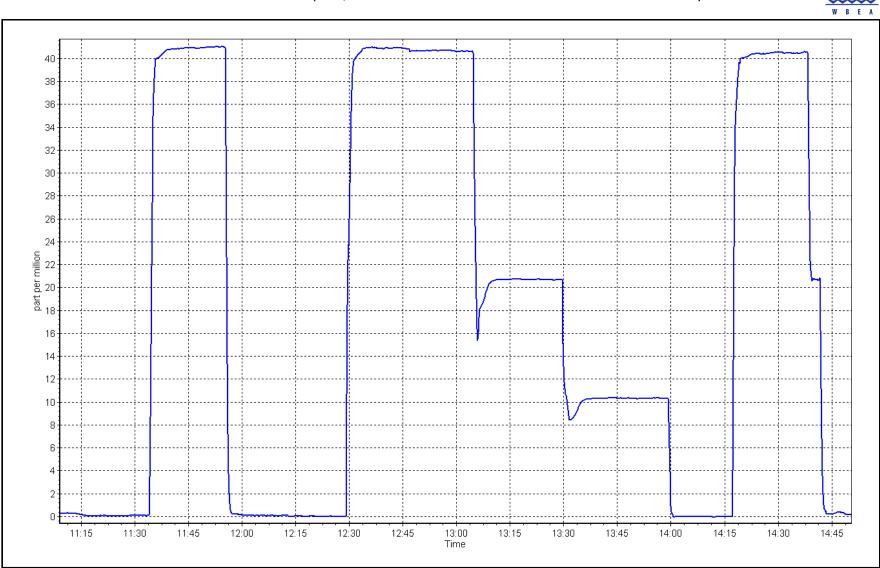
Wood Buffalo Environmental Association CO Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | March 3, 2025 |
|-------------------|--------------------------|-----------------------|---------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 11:08 | End Time (MST): | 14:45 |
| Analyzer make: | Teledyne API T300 | Analyzer serial #: | 3520 |

| Calculated concentration (ppm) (Cc) | culated concentration Indicated concentration Correction factor (ppm) (Cc) (ppm) (Ic) (Cc/Ic) | | Statistical Evalua | <u>Limits</u> | |
|--|--|------------------|-------------------------|---------------|-------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999894 | ≥0.995 |
| 40.6 20.2 | 40.7 20.7 | 0.9970 0.9787 | Slope | 1.002893 | 0.90 - 1.10 |
| 10.2 | 10.3 | 0.9830 | Intercept | 0.133812 | +/-1.5 |





Date: April 2, 2025

Location: Bertha Ganter-Fort McKay



Wood Buffalo Environmental Association CO₂ Calibration Report

Station Information

| Station Name: | Bertha Ganter-Fort McKay |
|-------------------|--------------------------|
| Calibration Date: | April 4, 2025 |
| Start time (MST): | 10:58 |
| Reason: | Routine |

Station number: AMS 01 Last Cal Date: March 4, 2025 End time (MST): 14:09

Calibration Standards

| Cal Gas Concentration: | 60,200 | ppm | Cal Gas Exp Date: December 1, 2028 |
|------------------------|-------------------|-----|------------------------------------|
| Cal Gas Cylinder #: | ALM042207 | | |
| Removed Cal Gas Conc: | 60,200 | ppm | Rem Gas Exp Date: NA |
| Removed Gas Cyl #: | NA | | Diff between cyl: |
| Calibrator Make/Model: | Teledyne API T700 | | Serial Number: 3565 |
| N2 Gen Make/Model: | Peak Scientific | | Serial Number: 7220900034 |
| | | | |

Analyzer Information

Analyzer make: Teledyne API 360 Analyzer serial #: 442 Analyzer Range 0 - 2,000 ppm <u>Start</u> <u>Finish</u> <u>Finish</u> <u>Start</u> Calibration slope: 1.005093 1.000358 Backgd or Offset: -0.011 -0.011 Calibration intercept: -5.360000 -3.460000 Coeff or Slope: 0.922 0.922

CO₂ 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 | 3000 | 0.0 | 0.0 | 0.5 | |
| As found High Point As found Mid Point As found Low Point New cylinder response | 2920 | 80.0 | 1605.3 | 1606.1 | 1.000 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 1605.6 NA NA | Prev response: AF Slope: AF Correlation: | 1608.1 | *% change: AF Intercept: * = > +/-5% change initiat | -0.2% es investigation |

CO₂ 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/lc) <i>Limit = 0.95-1.05</i> |
|---|------|--------------------------------|---|---------------------------------------|--|
| Calibrator zero | 3000 | 0.0 | 0.0 | 0.6 | |
| High point | 2920 | 80.0 | 1605.3 | 1607.1 | 0.999 |
| Mid point | 2960 | 40.0 | 802.7 | 789.6 | 1.017 |
| Low point | 2980 | 20.0 | 401.3 | 399.2 | 1.005 |
| As left zero | 3000 | 0.0 | 0.0 | -3.1 | |
| As left span | 2960 | 40.0 | 802.7 | 791.3 | 1.014 |
| | | | Avera | 1.007 | |

Notes:

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

Calibration Performed By:

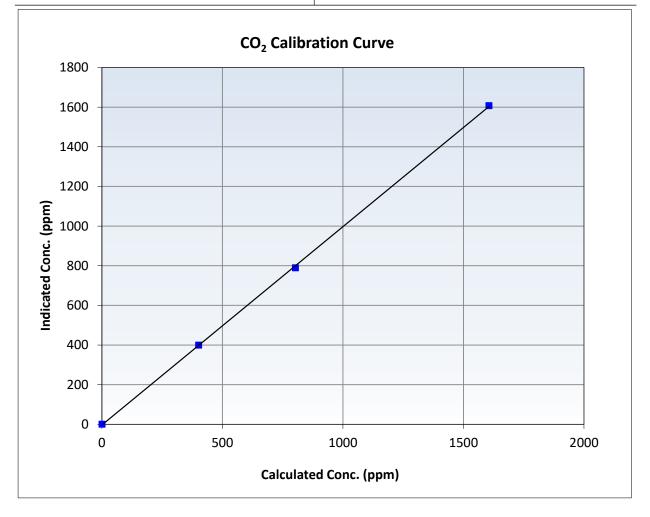


Wood Buffalo Environmental Association CO₂ Calibration Summary

Station Information

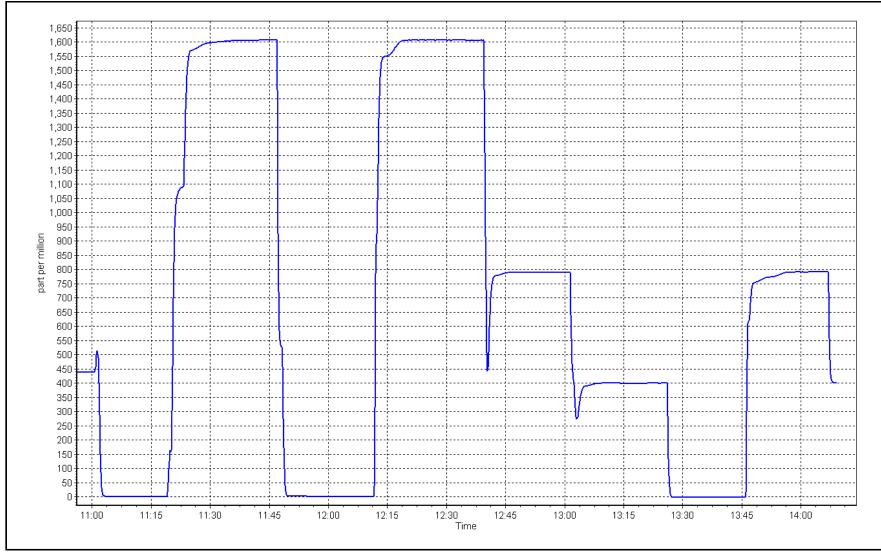
| Calibration Date | April 4, 2025 | Previous Calibration | March 4, 2025 |
|------------------|--------------------------|----------------------|---------------|
| Station Name | Bertha Ganter-Fort McKay | Station Number | AMS 01 |
| Start Time (MST) | 10:58 | End Time (MST) | 14:09 |
| Analyzer make | Teledyne API 360 | Analyzer serial # | 442 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> | |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|--|
| 0.0 | 0.6 | | Correlation Coefficient | 0.999903 | ≥0.995 | |
| 1605.3 802.7 | 1607.1 789.6 | 0.9989 1.0165 1.0053 | Slope | 1.000358 | 0.90 - 1.10 | |
| 401.3 | 399.2 | | Intercept | -3.5 | +/-20 | |











Wood Buffalo Environmental Association Nt - NOX - NH3 Calibration Report

Station Information

| Station Name: | Bertha Ganter-Fort McKay | Station number: | AMS 01 |
|-------------------|--------------------------|-----------------|----------------|
| NOX Cal Date: | April 14, 2025 | Last Cal Date: | March 12, 2025 |
| Start time (MST): | 11:00 | End time (MST): | 15:55 |
| NH3 Cal Date: | April 15, 2025 | Last Cal Date: | March 13, 2025 |
| Start time (MST): | 11:10 | End time (MST): | 15:00 |
| Reason: | Routine | | |

Calibration Standards

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

Analyzer Information

| Analyzer model: Converter model: NH3 Range (ppb): | API T201 API T501 0 - 2000 ppb | | Analyzer serial #: Converter serial #: Reaction cell Press: | 808 484 4.40 | |
|---|--------------------------------------|---------------|---|--------------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | Sample Flow: | 393 | |
| | <u>Start</u> | Finish | | <u>Start</u> | <u>Finish</u> |
| NO coefficient: | 0.911 | 0.903 | Nt coefficient: | 0.918 | 0.907 |
| NOX coefficient: | 0.912 | 0.905 | NO bkgrnd: | -1.8 | 0.5 |
| NO2 coefficient: | 1.000 | 1.000 | NOX bkgrnd: | -1.7 | 0.8 |
| NH3 coefficient: | 0.983 | 0.983 | Nt bkgrnd: | -0.6 | 2.9 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|-----------------------------|--------------|---------------|
| NO _x Cal Slope: | 0.998844 | 1.001577 |
| NO _x Cal Offset: | -1.020000 | -1.280000 |
| NO Cal Slope: | 1.001505 | 1.002933 |
| NO Cal Offset: | -1.720000 | -1.820000 |
| NO ₂ Cal Slope: | 1.004855 | 1.002698 |
| NO ₂ Cal Offset: | -0.045831 | -0.301647 |
| NH3 Cal Slope: | 0.998529 | 0.998379 |
| NH3 Cal Offset: | 1.260645 | -6.890779 |
| Nt Cal Slope: | 1.002958 | 1.003583 |
| Nt Cal Offset: | 3.555325 | -6.335266 |



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/lc) 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 | 1.5 | 1.1 | 1.3 | | |
| As found span | 4932 | 67.6 | 803.1 | 800.4 | 803.1 | 814.7 | 803.7 | 817.0 | 0.9857 | 0.9959 |
| AF GPT span | 4932 | 67.6 | 803.1 | | 803.1 | 796.0 | | 795.6 | 1.0089 | |
| new NO cyl rp | | | | | | | | | | |
| Baseline Corr As F | Fd Nt = | 815.7 ppb | NO _x = 813.2 | ppb NO = | 802.6 ppb | | | *Percent Chang | ge Nt _(NO) = | 0.8% |
| Previous Respons | e Nt = | 809.02 ppb | NO _x = 801.1 | ppb NO = | 799.9 ppb | | | *Percent Chang | ge NO _x = | 1.5% |
| **NO _X Δ (NO to GP * *= > +/-2% differenc | 1 / | -2.3% tion | | | | | | *Percent Chang * = > +/-5% change | - | |

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) <i>Limit = 0.95-1.05</i> | NO Correction factor (Cc/lc) <i>Limit = 0.95-1.05</i> |
|------------------|------------------------------|--------------------------------|---|--|--|--|---|---|--|---|
| Calibration zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.2 | -0.2 | -0.1 | | |
| High point | 4932 | 67.6 | 803.1 | 800.4 | 803.1 | 803.9 | 801.8 | 804.0 | 0.9990 | 0.9982 |
| Mid point | 4966 | 33.8 | 401.5 | 400.2 | 401.5 | 399.5 | 398.5 | 401.1 | 1.0051 | 1.0042 |
| Low point | 4983 | 16.9 | 200.8 | 200.1 | 200.8 | 199.3 | 197.4 | 199.9 | 1.0074 | 1.0137 |
| | | | | | | | Average Co | prrection Factor | 1.0038 | 1.0054 |

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/lc) <i>Limit = 0.95-1.05</i> | Converter Efficiency Limit = 96-104% |
|-----------------------------|---|---------------------------------------|--|---|--|---|
| Calibration zero | | | 0.0 | 0.0 | | |
| High GPT point (400 ppb O3) | 797.2 | 403.6 | 396.3 | 397.4 | 0.9972 | 100.3% |
| Mid GPT point (200 ppb O3) | 797.2 | 596.7 | 203.2 | 202.8 | 1.0020 | 99.8% |
| Low GPT point (100 ppb O3) | 797.2 | 697.3 | 102.6 | 102.6 | 1.0000 | 100.0% |
| | | | A | verage Correction Factor | 0.9998 | 100.0% |



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 | -0.8 | -0.3 | -0.6 | | |
| AF High point | 2929 | 70.5 | 1828.6 | | 1828.6 | 1805.4 | | 1795.9 | 1.012 | 1.018 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| new NH3 cyl rp | | | | | | | | | | |
| Baseline Corr As I | Fd Nt = | 1806.2 ppb | NH3 = 1796.5 | ppb | | | | *Percent Chan | ige Nt _(NH3) : | -1.7% |
| Previous Respons | se Nt = | 1837.6 ppb | NH3 = 1827.2 | ppb | * = > +/-5 | 5% change initiates | investigation | *Percent Chan | ige NH3 = | -1.7% |

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/lc) <i>Limit = 0.95-1.05</i> | NH3 Correction factor (Cc/lc) <i>Limit = 0.95-1.05</i> |
|--|------------------------------|-----------------------------|--|---|---|---|--|--|---|--|
| Calibration zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | -0.2 | 0.1 | | |
| High point | 2931 | 69.4 | 1799.8 | | 1799.8 | 1805.4 | | 1795.9 | 0.997 | 1.002 |
| Mid point | 2961 | 38.6 | 1001.0 | | 1001.0 | 990.2 | | 984.1 | 1.011 | 1.017 |
| Low point | 2981 | 19.3 | 500.5 | | 500.5 | 492.3 | | 488.3 | 1.017 | 1.025 |
| | | | | | | | Average Co | prrection Factor | 1.0082 | 1.0148 |
| NH3 Previous Converter Efficiency = 98.3 % | | | | | | | | | | |

NH3 Current Converter Efficiency = 98.3 %

Notes:

Changed the inlet filter after as founds. Adjusted the NOx/NT zero and span.

Calibration Performed By:

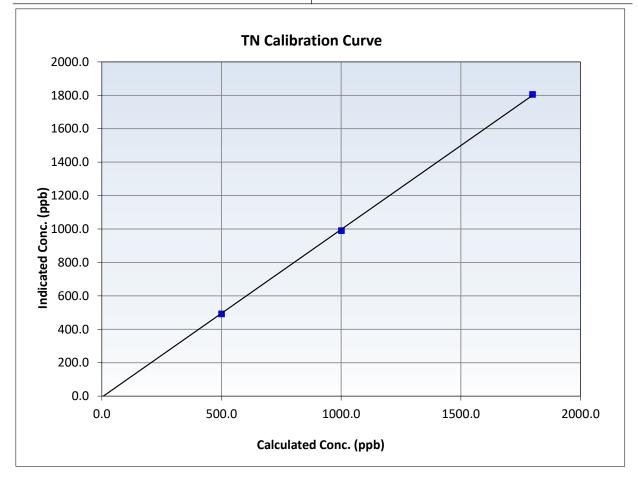


Nt Calibration Summary

Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|--------------------------|-----------------------|----------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 11:00 | End Time (MST): | 15:55 |
| Analyzer make: | API T201 | Analyzer serial #: | 808 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999917 | ≥0.995 |
| 1799.8 1001.0 | 1805.4 990.2 | 0.9969 1.0109 | Slope | 1.003583 | 0.90 - 1.10 |
| 500.5 | 492.3 | 1.0167 | Intercept | -6.335266 | +/-20 |



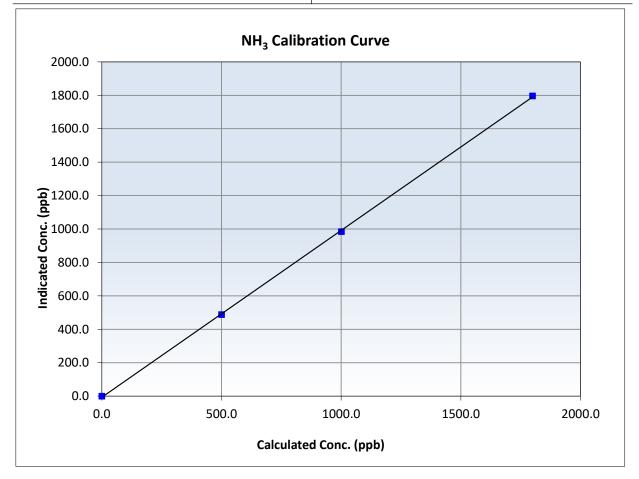


NH₃ Calibration Summary

Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|--------------------------|-----------------------|----------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 11:00 | End Time (MST): | 15:55 |
| Analyzer make: | API T201 | Analyzer serial #: | 808 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999901 | ≥0.995 |
| 1799.8 1001.0 | 1795.9 984.1 | 1.0022 1.0172 | Slope | 0.998379 | 0.90 - 1.10 |
| 500.5 | 488.3 | 1.0250 | Intercept | -6.890779 | +/-20 |



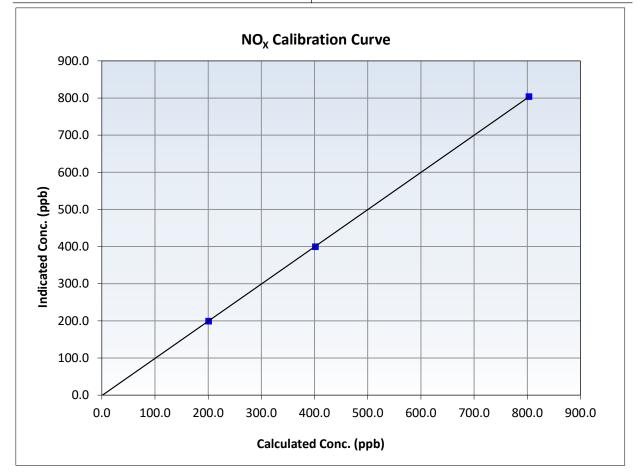


NO_x Calibration Summary

Station Information

| Calibration Date: | April 14, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|--------------------------|-----------------------|----------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 11:00 | End Time (MST): | 15:55 |
| Analyzer make: | API T201 | Analyzer serial #: | 808 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.2 | | Correlation Coefficient | 0.999989 | ≥0.995 |
| 803.1 401.5 | 803.9 399.5 | 0.9990 1.0051 | Slope | 1.001577 | 0.90 - 1.10 |
| 200.8 | 199.3 | 1.0074 | Intercept | -1.280000 | +/-20 |



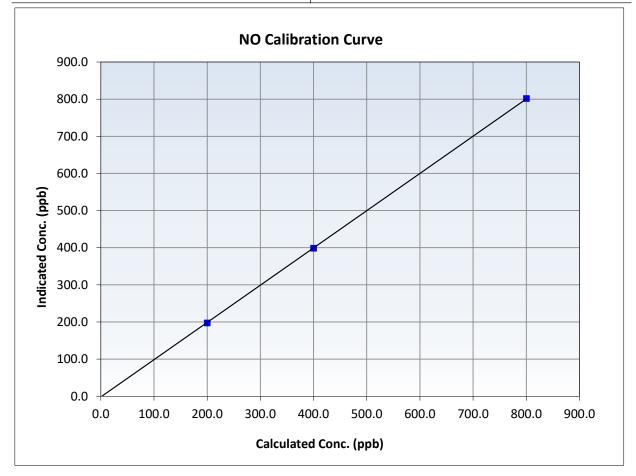


NO Calibration Summary

Station Information

| Calibration Date: | April 14, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|--------------------------|-----------------------|----------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 11:00 | End Time (MST): | 15:55 |
| Analyzer make: | API T201 | Analyzer serial #: | 808 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.2 | | Correlation Coefficient | 0.999981 | ≥0.995 |
| 800.4 400.2 | 801.8 398.5 | 0.9982 1.0042 | Slope | 1.002933 | 0.90 - 1.10 |
| 200.1 | 197.4 | 1.0137 | Intercept | -1.820000 | +/-20 |



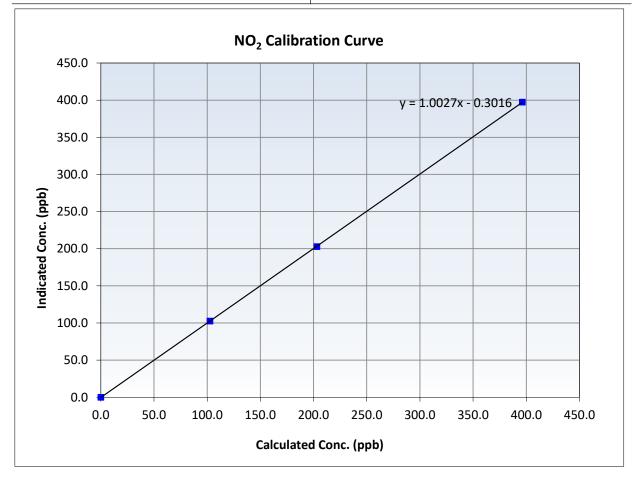


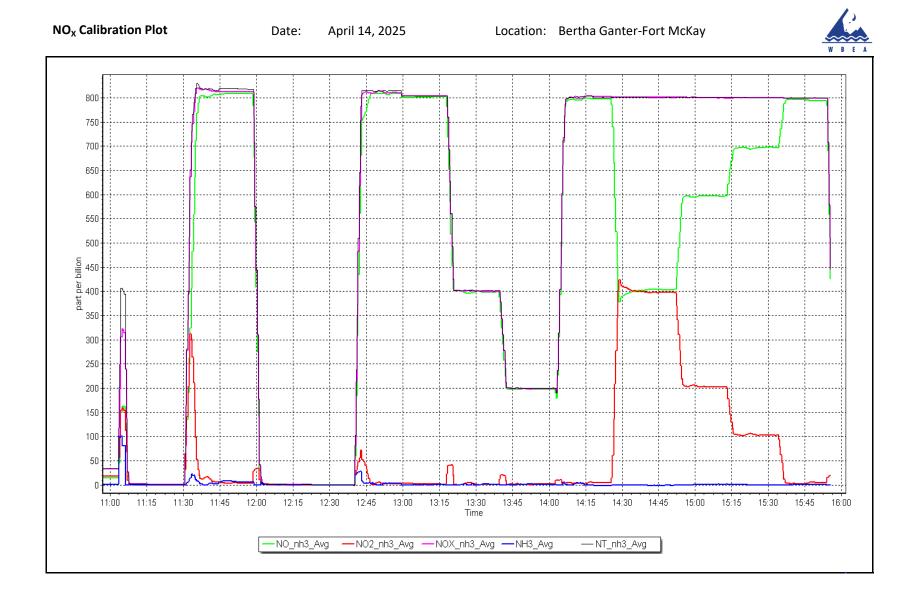
NO₂ Calibration Summary

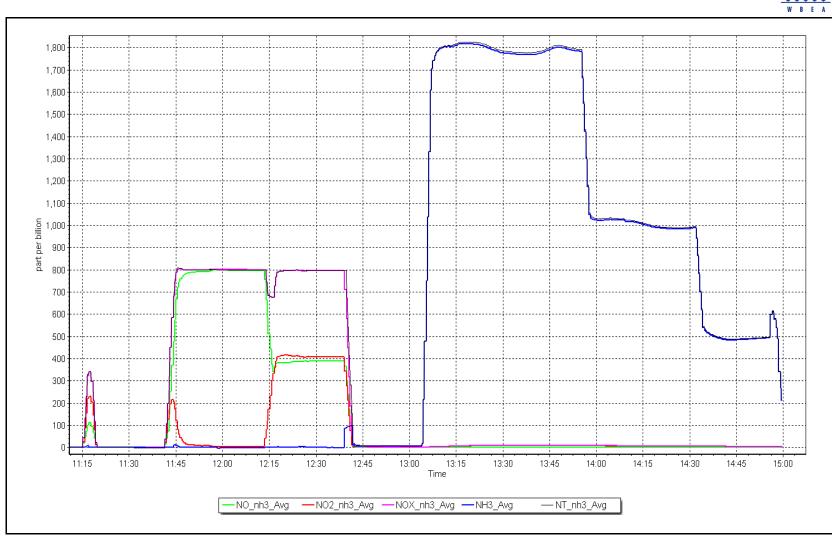
Station Information

| Calibration Date: | April 14, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|--------------------------|-----------------------|----------------|
| Station Name: | Bertha Ganter-Fort McKay | Station Number: | AMS 01 |
| Start Time (MST): | 11:00 | End Time (MST): | 15:55 |
| Analyzer make: | API T201 | Analyzer serial #: | 808 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999993 | ≥0.995 |
| 396.3 203.2 | 397.4 202.8 | 0.9972 1.0020 | Slope | 1.002698 | 0.90 - 1.10 |
| 102.6 | 102.6 | 1.0000 | Intercept | -0.301647 | +/-20 |







Location: Bertha Ganter-Fort McKay





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS02 MILDRED LAKE APRIL 2025

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

May 30, 2025



Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Mildred Lake |
|-------------------|----------------|
| Calibration Date: | April 17, 2025 |
| Start time (MST): | 9:49 |
| Reason: | Routine |

Station number: AMS 02 Last Cal Date: March 3, 2025 End time (MST): 13:24

Calibration Standards

| Cal Gas Concentration: Cal Gas Cylinder #: | 50.99 EB0112903 | ppm | Cal Gas Exp Date: October 9, 2032 |
|---|--------------------|-----|-----------------------------------|
| 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 | Thermo 43i Serial Number: JC14049 | | | |
|------------------------|--------------|-----------------------------------|-------------------|--------------|---------------|
| Analyzer Range: | 0-1000 ppb | | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 1.004323 | 1.008050 | Backgd or Offset: | 24.4 | 24.0 |
| Calibration intercept: | -1.490497 | -1.170425 | Coeff or Slope: | 0.791 | 0.763 |

SO₂ As Found Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic-AFzero) Limit = 0.90-1.10 |
|--|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.7 | |
| As found High point As found Mid point As found Low point New cylinder response | 4913 | 78.6 | 803.0 | 830.0 | 0.968 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 829.3 NA | Previous response AF Slope: | 805.0 | *% change AF Intercept: | 2.9% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ 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 | 4913 | 78.4 | 801.0 | 807.0 | 0.993 |
| Mid point | 4961 | 39.2 | 399.8 | 400.7 | 0.998 |
| Low point | 4980 | 19.6 | 199.9 | 199.5 | 1.002 |
| As left zero | 5000 | 0.0 | 0.0 | 0.3 | |
| As left span | 4913 | 78.4 | 801.0 | 802.0 | 0.999 |
| | | | Averag | ge Correction Factor: | 0.997 |

Notes:

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

Calibration Performed By:

Braiden Boutilier

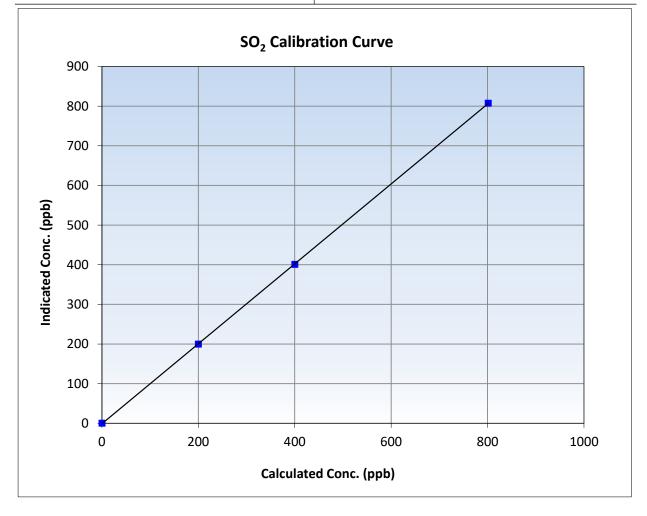


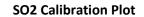
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

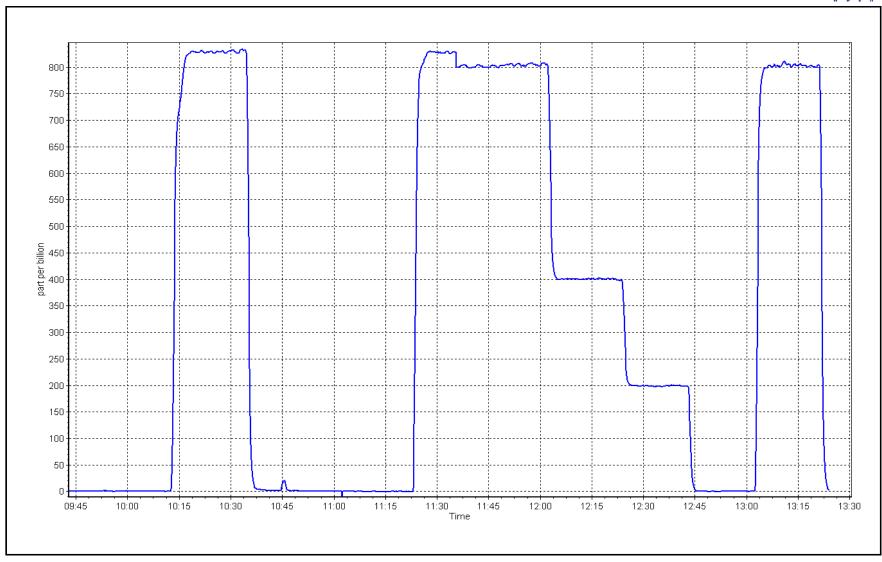
| Calibration Date: | April 17, 2025 | Previous Calibration: | March 3, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Mildred Lake | Station Number: | AMS 02 |
| Start Time (MST): | 9:49 | End Time (MST): | 13:24 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | JC1404901075 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999989 | ≥0.995 |
| 801.0 399.8 | 807.0 400.7 | 0.9925 0.9977 | Slope | 1.008050 | 0.90 - 1.10 |
| 199.9 | 199.5 | 1.0019 | Intercept | -1.170425 | +/-30 |











Calibration intercept:

0.180000

Wood Buffalo Environmental Association H2S Calibration Report

Station Information

| | | station mile | mation | | | | |
|--|--|---------------------------|--|-----------------------------------|-----|------|---|
| Station Name: Calibration Date: Start time (MST): Reason: | Mildred Lake April 16, 2025 10:23 Routine | | Station number: Last Cal Date: End time (MST): | AMS 02 March 28, 2025 15:46 | 5 | | |
| | | Calibration S | tandards | | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 4.75 CC700774 | ppm | Cal Gas Exp Date: | August 28, 202 | 7 | | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 4.75 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | | | |
| Calibrator Make/Model: | • | | Serial Number: | 1185 | | | |
| ZAG Make/Model: | Teledyne API T701 | | Serial Number: | 4891 | | | |
| | | Analyzer Info | ormation | | | | |
| Analyzer make: Converter make: Analyzer Range | Thermo 43iQTL Global G150 0 - 100 ppb | | Analyzer serial #: Converter serial #: Converter Temp: | 12333331546 2023-267 | 325 | degC | |
| Calibration slope: | <u>Start</u> 0.999268 | <u>Finish</u> 1.001840 | Backgd or Offset: | <u>Start</u> 1.41 | | | F |
| | | | | | | | |

0.240000

H2S As Found Data

Coeff or Slope:

0.972

| 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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As found High point | 4916 | 84.2 | 80.0 | 79.8 | 1.004 |
| As found Mid point | 4958 | 42.1 | 40.0 | 39.8 | 1.007 |
| As found Low point | 4979 | 21.1 | 20.0 | 19.9 | 1.010 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 79.7 | Prev response: | 80.11 | *% change: | -0.5% |
| Baseline Corr 2nd AF pt: | 39.7 | AF Slope: | 0.996696 | AF Intercept: | 0.020000 |
| Baseline Corr 3rd AF pt: | 19.8 | AF Correlation: | 0.999995 | * = > +/-5% change initiate | es 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/lc) Limit = 0.95-1.05 |
|------------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.1 | |
| High point | 4916 | 84.2 | 80.0 | 80.3 | 0.996 |
| Mid point | 4958 | 42.1 | 40.0 | 40.4 | 0.990 |
| Low point | 4979 | 21.1 | 20.0 | 20.4 | 0.980 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4916 | 84.2 | 80.0 | 81.2 | 0.985 |
| SO2 Scrubber Check | 4920 | 80.2 | 802.0 | 0.0 | |
| Date of last scrubber chan | ge: | July 16, 2024 | | Ave Corr Factor | 0.989 |
| Date of last converter effic | iency test: | NA | | | |

Notes:

Changed sample inlet filter after as founds. Adjusted span.

Calibration Performed By:

Braiden Boutilier

<u>Finish</u>

1.42

0.977

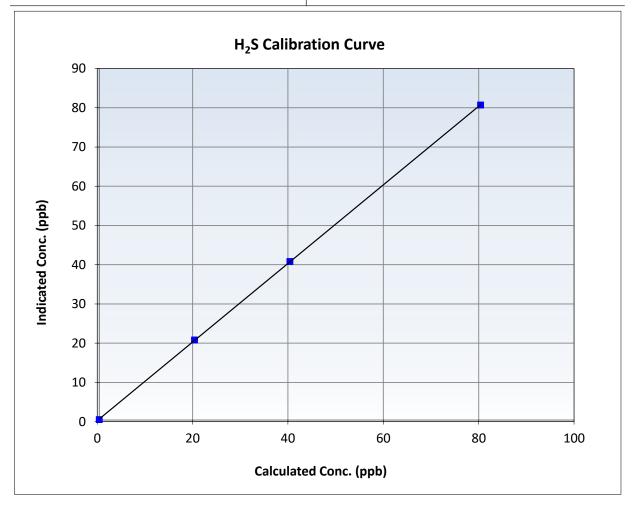


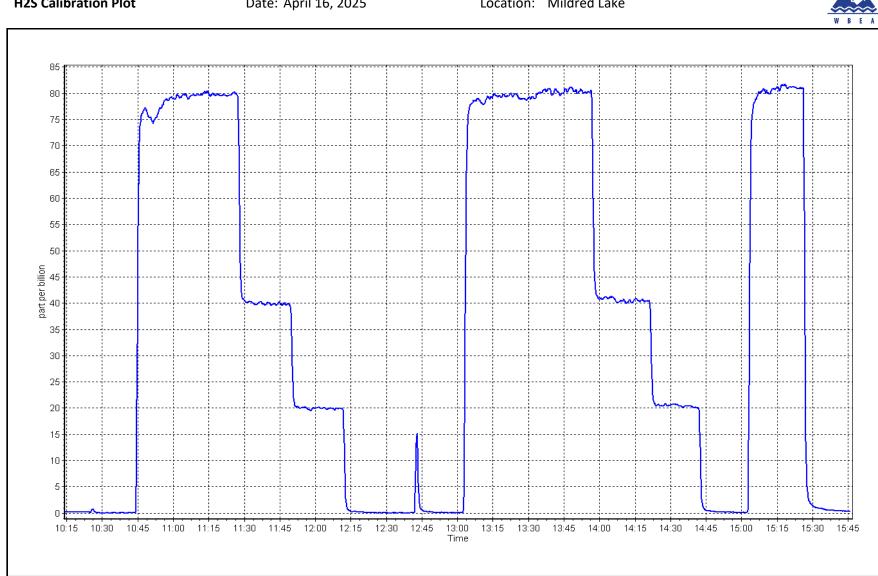
H2S Calibration Summary

Station Information

| Calibration Date: | April 16, 2025 | Previous Calibration: | March 28, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Mildred Lake | Station Number: | AMS 02 |
| Start Time (MST): | 10:23 | End Time (MST): | 15:46 |
| Analyzer make: | Thermo 43iQTL | Analyzer serial #: | 12333331546 |

| Calibration Data | | | | | | |
|---|--------------|---------------------------|-------------------------|----------|---------------|--|
| Calculated concentration Indicated concentration (ppb) (Cc) (ppb) (Ic) | | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> | |
| 0.0 | 0.1 | | Correlation Coefficient | 0.999986 | ≥0.995 | |
| 80.0 40.0 | 80.3 40.4 | 0.9961 0.9900 | Slope | 1.001840 | 0.90 - 1.10 | |
| 20.0 | 20.4 | 0.9803 | Intercept | 0.240000 | +/-3 | |







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Analyzer serial #: 12227620776

NMHC/CH4 Range: 0 - 10 ppm

Station Information

Station Name:Mildred LakeStation number: AMS 02Calibration Date:April 17, 2025Last Cal Date: March 6, 2025Start time (MST):9:49End time (MST): 13:24Reason:RoutineRoutine

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 THC Range: 0 - 20 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 3.14E-04 | 3.17E-04 | NMHC SP Ratio: | 5.59E-05 | 5.66E-05 |
| CH4 Retention time: | 14.8 | 14.8 | NMHC Peak Area: | 158755 | 156929 |
| 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 | 4913 | 78.4 | 16.76 | 16.59 | 1.010 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 16.59 | Prev response | 16.82 | *% change | -1.4% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4913 | 78.4 | 16.76 | 16.79 | 0.998 |
| Mid point | 4961 | 39.2 | 8.37 | 8.33 | 1.004 |
| Low point | 4980 | 19.6 | 4.18 | 4.10 | 1.021 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4913 | 78.4 | 16.76 | 16.78 | 0.999 |
| | | | Avera | ge Correction Factor | 1.008 |

Notes:

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



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4913 | 78.4 | 8.86 | 8.76 | 1.011 |
| Baseline Corr AF: | 8.76 | Prev response | 8.89 | *% change | -1.5% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | tes 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 | 4913 | 78.4 | 8.86 | 8.88 | 0.998 |
| Mid point | 4961 | 39.2 | 4.42 | 4.43 | 0.998 |
| Low point | 4980 | 19.6 | 2.21 | 2.21 | 1.002 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4913 | 78.4 | 8.86 | 8.91 | 0.994 |
| | | | Avera | ge 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 | 4913 | 78.4 | 7.90 | 7.83 | 1.009 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 7.83 | Prev response | 7.93 | *% change | -1.2% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | tes investigation |

CH4 Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration C (ppm) (Ic) | Correction factor (Cc/Ic) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4913 | 78.4 | 7.90 | 7.91 | 0.999 |
| Mid point | 4961 | 39.2 | 3.94 | 3.90 | 1.011 |
| Low point | 4980 | 19.6 | 1.97 | 1.89 | 1.042 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4913 | 78.4 | 7.90 | 7.87 | 1.005 |
| | | | Avera | age Correction Factor | 1.018 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 1.005204 | 1.003153 |
| THC Cal Offset: | -0.033153 | -0.046376 |
| CH4 Cal Slope: | 1.007405 | 1.003647 |
| CH4 Cal Offset: | -0.033157 | -0.042173 |
| NMHC Cal Slope: | 1.003755 | 1.002609 |
| NMHC Cal Offset: | 0.000006 | -0.003803 |
| | | |

Calibration Performed By:

Braiden Boutilier

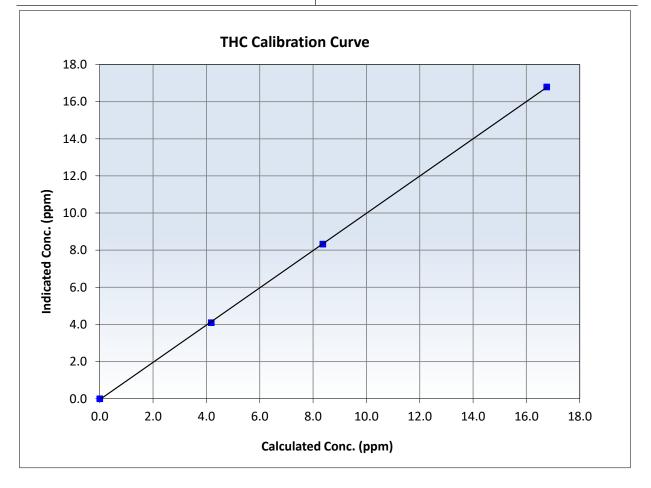


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 17, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Mildred Lake | Station Number: | AMS 02 |
| Start Time (MST): | 9:49 | End Time (MST): | 13:24 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 12227620776 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999965 | ≥0.995 |
| 16.76 8.37 | 16.79 8.33 | 0.9984 1.0044 | Slope | 1.003153 | 0.90 - 1.10 |
| 4.18 | 4.10 | 1.0205 | Intercept | -0.046376 | +/-0.5 |



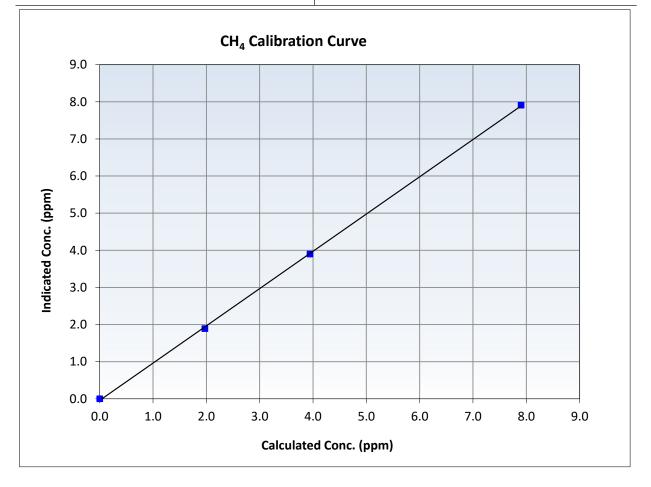


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 17, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Mildred Lake | Station Number: | AMS 02 |
| Start Time (MST): | 9:49 | End Time (MST): | 13:24 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 12227620776 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999870 | ≥0.995 |
| 7.90 3.94 | 7.91 3.90 | 0.9992 1.0114 | Slope | 1.003647 | 0.90 - 1.10 |
| 1.97 | 1.89 | 1.0424 | Intercept | -0.042173 | +/-0.5 |



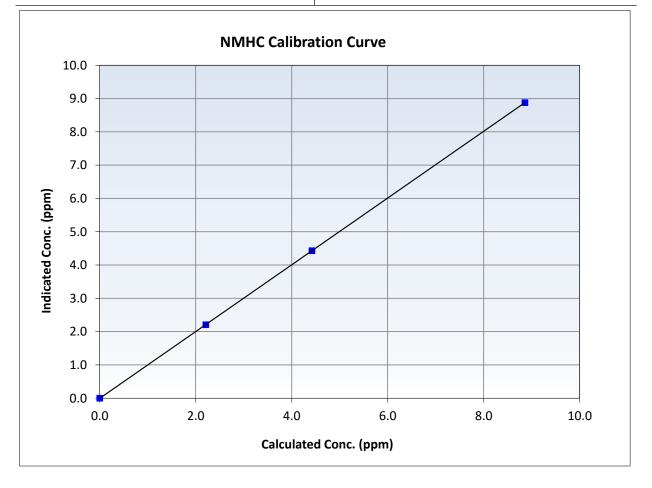


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

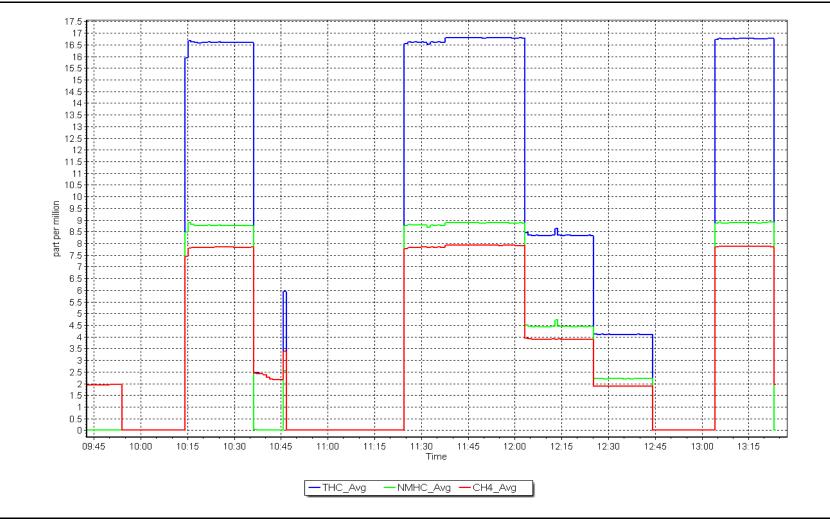
| Calibration Date: | April 17, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Mildred Lake | Station Number: | AMS 02 |
| Start Time (MST): | 9:49 | End Time (MST): | 13:24 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 12227620776 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999999 | ≥0.995 |
| 8.86 | 8.88 | 0.9977 | Slope | 1.002609 | 0.90 - 1.10 |
| 4.42 | 4.43 | 0.9980 | Slope | 1.002009 | 0.30 - 1.10 |
| 2.21 | 2.21 | 1.0018 | Intercept | -0.003803 | +/-0.5 |



NMHC Calibration Plot







Wood Buffalo Environmental Association THC / CH_4 / NMHC Calibration Report

Station Information

Station Name: Mildred Lake Station number: AMS 02 Calibration Date: April 28, 2025 Start time (MST): 10:15 Cylinder Change Reason:

End time (MST): 12:15

Last Cal Date: April 17, 2025

Analyzer serial #: 12227620776

NMHC/CH4 Range: 0 - 10 ppm

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. Diff between cyl (CH ₄): | 205.1 ppm | Diff between cyl (THC): 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 THC Range: 0 - 20 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 3.17E-04 | 3.17E-04 | NMHC SP Ratio: | 5.66E-05 | 5.66E-05 |
| CH4 Retention time: | 14.8 | 14.8 | NMHC Peak Area: | 156929 | 156929 |
| 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 As found Mid point As found Low point New cylinder response | 4913 | 78.4 | 16.76 | 16.63 | 1.008 |
| Baseline Corr AF: Baseline Corr 2nd AF: | 16.63 NA | Prev response AF Slope: | 16.77 | *% change AF Intercept: | -0.8% |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | | | | | |
| High point | | | | | |
| Mid point | | | | | |
| Low point | | | | | |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4913 | 78.4 | 16.76 | 16.70 | 1.004 |
| | | | Avera | ge Correction Factor | |
| | | | | _ | |

Notes:

Changed the H2 cylinder after as founds.



Calibration Performed By:

Max Farrell

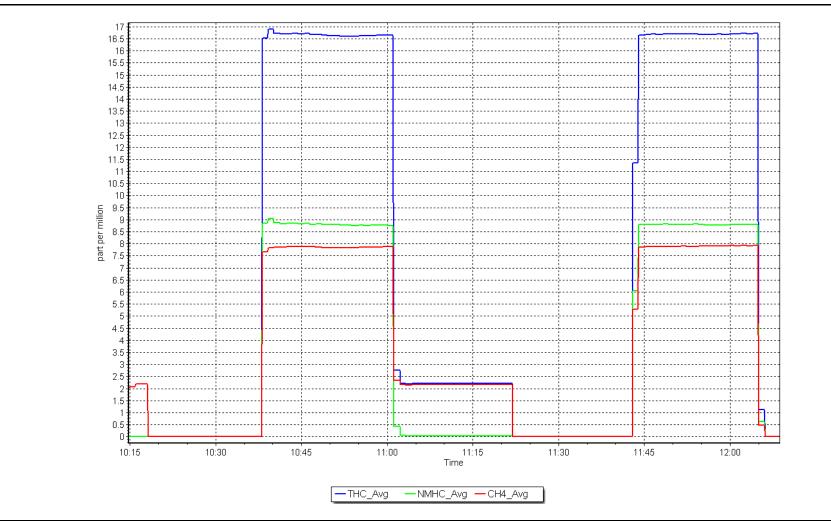
Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

NMHC As Found Data

| | | | ound batta | | Pacalina Adjusted |
|--|----------------------------------|--------------------------------|--|---|--|
| 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 As found Mid point As found Low point New cylinder response | 4913 | 78.4 | 8.86 | 8.77 | 1.011 |
| Baseline Corr AF: Baseline Corr 2nd AF: | 8.77 NA | Prev response AF Slope: | 8.88 | *% change AF Intercept: | -1.3% |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |
| | | NMHC Calibi | ration Data | | |
| | Dilution air flow rate | Source gas flow rate | Calculated concentration | Indicated concentration (| orrection factor (Cc/lc) |
| Set Point | (sccm) | (sccm) | (ppm) (Cc) | (ppm) (Ic) | <i>Limit = 0.95-1.05</i> |
| Calibrator zero High point Mid point Low point As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4913 | 78.4 | 8.86 | 8.79 | 1.009 |
| · | | | Avera | ge Correction Factor | |
| | | | | | |
| | | CH4 As For | und Data | | Deceline Adjusted |
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration ((ppm) (lc) | 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 As found Mid point As found Low point New cylinder response | 4913 | 78.4 | 7.90 | 7.86 | 1.005 |
| Baseline Corr AF: | 7.86 | 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 initiate | es investigation |
| | | CH4 Calibra | ition 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 | 4913 | 78.4 | 7.90 | 7.92 | 0.998 |
| | | | Avera | ge Correction Factor | |
| | | Calibration | Statistics | | |
| | | | Statistics | Einich | |
| THC Cal Slope: | | <u>Start</u> 1.003153 | | <u>Finish</u> | |
| THC Cal Offset: | | -0.046376 | | | |
| CH4 Cal Slope: | | 1.003647 | | | |
| CH4 Cal Offset: | | -0.042173 | | | |
| NMHC Cal Slope: | | 1.002609 | | | |
| NMHC Cal Offset: | | -0.003803 | | | |
| | | | | | |

NMHC Calibration Plot







WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS04 BUFFALO VIEWPOINT APRIL 2025

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

May 30, 2025



Analyzer make: Analyzer Range:

Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Buffalo Viewpoint | Statio |
|-------------------|-------------------|--------|
| Calibration Date: | April 24, 2025 | Last |
| Start time (MST): | 5:42 | End ti |
| Reason: | Routine | |

on number: AMS 04 st Cal Date: March 19, 2025 time (MST): 8:05

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: | API T700 | | Serial Number: 3808 |
| Zero Air Gen Model: | API T701 | | Serial Number: 362 |
| | | | |

Analyzer Information Serial Number: IC1327300932

| Thermo 43i | Serial Number: JC1327300932 | | | | | |
|------------|-----------------------------|--|--|--|--|--|
| 0-1000ppb | | | | | | |
| | | | | | | |

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 1.008431 | 1.000030 | Backgd or Offset: | 28.0 | 27.2 |
| Calibration intercept: | -0.643895 | -0.005582 | Coeff or Slope: | 0.892 | 0.879 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4921 | 78.6 | 799.7 | 812.0 | 0.985 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 811.8 NA | Previous response AF Slope: | 805.8 | *% change AF Intercept: | 0.7% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ 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 | 78.6 | 799.7 | 800.0 | 1.000 |
| Mid point | 4961 | 39.3 | 399.8 | 399.6 | 1.001 |
| Low point | 4980 | 19.6 | 199.4 | 198.9 | 1.003 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 4921 | 78.6 | 799.7 | 801.5 | 0.998 |
| | | | Averag | ge Correction Factor: | 1.001 |

Notes:

No Maintenance done. Span adjusted.

Calibration Performed By:

Melissa Lemay

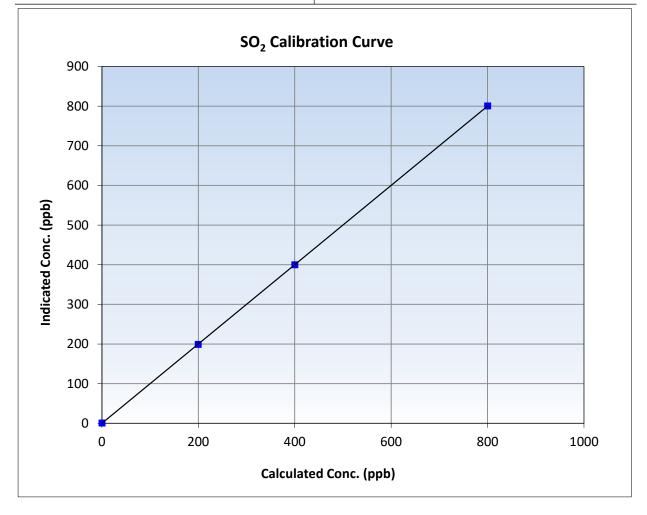


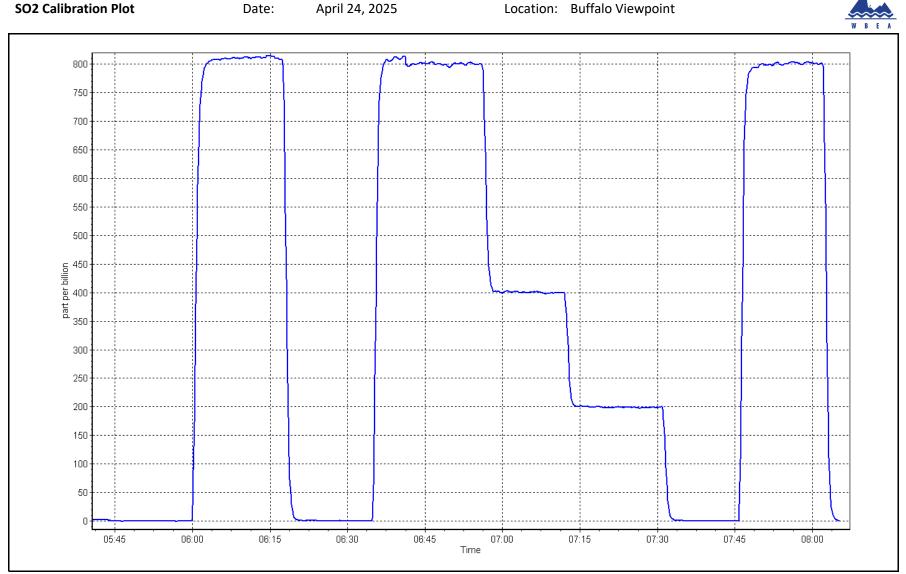
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 24, 2025 | Previous Calibration: | March 19, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Buffalo Viewpoint | Station Number: | AMS 04 |
| Start Time (MST): | 5:42 | End Time (MST): | 8:05 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | JC1327300932 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.5 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 799.7 | 800.0 | 0.9997 | Slope | 1.000030 | 0.90 - 1.10 |
| 399.8 199.4 | 399.6 198.9 | 1.0005 1.0026 | Intercept | -0.005582 | +/-30 |





April 24, 2025

Location: Buffalo Viewpoint



Wood Buffalo Environmental Association H₂S Calibration Report

Station Information

| Station Name: | Buffalo Viewpoint | Station number: | AMS 04 |
|-------------------|-------------------|-----------------|----------------|
| Calibration Date: | April 28, 2025 | Last Cal Date: | March 18, 2025 |
| Start time (MST): | 7:28 | End time (MST): | 11:15 |
| Reason: | Routine | Life (1951). | 11.15 |

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 T701 | н | Serial Number: | 362 |
| | | | | |

Analyzer Information

| Analyzer make: Converter make: | Thermo 43i-LTE Global | | Analyzer serial #: Converter serial #: | 1008841400 2022-200 | |
|-----------------------------------|--------------------------|---------------|---|------------------------|---------------|
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 325 degC |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 1.007150 | 0.999433 | Backgd or Offset: | 1.97 | 1.92 |
| Calibration intercept: | 0.158201 | 0.078228 | Coeff or Slope: | 1.130 | 1.110 |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As found High point | 4917 | 83.3 | 80.0 | 82.7 | 0.968 |
| As found Mid point | 4958 | 41.7 | 40.0 | 41.6 | 0.965 |
| As found Low point | 4979 | 20.8 | 20.0 | 20.8 | 0.965 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 82.6 | Prev response: | 80.69 | *% change: | 2.3% |
| Baseline Corr 2nd AF pt: | 41.5 | AF Slope: | 1.032872 | AF Intercept: | 0.158138 |
| Baseline Corr 3rd AF pt: | 20.7 | AF Correlation: | 0.999996 | * = > +/-5% change initiate | es 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 | 4917 | 83.3 | 80.0 | 80.0 | 1.000 |
| Mid point | 4958 | 41.7 | 40.0 | 40.1 | 0.998 |
| Low point | 4979 | 20.8 | 20.0 | 20.0 | 0.998 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 4917 | 83.3 | 80.0 | 79.5 | 1.006 |
| SO2 Scrubber Check | 4920 | 80.0 | 800.0 | 0.0 | |
| Date of last scrubber chan | ge: | 16-May-23 | | Ave Corr Factor | 0.999 |

Date of last converter efficiency test:

Notes:

Sox scrubber checked after calibrator zero. Span adjusted.

Calibration Performed By:

Melissa Lemay

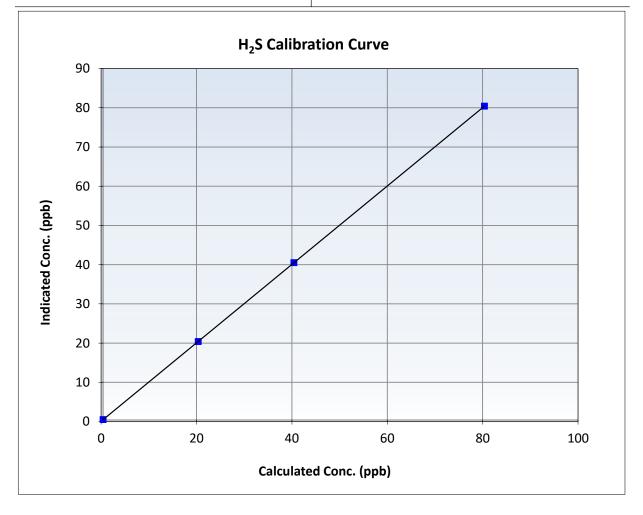


H₂S Calibration Summary

Station Information

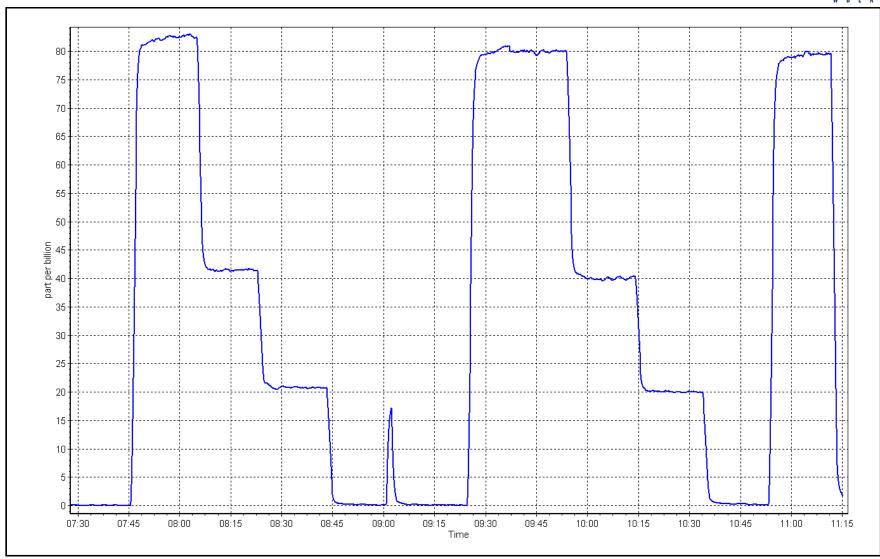
| Calibration Date: | April 28, 2025 | Previous Calibration: | March 18, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Buffalo Viewpoint | Station Number: | AMS 04 |
| Start Time (MST): | 7:28 | End Time (MST): | 11:15 |
| Analyzer make: | Thermo 43i-LTE | Analyzer serial #: | 1008841400 |

Calibration Data Calculated concentration Indicated concentration Correction factor (Cc/lc) Statistical Evaluation <u>Limits</u> (ppb) (Cc) (ppb) (Ic) **Correlation Coefficient** 0.999999 ≥0.995 0.0 0.1 ----80.0 80.0 0.9995 Slope 0.999433 0.90 - 1.10 40.0 40.1 0.9984 20.0 0.9984 20.0 Intercept 0.078228 +/-3











Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Analyzer serial #: 1426262594

NMHC/CH4 Range: 0 - 10 ppm

Station Information

| Station Name: | Buffalo Viewpoint | Station number: AMS 04 |
|-------------------|-------------------|-------------------------------|
| Calibration Date: | April 24, 2025 | Last Cal Date: March 19, 2025 |
| Start time (MST): | 5:42 | End time (MST): 8:04 |
| 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: | API T700 | Serial Number: | 3808 |
| Zero Air Gen model: | API T701 | Serial Number: | 362 |

Analyzer Information

Analyzer make: Thermo 55i THC Range: 0 - 20 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 4.58E-04 | 4.79E-04 | NMHC SP Ratio: | 9.45E-04 | 9.37E-04 |
| CH4 Retention time: | 13.7 | 13.9 | NMHC Peak Area: | 93285 | 94114 |
| 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 | 78.6 | 16.64 | 16.52 | 1.007 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 16.52 | Prev response | 16.54 | *% change | -0.1% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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 | 16.57 | 1.004 |
| Mid point | 4961 | 39.3 | 8.32 | 8.24 | 1.010 |
| Low point | 4980 | 19.6 | 4.15 | 4.07 | 1.019 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 78.6 | 16.64 | 16.57 | 1.004 |
| | | | Avera | ge Correction Factor | 1.011 |

Notes:

No Maintenance done. Span adjusted.



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4921 | 78.6 | 8.82 | 8.92 | 0.989 |
| Baseline Corr AF: | 8.92 | Prev response | 8.76 | *% change | 1.7% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | ates 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|--|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4921 | 78.6 | 8.82 | 8.77 | 1.005 |
| Mid point | 4961 | 39.3 | 4.41 | 4.38 | 1.007 |
| Low point | 4980 | 19.6 | 2.20 | 2.15 | 1.021 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 78.6 | 8.82 | 8.77 | 1.005 |
| | | | Avera | ge Correction Factor | 1.011 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|--|----------------------------------|---|--|---|--|
| 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 As found Mid point As found Low point New cylinder response | 4921 | 78.6 | 7.82 | 7.61 | 1.027 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 7.61 NA NA | Prev response AF Slope: AF Correlation: | 7.77 | *% change AF Intercept: * = > +/-5% change initia | |

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) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---|---|
| 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 | 3.86 | 1.012 |
| Low point | 4980 | 19.6 | 1.95 | 1.92 | 1.016 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 78.6 | 7.82 | 7.79 | 1.003 |
| | | | Avera | age Correction Factor | 1.011 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 0.997100 | 0.996742 |
| THC Cal Offset: | -0.049569 | -0.032965 |
| CH4 Cal Slope: | 0.997360 | 0.997448 |
| CH4 Cal Offset: | -0.022114 | -0.016913 |
| NMHC Cal Slope: | 0.996753 | 0.995910 |
| NMHC Cal Offset: | -0.027256 | -0.015253 |
| | | |

Calibration Performed By:

Melissa Lemay

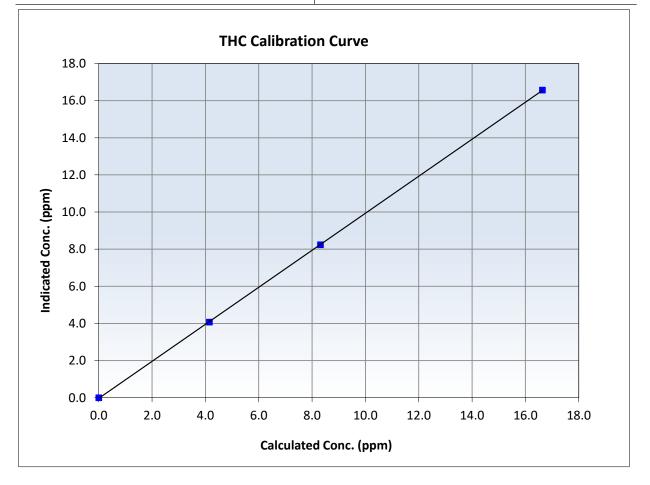


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 24, 2025 | Previous Calibration: | March 19, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Buffalo Viewpoint | Station Number: | AMS 04 |
| Start Time (MST): | 5:42 | End Time (MST): | 8:04 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1426262594 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999982 | ≥0.995 |
| 16.64 8.32 | 16.57 8.24 | 1.0042 1.0098 | Slope | 0.996742 | 0.90 - 1.10 |
| 4.15 | 4.07 | 1.0188 | Intercept | -0.032965 | +/-0.5 |



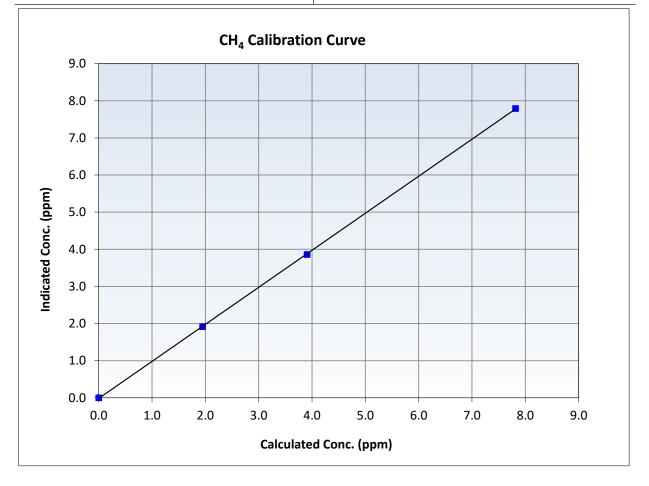


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 24, 2025 | Previous Calibration: | March 19, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Buffalo Viewpoint | Station Number: | AMS 04 |
| Start Time (MST): | 5:42 | End Time (MST): | 8:04 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1426262594 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999972 | ≥0.995 |
| 7.82 | 7.79 | 1.0032 | Slope | 0.997448 | 0.90 - 1.10 |
| 3.91 | 3.86 | 1.0121 | Siope | 0.997440 | 0.50 - 1.10 |
| 1.95 | 1.92 | 1.0163 | Intercept | -0.016913 | +/-0.5 |



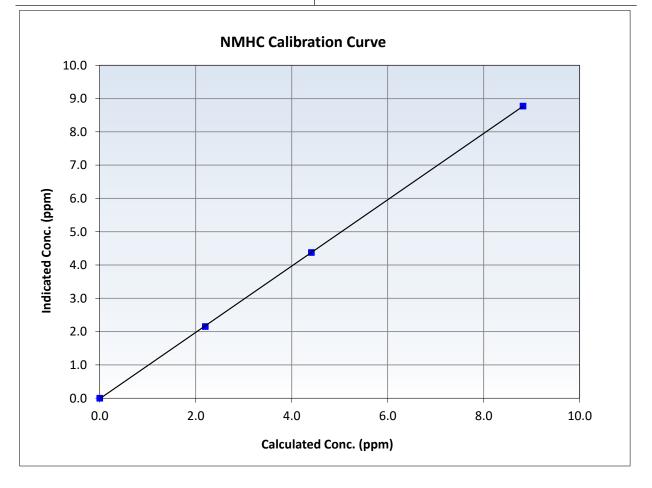


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

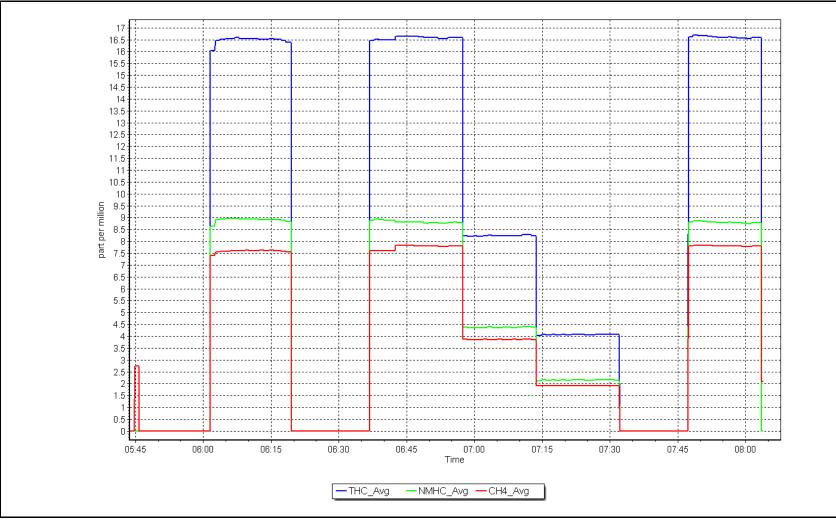
| Calibration Date: | April 24, 2025 | Previous Calibration: | March 19, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Buffalo Viewpoint | Station Number: | AMS 04 |
| Start Time (MST): | 5:42 | End Time (MST): | 8:04 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1426262594 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999983 | ≥0.995 |
| 8.82 4.41 | 8.77 4.38 | 1.0053 1.0074 | Slope | 0.995910 | 0.90 - 1.10 |
| 2.20 | 2.15 | 1.0210 | Intercept | -0.015253 | +/-0.5 |



NMHC Calibration Plot





CALS_72



Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Buffalo Viewpoint | NO Gas Cylinder #: | CC324979 | Cal Gas Expiry Date: | November 3, 2032 |
|-------------------|-------------------|-----------------------|-----------|----------------------|------------------|
| Station number: | AMS 04 | NOX Cal Gas Conc: | 48.90 ppm | NO Cal Gas Conc: | 48.80 ppm |
| Calibration Date: | April 11, 2025 | Removed Cylinder #: | | Removed Gas Exp Date | : |
| Last Cal Date: | March 14, 2025 | Removed Gas NOX Conc: | 48.90 ppm | Removed Gas NO Conc | : 48.80 ppm |
| Start time (MST): | 5:55 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 10:49 | Calibrator Model: | API T700 | Serial Number: | 3808 |
| Reason: | Routine | ZAG make/model: | APIT701 | 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)) <i>Limit = 0.90 - 1.10</i> | 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 | -0.2 | 0.3 | | |
| AF High point | 4918 | 81.8 | 800.0 | 798.4 | 1.6 | 791.0 | 788.4 | 2.6 | 1.0116 | 1.0124 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 801.5 ppb | NO = 798.2 | ppb | * = > +/-5 | % change initiates i | nvestigation | *Percent Chang | ge NO _x = | -1.3% |
| Baseline Corr 1 | lst pt NO _x = | 790.9 ppb | NO = 788.6 | ppb | <u>As Four</u> | nd Statistics | | *Percent Chang | ge NO = | -1.2% |
| Baseline Corr 2 | 2nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d $NO_X r^2$: | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d $NO_2 r^2$: | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calib | ration Data | | | | |
| | | Indicated NO Da | foronco Indi | | Coloulated N | 0.2 In | diasted NO2 | Baseline Adjust | | vortor Efficiency |

| O2 Satagiat (aph) | Indicated NO Reference | Indicated NO Drop | Calculated NO2 | Indicated NO2 | Correction factor | Converter Efficiency |
|-------------------|------------------------|---------------------|--------------------------|--------------------------|----------------------------|------------------------|
| O3 Setpoint (ppb) | concentration (ppb) | concentration (ppb) | concentration (ppb) (Cc) | concentration (ppb) (Ic) | (Cc/(Ic-AFzero)) | <i>Limit = 96-104%</i> |
| | | | | | <i>Limit = 0.90 - 1.10</i> | |
| | | | | | | |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Teledyne API T20 | 0 | Serial Number: 721 | | | | <u>Start</u> | <u>Finish</u> |
|---------------------|------------------|---------------|----------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 1.001880 | 1.003949 |
| | | | Instrument Settings | | | NO _x Cal Offset: | 0.006724 | 1.107618 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 1.000957 | 1.000915 |
| NO coeff or slope: | 1.276 | 1.291 | NO bkgnd or offset: | 0.2 | 0.2 | NO Cal Offset: | -0.954223 | -0.414394 |
| NOX coeff or slope: | 1.266 | 1.287 | NOX bkgnd or offset: | -0.2 | -0.2 | NO ₂ Cal Slope: | 0.992096 | 1.002895 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 4.6 | 4.6 | NO ₂ Cal Offset: | 0.653706 | 1.450870 |

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) <i>Limit = 0.95-1.05</i> |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|---|---|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.5 | -0.1 | | |
| High point | 4918 | 81.8 | 800.0 | 798.4 | 1.6 | 803.5 | 798.7 | 4.6 | 0.9957 | 0.9996 |
| Mid point | 4959 | 40.9 | 400.0 | 399.2 | 0.8 | 404.3 | 400.1 | 4.2 | 0.9894 | 0.9977 |
| Low point | 4980 | 20.4 | 199.5 | 199.1 | 0.4 | 201.4 | 197.0 | 4.4 | 0.9905 | 1.0106 |
| As left zero | 5000 | 0.0 | 0.0 | 1.2 | -1.2 | 0.8 | 1.2 | -0.4 | | |
| As left span | 4918 | 81.8 | 800.0 | 404.7 | 800.0 | 799.7 | 404.7 | 395.0 | 1.0004 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9919 | 1.0027 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|---------------------------------------|---|---|--|--|
| Cal zero | | | 0.0 | -0.1 | | |
| High GPT point | 797.4 | 404.6 | 394.4 | 396.3 | 0.9953 | 100.5% |
| Mid GPT point | 797.4 | 605.6 | 193.4 | 196.1 | 0.9864 | 101.4% |
| Low GPT point | 797.4 | 700.0 | 99.0 | 102.4 | 0.9671 | 103.4% |
| | | | | Average Correction Factor | 0.9830 | 101.7% |

Notes: No maintenance done. Span adjusted. Due to drifting during the GPT the 2nd NO ref point used.

Calibration Performed By:

Melissa Lemay

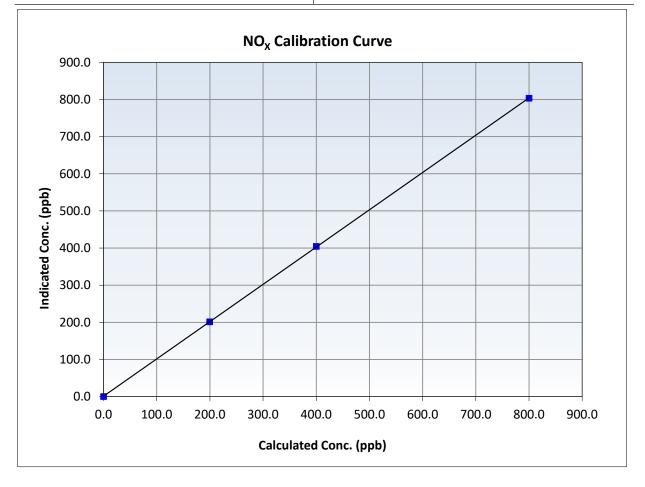


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 14, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Buffalo Viewpoint | Station Number: | AMS 04 |
| Start Time (MST): | 5:55 | End Time (MST): | 10:49 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 721 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 0.999989 | ≥0.995 |
| 800.0 400.0 | 803.5 404.3 | 0.9957 0.9894 | Slope | 1.003949 | 0.90 - 1.10 |
| 199.5 | 201.4 | 0.9905 | Intercept | 1.107618 | +/-20 |



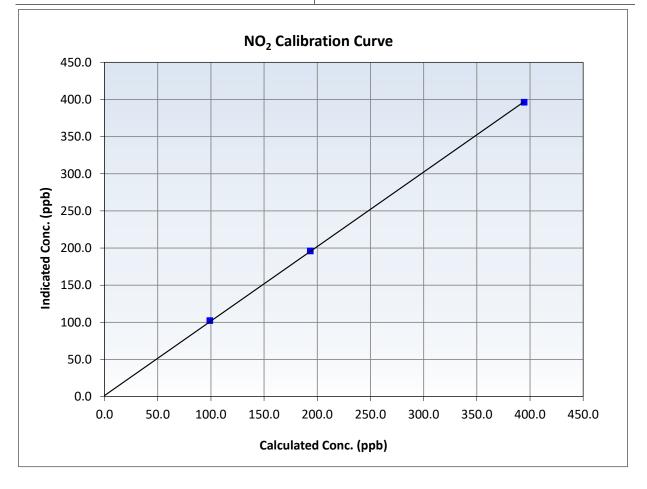


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 14, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Buffalo Viewpoint | Station Number: | AMS 04 |
| Start Time (MST): | 5:55 | End Time (MST): | 10:49 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 721 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999930 | ≥0.995 |
| 394.4 193.4 | 396.3 196.1 | 0.9953 0.9864 | Slope | 1.002895 | 0.90 - 1.10 |
| 99.0 | 102.4 | 0.9671 | Intercept | 1.450870 | +/-20 |



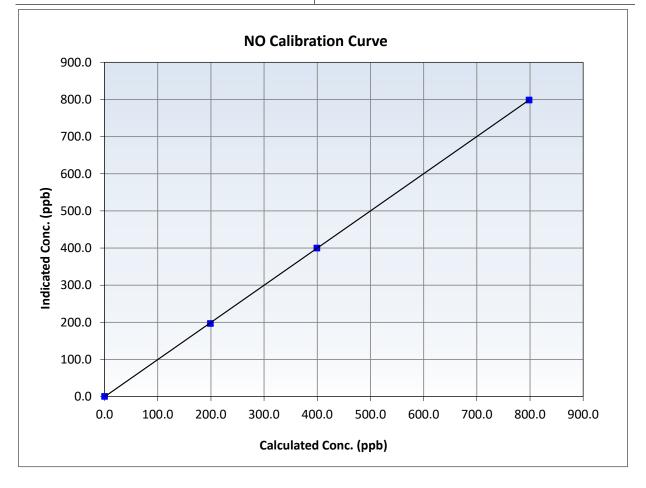


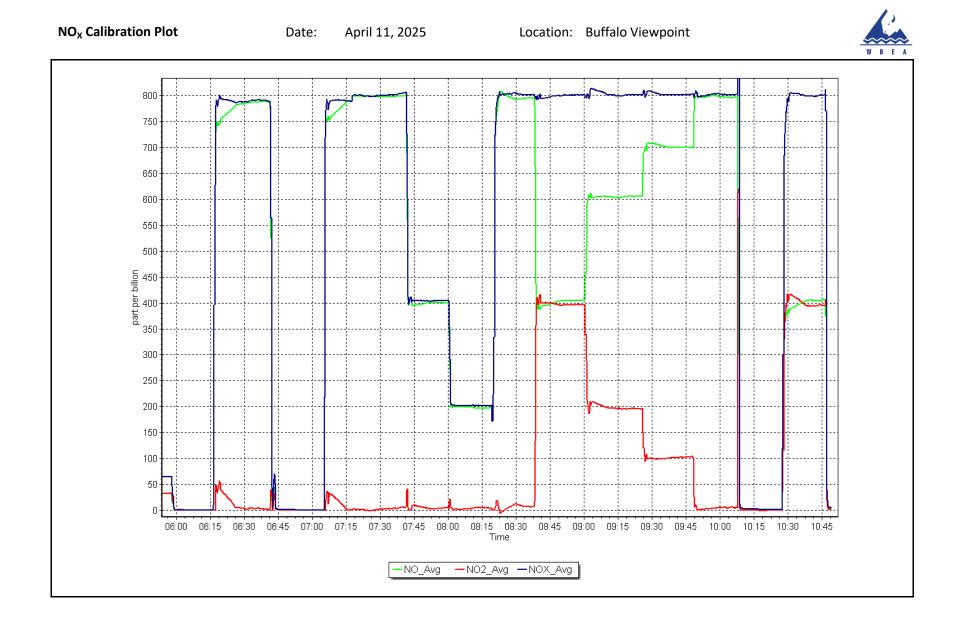
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 14, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Buffalo Viewpoint | Station Number: | AMS 04 |
| Start Time (MST): | 5:55 | End Time (MST): | 10:49 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 721 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.5 | | Correlation Coefficient | 0.999985 | ≥0.995 |
| 798.4 399.2 | 798.7 400.1 | 0.9996 0.9977 | Slope | 1.000915 | 0.90 - 1.10 |
| 199.1 | 197.0 | 1.0106 | Intercept | -0.414394 | +/-20 |







Wood Buffalo Environmental Association O₃ Calibration Report

Station Information

| Station Name: | Buffalo Viewpoint | | Station number: AM | |
|------------------------|-------------------|----------------|------------------------|--------------|
| Calibration Date: | April 24, 2025 | | Last Cal Date: Mar | ch 19, 2025 |
| Start time (MST): | 8:02 | | End time (MST): 10:1 | 15 |
| Reason: | Routine | | | |
| | | | | |
| | | Calibration St | andards | |
| O3 generation mode: | Photometer | | | |
| Calibrator Make/Model: | APIP T700 | | Serial Number: 380 | 8 |
| ZAG Make/Model: | API T701 | | Serial Number: 362 | |
| | | | | |
| | | Analyzer Info | ormation | |
| Analyzer make: | API T400 | | Analyzer serial #: 296 | 1 |
| Analyzer Range | 0 - 500 ppb | | | |
| | Start | Finish | | <u>Start</u> |
| | | | | |
| Calibration slope: | 1.000914 | 0.995971 | Backgd or Offset: | -1.2 |
| Calibration intercept: | 0.640000 | -0.020000 | Coeff or Slope: | 1.054 |

O₃ 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 | -1.3 | |
| As found High point | 5000 | 1003.6 | 400.0 | 412.0 | 0.968 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| Baseline Corr As found: | 413.3 | Previous response | 401.0 | *% change | 3.0% |
| Baseline Corr 2nd AF pt: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initia | ates investigation |

O₃ 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 | -0.7 | |
| High point | 5000 | 1005.9 | 400.0 | 397.9 | 1.005 |
| Mid point | 5000 | 827.4 | 200.0 | 199.9 | 1.001 |
| Low point | 5000 | 714.8 | 100.0 | 100.0 | 1.000 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | |
| As left span | 5000 | 1005.0 | 400.0 | 396.7 | 1.008 |
| | | | Averag | e Correction Factor | 1.002 |

Notes:

No Maintenance done. Span adjusted.

Calibration Performed By:

Melissa Lemay

Finish -1.2 1.022

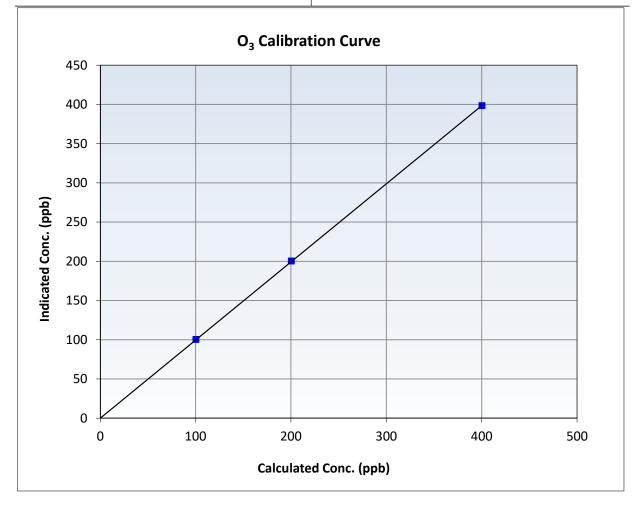


Wood Buffalo Environmental Association O₃ Calibration Summary

Station Information

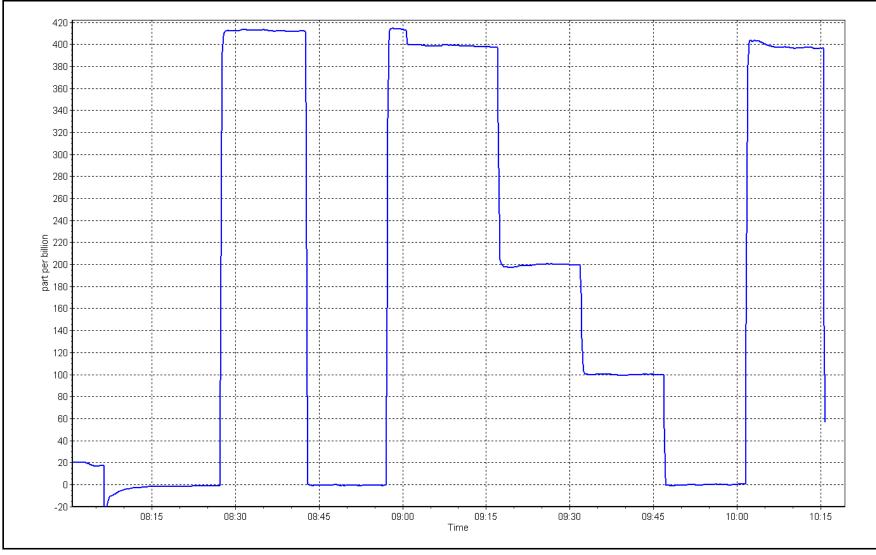
| Calibration Date: | April 24, 2025 | Previous Calibration: | March 19, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Buffalo Viewpoint | Station Number: | AMS 04 |
| Start Time (MST): | 8:02 | End Time (MST): | 10:15 |
| Analyzer make: | API T400 | Analyzer serial #: | 2961 |

| Calculated concentratior (ppb) (Cc) | n Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.7 | | Correlation Coefficient | 0.999984 | ≥0.995 |
| 400.0 200.0 | 397.9 199.9 | 1.0053 1.0005 | Slope | 0.995971 | 0.90 - 1.10 |
| 100.0 | 100.0 | 1.0000 | Intercept | -0.020000 | +/- 5 |











Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| WBEA | | | | | Version-01-2024 |
|---|-------------------------------------|------------------------|---|-----------------|-----------------|
| | | Station Information | on | | |
| Station Name: Calibration Date: | Buffalo Viewpoint April 28, 2025 | | Station number: AM Last Cal Date: Ma | arch 26, 2025 | |
| Start time (MST): | 6:19 | | End time (MST): 6:4 | 19 | |
| Analyzer Make: Particulate Fraction: | Teledyne API T640 PM2.5 | | S/N: 32 | 1 | |
| Flow Meter Make/Model: Temp/RH standard: | Alicat FP-25BT Alicat FP-25BT | | S/N: 38 S/N: 38 | | |
| | | Monthly Calibration | Test | | |
| <u>Parameter</u> | <u>As found</u> | Measured | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| T (°C) | -2.6 | -2.7 | -2.6 | | +/- 2 °C |
| P (mmHg) | 730.9 | 733.0 | 730.9 | | +/- 10 mmHg |
| Flow (LPM) | 4.94 | 5.10 | 4.94 | | +/- 0.25 LPM |
| PW% (pump) | 39 | | 39 | | >80% |
| Zero Verification | PM w/o HEPA: | 8.2 | PM w/ HEPA: | 0.0 | <0.2 ug/m3 |
| Note: this leak check will be PM Inlet observation : | Inlet Head Clean | | ignment Factor On : | | |
| | | Quarterly Calibration | | | |
| SPAN DUST | Refractive Index: Lot No.: | 10.9 100128-050-050 | Expiry Date: | 16-Jul-26 | |
| <u>Parameter</u> | <u>As found</u> | Post maintenance | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| PMT Peak Test | | | | | +/- 0.5 |
| Date Optical Cham Date Disposable Fi | | March 26 March 26 | | | |
| | inter enangeu. | | , 2025 | | |
| Post- maintenance Zero Ver | rification: | PM w/ HEPA: | 0 | <0.2 ug/m3 | |
| | | Annual Maintenan | се | | |
| Date Sample Tul | be Cleaned: | March 26 | , 2025 | | |
| Date RH/T Sense | | March 26 | | | |
| | | | | | |
| Notes: | | No a | djustments done. | | |
| | | | | | |
| Calibration by: | Melissa Lemay | | | | |



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS05 MANNIX APRIL 2025

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

May 30, 2025



Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Mannix |
|-------------------|----------------|
| Calibration Date: | April 15, 2025 |
| Start time (MST): | 9:39 |
| Reason: | Routine |

Station number: AMS 05 Last Cal Date: March 12, 2025 End time (MST): 13:45

Calibration Standards

| Cal Gas Concentration: Cal Gas Cylinder #: | 50.06 CC30 | ppm 8040 | Cal Gas Exp Date: | October 22, 2032 |
|---|---------------|-------------|--|------------------|
| Removed Cal Gas Conc: Removed Gas Cyl #: | 50.06 | ppm | Rem Gas Exp Date: Diff between cyl: | October 22, 2032 |
| Calibrator Model: | API 1 | 700 | Serial Number: | 5470 |
| Zero Air Gen Model: | API 1 | 701 | Serial Number: | 361 |

| Analyzer make: Thermo 43i Serial Number: 1008841399 | | | | | |
|---|--------------|---------------|-------------------|--------------|---------------|
| Analyzer Range: | 1000 ppb | | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 1.006894 | 1.005853 | Backgd or Offset: | 10.3 | 10.3 |
| Calibration intercept: | -0.937958 | 0.001847 | Coeff or Slope: | 0.950 | 0.950 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4920 | 79.9 | 800.0 | 805.8 | 0.993 |
| Baseline Corr As found: | 805.5 | Previous response | 804.6 | *% change | 0.1% |
| Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | NA NA | AF Slope: AF Correlation: | | AF Intercept: * = > +/-5% change initiate | es investigation |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.4 | |
| High point | 4920 | 79.9 | 800.0 | 804.7 | 0.994 |
| Mid point | 4960 | 40.0 | 400.5 | 403.1 | 0.994 |
| Low point | 4980 | 20.0 | 200.2 | 200.7 | 0.998 |
| As left zero | 5000 | 0.0 | 0.0 | 0.5 | |
| As left span | 4920 | 79.9 | 800.0 | 808.6 | 0.989 |
| | | | Averag | ge Correction Factor: | 0.995 |

Notes:

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

Calibration Performed By:

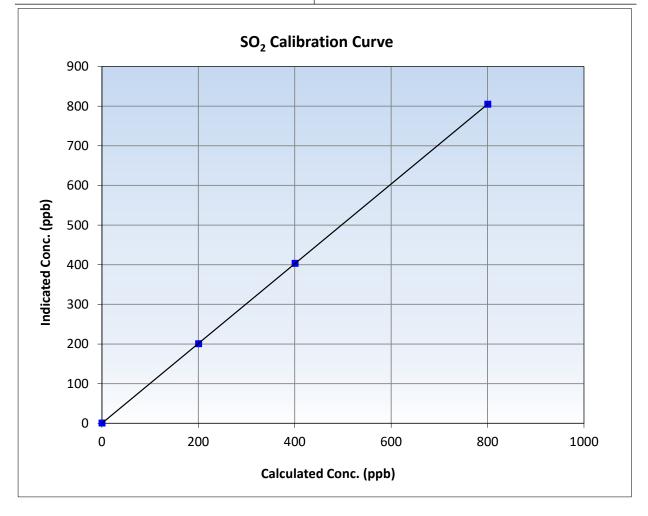


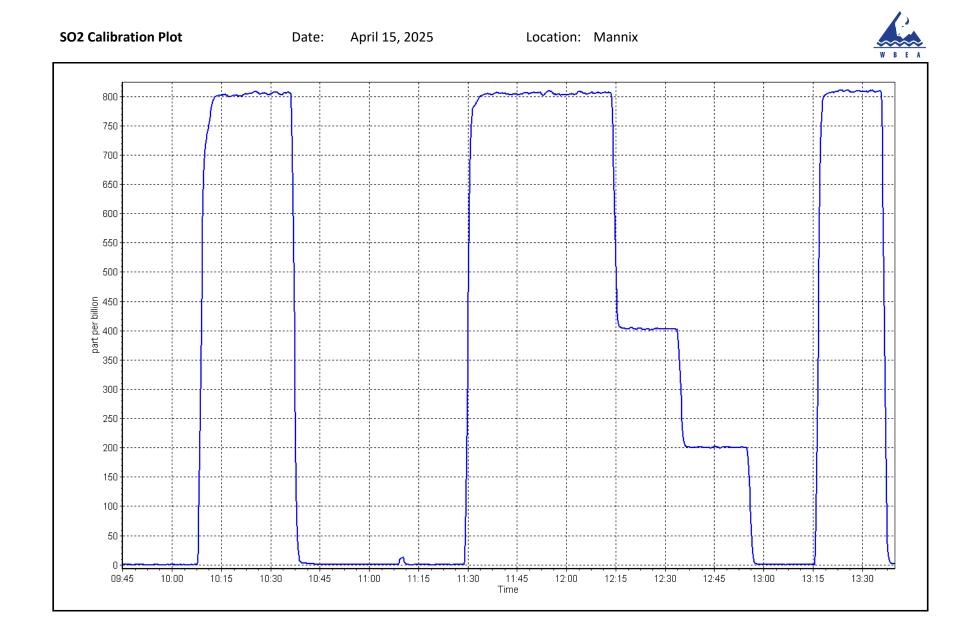
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Mannix | Station Number: | AMS 05 |
| Start Time (MST): | 9:39 | End Time (MST): | 13:45 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1008841399 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.4 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 800.0 400.5 | 804.7 403.1 | 0.9941 0.9935 | Slope | 1.005853 | 0.90 - 1.10 |
| 200.2 | 200.7 | 0.9977 | Intercept | 0.001847 | +/-30 |







Wood Buffalo Environmental Association H₂S Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Mannix April 2, 2025 9:23 Routine | | Station number: Last Cal Date: End time (MST): | AMS 05 March 5, 2025 14:00 | |
|--|--|----------------------|--|----------------------------------|------|
| | | Calibration S | tandards | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 4.96 DT0037363 | ppm | Cal Gas Exp Date: | November 15, 2026 | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 4.96 N/A | ppm | Rem Gas Exp Date: Diff between cyl: | N/A | |
| Calibrator Make/Model: | | | Serial Number: | 5470 | |
| ZAG Make/Model: | API T701 | | Serial Number: | 361 | |
| | | Analyzer Info | ormation | | |
| Analyzer make: | Thermo 43iQ | | Analyzer serial #: | 1200326169 | |
| Converter make: | Global | | Converter serial #: | 2022-225 | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | 325 | degC |
| | <u>Start</u> | <u>Finish</u> | | Start | ! |
| Calibration slope: | 1.005120 | 0.999974 | Backgd or Offset: | 1.25 | |
| Calibration intercept: | 0.102228 | -0.017707 | Coeff or Slope: | 1.029 | |
| | | | | | |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.0 | |
| As found High point | 4919 | 80.6 | 80.0 | 79.9 | 1.001 |
| As found Mid point | 4960 | 40.3 | 40.0 | 40.2 | 0.994 |
| As found Low point | 4980 | 20.2 | 20.0 | 19.9 | 1.007 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 79.9 | Prev response: | 80.47 | *% change: | -0.7% |
| Baseline Corr 2nd AF pt: | 40.2 | AF Slope: | 1.000117 | AF Intercept: | 0.002317 |
| Baseline Corr 3rd AF pt: | 19.9 | AF Correlation: | 0.999979 | * = > +/-5% change initiate | es 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/lc) Limit = 0.95-1.05 |
|----------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.1 | |
| High point | 4919 | 80.6 | 80.0 | 80.0 | 1.000 |
| Mid point | 4960 | 40.3 | 40.0 | 39.9 | 1.002 |
| Low point | 4980 | 20.2 | 20.0 | 19.9 | 1.007 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 4919 | 80.6 | 80.0 | 79.2 | 1.010 |
| SO2 Scrubber Check | 4920 | 80.3 | 803.0 | 0.0 | |
| Date of last scrubber char | ige: | | | Ave Corr Factor | 1.003 |

Date of last converter efficiency test:

Notes:

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

Calibration Performed By: Max Farrell

Finish 1.25 1.029



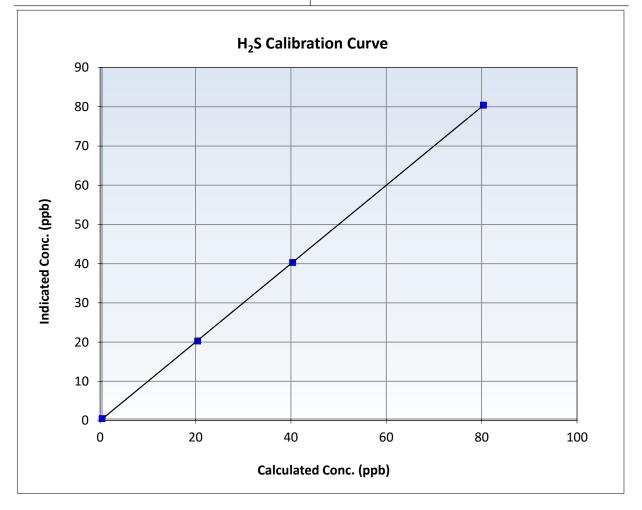
Wood Buffalo Environmental Association

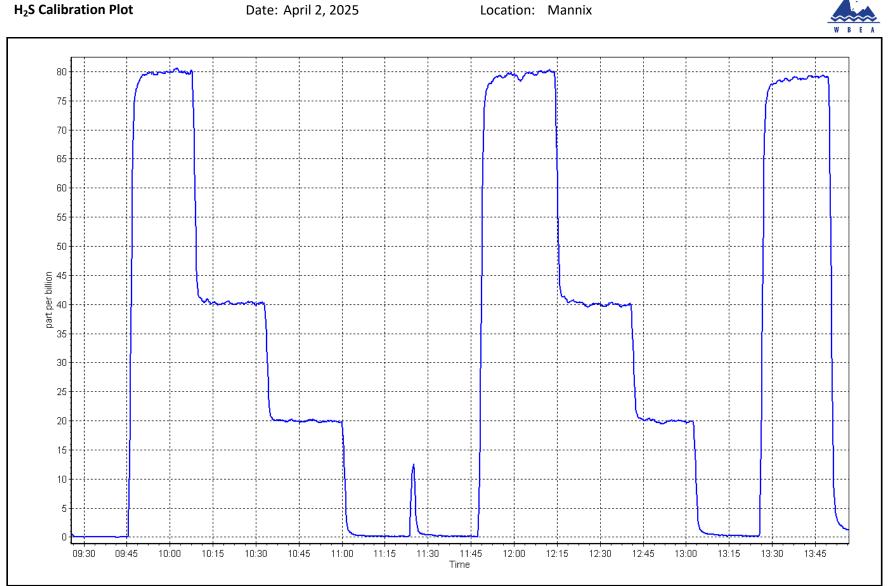
H₂S Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | March 5, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Mannix | Station Number: | AMS 05 |
| Start Time (MST): | 9:23 | End Time (MST): | 14:00 |
| Analyzer make: | Thermo 43iQ | Analyzer serial #: | 1200326169 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> | | |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|--|--|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999990 | ≥0.995 | | |
| 80.0 40.0 | 80.0 39.9 | 0.9995 1.0019 | Slope | 0.999974 | 0.90 - 1.10 | | |
| 20.0 | 19.9 | 1.0069 | Intercept | -0.017707 | +/-3 | | |







Analyzer make: Thermo 55i

THC Range: 0 - 20 ppm

Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Station Information

| Station Name: | Mannix | Station number: AMS 05 |
|-------------------|----------------|-------------------------------|
| Calibration Date: | April 15, 2025 | Last Cal Date: March 12, 2025 |
| Start time (MST): | 9:38 | End time (MST): 13:50 |
| 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 serial #: 1193585649 NMHC/CH4 Range: 0 - 10 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 3.79E-04 | 3.74E-04 | NMHC SP Ratio: | 7.45E-05 | 7.39E-05 |
| CH4 Retention time: | 15.6 | 15.6 | NMHC Peak Area: | 117387 | 118483 |
| 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 As found Mid point As found Low point New cylinder response | 4920 | 79.9 | 16.74 | 16.63 | 1.007 |
| Baseline Corr AF: | 16.63 | Prev response | 16.64 | *% change | -0.1% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiat | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4920 | 79.9 | 16.74 | 16.65 | 1.005 |
| Mid point | 4960 | 40.0 | 8.38 | 8.20 | 1.022 |
| Low point | 4980 | 20.0 | 4.19 | 4.05 | 1.035 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.9 | 16.74 | 16.52 | 1.013 |
| | | | Avera | ge Correction Factor | 1.021 |

Notes:

Changed the inlet filter and the H2/N2 cylinders after as founds. Adjusted the span.



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4920 | 79.9 | 8.75 | 8.68 | 1.008 |
| Baseline Corr AF: | 8.68 | Prev response | 8.73 | *% change | -0.5% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | ites 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 | 8.70 | 1.006 |
| Mid point | 4960 | 40.0 | 4.38 | 4.32 | 1.014 |
| Low point | 4980 | 20.0 | 2.19 | 2.14 | 1.025 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.9 | 8.75 | 8.61 | 1.016 |
| | | | Avera | ge Correction Factor | 1.015 |

CH4 As Found Data

| | | CIT T AS I U | | | |
|-----------------------|------------------------|-------------------------|--------------------------|----------------------------|--------------------------|
| Set Point | Dilution air flow rate | Source gas flow rate | Calculated concentration | Indicated concentration | |
| | (sccm) | (sccm) | (ppm) (Cc) | (ppm) (Ic) | AFzero)) |
| | | | | | <i>Limit = 0.90-1.10</i> |
| As found zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As found High point | 4920 | 79.9 | 7.99 | 7.95 | 1.006 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 7.95 | Prev response | 7.91 | *% change | 0.5% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initial | tes investigation |

CH4 Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration C (ppm) (Ic) | Correction factor (Cc/Ic) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4920 | 79.9 | 7.99 | 7.96 | 1.005 |
| Mid point | 4960 | 40.0 | 4.00 | 3.88 | 1.032 |
| Low point | 4980 | 20.0 | 2.00 | 1.91 | 1.047 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.9 | 7.99 | 7.91 | 1.011 |
| | | | Avera | ge Correction Factor | 1.028 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 0.996286 | 0.996242 |
| THC Cal Offset: | -0.038478 | -0.075658 |
| CH4 Cal Slope: | 0.994597 | 0.997482 |
| CH4 Cal Offset: | -0.040730 | -0.053327 |
| NMHC Cal Slope: | 0.997646 | 0.995382 |
| NMHC Cal Offset: | 0.002452 | -0.023131 |

Calibration Performed By:

Max Farrell

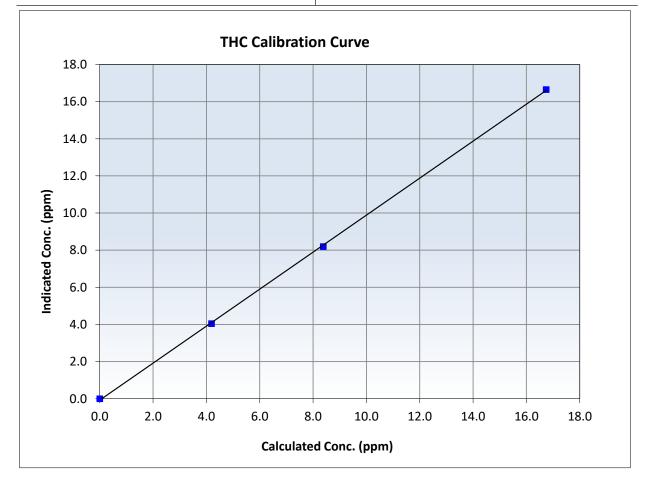


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Mannix | Station Number: | AMS 05 |
| Start Time (MST): | 9:38 | End Time (MST): | 13:50 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585649 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | lation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999891 | ≥0.995 |
| 16.74 8.38 | 16.65 8.20 | 1.0053 1.0222 | Slope | 0.996242 | 0.90 - 1.10 |
| 4.19 | 4.05 | 1.0351 | Intercept | -0.075658 | +/-0.5 |



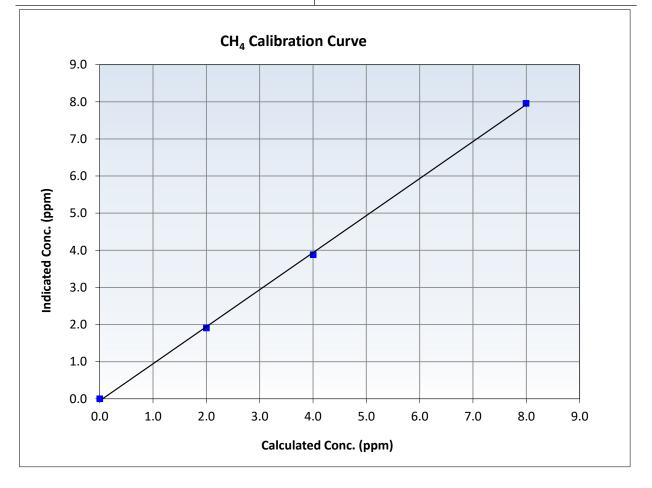


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Mannix | Station Number: | AMS 05 |
| Start Time (MST): | 9:38 | End Time (MST): | 13:50 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585649 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999749 | ≥0.995 |
| 7.99 4.00 | 7.96 3.88 | 1.0045 1.0315 | Slope | 0.997482 | 0.90 - 1.10 |
| 2.00 | 1.91 | 1.0472 | Intercept | -0.053327 | +/-0.5 |



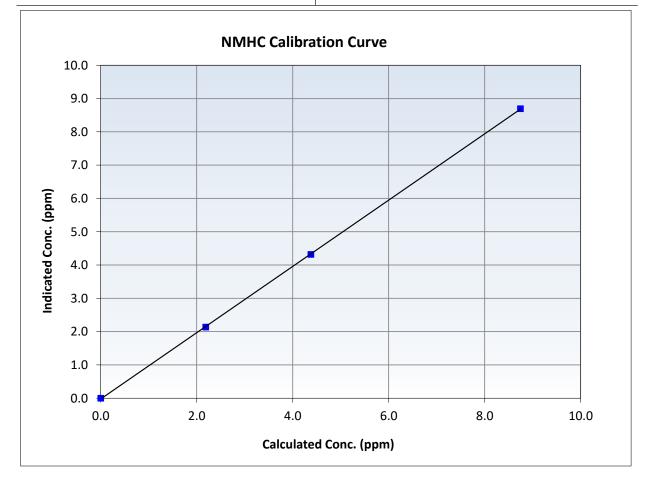


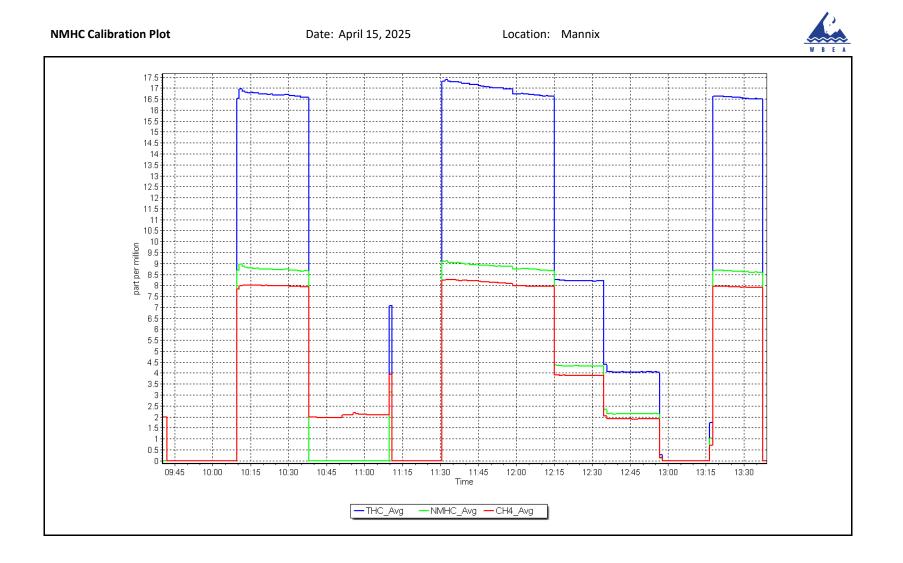
Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Mannix | Station Number: | AMS 05 |
| Start Time (MST): | 9:38 | End Time (MST): | 13:50 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585649 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999967 | ≥0.995 |
| 8.75 4.38 | 8.70 4.32 | 1.0058 1.0139 | Slope | 0.995382 | 0.90 - 1.10 |
| 2.19 | 2.14 | 1.0248 | Intercept | -0.023131 | +/-0.5 |









WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS06 PATRICIA MCINNES APRIL 2025

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

May 30, 2025



Analyzer make: Analyzer Range:

Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Patricia McInnes |
|-------------------|------------------|
| Calibration Date: | April 11, 2025 |
| Start time (MST): | 8:40 |
| Reason: | Routine |

Thermo 43i

0 - 1000 ppb

Station number: AMS 06 Last Cal Date: March 13, 2025 End time (MST): 12:00

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

Serial Number: 1160290013

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 1.001008 | 1.001251 | Backgd or Offset: | 18.5 | 18.4 |
| Calibration intercept: | 1.638757 | 1.678702 | Coeff or Slope: | 0.928 | 0.920 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4920.2 | 79.8 | 799.3 | 807.7 | 0.989 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 807.9 NA | Previous response AF Slope: | 801.7 | *% change AF Intercept: | 0.8% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.0 | |
| High point | 4920.2 | 79.8 | 799.3 | 801.0 | 0.998 |
| Mid point | 4960.1 | 39.9 | 399.6 | 403.0 | 0.992 |
| Low point | 4980 | 20.0 | 200.3 | 203.7 | 0.983 |
| As left zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As left span | 4919.7 | 80.3 | 804.3 | 805.1 | 0.999 |
| | | | Averag | 0.991 | |

Notes:

Changed the inlet filter after as founds. Adjusted the span only.

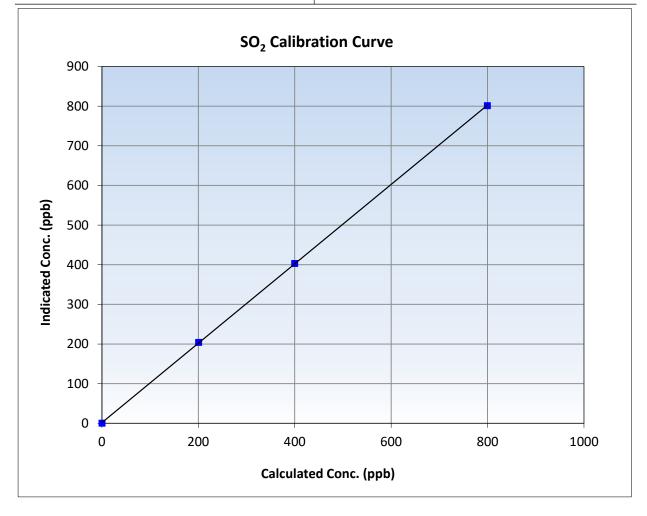


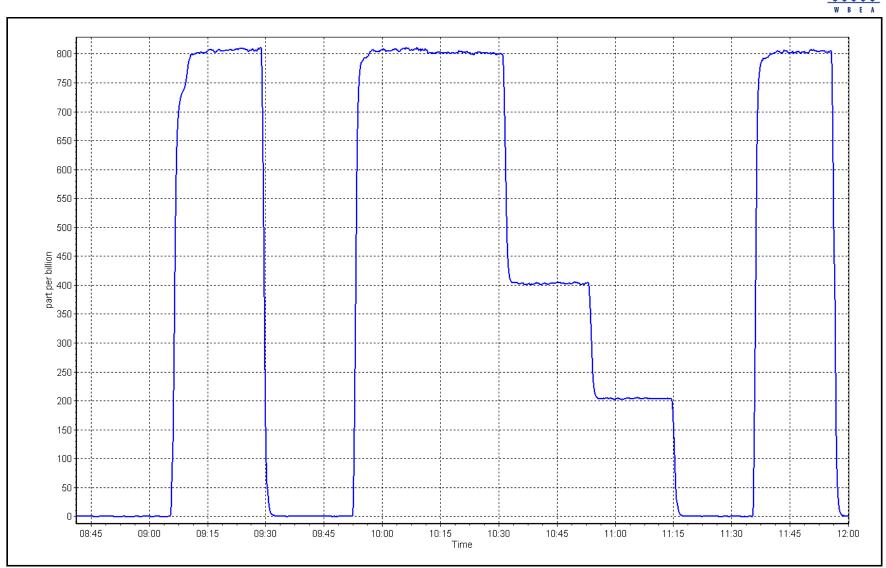
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 13, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:40 | End Time (MST): | 12:00 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1160290013 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999979 | ≥0.995 |
| 799.3 399.6 | 801.0 403.0 | 0.9978 0.9917 | Slope | 1.001251 | 0.90 - 1.10 |
| 200.3 | 203.7 | 0.9834 | Intercept | 1.678702 | +/-30 |





Location: Patricia McInnes





Wood Buffalo Environmental Association TRS Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Patricia McInnes April 16, 2025 9:03 Routine | | Station number: Last Cal Date: End time (MST): | AMS 06 March 20, 2025 15:00 | | |
|--|---|--------------------|--|-----------------------------------|--------------|------------|
| | | Calibration | <u>Standards</u> | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 4.760 DT0014585 | ppm | Cal Gas Exp Date: | August 28, 2027 | | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 5.328 CC506659 | ppm | Rem Gas Exp Date: Diff between cyl: | February 14, 2025 | | |
| Calibrator Make/Model: | API T700 | | Serial Number: | 3566 | | |
| ZAG Make/Model: | API T701 | | Serial Number: | 4602 | | |
| | | Analyzer Inf | ormation | | | |
| Analyzer make: | Thermo 43i TLE | | Analyzer serial #: | 1218153358 | | |
| Converter make: | CDN-101 | | Converter serial #: | 517 | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | 80 | D degC | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finis</u> | ; h |
| Calibration slope: | 1.001258 | 1.002115 | Backgd or Offset: | 1.94 | 1.99 | 9 |
| Calibration intercept: | 0.120000 | 0.340000 | Coeff or Slope: | 1.117 | 1.14 | 16 |
| | | | | | | |

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 | 75.1 | 80.0 | 78.7 | 1.018 | |
| As found Mid point | 4963 | 37.5 | 40.0 | 40.0 | 1.001 | |
| As found Low point | 4981 | 18.8 | 20.0 | 20.1 | 1.002 | |
| New cylinder response | | | | | | |
| Baseline Corr As found: | 78.6 | Prev response: | 80.25 | *% change: | -2.1% | |
| Baseline Corr 2nd AF pt: | 39.9 | AF Slope: | 0.981741 | AF Intercept: | 0.360369 | |
| Baseline Corr 3rd AF pt: | 20.0 | AF Correlation: | 0.999913 | * = > +/-5% change initiate | es investigation | |

TRS Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|---------------------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.2 | |
| High point | 4916 | 84.0 | 80.0 | 80.3 | 0.996 |
| Mid point | 4958 | 42.0 | 40.0 | 40.8 | 0.980 |
| Low point | 4979 | 21.0 | 20.0 | 20.3 | 0.985 |
| As left zero | 5000 | 0.0 | 0.0 | 0.4 | |
| As left span | 4916 | 84.0 | 80.0 | 79.1 | 1.011 |
| SO2 Scrubber Check | | | | 0.0 | |
| Date of last scrubber changed | ge: | December 20, 2021 | | Ave Corr Factor | 0.987 |
| Della official second states official | · · · · · · · · · · | | | | |

Date of last converter efficiency test:

Notes:

Changed the inlet filter after as founds. Ran a SO2 scrubber check after calibrator zero. Adjusted the span only.

Calibration Performed By: Ma

Max Farrell



Wood Buffalo Environmental Association

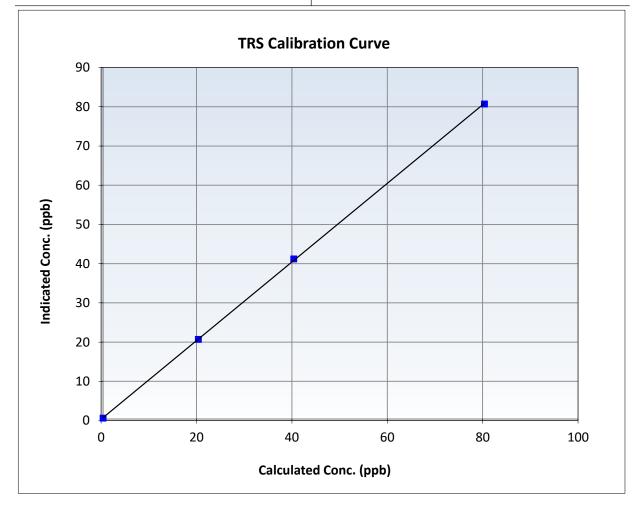
TRS Calibration Summary

Station Information

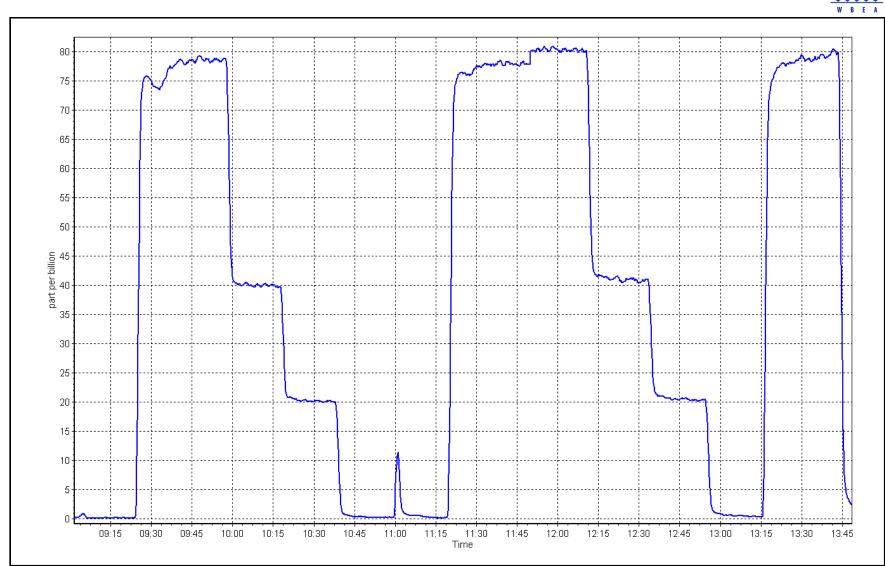
| Calibration Date: | April 16, 2025 | Previous Calibration: | March 20, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 9:03 | End Time (MST): | 15:00 |
| Analyzer make: | Thermo 43i TLE | Analyzer serial #: | 1218153358 |

Calculated concentration Indicated concentration (nph) (Cc) (nph) (Ic) Correction factor (Cc/Ic) Statistical Evaluation

| (ppb) (Cc) | (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|----------------|--------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999940 | ≥0.995 |
| 80.0 40.0 | 80.3 40.8 | 0.9959 0.9800 | Slope | 1.002115 | 0.90 - 1.10 |
| 20.0 | 20.3 | 0.9848 | Intercept | 0.340000 | +/-3 |



Limite



TRS Calibration Plot

Location: Patricia McInnes



Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

NMHC/CH4 Range: 0 - 10 ppm

Station Information

| Station Name: | Patricia McInnes | Station number: AMS 06 |
|-------------------|------------------|-------------------------------|
| Calibration Date: | April 11, 2025 | Last Cal Date: March 14, 2025 |
| Start time (MST): | 8:40 | End time (MST): 12:00 |
| Reason: | Routine | |
| | | |

Calibration Standards

| Gas Cert Reference: | AAL070632 | | Cal Gas Expiry Date: Septem | ber 9, 2024 | |
|-------------------------------------|--------------|-----|-----------------------------|-------------|--|
| 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 #: 111814 | 8494 | |

Analyzer make: Thermo 55i THC Range: 0 - 20 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 4.25E-04 | 4.46E-04 | NMHC SP Ratio: | 4.12E-05 | 4.23E-05 |
| CH4 Retention time: | 14.0 | 14.2 | NMHC Peak Area: | 212421 | 207068 |
| 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 | 16.75 | 16.20 | 1.034 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 16.20 | Prev response | 16.84 | *% change | -4.0% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4920 | 79.8 | 16.75 | 16.81 | 0.996 |
| Mid point | 4960 | 39.9 | 8.37 | 8.49 | 0.987 |
| Low point | 4980 | 20.0 | 4.20 | 4.32 | 0.972 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.8 | 16.75 | 16.82 | 0.996 |
| | | | Avera | ge Correction Factor | 0.985 |

Notes:

Instrument was installed last month. Chnaged the inlet filter after as founds. Adjusted the span.



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4920 | 79.8 | 8.75 | 8.56 | 1.022 |
| Baseline Corr AF: | 8.56 | Prev response | 8.78 | *% change | -2.6% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | ites 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 | 8.77 | 0.997 |
| Mid point | 4960.1 | 39.9 | 4.37 | 4.43 | 0.987 |
| Low point | 4980 | 20.0 | 2.19 | 2.26 | 0.971 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.8 | 8.75 | 8.77 | 0.998 |
| | | | Avera | ge Correction Factor | 0.985 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|--|----------------------------------|---|--|---|--|
| 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 As found Mid point As found Low point New cylinder response | 4920 | 79.8 | 8.00 | 7.64 | 1.047 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 7.64 NA NA | Prev response AF Slope: AF Correlation: | 8.06 | *% change AF Intercept: * = > +/-5% change initia | |

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) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4920 | 79.8 | 8.00 | 8.04 | 0.995 |
| Mid point | 4960.1 | 39.9 | 4.00 | 4.06 | 0.986 |
| Low point | 4980 | 20.0 | 2.01 | 2.06 | 0.973 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.8 | 8.00 | 8.05 | 0.994 |
| | | | Avera | ge Correction Factor | 0.984 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 1.002148 | 1.001964 |
| THC Cal Offset: | 0.059170 | 0.059767 |
| CH4 Cal Slope: | 1.003496 | 1.003725 |
| CH4 Cal Offset: | 0.028976 | 0.026176 |
| NMHC Cal Slope: | 1.000667 | 1.000863 |
| NMHC Cal Offset: | 0.031394 | 0.033391 |
| | | |

Calibration Performed By:

Max Farrell

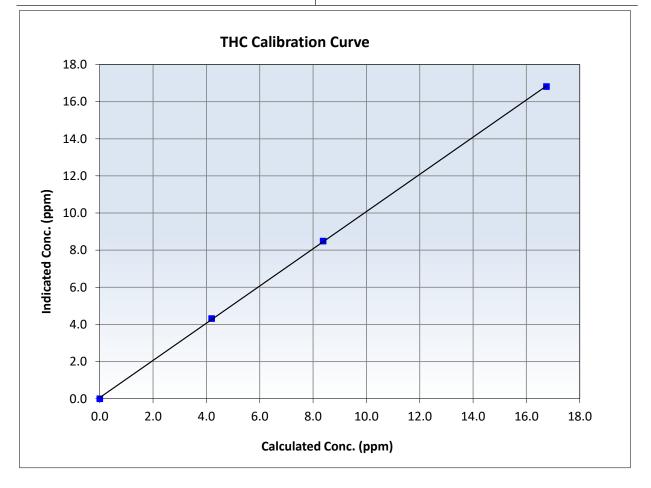


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 14, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:40 | End Time (MST): | 12:00 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1118148494 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999943 | ≥0.995 |
| 16.75 8.37 | 16.81 8.49 | 0.9964 0.9865 | Slope | 1.001964 | 0.90 - 1.10 |
| 4.20 | 4.32 | 0.9720 | Intercept | 0.059767 | +/-0.5 |



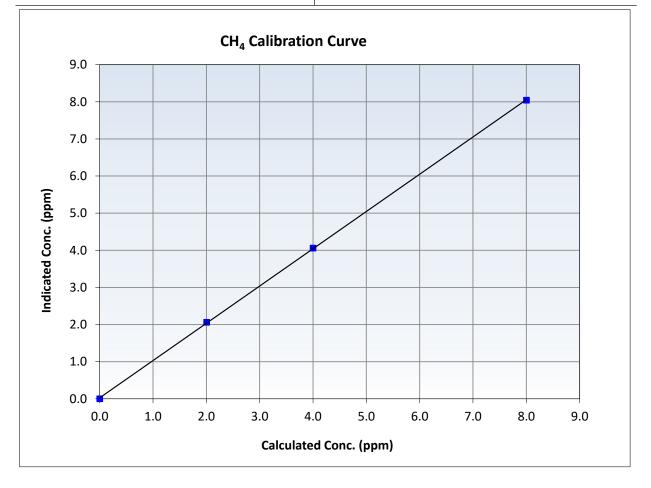


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 14, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:40 | End Time (MST): | 12:00 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1118148494 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999954 | ≥0.995 |
| 8.00 | 8.04 | 0.9948 | Slope | 1.003725 | 0.90 - 1.10 |
| 4.00 | 4.06 | 0.9855 | Slope | 1.005725 | 0.30 - 1.10 |
| 2.01 | 2.06 | 0.9731 | Intercept | 0.026176 | +/-0.5 |



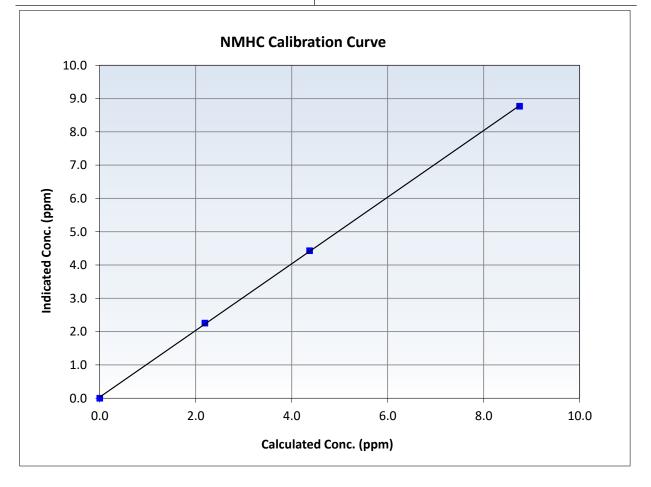


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

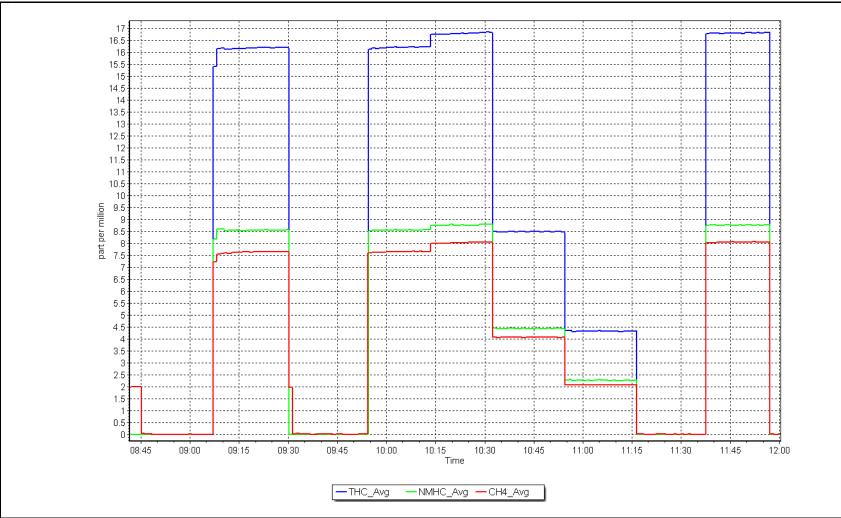
| Calibration Date: | April 11, 2025 | Previous Calibration: | March 14, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:40 | End Time (MST): | 12:00 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1118148494 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999933 | ≥0.995 |
| 8.75 | 8.77 | 0.9974 | Slope | 1.000863 | 0.90 - 1.10 |
| 4.37 | 4.43 | 0.9868 | 1 - | | |
| 2.19 | 2.26 | 0.9709 | Intercept | 0.033391 | +/-0.5 |



NMHC Calibration Plot







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Station Information

| Station Name: | Patricia McInnes |
|-------------------|------------------|
| Calibration Date: | April 17, 2025 |
| Start time (MST): | 9:44 |
| Reason: | Cylinder Change |
| | |

Station number: AMS 06 Last Cal Date: April 11, 2025 End time (MST): 11:42

Calibration Standards

| Gas Cert Reference: | / | AAL070632 | Cal Gas Expiry Date: Septer | mber 9, 2024 |
|--------------------------------------|------------|-----------|-----------------------------|--------------|
| 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 #: 11181 | 48494 |
| THC Range: | 0 - 20 ppm | | NMHC/CH4 Range: 0 - 10 | ppm |

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 4.46E-04 | 4.46E-04 | NMHC SP Ratio: | 4.23E-05 | 4.23E-05 |
| CH4 Retention time: | 14.2 | 14.2 | NMHC Peak Area: | 207068 | 207068 |
| 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 As found Mid point As found Low point New cylinder response | 4920 | 79.8 | 16.75 | 16.74 | 1.001 |
| Baseline Corr AF: Baseline Corr 2nd AF: | 16.74 NA | Prev response AF Slope: | 16.84 | *% change AF Intercept: | -0.6% |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | | | | | |
| High point | | | | | |
| Mid point | | | | | |
| Low point | | | | | |
| As left zero | 5000 | 0.0 | 0.00 | 0.02 | |
| As left span | 4920 | 79.8 | 16.75 | 16.77 | 0.999 |
| | | | Avera | ge Correction Factor | |
| Notes: | | Changed | the H2 cylinder after a | s founds. | |

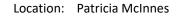


Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

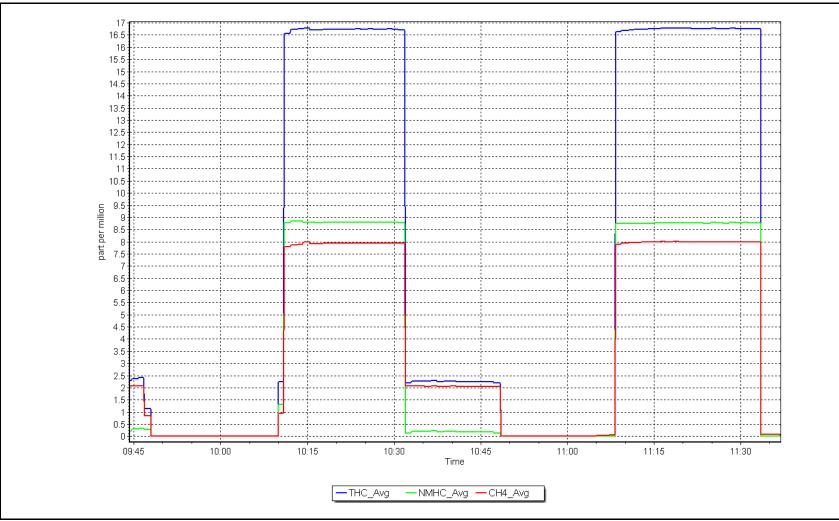
NMHC As Found Data

| As found zero As found Mid point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 3rd AF: Baseline Corr 3rd AF: Baseline Corr 3rd AF: Calibrator zero High point Low point As left zero As left span Set Point Calibrator zero As left span | Dilution air flow rate (sccm) 5000 4920 8.80 NA NA Dilution air flow rate (sccm) 5000 4920 Dilution air flow rate (sccm) | Source gas flow rate (sccm) 0.0 79.8 Prev response AF Slope: AF Correlation: NMHC Caliba Source gas flow rate (sccm) 0.0 79.8 CH4 As For Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) 0.00 8.75 Avera | Indicated concentration ((ppm) (Ic) 0.00 8.80 *% change AF Intercept: * = > +/-5% change initiate Indicated concentration ((ppm) (Ic) 0.00 8.78 ge Correction Factor [Indicated concentration ((ppm) (Ic) | AFzero)) Limit = 0.90-1.10 0.994 0.1% es investigation Correction factor (Cc/lc Limit = 0.95-1.05 0.996 Baseline Adjusted |
|---|--|--|--|--|--|
| As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 3rd AF: Baseline Corr 3rd AF: Calibrator zero High point Mid point Low point As left zero As left span Set Point Calibrator zero High point Calibrator zero High point Calibrator zero As found zero As found High point As found Mid point As found Low point New cylinder response | 4920 8.80 NA NA Dilution air flow rate (sccm) Dilution air flow rate (sccm) Dilution air flow rate | 79.8 Prev response AF Slope: AF Correlation: <u>NMHC Calibu</u> Source gas flow rate (sccm) 0.0 79.8 <u>CH4 As Fou</u> Source gas flow rate (sccm) 0.0 | 8.75 8.79 ration Data Calculated concentration (ppm) (Cc) 0.00 8.75 Avera und Data Calculated concentration (ppm) (Cc) | <pre>8.80 *% change AF Intercept: * => +/-5% change initiate Indicated concentration C</pre> | 0.994 0.1% es investigation Correction factor (Cc/lo <i>Limit = 0.95-1.05</i> 0.996 Baseline Adjusted Correction factor (Cc/(li AFzero)) |
| As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 3rd AF: Baseline Corr 3rd AF: Set Point Calibrator zero High point Mid point Low point As left zero As left span Set Point Calibrator zero As found zero As found High point As found Mid point As found Low point New cylinder response | 8.80 NA NA Dilution air flow rate (sccm) 5000 4920 Dilution air flow rate (sccm) | Prev response AF Slope: AF Correlation: <u>NMHC Calibu</u> Source gas flow rate (sccm) 0.0 79.8 <u>CH4 As Fou</u> Source gas flow rate (sccm) 0.0 | 8.79 ration Data Calculated concentration (ppm) (Cc) 0.00 8.75 Avera und Data Calculated concentration (ppm) (Cc) | *% change AF Intercept: * = > +/-5% change initiate Indicated concentration ((ppm) (Ic) 0.00 8.78 ge Correction Factor | 0.1% es investigation Correction factor (Cc/lo <i>Limit = 0.95-1.05</i> 0.996 Baseline Adjusted Correction factor (Cc/(l AFzero)) |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: Set Point Calibrator zero High point Mid point Low point As left zero As left span Set Point As found zero As found High point As found Mid point As found Low point New cylinder response | NA NA Dilution air flow rate (sccm) 5000 4920 Dilution air flow rate (sccm) 5000 | AF Slope: AF Correlation: <u>NMHC Calibu</u> Source gas flow rate (sccm) 0.0 79.8 <u>CH4 As For</u> Source gas flow rate (sccm) 0.0 | ration Data Calculated concentration (ppm) (Cc) 0.00 8.75 Avera und Data Calculated concentration (ppm) (Cc) | AF Intercept: * = > +/-5% change initiate Indicated concentration ((ppm) (Ic) 0.00 8.78 ge Correction Factor | es investigation Correction factor (Cc/lc <i>Limit = 0.95-1.05</i> 0.996 Baseline Adjusted Correction factor (Cc/(I AFzero)) |
| Baseline Corr 3rd AF: Set Point Calibrator zero High point Mid point Low point As left zero As left span Set Point C As found zero As found High point As found Mid point As found Low point New cylinder response | NA Dilution air flow rate (sccm) 5000 4920 Dilution air flow rate (sccm) 5000 | AF Correlation: <u>NMHC Calibu</u> Source gas flow rate (sccm) 0.0 79.8 <u>CH4 As Fou</u> Source gas flow rate (sccm) 0.0 | Calculated concentration (ppm) (Cc) 0.00 8.75 Avera und Data Calculated concentration (ppm) (Cc) | * => +/-5% change initiate Indicated concentration ((ppm) (Ic) 0.00 8.78 ge Correction Factor | Correction factor (Cc/lo Limit = 0.95-1.05 |
| Calibrator zero High point Mid point Low point As left zero As left span Set Point Calibrator Set Point As found zero As found High point As found Mid point As found Low point New cylinder response | (sccm) 5000 4920 Dilution air flow rate (sccm) 5000 | Source gas flow rate (sccm) 0.0 79.8 CH4 As Fou Source gas flow rate (sccm) 0.0 | Calculated concentration (ppm) (Cc) 0.00 8.75 Avera und Data Calculated concentration (ppm) (Cc) | (ppm) (Ic) 0.00 8.78 ge Correction Factor | Limit = 0.95-1.05 0.996 Baseline Adjusted Correction factor (Cc/(I AFzero)) |
| Calibrator zero High point Mid point Low point As left zero As left span Set Point Calibrator Set Point As found zero As found High point As found Mid point As found Low point New cylinder response | (sccm) 5000 4920 Dilution air flow rate (sccm) 5000 | (sccm) 0.0 79.8 <u>CH4 As For</u> Source gas flow rate (sccm) 0.0 | (ppm) (Cc) 0.00 8.75 Avera und Data Calculated concentration (ppm) (Cc) | (ppm) (Ic) 0.00 8.78 ge Correction Factor | Limit = 0.95-1.05 0.996 Baseline Adjusted Correction factor (Cc/(I AFzero)) |
| High point Mid point Low point As left zero As left span Set Point As found zero As found High point As found Mid point As found Low point New cylinder response | 4920 Dilution air flow rate (sccm) 5000 | 79.8 <u>CH4 As For</u> Source gas flow rate (sccm) 0.0 | 8.75 Avera und Data Calculated concentration (ppm) (Cc) | 8.78 ge Correction Factor | Baseline Adjusted Correction factor (Cc/(I AFzero)) |
| As left span Set Point As found zero As found High point As found Mid point As found Low point New cylinder response | 4920 Dilution air flow rate (sccm) 5000 | 79.8 <u>CH4 As For</u> Source gas flow rate (sccm) 0.0 | 8.75 Avera und Data Calculated concentration (ppm) (Cc) | 8.78 ge Correction Factor | Baseline Adjusted Correction factor (Cc/(I AFzero)) |
| · | Dilution air flow rate (sccm) 5000 | CH4 As For Source gas flow rate (sccm) 0.0 | Avera und Data Calculated concentration (ppm) (Cc) | ge Correction Factor | Baseline Adjusted Correction factor (Cc/(I AFzero)) |
| Set Point As found zero As found High point As found Mid point As found Low point New cylinder response | (sccm) 5000 | Source gas flow rate (sccm) | und Data Calculated concentration (ppm) (Cc) | Indicated concentration (| Correction factor (Cc/(I AFzero)) |
| Set Point As found zero As found High point As found Mid point As found Low point New cylinder response | (sccm) 5000 | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | | Correction factor (Cc/(I AFzero)) |
| Set Point As found zero As found High point As found Mid point As found Low point New cylinder response | (sccm) 5000 | (sccm) 0.0 | (ppm) (Cc) | | Correction factor (Cc/(I AFzero)) |
| As found High point As found Mid point As found Low point New cylinder response | | | 0.00 | | |
| As found Mid point As found Low point New cylinder response | 4920 | | | 0.00 | |
| Baseline Corr AF: | | 79.8 | 8.00 | 7.94 | 1.008 |
| Baseline Corr 2nd AF: | 7.94 NA | Prev response AF Slope: | 8.06 | *% change AF Intercept: | -1.5% |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |
| | | CH4 Calibra | ation Data | | |
| Set Point D | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration C (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 | 0.02 | |
| As left span | 4920 | 79.8 | 8.00 | 7.99 | 1.002 |
| | | | Avera | ge Correction Factor | |
| | | Calibration <u>Start</u> | Statistics | Finish | |
| THC Cal Slope: | | 1.001964 | | | |
| THC Cal Offset: | | 0.059767 | | | |
| CH4 Cal Slope: | | 1.003725 | | | |
| CH4 Cal Offset: | | 0.026176 | | | |
| NMHC Cal Slope: | | 1.000863 | | | |
| NMHC Cal Offset: | | 0.033391 | | | |
| Calibration Perfor | | Max Farrell | | | |

NMHC Calibration Plot









Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Patricia McInnes | NO Gas Cylinder #: | T30YCWN | Cal Gas Expiry Date: | April 11, 2025 |
|-------------------|------------------|-----------------------|-------------------|----------------------|----------------|
| Station number: | AMS 06 | NOX Cal Gas Conc: | 47.94 ppm | NO Cal Gas Conc: | 46.39 ppm |
| Calibration Date: | April 3, 2025 | Removed Cylinder #: | N/A | Removed Gas Exp Date | : N/A |
| Last Cal Date: | March 4, 2025 | Removed Gas NOX Conc: | 47.94 ppm | Removed Gas NO Conc | : 46.39 ppm |
| Start time (MST): | 8:39 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 14:30 | Calibrator Model: | Teledyne API T700 | Serial Number: | 3566 |
| Reason: | Routine | 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 | -1.4 | -0.5 | -0.9 | | |
| AF High point | 4914 | 86.2 | 826.5 | 799.7 | 26.7 | 831.4 | 803.6 | 27.8 | 0.9924 | 0.9946 |
| AF Mid point AF Low point New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 828.6 ppb | NO = 801.9 | ppb | * = > +/-59 | % change initiates | investigation | *Percent Chan | ge NO _x = | 0.5% |
| Baseline Corr 1 | lst pt NO _X = | 832.8 ppb | NO = 804.1 | ppb | <u>As Foun</u> | d Statistics | | *Percent Chan | ge NO = | 0.3% |
| Baseline Corr 2 | 2nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO _X r ² : | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _X = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calibi | ration Data | | | | |
| O3 Setp | oint (ppb) | Indicated NO Re concentration | | cated NO Drop entration (ppb) | Calculated No concentration (pp | | dicated NO2 ntration (ppb) (Ic) | Baseline Adjus Correction f (Cc/(Ic-AFz) | actor Conv | verter Efficiency nit = 96-104% |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point *Limit = 0.90 - 1.10*



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1172750 | 022 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 1.000894 | 1.002857 |
| | | | Instrument Settings | | | NO _x Cal Offset: | 1.375479 | 1.615390 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 1.001960 | 1.004732 |
| NO coeff or slope: | 0.841 | 0.841 | NO bkgnd or offset: | 3.8 | 3.5 | NO Cal Offset: | 0.582447 | 0.662208 |
| NOX coeff or slope: | 0.990 | 0.990 | NOX bkgnd or offset: | 4.7 | 3.8 | NO ₂ Cal Slope: | 1.000905 | 1.000499 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 155.1 | 155.1 | NO ₂ Cal Offset: | -0.618864 | -0.488997 |

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) <i>Limit = 0.95-1.05</i> |
|--------------|------------------------------|--------------------------------|---|--|---|--|---|--|---|---|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | 0.1 | -0.1 | | |
| High point | 4914 | 86.2 | 826.5 | 799.7 | 26.7 | 829.4 | 803.7 | 25.7 | 0.9964 | 0.9951 |
| Mid point | 4957 | 43.1 | 413.2 | 399.9 | 13.4 | 417.4 | 403.3 | 14.1 | 0.9900 | 0.9915 |
| Low point | 4978 | 21.6 | 207.1 | 200.4 | 6.7 | 210.7 | 202.2 | 8.5 | 0.9830 | 0.9912 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | | |
| As left span | 4914 | 86.2 | 826.5 | 402.8 | 423.7 | 827.8 | 402.8 | 425.0 | 0.9984 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9898 | 0.9926 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (C | Indicated NO2 c) 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 | 798.7 | 399.2 | 426.2 | 426.2 | 1.0000 | 100.0% |
| Mid GPT point | 798.7 | 593.8 | 231.6 | 231.0 | 1.0027 | 99.7% |
| Low GPT point | 798.7 | 695.7 | 129.7 | 128.9 | 1.0064 | 99.4% |
| | | | | Average Correction Factor | 1.0030 | 99.7% |

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

Calibration Performed By:

Max Farrell

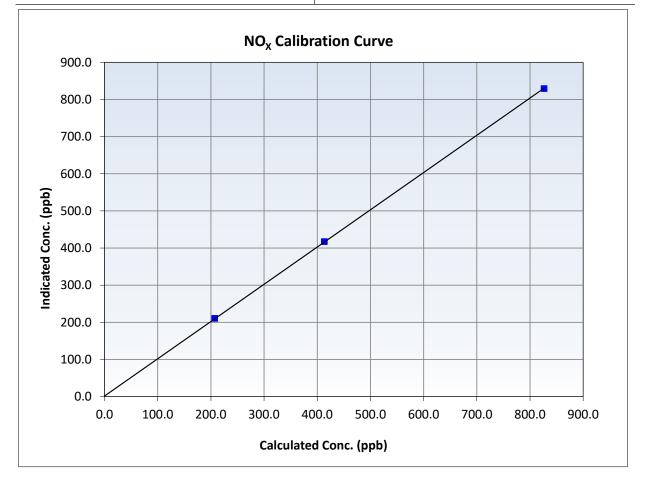


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 3, 2025 | Previous Calibration: | March 4, 2025 |
|-------------------|------------------|-----------------------|---------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:39 | End Time (MST): | 14:30 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1172750022 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999979 | ≥0.995 |
| 826.5 413.2 | 829.4 417.4 | 0.9964 0.9900 | Slope | 1.002857 | 0.90 - 1.10 |
| 207.1 | 210.7 | 0.9830 | Intercept | 1.615390 | +/-20 |



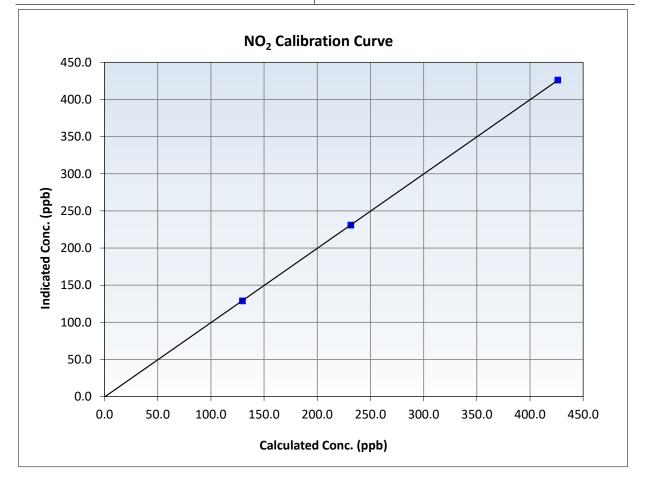


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 3, 2025 | Previous Calibration: | March 4, 2025 |
|-------------------|------------------|-----------------------|---------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:39 | End Time (MST): | 14:30 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1172750022 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999996 | ≥0.995 |
| 426.2 231.6 | 426.2 231.0 | 1.0000 1.0027 | Slope | 1.000499 | 0.90 - 1.10 |
| 129.7 | 128.9 | 1.0064 | Intercept | -0.488997 | +/-20 |



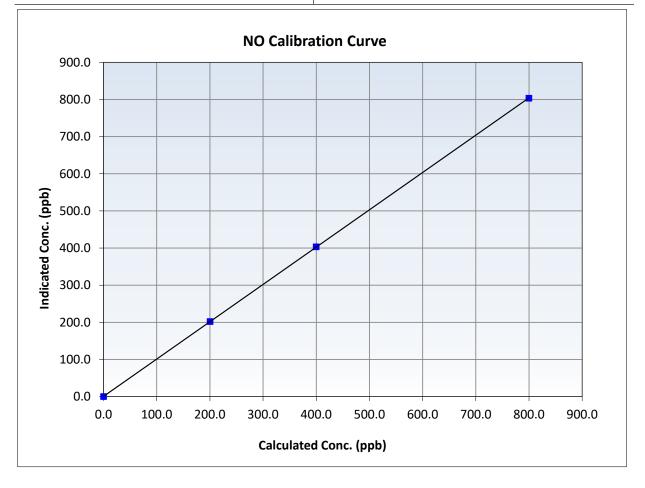


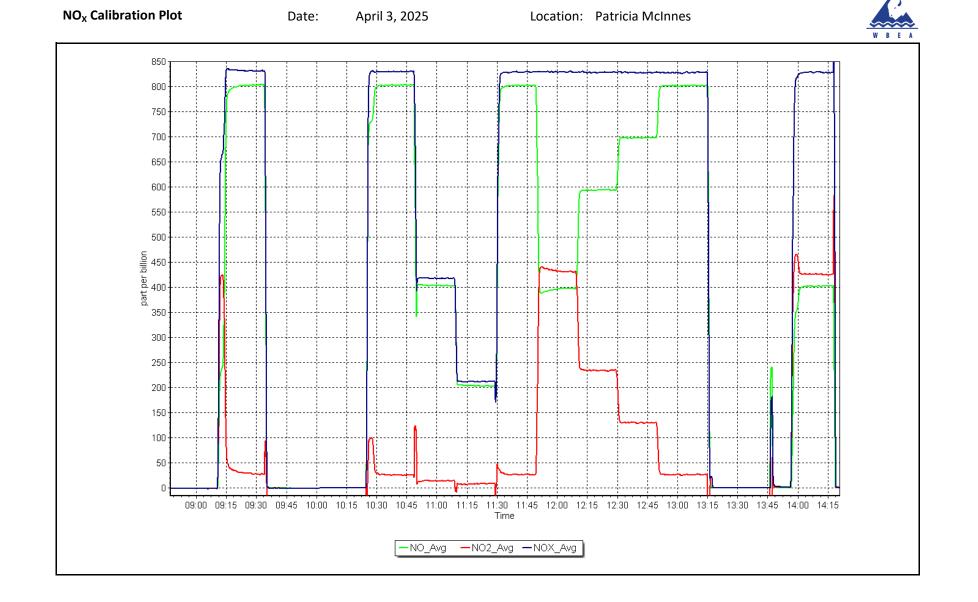
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 3, 2025 | Previous Calibration: | March 4, 2025 |
|-------------------|------------------|-----------------------|---------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:39 | End Time (MST): | 14:30 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1172750022 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999996 | ≥0.995 |
| 799.7 399.9 | 803.7 403.3 | 0.9951 0.9915 | Slope | 1.004732 | 0.90 - 1.10 |
| 200.4 | 202.2 | 0.9912 | Intercept | 0.662208 | +/-20 |







Calibration intercept:

Wood Buffalo Environmental Association O₃ Calibration Report

Coeff or Slope:

1.020

Station Information

| Station Name: Calibration Date: | Patricia McInnes April 4, 2025 | | Station number: AM Last Cal Date: Ma | |
|------------------------------------|-----------------------------------|----------------|---|--------------|
| Start time (MST): | 8:14 | | End time (MST): 11: | 30 |
| Reason: | Routine | | | |
| | | | | |
| | | Calibration St | andards | |
| O3 generation mode: | Photometer | | | |
| Calibrator Make/Model: | API T700 | | Serial Number: 356 | 6 |
| ZAG Make/Model: | API T701 | | Serial Number: 460 | 2 |
| | | | | |
| | | Analyzer Info | rmation | |
| Analyzer make: | Thermo 49i | | Analyzer serial #: 130 | 0156234 |
| Analyzer Range | 0 - 500 ppb | | | |
| | | | | |
| - W I | <u>Start</u> | <u>Finish</u> | | <u>Start</u> |
| Calibration slope: | 1.001200 | 1.000714 | Backgd or Offset: | -0.5 |

0.200000

0.340000

O₃ 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 | 0.0 | |
| As found High point | 5000 | 1031.0 | 400.0 | 400.9 | 0.998 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| Baseline Corr As found: | 400.9 | Previous response | 400.8 | *% change | 0.0% |
| Baseline Corr 2nd AF pt: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initia | tes investigation |

O₃ 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 | 0.3 | |
| High point | 5000 | 1031.0 | 400.0 | 400.5 | 0.999 |
| Mid point | 5000 | 821.4 | 200.0 | 200.4 | 0.998 |
| Low point | 5000 | 699.5 | 100.0 | 100.1 | 0.999 |
| As left zero | 5000 | 800.0 | 0.0 | 0.4 | |
| As left span | 5000 | 1031.0 | 400.0 | 402.2 | 0.995 |
| | | | Averag | e Correction Factor | 0.999 |

Notes:

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

Calibration Performed By:

Max Farrell

<u>Finish</u> -0.5

1.020

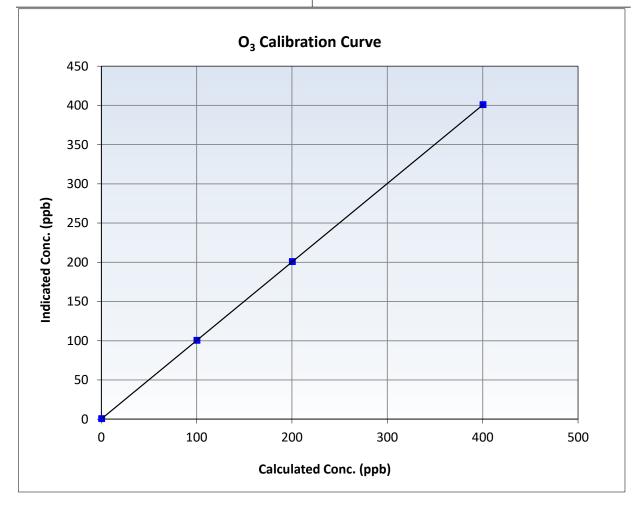


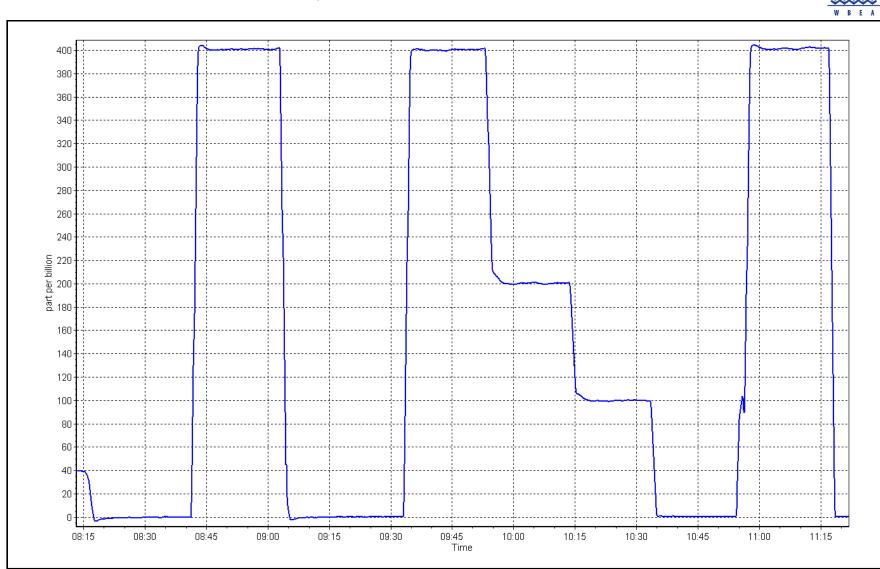
Wood Buffalo Environmental Association O₃ Calibration Summary

Station Information

| Calibration Date: | April 4, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:14 | End Time (MST): | 11:30 |
| Analyzer make: | Thermo 49i | Analyzer serial #: | 1300156234 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 1.000000 | ≥0.995 |
| 400.0 200.0 | 400.5 200.4 | 0.9988 0.9980 | Slope | 1.000714 | 0.90 - 1.10 |
| 100.0 | 100.1 | 0.9990 | Intercept | 0.200000 | +/- 5 |





Date: April 4, 2025

Location: Patricia McInnes



T640 PM_{2.5} CALIBRATION

| W B E A | | | | | Version-01-202 |
|------------------------|------------------|-----------------|----------------------|-----------------|----------------|
| | | Station Informa | tion | | |
| Station Name: | Patricia McInnes | | Station number: AMS | 06 | |
| Calibration Date: | April 4, 2025 | | Last Cal Date: Mar | ch 17, 2025 | |
| Start time (MST): | 11:56 | | End time (MST): 13:3 | 7 | |
| Analyzer Make: | API T640 | | S/N: 766 | | |
| Particulate Fraction: | PM2.5 | | | | |
| Flow Meter Make/Model: | Alicat FP-25BT | | S/N: 3887 | /55 | |
| Temp/RH standard: | Alicat FP-25BT | S/N: 388755 | | | |
| | | | | | |
| <u>Parameter</u> | <u>As found</u> | <u>Measured</u> | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| T (°C) | 2.9 | 3.1 | 2.9 | | +/- 2 °C |
| P (mmHg) | 732.50 | 734.80 | 732.50 | | +/- 10 mmHg |
| Flow (LPM) | 4.99 | 5.11 | 4.99 | | +/- 0.25 LPM |
| PW% (pump) | 86 | | 38 | v | > 80 % |
| Zero Verification | PM w/o HEPA: | 5.7 | PM w/ HEPA: | 0.0 | <0.2 ug/m3 |

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

 PM Inlet observation :
 Inlet Head Clean

 Image: Complete the served of the served

| | | Quarterly Calibration | Test | |
|---|-------------------------------|------------------------|----------------|--------------------------|
| SPAN DUST | Refractive Index: Lot No.: | 10.9 100128-050-050 | Expiry Date: | 07-16-2026 |
| Parameter | <u>As found</u> | Post maintenance | <u>As left</u> | <u>Adjusted</u> (Limits) |
| PMT Peak Test | 10.8 | 10.8 | 10.8 | +/- 0.5 |
| Date Optical Chan Date Disposable Fi | - | April 4, April 4, | | |
| Post- maintenance Zero Ve | rification: | PM w/ HEPA: | 0.00 | <0.2 ug/m3 |

| Annual | Maintenance |
|--------|----------------|
| Annual | Widifficulture |

Date Sample Tube Cleaned: Date RH/T Sensor Cleaned: April 4, 2025 April 4, 2025

Notes:

Replaced the pump. Completed both quarterly and annual maintenance. No issues.

Calibration by:

Max Farrell



Wood Buffalo Environmental Association Nt - NOX - NH3 Calibration Report

Station Information

| Station Name: | Patricia McInnes | Station number: | AMS 06 |
|-------------------|------------------|-----------------|----------------|
| NOX Cal Date: | April 7, 2025 | Last Cal Date: | March 10, 2025 |
| Start time (MST): | 8:30 | End time (MST): | 12:54 |
| NH3 Cal Date: | April 7, 2025 | Last Cal Date: | March 11, 2025 |
| Start time (MST): | 12:56 | End time (MST): | 15:22 |
| Reason: | Routine | | |

Calibration Standards

| NOX Cal Gas Conc: | 47.94 | ppm | NO Gas Cylinder #: | T30YCWN |
|-------------------|-------|----------|---------------------|-------------------|
| NO Cal Gas Conc: | 46.39 | ppm | NO Cal Gas Expiry: | April 11, 2025 |
| Removed NOX Conc: | 47.94 | ppm | Removed Cylinder #: | N/A |
| Removed NO Conc: | 46.39 | 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: | A | VPI T700 | Serial Number: | 3566 |
| ZAG make/model: | A | VPI T701 | Serial Number: | 4602 |

Analyzer Information

| Analyzer model: Converter model: NH3 Range (ppb): | API T201 API T501 0 - 2000 ppb | | Analyzer serial #: Converter serial #: Reaction cell Press: | 215 147 6.20 | |
|---|--------------------------------------|--------|---|--------------------|--------|
| NOX Range (ppb): | 0 - 1000 ppb | | Sample Flow: | 25.4 | |
| 0 (11) | Start | Finish | | Start | Finish |
| NO coefficient: | 1.002 | 1.027 | Nt coefficient: | 0.995 | 1.019 |
| NOX coefficient: | 0.993 | 1.017 | NO bkgrnd: | 0.2 | 0.2 |
| NO2 coefficient: | 1.000 | 1.000 | NOX bkgrnd: | -0.1 | -0.1 |
| NH3 coefficient: | 0.922 | 0.922 | Nt bkgrnd: | 1.7 | 1.7 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|-----------------------------|--------------|---------------|
| NO _x Cal Slope: | 0.996053 | 0.998888 |
| NO _x Cal Offset: | 1.276664 | 1.376032 |
| NO Cal Slope: | 0.991297 | 0.998531 |
| NO Cal Offset: | 0.864516 | 0.982601 |
| NO ₂ Cal Slope: | 1.003410 | 0.999928 |
| NO ₂ Cal Offset: | -0.382664 | 0.923159 |
| NH3 Cal Slope: | 1.005770 | 1.004786 |
| NH3 Cal Offset: | 4.646188 | 9.258156 |
| Nt Cal Slope: | 1.009569 | 1.008514 |
| Nt Cal Offset: | 4.888735 | 9.809090 |



NO_x - NO - NO₂ Calibration Report

NOx / NO / Nt As Found Data

| Set Point | Dilution flow rate (sccm) | Source gas flow rate (sccm) | Calculated NOx concentration (ppb) (Cc) | Calculated NO concentration (ppb) (Cc) | Calculated Nt concentration (ppb) (Cc) | Indicated NOx concentration (ppb) (Ic) | Indicated NO concentration (ppb) (Ic) | Indicated Nt concentration (ppb) (Ic) | Baseline corr NOx Correction factor (Cc/Ic) Limit = 0.9 - 1.0 | Baseline corr NO Correction factor (Cc/Ic) Limit = 0.9 - 1.0 |
|--------------------------------------|------------------------------|--------------------------------|---|--|--|--|---|---|--|---|
| As found zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | -0.3 | -0.7 | | |
| As found span | 4914 | 86.2 | 826.5 | 799.7 | 826.5 | 803.5 | 776.6 | 808.9 | 1.0286 | 1.0298 |
| AF GPT span | | | | | | | | | | |
| new NO cyl rp | | | | | | | | | | |
| Baseline Corr As F | Fd Nt = | 809.6 ppb | NO _x = 803.6 | ppb NO = | 776.9 ppb | | | *Percent Chan | ge Nt _(NO) = | -3.7% |
| Previous Respons | se Nt = | 839.25 ppb | NO _x = 824.5 | ppb NO = | 793.6 ppb | | | *Percent Chan | ge NO _x = | -2.6% |
| **NO _X Δ (NO to GP | PT response) = | | | | | | | *Percent Chan | ge NO = | -2.2% |
| * *= > +/-2% differenc | e initiates investigat | ion | | | | | | * = > +/-5% change | e initiates investigati | on |

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) <i>Limit = 0.95-1.05</i> | NO Correction factor (Cc/Ic) <i>Limit = 0.95-1.05</i> |
|------------------|------------------------------|--------------------------------|---|--|--|--|---|---|--|---|
| Calibration zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.5 | | |
| High point | 4914 | 86.2 | 826.5 | 799.7 | 826.5 | 826.5 | 799.5 | 826.4 | 0.9999 | 1.0003 |
| Mid point | 4957 | 43.1 | 413.2 | 399.9 | 413.2 | 414.1 | 399.4 | 414.8 | 0.9979 | 1.0012 |
| Low point | 4978 | 21.6 | 207.1 | 200.4 | 207.1 | 210.0 | 203.0 | 210.2 | 0.9863 | 0.9873 |
| | | | | | | | Average Co | prrection Factor | 0.9947 | 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/lc) <i>Limit = 0.95-1.05</i> | Converter Efficiency <i>Limit = 96-104%</i> |
|-----------------------------|---|--|--|---|--|--|
| As Found zero | | | 0.0 | 0.2 | | |
| Calibration zero | | | 0.0 | 0.1 | | |
| High GPT point (400 ppb O3) | 797.8 | 397.7 | 426.8 | 427.5 | 0.9984 | 100.2% |
| Mid GPT point (200 ppb O3) | 797.8 | 603.2 | 221.3 | 221.8 | 0.9978 | 100.2% |
| Low GPT point (100 ppb O3) | 797.8 | 697.6 | 126.9 | 129.3 | 0.9816 | 101.9% |
| | | | Av | verage Correction Factor | 0.9926 | 100.8% |



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 | -0.7 | -0.1 | -0.6 | | |
| AF High point | 3416 | 84.0 | 1799.0 | 0.0 | 1799.0 | 1827.4 | 7.8 | 1819.6 | 0.984 | 0.988 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| new NH3 cyl rp | | | | | | | | | | |
| Baseline Corr As F | -d Nt = | 1828.1 ppb | NH3 = 1820.2 | ppb | | | | *Percent Chan | ge Nt _(NH3) : | 0.4% |
| Previous Respons | e Nt = | 1821.1 ppb | NH3 = 1814.1 | ppb | * => +/-5 | % change initiates i | nvestigation | *Percent Chan | ge NH3 = | 0.3% |

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) <i>Limit = 0.95-1.05</i> | NH3 Correction factor (Cc/Ic) <i>Limit = 0.95-1.05</i> |
|------------------|------------------------------|--------------------------------|--|---|---|---|--|--|---|--|
| Calibration zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.1 | 0.4 | | |
| High point | 3416 | 84.0 | 1799.0 | 0.0 | 1799.0 | 1818.7 | 7.0 | 1811.7 | 0.989 | 0.993 |
| Mid point | 3453 | 46.7 | 1000.3 | 0.0 | 1000.3 | 1023.5 | 4.5 | 1019.0 | 0.977 | 0.982 |
| Low point | 3477 | 23.3 | 499.0 | 0.0 | 499.0 | 522.9 | 2.8 | 520.0 | 0.954 | 0.960 |
| | | | | | | | Average Co | prrection Factor | 0.9736 | 0.9781 |
| NH3 Previous Co | onverter Efficiency | /= 92.2 | 2 % | | | | | | | |

NH3 Current Converter Efficiency = 92.2 %

Notes:

Changed the inlet filter after as founds. Adjusted the NOX span.

Calibration Performed By:

Max Farrell

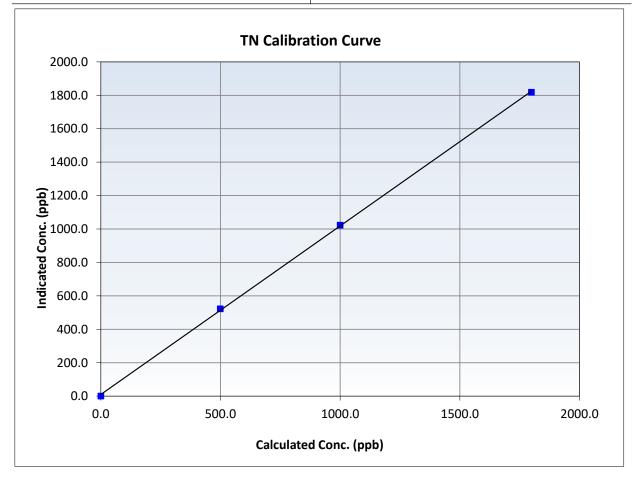


Nt Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:30 | End Time (MST): | 12:54 |
| Analyzer make: | API T201 | Analyzer serial #: | 215 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.5 | | Correlation Coefficient | 0.999868 | ≥0.995 |
| 1799.0 1000.3 | 1818.7 1023.5 | 0.9892 0.9773 | Slope | 1.008514 | 0.90 - 1.10 |
| 499.0 | 522.9 | 0.9542 | Intercept | 9.809090 | +/-20 |



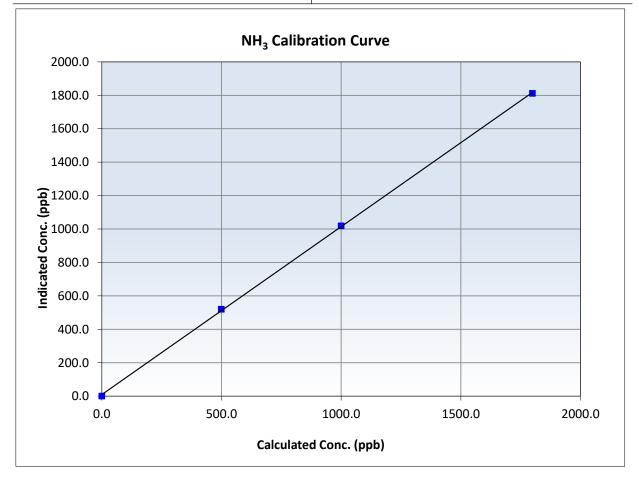


NH₃ Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:30 | End Time (MST): | 12:54 |
| Analyzer make: | API T201 | Analyzer serial #: | 215 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.4 | | Correlation Coefficient | 0.999879 | ≥0.995 |
| 1799.0 1000.3 | 1811.7 1019.0 | 0.9930 0.9816 | Slope | 1.004786 | 0.90 - 1.10 |
| 499.0 | 520.0 | 0.9596 | Intercept | 9.258156 | +/-20 |



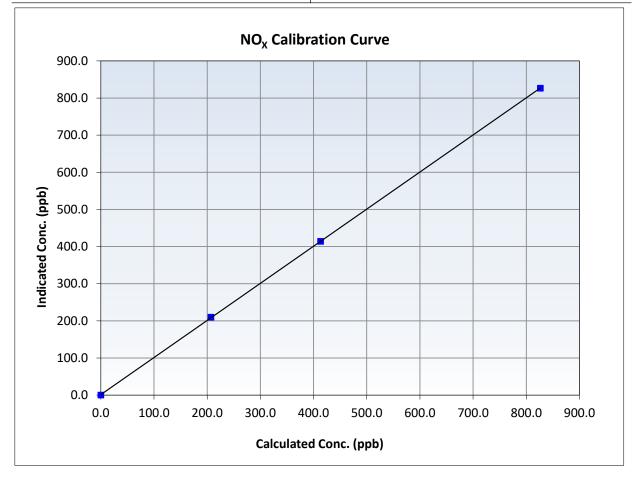


NO_x Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:30 | End Time (MST): | 12:54 |
| Analyzer make: | API T201 | Analyzer serial #: | 215 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999987 | ≥0.995 |
| 826.5 413.2 | 826.5 414.1 | 0.9999 0.9979 | Slope | 0.998888 | 0.90 - 1.10 |
| 207.1 | 210.0 | 0.9863 | Intercept | 1.376032 | +/-20 |



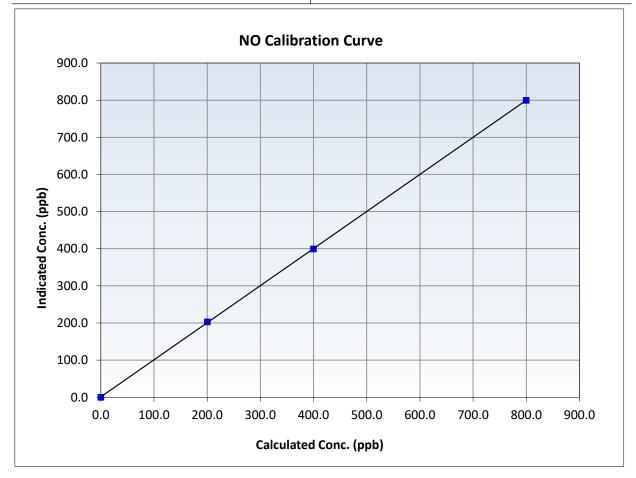


NO Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:30 | End Time (MST): | 12:54 |
| Analyzer make: | API T201 | Analyzer serial #: | 215 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999985 | ≥0.995 |
| 799.7 399.9 | 799.5 399.4 | 1.0003 1.0012 | Slope | 0.998531 | 0.90 - 1.10 |
| 200.4 | 203.0 | 0.9873 | Intercept | 0.982601 | +/-20 |



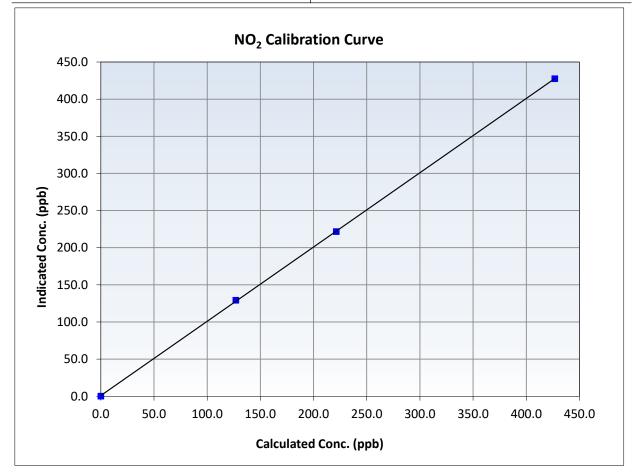


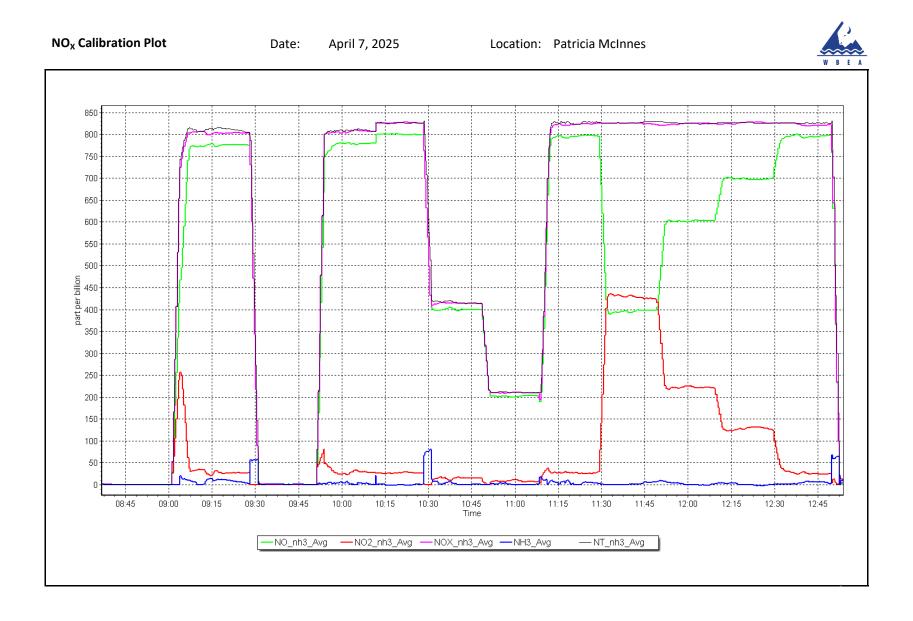
NO₂ Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Patricia McInnes | Station Number: | AMS 06 |
| Start Time (MST): | 8:30 | End Time (MST): | 12:54 |
| Analyzer make: | API T201 | Analyzer serial #: | 215 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999969 | ≥0.995 |
| 426.8 221.3 | 427.5 221.8 | 0.9984 0.9978 | Slope | 0.999928 | 0.90 - 1.10 |
| 126.9 | 129.3 | 0.9816 | Intercept | 0.923159 | +/-20 |









WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS07 ATHABASCA VALLEY APRIL 2025

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

May 30, 2025



Station Name:

Calibration Date:

Start time (MST):

Wood Buffalo Environmental Association SO₂ Calibration Report

Station number: AMS07

End time (MST): 11:30

Last Cal Date: March 11, 2025

Station Information

Athabasca Valley

April 8, 2025

8:20

| Reason: | Routine | | | | |
|------------------------|----------------|------------------------|----------------------|---------------|---------------|
| | | Calibration S | Standards | | |
| Cal Gas Concentration: | 50.06 | ppm | Cal Gas Exp Date: Ma | arch 10, 2031 | |
| Cal Gas Cylinder #: | CC320556 | | | | |
| Removed Cal Gas Conc: | 50.06 | ppm | Rem Gas Exp Date: NA | ١ | |
| Removed Gas Cyl #: | NA | | Diff between cyl: | | |
| Calibrator Model: | API T700 | | Serial Number: 38 | 05 | |
| Zero Air Gen Model: | API 701H | | Serial Number: 19 | 8 | |
| | | Analyzer Inf | ormation | | |
| Analyzer make: | Thermo 43i-LTE | | Serial Number: 15 | 07864683 | |
| Analyzer Range: | 0 - 1000 ppb | | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 0.997988 | 0.999033 | Backgd or Offset: | 2.70 | 2.73 |
| Calibration intercept: | 2.224556 | 2.384086 | Coeff or Slope: | 0.859 | 0.866 |
| | | SO ₂ As Fou | nd 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 As found Mid point | 4920 | 79.8 | 799.0 | 793.8 | 1.007 |
| As found Low point New cylinder response | | | | | |
| Baseline Corr As found: | 793.8 | Previous response | 799.6 | *% change | -0.7% |
| Baseline Corr 2nd AF pt: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.2 | |
| High point | 4920 | 79.8 | 799.0 | 799.1 | 1.000 |
| Mid point | 4960 | 39.9 | 399.5 | 403.8 | 0.989 |
| Low point | 4980 | 20.0 | 200.2 | 203.8 | 0.983 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4920 | 79.8 | 799.0 | 799.2 | 1.000 |
| | | | Averag | ge Correction Factor: | 0.991 |

Notes:

Inlet filter changed after as founds. Span adjusted.

Calibration Performed By:

Devin Russell

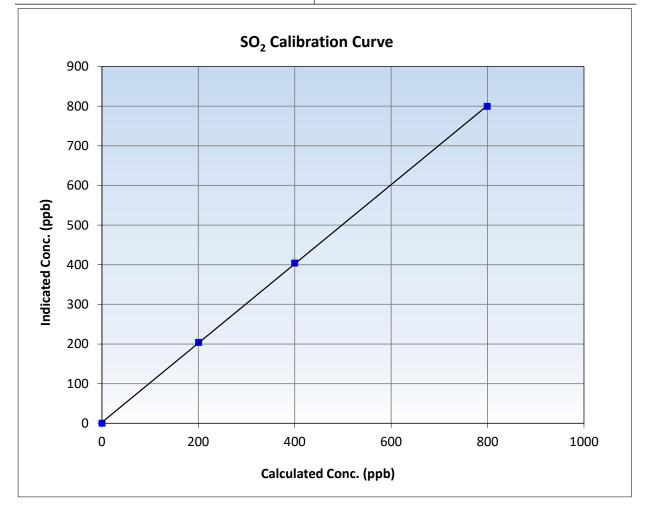


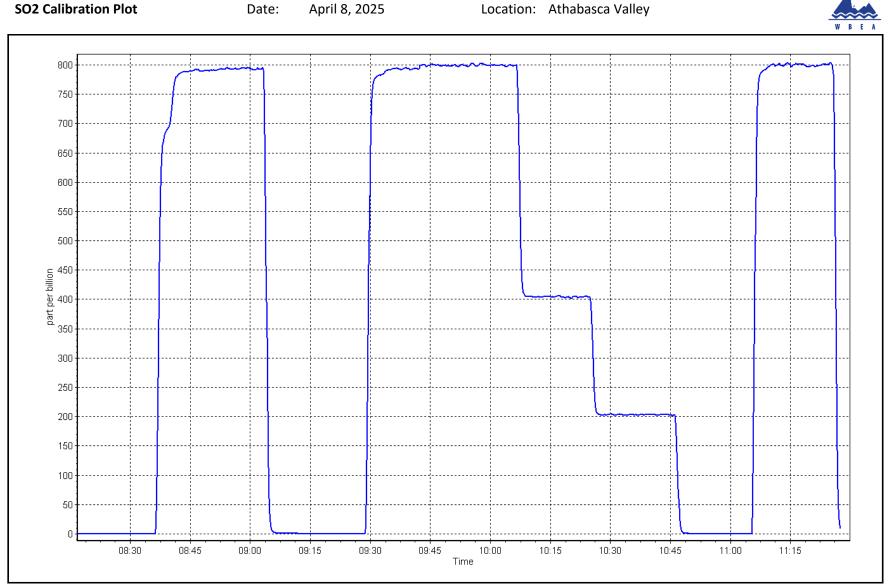
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 8, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Athabasca Valley | Station Number: | AMS07 |
| Start Time (MST): | 8:20 | End Time (MST): | 11:30 |
| Analyzer make: | Thermo 43i-LTE | Analyzer serial #: | 1507864683 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999959 | ≥0.995 |
| 799.0 399.5 | 799.1 403.8 | 0.9999 0.9893 | Slope | 0.999033 | 0.90 - 1.10 |
| 200.2 | 203.8 | 0.9825 | Intercept | 2.384086 | +/-30 |







Wood Buffalo Environmental Association TRS Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Athabasca Valley April 4, 2025 9:52 Routine | | Station number: Last Cal Date: End time (MST): | AMS07 March 5, 2025 14:16 | | |
|--|--|--------------------|--|---------------------------------|---------|---------------|
| | | Calibration | <u>Standards</u> | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 5.25 CC504080 | ppm | Cal Gas Exp Date: | January 3, 2026 | | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 5.25 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | | |
| Calibrator Make/Model: | API T700 | | Serial Number: | 3805 | | |
| ZAG Make/Model: | API T701H | | Serial Number: | 198 | | |
| | | Analyzer Inf | ormation | | | |
| Analyzer make: | Thermo 43i LTE | | Analyzer serial #: | 1180540018 | | |
| Converter make: | CDN-101 | | Converter serial #: | 551 | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | 8 | 40 degC | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | <u>Finish</u> |
| Calibration slope: | 1.011167 | 1.013763 | Backgd or Offset: | 2.7 | | 2.7 |
| Calibration intercept: | -0.282221 | -0.122264 | Coeff or Slope: | 0.908 | | 0.908 |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.2 | |
| As found High point | 4925 | 75.5 | 79.3 | 80.1 | 0.987 |
| As found Mid point | 4962 | 37.7 | 39.6 | 40.0 | 0.985 |
| As found Low point | 4981 | 18.9 | 19.8 | 19.7 | 0.997 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 80.3 | Prev response: | 79.87 | *% change: | 0.5% |
| Baseline Corr 2nd AF pt: | 40.2 | AF Slope: | 1.014050 | AF Intercept: | -0.262148 |
| Baseline Corr 3rd AF pt: | 19.9 | AF Correlation: | 0.999987 | * = > +/-5% change initiate | es 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 | 80.3 | 0.988 |
| Mid point | 4962 | 37.7 | 39.6 | 40.0 | 0.990 |
| Low point | 4981 | 18.9 | 19.9 | 20.0 | 0.993 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 4925 | 75.5 | 79.3 | 79.9 | 0.993 |
| SO2 Scrubber Check | 4920 | 79.2 | 792.1 | 0.2 | |
| Date of last scrubber cha | inge: | 21-Feb-25 | | Ave Corr Factor | 0.990 |
| Date of last converter eff | ficiency test: | April 22, 2022 | | _ | |

No adjusments needed.

Notes:

Calibration Performed By:

Aswin Sasi Kumar



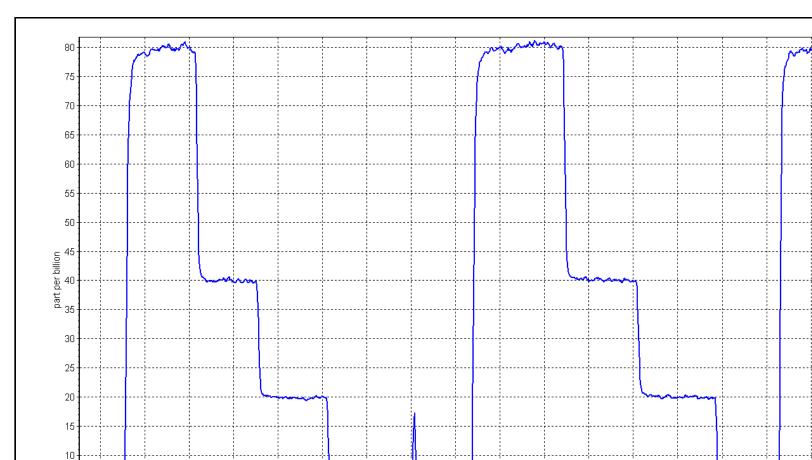
TRS Calibration Summary

Station Information

| Calibration Date: | April 4, 2025 | Previous Calibration: | March 5, 2025 |
|-------------------|------------------|-----------------------|---------------|
| Station Name: | Athabasca Valley | Station Number: | AMS07 |
| Start Time (MST): | 9:52 | End Time (MST): | 14:16 |
| Analyzer make: | Thermo 43i LTE | Analyzer serial #: | 1180540018 |

Calibration Data Calculated concentration Indicated concentration Correction factor (Cc/lc) Statistical Evaluation <u>Limits</u> (ppb) (Cc) (ppb) (Ic) **Correlation Coefficient** 0.999999 ≥0.995 0.0 -0.1 ----79.3 80.3 0.9877 Slope 0.90 - 1.10 1.013763 39.6 40.0 0.9902





5

0

10:00

10:15

10:30

11:00

10:45

11:15

11:30

11:45

12:00 Time

12:15

12:30

12:45

13:00

13:15

Date: April 4, 2025

Location: Athabasca Valley



14:15

13:30

13:45

14:00



Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Analyzer serial #: 1331259520

NMHC/CH4 Range: 0 - 10 ppm

Station Information

| Station Name: | Athabasca Valley | Station number: AMS 07 |
|-------------------|------------------|-------------------------------|
| Calibration Date: | April 8, 2025 | Last Cal Date: March 11, 2025 |
| Start time (MST): | 8:20 | End time (MST): 11:30 |
| Reason: | Routine | |
| | | |
| | | |

Calibration Standards

| Gas Cert Reference: | CC320556 | Cal Gas Expiry Date: | 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 THC Range: 0 - 20 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 2.99E-03 | 3.02E-03 | NMHC SP Ratio: | 5.57E-05 | 5.65E-05 |
| CH4 Retention time: | 14.4 | 14.4 | NMHC Peak Area: | 161721 | 159257 |
| 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 | 16.72 | 1.012 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 16.72 | Prev response | 16.92 | *% change | -1.2% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4920 | 79.8 | 16.91 | 16.93 | 0.999 |
| Mid point | 4960 | 39.9 | 8.46 | 8.51 | 0.994 |
| Low point | 4980 | 20.0 | 4.24 | 4.31 | 0.984 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.8 | 16.91 | 17.00 | 0.995 |
| | | | Avera | ge Correction Factor | 0.992 |

Notes:

Inlet filter changed after as founds. Span adjusted.



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4920 | 79.8 | 9.00 | 8.90 | 1.012 |
| Baseline Corr AF: | 8.90 | Prev response | 9.00 | *% change | -1.2% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | ites 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|--|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4920 | 79.8 | 9.00 | 9.03 | 0.997 |
| Mid point | 4960 | 39.9 | 4.50 | 4.55 | 0.988 |
| Low point | 4980 | 20.0 | 2.26 | 2.31 | 0.977 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.8 | 9.00 | 9.07 | 0.993 |
| | | | Avera | ge Correction Factor | 0.987 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|--|----------------------------------|---|--|---|--|
| 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 As found Mid point As found Low point New cylinder response | 4920 | 79.8 | 7.92 | 7.82 | 1.012 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 7.82 NA NA | Prev response AF Slope: AF Correlation: | 7.91 | *% change AF Intercept: * = > +/-5% change initia | |

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 |
|-----------------|----------------------------------|--------------------------------|--|---|--|
| | (seeiii) | (seeiii) | (ppin) (cc) | (ppiii) (ic) | Linit - 0.55 1.65 |
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4920 | 79.8 | 7.92 | 7.90 | 1.002 |
| Mid point | 4960 | 39.9 | 3.96 | 3.95 | 1.001 |
| Low point | 4980 | 20.0 | 1.98 | 2.00 | 0.993 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.8 | 7.92 | 7.93 | 0.999 |
| | | | Avera | age Correction Factor | 0.999 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 0.998416 | 1.000066 |
| THC Cal Offset: | 0.030657 | 0.033446 |
| CH4 Cal Slope: | 0.998146 | 0.997613 |
| CH4 Cal Offset: | 0.012263 | 0.006863 |
| NMHC Cal Slope: | 0.998641 | 1.002237 |
| NMHC Cal Offset: | 0.018194 | 0.025783 |
| | | |

Calibration Performed By:

Devin Russell

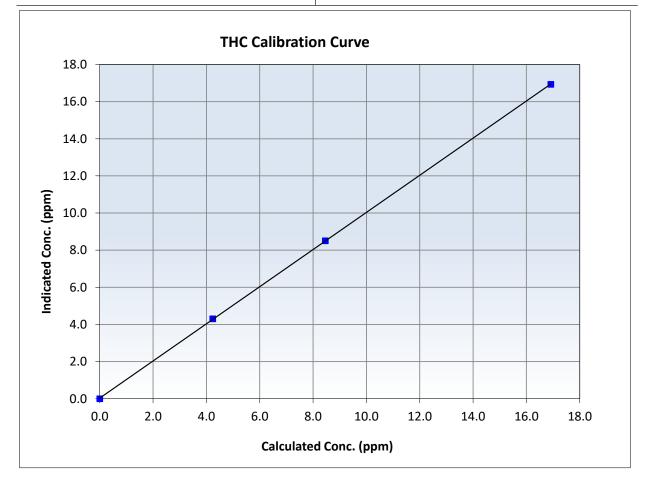


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 8, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Athabasca Valley | Station Number: | AMS 07 |
| Start Time (MST): | 8:20 | End Time (MST): | 11:30 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1331259520 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999982 | ≥0.995 |
| 16.91 8.46 | 16.93 8.51 | 0.9990 0.9940 | Slope | 1.000066 | 0.90 - 1.10 |
| 4.24 | 4.31 | 0.9844 | Intercept | 0.033446 | +/-0.5 |



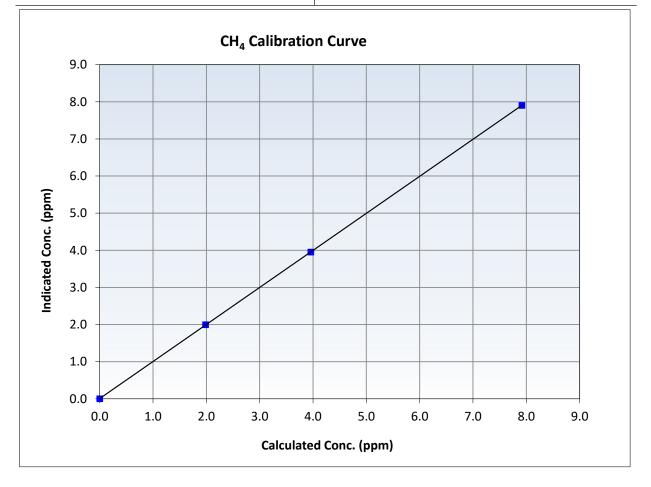


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 8, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Athabasca Valley | Station Number: | AMS 07 |
| Start Time (MST): | 8:20 | End Time (MST): | 11:30 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1331259520 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999995 | ≥0.995 |
| 7.92 3.96 | 7.90 3.95 | 1.0017 1.0013 | Slope | 0.997613 | 0.90 - 1.10 |
| 1.98 | 2.00 | 0.9935 | Intercept | 0.006863 | +/-0.5 |



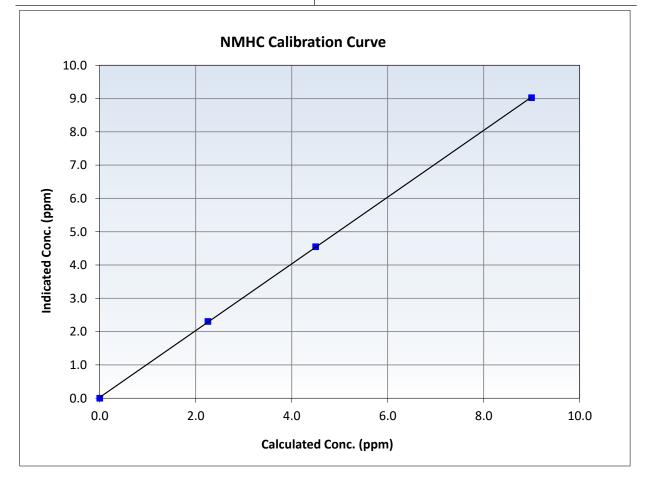


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

| Calibration Date: | April 8, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Athabasca Valley | Station Number: | AMS 07 |
| Start Time (MST): | 8:20 | End Time (MST): | 11:30 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1331259520 |

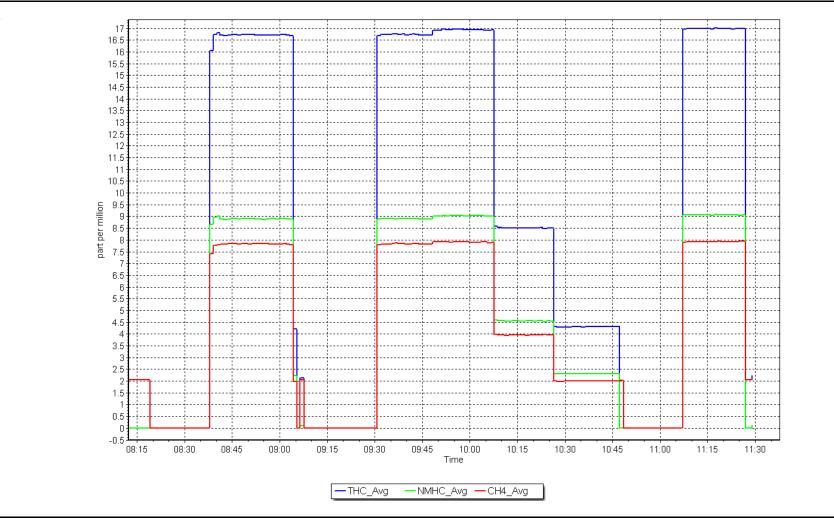
| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999962 | ≥0.995 |
| 9.00 4.50 | 9.03 4.55 | 0.9965 0.9881 | Slope | 1.002237 | 0.90 - 1.10 |
| 2.26 | 2.31 | 0.9770 | Intercept | 0.025783 | +/-0.5 |



NMHC Calibration Plot

Location: Athabasca Valley







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Analyzer serial #: 1331259520

NMHC/CH4 Range: 0 - 10 ppm

Station Information

| Station Name: | Athabasca Valley | Station number: AMS 07 | |
|--------------------|------------------|----------------------------|-------|
| Calibration Date: | April 17, 2025 | Last Cal Date: April 8, 20 | 25 |
| Start time (MST): | 9:30 | End time (MST): 11:00 | |
| Reason: | Cylinder Change | | |
| | | Calibration Standards | |
| Gas Cert Reference | CC320556 | Cal Gas Expiry Date | March |

| | Cal Gas Expiry Date: | March 10, 2031 |
|-------------------|---|--|
| 496.0 ppm | CH4 Equiv Conc. | 1059.8 ppm |
| 205.0 ppm | | |
| NA | Removed Gas Expiry: | NA |
| 496.0 ppm | CH4 Equiv Conc. | 1059.8 ppm |
| 205.0 ppm | Diff between cyl (THC): Diff between cyl (NM): | |
| eledyne API T700 | Serial Number: | 3805 |
| eledyne API T701H | Serial Number: | 198 |
| | 205.0 ppm NA 496.0 ppm 205.0 ppm eledyne API T700 | 205.0 ppmNARemoved Gas Expiry:496.0 ppmCH4 Equiv Conc.205.0 ppmDiff between cyl (THC): Diff between cyl (NM):eledyne API T700Serial Number: |

Analyzer Information

Analyzer make: Thermo 55i THC Range: 0 - 20 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 3.02E-03 | 3.02E-03 | NMHC SP Ratio: | 5.65E-05 | 5.65E-05 |
| CH4 Retention time: | 14.4 | 14.4 | NMHC Peak Area: | 159257 | 159257 |
| 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 As found Mid point As found Low point New cylinder response | 4920 | 79.8 | 16.91 | 17.12 | 0.988 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 17.12 NA NA | Prev response AF Slope: AF Correlation: | 16.95 | *% change AF Intercept: * = > +/-5% change initiate | 1.0% es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | | | | | |
| High point | | | | | |
| Mid point | | | | | |
| Low point | | | | | |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.8 | 16.91 | 16.71 | 1.012 |
| | | | Avera | ge Correction Factor | |
| Notes: | | H2 cylinder o | change, minimal change | e in response. | |



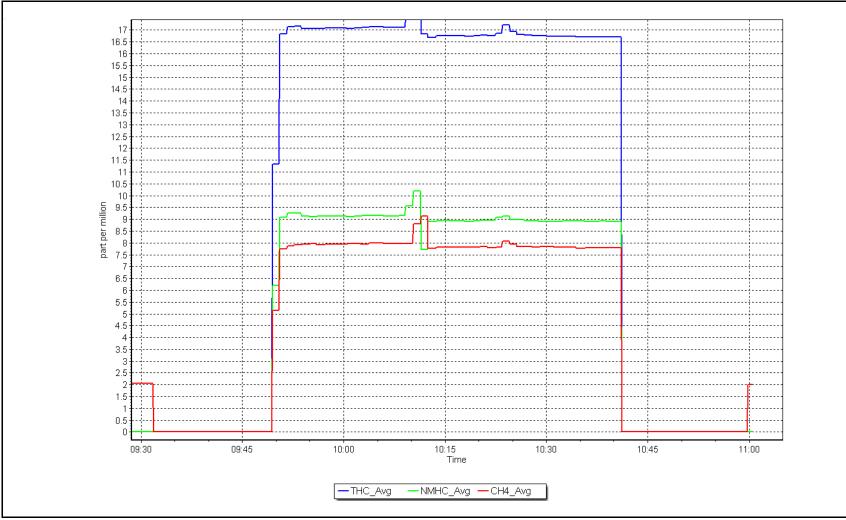
Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

NMHC As Found Data

| WBEA | | NMHC As Fe | ound Data | | |
|--|----------------------------------|--------------------------------|--|---|--|
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration C (ppm) (Ic) | Baseline Adjusted Correction factor (Cc/(I AFzero)) Limit = 0.90-1.10 |
| As found zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As found High point As found Mid point As found Low point New cylinder response | 4920 | 79.8 | 9.00 | 9.15 | 0.984 |
| Baseline Corr AF: Baseline Corr 2nd AF: | 9.15 NA | Prev response AF Slope: | 9.04 | *% change AF Intercept: | 1.1% |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |
| | | NMHC Calib | ration Data | | |
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration C (ppm) (Ic) | Correction factor (Cc/lc 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 | 5000 4920 | 0.0 79.8 | 0.00 9.00 | 0.00 8.91 | 1.010 |
| As left span | 4920 | 79.0 | | ge Correction Factor | 1.010 |
| | | CH4 As Fo | und Data | | |
| | | | | | Baseline Adjusted |
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration C (ppm) (Ic) | Correction factor (Cc/(AFzero)) Limit = 0.90-1.10 |
| As found zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As found High point As found Mid point As found Low point New cylinder response | 4920 | 79.8 | 7.92 | 7.97 | 0.993 |
| Baseline Corr AF: Baseline Corr 2nd AF: | 7.97 NA | Prev response AF Slope: | 7.90 | *% change AF Intercept: | 0.8% |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |
| | | CH4 Calibra | ation Data | | |
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration C (ppm) (Ic) | Correction factor (Cc/lo Limit = 0.95-1.05 |
| Calibrator zero High point Mid point Low point | | | | | |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.8 | 7.92 | 7.79 | 1.016 |
| | | | Avera | ge Correction Factor | |
| | | Calibration | Statistics | | |
| | | <u>Start</u> | | <u>Finish</u> | |
| THC Cal Slope: | | 1.000066 | | | |
| THC Cal Offset: | | 0.033446 | | | |
| CH4 Cal Slope: | | 0.997613 0.006863 | | | |
| CH4 Cal Offset: NMHC Cal Slope: | | 0.006863 | | | |
| NMHC Cal Offset: | | 0.025783 | | | |
| Calibration Per | formed By: | Ryan Power | | | |
| | | | | | |

NMHC Calibration Plot







Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Athabasca Valley | NO Gas Cylinder #: | DT0033919 | Cal Gas Expiry Date: January 9, 2032 |
|-------------------|------------------|-----------------------|-----------|--------------------------------------|
| Station number: | AMS 07 | NOX Cal Gas Conc: | 60.10 ppm | NO Cal Gas Conc: 59.90 ppm |
| Calibration Date: | April 1, 2025 | Removed Cylinder #: | N/A | Removed Gas Exp Date: N/A |
| Last Cal Date: | March 10, 2025 | Removed Gas NOX Conc: | 60.10 ppm | Removed Gas NO Conc: 59.90 ppm |
| Start time (MST): | 8:44 | NOX gas Diff: | | NO gas Diff: |
| End time (MST): | 14:44 | Calibrator Model: | API T700 | Serial Number: 3805 |
| Reason: | Routine | 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)) <i>Limit = 0.90 - 1.10</i> | 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 | 804.4 | 801.3 | 3.2 | 0.9982 | 0.9987 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 802.9 ppb | NO = 801.2 | ppb | * = > +/-5 | % change initiates i | nvestigation | *Percent Chang | ge NO _x = | 0.2% |
| Baseline Corr 1 | .st pt NO _x = | 804.4 ppb | NO = 801.3 | ppb | <u>As Four</u> | d Statistics | | *Percent Chang | ge NO = | 0.0% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d $NO_X r^2$: | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d $NO_2 r^2$: | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calib | ration Data | | | | |
| | | | | | | | | Baseline Adjust | | |
| O2 Soto | aint (anh) | Indicated NO Re | ference Indie | cated NO Drop | Calculated N | 02 In | dicated NO2 | Correction fa | actor Conv | erter Efficiency |

 O3 Setpoint (ppb)
 Indicated NO Reference
 Indicated NO Drop
 Calculated NO2
 Indicated NO2
 Correction factor
 Converter Efficiency

 Concentration (ppb)
 concentration (ppb)
 concentration (ppb)
 concentration (ppb) (Cc)
 concentration (ppb) (IC)
 (Cc/(Ic-AFzero))
 Limit = 96-104%

 Converter Efficiency
 Limit = 0.90 - 1.10
 Limit = 0.90 - 1.10
 Limit = 0.90 - 1.10

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1160120 | 024 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 0.997767 | 1.001766 |
| | | | Instrument Settings | | | NO _x Cal Offset: | 1.751943 | 2.271883 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 0.999427 | 1.004283 |
| NO coeff or slope: | 1.155 | 1.161 | NO bkgnd or offset: | 8.3 | 8.3 | NO Cal Offset: | 1.411957 | 1.711898 |
| NOX coeff or slope: | 1.004 | 1.004 | NOX bkgnd or offset: | 8.6 | 8.6 | NO ₂ Cal Slope: | 1.002402 | 0.997518 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 229.8 | 226.7 | NO ₂ Cal Offset: | 1.579936 | 0.612052 |

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 | 4933 | 66.8 | 803.0 | 800.3 | 2.7 | 805.3 | 804.3 | 1.0 | 0.9971 | 0.9950 |
| Mid point | 4966 | 33.4 | 401.5 | 400.2 | 1.3 | 406.6 | 405.5 | 1.1 | 0.9875 | 0.9869 |
| Low point | 4983 | 16.7 | 200.7 | 200.1 | 0.7 | 204.6 | 203.4 | 1.2 | 0.9812 | 0.9837 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | | |
| As left span | 4933 | 66.8 | 803.0 | 395.4 | 407.6 | 806.7 | 395.4 | 411.4 | 0.9954 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9886 | 0.9885 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (C | Indicated NO2 c) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|---------------------------------------|--|--|--|--|
| Cal zero | | | 0.0 | 0.1 | | |
| High GPT point | 800.0 | 396.5 | 406.2 | 405.9 | 1.0007 | 99.9% |
| Mid GPT point | 800.0 | 599.3 | 203.4 | 202.6 | 1.0038 | 99.6% |
| Low GPT point | 800.0 | 701.3 | 101.4 | 103.0 | 0.9842 | 101.6% |
| | | | | Average Correction Factor | 0.9962 | 100.4% |

Notes:

Span adjusted.

Calibration Performed By:

Aswin Sasi Kumar

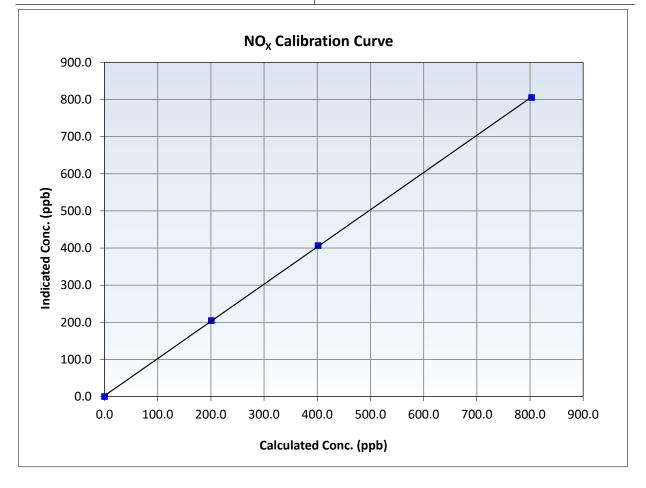


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Athabasca Valley | Station Number: | AMS 07 |
| Start Time (MST): | 8:44 | End Time (MST): | 14:44 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1160120024 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 0.999967 | ≥0.995 |
| 803.0 401.5 | 805.3 406.6 | 0.9971 0.9875 | Slope | 1.001766 | 0.90 - 1.10 |
| 200.7 | 204.6 | 0.9812 | Intercept | 2.271883 | +/-20 |



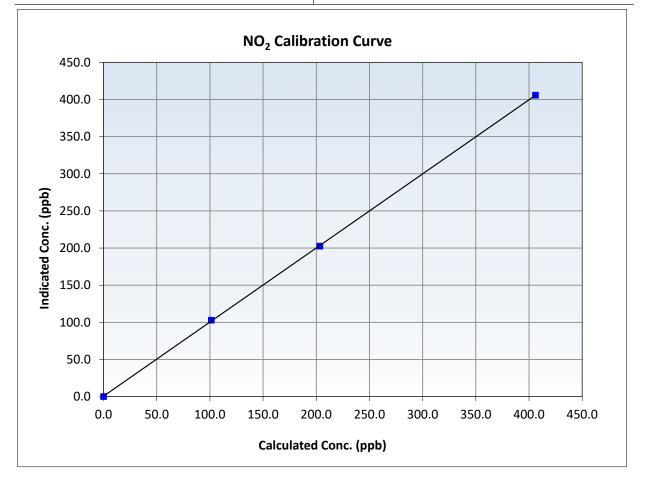


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Athabasca Valley | Station Number: | AMS 07 |
| Start Time (MST): | 8:44 | End Time (MST): | 14:44 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1160120024 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999970 | ≥0.995 |
| 406.2 203.4 | 405.9 202.6 | 1.0007 1.0038 | Slope | 0.997518 | 0.90 - 1.10 |
| 101.4 | 103.0 | 0.9842 | Intercept | 0.612052 | +/-20 |



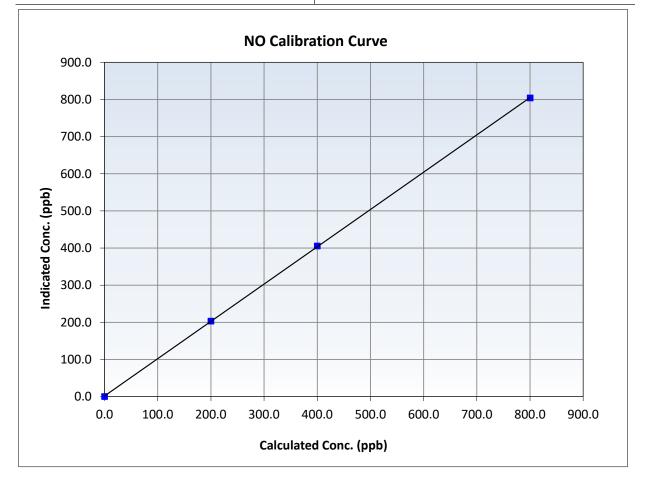


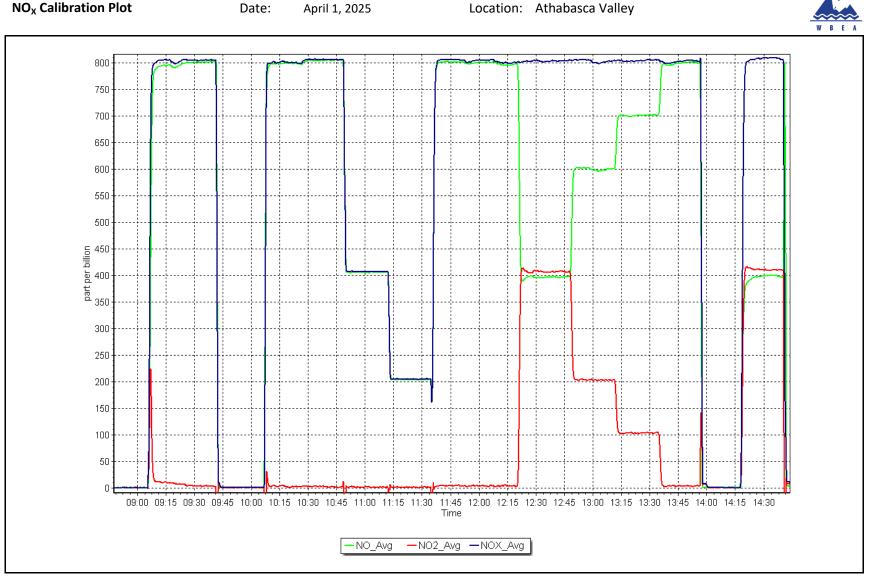
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Athabasca Valley | Station Number: | AMS 07 |
| Start Time (MST): | 8:44 | End Time (MST): | 14:44 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1160120024 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | lation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999978 | ≥0.995 |
| 800.3 400.2 | 804.3 405.5 | 0.9950 0.9869 | Slope | 1.004283 | 0.90 - 1.10 |
| 200.1 | 203.4 | 0.9837 | Intercept | 1.711898 | +/-20 |







Wood Buffalo Environmental Association O₃ Calibration Report

Station Information

| Station Name: Calibration Date: | Athabasca Valley April 7, 2025 | | Station number: | AMS07 March 17, 2025 |
|------------------------------------|-----------------------------------|-----------------|--------------------|-------------------------|
| Start time (MST): | 9:05 | | End time (MST): | , |
| Reason: | Routine | | Lind time (1951). | 12.40 |
| | | | | |
| | | Calibration Sta | andards | |
| O3 generation mode: | Photometer | | | |
| Calibrator Make/Model: | T700 | | Serial Number: | 3805 |
| ZAG Make/Model: | T701H | | Serial Number: | 198 |
| | | Analyzer Infor | mation | |
| | | Analyzer mior | | |
| Analyzer make: | Thermo 49i | | Analyzer serial #: | 1152220023 |
| Analyzer Range | 0 - 500 ppb | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> |
| Calibration slope: | 1.001457 | 0.999600 | Backgd or Offset: | -1.2 |
| Calibration intercept: | 0.820000 | 1.020000 | Coeff or Slope: | 1.605 |

O₃ 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 | 1704.0 | 400.0 | 412.7 | 0.969 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| Baseline Corr As found: | 412.6 | Previous response | 401.4 | *% change | 2.7% |
| Baseline Corr 2nd AF pt: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initia | ates investigation |

O₃ Calibration Data

| Set Point | Total air flow rate (sccm) | Calibrator Lamp Voltage Drive (mV) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|-----------------|-------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|--|
| Calibrator zero | 5000 | 800.0 | 0.0 | 0.1 | |
| High point | 5000 | 1706.0 | 400.0 | 400.4 | 0.999 |
| Mid point | 5000 | 1175.0 | 200.0 | 201.4 | 0.993 |
| Low point | 5000 | 926.0 | 100.0 | 101.9 | 0.981 |
| As left zero | 5000 | 1652.9 | 0.0 | 0.1 | |
| As left span | 5000 | 1582.6 | 400.0 | 402.8 | 0.993 |
| | | | Averag | e Correction Factor | 0.991 |

Notes:

Inlet filter changed after as founds. Adjusted span.

Calibration Performed By:

Devin Russell

Finish -1.1 1.556

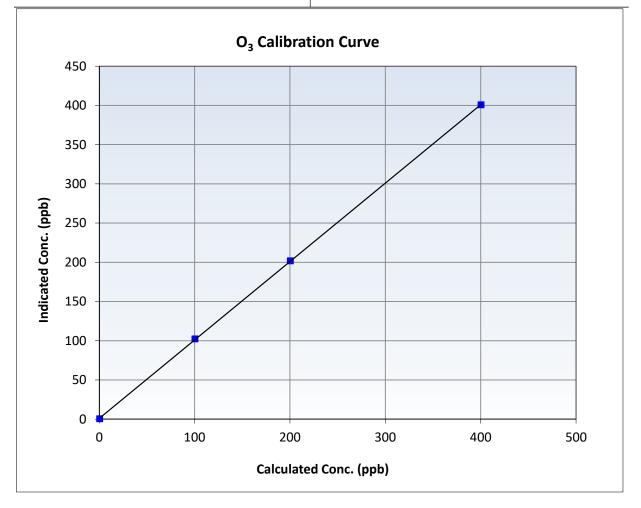


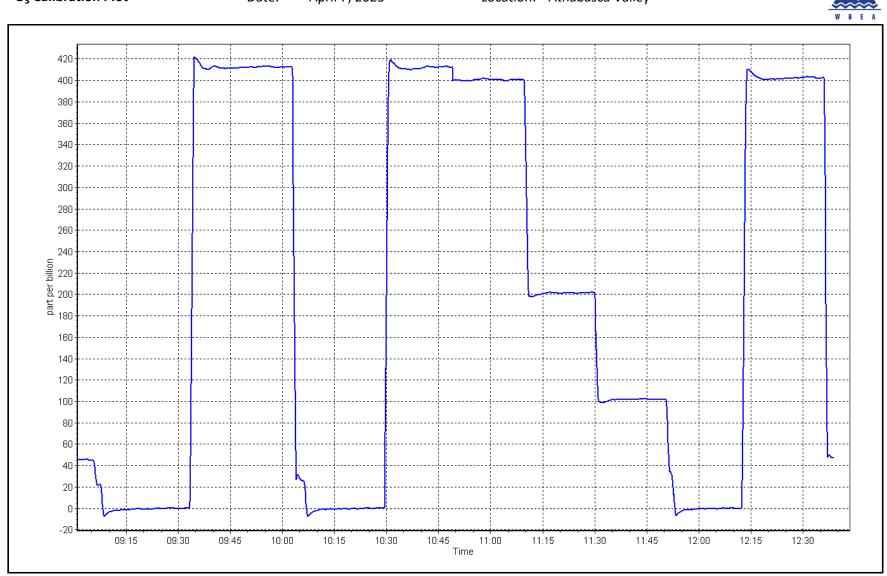
Wood Buffalo Environmental Association O₃ Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Athabasca Valley | Station Number: | AMS07 |
| Start Time (MST): | 9:05 | End Time (MST): | 12:40 |
| Analyzer make: | Thermo 49i | Analyzer serial #: | 1152220023 |

| Calculated concentratior (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999976 | ≥0.995 |
| 400.0 200.0 | 400.4 201.4 | 0.9990 0.9930 | Slope | 0.999600 | 0.90 - 1.10 |
| 100.0 | 101.9 | 0.9814 | Intercept | 1.020000 | +/- 5 |





O₃ Calibration Plot

Date: April 7, 2025

Location: Athabasca Valley



Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

Version-01-2024

| | | Station Information | n | | | |
|--|--|--|---|-----------------|----------------------|-----------------|
| Station Name: | Athabasca Valley | | Station number: | AMS 07 | | |
| Calibration Date: | April 1, 2025 | | | March 24, 2025 | 5 | |
| Start time (MST): | 8:43 | | End time (MST): | 9:45 | | |
| Analyzer Make: | API T640 | | S/N: | 645 | | |
| Particulate Fraction: | PM2.5 | | | | | |
| Flow Meter Make/Model: | Alicat FP-25BT | | • | 388748 | | |
| Temp/RH standard: | Alicat FP-25BT | | S/N: | 388748 | | |
| | | Monthly Calibration T | est | | | |
| <u>Parameter</u> | <u>As found</u> | Measured | <u>As left</u> | Ad | ljusted | (Limits) |
| T (°C) | -2.4 | -2.9 | | | | +/- 2 °C |
| P (mmHg) | 729.6 | 729.1 | | | | +/- 10 mmH |
| Flow (LPM) | 5.00 | 4.75 | | | | +/- 0.25 LPN |
| | 38 | | | | | >80% |
| PW% (pump) | 30 | | | | | |
| Zero Verification | PM w/o HEPA: _ | | PM w/ HEPA: serve as the pre ma gnment Factor On : | aintenance leak | check | <0.2 ug/m3 |
| Zero Verification Note: this leak check will be | PM w/o HEPA: | uarterly work and will | serve as the pre ma gnment Factor On : | aintenance leak | check | <0.2 ug/m3 |
| Zero Verification Note: this leak check will be PM Inlet observation : | PM w/o HEPA: | uarterly work and will | serve as the pre ma gnment Factor On : Test | aintenance leak | | |
| Zero Verification Note: this leak check will be | PM w/o HEPA: e completed before the c Inlet Head Clean Refractive Index: | uarterly work and will Alig Quarterly Calibration | serve as the pre ma gnment Factor On : | aintenance leak | check ber 6, 20 | |
| Zero Verification Note: this leak check will be PM Inlet observation : | PM w/o HEPA: e completed before the c Inlet Head Clean Refractive Index: | uarterly work and will Alig Quarterly Calibration 10.9 | serve as the pre ma gnment Factor On : Test | aintenance leak | | |
| Zero Verification Note: this leak check will be PM Inlet observation : SPAN DUST | PM w/o HEPA: e completed before the c Inlet Head Clean Refractive Index: Lot No.: 1 | uarterly work and will Alia Quarterly Calibration 10.9 .00128-050-042 | serve as the pre ma gnment Factor On : Test Expiry Date: | aintenance leak | ber 6, 20 |)24 |
| Zero Verification Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> | PM w/o HEPA: e completed before the c Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> | uarterly work and will Alia Quarterly Calibration 10.9 .00128-050-042 | serve as the pre ma gnment Factor On : Test Expiry Date: <u>As left</u> | aintenance leak | ber 6, 20 |)24 (Limits) |
| Zero Verification Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test | PM w/o HEPA: e completed before the c Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> nber Cleaned: | Juarterly work and will Alig Quarterly Calibration 10.9 00128-050-042 Post maintenance | serve as the pre ma gnment Factor On : Test Expiry Date: <u>As left</u> 7, 2025 | aintenance leak | ber 6, 20 |)24 (Limits) |
| Zero Verification Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F | PM w/o HEPA: e completed before the c Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> nber Cleaned: | Juarterly work and will Alig Quarterly Calibration 10.9 00128-050-042 Post maintenance February 23 | serve as the pre ma gnment Factor On : Test Expiry Date: <u>As left</u> 7, 2025 | aintenance leak | ber 6, 20 ljusted |)24 (Limits) |
| Zero Verification Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F | PM w/o HEPA: e completed before the c Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> nber Cleaned: | Juarterly work and will Alig Quarterly Calibration 10.9 00128-050-042 Post maintenance February 23 February 23 | serve as the pre ma gnment Factor On : Test Expiry Date: <u>As left</u> 7, 2025 7, 2025 0.0 | aintenance leak | ber 6, 20 ljusted |)24 (Limits) |
| Zero Verification Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char | PM w/o HEPA: e completed before the o Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> nber Cleaned: ilter Changed: rification: | Juarterly work and will Alia Quarterly Calibration 10.9 00128-050-042 Post maintenance February 22 February 22 PM w/ HEPA: | serve as the pre ma gnment Factor On : Test Expiry Date: <u>As left</u> 7, 2025 7, 2025 0.0 | aintenance leak | ber 6, 20 ljusted |)24 (Limits) |

Notes:

Removal calibration. Flow, temp and pressure checked. Leak check failed.

Calibration by:



Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

Version-01-2024

| | | Station Information | | 46.07 | |
|---|---|---|---|--|-----------------|
| Station Name: Calibration Date: | Athabasca Valley April 1, 2025 | | Station number: AM Last Cal Date: N/ | | |
| Start time (MST): | 12:05 | | End time (MST): 13 | | |
| | 12.05 | | | | |
| Analyzer Make: | API T640 | | S/N: 22 | 35 | |
| Particulate Fraction: | PM2.5 | | | | |
| Flow Meter Make/Model: | Alicat FP-25BT | | S/N: 38 | 8748 | |
| Temp/RH standard: | Alicat FP-25BT | | S/N: 38 | 8748 | |
| | | Monthly Calibration T | est | | |
| Parameter | <u>As found</u> | Measured | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| T (°C) | 3.5 | 3.5 | 3.5 | | +/- 2 °C |
| P (mmHg) | 729.0 | 727.9 | 729.0 | | +/- 10 mmH |
| Flow (LPM) | 4.95 | 4.78 | 5.05 | v | +/- 0.25 LPN |
| PW% (pump) | 38 | | 38 | | >80% |
| | | Γ 4 | PM w/ HEPA: | 0.0 | <0.2 ug/m3 |
| Zero Verification Note: this leak check will be PM Inlet observation : | PM w/o HEPA: e completed before the q Inlet Head Clean | | | | .orz 05/ mo |
| Note: this leak check will be | e completed before the q Inlet Head Clean | uarterly work and will | serve as the pre maint gnment Factor On : | enance leak check | |
| Note: this leak check will be | e completed before the q Inlet Head Clean | uarterly work and will Alig Quarterly Calibration | serve as the pre maint gnment Factor On : Test | enance leak check | |
| Note: this leak check will be | e completed before the q Inlet Head Clean Refractive Index: | uarterly work and will | serve as the pre maint gnment Factor On : | enance leak check | |
| Note: this leak check will be PM Inlet observation : | e completed before the q Inlet Head Clean Refractive Index: | uarterly work and will Alig Quarterly Calibration 10.9 | serve as the pre maint gnment Factor On : Test | enance leak check | |
| Note: this leak check will be PM Inlet observation : SPAN DUST | e completed before the q Inlet Head Clean Refractive Index: Lot No.: 1 | uarterly work and will Alig Quarterly Calibration 10.9 .00128-050-042 | serve as the pre maint gnment Factor On : Test Expiry Date: | enance leak check October 6, 2 | 024 |
| Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> | e completed before the q Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> 10.9 | uarterly work and will Alig Quarterly Calibration 10.9 .00128-050-042 | serve as the pre maint gnment Factor On : Test Expiry Date: <u>As left</u> 10.9 | enance leak check October 6, 2 | 024 (Limits) |
| Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test | e completed before the q Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> 10.9 | Juarterly work and will Alig Quarterly Calibration 10.9 00128-050-042 Post maintenance | serve as the pre maint gnment Factor On : Test Expiry Date: <u>As left</u> 10.9 | enance leak check October 6, 2 | 024 (Limits) |
| Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char | e completed before the q Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> 10.9 nber Cleaned: | Juarterly work and will Alig Quarterly Calibration 10.9 .00128-050-042 <u>Post maintenance</u> April 1, 2 | serve as the pre maint gnment Factor On : Test Expiry Date: <u>As left</u> 10.9 | enance leak check October 6, 2 | 024 (Limits) |
| Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F | e completed before the q Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> 10.9 nber Cleaned: | Juarterly work and will Alig Quarterly Calibration 10.9 00128-050-042 Post maintenance April 1, 2 April 1, 2 | serve as the pre maint gnment Factor On : Test Expiry Date: <u>As left</u> 10.9 2025 2025 0.0 | enance leak check Image: Constraint of the sector of th | 024 (Limits) |
| Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F | e completed before the q Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> 10.9 nber Cleaned: ilter Changed: | Juarterly work and will Alig Quarterly Calibration 10.9 00128-050-042 Post maintenance April 1, 2 April 1, 2 PM w/ HEPA: | serve as the pre maint gnment Factor On : Test Expiry Date: <u>As left</u> 10.9 2025 2025 0.0 | enance leak check Image: Constraint of the sector of th | 024 (Limits) |

Notes:

Install calibration completed. Flow adjusted. Nothing else to note.

Calibration by:



Wood Buffalo Environmental Association **CO** Calibration Report

Station Information

Station Name: Calibration Date: 10:42 Start time (MST): Routine Reason:

Athabasca Valley April 25, 2025

Station number: AMS 07 Last Cal Date: March 24, 2025 End time (MST): 14:07

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 T750 | | Serial Number: 282 |
| ZAG Make/Model: | Teledyne API 751H | | Serial Number: 321 |
| | | | |

Analyzer Information

| Analyzer make: Analyzer Range: | Thermo 48i-TLE 0 - 50 ppm | | Analyzer serial #: 1 | 1408761381 | |
|-----------------------------------|------------------------------|---------------|----------------------|--------------|---------------|
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 0.997952 | 1.002518 | Backgd or Offset: | 5.450 | 5.450 |
| Calibration intercept: | 0.154017 | 0.164069 | Coeff or Slope: | 1.073 | 1.073 |

CO As Found Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic-AFzero) Limit = 0.90-1.10 |
|--|----------------------------------|--|---|--|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As found High point As found Mid point As found Low point New cylinder response | 4932 | 67.8 | 40.0 | 40.2 | 1.000 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 40.05 NA NA | Prev response: AF Slope: AF Correlation: | 40.12 | *% change: AF Intercept: * = > +/-5% change initiate | -0.2% es 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.0 | |
| High point | 4932 | 67.8 | 40.0 | 40.2 | 0.996 |
| Mid point | 4966 | 33.9 | 20.0 | 20.4 | 0.981 |
| Low point | 4983 | 16.9 | 10.0 | 10.3 | 0.971 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4932 | 67.8 | 40.0 | 40.0 | 1.001 |
| | | | Avera | ge Correction Factor | 0.983 |

Notes:

No adjustments made.

Calibration Performed By:

Aswin Sasi Kumar

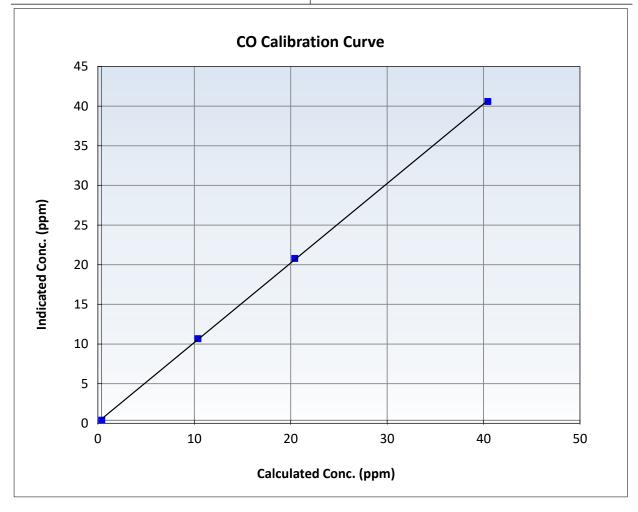


Wood Buffalo Environmental Association CO Calibration Summary

Station Information

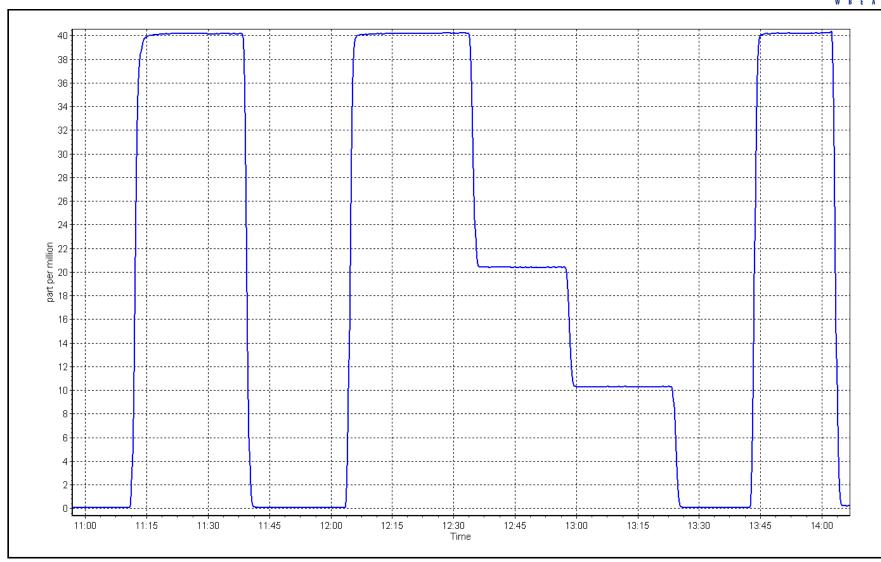
| Calibration Date: | April 25, 2025 | Previous Calibration: | March 24, 2025 |
|-------------------|------------------|-----------------------|----------------|
| Station Name: | Athabasca Valley | Station Number: | AMS 07 |
| Start Time (MST): | 10:42 | End Time (MST): | 14:07 |
| Analyzer make: | Thermo 48i-TLE | Analyzer serial #: | 1408761381 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999912 | ≥0.995 |
| 40.0 20.0 | 40.2 20.4 | 0.9961 0.9815 | Slope | 1.002518 | 0.90 - 1.10 |
| 10.0 | 10.3 | 0.9709 | Intercept | 0.164069 | +/-1.5 |











WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS08 FORT CHIPEWYAN APRIL 2025

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

May 30, 2025



Analyzer make: Analyzer Range:

Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Fort Chipe |
|-------------------|--------------|
| Calibration Date: | April 9, 202 |
| Start time (MST): | 12:23 |
| Reason: | Routine |

wyan 25

Thermo 43i-TLE

0 - 1000 ppb

Station number: AMS08 Last Cal Date: March 17, 2025 End time (MST): 14:38

Calibration Standards

| Cal Gas Concentration: Cal Gas Cylinder #: | 49.84 CC196697 | ppm | Cal Gas Exp Date: January 6, 2030 |
|---|-------------------|-----|-----------------------------------|
| 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

Serial Number: 1236656116

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 1.001018 | 1.005001 | Backgd or Offset: | 2.0 | 2.0 |
| Calibration intercept: | 0.635300 | 0.414722 | Coeff or Slope: | 1.048 | 1.480 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4920 | 80.3 | 800.4 | 804.4 | 0.995 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 804.3 NA | Previous response AF Slope: | 801.8 | *% change AF Intercept: | 0.3% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ 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 | 804.7 | 0.995 |
| Mid point | 4960 | 40.2 | 400.7 | 403.3 | 0.994 |
| Low point | 4980 | 20.1 | 200.4 | 201.8 | 0.993 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 4920 | 80.3 | 800.4 | 807.0 | 0.992 |
| | | | Averag | ge Correction Factor: | 0.994 |

Notes:

Changed out inlet filter after as founds.

Calibration Performed By:

Sabian V, Jeremy C, Morgan V,

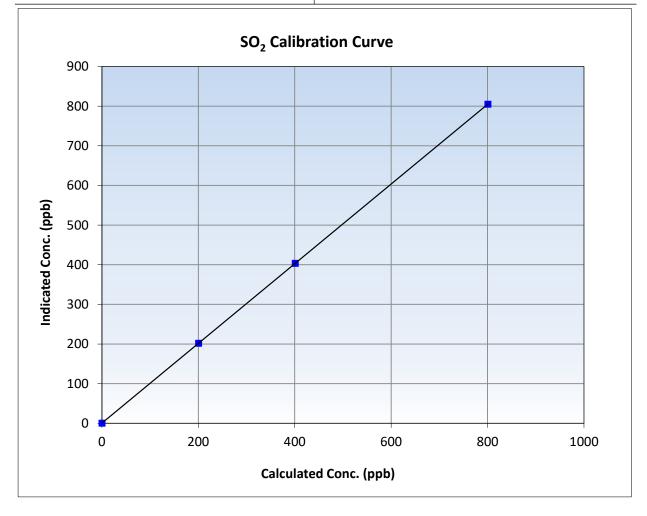


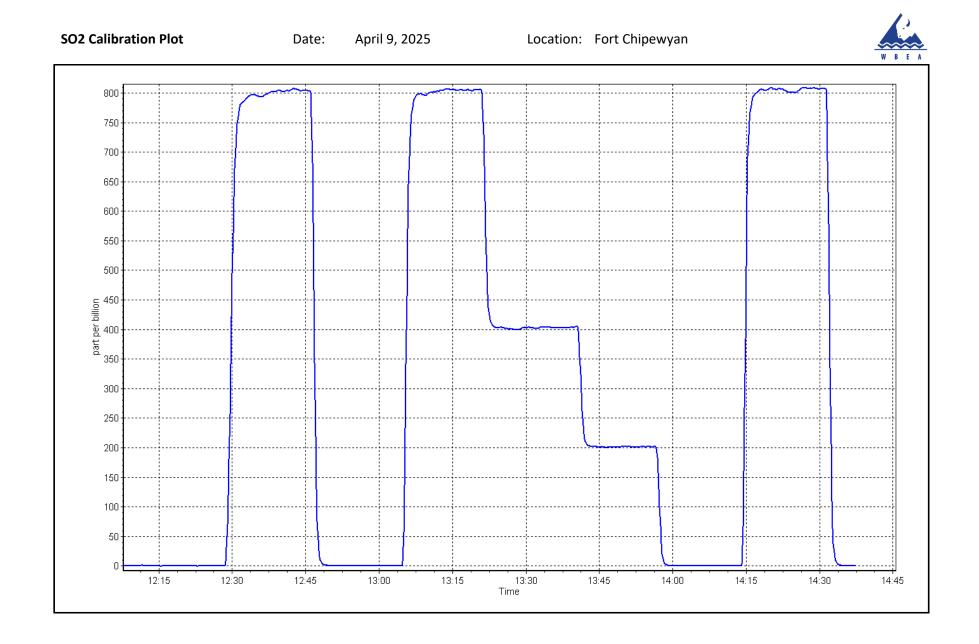
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Chipewyan | Station Number: | AMS08 |
| Start Time (MST): | 12:23 | End Time (MST): | 14:38 |
| Analyzer make: | Thermo 43i-TLE | Analyzer serial #: | 1236656116 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 1.000000 | ≥0.995 |
| 800.4 400.7 | 804.7 403.3 | 0.9946 0.9935 | Slope | 1.005001 | 0.90 - 1.10 |
| 200.4 | 201.8 | 0.9928 | Intercept | 0.414722 | +/-30 |







Wood Buffalo Environmental Association TRS Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Fort Chipewyan April 11, 2025 7:38 Routine | | Station number: Last Cal Date: End time (MST): | AMS 08 March 10, 202 11:26 | 5 | | |
|--|---|---------------|--|----------------------------------|-----|------|---|
| | | Calibration S | itandards | | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 4.84 SA7549 | ppm | Cal Gas Exp Date: | August 28, 202 | 27 | | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 4.84 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | | | |
| Calibrator Make/Model: | Teledyne API T700 | | Serial Number: | 3810 | | | |
| ZAG Make/Model: | Teledyne API T701 | | Serial Number: | 135 | | | |
| | | Analyzer Info | ormation | | | | |
| Analyzer make: | Thermo 43iQ-TL | | Analyzer serial #: | 1203169744 | | | |
| Converter make: | CDN-101 | | Converter serial #: | 580 | | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 850 | degC | 2 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | | F |
| Calibration slope: | 1.005392 | 0.982087 | Backgd or Offset: | 2.0 | | | |
| Calibration intercept: | -0.058192 | -0.317646 | Coeff or Slope: | 0.779 | | | (|
| | | | | | | | |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.2 | |
| As found High point | 4917 | 82.6 | 80.0 | 76.4 | 1.044 |
| As found Mid point | 4959 | 41.3 | 40.0 | 38.0 | 1.046 |
| As found Low point | 4979 | 20.7 | 20.0 | 18.6 | 1.066 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 76.6 | Prev response: | 80.34 | *% change: | -4.9% |
| Baseline Corr 2nd AF pt: | 38.2 | AF Slope: | 0.959500 | AF Intercept: | -0.377228 |
| Baseline Corr 3rd AF pt: | 18.8 | AF Correlation: | 0.999970 | * = > +/-5% change initiate | es 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 | 78.4 | 1.020 |
| Mid point | 4959 | 41.3 | 40.0 | 38.7 | 1.033 |
| Low point | 4979 | 20.7 | 20.0 | 19.1 | 1.049 |
| As left zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As left span | 4917 | 82.6 | 80.0 | 79.0 | 1.012 |
| SO2 Scrubber Check | 4919.7 | 80.3 | 803.0 | -0.1 | |
| Date of last scrubber cha | inge: | March 7, 2022 | | Ave Corr Factor | 1.034 |
| Date of last converter ef | ficiency test: | March 15, 2022 | | 103.4% | efficiency |

Notes:

Changed inlet filter after as founds. Scrubber check passed no issues. No Adjustments made. Calibration Performed By:

Sabian Voyageur Jeremy Cardinal

<u>Finish</u> 2.0

0.779



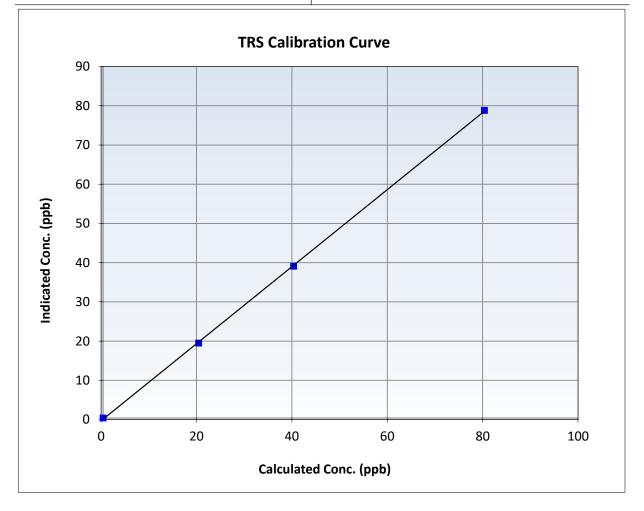
Wood Buffalo Environmental Association

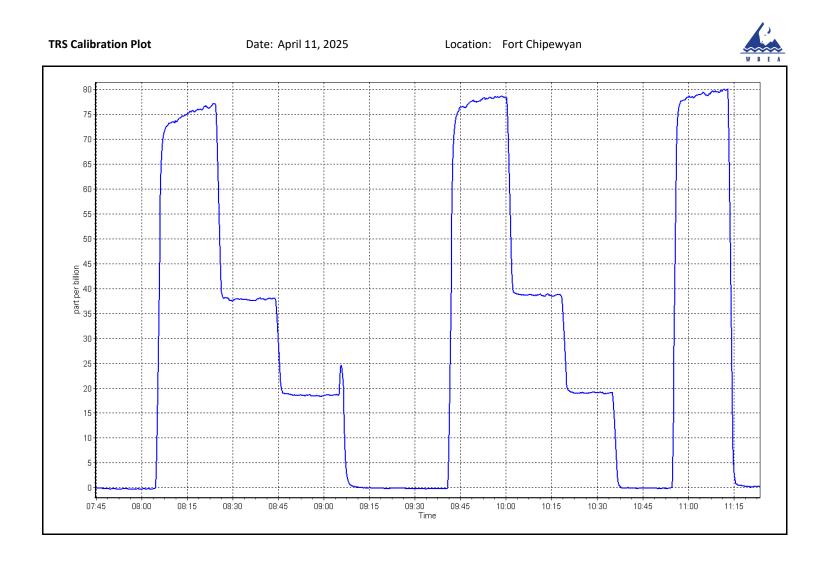
TRS Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Chipewyan | Station Number: | AMS 08 |
| Start Time (MST): | 7:38 | End Time (MST): | 11:26 |
| Analyzer make: | Thermo 43iQ-TL | Analyzer serial #: | 1203169744 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999922 | ≥0.995 |
| 80.0 | 78.4 | 1.0199 | Slope | 0.982087 | 0.90 - 1.10 |
| 40.0 | 38.7 | 1.0330 | Siope | 0.982087 | 0.90 - 1.10 |
| 20.0 | 19.1 | 1.0492 | Intercept | -0.317646 | +/-3 |







Wood Buffalo Environmental Association TRS Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Fort Chipewyan April 15, 2025 9:16 Maintenance | | Station number: Last Cal Date: End time (MST): | AMS 08 April 11, 2025 11:58 | | | |
|--|---|----------------------|--|-----------------------------------|---------------|--|--|
| | | Calibration S | itandards | | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 4.84 SA7549 | ppm | Cal Gas Exp Date: | August 28, 2027 | | | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 4.84 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | | | |
| Calibrator Make/Model: | Teledyne API T700 | | Serial Number: | 3810 | | | |
| ZAG Make/Model: | Teledyne API T701 | | Serial Number: | 135 | | | |
| | | Analyzer Info | ormation | | | | |
| Analyzer make: | Thermo 43iQ-TL | | Analyzer serial #: | 1203169744 | | | |
| Converter make: | CDN-101 | | Converter serial #: | 580 | | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | 850 | degC | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | | |
| Calibration slope: | 0.982087 | 1.015539 | Backgd or Offset: | 2.0 | 2.2 | | |
| Calibration intercept: | -0.317646 | -0.538270 | Coeff or Slope: | 0.779 | 0.853 | | |
| 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 As found Mid point As found Low point New cylinder response | 4917 | 82.6 | 80.0 | 72.8 | 1.094 |
| Baseline Corr As found: | 73.1 | Prev response: | 78.21 | *% change: | -7.0% |
| Baseline Corr 2nd AF pt: | NA | AF Slope: | NA | AF Intercept: | NA |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | NA | * = > +/-5% change initiate | es 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/lc) Limit = 0.95-1.05 |
|---------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | -0.3 | |
| High point | 4917 | 82.6 | 80.0 | 80.8 | 0.990 |
| Mid point | 4959 | 41.3 | 40.0 | 39.9 | 1.002 |
| Low point | 4979 | 20.7 | 20.0 | 19.6 | 1.022 |
| As left zero | 5000 | 0.0 | 0.0 | -0.2 | |
| As left span | 4917 | 82.6 | 80.0 | 81.8 | 0.978 |
| SO2 Scrubber Check | 4919.7 | 80.3 | 803.0 | | |
| Date of last scrubber cha | ange: | March 7, 2022 | | Ave Corr Factor | 1.005 |
| Date of last converter ef | ficiency test: | March 15, 2022 | | 103.4% | efficiency |

Notes:

Calibration Performed By:

Morgan Voyageur

Redid calibration span was out of range. Adjusted span.



Wood Buffalo Environmental Association

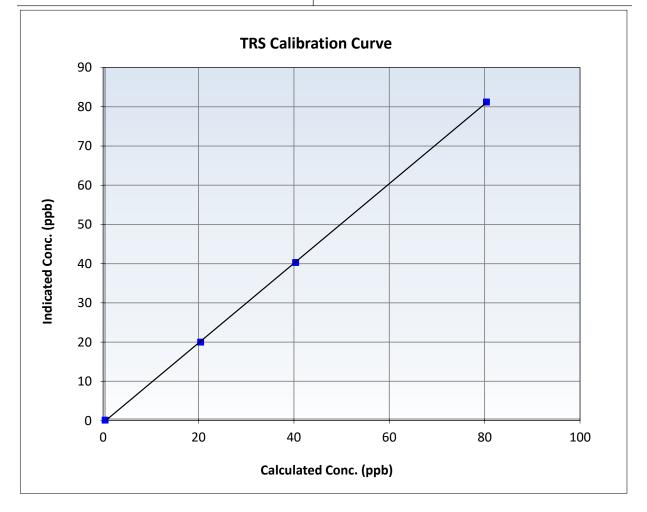
TRS Calibration Summary

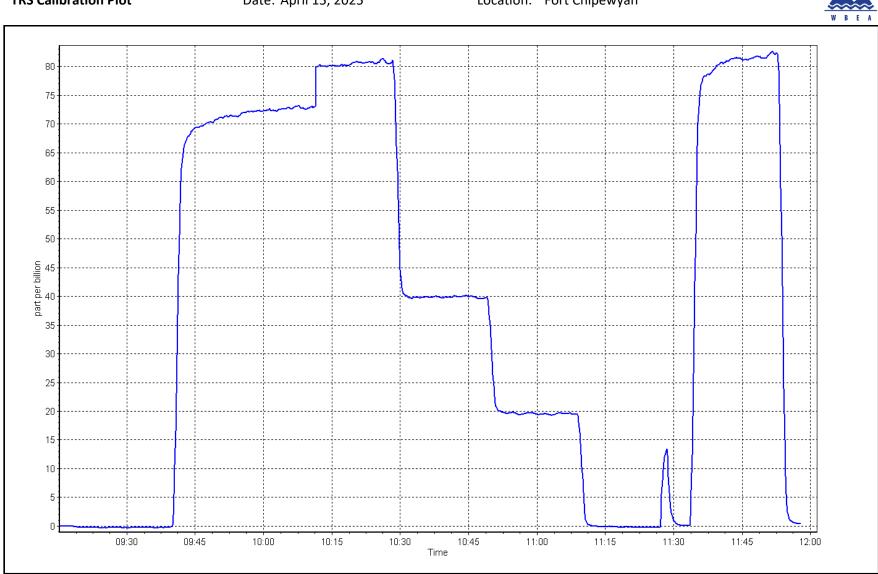
Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | April 11, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Chipewyan | Station Number: | AMS 08 |
| Start Time (MST): | 9:16 | End Time (MST): | 11:58 |
| Analyzer make: | Thermo 43iQ-TL | Analyzer serial #: | 1203169744 |

Carraction factor (Cc/lc)

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.3 | | Correlation Coefficient | 0.999960 | ≥0.995 |
| 80.0 | 80.8 | 0.9896 | Slope | 1.015539 | 0.90 - 1.10 |
| 40.0 | 39.9 | 1.0019 | Slope | 1.015555 | 0.50 1.10 |
| 20.0 | 19.6 | 1.0224 | Intercept | -0.538270 | +/-3 |





Location: Fort Chipewyan



Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: Station number: | Fort Chipewyan AMS 08 | NO Gas Cylinder #: NOX Cal Gas Conc: | DT0046831 | Cal Gas Expiry Date: NO Cal Gas Conc: | January 9,2032 |
|----------------------------------|--------------------------|---|--------------------|--|----------------|
| | | | 60.20 ppm | | 60.00 ppm |
| Calibration Date: | April 8, 2025 | Removed Cylinder #: | DT0046831 | Removed Gas Exp Date: | January 9,2032 |
| Last Cal Date: | March 20, 2025 | Removed Gas NOX Conc: | 60.20 ppm | Removed Gas NO Conc: | 60.00 ppm |
| Start time (MST): | 9;11 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 12:09 | Calibrator Model: | Teledyne API T700 | Serial Number: | 3810 |
| Reason: | Removal | ZAG make/model: | Teledyne API T701H | 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 | -0.5 | -0.2 | -0.2 | | |
| AF High point | 4933 | 66.7 | 803.1 | 800.4 | 2.7 | 781.2 | 778.1 | 3.1 | 1.0273 | 1.0285 |
| AF Mid point | 4967 | 33.3 | 400.9 | 399.6 | 1.3 | 392.5 | 389.4 | 3.1 | 1.0200 | 1.0256 |
| AF Low point New cyl resp | 4983 | 16.7 | 201.1 | 200.4 | 0.7 | 198.2 | 195.1 | 3.1 | 1.0117 | 1.0261 |
| Previous Respo | onse NO _x = | 801.8 ppb | NO = 799.3 | ppb | * = > +/-5 | % change initiates i | investigation | *Percent Chan | ge NO _x = | -2.6% |
| Baseline Corr 1 | lst pt NO _x = | 781.7 ppb | NO = 778.3 | ppb | <u>As Four</u> | nd Statistics | | *Percent Chan | ge NO = | -2.7% |
| Baseline Corr 2 | 2nd pt NO _x = | 393.0 ppb | NO = 389.6 | ppb | As foun | d NO _x r ² : | 0.999975 | Nx SI: 0.9724 | 190 Nx Int: | 1.231 |
| Baseline Corr 3 | Brd pt NO _x = | 198.7 ppb | NO = 195.3 | ppb | As foun | d NO r ² : | 0.999998 | NO SI: 0.9722 | 293 NO Int: | 0.194 |
| | | | | | As foun | d $NO_2 r^2$: | 0.999986 | NO2 SI: 0.9612 | 115 NO ₂ Int: | 0.164 |

As Found GPT Calibration Data

| | | | | | Baseline Adjusted NO2 | |
|-------------------------|---|---------------------------------------|---|---|---|--|
| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Cc) | Indicated NO2 concentration (ppb) (Ic) | Correction factor (Cc/(Ic-AFzero)) <i>Limit = 0.90 - 1.10</i> | Converter Efficiency <i>Limit = 96-104%</i> |
| As Found GPT zero | | | 0.0 | -0.2 | | |
| As found high GPT point | 773.4 | 377.0 | 399.1 | 383.3 | 1.0411 | 96.0% |
| As found mid GPT point | 773.4 | 575.3 | 200.8 | 194.0 | 1.0349 | 96.6% |
| As found low GPT point | 773.4 | 669.7 | 106.4 | 102.3 | 1.0398 | 96.2% |



Analyzer Information

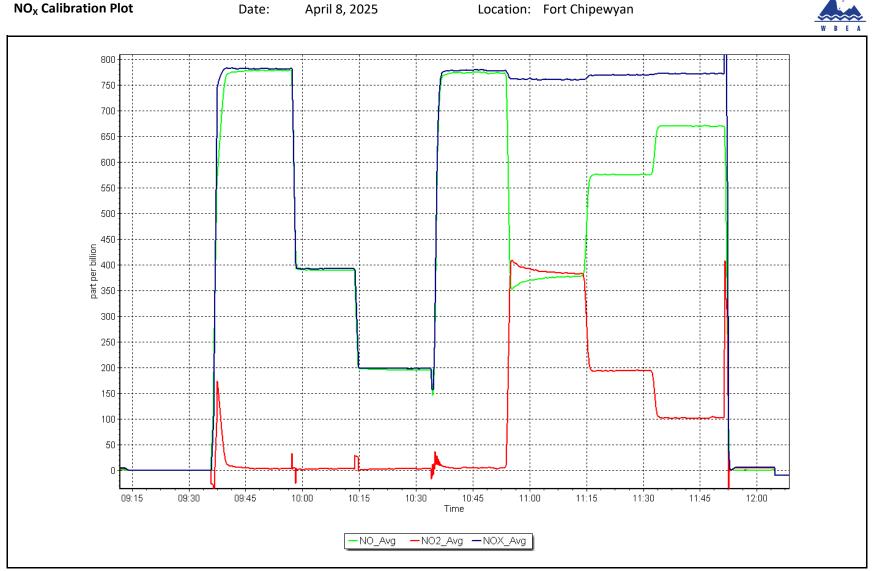
Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42iQ | Serial Number: 124 | 00232072 | | | l Clanau | <u>Start</u> | <u>Finish</u> |
|--|---|--|---|--|---|--|--|---|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | Il Slope: | 0.996890 1.194493 | |
| | Start Fi | Instrument Settings inish | Start | Finish | NO _X Ca | ll Offset: | 0.997843 | |
| NO coeff or slope: | 0.727 | NO bkgnd or offse | | FIIIISII | | Offset: | 0.574281 | |
| NOX coeff or slope: | 0.996 | NOX bkgnd or offse | | | | Il Slope: | 0.971567 | |
| NO2 coeff or slope: | 1.000 | Reaction cell Pres | | | | ll Offset: | 1.371312 | |
| NOZ COEN OF SIOPE. | 1.000 | | 5. 115.7 | | | il Oliset. | 1.5/1512 | |
| | | <u> </u> | Dilution Calibrati | on Data | | | | |
| Set Point | on flow rate Source gas flow sccm) rate (sccm) | Calculated NOx Calculated NO concentration concentration (ppb) (Cc) (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/lc) <i>Limit = 0.95-1.05</i> | NO Correction factor (Cc/Ic) <i>Limit = 0.95-1.05</i> |
| Cal zero High point Mid point Low point As left zero As left span | | | | | Average C | orrection Facto | r | |
| | | | GPT Calibration | <u>n Data</u> | | | | |
| O3 Setpoint (pp | b) Indicated NO R concentratio | • | Calculated NO2 conc (ppb) (Cc) | | ndicated NO2 ntration (ppb) (Ic) | NO2 Correction f <i>Limit = 0.95</i> | | verter Efficiency mit = 96-104% |
| Cal zero High GPT point Mid GPT point Low GPT point | | | | Average Co | prrection Factor | | | |
| Notes: | No adjustments or ma | aintenance performed. | | | | | | |

Calibration Performed By: Sabian Voyageur, Jermey Cardinal, Morgan Voyageur.



2



Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| | - | | | | | _ | | | | |
|--|--|--------------------------|---|---|---|--|---|--|---|--|
| Station Name: Station number: Calibration Date: Last Cal Date: Start time (MST): End time (MST): Reason: | Fort Chipewy AMS 08 April 9, 2025 N/A 7:53 12:07 Install | | | NOX Ca Remov Remov NOX ga Calibra | s Cylinder #: al Gas Conc: red Cylinder #: red Gas NOX Con as Diff: tor Model: ake/model: | 60.20 DT00 c: 60.20 Teledyne | 46831 | Cal Gas Expiry NO Cal Gas Cor Removed Gas I Removed Gas I NO gas Diff: Serial Number: Serial Number: | nc: 60.00 Exp Date: January 9 NO Conc: 60.00 3810 | ppm 9,2032 |
| | | | | <u>As Four</u> | nd Dilution Cali | bration Data | | | | |
| Set Point | | ce gas flow se (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 | * = > +/-59 | % change initiates i | nvestigation | *Percent Chan | ge NO _x = | NA |
| Baseline Corr 1st pt | NO _x = NA | ppb | NO = NA | ppb | <u>As Foun</u> | d Statistics | | *Percent Chan | ge NO = | NA |
| Baseline Corr 2nd pt | NO _x = NA | ppb | NO = NA | ppb | As foun | Λ. | | Nx SI: | Nx Int: | |
| Baseline Corr 3rd pt | NO _X = NA | ppb | NO = NA | ppb | As foun As foun | | | NO SI: NO2 SI: | NO Int: NO ₂ Int: | |
| | | | | As Fo | und GPT Calibi | ation Data | | | | |
| | | | | | | | | Baseline Adjust | ted NO2 | |

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Cc) | Indicated NO2 concentration (ppb) (Ic) | Correction factor (Cc/(Ic-AFzero)) | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|--|--|---|---------------------------------------|--|
| | | | | | Limit = 0.90 - 1.10 | |
| | | | | | | |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42iQ | | Serial Number: 1212431 | 3137 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | | 1.000364 |
| | | | Instrument Settings | | | NO _x Cal Offset: | | -0.525927 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | | 1.002985 |
| NO coeff or slope: | | 1.023 | NO bkgnd or offset: | | 1.5 | NO Cal Offset: | | -2.025916 |
| NOX coeff or slope: | | 0.993 | NOX bkgnd or offset: | | 1.5 | NO ₂ Cal Slope: | | 1.001492 |
| NO2 coeff or slope: | | 1.000 | Reaction cell Press: | | 113.7 | NO ₂ Cal Offset: | | 1.255111 |

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 | -0.9 | 0.0 | | |
| High point | 4933 | 66.7 | 803.1 | 800.4 | 2.7 | 802.9 | 801.5 | 1.4 | 1.0003 | 0.9987 |
| Mid point | 4967 | 33.3 | 400.9 | 399.6 | 1.3 | 400.2 | 397.8 | 2.4 | 1.0018 | 1.0045 |
| Low point | 4983 | 16.7 | 201.1 | 200.4 | 0.7 | 201.2 | 198.1 | 3.0 | 0.9993 | 1.0116 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.6 | -0.7 | 0.1 | | |
| As left span | 4933 | 66.7 | 803.1 | 393.4 | 409.7 | 804.8 | 393.4 | 411.3 | 0.9979 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 1.0005 | 1.0049 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|---|---|--|---|
| Cal zero | | | 0.0 | 0.0 | | |
| High GPT point | 798.8 | 389.6 | 411.9 | 412.9 | 0.9975 | 100.3% |
| Mid GPT point | 798.8 | 598.6 | 202.9 | 205.7 | 0.9862 | 101.4% |
| Low GPT point | 798.8 | 695.7 | 105.8 | 108.0 | 0.9793 | 102.1% |
| | | | | Average Correction Factor | 0.9877 | 101.3% |

Notes: Adjustments made to span. Changed filter before the start of the calibration.

Calibration Performed By: Sabian V, Jermey C, Morgan V.

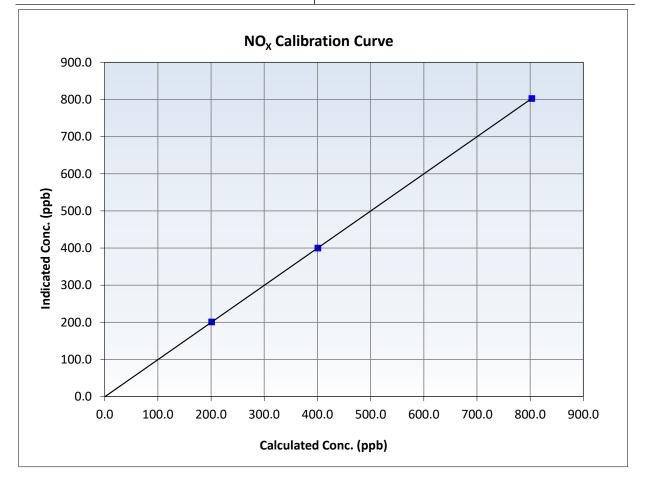


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | N/A |
|-------------------|----------------|-----------------------|-------------|
| Station Name: | Fort Chipewyan | Station Number: | AMS 08 |
| Start Time (MST): | 7:53 | End Time (MST): | 12:07 |
| Analyzer make: | Thermo 42iQ | Analyzer serial #: | 12124313137 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.8 | | Correlation Coefficient | 0.999999 | ≥0.995 |
| 803.1 400.9 | 802.9 400.2 | 1.0003 1.0018 | Slope | 1.000364 | 0.90 - 1.10 |
| 201.1 | 201.2 | 0.9993 | Intercept | -0.525927 | +/-20 |



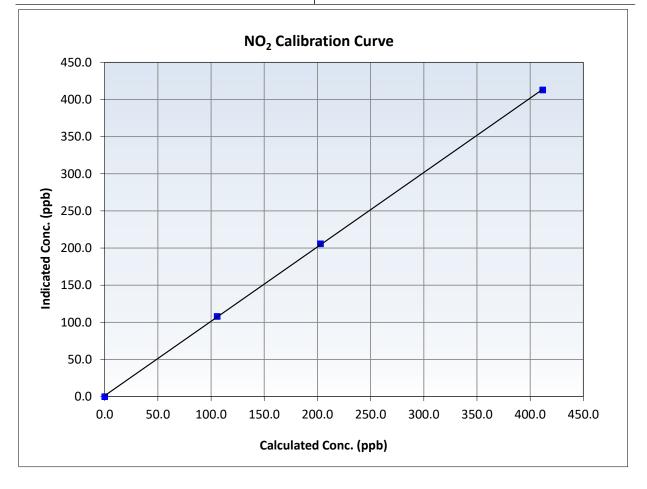


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | N/A |
|-------------------|----------------|-----------------------|-------------|
| Station Name: | Fort Chipewyan | Station Number: | AMS 08 |
| Start Time (MST): | 7:53 | End Time (MST): | 12:07 |
| Analyzer make: | Thermo 42iQ | Analyzer serial #: | 12124313137 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999951 | ≥0.995 |
| 411.9 202.9 | 412.9 205.7 | 0.9975 0.9862 | Slope | 1.001492 | 0.90 - 1.10 |
| 105.8 | 108.0 | 0.9793 | Intercept | 1.255111 | +/-20 |



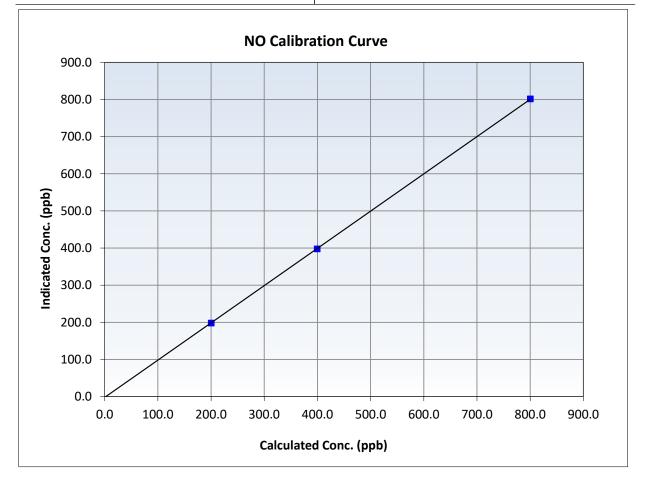


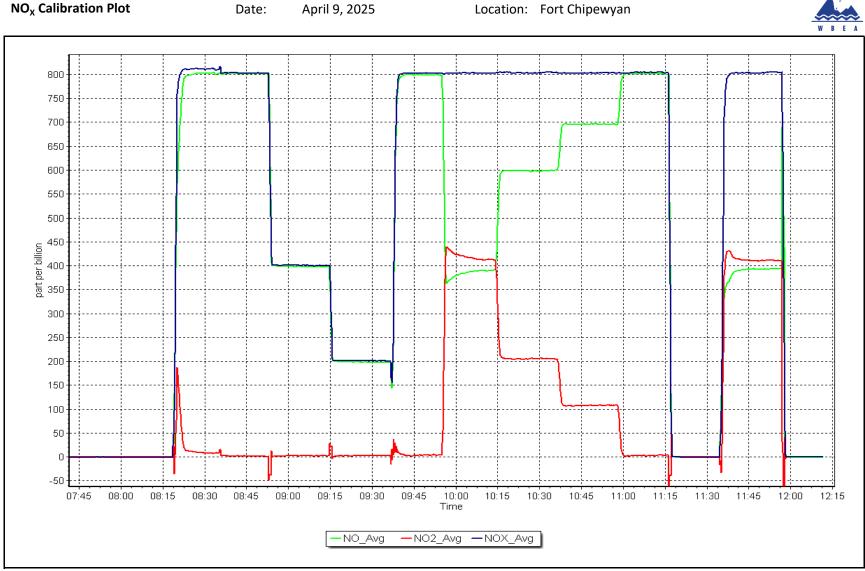
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | N/A |
|-------------------|----------------|-----------------------|-------------|
| Station Name: | Fort Chipewyan | Station Number: | AMS 08 |
| Start Time (MST): | 7:53 | End Time (MST): | 12:07 |
| Analyzer make: | Thermo 42iQ | Analyzer serial #: | 12124313137 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.9 | | Correlation Coefficient | 0.999990 | ≥0.995 |
| 800.4 399.6 | 801.5 397.8 | 0.9987 1.0045 | Slope | 1.002985 | 0.90 - 1.10 |
| 200.4 | 198.1 | 1.0116 | Intercept | -2.025916 | +/-20 |





NO_x Calibration Plot

April 9, 2025

Location: Fort Chipewyan





Calibration intercept:

Wood Buffalo Environmental Association O₃ Calibration Report

Coeff or Slope:

1.005

Station Information

| Station Name: Calibration Date: | Fort Chipewyan Station number: AMS 08 April 7, 2025 Last Cal Date: March 11, 2 | | | |
|------------------------------------|---|----------------|------------------------|--------------|
| Start time (MST): | 12:11 | | End time (MST): 15: | , |
| Reason: | Routine | | · · · | |
| | | | | |
| | | Calibration St | andards | |
| O3 generation mode: | Photometer | | | |
| Calibrator Make/Model: | Teledyne API T700 | | Serial Number: 381 | .0 |
| ZAG Make/Model: | Teledyne API T701 | | Serial Number: 135 | j |
| | | | | |
| | | Analyzer Info | rmation | |
| Analyzer make: | Thermo 49i | | Analyzer serial #: 115 | 2220026 |
| Analyzer Range | 0 - 500 ppb | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> |
| Calibration slope: | 0.993514 | 0.986800 | Backgd or Offset: | -0.3 |

0.260000

0.060000

O₃ As Found Data

| Set Point | Dilution air flow rate (sccm) | Calibrator Lamp Voltage Drive (mV) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 |
|---|----------------------------------|---------------------------------------|--|---------------------------------------|---|
| As found zero | 5000 | 0.0 | 0.0 | 0.3 | |
| As found High point As found Mid point As found Low point | 5000 | 968.7 | 400.0 | 395.4 | 1.012 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 395.1 NA | Previous response AF Slope: | | *% change AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initia | tes investigation |

O₃ 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 | 395.1 | 1.012 |
| Mid point | 5000 | 820.5 | 200.0 | 197.4 | 1.013 |
| Low point | 5000 | 720.0 | 100.0 | 98.9 | 1.011 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 5000 | 968.7 | 400.0 | 396.1 | 1.010 |
| | | | Averag | e Correction Factor | 1.012 |

Notes:

Changed Filter after asfound. No adjustments needed.

Calibration Performed By:

Sabian Voyageur, Jermey Cardinal, Morgan Voyageur.

Finish -0.3

1.005

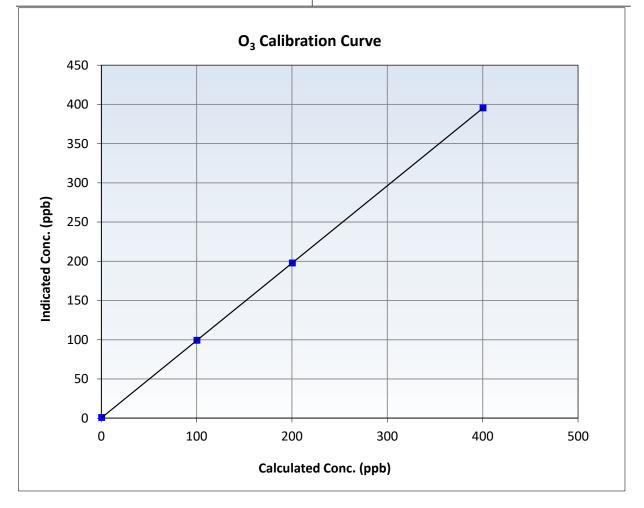


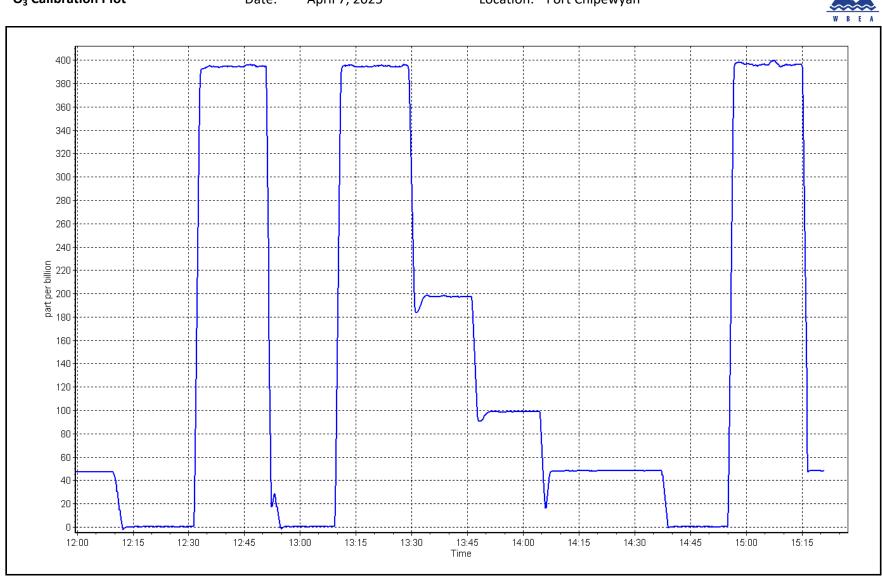
Wood Buffalo Environmental Association O₃ Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Chipewyan | Station Number: | AMS 08 |
| Start Time (MST): | 12:11 | End Time (MST): | 15:22 |
| Analyzer make: | Thermo 49i | Analyzer serial #: | 1152220026 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.4 | | Correlation Coefficient | 0.999999 | ≥0.995 |
| 400.0 | 395.1 | 1.0124 | Slope | 0.986800 | 0.90 - 1.10 |
| 200.0 100.0 | 197.4 98.9 | 1.0132 1.0111 | Intercept | 0.260000 | +/- 5 |





Location: Fort Chipewyan



Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| WBEA | | | | | Version-01-20 |
|---------------------------|-------------------|-----------------------|---------------------|-----------------|---------------|
| | | Station Informatio | n | | |
| Station Name: | Fort Chipewyan | | Station number: AN | /IS 08 | |
| Calibration Date: | April 25, 2025 | | Last Cal Date: Ma | | |
| Start time (MST): | 8:10 | | End time (MST): 8:4 | 13 | |
| Analyzer Make: | Teledyne API T640 | | S/N: 31 | 9 | |
| Particulate Fraction: | PM2.5 | | | | |
| Flow Meter Make/Model: | Alicat FP-25BT | | S/N: 14 | 719 | |
| Temp/RH standard: | Alicat FP-25BT | | S/N: 14 | 719 | |
| | | Monthly Calibration | Test | | |
| <u>Parameter</u> | <u>As found</u> | Measured | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| T (°C) | 9.30 | 8.75 | 9.30 | | +/- 2 °C |
| P (mmHg) | 736.30 | 738.5 | 736.30 | | +/- 10 mmH |
| Flow (LPM) | 5.01 | 4.74 | 5.02 | | +/- 0.25 LPN |
| PW% (pump) | 49% | | 49% | | >80% |
| Zero Verification | PM w/o HEPA: | 5.10 | PM w/ HEPA: | 0.00 | <0.2 ug/m3 |
| | | Quarterly Calibration | Test | | |
| | Refractive Index: | 10.90 | Expiry Date: | 10-Jun-24 | 1 |
| SPAN DUST | Lot No.: | 100128-050-042 | | | |
| Parameter | <u>As found</u> | Post maintenance | <u>As left</u> | Adjusted | (Limits) |
| PMT Peak Test | NA | 10.80 | 10.80 | | +/- 0.5 |
| Date Optical Chan | nber Cleaned: | March 11 | . 2025 | | |
| Date Disposable F | - | September | | | |
| Post- maintenance Zero Ve | rification: | PM w/ HEPA: _ | 0.00 | <0.2 ug/m3 | |
| | | Annual Maintenan | се | | |
| Date Sample Tu | be Cleaned: | August 29 | , 2024 | | |
| Date RH/T Sens | - | August 29 | | | |
| | | | | | |
| | | No a | idjustment made | | |

Notes:

No adjustment made

Calibration by:

Jeremy Cardinal, Morgan Voyageur



Wood Buffalo Environmental Association **CO** Calibration Report

Station Information

Station Name: Calibration Date: 11:57 Start time (MST): Reason: Routine

Fort Chipewyan April 10, 2025

Station number: AMS 08 Last Cal Date: March 17, 2025 End time (MST): 14:37

Calibration Standards

| Cal Gas Concentration: | 3,030 | ppm | Cal Gas Exp Date: December 1, 2028 |
|------------------------|-------------------|-----|------------------------------------|
| Cal Gas Cylinder #: | ALM014846 | | |
| Removed Cal Gas Conc: | 3,030 | 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 | .Н | Serial Number: 135 |
| | | | |
| | | | |

Analyzer Information

| Analyzer make: Analyzer Range: | Teledyne API T300 0 - 50 ppm | | Analyzer serial #: 3505 | | |
|-----------------------------------|---------------------------------|---------------|-------------------------|--------------|---------------|
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 0.998216 | 0.998612 | Backgd or Offset: | -0.016 | -0.016 |
| Calibration intercept: | 0.172906 | 0.100910 | Coeff or Slope: | 1.003 | 1.003 |

CO As Found Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic-AFzero) Limit = 0.90-1.10 |
|--|----------------------------------|--|---|--|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As found High point As found Mid point As found Low point New cylinder response | 4934 | 66.7 | 40.4 | 40.5 | 1.000 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 40.42 NA NA | Prev response: AF Slope: AF Correlation: | 40.52 | *% change: AF Intercept: * = > +/-5% change initiate | -0.2% es 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 | 4934 | 66.7 | 40.4 | 40.4 | 1.000 |
| Mid point | 4966.7 | 33.3 | 20.2 | 20.3 | 0.992 |
| Low point | 4983.3 | 16.7 | 10.1 | 10.2 | 0.989 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 2960 | 40.0 | 40.4 | 40.2 | 1.004 |
| | | | Avera | ge Correction Factor | 0.994 |

Notes:

Changed inlet filter after as found. No Adjustments made

Calibration Performed By:

Sabian V, Jeremy C,

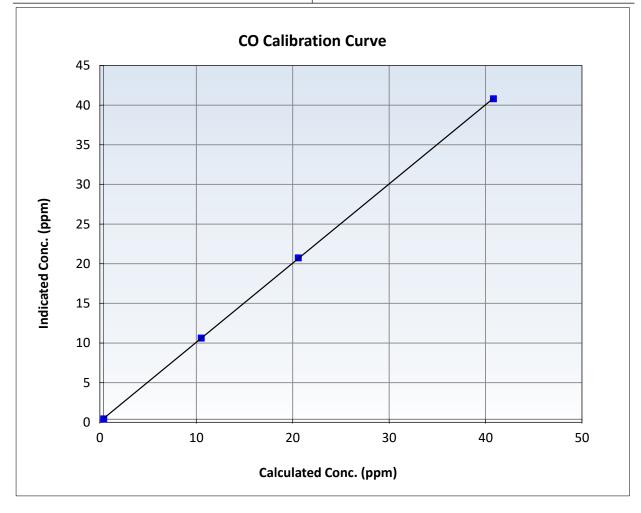


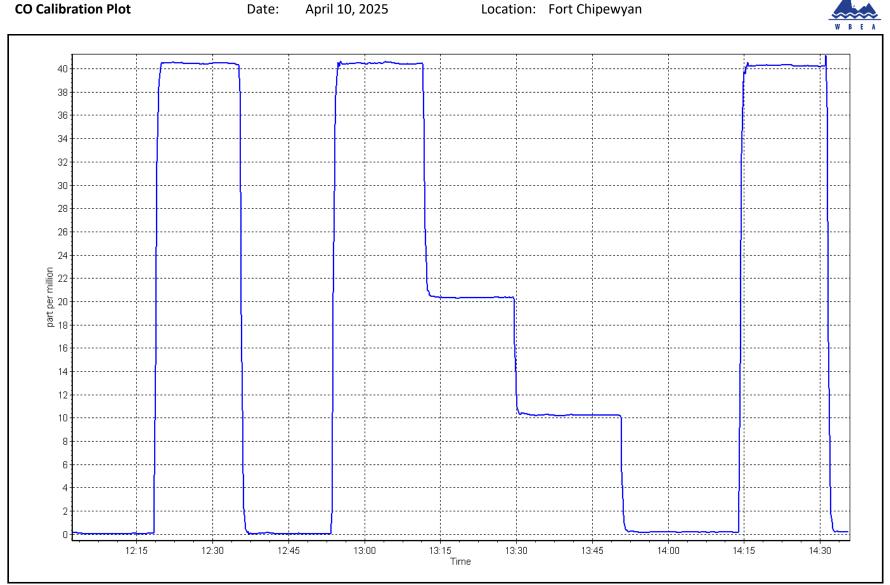
Wood Buffalo Environmental Association CO Calibration Summary

Station Information

| Calibration Date: | April 10, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Fort Chipewyan | Station Number: | AMS 08 |
| Start Time (MST): | 11:57 | End Time (MST): | 14:37 |
| Analyzer make: | Teledyne API T300 | Analyzer serial #: | 3505 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999984 | ≥0.995 |
| 40.4 20.2 | 40.4 20.3 | 1.0001 0.9921 | Slope | 0.998612 | 0.90 - 1.10 |
| 10.1 | 10.2 | 0.9893 | Intercept | 0.100910 | +/-1.5 |







Wood Buffalo Environmental Association **CO₂ Calibration Report**

Station Information

| Station Name: | Fort Chipe |
|-------------------|--------------|
| Calibration Date: | April 10, 20 |
| Start time (MST): | 8:19 |
| Reason: | Routine |
| | |

ewyan 025

Station number: AMS 08 Last Cal Date: March 19, 2025 End time (MST): 11:37

Calibration Standards

| Cal Gas Concentration: | 60,220 | ppm | Cal Gas Exp Date: December 1, 2028 |
|------------------------|-------------------|-----|------------------------------------|
| Cal Gas Cylinder #: | ALM014846 | | |
| Removed Cal Gas Conc: | 60,220 | ppm | Rem Gas Exp Date: NA |
| Removed Gas Cyl #: | NA | | Diff between cyl: |
| Calibrator Make/Model: | Teledyne API T700 | | Serial Number: 3810 |
| N2 Gen Make/Model: | Peak Scientific | | Serial Number: 135 |
| | | | |

Analyzer Information

Analyzer make: Teledyne API T360 Analyzer serial #: 289 0 - 2,000 ppm Analyzer Range <u>Start</u> <u>Finish</u> <u>Finish</u> <u>Start</u> Calibration slope: 0.998354 1.004061 Backgd or Offset: -0.014 -0.014 Calibration intercept: -4.560000 -5.320000 Coeff or Slope: 1.033 1.033

CO₂ As Found Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (lc) | Baseline Adjusted Correction factor (Cc/(Ic-AFzero) Limit = 0.90-1.10 |
|--|----------------------------------|--|---|---|--|
| As found zero | 3000 | 0.0 | 0.0 | 0.1 | |
| As found High Point As found Mid Point As found Low Point New cylinder response | 2920 | 80.0 | 1605.9 | 1608.0 | 0.999 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 1607.9 NA NA | Prev response: AF Slope: AF Correlation: | 1598.7 | *% change: AF Intercept: * = > +/-5% change initiat | 0.6% es investigation |

CO₂ 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/lc) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| Calibrator zero | 3000 | 0.0 | 0.0 | 0.4 | |
| High point | 2920 | 80.0 | 1605.9 | 1613.7 | 0.995 |
| Mid point | 2960 | 40.0 | 802.9 | 786.7 | 1.021 |
| Low point | 2980 | 20.0 | 401.5 | 399.6 | 1.005 |
| As left zero | 3000 | 0.0 | 0.0 | 0.2 | |
| As left span | 2960 | 40.0 | 802.9 | 787.8 | 1.019 |
| | | | Avera | ge Correction Factor | 1.007 |

Notes:

Changed inlet filter after as found, no adjustments made

Sabian V, Jeremy C

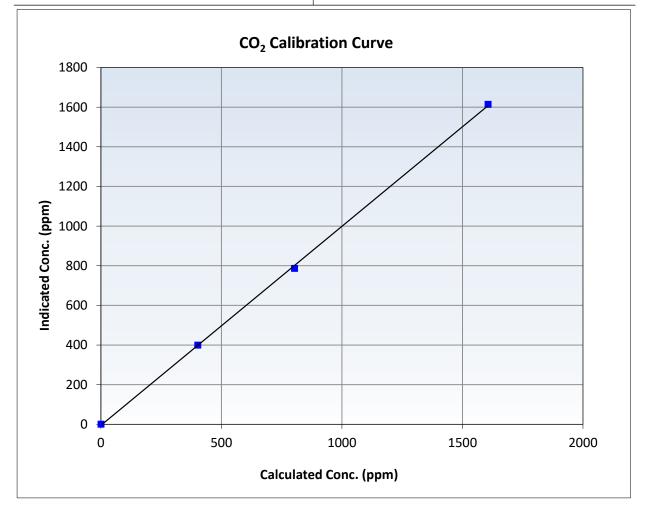


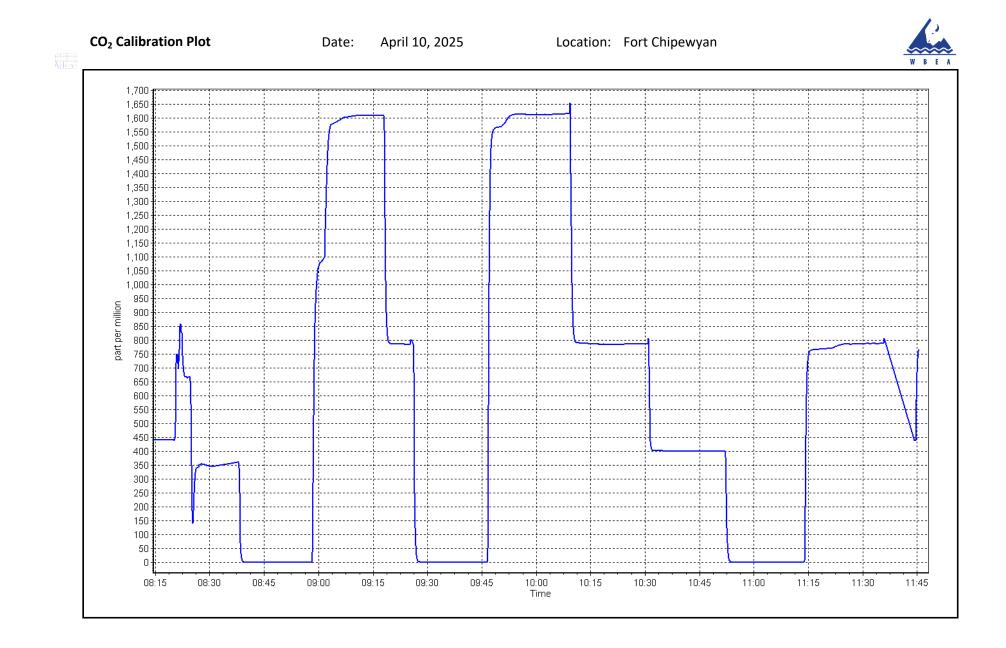
Wood Buffalo Environmental Association CO₂ Calibration Summary

Station Information

| Calibration Date | April 10, 2025 | Previous Calibration | March 19, 2025 |
|------------------|-------------------|----------------------|----------------|
| Station Name | Fort Chipewyan | Station Number | AMS 08 |
| Start Time (MST) | 8:19 | End Time (MST) | 11:37 |
| Analyzer make | Teledyne API T360 | Analyzer serial # | 289 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.4 | | Correlation Coefficient | 0.999802 | ≥0.995 |
| 1605.9 802.9 | 1613.7 786.7 | 0.9951 1.0206 | Slope | 1.004061 | 0.90 - 1.10 |
| 401.5 | 399.6 | 1.0047 | Intercept | -5.3 | +/-20 |







WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS09 BARGE LANDING APRIL 2025

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

May 30, 2025



Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Barge Landing April 7, 2025 9:09 Routine | | Station number: AN Last Cal Date: Ma End time (MST): 12 | arch 6, 2025 | |
|--|---|--|---|-------------------------------|--------------------------------|
| | | Calibration | <u>Standards</u> | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 50.56 CC705748 | ppm | Cal Gas Exp Date: Oc | tober 9, 2032 | |
| 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: 38 | 12 | |
| Zero Air Gen Model: | APIT701 | | Serial Number: 48 | 88 | |
| | | Analyzer Inf | ormation | | |
| Analyzer make: | Thermo 43i | | Serial Number: 11 | 18148498 | |
| Analyzer Range: | 0 - 1000 ppb | | | | |
| Calibration slope: Calibration intercept: | <u>Start</u> 0.999602 -0.799117 | <u>Finish</u> 1.006817 -0.598200 | Backgd or Offset: Coeff or Slope: | <u>Start</u> 11.4 0.998 | <u>Finish</u> 11.5 1.010 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4921 | 79.1 | 799.8 | 792.9 | 1.009 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 792.8 NA NA | Previous response AF Slope: AF Correlation: | 798.7 | *% change AF Intercept: * = > +/-5% change initiate | -0.7% es investigation |

SO₂ 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 | 79.1 | 799.8 | 805.0 | 0.994 |
| Mid point | 4961 | 39.5 | 399.4 | 401.4 | 0.995 |
| Low point | 4980 | 19.8 | 200.2 | 200.0 | 1.001 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4921 | 79.1 | 799.8 | 806.4 | 0.992 |
| | | | Averag | ge Correction Factor: | 0.997 |

Notes:

Inlet filter changed after as founds. Adjusted span only.

Calibration Performed By:

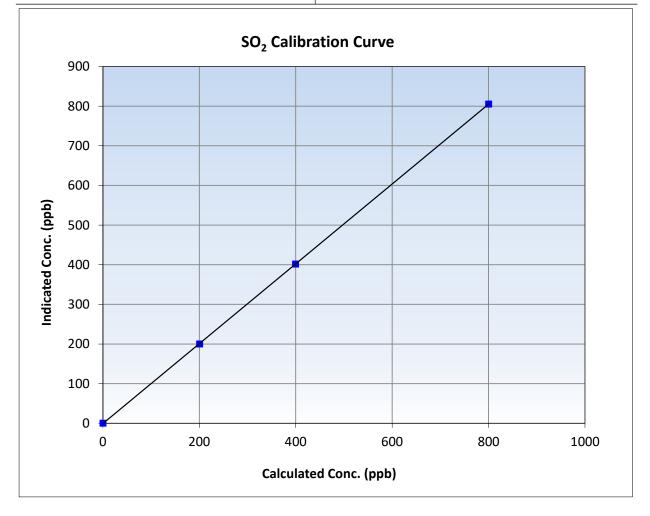


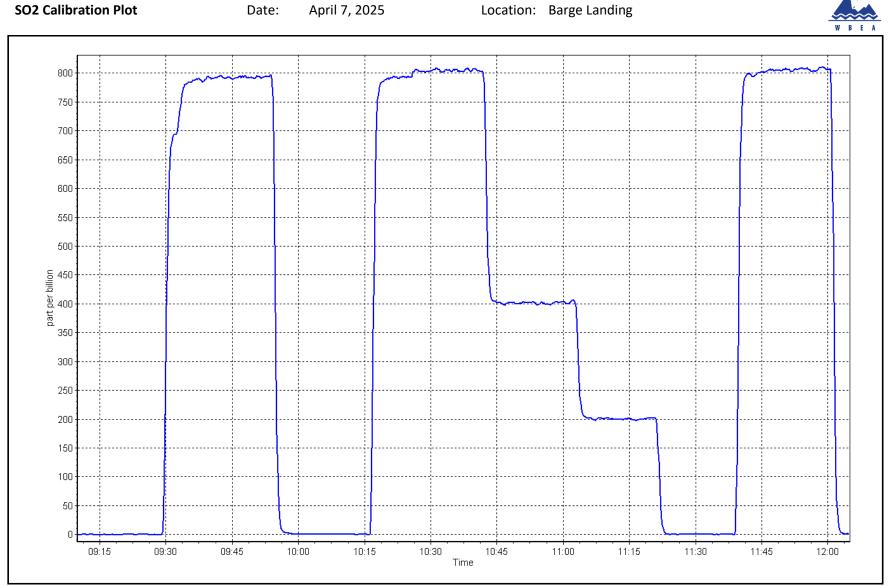
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 9:09 | End Time (MST): | 12:05 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1118148498 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999995 | ≥0.995 |
| 799.8 399.4 | 805.0 401.4 | 0.9936 0.9950 | Slope | 1.006817 | 0.90 - 1.10 |
| 200.2 | 200.0 | 1.0011 | Intercept | -0.598200 | +/-30 |







Wood Buffalo Environmental Association TRS Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Barge Landing April 1, 2025 8:54 Routine | | Station number: Last Cal Date: End time (MST): | AMS 09 March 24, 2025 12:56 | |
|--|---|--------------------|--|-----------------------------------|---------------|
| | | Calibration | <u>Standards</u> | | |
| Cal Gas Concentration: | 5.17 | ppm | Cal Gas Exp Date: | August 22, 2026 | i |
| 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: | 4888 | |
| | | Analyzer In | formation | | |
| Analyzer make: | Thermo 43i-TLE | | Analyzer serial #: | 12426335708 | |
| Converter make: | CDN-101 | | Converter serial #: | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 330 degC |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 0.999979 | 0.999833 | Backgd or Offset | 2.130 | 2.130 |
| Calibration intercept: | -0.280625 | 0.099474 | Coeff or Slope | 1.069 | 1.069 |
| | | | | | |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.8 | |
| As found High point | 4923 | 77.4 | 80.0 | 72.3 | 1.095 |
| As found Mid point | 4961 | 38.7 | 40.0 | 35.8 | 1.094 |
| As found Low point | 4981 | 19.3 | 20.0 | 17.6 | 1.085 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 73.1 | Prev response: | 79.76 | *% change: | -9.1% |
| Baseline Corr 2nd AF pt: | 36.6 | AF Slope: | 0.912612 | AF Intercept: | -0.722238 |
| Baseline Corr 3rd AF pt: | 18.4 | AF Correlation: | 0.999994 | * = > +/-5% change initiate | es investigation |

TRS Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|----------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.0 | |
| High point | 4923 | 77.4 | 80.0 | 80.1 | 0.999 |
| Mid point | 4961 | 38.7 | 40.0 | 40.1 | 0.998 |
| Low point | 4981 | 19.3 | 20.0 | 20.2 | 0.988 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4923 | 77.4 | 80.0 | 80.5 | 0.994 |
| SO2 Scrubber Check | 4920 | 80.2 | 802.0 | 0.1 | |
| Date of last scrubber chan | ge: | | | Ave Corr Factor | 0.995 |

Date of last converter efficiency test:

Notes:

Low span response probably due to drift. Diagnostics seems fine. Adjusted zero and span.

Calibration Performed By: Sean Bala



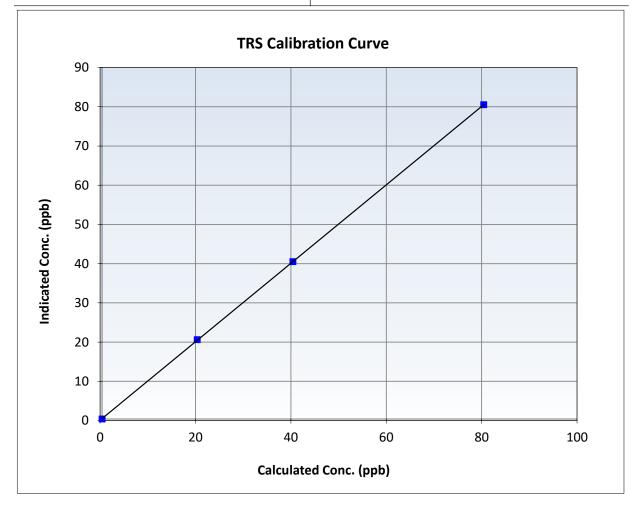
Wood Buffalo Environmental Association

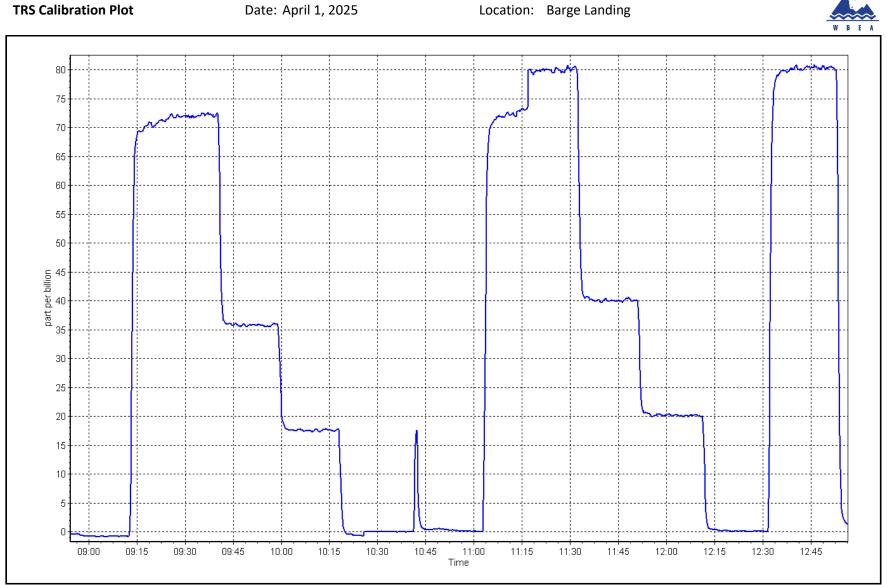
TRS Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 24, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 8:54 | End Time (MST): | 12:56 |
| Analyzer make: | Thermo 43i-TLE | Analyzer serial #: | 12426335708 |

| Calculated concentration (ppb) (Cc) | n Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999991 | ≥0.995 |
| 80.0 40.0 | 80.1 40.1 | 0.9993 0.9982 | Slope | 0.999833 | 0.90 - 1.10 |
| 20.0 | 20.2 | 0.9881 | Intercept | 0.099474 | +/-3 |





Location: Barge Landing



Calibrator Model:

Zero Air Gen model:

Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Serial Number:

Serial Number:

Analyzer serial #: 1193585650

NMHC/CH4 Range: 0 - 10 ppm

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Barge LandingStation numberApril 5, 2025Last Cal Date12:05End time (MST)InstallInstall | | March 6, 2025 | |
|--|--|-------------------------|-----------------|--|
| 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): | | |

API T700

APIT701

Analyzer Information

Analyzer make: Thermo 55i THC Range: 0 - 20 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | N/A | 2.31E-04 | NMHC SP Ratio: | N/A | 4.90E+05 |
| CH4 Retention time: | N/A | 15.2 | NMHC Peak Area: | N/A | 181998 |
| 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 | | | | | |
| 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 initiate | es 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 | 16.96 | 0.997 |
| Mid point | 4961 | 39.5 | 8.44 | 8.46 | 0.998 |
| Low point | 4980 | 19.8 | 4.23 | 4.22 | 1.004 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.1 | 16.91 | 17.05 | 0.991 |
| | | | Aver | age Correction Factor | 1.000 |

Install calibration. Span adjusted.

3812

5613



Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

NMHC As Found Data

| | | | | | Baseline Adjusted |
|---|----------------------------------|--------------------------------|--|---------------------------------------|--|
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | - |
| As found zero As found High point As found Mid point As found Low point New cylinder response | | | | | |
| Baseline Corr AF: Baseline Corr 2nd AF: | NA NA | Prev response AF Slope: | NA | *% change AF Intercept: | NA |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiat | es investigation |
| | | NMHC Calib | ration Data | | |
| | Dilution air flow rate | Source gas flow rate | Calculated concentration | Indicated concentration | Correction factor (Cc/lo |
| Set Point | (sccm) | (sccm) | (ppm) (Cc) | (ppm) (lc) | Limit = 0.95-1.05 |
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| ligh point | 4921 | 79.1 | 8.91 | 8.96 | 0.995 |
| /id point | 4961 | 39.5 | 4.45 | 4.48 | 0.994 |
| ow point | 4980 | 19.8 | 2.23 | 2.24 | 0.994 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.1 | 8.91 | 9.03 | 0.987 |
| | | | Avera | age Correction Factor | 0.994 |
| Set Point | (sccm) | Source gas flow rate (sccm) | (ppm) (Cc) | (ppm) (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 initiat | es investigation |
| | | CH4 Calibra | ation Data | | |
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/I Limit = 0.95-1.05 |
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| ligh point | 4921 | 79.1 | 8.00 | 8.01 | 0.998 |
| Aid point | 4961 | 39.5 | 3.99 | 3.98 | 1.004 |
| ow point | 4980 | 19.8 | 2.00 | 1.97 | 1.015 |
| s left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| s left span | 4921 | 79.1 | 8.00 | 8.02 | 0.997 |
| | | | Avera | age Correction Factor | 1.006 |
| | | Calibration | Statistics | | |
| | | <u>Start</u> | | <u>Finish</u> | |
| THC Cal Slope: | | N/A | | 1.003755 | |
| THC Cal Offset: | | N/A | | -0.014363 | |
| CH4 Cal Slope: | | N/A | | 1.002645 | |
| CH4 Cal Offset: | | N/A | | -0.017384 | |
| NIMHC Cal Slope | | N/A | | 1 005/07 | |

Calibration Performed By:

NMHC Cal Slope:

NMHC Cal Offset:

N/A Aswin Sasi Kumar

N/A

-0.017384 1.005407

0.001219

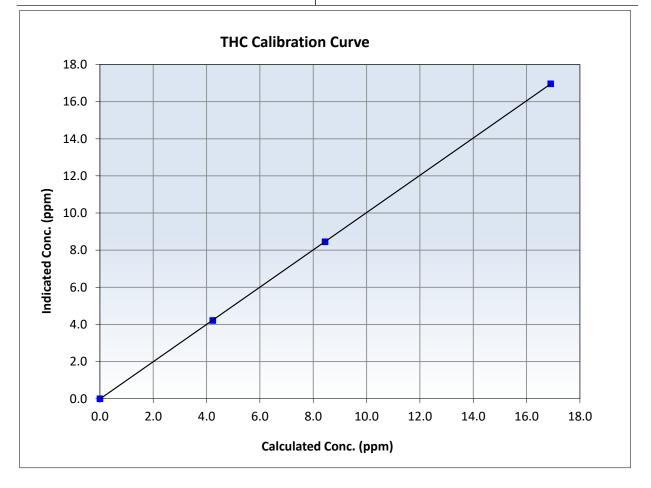


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 5, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 12:05 | End Time (MST): | 14:50 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585650 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999997 | ≥0.995 |
| 16.91 8.44 | 16.96 8.46 | 0.9968 0.9983 | Slope | 1.003755 | 0.90 - 1.10 |
| 4.23 | 4.22 | 1.0037 | Intercept | -0.014363 | +/-0.5 |



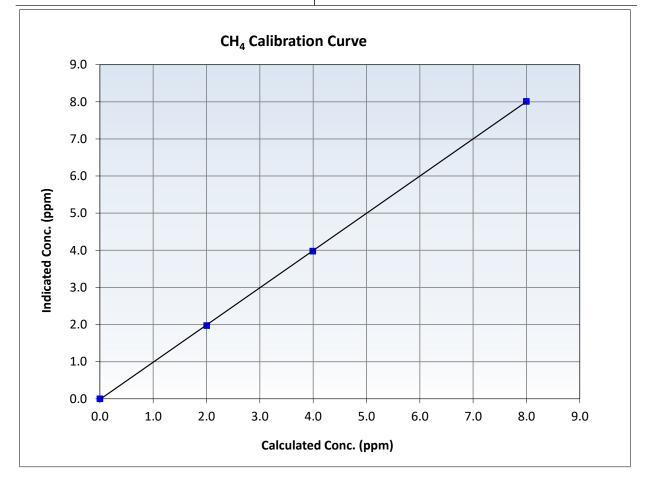


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 5, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 12:05 | End Time (MST): | 14:50 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585650 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999979 | ≥0.995 |
| 8.00 | 8.01 | 0.9984 | Slope | 1.002645 | 0.90 - 1.10 |
| 3.99 | 3.98 | 1.0040 | Slope | 1.002045 | 0.50 1.10 |
| 2.00 | 1.97 | 1.0148 | Intercept | -0.017384 | +/-0.5 |



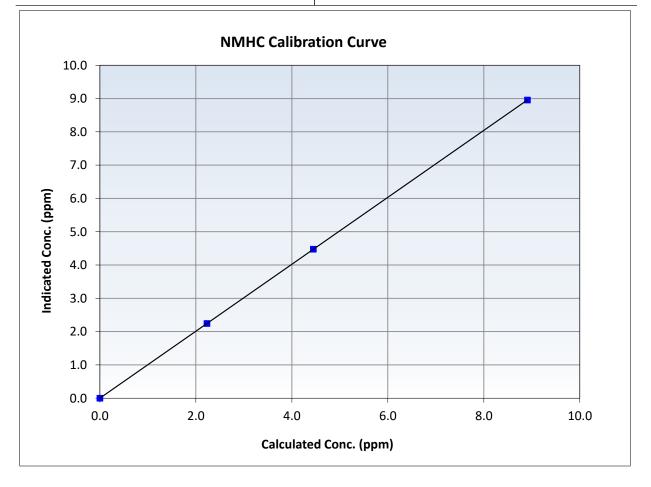


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

| Calibration Date: | April 5, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 12:05 | End Time (MST): | 14:50 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585650 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 1.000000 | ≥0.995 |
| 8.91 | 8.96 | 0.9946 | Slope | 1.005407 | 0.90 - 1.10 |
| 4.45 | 4.48 | 0.9939 | Slope | 1.005407 | 0.50 1.10 |
| 2.23 | 2.24 | 0.9939 | Intercept | 0.001219 | +/-0.5 |



NMHC Calibration Plot







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

NMHC/CH4 Range: 0 - 10 ppm

Station Information

| Station Name: | Barge Landing | Station number: AMS 09 |
|-------------------|----------------|------------------------------|
| Calibration Date: | April 21, 2025 | Last Cal Date: April 5, 2025 |
| Start time (MST): | 6:25 | End time (MST): 8:40 |
| 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: | | Removed Gas Expiry: | |
| 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 |
| | Ana | lyzer Information | |
| Analyzer make: Theri | mo 55i | Analyzer serial #: 11935 | 585650 |

THC Range: 0 - 20 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | N/A | 2.31E-04 | NMHC SP Ratio: | N/A | 4.90E+00 |
| CH4 Retention time: | N/A | 15.2 | NMHC Peak Area: | N/A | 181998 |
| Zero Chromatogram: | OFF | OFF | Flat Baseline: | OFF | OFF |

THC As Found Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 |
|-----------------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| As found zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As found High point | 4921 | 79.1 | 16.91 | 16.05 | 1.053 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 16.05 | Prev response | 16.96 | *% change | -5.6% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4921 | 79.1 | 16.91 | 17.01 | 0.994 |
| Mid point | 4961 | 39.5 | 8.44 | 8.41 | 1.004 |
| Low point | 4980 | 19.8 | 4.23 | 4.15 | 1.020 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.1 | 16.91 | 16.85 | 1.003 |
| | | | Avera | ge Correction Factor | 1.006 |

Notes:

CH4 channel baseline dipping. RT has moved. Span adjusted.



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4921 | 79.1 | 8.91 | 8.12 | 1.098 |
| Baseline Corr AF: Baseline Corr 2nd AF: | 8.12 NA | Prev response AF Slope: | 8.96 | *% change AF Intercept: | -10.4% |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiat | es 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|--|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4921 | 79.1 | 8.91 | 9.00 | 0.991 |
| Mid point | 4961 | 39.5 | 4.45 | 4.45 | 0.999 |
| Low point | 4980 | 19.8 | 2.23 | 2.19 | 1.018 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.1 | 8.91 | 8.92 | 0.999 |
| | | | Avera | ge Correction Factor | 1.002 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|--|----------------------------------|--------------------------------|--|---------------------------------------|---|
| 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/(lo 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 | 7.94 | 1.008 |
| As found Mid point As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 7.94 | Prev response | 8.00 | *% change | -0.8% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | ates 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) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4921 | 79.1 | 8.00 | 8.02 | 0.998 |
| Mid point | 4961 | 39.5 | 3.99 | 3.96 | 1.010 |
| Low point | 4980 | 19.8 | 2.00 | 1.96 | 1.023 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.1 | 8.00 | 7.94 | 1.008 |
| | | | Avera | ge Correction Factor | 1.010 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 1.003755 | 1.007610 |
| THC Cal Offset: | -0.014363 | -0.060372 |
| CH4 Cal Slope: | 1.002645 | 1.003661 |
| CH4 Cal Offset: | -0.017384 | -0.029190 |
| NMHC Cal Slope: | 1.005407 | 1.011373 |
| NMHC Cal Offset: | 0.001219 | -0.031782 |

Calibration Performed By:

Melissa Lemay

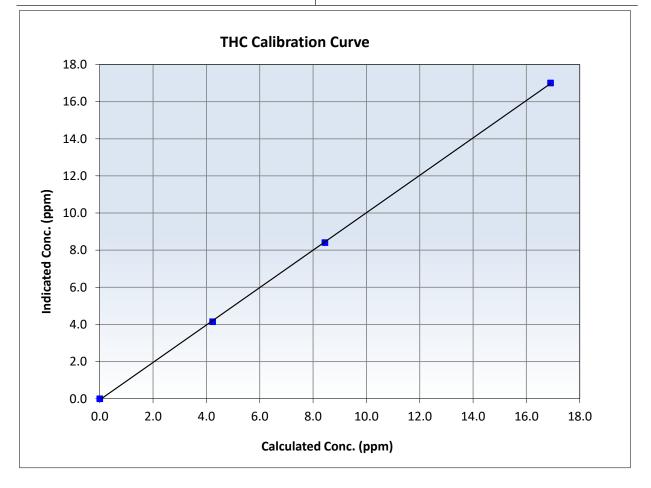


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 21, 2025 | Previous Calibration: | April 5, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 6:25 | End Time (MST): | 8:40 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585650 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999942 | ≥0.995 |
| 16.91 8.44 | 17.01 8.41 | 0.9941 1.0040 | Slope | 1.007610 | 0.90 - 1.10 |
| 4.23 | 4.15 | 1.0202 | Intercept | -0.060372 | +/-0.5 |



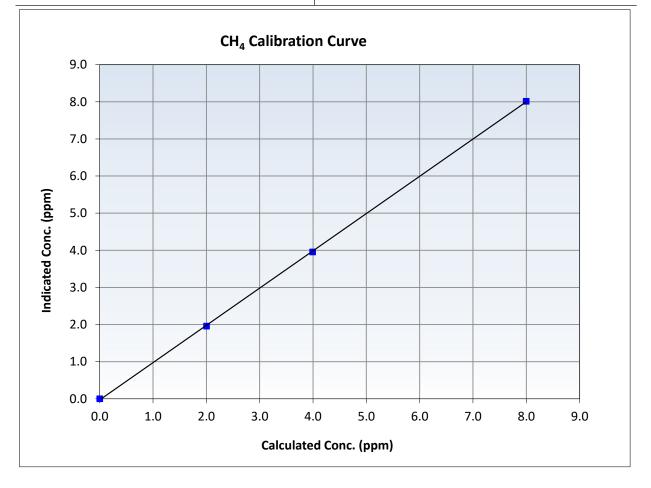


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 21, 2025 | Previous Calibration: | April 5, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 6:25 | End Time (MST): | 8:40 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585650 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999936 | ≥0.995 |
| 8.00 3.99 | 8.02 | 0.9978 | Slope | 1.003661 | 0.90 - 1.10 |
| 2.00 | 3.96 1.96 | 1.0096 1.0231 | Intercept | -0.029190 | +/-0.5 |



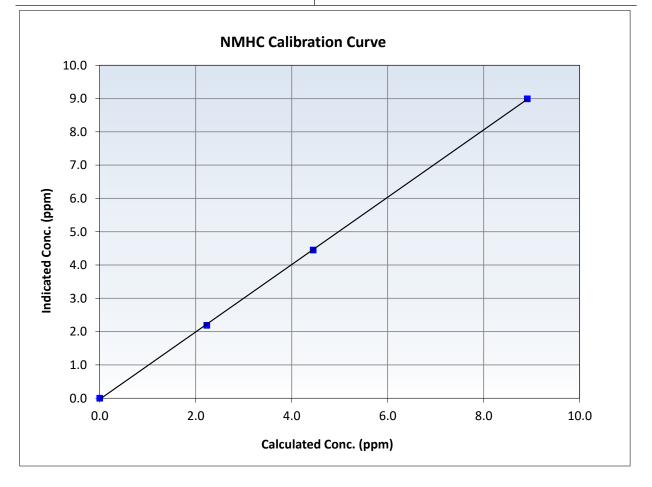


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

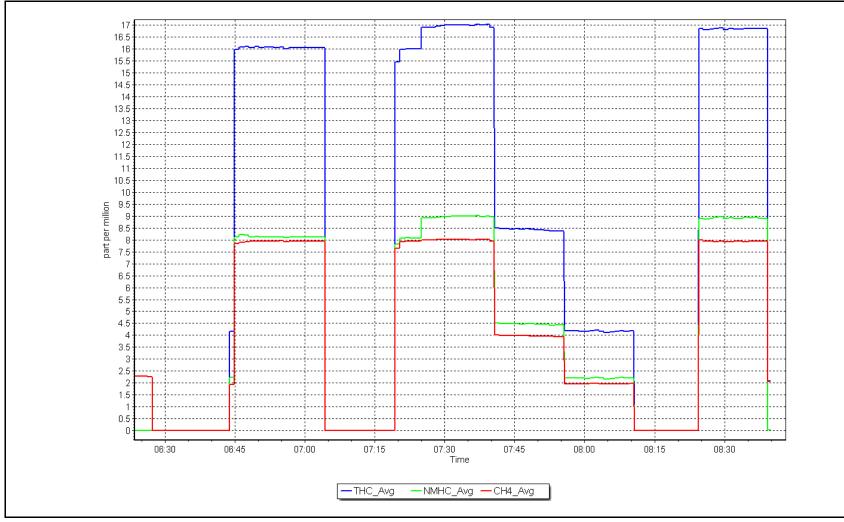
| Calibration Date: | April 21, 2025 | Previous Calibration: | April 5, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 6:25 | End Time (MST): | 8:40 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585650 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999943 | ≥0.995 |
| 8.91 4.45 | 9.00 4.45 | 0.9905 0.9993 | Slope | 1.011373 | 0.90 - 1.10 |
| 2.23 | 2.19 | 1.0175 | Intercept | -0.031782 | +/-0.5 |



NMHC Calibration Plot







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Analyzer serial #: 1193585650

Station Information

| Station Name: | Barge Landing | Station number: AMS 09 |
|-------------------|----------------|-------------------------------|
| Calibration Date: | April 29, 2025 | Last Cal Date: April 21, 2025 |
| Start time (MST): | 9:08 | End time (MST): 12:22 |
| Reason: | Maintenance | |

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 |
| | | Least francista a | |

Analyzer Information

Analyzer make: Thermo 55i THC Range: 0 - 20 ppm

| THC Range: 0 - 20 ppm | | NMHC/CH4 Range: 0 - 10 ppm | | | |
|-----------------------|--------------|----------------------------|-----------------|--------------|---------------|
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| CH4 SP Ratio: | 2.31E-04 | 2.28E-04 | NMHC SP Ratio: | 4.90E+05 | 4.76E+05 |
| CH4 Retention time: | 15.2 | 14.2 | NMHC Peak Area: | 181998 | 187033 |
| 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 | 17.38 | 0.973 |
| As found Mid point | 4961 | 39.5 | 8.44 | 8.65 | 0.976 |
| As found Low point New cylinder response | 4980 | 19.8 | 4.23 | 4.31 | 0.981 |
| Baseline Corr AF: | 17.38 | Prev response | 16.98 | *% change | 2.3% |
| Baseline Corr 2nd AF: | 8.65 | AF Slope: | 1.028459 | AF Intercept: | -0.020568 |
| Baseline Corr 3rd AF: | 4.31 | AF Correlation: | 0.999994 | * = > +/-5% change initiate | es 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 | 16.96 | 0.997 |
| Mid point | 4961 | 39.5 | 8.44 | 8.40 | 1.005 |
| Low point | 4980 | 19.8 | 4.23 | 4.17 | 1.014 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.1 | 16.91 | 17.00 | 0.995 |
| | | | Avera | ge Correction Factor | 1.005 |

Notes:

Few dips. Carrier pressure increased. Span adjusted. RT moved.



Wood Buffalo Environmental Association THC / CH₄ / 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 | 9.39 | 0.949 |
| As found Mid point | 4961 | 39.5 | 4.45 | 4.68 | 0.951 |
| As found Low point New cylinder response | 4980 | 19.8 | 2.23 | 2.34 | 0.955 |
| Baseline Corr AF: | 9.39 | Prev response | 8.98 | *% change | 4.4% |
| Baseline Corr 2nd AF: | 4.68 | AF Slope: | 1.054634 | AF Intercept: | -0.008381 |
| Baseline Corr 3rd AF: | 2.34 | AF Correlation: | 0.999996 | * = > +/-5% change initia | ites investigation |

NMHC Calibration Data

| Set Point | Dilution air flow rate | Source gas flow rate | Calculated concentration | Indicated concentration Correction factor (Cc/Ic) | |
|-----------------|------------------------|----------------------|--------------------------|---|--------------------------|
| SetTom | (sccm) | (sccm) | (ppm) (Cc) | (ppm) (Ic) | <i>Limit = 0.95-1.05</i> |
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4921 | 79.1 | 8.91 | 8.93 | 0.998 |
| Mid point | 4961 | 39.5 | 4.45 | 4.43 | 1.004 |
| Low point | 4980 | 19.8 | 2.23 | 2.20 | 1.012 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.1 | 8.91 | 8.96 | 0.994 |
| | | | Avera | ge Correction Factor | 1.005 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|-----------------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| 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 | 7.99 | 1.001 |
| As found Mid point | 4961 | 39.5 | 3.99 | 3.97 | 1.007 |
| As found Low point | 4980 | 19.8 | 2.00 | 1.98 | 1.012 |
| New cylinder response | | | | | |
| Baseline Corr AF: | 7.99 | Prev response | 8.00 | *% change | -0.1% |
| Baseline Corr 2nd AF: | 3.97 | AF Slope: | 0.999458 | AF Intercept: | -0.012987 |
| Baseline Corr 3rd AF: | 1.98 | AF Correlation: | 0.999987 | * = > +/-5% change initia | ates investigation |

CH4 Calibration Data

| Set Point | Dilution air flow rate | Source gas flow rate | Calculated concentration | Indicated concentration Correction factor (Cc/Ic) | |
|-----------------|------------------------|----------------------|--------------------------|---|--------------------------|
| SetFont | (sccm) | (sccm) | (ppm) (Cc) | (ppm) (Ic) | <i>Limit = 0.95-1.05</i> |
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4921 | 79.1 | 8.00 | 8.03 | 0.997 |
| Mid point | 4961 | 39.5 | 3.99 | 3.97 | 1.006 |
| Low point | 4980 | 19.8 | 2.00 | 1.97 | 1.016 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.1 | 8.00 | 8.04 | 0.995 |
| | | | Avera | ge Correction Factor | 1.006 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 1.007610 | 1.003757 |
| THC Cal Offset: | -0.060372 | -0.041375 |
| CH4 Cal Slope: | 1.003661 | 1.004447 |
| CH4 Cal Offset: | -0.029190 | -0.023190 |
| NMHC Cal Slope: | 1.011373 | 1.003150 |
| NMHC Cal Offset: | -0.031782 | -0.018986 |

Calibration Performed By:

Sean Bala

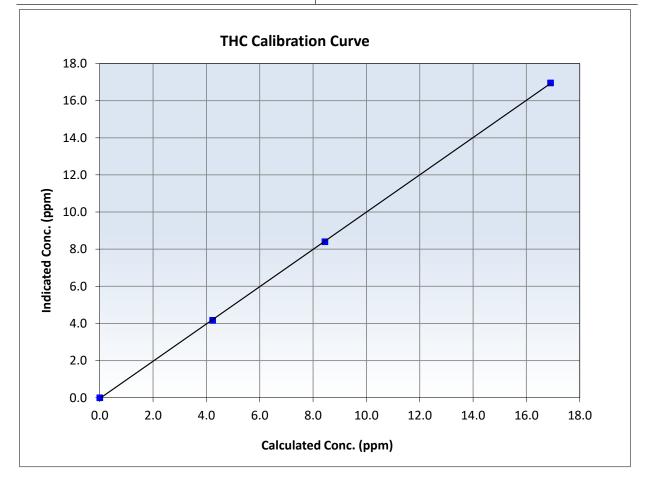


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 29, 2025 | Previous Calibration: | April 21, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 9:08 | End Time (MST): | 12:22 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585650 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999971 | ≥0.995 |
| 16.91 8.44 | 16.96 8.40 | 0.9972 1.0051 | Slope | 1.003757 | 0.90 - 1.10 |
| 4.23 | 4.17 | 1.0140 | Intercept | -0.041375 | +/-0.5 |



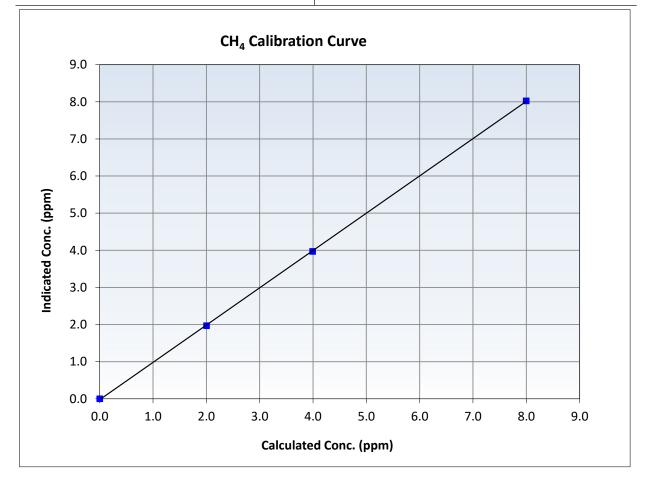


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 29, 2025 | Previous Calibration: | April 21, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 9:08 | End Time (MST): | 12:22 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585650 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999959 | ≥0.995 |
| 8.00 | 8.03 | 0.9967 | Slope | 1.004447 | 0.90 - 1.10 |
| 3.99 | 3.97 | 1.0063 | Siepe | 1.001117 | |
| 2.00 | 1.97 | 1.0164 | Intercept | -0.023190 | +/-0.5 |



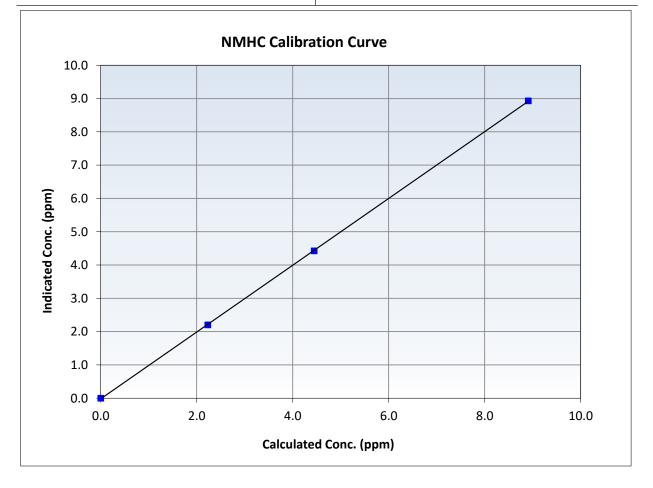


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

| Calibration Date: | April 29, 2025 | Previous Calibration: | April 21, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 9:08 | End Time (MST): | 12:22 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1193585650 |

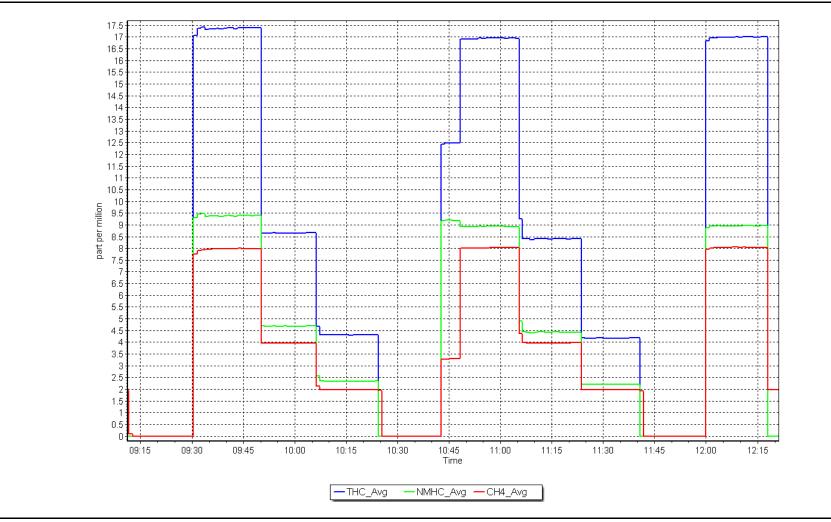
| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999978 | ≥0.995 |
| 8.91 4.45 | 8.93 4.43 | 0.9977 1.0045 | Slope | 1.003150 | 0.90 - 1.10 |
| 2.23 | 2.20 | 1.0124 | Intercept | -0.018986 | +/-0.5 |



NMHC Calibration Plot









Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Barge Landing | NO Gas Cylinder #: | T2Y1KDH | Cal Gas Expiry Date: November 17, 2026 |
|-------------------|----------------|-----------------------|-----------|--|
| Station number: | AMS 09 | NOX Cal Gas Conc: | 47.38 ppm | NO Cal Gas Conc: 46.94 ppm |
| Calibration Date: | April 11, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date: NA |
| Last Cal Date: | March 17, 2025 | Removed Gas NOX Conc: | 47.38 ppm | Removed Gas NO Conc: 46.94 ppm |
| Start time (MST): | 9:09 | NOX gas Diff: | | NO gas Diff: |
| End time (MST): | 13:16 | Calibrator Model: | API T700 | Serial Number: 3812 |
| Reason: | Routine | 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 | -0.3 | -0.2 | -0.2 | | |
| AF High point AF Mid point AF Low point New cyl resp | 4915 | 85.3 | 808.3 | 800.7 | 7.5 | 810.0 | 798.5 | 11.5 | 0.9975 | 1.0026 |
| Previous Response NO _x = 807. | | 807.3 ppb | NO = 799.0 ppb | | * = > +/-5% change initiates investigation | | | *Percent Chan | ge NO _x = | 0.4% |
| Baseline Corr 1st pt NO _x = 810.3 ppb | | 810.3 ppb | NO = 798.7 ppb | | As Found Statistics | | | *Percent Chan | ge NO = | 0.0% |
| Baseline Corr 2 | 2nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d $NO_X r^2$: | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d $NO_2 r^2$: | | NO2 SI: | NO ₂ Int: | |
| As Found GPT Calibration Data | | | | | | | | | | |
| | | | | | | | | Baseline Adjust | | |
| O3 Setpo | oint (ppb) | Indicated NO Re concentration | | cated NO Drop entration (ppb) | Calculated No concentration (pp | | dicated NO2 ntration (ppb) (Ic) | Correction f (Cc/(Ic-AFze | | verter Efficiency nit = 96-104% |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point *Limit = 0.90 - 1.10*



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1426262 | 593 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 0.998427 | 0.997861 |
| | | | Instrument Settings | | | NO _x Cal Offset: | 0.358142 | 1.058268 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 0.998439 | 0.998054 |
| NO coeff or slope: | 1.124 | 1.124 | NO bkgnd or offset: | 10.3 | 10.3 | NO Cal Offset: | -0.543944 | -0.083947 |
| NOX coeff or slope: | 0.999 | 0.999 | NOX bkgnd or offset: | 10.6 | 10.6 | NO ₂ Cal Slope: | 1.002354 | 1.025270 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 176.8 | 176.8 | NO ₂ Cal Offset: | -0.248929 | -0.569655 |

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) <i>Limit = 0.95-1.05</i> |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|---|---|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.2 | 0.0 | -0.2 | | |
| High point | 4915 | 85.3 | 808.3 | 800.7 | 7.5 | 807.1 | 799.3 | 7.8 | 1.0014 | 1.0018 |
| Mid point | 4957 | 42.6 | 403.7 | 400.0 | 3.7 | 404.1 | 398.6 | 5.5 | 0.9990 | 1.0034 |
| Low point | 4979 | 21.3 | 201.8 | 200.0 | 1.9 | 204.0 | 199.7 | 4.2 | 0.9893 | 1.0013 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.2 | -0.1 | -0.1 | | |
| As left span | 4915 | 85.3 | 808.3 | 438.2 | 370.1 | 801.2 | 438.2 | 362.9 | 1.0088 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9966 | 1.0022 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 c) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|---------------------------------------|---|--|--|--|
| Cal zero | | | 0.0 | -0.2 | | |
| High GPT point | 791.9 | 442.0 | 357.4 | 366.2 | 0.9760 | 102.5% |
| Mid GPT point | 791.9 | 618.5 | 180.9 | 184.3 | 0.9816 | 101.9% |
| Low GPT point | 791.9 | 706.1 | 93.3 | 95.0 | 0.9822 | 101.8% |
| | | | | Average Correction Factor | 0.9799 | 102.1% |

Notes:

Inlet filter changed after as founds.No adjustment. 2nd NO reference point was used due to drift.

Calibration Performed By:

Sean Bala

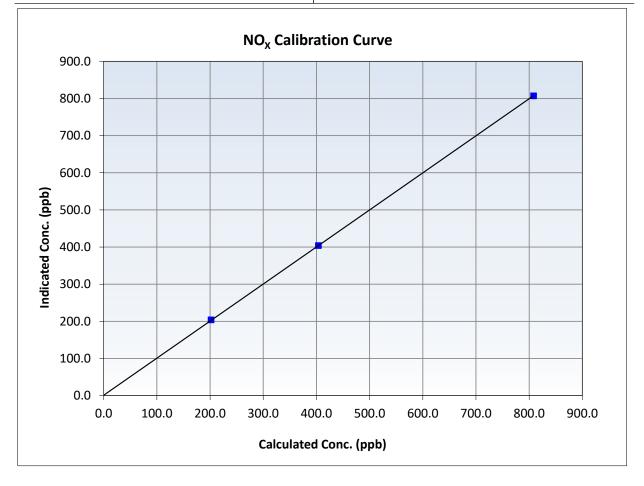


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 9:09 | End Time (MST): | 13:16 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1426262593 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | -0.2 | | Correlation Coefficient | 0.999988 | ≥0.995 |
| 808.3 403.7 | 807.1 404.1 | 1.0014 0.9990 | Slope | 0.997861 | 0.90 - 1.10 |
| 201.8 | 204.0 | 0.9893 | Intercept | 1.058268 | +/-20 |



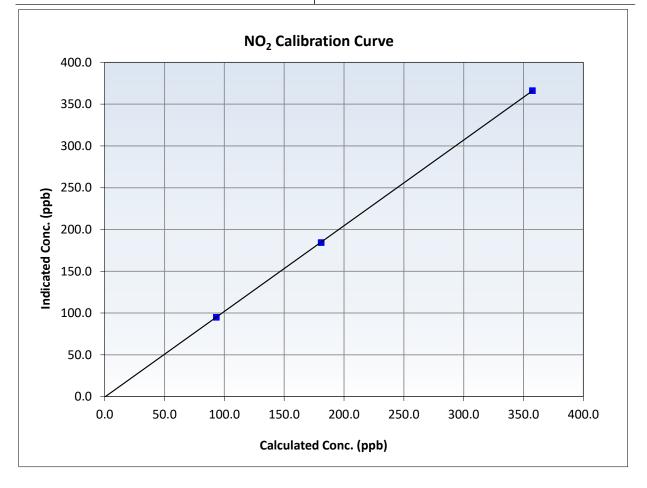


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 9:09 | End Time (MST): | 13:16 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1426262593 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.2 | | Correlation Coefficient | 0.999991 | ≥0.995 |
| 357.4 180.9 | 366.2 184.3 | 0.9760 0.9816 | Slope | 1.025270 | 0.90 - 1.10 |
| 93.3 | 95.0 | 0.9822 | Intercept | -0.569655 | +/-20 |



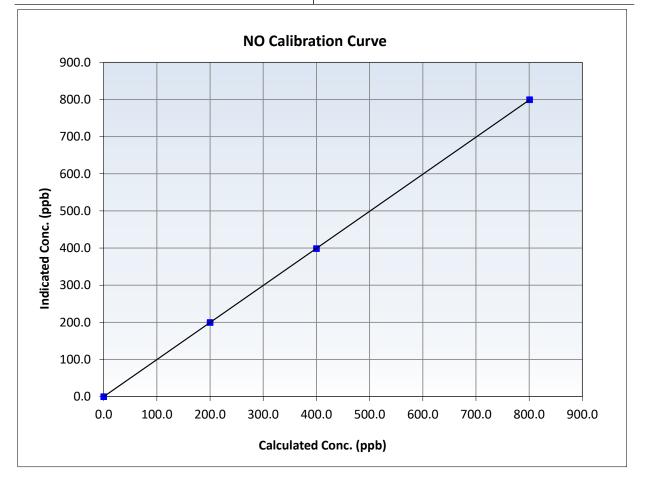


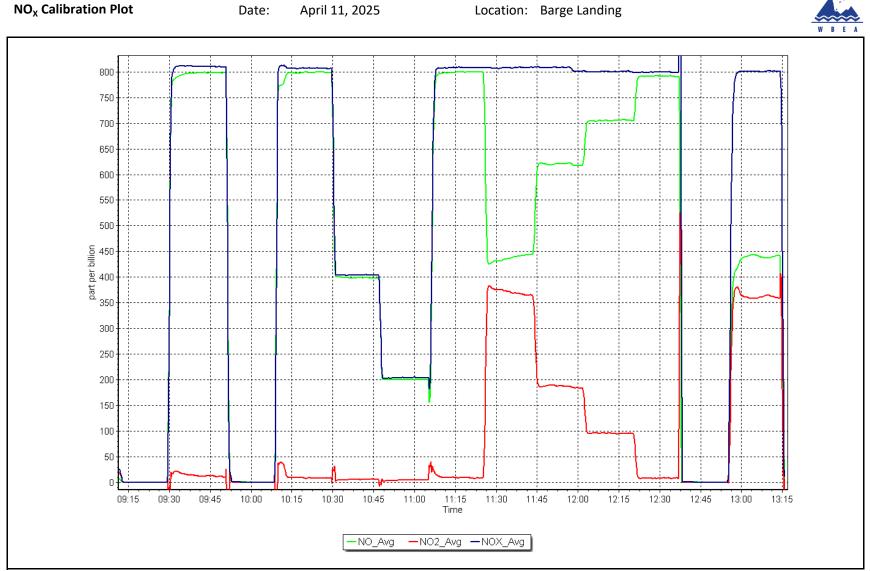
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Barge Landing | Station Number: | AMS 09 |
| Start Time (MST): | 9:09 | End Time (MST): | 13:16 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1426262593 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999999 | ≥0.995 |
| 800.7 | 799.3 | 1.0018 | Slope | 0.998054 | 0.90 - 1.10 |
| 400.0 | 398.6 | 1.0034 | Slope | 0.996034 | 0.30 - 1.10 |
| 200.0 | 199.7 | 1.0013 | Intercept | -0.083947 | +/-20 |









Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| WBEA | | | | | Version-01-20 |
|--|--|--|--|--|----------------|
| | | Station Information | n | | |
| tation Name: | Barge Landing | | Station number: AN | IS 09 | |
| Calibration Date: | April 9, 2025 | | Last Cal Date: Ma | | |
| Start time (MST): | 14:15 | | End time (MST): 14: | 30 | |
| Analyzer Make: | API T640 | | S/N: 844 | 1 | |
| Particulate Fraction: | PM2.5 | | | | |
| Flow Meter Make/Model: | Alicat FP-25BT | | S/N: 388 | 3748 | |
| Геmp/RH standard: | Alicat FP-25BT | | S/N: 388 | 3748 | |
| | | Monthly Calibration T | ſest | | |
| <u>Parameter</u> | <u>As found</u> | Measured | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| T (°C) | 16.10 | 16.10 | 16.10 | | +/- 2 °C |
| P (mmHg) | 724.00 | 732.50 | 724.00 | | +/- 10 mmH |
| Flow (LPM) | 5.03 | 4.90 | 5.03 | | +/- 0.25 LPN |
| PW% (pump) | 36 | | 36 | | >80% |
| | PM w/o HEPA: | 36.40 | PM w/ HEPA: | 21.60 | <0.2 ug/m3 |
| Zero Verification Note: this leak check will be PM Inlet observation : | | quarterly work and will | | | |
| Note: this leak check will be | completed before the | quarterly work and will | serve as the pre maint gnment Factor On : | enance leak check | |
| Note: this leak check will be PM Inlet observation : | completed before the | quarterly work and will I Alig | serve as the pre maint gnment Factor On : | enance leak check | 24 |
| Note: this leak check will be | completed before the Inlet Head Clean Refractive Index: | quarterly work and will Quarterly Calibration | serve as the pre maint gnment Factor On : Test | enance leak check | 24 |
| Note: this leak check will be PM Inlet observation : | completed before the Inlet Head Clean Refractive Index: | quarterly work and will Alig Quarterly Calibration 10.9 | serve as the pre maint gnment Factor On : Test | enance leak check | 24 (Limits) |
| Note: this leak check will be PM Inlet observation : SPAN DUST | completed before the Inlet Head Clean Refractive Index: Lot No.: | quarterly work and will Alig Quarterly Calibration 10.9 100128-050-042 | serve as the pre maint gnment Factor On : Test Expiry Date: | enance leak check | |
| Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> | e completed before the Inlet Head Clean Refractive Index: Lot No.: : <u>As found</u> NA | quarterly work and will and the constraints of the constraints of the constraints of the constraints of the constraint o | serve as the pre maint gnment Factor On : Test Expiry Date: <u>As left</u> NA | enance leak check June 10, 20 <u>Adjusted</u> | (Limits) |
| Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test | e completed before the Inlet Head Clean Refractive Index: Lot No.: : <u>As found</u> NA | quarterly work and will Alig Quarterly Calibration 10.9 100128-050-042 Post maintenance NA | serve as the pre maint gnment Factor On : Test Expiry Date: <u>As left</u> NA | enance leak check June 10, 20 <u>Adjusted</u> | (Limits) |
| Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Cham | e completed before the Inlet Head Clean Refractive Index: Lot No.: : <u>As found</u> NA ber Cleaned: Iter Changed: | quarterly work and will Alig Quarterly Calibration 10.9 100128-050-042 Post maintenance NA March 24, | serve as the pre maint gnment Factor On : Test Expiry Date: <u>As left</u> NA 2025 2025 | enance leak check June 10, 20 <u>Adjusted</u> | (Limits) |
| Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Cham Date Disposable Fi | e completed before the Inlet Head Clean Refractive Index: Lot No.: : <u>As found</u> NA ber Cleaned: Iter Changed: | quarterly work and will Alige Quarterly Calibration 10.9 100128-050-042 Post maintenance NA March 24, March 7, | serve as the pre maint gnment Factor On : Test Expiry Date: <u>As left</u> NA 2025 2025 NA | enance leak check June 10, 20 <u>Adjusted</u> | (Limits) |
| Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Cham Date Disposable Fi | e completed before the Inlet Head Clean Refractive Index: Lot No.: : <u>As found</u> NA bber Cleaned: Iter Changed: | quarterly work and will Alige Quarterly Calibration 10.9 100128-050-042 Post maintenance NA March 24, March 24, PM w/ HEPA: | serve as the pre maint gnment Factor On : Test Expiry Date: <u>As left</u> NA 2025 2025 NA | enance leak check June 10, 20 <u>Adjusted</u> | (Limits) |

Notes:

Re

Removal calibration due to erroneous readings. PMT check showed no response, and leak check failed.

Calibration by: Devin Russell



Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| W B E A | | | | | Version-01-202 |
|---|------------------------|-------------------|--------------------------------|------------------|----------------|
| | | Station Inform | nation | | |
| Station Name: | Barge Landing | | Station number: AMS | 5 09 | |
| Calibration Date: | April 10, 2025 | | Last Cal Date: NA | | |
| Start time (MST): | 8:50 | | End time (MST): 9:10 |) | |
| Analyzer Make: Particulate Fraction: | API T640 PM2.5 | | S/N: 223 | 7 | |
| Flow Meter Make/Model: | Alicat FP-25BT | | S/N: 388 | 754 | |
| Temp/RH standard: | Alicat FP-25BT | | S/N: 388 | 754 | |
| | 1 | Monthly Calibra | tion Test | | |
| Parameter | <u>As found</u> | Measured | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| T (°C) | 9.10 | 8.88 | 9.10 | | +/- 2 °C |
| P (mmHg) | 739.20 | 737.70 | 739.20 | | +/- 10 mmHg |
| Flow (LPM) | 5.02 | 4.97 | 5.02 | | +/- 0.25 LPM |
| PW% (pump) | 34 | | 34 | | >80% |
| Zero Verification | PM w/o HEPA: | 3.80 | PM w/ HEPA: | 0.00 | <0.2 ug/m3 |
| Note: this leak check will be | completed before the a | Jarterly work an | d will serve as the pre mainte | nance leak check | |
| PM Inlet observation : | Inlet Head Clean | , | • | | |
| | | Quarterly Calibra | ation Test | | |

| | | Quarterly Calibration | Test | | |
|-----------------------------|--------------------------|-----------------------|----------------|-----------------|----------|
| | Refractive Index: | 10.9 | Expiry Date: | January 30, 20 | 027 |
| SPAN DUST | Lot No.: | 100128-050-042 | | | |
| <u>Parameter</u> | <u>As found</u> | Post maintenance | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| PMT Peak Test | 11.00 | 11.00 | 11.00 | | +/- 0.5 |
| Date Optical Chamb | per Cleaned: | April 10, | 2025 | | |
| Date Disposable Filt | er Changed: | April 10, | 2025 | | |
| Post- maintenance Zero Veri | fication: | PM w/ HEPA: _ | 0.00 | <0.2 ug/m3 | |

Annual Maintenance

| Date Sample Tube Cleaned: | October 18, 2024 |
|---------------------------|------------------|
| Date RH/T Sensor Cleaned: | October 18, 2024 |

Notes:

Install calibration. Flow, temperature, pressure, and PMT verified.

Calibration by:

Devin Russell



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS11 LOWER CAMP APRIL 2025

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

May 30, 2025



Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Lower Camp |
|-------------------|---------------|
| Calibration Date: | April 9, 2025 |
| Start time (MST): | 12:07 |
| Reason: | Routine |

Station number: AMS 11 Last Cal Date: March 3, 2025 End time (MST): 15:46

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: 3807 |
| Zero Air Gen Model: | Teledyne API T701 | | Serial Number: 196 |
| | | | |
| | | | |

Analyzer Information

| Analyzer make: Analyzer Range: | Thermo 43i 0 - 1000 ppb | | Serial Number: 10 | 0841398 | |
|-----------------------------------|----------------------------|---------------|-------------------|--------------|---------------|
| , maryzer nanger | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 1.003845 | 1.018981 | Backgd or Offset: | 16.2 | 16.2 |
| Calibration intercept: | -0.495900 | 0.056971 | Coeff or Slope: | 1.005 | 1.005 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4939 | 81.5 | 791.4 | 804.4 | 0.985 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 803.8 NA NA | Previous response AF Slope: AF Correlation: | 793.9 | *% change AF Intercept: * = > +/-5% change initiat | 1.2% es investigation |

SO₂ 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 | 0.8 | |
| High point | 4939 | 81.5 | 791.4 | 807.2 | 0.980 |
| Mid point | 4972 | 40.8 | 396.8 | 402.9 | 0.985 |
| Low point | 4990 | 20.4 | 198.5 | 202.3 | 0.981 |
| As left zero | 5000 | 0.0 | 0.0 | 0.7 | |
| As left span | 4939 | 81.5 | 791.4 | 807.4 | 0.980 |
| | | | Averag | ge Correction Factor: | 0.982 |

Notes:

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

Calibration Performed By:

Mohammed Kashif

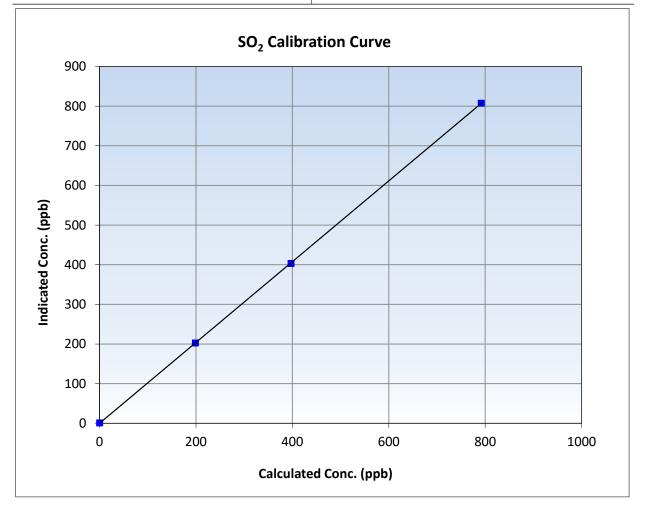


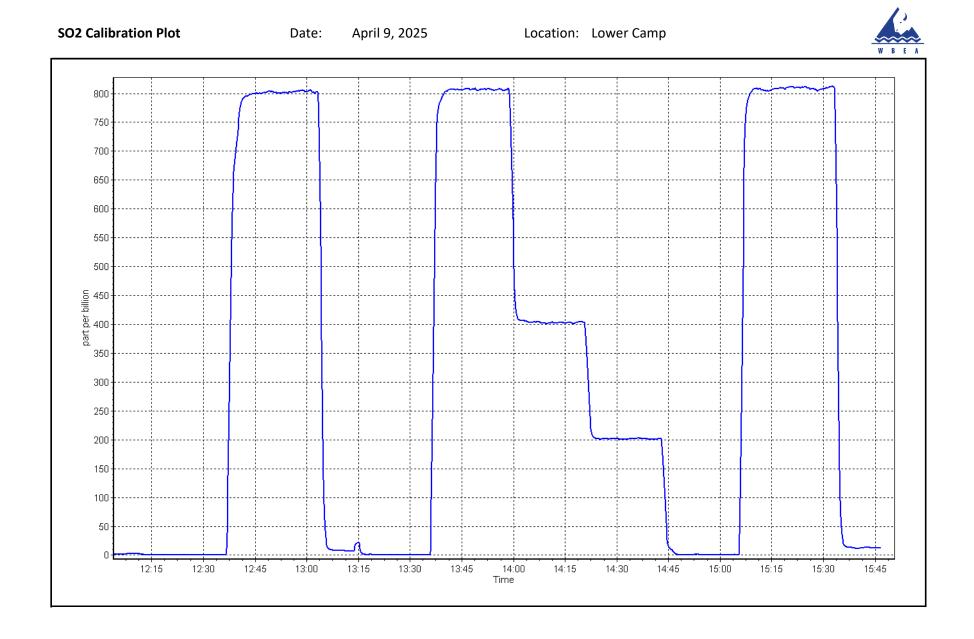
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | March 3, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Lower Camp | Station Number: | AMS 11 |
| Start Time (MST): | 12:07 | End Time (MST): | 15:46 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 100841398 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.8 | | Correlation Coefficient | 0.999991 | ≥0.995 |
| 791.4 396.8 | 807.2 402.9 | 0.9804 0.9848 | Slope | 1.018981 | 0.90 - 1.10 |
| 198.5 | 202.3 | 0.9812 | Intercept | 0.056971 | +/-30 |







Wood Buffalo Environmental Association H₂S Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Lower Camp April 22, 2025 10:31 Routine | | Station number: Last Cal Date: End time (MST): | AMS 11 March 24, 2025 14:50 | |
|--|--|---------------|--|-----------------------------------|------|
| | | Calibration S | tandards | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 4.83 CC737863 | ppm | Cal Gas Exp Date: | August 28, 2028 | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 4.83 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | |
| Calibrator Make/Model: | API T700 | | Serial Number: | 3807 | |
| ZAG Make/Model: | API T701H | | Serial Number: | 196 | |
| | | Analyzer Info | ormation | | |
| Analyzer make: | Thermo 43iQ | | Analyzer serial #: | 1203169745 | |
| Converter make: | Global G150 | | Converter serial #: | 2022-223 | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | 325 | degC |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | 1 |
| Calibration slope: | 1.000358 | 1.003220 | Backgd or Offset: | 2.6 | |
| Calibration intercept: | -0.202641 | -0.202864 | Coeff or Slope: | 0.752 | |
| | | | | | |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.2 | |
| As found High point | 4935 | 83.0 | 79.9 | 80.1 | 0.995 |
| As found Mid point | 4977 | 41.6 | 40.0 | 40.1 | 0.993 |
| As found Low point | 4993 | 20.9 | 20.1 | 20.0 | 0.997 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 80.3 | Prev response: | 79.72 | *% change: | 0.7% |
| Baseline Corr 2nd AF pt: | 40.3 | AF Slope: | 1.005367 | AF Intercept: | -0.203054 |
| Baseline Corr 3rd AF pt: | 20.2 | AF Correlation: | 0.999999 | * = > +/-5% change initiate | es 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 | 4935 | 83.0 | 79.9 | 79.9 | 1.000 |
| Mid point | 4977 | 41.6 | 40.0 | 40.1 | 0.998 |
| Low point | 4993 | 20.9 | 20.1 | 19.9 | 1.012 |
| As left zero | 5000 | 0.0 | 0.0 | -0.2 | |
| As left span | 4935 | 83.0 | 79.9 | 79.3 | 1.007 |
| SO2 Scrubber Check | 4935 | 81.5 | 812.3 | 0.0 | |
| Date of last scrubber chan | ge: | | | Ave Corr Factor | 1.003 |

Changed sample inlet filter after as founds. Ran scrubber check after calibrator zero and it passed.

No adjustments made.

Date of last converter efficiency test:

Calibration Performed By:

Notes:

<u>Finish</u> 2.6 0.752



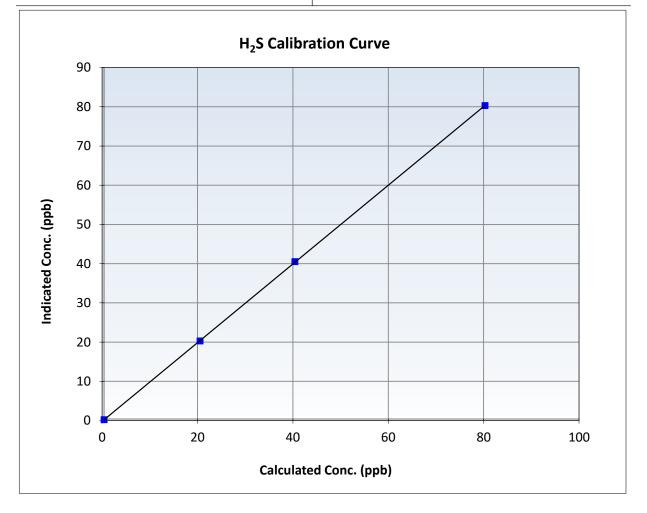
Wood Buffalo Environmental Association

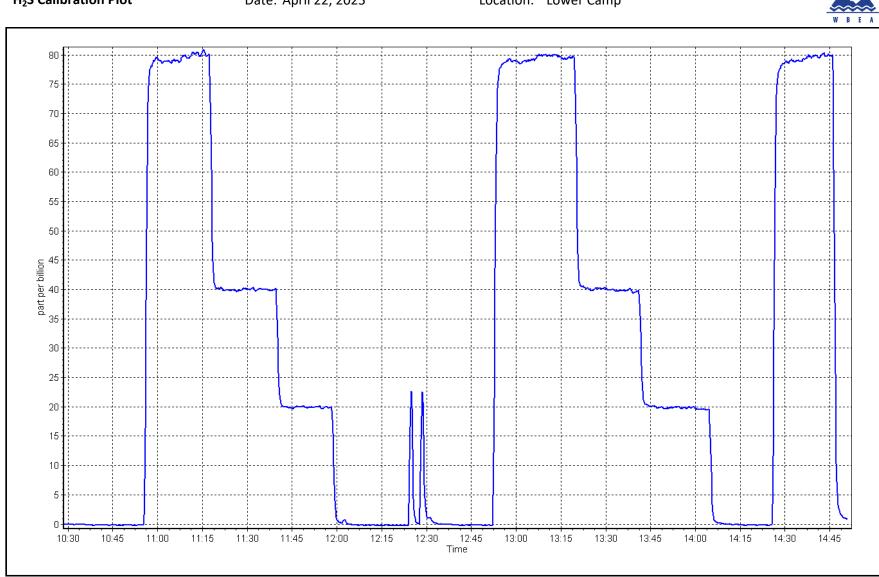
H₂S Calibration Summary

Station Information

| Calibration Date: | April 22, 2025 | Previous Calibration: | March 24, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Lower Camp | Station Number: | AMS 11 |
| Start Time (MST): | 10:31 | End Time (MST): | 14:50 |
| Analyzer make: | Thermo 43iQ | Analyzer serial #: | 1203169745 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.2 | | Correlation Coefficient | 0.999991 | ≥0.995 |
| 79.9 | 79.9 | 0.9999 | Slope | 1.003220 | 0.90 - 1.10 |
| 40.0 | 40.1 | 0.9984 | Slope | 1.003220 | 0.30 - 1.10 |
| 20.1 | 19.9 | 1.0117 | Intercept | -0.202864 | +/-3 |





H₂S Calibration Plot

Date: April 22, 2025

Location: Lower Camp



Wood Buffalo Environmental Association THC / CH4 / NMHC Calibration Report

| | | Station | Information | | |
|-------------------------------------|---------------|-----------------|-------------------------|---------------|--------------|
| Station Name: | Lower Camp | | Station number: AN | VIS 11 | |
| Calibration Date: | April 9, 2025 | | Last Cal Date: M | arch 16, 2025 | |
| Start time (MST): | 12:07 | | End time (MST): 15 | 5:46 | |
| Reason: | Routine | | | | |
| | | <u>Calibrat</u> | ion Standards | | |
| Gas Cert Reference: | CC74150 | 3 | Cal Gas Expiry Date: | Octo | ober 9, 2032 |
| CH4 Cal Gas Conc. | 504.8 ppr | า | CH4 Equiv Conc. | 1071.9 | ppm |
| C3H8 Cal Gas Conc. | 206.2 ppr | า | | | |
| Removed Gas Cert: | | | Removed Gas Expiry: | | |
| Removed CH4 Conc. | 504.8 ppr | า | CH4 Equiv Conc. | 1071.9 | ppm |
| Removed C3H8 Conc. | 206.2 ppr | า | Diff between cyl (THC): | | |
| Diff between cyl (CH ₄) | | | Diff between cyl (NM): | | |
| Calibrator Model: | API T700 |) | Serial Number: | | 3807 |
| Zero Air Gen model: | API T701 | | Serial Number: | | 196 |
| | | Analyze | r Information | | |
| Analyzer make: | Thermo 55i | | Analyzer serial #: 11 | 18148495 | |
| THC Range | : 0 - 20 ppm | | NMHC/CH4 Range: 0 | - 10 ppm | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Fin</u> |

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 2.04E-04 | 2.04E-04 | NMHC SP Ratio: | 4.27E-05 | 4.27E-05 |
| CH4 Retention time: | 14.3 | 14.3 | NMHC Peak Area: | 215713 | 215713 |
| 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 As found Mid point As found Low point New cylinder response | 4939 | 81.5 | 17.40 | 16.94 | 1.027 |
| Baseline Corr AF: | 16.94 | Prev response | 17.39 | *% change | -2.6% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiat | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|--|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4939 | 81.5 | 17.40 | 16.85 | 1.033 |
| Mid point | 4972 | 40.8 | 8.72 | 8.43 | 1.035 |
| Low point | 4990 | 20.4 | 4.36 | 4.25 | 1.028 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4939 | 81.5 | 17.40 | 16.88 | 1.031 |
| | | | Avera | ge Correction Factor | 1.032 |

Notes:

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



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4939 | 81.5 | 9.21 | 8.86 | 1.039 |
| Baseline Corr AF: | 8.86 | Prev response | 9.23 | *% change | -4.1% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | tes 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 | 4939 | 81.5 | 9.21 | 8.80 | 1.046 |
| Mid point | 4972 | 40.8 | 4.62 | 4.43 | 1.042 |
| Low point | 4990 | 20.4 | 2.31 | 2.25 | 1.027 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4939 | 81.5 | 9.21 | 8.83 | 1.042 |
| | | | Avera | ge Correction Factor | 1.038 |

CH4 As Found Data

| 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 |
|----------------------------------|---|--|---|---|
| 5000 | 0.0 | 0.00 | 0.00 | |
| 4939 | 81.5 | 8.19 | 8.08 | 1.014 |
| 8.08 NA NA | Prev response AF Slope: AF Correlation: | 8.16 | *% change AF Intercept: * => +/-5% change initia | -1.1% |
| | (sccm) 5000 4939 8.08 | Dilution air flow rate (sccm)Source gas flow rate (sccm)50000.0493981.58.08Prev response A F Slope: | (sccm) (sccm) (ppm) (Cc) 5000 0.0 0.00 4939 81.5 8.19 8.08 Prev response 8.16 NA AF Slope: 8.16 | Dilution air flow rate (sccm)Source gas flow rate (sccm)Calculated concentration (ppm) (Cc)Indicated concentration (ppm) (lc)50000.00.000.00493981.58.198.088.08Prev response8.16*% change AF Intercept: |

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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|--|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4939 | 81.5 | 8.19 | 8.04 | 1.019 |
| Mid point | 4972 | 40.8 | 4.11 | 4.00 | 1.027 |
| Low point | 4990 | 20.4 | 2.06 | 2.00 | 1.029 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4939 | 81.5 | 8.19 | 8.05 | 1.018 |
| | | | Avera | ge Correction Factor | 1.025 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 0.998443 | 0.967607 |
| THC Cal Offset: | 0.017156 | 0.004689 |
| CH4 Cal Slope: | 0.998463 | 0.981979 |
| CH4 Cal Offset: | -0.017882 | -0.014211 |
| NMHC Cal Slope: | 0.998401 | 0.954688 |
| NMHC Cal Offset: | 0.035637 | 0.019898 |
| | | |

Calibration Performed By:

Mohammed Kashif

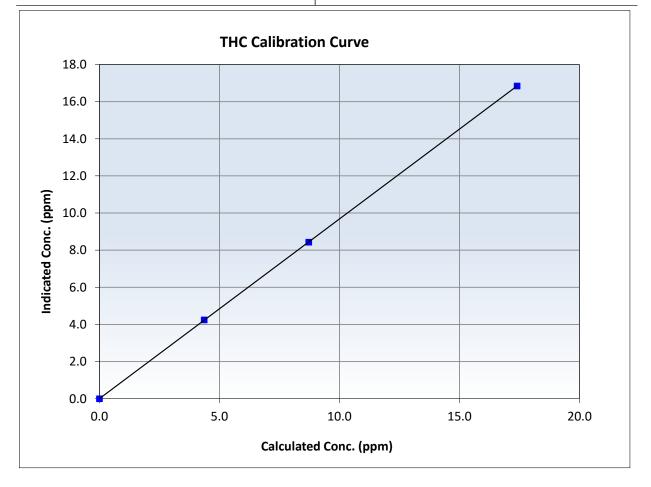


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | March 16, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Lower Camp | Station Number: | AMS 11 |
| Start Time (MST): | 12:07 | End Time (MST): | 15:46 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1118148495 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999996 | ≥0.995 |
| 17.40 8.72 | 16.85 8.43 | 1.0329 1.0350 | Slope | 0.967607 | 0.90 - 1.10 |
| 4.36 | 4.25 | 1.0280 | Intercept | 0.004689 | +/-0.5 |



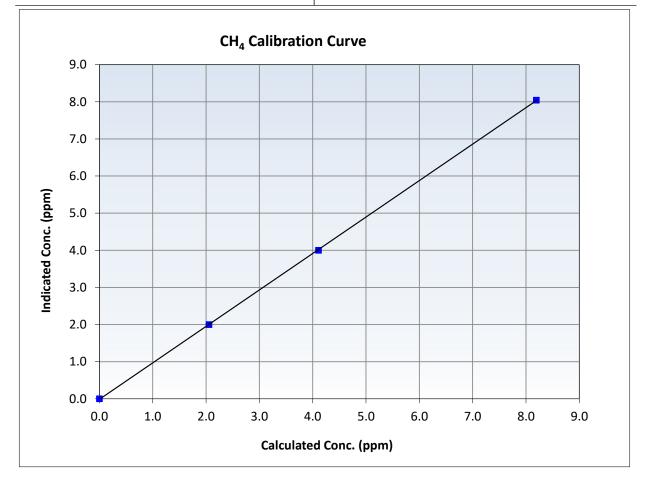


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | March 16, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Lower Camp | Station Number: | AMS 11 |
| Start Time (MST): | 12:07 | End Time (MST): | 15:46 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1118148495 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999979 | ≥0.995 |
| 8.19 4.11 | 8.04 4.00 | 1.0187 1.0269 | Slope | 0.981979 | 0.90 - 1.10 |
| 2.06 | 2.00 | 1.0287 | Intercept | -0.014211 | +/-0.5 |



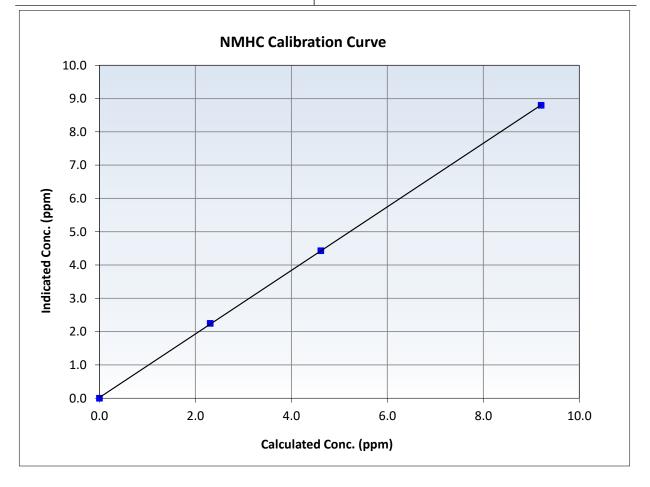


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

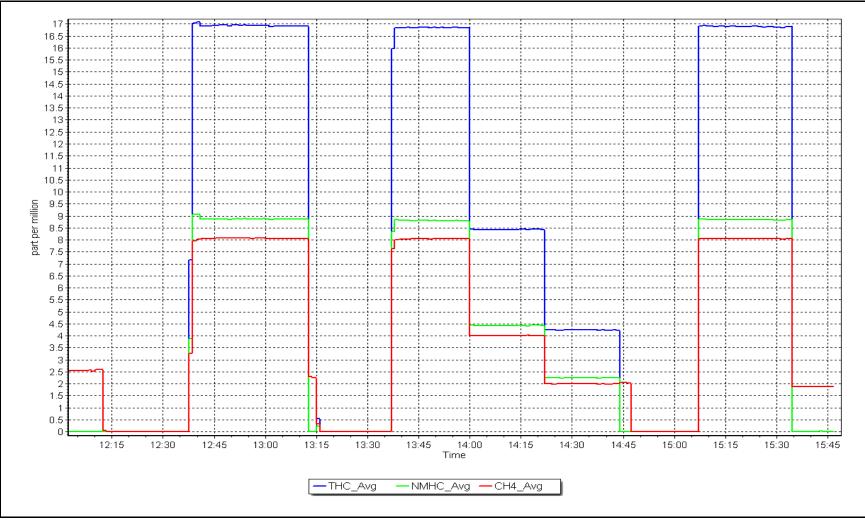
| Calibration Date: | April 9, 2025 | Previous Calibration: | March 16, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Lower Camp | Station Number: | AMS 11 |
| Start Time (MST): | 12:07 | End Time (MST): | 15:46 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1118148495 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999975 | ≥0.995 |
| 9.21 4.62 | 8.80 4.43 | 1.0460 1.0418 | Slope | 0.954688 | 0.90 - 1.10 |
| 2.31 | 2.25 | 1.0270 | Intercept | 0.019898 | +/-0.5 |



NMHC Calibration Plot







Wood Buffalo Environmental Association THC / CH4 / NMHC Calibration Report

Analyzer serial #: 1118148495

NMHC/CH4 Range: 0 - 10 ppm

Station Information

| Station Name: | Lower Camp | Station number: AMS 11 |
|-------------------|----------------|------------------------------|
| Calibration Date: | April 25, 2025 | Last Cal Date: April 9, 2025 |
| Start time (MST): | 13:47 | End time (MST): 17:13 |
| Reason: | Maintenance | |

Calibration Standards

| Gas Cert Reference: | CC741503 | 3 Cal Gas Expiry Date: | | ber 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 THC Range: 0 - 20 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 2.04E-04 | 2.27E-04 | NMHC SP Ratio: | 4.27E-05 | 4.96E-05 |
| CH4 Retention time: | 14.3 | 14.3 | NMHC Peak Area: | 215713 | 185572 |
| Zero Chromatogram: | OFF | OFF | Flat Baseline: | OFF | OFF |

THC As Found Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 |
|-----------------------|----------------------------------|--------------------------------|--|--|---|
| As found zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As found High point | 4932 | 82.2 | 17.57 | 15.32 | 1.147 |
| As found Mid point | 4971 | 41.2 | 8.81 | 7.64 | 1.153 |
| As found Low point | 4996 | 20.6 | 4.40 | 3.85 | 1.143 |
| New cylinder response | | | | | |
| Baseline Corr AF: | 15.32 | Prev response | 17.01 | *% change | -11.0% |
| Baseline Corr 2nd AF: | 7.64 | AF Slope: | 0.871265 | AF Intercept: | -0.002098 |
| Baseline Corr 3rd AF: | 3.85 | AF Correlation: | 0.999987 | * = > +/-5% change initiat | es 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 | 17.45 | 1.007 |
| Mid point | 4971 | 41.2 | 8.81 | 8.72 | 1.010 |
| Low point | 4996 | 20.6 | 4.40 | 4.40 | 1.001 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4932 | 82.2 | 17.57 | 17.26 | 1.018 |
| | | | Avera | ge Correction Factor | 1.006 |

No alarms were detected during the investigation. Diagnostics were consistent, and the

Notes:

chromatograms showed no discrepancies, aside from a slight alignment drift. The issue is likely due to the new calibrator, prompting only a span adjustment.



Wood Buffalo Environmental Association THC / CH₄ / 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 | 7.96 | 1.167 |
| As found Mid point | 4971 | 41.2 | 4.66 | 3.99 | 1.168 |
| As found Low point New cylinder response | 4996 | 20.6 | 2.33 | 2.03 | 1.148 |
| Baseline Corr AF: | 7.96 | Prev response | 8.89 | *% change | -11.7% |
| Baseline Corr 2nd AF: | 3.99 | AF Slope: | 0.855410 | AF Intercept: | 0.012797 |
| Baseline Corr 3rd AF: | 2.03 | AF Correlation: | 0.999975 | * = > +/-5% change initia | ites investigation |

NMHC Calibration Data

| Set Point | Dilution air flow rate | Source gas flow rate | Calculated concentration | Indicated concentration | Correction factor (Cc/Ic) |
|-----------------|------------------------|----------------------|--------------------------|-------------------------|---------------------------|
| SetFolit | (sccm) | (sccm) | (ppm) (Cc) | (ppm) (Ic) | <i>Limit = 0.95-1.05</i> |
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4932 | 82.2 | 9.30 | 9.24 | 1.006 |
| Mid point | 4971 | 41.2 | 4.66 | 4.65 | 1.002 |
| Low point | 4996 | 20.6 | 2.33 | 2.36 | 0.985 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4932 | 82.2 | 9.30 | 9.14 | 1.017 |
| | | | Avera | age Correction Factor | 0.998 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|-----------------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic- AFzero)) |
| | | | | | Limit = 0.90-1.10 |
| As found zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As found High point | 4932 | 82.2 | 8.28 | 7.35 | 1.125 |
| As found Mid point | 4971 | 41.2 | 4.15 | 3.65 | 1.136 |
| As found Low point | 4996 | 20.6 | 2.07 | 1.82 | 1.137 |
| New cylinder response | | | | | |
| Baseline Corr AF: | 7.35 | Prev response | 8.11 | *% change | -10.3% |
| Baseline Corr 2nd AF: | 3.65 | AF Slope: | 0.888951 | AF Intercept: | -0.014694 |
| Baseline Corr 3rd AF: | 1.82 | AF Correlation: | 0.999971 | * = > +/-5% change initia | ites investigation |

CH4 Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration ((Ic) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|--|--|--|
| | . , | (seem) | | | 2000 - 0.55 1.65 |
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4932 | 82.2 | 8.28 | 8.21 | 1.009 |
| Mid point | 4971 | 41.2 | 4.15 | 4.07 | 1.020 |
| Low point | 4996 | 20.6 | 2.07 | 2.04 | 1.018 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4932 | 82.2 | 8.28 | 8.12 | 1.019 |
| | | | Avera | ge Correction Factor | 1.015 |

Calibration Statistics

| 50 |
|-----|
|)74 |
| 571 |
| 195 |
| 864 |
| .70 |
| |

Calibration Performed By:

Mohammed Kashif

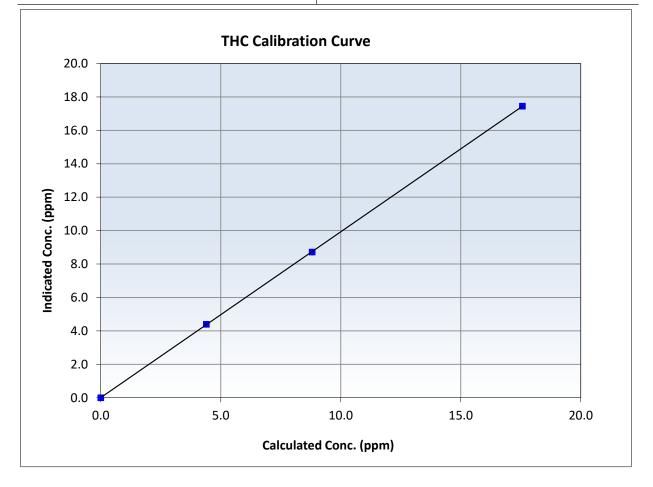


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 25, 2025 | Previous Calibration: | April 9, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Lower Camp | Station Number: | AMS 11 |
| Start Time (MST): | 13:47 | End Time (MST): | 17:13 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1118148495 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999991 | ≥0.995 |
| 17.57 8.81 | 17.45 8.72 | 1.0071 1.0102 | Slope | 0.992250 | 0.90 - 1.10 |
| 4.40 | 4.40 | 1.0005 | Intercept | 0.006074 | +/-0.5 |



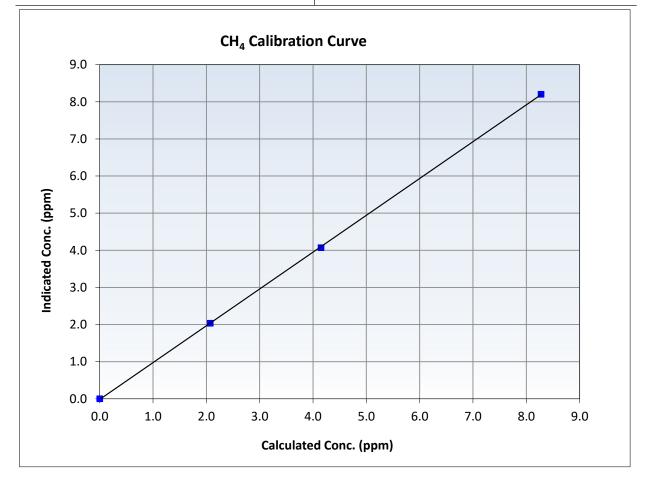


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 25, 2025 | Previous Calibration: | April 9, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Lower Camp | Station Number: | AMS 11 |
| Start Time (MST): | 13:47 | End Time (MST): | 17:13 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1118148495 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999964 | ≥0.995 |
| 8.28 4.15 | 8.21 4.07 | 1.0086 1.0195 | Slope | 0.991671 | 0.90 - 1.10 |
| 2.07 | 2.04 | 1.0181 | Intercept | -0.016495 | +/-0.5 |



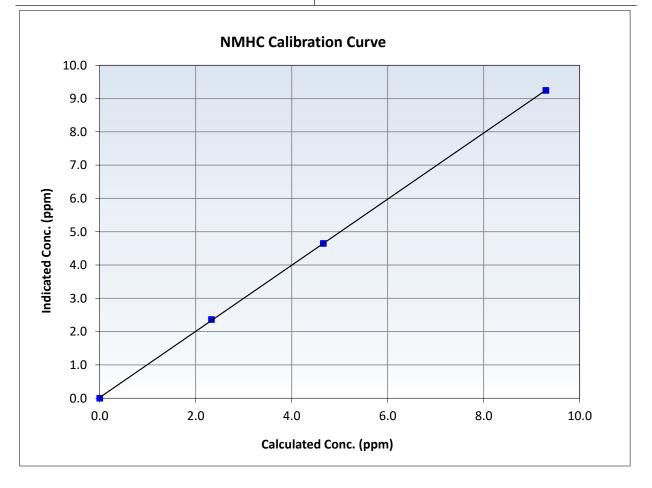


Wood Buffalo Environmental Association NMHC Calibration Summary

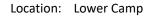
Station Information

| Calibration Date: | April 25, 2025 | Previous Calibration: | April 9, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Lower Camp | Station Number: | AMS 11 |
| Start Time (MST): | 13:47 | End Time (MST): | 17:13 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1118148495 |

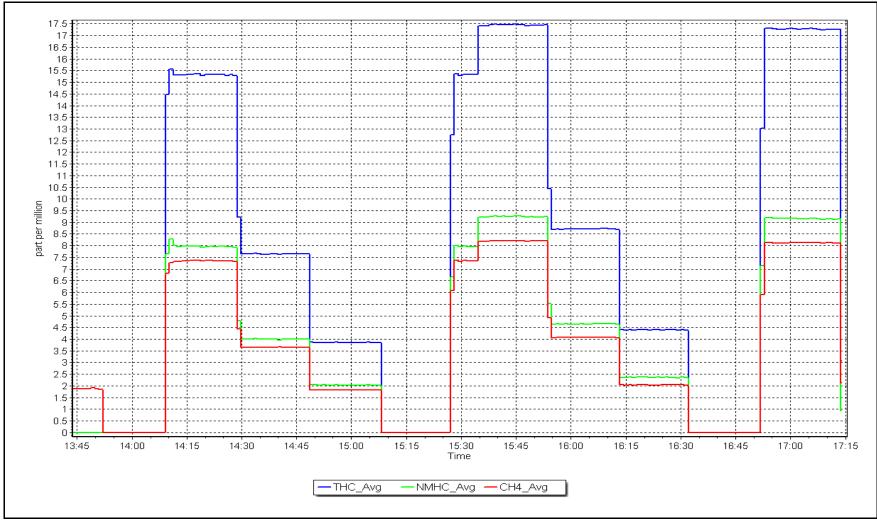
| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999970 | ≥0.995 |
| 9.30 | 9.24 | 1.0056 | Slope | 0.992864 | 0.90 - 1.10 |
| 4.66 | 4.65 | 1.0022 | Siope | 0.992804 | 0.90 - 1.10 |
| 2.33 | 2.36 | 0.9854 | Intercept | 0.022170 | +/-0.5 |



NMHC Calibration Plot









WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS13 FORT MCKAY SOUTH APRIL 2025

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

May 30, 2025



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS14 ANZAC APRIL 2025

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

May 30, 2025



Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Anzac April 7, 2025 10:08 Routine | | Station number: Last Cal Date: End time (MST): | March 5, 2025 | |
|--|--|--|--|-------------------------------|--------------------------------|
| | | Calibration Sta | andards | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 50.32 CC462030 | ppm | Cal Gas Exp Date: | October 9, 2032 | |
| 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 make: Analyzer Range: | Thermo 43i 0 - 1000 ppb | Analyzer Info | r <u>mation</u> Serial Number: | 0710321322 | |
| Calibration slope: Calibration intercept: | <u>Start</u> 1.004124 -0.860151 | <u>Finish</u> 0.995812 -1.079277 | Backgd or Offset: Coeff or Slope: | <u>Start</u> 24.4 1.074 | <u>Finish</u> 24.8 1.074 |

SO₂ As Found Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic-AFzero) Limit = 0.90-1.10 |
|--|----------------------------------|---|---|---|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.8 | |
| As found High point As found Mid point As found Low point New cylinder response | 4941 | 79.7 | 798.8 | 792.4 | 1.009 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 791.6 NA NA | Previous response AF Slope: AF Correlation: | 801.2 | *% change AF Intercept: * = > +/-5% change initiate | -1.2% es investigation |

SO₂ 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 | 0.9 | |
| High point | 4941 | 79.7 | 798.8 | 795.7 | 1.004 |
| Mid point | 4980 | 39.9 | 400.0 | 395.2 | 1.012 |
| Low point | 4994 | 19.9 | 199.7 | 196.5 | 1.016 |
| As left zero | 5000 | 0.0 | 0.0 | 0.7 | |
| As left span | 4941 | 79.7 | 798.8 | 796.7 | 1.003 |
| | | | Averag | ge Correction Factor: | 1.011 |

Notes:

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

Calibration Performed By:

Mohammed Kashif

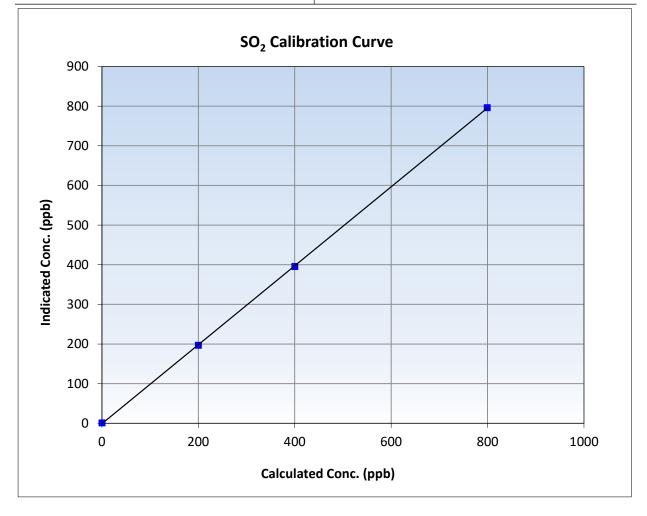


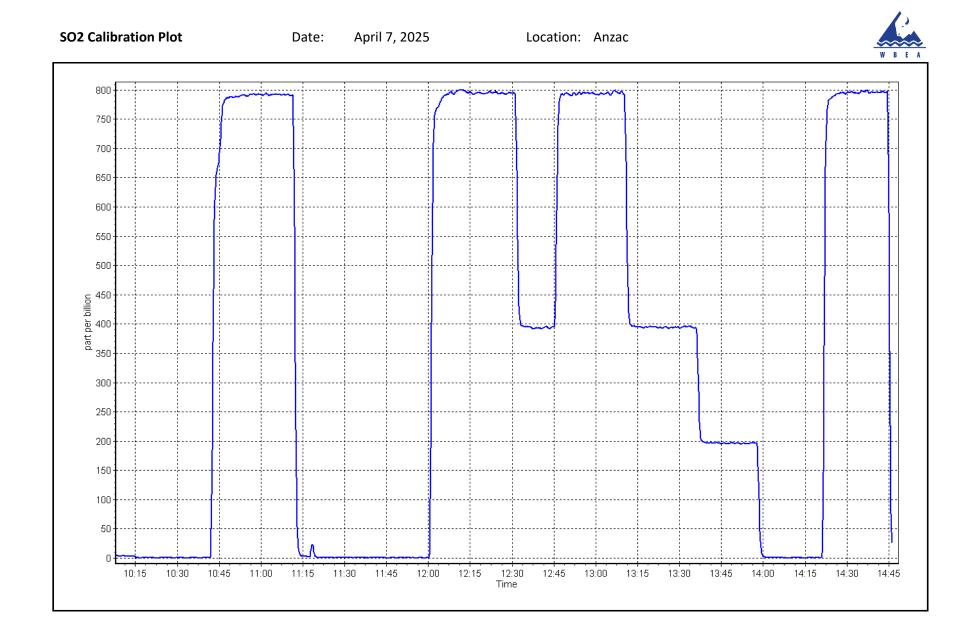
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 5, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Anzac | Station Number: | AMS 14 |
| Start Time (MST): | 10:08 | End Time (MST): | 14:46 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 0710321322 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.9 | | Correlation Coefficient | 0.999967 | ≥0.995 |
| 798.8 400.0 | 795.7 395.2 | 1.0039 1.0120 | Slope | 0.995812 | 0.90 - 1.10 |
| 199.7 | 196.5 | 1.0164 | Intercept | -1.079277 | +/-30 |







Wood Buffalo Environmental Association

TRS Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Anzac April 16, 2025 11:08 Routine | | Station number: Last Cal Date: End time (MST): | AMS 14 March 11, 2025 18:45 | |
|--|---|--------------------|--|-----------------------------------|---------------|
| | | Calibration | <u>Standards</u> | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 5.15 CC510379 | ppm | Cal Gas Exp Date: | January 3, 2026 | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 5.15 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | |
| Calibrator Make/Model: | API T700 | | Serial Number: | 3060 | |
| ZAG Make/Model: | API 701H | | Serial Number: | 357 | |
| | | Analyzer In | formation | | |
| Analyzer make: | Thermo 43i-TLE | | Analyzer serial #: | 1218153582 | |
| Converter make: | CD Nova CDN-101 | | Converter serial #: | 503 | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | 800 | degC |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 0.981575 | 1.010026 | Backgd or Offset: | 2.4 | 2.4 |
| Calibration intercept: | -0.085266 | -0.005494 | Coeff or Slope: | 1.027 | 1.026 |
| | | | | | |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As found High point | 4938 | 77.9 | 80.0 | 82.1 | 0.973 |
| As found Mid point | 4973 | 38.9 | 40.0 | 41.3 | 0.966 |
| As found Low point | 4997 | 19.5 | 20.0 | 20.5 | 0.972 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 82.2 | Prev response: | 78.42 | *% change: | 4.6% |
| Baseline Corr 2nd AF pt: | 41.4 | AF Slope: | 1.028067 | AF Intercept: | -0.025511 |
| Baseline Corr 3rd AF pt: | 20.6 | AF Correlation: | 0.999980 | * = > +/-5% change initiate | es 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/lc) Limit = 0.95-1.05 |
|---|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.2 | |
| High point | 4938 | 77.9 | 80.0 | 80.9 | 0.988 |
| Mid point | 4973 | 38.9 | 40.0 | 40.1 | 0.996 |
| Low point | 4997 | 19.5 | 20.0 | 20.1 | 0.996 |
| As left zero | 5000 | 0.0 | 0.0 | 0.3 | |
| As left span | 4938 | 77.9 | 80.0 | 78.9 | 1.013 |
| SO2 Scrubber Check | 4936 | 80.3 | 800.4 | -0.1 | |
| Date of last scrubber change: | | | | Ave Corr Factor | 0.993 |
| Date of last converter efficiency test: | | April 16, 2025 | | 86.9% | efficiency |

Notes:

Changed the sample inlet filter and performed converter efficiency test(13:00 to 16:00) after as founds. Completed a SO2 scrubber check after calibrator zero. Adjusted span only.

Calibration Performed By:

Mohammed Kashif



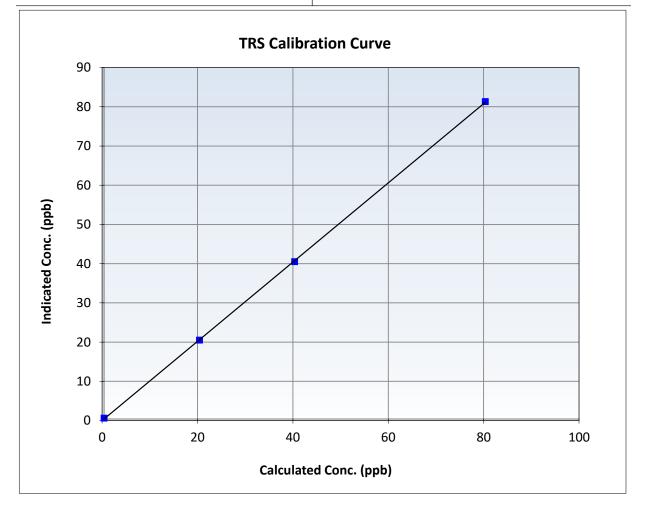
Wood Buffalo Environmental Association

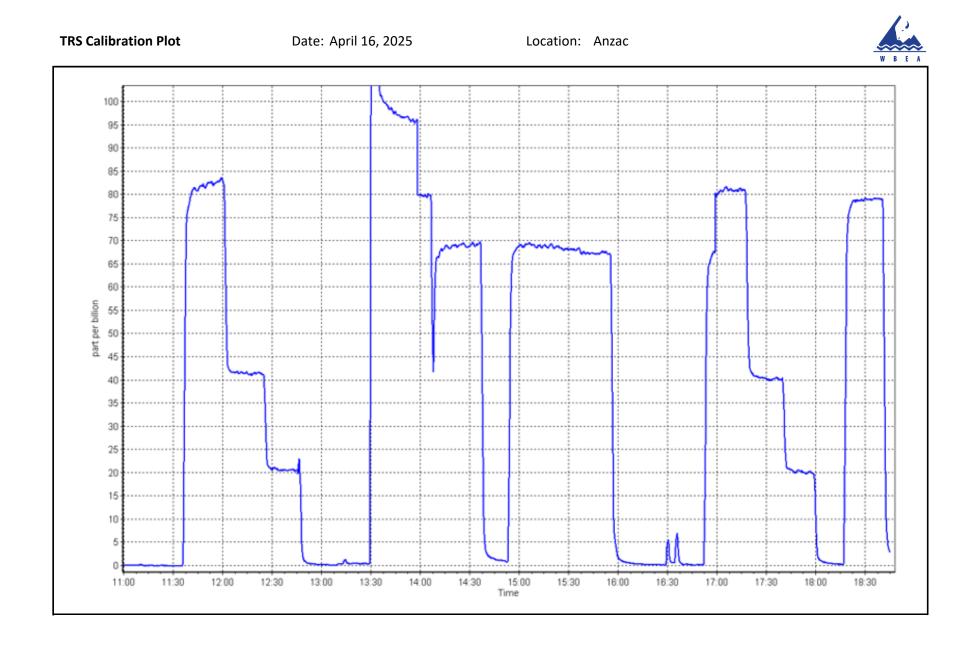
TRS Calibration Summary

Station Information

| Calibration Date: | April 16, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Anzac | Station Number: | AMS 14 |
| Start Time (MST): | 11:08 | End Time (MST): | 18:45 |
| Analyzer make: | Thermo 43i-TLE | Analyzer serial #: | 1218153582 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999961 | ≥0.995 |
| 80.0 | 80.9 | 0.9883 | Slope | 1.010026 | 0.90 - 1.10 |
| 40.0 | 40.1 | 0.9964 | · | | |
| 20.0 | 20.1 | 0.9956 | Intercept | -0.005494 | +/-3 |







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Station Information

| Station Name: | Anzac | | Station number: Al | MS 14 | |
|--------------------------------------|------------------------|----------------------|--------------------------|---------------|-------------------|
| Calibration Date: | April 7, 2025 | | Last Cal Date: M | larch 5, 2025 | |
| Start time (MST): | 10:08 | | End time (MST): 14 | 4:46 | |
| Reason: | Routine | | | | |
| | | Calibration | <u>n Standards</u> | | |
| Gas Cert Reference: | CC40 | 52030 | Cal Gas Expiry Date: | Octobe | er 9, 2032 |
| CH4 Cal Gas Conc. | 505.3 | ppm | CH4 Equiv Conc. | 1068.3 | 8 ppm |
| C3H8 Cal Gas Conc. | 204.9 | ppm | | | |
| Removed Gas Cert: | | NA | Removed Gas Expiry: N | A | |
| Removed CH4 Conc. | 505.3 | ppm | CH4 Equiv Conc. | | 8 ppm |
| Removed C3H8 Conc. | 204.9 | ppm | Diff between cyl (THC): | | |
| Diff between cyl (CH ₄): | | | Diff between cyl (NM): | | |
| Calibrator Model: | API | Т700 | Serial Number: | 3 | 060 |
| Zero Air Gen model: | API | 701H | Serial Number: | ÷ | 357 |
| | | Analyzer I | nformation | | |
| Analyzer make: | Thermo 55i | | Analyzer serial #: 13 | 331259521 | |
| THC Range: | 0 - 20 ppm | | NMHC/CH4 Range: 0 | - 10 ppm | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| CH4 SP Ratio: | 2.92E-04 | 2.88E-04 | NMHC SP Ratio: | 5.51E-05 | 5.62E-05 |
| CH4 Retention time: | 14.9 | 14.9 | NMHC Peak Area: | 162132 | 159092 |
| Zero Chromatogram: | OFF | OFF | Flat Baseline: | OFF | OFF |
| | | THC As F | ound Data | | |
| | | | | | Baseline Adjusted |
| | Dilution air flow rate | Source gas flow rate | Calculated concentration | Indicated | Correction factor |

| 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 = 0.90-1.10 |
|-----------------------|----------------------------------|--------------------------------|--|--|--|
| As found zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As found High point | 4941 | 79.7 | 16.97 | 16.98 | 0.999 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 16.98 | Prev response | 16.85 | *% change | 0.7% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiat | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|--|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4941 | 79.7 | 16.97 | 16.95 | 1.001 |
| Mid point | 4980 | 39.9 | 8.50 | 8.30 | 1.024 |
| Low point | 4994 | 19.9 | 4.24 | 4.09 | 1.037 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4941 | 79.7 | 16.97 | 16.96 | 1.000 |
| | | | Avera | ge Correction Factor | 1.021 |

Notes:

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



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4941 | 79.7 | 8.94 | 8.81 | 1.015 |
| Baseline Corr AF: | 8.81 | Prev response | 8.81 | *% change | 0.0% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | ites 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 | 4941 | 79.7 | 8.94 | 8.93 | 1.002 |
| Mid point | 4980 | 39.9 | 4.48 | 4.39 | 1.020 |
| Low point | 4994 | 19.9 | 2.24 | 2.17 | 1.030 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4941 | 79.7 | 8.94 | 8.93 | 1.001 |
| | | | Avera | ge Correction Factor | 1.017 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|-----------------------|----------------------------------|--------------------------------|--|---------------------------------------|--|
| 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)) |
| | | | | | <i>Limit = 0.90-1.10</i> |
| As found zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As found High point | 4941 | 79.7 | 8.02 | 8.17 | 0.982 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 8.17 | Prev response | 8.04 | *% change | 1.5% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiat | es 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 | 4941 | 79.7 | 8.02 | 8.02 | 1.001 |
| Mid point | 4980 | 39.9 | 4.02 | 3.91 | 1.029 |
| Low point | 4994 | 19.9 | 2.01 | 1.92 | 1.045 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4941 | 79.7 | 8.02 | 8.03 | 0.999 |
| | | | Avera | age Correction Factor | 1.025 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 0.998574 | 1.000487 |
| THC Cal Offset: | -0.092906 | -0.096108 |
| CH4 Cal Slope: | 1.008920 | 1.001383 |
| CH4 Cal Offset: | -0.051592 | -0.055381 |
| NMHC Cal Slope: | 0.989475 | 0.999223 |
| NMHC Cal Offset: | -0.041514 | -0.039928 |

Calibration Performed By:

Mohammed Kashif

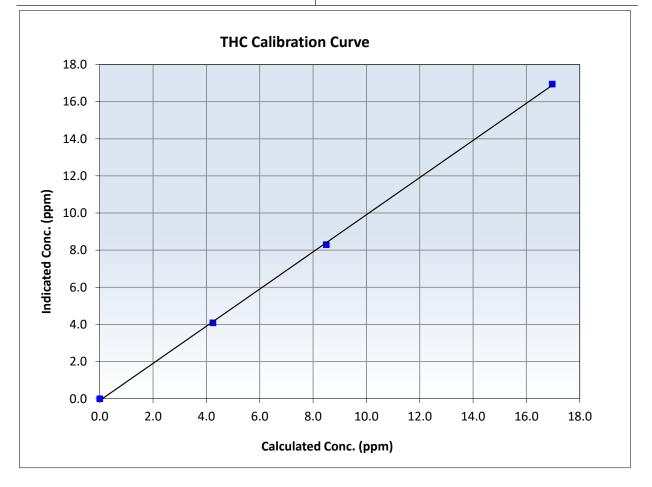


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 5, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Anzac | Station Number: | AMS 14 |
| Start Time (MST): | 10:08 | End Time (MST): | 14:46 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1331259521 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999819 | ≥0.995 |
| 16.97 8.50 | 16.95 8.30 | 1.0012 1.0240 | Slope | 1.000487 | 0.90 - 1.10 |
| 4.24 | 4.09 | 1.0369 | Intercept | -0.096108 | +/-0.5 |



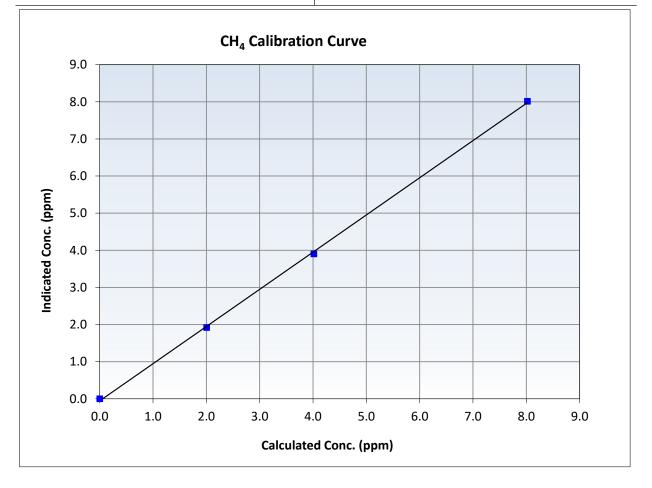


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 5, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Anzac | Station Number: | AMS 14 |
| Start Time (MST): | 10:08 | End Time (MST): | 14:46 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1331259521 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999732 | ≥0.995 |
| 8.02 4.02 | 8.02 3.91 | 1.0007 1.0285 | Slope | 1.001383 | 0.90 - 1.10 |
| 2.01 | 1.92 | 1.0445 | Intercept | -0.055381 | +/-0.5 |



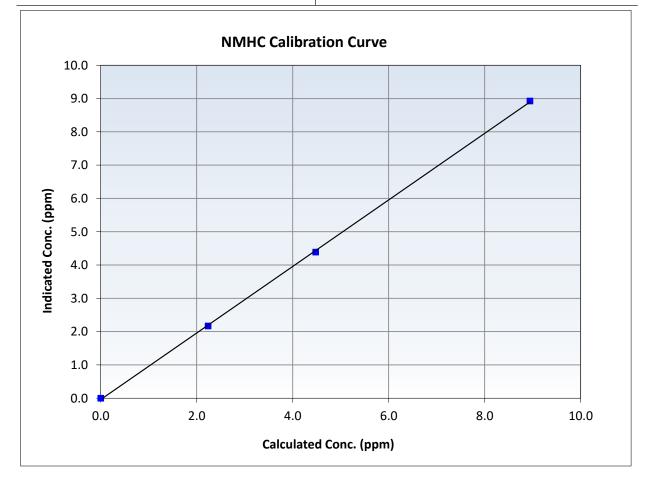


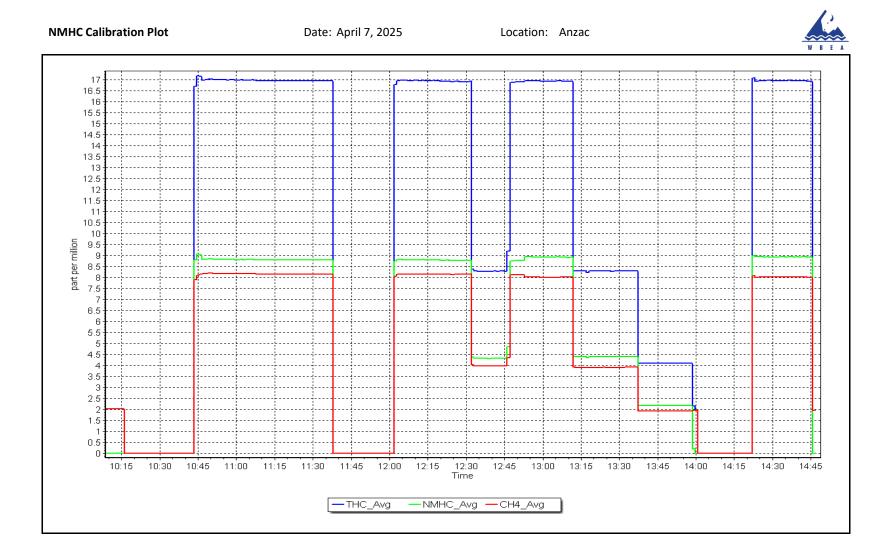
Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 5, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Anzac | Station Number: | AMS 14 |
| Start Time (MST): | 10:08 | End Time (MST): | 14:46 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1331259521 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999888 | ≥0.995 |
| 8.94 4.48 | 8.93 4.39 | 1.0021 1.0200 | Slope | 0.999223 | 0.90 - 1.10 |
| 2.24 | 2.17 | 1.0301 | Intercept | -0.039928 | +/-0.5 |







Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Anzac | NO Gas Cylinder #: D1 | T0037092 | Cal Gas Expiry Date: | May 16, 2031 |
|-------------------|---------------|-----------------------|--------------------|----------------------|--------------|
| Station number: | AMS 14 | NOX Cal Gas Conc: | 60.7 ppm | NO Cal Gas Conc: | 60.40 ppm |
| Calibration Date: | April 4, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date | : NA |
| Last Cal Date: | March 6, 2025 | Removed Gas NOX Conc: | 60.70 ppm | Removed Gas NO Conc | : 60.40 ppm |
| Start time (MST): | 10:16 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 14:50 | Calibrator Model: | Teledyne API T700 | Serial Number: 3 | 060 |
| Reason: | Routine | 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 | -0.1 | -0.2 | 0.1 | | |
| AF High point | 4934 | 66.3 | 804.8 | 800.9 | 4.0 | 806.2 | 801.0 | 5.0 | 0.9982 | 0.9996 |
| AF Mid point AF Low point New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 800.5 ppb | NO = 798.4 | ppb | * = > +/-59 | % change initiates i | nvestigation | *Percent Chan | ge NO _x = | 0.7% |
| Baseline Corr 1 | .st pt NO _x = | 806.3 ppb | NO = 801.2 | ppb | <u>As Foun</u> | d Statistics | | *Percent Chan | ge NO = | 0.3% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d $NO_X r^2$: | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calibi | ration Data | | | | |
| | | | | | | | | Baseline Adjus | | |
| O3 Setpo | oint (ppb) | Indicated NO Re concentration | | cated NO Drop entration (ppb) | Calculated No concentration (pp | | dicated NO2 ntration (ppb) (Ic) | Correction f (Cc/(Ic-AFz | | verter Efficiency nit = 96-104% |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point *Limit = 0.90 - 1.10*



Analyzer Information

Wood Buffalo Environmental Association

NO_X \ NO \ NO₂ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1152430 | 8000 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 0.995143 | 0.998863 |
| | | | Instrument Settings | | | NO _x Cal Offset: | -0.470500 | -0.430260 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 0.999427 | 1.002566 |
| NO coeff or slope: | 1.424 | 1.424 | NO bkgnd or offset: | 3.9 | 3.9 | NO Cal Offset: | -1.989787 | -2.089249 |
| NOX coeff or slope: | 0.996 | 0.996 | NOX bkgnd or offset: | 3.9 | 3.9 | NO ₂ Cal Slope: | 0.994537 | 0.994974 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 156.9 | 159.4 | NO ₂ Cal Offset: | -1.309208 | -1.530514 |

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) <i>Limit = 0.95-1.05</i> | NO Correction factor (Cc/lc) Limit = 0.95-1.05 |
|--------------|------------------------------|--------------------------------|---|--|---|--|---|--|--|--|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 0.1 | | |
| High point | 4934 | 66.3 | 804.8 | 800.9 | 4.0 | 803.6 | 801.6 | 1.9 | 1.0015 | 0.9991 |
| Mid point | 4985 | 33.2 | 401.6 | 399.6 | 2.0 | 401.0 | 398.4 | 2.5 | 1.0015 | 1.0030 |
| Low point | 5004 | 16.7 | 201.9 | 200.9 | 1.0 | 200.2 | 196.5 | 3.6 | 1.0085 | 1.0224 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 0.1 | | |
| As left span | 4934 | 66.3 | 804.8 | 416.8 | 388.0 | 801.9 | 416.8 | 385.0 | 1.0037 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 1.0038 | 1.0082 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|---------------------------------------|---|---|--|--|
| Cal zero | | | 0.0 | 0.1 | | |
| High GPT point | 800.6 | 411.8 | 392.8 | 390.0 | 1.0071 | 99.3% |
| Mid GPT point | 800.6 | 601.7 | 202.9 | 199.9 | 1.0149 | 98.5% |
| Low GPT point | 800.6 | 701.6 | 103.0 | 99.0 | 1.0402 | 96.1% |
| | | | | Average Correction Factor | r 1.0207 | 98.0% |

Notes:

Sample inlet filter changed after as founds. No adjustments made.

Calibration Performed By:

Mohammed Kashif

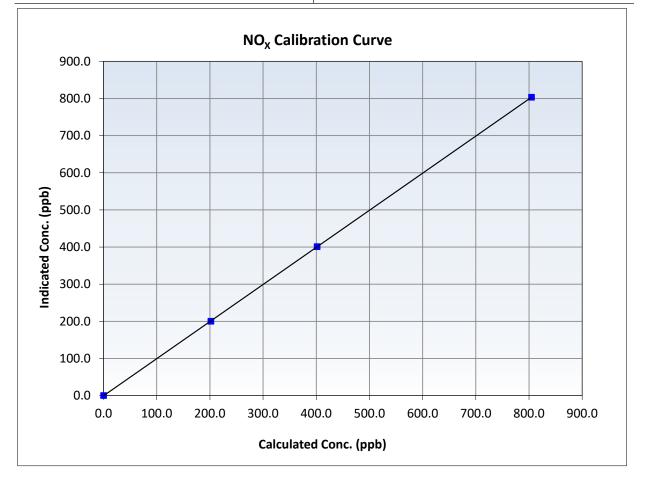


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 4, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Anzac | Station Number: | AMS 14 |
| Start Time (MST): | 10:16 | End Time (MST): | 14:50 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1152430008 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999996 | ≥0.995 |
| 804.8 401.6 | 803.6 401.0 | 1.0015 1.0015 | Slope | 0.998863 | 0.90 - 1.10 |
| 201.9 | 200.2 | 1.0085 | Intercept | -0.430260 | +/-20 |



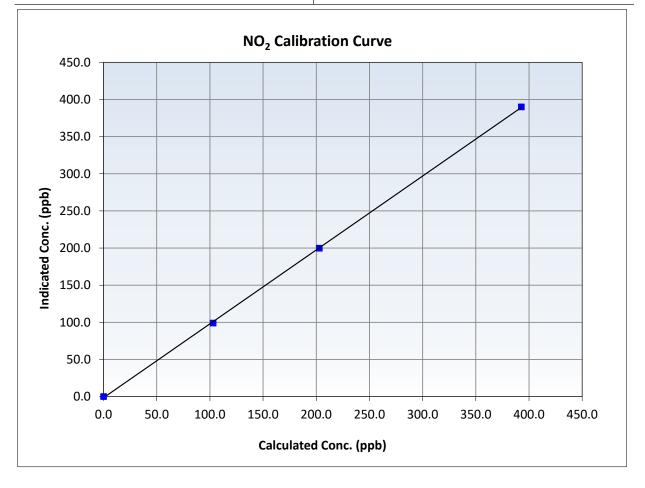


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 4, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Anzac | Station Number: | AMS 14 |
| Start Time (MST): | 10:16 | End Time (MST): | 14:50 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1152430008 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999915 | ≥0.995 |
| 392.8 202.9 | 390.0 199.9 | 1.0071 1.0149 | Slope | 0.994974 | 0.90 - 1.10 |
| 103.0 | 99.0 | 1.0402 | Intercept | -1.530514 | +/-20 |



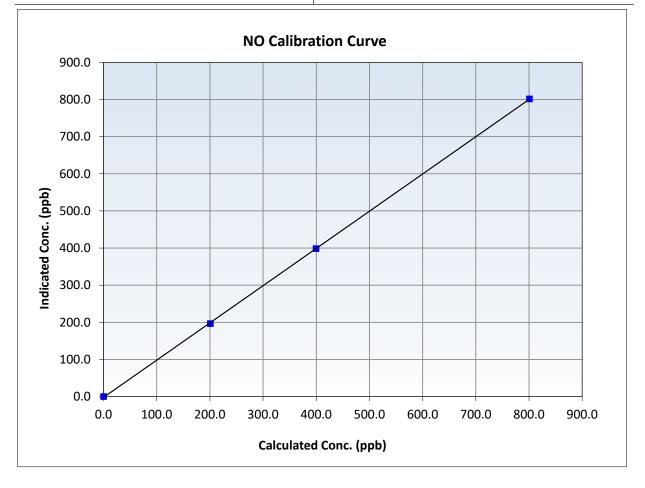


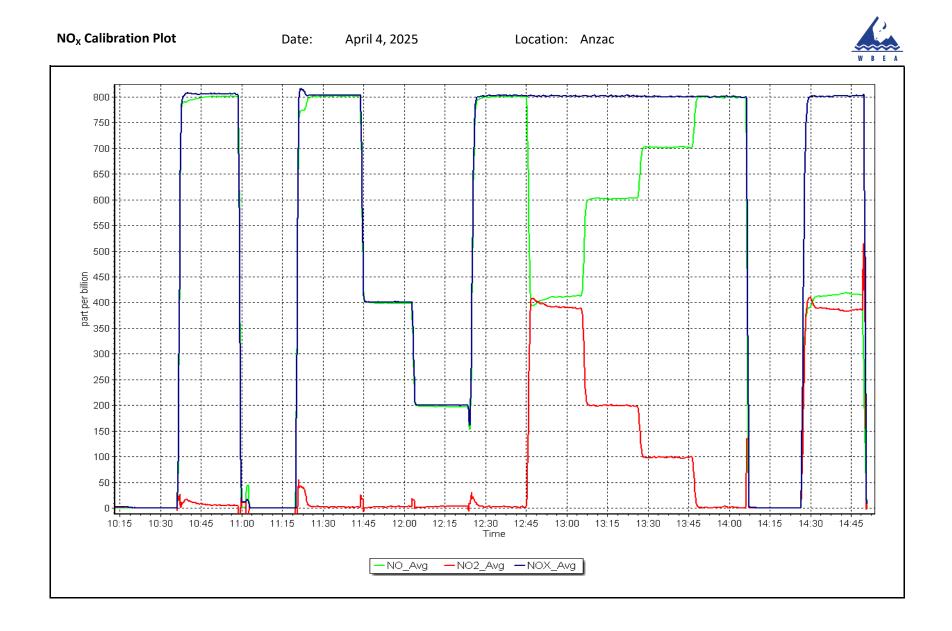
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 4, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Anzac | Station Number: | AMS 14 |
| Start Time (MST): | 10:16 | End Time (MST): | 14:50 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1152430008 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | lation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999962 | ≥0.995 |
| 800.9 399.6 | 801.6 398.4 | 0.9991 1.0030 | Slope | 1.002566 | 0.90 - 1.10 |
| 200.9 | 196.5 | 1.0224 | Intercept | -2.089249 | +/-20 |







Wood Buffalo Environmental Association O₃ Calibration Report

Station Information

| Station Name: | Anzac | | Station number: | AMS 14 |
|------------------------|---------------|-----------------|---------------------|---------------|
| Calibration Date: | April 1, 2025 | | Last Cal Date: | March 4, 2025 |
| Start time (MST): | 10:56 | | End time (MST): | 14:06 |
| Reason: | Routine | | | |
| | | | | |
| | | Calibration Sta | andards | |
| O3 generation mode: | Photometer | | | |
| Calibrator Make/Model: | API T700 | | Serial Number: | 3060 |
| ZAG Make/Model: | API 701H | | Serial Number: | 357 |
| | | | | |
| | | Analyzer Info | mation | |
| Analyzer make: | Thermo 49i | | Analyzer serial #: | 1426262595 |
| Analyzer Range | 0 - 500 ppb | | | |
| | Start | Finish | | Start |
| Calibration clana: | | 0.990971 | Packed or Officiate | |
| Calibration slope: | 0.991800 | | Backgd or Offset: | 1.5 |
| Calibration intercept: | 0.060000 | 0.380000 | Coeff or Slope: | 1.668 |

O₃ As Found Data

| Set Point | Dilution air flow rate (sccm) | Calibrator Lamp Voltage Drive (mV) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 |
|--------------------------|----------------------------------|---------------------------------------|--|---------------------------------------|---|
| As found zero | 5000 | 0.0 | 0.0 | 0.9 | |
| As found High point | 5000 | 935.9 | 400.0 | 397.8 | 1.008 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| Baseline Corr As found: | 396.9 | Previous response | 396.8 | *% change | 0.0% |
| Baseline Corr 2nd AF pt: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initia | tes investigation |

O₃ 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 | 935.9 | 400.0 | 396.7 | 1.008 |
| Mid point | 5000 | 817.5 | 200.0 | 198.7 | 1.007 |
| Low point | 5000 | 722.8 | 100.0 | 99.5 | 1.005 |
| As left zero | 5000 | 0.0 | 0.0 | 0.3 | |
| As left span | 5000 | 935.9 | 400.0 | 401.4 | 0.997 |
| | | | Averag | e Correction Factor | 1.007 |

Notes:

Sample inlet filter changed after asfounds. No adjustment made.

Calibration Performed By:

Mohammed Kashif

Finish 1.6 1.668

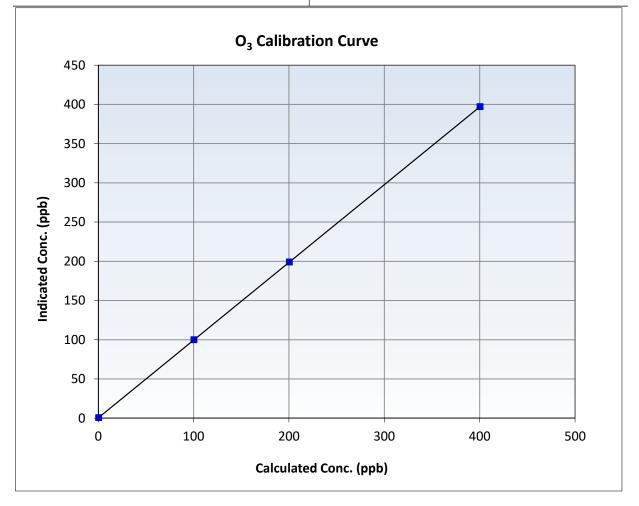


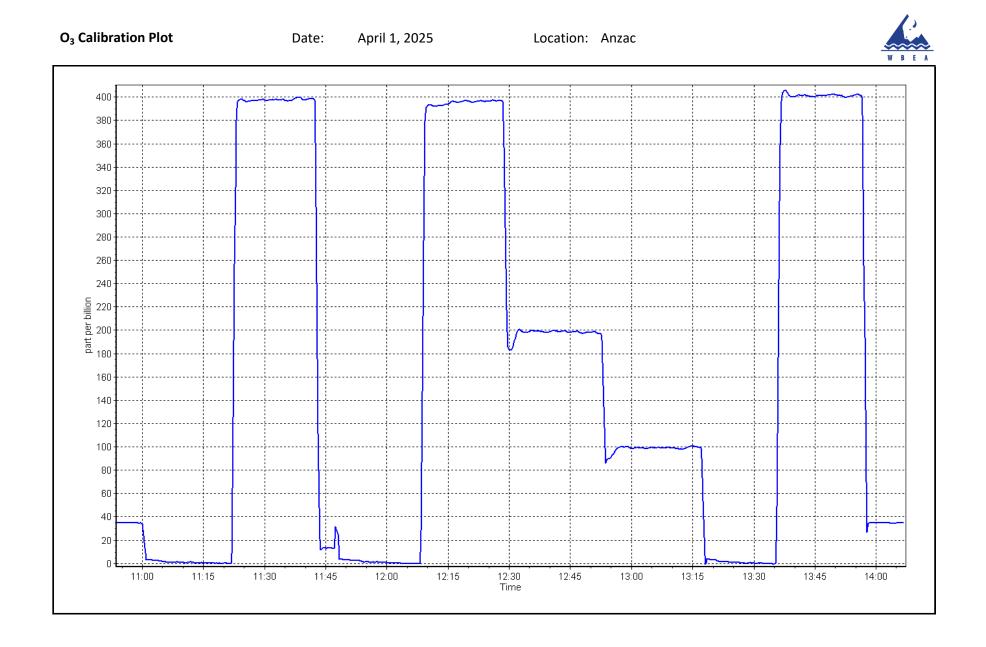
Wood Buffalo Environmental Association O₃ Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 4, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Anzac | Station Number: | AMS 14 |
| Start Time (MST): | 10:56 | End Time (MST): | 14:06 |
| Analyzer make: | Thermo 49i | Analyzer serial #: | 1426262595 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 1.000000 | ≥0.995 |
| 400.0 200.0 | 396.7 198.7 | 1.0083 1.0065 | Slope | 0.990971 | 0.90 - 1.10 |
| 100.0 | 99.5 | 1.0050 | Intercept | 0.380000 | +/- 5 |







Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| WBEA | | | | | Version-01-2024 |
|---|--|--------------------------|---|--------------------|-----------------------------|
| | | Station Information | on | | |
| Station Name: Calibration Date: Start time (MST): | Anzac April 29, 2025 11:50 | | Station number: AN Last Cal Date: Ma End time (MST): 12 | arch 14, 2025 | |
| Analyzer Make: Particulate Fraction: | AP T640 PM2.5 | | S/N: 82 | 5 | |
| Flow Meter Make/Model: Temp/RH standard: | Alicat FP-25BT Alicat FP-25BT | | S/N: 38 S/N: 38 | | |
| | | Monthly Calibration | Test | | |
| Parameter T (°C) | <u>As found</u> 8.6 | Measured 8.18 | <u>As left</u> 8.5 | Adjusted | (Limits) +/- 2 °C |
| P (mmHg) | 705.4 | 706.1 | 705.4 | | +/- 10 mmHg |
| Flow (LPM) | 5.000 | 4.95 | 5.000 | | +/- 0.25 LPM |
| PW% (pump) | 36 | | 36 | | >80% |
| Zero Verification | PM w/o HEPA: | 0.3 | PM w/ HEPA: | 0.0 | <0.2 ug/m3 |
| Note: this leak check will be PM Inlet observation : | e completed before the Inlet Head Clean | | II serve as the pre main ignment Factor On : | tenance leak check | |
| | | Quarterly Calibration | Test | | |
| SPAN DUST | Refractive Index: Lot No.: | | Expiry Date: | | |
| Parameter | <u>As found</u> | Post maintenance | <u>As left</u> | Adjusted | (Limits) |
| PMT Peak Test | | | | | +/- 0.5 |
| Date Optical Cham Date Disposable Fi | | January 30 January 30 | | | |
| Post- maintenance Zero Ver | rification: | PM w/ HEPA: _ | | <0.2 ug/m3 | |
| | | Annual Maintenar | ice | | |
| Date Sample Tub Date RH/T Senso | | August 29 August 29 | | | |
| | | | | | |
| Notes: | | No adjustments made | e. Leak check passed. He | ead cleaned | |
| Calibration by: | Mohammed Kashif | | | | |



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS17 WAPASU APRIL 2025

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

May 30, 2025



Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Wapasu |
|-------------------|------------|
| Calibration Date: | April 7, 2 |
| Start time (MST): | 10:15 |
| Reason: | Routine |

u 2025 Station number: AMS17 Last Cal Date: March 4, 2025 End time (MST): 13:59

Calibration Standards

| Cal Gas Concentration: Cal Gas Cylinder #: | 50.38 ALM066507 | ppm | Cal Gas Exp Date: January 12, 2029 |
|---|--------------------|-----|------------------------------------|
| Removed Cal Gas Conc: | 50.38 | ppm | Rem Gas Exp Date: N/A |
| 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 |
| | | | |
| | | Ana | lyzer Information |
| Analyzer make: | Thermo 43i | | Serial Number: 1218153459 |
| Analyzer Range: | 0 - 1000 ppb | | |

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 0.994240 | 0.995597 | Backgd or Offset: | 14.0 | 14.0 |
| Calibration intercept: | -1.540718 | -1.540479 | Coeff or Slope: | 1.109 | 1.109 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4921 | 79.4 | 800.0 | 794.8 | 1.007 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 794.8 NA NA | Previous response AF Slope: AF Correlation: | 793.8 | *% change AF Intercept: * = > +/-5% change initiate | 0.1% es investigation |

SO₂ 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 | 79.4 | 800.0 | 796.2 | 1.005 |
| Mid point | 4960 | 39.7 | 400.0 | 394.7 | 1.014 |
| Low point | 4980 | 19.8 | 199.5 | 196.0 | 1.018 |
| As left zero | 5000 | 0.0 | 0.0 | 0.3 | |
| As left span | 4920 | 79.4 | 800.1 | 797.9 | 1.003 |
| | | | Averag | 1.012 | |

Notes:

No adjustments needed.

Calibration Performed By:

Aswin Sasi Kumar

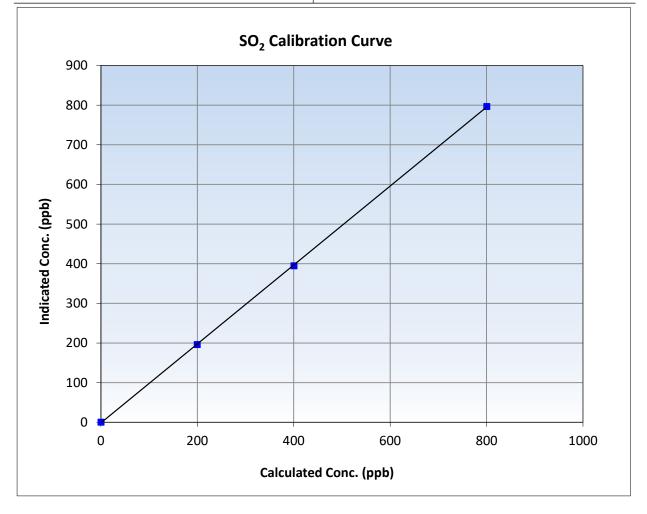


Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

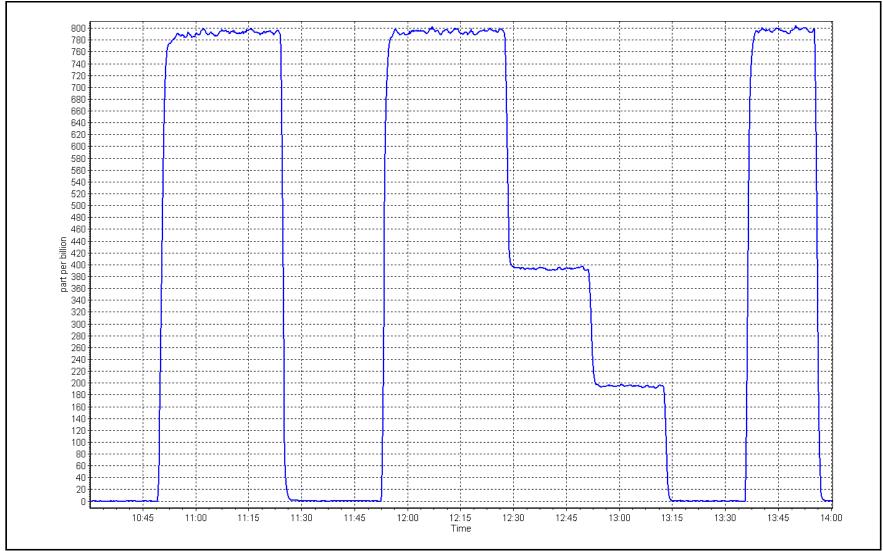
| Calibration Date: | April 7, 2025 | Previous Calibration: | March 4, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Wapasu | Station Number: | AMS17 |
| Start Time (MST): | 10:15 | End Time (MST): | 13:59 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1218153459 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 0.999970 | ≥0.995 |
| 800.0 400.0 | 796.2 394.7 | 1.0047 1.0135 | Slope | 0.995597 | 0.90 - 1.10 |
| 199.5 | 196.0 | 1.0179 | Intercept | -1.540479 | +/-30 |











Wood Buffalo Environmental Association H₂S Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Wapasu April 15, 2025 10:33 Routine | | Station number: Last Cal Date: End time (MST): | AMS 17 March 20, 202 15:20 | 5 | |
|--|--|----------------------|--|----------------------------------|-----|------|
| Neason. | Noutine | Calibration S | tandards | | | |
| | | <u>calibration 5</u> | tantaaras | | | |
| Cal Gas Concentration: | 4.77 | ppm | Cal Gas Exp Date: | August 28, 202 | .7 | |
| 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 Info | ormation | | | |
| Analyzer make: | Thermo 450i | | Analyzer serial #: | 1218153583 | | |
| Converter make: | CD Nova | | Converter serial #: | | | |
| | | | | N/A | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 340 | degC |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | |
| Calibration slope: | 0.997355 | 1.001218 | Backgd or Offset: | 13.1 | | |
| Calibration intercept: | 0.680200 | -0.180032 | Coeff or Slope: | | | |
| | | | | | | |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|--|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.2 | |
| As found High point | 4921 | 83.9 | 80.0 | 80.7 | 0.988 |
| As found Mid point | 4961 | 41.9 | 39.9 | 40.5 | 0.982 |
| As found Low point | 4980 | 21.0 | 20.0 | 19.7 | 1.007 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 80.9 | Prev response: | 80.43 | *% change: | 0.6% |
| Baseline Corr 2nd AF pt: | 40.7 | AF Slope: | 1.013690 | AF Intercept: | -0.289348 |
| Baseline Corr 3rd AF pt: | 19.9 | AF Correlation: | 0.999945 | * = > +/-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) <i>Limit = 0.95-1.05</i> |
|---|----------------------------------|--------------------------------|---|---------------------------------------|--|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.1 | |
| High point | 4916 | 83.9 | 80.0 | 80.2 | 0.998 |
| Mid point | 4958 | 41.9 | 40.0 | 39.4 | 1.015 |
| Low point | 4979 | 21.0 | 20.0 | 19.8 | 1.012 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 4916 | 83.9 | 80.0 | 78.3 | 1.022 |
| SO2 Scrubber Check | 4921 | 79.4 | 793.9 | 0.1 | |
| Date of last scrubber cha | inge: | N/A | | Ave Corr Factor | 1.008 |
| Date of last converter efficiency test: | | N/A | | | |

No adjustments needed.

Notes:

Calibration Performed By:

Aswin Sasi Kumar

Finish 13.1 1.099



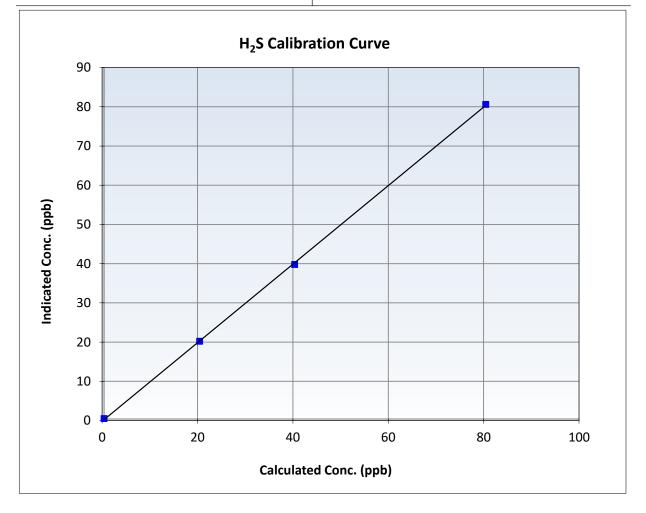
Wood Buffalo Environmental Association

H₂S Calibration Summary

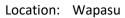
Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 20, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Wapasu | Station Number: | AMS 17 |
| Start Time (MST): | 10:33 | End Time (MST): | 15:20 |
| Analyzer make: | Thermo 450i | Analyzer serial #: | 1218153583 |

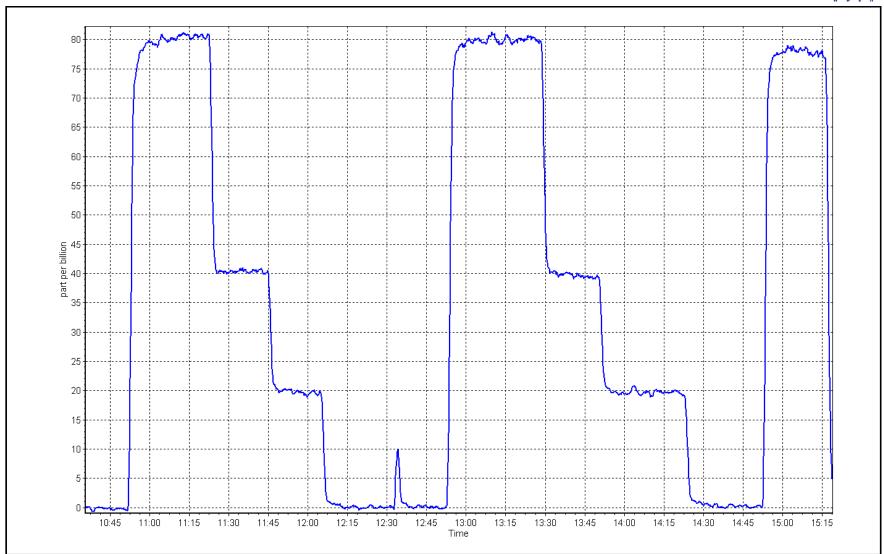
| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999904 | ≥0.995 |
| 80.0 | 80.2 | 0.9980 | Slope | 1.001218 | 0.90 - 1.10 |
| 40.0 | 39.4 | 1.0146 | Slope | 1.001218 | 0.90 - 1.10 |
| 20.0 | 19.8 | 1.0118 | Intercept | -0.180032 | +/-3 |













Wood Buffalo Environmental Association THC Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Wapasu April 7, 2025 10:15 Routine | | Station number: Last Cal Date: End time (MST): | AMS17 March 4, 2025 13:59 | |
|--|---|---|---|--|---|
| | | Calibration S | tandards | | |
| Gas Cert Reference: CH4 Cal Gas Conc. C3H8 Cal Gas Conc. | ALM066507 503.5 208.3 | ppm ppm | Cal Gas Expiry Date: CH4 Equiv Conc. | January 12, 2029 1076.3 | ppm |
| Removed Gas Cert: Removed CH4 Conc. Removed C3H8 Conc. | 503.5 208.3 | /a ppm ppm | Removed Gas Expiry: CH4 Equiv Conc. Diff between cyl: | | ppm |
| Calibrator Make/Model: ZAG Make/Model: | Teledyne API T700 Teledyne API 701H | | Serial Number: Serial Number: | 2449 1238 | |
| | | Analyzer Info | ormation | | |
| Analyzer make Analyzer Range | :: Thermo 51i-LT :: 0 - 20 ppm | | Analyzer serial #: | 1218153352 | |
| Calibration slope: Calibration intercept: | <u>Start</u> 0.993740 -0.053360 | <u>Finish</u> 1.003335 -0.176337 | Background: Coefficient: | <u>Start</u> 3.230 4.337 | <i>Finish</i> 3.340 4.476 |
| | | THC As Fou | nd 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 As found Mid point As found Low point New cylinder response | 4921 | 79.4 | 17.09 | 16.50 | 1.027 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 16.65 NA NA | Previous response AF Slope: AF Correlation: | 16.93 | *% change AF Intercept: * = > +/-5% change initiat | -1.7% es investigation |
| | | THC Calibrat | ion 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) <i>Limit = 0.95-1.05</i> |
| Calibrator zero | 5000 | 0.0 | 0.00 | -0.13 | |
| High point | 4921 | 79.4 | 17.09 | 17.01 | 1.005 |
| Mid point | 4960 | 39.7 | 8.55 | 8.34 | 1.025 |
| Low point | 4980 | 19.8 | 4.26 | 4.07 | 1.047 |
| As left zero | 5000 | 0.0 | 0.00 | -0.16 | |
| As left span | 4921 | 79.4 | 17.09 | 17.03 | 1.004 |
| | | | Averag | ge Correction Factor | 1.026 |
| | | | | | |

Notes:

Span adjusted.

Calibration Performed By:

Aswin Sasi Kumar

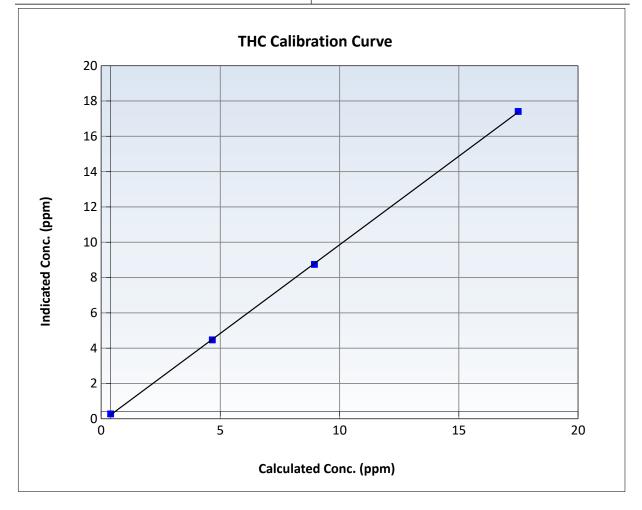


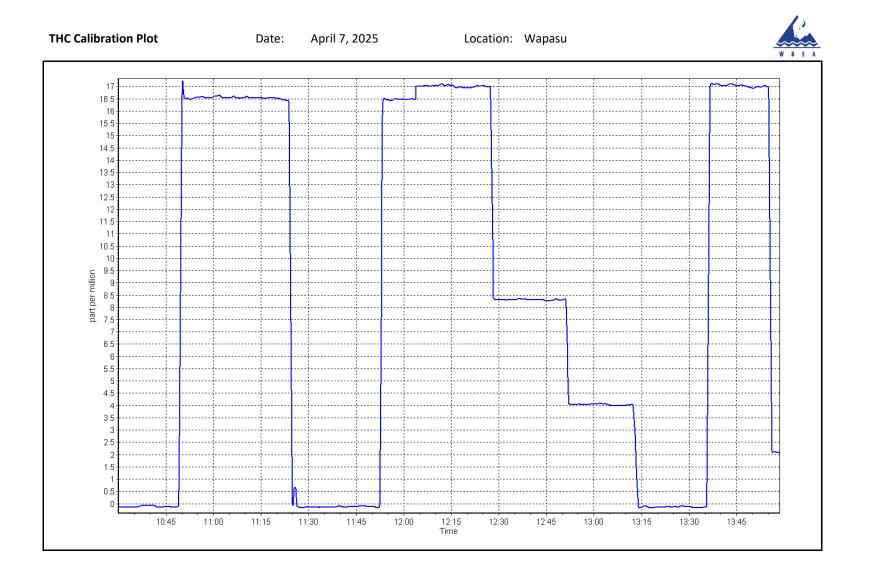
Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 4, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Wapasu | Station Number: | AMS17 |
| Start Time (MST): | 10:15 | End Time (MST): | 13:59 |
| Analyzer make: | Thermo 51i-LT | Analyzer serial #: | 1218153352 |

| Calculated Concentration (ppm) (Cc) | Indicated Concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | -0.13 | | Correlation Coefficient | 0.999949 | ≥0.995 |
| 17.09 | 17.01 | 1.0049 | Slope | 1.003335 | 0.90 - 1.10 |
| 8.55 | 8.34 | 1.0248 | · | | |
| 4.26 | 4.07 | 1.0470 | Intercept | -0.176337 | +/-1.5 |







Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Wapasu | NO Gas Cylinder #: | Т375ҮК8 | Cal Gas Expiry Date: | April 13, 2025 |
|-------------------|----------------|-----------------------|-----------|----------------------|----------------|
| Station number: | AMS 17 | NOX Cal Gas Conc: | 49.11 ppm | NO Cal Gas Conc: | 48.07 ppm |
| Calibration Date: | April 8, 2025 | Removed Cylinder #: | N/A | Removed Gas Exp Date | : N/A |
| Last Cal Date: | March 19, 2025 | Removed Gas NOX Conc: | 49.11 ppm | Removed Gas NO Conc | : 48.07 ppm |
| Start time (MST): | 10:25 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 15:44 | Calibrator Model: | API T700 | Serial Number: | 2449 |
| Reason: | Routine | 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)) <i>Limit = 0.90 - 1.10</i> | 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 | -0.6 | -0.2 | -0.4 | | |
| AF High point | 4917 | 83.2 | 817.2 | 799.9 | 17.3 | 818.4 | 798.2 | 20.2 | 0.9978 | 1.0019 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 817.0 ppb | NO = 797.9 | ppb | * = > +/-5 | % change initiates i | investigation | *Percent Chang | e NO _x = | 0.2% |
| Baseline Corr 1 | .st pt NO _x = | 819.0 ppb | NO = 798.4 | ppb | <u>As Four</u> | nd Statistics | | *Percent Chang | e NO = | 0.1% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d $NO_X r^2$: | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calib | ration Data | | | | |
| | | | | | | | | Baseline Adjuste | ed NO2 | |
| 02 Cata | int (male) | Indicated NO Re | ference Indi | cated NO Drop | Calculated N | 02 In | dicated NO2 | Correction fa | ctor Conv | verter Efficiency |

 O3 Setpoint (ppb)
 Indicated NO Reference concentration (ppb)
 Indicated NO Drop concentration (ppb)
 Calculated NO2
 Indicated NO2
 Correction factor
 Converter Efficiency

 Limit = 0.90 - 1.10
 Limit = 0.90 - 1.10
 Calculated NO2
 Limit = 0.90 - 1.10

As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo Scientific | : 42i | Serial Number: 1218153 | 3460 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|-------------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 1.001354 | 0.999201 |
| | | | Instrument Settings | | | NO _x Cal Offset: | -1.280000 | -1.360000 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 0.999687 | 0.999815 |
| NO coeff or slope: | 1.084 | 1.084 | NO bkgnd or offset: | 3.8 | 3.8 | NO Cal Offset: | -1.740000 | -1.860000 |
| NOX coeff or slope: | 0.996 | 0.996 | NOX bkgnd or offset: | 4.2 | 4.2 | NO ₂ Cal Slope: | 1.002988 | 0.998689 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 240.6 | 238.6 | NO ₂ Cal Offset: | 0.366820 | -0.611431 |

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 | 0.0 | -0.4 | | |
| High point | 4917 | 83.2 | 817.2 | 799.9 | 17.3 | 815.8 | 798.9 | 17.0 | 1.0017 | 1.0012 |
| Mid point | 4958 | 41.6 | 408.6 | 399.9 | 8.7 | 406.0 | 396.8 | 9.2 | 1.0064 | 1.0079 |
| Low point | 4979 | 20.8 | 204.3 | 200.0 | 4.3 | 202.1 | 196.4 | 5.7 | 1.0109 | 1.0182 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.4 | -0.1 | -0.4 | | |
| As left span | 4917 | 83.2 | 817.2 | 396.7 | 420.5 | 814.5 | 396.7 | 417.8 | 1.0033 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 1.0063 | 1.0091 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Cc) | Indicated NO2 concentration (ppb) (Ic) | NO2 Correction factor (Cc/Ic) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|--|--|--|---|
| Cal zero | | | 0.0 | -0.4 | | |
| High GPT point | 796.3 | 398.9 | 414.7 | 413.8 | 1.0022 | 99.8% |
| Mid GPT point | 796.3 | 600.8 | 212.8 | 211.4 | 1.0066 | 99.3% |
| Low GPT point | 796.3 | 700.5 | 113.1 | 112.4 | 1.0063 | 99.4% |
| | | | А | verage Correction Factor | 1.0050 | 99.5% |

Notes:

Sample inlet filter changed after as founds. Span adjusted.

Calibration Performed By:

Aswin Sasi Kumar

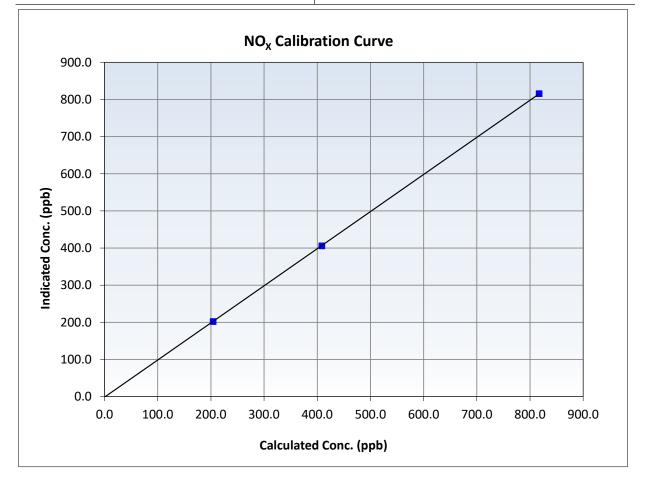


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 8, 2025 | Previous Calibration: | March 19, 2025 |
|-------------------|-----------------------|-----------------------|----------------|
| Station Name: | Wapasu | Station Number: | AMS 17 |
| Start Time (MST): | 10:25 | End Time (MST): | 15:44 |
| Analyzer make: | Thermo Scientific 42i | Analyzer serial #: | 1218153460 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | lation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.4 | | Correlation Coefficient | 0.999993 | ≥0.995 |
| 817.2 408.6 | 815.8 406.0 | 1.0017 1.0064 | Slope | 0.999201 | 0.90 - 1.10 |
| 204.3 | 202.1 | 1.0109 | Intercept | -1.360000 | +/-20 |



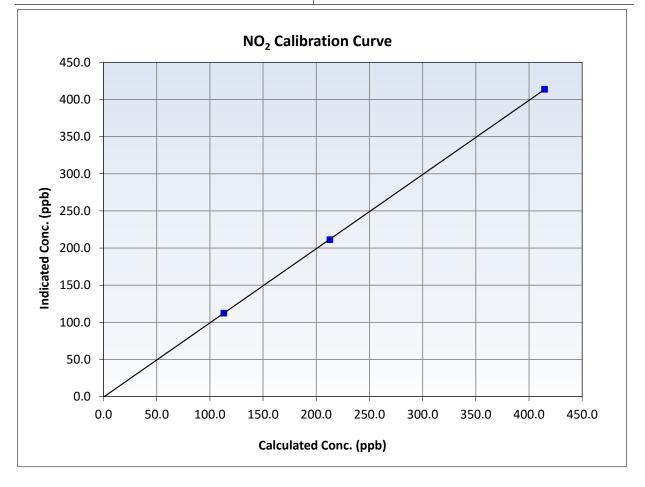


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 8, 2025 | Previous Calibration: | March 19, 2025 |
|-------------------|-----------------------|-----------------------|----------------|
| Station Name: | Wapasu | Station Number: | AMS 17 |
| Start Time (MST): | 10:25 | End Time (MST): | 15:44 |
| Analyzer make: | Thermo Scientific 42i | Analyzer serial #: | 1218153460 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.4 | | Correlation Coefficient | 0.999996 | ≥0.995 |
| 414.7 212.8 | 413.8 211.4 | 1.0022 1.0066 | Slope | 0.998689 | 0.90 - 1.10 |
| 113.1 | 112.4 | 1.0063 | Intercept | -0.611431 | +/-20 |



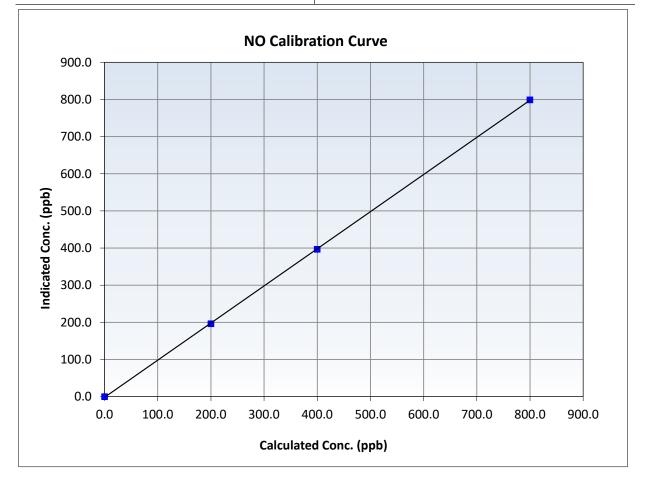


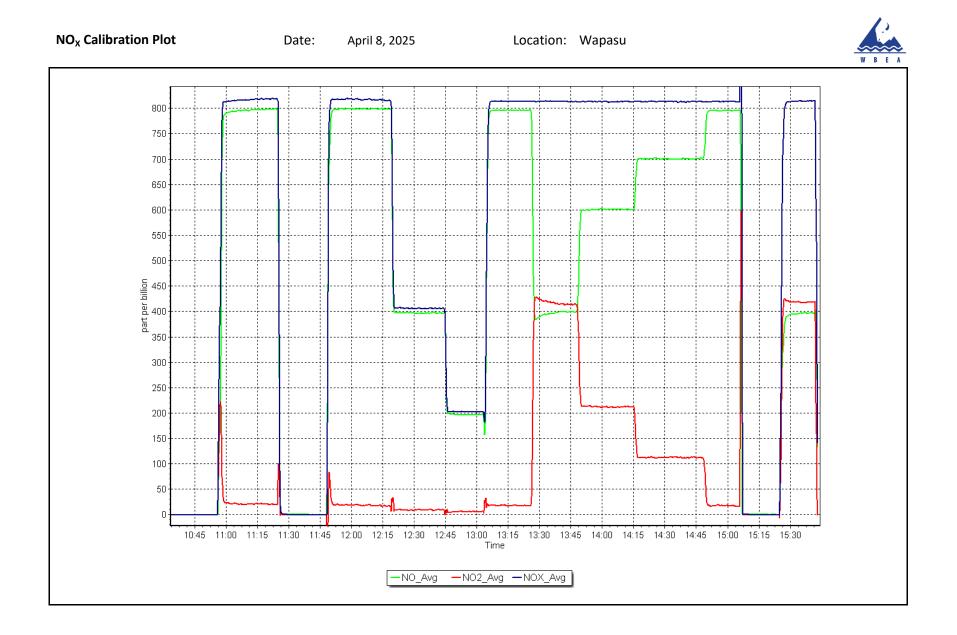
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 8, 2025 | Previous Calibration: | March 19, 2025 |
|-------------------|-----------------------|-----------------------|----------------|
| Station Name: | Wapasu | Station Number: | AMS 17 |
| Start Time (MST): | 10:25 | End Time (MST): | 15:44 |
| Analyzer make: | Thermo Scientific 42i | Analyzer serial #: | 1218153460 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999975 | ≥0.995 |
| 799.9 399.9 | 798.9 396.8 | 1.0012 1.0079 | Slope | 0.999815 | 0.90 - 1.10 |
| 200.0 | 196.4 | 1.0182 | Intercept | -1.860000 | +/-20 |







Wood Buffalo Environmental Association O₃ Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Wapasu April 3, 2025 10:35 Routine | | Station number: AM Last Cal Date: Ma End time (MST): 14: | rch 13, 2025 | |
|--|---|---------------------------------------|--|------------------------------|-------------------------------|
| | | Calibration S | Standards | | |
| O3 generation mode: Calibrator Make/Model: ZAG Make/Model: | Photometer API T700 API T701H | | Serial Number: 244 Serial Number: 359 | - | |
| | | Analyzer Inf | ormation | | |
| Analyzer make: | API T400 | | Analyzer serial #: 704 | 5 | |
| Analyzer Range | 0 - 500 ppb | | | | |
| Calibration slope: Calibration intercept: | <u>Start</u> 1.010314 -0.280000 | <u>Finish</u> 0.995943 0.160000 | Backgd or Offset: Coeff or Slope: | <u>Start</u> 0.6 1.046 | <u>Finish</u> 0.6 1.027 |

O₃ As Found Data

| Set Point | Dilution air flow rate (sccm) | Calibrator Lamp Voltage Drive (mV) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 |
|--------------------------|----------------------------------|---------------------------------------|--|---------------------------------------|---|
| As found zero | 5000 | 0.0 | 0.0 | -0.2 | |
| As found High point | 5000 | 1104.7 | 400.0 | 406.7 | 0.983 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| Baseline Corr As found: | 406.9 | Previous response | 403.8 | *% change | 0.8% |
| Baseline Corr 2nd AF pt: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initia | tes investigation |

O₃ Calibration Data

| Set Point | Total air flow rate (sccm) | Calibrator Lamp Voltage Drive (mV) | Calculated concentration (ppb) (Cc) | | Correction factor (Cc/lc) Limit = 0.95-1.05 |
|-----------------|-------------------------------|---------------------------------------|-------------------------------------|----------------------|--|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.0 | |
| High point | 5000 | 1104.7 | 400.0 | 398.6 | 1.004 |
| Mid point | 5000 | 917.3 | 200.0 | 199.0 | 1.005 |
| Low point | 5000 | 797.9 | 100.0 | 100.2 | 0.998 |
| As left zero | 5000 | 0.0 | 0.0 | 0.7 | |
| As left span | 5000 | 1104.0 | 400.0 | 399.4 | 1.002 |
| · | | | Averag | ge Correction Factor | 1.002 |

Notes:

Span adjusted.

Calibration Performed By:

Aswin Sasi Kumar

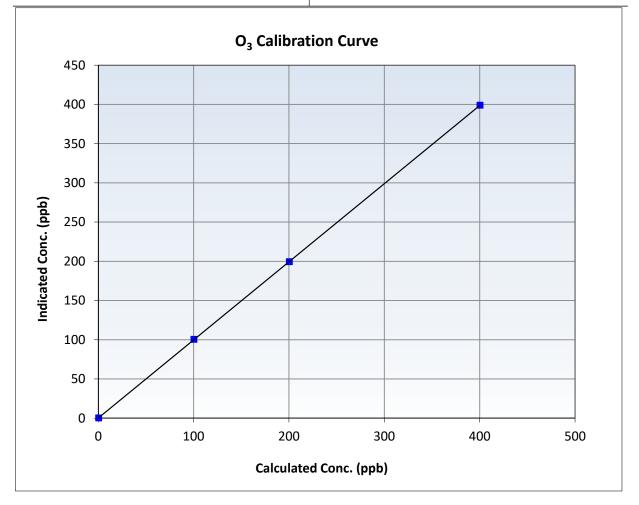


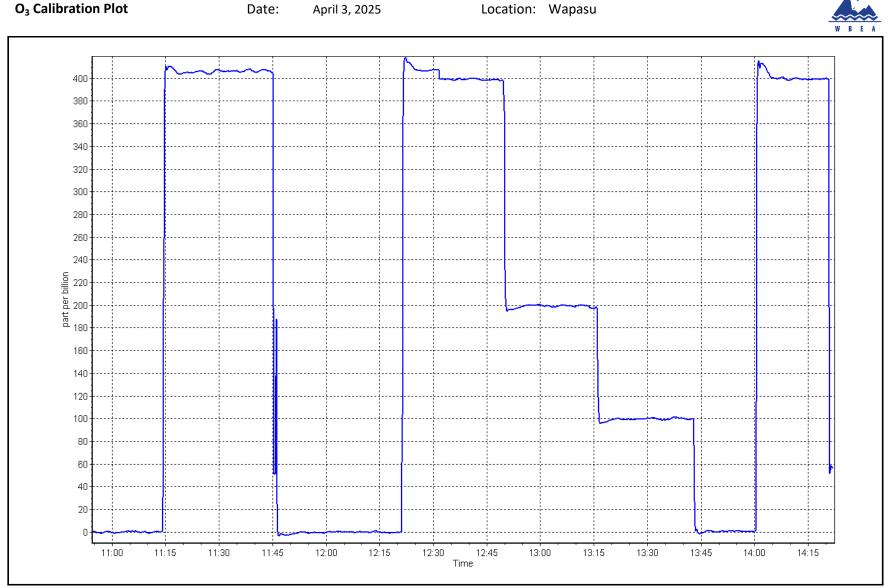
Wood Buffalo Environmental Association O₃ Calibration Summary

Station Information

| Calibration Date: | April 3, 2025 | Previous Calibration: | March 13, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Wapasu | Station Number: | AMS17 |
| Start Time (MST): | 10:35 | End Time (MST): | 14:25 |
| Analyzer make: | API T400 | Analyzer serial #: | 7045 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999996 | ≥0.995 |
| 400.0 | 398.6 | 1.0035 | Slope | 0.995943 | 0.90 - 1.10 |
| 200.0 | 199.0 | 1.0050 | | | |
| 100.0 | 100.2 | 0.9980 | Intercept | 0.160000 | +/- 5 |





Location: Wapasu



Wood Buffalo Environmental Association O₃ Calibration Report

Station Information

| Station Name: | Wapasu | | Station number: AN | | |
|------------------------|----------------|------------------------|-----------------------|--------------|-------------------|
| Calibration Date: | April 13, 2025 | | Last Cal Date: Ap | ril 3, 2025 | |
| Start time (MST): | 11:20 | | End time (MST): 13 | :50 | |
| Reason: | Maintenance | | | | |
| | | Calibration S | tandards | | |
| | | canorations | tantalas | | |
| O3 generation mode: | Photometer | | | | |
| Calibrator Make/Model: | API T700 | | Serial Number: 24 | 49 | |
| ZAG Make/Model: | API T701H | | Serial Number: 35 | 9 | |
| | | | | | |
| | | Analyzer Info | ormation_ | | |
| Analyzer make: | API T400 | | Analyzer serial #: 70 | 45 | |
| Analyzer Range | 0 - 500 ppb | | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 0.995943 | 1.001457 | Backgd or Offset: | 0.6 | 0.6 |
| Calibration intercept: | 0.160000 | -0.680000 | Coeff or Slope: | 1.027 | 1.025 |
| | | 0.4.5 | | | |
| | | O ₃ As Four | id Data | | |
| | | | | | Baseline Adjusted |

| Set Point | Dilution air flow rate (sccm) | Calibrator Lamp Voltage Drive (mV) | Calculated concentration (ppb) (Cc) | | 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: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | NA NA NA | Previous response AF Slope: AF Correlation: | | *% change AF Intercept: * = > +/-5% change initiat | NA tes investigation |

O₃ 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/lc) Limit = 0.95-1.05 |
|-----------------|-------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|--|
| Calibrator zero | 5000 | 0.0 | 0.0 | -0.2 | |
| High point | 5000 | 1104.7 | 400.0 | 400.1 | 1.000 |
| Mid point | 5000 | 917.3 | 200.0 | 199.5 | 1.003 |
| Low point | 5000 | 797.9 | 100.0 | 98.9 | 1.011 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 5000 | 1104.0 | 400.0 | 400.3 | 0.999 |
| | | | Averag | e Correction Factor | 1.004 |

Notes:

O3 Reference was below limits causing no readings. No as founds as the instrument was not operating upon arrival. Adjusted the lamp to increase the O3 ref. Adjusted the span.

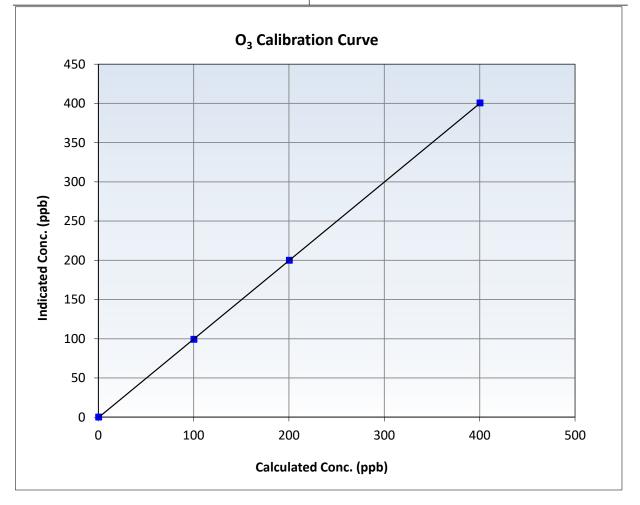


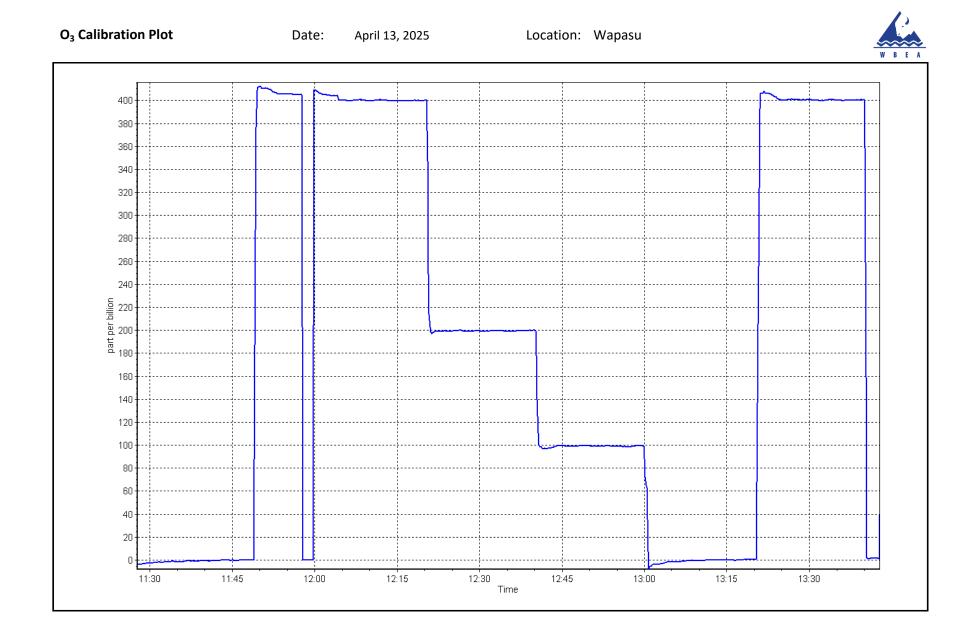
Wood Buffalo Environmental Association O₃ Calibration Summary

Station Information

| Calibration Date: | April 13, 2025 | Previous Calibration: | April 3, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Wapasu | Station Number: | AMS17 |
| Start Time (MST): | 11:20 | End Time (MST): | 13:50 |
| Analyzer make: | API T400 | Analyzer serial #: | 7045 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.2 | | Correlation Coefficient | 0.999993 | ≥0.995 |
| 400.0 | 400.1 | 0.9998 | Slope | 1.001457 | 0.90 - 1.10 |
| 200.0 | 199.5 | 1.0025 | 0.000 | | |
| 100.0 | 98.9 | 1.0111 | Intercept | -0.680000 | +/- 5 |







Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| | | | | | Version-01-202 | |
|--|--|--|--|--|-----------------|--|
| | | Station Information | n | | | |
| Station Name: | Wapasu | | Station number: AN | | | |
| Calibration Date: | April 15, 2025 | | Last Cal Date: Ma | | | |
| Start time (MST): | 14:31 | End time (MST): 15:12 | | | | |
| Analyzer Make: | Teledyne API T640 | S/N: 1183 | | | | |
| Particulate Fraction: | PM2.5 | | | | | |
| Flow Meter Make/Model: | Alicat FP-25BT | | S/N: 38 | 8749 | | |
| Temp/RH standard: | Alicat FP-25BT | | S/N: 38 | 8749 | | |
| | | Monthly Calibration T | ſest | | | |
| <u>Parameter</u> | <u>As found</u> | Measured | <u>As left</u> | <u>Adjusted</u> | (Limits) | |
| T (°C) | 10.20 | 9.80 | 10.20 | | +/- 2 °C | |
| P (mmHg) | 705.40 | 706.80 | 705.40 | | +/- 10 mmH | |
| Flow (LPM) | 5.00 | 4.98 | 5.00 | | +/- 0.25 LPN | |
| PW% (pump) | 33 | | 36 | | >80% | |
| Zero Verification | PM w/o HEPA: | 0.2 | PM w/ HEPA: | 0.0 | <0.2 ug/m3 | |
| | | | | | | |
| Note: this leak check will be PM Inlet observation : | e completed before the q Inlet Head Clean | ∠ Ali | gnment Factor On : | enance leak check | | |
| | Inlet Head Clean | Alia Quarterly Calibration | gnment Factor On : Test | | | |
| | Inlet Head Clean Refractive Index: | Quarterly Calibration 10.9 | gnment Factor On : | | 024 | |
| PM Inlet observation : | Inlet Head Clean Refractive Index: | Alia Quarterly Calibration | gnment Factor On : Test | | 024 | |
| PM Inlet observation : | Inlet Head Clean Refractive Index: | Quarterly Calibration 10.9 | gnment Factor On : Test | | 024 (Limits) | |
| PM Inlet observation : SPAN DUST | Inlet Head Clean Refractive Index: Lot No.: 1 | Quarterly Calibration 10.9 .00128-050-042 | gnment Factor On : Test Expiry Date: | ✓ October 6, 20 | | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> | Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> N/A | Quarterly Calibration 10.9 00128-050-042 Post maintenance | gnment Factor On : Test Expiry Date: <u>As left</u> N/A | ⊡ October 6, 20 <u>Adjusted</u> | (Limits) | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test | Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> N/A nber Cleaned: | Quarterly Calibration 10.9 00128-050-042 Post maintenance N/A | gnment Factor On : Test Expiry Date: <u>As left</u> N/A 5, 2025 | ⊡ October 6, 20 <u>Adjusted</u> | (Limits) | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Chan Date Disposable F | Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> N/A nber Cleaned: ilter Changed: | Alig Quarterly Calibration 10.9 00128-050-042 Post maintenance N/A February 26 | gnment Factor On : Test Expiry Date: <u>As left</u> N/A 5, 2025 | ⊡ October 6, 20 <u>Adjusted</u> | (Limits) | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Chan Date Disposable F | Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> N/A nber Cleaned: ilter Changed: | Alig Quarterly Calibration 10.9 00128-050-042 Post maintenance N/A February 26 March 20, | gnment Factor On : Test Expiry Date: <u>As left</u> N/A 5, 2025 2025 0.00 | ✓ October 6, 20 Adjusted | (Limits) | |
| SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Chan | Inlet Head Clean Refractive Index: Lot No.: 1 <u>As found</u> N/A nber Cleaned: ilter Changed: | Quarterly Calibration 10.9 00128-050-042 Post maintenance N/A February 26 March 20, PM w/ HEPA: | gnment Factor On : Test Expiry Date: <u>As left</u> N/A 5, 2025 2025 0.00 Ce | ✓ October 6, 20 Adjusted | (Limits) | |

Notes:

Flow, temp and pressure checked.

Calibration by:

Aswin Sasi Kumar



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS18 STONY MOUNTAIN APRIL 2025

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

May 30, 2025



Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Stony Mountain |
|-------------------|----------------|
| Calibration Date: | April 28, 2025 |
| Start time (MST): | 11:05 |
| Reason: | Routine |

Station number: AMS 18 Last Cal Date: March 12, 2025 End time (MST): 14:59

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: 282 |
| Zero Air Gen Model: | Teledyne API 701H | | Serial Number: 321 |
| | | | |

Analyzer Information Serial Number: IC1501301453

| Analyzer make: | Thermo 43i | | Serial Number: JC | 1501301453 | | |
|------------------------|---------------------------------------|---|---|--|---|--|
| Analyzer Range: | 0 - 1000 ppb | | | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | |
| Calibration slope: | 1.003718 | 1.008274 | Backgd or Offset: | 25.6 | 25.3 | |
| Calibration intercept: | -3.279867 | -2.906028 | Coeff or Slope: | 0.830 | 0.818 | |
| | Analyzer Range: Calibration slope: | Analyzer Range: 0 - 1000 ppb <u>Start</u> Calibration slope: 1.003718 | Analyzer make: Thermo 43i Analyzer Range: 0 - 1000 ppb <u>Start</u> <u>Finish</u> Calibration slope: 1.003718 1.008274 | Analyzer Range: 0 - 1000 ppb <u>Start</u> <u>Finish</u> Calibration slope: 1.003718 1.008274 Backgd or Offset: | Analyzer make:Thermo 43iSerial Number: JC1501301453Analyzer Range:0 - 1000 ppbCalibration slope:1.0037181.008274Backgd or Offset:25.6 | |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4921 | 78.1 | 800.2 | 814.1 | 0.983 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 813.8 NA NA | Previous response AF Slope: AF Correlation: | 799.9 | *% change AF Intercept: * = > +/-5% change initiat | 1.7% |

SO₂ 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 | 804.6 | 0.995 |
| Mid point | 4960 | 39.1 | 400.6 | 402.4 | 0.996 |
| Low point | 4980 | 20.0 | 204.9 | 198.3 | 1.033 |
| As left zero | 5000 | 0.0 | 0.0 | 0.6 | |
| As left span | 4921 | 78.1 | 800.2 | 805.4 | 0.994 |
| | | | Average Correction Factor: | | |

Notes:

Changed sample inlet filter. Span adjusted.

Calibration Performed By:

Mohammed Kashif

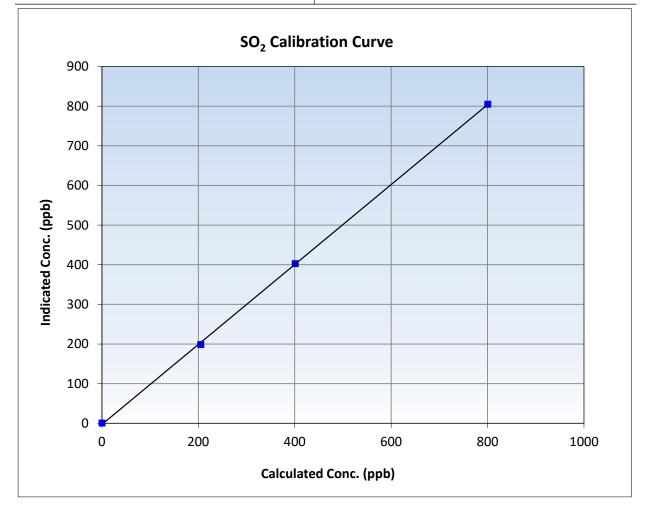


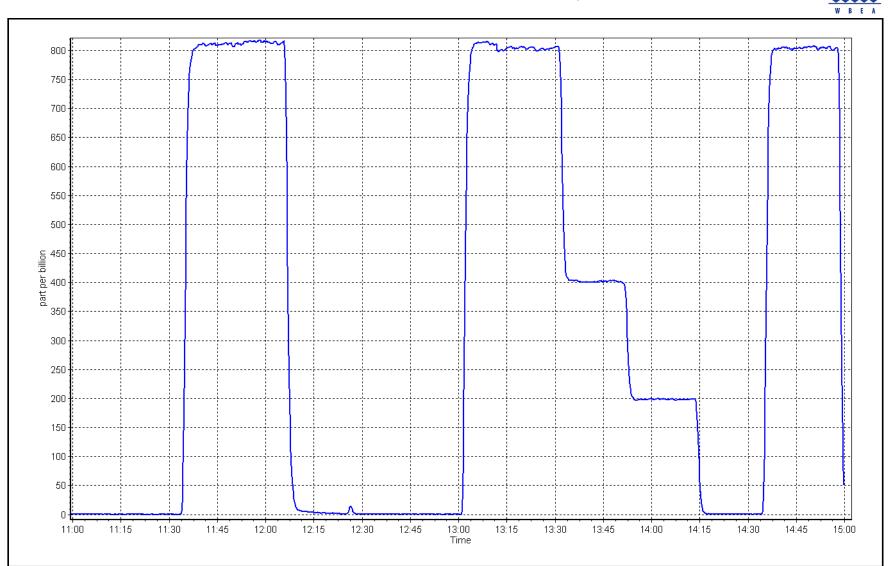
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 28, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Stony Mountain | Station Number: | AMS 18 |
| Start Time (MST): | 11:05 | End Time (MST): | 14:59 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | JC1501301453 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.4 | | Correlation Coefficient | 0.999881 | ≥0.995 |
| 800.2 400.6 | 804.6 402.4 | 0.9945 0.9956 | Slope | 1.008274 | 0.90 - 1.10 |
| 204.9 | 198.3 | 1.0332 | Intercept | -2.906028 | +/-30 |





SO2 Calibration Plot

Date: April 28, 2025

Location: Stony Mountain



Wood Buffalo Environmental Association TRS Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Stony Mountain April 24, 2025 11:00 Routine | Station number: Last Cal Date: End time (MST): | AMS18 March 25, 2025 16:06 |
|--|--|--|----------------------------------|
| | | | |

Calibration Standards

| Cal Gas Concentration: | 4.86 | ppm | Cal Gas Exp Date: | May 9, 2027 |
|------------------------|-------------------|-----|-------------------|-------------|
| Cal Gas Cylinder #: | CC523103 | | | |
| Removed Cal Gas Conc: | 4.86 | ppm | Rem Gas Exp Date: | |
| Removed Gas Cyl #: | | | Diff between cyl: | |
| Calibrator Make/Model: | Teledyne API T700 | | Serial Number: | 2658 |
| ZAG Make/Model: | Teledyne API T701 | | Serial Number: | 360 |
| | | | | |

Analyzer Information

| Analyzer make: Converter make: | Thermo 43i-TLE CD Nova CDN-101 | | Analyzer serial #: Converter serial #: | 1218153359 555 | |
|-----------------------------------|-----------------------------------|---------------|---|-------------------|---------------|
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 800 degC |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 1.007792 | 1.002370 | Backgd or Offset: | 2.9 | 2.90 |
| Calibration intercept: | -0.218991 | 0.020908 | Coeff or Slope: | 1.172 | 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)) <i>Limit = 0.90-1.10</i> |
|---|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As found High point | 4917 | 82.3 | 80.0 | 82.7 | 0.969 |
| As found Mid point | 4958 | 41.2 | 40.1 | 41.3 | 0.972 |
| As found Low point New cylinder response | 4979 | 20.6 | 20.0 | 20.4 | 0.986 |
| Baseline Corr As found: | 82.6 | Prev response: | 80.41 | *% change: | 2.6% |
| Baseline Corr 2nd AF pt: | 41.2 | AF Slope: | 1.033797 | AF Intercept: | -0.079704 |
| Baseline Corr 3rd AF pt: | 20.3 | AF Correlation: | 0.999977 | * = > +/-5% change initiate | es 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 | 80.3 | 0.996 |
| Mid point | 4958 | 41.2 | 40.1 | 40.2 | 0.996 |
| Low point | 4979 | 20.6 | 20.0 | 19.7 | 1.016 |
| As left zero | 5000 | 0.0 | 0.0 | 0.4 | |
| As left span | 4917 | 82.3 | 80.0 | 80.4 | 0.995 |
| SO2 Scrubber Check | 4923 | 77.1 | 771.0 | 0.1 | |
| Date of last scrubber chan | ge: | 17-Dec-21 | | Ave Corr Factor | 1.003 |

Span adjusted.

Date of last converter efficiency test:

Notes:

Calibration Performed By:

Aswin Sasi Kumar



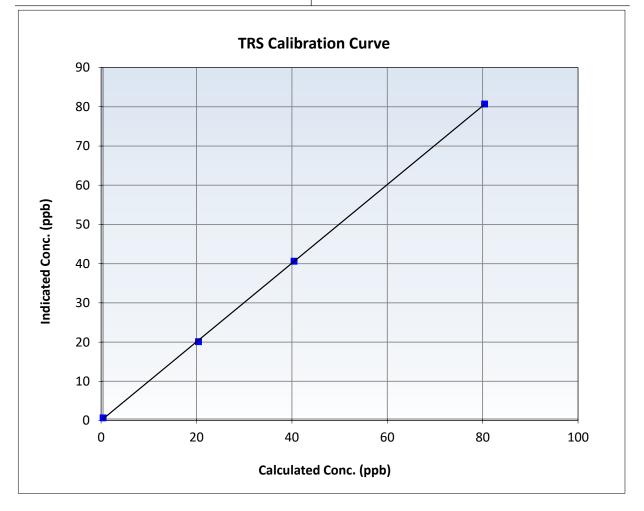
Wood Buffalo Environmental Association

TRS Calibration Summary

Station Information

| Calibration Date: | April 24, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Stony Mountain | Station Number: | AMS18 |
| Start Time (MST): | 11:00 | End Time (MST): | 16:06 |
| Analyzer make: | Thermo 43i-TLE | Analyzer serial #: | 1218153359 |

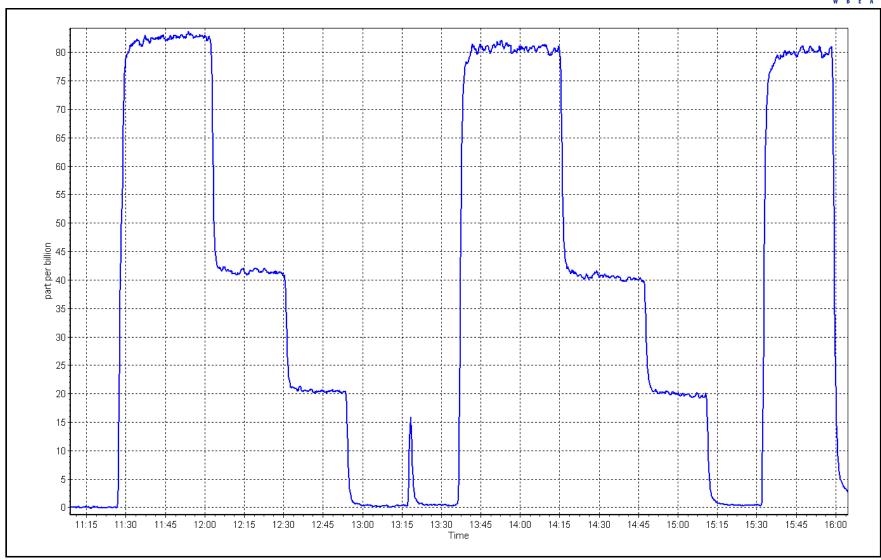
| Calculated concentratior (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 0.999932 | ≥0.995 |
| 80.0 | 80.3 | 0.9963 | Slope | 1.002370 | 0.90 - 1.10 |
| 40.1 | 40.2 | 0.9963 | Slope | 1.002570 | 0.90 - 1.10 |
| 20.0 | 19.7 | 1.0165 | Intercept | 0.020908 | +/-3 |













Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Station Information

| | | Station In | ormation | | |
|--|---|--|--|---|---|
| Station Name: | Stony Mountain | | Station number: | AMS 18 | |
| Calibration Date: | April 17, 2025 | | Last Cal Date: | March 18, 2025 | |
| Start time (MST): | 11:30 | | End time (MST): | 16:05 | |
| Reason: | Cylinder Change | N2 cylinder change | out | | |
| | | | Charles de sele | | |
| | | Calibration | | | |
| Gas Cert Reference: | | 6809B | Cal Gas Expiry Date: | | |
| CH4 Cal Gas Conc. | 504.9 | •• | CH4 Equiv Conc. | 1076.6 p | pm |
| C3H8 Cal Gas Conc. | 207.9 | •• | | | |
| Removed Gas Cert: | | IA | Removed Gas Expiry: | | |
| Removed CH4 Conc. | 504.9 | | CH4 Equiv Conc. | • | pm |
| Removed C3H8 Conc. | 207.9 | ppm | Diff between cyl (THC): | | |
| Diff between cyl (CH ₄): | | | Diff between cyl (NM): | | , , |
| Calibrator Model: | | API T750 | Serial Number: | - | |
| Zero Air Gen model: | Teledyne | API T751H | Serial Number: | 323 | L |
| | | Analyzer Ir | nformation | | |
| Analyzer make: | Thermo 55i | | Analyzer serial #: | 1218153355 | |
| THC Range: | 0 - 20 ppm | | NMHC/CH4 Range: | 0 - 10 ppm | |
| | Start | Finish | | <u>Start</u> | Finish |
| CH4 SP Ratio: | 2.17E-04 | N/A | NMHC SP Ratio: | 4.10E-05 | N/A |
| CH4 Retention time: | 14.2 | N/A | NMHC Peak Area: | | , N/A |
| Zero Chromatogram: | OFF | OFF | Flat Baseline: | OFF | OFF |
| 0 | | | | | |
| | | THC As Fo | ound Data | | |
| | | | | | |
| | | | | | Baseline Adjusted |
| Cat Daint | Dilution air flow rate | Source gas flow rate | Calculated concentration | Indicated concentration | Baseline Adjusted Correction factor |
| Set Point | Dilution air flow rate (sccm) | | | Indicated concentration (ppm) (Ic) | Correction factor (Cc/(Ic-AFzero)) |
| | (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | (ppm) (Ic) | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 |
| As found zero | (sccm) 5000 | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) 0.00 | (ppm) (Ic) 0.00 | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 |
| As found zero As found High point | (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | (ppm) (Ic) | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 |
| As found zero As found High point As found Mid point | (sccm) 5000 | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) 0.00 | (ppm) (Ic) 0.00 | 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 | (sccm) 5000 4921 | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) 0.00 | (ppm) (Ic) 0.00 | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 |
| As found zero As found High point As found Mid point | (sccm) 5000 4921 | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) 0.00 | (ppm) (Ic) 0.00 | 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 | (sccm) 5000 4921 | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) 0.00 | (ppm) (Ic) 0.00 | 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 | (sccm) 5000 4921 | Source gas flow rate (sccm) 0.0 78.1 | Calculated concentration (ppm) (Cc) 0.00 16.82 | (ppm) (Ic) 0.00 16.49 | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: | (sccm) 5000 4921 16.49 | Source gas flow rate (sccm) 0.0 78.1 Prev response | Calculated concentration (ppm) (Cc) 0.00 16.82 | (ppm) (Ic) 0.00 16.49 *% change | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: | (sccm) 5000 4921 16.49 NA | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: AF Correlation: | Calculated concentration (ppm) (Cc) 0.00 16.82 NA | (ppm) (Ic) 0.00 16.49 *% change AF Intercept: | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: | (sccm) 5000 4921 16.49 NA | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: | Calculated concentration (ppm) (Cc) 0.00 16.82 NA | (ppm) (Ic) 0.00 16.49 *% change AF Intercept: | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA ss investigation |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | (sccm) 5000 4921 16.49 NA | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: AF Correlation: | Calculated concentration (ppm) (Cc) 0.00 16.82 NA | (ppm) (Ic) 0.00 16.49 *% change AF Intercept: | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA ss investigation Correction factor |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: | (sccm) 5000 4921 16.49 NA NA | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: AF Correlation: <u>THC Calibr</u> | Calculated concentration (ppm) (Cc) 0.00 16.82 NA NA | (ppm) (Ic) 0.00 16.49 *% change AF Intercept: * = > +/-5% change initiate | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA ss investigation |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | (sccm) 5000 4921 16.49 NA NA Dilution air flow rate | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: AF Correlation: <u>THC Calibr</u> Source gas flow rate | Calculated concentration (ppm) (Cc) 0.00 16.82 NA <u>ation Data</u> Calculated concentration | (ppm) (Ic) 0.00 16.49 *% change AF Intercept: * = > +/-5% change initiate | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA ss investigation Correction factor (Cc/(Ic-AFzero)) |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | (sccm) 5000 4921 16.49 NA NA Dilution air flow rate | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: AF Correlation: <u>THC Calibr</u> Source gas flow rate | Calculated concentration (ppm) (Cc) 0.00 16.82 NA <u>ation Data</u> Calculated concentration | (ppm) (Ic) 0.00 16.49 *% change AF Intercept: * = > +/-5% change initiate | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA ss investigation Correction factor (Cc/(Ic-AFzero)) |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: Set Point Calibrator zero | (sccm) 5000 4921 16.49 NA NA Dilution air flow rate | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: AF Correlation: <u>THC Calibr</u> Source gas flow rate | Calculated concentration (ppm) (Cc) 0.00 16.82 NA <u>ation Data</u> Calculated concentration | (ppm) (Ic) 0.00 16.49 *% change AF Intercept: * = > +/-5% change initiate | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA ss investigation Correction factor (Cc/(Ic-AFzero)) |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: Set Point Calibrator zero High point Mid point Low point | (sccm) 5000 4921 16.49 NA NA Dilution air flow rate | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: AF Correlation: <u>THC Calibr</u> Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) 0.00 16.82 NA ation Data Calculated concentration (ppm) (Cc) | (ppm) (Ic) 0.00 16.49 *% change AF Intercept: * = > +/-5% change initiate | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA ss investigation Correction factor (Cc/(Ic-AFzero)) |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: Set Point Calibrator zero High point Mid point Low point As left zero | (sccm) 5000 4921 16.49 NA NA Dilution air flow rate (sccm) | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: AF Correlation: <u>THC Calibr</u> Source gas flow rate (sccm) 0.0 | Calculated concentration (ppm) (Cc) 0.00 16.82 NA ation Data Calculated concentration (ppm) (Cc) 0.00 | (ppm) (lc) 0.00 16.49 *% change AF Intercept: * => +/-5% change initiate Indicated concentration (ppm) (lc) 0.00 | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA so investigation Correction factor (Cc/(Ic-AFzero)) Limit = 0.95-1.05 |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: Set Point Calibrator zero High point Mid point Low point | (sccm) 5000 4921 16.49 NA NA Dilution air flow rate (sccm) | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: AF Correlation: <u>THC Calibr</u> Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) 0.00 16.82 NA ation Data Calculated concentration (ppm) (Cc) 0.00 16.82 | (ppm) (lc) 0.00 16.49 *% change AF Intercept: * = > +/-5% change initiate Indicated concentration (ppm) (lc) 0.00 16.52 | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA es investigation Correction factor (Cc/(Ic-AFzero)) Limit = 0.95-1.05 |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: Set Point Calibrator zero High point Mid point Low point As left zero | (sccm) 5000 4921 16.49 NA NA Dilution air flow rate (sccm) | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: AF Correlation: <u>THC Calibr</u> Source gas flow rate (sccm) 0.0 | Calculated concentration (ppm) (Cc) 0.00 16.82 NA ation Data Calculated concentration (ppm) (Cc) 0.00 16.82 | (ppm) (lc) 0.00 16.49 *% change AF Intercept: * => +/-5% change initiate Indicated concentration (ppm) (lc) 0.00 | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA so investigation Correction factor (Cc/(Ic-AFzero)) Limit = 0.95-1.05 |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: Set Point Calibrator zero High point Mid point Low point As left zero | (sccm) 5000 4921 16.49 NA NA Dilution air flow rate (sccm) | Source gas flow rate (sccm) 0.0 78.1 Prev response AF Slope: AF Correlation: <u>THC Calibr</u> Source gas flow rate (sccm) 0.0 78.1 | Calculated concentration (ppm) (Cc) 0.00 16.82 NA ation Data Calculated concentration (ppm) (Cc) 0.00 16.82 | (ppm) (lc) 0.00 16.49 *% change AF Intercept: * => +/-5% change initiate Indicated concentration (ppm) (lc) 0.00 16.52 ge Correction Factor | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 1.020 NA so investigation Correction factor (Cc/(Ic-AFzero)) Limit = 0.95-1.05 |



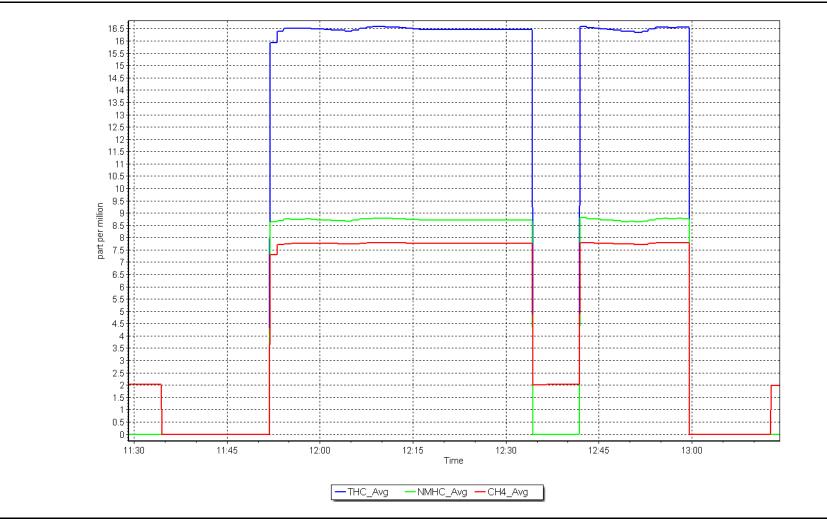
Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

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 | 5000 4921 | 0.0 78.1 | 0.00 8.93 | 0.00 8.73 | 1.023 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 8.73 NA NA | Prev response AF Slope: AF Correlation: | NA | *% change AF Intercept: * = > +/-5% change initiate | NA |
| | | | | , | |
| | | NMHC Calibi | | | |
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration ((ppm) (Ic) | Limit = 0.95-1.05 |
| Calibrator zero High point Mid point Low point As left zero As left span | 5000 4921 | 0.0 78.1 | 0.00 8.93 Avera | 0.00 8.74 ge Correction Factor | 1.022 |
| | | CH4 As For | und Data | | |
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration C (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 | 5000 4921 | 0.0 78.1 | 0.00 7.89 | 0.00 7.76 | 1.016 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 7.76 NA NA | Prev response AF Slope: AF Correlation: | NA | *% change AF Intercept: * = > +/-5% change initiate | NA es investigation |
| | | CH4 Calibra | tion 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 | 5000 4921 | 0.0 78.1 | 0.00 7.89 Avera | 0.00 7.77 ge Correction Factor | 1.015 |
| | | Calibration | Statistics | | |
| THC Cal Slope: THC Cal Offset: CH4 Cal Slope: CH4 Cal Offset: NMHC Cal Slope: NMHC Cal Offset: Calibration Per | formed By: | <u>Start</u> Aswin Sasi Kumar | | <u>Finish</u> | |
| | | | | | |

NMHC Calibration Plot







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

NMHC/CH4 Range: 0 - 10 ppm

Station Information

| | Static | | |
|--------------------------------------|--------------------|-------------------------|------------------|
| Station Name: | Stony Mountain | Station number: AMS | 18 |
| Calibration Date: | April 28, 2025 | Last Cal Date: Marc | h 18, 2025 |
| Start time (MST): | 11:05 | End time (MST): 14:59 |) |
| Reason: | Routine | | |
| | Calibra | ation 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 T750 | Serial Number: | 282 |
| Zero Air Gen model: | Teledyne API T751H | Serial Number: | 321 |
| | Analyz | zer Information | |
| Analyzer make: | Thermo 55i | Analyzer serial #: 1218 | 153355 |

THC Range: 0 - 20 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 2.17E-04 | 2.21E-04 | NMHC SP Ratio: | 4.10E-05 | 4.15E-05 |
| CH4 Retention time: | 14.2 | 14.4 | NMHC Peak Area: | 217649 | 215036 |
| 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 | 16.38 | 1.028 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 16.36 | Prev response | 16.83 | *% change | -2.9% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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 | 78.1 | 16.82 | 16.82 | 1.000 |
| Mid point | 4960 | 39.1 | 8.42 | 8.39 | 1.004 |
| Low point | 4980 | 20.0 | 4.31 | 4.17 | 1.032 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 78.1 | 16.82 | 16.80 | 1.001 |
| | | | Avera | ge Correction Factor | 1.012 |

Notes:

Changed H2 cylinder and sample inlet filter. Adjusted zero and span.



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4921 | 78.1 | 8.93 | 8.66 | 1.032 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 8.66 NA NA | Prev response AF Slope: AF Correlation: | 8.96 | *% change AF Intercept: * = > +/-5% change initia | |

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 | 8.92 | 1.001 |
| Mid point | 4960 | 39.1 | 4.47 | 4.46 | 1.002 |
| Low point | 4980 | 20.0 | 2.29 | 2.23 | 1.027 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 78.1 | 8.93 | 8.96 | 0.997 |
| | | | Avera | ge Correction Factor | 1.010 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|--|----------------------------------|---|--|---|--|
| 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 As found Mid point As found Low point New cylinder response | 4921 | 78.1 | 7.89 | 7.72 | 1.024 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 7.70 NA NA | Prev response AF Slope: AF Correlation: | 7.87 | *% change AF Intercept: * = > +/-5% change initia | |

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) <i>Limit = 0.95-1.05</i> |
|---|------|--------------------------------|--|---|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4921 | 78.1 | 7.89 | 7.89 | 0.999 |
| Mid point | 4960 | 39.1 | 3.95 | 3.92 | 1.006 |
| Low point | 4980 | 20.0 | 2.02 | 1.95 | 1.038 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 78.1 | 7.89 | 7.84 | 1.007 |
| | | | Avera | age Correction Factor | 1.015 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 1.003220 | 1.001998 |
| THC Cal Offset: | -0.041072 | -0.057041 |
| CH4 Cal Slope: | 1.001011 | 1.003000 |
| CH4 Cal Offset: | -0.021650 | -0.033289 |
| NMHC Cal Slope: | 1.005632 | 1.000998 |
| NMHC Cal Offset: | -0.020230 | -0.023550 |

Calibration Performed By:

Mohammed Kashif

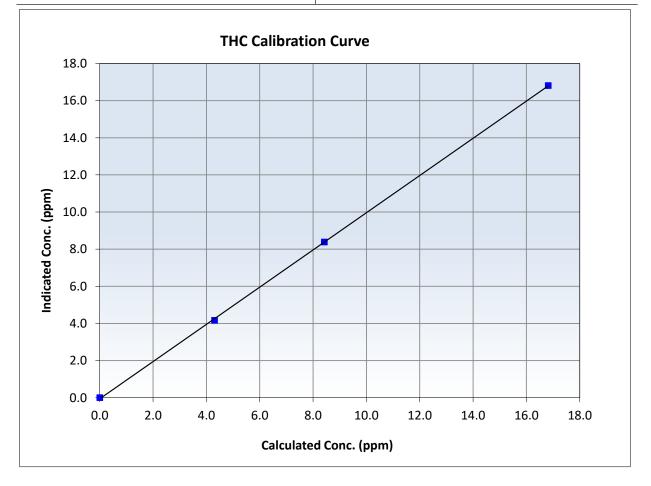


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 28, 2025 | Previous Calibration: | March 18, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Stony Mountain | Station Number: | AMS 18 |
| Start Time (MST): | 11:05 | End Time (MST): | 14:59 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1218153355 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999927 | ≥0.995 |
| 16.82 8.42 | 16.82 8.39 | 1.0003 1.0040 | Slope | 1.001998 | 0.90 - 1.10 |
| 4.31 | 4.17 | 1.0320 | Intercept | -0.057041 | +/-0.5 |



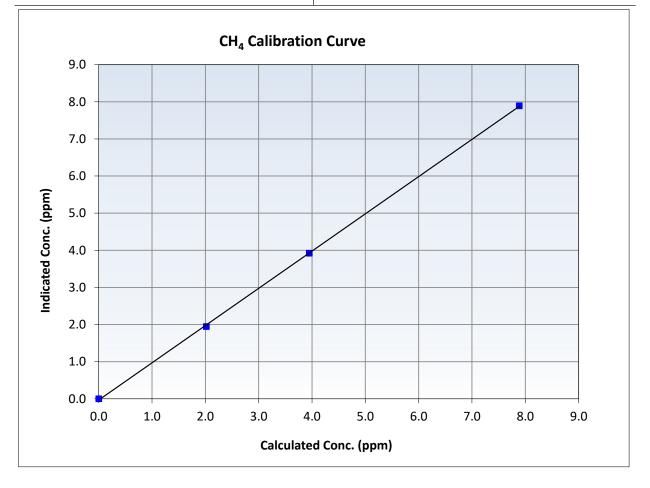


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 28, 2025 | Previous Calibration: | March 18, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Stony Mountain | Station Number: | AMS 18 |
| Start Time (MST): | 11:05 | End Time (MST): | 14:59 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1218153355 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | <u>Limits</u> | |
|--|---------------------------------------|---------------------------|-------------------------|---------------|-------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999892 | ≥0.995 |
| 7.89 | 7.89 | 0.9995 | Slope | 1.003000 | 0.90 - 1.10 |
| 3.95 2.02 | 3.92 1.95 | 1.0064 1.0378 | Intercent | -0.033289 | +/-0.5 |
| | | | Intercept | -0.033289 | +/-0.5 |



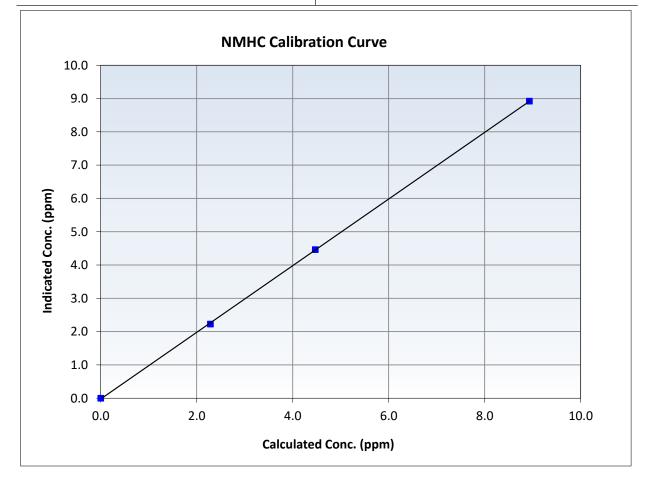


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

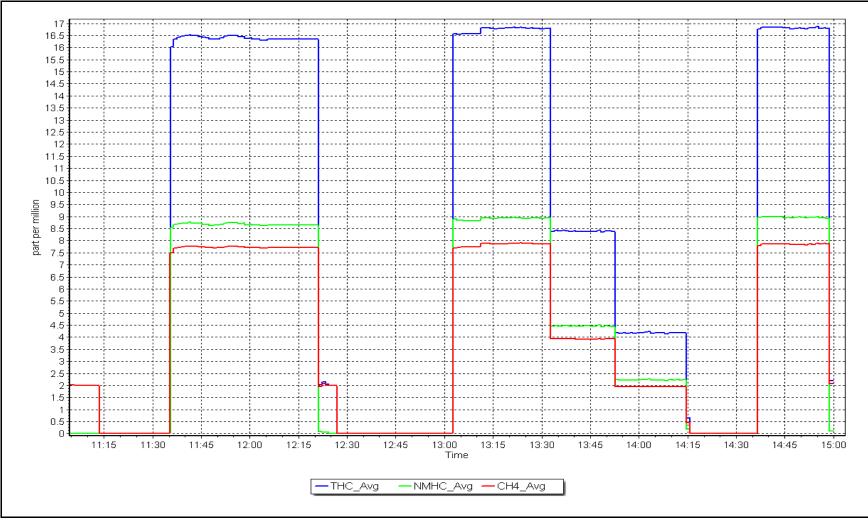
| Calibration Date: | April 28, 2025 | Previous Calibration: | March 18, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Stony Mountain | Station Number: | AMS 18 |
| Start Time (MST): | 11:05 | End Time (MST): | 14:59 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1218153355 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | <u>Limits</u> | |
|--|---------------------------------------|---------------------------|-------------------------|---------------|-------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999950 | ≥0.995 |
| 8.93 4.47 | 8.92 4.46 | 1.0011 1.0019 | Slope | 1.000998 | 0.90 - 1.10 |
| 2.29 | 2.23 | 1.0269 | Intercept | -0.023550 | +/-0.5 |



NMHC Calibration Plot







Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Stony Mountain | NO Gas Cylinder #: | DT0045516 | Cal Gas Expiry Date: | November 17, 2026 |
|-------------------|----------------|-----------------------|-------------------|----------------------|-------------------|
| Station number: | AMS 18 | NOX Cal Gas Conc: | 60.30 ppm | NO Cal Gas Conc: | 60.10 ppm |
| Calibration Date: | April 24, 2025 | Removed Cylinder #: | N/A | Removed Gas Exp Date | : N/A |
| Last Cal Date: | March 25, 2025 | Removed Gas NOX Conc: | 60.30 ppm | Removed Gas NO Conc | : 60.10 ppm |
| Start time (MST): | 11:00 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 16:55 | Calibrator Model: | Teledyne API T750 | Serial Number: | 282 |
| Reason: | Routine | ZAG make/model: | Teledyne API 751H | Serial Number: | 321 |

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 | -0.9 | -0.1 | | |
| AF High point | 4933 | 66.6 | 803.3 | 800.6 | 2.7 | 792.0 | 795.3 | -3.3 | 1.0129 | 1.0055 |
| AF Mid point AF Low point New cyl resp | | | | | | | | | | |
| Previous Respo | 4933 NO _x = | 801.8 ppb | NO = 801.9 | ppb | * = > +/-59 | % change initiates i | investigation | *Percent Chang | ge NO _x = | -1.1% |
| Baseline Corr 1 | st pt NO _x = | 793.0 ppb | NO = 796.2 | ppb | <u>As Foun</u> | d Statistics | | *Percent Chang | ge NO = | -0.7% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO _x r ² : | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | rd pt NO _X = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calibr | ration Data | | | | |
| O3 Setpo | bint (ppb) | Indicated NO Rei concentration | | cated NO Drop entration (ppb) | Calculated No concentration (pp | | dicated NO2 ntration (ppb) (Ic) | Baseline Adjust Correction fa (Cc/(Ic-AFze | actor Conv | verter Efficiency nit = 96-104% |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point *Limit = 0.90 - 1.10*



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Teledyne API T20 | 00 | Serial Number: 1035 | 5 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|------------------|---------------|----------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 0.999208 | 0.995141 |
| | | | Instrument Settings | | | NO _x Cal Offset: | -0.808436 | -1.829828 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 1.003246 | 1.002849 |
| NO coeff or slope: | 0.938 | 0.949 | NO bkgnd or offset: | -28.3 | -25.9 | NO Cal Offset: | -1.307881 | -2.669053 |
| NOX coeff or slope: | 0.935 | 0.941 | NOX bkgnd or offset: | -28.0 | -25.4 | NO ₂ Cal Slope: | 0.987109 | 0.990662 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 7.3 | 7.3 | NO ₂ Cal Offset: | -0.087128 | -1.030634 |

Dilution Calibration Data

| Set Point | Dilution flow rate (sccm) | Source gas flow rate (sccm) | Calculated NOx concentration (ppb) (Cc) | Calculated NO concentration (ppb) (Cc) | Calculated NO2 concentration (ppb) (Cc) | Indicated NOx concentration (ppb) (Ic) | Indicated NO concentration (ppb) (Ic) | Indicated NO2 concentration (ppb) (Ic) | NOx Correction factor (Cc/Ic) Limit = 0.95-1.05 | NO Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|---|--|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.2 | -0.1 | -0.1 | | |
| High point | 4933 | 66.6 | 803.3 | 800.6 | 2.7 | 798.3 | 801.7 | -3.4 | 1.0062 | 0.9986 |
| Mid point | 4967 | 33.3 | 401.6 | 400.2 | 1.3 | 397.1 | 396.8 | 0.3 | 1.0113 | 1.0087 |
| Low point | 4983 | 16.6 | 200.2 | 199.5 | 0.7 | 195.7 | 195.3 | 0.4 | 1.0231 | 1.0218 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.7 | -0.2 | | |
| As left span | 4933 | 66.6 | 803.3 | 345.5 | 457.8 | 787.5 | 345.5 | 442.0 | 1.0200 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 1.0135 | 1.0097 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (C | Indicated NO2 concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|--|---|--|---|
| Cal zero | | | 0.0 | -0.1 | | |
| High GPT point | 802.1 | 404.2 | 400.6 | 396.3 | 1.0108 | 98.9% |
| Mid GPT point | 802.1 | 604.8 | 200.0 | 196.5 | 1.0176 | 98.3% |
| Low GPT point | 802.1 | 701.7 | 103.1 | 100.2 | 1.0286 | 97.2% |
| | | | | Average Correction Factor | 1.0190 | 98.1% |

Notes:

Portable calibration system used. Zero and Span adjusted.

Calibration Performed By:

Aswin Sasi Kumar

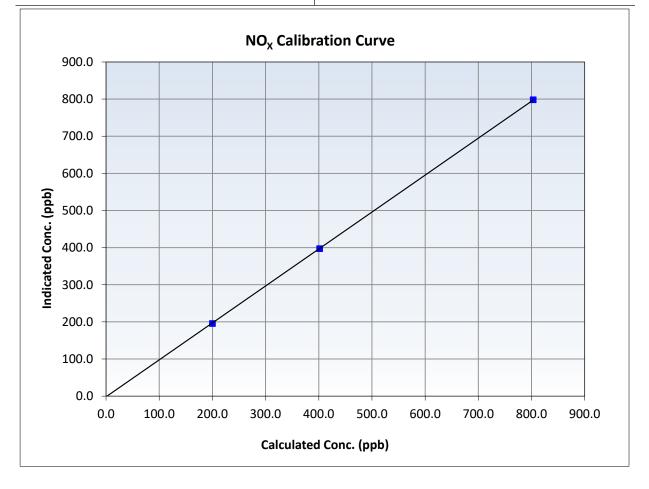


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 24, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Stony Mountain | Station Number: | AMS 18 |
| Start Time (MST): | 11:00 | End Time (MST): | 16:55 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 1035 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.2 | | Correlation Coefficient | 0.999981 | ≥0.995 |
| 803.3 401.6 | 798.3 397.1 | 1.0062 1.0113 | Slope | 0.995141 | 0.90 - 1.10 |
| 200.2 | 195.7 | 1.0231 | Intercept | -1.829828 | +/-20 |



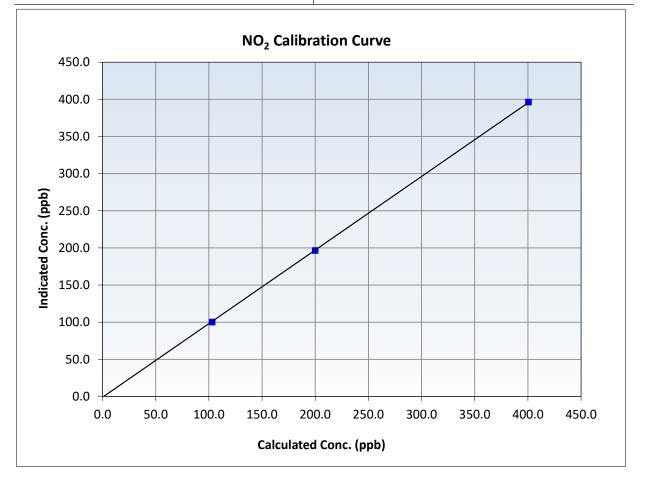


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 24, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Stony Mountain | Station Number: | AMS 18 |
| Start Time (MST): | 11:00 | End Time (MST): | 16:55 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 1035 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999974 | ≥0.995 |
| 400.6 200.0 | 396.3 196.5 | 1.0108 1.0176 | Slope | 0.990662 | 0.90 - 1.10 |
| 103.1 | 100.2 | 1.0286 | Intercept | -1.030634 | +/-20 |



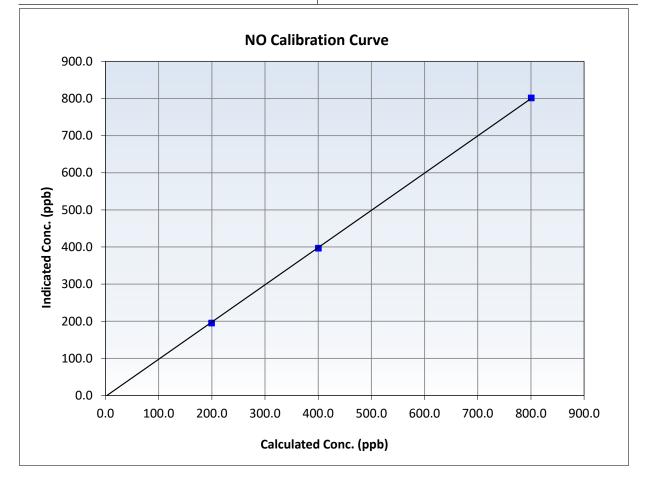


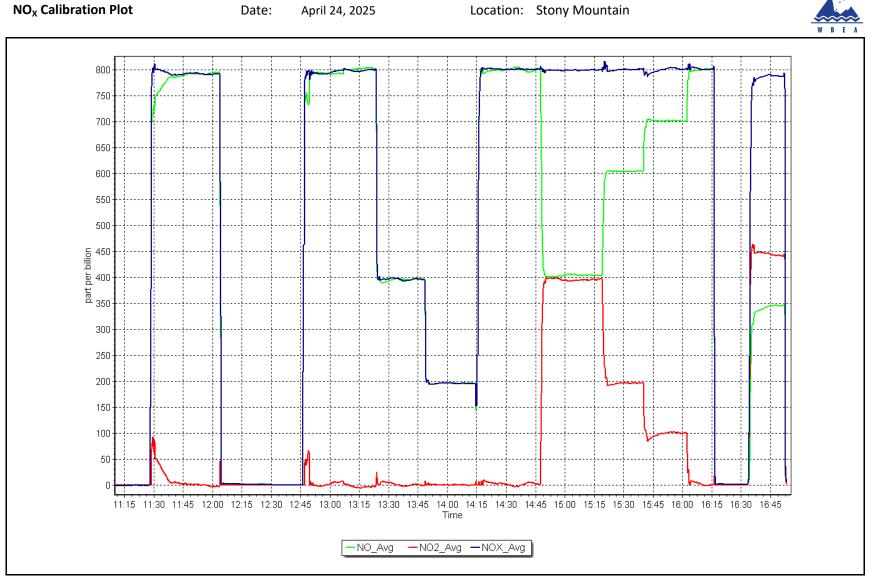
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 24, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Stony Mountain | Station Number: | AMS 18 |
| Start Time (MST): | 11:00 | End Time (MST): | 16:55 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 1035 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999952 | ≥0.995 |
| 800.6 400.2 | 801.7 396.8 | 0.9986 1.0087 | Slope | 1.002849 | 0.90 - 1.10 |
| 199.5 | 195.3 | 1.0218 | Intercept | -2.669053 | +/-20 |







Wood Buffalo Environmental Association O₃ Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Stony Mountain April 16, 2025 10:57 Routine | Station number: AMS 18 Last Cal Date: March 6, 2025 End time (MST): 14:38 | | |
|--|--|---|------------------------|--------------|
| | | Calibration Star | ndards | |
| O3 generation mode: | Photometer | | | |
| Calibrator Make/Model: | Teledyne API T700 | | Serial Number: 2658 | |
| ZAG Make/Model: | Teledyne API 701H | | Serial Number: 355 | |
| | | | | |
| | | Analyzer Inform | nation | |
| Analyzer make: | API T400 | | Analyzer serial #: 825 | |
| Analyzer Range | 0 - 500 ppb | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> |
| Calibration slope: | 0.997629 | 0.997657 | Backgd or Offset: | 2.0 |
| Calibration intercept: | 0.840000 | 0.960000 | Coeff or Slope: | 1.027 |
| | | | | |

O₃ 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 | 0.0 | |
| As found High point | 4888 | 1138.1 | 400.0 | 407.0 | 0.983 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| Baseline Corr As found: | 407.0 | Previous response | 399.9 | *% change | 1.7% |
| Baseline Corr 2nd AF pt: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initia | ites investigation |

O₃ 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 | 0.4 | |
| High point | 4888 | 1138.1 | 400.0 | 399.5 | 1.001 |
| Mid point | 4888 | 884.5 | 200.0 | 201.5 | 0.993 |
| Low point | 4888 | 741.4 | 100.0 | 100.8 | 0.992 |
| As left zero | 5000 | NA | 0.0 | 0.4 | |
| As left span | 4812 | 1097.9 | 400.0 | 399.8 | 1.001 |
| | | | Averag | e Correction Factor | 0.995 |

Notes:

Span adjusted.

Calibration Performed By:

Aswin Sasi Kumar

<u>Finish</u> 2.0

1.012

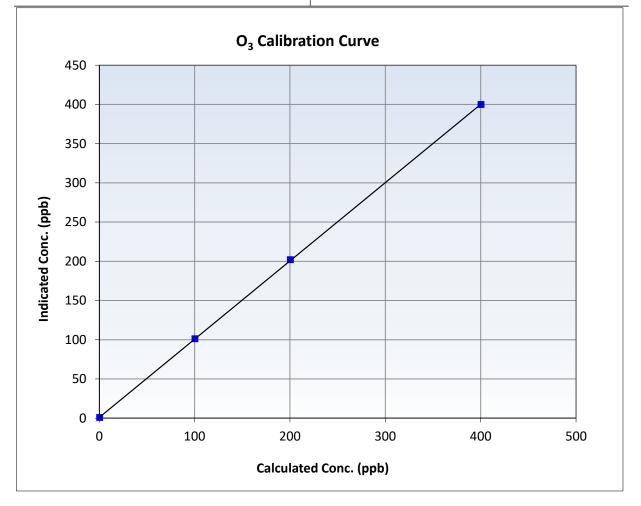


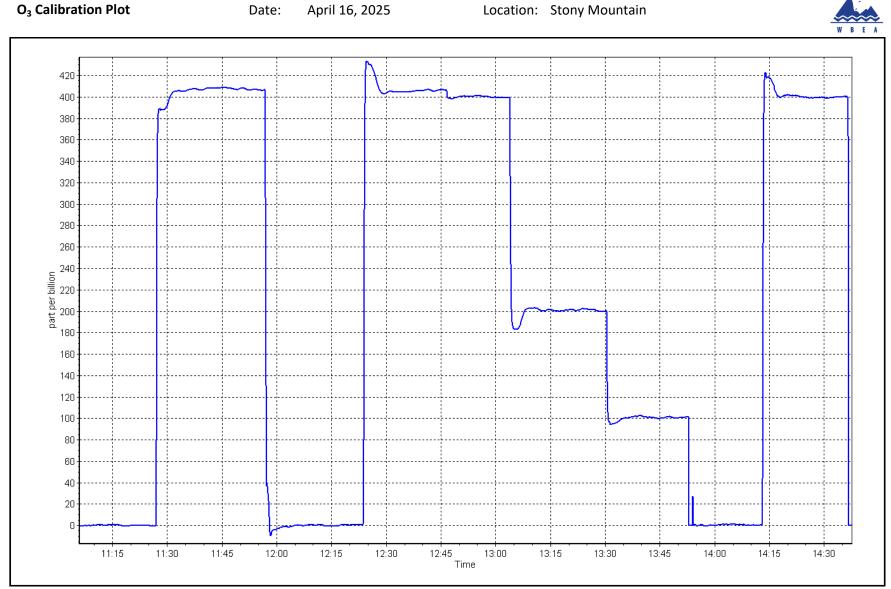
Wood Buffalo Environmental Association O₃ Calibration Summary

Station Information

| Calibration Date: | April 16, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Stony Mountain | Station Number: | AMS 18 |
| Start Time (MST): | 10:57 | End Time (MST): | 14:38 |
| Analyzer make: | API T400 | Analyzer serial #: | 825 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.4 | | Correlation Coefficient | 0.999982 | ≥0.995 |
| 400.0 | 399.5 | 1.0013 | Slope | 0.997657 | 0.90 - 1.10 |
| 200.0 100.0 | 201.5 100.8 | 0.9926 0.9921 | Intercept | 0.960000 | +/- 5 |
| | | | intercept | 0.500000 | 17 5 |







Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| WBEA | | | | | Version-01-20 |
|----------------------------------|-------------------|--------------------------|-----------------------|-----------------|---------------|
| | | Station Information | า | | |
| tation Name: | Stony Mountain | | Station number: AN | | |
| Calibration Date: | April 28, 2025 | | Last Cal Date: Ma | | |
| Start time (MST): | 15:00 | | End time (MST): 15 | :13 | |
| Analyzer Make: | API T640 | | S/N: 32 | 4 | |
| Particulate Fraction: | PM2.5 | | | | |
| low Meter Make/Model: | Alicat FP-25BT | | S/N: 38 | 8749 | |
| Temp/RH standard: | Alicat FP-25BT | | S/N: 38 | 8749 | |
| | | Monthly Calibration T | est | | |
| <u>Parameter</u> | <u>As found</u> | Measured | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| T ([°] C) | 13.9 | 13.7 | 13.9 | | +/- 2 °C |
| P (mmHg) | 697.8 | 697.51 | 697.8 | | +/- 10 mmH |
| Flow (LPM) | 5.02 | 5.123 | 5.02 | | +/- 0.25 LPI |
| PW% (pump) | 71 | | 71 | | >80% |
| Zero Verification | PM w/o HEPA: | 2.2 | PM w/ HEPA: | 0.0 | <0.2 ug/m |
| | | Quarterly Calibration | Test | | |
| | Refractive Index: | 10.9 | Expiry Date: | October 10, 2 | 2024 |
| SPAN DUST | | 100128-050-042 | | , | - |
| Paramotor | As found | Post maintenance | As loft | Adjusted | (Limits) |
| Parameter | | | <u>As left</u> | | |
| PMT Peak Test | 11.0 | 11 | 11.0 | | +/- 0.5 |
| Date Optical Char | nber Cleaned: | February 27 | 7, 2025 | | |
| Date Disposable F | ilter Changed: | December 20, 2024 | | | |
| Post- maintenance Zero Ve | rification: | PM w/ HEPA: | 0.0 | <0.2 ug/m3 | |
| | | Annual Maintenand | e | | |
| | | | 224 | | |
| Date Sample Tu Date RH/T Sens | | July 4, 20 July 4, 20 | | | |
| | | July 4, 21 | | | |
| | | Elow town and proce | ure checked. Leak che | ek passad | |
| Notes: | | now, temp and pless | are checked. Leak the | ur passeu. | |

Calibration by:

Mohammed Kashif



Wood Buffalo Environmental Association CO Calibration Report

Station Information

Station Name:Stony MountainCalibration Date:April 23, 2025Start time (MST):10:50Reason:Routine

Station number: AMS 18 Last Cal Date: March 3, 2025 End time (MST): 13:37

Calibration Standards

| Cal Gas Concentration: | 3,080 | ppm | Cal Gas Exp Date: November 4, 2028 |
|------------------------|-------------------|-----|------------------------------------|
| Cal Gas Cylinder #: | EB0065608 | | |
| Removed Cal Gas Conc: | 3,080 | ppm | Rem Gas Exp Date: NA |
| Removed Gas Cyl #: | NA | | Diff between cyl: |
| Calibrator Make/Model: | Teledyne API T700 |) | Serial Number: 2658 |
| ZAG Make/Model: | Teledyne API T701 | .Н | Serial Number: 355 |
| | | | |
| | | | |

Analyzer Information

| Analyzer make: Analyzer Range: | Teledyne API T300 0 - 50 ppm | | Analyzer serial #: 3504 | | |
|-----------------------------------|---------------------------------|---------------|-------------------------|--------------|---------------|
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 0.997355 | 1.002362 | Backgd or Offset: | -0.012 | -0.012 |
| Calibration intercept: | 0.081757 | 0.201757 | Coeff or Slope: | 0.907 | 0.907 |

CO 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) <i>Limit = 0.90-1.10</i> |
|--|----------------------------------|--|---|--|---|
| As found zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As found High point As found Mid point As found Low point New cylinder response | 4933 | 66.7 | 41.1 | 41.3 | 0.998 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 41.16 NA NA | Prev response: AF Slope: AF Correlation: | 41.06 | *% change: AF Intercept: * = > +/-5% change initiate | 0.2% |

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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.2 | |
| High point | 4933 | 66.7 | 41.1 | 41.3 | 0.994 |
| Mid point | 4966 | 33.3 | 20.5 | 20.9 | 0.982 |
| Low point | 4983 | 16.7 | 10.3 | 10.5 | 0.982 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 4933 | 66.7 | 41.1 | 41.5 | 0.991 |
| | | | Avera | ge Correction Factor | 0.986 |

Notes:

No adjustments made.

Calibration Performed By:

Aswin Sasi Kumar

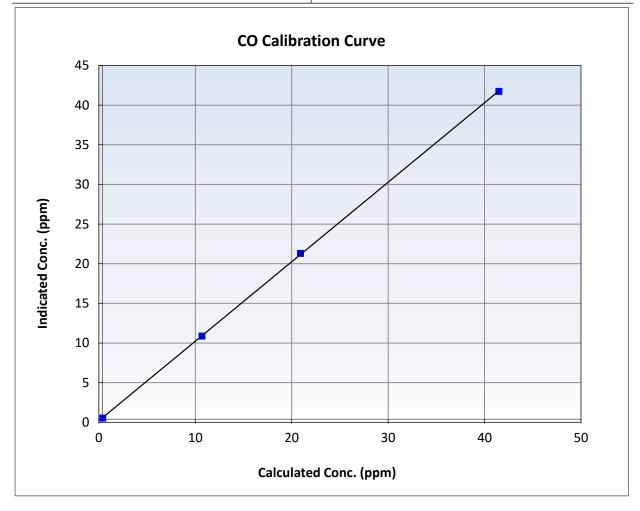


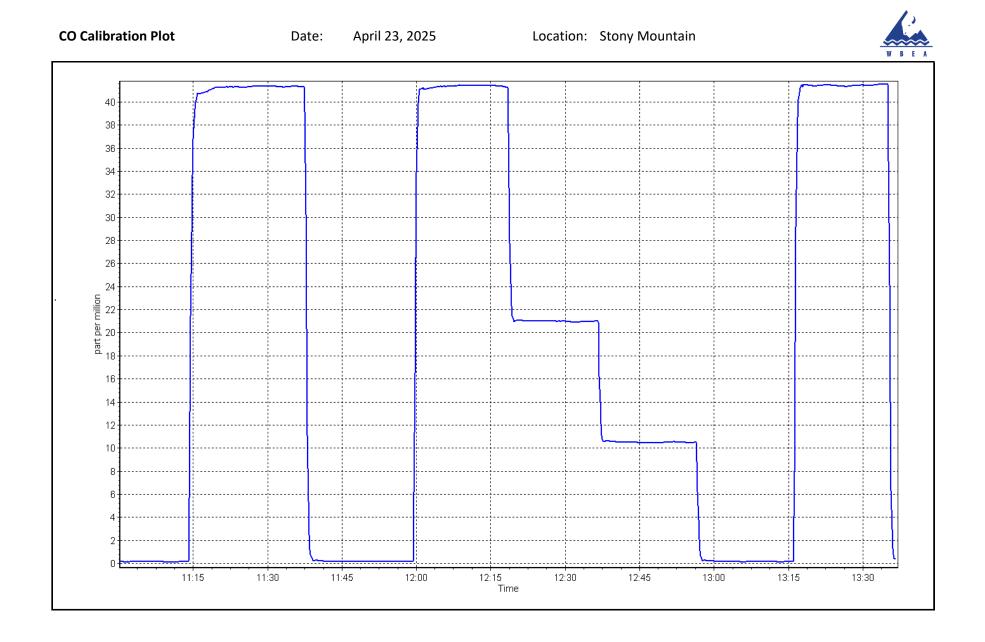
Wood Buffalo Environmental Association CO Calibration Summary

Station Information

| Calibration Date: | April 23, 2025 | Previous Calibration: | March 3, 2025 |
|-------------------|-------------------|-----------------------|---------------|
| Station Name: | Stony Mountain | Station Number: | AMS 18 |
| Start Time (MST): | 10:50 | End Time (MST): | 13:37 |
| Analyzer make: | Teledyne API T300 | Analyzer serial #: | 3504 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999974 | ≥0.995 |
| 41.1 20.5 | 41.3 20.9 | 0.9942 0.9816 | Slope | 1.002362 | 0.90 - 1.10 |
| 10.3 | 10.5 | 0.9817 | Intercept | 0.201757 | +/-1.5 |







Analyzer make:

Analyzer Range

Wood Buffalo Environmental Association CO₂ Calibration Report

Station Information

| Station Name: | Stony Mour |
|-------------------|--------------|
| Calibration Date: | April 22, 20 |
| Start time (MST): | 10:46 |
| Reason: | Routine |
| | |

ntain)25

API T360

0 - 2,000 ppm

Station number: AMS 18 Last Cal Date: March 27, 2025 End time (MST): 14:03

Calibration Standards

| Cal Gas Concentration: | 59,100 | ppm | Cal Gas Exp Date: November 4, 2028 |
|------------------------|-------------------|-----|------------------------------------|
| Cal Gas Cylinder #: | EB0065608 | | |
| Removed Cal Gas Conc: | 59,100 | ppm | Rem Gas Exp Date: NA |
| Removed Gas Cyl #: | NA | | Diff between cyl: |
| Calibrator Make/Model: | Teledyne API T700 | | Serial Number: 2658 |
| N2 Gen Make/Model: | Peak Scientific | | Serial Number: 771048318 |
| | | | |

Analyzer Information

Analyzer serial #: 489

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 0.998644 | 1.001298 | Backgd or Offset: | -0.068 | -0.068 |
| Calibration intercept: | -1.640000 | -2.520000 | Coeff or Slope: | 0.960 | 0.960 |

CO₂ 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 | 3000 | 0.0 | 0.0 | 0.0 | |
| As found High Point As found Mid Point As found Low Point New cylinder response | 2920 | 80.0 | 1576.0 | 1571.6 | 1.003 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 1571.6 NA NA | Prev response: AF Slope: AF Correlation: | 1572.2 | *% change: AF Intercept: * = > +/-5% change initiat | 0.0% es investigation |

CO₂ 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) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| Calibrator zero | 3000 | 0.0 | 0.0 | 0.4 | |
| High point | 2920 | 80.0 | 1576.0 | 1578.5 | 0.998 |
| Mid point | 2960 | 40.0 | 788.0 | 780.5 | 1.010 |
| Low point | 2980 | 20.0 | 394.0 | 392.1 | 1.005 |
| As left zero | 3000 | 0.0 | 0.0 | 0.0 | |
| As left span | 2930 | 80.0 | 1570.8 | 1578.9 | 0.995 |
| | | | Avera | 1.004 | |

Notes:

No adjustments needed.

Calibration Performed By:

Aswin Sasi Kumar

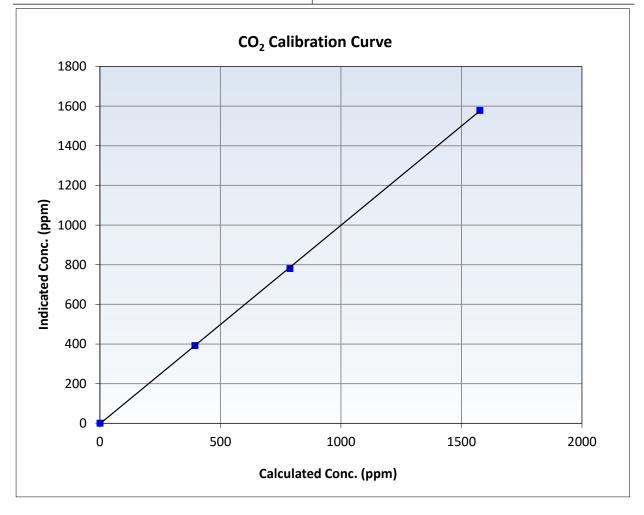


Wood Buffalo Environmental Association CO₂ Calibration Summary

Station Information

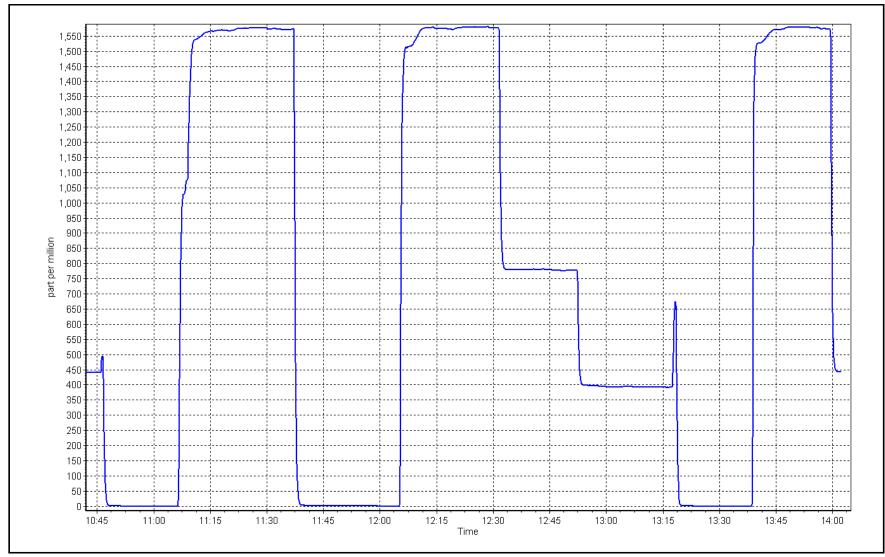
| Calibration Date | April 22, 2025 | Previous Calibration | March 27, 2025 |
|------------------|----------------|----------------------|----------------|
| Station Name | Stony Mountain | Station Number | AMS 18 |
| Start Time (MST) | 10:46 | End Time (MST) | 14:03 |
| Analyzer make | API T360 | Analyzer serial # | 489 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.4 | | Correlation Coefficient | 0.999961 | ≥0.995 |
| 1576.0 788.0 | 1578.5 780.5 | 0.9984 1.0096 | Slope | 1.001298 | 0.90 - 1.10 |
| 394.0 | 392.1 | 1.0048 | Intercept | -2.5 | +/-20 |











WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS19 FIREBAG APRIL 2025

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

May 30, 2025



Analyzer make: Analyzer Range:

Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Firebag |
|-------------------|----------|
| Calibration Date: | April 28 |
| Start time (MST): | 10:55 |
| Reason: | Routine |

, 2025

Thermo 43i

0 - 1000 ppb

Station number: AMS 19 Last Cal Date: March 15, 2025 End time (MST): 14:09

Calibration Standards

| Cal Gas Concentration: Cal Gas Cylinder #: | 50.97 CC705799 | ppm | Cal Gas Exp Date: October 9, 2032 |
|---|-------------------|-----|-----------------------------------|
| 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 T701 | Н | Serial Number: 201 |
| | | | |
| | | | |

Analyzer Information

Serial Number: 1410661308

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 1.002848 | 0.994511 | Backgd or Offset: | 10.9 | 10.8 |
| Calibration intercept: | 0.800000 | 0.940000 | Coeff or Slope: | 1.005 | 1.005 |

SO₂ As Found Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic-AFzero) Limit = 0.90-1.10 |
|--|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 4999 | 0.0 | 0.0 | 0.3 | |
| As found High point As found Mid point As found Low point New cylinder response | 4922 | 78.4 | 799.2 | 796.3 | 1.004 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 796.0 NA | Previous response AF Slope: | 802.3 | *% change AF Intercept: | -0.8% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ 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 | 0.4 | |
| High point | 4922 | 78.4 | 799.2 | 795.5 | 1.005 |
| Mid point | 4961 | 39.2 | 399.6 | 398.6 | 1.003 |
| Low point | 4980 | 19.6 | 199.8 | 200.2 | 0.998 |
| As left zero | 4999 | 0.0 | 0.0 | 0.2 | |
| As left span | 4922 | 78.4 | 799.2 | 797.6 | 1.002 |
| | | | Averag | ge Correction Factor: | 1.002 |

Notes:

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

Calibration Performed By:

Braiden Boutilier

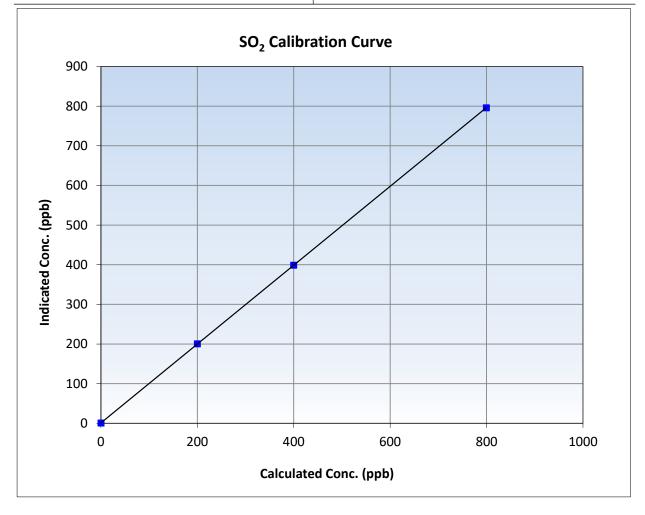


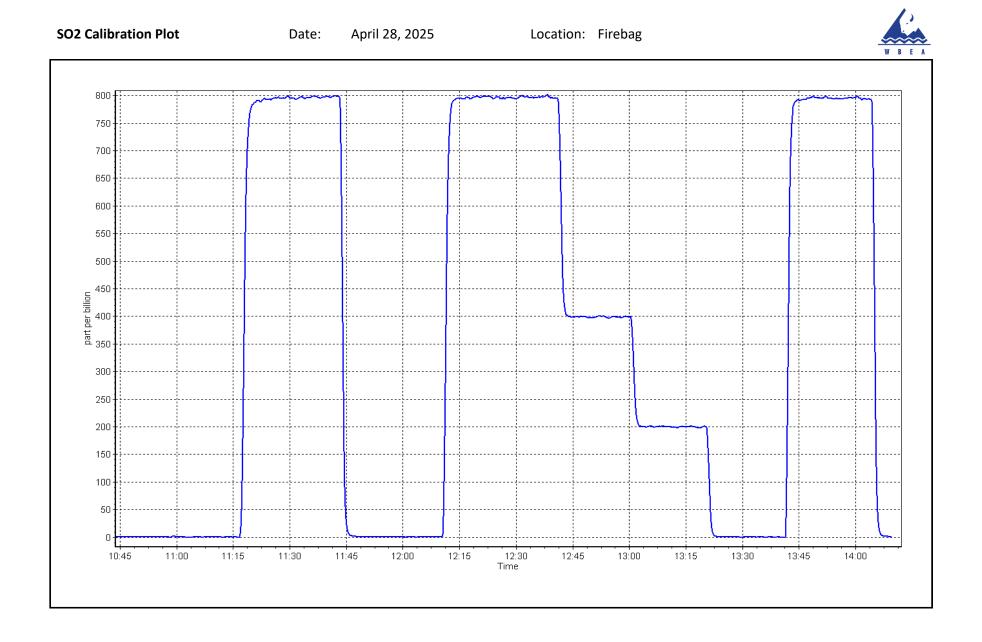
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 28, 2025 | Previous Calibration: | March 15, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Firebag | Station Number: | AMS 19 |
| Start Time (MST): | 10:55 | End Time (MST): | 14:09 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1410661308 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.4 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 799.2 | 795.5 | 1.0047 | Slope | 0.994511 | 0.90 - 1.10 |
| 399.6 199.8 | 398.6 200.2 | 1.0025 0.9980 | | | |
| 133.0 | 200.2 | 0.9980 | Intercept | 0.940000 | +/-30 |







Calibration slope:

Calibration intercept:

Wood Buffalo Environmental Association H2S Calibration Report

Station Information

| | | <u>station mis</u> | Induon | | | | | | |
|--|---|--------------------|--|----------------------------------|-----|------|---|--|--|
| Station Name: Calibration Date: Start time (MST): Reason: | Firebag April 29, 2025 10:30 Routine | | Station number: Last Cal Date: End time (MST): | AMS 19 March 4, 2025 14:54 | | | | | |
| | | Calibration S | tandards | | | | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 5.29 DT0010492 | ppm | Cal Gas Exp Date: | March 19, 202 | 7 | | | | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 5.29 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | | | | | |
| Calibrator Make/Model: | | | 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 | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | | F | | |

1.007763

-0.040000

1.001762

0.020000

H2S As Found Data

Backgd or Offset:

Coeff or Slope:

3.07

1.214

| 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 | 4924 | 75.6 | 80.0 | 81.7 | 0.977 |
| As found Mid point | 4962 | 37.8 | 40.0 | 40.9 | 0.973 |
| As found Low point | 4981 | 18.9 | 20.0 | 20.1 | 0.985 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 81.9 | Prev response: | 80.15 | *% change: | 2.1% |
| Baseline Corr 2nd AF pt: | 41.1 | AF Slope: | 1.024909 | AF Intercept: | -0.240000 |
| Baseline Corr 3rd AF pt: | 20.3 | AF Correlation: | 0.999986 | * = > +/-5% change initiate | es 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 | 75.6 | 80.0 | 80.4 | 0.995 |
| Mid point | 4962 | 37.8 | 40.0 | 40.6 | 0.985 |
| Low point | 4981 | 18.9 | 20.0 | 20.1 | 0.995 |
| As left zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As left span | 4924 | 75.6 | 80.0 | 79.8 | 1.002 |
| SO2 Scrubber Check | 4922 | 78.4 | 784.0 | 0.0 | |
| Date of last scrubber change: | | 18-Jan-23 | | Ave Corr Factor | 0.992 |
| Date of last converter ef | ficiency test: | November 26, 2024 | Ļ | 106.2% | efficiency |

Notes: Changed sample inlet filter after as founds. No adjustments made. SOx scrubber check done after cal zero.

Calibration Performed By:

Braiden Boutilier

<u>Finish</u>

3.09

1.214



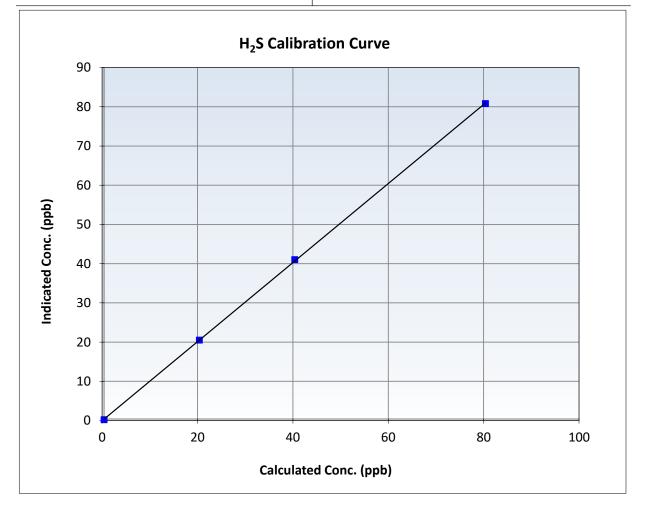
Wood Buffalo Environmental Association

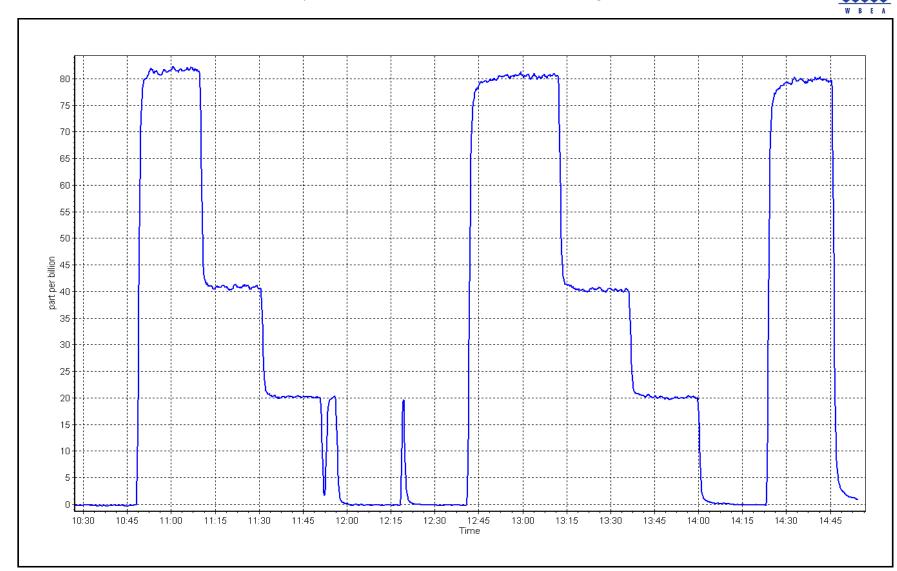
H2S Calibration Summary

Station Information

| Calibration Date: | April 29, 2025 | Previous Calibration: | March 4, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Firebag | Station Number: | AMS 19 |
| Start Time (MST): | 10:30 | End Time (MST): | 14:54 |
| Analyzer make: | Thermo 43i-TLE | Analyzer serial #: | 1151680032 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | <u>Limits</u> | |
|--|---------------------------------------|---------------------------|-------------------------|---------------|-------------|
| 0.0 | -0.2 | | Correlation Coefficient | 0.999953 | ≥0.995 |
| 80.0 | 80.4 | 0.9948 | Slope | 1.007763 | 0.90 - 1.10 |
| 40.0 | 40.6 | 0.9850 | Siope | 1.007705 | 0.30 - 1.10 |
| 20.0 | 20.1 | 0.9948 | Intercept | -0.040000 | +/-3 |





Location: Firebag



Wood Buffalo Environmental Association THC Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Firebag April 28, 2025 10:55 Routine | | Station number: Last Cal Date: End time (MST): | AMS 19 March 15, 2025 14:08 | | | | | | | | | |
|---|---|---|--|--|---|--|--|--|--|--|--|--|--|
| | | Calibration S | tandards | | | | | | | | | | |
| Gas Cert Reference: | CC70 | 5799 | 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: | 1066.0 | | | | | | | | | |
| Removed CH4 Conc. Removed C3H8 Conc. | 505.1 204.3 | ppm ppm | CH4 Equiv Conc. Diff between cyl: | 1066.9 | ppm | | | | | | | | |
| Calibrator Make/Model: | Teledyne API T700 | ppin | Serial Number: | 1607 | | | | | | | | | |
| ZAG Make/Model: | Teledyne API T701 | ł | Serial Number: | 201 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | Analyzer Info | ormation | | | | | | | | | | |
| Analyzer make | : Thermo 51i-LT | | Analyzer serial #: | 1336160089 | | | | | | | | | |
| Analyzer Range | :: 0 - 20 ppm | | | | | | | | | | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | | | | | | | | |
| Calibration slope: | 0.992690 | 0.993468 | Background: | | 2.04 | | | | | | | | |
| Calibration intercept: | -0.023933 | 0.013867 | Coefficient: | 3.718 | 3.818 | | | | | | | | |
| | | THC As Fou | THC As Found Data | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated Concentration (ppm) (Cc) | Indicated Concentration (ppm) (Ic) | AFzero) | | | | | | | | |
| Set Point | | • | | | Correction factor (Cc/(Ic- | | | | | | | | |
| | (sccm) | (sccm) | (ppm) (Cc) | (ppm) (Ic) | Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 | | | | | | | | |
| As found zero | (sccm) 4999 | (sccm) 0.0 | (ppm) (Cc) 0.00 | (ppm) (Ic) 0.03 | 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 | (sccm) 4999 | (sccm) 0.0 | (ppm) (Cc) 0.00 | (ppm) (Ic) 0.03 | Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 | | | | | | | | |
| As found zero As found High point As found Mid point | (sccm) 4999 | (sccm) 0.0 | (ppm) (Cc) 0.00 | (ppm) (Ic) 0.03 | 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 | (sccm) 4999 | (sccm) 0.0 | (ppm) (Cc) 0.00 | (ppm) (Ic) 0.03 | 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: Baseline Corr 2nd AF pt: | (sccm) 4999 4922 | (sccm) 0.0 78.4 | (ppm) (Cc) 0.00 16.73 | (ppm) (Ic) 0.03 16.25 | Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 1.031 | | | | | | | | |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr As found: | (sccm) 4999 4922 16.22 | (sccm) 0.0 78.4 Previous response | (ppm) (Cc) 0.00 16.73 | (ppm) (Ic) 0.03 16.25 *% change | Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 1.031 -2.2% | | | | | | | | |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr As found: Baseline Corr 2nd AF pt: | (sccm) 4999 4922 16.22 NA | (sccm) 0.0 78.4 Previous response AF Slope: | (ppm) (Cc) 0.00 16.73 16.58 | (ppm) (Ic) 0.03 16.25 *% change AF Intercept: | Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 1.031 -2.2% | | | | | | | | |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr As found: Baseline Corr 2nd AF pt: | (sccm) 4999 4922 16.22 NA | (sccm) 0.0 78.4 Previous response AF Slope: AF Correlation: | (ppm) (Cc) 0.00 16.73 16.58 | (ppm) (Ic) 0.03 16.25 *% change AF Intercept: * = > +/-5% change initia | Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 1.031 -2.2% tes investigation | | | | | | | | |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | (sccm) 4999 4922 16.22 NA NA NA | (sccm) 0.0 78.4 Previous response AF Slope: AF Correlation: <u>THC Calibrat</u> Source gas flow rate | (ppm) (Cc) 0.00 16.73 16.58 ion Data Calculated Concentration | (ppm) (Ic) 0.03 16.25 *% change AF Intercept: * = > +/-5% change initia Indicated Concentration | Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 1.031 -2.2% tes investigation | | | | | | | | |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: Set Point Calibrator zero High point | (sccm) 4999 4922 16.22 NA NA Dilution air flow rate (sccm) 4999 4922 | (sccm) 0.0 78.4 Previous response AF Slope: AF Correlation: <u>THC Calibrat</u> Source gas flow rate (sccm) 0.0 78.4 | (ppm) (Cc) 0.00 16.73 16.58 ion Data Calculated Concentration (ppm) (Cc) 0.00 16.73 | (ppm) (Ic) 0.03 16.25 *% change AF Intercept: * = > +/-5% change initia Indicated Concentration (ppm) (Ic) 0.02 16.64 | Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 1.031 -2.2% tes investigation Correction factor (Cc/Ic) Limit = 0.95-1.05 | | | | | | | | |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: Baseline Corr 3rd AF pt: Calibrator zero High point Mid point | (sccm) 4999 4922 16.22 NA NA NA Dilution air flow rate (sccm) 4999 4922 4961 | (sccm) 0.0 78.4 Previous response AF Slope: AF Correlation: <u>THC Calibrat</u> Source gas flow rate (sccm) 0.0 78.4 39.2 | (ppm) (Cc) 0.00 16.73 16.58 ion Data Calculated Concentration (ppm) (Cc) 0.00 16.73 8.36 | (ppm) (Ic) 0.03 16.25 *% change AF Intercept: * =>+/-5% change initia Indicated Concentration (ppm) (Ic) 0.02 16.64 8.31 | Correction factor (Cc/(Ic- AFzero) <i>Limit = 0.90-1.10</i> 1.031 -2.2% tes investigation Correction factor (Cc/Ic) <i>Limit = 0.95-1.05</i> | | | | | | | | |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: Baseline Corr 3rd AF pt: Calibrator zero High point Mid point Low point | (sccm) 4999 4922 16.22 NA NA NA Dilution air flow rate (sccm) 4999 4922 4961 4980 | (sccm) 0.0 78.4 Previous response AF Slope: AF Correlation: <u>THC Calibrat</u> Source gas flow rate (sccm) 0.0 78.4 39.2 19.6 | (ppm) (Cc) 0.00 16.73 16.58 ion Data Calculated Concentration (ppm) (Cc) 0.00 16.73 8.36 4.18 | (ppm) (Ic) 0.03 16.25 *% change AF Intercept: * = > +/-5% change initia Indicated Concentration (ppm) (Ic) 0.02 16.64 8.31 4.17 | Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 1.031 -2.2% tes investigation Correction factor (Cc/Ic) Limit = 0.95-1.05 1.005 1.007 1.002 | | | | | | | | |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: Baseline Corr 3rd AF pt: Calibrator zero High point Mid point Low point As left zero | (sccm) 4999 4922 16.22 NA NA Dilution air flow rate (sccm) 4999 4922 4961 4980 4999 | (sccm) 0.0 78.4 Previous response AF Slope: AF Correlation: <u>THC Calibrat</u> Source gas flow rate (sccm) 0.0 78.4 39.2 19.6 0.0 | (ppm) (Cc) 0.00 16.73 16.58 ion Data Calculated Concentration (ppm) (Cc) 0.00 16.73 8.36 4.18 0.00 | (ppm) (Ic) 0.03 16.25 *% change AF Intercept: * = > +/-5% change initia Indicated Concentration (ppm) (Ic) 0.02 16.64 8.31 4.17 0.04 | Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 1.031 -2.2% tes investigation Correction factor (Cc/Ic) Limit = 0.95-1.05 1.005 1.007 1.002 | | | | | | | | |
| As found zero As found High point As found Mid point As found Low point New cylinder response Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: Set Point Calibrator zero High point Mid point Low point | (sccm) 4999 4922 16.22 NA NA NA Dilution air flow rate (sccm) 4999 4922 4961 4980 | (sccm) 0.0 78.4 Previous response AF Slope: AF Correlation: <u>THC Calibrat</u> Source gas flow rate (sccm) 0.0 78.4 39.2 19.6 | (ppm) (Cc) 0.00 16.73 16.58 ion Data Calculated Concentration (ppm) (Cc) 0.00 16.73 8.36 4.18 0.00 16.73 | (ppm) (Ic) 0.03 16.25 *% change AF Intercept: * = > +/-5% change initia Indicated Concentration (ppm) (Ic) 0.02 16.64 8.31 4.17 | Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 1.031 -2.2% tes investigation Correction factor (Cc/Ic) Limit = 0.95-1.05 1.005 1.007 1.002 0.996 | | | | | | | | |

Notes:

Changed sample inlet filter after as founds. Adjusted span.

Calibration Performed By:

Braiden Boutilier

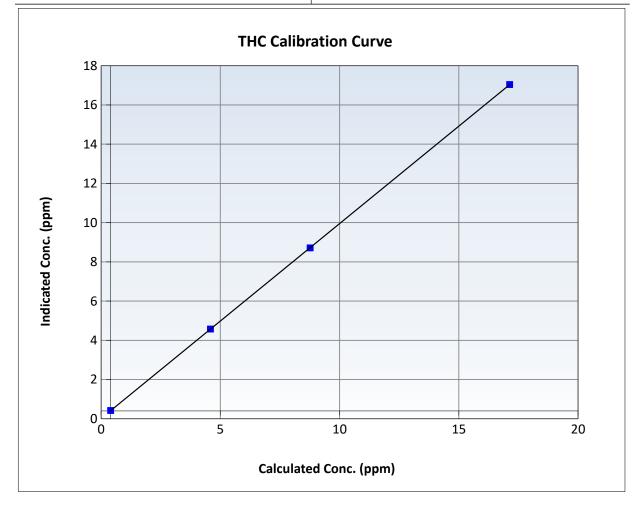


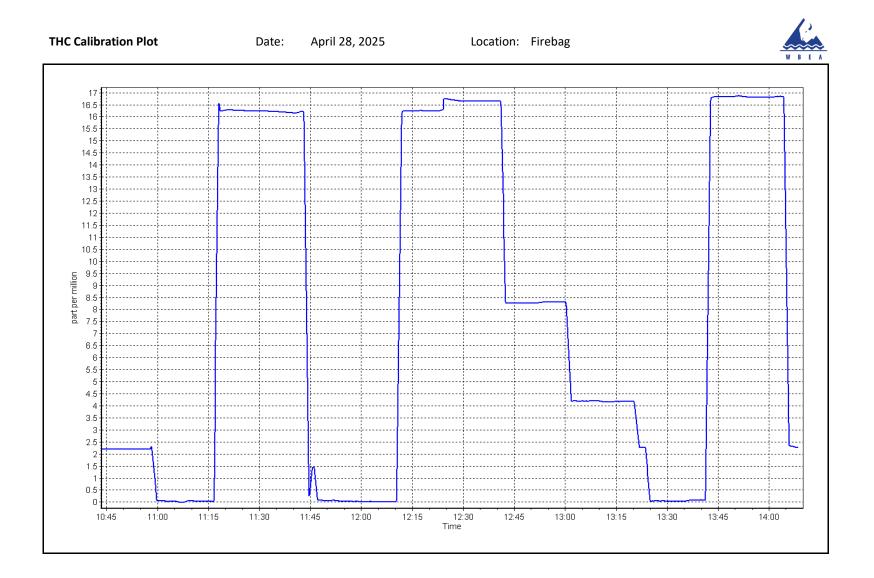
Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 28, 2025 | Previous Calibration: | March 15, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Firebag | Station Number: | AMS 19 |
| Start Time (MST): | 10:55 | End Time (MST): | 14:08 |
| Analyzer make: | Thermo 51i-LT | Analyzer serial #: | 1336160089 |

| Calculated Concentration (ppm) (Cc) | Indicated Concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | <u>Limits</u> | |
|--|---------------------------------------|---------------------------|-------------------------|---------------|-------------|
| 0.00 | 0.02 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 16.73 8.36 | 16.64 8.31 | 1.0054 1.0066 | Slope | 0.993468 | 0.90 - 1.10 |
| 4.18 | 4.17 | 1.0023 | Intercept | 0.013867 | +/-1.5 |







Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Firebag | NO Gas Cylinder #: | DT0044018 | Cal Gas Expiry Date: | November 3, 2031 |
|-------------------|----------------|-----------------------|--------------------|-----------------------|------------------|
| Station number: | AMS 19 | NOX Cal Gas Conc: | 48.90 ppm | NO Cal Gas Conc: | 48.70 ppm |
| Calibration Date: | April 1, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date: | NA |
| Last Cal Date: | March 11, 2025 | Removed Gas NOX Conc: | 48.90 ppm | Removed Gas NO Conc: | 48.70 ppm |
| Start time (MST): | 9:48 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 14:43 | Calibrator Model: | Teledyne API T700 | Serial Number: 1607 | 7 |
| Reason: | Routine | ZAG make/model: | Teledyne API T701H | Serial Number: 201 | L |

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 | 4918 | 82.1 | 802.9 | 799.7 | 3.3 | 796.2 | 791.3 | 4.8 | 1.0085 | 1.0106 |
| AF Mid point AF Low point New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 798.3 ppb | NO = 793.9 | ppb | * = > +/-59 | % change initiates i | investigation | *Percent Chan | ge NO _x = | -0.3% |
| Baseline Corr 1 | st pt NO _X = | 796.2 ppb | NO = 791.3 | ppb | <u>As Foun</u> | d Statistics | | *Percent Chan | ge NO = | -0.3% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO _x r ² : | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | rd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As found | d NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calibr | ation Data | | | | |
| | | | | | | | | Baseline Adjus | | |
| O3 Setpo | pint (ppb) | Indicated NO Re concentration | | cated NO Drop entration (ppb) | Calculated NC concentration (pp | | dicated NO2 ntration (ppb) (Ic) | Correction f (Cc/(Ic-AFz | | verter Efficiency nit = 96-104% |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point *Limit = 0.90 - 1.10*



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1410661 | 1309 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | | 0.993178 | 0.998046 |
| | | | Instrument Settings | | | NO _x Cal Offset: | 0.800270 | 1.240021 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 0.992470 | 1.001402 |
| NO coeff or slope: | 0.905 | 0.916 | NO bkgnd or offset: | 4.5 | 4.6 | NO Cal Offset: | 0.300227 | 0.500049 |
| NOX coeff or slope: | 0.994 | 0.993 | NOX bkgnd or offset: | 4.5 | 4.6 | NO ₂ Cal Slope: | 1.001499 | 0.997186 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 160.5 | 160.8 | NO ₂ Cal Offset: | -0.313391 | -0.688529 |

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) <i>Limit = 0.95-1.05</i> |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|---|---|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | 0.1 | | |
| High point | 4918 | 82.1 | 802.9 | 799.7 | 3.3 | 802.0 | 801.0 | 1.4 | 1.0012 | 0.9983 |
| Mid point | 4959 | 41.1 | 402.0 | 400.3 | 1.6 | 403.0 | 401.6 | 1.4 | 0.9974 | 0.9968 |
| Low point | 4980 | 20.5 | 200.5 | 199.7 | 0.8 | 202.6 | 201.1 | 1.5 | 0.9896 | 0.9929 |
| 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 | 418.9 | 384.0 | 802.0 | 418.9 | 382.8 | 1.0012 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9961 | 0.9960 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 c) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|---|--|--|---|
| Cal zero | | | 0.0 | 0.1 | | |
| High GPT point | 798.9 | 418.2 | 384.0 | 382.6 | 1.0036 | 99.6% |
| Mid GPT point | 798.9 | 609.1 | 193.1 | 191.5 | 1.0083 | 99.2% |
| Low GPT point | 798.9 | 704.9 | 97.3 | 95.5 | 1.0187 | 98.2% |
| | | | | Average Correction Factor | 1.0102 | 99.0% |

Notes:

Changed sample inlet filter after as founds. Adjusted span.

Calibration Performed By:

Braiden Boutilier

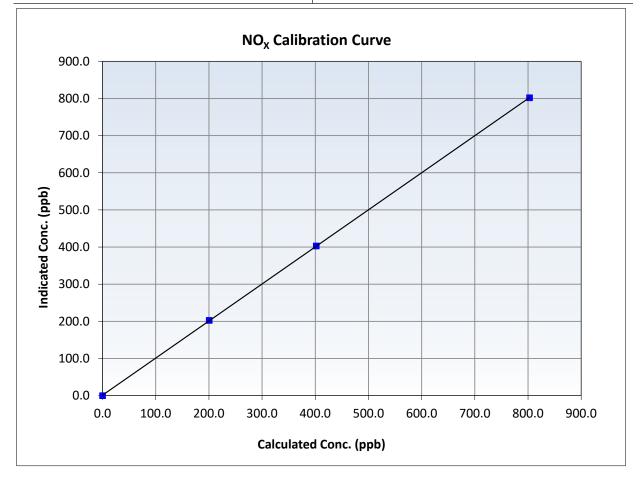


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Firebag | Station Number: | AMS 19 |
| Start Time (MST): | 9:48 | End Time (MST): | 14:43 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1410661309 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999989 | ≥0.995 |
| 802.9 402.0 | 802.0 403.0 | 1.0012 0.9974 | Slope | 0.998046 | 0.90 - 1.10 |
| 200.5 | 202.6 | 0.9896 | Intercept | 1.240021 | +/-20 |



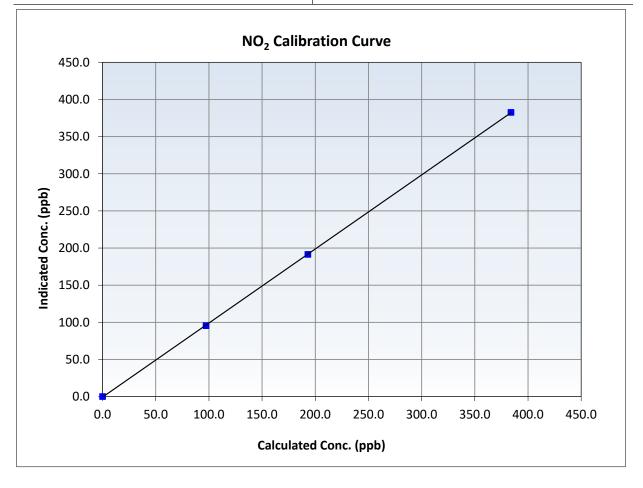


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Firebag | Station Number: | AMS 19 |
| Start Time (MST): | 9:48 | End Time (MST): | 14:43 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1410661309 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999980 | ≥0.995 |
| 384.0 193.1 | 382.6 191.5 | 1.0036 1.0083 | Slope | 0.997186 | 0.90 - 1.10 |
| 97.3 | 95.5 | 1.0187 | Intercept | -0.688529 | +/-20 |



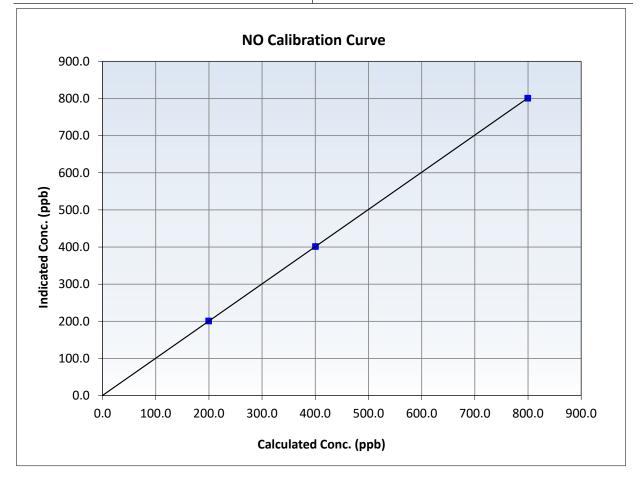


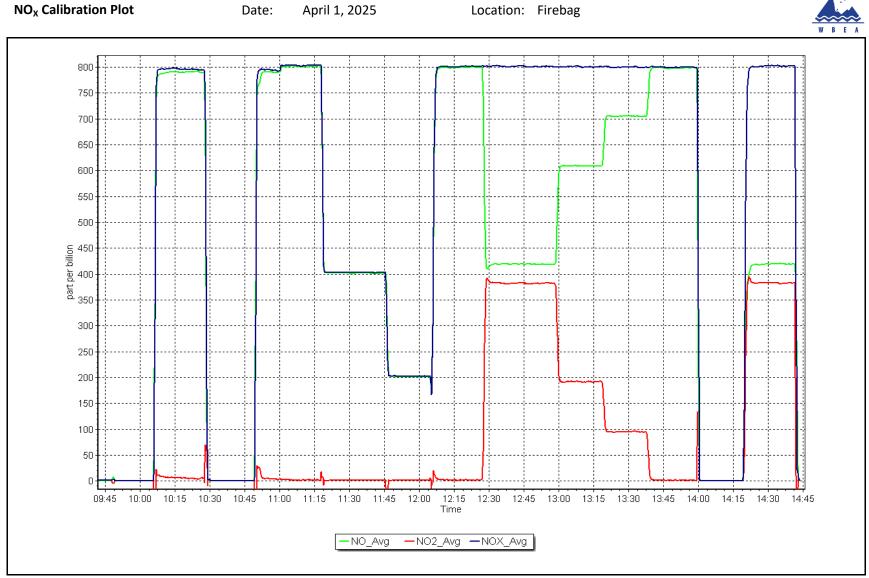
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Firebag | Station Number: | AMS 19 |
| Start Time (MST): | 9:48 | End Time (MST): | 14:43 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1410661309 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999997 | ≥0.995 |
| 799.7 400.3 | 801.0 401.6 | 0.9983 0.9968 | Slope | 1.001402 | 0.90 - 1.10 |
| 199.7 | 201.1 | 0.9929 | Intercept | 0.500049 | +/-20 |







WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS20 MACKAY RIVER APRIL 2025

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

May 30, 2025



Calibration intercept:

-0.254232

Wood Buffalo Environmental Association SO₂ Calibration Report

Coeff or Slope:

0.961

0.945

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | MacKay River April 14, 2025 7:40 Routine | Station number: AMS 20 Last Cal Date: March 10, 2025 End time (MST): 10:26 | | | |
|--|---|--|--|---------------|---------------|
| | | Calibration | <u>Standards</u> | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 49.15 CC409669 | ppm | Cal Gas Exp Date: Oct | tober 9, 2032 | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 49.15 | ppm | Rem Gas Exp Date: Diff between cyl: | | |
| Calibrator Model: | API T700 | | Serial Number: 570 | 06 | |
| Zero Air Gen Model: | API 701 | | Serial Number: 452 | 22 | |
| | | | | | |
| | | Analyzer Inf | ormation | | |
| Analyzer make: | Thermo 43i | | Serial Number: 150 | 01301450 | |
| Analyzer Range: | 0-1000ppb | | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 1.009842 | 0.997962 | Backgd or Offset: | 20.5 | 19.9 |

SO₂ As Found Data

-0.196724

| 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 As found Mid point As found Low point New cylinder response | 4919 | 81.4 | 800.1 | 811.5 | 0.986 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 811.2 NA | Previous response AF Slope: | 807.7 | *% change AF Intercept: | 0.4% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.3 | |
| High point | 4919 | 81.4 | 800.1 | 798.6 | 1.002 |
| Mid point | 4959 | 40.7 | 400.1 | 398.6 | 1.004 |
| Low point | 4980 | 20.3 | 199.5 | 198.6 | 1.005 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 4919 | 81.4 | 800.1 | 799.9 | 1.000 |
| | | | Averag | e Correction Factor: | 1.003 |

Notes:

No Maintenance done. Span adjusted.

Calibration Performed By:

Melissa Lemay

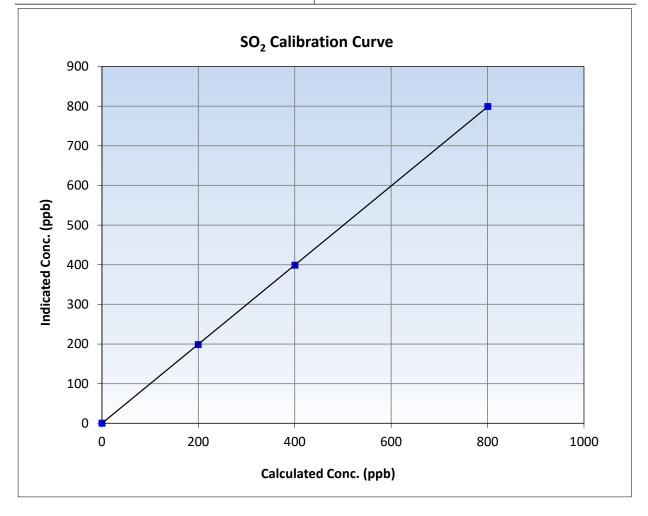


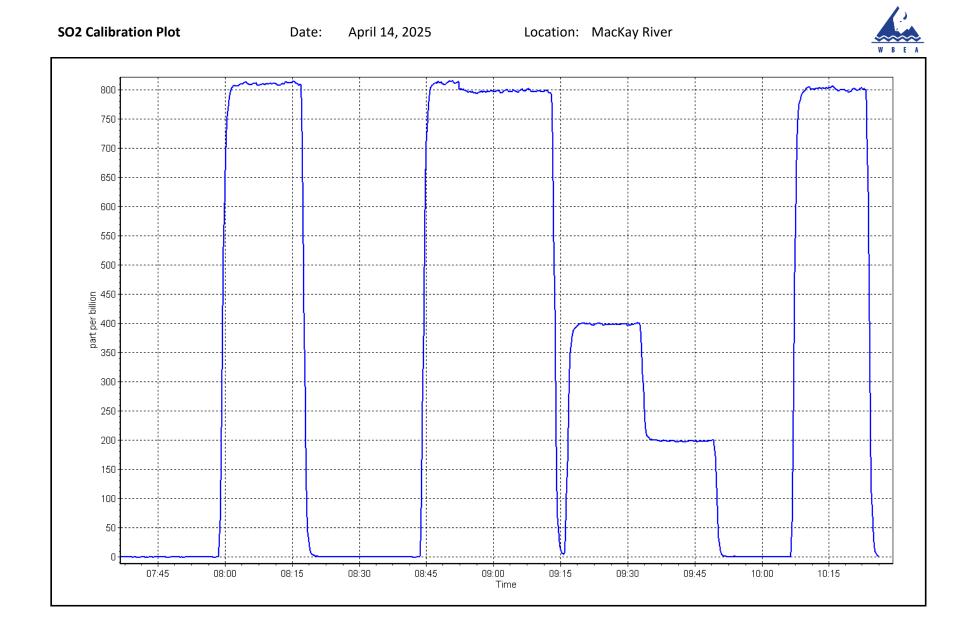
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 14, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | MacKay River | Station Number: | AMS 20 |
| Start Time (MST): | 7:40 | End Time (MST): | 10:26 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1501301450 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 800.1 400.1 | 798.6 398.6 | 1.0019 1.0038 | Slope | 0.997962 | 0.90 - 1.10 |
| 199.5 | 198.6 | 1.0047 | Intercept | -0.196724 | +/-30 |







Wood Buffalo Environmental Association H₂S Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | MacKay River April 3, 2025 6:48 Routine | | Station number: Last Cal Date: End time (MST): | AMS 20 March 6, 2025 10:56 | | | |
|--|--|--------------------|--|----------------------------------|-----|------|---|
| | | Calibration | Standards | | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 5.12 CC515997 | ppm | Cal Gas Exp Date: | January 3, 2026 | 5 | | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 5.12 | ppm | Rem Gas Exp Date: Diff between cyl: | | | | |
| Calibrator Make/Model: | API T700 | | Serial Number: | 5706 | | | |
| ZAG Make/Model: | API 701 | | Serial Number: | 4522 | | | |
| | | Analyzer Inf | ormation | | | | |
| Analyzer make: | Thermo 43i TLE | | Analyzer serial #: | 1236656117 | | | |
| Converter make: | Global | | Converter serial #: | 2022-226 | | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 325 | degC | 2 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | | F |
| Calibration slope: | 1.004456 | 0.999883 | Backgd or Offset: | 3.84 | | | |
| Calibration intercept: | -0.100522 | -0.040619 | Coeff or Slope: | 1.086 | | | |
| | | | | | | | |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As found High point | 4922 | 78.1 | 80.0 | 80.7 | 0.990 |
| As found Mid point | 4961 | 39.0 | 39.9 | 40.3 | 0.989 |
| As found Low point | 4980 | 19.5 | 20.0 | 20.0 | 0.994 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 80.8 | Prev response: | 80.23 | *% change: | 0.7% |
| Baseline Corr 2nd AF pt: | 40.4 | AF Slope: | 1.010744 | AF Intercept: | -0.120418 |
| Baseline Corr 3rd AF pt: | 20.1 | AF Correlation: | 0.999998 | * = > +/-5% change initiate | es 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 | 4922 | 78.1 | 80.0 | 79.9 | 1.001 |
| Mid point | 4961 | 39.0 | 39.9 | 39.9 | 1.001 |
| Low point | 4980 | 19.5 | 20.0 | 20.0 | 0.998 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | |
| As left span | 4922 | 78.1 | 80.0 | 79.7 | 1.003 |
| SO2 Scrubber Check | 4982 | 81.3 | 802.8 | 0.1 | |
| Date of last scrubber chan | ge: | 25-May-23 | | Ave Corr Factor | 1.000 |

Date of last converter efficiency test:

Notes:

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

Calibration Performed By: Melissa Lemay

5.84 1.086



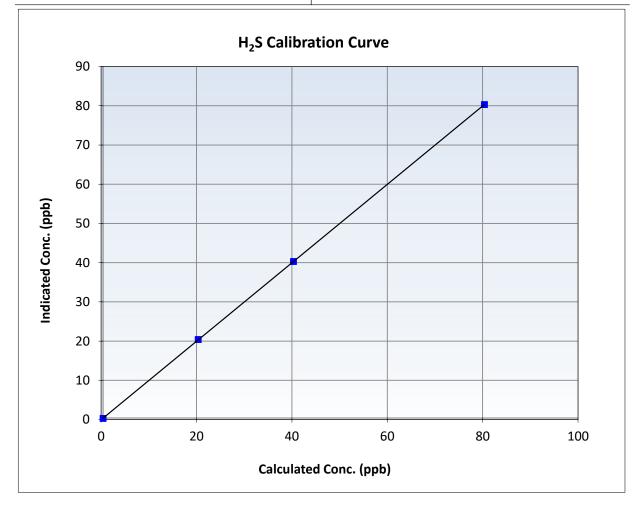
Wood Buffalo Environmental Association

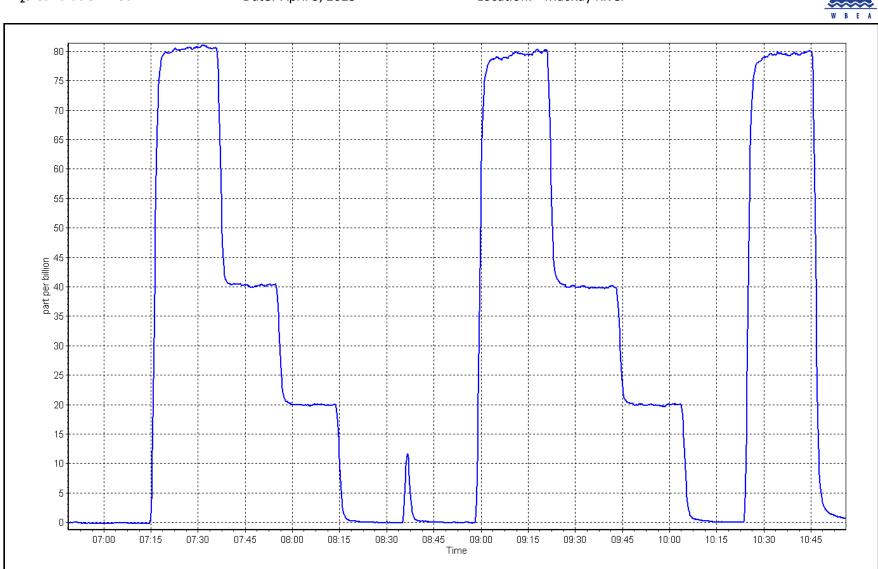
H₂S Calibration Summary

Station Information

| Calibration Date: | April 3, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | MacKay River | Station Number: | AMS 20 |
| Start Time (MST): | 6:48 | End Time (MST): | 10:56 |
| Analyzer make: | Thermo 43i TLE | Analyzer serial #: | 1236656117 |

| Calculated concentratio (ppb) (Cc) | n Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|---------------------------------------|---|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999997 | ≥0.995 |
| 80.0 39.9 | 79.9 39.9 | 1.0009 1.0009 | Slope | 0.999883 | 0.90 - 1.10 |
| 20.0 | 20.0 | 0.9985 | Intercept | -0.040619 | +/-3 |





Location: MacKay River



Wood Buffalo Environmental Association THC Calibration Report

Station Information

| Station Name:MacKay RiverCalibration Date:April 14, 2025Start time (MST):7:40Reason:Routine | | | Station number: Last Cal Date: End time (MST): | AMS 20 March 21, 2025 10:25 | |
|---|----------------------------------|--------------------------------|--|---------------------------------------|---------------------------|
| | | Calibration S | tandards | | |
| 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: | 4522 | |
| | | Analyzer Info | ormation | | |
| Analyzer make Analyzer Range | : Thermo 51i-LT : 0 - 20 ppm | | Analyzer serial #: | 1501663727 | |
| | Start | Finish | | Start | Finish |
| Calibration slope: | 0.999215 | 0.997991 | Background: | | 2.990 |
| Calibration intercept: | | | | | 4.871 |
| | | THC As Fou | <u>nd Data</u> | | Baseline Adjusted |
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated Concentration (ppm) (Cc) | Indicated Concentration (ppm) (Ic) | • |
| As found zero | 5000 | 0.0 | 0.00 | -0.10 | |
| As found High point | 4919 | 81.4 | 17.46 | 17.38 | 0.999 |
| As found Mid point As found Low point New cylinder response | | | | | |
| Baseline Corr As found: | 17.48 | Previous response | 17.47 | *% change | 0.1% |
| Baseline Corr 2nd AF pt: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initia | ates investigation |
| | | THC Calibrat | tion Data | | |
| | Dilution air flow rate | Source gas flow rate | Calculated Concentration | Indicated Concentration | Correction factor (Cc/Ic) |
| Set Point | (sccm) | (sccm) | (ppm) (Cc) | (ppm) (Ic) | <i>Limit = 0.95-1.05</i> |
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.03 | |
| High point | 4919 | 81.4 | 17.46 | 17.46 | 1.000 |
| Mid point | 4959 | 40.7 | 8.73 | 8.71 | 1.003 |
| Low point | 4980 | 20.3 | 4.35 | 4.36 | 1.000 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4919 | 81.4 | 17.46 | 17.56 | 0.995 |

Average Correction Factor

Notes:

Zero and Span adjusted. No maintenance done.

Calibration Performed By:

Melissa Lemay

1.001

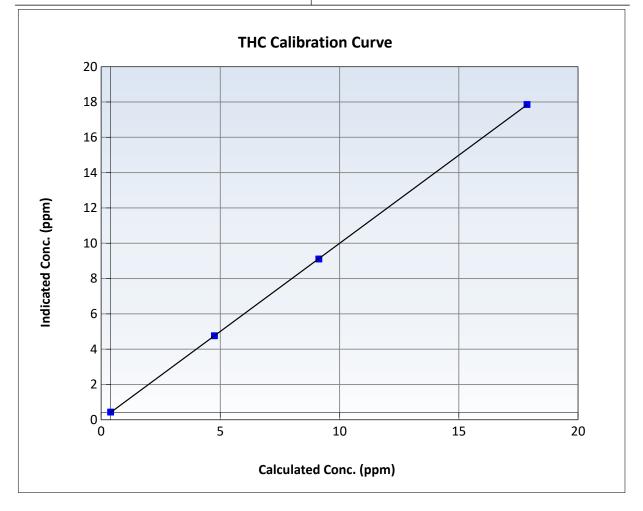


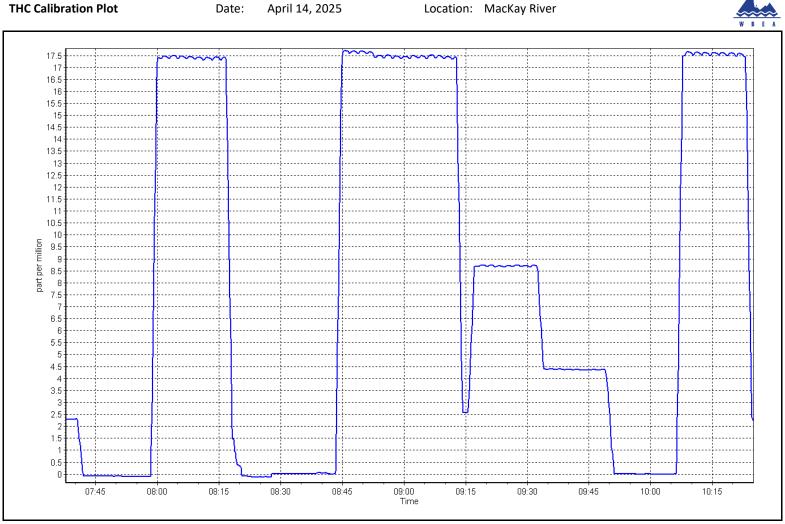
Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 14, 2025 | Previous Calibration: | March 21, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | MacKay River | Station Number: | AMS 20 |
| Start Time (MST): | 7:40 | End Time (MST): | 10:25 |
| Analyzer make: | Thermo 51i-LT | Analyzer serial #: | 1501663727 |

| Calculated Concentration (ppm) (Cc) | Indicated Concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | <u>Limits</u> | |
|--|---------------------------------------|---------------------------|-------------------------|---------------|-------------|
| 0.00 | 0.03 | | Correlation Coefficient | 0.999993 | ≥0.995 |
| 17.46 8.73 | 17.46 8.71 | 1.0003 1.0030 | Slope | 0.997991 | 0.90 - 1.10 |
| 4.35 | 4.36 | 0.9997 | Intercept | 0.016001 | +/-1.5 |









Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | MacKay River | NO Gas Cylinder #: | T376265 | Cal Gas Expiry Date: | April 13, 2025 |
|-------------------|---------------|-----------------------|-----------|----------------------|----------------|
| Station number: | AMS 20 | NOX Cal Gas Conc: | 49.19 ppm | NO Cal Gas Conc: | 48.04 ppm |
| Calibration Date: | April 2, 2025 | Removed Cylinder #: | | Removed Gas Exp Date | : |
| Last Cal Date: | March 5, 2025 | Removed Gas NOX Conc: | 49.19 ppm | Removed Gas NO Conc | : 48.04 ppm |
| Start time (MST): | 6:50 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 10:55 | Calibrator Model: | API T700 | Serial Number: 570 | 6 |
| Reason: | | ZAG make/model: | API T701 | Serial Number: 452 | 2 |

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 | 83.3 | 819.5 | 800.3 | 19.2 | 826.3 | 806.2 | 20.0 | 0.9915 | 0.9927 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 817.4 ppb | NO = 798.9 | ppb | * = > +/-5 | % change initiates i | nvestigation | *Percent Chan | ge NO _x = | 1.1% |
| Baseline Corr 1 | st pt NO _x = | 826.5 ppb | NO = 806.2 | ppb | <u>As Four</u> | nd Statistics | | *Percent Chan | ge NO = | 0.9% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | $NO_X r^2$: | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | rd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | NO ₂ r^2 : | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calib | ration Data | | | | |
| | | | | | | | | Baseline Adjus | | |
| | | Indicated NO Re | ference Indi | rated NO Drop | Calculated N | 02 In | dicated NO2 | Correction f | actor Conv | erter Efficiency |

 O3 Setpoint (ppb)
 Indicated NO Reference
 Indicated NO Drop
 Calculated NO2
 Indicated NO2
 Correction factor
 Converter Efficiency

 03 Setpoint (ppb)
 concentration (ppb)
 concentration (ppb)
 concentration (ppb)
 concentration (ppb) (Cc)
 concentration (ppb) (IC)
 (Cc/(Ic-AFzero))
 Limit = 96-104%

 Limit = 0.90 - 1.10
 Limit = 0.90 - 1.10

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1505164 | 1379 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 0.996966 | 1.005402 |
| | | | Instrument Settings | | | NO _x Cal Offset: | 0.422044 | 0.721954 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 0.998643 | 1.006853 |
| NO coeff or slope: | 0.285 | 1.002 | NO bkgnd or offset: | 2.8 | 2.8 | NO Cal Offset: | -0.357427 | -0.357714 |
| NOX coeff or slope: | 0.991 | 0.991 | NOX bkgnd or offset: | 3.0 | 3.0 | NO ₂ Cal Slope: | 0.997985 | 0.997243 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 159.4 | 159.4 | NO ₂ Cal Offset: | -1.492859 | -1.552636 |

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) <i>Limit = 0.95-1.05</i> |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|---|---|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | -0.2 | | |
| High point | 4917 | 83.3 | 819.5 | 800.3 | 19.2 | 824.3 | 805.7 | 18.5 | 0.9941 | 0.9933 |
| Mid point | 4958 | 41.7 | 410.3 | 400.7 | 9.6 | 413.4 | 402.8 | 10.5 | 0.9924 | 0.9947 |
| Low point | 4979 | 20.8 | 204.6 | 199.9 | 4.8 | 207.3 | 200.3 | 7.0 | 0.9872 | 0.9978 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | -0.2 | | |
| As left span | 4917 | 83.3 | 819.5 | 409.7 | 409.8 | 818.2 | 409.7 | 408.5 | 1.0015 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9912 | 0.9953 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (C | Indicated NO2 c) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|---------------------------------------|--|--|--|--|
| Cal zero | | | 0.0 | -0.2 | | |
| High GPT point | 799.6 | 407.9 | 410.9 | 408.9 | 1.0048 | 99.5% |
| Mid GPT point | 799.6 | 601.2 | 217.6 | 214.9 | 1.0124 | 98.8% |
| Low GPT point | 799.6 | 698.8 | 120.0 | 116.5 | 1.0297 | 97.1% |
| | | | | Average Correction Factor | 1.0156 | 98.5% |

Notes: No maintenance or adjustments done.

Calibration Performed By: Melissa Lemay

CALS 349 Version 03-2024

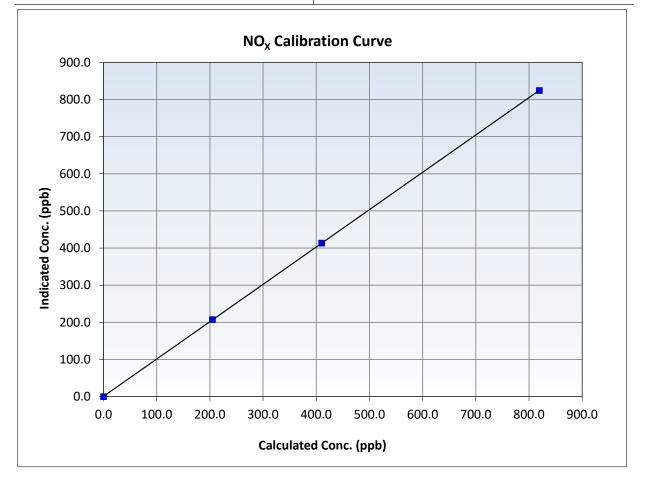


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | March 5, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | MacKay River | Station Number: | AMS 20 |
| Start Time (MST): | 6:50 | End Time (MST): | 10:55 |
| Analyzer make: | Thermo 42i | 6:50:00 AM | 1505164379 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999996 | ≥0.995 |
| 819.5 410.3 | 824.3 413.4 | 0.9941 0.9924 | Slope | 1.005402 | 0.90 - 1.10 |
| 204.6 | 207.3 | 0.9872 | Intercept | 0.721954 | +/-20 |



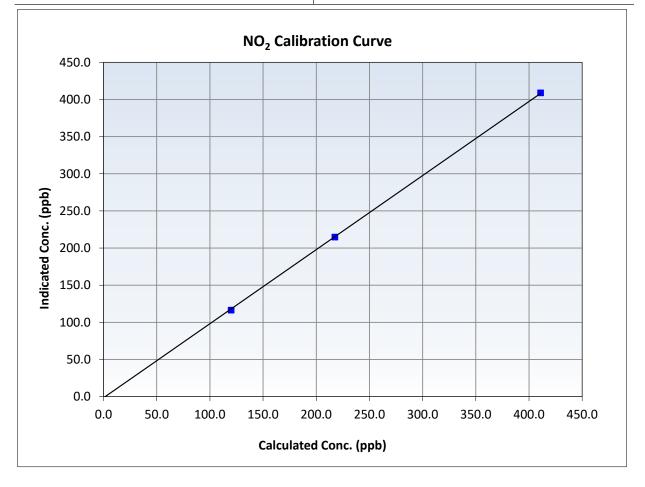


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | March 5, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | MacKay River | Station Number: | AMS 20 |
| Start Time (MST): | 6:50 | End Time (MST): | 10:55 |
| Analyzer make: | Thermo 42i | 6:50:00 AM | 1505164379 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | lation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.2 | | Correlation Coefficient | 0.999943 | ≥0.995 |
| 410.9 | 408.9 | 1.0048 | Slope | 0.997243 | 0.90 - 1.10 |
| 217.6 120.0 | 214.9 116.5 | 1.0124 1.0297 | | | 1.5.5 |
| | | | Intercept | -1.552636 | +/-20 |



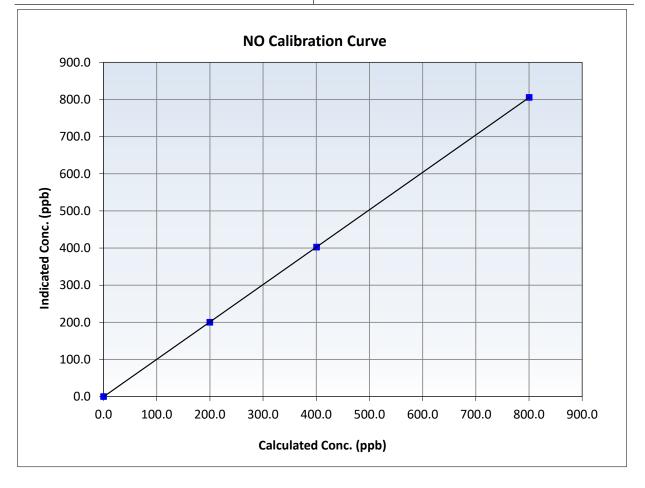


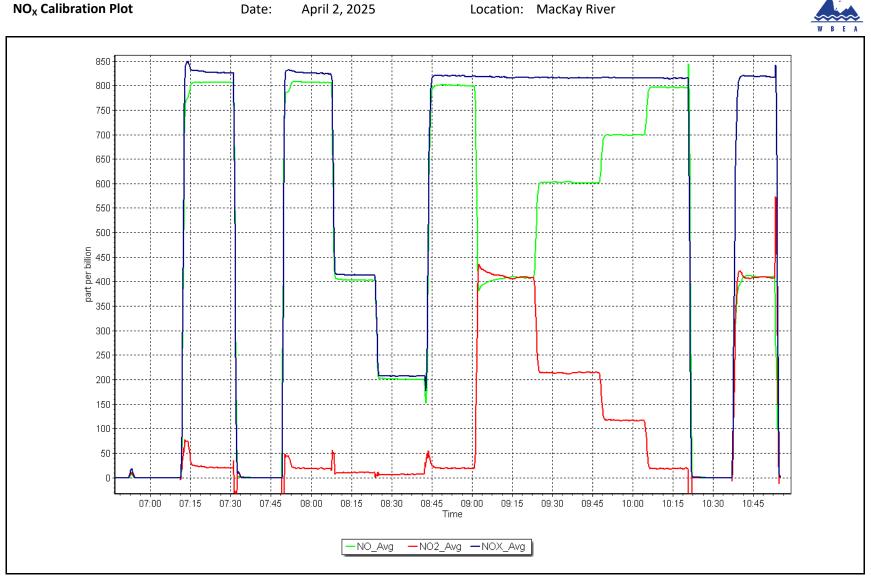
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | March 5, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | MacKay River | Station Number: | AMS 20 |
| Start Time (MST): | 6:50 | End Time (MST): | 10:55 |
| Analyzer make: | Thermo 42i | 6:50:00 AM | 1505164379 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | lation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 800.3 400.7 | 805.7 402.8 | 0.9933 0.9947 | Slope | 1.006853 | 0.90 - 1.10 |
| 199.9 | 200.3 | 0.9978 | Intercept | -0.357714 | +/-20 |







WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS21 APRIL 2025

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

May 30, 2025



Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Conklin |
|-------------------|------------|
| Calibration Date: | April 4, 1 |
| Start time (MST): | 9:50 |
| Reason: | Routine |

2025

Station number: AMS 21 Last Cal Date: March 17, 2025 End time (MST): 13:00

Calibration Standards

| Cal Gas Concentration: Cal Gas Cylinder #: | 50.34 CC340840 | ppm | Cal Gas Exp Date: October 9, 2032 |
|---|-------------------|-----|-----------------------------------|
| Removed Cal Gas Conc: | 50.34 | ppm | Rem Gas Exp Date: NA |
| Removed Gas Cyl #: | NA | | Diff between cyl: |
| Calibrator Model: | Teledyne API T700 |)P | Serial Number: 2659 |
| Zero Air Gen Model: | Teledyne API T701 | L | Serial Number: 953 |
| | | | |
| | | | |

Analyzer Information

Thermo 43i Analyzer make: Serial Number: 1428701363 Analyzer Range: 0 - 1000 ppb <u>Start</u> **Finish** <u>Start</u> Finish Calibration slope: 0.995774 1.000944 Backgd or Offset: 29.3 29.3 Calibration intercept: -0.820824 -1.182060 Coeff or Slope: 0.899 0.899

SO₂ 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 As found Mid point As found Low point New cylinder response | 4921 | 79.5 | 800.3 | 801.0 | 1.000 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 800.5 NA NA | Previous response AF Slope: AF Correlation: | 796.1 | *% change AF Intercept: * = > +/-5% change initiate | 0.5% es investigation |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.5 | |
| High point | 4921 | 79.5 | 800.3 | 800.2 | 1.000 |
| Mid point | 4960 | 39.8 | 400.7 | 400.7 | 1.000 |
| Low point | 4980 | 19.9 | 200.4 | 196.6 | 1.019 |
| As left zero | 5000 | 0.0 | 0.0 | 0.6 | |
| As left span | 4921 | 79.5 | 800.3 | 800.0 | 1.000 |
| | | | Averag | e Correction Factor: | 1.006 |

Notes:

Sample inlet filter and H2/N2 was changed after as founds. No adjustment made.

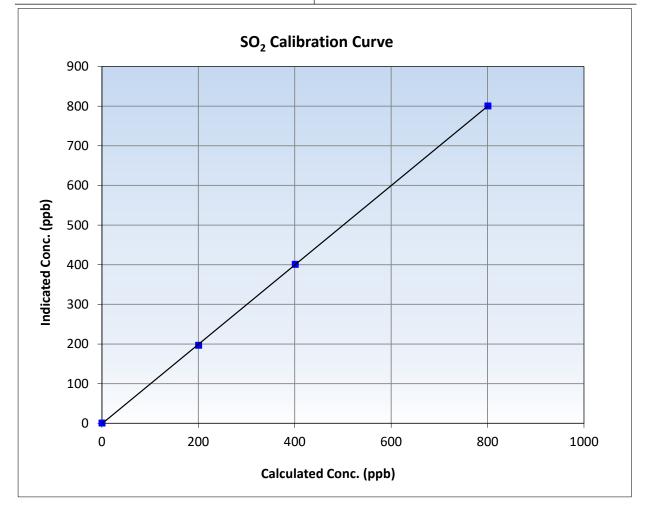


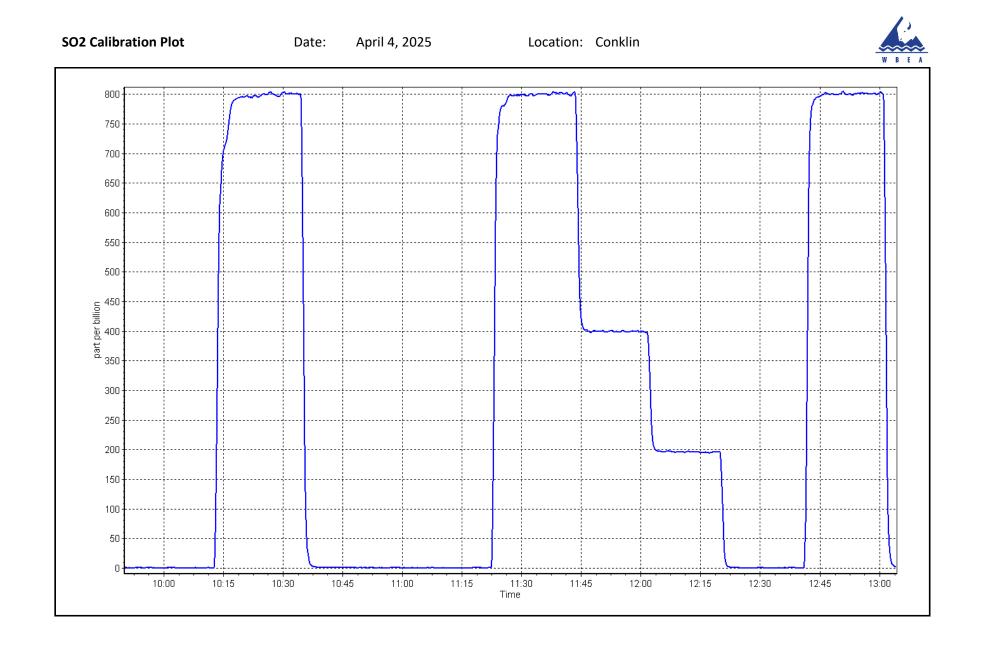
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 4, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Conklin | Station Number: | AMS 21 |
| Start Time (MST): | 9:50 | End Time (MST): | 13:00 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1428701363 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.5 | | Correlation Coefficient | 0.999968 | ≥0.995 |
| 800.3 400.7 | 800.2 400.7 | 1.0002 1.0001 | Slope | 1.000944 | 0.90 - 1.10 |
| 200.4 | 196.6 | 1.0191 | Intercept | -1.182060 | +/-30 |







Wood Buffalo Environmental Association TRS Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Conklin April 9, 2025 9:33 Routine | | Station number: Last Cal Date: End time (MST): | AMS 21 March 6, 2025 13:20 | | |
|--|---|----------------------|--|----------------------------------|----------|---------------|
| | | Calibration S | tandards | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 5.14 CC501204 | ppm | Cal Gas Exp Date: | January 3, 2026 | 5 | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 5.14 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | | |
| Calibrator Make/Model: | Teledyne T700P | | Serial Number: | 2659 | | |
| ZAG Make/Model: | Teledyne T701 | | Serial Number: | 953 | | |
| | | Analyzer Info | ormation | | | |
| Analyzer make: | Thermo 43i-QTL | | Analyzer serial #: | 12228021058 | | |
| Converter make: | CD-Nova 101 | | Converter serial #: | 565 | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 850 degC | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | <u>Finish</u> |
| Calibration slope: | 1.006000 | 1.000789 | Backgd or Offset: | 3.3 | | 3.3 |
| Calibration intercept: | -0.160000 | -0.061610 | Coeff or Slope: | 1.545 | | 1.571 |
| | | TDC As Fou | nd Data | | | |

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)) <i>Limit = 0.90-1.10</i> |
|---|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As found High point | 4922 | 78.4 | 80.6 | 80.2 | 1.004 |
| As found Mid point | 4961 | 39.2 | 40.3 | 40.1 | 1.002 |
| As found Low point New cylinder response | 4980 | 19.6 | 20.2 | 20.0 | 1.003 |
| , , | | _ | | the C - L | |
| Baseline Corr As found: | 80.3 | Prev response: | 80.91 | *% change: | -0.8% |
| Baseline Corr 2nd AF pt: | 40.2 | AF Slope: | 0.996393 | AF Intercept: | -0.081607 |
| Baseline Corr 3rd AF pt: | 20.1 | AF Correlation: | 1.000000 | * = > +/-5% change initiate | es 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/lc) Limit = 0.95-1.05 |
|----------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.0 | |
| High point | 4922 | 78.4 | 80.6 | 80.6 | 1.000 |
| Mid point | 4961 | 39.2 | 40.3 | 40.3 | 1.000 |
| Low point | 4980 | 19.6 | 20.2 | 20.0 | 1.008 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | |
| As left span | 4922 | 78.4 | 80.6 | 81.1 | 0.994 |
| SO2 Scrubber Check | 4921 | 79.5 | 794.9 | 0.0 | |
| Date of last scrubber chan | ge: | November 13, 2024 | | Ave Corr Factor | 1.002 |

Date of last converter efficiency test:

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

Calibration Performed By: Jan Castro



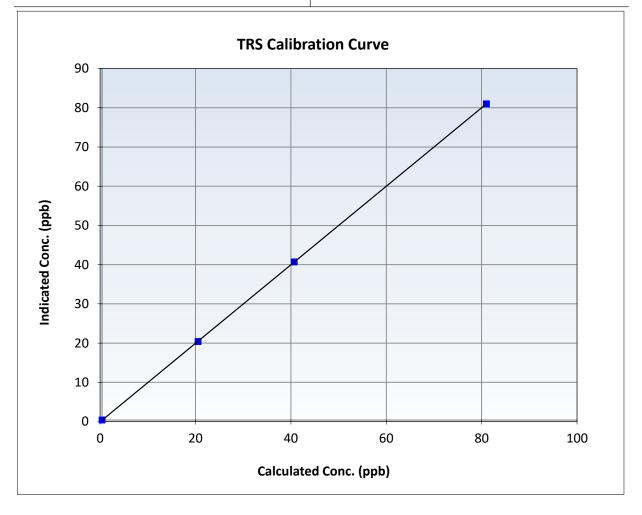
Wood Buffalo Environmental Association

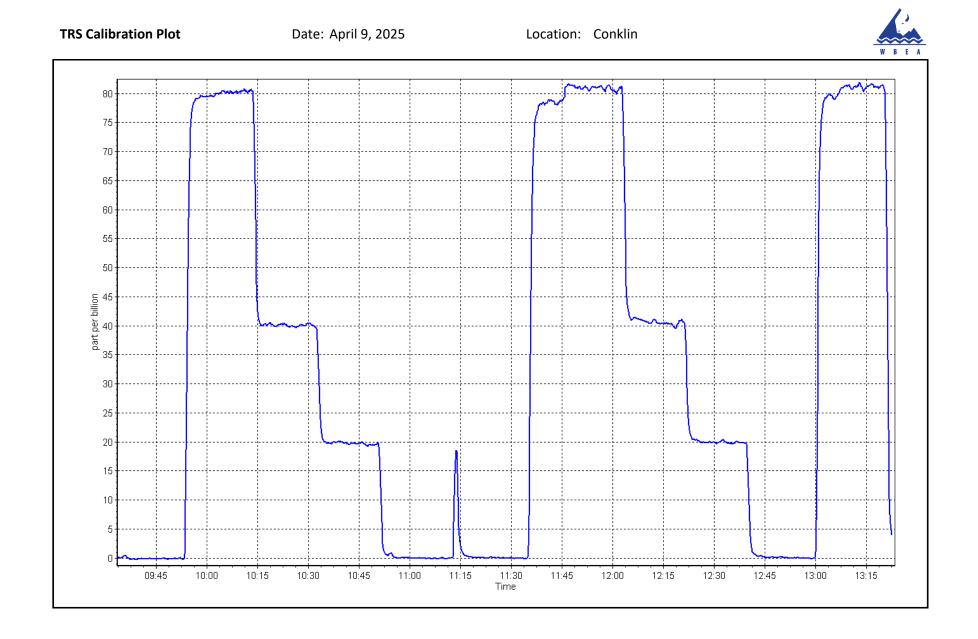
TRS Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | March 6, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Conklin | Station Number: | AMS 21 |
| Start Time (MST): | 9:33 | End Time (MST): | 13:20 |
| Analyzer make: | Thermo 43i-QTL | Analyzer serial #: | 12228021058 |

Calibration Data Calculated concentration Indicated concentration Correction factor (Cc/lc) Statistical Evaluation <u>Limits</u> (ppb) (Cc) (ppb) (Ic) **Correlation Coefficient** 0.999996 ≥0.995 0.0 0.0 ----80.6 80.6 0.9999 Slope 1.000789 0.90 - 1.10 40.3 40.3 0.9999 20.0 1.0075 20.2 Intercept -0.061610 +/-3







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Analyzer serial #: 1180320039

NMHC/CH4 Range: 0 - 10 ppm

Station Information

| Station Name: | Conklin | Station number: AMS 21 |
|-------------------|---------------|-------------------------------|
| Calibration Date: | April 4, 2025 | Last Cal Date: March 17, 2025 |
| Start time (MST): | 9:50 | End time (MST): 13:00 |
| 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: | 2659 | | |
| Zero Air Gen model: | Teledyne API T701 | Serial Number: | 953 | | |
| Analyzer Information | | | | | |

Analyzer make: Thermo 55i THC Range: 0 - 20 ppm

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| CH4 SP Ratio: | 2.30E-04 | 2.30E-04 | NMHC SP Ratio: | 4.73E-05 | 4.73E-05 |
| CH4 Retention time: | 15.2 | 15.2 | NMHC Peak Area: | 190954 | 190954 |
| 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 | 17.05 | 0.995 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 17.05 | Prev response | 17.00 | *% change | 0.3% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4921 | 79.5 | 16.97 | 17.08 | 0.994 |
| Mid point | 4960 | 39.8 | 8.50 | 8.52 | 0.998 |
| Low point | 4980 | 19.9 | 4.25 | 4.19 | 1.015 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.5 | 16.97 | 17.10 | 0.993 |
| | | | Avera | ge Correction Factor | 1.002 |

Notes:

Sample inlet filter and H2/N2 was changed after as founds. No adjustment made.



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4921 | 79.5 | 8.96 | 9.00 | 0.996 |
| Baseline Corr AF: | 9.00 | Prev response | 8.98 | *% change | 0.3% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiat | es 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 | 9.00 | 0.996 |
| Mid point | 4960 | 39.8 | 4.49 | 4.51 | 0.996 |
| Low point | 4980 | 19.9 | 2.24 | 2.23 | 1.008 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.5 | 8.96 | 9.04 | 0.992 |
| | | | Avera | ge Correction Factor | 1.000 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|--|----------------------------------|---|--|---|--|
| 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 As found Mid point As found Low point New cylinder response | 4921 | 79.5 | 8.01 | 8.05 | 0.994 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 8.05 NA NA | Prev response AF Slope: AF Correlation: | 8.03 | *% change AF Intercept: * = > +/-5% change initia | |

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) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4921 | 79.5 | 8.01 | 8.07 | 0.993 |
| Mid point | 4960 | 39.8 | 4.01 | 4.01 | 1.000 |
| Low point | 4980 | 19.9 | 2.01 | 1.96 | 1.023 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.5 | 8.01 | 8.06 | 0.993 |
| | | | Avera | ge Correction Factor | 1.005 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 1.004359 | 1.007955 |
| THC Cal Offset: | -0.043713 | -0.042932 |
| CH4 Cal Slope: | 1.005753 | 1.009706 |
| CH4 Cal Offset: | -0.029221 | -0.029831 |
| NMHC Cal Slope: | 1.003137 | 1.005229 |
| NMHC Cal Offset: | -0.015091 | -0.011299 |

Calibration Performed By:

Jan Castro

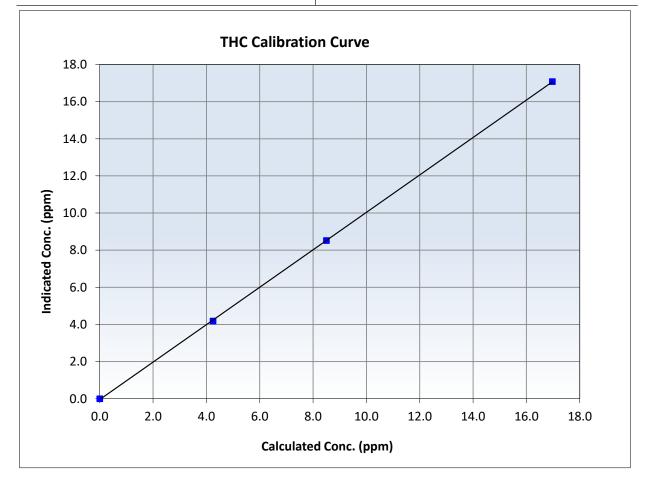


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 4, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Conklin | Station Number: | AMS 21 |
| Start Time (MST): | 9:50 | End Time (MST): | 13:00 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1180320039 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999968 | ≥0.995 |
| 16.97 8.50 | 17.08 8.52 | 0.9937 0.9975 | Slope | 1.007955 | 0.90 - 1.10 |
| 4.25 | 4.19 | 1.0153 | Intercept | -0.042932 | +/-0.5 |



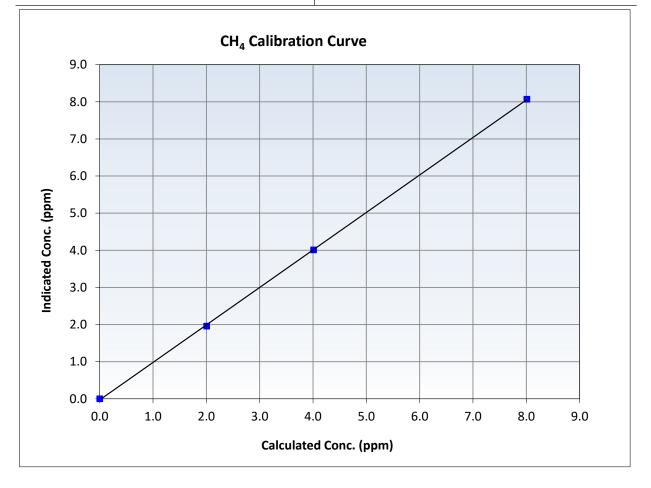


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 4, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Conklin | Station Number: | AMS 21 |
| Start Time (MST): | 9:50 | End Time (MST): | 13:00 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1180320039 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999935 | ≥0.995 |
| 8.01 | 8.07 | 0.9925 | Slope | 1.009706 | 0.90 - 1.10 |
| 4.01 | 4.01 | 0.9996 | Slope | 1.009700 | 0.30 - 1.10 |
| 2.01 | 1.96 | 1.0230 | Intercept | -0.029831 | +/-0.5 |



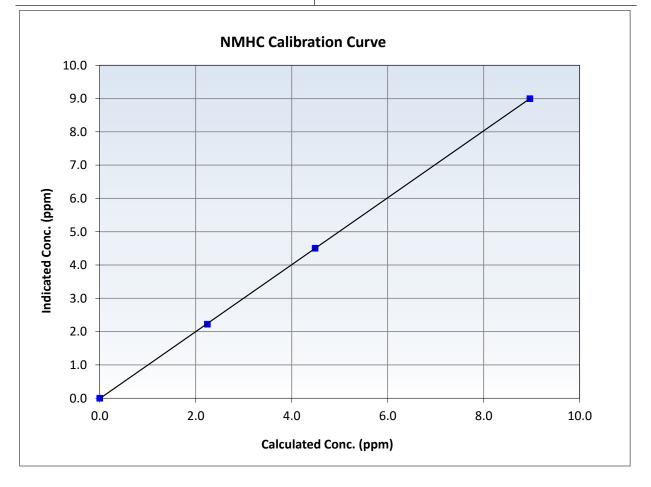


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

| Calibration Date: | April 4, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Conklin | Station Number: | AMS 21 |
| Start Time (MST): | 9:50 | End Time (MST): | 13:00 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1180320039 |

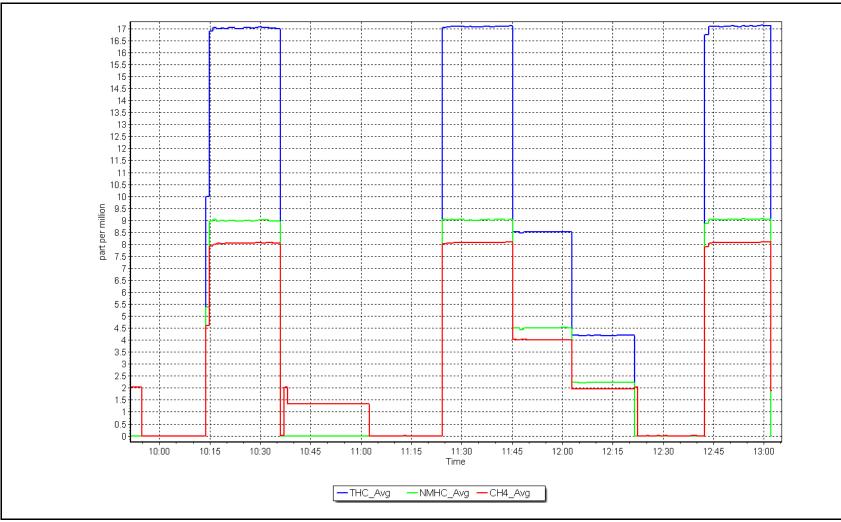
| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | lation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999988 | ≥0.995 |
| 8.96 4.49 | 9.00 4.51 | 0.9959 0.9959 | Slope | 1.005229 | 0.90 - 1.10 |
| 2.24 | 2.23 | 1.0084 | Intercept | -0.011299 | +/-0.5 |



NMHC Calibration Plot









Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Conklin | NO Gas Cylinder #: | SA18828 | Cal Gas Expiry Date: November 3, 2031 |
|-------------------|----------------|-----------------------|--------------------|---------------------------------------|
| Station number: | AMS 21 | NOX Cal Gas Conc: | 48.90 ppm | NO Cal Gas Conc: 48.80 ppm |
| Calibration Date: | April 24, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date: NA |
| Last Cal Date: | March 18, 2025 | Removed Gas NOX Conc: | 48.90 ppm | Removed Gas NO Conc: 48.80 ppm |
| Start time (MST): | 9:45 | NOX gas Diff: | | NO gas Diff: |
| End time (MST): | 14:00 | Calibrator Model: | Teledyne API T700P | Serial Number: 2659 |
| Reason: | Routine | ZAG make/model: | Teledyne API T701 | Serial Number: 953 |

As Found Dilution Calibration Data

| Set Point | Dilution flow rate (sccm) | Source gas flow rate (sccm) | Calculated NOx concentration (ppb) (Cc) | Calculated NO concentration (ppb) (Cc) | Calculated NO2 concentration (ppb) (Cc) | Indicated NOx concentration (ppb) (Ic) | Indicated NO concentration (ppb) (Ic) | Indicated NO2 concentration (ppb) (Ic) | Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) Limit = 0.90 - 1.10 | Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) Limit = 0.90 - 1.10 |
|--|------------------------------|----------------------------------|---|--|---|--|---|--|---|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.2 | -0.3 | 0.1 | | |
| AF High point | 4918 | 82.0 | 802.0 | 800.3 | 1.6 | 790.5 | 787.2 | 3.3 | 1.0142 | 1.0163 |
| AF Mid point AF Low point New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 801.3 ppb | NO = 800.1 | ppb | * = > +/-5 | % change initiates i | investigation | *Percent Chang | ge NO _x = | -1.3% |
| Baseline Corr 1 | st pt NO _X = | 790.7 ppb | NO = 787.5 | ppb | <u>As Four</u> | d Statistics | | *Percent Chang | ge NO = | -1.6% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO _x r ² : | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | rd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calib | ration Data | | | | |
| O3 Setpo | pint (ppb) | Indicated NO Re concentration | | cated NO Drop entration (ppb) | Calculated Ne concentration (pp | | ndicated NO2 ntration (ppb) (Ic) | Baseline Adjust Correction fa (Cc/(Ic-AFze | actor Conv | verter Efficiency nit = 96-104% |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point *Limit = 0.90 - 1.10*



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1501663 | 3731 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 1.000027 | 0.998189 |
| | | | Instrument Settings | | | NO _x Cal Offset: | -0.712016 | -0.392024 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 1.002448 | 0.999592 |
| NO coeff or slope: | 1.043 | 1.060 | NO bkgnd or offset: | 10.1 | 10.3 | NO Cal Offset: | -2.192041 | -1.692057 |
| NOX coeff or slope: | 0.995 | 0.995 | NOX bkgnd or offset: | 10.1 | 10.3 | NO ₂ Cal Slope: | 1.001058 | 0.996573 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 148.5 | 150.0 | NO ₂ Cal Offset: | -0.135051 | -0.812981 |

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 | 0.1 | | |
| High point | 4918 | 82.0 | 802.0 | 800.3 | 1.6 | 799.7 | 798.5 | 1.2 | 1.0028 | 1.0023 |
| Mid point | 4959 | 41.0 | 401.0 | 400.2 | 0.8 | 401.4 | 399.3 | 2.2 | 0.9990 | 1.0022 |
| Low point | 4980 | 20.5 | 200.5 | 200.1 | 0.4 | 198.3 | 195.5 | 2.8 | 1.0109 | 1.0233 |
| 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 | 403.8 | 398.2 | 793.4 | 403.8 | 389.6 | 1.0108 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 1.0042 | 1.0093 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 c) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|---|--|--|---|
| Cal zero | | | 0.0 | 0.1 | | |
| High GPT point | 795.8 | 402.3 | 395.1 | 393.1 | 1.0052 | 99.5% |
| Mid GPT point | 795.8 | 601.0 | 196.4 | 195.5 | 1.0048 | 99.5% |
| Low GPT point | 795.8 | 698.1 | 99.3 | 96.6 | 1.0284 | 97.2% |
| | | | | Average Correction Factor | 1.0128 | 98.7% |

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

Calibration Performed By:

Jan Castro

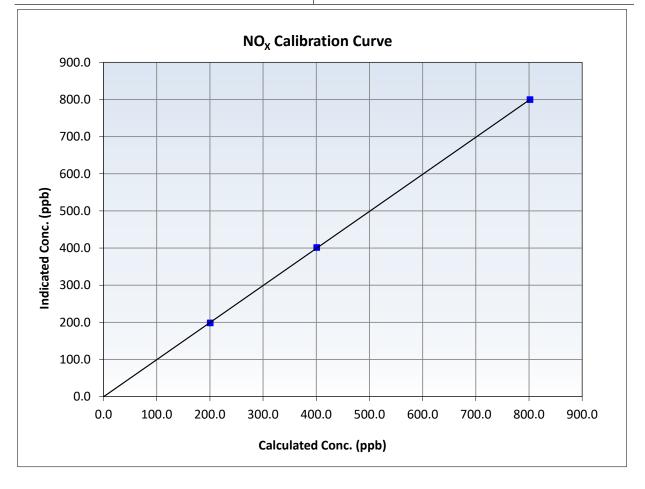


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 24, 2025 | Previous Calibration: | March 18, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Conklin | Station Number: | AMS 21 |
| Start Time (MST): | 9:45 | End Time (MST): | 14:00 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1501663731 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999987 | ≥0.995 |
| 802.0 401.0 | 799.7 401.4 | 1.0028 0.9990 | Slope | 0.998189 | 0.90 - 1.10 |
| 200.5 | 198.3 | 1.0109 | Intercept | -0.392024 | +/-20 |



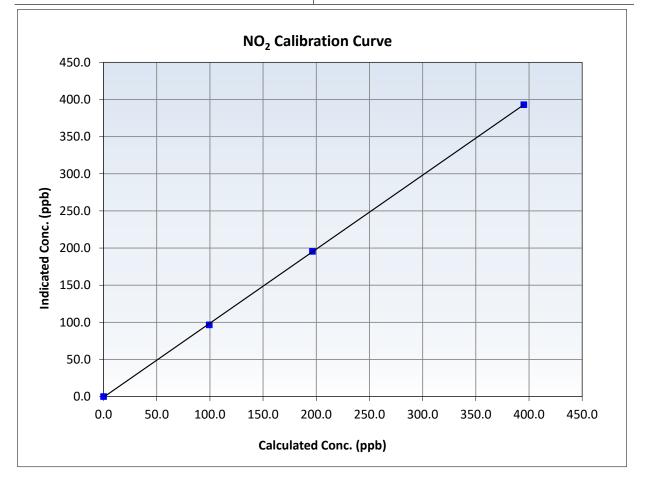


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 24, 2025 | Previous Calibration: | March 18, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Conklin | Station Number: | AMS 21 |
| Start Time (MST): | 9:45 | End Time (MST): | 14:00 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1501663731 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | lation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999957 | ≥0.995 |
| 395.1 196.4 | 393.1 195.5 | 1.0052 1.0048 | Slope | 0.996573 | 0.90 - 1.10 |
| 99.3 | 96.6 | 1.0284 | Intercept | -0.812981 | +/-20 |



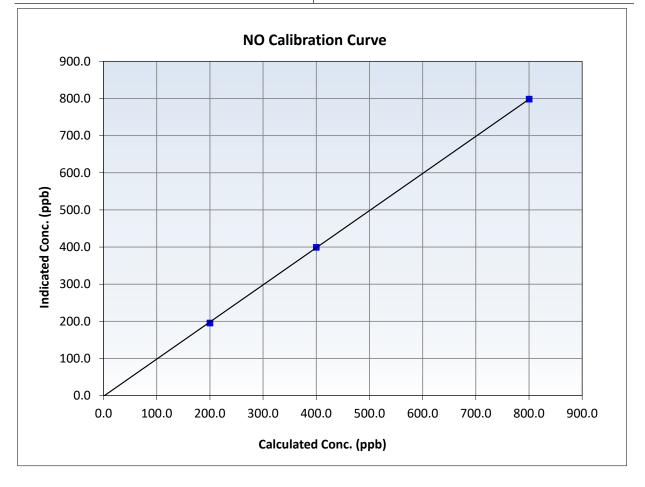


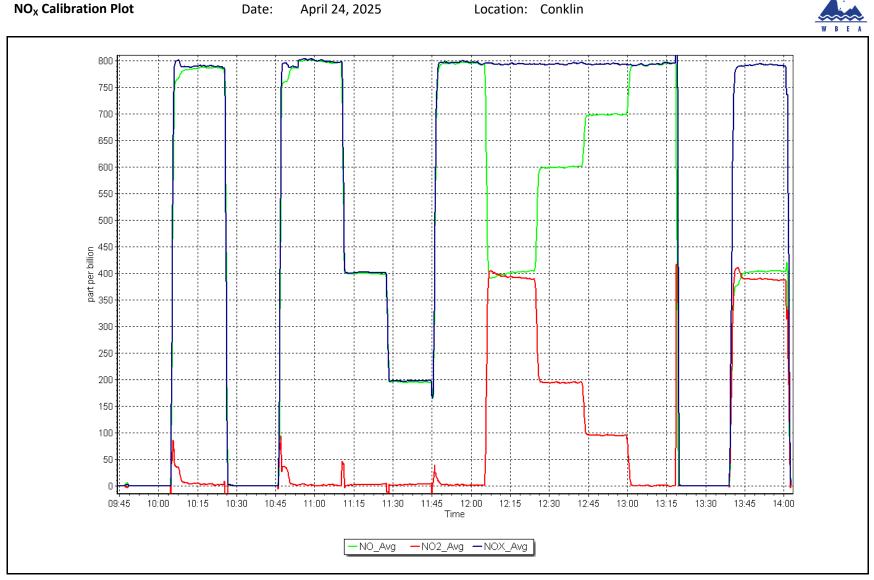
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 24, 2025 | Previous Calibration: | March 18, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Conklin | Station Number: | AMS 21 |
| Start Time (MST): | 9:45 | End Time (MST): | 14:00 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1501663731 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999968 | ≥0.995 |
| 800.3 400.2 | 798.5 399.3 | 1.0023 1.0022 | Slope | 0.999592 | 0.90 - 1.10 |
| 200.1 | 195.5 | 1.0233 | Intercept | -1.692057 | +/-20 |







Wood Buffalo Environmental Association O₃ Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Conklin April 14, 2025 11:14 Routine | | Station number: AM Last Cal Date: Ma End time (MST): 14: | rch 3, 2025 | |
|--|---|----------------|--|--------------|---|
| | | Calibration St | andards | | |
| O3 generation mode: | Photometer | | | | |
| Calibrator Make/Model: | Teledyne API T700P | | Serial Number: 265 | 59 | |
| ZAG Make/Model: | Teledyne API T701 | | Serial Number: 953 | 5 | |
| | | Analyzer Info | rmation | | |
| Analyzer make: | Thermo 49i | | Analyzer serial #: 150 | 1663734 | |
| Analyzer Range | 0 - 500 ppb | | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | ŀ |
| Calibration slope: | 1.003886 | 1.005686 | Backgd or Offset: | 1.9 | |
| Calibration intercept: | -0.480000 | -0.120000 | Coeff or Slope: | 1.100 | |

O₃ As Found Data

| Set Point | Dilution air flow rate (sccm) | Calibrator Lamp Voltage Drive (mV) | Calculated concentration (ppb) (Cc) | | 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 | 918.9 | 400.0 | 399.5 | 1.002 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| Baseline Corr As found: | 399.1 | Previous response | 401.1 | *% change | -0.5% |
| Baseline Corr 2nd AF pt: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initia | tes investigation |

O₃ 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 | 921.1 | 400.0 | 402.4 | 0.994 |
| Mid point | 5000 | 757.7 | 200.0 | 200.8 | 0.996 |
| Low point | 5000 | 653.1 | 100.0 | 99.9 | 1.001 |
| As left zero | 5000 | 800.0 | 0.0 | -0.6 | |
| As left span | 5000 | 921.9 | 400.0 | 418.6 | 0.956 |
| | | | Averag | e Correction Factor | 0.997 |

Notes:

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

Calibration Performed By: Jan Castro

Einish 2.0 1.113

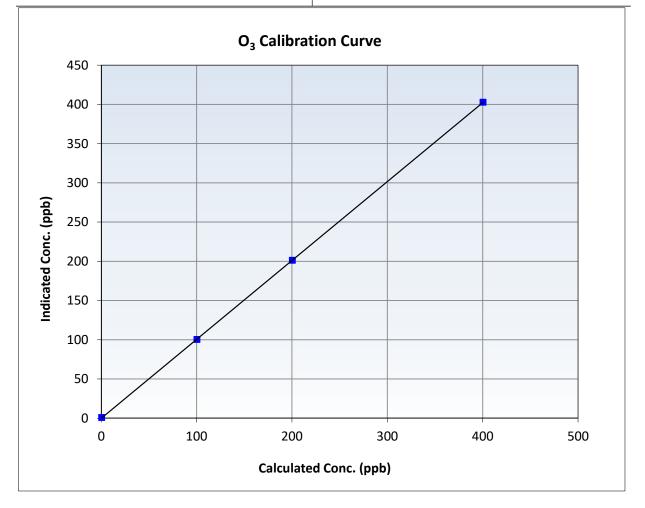


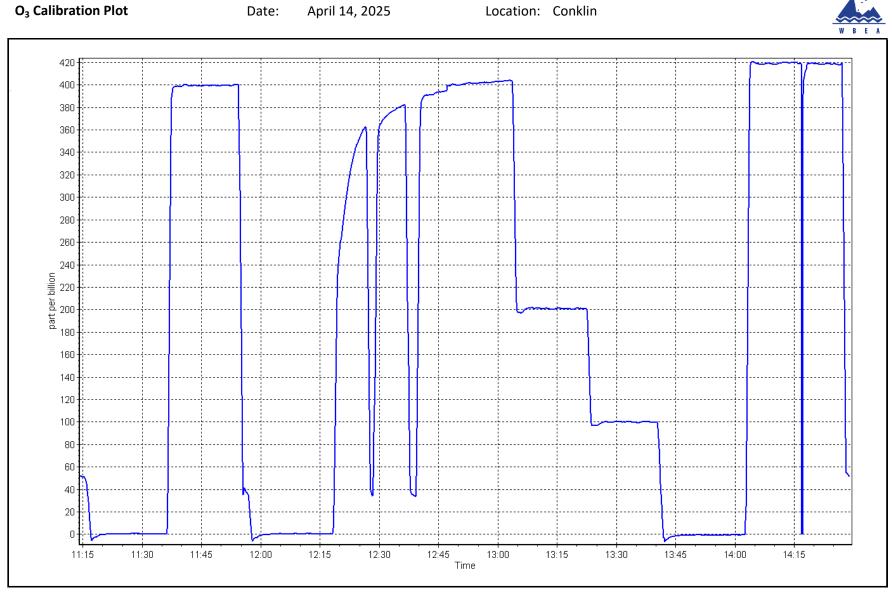
Wood Buffalo Environmental Association O₃ Calibration Summary

Station Information

| Calibration Date: | April 14, 2025 | Previous Calibration: | March 3, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Conklin | Station Number: | AMS 21 |
| Start Time (MST): | 11:14 | End Time (MST): | 14:26 |
| Analyzer make: | Thermo 49i | Analyzer serial #: | 1501663734 |

| Calculated concentration (ppb) (Cc) | n Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.4 | | Correlation Coefficient | 0.999992 | ≥0.995 |
| 400.0 200.0 | 402.4 200.8 | 0.9940 0.9960 | Slope | 1.005686 | 0.90 - 1.10 |
| 100.0 | 99.9 | 1.0010 | Intercept | -0.120000 | +/- 5 |







Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| WBEA | | Station Informatio | n | | |
|---|--|--|--|---------------------------------------|----------------------|
| itation Name: | Conklin | Station mormatio | Station number | · AMS 21 | |
| Calibration Date: | April 14, 2025 | | | : March 6, 2025 | |
| Start time (MST): | 12:01 | | End time (MST) | - | |
| | | | | | |
| Analyzer Make: | API T640 | | S/N | : 326 | |
| Particulate Fraction: | PM2.5 | | | | |
| low Meter Make/Model: | Alicat FP-25BT | | S/N | : 388754 | |
| Temp/RH standard: | Alicat FP-25BT | | - | : 388754 | |
| | | Monthly Calibration | Tost | | |
| Parameter | As found | Measured | As left | Adjusted | (Limits) |
| T (°C) | 13.00 | 12.97 | 13.00 | | +/- 2 °C |
| P (mmHg) | 711.10 | 713.50 | 711.10 | | +/- 10 mmH |
| Flow (LPM) | 5.00 | 5.08 | 5.00 | | +/- 0.25 LPN |
| PW% (pump) | 38 | | 38 | | +/- 0.23 LFN >80% |
| Zero Verification | | 3.50 | | .: 0.00 | |
| zero vernication | PM w/o HEPA: | 5.50 | PM w/ HEPA | | <0.2 ug/m3 |
| | | | | | |
| Note: this leak check will b | e completed before the | quarterly work and will | l serve as the pre m | naintenance leak check | |
| Note: this leak check will b PM Inlet observation : | e completed before the Inlet Head Clean | | l serve as the pre n gnment Factor On | | |
| | | Ali | gnment Factor On | | |
| | Inlet Head Clean | Quarterly Calibration | gnment Factor On Test | : 🗹 | |
| | Inlet Head Clean Refractive Index: | C Ali Quarterly Calibration 10.90 | gnment Factor On | | |
| PM Inlet observation : | Inlet Head Clean Refractive Index: | Quarterly Calibration | gnment Factor On Test | : 🗹 | |
| PM Inlet observation : | Inlet Head Clean Refractive Index: | C Ali Quarterly Calibration 10.90 | gnment Factor On Test | : 🗹 | (Limits) |
| PM Inlet observation : SPAN DUST | Inlet Head Clean Refractive Index: Lot No.: 1 | Quarterly Calibration 10.90 100128-050-040 | gnment Factor On Test Expiry Date: | : | (Limits) +/- 0.5 |
| PM Inlet observation : SPAN DUST <u>Parameter</u> | Inlet Head Clean Refractive Index: Lot No.: 1 | Quarterly Calibration 10.90 100128-050-040 | gnment Factor On Test Expiry Date: | : | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> | Inlet Head Clean Refractive Index: Lot No.: : <u>As found</u> | Quarterly Calibration 10.90 100128-050-040 | gnment Factor On Test Expiry Date: <u>As left</u> | : | |
| SPAN DUST <u>Parameter</u> PMT Peak Test | Inlet Head Clean Refractive Index: Lot No.: : <u>As found</u> nber Cleaned: | Ali Quarterly Calibration 10.90 100128-050-040 Post maintenance | gnment Factor On Test Expiry Date: <u>As left</u> 5, 2025 | : | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F | Inlet Head Clean Refractive Index: Lot No.: : <u>As found</u> nber Cleaned: | Ali Quarterly Calibration 10.90 100128-050-040 Post maintenance February 2 February 2 | gnment Factor On Test Expiry Date: <u>As left</u> 5, 2025 | : July 16, 2026 <u>Adjusted</u> | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F | Inlet Head Clean Refractive Index: Lot No.: : <u>As found</u> nber Cleaned: | Ali Quarterly Calibration 10.90 100128-050-040 Post maintenance February 2 | gnment Factor On Test Expiry Date: <u>As left</u> 5, 2025 | : | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char | Inlet Head Clean Refractive Index: Lot No.: : <u>As found</u> nber Cleaned: | Ali Quarterly Calibration 10.90 100128-050-040 Post maintenance February 2 February 2 | gnment Factor On Test Expiry Date: <u>As left</u> 5, 2025 5, 2025 | : July 16, 2026 <u>Adjusted</u> | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F | Inlet Head Clean Refractive Index: Lot No.: : <u>As found</u> nber Cleaned: | Ali Quarterly Calibration 10.90 100128-050-040 Post maintenance February 2 February 2 PM w/ HEPA: | gnment Factor On Test Expiry Date: <u>As left</u> 5, 2025 5, 2025 | : July 16, 2026 <u>Adjusted</u> | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F Post- maintenance Zero Ve Date Sample Tu | Inlet Head Clean Refractive Index: Lot No.: As found nber Cleaned: ilter Changed: rification: | Ali Quarterly Calibration 10.90 100128-050-040 Post maintenance February 2 February 2 PM w/ HEPA: Annual Maintenan August 9, | gnment Factor On Test Expiry Date: As left 5, 2025 5, 2025 ce . 2024 | : July 16, 2026 <u>Adjusted</u> | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F Post- maintenance Zero Ve | Inlet Head Clean Refractive Index: Lot No.: As found nber Cleaned: ilter Changed: rification: | Ali Quarterly Calibration 10.90 100128-050-040 Post maintenance February 2 February 2 PM w/ HEPA: Annual Maintenan | gnment Factor On Test Expiry Date: As left 5, 2025 5, 2025 ce . 2024 | : July 16, 2026 <u>Adjusted</u> | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F Post- maintenance Zero Ve Date Sample Tu | Inlet Head Clean Refractive Index: Lot No.: As found nber Cleaned: ilter Changed: rification: | Ali Quarterly Calibration 10.90 100128-050-040 Post maintenance February 2 February 2 PM w/ HEPA: Annual Maintenan August 9, | gnment Factor On Test Expiry Date: As left 5, 2025 5, 2025 ce . 2024 | : July 16, 2026 <u>Adjusted</u> | |

Calibration by: Jan Castro



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS22 JANVIER APRIL 2025

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

May 30, 2025



Analyzer make: Analyzer Range:

Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Janvier |
|-------------------|----------------|
| Calibration Date: | April 11, 2025 |
| Start time (MST): | 12:00 |
| Reason: | Routine |

Station number: AMS 22 Last Cal Date: March 26, 2025 End time (MST): 15:24

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 |
| | | | |

Thermo 43i

0 - 1000 ppb

Analyzer Information

Serial Number: 1152430006

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 0.999521 | 0.999692 | Backgd or Offset: | 26.1 | 26.4 |
| Calibration intercept: | 1.164268 | 0.304361 | Coeff or Slope: | 1.017 | 1.017 |

SO₂ 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 | 1.0 | |
| As found High point As found Mid point As found Low point New cylinder response | 4920 | 79.8 | 799.8 | 798.5 | 1.003 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 797.5 NA | Previous response AF Slope: | 800.6 | *% change AF Intercept: | -0.4% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.2 | |
| High point | 4920 | 79.8 | 799.8 | 799.8 | 1.000 |
| Mid point | 4960 | 39.9 | 399.9 | 400.1 | 0.999 |
| Low point | 4980 | 20.0 | 200.4 | 200.8 | 0.998 |
| As left zero | 5000 | 0.0 | 0.0 | 0.3 | |
| As left span | 4920 | 79.8 | 799.8 | 797.3 | 1.003 |
| | | | Averag | 0.999 | |

Notes:

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

Calibration Performed By:

Rene Chamberland

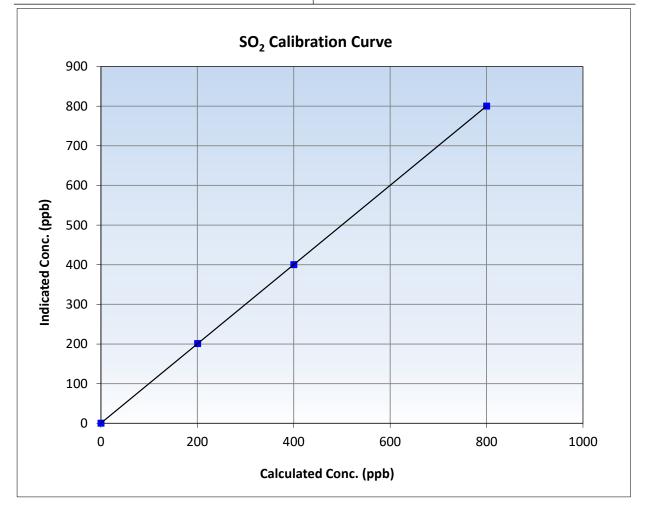


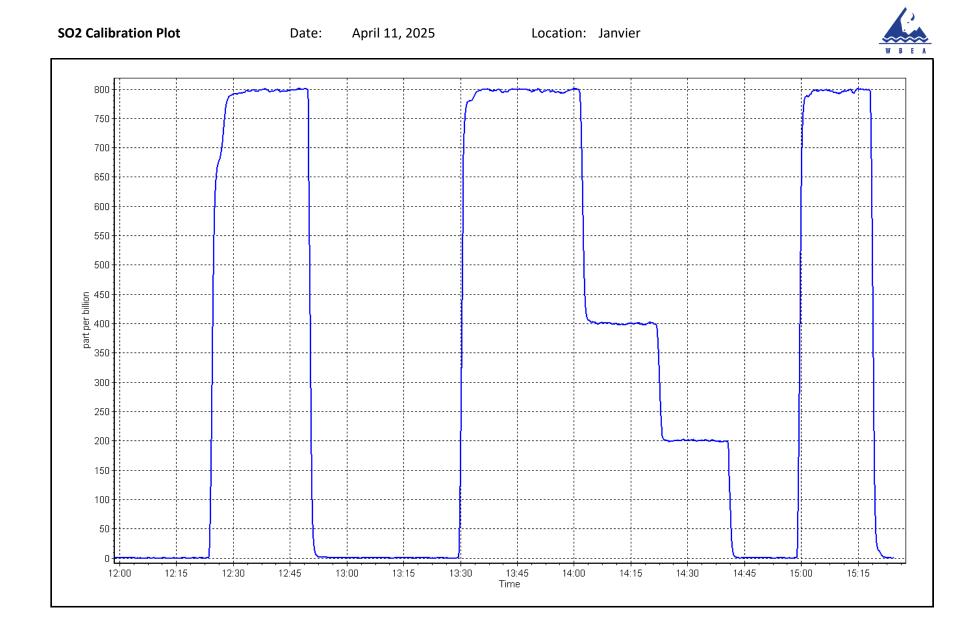
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 26, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Janvier | Station Number: | AMS 22 |
| Start Time (MST): | 12:00 | End Time (MST): | 15:24 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1152430006 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 1.000000 | ≥0.995 |
| 799.8 399.9 | 799.8 400.1 | 1.0000 0.9995 | Slope | 0.999692 | 0.90 - 1.10 |
| 200.4 | 200.8 | 0.9982 | Intercept | 0.304361 | +/-30 |







Wood Buffalo Environmental Association TRS Calibration Report

Station Information

| | | station into | mation | | | | |
|--|---|---------------|--|-----------------------------------|------|------|---|
| Station Name: Calibration Date: Start time (MST): Reason: | Janvier April 29, 2025 11:50 Routine | | Station number: Last Cal Date: End time (MST): | AMS 22 March 27, 2025 16:30 | 5 | | |
| | | Calibration S | tandards | | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 5.02 CC424047 | ppm | Cal Gas Exp Date: | November 15, 2 | 2026 | | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 5.02 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | | | |
| Calibrator Make/Model: | Teledyne API T700 | | Serial Number: | 3806 | | | |
| ZAG Make/Model: | Teledyne API T701 | | Serial Number: | 691 | | | |
| | | Analyzer Info | ormation | | | | |
| Analyzer make: | Thermo 43i-TLE | | Analyzer serial #: | 1151680031 | | | |
| , Converter make: | CDN-101 | | , Converter serial #: | 620 | | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 850 | degC | 2 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | | F |
| Calibration slope: | 0.970959 | 0.999093 | Backgd or Offset: | 3.77 | | | |
| Calibration intercept: | 0.300065 | 0.140635 | Coeff or Slope: | 1.197 | | | |
| | | | | | | | |

TRS As Found Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic-AFzero)) Limit = 0.90-1.10 |
|---|----------------------------------|--------------------------------|---|---------------------------------------|---|
| As found zero | 5000 | 0.0 | 0.0 | 0.0 | |
| As found High point | 4920 | 79.7 | 80.0 | 77.5 | 1.033 |
| As found Mid point | 4960 | 39.8 | 40.0 | 38.9 | 1.027 |
| As found Low point New cylinder response | 4980 | 19.9 | 20.0 | 19.4 | 1.030 |
| Baseline Corr As found: | 77.5 | Prev response: | 78.00 | *% change: | -0.6% |
| Baseline Corr 2nd AF pt: | 38.9 | AF Slope: | 0.968533 | AF Intercept: | 0.059981 |
| Baseline Corr 3rd AF pt: | 19.4 | AF Correlation: | 0.999992 | * = > +/-5% change initiate | es 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 | 79.7 | 80.0 | 80.0 | 1.000 |
| Mid point | 4960 | 39.8 | 40.0 | 40.3 | 0.992 |
| Low point | 4980 | 19.9 | 20.0 | 20.0 | 0.999 |
| As left zero | 5000 | 0.0 | 0.0 | 0.4 | |
| As left span | 4920 | 79.7 | 80.0 | 78.9 | 1.014 |
| SO2 Scrubber Check | 4920 | 79.8 | 798.0 | -0.1 | |
| Date of last scrubber chan | ige: | | | Ave Corr Factor | 0.997 |

Date of last converter efficiency test:

Notes:

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

Calibration Performed By:

Rene Chamberland

Finish 3.98 1.251



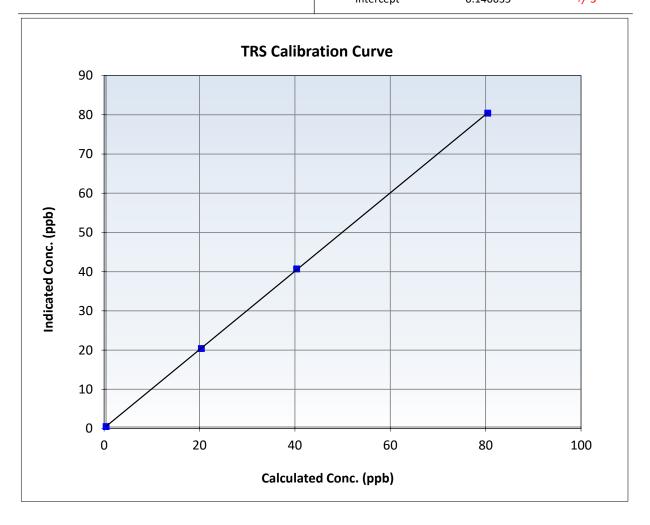
Wood Buffalo Environmental Association

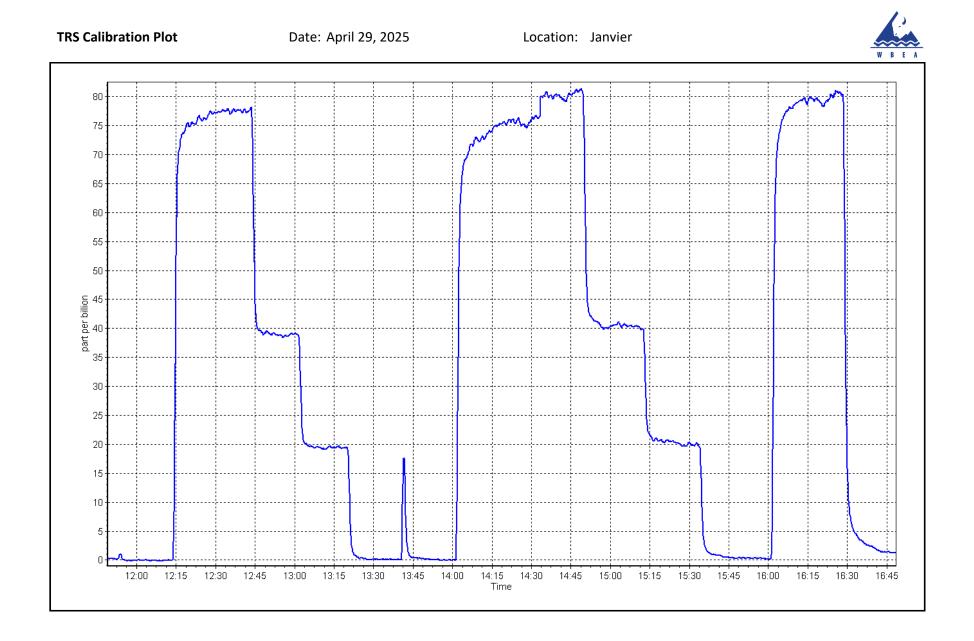
TRS Calibration Summary

Station Information

| Calibration Date: | April 29, 2025 | Previous Calibration: | March 27, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Janvier | Station Number: | AMS 22 |
| Start Time (MST): | 11:50 | End Time (MST): | 16:30 |
| Analyzer make: | Thermo 43i-TLE | Analyzer serial #: | 1151680031 |

Calibration Data Calculated concentration Indicated concentration Correction factor (Cc/lc) Statistical Evaluation <u>Limits</u> (ppb) (Cc) (ppb) (Ic) **Correlation Coefficient** 0.999978 ≥0.995 0.0 0.1 ----80.0 80.0 1.0003 Slope 0.999093 0.90 - 1.10 40.0 40.3 0.9916 20.0 20.0 0.9990 Intercept 0.140635 +/-3







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Station Information

| Station Name: | Janvier | Station number: AMS 22 |
|-------------------|----------------|-------------------------------|
| Calibration Date: | April 11, 2025 | Last Cal Date: March 26, 2025 |
| Start time (MST): | 12:00 | End time (MST): 15:24 |
| Reason: | Routine | |

OFF

Calibration Standards

| Gas Cert Reference: | CC2 | 81519 | Cal Gas Expiry Date: | January 18, 202 | 9 | |
|--------------------------------------|------------------|---------------|----------------------------|-----------------|---------------|--|
| CH4 Cal Gas Conc. | 502.8 | ppm | CH4 Equiv Conc. | 107 | 5.9 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. | 107 | 5.9 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 | | |
| | | Anal | zer Information | | | |
| Analyzer make: | Thermo 55i | | Analyzer serial #: | 1317958219 | | |
| THC Range: | 0 - 20 ppm | | NMHC/CH4 Range: 0 - 10 ppm | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | |
| CH4 SP Ratio: | 2.51E-04 | 2.54E-04 | NMHC SP Ratio: | 6.02E-05 | 6.12E-05 | |
| CH4 Retention time: | 11.6 | 11.6 | NMHC Peak Area: | 152054 | 149432 | |

OFF

THC As Found Data

Flat Baseline:

OFF

OFF

| 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 | 17.01 | 1.009 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 17.01 | Prev response | 17.15 | *% change | -0.8% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4920 | 79.8 | 17.17 | 17.20 | 0.999 |
| Mid point | 4960 | 39.9 | 8.59 | 8.51 | 1.009 |
| Low point | 4980 | 20.0 | 4.30 | 4.27 | 1.008 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.8 | 17.17 | 17.21 | 0.998 |
| | | | Avera | ge Correction Factor | 1.005 |

Notes:

Zero Chromatogram:

Changed the inlet filter and H2 cylinder after as founds. Adjusted span only.



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4920 | 79.8 | 9.15 | 9.04 | 1.012 |
| Baseline Corr AF: | 9.04 | Prev response | 9.14 | *% change | -1.1% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | tes 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/lc) 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 | 4.55 | 1.006 |
| Low point | 4980 | 20.0 | 2.29 | 2.29 | 1.000 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.8 | 9.15 | 9.16 | 0.999 |
| | | | Avera | ge Correction Factor | 1.002 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|-----------------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| 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/(Io AFzero)) Limit = 0.90-1.10 |
| As found zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As found High point | 4920 | 79.8 | 8.03 | 7.97 | 1.007 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 7.97 | Prev response | 8.01 | *% change | -0.4% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | tes 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) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4920 | 79.8 | 8.03 | 8.05 | 0.997 |
| Mid point | 4960 | 39.9 | 4.01 | 3.96 | 1.013 |
| Low point | 4980 | 20.0 | 2.01 | 1.98 | 1.018 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4920 | 79.8 | 8.03 | 8.06 | 0.996 |
| | | | Avera | ge Correction Factor | 1.009 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 1.000628 | 1.001574 |
| THC Cal Offset: | -0.035596 | -0.034204 |
| CH4 Cal Slope: | 1.001452 | 1.003860 |
| CH4 Cal Offset: | -0.029759 | -0.028964 |
| NMHC Cal Slope: | 0.999880 | 0.999793 |
| NMHC Cal Offset: | -0.006237 | -0.005640 |

Calibration Performed By:

Rene Chamberland

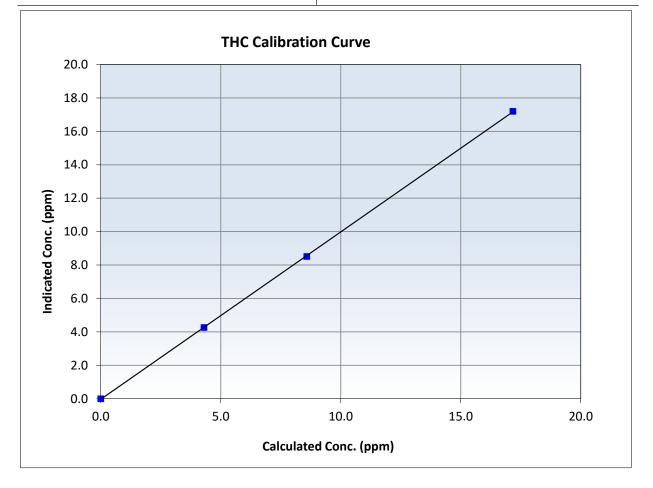


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 26, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Janvier | Station Number: | AMS 22 |
| Start Time (MST): | 12:00 | End Time (MST): | 15:24 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1317958219 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|----------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999967 | ≥0.995 |
| 17.17 8.59 | 17.20 8.51 | 0.9987 1.0090 1.0083 | Slope | 1.001574 | 0.90 - 1.10 |
| 4.30 | 4.27 | | Intercept | -0.034204 | +/-0.5 |



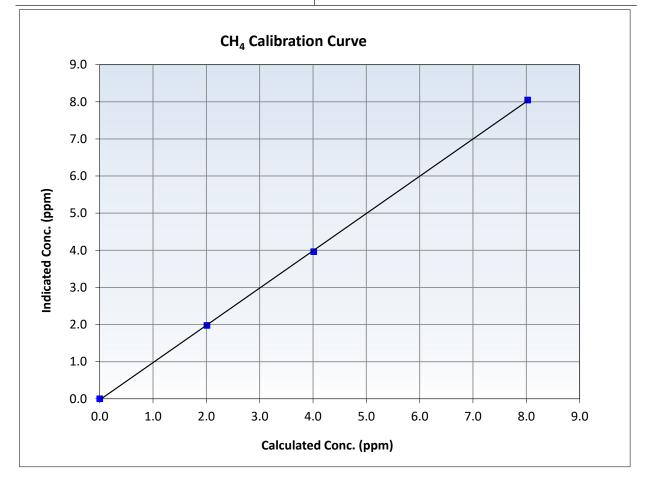


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 26, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Janvier | Station Number: | AMS 22 |
| Start Time (MST): | 12:00 | End Time (MST): | 15:24 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1317958219 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999919 | ≥0.995 |
| 8.03 | 8.05 | 0.9970 | Slope | 1.003860 | 0.90 - 1.10 |
| 4.01 | 3.96 | 1.0127 | Siope | 1.005800 | 0.90 - 1.10 |
| 2.01 | 1.98 | 1.0178 | Intercept | -0.028964 | +/-0.5 |



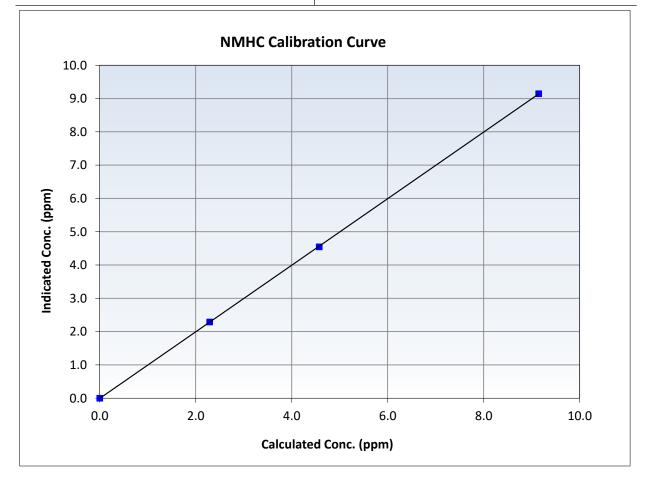


Wood Buffalo Environmental Association NMHC Calibration Summary

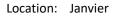
Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 26, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Janvier | Station Number: | AMS 22 |
| Start Time (MST): | 12:00 | End Time (MST): | 15:24 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1317958219 |

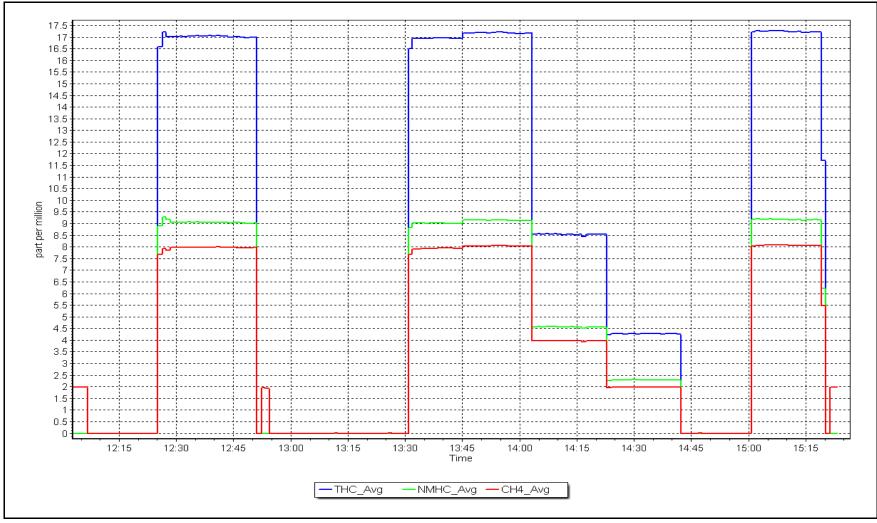
| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|----------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999988 | ≥0.995 |
| 9.15 4.57 | 9.15 4.55 | 0.9999 1.0058 1.0002 | Slope | 0.999793 | 0.90 - 1.10 |
| 2.29 | 2.29 | | Intercept | -0.005640 | +/-0.5 |



NMHC Calibration Plot









Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Janvier | NO Gas Cylinder #: | DT0047765 | Cal Gas Expiry Date: | March 11, 2031 |
|-------------------|----------------|-----------------------|-------------------|-----------------------|----------------|
| Station number: | AMS 22 | NOX Cal Gas Conc: | 48.90 ppm | NO Cal Gas Conc: | 48.80 ppm |
| Calibration Date: | April 30, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date: | NA |
| Last Cal Date: | March 25, 2025 | Removed Gas NOX Conc: | 48.90 ppm | Removed Gas NO Conc: | 48.80 ppm |
| Start time (MST): | 11:41 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 16:17 | Calibrator Model: | Teledyne API T700 | Serial Number: | 3806 |
| Reason: | Routine | ZAG make/model: | Teledyne API T701 | Serial Number: | 691 |

As Found Dilution Calibration Data

| Set Point | Dilution flow rate (sccm) | Source gas flow rate (sccm) | Calculated NOx concentration (ppb) (Cc) | Calculated NO concentration (ppb) (Cc) | Calculated NO2 concentration (ppb) (Cc) | Indicated NOx concentration (ppb) (Ic) | Indicated NO concentration (ppb) (Ic) | Indicated NO2 concentration (ppb) (Ic) | Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) Limit = 0.90 - 1.10 | Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) Limit = 0.90 - 1.10 |
|--|------------------------------|----------------------------------|---|--|---|--|---|--|---|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.2 | -0.2 | 0.0 | | |
| AF High point | 4918 | 82.0 | 802.0 | 800.3 | 1.6 | 771.4 | 764.6 | 6.7 | 1.0393 | 1.0464 |
| AF Mid point AF Low point New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 802.5 ppb | NO = 799.9 | ppb | * = > +/-59 | % change initiates i | nvestigation | *Percent Chan | ge NO _x = | -4.0% |
| Baseline Corr 1 | st pt NO _X = | 771.6 ppb | NO = 764.8 | ppb | <u>As Foun</u> | d Statistics | | *Percent Chan | ge NO = | -4.6% |
| Baseline Corr 2 | nd pt NO _X = | NA ppb | NO = NA | ppb | As foun | d NO _X r^2 : | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | rd pt NO _X = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As found | d NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| As Found GPT Calibration Data | | | | | | | | | | |
| | | | | | | | | Baseline Adjus | | |
| O3 Setpo | pint (ppb) | Indicated NO Re concentration | | cated NO Drop entration (ppb) | Calculated NC concentration (pp | | dicated NO2 ntration (ppb) (Ic) | Correction f (Cc/(Ic-AFz | | verter Efficiency nit = 96-104% |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point *Limit = 0.90 - 1.10*



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1229254 | Serial Number: 1229254994 | | | | | |
|---------------------|--------------|---------------|------------------------|---------------------------|----------------------------|-----------------------------|-----------|-----------|--|
| NOX Range (ppb): | 0 - 1000 ppb | | | | NO _x Cal Slope: | 1.001849 | 1.001321 | | |
| | | | Instrument Settings | | | NO _x Cal Offset: | -0.955969 | 0.204103 | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 1.001603 | 1.000003 | |
| NO coeff or slope: | 0.950 | 0.988 | NO bkgnd or offset: | 2.6 | 2.7 | NO Cal Offset: | -1.676088 | -0.716024 | |
| NOX coeff or slope: | 0.996 | 0.998 | NOX bkgnd or offset: | 2.7 | 2.8 | NO ₂ Cal Slope: | 1.004645 | 1.004611 | |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 173.8 | 172.9 | NO ₂ Cal Offset: | -1.110485 | 0.607262 | |

Dilution Calibration Data

| Set Point | Dilution flow rate (sccm) | Source gas flow rate (sccm) | Calculated NOx concentration (ppb) (Cc) | Calculated NO concentration (ppb) (Cc) | Calculated NO2 concentration (ppb) (Cc) | Indicated NOx concentration (ppb) (Ic) | Indicated NO concentration (ppb) (Ic) | Indicated NO2 concentration (ppb) (Ic) | NOx Correction factor (Cc/Ic) Limit = 0.95-1.05 | NO Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|---|--|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| High point | 4918 | 82.0 | 802.0 | 800.3 | 1.6 | 803.1 | 799.9 | 3.1 | 0.9986 | 1.0005 |
| Mid point | 4960 | 41.0 | 400.9 | 400.1 | 0.8 | 401.8 | 399.2 | 2.5 | 0.9978 | 1.0022 |
| Low point | 4980 | 20.5 | 200.5 | 200.1 | 0.4 | 201.1 | 198.5 | 2.7 | 0.9969 | 1.0079 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | 0.0 | 0.0 | | |
| As left span | 4918 | 82.0 | 802.0 | 398.1 | 403.9 | 800.8 | 398.1 | 402.7 | 1.0014 | 1.0000 |
| | | | | | | | Average Co | prrection Factor | 0.9977 | 1.0035 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|---------------------------------------|---|---|--|--|
| Cal zero | | | 0.0 | 0.0 | | |
| High GPT point | 797.9 | 396.1 | 403.4 | 405.4 | 0.9952 | 100.5% |
| Mid GPT point | 797.9 | 599.7 | 199.8 | 202.3 | 0.9878 | 101.2% |
| Low GPT point | 797.9 | 697.8 | 101.7 | 103.0 | 0.9878 | 101.2% |
| | | | | Average Correction Factor | 0.9903 | 101.0% |

Notes: Inlet filter was changed after as founds. Adjusted the span.

Calibration Performed By: Rene Chamberland

CALS 391 Version 03-2024

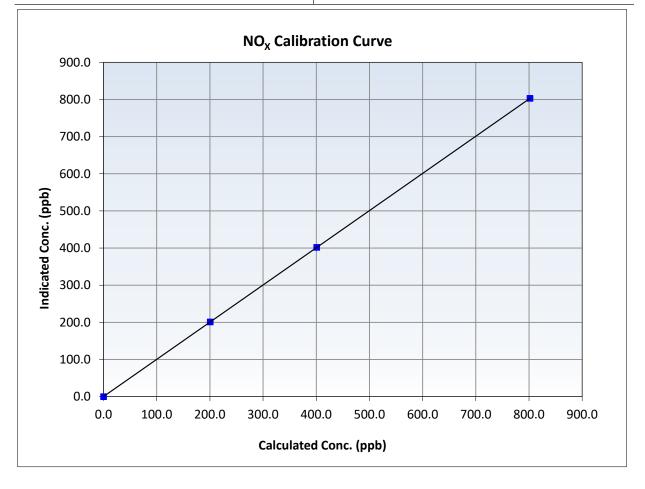


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 30, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Janvier | Station Number: | AMS 22 |
| Start Time (MST): | 11:41 | End Time (MST): | 16:17 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1229254994 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 1.000000 | ≥0.995 |
| 802.0 400.9 | 803.1 401.8 | 0.9986 0.9978 | Slope | 1.001321 | 0.90 - 1.10 |
| 200.5 | 201.1 | 0.9969 | Intercept | 0.204103 | +/-20 |



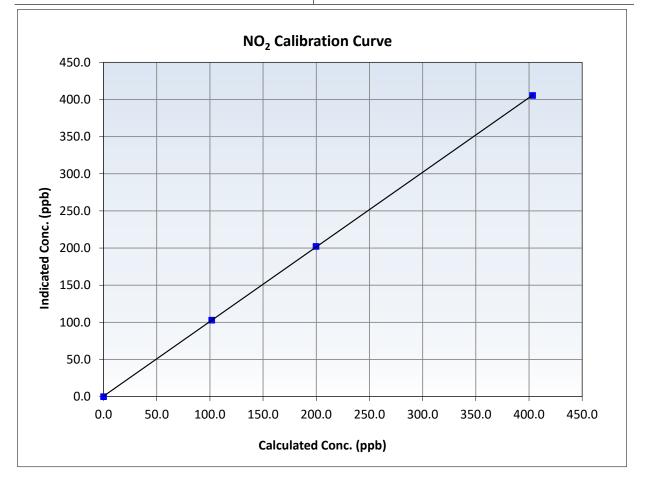


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 30, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Janvier | Station Number: | AMS 22 |
| Start Time (MST): | 11:41 | End Time (MST): | 16:17 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1229254994 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999983 | ≥0.995 |
| 403.4 199.8 | 405.4 202.3 | 0.9952 0.9878 | Slope | 1.004611 | 0.90 - 1.10 |
| 101.7 | 103.0 | 0.9878 | Intercept | 0.607262 | +/-20 |



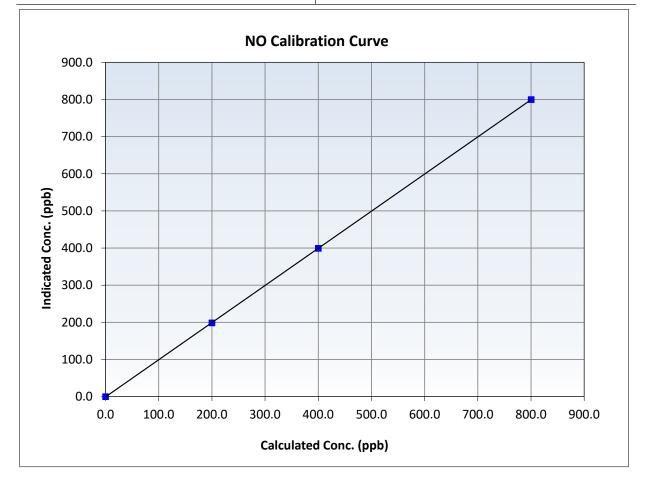


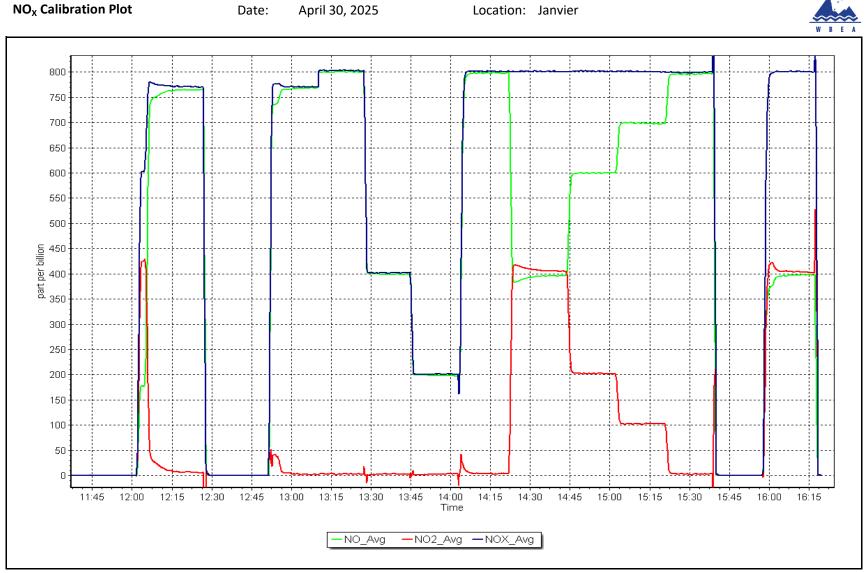
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 30, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Janvier | Station Number: | AMS 22 |
| Start Time (MST): | 11:41 | End Time (MST): | 16:17 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1229254994 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999996 | ≥0.995 |
| 800.3 400.1 | 799.9 399.2 | 1.0005 1.0022 | Slope | 1.000003 | 0.90 - 1.10 |
| 200.1 | 198.5 | 1.0079 | Intercept | -0.716024 | +/-20 |







Wood Buffalo Environmental Association O₃ Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Janvier April 22, 2025 9:51 Routine | Station number: AMS 22 Last Cal Date: March 18, 2025 End time (MST): 12:42 | | | |
|--|--|--|------------------------|-------|--------|
| | | | | | |
| | | Calibration S | Standards | | |
| O3 generation mode: | Photometer | | | | |
| Calibrator Make/Model: | Teledyne API T700 | | Serial Number: 38 | 06 | |
| ZAG Make/Model: | Teledyne API T701H | | Serial Number: 69 | 1 | |
| | | | | | |
| | | Analyzer Inf | ormation_ | | |
| Analyzer make: | Teledyne API T400 | | Analyzer serial #: 704 | 46 | |
| Analyzer Range | 0 - 500 ppb | | | | |
| | Start | Finish | | Start | Finish |
| Calibration slope: | 1.000486 | 0.996029 | Backgd or Offset: | 1.5 | 1.5 |
| Calibration intercept: | 1.040000 | 1.320000 | Coeff or Slope: | 1.011 | 1.011 |

O₃ As Found Data

| Set Point | Dilution air flow rate (sccm) | Calibrator Lamp Voltage Drive (mV) | Calculated concentration (ppb) (Cc) | | Baseline Adjusted Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 |
|---|----------------------------------|---|--|---|---|
| As found zero | 5000 | 800.0 | 0.0 | 0.3 | |
| As found High point As found Mid point As found Low point | 5000 | 922.9 | 400.0 | 399.0 | 1.003 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 398.7 NA NA | Previous response AF Slope: AF Correlation: | | *% change AF Intercept: * = > +/-5% change initia | |

O₃ Calibration Data

| Set Point | Total air flow rate (sccm) | Calibrator Lamp Voltage Drive (mV) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|-----------------|-------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|--|
| Calibrator zero | 5000 | 800.0 | 0.0 | 0.6 | |
| High point | 5000 | 922.9 | 400.0 | 399.2 | 1.002 |
| Mid point | 5000 | 768.8 | 200.0 | 201.4 | 0.993 |
| Low point | 5000 | 656.1 | 100.0 | 101.3 | 0.987 |
| As left zero | 5000 | 800.0 | 0.0 | 0.6 | |
| As left span | 5000 | 916.2 | 400.0 | 401.2 | 0.997 |
| | Average Correction Factor | | | | 0.994 |

Notes:

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

Calibration Performed By:

Sean Bala

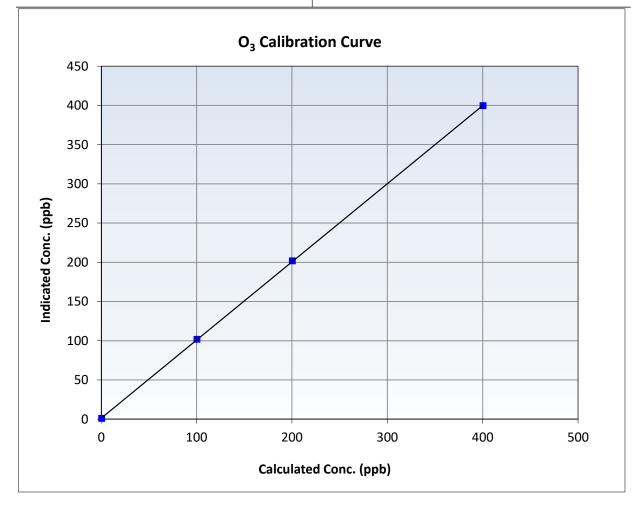


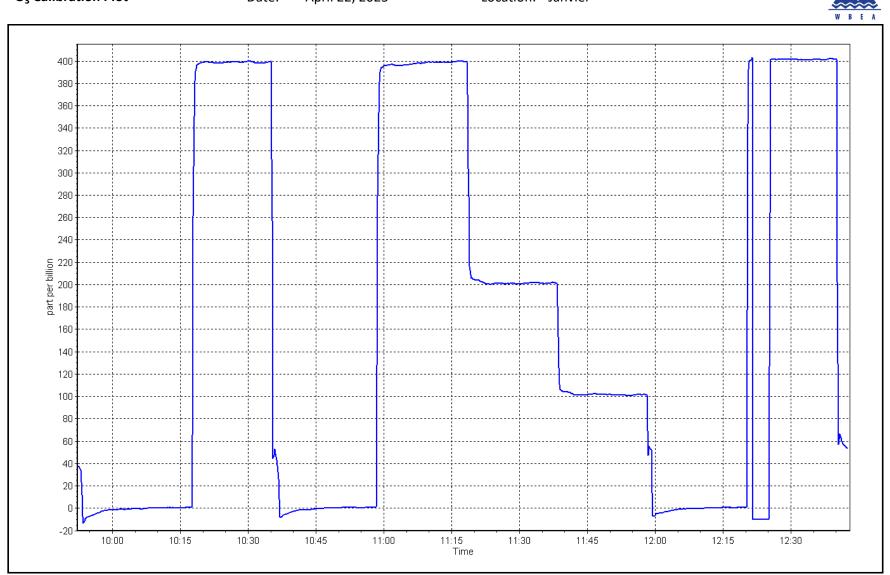
Wood Buffalo Environmental Association O₃ Calibration Summary

Station Information

| Calibration Date: | April 22, 2025 | Previous Calibration: | March 18, 2025 |
|-------------------|-------------------|-----------------------|----------------|
| Station Name: | Janvier | Station Number: | AMS 22 |
| Start Time (MST): | 9:51 | End Time (MST): | 12:42 |
| Analyzer make: | Teledyne API T400 | Analyzer serial #: | 7046 |

| Calculated concentration (ppb) (Cc) | n Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.6 | | Correlation Coefficient | 0.999980 | ≥0.995 |
| 400.0 200.0 | 399.2 201.4 | 1.0020 0.9930 | Slope | 0.996029 | 0.90 - 1.10 |
| 100.0 | 101.3 | 0.9872 | Intercept | 1.320000 | +/- 5 |





O₃ Calibration Plot

Date: April 22, 2025

Location: Janvier



Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| | | | | | Version-01-202 | |
|---|--|--|--|-------------------------------------|----------------|--|
| | | Station Information | on | | | |
| tation Name: | Janvier | | Station number: AM | S 22 | | |
| Calibration Date: | April 30, 2025 | | Last Cal Date: Ma | rch 24, 2025 | | |
| Start time (MST): | 12:27 | End time (MST): 14:19 | | | | |
| Analyzer Make: | Teledyne API T640 | S/N: 325 | | | | |
| Particulate Fraction: | PM2.5 | | | | | |
| Flow Meter Make/Model: | Alicat FP-25BT | | S/N: 388 | | | |
| Гетр/RH standard: | Alicat FP-25BT | | S/N: 388 | 3754 | | |
| | | Monthly Calibration | Test | | | |
| <u>Parameter</u> | <u>As found</u> | Measured | <u>As left</u> | <u>Adjusted</u> | (Limits) | |
| T ([°] C) | 12.3 | 11.51 | 12.3 | | +/- 2 °C | |
| P (mmHg) | 713.7 | 714.94 | 713.7 | | +/- 10 mmH | |
| Flow (LPM) | 5.04 | 4.896 | 5.04 | | +/- 0.25 LPN | |
| PW% (pump) | 37 | | 37 | | >80% | |
| Zero Verification | PM w/o HEPA: | 1.1 | PM w/ HEPA: | 0.0 | <0.2 ug/m3 | |
| | • | <u> </u> | • | | | |
| Note: this leak check will be PM Inlet observation : | e completed before the Inlet Head Clean | Ali | ignment Factor On : | enance leak check ☑ | | |
| | Inlet Head Clean | Quarterly Calibration | ignment Factor On : | ✓ | | |
| | Inlet Head Clean Refractive Index: | Ali | ignment Factor On : | | 24 | |
| PM Inlet observation : | Inlet Head Clean Refractive Index: | Quarterly Calibration | ignment Factor On : | ✓ | 24 (Limits) | |
| PM Inlet observation : | Inlet Head Clean Refractive Index: Lot No.: | Quarterly Calibration 10.9 100128-050-042 | ignment Factor On : Test Expiry Date: | ✓ June 10, 20 | | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> | Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> | Ali Quarterly Calibration 10.9 100128-050-042 Post maintenance January 33 | ignment Factor On : Test Expiry Date: <u>As left</u> 1, 2025 | ✓ June 10, 20 <u>Adjusted</u> | (Limits) | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test | Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> nber Cleaned: | Quarterly Calibration 10.9 100128-050-042 Post maintenance | ignment Factor On : Test Expiry Date: <u>As left</u> 1, 2025 | ✓ June 10, 20 <u>Adjusted</u> | (Limits) | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Chan Date Disposable Fi | Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> nber Cleaned: ilter Changed: | Ali Quarterly Calibration 10.9 100128-050-042 Post maintenance January 33 | ignment Factor On : Test Expiry Date: <u>As left</u> 1, 2025 | ✓ June 10, 20 <u>Adjusted</u> | (Limits) | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Chan Date Disposable Fi | Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> nber Cleaned: ilter Changed: | Ali Quarterly Calibration 10.9 100128-050-042 Post maintenance January 3: January 3: | ignment Factor On : Test Expiry Date: <u>As left</u> 1, 2025 1, 2025 | ✓ June 10, 20 <u>Adjusted</u> | (Limits) | |
| SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Chan | Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> nber Cleaned: ilter Changed: rification: | Ali Quarterly Calibration 10.9 100128-050-042 Post maintenance January 3: January 3: PM w/ HEPA: | ignment Factor On : Test Expiry Date: <u>As left</u> 1, 2025 1, 2025 1, 2025 | ✓ June 10, 20 <u>Adjusted</u> | (Limits) | |

Notes:

Verified flow, temperature, and pressure. Leak check passed.

Calibration by: Rene Chamberland



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

> AMS23 FORT HILLS APRIL 2025

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

May 30, 2025



Analyzer make: Analyzer Range:

Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Fort Hills |
|-------------------|----------------|
| Calibration Date: | April 17, 2025 |
| Start time (MST): | 6:30 |
| Reason: | Routine |

Thermo 43i

0-1000ppb

Station number: AMS 23 Last Cal Date: March 17, 2025 End time (MST): 9:05

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: 451 |
| Zero Air Gen Model: | API T701 | | Serial Number: 1117 |
| | | | |

Analyzer Information

Serial Number: 1160290012

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 0.988558 | 0.998705 | Backgd or Offset: | 18.9 | 18.9 |
| Calibration intercept: | -0.121868 | 0.080120 | Coeff or Slope: | 1.071 | 1.071 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4921 | 79.4 | 799.5 | 797.8 | 1.002 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 797.6 NA | Previous response AF Slope: | 790.2 | *% change AF Intercept: | 0.9% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ 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 | 79.4 | 799.5 | 798.5 | 1.001 |
| Mid point | 4960 | 39.7 | 399.8 | 399.7 | 1.000 |
| Low point | 4980 | 19.8 | 199.4 | 198.7 | 1.003 |
| As left zero | 5000 | 0.0 | 0.0 | 0.4 | |
| As left span | 4921 | 79.4 | 799.5 | 798.5 | 1.001 |
| | | | Averag | ge Correction Factor: | 1.002 |

Notes:

Calibration gas changed out. No adjustments done.

Calibration Performed By:

Melissa Lemay

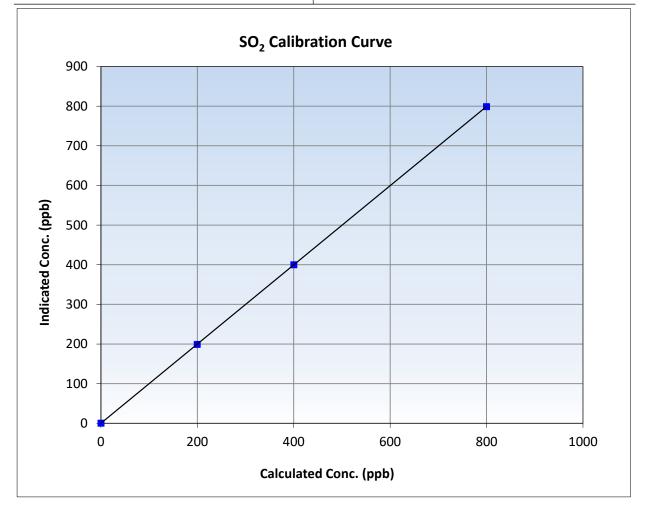


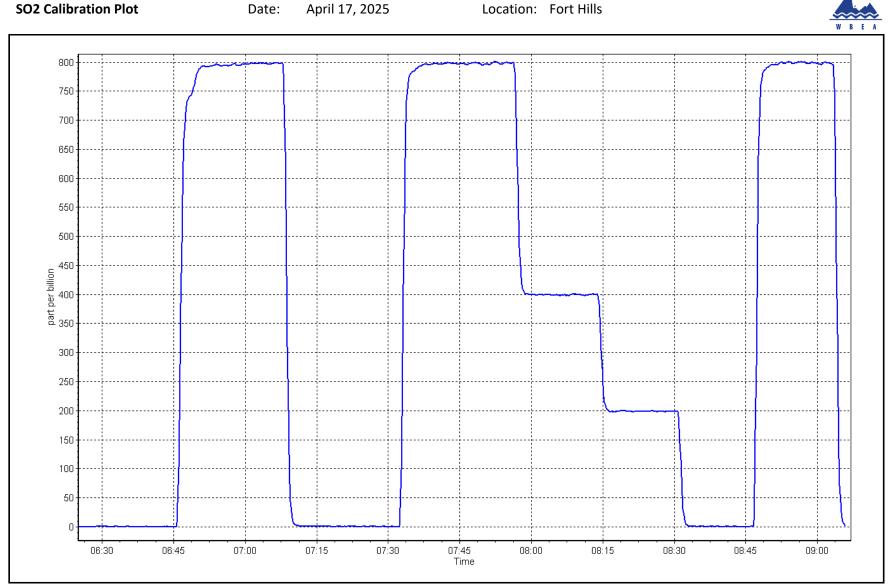
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 17, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Hills | Station Number: | AMS 23 |
| Start Time (MST): | 6:30 | End Time (MST): | 9:05 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1160290012 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 0.999999 | ≥0.995 |
| 799.5 399.8 | 798.5 399.7 | 1.0012 1.0003 | Slope | 0.998705 | 0.90 - 1.10 |
| 199.4 | 198.7 | 1.0035 | Intercept | 0.080120 | +/-30 |







Wood Buffalo Environmental Association TRS Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Fort Hills April 16, 2025 6:32 Routine | | Station number: Last Cal Date: End time (MST): | AMS 23 March 11, 2025 10:19 |
|--|---|--------------------|--|-----------------------------------|
| | | Calibration | <u>Standards</u> | |
| Cal Gas Concentration: | 4.84 | ppm | Cal Gas Exp Date: | August 28, 2027 |

| | 4.04 | ppin | Cal Gas Exp Date. | August 20, 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: | 451 |
| ZAG Make/Model: | API T701 | | Serial Number: | 1117 |
| | | | | |

Analyzer Information

| Analyzer make: Converter make: | Thermo 43i TLE CDN-101 | | Analyzer serial #: Converter serial #: | 1300156232 594 | |
|-----------------------------------|---------------------------|---------------|---|-------------------|---------------|
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 800 degC |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 1.001247 | 1.002388 | Backgd or Offset: | 2.06 | 2.06 |
| Calibration intercept: | -0.038151 | -0.078072 | Coeff or Slope: | 1.160 | 1.160 |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As found High point | 4917 | 82.6 | 80.0 | 79.7 | 1.002 |
| As found Mid point | 4959 | 41.3 | 40.0 | 39.6 | 1.007 |
| As found Low point | 4979 | 20.7 | 20.0 | 19.4 | 1.028 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 79.8 | Prev response: | 80.02 | *% change: | -0.3% |
| Baseline Corr 2nd AF pt: | 39.7 | AF Slope: | 0.999812 | AF Intercept: | -0.337937 |
| Baseline Corr 3rd AF pt: | 19.5 | AF Correlation: | 0.999956 | * = > +/-5% change initiate | es investigation |

TRS Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|-------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.0 | |
| High point | 4917 | 82.6 | 80.0 | 80.1 | 0.998 |
| Mid point | 4959 | 41.3 | 40.0 | 40.0 | 0.999 |
| Low point | 4979 | 20.7 | 20.0 | 19.9 | 1.007 |
| As left zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As left span | 4917 | 82.6 | 80.0 | 82.1 | 0.974 |
| SO2 Scrubber Check | 4920 | 80.3 | 803.0 | 0.0 | |
| Date of last scrubber c | hange: | | | 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. No adjustments done.

Calibration Performed By:

Melissa Lemay



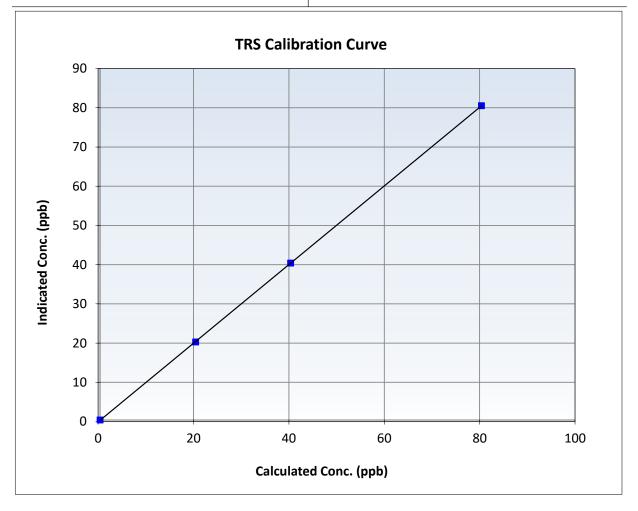
Wood Buffalo Environmental Association

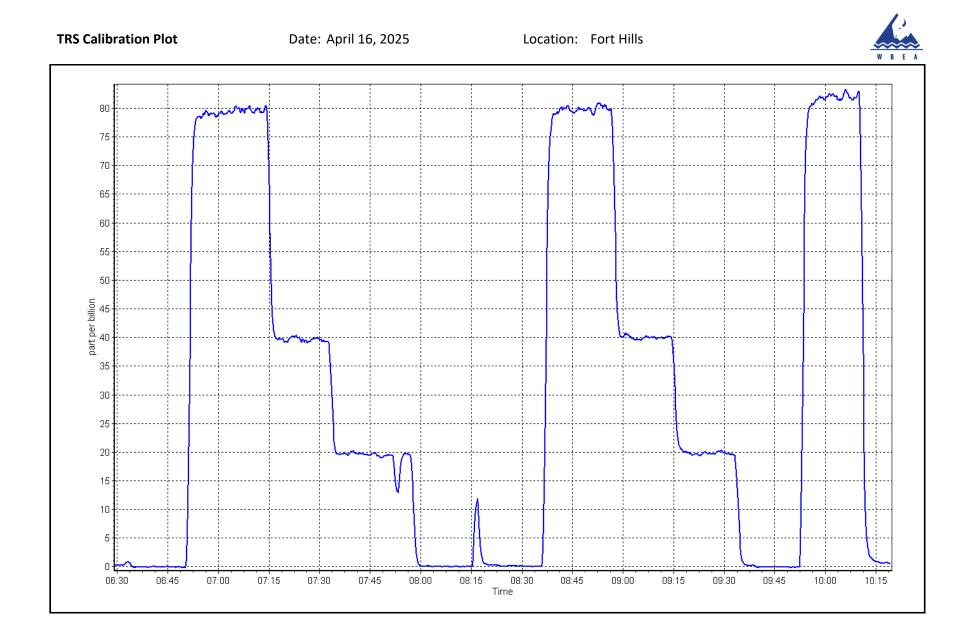
TRS Calibration Summary

Station Information

| Calibration Date: | April 16, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Hills | Station Number: | AMS 23 |
| Start Time (MST): | 6:32 | End Time (MST): | 10:19 |
| Analyzer make: | Thermo 43i TLE | Analyzer serial #: | 1300156232 |

| Calibration Data | | | | | | |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|--|
| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> | |
| 0.0 | 0.0 | | Correlation Coefficient | 0.999995 | ≥0.995 | |
| 80.0 | 80.1 | 0.9983 | Slope | 1.002388 | 0.90 - 1.10 | |
| 40.0 | 40.0 | 0.9994 | | | | |
| 20.0 | 19.9 | 1.0070 | Intercept | -0.078072 | +/-3 | |







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Analyzer serial #: 12227620777

NMHC/CH4 Range: 0 - 10 ppm

Station Information

| Station Name: | Fort Hills | Station number: AMS 23 |
|-------------------|----------------|-------------------------------|
| Calibration Date: | April 17, 2025 | Last Cal Date: March 17, 2025 |
| Start time (MST): | 6:30 | End time (MST): 9:05 |
| 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: | 451 |
| Zero Air Gen model: | API T701 | Serial Number: | 1117 |
| | | | |

Analyzer Information

Analyzer make: Thermo 55i THC Range: 0 - 20 ppm

| _ | | | | | |
|---------------------|--------------|---------------|-----------------|--------------|---------------|
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| CH4 SP Ratio: | 3.55E-04 | 3.55E-04 | NMHC SP Ratio: | 5.42E-05 | 5.42E-05 |
| CH4 Retention time: | 15.2 | 15.2 | NMHC Peak Area: | 164497 | 164497 |
| 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 | 79.4 | 16.92 | 17.00 | 0.996 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 17.00 | Prev response | 16.86 | *% change | 0.8% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4921 | 79.4 | 16.92 | 16.90 | 1.001 |
| Mid point | 4960 | 39.7 | 8.46 | 8.40 | 1.007 |
| Low point | 4980 | 19.8 | 4.22 | 4.21 | 1.003 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.4 | 16.92 | 16.85 | 1.004 |
| | | | Avera | age Correction Factor | 1.004 |

Notes:

Calibration Gas changed out. Span adjusted.



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4921 | 79.4 | 8.91 | 9.00 | 0.990 |
| Baseline Corr AF: | 9.00 | Prev response | 8.90 | *% change | 1.2% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiat | es 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 | 8.95 | 0.996 |
| Mid point | 4960 | 39.7 | 4.46 | 4.47 | 0.997 |
| Low point | 4980 | 19.8 | 2.22 | 2.25 | 0.987 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.4 | 8.91 | 8.90 | 1.002 |
| | | | Avera | ge Correction Factor | 0.994 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|--|----------------------------------|---|--|---|--|
| 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 As found Mid point As found Low point New cylinder response | 4921 | 79.4 | 8.01 | 7.99 | 1.002 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 7.99 NA NA | Prev response AF Slope: AF Correlation: | 7.97 | *% change AF Intercept: * = > +/-5% change initia | |

CH4 Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration C (ppm) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|--|---|--|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4921 | 79.4 | 8.01 | 7.95 | 1.007 |
| Mid point | 4960 | 39.7 | 4.00 | 3.93 | 1.019 |
| Low point | 4980 | 19.8 | 2.00 | 1.96 | 1.021 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4921 | 79.4 | 8.01 | 7.95 | 1.007 |
| | | | Avera | ge Correction Factor | 1.016 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 0.997066 | 0.998551 |
| THC Cal Offset: | -0.009783 | -0.012778 |
| CH4 Cal Slope: | 0.997435 | 0.993810 |
| CH4 Cal Offset: | -0.021799 | -0.020604 |
| NMHC Cal Slope: | 0.996952 | 1.003055 |
| NMHC Cal Offset: | 0.011416 | 0.006627 |
| | | |

Calibration Performed By:

Melissa Lemay

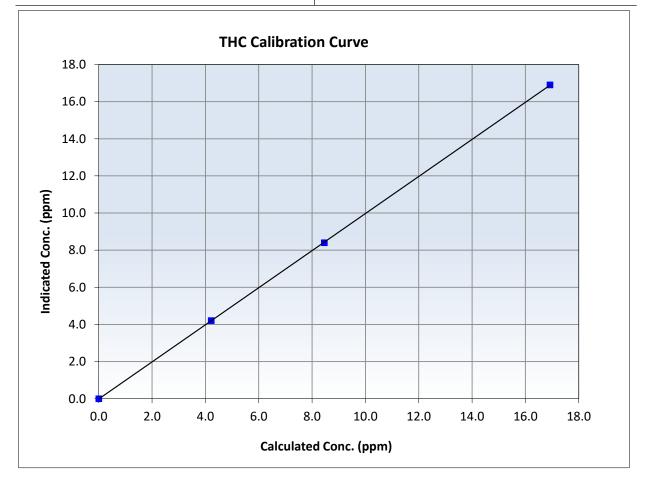


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 17, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Hills | Station Number: | AMS 23 |
| Start Time (MST): | 6:30 | End Time (MST): | 9:05 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 12227620777 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> | |
|--|---------------------------------------|----------------------------|-------------------------|-----------|---------------|-------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999989 | ≥0.995 | |
| 16.92 8.46 | 16.90 8.40 | 1.0012 1.0073 1.0028 | | Slope | 0.998551 | 0.90 - 1.10 |
| 4.22 | 4.21 | | Intercept | -0.012778 | +/-0.5 | |



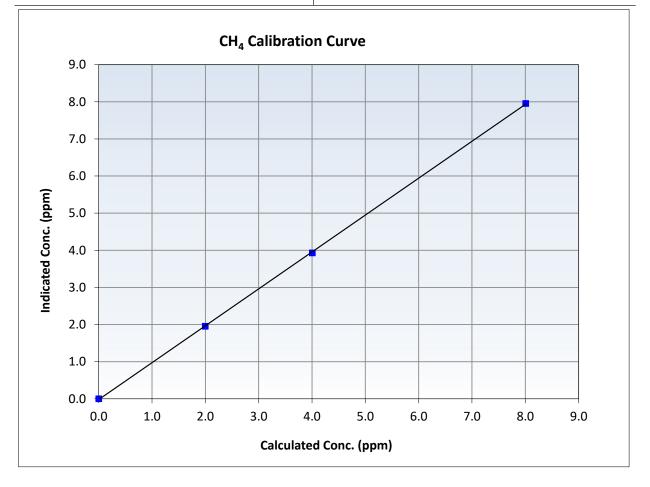


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 17, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Hills | Station Number: | AMS 23 |
| Start Time (MST): | 6:30 | End Time (MST): | 9:05 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 12227620777 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999954 | ≥0.995 |
| 8.01 4.00 | 7.95 3.93 | 1.0067 1.0189 | Slope | 0.993810 | 0.90 - 1.10 |
| 2.00 | 1.96 | 1.0210 | Intercept | -0.020604 | +/-0.5 |



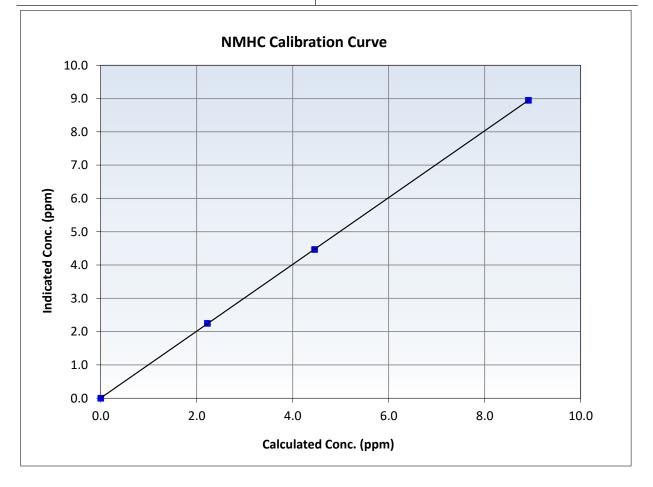


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

| Calibration Date: | April 17, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Hills | Station Number: | AMS 23 |
| Start Time (MST): | 6:30 | End Time (MST): | 9:05 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 12227620777 |

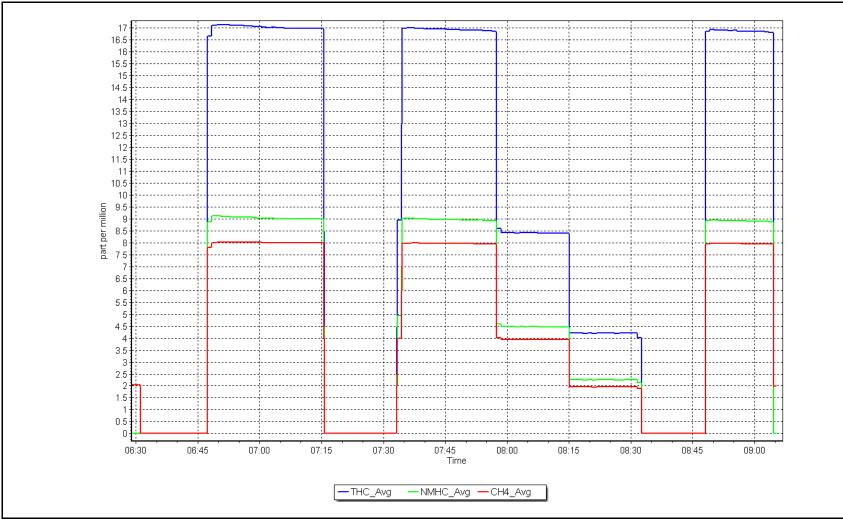
| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999992 | ≥0.995 |
| 8.91 4.46 | 8.95 4.47 | 0.9961 0.9975 | Slope | 1.003055 | 0.90 - 1.10 |
| 2.22 | 2.25 | 0.9874 | Intercept | 0.006627 | +/-0.5 |



NMHC Calibration Plot









Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Fort Hills | NO Gas Cylinder #: | CC358149 | Cal Gas Expiry Date: | January 5, 2032 |
|-------------------|----------------|-----------------------|-----------|----------------------|-----------------|
| Station number: | AMS 23 | NOX Cal Gas Conc: | 60.30 ppm | NO Cal Gas Conc: | 60.10 ppm |
| Calibration Date: | April 15, 2025 | Removed Cylinder #: | | Removed Gas Exp Date | : |
| Last Cal Date: | March 12, 2025 | Removed Gas NOX Conc: | 60.30 ppm | Removed Gas NO Conc | : 60.10 ppm |
| Start time (MST): | 6:50 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 11:33 | Calibrator Model: | API T700 | Serial Number: | 451 |
| Reason: | Routine | 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 | -0.4 | -0.4 | 0.0 | | |
| AF High point | 4934 | 66.3 | 799.5 | 796.9 | 2.7 | 775.0 | 770.9 | 4.0 | 1.0311 | 1.0332 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 794.8 ppb | NO = 793.8 | ppb | * = > +/-5 | % change initiates i | nvestigation | *Percent Chan | ge NO _x = | -2.5% |
| Baseline Corr 1 | .st pt NO _x = | 775.4 ppb | NO = 771.3 | ppb | <u>As Four</u> | nd Statistics | | *Percent Chan | ge NO = | -2.9% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d $NO_X r^2$: | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _X = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d $NO_2 r^2$: | | NO2 SI: | NO ₂ Int: | |
| | | | | As Fo | und GPT Calib | ration Data | | | | |
| | | | | | | | | Baseline Adjus | ted NO2 | |

| | | | | | buschine najusted NOL | |
|-------------------|------------------------|---------------------|--------------------------|--------------------------|----------------------------|------------------------|
| O3 Setpoint (ppb) | Indicated NO Reference | Indicated NO Drop | Calculated NO2 | Indicated NO2 | Correction factor | Converter Efficiency |
| Os serpoint (ppb) | concentration (ppb) | concentration (ppb) | concentration (ppb) (Cc) | concentration (ppb) (Ic) | (Cc/(Ic-AFzero)) | <i>Limit = 96-104%</i> |
| | | | | | <i>Limit = 0.90 - 1.10</i> | |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1152430007 | | | | | <u>Finish</u> |
|---------------------|--------------|---------------|---------------------------|----------------------------|---------------|-----------------------------|-----------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | NO _x Cal Slope: | 0.995194 | 0.999841 | | |
| | | | Instrument Settings | | | NO _x Cal Offset: | -0.872416 | 0.026011 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 0.999005 | 1.002405 |
| NO coeff or slope: | 0.940 | 0.970 | NO bkgnd or offset: | 2.8 | 2.5 | NO Cal Offset: | -2.271408 | -1.432704 |
| NOX coeff or slope: | 0.990 | 0.990 | NOX bkgnd or offset: | 3.0 | 2.7 | NO ₂ Cal Slope: | 0.998438 | 0.997503 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 146.3 | 146.3 | NO ₂ Cal Offset: | -1.622293 | -1.163127 |

Dilution Calibration Data

| Set Point | Dilution flow rate (sccm) | Source gas flow rate (sccm) | Calculated NOx concentration (ppb) (Cc) | Calculated NO concentration (ppb) (Cc) | Calculated NO2 concentration (ppb) (Cc) | Indicated NOx concentration (ppb) (Ic) | Indicated NO concentration (ppb) (Ic) | Indicated NO2 concentration (ppb) (Ic) | NOx Correction factor (Cc/Ic) Limit = 0.95-1.05 | NO Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|--------------|------------------------------|--------------------------------|---|--|---|--|---|--|---|--|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 0.0 | | |
| High point | 4934 | 66.3 | 799.5 | 796.9 | 2.7 | 799.4 | 798.2 | 1.2 | 1.0002 | 0.9983 |
| Mid point | 4967 | 33.2 | 400.4 | 399.0 | 1.3 | 400.5 | 397.7 | 2.7 | 0.9997 | 1.0034 |
| Low point | 4983 | 16.6 | 200.2 | 199.5 | 0.7 | 200.0 | 197.0 | 3.0 | 1.0011 | 1.0129 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | -0.1 | | |
| As left span | 4934 | 66.3 | 799.5 | 410.8 | 388.7 | 796.8 | 410.8 | 386.0 | 1.0034 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 1.0003 | 1.0049 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|---------------------------------------|---|---|--|--|
| Cal zero | | | 0.0 | 0.0 | | |
| High GPT point | 795.0 | 411.1 | 386.6 | 384.9 | 1.0043 | 99.6% |
| Mid GPT point | 795.0 | 603.0 | 194.7 | 192.8 | 1.0096 | 99.0% |
| Low GPT point | 795.0 | 696.9 | 100.8 | 97.9 | 1.0291 | 97.2% |
| | | | | Average Correction Factor | 1.0143 | 98.6% |

Notes: Zero and Span Adjusted. During second point the NOx and NO were spiking down, Blow out inside of analyzer. Continued Calibration.

Calibration Performed By:

Melissa Lemay

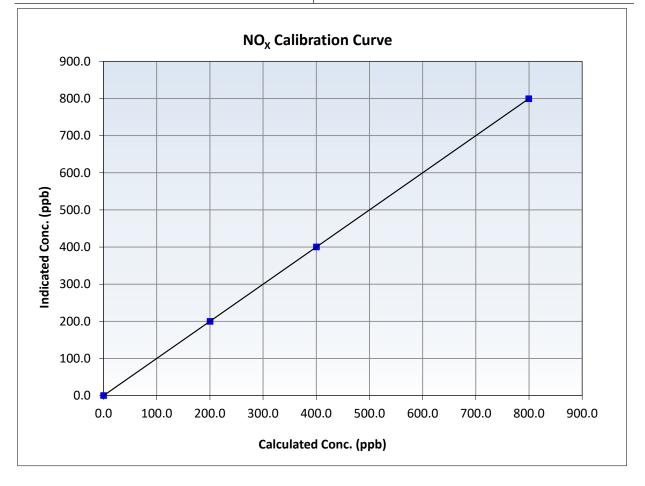


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Hills | Station Number: | AMS 23 |
| Start Time (MST): | 6:50 | End Time (MST): | 11:33 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1152430007 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 1.000000 | ≥0.995 |
| 799.5 400.4 | 799.4 400.5 | 1.0002 0.9997 | Slope | 0.999841 | 0.90 - 1.10 |
| 200.2 | 200.0 | 1.0011 | Intercept | 0.026011 | +/-20 |



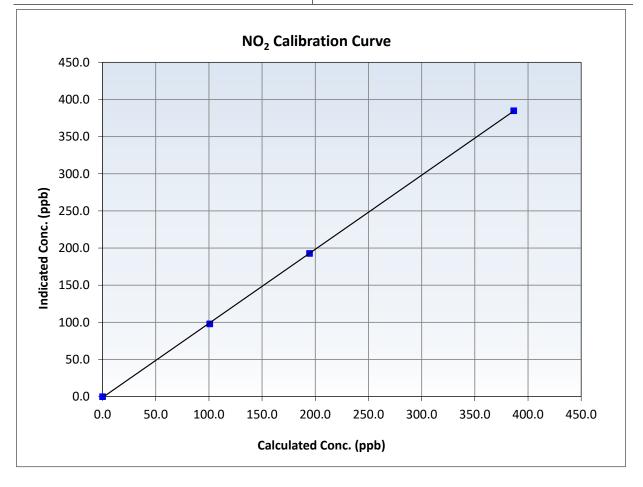


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Hills | Station Number: | AMS 23 |
| Start Time (MST): | 6:50 | End Time (MST): | 11:33 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1152430007 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999954 | ≥0.995 |
| 386.6 194.7 | 384.9 192.8 | 1.0043 1.0096 | Slope | 0.997503 | 0.90 - 1.10 |
| 100.8 | 97.9 | 1.0291 | Intercept | -1.163127 | +/-20 |



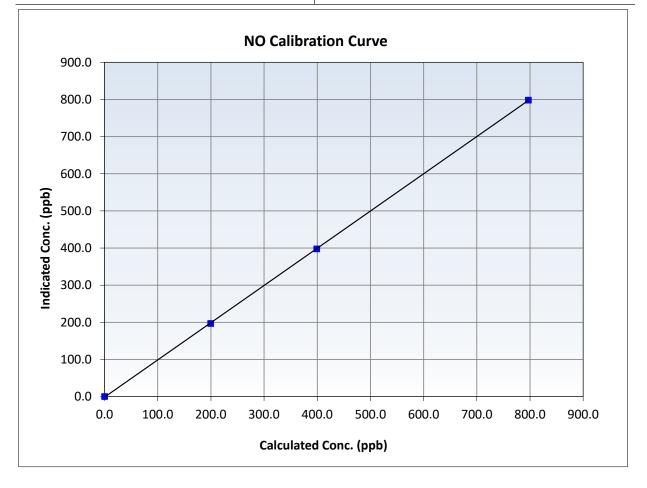


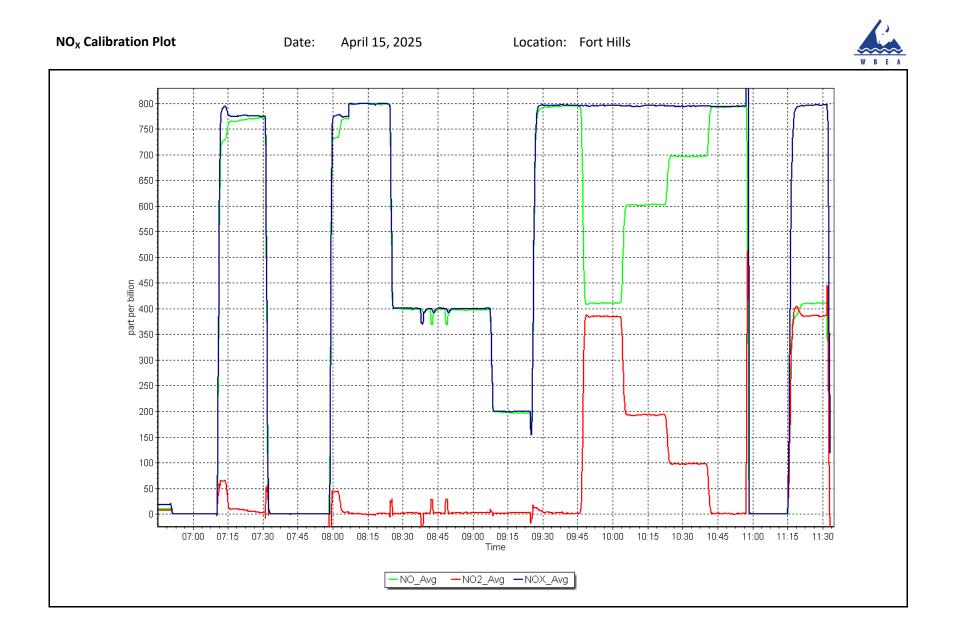
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Fort Hills | Station Number: | AMS 23 |
| Start Time (MST): | 6:50 | End Time (MST): | 11:33 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1152430007 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-------------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999981 | ≥0.995 |
| 796.9 | 798.2 | 0.9983 | Slope | 1.002405 0. | 0.90 - 1.10 |
| 399.0 | 397.7 | 1.0034 | Slope | 1.002405 | 0.90 - 1.10 |
| 199.5 | 197.0 | 1.0129 | Intercept | -1.432704 | +/-20 |







Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| WBEA | | Ctation Informat | 1 | | Version-01-202 |
|------------------------|-----------------|----------------------------|----------------------|-----------------|----------------|
| | | Station Informat | ion | | |
| Station Name: | Fort Hills | | Station number: AMS | 5 23 | |
| Calibration Date: | April 17, 2025 | | Last Cal Date: Mar | ch 17, 2025 | |
| Start time (MST): | 7:00 | | End time (MST): 7:52 | | |
| Analyzer Make: | API T640 | | S/N: 320 | | |
| Particulate Fraction: | PM2.5 | | | | |
| Flow Meter Make/Model: | Alicat FP-25BT | | S/N: 388 | 744 | |
| Temp/RH standard: | Alicat FP-25BT | | S/N: 3887 | 744 | |
| | I | Monthly Calibration | n Test | | |
| <u>Parameter</u> | <u>As found</u> | Measured | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| T (°C) | -3.8 | -4.1 | -3.8 | | +/- 2 °C |
| P (mmHg) | 740.4 | 739.4 | 740.4 | | +/- 10 mmHg |
| Flow (LPM) | 4.98 | 4.96 | 4.98 | | +/- 0.25 LPM |
| PW% (pump) | 55 | | 55 | | >80% |
| Zero Verification | PM w/o HEPA: | 4.7 | PM w/ HEPA: | 0.0 | <0.2 ug/m3 |

Note: this leak check will be completed before the quarterly work and will serve as the pre maintenance leak check PM Inlet observation : Inlet Head Clean 🗹 Alignment Factor On : 🗹

| Quarterly Calibration Test | | | | | | | |
|--------------------------------------|-------------------|---------------------|----------------|-----------------|----------|--|--|
| SPAN DUST | Refractive Index: | : 10.9 Expiry Date: | | 16-Jul-26 | | | |
| SPAN DOST | Lot No.: | 100128-050-050 | | | | | |
| <u>Parameter</u> | <u>As found</u> | Post maintenance | <u>As left</u> | <u>Adjusted</u> | (Limits) | | |
| PMT Peak Test | 8 | 11.2 | 11.2 | | +/- 0.5 | | |
| Date Optical Chamb | er Cleaned: | April 17, | 2025 | | | | |
| Date Disposable Filter Changed: | | April 17, | 2025 | | | | |
| Post- maintenance Zero Verification: | | PM w/ HEPA: 0 | | <0.2 ug/m3 | | | |

Annual Maintenance

Date Sample Tube Cleaned:ApriDate RH/T Sensor Cleaned:Apri

April 17, 2025 April 17, 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 APRIL 2025

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

May 30, 2025



Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Waskow ohci Pimatisiwin | Station number: AMS 25 |
|-------------------|-------------------------|-------------------------------|
| Calibration Date: | April 9, 2025 | Last Cal Date: March 25, 2025 |
| Start time (MST): | 7:04 | End time (MST): 9:50 |
| 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 Info | <u>prmation</u> | | |
|--------------|---------------------------------------|--|--|---|
| Thermo 43i | | Serial Number: 11 | 18148497 | |
| 0-1000ppb | | | | |
| <u>Start</u> | <u>Finish</u> | | <u>Start</u> | Finish |
| 1.003113 | 1.007511 | Backgd or Offset: | 11.3 | 11.3 |
| -0.352267 | 0.109107 | Coeff or Slope: | 1.065 | 1.065 |
| | 0-1000ppb <u>Start</u> 1.003113 | Thermo 43i 0-1000ppb <u>Start</u> <u>Finish</u> 1.003113 1.007511 | 0-1000ppb <u>Start</u> <u>Finish</u> 1.003113 1.007511 Backgd or Offset: | Serial Number: 1118148497 0-1000ppb Start Start Finish Start 1.003113 1.007511 Backgd or Offset: 11.3 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4920 | 80.5 | 800.1 | 802.9 | 0.997 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 802.8 NA NA | Previous response AF Slope: AF Correlation: | 802.2 | *% change AF Intercept: * = > +/-5% change initiate | 0.1% es investigation |

SO₂ 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 | 80.5 | 800.1 | 806.1 | 0.993 |
| Mid point | 4960 | 40.2 | 399.6 | 403.1 | 0.991 |
| Low point | 4980 | 20.1 | 199.8 | 201.0 | 0.994 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 4920 | 80.5 | 800.1 | 807.2 | 0.991 |
| | | | Averag | ge Correction Factor: | 0.993 |

Notes:

No Maintenance or adjustments done.

Calibration Performed By:

Melissa Lemay

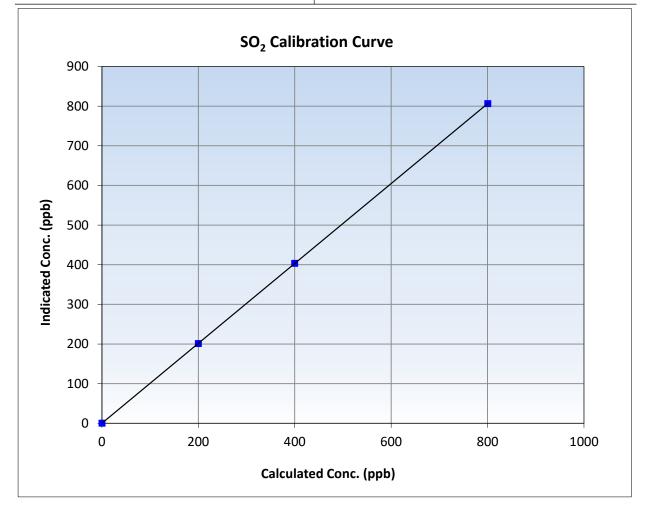


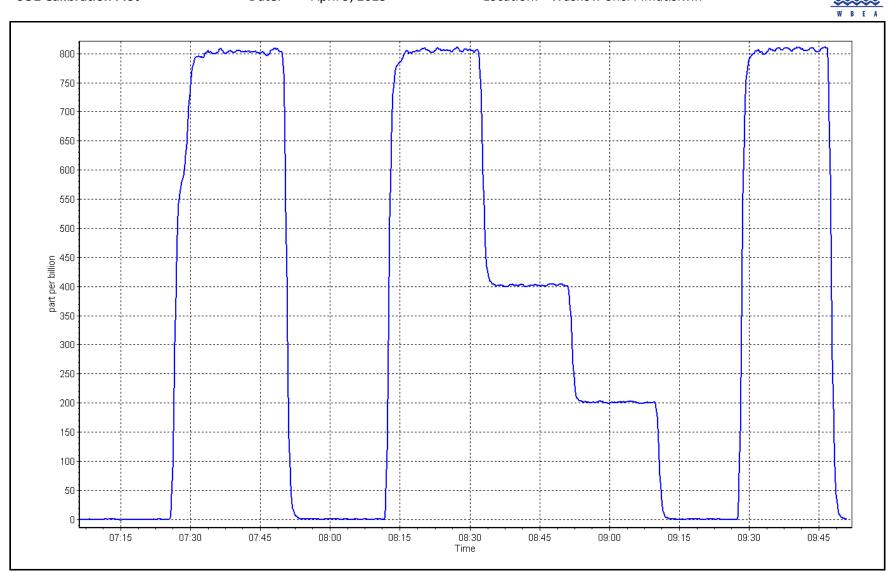
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 9, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|-------------------------|-----------------------|----------------|
| Station Name: | Waskow ohci Pimatisiwin | Station Number: | AMS 25 |
| Start Time (MST): | 7:04 | End Time (MST): | 9:50 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1118148497 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999999 | ≥0.995 |
| 800.1 399.6 | 806.1 403.1 | 0.9925 0.9912 | Slope | 1.007511 | 0.90 - 1.10 |
| 199.8 | 201.0 | 0.9940 | Intercept | 0.109107 | +/-30 |





SO2 Calibration Plot

Date: April 9, 2025

Location: Waskow ohci Pimatisiwin





Wood Buffalo Environmental Association H₂S Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Waskow ohci Pima April 23, 2025 7:10 Routine | ıtisiwin | Station number: Last Cal Date: End time (MST): | AMS 25 March 24, 2025 11:07 | 5 | | |
|--|---|--------------------|--|-----------------------------------|-----|------|---------------|
| | | Calibration | <u>Standards</u> | | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 4.97 CC517099 | ppm | Cal Gas Exp Date: | January 3, 2026 | 5 | | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 4.97 | ppm | Rem Gas Exp Date: Diff between cyl: | | | | |
| Calibrator Make/Model: | API T700 | | Serial Number: | 747 | | | |
| ZAG Make/Model: | API T701 | | Serial Number: | 261 | | | |
| | | Analyzer In | formation | | | | |
| Analyzer make: | Thermo 43i-LTE | | Analyzer serial #: | 1170050146 | | | |
| Converter make: | Global G-150 | | Converter serial #: | 2022-219 | | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 325 | degC | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | | <u>Finish</u> |
| Calibration slope: | 1.011498 | 1.007473 | Backgd or Offset: | 3.50 | | | 3.50 |
| Calibration intercept: | -0.140000 | 0.000000 | Coeff or Slope: | 1.108 | | | 1.086 |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As found High point | 4920 | 80.0 | 79.5 | 82.8 | 0.959 |
| As found Mid point | 4960 | 40.0 | 39.8 | 41.4 | 0.958 |
| As found Low point | 4980 | 20.0 | 19.9 | 20.6 | 0.960 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 82.9 | Prev response: | 80.29 | *% change: | 3.1% |
| Baseline Corr 2nd AF pt: | 41.5 | AF Slope: | 1.042685 | AF Intercept: | -0.100000 |
| Baseline Corr 3rd AF pt: | 20.7 | AF Correlation: | 0.999999 | * = > +/-5% change initiate | es 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/lc) Limit = 0.95-1.05 |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.0 | |
| High point | 4920 | 80.0 | 79.5 | 80.1 | 0.993 |
| Mid point | 4960 | 40.0 | 39.8 | 40.1 | 0.992 |
| Low point | 4980 | 20.0 | 19.9 | 20.0 | 0.994 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4920 | 80.0 | 800.0 | 811.7 | 0.986 |
| SO2 Scrubber Check | 4920 | 80.0 | 800.0 | 0.0 | |
| Date of last scrubber ch | ange: | | | Ave Corr Factor | 0.993 |
| Date of last converter e | fficiency test: | February 12, 2025 | | 111.0% | efficiency |

Notes:

SOx Scrubber checked after the calibrator zero. Span adjusted.

Calibration Performed By:

Melissa Lemay



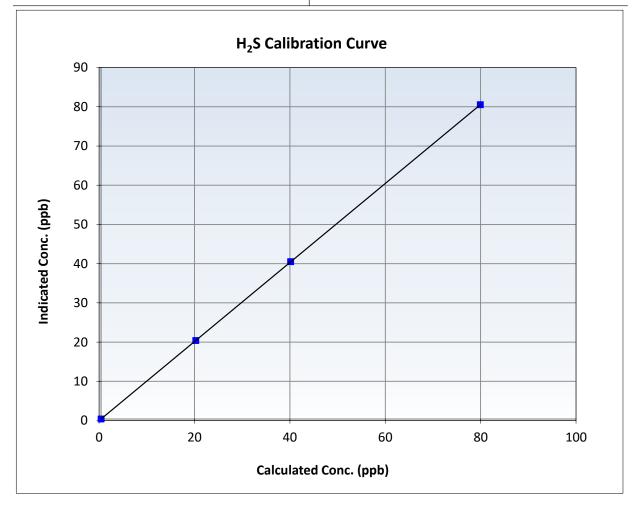
Wood Buffalo Environmental Association

H₂S Calibration Summary

Station Information

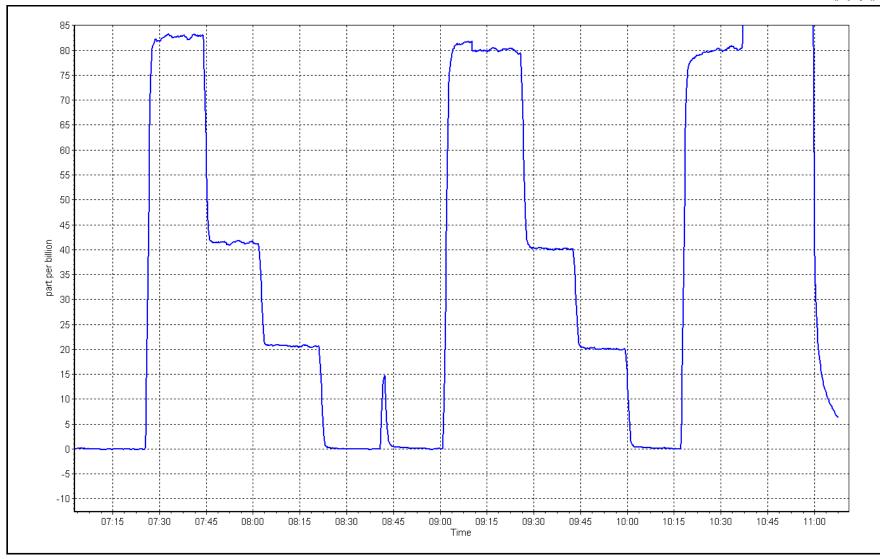
| Calibration Date: | April 23, 2025 | Previous Calibration: | March 24, 2025 |
|-------------------|-------------------------|-----------------------|----------------|
| Station Name: | Waskow ohci Pimatisiwin | Station Number: | 10:47:00 AM |
| Start Time (MST): | 7:10 | End Time (MST): | 11:07 |
| Analyzer make: | Thermo 43i-LTE | Analyzer serial #: | 1170050146 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999999 | ≥0.995 |
| 79.5 39.8 | 80.1 40.1 | 0.9928 0.9915 | Slope | 1.007473 | 0.90 - 1.10 |
| 19.9 | 20.0 | 0.9940 | Intercept | 0.000000 | +/-3 |











WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS27 JACKFISH 2/3 APRIL 2025

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

May 30, 2025



Analyzer make:

Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Jackfish 2/ |
|-------------------|--------------|
| Calibration Date: | April 11, 20 |
| Start time (MST): | 10:47 |
| Reason: | Routine |

:kfish 2/3 ril 11, 2025 :47

Thermo 43iQ-TL

Station number: AMS 27 Last Cal Date: March 13, 2025 End time (MST): 14:04

Serial Number: 12124313138

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 Range: 0 - 1000 ppb <u>Start</u> **Finish** <u>Start</u> Finish Calibration slope: 0.997385 1.010079 Backgd or Offset: 8.5 8.4 Calibration intercept: -0.546041 0.842963 Coeff or Slope: 0.947 0.947

SO₂ 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 | 1.2 | |
| As found High point As found Mid point As found Low point New cylinder response | 4913 | 78.9 | 799.4 | 808.6 | 0.990 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 807.4 NA NA | Previous response AF Slope: AF Correlation: | 796.8 | *% change AF Intercept: * = > +/-5% change initiate | 1.3% es investigation |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 1.3 | |
| High point | 4913 | 78.9 | 799.4 | 808.8 | 0.988 |
| Mid point | 4955 | 39.5 | 400.0 | 404.0 | 0.990 |
| Low point | 4971 | 19.7 | 199.7 | 202.5 | 0.986 |
| As left zero | 5000 | 0.0 | 0.0 | 1.3 | |
| As left span | 4913 | 78.9 | 799.4 | 807.3 | 0.990 |
| | | | Averag | e Correction Factor: | 0.988 |

Notes:

Changed the sample inlet filter after as founds. No adjustments made.

Calibration Performed By:

Mohammed Kashif

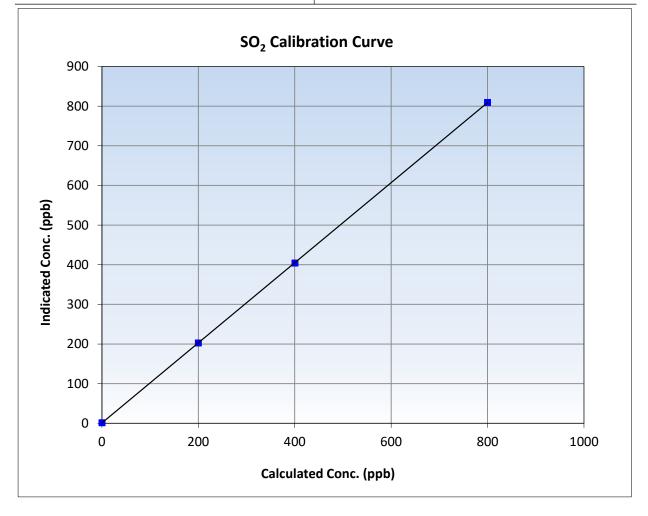


Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

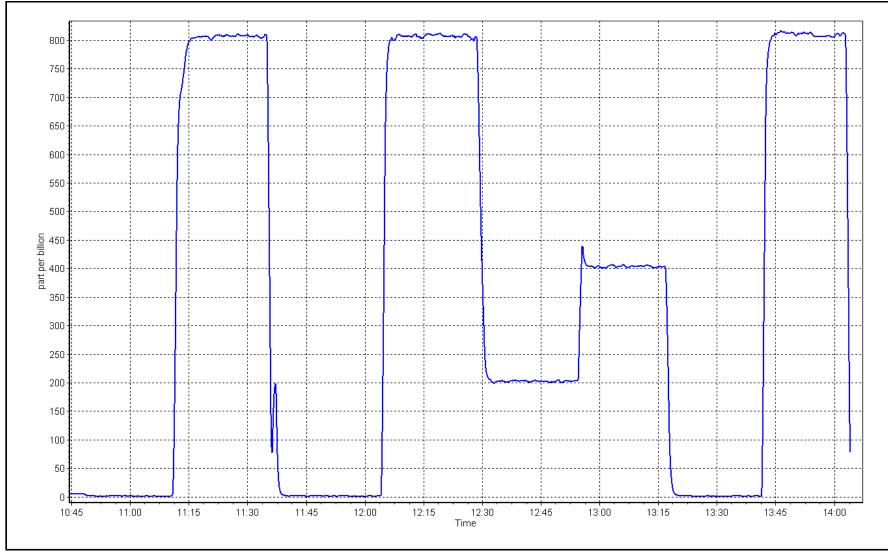
| Calibration Date: | April 11, 2025 | Previous Calibration: | March 13, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Jackfish 2/3 | Station Number: | AMS 27 |
| Start Time (MST): | 10:47 | End Time (MST): | 14:04 |
| Analyzer make: | Thermo 43iQ-TL | Analyzer serial #: | 12124313138 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 1.3 | | Correlation Coefficient | 0.999997 | ≥0.995 |
| 799.4 400.0 | 808.8 404.0 | 0.9884 0.9902 | Slope | 1.010079 | 0.90 - 1.10 |
| 199.7 | 202.5 | 0.9860 | Intercept | 0.842963 | +/-30 |











Wood Buffalo Environmental Association H₂S Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Jackfish 2/3 April 23, 2025 11:48 Routine | | Station number: Last Cal Date: End time (MST): | AMS 27 March 19, 2025 18:33 | |
|--|--|--------------------|--|-----------------------------------|------|
| | | Calibration | Standards | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 4.87 CC523090 | ppm | Cal Gas Exp Date: | September 5, 2027 | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 4.87 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | |
| Calibrator Make/Model: ZAG Make/Model: | API T700 API T701H | | Serial Number: Serial Number: | 5252 268 | |
| , | | Analyzer Inf | | | |
| | The second 2010 | Analyzer III | | 42220024055 | |
| Analyzer make: | Thermo 43iQ | | Analyzer serial #: | 12228021055 2022-195 | |
| Converter make: | Global G150 | | Converter serial #: | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | 325 | degC |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | |
| Calibration slope: | 1.011680 | 1.004231 | Backgd or Offset: | 3.6 | |
| Calibration intercept: | -0.227800 | 0.159197 | Coeff or Slope: | 1.136 | |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.3 | |
| As found High point | 4911 | 82.0 | 80.0 | 81.1 | 0.983 |
| As found Mid point | 4951 | 41.0 | 40.0 | 40.1 | 0.990 |
| As found Low point | 4973 | 20.5 | 20.0 | 19.7 | 1.000 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 81.4 | Prev response: | 80.69 | *% change: | 0.9% |
| Baseline Corr 2nd AF pt: | 40.4 | AF Slope: | 1.018806 | AF Intercept: | -0.500808 |
| Baseline Corr 3rd AF pt: | 20.0 | AF Correlation: | 0.999971 | * = > +/-5% change initiate | es 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/lc) Limit = 0.95-1.05 |
|---------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.2 | |
| High point | 4911 | 82.0 | 80.0 | 80.5 | 0.994 |
| Mid point | 4951 | 41.0 | 40.0 | 40.3 | 0.993 |
| Low point | 4973 | 20.5 | 20.0 | 20.2 | 0.990 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 4911 | 82.0 | 80.0 | 79.2 | 1.010 |
| SO2 Scrubber Check | 4915 | 78.9 | 790.0 | -0.2 | |
| Date of last scrubber cha | inge: | 21-Feb-25 | | Ave Corr Factor | 0.992 |
| Date of last converter ef | ficiency test: | April 23, 2025 | | 91.4% | efficiency |

Notes: Performed a converter efficiency test. Changed sample inlet filter after as founds. Ran scrubber check after calibrator zero and it passed. Adjusted span only.

Calibration Performed By:

Mohammed Kashif

Finish 3.6 1.150



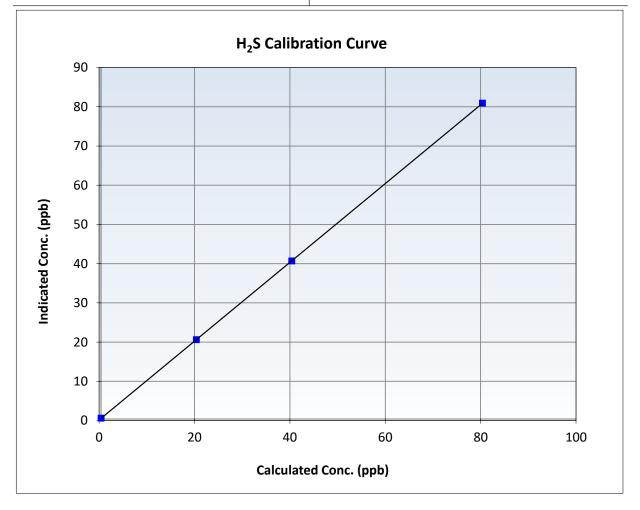
Wood Buffalo Environmental Association

H₂S Calibration Summary

Station Information

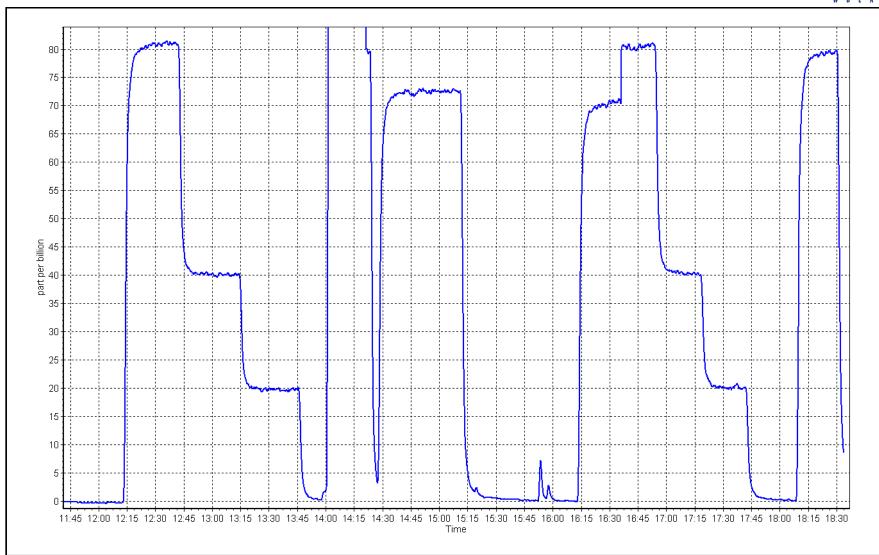
| Calibration Date: | April 23, 2025 | Previous Calibration: | March 19, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Jackfish 2/3 | Station Number: | AMS 27 |
| Start Time (MST): | 11:48 | End Time (MST): | 18:33 |
| Analyzer make: | Thermo 43iQ | Analyzer serial #: | 12228021055 |

| <u>cannaton bata</u> | | | | | | |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|--|
| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> | |
| 0.0 | 0.2 | | Correlation Coefficient | 0.999999 | ≥0.995 | |
| 80.0 40.0 | 80.5 40.3 | 0.9935 0.9925 | Slope | 1.004231 | 0.90 - 1.10 | |
| 20.0 | 20.2 | 0.9898 | Intercept | 0.159197 | +/-3 | |











Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Jackfish 2/3 | NO Gas Cylinder #: | CC757838 | Cal Gas Expiry Date: | January 9, 2032 |
|-------------------|----------------|-----------------------|-------------------|-----------------------|-----------------|
| Station number: | AMS 27 | NOX Cal Gas Conc: | 60.30 ppm | NO Cal Gas Conc: | 60.20 ppm |
| Calibration Date: | April 14, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date: | NA |
| Last Cal Date: | March 18, 2025 | Removed Gas NOX Conc: | 60.30 ppm | Removed Gas NO Conc: | 60.20 ppm |
| Start time (MST): | 11:12 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 16:28 | Calibrator Model: | Teledyne API T700 | Serial Number: | 5252 |
| Reason: | Routine | 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 | 0.4 | 0.5 | -0.1 | | |
| AF High point | 4924 | 66.3 | 801.1 | 799.8 | 1.3 | 810.2 | 804.9 | 5.4 | 0.9893 | 0.9943 |
| AF Mid point AF Low point New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 799.3 ppb | NO = 796.9 | ppb | * = > +/-5 | % change initiates i | nvestigation | *Percent Chan | ge NO _x = | 1.3% |
| Baseline Corr 1 | lst pt NO _X = | 809.8 ppb | NO = 804.4 | ppb | <u>As Four</u> | d Statistics | | *Percent Chan | ge NO = | 0.9% |
| Baseline Corr 2 | 2nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d $NO_X r^2$: | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _X = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calib | ration Data | | | | |
| | | | | | | | | Baseline Adjus | | |
| O3 Setpo | oint (ppb) | Indicated NO Re concentration | | cated NO Drop entration (ppb) | Calculated N concentration (pp | | dicated NO2 ntration (ppb) (Ic) | Correction f (Cc/(Ic-AFz | | verter Efficiency nit = 96-104% |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point *Limit = 0.90 - 1.10*



Analyzer Information

Wood Buffalo Environmental Association

NO_X \ NO \ NO₂ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1218153 | 3357 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 1.000532 | 0.996775 |
| | | | Instrument Settings | | | NO _x Cal Offset: | -2.295044 | 1.250382 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 1.001195 | 0.999158 |
| NO coeff or slope: | 1.279 | 1.272 | NO bkgnd or offset: | 4.3 | 4.3 | NO Cal Offset: | -3.895489 | -0.729210 |
| NOX coeff or slope: | 0.996 | 0.996 | NOX bkgnd or offset: | 4.4 | 4.4 | NO ₂ Cal Slope: | 1.000485 | 0.999829 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 158.1 | 159.3 | NO ₂ Cal Offset: | -0.127047 | 0.510255 |

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) <i>Limit = 0.95-1.05</i> | NO Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|--------------|------------------------------|--------------------------------|---|--|---|--|---|--|--|--|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 | 0.6 | 0.5 | | |
| High point | 4924 | 66.3 | 801.1 | 799.8 | 1.3 | 799.8 | 799.0 | 0.8 | 1.0017 | 1.0010 |
| Mid point | 4958 | 33.2 | 401.1 | 400.4 | 0.7 | 401.0 | 398.9 | 2.1 | 1.0002 | 1.0038 |
| Low point | 4976 | 16.6 | 200.5 | 200.2 | 0.3 | 201.2 | 197.8 | 3.4 | 0.9965 | 1.0119 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 0.8 | 2.1 | | |
| As left span | 4924 | 66.3 | 801.1 | 374.4 | 426.7 | 796.8 | 374.4 | 422.4 | 1.0054 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9995 | 1.0056 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|---|---|--|---|
| Cal zero | | | 0.0 | 0.5 | | |
| High GPT point | 793.4 | 373.0 | 421.7 | 422.2 | 0.9989 | 100.1% |
| Mid GPT point | 793.4 | 577.3 | 217.4 | 217.8 | 0.9983 | 100.2% |
| Low GPT point | 793.4 | 691.7 | 103.0 | 103.6 | 0.9945 | 100.6% |
| | | | | Average Correction Factor | 0.9972 | 100.3% |

Notes:

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

Calibration Performed By:

Mohammed Kashif

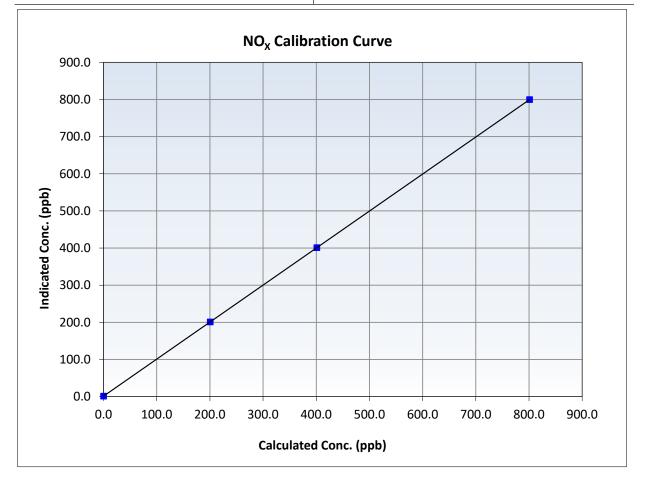


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 14, 2025 | Previous Calibration: | March 18, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Jackfish 2/3 | Station Number: | AMS 27 |
| Start Time (MST): | 11:12 | End Time (MST): | 16:28 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1218153357 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 1.2 | | Correlation Coefficient | 1.000000 | ≥0.995 |
| 801.1 401.1 | 799.8 401.0 | 1.0017 1.0002 | Slope | 0.996775 | 0.90 - 1.10 |
| 200.5 | 201.2 | 0.9965 | Intercept | 1.250382 | +/-20 |



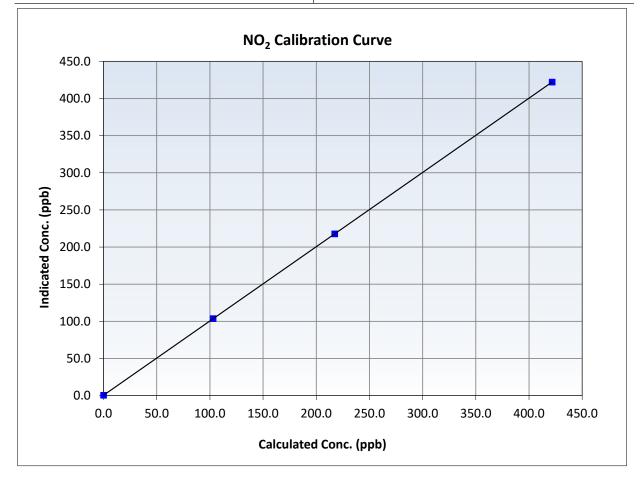


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 14, 2025 | Previous Calibration: | March 18, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Jackfish 2/3 | Station Number: | AMS 27 |
| Start Time (MST): | 11:12 | End Time (MST): | 16:28 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1218153357 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.5 | | Correlation Coefficient | 1.000000 | ≥0.995 |
| 421.7 217.4 | 422.2 217.8 | 0.9989 0.9983 | Slope | 0.999829 | 0.90 - 1.10 |
| 103.0 | 103.6 | 0.9945 | Intercept | 0.510255 | +/-20 |



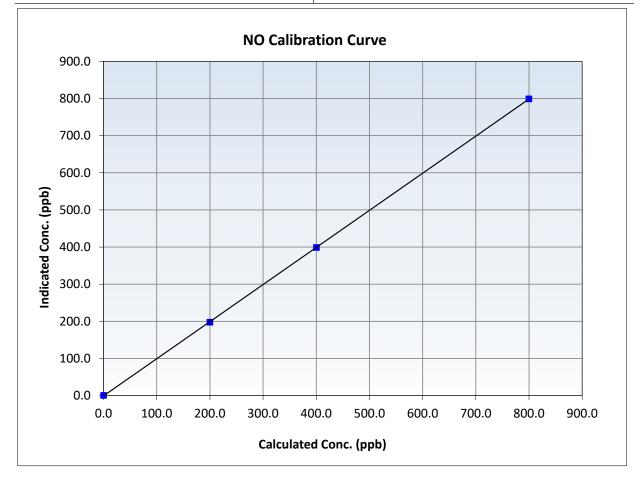


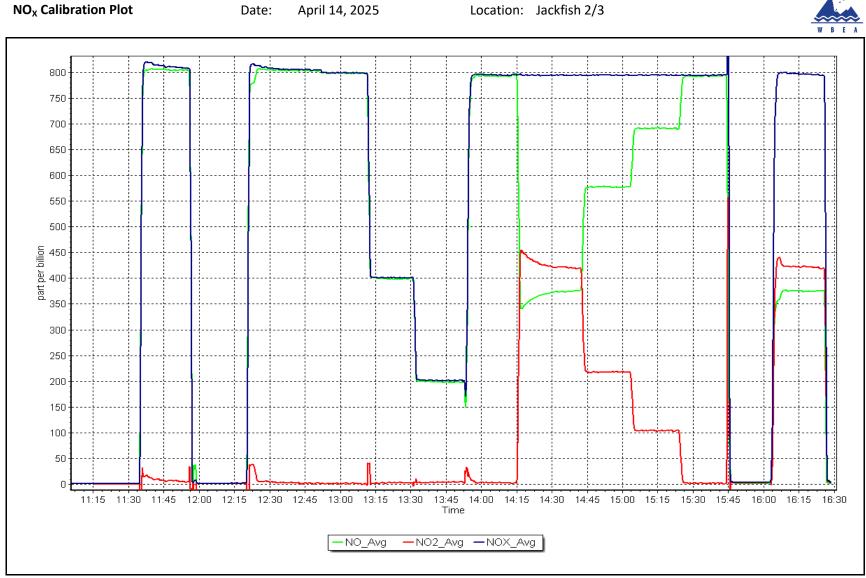
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 14, 2025 | Previous Calibration: | March 18, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Jackfish 2/3 | Station Number: | AMS 27 |
| Start Time (MST): | 11:12 | End Time (MST): | 16:28 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1218153357 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.6 | | Correlation Coefficient | 0.999987 | ≥0.995 |
| 799.8 400.4 | 799.0 398.9 | 1.0010 1.0038 | Slope | 0.999158 | 0.90 - 1.10 |
| 200.2 | 197.8 | 1.0119 | Intercept | -0.729210 | +/-20 |







WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS29 SURMONT 2 APRIL 2025

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

May 30, 2025



Analyzer make: Analyzer Range:

Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Surmont 2 |
|-------------------|----------------|
| Calibration Date: | April 14, 2025 |
| Start time (MST): | 10:28 |
| Reason: | Routine |

Station number: AMS 29 Last Cal Date: March 17, 2025 End time (MST): 14:14

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: 4428 |
| | | | |

Thermo 43i

0 - 1000 ppb

Analyzer Information

Serial Number: 1170050150

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 1.000431 | 1.006144 | Backgd or Offset: | 14.5 | 14.3 |
| Calibration intercept: | -1.000571 | -1.799656 | Coeff or Slope: | 0.962 | 0.956 |

SO₂ 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 As found Mid point | 4919.9 | 80.1 | 800.2 | 806.0 | 0.992 |
| As found Low point New cylinder response | 4920 | 80.1 | 800.2 | | |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 806.3 NA NA | Previous response AF Slope: AF Correlation: | 799.5 | *% change AF Intercept: * = > +/-5% change initiate | 0.8% es investigation |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.2 | |
| High point | 4920 | 80.1 | 800.2 | 804.0 | 0.995 |
| Mid point | 4960 | 40.0 | 399.6 | 400.2 | 0.999 |
| Low point | 4980 | 20.0 | 199.8 | 196.6 | 1.016 |
| As left zero | 5000 | 0.0 | 0.0 | -0.2 | |
| As left span | 4920 | 80.1 | 800.2 | 798.1 | 1.003 |
| | | | Averag | 1.003 | |

Notes:

Changed sample inlet filter after as founds. Adjusted span.

Calibration Performed By:

Braiden Boutilier

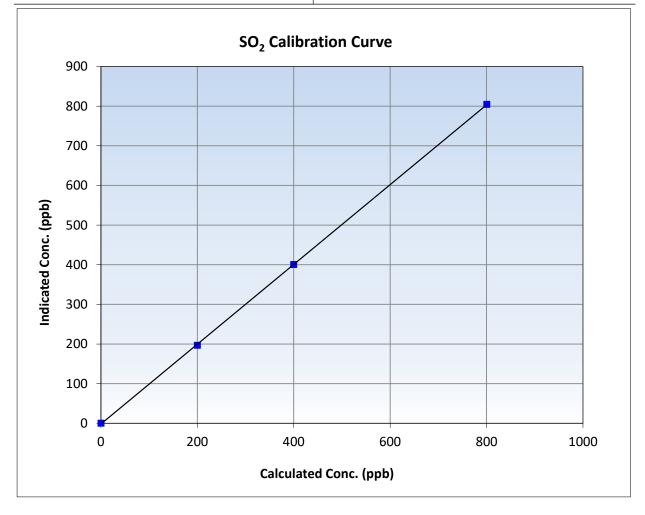


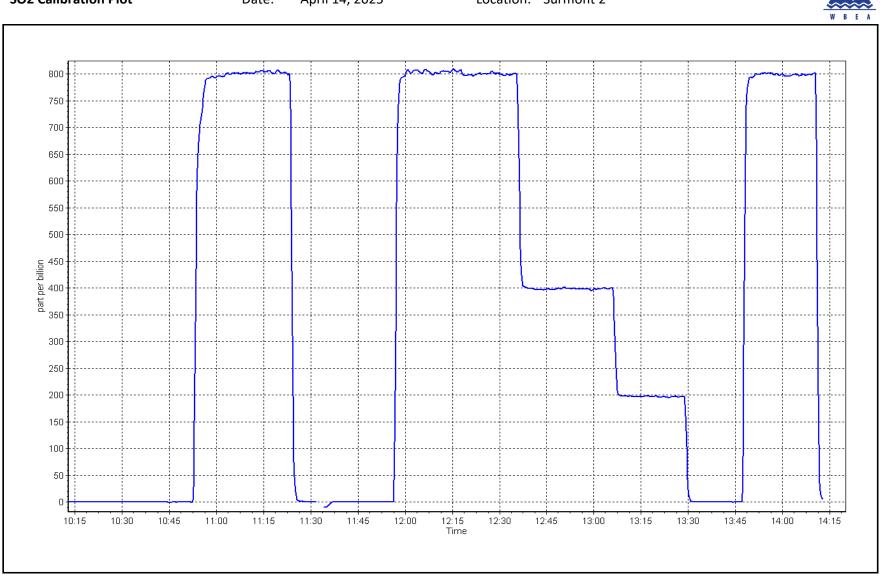
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 14, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Surmont 2 | Station Number: | AMS 29 |
| Start Time (MST): | 10:28 | End Time (MST): | 14:14 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1170050150 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999968 | ≥0.995 |
| 800.2 399.6 | 804.0 400.2 | 0.9953 0.9985 | Slope | 1.006144 | 0.90 - 1.10 |
| 199.8 | 196.6 | 1.0163 | Intercept | -1.799656 | +/-30 |







Wood Buffalo Environmental Association H2S Calibration Report

Station Information

| | | Station into | mation | | | | |
|--|---|---------------|--|---------------------------------|-------|------|---|
| Station Name: Calibration Date: Start time (MST): Reason: | Surmont 2 April 8, 2025 9:59 Routine | | Station number: Last Cal Date: End time (MST): | AMS 29 March 26, 20 15:34 | 25 | | |
| | | Calibration S | itandards | | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | <u>4.750</u> CC737848 | ppm | Cal Gas Exp Date: | August 28, 20 | 027 | | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | <u>4.750</u> NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | | | |
| Calibrator Make/Model: | Teledyne API T700 | | Serial Number: | 5472 | | | |
| ZAG Make/Model: | Teledyne API T701 | | Serial Number: | 4428 | | | |
| | | Analyzer Info | ormation | | | | |
| 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 | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | | F |
| Calibration slope: | 1.006025 | 1.003882 | Backgd or Offset: | 0.94 | | | |
| Calibration intercept: | -0.080482 | -0.180480 | Coeff or Slope: | 1.039 | | | : |
| | | | | | | | |

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)) <i>Limit = 0.90-1.10</i> |
|---|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As found High point | 4916 | 84.2 | 80.0 | 81.7 | 0.978 |
| As found Mid point | 4958 | 42.1 | 40.0 | 40.5 | 0.985 |
| As found Low point New cylinder response | 4979 | 21.1 | 20.0 | 20.4 | 0.975 |
| Baseline Corr As found: | 81.8 | Prev response: | 80.39 | *% change: | 1.7% |
| Baseline Corr 2nd AF pt: | 40.6 | AF Slope: | 1.022028 | AF Intercept: | -0.140489 |
| Baseline Corr 3rd AF pt: | 20.5 | AF Correlation: | 0.999979 | * = > +/-5% change initiate | es 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/lc) Limit = 0.95-1.05 |
|---------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | -0.1 | |
| High point | 4916 | 84.2 | 80.0 | 80.2 | 0.997 |
| Mid point | 4958 | 42.1 | 40.0 | 39.8 | 1.005 |
| Low point | 4979 | 21.1 | 20.0 | 19.9 | 1.005 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4916 | 84.2 | 80.0 | 79.1 | 1.011 |
| SO2 Scrubber Check | 4919 | 81.3 | 813.0 | 0.1 | |
| Date of last scrubber cha | ange: | | | Ave Corr Factor | 1.002 |
| Date of last converter ef | ficiency test: | December 5, 2024 | | 108.1% | efficiency |

Notes: Changed sample inlet filter after as founds. Ran SOx scrubber check after cal zero, passed. Adjusted span.

Calibration Performed By:

Braiden Boutilier

Finish 0.95 1.031



Wood Buffalo Environmental Association

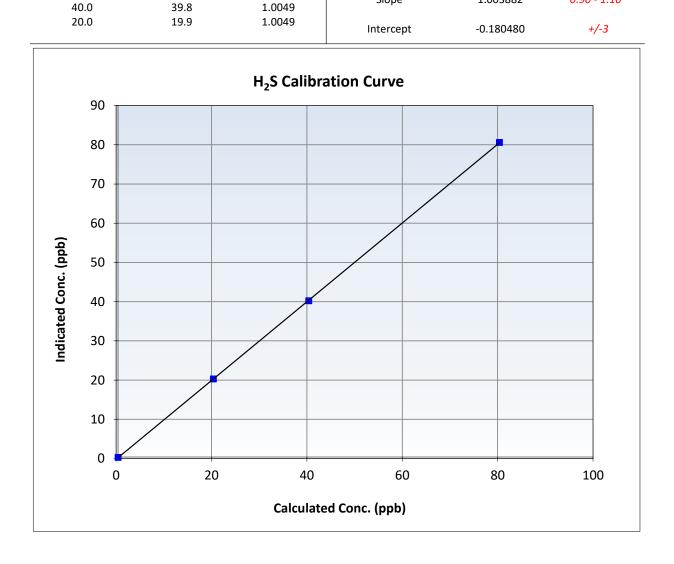
H2S Calibration Summary

Slope

Station Information

| Calibration Date: | April 8, 2025 | Previous Calibration: | March 26, 2025 |
|-------------------|-----------------|-----------------------|----------------|
| Station Name: | Surmont 2 | Station Number: | AMS 29 |
| Start Time (MST): | 9:59 | End Time (MST): | 15:34 |
| Analyzer make: | Thermo 43iQ-TLE | Analyzer serial #: | 1200326170 |

Calibration Data Calculated concentration Indicated concentration Correction factor (Cc/lc) Statistical Evaluation (ppb) (Cc) (ppb) (Ic) **Correlation Coefficient** 0.999988 ≥0.995 0.0 -0.1 ----80.0 80.2 0.9973

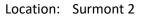


<u>Limits</u>

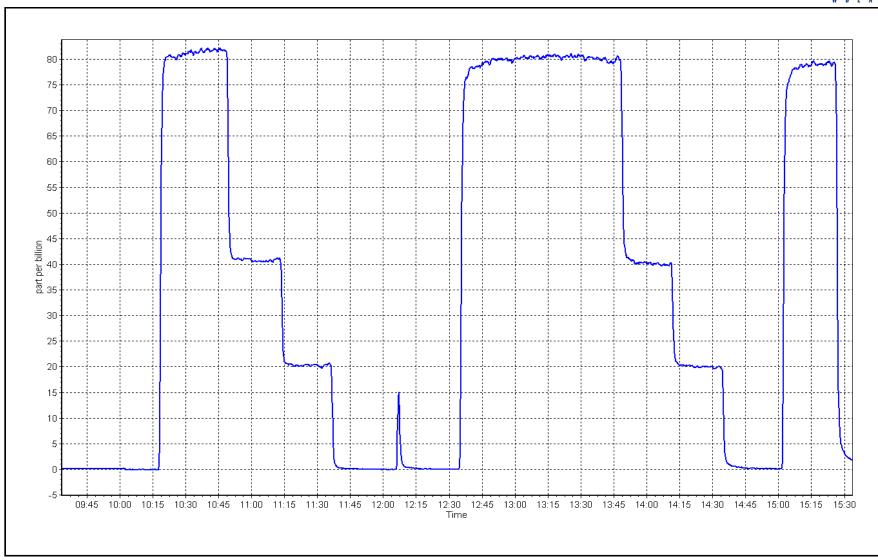
0.90 - 1.10

1.003882











Wood Buffalo Environmental Association THC Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Surmont 2 April 14, 2025 10:28 Routine | | Station number: Last Cal Date: End time (MST): | AMS 29 March 17, 2025 14:14 | |
|--|---|---|---|---|---|
| | | Calibration S | <u>Standards</u> | | |
| Gas Cert Reference: CH4 Cal Gas Conc. C3H8 Cal Gas Conc. | CC356229 <u>503.7</u> <u>204.8</u> | ppm ppm | Cal Gas Expiry Date: CH4 Equiv Conc. | October 9, 2032 1066.9 | ppm |
| Removed Gas Cert: Removed CH4 Conc. Removed C3H8 Conc. Calibrator Make/Model: | NA <u>503.7</u> <u>204.8</u> Teledyne API T700 | ppm ppm | Removed Gas Expiry: CH4 Equiv Conc. Diff between cyl: Serial Number: | NA 1066.9 5472 | ppm |
| ZAG Make/Model: | Teledyne API 1700 | | Serial Number: | 4428 | |
| | | Analyzer Inf | ormation | | |
| Analyzer make Analyzer Range | : Thermo 51i-LT : 0 - 20 ppm | | Analyzer serial #: | 1170050149 | |
| Calibration slope: Calibration intercept: | <u>Start</u> 0.999635 -0.017156 | <u>Finish</u> 1.001408 -0.029160 | Background: Coefficient: | | <u>Finish</u> 3.54 3.872 |
| | | THC As Fou | Ind Data | | |
| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated Concentration (ppm) (Cc) | Indicated Concentration (ppm) (Ic) | Baseline Adjusted n Correction factor (Cc/(Ic- AFzero) Limit = 0.90-1.10 |
| As found zero | 5000 | 0.0 | 0.00 | 0.07 | |
| As found High point As found Mid point As found Low point | 4920 | 80.1 | 17.09 | 17.21 | 0.997 |
| New cylinder response | 4920 | 80.1 | 17.09 | | |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 17.14 NA NA | Previous response AF Slope: AF Correlation: | | *% change AF Intercept * = > +/-5% change initi | : |
| | | THC Calibrat | tion Data | | |

| Set Point | Dilution air flow rate | Source gas flow rate | Calculated Concentration | Indicated Concentration | |
|-----------------|------------------------|----------------------|--------------------------|-------------------------|--------------------------|
| | (sccm) | (sccm) | (ppm) (Cc) | (ppm) (Ic) | <i>Limit = 0.95-1.05</i> |
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.03 | |
| High point | 4920 | 80.1 | 17.09 | 17.12 | 0.998 |
| Mid point | 4960 | 40.0 | 8.54 | 8.48 | 1.007 |
| Low point | 4980 | 20.0 | 4.27 | 4.19 | 1.019 |
| As left zero | 5000 | 0.0 | 0.00 | -0.02 | |
| As left span | 4920 | 80.1 | 17.09 | 17.14 | 0.997 |
| | | | Avera | ge Correction Factor | 1.008 |

Notes:

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

Calibration Performed By:

Braiden Boutilier

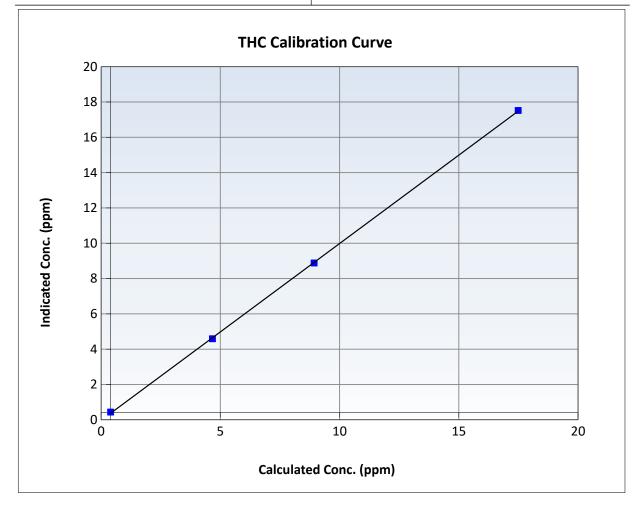


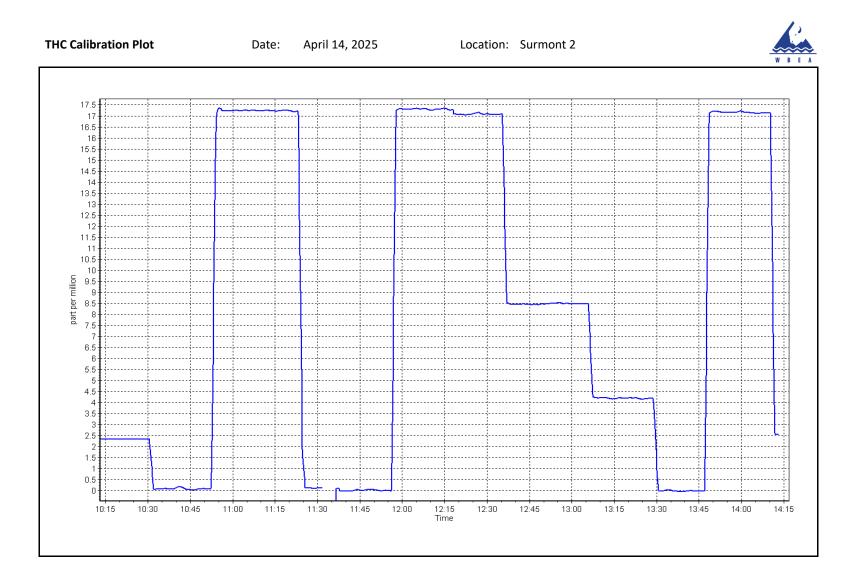
Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 14, 2025 | Previous Calibration: | March 17, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Surmont 2 | Station Number: | AMS 29 |
| Start Time (MST): | 10:28 | End Time (MST): | 14:14 |
| Analyzer make: | Thermo 51i-LT | Analyzer serial #: | 1170050149 |

| Calculated Concentration (ppm) (Cc) | Indicated Concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.03 | | Correlation Coefficient | 0.999939 | ≥0.995 |
| 17.09 8.54 | 17.12 8.48 | 0.9983 1.0065 | Slope | 1.001408 | 0.90 - 1.10 |
| 4.27 | 4.19 | 1.0193 | Intercept | -0.029160 | +/-1.5 |







Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Surmont 2 | NO Gas Cylinder #: | CC218007 | Cal Gas Expiry Date: | January 9, 2032 |
|-------------------|----------------|-----------------------|-------------------|-----------------------|-----------------|
| Station number: | AMS 29 | NOX Cal Gas Conc: | 60.00 ppm | NO Cal Gas Conc: | 60.00 ppm |
| Calibration Date: | April 7, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date: | NA |
| Last Cal Date: | March 25, 2025 | Removed Gas NOX Conc: | 60.00 ppm | Removed Gas NO Conc: | 60.00 ppm |
| Start time (MST): | 10:20 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 14:32 | Calibrator Model: | Teledyne API T700 | Serial Number: | 5472 |
| Reason: | Routine | ZAG make/model: | Teledyne API T701 | Serial Number: | 4428 |

As Found Dilution Calibration Data

| Set Point | Dilution flow rate (sccm) | Source gas flow rate (sccm) | Calculated NOx concentration (ppb) (Cc) | Calculated NO concentration (ppb) (Cc) | Calculated NO2 concentration (ppb) (Cc) | Indicated NOx concentration (ppb) (Ic) | Indicated NO concentration (ppb) (Ic) | Indicated NO2 concentration (ppb) (Ic) | Baseline Adjusted NOx Correction factor (Cc/(Ic-AFzero)) <i>Limit = 0.90 - 1.10</i> | 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 | -0.1 | 0.1 | | |
| AF High point | 4933 | 66.7 | 800.4 | 800.4 | 0.0 | 790.1 | 788.2 | 1.9 | 1.0131 | 1.0154 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 799.5 ppb | NO = 798.3 | ppb | * = > +/-5 | % change initiates i | nvestigation | *Percent Chang | e NO _x = | -1.2% |
| Baseline Corr 1 | st pt NO _x = | 790.1 ppb | NO = 788.3 | ppb | <u>As Four</u> | d Statistics | | *Percent Chang | e NO = | -1.3% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO _x r ² : | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | rd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| | As Found GPT Calibration Data | | | | | | | | | |
| | | | | | | | | Baseline Adjuste | ed NO2 | |
| O3 Setto | vint (nnh) | Indicated NO Re | ference Indie | cated NO Drop | Calculated N | O2 In | dicated NO2 | Correction fa | ctor Conv | erter Efficiency |

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Cc) | Indicated NO2 concentration (ppb) (Ic) | Correction factor (Cc/(Ic-AFzero)) | Converter Efficiency Limit = 96-104% |
|-------------------|---|--|--|---|---------------------------------------|---|
| | | | | | <i>Limit = 0.90 - 1.10</i> | |
| As Found CDT zoro | | | | | | |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1170050 | 148 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 0.999329 | 0.997004 |
| | | | Instrument Settings | | | NO _x Cal Offset: | -0.449184 | -0.809963 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 0.999498 | 0.994903 |
| NO coeff or slope: | 1.001 | 1.001 | NO bkgnd or offset: | 1.2 | 1.2 | NO Cal Offset: | -1.708431 | -2.049505 |
| NOX coeff or slope: | 0.989 | 0.989 | NOX bkgnd or offset: | 1.2 | 1.2 | NO ₂ Cal Slope: | 0.995539 | 1.002832 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 150.2 | 148.7 | NO ₂ Cal Offset: | -0.464424 | 0.553598 |

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 | 66.7 | 800.4 | 800.4 | 0.0 | 797.5 | 795.0 | 2.6 | 1.0037 | 1.0069 |
| Mid point | 4967 | 33.3 | 399.6 | 399.6 | 0.0 | 397.7 | 395.6 | 2.1 | 1.0047 | 1.0101 |
| Low point | 4983 | 16.7 | 200.4 | 200.4 | 0.0 | 197.7 | 194.4 | 3.4 | 1.0137 | 1.0309 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | | |
| As left span | 4933 | 66.7 | 800.4 | 403.2 | 397.2 | 791.4 | 403.2 | 388.2 | 1.0114 | 1.0000 |
| | | | | | | | Average Co | prrection Factor | 1.0074 | 1.0159 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|---|---|--|---|
| Cal zero | | | 0.0 | 0.0 | | |
| High GPT point | 788.8 | 401.8 | 387.0 | 388.5 | 0.9961 | 100.4% |
| Mid GPT point | 788.8 | 602.8 | 186.0 | 187.0 | 0.9947 | 100.5% |
| Low GPT point | 788.8 | 695.9 | 92.9 | 94.5 | 0.9831 | 101.7% |
| | | | | Average Correction Factor | 0.9913 | 100.9% |

Notes:

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

Calibration Performed By:

Braiden Boutilier

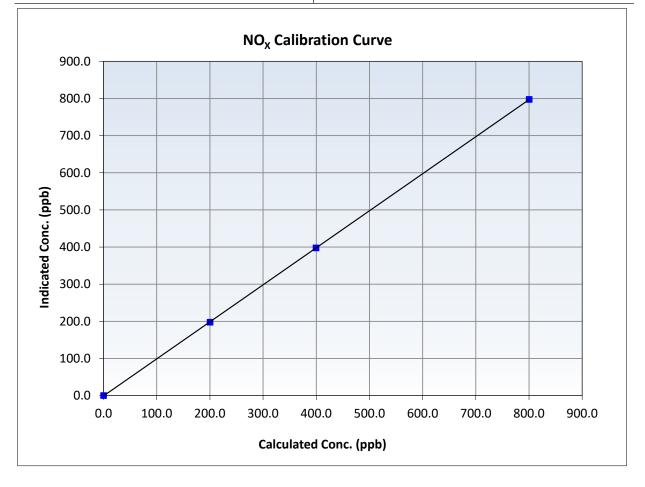


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Surmont 2 | Station Number: | AMS 29 |
| Start Time (MST): | 10:20 | End Time (MST): | 14:32 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1170050148 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999993 | ≥0.995 |
| 800.4 399.6 | 797.5 397.7 | 1.0037 1.0047 | Slope | 0.997004 | 0.90 - 1.10 |
| 200.4 | 197.7 | 1.0137 | Intercept | -0.809963 | +/-20 |



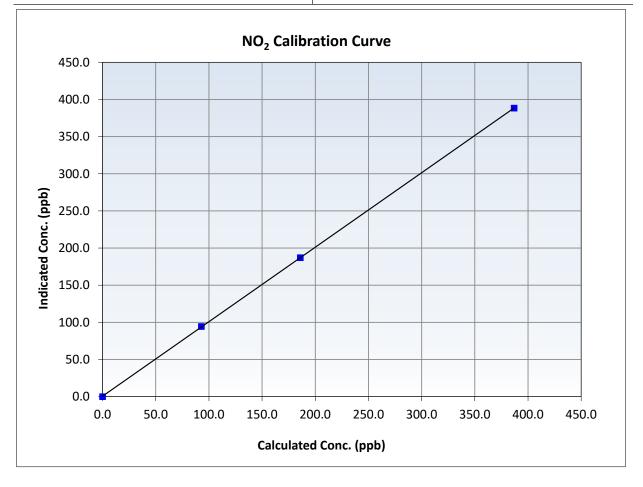


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Surmont 2 | Station Number: | AMS 29 |
| Start Time (MST): | 10:20 | End Time (MST): | 14:32 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1170050148 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999989 | ≥0.995 |
| 387.0 186.0 | 388.5 187.0 | 0.9961 0.9947 | Slope | 1.002832 | 0.90 - 1.10 |
| 92.9 | 94.5 | 0.9831 | Intercept | 0.553598 | +/-20 |



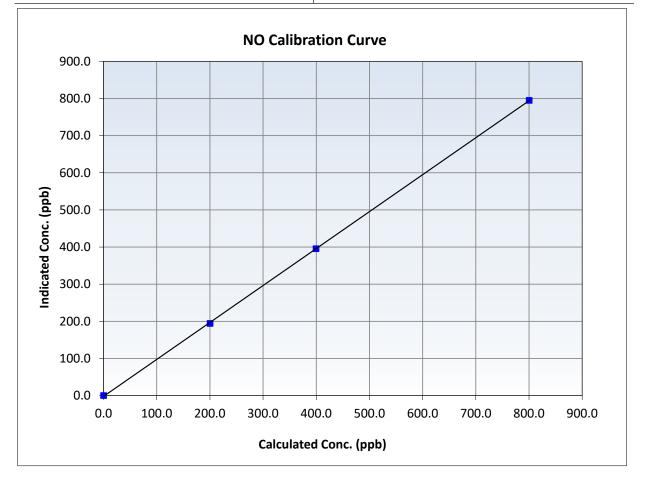


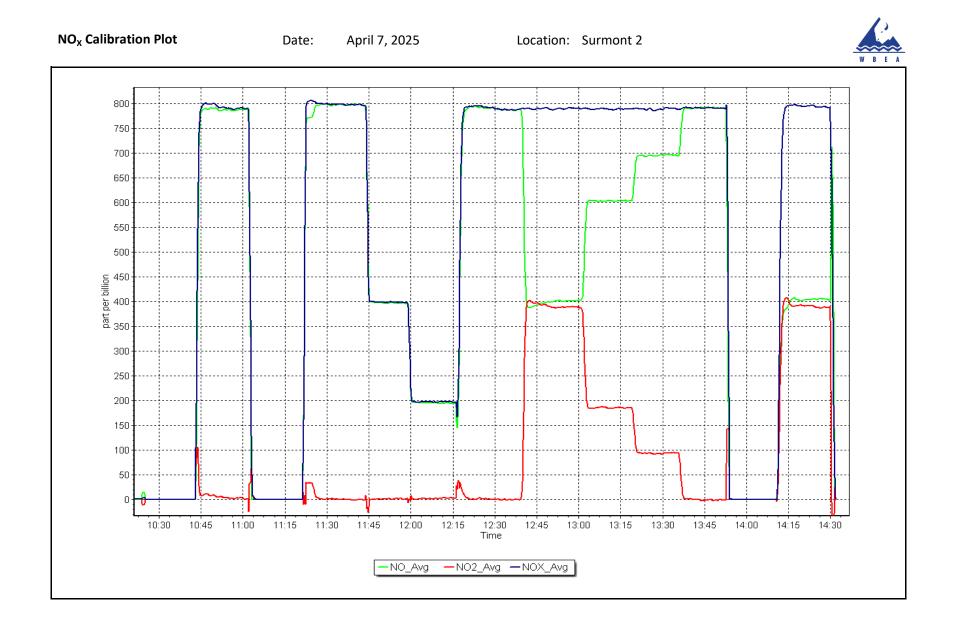
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Surmont 2 | Station Number: | AMS 29 |
| Start Time (MST): | 10:20 | End Time (MST): | 14:32 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1170050148 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999960 | ≥0.995 |
| 800.4 399.6 | 795.0 395.6 | 1.0069 1.0101 | Slope | 0.994903 | 0.90 - 1.10 |
| 200.4 | 194.4 | 1.0309 | Intercept | -2.049505 | +/-20 |







Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| WBEA | | | | | Version-01-20 |
|--|---|--|--|-----------------------------|----------------|
| | | Station Informatio | n | | |
| tation Name: | Surmont 2 | | Station number: AN | 1S 29 | |
| Calibration Date: | April 14, 2025 | | Last Cal Date: Ma | arch 24, 2025 | |
| itart time (MST): | 10:36 | | End time (MST): 13 | :57 | |
| Analyzer Make: | API T640 | | S/N: 32 | 3 | |
| Particulate Fraction: | PM2.5 | | | | |
| low Meter Make/Model: | Alicat FP-25BT | | S/N: 38 | | |
| emp/RH standard: | Alicat FP-25BT | | S/N: 38 | 8754 | |
| | | Monthly Calibration | Test | | |
| Parameter | <u>As found</u> | Measured | <u>As left</u> | Adjusted | (Limits) |
| т (°С) | 10.4 | 10.17 | 10.4 | | +/- 2 °C |
| P (mmHg) | 715.5 | 714.43 | 715.5 | | +/- 10 mmH |
| Flow (LPM) | 5.00 | 4.931 | 5.00 | | +/- 0.25 LPN |
| PW% (pump) | 37 | | 37 | | >80% |
| Zero Verification | PM w/o HEPA: | 2.7 | PM w/ HEPA: | 0.0 | <0.2 ug/m3 |
| | | · _ · | | | |
| Note: this leak check will b PM Inlet observation : | e completed before the Inlet Head Clean | ☑ Ali | gnment Factor On : | enance leak check | |
| | Inlet Head Clean | Quarterly Calibration | gnment Factor On : Test | | 24 |
| | Inlet Head Clean Refractive Index: | ☑ Ali | gnment Factor On : | | 24 |
| PM Inlet observation : | Inlet Head Clean Refractive Index: | Quarterly Calibration 10.9 | gnment Factor On : Test | | 24 (Limits) |
| PM Inlet observation : SPAN DUST | Inlet Head Clean Refractive Index: Lot No.: | Quarterly Calibration 10.9 100128-050-042 | gnment Factor On : Test Expiry Date: | | |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test | Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> 10.8 | Ali Quarterly Calibration 10.9 100128-050-042 Post maintenance | gnment Factor On : Test Expiry Date: <u>As left</u> | June 10, 20 <u>Adjusted</u> | (Limits) |
| PM Inlet observation : SPAN DUST <u>Parameter</u> | Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> 10.8 mber Cleaned: | Quarterly Calibration 10.9 100128-050-042 | gnment Factor On : Test Expiry Date: <u>As left</u> 2025 | June 10, 20 <u>Adjusted</u> | (Limits) |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F | Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> 10.8 mber Cleaned: ilter Changed: | Ali Quarterly Calibration 10.9 100128-050-042 Post maintenance April 14, | gnment Factor On : Test Expiry Date: <u>As left</u> 2025 2025 | June 10, 20 <u>Adjusted</u> | (Limits) |
| PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char Date Disposable F | Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> 10.8 mber Cleaned: ilter Changed: | Ali Quarterly Calibration 10.9 100128-050-042 Post maintenance April 14, April 14, | gnment Factor On : Test Expiry Date: <u>As left</u> 2025 2025 | June 10, 20 <u>Adjusted</u> | (Limits) |
| SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Char | Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> 10.8 mber Cleaned: ilter Changed: erification: | Ali Quarterly Calibration 10.9 100128-050-042 Post maintenance April 14, April 14, PM w/ HEPA: | gnment Factor On : Test Expiry Date: <u>As left</u> 2025 2025 2025 | June 10, 20 <u>Adjusted</u> | (Limits) |

Notes:

Verified temperature, pressure and flow. Leak check passed. After cleaning optical chamber, analyzer can no longer run the PMT peak test. Will replace tomorrow.

Calibration by: Braiden Boutilier



Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| Station Name: Calibration Date: Start time (MST): Analyzer Make: Particulate Fraction: Flow Meter Make/Model: | Surmont 2 April 15, 2025 10:26 API T640 PM2.5 | Station Informatio | on Station number: AM Last Cal Date: Ap End time (MST): 12: | ril 14, 2025 | |
|--|---|-------------------------|--|---------------------|--------------|
| Calibration Date: Start time (MST): Analyzer Make: Particulate Fraction: Flow Meter Make/Model: | April 15, 2025 10:26 API T640 | | Last Cal Date: Ap | ril 14, 2025 | |
| tart time (MST): malyzer Make: Particulate Fraction: low Meter Make/Model: | 10:26 API T640 | | | | |
| Analyzer Make: Particulate Fraction: Flow Meter Make/Model: | API T640 | | End time (MST): 12: | 07 | |
| Particulate Fraction: | | | | | |
| low Meter Make/Model: | FIVIZ.J | | S/N: 223 | 36 | |
| • | | | | | |
| | Alicat FP-25BT | | S/N: 388 | 8754 | |
| Temp/RH standard: | Alicat FP-25BT | | S/N: 388 | 8754 | |
| | | Monthly Calibration | Test | | |
| <u>Parameter</u> | As found | Measured | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| T (°C) | 10.7 | 11.21 | 10.7 | | +/- 2 °C |
| P (mmHg) | 707.3 | 705.61 | 707.3 | | +/- 10 mmHg |
| Flow (LPM) | 4.97 | 5.041 | 4.97 | | +/- 0.25 LPM |
| PW% (pump) | 33 | | 33 | | >80% |
| Zero Verification | PM w/o HEPA: | 2.7 | PM w/ HEPA: | 0.0 | <0.2 ug/m3 |
| PM Inlet observation : | Inlet Head Clean | Quarterly Calibration | gnment Factor On : Test | | |
| | Refractive Index: | 10.9 | Expiry Date: | June 10, 20 | 24 |
| SPAN DUST | | 100128-050-042 | | , - | |
| Parameter | As found | Post maintenance | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| PMT Peak Test | | | 11.2 | \checkmark | +/- 0.5 |
| Date Optical Chamb | er Cleaned: | April 15, | 2025 | | |
| Date Disposable Filt | - | April 15, | | | |
| Post- maintenance Zero Verif | ication: | PM w/ HEPA: | | <0.2 ug/m3 | |
| | | Annual Maintenan | ce | | |
| | | | | | |
| Date Sample Tube | - | April 14, October 3 | | | |
| Date RH/T Sensor | | October 3 | 0, 2024 | | |
| Notes: | Installed T640. Veri | fied pressure, temperat | ture, and flow. Conduct passed. | ed PMT peak test, a | djusted and |

Calibration by: Braiden Boutilier



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS30 ELLS RIVER APRIL 2025

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

May 30, 2025



Calibration intercept:

Wood Buffalo Environmental Association SO₂ Calibration Report

Coeff or Slope:

0.991

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Ells River April 11, 2025 9:25 Routine | | Station number: AM Last Cal Date: Ma End time (MST): 12: | rch 11, 2025 | |
|--|---|--------------------|--|--------------|--------|
| | | Calibration | <u>Standards</u> | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 48.75 CC350110 | ppm | Cal Gas Exp Date: Ma | rch 10, 2031 | |
| 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: 30 | 51 | |
| Zero Air Gen Model: | API T701H | | Serial Number: 358 | 3 | |
| | | | | | |
| | | Analyzer Inf | ormation | | |
| Analyzer make: | Thermo 43i | | Serial Number: 10 | 08841397 | |
| Analyzer Range: | 0 - 1000 ppb | | | | |
| | Start | Finish | | Start | Finish |
| Calibration slope: | 1.002175 | 1.000403 | Backgd or Offset: | 10.1 | 10.1 |

-2.892063

-3.212042

SO₂ 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 As found Mid point As found Low point New cylinder response | 4918 | 82.0 | 799.5 | 795.6 | 1.005 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt: | 795.9 NA NA | Previous response AF Slope: AF Correlation: | 798.0 | *% change AF Intercept: * = > +/-5% change initiate | -0.3% es investigation |

SO₂ 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 | 798.2 | 1.002 |
| Mid point | 4959 | 41.0 | 399.8 | 396.0 | 1.009 |
| Low point | 4980 | 20.5 | 199.9 | 194.0 | 1.030 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4918 | 82.0 | 799.5 | 798.9 | 1.001 |
| | | | Average Correction Factor: | | |

Notes:

Sample inlet filter and N2 cylinder was changed after as founds. No adjustment made.

0.991

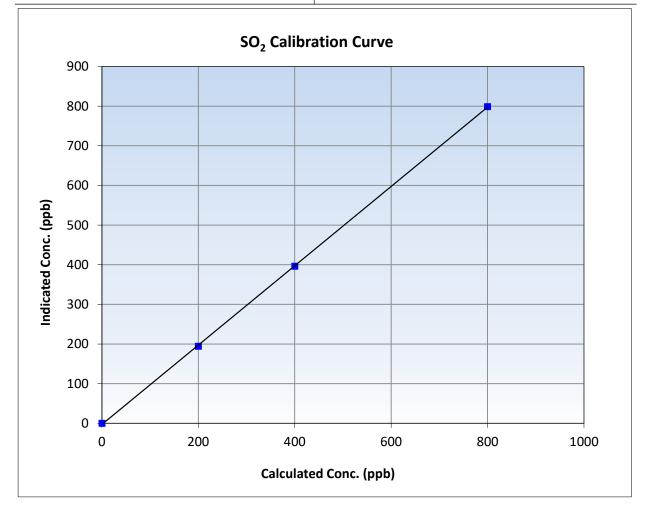


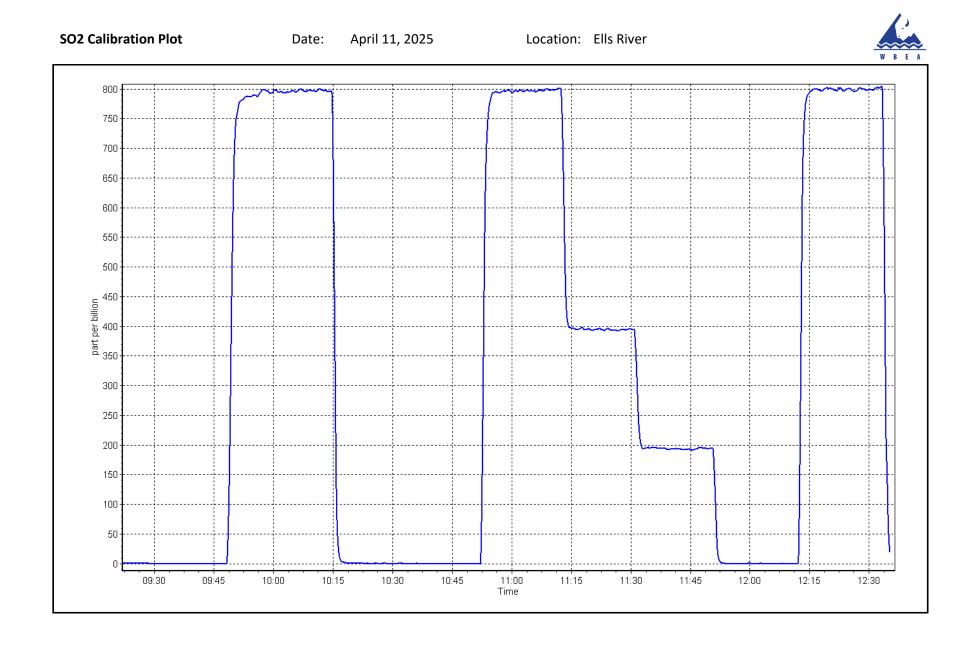
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 11, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Ells River | Station Number: | AMS 30 |
| Start Time (MST): | 9:25 | End Time (MST): | 12:33 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1008841397 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999944 | ≥0.995 |
| 799.5 399.8 | 798.2 396.0 | 1.0016 1.0095 | Slope | 1.000403 | 0.90 - 1.10 |
| 199.9 | 194.0 | 1.0302 | Intercept | -2.892063 | +/-30 |





CALS_461



Wood Buffalo Environmental Association TRS Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Ells River April 1, 2025 8:38 Routine | | Station number: Last Cal Date: End time (MST): | AMS 30 March 14, 2025 12:27 | i | | |
|--|--|--|--|-----------------------------------|------|------|-------------------------------|
| | | Calibration | <u>Standards</u> | | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 4.99 CC505806 | ppm | Cal Gas Exp Date: | November 15, 2 | 2026 | | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 4.99 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | | | |
| Calibrator Make/Model: | API T700 | | Serial Number: | 3061 | | | |
| ZAG Make/Model: | API 701H | | Serial Number: | 358 | | | |
| | | Analyzer Inf | formation | | | | |
| Analyzer make: | Thermo 43i TLE | | Analyzer serial #: | 1410661331 | | | |
| Converter make: | CDN- 101 | | Converter serial #: | 562 | | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 800 | degC | |
| Calibration slope: Calibration intercept: | <u>Start</u> 1.007901 -0.180432 | <u>Finish</u> 0.999336 -0.180614 | Backgd or Offset: Coeff or Slope: | | | | <u>Finish</u> 1.7 1.080 |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As found High point | 4920 | 80.2 | 80.0 | 80.0 | 0.999 |
| As found Mid point | 4960 | 40.1 | 40.0 | 39.6 | 1.008 |
| As found Low point | 4980 | 20.0 | 20.0 | 19.5 | 1.018 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 80.1 | Prev response: | 80.49 | *% change: | -0.5% |
| Baseline Corr 2nd AF pt: | 39.7 | AF Slope: | 1.001906 | AF Intercept: | -0.320569 |
| Baseline Corr 3rd AF pt: | 19.6 | AF Correlation: | 0.999964 | * = > +/-5% change initiate | es investigation |

TRS Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|----------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.0 | |
| High point | 4920 | 80.2 | 80.0 | 79.9 | 1.002 |
| Mid point | 4960 | 40.1 | 40.0 | 39.7 | 1.008 |
| Low point | 4980 | 20.0 | 20.0 | 19.6 | 1.018 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | |
| As left span | 4920 | 80.2 | 80.0 | 79.9 | 1.002 |
| SO2 Scrubber Check | 4918 | 82.0 | 820.0 | 0.0 | |
| Date of last scrubber chan | ge: | 14-Mar-25 | | Ave Corr Factor | 1.009 |

Date of last converter efficiency test:

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

Calibration Performed By: Jan Castro



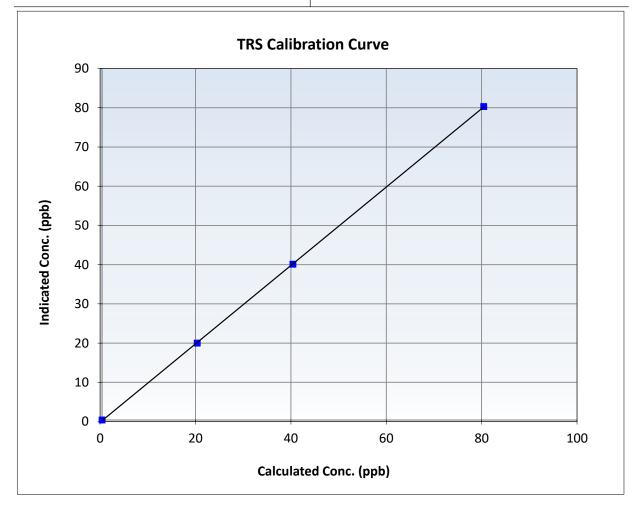
Wood Buffalo Environmental Association

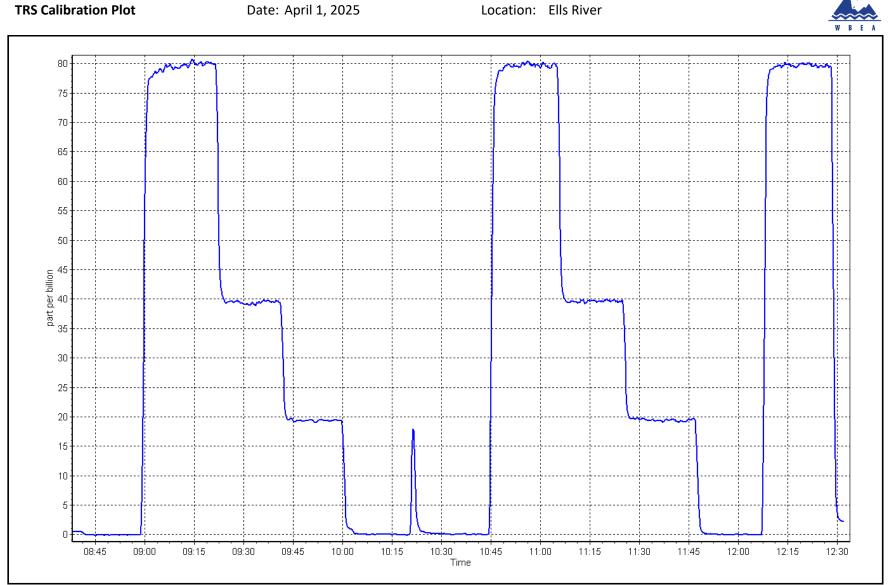
TRS Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 14, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Ells River | Station Number: | AMS 30 |
| Start Time (MST): | 8:38 | End Time (MST): | 12:27 |
| Analyzer make: | Thermo 43i TLE | Analyzer serial #: | 1410661331 |

Calibration Data Calculated concentration Indicated concentration Correction factor (Cc/lc) Statistical Evaluation <u>Limits</u> (ppb) (Cc) (ppb) (Ic) **Correlation Coefficient** 0.999977 ≥0.995 0.0 0.0 ----80.0 79.9 1.0017 Slope 0.999336 0.90 - 1.10 40.0 39.7 1.0080 20.0 1.0184 19.6 Intercept -0.180614 +/-3







Wood Buffalo Environmental Association THC / CH₄ / NMHC Calibration Report

Station Information

| Station Name: | Ells River | Station number: AMS 30 |
|-------------------|----------------|-------------------------------|
| Calibration Date: | April 11, 2025 | Last Cal Date: March 10, 2025 |
| Start time (MST): | 9:25 | End time (MST): 12:33 |
| Reason: | Routine | |

Calibration Standards

| Gas Cert Reference: | | CC350110 | | Cal Gas Expiry Date: N | 1arch 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: N | A | |
| 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: 3 | 061 | |
| Zero Air Gen model: | API T701H | | | Serial Number: 3 | 58 | |
| | | | Analyzer li | nformation | | |
| Analyzer make: | Thermo 55i | | | Analyzer serial #: 1 | 152430011 | |
| THC Range: | 0 - 20 ppm | | | NMHC/CH4 Range: 0 | - 10 ppm | |
| | <u>Start</u> | | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| CH4 SP Ratio: | 3.11E-04 | 1 3 | 8.11E-04 | NMHC SP Ratio: | 5.96E-05 | 5.96E-05 |
| | | | | | 156640 | 156610 |

CH4 SP Ratio:3.11E-043.11E-04NMHC SP Ratio:5.96E-055.96E-05CH4 Retention time:17.417.4NMHC Peak Area:156612156612Zero Chromatogram:ONONFlat Baseline:OFFOFF

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 | 17.40 | 1.005 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr AF: | 17.40 | Prev response | 17.45 | *% change | -0.3% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initiate | es 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)) <i>Limit = 0.95-1.05</i> |
|-----------------|----------------------------------|--------------------------------|--|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | |
| High point | 4918 | 82.0 | 17.49 | 17.44 | 1.003 |
| Mid point | 4959 | 41.0 | 8.74 | 8.63 | 1.013 |
| Low point | 4980 | 20.5 | 4.37 | 4.25 | 1.028 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4918 | 82.0 | 17.49 | 17.45 | 1.002 |
| | | | Avera | ge Correction Factor | 1.015 |

Notes:

Sample inlet filter and N2 cylinder was changed after as founds. No adjustment made.



Wood Buffalo Environmental Association THC / CH₄ / 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 As found Mid point As found Low point New cylinder response | 4918 | 82.0 | 9.34 | 9.26 | 1.009 |
| Baseline Corr AF: | 9.26 | Prev response | 9.33 | *% change | -0.9% |
| Baseline Corr 2nd AF: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF: | NA | AF Correlation: | | * = > +/-5% change initia | ates 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 | 9.31 | 1.003 |
| Mid point | 4959 | 41.0 | 4.67 | 4.63 | 1.010 |
| Low point | 4980 | 20.5 | 2.34 | 2.29 | 1.019 |
| As left zero | 5000 | 0.0 | 0.00 | 0.00 | |
| As left span | 4918 | 82.0 | 9.34 | 9.31 | 1.004 |
| | | | Avera | ge Correction Factor | 1.011 |

CH4 As Found Data

| | | CIT T AS TO | | | |
|--|----------------------------------|---|--|---|--|
| 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 As found Mid point As found Low point New cylinder response | 4918 | 82.0 | 8.14 | 8.13 | 1.002 |
| Baseline Corr AF: Baseline Corr 2nd AF: Baseline Corr 3rd AF: | 8.13 NA NA | Prev response AF Slope: AF Correlation: | 8.12 | *% change AF Intercept: * = > +/-5% change initia | |

CH4 Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppm) (Cc) | Indicated concentration C (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 | 1.016 |
| 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 | 8.14 | 1.001 |
| | | | Avera | ge Correction Factor | 1.019 |

Calibration Statistics

| | <u>Start</u> | <u>Finish</u> |
|------------------|--------------|---------------|
| THC Cal Slope: | 1.001453 | 0.998643 |
| THC Cal Offset: | -0.062426 | -0.060426 |
| CH4 Cal Slope: | 1.001772 | 1.000159 |
| CH4 Cal Offset: | -0.039119 | -0.040119 |
| NMHC Cal Slope: | 1.001382 | 0.997542 |
| NMHC Cal Offset: | -0.023907 | -0.020707 |

Calibration Performed By:

Jan Castro

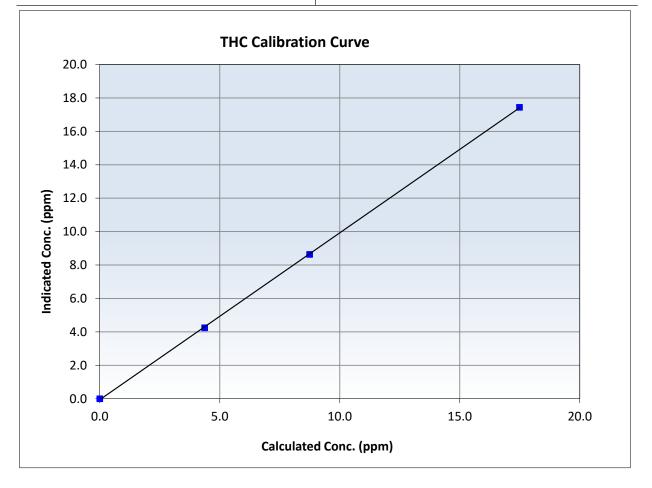


Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Ells River | Station Number: | AMS 30 |
| Start Time (MST): | 9:25 | End Time (MST): | 12:33 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1152430011 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999945 | ≥0.995 |
| 17.49 8.74 | 17.44 8.63 | 1.0029 1.0129 | Slope | 0.998643 | 0.90 - 1.10 |
| 4.37 | 4.25 | 1.0284 | Intercept | -0.060426 | +/-0.5 |



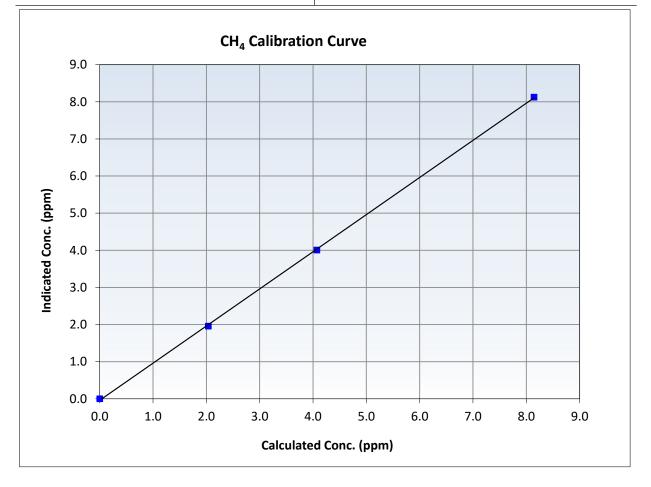


Wood Buffalo Environmental Association CH₄ Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Ells River | Station Number: | AMS 30 |
| Start Time (MST): | 9:25 | End Time (MST): | 12:33 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1152430011 |

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | ion factor (Cc/Ic) Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|---|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999888 | ≥0.995 |
| 8.14 4.07 | 8.13 4.01 | 1.0021 1.0160 | Slope | 1.000159 | 0.90 - 1.10 |
| 2.04 | 1.96 | 1.0392 | Intercept | -0.040119 | +/-0.5 |



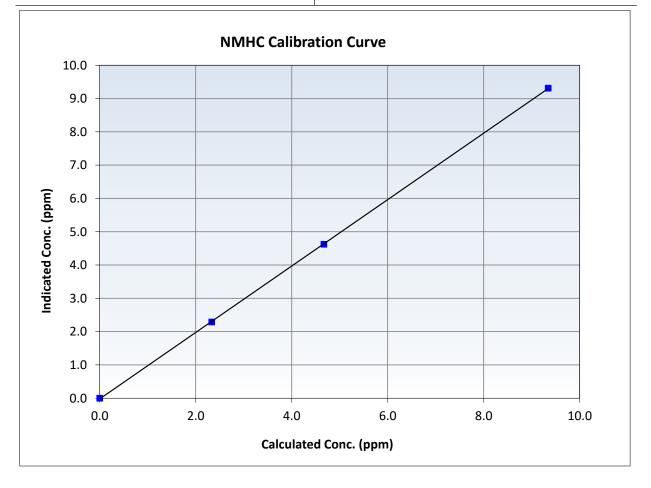


Wood Buffalo Environmental Association NMHC Calibration Summary

Station Information

| Calibration Date: | April 11, 2025 | Previous Calibration: | March 10, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Ells River | Station Number: | AMS 30 |
| Start Time (MST): | 9:25 | End Time (MST): | 12:33 |
| Analyzer make: | Thermo 55i | Analyzer serial #: | 1152430011 |

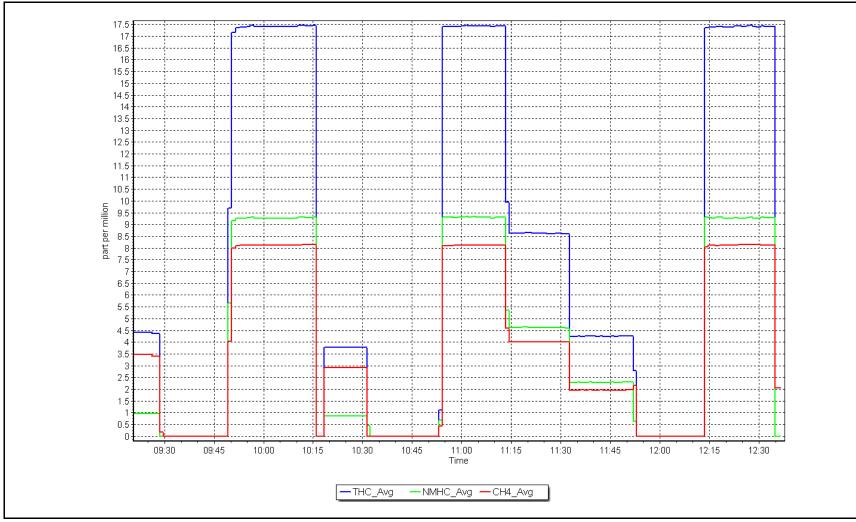
| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | lation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999977 | ≥0.995 |
| 9.34 4.67 | 9.31 4.63 | 1.0034 1.0102 | Slope | 0.997542 | 0.90 - 1.10 |
| 2.34 | 2.29 | 1.0192 | Intercept | -0.020707 | +/-0.5 |



NMHC Calibration Plot









Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Ells River | NO Gas Cylinder #: | DT0027487 | Cal Gas Expiry Date: January 9, 2032 |
|-------------------|----------------|-----------------------|-----------|--------------------------------------|
| Station number: | AMS 30 | NOX Cal Gas Conc: | 59.30 ppm | NO Cal Gas Conc: 59.10 ppm |
| Calibration Date: | April 16, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date: NA |
| Last Cal Date: | March 13, 2025 | Removed Gas NOX Conc: | 59.30 ppm | Removed Gas NO Conc: 59.10 ppm |
| Start time (MST): | 9:45 | NOX gas Diff: | | NO gas Diff: |
| End time (MST): | 14:00 | Calibrator Model: | API T700 | Serial Number: 3061 |
| Reason: | Routine | 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)) <i>Limit = 0.90 - 1.10</i> | 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 | 4932 | 67.7 | 803.0 | 800.3 | 2.7 | 782.1 | 777.0 | 5.1 | 1.0267 | 1.0301 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 800.6 ppb | NO = 797.6 | ppb | * = > +/-5 | % change initiates i | investigation | *Percent Chang | e NO _x = | -2.4% |
| Baseline Corr 1 | .st pt NO _x = | 782.1 ppb | NO = 776.9 | ppb | <u>As Four</u> | nd Statistics | | *Percent Chang | e NO = | -2.7% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | nd NO _X r ² : | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _x = | NA ppb | NO = NA | ppb | As foun | nd NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calib | ration Data | | | | |
| | | | | | | | | Baseline Adjuste | | |
| O2 Sata | sint (nucle) | Indicated NO Re | ference Indi | cated NO Drop | Calculated N | 02 In | dicated NO2 | Correction fa | ctor Conv | erter Efficiency |

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Cc) | Indicated NO2 concentration (ppb) (Ic) | Correction factor (Cc/(Ic-AFzero)) | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|--|--|---|---------------------------------------|--|
| | | | | | <i>Limit = 0.90 - 1.10</i> | |
| As Found GPT zoro | | | | | | |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 710321 | 429 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-----------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 1.000203 | 1.001140 |
| | | | Instrument Settings | | | NO _x Cal Offset: | -2.519480 | -1.398323 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 1.001320 | 1.003617 |
| NO coeff or slope: | 1.053 | 1.092 | NO bkgnd or offset: | 12.3 | 12.7 | NO Cal Offset: | -3.700986 | -2.779401 |
| NOX coeff or slope: | 0.994 | 0.993 | NOX bkgnd or offset: | 12.4 | 12.7 | NO ₂ Cal Slope: | 0.985498 | 1.001702 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 181.8 | 186.3 | NO ₂ Cal Offset: | 0.120532 | -0.164440 |

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 | 0.0 | | |
| High point | 4932 | 67.7 | 803.0 | 800.3 | 2.7 | 803.0 | 801.6 | 1.4 | 1.0000 | 0.9983 |
| Mid point | 4966 | 33.8 | 400.9 | 399.5 | 1.4 | 400.0 | 397.6 | 2.4 | 1.0022 | 1.0049 |
| Low point | 4983 | 16.9 | 200.4 | 199.8 | 0.7 | 197.1 | 194.0 | 3.1 | 1.0169 | 1.0297 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.4 | 0.0 | | |
| As left span | 4932 | 67.7 | 803.0 | 428.9 | 374.1 | 802.5 | 428.9 | 373.6 | 1.0006 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 1.0064 | 1.0110 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (C | Indicated NO2 c) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|--|--|--|---|
| Cal zero | | | 0.0 | 0.0 | | |
| High GPT point | 799.0 | 424.6 | 377.1 | 377.6 | 0.9987 | 100.1% |
| Mid GPT point | 799.0 | 611.4 | 190.3 | 190.6 | 0.9985 | 100.2% |
| Low GPT point | 799.0 | 703.3 | 98.4 | 98.1 | 1.0031 | 99.7% |
| | | | | Average Correction Factor | 1.0001 | 100.0% |

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

Calibration Performed By:

Jan Castro

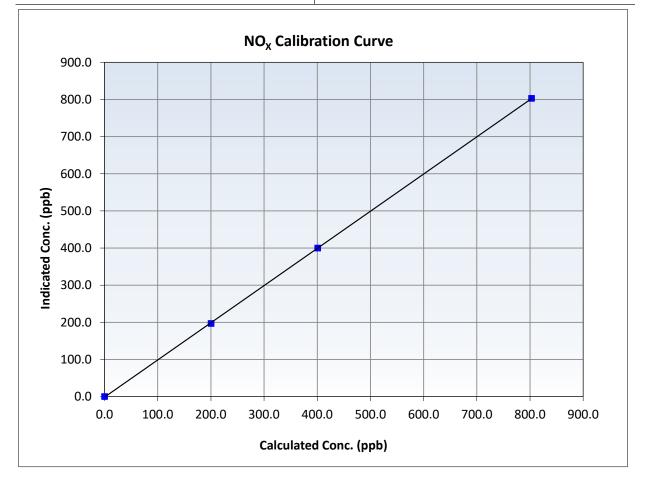


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 16, 2025 | Previous Calibration: | March 13, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Ells River | Station Number: | AMS 30 |
| Start Time (MST): | 9:45 | End Time (MST): | 14:00 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 710321429 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999979 | ≥0.995 |
| 803.0 400.9 | 803.0 400.0 | 1.0000 1.0022 | Slope | 1.001140 | 0.90 - 1.10 |
| 200.4 | 197.1 | 1.0169 | Intercept | -1.398323 | +/-20 |



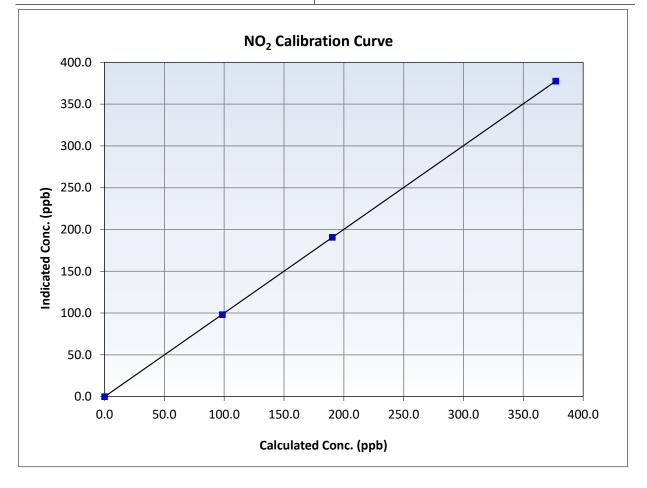


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 16, 2025 | Previous Calibration: | March 13, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Ells River | Station Number: | AMS 30 |
| Start Time (MST): | 9:45 | End Time (MST): | 14:00 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 710321429 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 377.1 190.3 | 377.6 190.6 | 0.9987 0.9985 | Slope | 1.001702 | 0.90 - 1.10 |
| 98.4 | 98.1 | 1.0031 | Intercept | -0.164440 | +/-20 |



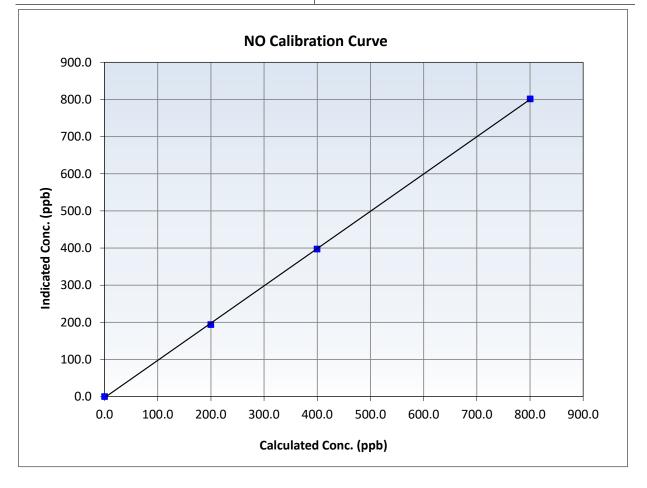


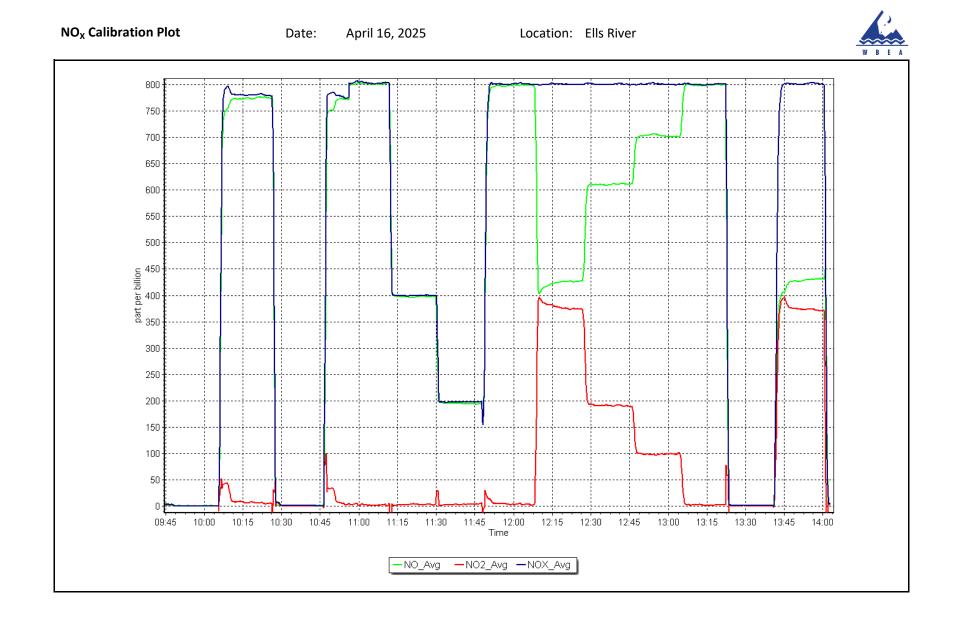
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 16, 2025 | Previous Calibration: | March 13, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Ells River | Station Number: | AMS 30 |
| Start Time (MST): | 9:45 | End Time (MST): | 14:00 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 710321429 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 0.999929 | ≥0.995 |
| 800.3 399.5 | 801.6 397.6 | 0.9983 1.0049 | Slope | 1.003617 | 0.90 - 1.10 |
| 199.8 | 194.0 | 1.0297 | Intercept | -2.779401 | +/-20 |







Wood Buffalo Environmental Association

T640 PM_{2.5} CALIBRATION

| WBEA | | | | | Version-01-20 |
|---|--|--|--|--|------------------|
| | | Station Informatio | n | | |
| station Name: | Ells River | | Station number: AN | | |
| Calibration Date: | April 16, 2025 | | Last Cal Date: Ma | | |
| Start time (MST): | 10:46 | | End time (MST): 11: | :51 | |
| Analyzer Make: | API T640 | | S/N: 875 | 5 | |
| Particulate Fraction: | PM2.5 | | | | |
| low Meter Make/Model: | Alicat FP-25BT | | S/N: 388 | 8754 | |
| Temp/RH standard: | Alicat FP-25BT | | S/N: 388 | 8754 | |
| | | Monthly Calibration | Test | | |
| Parameter | <u>As found</u> | Measured | <u>As left</u> | <u>Adjusted</u> | (Limits) |
| T (°C) | 3.80 | 3.30 | 3.80 | | +/- 2 °C |
| P (mmHg) | 728.70 | 730.47 | 728.70 | | +/- 10 mmH |
| Flow (LPM) | 5.01 | 5.05 | 5.01 | | +/- 0.25 LPN |
| | 33 | | 33 | | >80% |
| PW% (pump) | 55 | | | | |
| Zero Verification | PM w/o HEPA: | quarterly work and will | PM w/ HEPA: serve as the pre mainte gnment Factor On : | 0.00 enance leak check | <0.2 ug/m3 |
| Zero Verification | PM w/o HEPA: | quarterly work and will | serve as the pre mainte gnment Factor On : | enance leak check | <0.2 ug/m3 |
| Zero Verification Note: this leak check will be PM Inlet observation : | PM w/o HEPA: | quarterly work and will | serve as the pre mainte gnment Factor On : | enance leak check | |
| Zero Verification | PM w/o HEPA: e completed before the Inlet Head Clean Refractive Index: | quarterly work and will Quarterly Calibration | serve as the pre mainte gnment Factor On : Test | enance leak check | |
| Zero Verification Note: this leak check will be PM Inlet observation : | PM w/o HEPA: e completed before the Inlet Head Clean Refractive Index: | quarterly work and will Quarterly Calibration 10.90 | serve as the pre mainte gnment Factor On : Test | enance leak check | |
| Zero Verification Note: this leak check will be PM Inlet observation : | PM w/o HEPA: e completed before the Inlet Head Clean Refractive Index: Lot No.: | quarterly work and will Quarterly Calibration 10.90 100128-050-040 | serve as the pre mainte gnment Factor On : Test Expiry Date: | enance leak check | 2024 |
| Zero Verification Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> | PM w/o HEPA: e completed before the Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> 9.00 | quarterly work and will Quarterly Calibration 10.90 100128-050-040 <u>Post maintenance</u> 11.00 | serve as the pre mainte gnment Factor On : Test Expiry Date: <u>As left</u> 11.00 | enance leak check | 2024 (Limits) |
| Zero Verification Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test | PM w/o HEPA: e completed before the Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> 9.00 | quarterly work and will Quarterly Calibration 10.90 100128-050-040 Post maintenance | serve as the pre mainte gnment Factor On : Test Expiry Date: <u>As left</u> 11.00 2025 | enance leak check | (Limits) |
| Zero Verification Note: this leak check will be PM Inlet observation : SPAN DUST <u>Parameter</u> PMT Peak Test Date Optical Cham | PM w/o HEPA: e completed before the Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> 9.00 nber Cleaned: Iter Changed: | quarterly work and will Quarterly Calibration 10.90 100128-050-040 <u>Post maintenance</u> 11.00 April 16, | serve as the pre mainte gnment Factor On : Test Expiry Date: <u>As left</u> 11.00 2025 | enance leak check | 2024 (Limits) |
| Zero Verification Note: this leak check will be PM Inlet observation : SPAN DUST Parameter PMT Peak Test Date Optical Cham Date Disposable Fi | PM w/o HEPA: e completed before the Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> 9.00 nber Cleaned: Iter Changed: | quarterly work and will Quarterly Calibration 10.90 100128-050-040 Post maintenance 11.00 April 16, April 16, | serve as the pre mainte gnment Factor On : Test Expiry Date: <u>As left</u> 11.00 2025 2025 0.00 | enance leak check September 29, <u>Adjusted</u> | 2024 (Limits) |
| Zero Verification Note: this leak check will be PM Inlet observation : SPAN DUST Parameter PMT Peak Test Date Optical Cham Date Disposable Fi | PM w/o HEPA: e completed before the Inlet Head Clean Refractive Index: Lot No.: <u>As found</u> 9.00 hber Cleaned: ilter Changed: rification: | quarterly work and will Quarterly Calibration 10.90 100128-050-040 Post maintenance 11.00 April 16, PM w/ HEPA: | serve as the pre mainte gnment Factor On : Test Expiry Date: <u>As left</u> 11.00 2025 2025 0.00 ce | enance leak check September 29, <u>Adjusted</u> | 2024 (Limits) |

Calibration by: Jan Castro

CALS_477



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS31 BLACKROD APRIL 2025

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

May 30, 2025



Station Name:

Calibration Date:

Blackrod

April 7, 2025

Wood Buffalo Environmental Association SO₂ Calibration Report

Station number: AMS 31

Last Cal Date: March 26, 2025

Station Information

| Start time (MST): Reason: | 13:29 Routine | End time (MST): 16:05 | | | |
|--|---|---------------------------------------|--|---------------------------------------|--|
| | | Calibration St | andards_ | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 50.25 CC327023 | ppm | Cal Gas Exp Date: | March 10, 2031 | |
| Removed Cal Gas Conc: Removed Gas Cyl #: Calibrator Model: Zero Air Gen Model: | 50.25 N/A Teledyne T700 Teledyne N701H | ppm | Rem Gas Exp Date: Diff between cyl: Serial Number: Serial Number: | 5762 | |
| zero Ali Gen Model. | | Analyzer Info | | . 72 | |
| Analyzer make: Analyzer Range: | Thermo 43i 0 - 1000 ppb | <u>Analyzer into</u> | Serial Number: | 1160290014 | |
| Calibration slope: Calibration intercept: | <u>Start</u> 0.999971 -0.052005 | <u>Finish</u> 0.998942 0.007990 | Backgd or Offset: Coeff or Slope: | | <u>Finish</u> 39.5 1.019 |
| | | SO ₂ As Foun | d 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 | 5000 4920 | 0.0 79.6 | 0.0 800.0 | -0.1 799.0 | 1.001 |
| As found High point As found Mid point As found Low point New cylinder response | 4320 | 75.0 | 800.0 | | 1.001 |

| Baseline Corr As found: | 799.1 | Previous response | 800.0 | * % change -0.19 | % |
|--------------------------|-------|-------------------|-------|--|----|
| Baseline Corr 2nd AF pt: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiates investigation | on |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.3 | |
| High point | 4920 | 79.6 | 800.0 | 799.2 | 1.001 |
| Mid point | 4960 | 39.8 | 400.0 | 399.9 | 1.000 |
| Low point | 4980 | 19.9 | 200.0 | 199.2 | 1.004 |
| As left zero | 5000 | 0.0 | 0.0 | 0.2 | |
| As left span | 4920 | 79.6 | 800.0 | 800.0 | 1.000 |
| | | | Averag | ge Correction Factor: | 1.002 |

Notes:

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

Calibration Performed By:

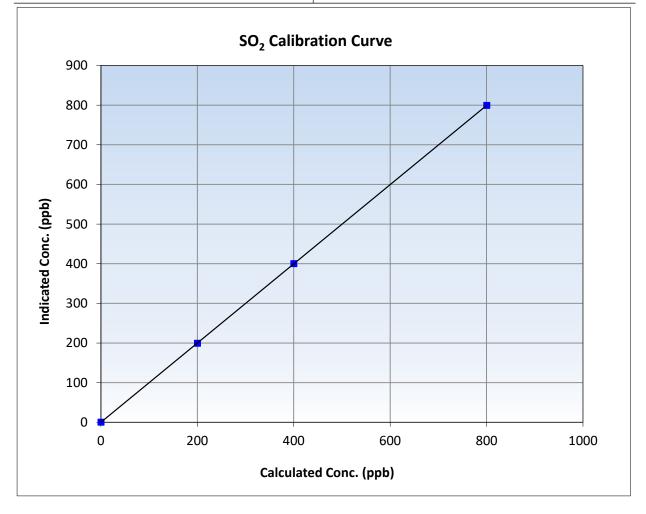


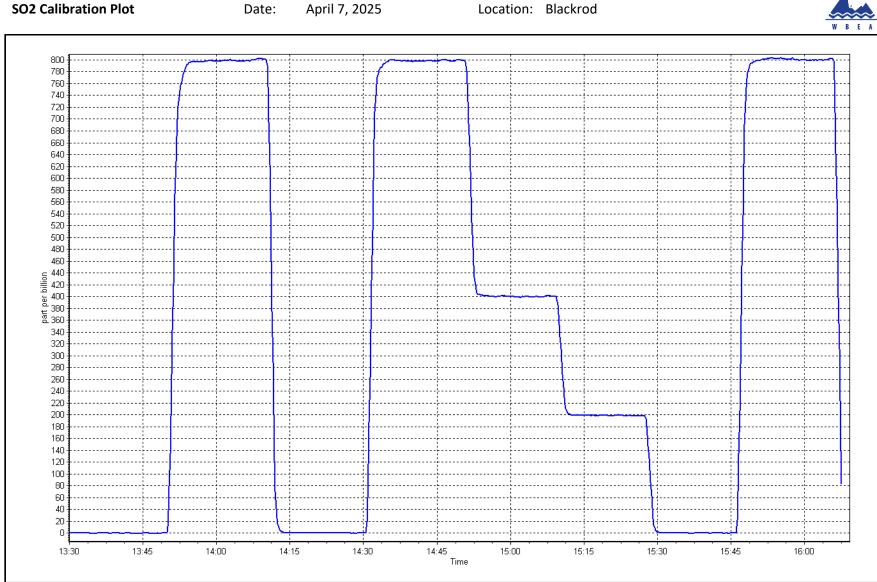
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 26, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Blackrod | Station Number: | AMS 31 |
| Start Time (MST): | 13:29 | End Time (MST): | 16:05 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1160290014 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 800.0 400.0 | 799.2 399.9 | 1.0011 1.0003 | Slope | 0.998942 | 0.90 - 1.10 |
| 200.0 | 199.2 | 1.0040 | Intercept | 0.007990 | +/-30 |







Wood Buffalo Environmental Association H₂S Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Blackrod April 7, 2025 9:38 Routine | Station number: Last Cal Date: End time (MST): | AMS 31 March 24, 2025 13:29 |
|--|--|--|-----------------------------------|
| | | | |

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: | 5762 |
| ZAG Make/Model: | Teledyne API N701 | Н | Serial Number: | 72 |
| | | | | |

Analyzer Information

| Analyzer make: Converter make: | Thermo 43iQTL Global | | Converter serial #: | | dogC |
|-----------------------------------|-------------------------|---------------|---------------------|--------------|---------------|
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | 325 | degC |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 1.010620 | 1.007906 | Backgd or Offset: | 2.77 | 2.77 |
| Calibration intercept: | -0.060561 | -0.140523 | Coeff or Slope: | 1.030 | 1.030 |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As found High point | 4926 | 73.8 | 80.0 | 80.3 | 0.995 |
| As found Mid point | 4963 | 36.9 | 40.0 | 40.6 | 0.983 |
| As found Low point | 4982 | 18.5 | 20.1 | 20.0 | 0.998 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 80.4 | Prev response: | 80.79 | *% change: | -0.5% |
| Baseline Corr 2nd AF pt: | 40.7 | AF Slope: | 1.005905 | AF Intercept: | -0.020438 |
| Baseline Corr 3rd AF pt: | 20.1 | AF Correlation: | 0.999944 | * = > +/-5% change initiate | es 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 | 4926 | 73.8 | 80.0 | 80.5 | 0.994 |
| Mid point | 4963 | 36.9 | 40.0 | 40.2 | 0.995 |
| Low point | 4982 | 18.5 | 20.1 | 20.0 | 1.003 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4926 | 73.8 | 80.0 | 80.2 | 0.998 |
| SO2 Scrubber Check | 4920 | 79.6 | 796.1 | 0.1 | |
| Date of last scrubber chan | ge: | | | Ave Corr Factor | 0.997 |

Date of last converter efficiency test:

Notes:

Sample inlet filter was changed after multipoint as founds. SO2 scrubber check done after calibrator zero and passed. No adjustment made.

Calibration Performed By: Jan Castro

Version 02-2024 CALS_482



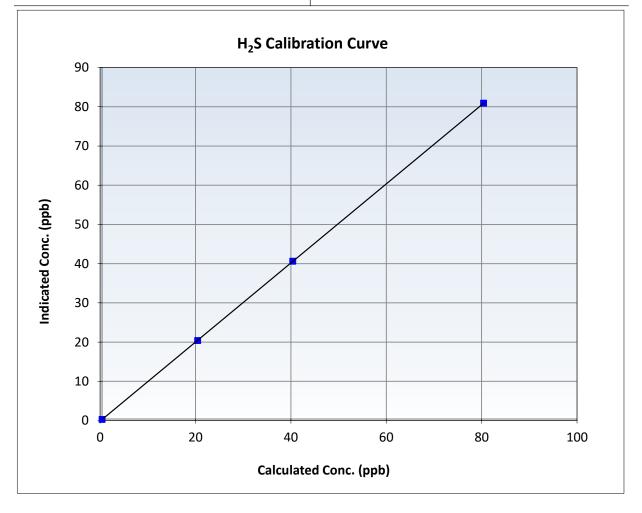
Wood Buffalo Environmental Association

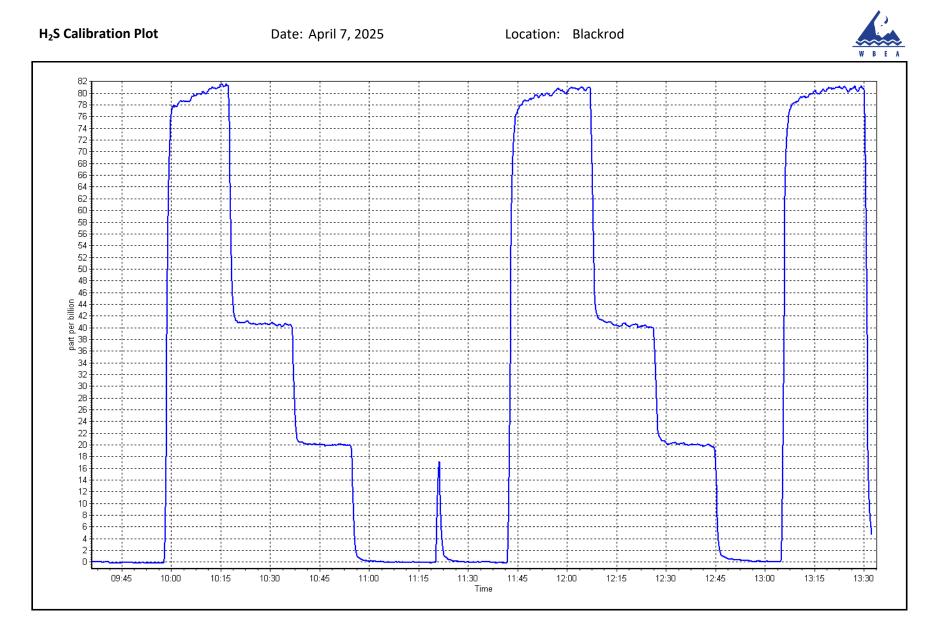
H₂S Calibration Summary

Station Information

| Calibration Date: | April 7, 2025 | Previous Calibration: | March 24, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Blackrod | Station Number: | AMS 31 |
| Start Time (MST): | 9:38 | End Time (MST): | 13:29 |
| Analyzer make: | Thermo 43iQTL | Analyzer serial #: | 12228021056 |

Calibration Data Calculated concentration Indicated concentration Correction factor (Cc/lc) Statistical Evaluation <u>Limits</u> (ppb) (Cc) (ppb) (Ic) **Correlation Coefficient** 0.999998 ≥0.995 0.0 -0.1 ----80.0 80.5 0.9938 Slope 1.007906 0.90 - 1.10 40.0 40.2 0.9950 20.0 1.0026 20.1 Intercept -0.140523 +/-3







Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Blackrod | NO Gas Cylinder #: | DT0035071 | Cal Gas Expiry Date: | January 9, 2032 |
|-------------------|----------------|-----------------------|--------------------|-----------------------|-----------------|
| Station number: | AMS 31 | NOX Cal Gas Conc: | 59.30 ppm | NO Cal Gas Conc: | 59.10 ppm |
| Calibration Date: | April 8, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date: | NA |
| Last Cal Date: | March 25, 2025 | Removed Gas NOX Conc: | 59.30 ppm | Removed Gas NO Conc: | 59.10 ppm |
| Start time (MST): | 7:17 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 11:36 | Calibrator Model: | Teledyne API T700 | Serial Number: 5762 | 2 |
| Reason: | Routine | ZAG make/model: | Teledyne API N701H | Serial Number: 72 | 2 |

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 | 4932 | 67.7 | 803.0 | 800.3 | 2.7 | 793.6 | 790.8 | 2.8 | 1.0118 | 1.0121 |
| AF Mid point AF Low point New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 799.3 ppb | NO = 796.8 | ppb | * = > +/-59 | % change initiates i | nvestigation | *Percent Chan | ge NO _x = | -0.7% |
| Baseline Corr 1 | lst pt NO _x = | 793.6 ppb | NO = 790.7 | ppb | <u>As Foun</u> | d Statistics | | *Percent Chan | ge NO = | -0.8% |
| Baseline Corr 2 | 2nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO _x r ² : | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d NO ₂ r ² : | | NO2 SI: | NO ₂ Int: | |
| | As Found GPT Calibration Data | | | | | | | | | |
| | | | | | | | | Baseline Adjus | | |
| O3 Setp | oint (ppb) | Indicated NO Re concentration | | ated NO Drop entration (ppb) | Calculated No concentration (pp | | dicated NO2 ntration (ppb) (Ic) | Correction f (Cc/(Ic-AFz | | verter Efficiency nit = 96-104% |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point *Limit = 0.90 - 1.10*



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1426262 | 592 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | 0.995387 | 1.002729 | | | |
| | | | Instrument Settings | | | NO _x Cal Offset: | 0.021490 | 0.743770 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 0.996585 | 1.003697 |
| NO coeff or slope: | 0.959 | 0.974 | NO bkgnd or offset: | 12.4 | 12.5 | NO Cal Offset: | -0.719133 | -0.157471 |
| NOX coeff or slope: | 0.996 | 0.998 | NOX bkgnd or offset: | 12.8 | 12.9 | NO ₂ Cal Slope: | 1.000119 | 1.005362 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 200.4 | 192.8 | NO ₂ Cal Offset: | -0.101363 | 0.109061 |

Dilution Calibration Data

| Set Point | Dilution flow rate (sccm) | Source gas flow rate (sccm) | Calculated NOx concentration (ppb) (Cc) | Calculated NO concentration (ppb) (Cc) | Calculated NO2 concentration (ppb) (Cc) | Indicated NOx concentration (ppb) (Ic) | Indicated NO concentration (ppb) (Ic) | Indicated NO2 concentration (ppb) (Ic) | NOx Correction factor (Cc/Ic) Limit = 0.95-1.05 | NO Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|---|--|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.3 | -0.2 | | |
| High point | 4932 | 67.7 | 803.0 | 800.3 | 2.7 | 805.0 | 802.7 | 2.3 | 0.9975 | 0.9970 |
| Mid point | 4966 | 33.8 | 400.9 | 399.5 | 1.4 | 404.8 | 402.4 | 2.4 | 0.9903 | 0.9929 |
| Low point | 4983 | 16.9 | 200.4 | 199.8 | 0.7 | 201.2 | 198.7 | 2.5 | 0.9962 | 1.0053 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | -0.1 | | |
| As left span | 4932 | 67.7 | 803.0 | 394.0 | 409.0 | 795.1 | 394.0 | 401.1 | 1.0099 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9947 | 0.9984 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (C | Indicated NO2 c) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|---------------------------------------|--|--|--|--|
| Cal zero | | | 0.0 | -0.2 | | |
| High GPT point | 794.7 | 385.9 | 411.5 | 413.4 | 0.9954 | 100.5% |
| Mid GPT point | 794.7 | 595.7 | 201.7 | 203.9 | 0.9893 | 101.1% |
| Low GPT point | 794.7 | 694.6 | 102.8 | 103.2 | 0.9962 | 100.4% |
| | | | | Average Correction Factor | 0.9936 | 100.6% |

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

Calibration Performed By:

Jan Castro

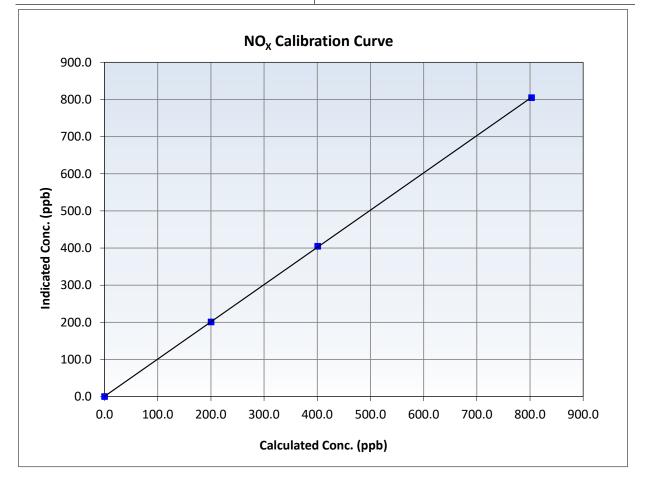


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 8, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Blackrod | Station Number: | AMS 31 |
| Start Time (MST): | 7:17 | End Time (MST): | 11:36 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1426262592 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.1 | | Correlation Coefficient | 0.999984 | ≥0.995 |
| 803.0 400.9 | 805.0 404.8 | 0.9975 0.9903 | Slope | 1.002729 | 0.90 - 1.10 |
| 200.4 | 201.2 | 0.9962 | Intercept | 0.743770 | +/-20 |



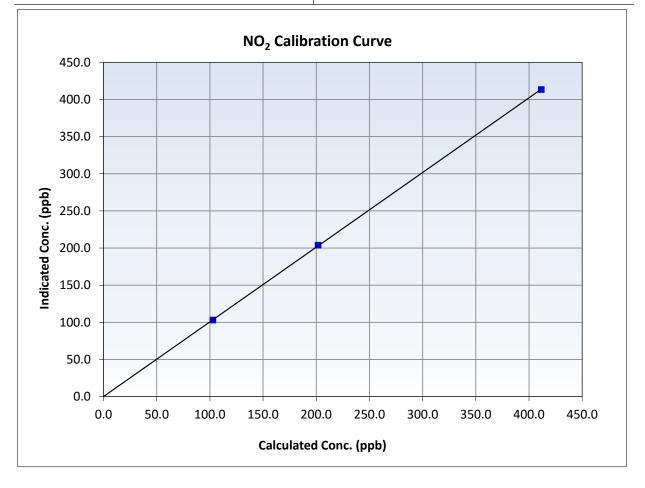


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 8, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Blackrod | Station Number: | AMS 31 |
| Start Time (MST): | 7:17 | End Time (MST): | 11:36 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1426262592 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | lation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | -0.2 | | Correlation Coefficient | 0.999986 | ≥0.995 |
| 411.5 201.7 | 413.4 203.9 | 0.9954 0.9893 | Slope | 1.005362 | 0.90 - 1.10 |
| 102.8 | 103.2 | 0.9962 | Intercept | 0.109061 | +/-20 |



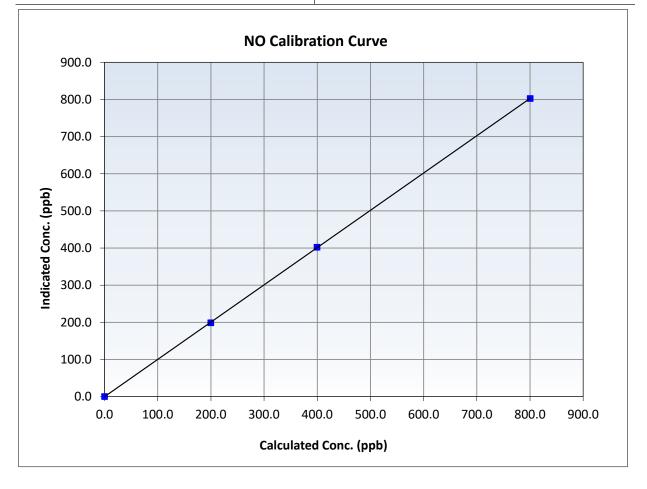


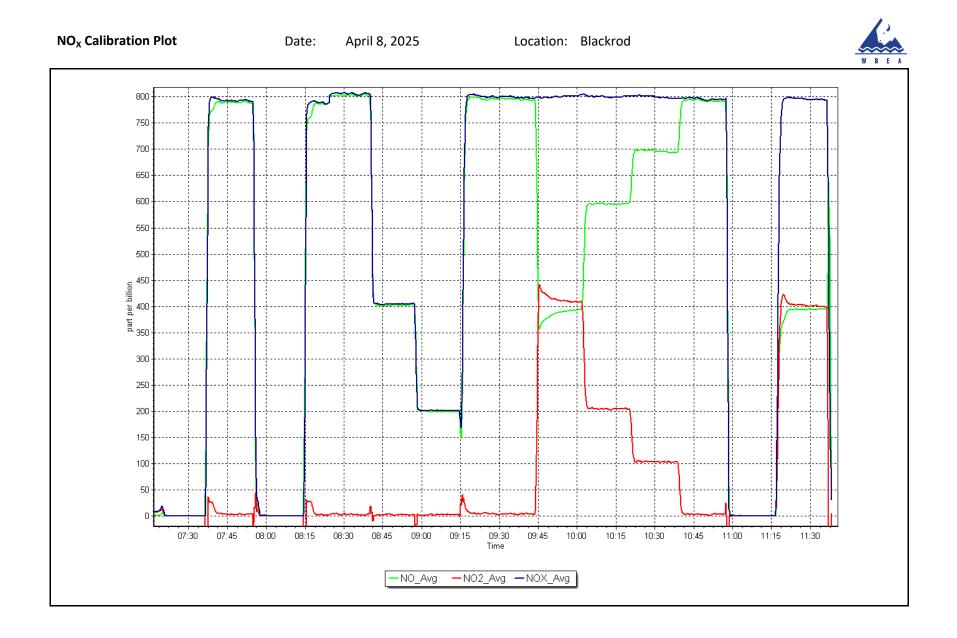
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 8, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Blackrod | Station Number: | AMS 31 |
| Start Time (MST): | 7:17 | End Time (MST): | 11:36 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1426262592 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 0.999985 | ≥0.995 |
| 800.3 399.5 | 802.7 402.4 | 0.9970 0.9929 | Slope | 1.003697 | 0.90 - 1.10 |
| 199.8 | 198.7 | 1.0053 | Intercept | -0.157471 | +/-20 |







WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS33 MONDAY CREEK APRIL 2025

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

May 30, 2025



Station Name:

Calibration Date:

Start time (MST):

Monday Creek

April 2, 2025

12:44

Wood Buffalo Environmental Association SO₂ Calibration Report

Station number: AMS 33

End time (MST): 15:35

Last Cal Date: March 5, 2025

Station Information

| Reason: | Routine | | , , , , , , , , , , , , , , , , , , , | | |
|---|----------------------------------|--------------------------------|---|---------------------------------------|--|
| | | Calibration St | andards | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 50.62 EB0008522 | ppm | Cal Gas Exp Date: | March 10, 2031 | |
| 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 Info | rmation | | |
| Analyzer make: | Thermo 43i | | Serial Number: | 1152430005 | |
| Analyzer Range: | 0- 1000 ppb | | | | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 0.997815 | 1.005166 | Backgd or Offset: | 30.7 | 31.2 |
| Calibration intercept: | -0.238150 | -0.537953 | Coeff or Slope: | 0.988 | 1.001 |
| | | SO ₂ As Foun | d 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 |

| | | | | | Limit = 0.90-1.10 |
|--------------------------|-------|-------------------|-------|----------------------------|-------------------|
| As found zero | 5000 | 0.0 | 0.0 | -0.6 | |
| As found High point | 4921 | 79.1 | 800.8 | 791.2 | 1.011 |
| As found Mid point | | | | | |
| As found Low point | | | | | |
| New cylinder response | | | | | |
| Baseline Corr As found: | 791.8 | Previous response | 798.8 | *% change | -0.9% |
| Baseline Corr 2nd AF pt: | NA | AF Slope: | | AF Intercept: | |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiat | es investigation |
| | | | | | |

SO₂ 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 | 79.1 | 800.8 | 804.2 | 0.996 |
| Mid point | 4961 | 39.5 | 399.9 | 402.0 | 0.995 |
| Low point | 4980 | 19.8 | 200.5 | 200.5 | 1.000 |
| As left zero | 5000 | 0.0 | 0.0 | -0.3 | |
| As left span | 4921 | 79.1 | 800.8 | 803.5 | 0.997 |
| | | | Averag | ge Correction Factor: | 0.997 |

Notes:

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

Version 03-2024 CALS_492

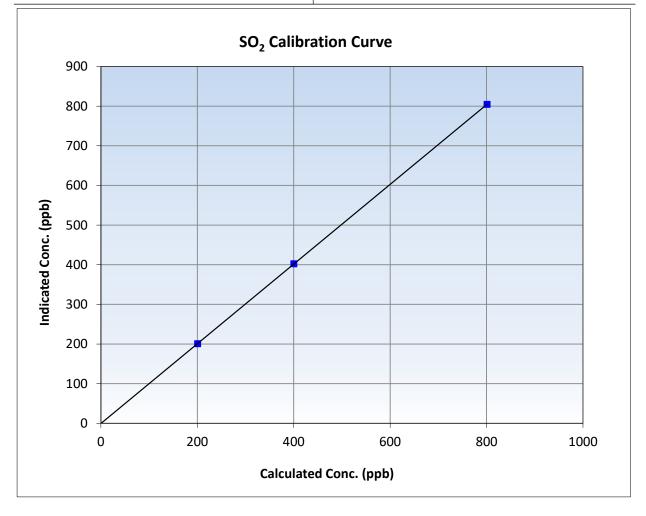


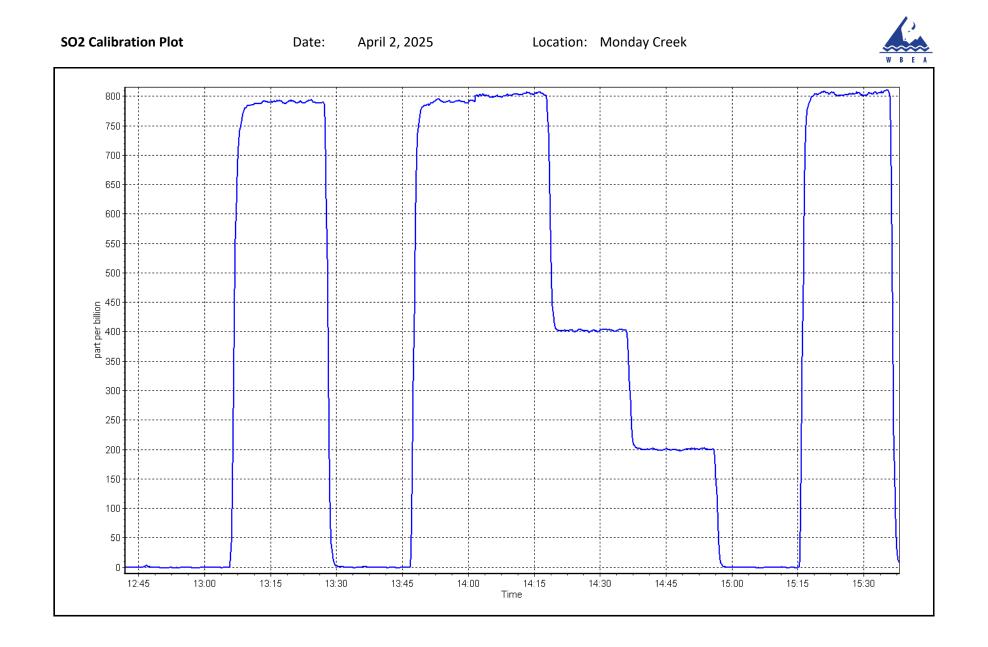
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | March 5, 2025 |
|-------------------|---------------|-----------------------|---------------|
| Station Name: | Monday Creek | Station Number: | AMS 33 |
| Start Time (MST): | 12:44 | End Time (MST): | 15:35 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1152430005 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.5 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 800.8 399.9 | 804.2 402.0 | 0.9958 0.9947 | Slope | 1.005166 | 0.90 - 1.10 |
| 200.5 | 200.5 | 0.9998 | Intercept | -0.537953 | +/-30 |







Calibration intercept:

Wood Buffalo Environmental Association H2S Calibration Report

Station Information

| | | station mile | mation | | | |
|--|---|---------------|--|----------------------------------|------|---|
| Station Name: Calibration Date: Start time (MST): Reason: | Monday Creek April 15, 2025 9:44 Routine | | Station number: Last Cal Date: End time (MST): | AMS 33 March 4, 2025 13:18 | | |
| | | Calibration S | tandards | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 5.05 DT0014831 | ppm | Cal Gas Exp Date: | November 15, 2026 | 5 | |
| 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 Info | ormation | | | |
| Analyzer make: | Thermo 43iQTL | | Analyzer serial #: | 12333331547 | | |
| Converter make: | Global 150 | | Converter serial #: | 2022-196 | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | degC | |
| Analyzer Nalige | 0 - 100 ppb | | converter remp. | 525 | uege | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | ŀ |
| Calibration slope: | 1.006570 | 0.999283 | Backgd or Offset: | 1.6 | | |
| | | | | | | |

-0.021599

H2S As Found Data

Coeff or Slope:

1.076

| 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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.2 | |
| As found High point | 4921 | 79.2 | 80.0 | 80.1 | 0.996 |
| As found Mid point | 4960 | 39.6 | 40.0 | 40.1 | 0.993 |
| As found Low point | 4980 | 19.8 | 20.0 | 20.0 | 0.990 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 80.3 | Prev response: | 80.41 | *% change: | -0.1% |
| Baseline Corr 2nd AF pt: | 40.3 | AF Slope: | 1.003569 | AF Intercept: | -0.121610 |
| Baseline Corr 3rd AF pt: | 20.2 | AF Correlation: | 0.999995 | * = > +/-5% change initiate | es 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 | 79.9 | 1.001 |
| 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 | 0.0 | |
| As left span | 4921 | 79.2 | 80.0 | 79.7 | 1.004 |
| SO2 Scrubber Check | 4921 | 79.1 | 791.0 | 0.1 | |
| Date of last scrubber chan | ge: | 11-Apr-24 | | Ave Corr Factor | 1.000 |

Date of last converter efficiency test:

Notes: Sample inlet filter changed after multipoint as founds. SO2 scrubber check done after calibrator zero and passed. No adjustment made.

Calibration Performed By: Jan Castro

-0.101612

<u>Finish</u> 1.6

1.076



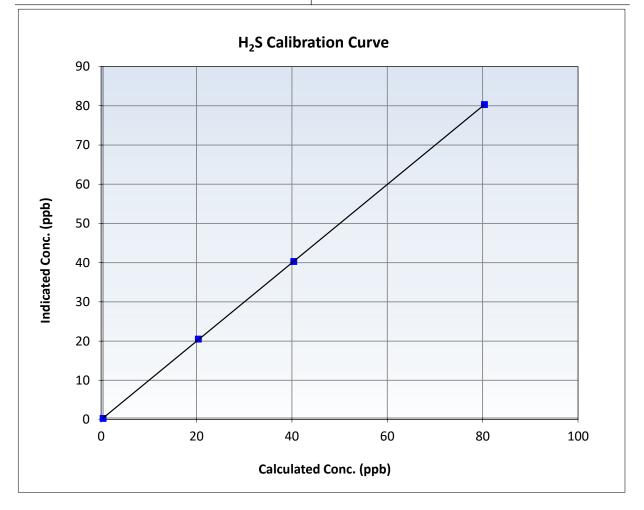
Wood Buffalo Environmental Association

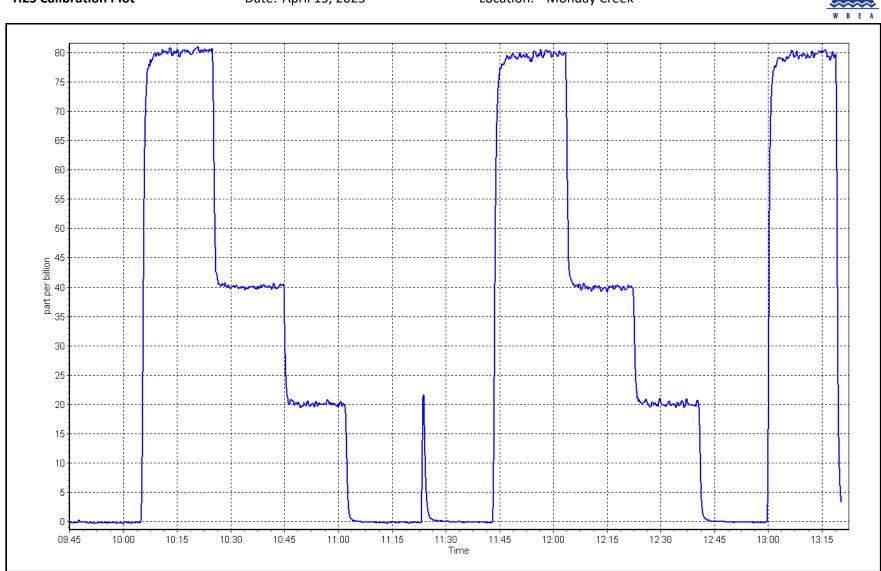
H2S Calibration Summary

Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 4, 2025 |
|-------------------|----------------|-----------------------|---------------|
| Station Name: | Monday Creek | Station Number: | AMS 33 |
| Start Time (MST): | 9:44 | End Time (MST): | 13:18 |
| Analyzer make: | Thermo 43iQTL | Analyzer serial #: | 12333331547 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999992 | ≥0.995 |
| 80.0 | 79.9 | 1.0011 | Slope | 0.999283 | 0.90 - 1.10 |
| 40.0 | 39.9 | 1.0025 | Slope | 0.555205 | 0.50 1.10 |
| 20.0 | 20.1 | 0.9950 | Intercept | -0.021599 | +/-3 |





Location: Monday Creek



Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Monday Creek | NO Gas Cylinder #: | CC755290 | Cal Gas Expiry Date: | January 3, 2031 |
|-------------------|----------------|-----------------------|--------------------|-----------------------|-----------------|
| Station number: | AMS 33 | NOX Cal Gas Conc: | 48.90 ppm | NO Cal Gas Conc: | 48.70 ppm |
| Calibration Date: | April 2, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date: | NA |
| Last Cal Date: | March 13, 2025 | Removed Gas NOX Conc: | 48.90 ppm | Removed Gas NO Conc: | 48.70 ppm |
| Start time (MST): | 10:15 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 12:44 | Calibrator Model: | Teledyne API T700 | Serial Number: 3253 | 5 |
| Reason: | Removal | ZAG make/model: | Teledyne API T701H | Serial Number: 832 | 2 |

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)) <i>Limit = 0.90 - 1.10</i> | Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) <i>Limit = 0.90 - 1.10</i> |
|-----------------|------------------------------|--------------------------------|---|--|---|--|---|--|--|---|
| As found zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.7 | -0.6 | -0.1 | | |
| AF High point | 4918 | 82.1 | 802.9 | 799.6 | 3.3 | 799.2 | 794.3 | 4.9 | 1.0038 | 1.0060 |
| AF Mid point | 4959 | 41.1 | 401.9 | 400.3 | 1.6 | 396.9 | 393.4 | 3.4 | 1.0109 | 1.0160 |
| AF Low point | 4980 | 20.5 | 200.5 | 199.7 | 0.8 | 196.8 | 194.0 | 2.8 | 1.0150 | 1.0260 |
| New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 797.5 ppb | NO = 792.9 | ppb | * = > +/-5 | % change initiates i | investigation | *Percent Chan | ge NO _X = | 0.3% |
| Baseline Corr 1 | Lst pt NO _X = | 799.9 ppb | NO = 794.9 | ppb | <u>As Four</u> | nd Statistics | | *Percent Chan | ge NO = | 0.3% |
| Baseline Corr 2 | 2nd pt NO _x = | 397.6 ppb | NO = 394.0 | ppb | As four | $NO_X r^2$: | 0.999982 | Nx SI: 0.9967 | 777 Nx Int: | -2.153 |
| Baseline Corr 3 | Brd pt NO _x = | 197.5 ppb | NO = 194.6 | ppb | As four | ld NO r ² : | 0.999957 | NO SI: 0.9952 | L69 NO Int: | -2.933 |
| | | | | | As four | $NO_2 r^2$: | 0.999985 | NO2 SI: 0.995 | L65 NO ₂ Int: | 0.586 |

As Found GPT Calibration Data

| | | | | | Baseline Adjusted NO2 | |
|-------------------------|---|--|--|---|---|---|
| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Cc) | Indicated NO2 concentration (ppb) (Ic) | Correction factor (Cc/(Ic-AFzero)) <i>Limit = 0.90 - 1.10</i> | Converter Efficiency Limit = 96-104% |
| As Found GPT zero | | | 0.0 | -0.1 | | |
| As found high GPT point | 792.7 | 381.2 | 414.8 | 412.9 | 1.0046 | 99.5% |
| As found mid GPT point | 792.7 | 590.4 | 205.6 | 205.9 | 0.9985 | 100.2% |
| As found low GPT point | 792.7 | 693.0 | 103.0 | 103.5 | 0.9950 | 100.5% |



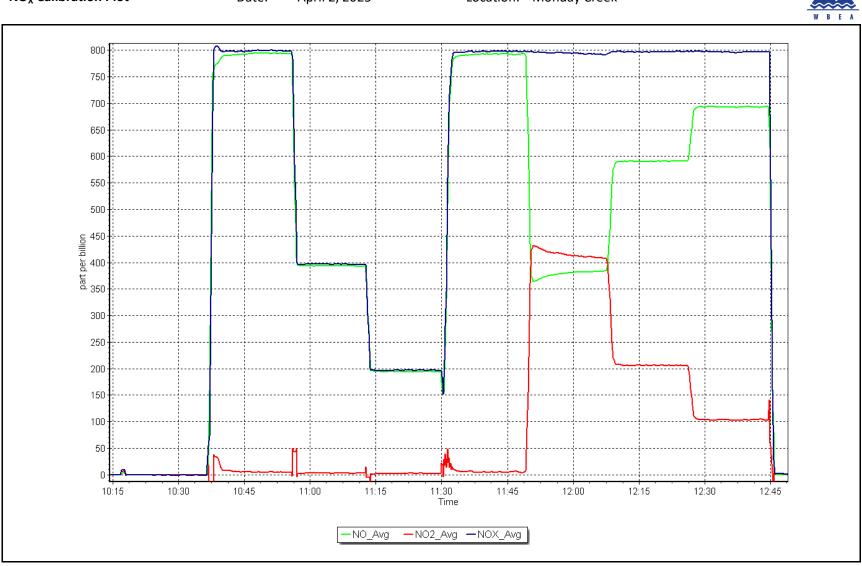
Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: NOX Range (ppb): | Thermo 42iQ 0 - 1000 ppb | | Serial Number: | 118234 | 10006 | | | l Slope: | <u>Start</u> 0.994870 | <u>Finish</u> |
|------------------------------------|---|------------------------------|--|----------|---|--|---|--|--|--|
| NOV Kalige (hhn). | 0 - 1000 hhn | | (| | | | | • | | |
| | <i>c</i> | | Instrument Sett | ings | <i>c</i> | F 1 1 1 | | l Offset: | -1.333022 | |
| NO (() | <u>Start</u> | <u>Finish</u> | | <i>.</i> | <u>Start</u> | <u>Finish</u> | NO Cal | - | 0.994154 | |
| NO coeff or slope: | 1.202 | NA | NO bkgnd or | | 1.0 | NA | | Offset: | -2.053068 | |
| NOX coeff or slope: | 0.992 | NA | NOX bkgnd or | | 1.2 | NA | | l Slope: | 0.980054 | |
| NO2 coeff or slope: | 1.000 | NA | Reaction cell I | Press: | 104.9 | NA | NO ₂ Ca | l Offset: | 2.225929 | |
| | | | | Dilu | ition Calibrat | ion Data | | | | |
| Set Point | n flow rate Source gas sccm) rate (scc | flow m) conce | ted NOx Calculate ntration concent o) (Cc) (ppb) | ration | 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) <i>Limit = 0.95-1.05</i> | 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 C | orrection Factor | | 1 |
| | | | | 6 | | - Dete | - | | | <u>. </u> |
| | | | | G | PT Calibration | n Data | | | | |
| O3 Setpoint (ppb |) | NO Reference ration (ppb) | Indicated NO D concentration (p | - | Calculated N concentration (p | | dicated NO2 ntration (ppb) (Ic) | NO2 Correction fa Limit = 0.95- | | nverter Efficiency imit = 96-104% |
| Cal zero | | | | | | | | | | |
| High GPT point | | | | | | | | | | |
| Mid GPT point | | | | | | | | | | |
| Low GPT point | | | | | | | | | | |
| | | | | | | Average Co | prrection Factor | | | |
| Notes: | | | Rem | oving th | e instrument to | o do further tro | ubleshooting at | the shop. | | |
| Calibration Per | formed By: | J | an Castro | | | | | | | |



NO_x Calibration Plot



Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Monday Creek | | NO Gas | S Cylinder #: | CC75 | 5290 | Cal Gas Expiry D | ate: Mar | ch 11, 2 | 2031 |
|-------------------|---------------|----------------|----------------|-------------------|---------------|--------------|------------------|----------------|----------|--------------------|
| Station number: | AMS 33 | | NOX Ca | , al Gas Conc: | 48.90 | ppm | NO Cal Gas Cond | : 48 | .70 pr | om |
| Calibration Date: | April 3, 2025 | | Remov | ed Cylinder #: | N | A | Removed Gas Ex | p Date: NA | ••• | |
| Last Cal Date: | NA | | Remov | ed Gas NOX Con | c: 48.90 | ppm | Removed Gas N | O Conc: 48 | .70 pp | om |
| Start time (MST): | 7:19 | | NOX ga | s Diff: | | | NO gas Diff: | | | |
| End time (MST): | 12:27 | | Calibra | tor Model: | Teledyne | API T700 | Serial Number: | 3253 | | |
| Reason: | Install | | ZAG m | ake/model: | Teledyne / | API T701H | Serial Number: | 832 | | |
| | | | <u>As Four</u> | d Dilution Cali | bration Data | | | | | |
| | | Calculated NOx | Calculated NO | Calculated NO2 | Indicated NOx | Indicated NO | Indicated NO2 | Baseline Adjus | ted Ba | seline Adjusted NO |

| Set Point | Dilution flow rate (sccm) | | e gas flow e (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) | concentration (ppb) (Ic) | NOx Correction factor (Cc/(Ic-AFzero)) Limit = 0.90 - 1.10 | 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 | onse NO _x = | NA | ppb | NO = NA | ppb | * = > +/-5 | % change initiates | investigation | *Percent Chan | ge NO _X = | NA |
| Baseline Corr 1 | st pt NO _x = | NA | ppb | NO = NA | ppb | <u>As Four</u> | nd Statistics | | *Percent Chan | ge NO = | NA |
| Baseline Corr 2 | nd pt NO _x = | NA | ppb | NO = NA | ppb | As four | d NO _x r ² : | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | rd pt NO _x = | NA | ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | | As four | d $NO_2 r^2$: | | NO2 SI: | NO ₂ Int: | |

As Found GPT Calibration Data

| | | | | | Baseline Adjusted NO2 | |
|-------------------|--|--|---|---|--|--|
| O3 Setpoint (nph) | cated NO Reference oncentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Cc) | Indicated NO2 concentration (ppb) (Ic) | Correction factor (Cc/(Ic-AFzero)) Limit = 0.90 - 1.10 | Converter Efficiency <i>Limit = 96-104%</i> |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point

Station Information



Analyzer Information

Wood Buffalo Environmental Association

NO_X \ NO \ NO₂ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42iQ | | Serial Number: 1242633 | 5704 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | | 0.999496 |
| | | | Instrument Settings | | | NO _x Cal Offset: | | -0.133286 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | | 1.004314 |
| NO coeff or slope: | NA | 1.096 | NO bkgnd or offset: | NA | 1.6 | NO Cal Offset: | | -0.933140 |
| NOX coeff or slope: | NA | 0.998 | NOX bkgnd or offset: | NA | 1.7 | NO ₂ Cal Slope: | | 0.975877 |
| NO2 coeff or slope: | NA | 0.990 | Reaction cell Press: | NA | 149.0 | NO ₂ Cal Offset: | | 0.255076 |

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) <i>Limit = 0.95-1.05</i> | NO Correction factor (Cc/lc) <i>Limit = 0.95-1.05</i> |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|--|---|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.6 | -0.5 | -0.1 | | |
| High point | 4918 | 82.1 | 802.9 | 799.6 | 3.3 | 802.3 | 802.6 | -0.3 | 1.0008 | 0.9963 |
| Mid point | 4959 | 41.1 | 401.9 | 400.3 | 1.6 | 401.4 | 400.2 | 1.3 | 1.0014 | 1.0003 |
| Low point | 4980 | 20.5 | 200.5 | 199.7 | 0.8 | 201.0 | 199.6 | 1.5 | 0.9974 | 1.0003 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | -0.1 | 0.0 | | |
| As left span | 4918 | 82.1 | 802.9 | 390.8 | 412.1 | 785.2 | 390.8 | 394.4 | 1.0226 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9998 | 0.9989 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 concentration (ppb) (Ic) | NO2 Correction factor (Cc/Ic) Limit = 0.95-1.05 | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|--|---------------------------------------|---|---|--|--|
| Cal zero | | | 0.0 | -0.1 | | |
| High GPT point | 799.8 | 394.8 | 408.3 | 398.0 | 1.0258 | 97.5% |
| Mid GPT point | 799.8 | 606.1 | 197.0 | 194.3 | 1.0138 | 98.6% |
| Low GPT point | 799.8 | 704.8 | 98.3 | 95.4 | 1.0302 | 97.1% |
| | | | | Average Correction Factor | 1.0233 | 97.7% |

Notes:

Sample inlet filter and charcoal was changed before calibrator zero. Adjusted zero and span.

Calibration Performed By:

Jan Castro

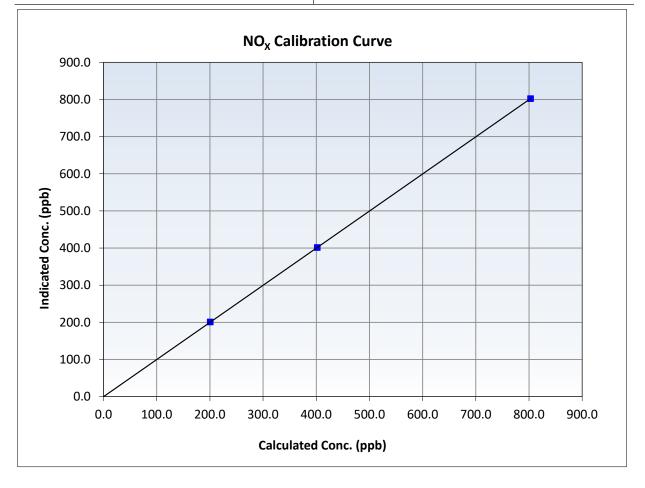


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 3, 2025 | Previous Calibration: | NA |
|-------------------|---------------|-----------------------|-------------|
| Station Name: | Monday Creek | Station Number: | AMS 33 |
| Start Time (MST): | 7:19 | End Time (MST): | 12:27 |
| Analyzer make: | Thermo 42iQ | Analyzer serial #: | 12426335704 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.6 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 802.9 | 802.3 | 1.0008 | Slope | 0.999496 | 0.90 - 1.10 |
| 401.9 | 401.4 | 1.0014 | · | | |
| 200.5 | 201.0 | 0.9974 | Intercept | -0.133286 | +/-20 |



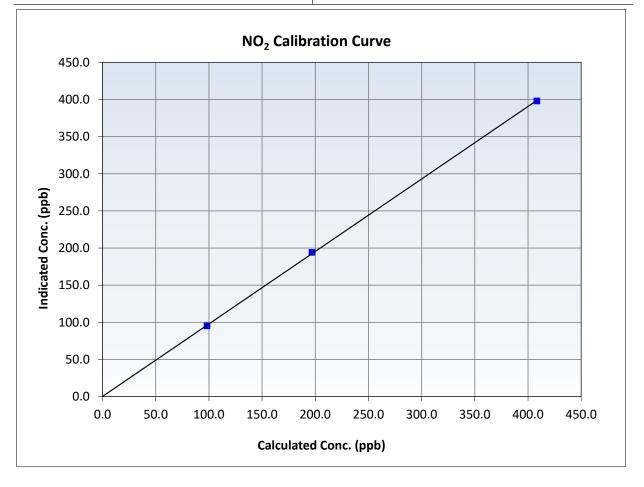


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 3, 2025 | Previous Calibration: | NA |
|-------------------|---------------|-----------------------|-------------|
| Station Name: | Monday Creek | Station Number: | AMS 33 |
| Start Time (MST): | 7:19 | End Time (MST): | 12:27 |
| Analyzer make: | Thermo 42iQ | Analyzer serial #: | 12426335704 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999949 | ≥0.995 |
| 408.3 197.0 | 398.0 194.3 | 1.0258 1.0138 | Slope | 0.975877 | 0.90 - 1.10 |
| 98.3 | 95.4 | 1.0302 | Intercept | 0.255076 | +/-20 |



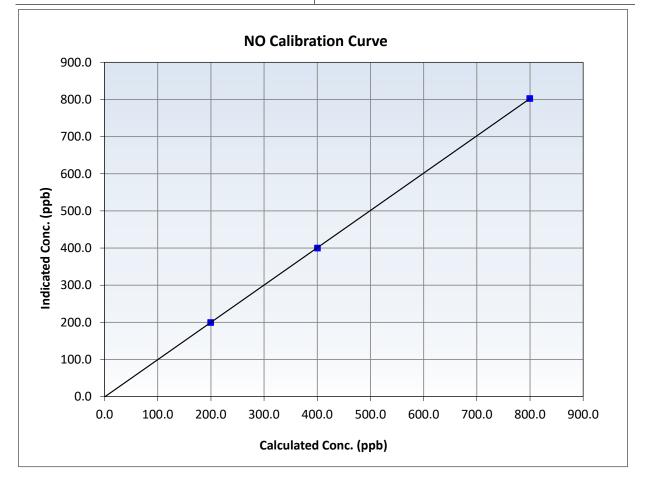


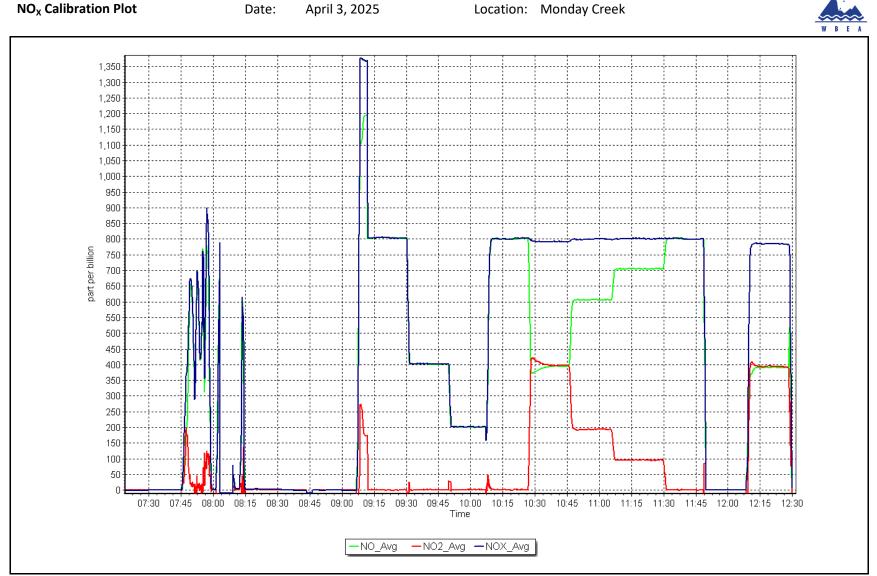
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 3, 2025 | Previous Calibration: | NA |
|-------------------|---------------|-----------------------|-------------|
| Station Name: | Monday Creek | Station Number: | AMS 33 |
| Start Time (MST): | 7:19 | End Time (MST): | 12:27 |
| Analyzer make: | Thermo 42iQ | Analyzer serial #: | 12426335704 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.5 | | Correlation Coefficient | 0.999997 | ≥0.995 |
| 799.6 400.3 | 802.6 400.2 | 0.9963 1.0003 | Slope | 1.004314 | 0.90 - 1.10 |
| 199.7 | 199.6 | 1.0003 | Intercept | -0.933140 | +/-20 |







WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS505 SAWBONES BAY APRIL 2025

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

May 30, 2025



Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Sawbones |
|-------------------|----------|
| Calibration Date: | March 28 |
| Start time (MST): | 9:30 |
| Reason: | Install |

s Bay , 2025 Station number: AMS 505 Last Cal Date: NA End time (MST): 11:42

Calibration Standards

| Cal Gas Concentration: | 51.40 | ppm | Cal Gas Exp Date: February 15, 2029 |
|------------------------|-------------------|-----|-------------------------------------|
| Cal Gas Cylinder #: | EY0000672 | | |
| Removed Cal Gas Conc: | 51.40 | ppm | Rem Gas Exp Date: February 15, 2029 |
| Removed Gas Cyl #: | EY0000672 | | Diff between cyl: |
| Calibrator Model: | Teledyne API T700 | | Serial Number: 5112 |
| Zero Air Gen Model: | Teledyne API T701 | | Serial Number: 690 |
| | | | |

Analyzer Information

Serial Number: 710321323

| Analyzer make: | Thermo 43i |
|-----------------|--------------|
| Analyzer Range: | 0 - 1000 ppb |
| | <u>Start</u> |

Calibration slope: Calibration intercept:

| tart | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------|---------------|-------------------|--------------|---------------|
| | 1.000238 | Backgd or Offset: | | 19.8 |
| | -0.072137 | Coeff or Slope: | | 1.020 |

SO₂ 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 initiate | es investigation |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.7 | |
| High point | 4922 | 77.8 | 799.8 | 800.0 | 1.000 |
| Mid point | 4961 | 38.9 | 399.9 | 400.5 | 0.999 |
| Low point | 4981 | 19.5 | 200.4 | 199.0 | 1.007 |
| As left zero | 5000 | 0.0 | 0.0 | 1.2 | |
| As left span | 4922 | 77.8 | 799.8 | 809.1 | 0.989 |
| | | | Averag | e Correction Factor: | 1.002 |

Notes:

Install calibration. Adjusted span and zero.

Calibration Performed By:

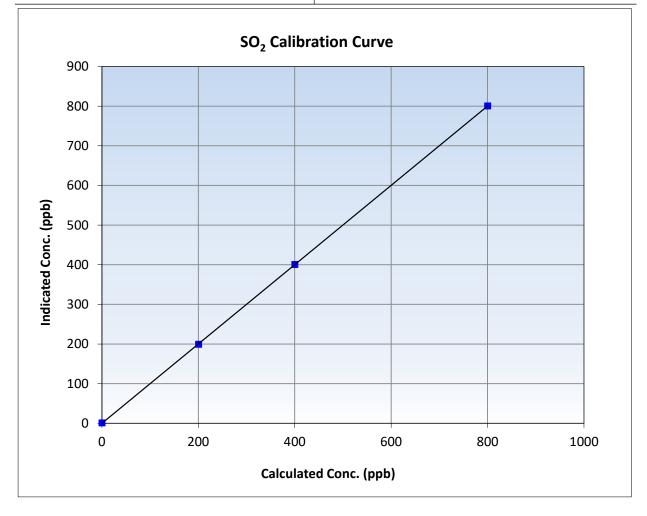


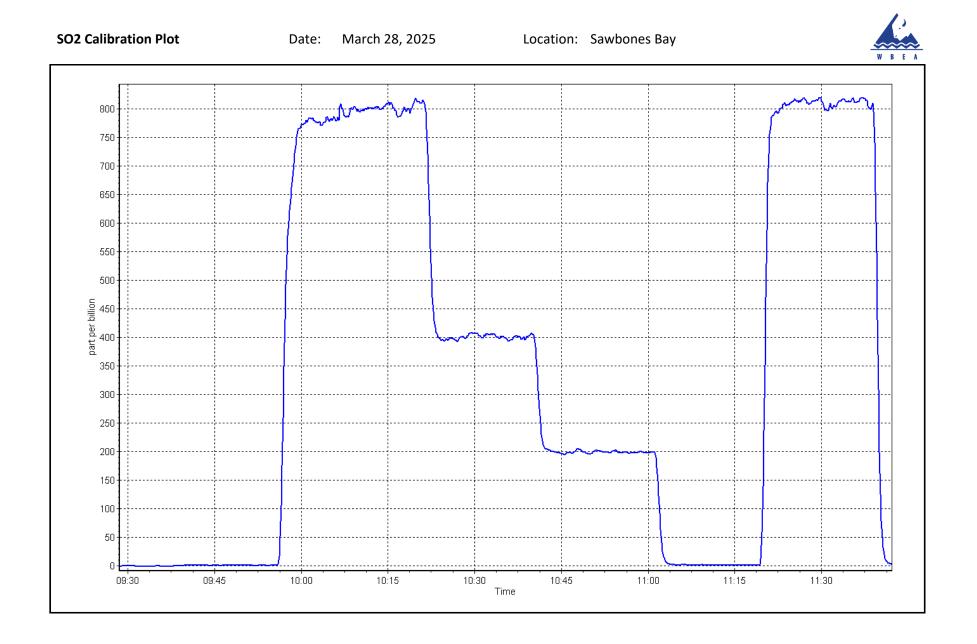
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | March 28, 2025 | Previous Calibration: | NA |
|-------------------|----------------|-----------------------|-----------|
| Station Name: | Sawbones Bay | Station Number: | AMS 505 |
| Start Time (MST): | 9:30 | End Time (MST): | 11:42 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 710321323 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.7 | | Correlation Coefficient | 0.999992 | ≥0.995 |
| 799.8 399.9 | 800.0 400.5 | 0.9998 0.9985 | Slope | 1.000238 | 0.90 - 1.10 |
| 200.4 | 199.0 | 1.0072 | Intercept | -0.072137 | +/-30 |







Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Sawbones Bay |
|-------------------|----------------|
| Calibration Date: | April 25, 2025 |
| Start time (MST): | 8:22 |
| Reason: | Routine |

Station number: AMS 505 Last Cal Date: March 28, 2025 End time (MST): 11:04

Calibration Standards

| Cal Gas Concentration: Cal Gas Cylinder #: | 51.40 EY0000672 | ppm | Cal Gas Exp Date: February 15, 2029 |
|---|--------------------|---------------|--|
| Removed Cal Gas Conc: Removed Gas Cyl #: | 51.40 EY0000672 | ppm | Rem Gas Exp Date: February 15, 2029 Diff between cyl: |
| Calibrator Model: | Teledyne API T700 | | Serial Number: 5112 |
| Zero Air Gen Model: | Teledyne API T701 | | Serial Number: 690 |
| | | | |
| | | Analyzer Info | <u>rmation</u> |
| Analyzer make: | Thermo 43i | | Serial Number: 710321323 |
| Analyzer Range: | 0 - 1000 ppb | | |
| | Start | Finish | Start |

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 1.000238 | 0.999694 | Backgd or Offset: | 19.8 | 19.8 |
| Calibration intercept: | -0.072137 | 0.168148 | Coeff or Slope: | 1.020 | 1.020 |

SO₂ As Found Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Baseline Adjusted Correction factor (Cc/(Ic-AFzero) Limit = 0.90-1.10 |
|--|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.8 | |
| As found High point As found Mid point As found Low point New cylinder response | 4922 | 77.8 | 799.8 | 803.9 | 0.996 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 803.1 NA | Previous response AF Slope: | 799.9 | *% change AF Intercept: | 0.4% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.0 | |
| High point | 4922 | 77.8 | 799.8 | 798.7 | 1.001 |
| Mid point | 4961 | 38.9 | 399.9 | 402.9 | 0.993 |
| Low point | 4981 | 19.5 | 200.4 | 198.8 | 1.008 |
| As left zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As left span | 4922 | 77.8 | 799.8 | 809.7 | 0.988 |
| | | | Averag | ge Correction Factor: | 1.001 |

Notes:

Changed inelt filter after as founds. Adjusted zero and span.

Calibration Performed By:

Sean Bala

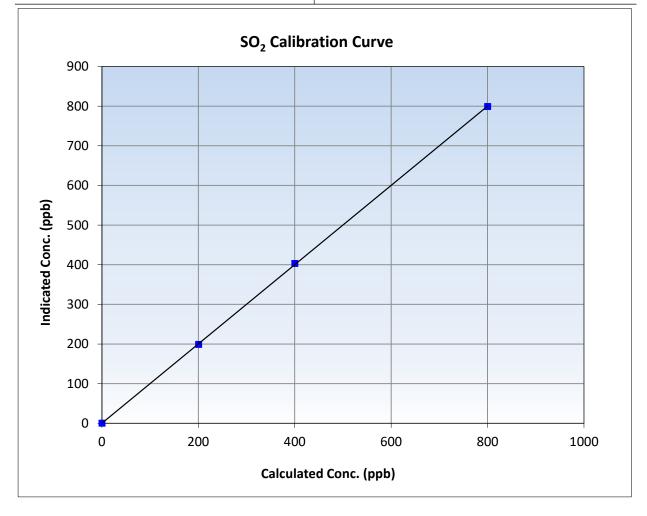


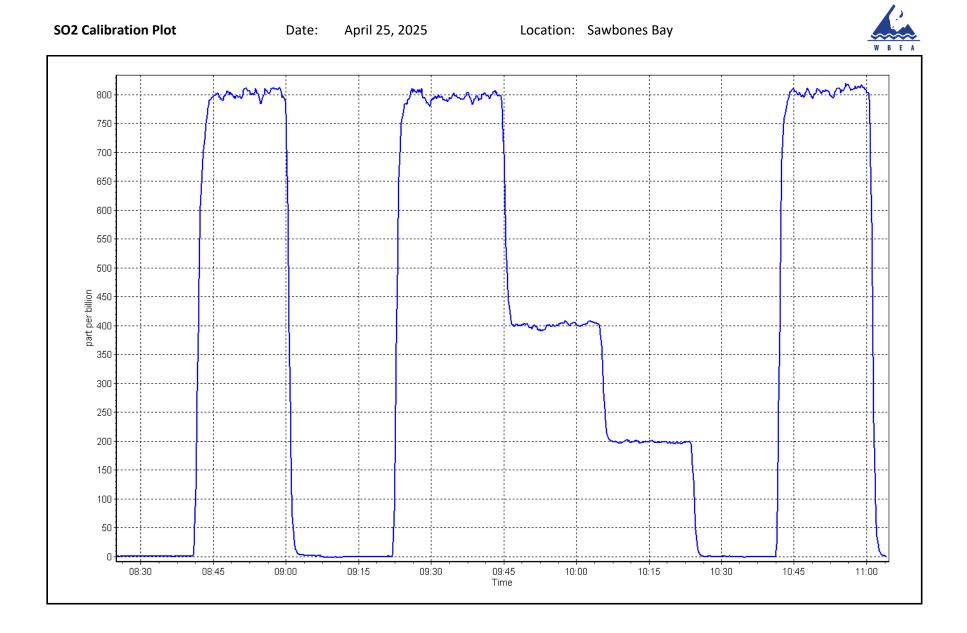
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 25, 2025 | Previous Calibration: | March 28, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Sawbones Bay | Station Number: | AMS 505 |
| Start Time (MST): | 8:22 | End Time (MST): | 11:04 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 710321323 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999963 | ≥0.995 |
| 799.8 399.9 | 798.7 402.9 | 1.0014 0.9926 | Slope | 0.999694 | 0.90 - 1.10 |
| 200.4 | 198.8 | 1.0082 | Intercept | 0.168148 | +/-30 |







Wood Buffalo Environmental Association

H2S Calibration Report

Station Information

| Station Name: | Sawbones Bay | | Station number: | AMS 505 | | | |
|------------------------|---|--|--|--|---|--|---|
| | • | | | | | | |
| | | | End time (MST): | 13:13 | | | |
| Reason: | Install | | | | | | |
| | | | | | | | |
| | | Calibration S | tandards | | | | |
| Cal Gas Concentration: | 5.26 | ppm | Cal Gas Exp Date: | March 19, 202 | 7 | | |
| 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 Info | ormation | | | | |
| Analyzer make: | Thermo 43iQTL | | Analyzer serial #: | 12113311965 | | | |
| Converter make: | Global 150 | | Converter serial #: | 2022-224 | | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 325 | degC | |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | | ŀ |
| Calibration slope: | | 0.992596 | Backgd or Offset: | | | | (|
| Calibration intercept: | | -0.020000 | Coeff or Slope: | | | | |
| | | | | | | | |
| | | H2S As Fou | nd Data | | | | |
| | Calibration Date: Start time (MST): Reason: Cal Gas Concentration: Cal Gas Cylinder #: Removed Cal Gas Conc: Removed Gas Cyl #: Calibrator Make/Model: ZAG Make/Model: Analyzer make: Converter make: Analyzer Range Calibration slope: | Calibration Date: March 26, 2025 Start time (MST): 10:30 Reason: Install Cal Gas Concentration: 5.26 Cal Gas Cylinder #: DT0034141 Removed Cal Gas Conc: 5.26 Removed Gas Cyl #: NA Calibrator Make/Model: Teledyne API T750 ZAG Make/Model: Teledyne API T751H Analyzer make: Global 150 Analyzer Range 0 - 100 ppb <u>Start</u> Calibration slope: | Calibration Date: March 26, 2025 Start time (MST): 10:30 Reason: Install Calibration S Cal Gas Concentration: 5.26 ppm Cal Gas Cylinder #: DT0034141 Removed Cal Gas Conc: 5.26 ppm Removed Gas Cyl #: NA Calibrator Make/Model: Teledyne API T750 ZAG Make/Model: Teledyne API T751H Analyzer make: Clobal 150 Analyzer make: Global 150 Analyzer Range 0 - 100 ppb Start Finish Calibration slope: 0.992596 Calibration intercept: -0.020000 | Calibration Date:March 26, 2025Last Cal Date:Start time (MST):10:30End time (MST):Reason:InstallInstallCal Gas Concentration:5.26ppmCal Gas Exp Date:Cal Gas Cylinder #:DT0034141Removed Cal Gas Conc:5.26ppmRem Gas Exp Date:Removed Cal Gas Conc:5.26ppmRem Gas Exp Date:Diff between cyl:Calibrator Make/Model:Teledyne API T750Serial Number:Serial Number:ZAG Make/Model:Teledyne API T751HSerial Number:Serial Number:Converter make:Global 150Converter serial #:Analyzer make:Global 150Converter Temp:StartFinishCalibration slope:0 - 100 ppbBackgd or Offset: | Calibration Date:March 26, 2025Last Cal Date:NAStart time (MST):10:30End time (MST):13:13Reason:InstallInstallCalibration StandardsCal Gas Concentration:5.26ppmCal Gas Exp Date:March 19, 202Cal Gas Cylinder #:DT0034141Rem Gas Exp Date:NARemoved Cal Gas Conc:5.26ppmRem Gas Exp Date:NARemoved Gas Cyl #:NADiff between cyl:Calibrator Make/Model:Teledyne API T750Serial Number:282ZAG Make/Model:Teledyne API T751HSerial Number:321202-224202-224Analyzer make:Thermo 43iQTL Global 150Analyzer serial #:12113311965 2022-2242022-224Analyzer Range0 - 100 ppbConverter Temp:2022-224Calibration slope: Calibration intercept:StartFinish 0.992596Sackgd or Offset: Coeff or Slope:Start | Calibration Date: March 26, 2025 Last Cal Date: NA Start time (MST): 10:30 End time (MST): 13:13 Reason: Install 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 T750 Serial Number: 321 Canalyzer make: Thermo 43iQTL Analyzer serial #: 12113311965 Converter make: Global 150 Converter serial #: 2022-224 Analyzer Range 0 - 100 ppb Converter Temp: 325 <u>Start Finish</u> Start Calibration slope: 0.992596 Backgd or Offset: Calibration intercept: -0.020000 Conformation | Calibration Date: March 26, 2025 Last Cal Date: NA Start time (MST): 10:30 End time (MST): 13:13 Reason: Install Cal Gas Concentration: 5.26 ppm Cal Gas Exp Date: March 19, 2027 Cal Gas Concentration: 5.26 ppm Rem Gas Exp Date: NA Removed Cal Gas Conc: 5.26 ppm Rem Gas Exp Date: NA 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 make: Thermo 43iQTL Analyzer serial #: 12113311965 Converter make: Global 150 Converter serial #: 2022-224 Analyzer Range 0 - 100 ppb Converter Temp: 325 degC <u>Start Finish</u> Sackgd or Offset: Calibration slope: 0.992596 Backgd or Offset: Calibration intercept: -0.020000 Coeff or Slope: Coeff or Slope |

| 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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| 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 initiate | es 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 | 76.0 | 80.0 | 79.4 | 1.007 |
| Mid point | 4962 | 38.0 | 40.0 | 39.5 | 1.012 |
| Low point | 4981 | 19.0 | 20.0 | 19.9 | 1.004 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4924 | 76.0 | 80.0 | 79.0 | 1.012 |
| SO2 Scrubber Check | 4922 | 77.8 | 778.0 | 0.0 | |
| Date of last scrubber changed | ge: | | | Ave Corr Factor | 1.008 |
| | - | | | | |

Date of last converter efficiency test:

Notes:

Calibration Performed By: Se

Sean Bala

Install calibration.

Finish 0.920 1.105



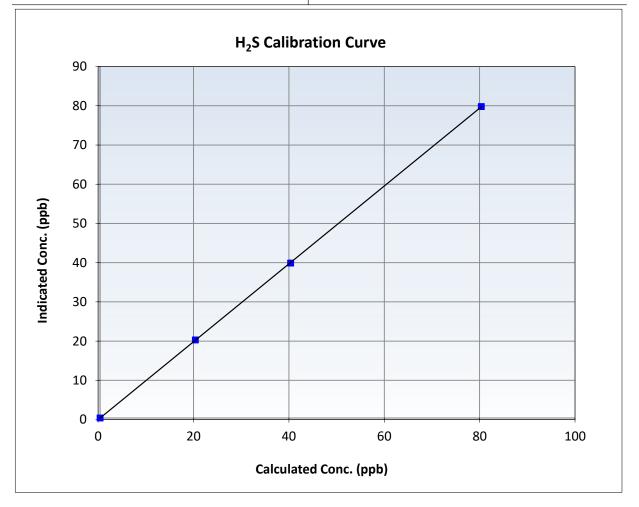
Wood Buffalo Environmental Association

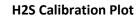
H2S Calibration Summary

Station Information

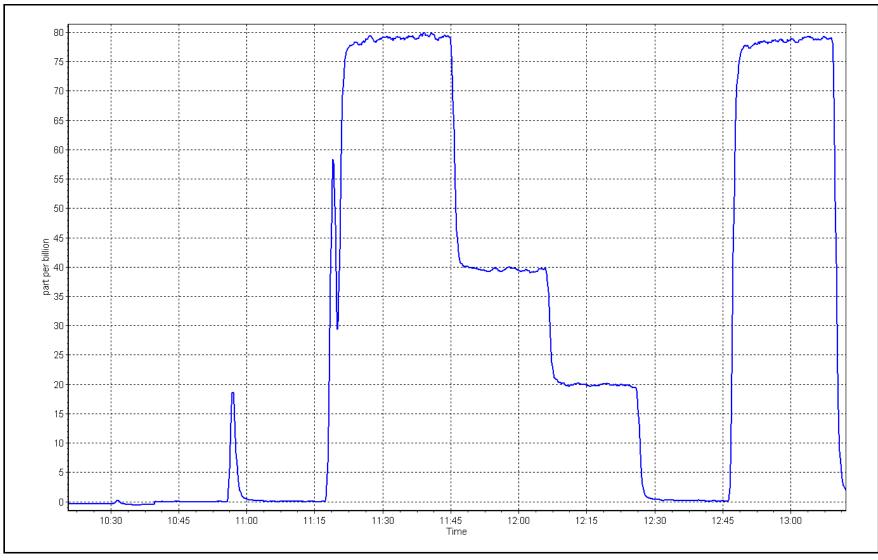
| Calibration Date: | March 26, 2025 | Previous Calibration: | NA |
|-------------------|----------------|-----------------------|-------------|
| Station Name: | Sawbones Bay | Station Number: | AMS 505 |
| Start Time (MST): | 10:30 | End Time (MST): | 13:13 |
| Analyzer make: | Thermo 43iQTL | Analyzer serial #: | 12113311965 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | c) Statistical Evaluation <u>Lin</u> | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|--------------------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999990 | ≥0.995 |
| 80.0 | 79.4 | 1.0070 | Slope | 0.992596 | 0.90 - 1.10 |
| 40.0 | 39.5 | 1.0121 | 0.000 | 0.002000 | 0.000 1.100 |
| 20.0 | 19.9 | 1.0044 | Intercept | -0.020000 | +/-3 |











Wood Buffalo Environmental Association H2S Calibration Report

Station Information

| Station Name: Calibration Date: | Sawbones Bay April 24, 2025 | Station number: Last Cal Date: | AMS 505 March 26, 2025 |
|------------------------------------|--------------------------------|-----------------------------------|---------------------------|
| Start time (MST): | 8:09 | End time (MST): | 11:56 |
| 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 T751 | ł | Serial Number: | 321 |
| | | | | |

Analyzer Information

| Analyzer make: Converter make: | Thermo 43iQ Global 150 | | Analyzer serial #: Converter serial #: | 12113311965 2022-224 | |
|-----------------------------------|---------------------------|---------------|---|-------------------------|---------------|
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 325 degC |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 0.992596 | 0.994025 | Backgd or Offset: | 0.920 | 0.920 |
| Calibration intercept: | -0.020000 | -0.020000 | 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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.0 | |
| As found High point | 4924 | 76.0 | 80.0 | 79.3 | 1.008 |
| As found Mid point | 4962 | 38.0 | 40.0 | 39.6 | 1.009 |
| As found Low point | 4981 | 19.0 | 20.0 | 19.6 | 1.020 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 79.3 | Prev response: | 79.34 | *% change: | -0.1% |
| Baseline Corr 2nd AF pt: | 39.6 | AF Slope: | 0.992739 | AF Intercept: | -0.100000 |
| Baseline Corr 3rd AF pt: | 19.6 | AF Correlation: | 0.999991 | * = > +/-5% change initiate | es investigation |

H2S Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|----------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.1 | |
| High point | 4924 | 76.0 | 80.0 | 79.5 | 1.006 |
| Mid point | 4962 | 38.0 | 40.0 | 39.7 | 1.007 |
| Low point | 4981 | 19.0 | 20.0 | 19.7 | 1.015 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4924 | 76.0 | 80.0 | 79.1 | 1.011 |
| SO2 Scrubber Check | 4922 | 77.8 | 778.0 | -0.1 | |
| Date of last scrubber chan | ge: | | | Ave Corr Factor | 1.009 |

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



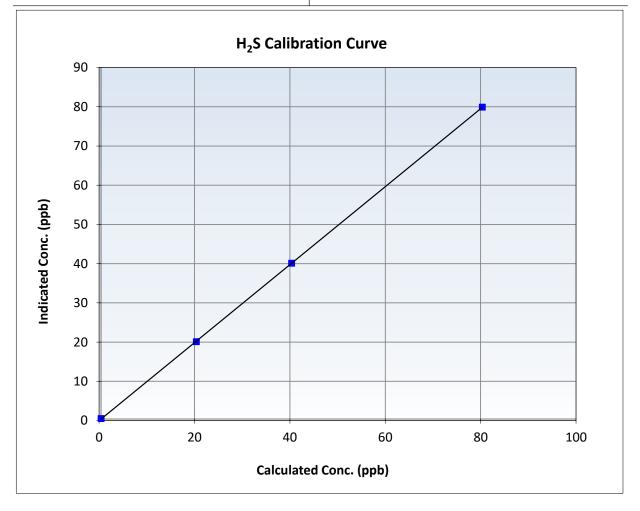
Wood Buffalo Environmental Association

H2S Calibration Summary

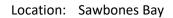
Station Information

| Calibration Date: | April 24, 2025 | Previous Calibration: | March 26, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Sawbones Bay | Station Number: | AMS 505 |
| Start Time (MST): | 8:09 | End Time (MST): | 11:56 |
| Analyzer make: | Thermo 43iQ | Analyzer serial #: | 12113311965 |

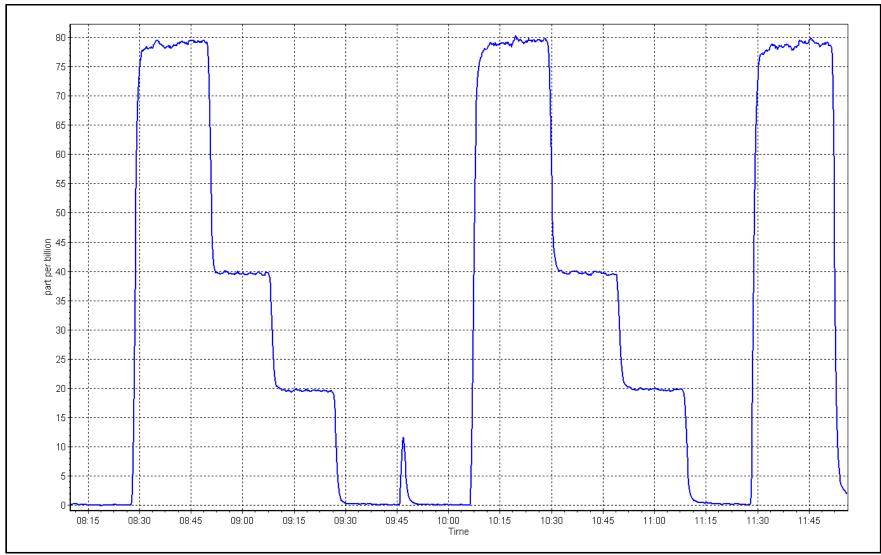
Calibration Data Calculated concentration Indicated concentration Correction factor (Cc/lc) Statistical Evaluation <u>Limits</u> (ppb) (Cc) (ppb) (Ic) **Correlation Coefficient** 0.999989 ≥0.995 0.0 0.1 ----80.0 79.5 1.0057 Slope 0.994025 0.90 - 1.10 40.0 39.7 1.0070 20.0 19.7 1.0146 Intercept -0.020000 +/-3













Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: Station number: Calibration Date: Last Cal Date: Start time (MST): End time (MST): Reason: | Sawbones Bay AMS 505 April 2, 2025 NA 8:49 12:42 Install | | NOX Ca Remov Remov NOX ga Calibra ZAG m | tor Model: ake/model: | API T API T | ppm A ppm F700 | Cal Gas Expiry D NO Cal Gas Con Removed Gas E Removed Gas N NO gas Diff: Serial Number: Serial Number: | c: 60.00 xp Date: NA | • |
|--|--|---|--|---|--|---|--|---|--|
| | | | <u>As Four</u> | nd Dilution Cali | bration Data | | | | |
| Set Point | flow rate Source gas flo ccm) rate (sccm) | Calculated NOx w 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 | * = > +/-59 | % change initiates ii | nvestigation | *Percent Chang | e NO _x = | NA |
| Baseline Corr 1st pt | NO _x = NA ppb | NO = NA | ppb | <u>As Foun</u> | d Statistics | | *Percent Chang | e NO = | NA |
| Baseline Corr 2nd pt | NO _x = NA ppb | NO = NA | ppb | As foun | d NO _x r^2 : | | Nx SI: | Nx Int: | |
| Baseline Corr 3rd pt | NO _x = NA ppb | NO = NA | ppb | As foun As foun | | | NO SI: NO2 SI: | NO Int: NO ₂ Int: | |

As Found GPT Calibration Data

| | | | | | Baseline Adjusted NO2 | |
|-------------------|---|---------------------------------------|--|---|---|--|
| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Cc) | Indicated NO2 concentration (ppb) (Ic) | Correction factor (Cc/(Ic-AFzero)) <i>Limit = 0.90 - 1.10</i> | Converter Efficiency <i>Limit = 96-104%</i> |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | API T200 | | Serial Number: 425 | 9 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|----------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | | 1.003271 |
| | | | Instrument Settings | | | NO _x Cal Offset: | | -3.589772 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | | 1.003045 |
| NO coeff or slope: | | 0.941 | NO bkgnd or offset: | | 3.4 | NO Cal Offset: | | -4.150059 |
| NOX coeff or slope: | | 0.941 | NOX bkgnd or offset: | | 3.8 | NO ₂ Cal Slope: | | 0.998577 |
| NO2 coeff or slope: | | 1.000 | Reaction cell Press: | | 3.8 | NO ₂ Cal Offset: | | 0.523117 |

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) <i>Limit = 0.95-1.05</i> |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|---|---|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.5 | -0.5 | 0.0 | | |
| High point | 4933 | 66.7 | 801.8 | 800.4 | 1.3 | 802.1 | 800.4 | 1.7 | 0.9996 | 1.0001 |
| Mid point | 4967 | 33.3 | 400.2 | 399.6 | 0.7 | 397.2 | 395.3 | 1.9 | 1.0077 | 1.0108 |
| Low point | 4983 | 16.7 | 200.7 | 200.4 | 0.3 | 194.2 | 192.9 | 1.3 | 1.0337 | 1.0389 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -1.6 | -1.7 | 0.1 | | |
| As left span | 4933 | 66.7 | 801.8 | 355.4 | 446.4 | 794.6 | 355.4 | 439.3 | 1.0090 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 1.0137 | 1.0166 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (C | Indicated NO2 c) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|--|--|--|---|
| Cal zero | | | 0.0 | 0.0 | | |
| High GPT point | 794.0 | 348.4 | 446.9 | 446.5 | 1.0010 | 99.9% |
| Mid GPT point | 794.0 | 551.0 | 244.3 | 244.7 | 0.9985 | 100.1% |
| Low GPT point | 794.0 | 646.9 | 148.4 | 149.4 | 0.9935 | 100.7% |
| | | | | Average Correction Factor | 0.9977 | 100.2% |

Notes:

Install Calibration.

Calibration Performed By:

Sean Bala

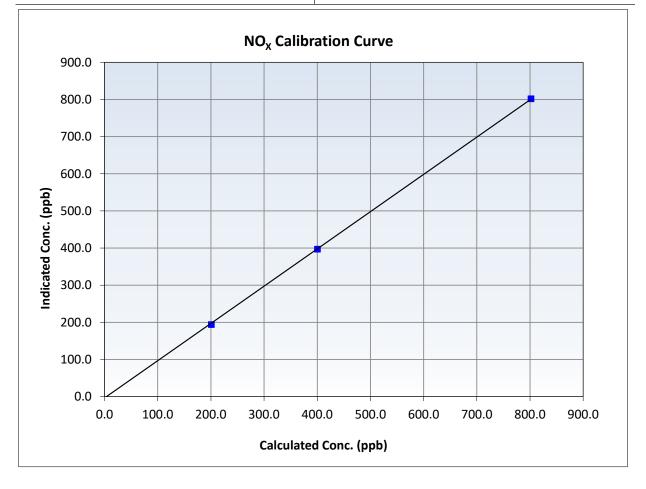


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | NA |
|-------------------|---------------|-----------------------|---------|
| Station Name: | Sawbones Bay | Station Number: | AMS 505 |
| Start Time (MST): | 8:49 | End Time (MST): | 12:42 |
| Analyzer make: | API T200 | Analyzer serial #: | 4259 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalu | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.5 | | Correlation Coefficient | 0.999930 | ≥0.995 |
| 801.8 400.2 | 802.1 397.2 | 0.9996 1.0077 | Slope | 1.003271 | 0.90 - 1.10 |
| 200.7 | 194.2 | 1.0337 | Intercept | -3.589772 | +/-20 |



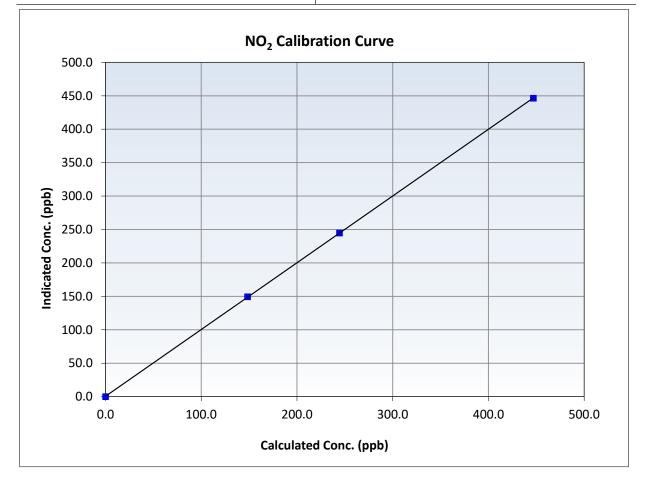


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | NA |
|-------------------|---------------|-----------------------|---------|
| Station Name: | Sawbones Bay | Station Number: | AMS 505 |
| Start Time (MST): | 8:49 | End Time (MST): | 12:42 |
| Analyzer make: | API T200 | Analyzer serial #: | 4259 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evalu | lation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999992 | ≥0.995 |
| 446.9 244.3 | 446.5 244.7 | 1.0010 0.9985 | Slope | 0.998577 | 0.90 - 1.10 |
| 148.4 | 149.4 | 0.9935 | Intercept | 0.523117 | +/-20 |



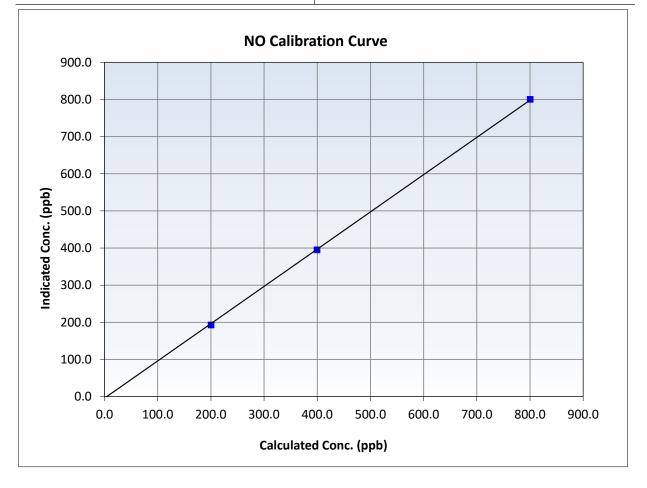


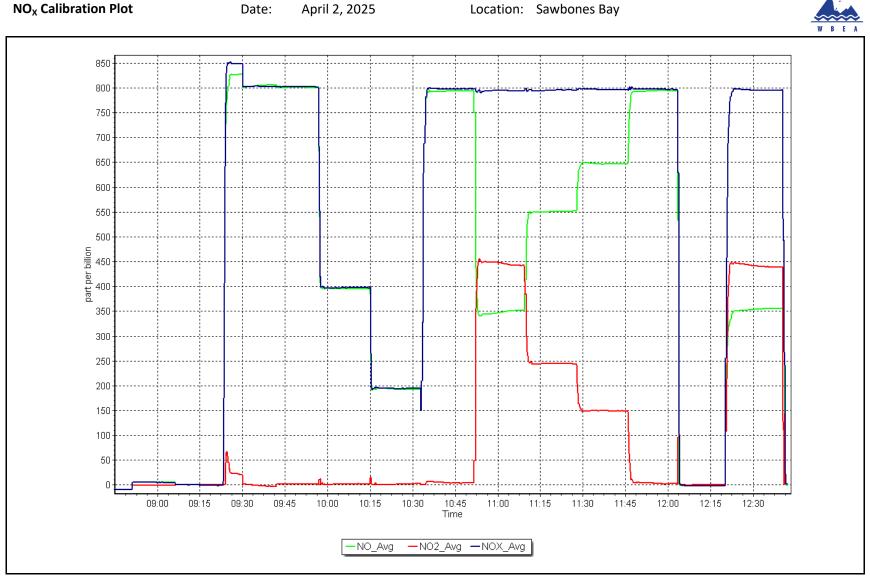
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | NA |
|-------------------|---------------|-----------------------|---------|
| Station Name: | Sawbones Bay | Station Number: | AMS 505 |
| Start Time (MST): | 8:49 | End Time (MST): | 12:42 |
| Analyzer make: | API T200 | Analyzer serial #: | 4259 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.5 | | Correlation Coefficient | 0.999904 | ≥0.995 |
| 800.4 399.6 | 800.4 395.3 | 1.0001 1.0108 | Slope | 1.003045 | 0.90 - 1.10 |
| 200.4 | 192.9 | 1.0389 | Intercept | -4.150059 | +/-20 |





NO_x Calibration Plot

Location: Sawbones Bay



Wood Buffalo Environmental Association

Wind Speed/Direction Calibration Report

Station Information

| Station Name: | Sawbones Bay | | Station Number: | AMS 505 | |
|--|--|--------------------|--|---------------------------------|------------------------------------|
| Calibration Date: | March 27, 2025 | | Prev Cal Date: | NA | |
| Start Time (MST): | 9:36 | | End Time (MST): | 12:50 | |
| Tower Height (m): | 10.0 | | Reason: | Install | |
| | | Wind Spo | eed Calibration | | |
| Sensor make/model: | Met One 010C-1 | | Serial Number: | P10040 | |
| WS Calibrator: | MetOne 053 | | Serial Number: | CA 03845 | |
| Shaft RPM (Hz) | Calculated Speed (K/ | br) (Cy) | Indicated Sr | peed (K/hr) (lv) | % Error <i>Limit = +/- 1.5%</i> |
| 0 | 0.0 | | | 0.0 | |
| 200 | 20.2 | | | 20.3 | 0.7% |
| 400 | 39.4 | | 3 | 39.4 | 0.1% |
| 600 | 58.6 | | 5 | 58.7 | 0.2% |
| 800 | 77.8 | | 7 | 7.8 | 0.1% |
| | | <u>Start</u> | <u>Finish</u> | <u>Limits</u> | |
| | Correl Coeff (r ²) | | 0.999998 | ≥0.9995 | |
| | Calculated slope | | 0.999451 | 0.98 - 1.02 | |
| | Calculated intercept | | -0.052868 | +/- 2 | |
| Courses weaks (as a date | Mat Ora 020 | | ction Calibration | D4602 | |
| Sensor make/model: | Met One 020 | | Serial Number: | B4693 | 10 |
| As Found Declination (c Solar noon (MST): | leg east of True North): | <u>NA</u> 12:28 | As Left Declination (deg Calc Declination*: | g east of True North): 12.72 | <u>13</u> Degrees |
| WD Calibrator: | Met One 04 | | call Decimation . | | lination as per NOAA website |
| | | • | | | |
| Physical Direction | on (Degrees) (Cv) | Indicated D | irection (Degrees) (Iv) | | ased on 360° FS) t = +/- 1% |
| | 0 | 0.8 | | | 0.2% |
| 9 | 90 | | 86.3 | - | -1.0% |
| | 80 | | 177.6 | -0.7% | |
| | 70 | | 270.5 | 0.1% | |
| 3 | 55 | | 356.3 | | 0.4% |
| | | Start | <u>Finish</u> | Limits | |
| | Correl Coeff (r ²) | | 0.999894 | ≥0.9995 | |
| | · · · | | | | |
| | Calculated slope | | 0.994042 | 0.97 - 1.03 | |
| | Calculated slope Calculated intercept | | 0.994042 1.762340 | 0.97 - 1.03 +/- 5 | |

Sean Bala



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS506 JACKFISH 1 APRIL 2025

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

May 30, 2025



Analyzer make: Analyzer Range:

Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Jackfish 1 |
|-------------------|----------------|
| Calibration Date: | April 23, 2025 |
| Start time (MST): | 8:58 |
| Reason: | Routine |

Thermo 43i

0-1000 ppb

Station number: AMS 506 Last Cal Date: March 19, 2025 End time (MST): 11:39

Calibration Standards

| Cal Gas Concentration: Cal Gas Cylinder #: | 50.52 CC274266 | ppm | Cal Gas Exp Date: December 29, 2028 |
|---|-------------------|-----|-------------------------------------|
| 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

Serial Number: 1160290011

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 1.001515 | 0.999944 | Backgd or Offset: | 20.2 | 20.2 |
| Calibration intercept: | 0.763956 | 0.664017 | Coeff or Slope: | 0.985 | 0.985 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4921 | 79.2 | 800.2 | 797.1 | 1.004 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 796.7 NA | Previous response AF Slope: | 802.2 | *% change AF Intercept: | -0.7% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.6 | |
| High point | 4921 | 79.2 | 800.2 | 801.0 | 0.999 |
| Mid point | 4960 | 39.6 | 400.2 | 400.2 | 1.000 |
| Low point | 4980 | 19.8 | 200.1 | 201.2 | 0.994 |
| As left zero | 5000 | 0.0 | 0.0 | 0.3 | |
| As left span | 4921 | 79.2 | 800.2 | 801.0 | 0.999 |
| | | | Averag | ge Correction Factor: | 0.998 |

Notes:

Changed inlet filter after as founds. No adjustment made.

Calibration Performed By:

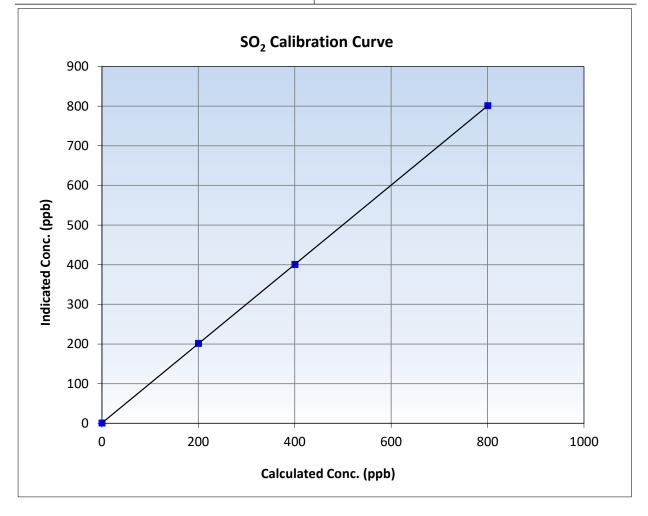


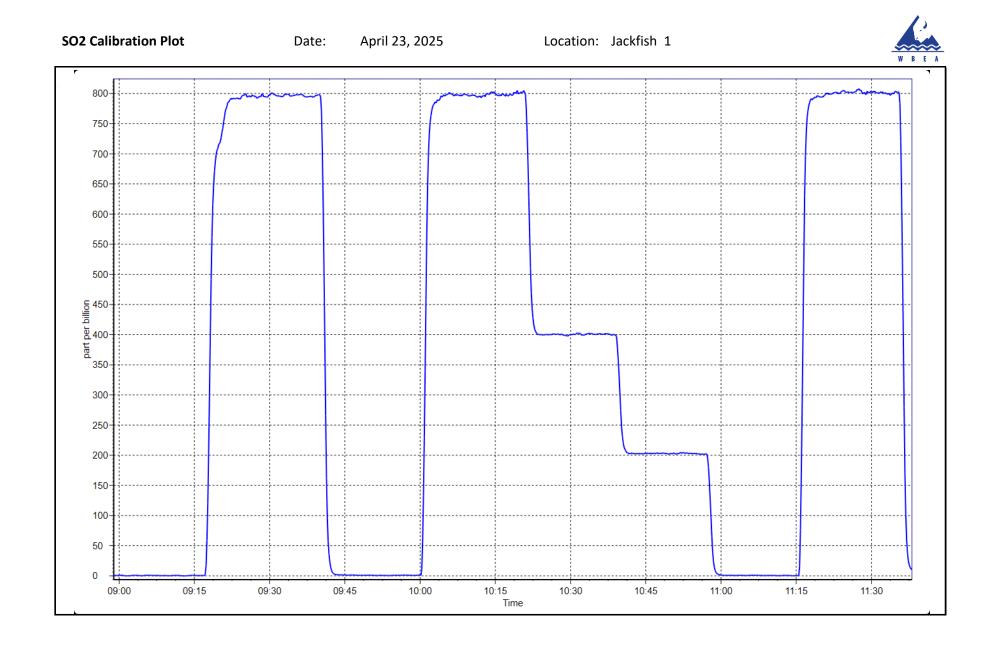
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 23, 2025 | Previous Calibration: | March 19, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Jackfish 1 | Station Number: | AMS 506 |
| Start Time (MST): | 8:58 | End Time (MST): | 11:39 |
| Analyzer make: | Thermo 43i | Analyzer serial #: | 1160290011 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.6 | | Correlation Coefficient | 0.999998 | ≥0.995 |
| 800.2 400.2 | 801.0 400.2 | 0.9990 0.9999 0.9944 | Slope | 0.999944 | 0.90 - 1.10 |
| 200.1 | 201.2 | | Intercept | 0.664017 | +/-30 |







Wood Buffalo Environmental Association H2S Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Jackfish 1 April 15, 2025 8:59 Routine | | Station number: Last Cal Date: End time (MST): | AMS 506 March 20, 2025 12:53 | |
|--|---|----------------------|--|------------------------------------|---------------|
| | | Calibration S | tandards | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 4.89 CC737971 | ppm | Cal Gas Exp Date: | September 5, 2027 | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 4.89 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | |
| Calibrator Make/Model: | Teledyne 750 | | Serial Number: | 282 | |
| ZAG Make/Model: | Teledyne 751H | | Serial Number: | 321 | |
| | | Analyzer Info | ormation | | |
| Analyzer make: Converter make: | Thermo 43i-TLE Global G150 | | Analyzer serial #: Converter serial #: | 1180540020 2022-218 | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | degC |
| Analyzer Range | 0 - 100 ppb | | converter remp. | 525.0 | uege |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
| Calibration slope: | 1.005447 | 0.993022 | Backgd or Offset: | 3.72 | 3.66 |
| Calibration intercept: | 0.020854 | 0.080592 | Coeff or Slope: | 1.179 | 1.156 |
| | | | | | |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.3 | |
| As found High point | 4918 | 81.8 | 80.0 | 81.5 | 0.978 |
| As found Mid point | 4959 | 40.9 | 40.0 | 40.2 | 0.988 |
| As found Low point | 4980 | 20.4 | 19.9 | 20.2 | 0.973 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 81.8 | Prev response: | 80.46 | *% change: | 1.6% |
| Baseline Corr 2nd AF pt: | 40.5 | AF Slope: | 1.021443 | AF Intercept: | -0.338798 |
| Baseline Corr 3rd AF pt: | 20.5 | AF Correlation: | 0.999961 | * = > +/-5% change initiate | es 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 | 79.4 | 1.008 |
| Mid point | 4959 | 40.9 | 40.0 | 40.0 | 1.000 |
| Low point | 4980 | 20.4 | 19.9 | 20.0 | 0.997 |
| As left zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As left span | 4918 | 81.8 | 80.0 | 79.8 | 1.003 |
| SO2 Scrubber Check | 4921 | 79.2 | 800.2 | 0.0 | |
| Date of last scrubber chan | ge: | | | Ave Corr Factor | 1.002 |

Date of last converter efficiency test:

Notes:

Changed inlet filter after as founds. Adjusted span only.

Calibration Performed By:

Sean Bala



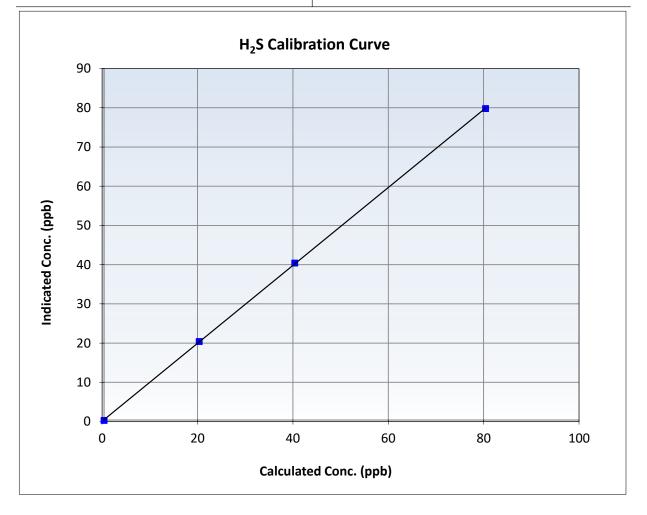
Wood Buffalo Environmental Association

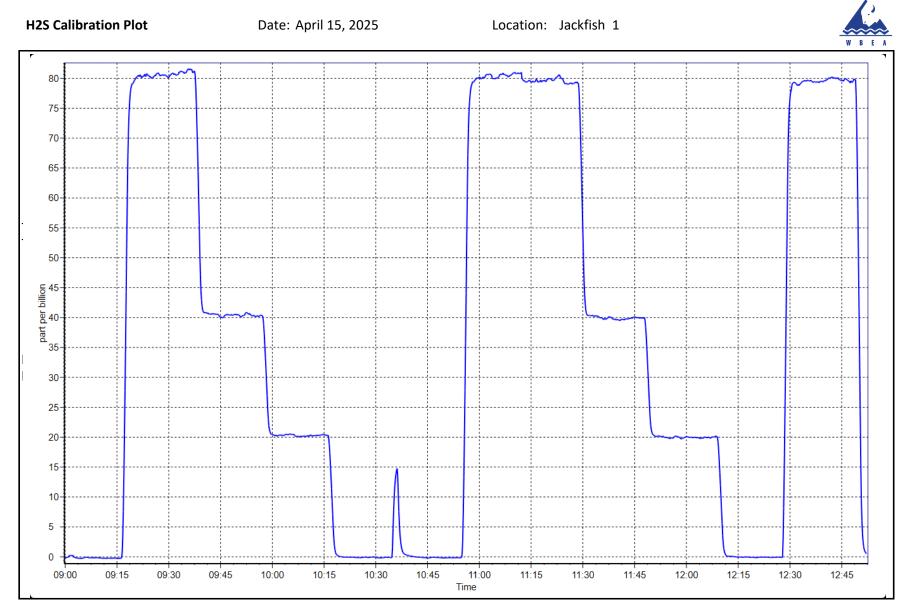
H2S Calibration Summary

Station Information

| Calibration Date: | April 15, 2025 | Previous Calibration: | March 20, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Jackfish 1 | Station Number: | AMS 506 |
| Start Time (MST): | 8:59 | End Time (MST): | 12:53 |
| Analyzer make: | Thermo 43i-TLE | Analyzer serial #: | 1180540020 |

| Calculated concentration (ppb) (Cc) | n Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---|---------------------------|-------------------------|----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999971 | ≥0.995 |
| 80.0 40.0 | 79.4 40.0 | 1.0076 1.0000 | Slope | 0.993022 | 0.90 - 1.10 |
| 19.9 | 20.0 | 0.9975 | Intercept | 0.080592 | +/-3 |





ħ 0



Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Jackfish 1 | NO Gas Cylinder #: | DT0022706 | Cal Gas Expiry Date: | January 5, 2032 |
|-------------------|----------------|-----------------------|-------------------|----------------------|-----------------|
| Station number: | AMS 506 | NOX Cal Gas Conc: | 60.20 ppm | NO Cal Gas Conc: | 60.10 ppm |
| Calibration Date: | April 16, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date | : NA |
| Last Cal Date: | March 25, 2025 | Removed Gas NOX Conc: | 60.20 ppm | Removed Gas NO Conc: | 60.10 ppm |
| Start time (MST): | 8:30 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 12:44 | Calibrator Model: | Teledyne API T700 | Serial Number: | 3252 |
| Reason: | Routine | 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) | | ndicated 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 | 66.6 | 801.9 | 800.6 | 1.3 | 802.0 | 797.1 | 5.0 | 0.9998 | 1.0044 |
| AF Mid point AF Low point New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 802.1 ppb | NO = 798.4 | ppb | * = > +/-5% c | hange initiates i | investigation | *Percent Change | e NO _x = | 0.0% |
| Baseline Corr 1 | Lst pt NO _X = | 802.1 ppb | NO = 797.1 | ppb | As Found | Statistics | | *Percent Change | e NO = | -0.2% |
| Baseline Corr 2 | 2nd pt NO _x = | NA ppb | NO = NA | ppb | As found | NO _X r ² : | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _x = | NA ppb | NO = NA | ppb | As found | NO r ² : | | NO SI: | NO Int: | |
| | | | | | As found | $NO_2 r^2$: | | NO2 SI: | NO ₂ Int: | |
| | | | | As Four | nd GPT Calibratio | n Data | | | | |
| | | | | | | | | Baseline Adjuste | d NO2 | |
| O3 Setpo | oint (ppb) | Indicated NO Refe | | ted NO Drop | Calculated NO2 | | dicated NO2 | Correction fac | | erter Efficiency |
| | | concentration (p | opb) concer | tration (ppb) | concentration (ppb) | (Cc) concer | ntration (ppb) (Ic) | (Cc/(Ic-AFzer <i>Limit = 0.90 - 1</i> | | nit = 96-104% |

As Found GPT zero

As found high GPT point As found mid GPT point

As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 1240023 | 2071 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|------------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 0.996743 | 0.995577 |
| | | | Instrument Settings | | | NO _x Cal Offset: | 2.813160 | 2.172098 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 0.996494 | 0.996708 |
| NO coeff or slope: | 0.912 | 0.912 | NO bkgnd or offset: | 0.7 | 0.7 | NO Cal Offset: | 0.631010 | 0.231152 |
| NOX coeff or slope: | 0.993 | 0.993 | NOX bkgnd or offset: | 0.9 | 0.9 | NO ₂ Cal Slope: | 0.993078 | 0.985570 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 194.7 | 192.9 | NO ₂ Cal Offset: | 2.112455 | 1.533148 |

Dilution Calibration Data

| Set Point | Dilution flow rate (sccm) | Source gas flow rate (sccm) | Calculated NOx concentration (ppb) (Cc) | Calculated NO concentration (ppb) (Cc) | Calculated NO2 concentration (ppb) (Cc) | Indicated NOx concentration (ppb) (Ic) | Indicated NO concentration (ppb) (Ic) | Indicated NO2 concentration (ppb) (Ic) | NOx Correction factor (Cc/Ic) Limit = 0.95-1.05 | NO Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|---|--|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.0 | | |
| High point | 4933 | 66.6 | 801.9 | 800.6 | 1.3 | 799.5 | 798.5 | 1.0 | 1.0030 | 1.0026 |
| Mid point | 4967 | 33.3 | 400.9 | 400.2 | 0.7 | 402.5 | 398.2 | 4.3 | 0.9960 | 1.0051 |
| Low point | 4983 | 16.6 | 199.9 | 199.5 | 0.3 | 203.0 | 199.8 | 3.2 | 0.9846 | 0.9987 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | | |
| As left span | 4933 | 66.6 | 801.9 | 380.4 | 421.5 | 789.5 | 380.4 | 409.1 | 1.0157 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9946 | 1.0022 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|---------------------------------------|---|---|--|--|
| Cal zero | | | 0.0 | 0.0 | | |
| High GPT point | 794.4 | 380.7 | 415.0 | 409.7 | 1.0130 | 98.7% |
| Mid GPT point | 794.4 | 585.8 | 209.9 | 209.4 | 1.0025 | 99.7% |
| Low GPT point | 794.4 | 684.1 | 111.6 | 113.0 | 0.9879 | 101.2% |
| | | | | Average Correction Factor | 1.0012 | 99.9% |

Notes:

Changed inlet filter. No adjustment made.

Calibration Performed By:

Sean Bala

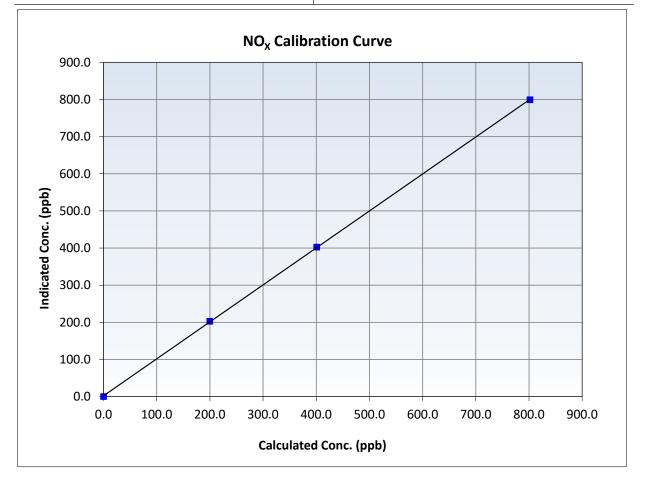


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 16, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Jackfish 1 | Station Number: | AMS 506 |
| Start Time (MST): | 8:30 | End Time (MST): | 12:44 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 12400232071 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999972 | ≥0.995 |
| 801.9 400.9 | 799.5 402.5 | 1.0030 0.9960 | Slope | 0.995577 | 0.90 - 1.10 |
| 199.9 | 203.0 | 0.9846 | Intercept | 2.172098 | +/-20 |



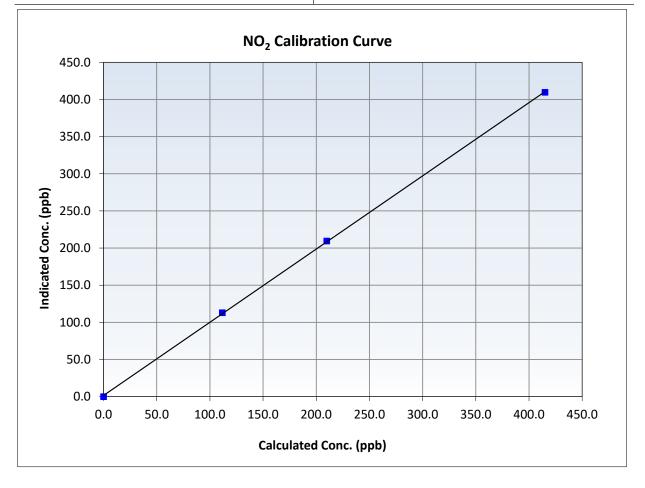


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 16, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Jackfish 1 | Station Number: | AMS 506 |
| Start Time (MST): | 8:30 | End Time (MST): | 12:44 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 12400232071 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999932 | ≥0.995 |
| 415.0 209.9 | 409.7 209.4 | 1.0130 1.0025 | Slope | 0.985570 | 0.90 - 1.10 |
| 111.6 | 113.0 | 0.9879 | Intercept | 1.533148 | +/-20 |



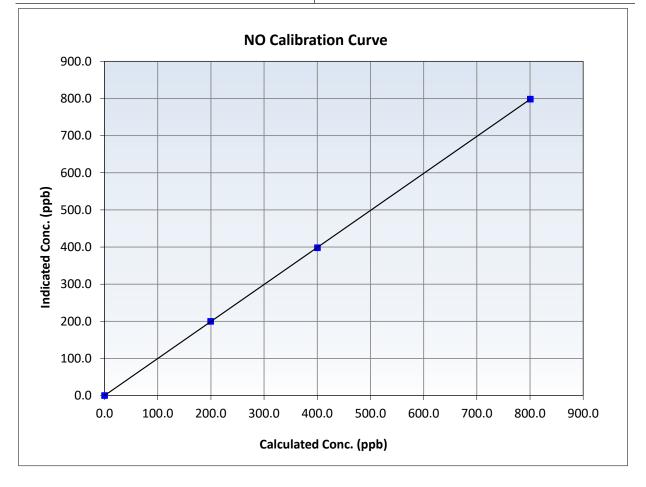


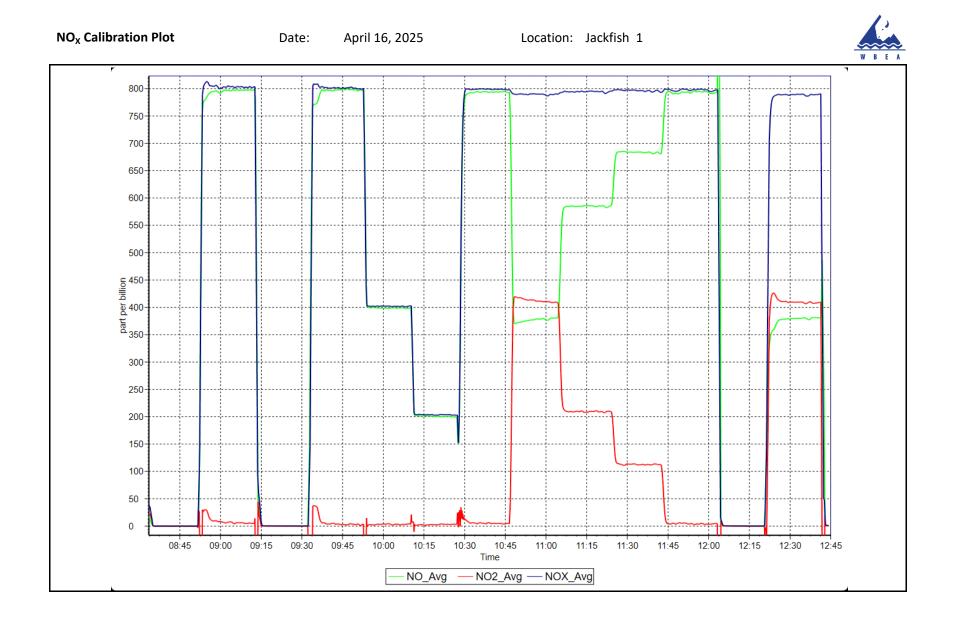
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 16, 2025 | Previous Calibration: | March 25, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Jackfish 1 | Station Number: | AMS 506 |
| Start Time (MST): | 8:30 | End Time (MST): | 12:44 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 12400232071 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.2 | | Correlation Coefficient | 0.999996 | ≥0.995 |
| 800.6 400.2 | 798.5 398.2 | 1.0026 1.0051 | Slope | 0.996708 | 0.90 - 1.10 |
| 199.5 | 199.8 | 0.9987 | Intercept | 0.231152 | +/-20 |







WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS508 KIRBY NORTH APRIL 2025

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

May 30, 2025



Analyzer make: Analyzer Range:

Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

| Station Name: | Kirby No |
|-------------------|----------|
| Calibration Date: | April 3, |
| Start time (MST): | 10:54 |
| Reason: | Routine |

orth 2025

Thermo 43iQ

0 - 1000 ppb

Station number: AMS 508 Last Cal Date: March 13, 2025 End time (MST): 13:58

Calibration Standards

| Cal Gas Concentration: Cal Gas Cylinder #: | 50.74 CC255918 | ppm | Cal Gas Exp Date: October 9, 2032 |
|---|-------------------|-----|-----------------------------------|
| Removed Cal Gas Conc: | <u>50.74</u> | nnm | Rem Gas Exp Date: |
| | 50.74 | ppm | • |
| Removed Gas Cyl #: | | | Diff between cyl: |
| Calibrator Model: | Teledyne API T700 | | Serial Number: 5240 |
| Zero Air Gen Model: | Teledyne API T701 | 1H | Serial Number: 880 |
| | | | |

Analyzer Information

Serial Number: 1182340007

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 0.998619 | 1.002663 | Backgd or Offset: | 29.1 | 29.0 |
| Calibration intercept: | 0.327990 | -0.512059 | Coeff or Slope: | 1.117 | 1.117 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4921 | 78.8 | 799.7 | 803.0 | 0.996 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 802.9 NA | Previous response AF Slope: | 798.9 | *% change AF Intercept: | 0.5% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ 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 | 802.0 | 0.997 |
| Mid point | 4961 | 39.4 | 399.8 | 398.8 | 1.003 |
| Low point | 4980 | 19.7 | 199.9 | 200.3 | 0.998 |
| As left zero | 5000 | 0.0 | 0.0 | -0.2 | |
| As left span | 4921 | 78.8 | 799.7 | 804.0 | 0.995 |
| | | | Avera | ge Correction Factor: | 0.999 |

Notes:

Changed sample inlet filter after as founds. Adjusted zero.

Calibration Performed By:

Braiden Boutilier

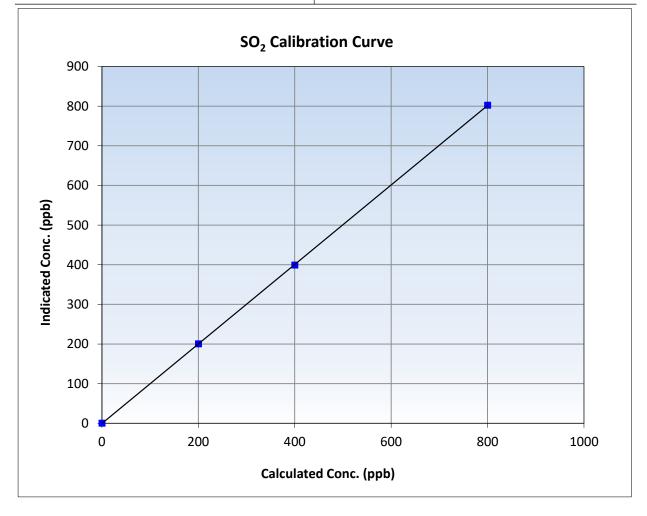


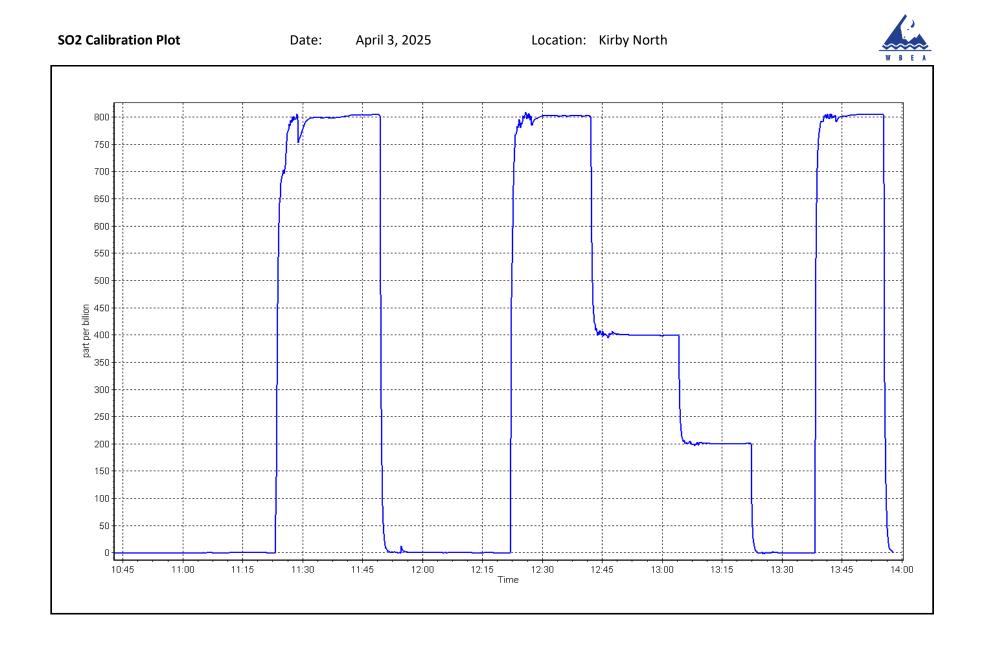
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 3, 2025 | Previous Calibration: | March 13, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Kirby North | Station Number: | AMS 508 |
| Start Time (MST): | 10:54 | End Time (MST): | 13:58 |
| Analyzer make: | Thermo 43iQ | Analyzer serial #: | 1182340007 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999991 | ≥0.995 |
| 799.7 399.8 | 802.0 398.8 | 0.9971 1.0025 | Slope | 1.002663 | 0.90 - 1.10 |
| 199.9 | 200.3 | 0.9981 | Intercept | -0.512059 | +/-30 |







Wood Buffalo Environmental Association H2S Calibration Report

Station Information

| Station Name: | Kirby North | Station number: | AMS 508 |
|-------------------|---------------|-----------------|----------------|
| Calibration Date: | April 2, 2025 | Last Cal Date: | March 12, 2025 |
| Start time (MST): | 9:25 | End time (MST): | 14:40 |
| 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: | 282 |
| ZAG Make/Model: | Teledyne API T751 | 4 | Serial Number: | 321 |
| | | | | |

Analyzer Information

| Analyzer make: Converter make: Analyzer Range | Thermo 43i-TLE Global 0 - 100 ppb | | Analyzer serial #: Converter serial #: Converter Temp: | 1150840012 2022-197 | 325 degC |
|---|---|--|--|------------------------|--------------------------------|
| Calibration slope: Calibration intercept: | <u>Start</u> 1.006814 -0.160959 | <u>Finish</u> 0.999956 -0.120959 | Backgd or Offset: Coeff or Slope: | | <i>Finish</i> 1.76 1.043 |

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)) <i>Limit = 0.90-1.10</i> |
|--------------------------|----------------------------------|--------------------------------|---|---------------------------------------|--|
| As found zero | 5000 | 0.0 | 0.0 | -0.1 | |
| As found High point | 4921 | 79.2 | 80.0 | 80.3 | 0.995 |
| As found Mid point | 4960 | 39.6 | 40.0 | 40.2 | 0.993 |
| As found Low point | 4980 | 19.8 | 20.0 | 19.6 | 1.015 |
| New cylinder response | | | | | |
| Baseline Corr As found: | 80.4 | Prev response: | 80.38 | *% change: | 0.0% |
| Baseline Corr 2nd AF pt: | 40.3 | AF Slope: | 1.006957 | AF Intercept: | -0.240970 |
| Baseline Corr 3rd AF pt: | 19.7 | AF Correlation: | 0.999962 | * = > +/-5% change initiate | es 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 | 4921 | 79.2 | 80.0 | 79.9 | 1.001 |
| Mid point | 4960 | 39.6 | 40.0 | 39.9 | 1.002 |
| Low point | 4980 | 19.8 | 20.0 | 19.7 | 1.015 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4921 | 79.2 | 80.0 | 78.9 | 1.014 |
| SO2 Scrubber Check | 4919 | 80.0 | 800.2 | 0.0 | |
| Date of last scrubber cha | nge: | July 25, 2023 | | Ave Corr Factor | 1.006 |
| Date of last converter eff | iciency test: | n/a | | | |

Notes:

Changed sample inlet filter and conducted scrubber test after as founds. Adjusted span.

Calibration Performed By:

Braiden Boutilier



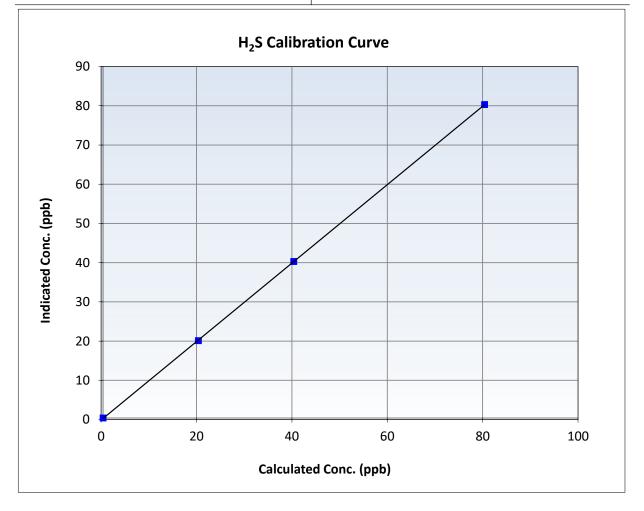
Wood Buffalo Environmental Association

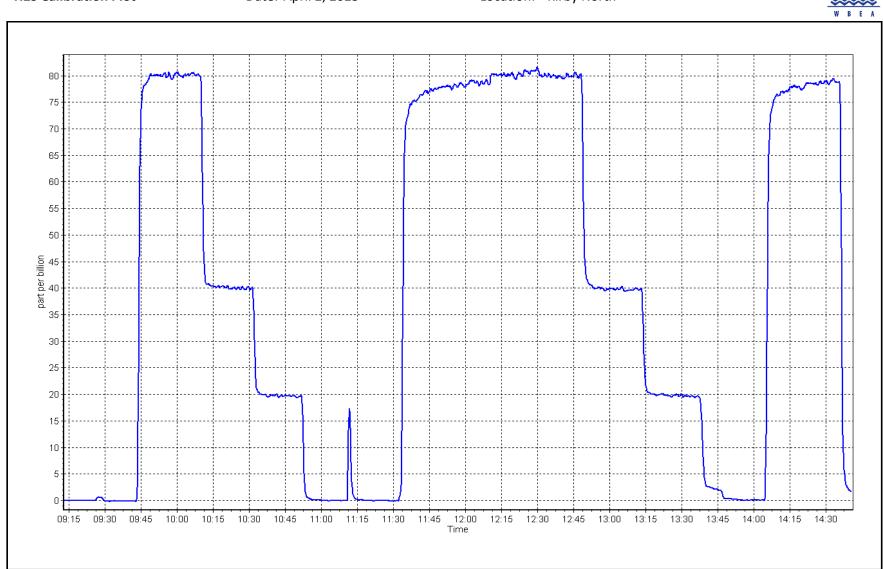
H2S Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|----------------|-----------------------|----------------|
| Station Name: | Kirby North | Station Number: | AMS 508 |
| Start Time (MST): | 9:25 | End Time (MST): | 14:40 |
| Analyzer make: | Thermo 43i-TLE | Analyzer serial #: | 1150840012 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999986 | ≥0.995 |
| 80.0 | 79.9 | 1.0012 | Slope | 0.999956 | 0.90 - 1.10 |
| 40.0 | 39.9 | 1.0025 | Siope | 0.999950 | 0.90 - 1.10 |
| 20.0 | 19.7 | 1.0152 | Intercept | -0.120959 | +/-3 |





Date: April 2, 2025

Location: Kirby North



Wood Buffalo Environmental Association THC Calibration Report

Station Information

| Station Name: Kirby North Station number: AdMS 508 Calibration 31, 2025 Last Cal Date: March 13, 2025 Start time (MST): 10:54 End time (MST): 13:58 Reason: Routine Calibration Standards Gas Cert Reference: CC255918 Cal Gas Expiry Date: October 9, 2032 CH4 Eql Gas Conc. 205.0 ppm Removed Cal Gas Conc. 205.0 ppm CH4 Eql V Conc. 1070.2 ppm Removed Cal Gas Cert: Removed Cas Expiry: Removed Cal Gas Cert: Calibration MBre: 5240 Zal Gal Gas Cert: Calibration Marker: 5240 Zal Gal Gas Cert: Removed Cals Conc. 205.0 ppm CH4 Eql V Conc. 1070.2 ppm Removed Call Conc. 205.0 ppm CH4 Eql V Conc. 1070.2 ppm Removed Call Conc. 205.0 ppm CH4 Eql V Conc. 1070.2 ppm Removed Call Conc. 205.0 ppm CH4 Eql V Conc. 1070.2 ppm Removed Call Conc. 205.0 ppm CH4 Eql V Conc. 1070.2 ppm Removed Call Conc. 205.0 ppm CH4 Eql V Conc. 1070.2 ppm Removed Call Conc. 205.0 ppm Ch4 Eql V Conc. 1070.2 ppm Removed Call Conc. 205.0 ppm Ch4 Eql V Conc. 1070.2 ppm Removed Call Conc. 205.0 ppm Calibration Marker: Thermo S1H-LT Analyzer marke: Thermo S1H-LT Analyzer marke: Thermo S1-LT Calibration intercept: 0-0.082032 0.019768 Caefficient: 3.697 3.644 THC As Found Data Start Source gas flow rate Calculated Concentration Indicated Concentration Correction factor (Cd/lic As found High point 4921 78.8 16.87 16.77 0.994 As found High point 4921 78.8 16.87 16.78 1.005 Mid point 4980 19.7 4.22 As 10.00 High point 4921 78.8 16.87 16.78 1.003 Mid point 4921 7 | | | Station into | ination | | | | |
|--|---|------------------------------|----------------------|-------------------------------|-------------------------------|-----------------------------|-------|--|
| Calibration Date:April 3, 2025Last Cal Date:March 13, 2025Start time (MST):10:54End time (MST):13:58Reason:RoutineCal Gas Expiry:13:58Calibration StandardsGas Cert Reference:CC255918Cal Gas Expiry:October 9, 2032CH4 Cal Gas Conc.506.4ppmCH4 Equiv Conc.1070.2ppmRemoved Gas Conc.205.0ppmRemoved Gas Expiry:1070.2ppmRemoved CH4 Conc.506.4ppmCH4 Equiv Conc.1070.2ppmCalibrator Make/Model:Teledyne API 1700Serial Number:5240ZAG Make/Model:Teledyne API 1701Serial Number:880Analyzer InformationAnalyzer make:Thermo 51i-LTAnalyzer serial #:1182340005Analyzer make:10.000870.994170Background:2.231.96Calibration intercept:-0.0820320.019768Coefficient:3.6973.644THC As Found DataSet PointDilution air flow rateSource gas flow rateCalculated ConcentrationIndicated Concentration Indicated Concentration Intercept:As found Migh point492178.816.8716.770.994As found Migh point492178.816.8716/371.00%As found Migh point492178.816.8716/371.0%As found Migh point492178.816.8716/381.005Miditare | Station Name: | Kirby North | | Station number: | AMS 508 | | | |
| Start time (MST): 10:54 End time (MST): 13:58 Reason: Routine Calibration Standards October 9, 2032 Gas Cert Reference: CC255918 Cal Gas Expiry Date: October 9, 2032 CH4 Cal Gas Conc. 205.0 ppm CH4 Equiv Conc. 1070.2 ppm Removed Gas Cort: Removed Gas Expiry: Removed Gas Expi | | • | | | | | | |
| Reuson: Calibration Standards Gais Cert Reference: CC255918 Calibration Standards Gais Cent Reference: CC255918 Calibration Standards CH4 Equiv Conc. 1070.2 ppm Removed Gas Cent: Removed Gas Cent: Removed C348 Conc. 205.0 ppm CH4 Equiv Conc. 1070.2 ppm Removed C348 Conc. 205.0 ppm CH4 Equiv Conc. 1070.2 ppm Calibration Make/Model: Teledyne API T700 Serial Number: S240 ZAG Make/Model: Teledyne API T701 Serial Number: S240 Analyzer make: Thermos 51-LT Analyzer serial #: 1182340005 Calibration infercept: C.0082032 O.0199768 Coefficient: 3.697 3.644 Dilution air flow rate Surrer gas flow rate Calibration factor Cordor factor Cordor Set Point Dilution ai | | | | | | | | |
| Calibration StandardsGas Cert Reference:CC255918Cal Gas Expiry Date:October 9, 2032CH4 Cal Gas Conc.205.0ppmCH4 Equiv Conc.1070.2ppmRemoved Gas Expiry:Removed Gas Expiry:Removed Gas Expiry:Removed Gas Expiry:Removed CH4 Conc.205.0ppmDiff between cyl:240Calibrator Make/Model:Teledyne API T701Serial Number:5240ZAG Make/Model:Teledyne API T701Serial Number:580Analyzer make:Thermo 51i-LTAnalyzer InformationAnalyzer Range:0 - 20 ppm0.394170Background:2.23Calibrator Maker1.0009870.394170Background:2.231.96Calibrator Induced Certer0.0820320.019768Coefficient:3.6973.644HEr As Found DataBaseline AdjustedSource gas flow rateCalculated ConcentrationSource gas flow rateCalculated ConcentrationSource gas flow rateCalculated ConcentrationSource gas flow rateCalculated ConcentrationSource gas flow rateCalculated ConcentrationAs found High point492178.816.8716.770.994A found Migh pointAs found High pointA found High pointA found High pointA found High pointAster four at flow rate <td <="" colspan="2" td=""><td></td><td></td><td></td><td>End time (IVIST):</td><td>13:58</td><td></td></td> | <td></td> <td></td> <td></td> <td>End time (IVIST):</td> <td>13:58</td> <td></td> | | | | | End time (IVIST): | 13:58 | |
| Gas Cert Reference: CC255918 Cal Gas Expiry Date: October 9, 2032 CH4 Cal Gas Conc. 506.4 ppm CH4 Equiv Conc. 1070.2 ppm Removed Gas Conc. 205.0 ppm CH4 Equiv Conc. 1070.2 ppm Removed Gas Conc. 205.0 ppm CH4 Equiv Conc. 1070.2 ppm Removed CH4 Conc. 205.0 ppm CH4 Equiv Conc. 1070.2 ppm Calibrator Make/Model: Teledyne API T700 Serial Number: 5240 Start Start Start Start Finish Analyzer make: Thermo 51i-LT Analyzer serial #: 1182340005 Analyzer Sarge 1.06 3.664 Calibration slope: 1.000987 0.394170 Background: 2.23 1.96 Galibration introcept: -0.082032 0.019768 Coefficient: 3.697 3.644 THC As Found Data Staret (scm) Staret (scm) Staret (scm) Finish Baseline Correctation factor (C/c/l/c- AF Storet (scm) Indicated Concentration (pm/l (c/) (pm/l (c/) (pm/l (c//l/c- | Reason: | Routine | | | | | | |
| Gas Cert Reference: CC255918 Cal Gas Expiry Date: October 9, 2032 CH4 Cal Gas Conc. 506.4 ppm CH4 Equiv Conc. 1070.2 ppm Removed Gas Conc. 205.0 ppm CH4 Equiv Conc. 1070.2 ppm Removed Gas Conc. 205.0 ppm CH4 Equiv Conc. 1070.2 ppm Removed CH4 Conc. 205.0 ppm CH4 Equiv Conc. 1070.2 ppm Calibrator Make/Model: Teledyne API T700 Serial Number: 5240 Start Start Start Start Finish Analyzer make: Thermo 51i-LT Analyzer serial #: 1182340005 Analyzer Sarge 1.06 3.664 Calibration slope: 1.000987 0.394170 Background: 2.23 1.96 Galibration introcept: -0.082032 0.019768 Coefficient: 3.697 3.644 THC As Found Data Staret (scm) Staret (scm) Staret (scm) Finish Baseline Correctation factor (C/c/l/c- AF Storet (scm) Indicated Concentration (pm/l (c/) (pm/l (c/) (pm/l (c//l/c- | | | | | | | | |
| CH4 G Gas Conc. 506.4 ppm CH4 Equiv Conc. 1070.2 ppm C3H8 Gal Gas Conc. 205.0 ppm Removed Gas Expiry: Removed Gas Cert: Removed Gas Cert: Removed Gas Cert: 1070.2 ppm Removed GA8 Conc. 506.4 ppm CH4 Equiv Conc. 1070.2 ppm Removed GA8 Conc. 205.0 ppm CH4 Equiv Conc. 1070.2 ppm Removed GA8 Conc. 205.0 ppm CH4 Equiv Conc. 1070.2 ppm Calibrator Make/Model: Teledyne API T700 Serial Number: 5240 5240 ZAG Make/Model: Teledyne API T701H Serial Number: 5240 5240 Analyzer Range: 0 - 20 ppm Analyzer Range: 0 - 20 ppm 5000 0.019768 Coefficient: 3.697 3.644 THE As Found Data Set Point Dilution air flow rate (sccm) Source gas flow rate (sccm) for and flop ppm (c) Limit = 209-1.00 As found High point 4921 78.8 16.87 16.77 0.994 As found Midi point 4921 78.8 16.87 16. | | | Calibration S | tandards | | | | |
| C3H8 Cal Gas Conc. 205.0 ppm Removed GH4 Conc. 506.4 ppm C4H4 Equiv Conc. 1070.2 ppm Removed CH4 Conc. 205.0 ppm Diff between cyt: Serial Number: 5240 Calibrator Make/Model: Teledyne API T700 Serial Number: 5240 Serial Number: 5240 ZAG Make/Model: Teledyne API T701H Serial Number: 5240 Serial Number: 5240 ZAG Make/Model: Teledyne API T701H Serial Number: 5240 Serial Number: 5240 ZAG Make/Model: Teledyne API T701H Serial Number: 5240 Serial Number: 5240 ZAG Make/Model: Teledyne API T701H Serial Number: 5240 Serial Number: 5240 Calibration intercept: 0.082032 0.019768 Coefficient: 3.697 3.644 Set Point Dilution air flow rate (scom) Source gas flow rate (scom) Calculated Concentration Indicated Concentration Correction factor (Cc/l/to API et a) 0.00 Indicated Concentration Correction factor (Cc/l/to API et a) 0.00 Indit a 0.00 Indicated Concentration Correc | Gas Cert Reference: | CC255918 | | Cal Gas Expiry Date: | October 9, 2032 | | | |
| C3H8 cal Gas Conc. 205.0 ppm Removed Gas Cert: Removed Gas Expiry: Removed Gas Expiry: Removed Gas Expiry: Removed CH4 Conc. 205.0 ppm Diff between cyl: Serial Number: 5240 Calibrator Make/Model: Teledyne API T700 Serial Number: 5240 Serial Number: 5240 ZAG Make/Model: Teledyne API T701 Analyzer Information Ranalyzer Information Ranalyzer Information Analyzer Range: 0 - 20 ppm Analyzer Serial #: 1182340005 1186 Calibration slope: 1000997 0.994170 Background: 2.23 1.96 Calibration intercept: -0.082032 0.019768 Coefficient: 3.697 3.644 Set Point Dilution air flow rate (sccm) Source gas flow rate (sccm) Calculated Concentration Indicated Concentration Correction factor (Cc/lic Limit - 0.08-0.10 As found High point 4921 78.8 16.87 16.77 0.994 As found High point 4921 78.8 16.80 *% change 1.0% Baseline Corr 2nd AF pt: <td>CH4 Cal Gas Conc.</td> <td>506.4</td> <td>ppm</td> <td>CH4 Equiv Conc.</td> <td>1070.2</td> <td>ppm</td> | CH4 Cal Gas Conc. | 506.4 | ppm | CH4 Equiv Conc. | 1070.2 | ppm | | |
| Removed Gas Cert: Removed Gas Expiry: 1070.2 ppm Removed CH4 Conc. 506.4 ppm CH4 Equiv Conc. 1070.2 ppm Calibrator Make/Model: Teledyne API T700 Serial Number: 5240 Serial Number: 880 ZAG Make/Model: Teledyne API T701H Serial Number: 880 Serial Number: 880 Analyzer name: Thermo 51-LT Analyzer Information Start Finish Start Finish Analyzer Range: 0 - 20 ppm Start Finish Sacrat Finish Calibration slope: 1.000987 0.994170 Background: 2.2.3 1.96 Calibration intercept: -0.082032 0.019768 Coefficient: 3.697 3.644 Start Finish Source gas flow rate (sccm) Calculated Concentration Indicated Concentration factor (Cc/// (ppm) (Cc) Baseline Adjusted As found Mid point 4921 78.8 16.87 16.77 0.994 As found Mid point 16.97 Previous response 16.80 *% change | C3H8 Cal Gas Conc. | 205.0 | | | | | | |
| Removed CH4 Conc. 506.4 ppm CH4 Equiv Conc. 1070.2 ppm Removed C3H8 Conc. 205.0 ppm Diff between cyl: 5240 ZAG Make/Model: Teledyne API T700 Serial Number: 5240 ZAG Make/Model: Teledyne API T701H Serial Number: 580 Analyzer make: Thermo 51i-LT Analyzer serial #: 1182340005 Analyzer Range: 0 - 20 ppm Serial Number: 580 Calibration slope: 1.000987 0.994170 Background: 2.23 1.96 Calibration intercept: -0.082032 0.019768 Coefficient: 3.697 3.644 Source gas flow rate (sccm) Calculated Concentration Indicated Concentration factor (Ce/Uc Arearo) As found ligh point 4921 78.8 16.87 16.77 0.994 As found Migh point 4921 78.8 16.80 *% change 1.0% As found Migh point Karound High point AF Correlation: *=>+/-5% change initiates investigation NA | | | 14 14 · · · · | Removed Gas Expiry: | | | | |
| Removed C3H8 Conc. 205.0 ppm Diff between cyl: Calibrator Make/Model: Teledyne API 1700 Serial Number: 5240 ZAG Make/Model: Teledyne API 1700 Serial Number: 5240 ZAG Make/Model: Teledyne API 1701H Serial Number: 5240 Analyzer make: Thermo 51i-LT Analyzer serial #: 1182340005 Analyzer Range: 0 - 20 ppm Analyzer serial #: 1182340005 Calibration slope: 1.000987 0.994170 Background: 2.23 1.96 Calibration intercept: -0.082032 0.019768 Coefficient: 3.697 3.644 THC As Found Data Set Point Dilution air flow rate (scm) Calculated Concentration Indicated Concentration Correction factor (C/t/c AFzero) As found zero 5000 0.0 0.00 -0.20 | | 506 / | nnm | | 1070.2 | nnm | | |
| Calibrator Make/Model:Teledyne API T700 Teledyne API T701HSerial Number:5240 Serial Number:5240 <b< td=""><td></td><td></td><td></td><td>•</td><td>1070.2</td><td>phin</td></b<> | | | | • | 1070.2 | phin | | |
| ZAG Make/Model:Teledyne API T701HSerial Number:880Analyzer make:Thermo 51i-LT Analyzer Range:Analyzer InformationAnalyzer Range:0 - 20 ppmAnalyzer serial #:1182340005Calibration slope:1.0009870.994170Background:StartFinish 2.23Calibration intercept:-0.0820320.019768Coefficient:3.6973.644Baseline AdjustedSet PointDilution air flow rate (scom)Source gas flow rate (scom)Calculated Concentration (ppm) (c)Imit c 0.90-1.10As found zero50000.00.00-0.20 (Imit c 0.90-1.10)As found Mid point As found Mid point New cylinder response16.8716.770.994Baseline Corr As found: Baseline Corr 3rd AF pt:NA NA AF Correlation: $* = > 4/-5\%$ change initiates investigationTHC Calibration DataSet PointDilution air flow rate (scom)Calculated Concentration (ppm) (c)Imit c 0.90-1.10As found Cow point New cylinder response16.97 AF Slope:Previous response AF Slope:16.80 (ppm) (c)*% change (ppm) (c)1.0% (ppm) (c)Set PointDilution air flow rate (scom)Source gas flow rate (scom)Calculated Concentration (ppm) (c)Imit c 0.95-1.05Calibration DataSource gas flow rate (scom)Calculated Concentration (ppm) (c)Imit c 0.95-1.05Calibration DataDilution air flow rate (scom)Calculated Concentra | | | ppm | | | | | |
| Analyzer InformationAnalyzer make: Thermo 51i-LT Analyzer Range: 0 - 20 ppmAnalyzer serial #:1182340005Calibration slope: Calibration intercept:Start 1.000987Finish 0.994170 0.994170 0.994170 0.994170 Background:Start 2.23 1.96 Calibration intercept:Finish 2.23 3.644THC As Found DataBaseline Adjusted Set PointDilution air flow rate (scem)Source gas flow rate (scem)Calculated Concentration (ppm) (c)Background: AFzero) Limit = 0.90-1.10As found Arero As found High point A sfound High point A sfound Mid point As found Mid point As found Mid point As found high point New cylinder response16.87 AF Slope: AF Intercept: The Schange Influtes investigation10.9% AF Slope: AF Correlation: * = > +/5% change (ppm) (c)1.0% Limit = 0.90-1.00THC Calibration DataSet PointDilution air flow rate (scem)Calculated Concentration (scem)Indicated Concentration Correction factor (Cc/lc) (ppm) (c)Baseline Corr 3rd AF pt:NA (scem)AF Slope: (scem)AF Intercept: (scem)Set PointDilution air flow rate (scem)Calculated Concentration (ppm) (c)Indicated Concentration Correction factor (Cc/lc) (ppm) (c)Calibrator zero50000.00.000.000.00Calibrator zero50000.00.000.00Calibrator zero50000.00.000.00Calibrator zero50000.0 | | | | | | | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | ZAG Make/Model: | Teledyne API T701 | 4 | Serial Number: | 880 | | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | Anglungeter | | | | | |
| Analyzer Range: 0 - 20 ppmCalibration slope:StartFinish 1.000987StartFinish 0.994170Calibration intercept:-0.0820320.019768Coefficient:3.697Coefficient:3.6973.644CHE AS Found DataBaseline AdjustedSet PointDilution air flow rate (sccm)Calculated Concentration (sccm)Indicated Concentration (ppm) (C)Baseline Adjusted (ppm) (IC)As found zero50000.00.00-0.20As found High point As found Mid point As found Low point New cylinder response16.97Previous response16.80*% change * 1.0% AF Slope:1.0% * >> 4/5% change1.0% Limit = 0.95-1.05Baseline Corr 3rd AF pt:NAAF Correlation:* *> +/-5% change initiates investigationTHC Calibration DataSet PointDilution air flow rate (sccm)Calculated Concentration (ppm) (C)Indicated Concentration factor (CC/(c) (ppm) (C)Calibrator zeroSet PointDilution air flow rate (sccm)Calculated Concentration (ppm) (C)Indicated Concentration factor (CC/(c) (ppm) (C)Calculated ConcentrationIndicated ConcentrationCorrection factor (CC/(c) (ppm) (C)Calculated ConcentrationCorrection factor (CC/(c) (ppm) (C)Calculated ConcentrationCorrection factor (CC/(c) (| | The same 5411 T | Analyzer Info | | 4400040005 | | | |
| Start Finish Start Finish Calibration slope: 1.000987 0.994170 Background: 2.23 1.96 Calibration intercept: -0.082032 0.019768 Coefficient: 3.697 3.644 THC As Found Data Baseline Adjusted Set Point Dilution air flow rate (sccm) Source gas flow rate (sccm) Calculated Concentration (ppm) (C) Indicated Concentration Correction factor (Cc/(Ic AF2ero) As found zero 5000 0.0 0.00 -0.20 As found Migh point 4921 78.8 16.87 16.77 0.994 As found Low point As found Low point AF Correlation: *=> +/-5% change 1.0% Baseline Corr 3rd AF pt: NA AF Slope: AF Intercept: Baseline Correntration factor (Cc/(c) (ppm) (C) Indicated Concentration factor (Cc/(c) (ppm) (m) Limit = 0.95-1.05 Sate Point Dilution air flow rate (sccm) Source gas flow rate (sccm) Calculated Concentration indicated Concentration factor (Cc/(c) (ppm) (C) Indicated Concentration factor (Cc/(c) (ppm) (m) Limit = 0.95-1.05 | , | | | Analyzer serial #: | 1182340005 | | | |
| Calibration slope: 1.000987 0.994170 Background: 2.23 1.96 Calibration intercept: -0.082032 0.019768 Coefficient: 3.697 3.644 THC As Found Data Set Point Dilution air flow rate (sccm) Calculated Concentration (ppm) (Cc) Baseline Adjusted Correction factor (Cc/(tc AFzero) Limit = 0.901.10 As found zero 5000 0.0 0.00 -0.20 As found Mid point 4921 78.8 16.87 16.77 0.994 As found Nid point 4921 78.8 16.80 *% change 1.0% Baseline Corr As found: 16.97 Previous response 16.80 *% change 1.0% Baseline Corr 3rd AF pt: NA AF Slope: AF Intercept: Easeline Correction factor (Cc/(c) (ppm) (Cc) Limit = 0.95-1.05 Calibrator zero 5000 0.0 0.00 0.00 Limit = 0.95-1.05 Calibrator zero 5000 0.0 0.00 0.00 Limit = 0.95-1.05 Calculated Concentration (ppm) (lc) | Analyzer Range | e: 0 - 20 ppm | | | | | | |
| Calibration intercept:-0.0820320.019768Coefficient:3.6973.644THC As Found DataSet PointBaseline AdjustedSet PointBaseline AdjustedCalculated ConcentrationIndicated ConcentrationBaseline AdjustedSet PointBaseline AdjustedSet PointBaseline AdjustedSet PointBaseline flow rate (sccm)Calculated ConcentrationIndicated Concentration Correction factor (C/L/C (ppm) (IC)As found are o50000.00.00-0.20As found Mid point492178.816.8716.770.994As found Low point16.97Previous response16.80*% change1.0% AF Intercept:Baseline Corr 2nd AF pt:NAAF Slope:AF Correlation:* => +/-5% change initiates investigationTHC Calibration DataSet PointDilution air flow rate (sccm)Source gas flow rate (sccm)Calculated Concentration (ppm) (IC)Indicated Concentration Correction factor (Cc/le) (ppm) (IC)Calibrator zero50000.00.000.000.00High point492178.816.8716.781.005Mid point496139.48.438.411.003Low point498019.74.224.230.997As left span492178.8 <td></td> <td><u>Start</u></td> <td><u>Finish</u></td> <td></td> <td>Start</td> <td><u>Finish</u></td> | | <u>Start</u> | <u>Finish</u> | | Start | <u>Finish</u> | | |
| THC As Found DataSet PointDilution air flow rate (sccm)Source gas flow rate (sccm)Calculated Concentration (ppm) (Cc)Indicated Concentration (ppm) (lc)Baseline Adjusted AFZero)As found zero50000.00.00-0.20As found High point492178.816.8716.770.994As found Low point New cylinder responseAF StopeBaseline Corr As found:16.97 NAPrevious response16.80*% change AF Intercept:1.0%Baseline Corr 3rd AF pt:NAAF Sope: AF Correlation:THC Calibration DataSet PointDilution air flow rate (sccm)Source gas flow rate (sccm)Calculated Concentration (ppm) (lc)Correction factor (Cc/lc) (ppm) (lc)Calibrator zero50000.00.000.00High point492178.816.8716.781.005Mid point492178.816.8716.781.005Set PointDilution air flow rate (sccm)Source gas flow rate (sccm)Calculated Concentration (ppm) (lc)Limit = 0.395-1.05Calibrator zero50000.00.000.00High point492178.816.8716.781.005Mid point498019.74.224.230.997As left zero50000.00.000.06As left span492178.816.87 <td< td=""><td>Calibration slope:</td><td>1.000987</td><td>0.994170</td><td>Background:</td><td>2.23</td><td>1.96</td></td<> | Calibration slope: | 1.000987 | 0.994170 | Background: | 2.23 | 1.96 | | |
| Baseline AdjustedSet PointDilution air flow rate (scm)Source gas flow rate (scm)Calculated Concentration (ppm) (IC)Baseline Adjusted (ppm) (IC)As found zero50000.00.00 -0.20 As found High point492178.816.8716.770.994As found Low pointAs found Icw pointAF zero)New cylinder response16.97Previous response16.80*% change 1.0% Baseline Corr As found:16.97Previous response16.80*% change 1.0% Baseline Corr 3rd AF pt:NAAF Slope:AF Intercept:Baseline Corr 3rd AF pt:NAAF Correlation:*=>+/-5% change initiates investigationTHC Calibration DataSet PointDilution air flow rate (scm)Source gas flow rate (scm)Calculated Concentration (ppm) (lc)Correction factor (Cc//c) (ppm) (lc)Calibrator zero50000.00.000.00High point492178.816.8716.781.005Mid point492178.816.8716.781.005Mid point498019.74.224.230.997As left zero50000.00.000.06As left zero50000.00.000.06As left span492178.816.8716.831.002 | Calibration intercept: | -0.082032 | 0.019768 | Coefficient: | 3.697 | 3.644 | | |
| Baseline AdjustedSet PointDilution air flow rate (scm)Source gas flow rate (scm)Calculated Concentration (ppm) (IC)Baseline Adjusted (ppm) (IC)As found zero50000.00.00 -0.20 As found High point492178.816.8716.770.994As found Low pointAs found Icw pointAF zero)New cylinder response16.97Previous response16.80*% change 1.0% Baseline Corr As found:16.97Previous response16.80*% change 1.0% Baseline Corr 3rd AF pt:NAAF Slope:AF Intercept:Baseline Corr 3rd AF pt:NAAF Correlation:*=>+/-5% change initiates investigationTHC Calibration DataSet PointDilution air flow rate (scm)Source gas flow rate (scm)Calculated Concentration (ppm) (lc)Correction factor (Cc//c) (ppm) (lc)Calibrator zero50000.00.000.00High point492178.816.8716.781.005Mid point492178.816.8716.781.005Mid point498019.74.224.230.997As left zero50000.00.000.06As left zero50000.00.000.06As left span492178.816.8716.831.002 | | | | | | | | |
| $\begin{tabular}{ c c c c c c } \hline Set Point & Dilution air flow rate (sccm) & Source gas flow rate (sccm) & Calculated Concentration (ppm) (lc) & AFzero) & Limit = 0.90-1.00 \\ \hline \end{tabular} $ | | | THC As Fou | nd Data | | | | |
| Set Point (sccm) (sccm) (ppm) (Cc) (ppm) (lc) AFzero) Limit = 0.90-1.10 As found Zero 5000 0.0 0.00 -0.20 As found High point 4921 78.8 16.87 16.77 0.994 As found Low point As found Low point As found Low point As found Low point New cylinder response Baseline Corr As found: 16.97 Previous response 16.80 *% change 1.0% Baseline Corr 3rd 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) Calculated Concentration (ppm) (lc) Limit = 0.95-1.05 Calibrator zero 5000 0.0 0.00 0.00 16.78 1.005 Mid point 4921 78.8 16.87 16.78 1.005 Mid point 4961 39.4 8.43 8.41 1.003 Low point 4980 <td></td> <td></td> <td></td> <td></td> <td></td> <td>•</td> | | | | | | • | | |
| Limit = 0.90-1.10 As found zero 5000 0.0 0.00 -0.20 As found High point 4921 78.8 16.87 16.77 0.994 As found Mid point As found Low point 16.87 16.77 0.994 As found Low point New cylinder response 16.80 *% change 1.0% Baseline Corr As found: 16.97 Previous response 16.80 AF Intercept: 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) Calculated Concentration (ppm) (lc) Limit = 0.95-1.05 Calibrator zero 5000 0.0 0.00 0.00 High point 4921 78.8 16.87 16.78 1.005 Mid point 4961 39.4 8.43 8.41 1.003 Low point 4980 19.7 4.22 4.23 0.997 As left zero 5000 0.0 | Set Point | | - | | | | | |
| As found zero 5000 0.0 0.00 -0.20 As found High point 4921 78.8 16.87 16.77 0.994 As found Mid point As found Low point As found Low point 16.97 0.994 As found Low point New cylinder response 16.80 *% change 1.0% Baseline Corr As found: 16.97 Previous response 16.80 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 Indicated Concentration Correction factor (Cc/Ic) (ppm) (Ic) Calibrator zero 5000 0.0 0.00 High point 4921 78.8 16.87 16.78 1.005 Mid point 4961 39.4 8.43 8.41 1.003 Low point 4980 19.7 4.22 4.23 0.997 As left zero 5000 0.0 0.00 0.06 As left span 4921 | | (sccm) | (sccm) | (ppm) (Cc) | (ppm) (lc) | | | |
| As found High point As found Mid point As found Low point New cylinder response492178.816.8716.770.994Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt:16.97 NAPrevious response AF Slope: AF Correlation:*% change AF Intercept: *=>+/-5% change initiates investigationTHC Calibration DataCalculated Concentration (ppm) (Cc)Indicated Concentration (ppm) (c)Limit = 0.95-1.05Calibrator zero50000.00.000.00High point492178.816.8716.781.005Mid point496139.48.438.411.003Low point498019.74.224.230.997As left zero50000.00.000.06As left span492178.816.8716.831.002 | | | | 0.00 | | | | |
| As found Mid point As found Low point New cylinder response Baseline Corr As found: 16.97 Previous response 16.80 *% 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 THC Calibration Data Set Point Dilution air flow rate (sccm) CC/(c) (ppm) (CC) (ppm) (IC) Limit = 0.95-1.05 Calibrator zero 5000 0.0 0.00 0.00 High point 4921 78.8 16.87 16.78 1.005 Mid point 4961 39.4 8.43 8.41 1.003 Low point 4980 19.7 4.22 4.23 0.997 As left zero 5000 0.0 0.00 0.00 0.06 As left span 4921 78.8 16.87 16.83 1.002 | | | | | | | | |
| As found Low point New cylinder response16.97Previous response response16.80*% change AF change1.0% 1.0%Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt:NAAF Slope: AF Correlation:AF Intercept: $*=>+/-5\%$ change initiates investigationTHC Calibration DataSet PointDilution air flow rate (sccm)Source gas flow rate (sccm)Calculated Concentration (ppm) (Cc)Indicated Concentration Correction factor (Cc/Ic) Limit = 0.95-1.05Calibrator zero50000.00.000.00High point492178.816.8716.781.005Mid point496139.48.438.411.003Low point498019.74.224.230.997As left zero50000.00.000.06As left span492178.816.8716.831.002 | 0 1 | 4921 | 78.8 | 16.87 | 16.77 | 0.994 | | |
| New cylinder responseBaseline Corr As found:16.97Previous response16.80*% change1.0%Baseline Corr 2nd AF pt:NAAF Slope:AF Intercept:Baseline Corr 3rd AF pt:NAAF Correlation:*=>+/-5% change initiates investigationTHC Calibration DataSet PointDilution air flow rate (sccm)Source gas flow rate (sccm)Calculated Concentration (cc/lc) (ppm) (lc)Indicated Concentration factor (Cc/lc) (ppm) (lc)Imit = 0.95-1.05Calibrator zero50000.00.000.001005High point492178.816.8716.781.005Mid point498019.74.224.230.997As left zero50000.00.000.06As left span492178.816.8716.831.002 | As found Mid point | | | | | | | |
| Baseline Corr As found: Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt:16.97 NAPrevious response AF Slope: AF Slope: AF Correlation:16.80*% change | As found Low point | | | | | | | |
| Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt:NA NAAF Slope: AF Correlation:AF Intercept: * => +/-5% change initiates investigationSet PointDilution air flow rate (sccm)Source gas flow rate (sccm)Calculated Concentration (ppm) (Cc)Indicated Concentration Correction factor (Cc/Ic) (ppm) (Ic)Limit = 0.95-1.05Calibrator zero50000.00.000.001.005High point492178.816.8716.781.005Mid point498019.74.224.230.997As left zero50000.00.000.06 As left span4921Value78.816.8716.831.002 | New cylinder response | | | | | | | |
| Baseline Corr 2nd AF pt: Baseline Corr 3rd AF pt:NA NAAF Slope: AF Correlation:AF Intercept: * => +/-5% change initiates investigationSet PointDilution air flow rate (sccm)Source gas flow rate (sccm)Calculated Concentration (ppm) (Cc)Indicated Concentration Correction factor (Cc/Ic) (ppm) (Ic)Limit = 0.95-1.05Calibrator zero50000.00.000.001.005High point492178.816.8716.781.005Mid point498019.74.224.230.997As left zero50000.00.000.06 As left span4921Value78.816.8716.831.002 | Baseline Corr As found [.] | 16 97 | Previous response | 16 80 | *% change | 1.0% | | |
| Baseline Corr 3rd AF pt:NAAF Correlation:* = > +/-5% change initiates investigationTHC Calibration DataSet PointDilution air flow rate (sccm)Source gas flow rate (sccm)Calculated Concentration (ppm) (Cc)Indicated Concentration (ppm) (lc)Correction factor (Cc/lc) Limit = 0.95-1.05Calibrator zero50000.00.000.001.005High point492178.816.8716.781.005Mid point496139.48.438.411.003Low point498019.74.224.230.997As left zero50000.00.000.06As left span492178.816.8716.831.002 | | | | | - | 21070 | | |
| THC Calibration DataSet PointDilution air flow rate (sccm)Source gas flow rate (sccm)Calculated Concentration (ppm) (Cc)Indicated Concentration (ppm) (lc)Correction factor (Cc/lc) Limit = 0.95-1.05Calibrator zero50000.00.000.00High point492178.816.8716.781.005Mid point496139.48.438.411.003Low point498019.74.224.230.997As left zero50000.00.000.06As left span492178.816.8716.831.002 | | | • | | • | os investigation | | |
| Set Point Dilution air flow rate (sccm) Source gas flow rate (sccm) Calculated Concentration (ppm) (Cc) Indicated Concentration (ppm) (lc) Correction factor (Cc/lc) Limit = 0.95-1.05 Calibrator zero 5000 0.0 0.00 0.00 High point 4921 78.8 16.87 16.78 1.005 Mid point 4961 39.4 8.43 8.41 1.003 Low point 4980 19.7 4.22 4.23 0.997 As left zero 5000 0.0 0.00 0.06 As left span 4921 78.8 16.87 16.83 1.002 | Baseline Corr 3rd AF pt: | NA | AF Correlation: | | | les investigation | | |
| Set Point (sccm) (sccm) (ppm) (Cc) (ppm) (lc) Limit = 0.95-1.05 Calibrator zero 5000 0.0 0.00 0.00 0.00 High point 4921 78.8 16.87 16.78 1.005 Mid point 4961 39.4 8.43 8.41 1.003 Low point 4980 19.7 4.22 4.23 0.997 As left zero 5000 0.0 0.00 0.06 As left span 4921 78.8 16.87 16.83 1.002 | | | THC Calibrat | ion Data | | | | |
| Set Point (sccm) (sccm) (ppm) (Cc) (ppm) (lc) Limit = 0.95-1.05 Calibrator zero 5000 0.0 0.00 0.00 0.00 High point 4921 78.8 16.87 16.78 1.005 Mid point 4961 39.4 8.43 8.41 1.003 Low point 4980 19.7 4.22 4.23 0.997 As left zero 5000 0.0 0.00 0.06 As left span 4921 78.8 16.87 16.83 1.002 | C-4 D-1 -1 | Dilution air flow rate | Source gas flow rate | Calculated Concentration | Indicated Concentration | Correction factor (Cc/Ic) | | |
| High point492178.816.8716.781.005Mid point496139.48.438.411.003Low point498019.74.224.230.997As left zero50000.00.000.06As left span492178.816.8716.831.002 | Set Point | (sccm) | (sccm) | (ppm) (Cc) | (ppm) (Ic) | <i>Limit = 0.95-1.05</i> | | |
| Mid point496139.48.438.411.003Low point498019.74.224.230.997As left zero50000.00.000.06As left span492178.816.8716.831.002 | Calibrator zero | 5000 | 0.0 | 0.00 | 0.00 | | | |
| Mid point496139.48.438.411.003Low point498019.74.224.230.997As left zero50000.00.000.06As left span492178.816.8716.831.002 | | | | 46.07 | 16 78 | 1 005 | | |
| Low point498019.74.224.230.997As left zero50000.00.000.06As left span492178.816.8716.831.002 | High point | | 78.8 | 16.87 | 10.70 | 1.005 | | |
| As left zero 5000 0.0 0.00 0.06 As left span 4921 78.8 16.87 16.83 1.002 | | 4921 | | | | | | |
| As left span 4921 78.8 16.87 16.83 1.002 | Mid point | 4921 4961 | 39.4 | 8.43 | 8.41 | 1.003 | | |
| | Mid point Low point | 4921 4961 4980 | 39.4 19.7 | 8.43 4.22 | 8.41 4.23 | 1.003 0.997 | | |
| | Mid point Low point As left zero | 4921 4961 4980 5000 | 39.4 19.7 0.0 | 8.43 4.22 0.00 | 8.41 4.23 0.06 | 1.003 0.997 | | |
| | Mid point Low point As left zero | 4921 4961 4980 5000 | 39.4 19.7 0.0 | 8.43 4.22 0.00 16.87 | 8.41 4.23 0.06 16.83 | 1.003 0.997 1.002 | | |

Notes:

Changed sample inlet filter after as founds. Adjusted zero.

Calibration Performed By:

Braiden Boutilier

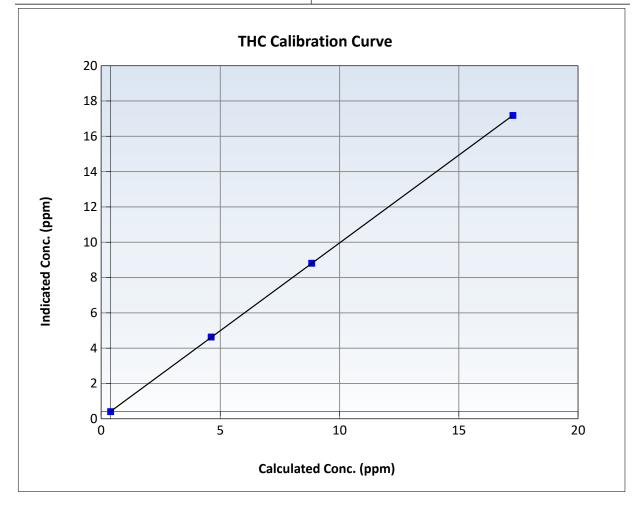


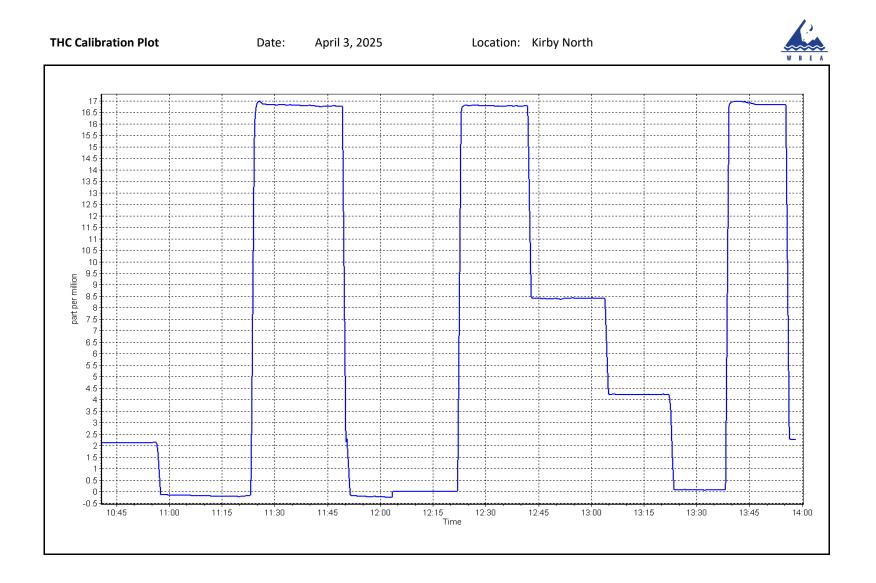
Wood Buffalo Environmental Association THC Calibration Summary

Station Information

| Calibration Date: | April 3, 2025 | Previous Calibration: | March 13, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Kirby North | Station Number: | AMS 508 |
| Start Time (MST): | 10:54 | End Time (MST): | 13:58 |
| Analyzer make: | Thermo 51i-LT | Analyzer serial #: | 1182340005 |

| Calculated Concentration (ppm) (Cc) | Indicated Concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.00 | 0.00 | | Correlation Coefficient | 0.999996 | ≥0.995 |
| 16.87 8.43 | 16.78 8.41 | 1.0051 1.0026 | Slope | 0.994170 | 0.90 - 1.10 |
| 4.22 | 4.23 | 0.9973 | Intercept | 0.019768 | +/-1.5 |







Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Kirby North | NO Gas Cylinder #: | DT0019572 | Cal Gas Expiry Date: | January 5, 2032 |
|-------------------|----------------|-----------------------|--------------------|-----------------------|-----------------|
| Station number: | AMS 508 | NOX Cal Gas Conc: | 60.00 ppm | NO Cal Gas Conc: | 59.90 ppm |
| Calibration Date: | April 2, 2025 | Removed Cylinder #: | NA | Removed Gas Exp Date: | NA |
| Last Cal Date: | March 12, 2025 | Removed Gas NOX Conc: | 60.00 ppm | Removed Gas NO Conc: | 59.90 ppm |
| Start time (MST): | 9:05 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 13:49 | Calibrator Model: | Teledyne API T700 | Serial Number: 5240 |) |
| Reason: | Routine | 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)) <i>Limit = 0.90 - 1.10</i> | 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 | 801.6 | 800.3 | 1.3 | 805.0 | 804.0 | 1.1 | 0.9958 | 0.9954 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 799.8 ppb | NO = 799.5 | ppb | * = > +/-5 | % change initiates i | nvestigation | *Percent Chang | ge NO _x = | 0.6% |
| Baseline Corr 1 | st pt NO _x = | 805.0 ppb | NO = 804.0 | ppb | <u>As Four</u> | d Statistics | | *Percent Chang | ge NO = | 0.6% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO _x r ² : | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | rd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d $NO_2 r^2$: | | NO2 SI: | NO ₂ Int: | |
| | | | | As Fo | und GPT Calib | ration Data | | | | |
| | | | | | | | | Baseline Adjust | ed NO2 | |
| O3 Setor | aint (nnh) | Indicated NO Re | ference Indi | cated NO Drop | Calculated N | O2 In | dicated NO2 | Correction fa | ictor Conv | erter Efficiency |

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Cc) | Indicated NO2 concentration (ppb) (Ic) | Correction factor (Cc/(Ic-AFzero)) | Converter Efficiency Limit = 96-104% |
|-------------------|---|--|--|---|---------------------------------------|---|
| | | | | | <i>Limit = 0.90 - 1.10</i> | |
| As Found GPT zero | | | | | | |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Thermo 42i | | Serial Number: 11181484 | 196 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|--------------|---------------|-------------------------|----------------------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | NO _x Cal Slope: | | | | |
| | | | Instrument Settings | | | NO _x Cal Offset: | -0.693582 | -0.053616 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 1.000714 | 0.997815 |
| NO coeff or slope: | 0.707 | 0.703 | NO bkgnd or offset: | 8.0 | 8.0 | NO Cal Offset: | -1.373584 | -0.933611 |
| NOX coeff or slope: | 0.991 | 0.991 | NOX bkgnd or offset: | 8.1 | 8.1 | NO ₂ Cal Slope: | 0.981281 | 0.977286 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 147.1 | 146.2 | NO ₂ Cal Offset: | 1.476756 | 0.360528 |

Dilution Calibration Data

| Set Point | Dilution flow rate (sccm) | Source gas flow rate (sccm) | Calculated NOx concentration (ppb) (Cc) | Calculated NO concentration (ppb) (Cc) | Calculated NO2 concentration (ppb) (Cc) | Indicated NOx concentration (ppb) (Ic) | Indicated NO concentration (ppb) (Ic) | Indicated NO2 concentration (ppb) (Ic) | NOx Correction factor (Cc/Ic) Limit = 0.95-1.05 | NO Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|---|--|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| High point | 4933 | 66.8 | 801.6 | 800.3 | 1.3 | 795.7 | 797.6 | -1.8 | 1.0075 | 1.0034 |
| Mid point | 4967 | 33.4 | 400.8 | 400.1 | 0.7 | 399.4 | 399.3 | 0.1 | 1.0035 | 1.0021 |
| Low point | 4983 | 16.7 | 200.4 | 200.1 | 0.3 | 198.0 | 196.8 | 1.2 | 1.0121 | 1.0166 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | -0.1 | | |
| As left span | 4933 | 66.8 | 801.6 | 381.9 | 419.7 | 788.0 | 381.9 | 406.1 | 1.0173 | 1.0000 |
| | | | | | | | Average Co | prrection Factor | 1.0077 | 1.0074 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|---|---|--|---|
| Cal zero | | | 0.0 | 0.0 | | |
| High GPT point | 794.8 | 385.6 | 410.5 | 401.4 | 1.0228 | 97.8% |
| Mid GPT point | 794.8 | 610.9 | 185.2 | 181.6 | 1.0200 | 98.0% |
| Low GPT point | 794.8 | 698.5 | 97.6 | 96.1 | 1.0160 | 98.4% |
| | | | | Average Correction Factor | 1.0196 | 98.1% |

Notes:

Changed sample inlet filter after as founds. Adjusted span.

Calibration Performed By:

Braiden Boutilier

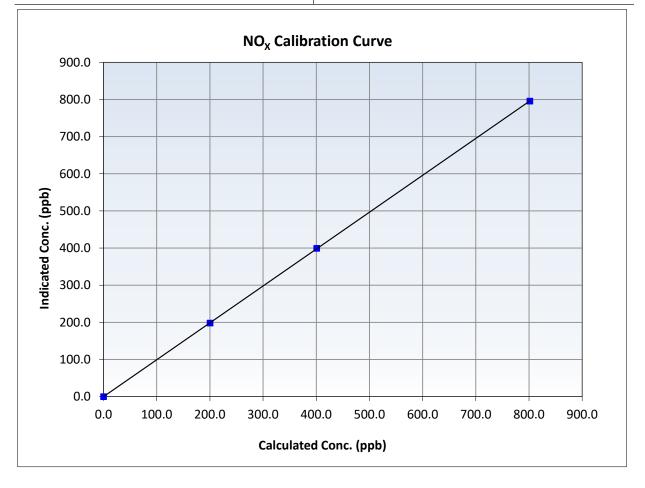


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Kirby North | Station Number: | AMS 508 |
| Start Time (MST): | 9:05 | End Time (MST): | 13:49 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1118148496 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999991 | ≥0.995 |
| 801.6 400.8 | 795.7 399.4 | 1.0075 1.0035 | Slope | 0.993215 | 0.90 - 1.10 |
| 200.4 | 198.0 | 1.0121 | Intercept | -0.053616 | +/-20 |



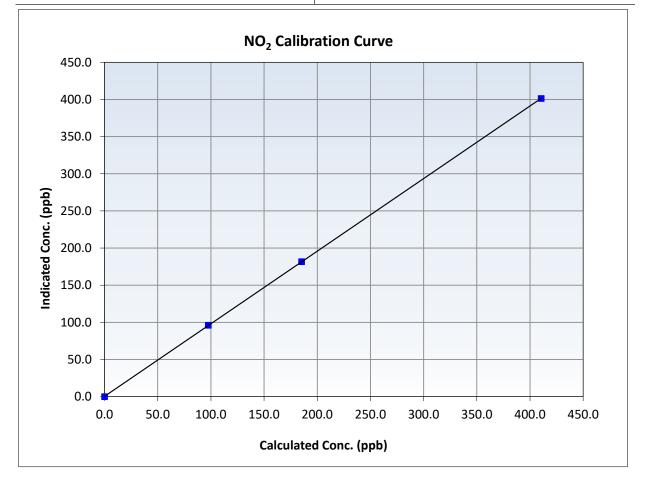


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Kirby North | Station Number: | AMS 508 |
| Start Time (MST): | 9:05 | End Time (MST): | 13:49 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1118148496 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999997 | ≥0.995 |
| 410.5 185.2 | 401.4 181.6 | 1.0228 1.0200 | Slope | 0.977286 | 0.90 - 1.10 |
| 97.6 | 96.1 | 1.0160 | Intercept | 0.360528 | +/-20 |



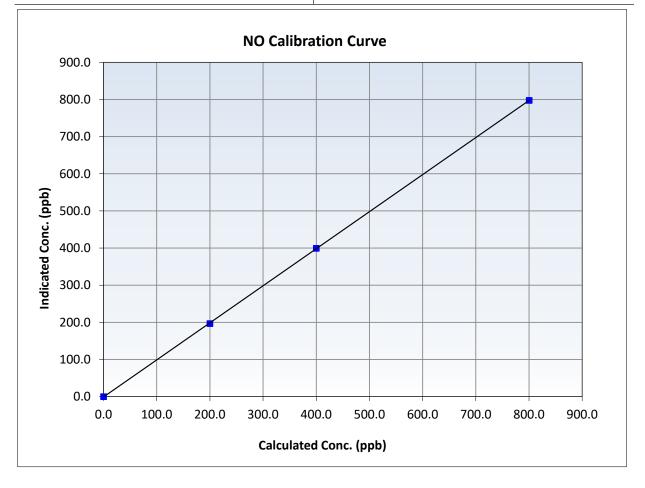


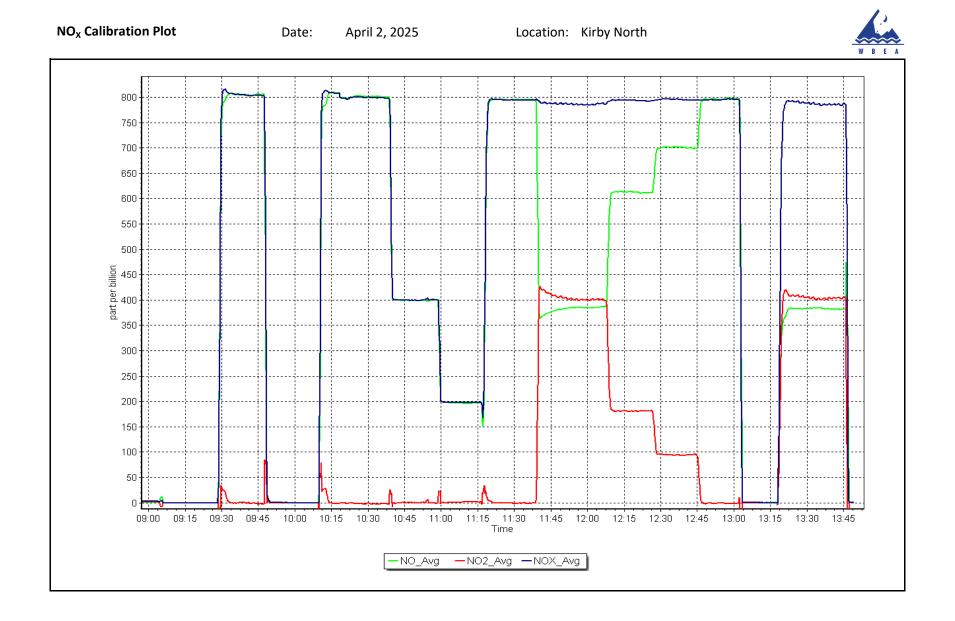
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 2, 2025 | Previous Calibration: | March 12, 2025 |
|-------------------|---------------|-----------------------|----------------|
| Station Name: | Kirby North | Station Number: | AMS 508 |
| Start Time (MST): | 9:05 | End Time (MST): | 13:49 |
| Analyzer make: | Thermo 42i | Analyzer serial #: | 1118148496 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 0.999984 | ≥0.995 |
| 800.3 400.1 | 797.6 399.3 | 1.0034 1.0021 | Slope | 0.997815 | 0.90 - 1.10 |
| 200.1 | 196.8 | 1.0166 | Intercept | -0.933611 | +/-20 |







WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM CALIBRATION REPORT

AMS512 HANGINGSTONE EXPANSION APRIL 2025

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

May 30, 2025



Analyzer make: Analyzer Range:

Wood Buffalo Environmental Association SO₂ Calibration Report

Station Information

Station Name:Hangingstone ExpansionCalibration Date:April 10, 2025Start time (MST):6:10Reason:Routine

Thermo scientific

0 - 1000 ppb

Station number: AMS 512 Last Cal Date: March 7, 2025 End time (MST): 8:38

Calibration Standards

| Cal Gas Concentration: | 50.06 | ppm | Cal Gas Exp Date: January 5, 2029 |
|------------------------|-------------------|-----|-----------------------------------|
| Cal Gas Cylinder #: | CC147416 | | |
| Removed Cal Gas Conc: | 50.06 | ppm | Rem Gas Exp Date: NA |
| Removed Gas Cyl #: | NA | | Diff between cyl: |
| Calibrator Model: | Teledyne API T700 | | Serial Number: 2445 |
| Zero Air Gen Model: | Teledyne API 701 | | Serial Number: 138 |
| | | | |

Analyzer Information

Serial Number: 1173410001

| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> |
|------------------------|--------------|---------------|-------------------|--------------|---------------|
| Calibration slope: | 1.006091 | 1.009553 | Backgd or Offset: | 14.2 | 14.2 |
| Calibration intercept: | -1.263661 | -1.623881 | Coeff or Slope: | 1.175 | 1.175 |

SO₂ 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 As found Mid point As found Low point New cylinder response | 4920 | 79.8 | 799.0 | 806.4 | 0.991 |
| Baseline Corr As found: Baseline Corr 2nd AF pt: | 806.3 NA | Previous response AF Slope: | 802.6 | *% change AF Intercept: | 0.5% |
| Baseline Corr 3rd AF pt: | NA | AF Correlation: | | * = > +/-5% change initiate | es investigation |

SO₂ 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/lc) Limit = 0.95-1.05 |
|-----------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.3 | |
| High point | 4920 | 79.8 | 799.0 | 806.0 | 0.991 |
| Mid point | 4960 | 39.9 | 399.5 | 400.6 | 0.997 |
| Low point | 4987 | 20.0 | 200.0 | 198.4 | 1.008 |
| As left zero | 5000 | 0.0 | 0.0 | 0.1 | |
| As left span | 4920 | 79.8 | 799.0 | 809.6 | 0.987 |
| | | | Averag | 0.999 | |

Notes:

No adjustments or maintenance done.

Calibration Performed By:

Melissa Lemay

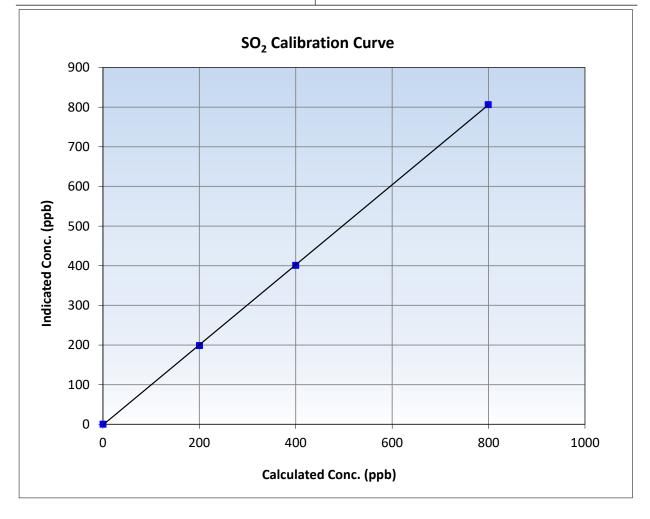


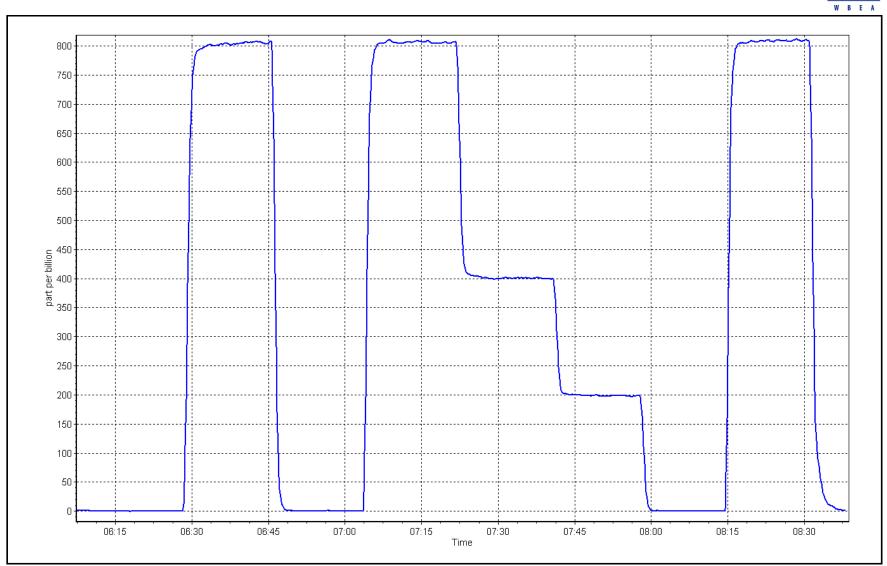
Wood Buffalo Environmental Association SO₂ Calibration Summary

Station Information

| Calibration Date: | April 10, 2025 | Previous Calibration: | March 7, 2025 |
|-------------------|------------------------|-----------------------|---------------|
| Station Name: | Hangingstone Expansion | Station Number: | AMS 512 |
| Start Time (MST): | 6:10 | End Time (MST): | 8:38 |
| Analyzer make: | Thermo scientific | Analyzer serial #: | 1173410001 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> |
|--|---------------------------------------|------------------------------|-------------------------|----------|---------------|
| 0.0 | 0.3 | | Correlation Coefficient | 0.999974 | ≥0.995 |
| 799.0 | 806.0 | 0.9913 | Slope | 1.009553 | 0.90 - 1.10 |
| 399.5 | 400.6 | 0.9972 | | | |
| 200.0 198.4 | 1.0079 | Intercept | -1.623881 | +/-30 | |





SO2 Calibration Plot

Location: Hangingstone Expansion





Wood Buffalo Environmental Association H₂S Calibration Report

Station Information

| Station Name: Calibration Date: Start time (MST): Reason: | Hangingstone Expa April 4, 2025 6:27 Routine | ansion | Station number: Last Cal Date: End time (MST): | AMS 512 March 13, 2025 10:38 | ; | |
|--|---|--------------------|--|------------------------------------|----------|---------------|
| | | Calibration | <u>Standards</u> | | | |
| Cal Gas Concentration: Cal Gas Cylinder #: | 5.139 CC511397 | ppm | Cal Gas Exp Date: | January 3, 2026 | ; | |
| Removed Cal Gas Conc: Removed Gas Cyl #: | 5.139 NA | ppm | Rem Gas Exp Date: Diff between cyl: | NA | | |
| Calibrator Make/Model: | API T700 | | Serial Number: | 2445 | | |
| ZAG Make/Model: | API T701 | | Serial Number: | 138 | | |
| | | Analyzer Inf | ormation | | | |
| Analyzer make: | Thermo 43i-LTE | | Analyzer serial #: | 1336160090 | | |
| Converter make: | Global G150 | | Converter serial #: | 2022-227 | | |
| Analyzer Range | 0 - 100 ppb | | Converter Temp: | | 325 degC | - |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | | <u>Finish</u> |
| Calibration slope: | 0.995485 | 1.000488 | Backgd or Offset: | 3.56 | | 3.56 |
| Calibration intercept: | 0.060913 | 0.160819 | Coeff or Slope: | 1.235 | | 1.235 |
| | | <u>H₂S As Fou</u> | ind 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 | 79.8 | 1.005 |
| As found Mid point | 4961 | 38.9 | 40.0 | 40.3 | 0.997 |
| As found Low point New cylinder response | 4981 | 19.5 | 20.0 | 20.1 | 1.007 |
| Baseline Corr As found: | 79.6 | Prev response: | 79.67 | *% change: | -0.1% |
| Baseline Corr 2nd AF pt: | 40.1 | AF Slope: | 0.996058 | AF Intercept: | 0.240853 |
| Baseline Corr 3rd AF pt: | 19.9 | AF Correlation: | 0.999978 | * = > +/-5% change initiate | es investigation |

H₂S Calibration Data

| Set Point | Dilution air flow rate (sccm) | Source gas flow rate (sccm) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) Limit = 0.95-1.05 |
|----------------------------|----------------------------------|--------------------------------|---|---------------------------------------|---|
| Calibrator zero | 5000 | 0.0 | 0.0 | 0.3 | |
| High point | 4922 | 77.8 | 80.0 | 80.2 | 0.997 |
| Mid point | 4961 | 38.9 | 40.0 | 40.2 | 0.995 |
| Low point | 4981 | 19.5 | 20.0 | 20.0 | 1.002 |
| As left zero | 5000 | 0.0 | 0.0 | 0.4 | |
| As left span | 4922 | 77.8 | 80.0 | 80.0 | 1.000 |
| SO2 Scrubber Check | 4920 | 80.0 | 800.0 | 0.0 | |
| Date of last scrubber chan | ge: | | | Ave Corr Factor | 0.998 |

Date of last converter efficiency test:

Notes:

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

Calibration Performed By: Melissa Lemay



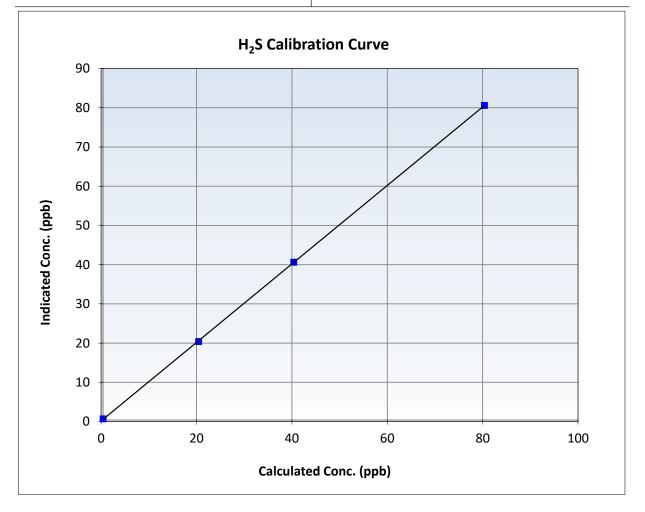
Wood Buffalo Environmental Association

H₂S Calibration Summary

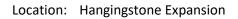
Station Information

| Calibration Date: | April 4, 2025 | Previous Calibration: | March 13, 2025 |
|-------------------|------------------------|-----------------------|----------------|
| Station Name: | Hangingstone Expansion | Station Number: | AMS 512 |
| Start Time (MST): | 6:27 | End Time (MST): | 10:38 |
| Analyzer make: | Thermo 43i-LTE | Analyzer serial #: | 1336160090 |

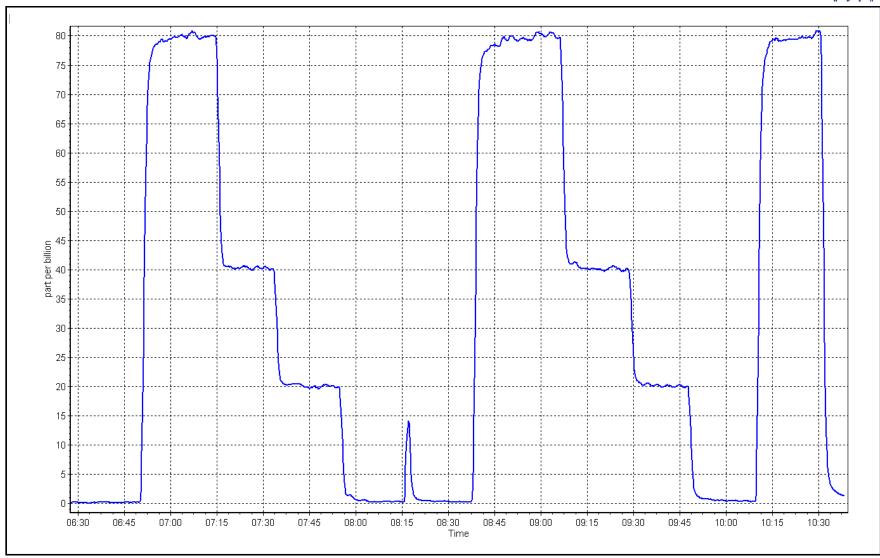
| Calibration Data | | | | | | | | |
|--|---|---------------------------|-------------------------|----------|---------------|--|--|--|
| Calculated concentratior (ppb) (Cc) | n Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evalua | ation | <u>Limits</u> | | | |
| 0.0 | 0.3 | | Correlation Coefficient | 0.999981 | ≥0.995 | | | |
| 80.0 | 80.2 | 0.9971 | Slope | 1.000488 | 0.90 - 1.10 | | | |
| 40.0 20.0 | 40.2 20.0 | 0.9946 1.0020 | Intercent | 0.160819 | +/-3 | | | |
| | | | Intercept | 0.100819 | -7-5 | | | |













Station Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Standards

| Station Name: | Hangingstone Expansion | NO Gas Cylinder #: | T0F8P52 | Cal Gas Expiry Date: | August 16, 2026 |
|-------------------|------------------------|------------------------|-------------------|----------------------|-----------------|
| Station number: | AMS 512 | NOX Cal Gas Conc: | 47.43 ppm | NO Cal Gas Conc: | 47.43 ppm |
| Calibration Date: | April 1, 2025 | Removed Cylinder #: NA | | Removed Gas Exp Date | : NA |
| Last Cal Date: | March 3, 2025 | Removed Gas NOX Conc: | 47.43 ppm | Removed Gas NO Conc | : 47.43 ppm |
| Start time (MST): | 6:28 | NOX gas Diff: | | NO gas Diff: | |
| End time (MST): | 10:43 | Calibrator Model: | Teledyne API T700 | Serial Number: | 2445 |
| Reason: | Routine | ZAG make/model: | Teledyne API T701 | Serial Number: | 138 |

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)) <i>Limit = 0.90 - 1.10</i> | Baseline Adjusted NO Correction factor (Cc/(Ic-AFzero)) Limit = 0.90 - 1.10 |
|-----------------|------------------------------|--------------------------------|---|--|---|--|---|--|--|--|
| As found zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.2 | -0.2 | 0.0 | | |
| AF High point | 4916 | 84.4 | 800.6 | 800.6 | 0.0 | 801.9 | 801.2 | 0.5 | 0.9981 | 0.9989 |
| AF Mid point | | | | | | | | | | |
| AF Low point | | | | | | | | | | |
| New cyl resp | | | | | | | | | | |
| Previous Respo | onse NO _x = | 807.3 ppb | NO = 807.2 | ppb | * = > +/-5 | % change initiates i | nvestigation | *Percent Chang | e NO _x = | -0.6% |
| Baseline Corr 1 | .st pt NO _x = | 802.1 ppb | NO = 801.4 | ppb | <u>As Four</u> | nd Statistics | | *Percent Chang | e NO = | -0.7% |
| Baseline Corr 2 | nd pt NO _x = | NA ppb | NO = NA | ppb | As foun | d $NO_X r^2$: | | Nx SI: | Nx Int: | |
| Baseline Corr 3 | Brd pt NO _X = | NA ppb | NO = NA | ppb | As foun | d NO r ² : | | NO SI: | NO Int: | |
| | | | | | As foun | d $NO_2 r^2$: | | NO2 SI: | NO ₂ Int: | |
| | | | | <u>As Fo</u> | und GPT Calib | ration Data | | | | |
| | | Indicated NO Re | ference Indi | cated NO Drop | Calculated N | 02 In | dicated NO2 | Baseline Adjuste Correction fa | | verter Efficiency |

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Cc) | Indicated NO2 concentration (ppb) (Ic) | Correction factor (Cc/(Ic-AFzero)) | Converter Efficiency <i>Limit = 96-104%</i> |
|-------------------|---|--|--|---|---------------------------------------|--|
| | | , | | | Limit = 0.90 - 1.10 | |
| As Found CDT zoro | | | | | | |

As Found GPT zero As found high GPT point As found mid GPT point As found low GPT point



Analyzer Information

Wood Buffalo Environmental Association

$NO_X \setminus NO \setminus NO_2$ Calibration Report

Calibration Statistics

| Analyzer Make: | Teledyne API T20 | 00 | Serial Number: 7029 | 9 | | | <u>Start</u> | <u>Finish</u> |
|---------------------|------------------|---------------|----------------------|--------------|---------------|-----------------------------|--------------|---------------|
| NOX Range (ppb): | 0 - 1000 ppb | | | | | NO _x Cal Slope: | 1.008889 | 1.005306 |
| | | | Instrument Settings | | | NO _x Cal Offset: | -0.392928 | -0.812870 |
| | <u>Start</u> | <u>Finish</u> | | <u>Start</u> | <u>Finish</u> | NO Cal Slope: | 1.010359 | 1.005634 |
| NO coeff or slope: | 1.056 | 1.056 | NO bkgnd or offset: | 0.2 | 0.2 | NO Cal Offset: | -1.632904 | -1.552843 |
| NOX coeff or slope: | 1.052 | 1.052 | NOX bkgnd or offset: | 0.4 | 0.4 | NO ₂ Cal Slope: | 0.999078 | 0.999674 |
| NO2 coeff or slope: | 1.000 | 1.000 | Reaction cell Press: | 4.6 | 4.6 | NO ₂ Cal Offset: | 0.427715 | 0.103787 |

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) <i>Limit = 0.95-1.05</i> |
|--------------|------------------------------|-----------------------------|---|--|---|--|---|--|---|---|
| Cal zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | -0.1 | 0.0 | | |
| High point | 4916 | 84.4 | 800.6 | 800.6 | 0.0 | 804.1 | 804.1 | 0.2 | 0.9956 | 0.9956 |
| Mid point | 4958 | 42.2 | 400.3 | 400.3 | 0.0 | 402.0 | 400.7 | 1.3 | 0.9958 | 0.9990 |
| Low point | 4979 | 21.1 | 200.2 | 200.2 | 0.0 | 199.2 | 198.0 | 1.2 | 1.0048 | 1.0109 |
| As left zero | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | | |
| As left span | 4916 | 84.4 | 800.6 | 406.9 | 393.7 | 799.9 | 406.9 | 393.0 | 1.0008 | 1.0000 |
| | | | | | | | Average Co | orrection Factor | 0.9987 | 1.0018 |

GPT Calibration Data

| O3 Setpoint (ppb) | Indicated NO Reference concentration (ppb) | Indicated NO Drop concentration (ppb) | Calculated NO2 concentration (ppb) (Co | Indicated NO2 c) concentration (ppb) (Ic) | NO2 Correction factor (Cc/lc) Limit = 0.95-1.05 | Converter Efficiency Limit = 96-104% |
|-------------------|---|---------------------------------------|---|--|--|---|
| Cal zero | | | 0.0 | 0.0 | | |
| High GPT point | 802.1 | 410.9 | 391.2 | 391.1 | 1.0003 | 100.0% |
| Mid GPT point | 802.1 | 624.1 | 178.0 | 178.2 | 0.9989 | 100.1% |
| Low GPT point | 802.1 | 712.2 | 89.9 | 90.0 | 0.9989 | 100.1% |
| | | | | Average Correction Factor | 0.9993 | 100.1% |

Notes:

No adjustments and maintenance done.

Calibration Performed By:

Melissa Lemay

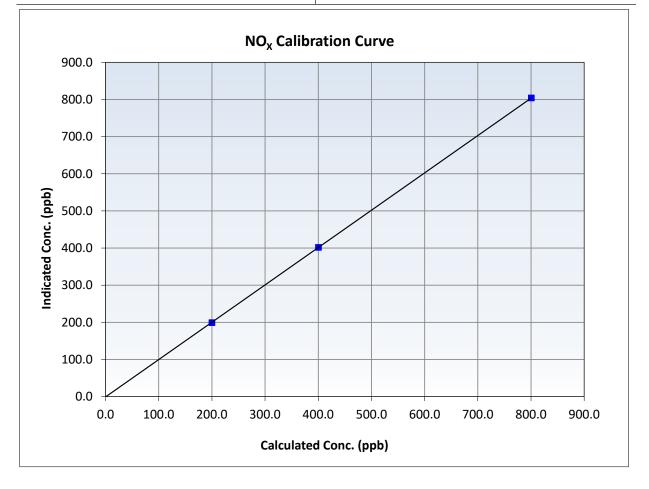


Wood Buffalo Environmental Association NO_x Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 3, 2025 |
|-------------------|------------------------|-----------------------|---------------|
| Station Name: | Hangingstone Expansion | Station Number: | AMS 512 |
| Start Time (MST): | 6:28 | End Time (MST): | 10:43 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 7029 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999994 | ≥0.995 |
| 800.6 400.3 | 804.1 402.0 | 0.9956 0.9958 | Slope | 1.005306 | 0.90 - 1.10 |
| 200.2 | 199.2 | 1.0048 | Intercept | -0.812870 | +/-20 |



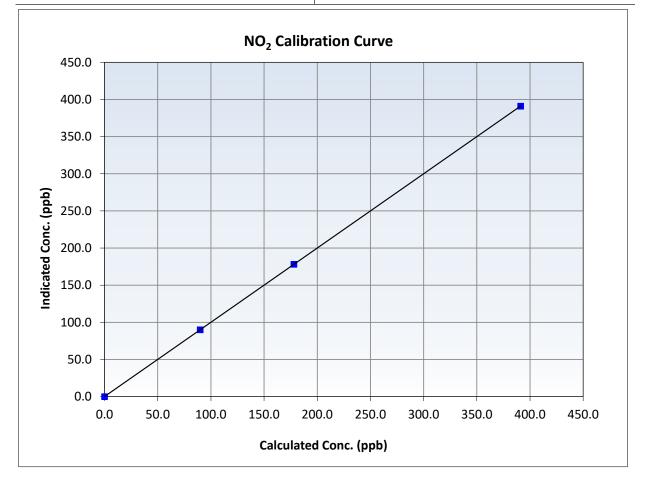


Wood Buffalo Environmental Association NO₂ Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 3, 2025 |
|-------------------|------------------------|-----------------------|---------------|
| Station Name: | Hangingstone Expansion | Station Number: | AMS 512 |
| Start Time (MST): | 6:28 | End Time (MST): | 10:43 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 7029 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|----------|---------------|
| 0.0 | 0.0 | | Correlation Coefficient | 1.000000 | ≥0.995 |
| 391.2 178.0 | 391.1 178.2 | 1.0003 0.9989 | Slope | 0.999674 | 0.90 - 1.10 |
| 89.9 | 90.0 | 0.9989 | Intercept | 0.103787 | +/-20 |



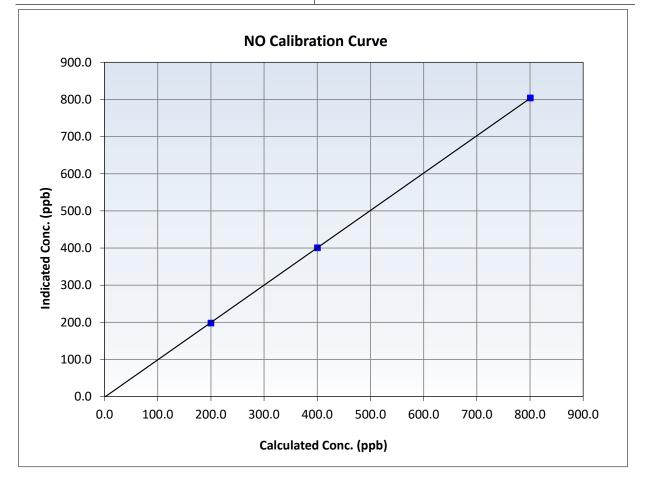


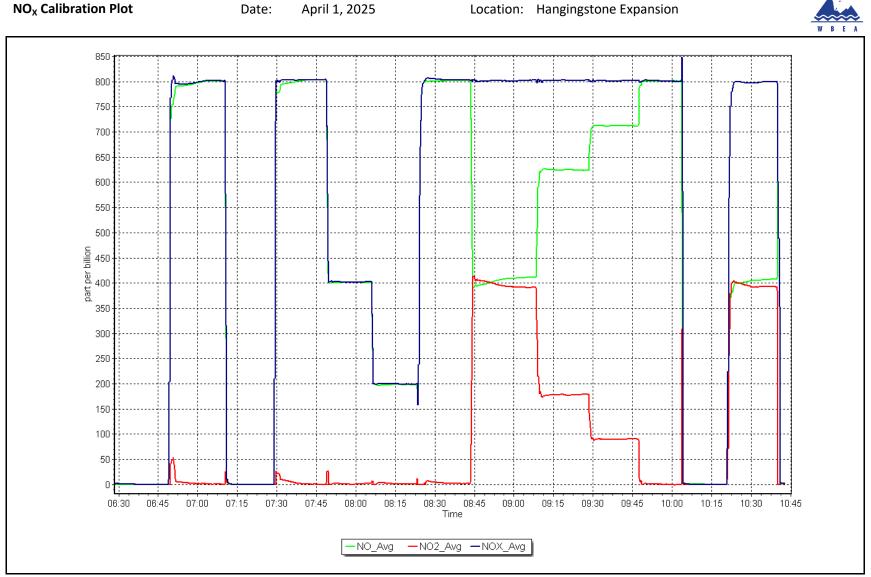
Wood Buffalo Environmental Association NO Calibration Summary

Station Information

| Calibration Date: | April 1, 2025 | Previous Calibration: | March 3, 2025 |
|-------------------|------------------------|-----------------------|---------------|
| Station Name: | Hangingstone Expansion | Station Number: | AMS 512 |
| Start Time (MST): | 6:28 | End Time (MST): | 10:43 |
| Analyzer make: | Teledyne API T200 | Analyzer serial #: | 7029 |

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/lc) | Statistical Evaluation | | <u>Limits</u> |
|--|---------------------------------------|---------------------------|-------------------------|-----------|---------------|
| 0.0 | -0.1 | | Correlation Coefficient | 0.999984 | ≥0.995 |
| 800.6 400.3 | 804.1 400.7 | 0.9956 0.9990 | Slope | 1.005634 | 0.90 - 1.10 |
| 200.2 | 198.0 | 1.0109 | Intercept | -1.552843 | +/-20 |





NO_x Calibration Plot

April 1, 2025

Location: Hangingstone Expansion



End of Report